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Organization Fluor Federal Services, Inc.

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Author Corporate Author

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JUN 20 2016

PPPO-02-3598103-16

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U.S. Environmental Protection Agency
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Washington, DC 20460

Dear Mr. Alteri, Ms. Banister, and Mr. Rosnick:

SUBMITTAL OF THE NATIONAL EMISSIONS STANDARDS FOR HAZARDOUS AIR POLLUTANTS ANNUAL REPORT FOR 2015 U.S. DEPARTMENT OF ENERGY RADIOLOGICAL EMISSIONS AT THE PADUCAH GASEOUS DIFFUSION PLANT, FPDP-RPT-0036

Enclosed is the calendar year 2015 Annual National Emissions Standards for Hazardous Air Pollutants Report, required by 40 *CFR* Part 61, Subpart H. This report summarizes airborne radionuclide emissions from the U.S. Department of Energy (DOE) Paducah Site. The total 2015 dose resulting from DOE emissions was 0.000087 millirem. This is well below the annual limit of 10 millirem per year.

If you have any questions or require additional information, please contact Don Dihel at (270) 441-6824.

Sincerely,

Jennifer Woodard

Jennifer Woodard
Paducah Site Lead
Portsmouth/Paducah Project Office

Enclosures:
1. Certification Pages
2. National Emissions Standards for Hazardous Air Pollutants Annual Report for 2015

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CERTIFICATION

Document Identification: ***National Emissions Standards for Hazardous Air Pollutants Annual Report for 2015 U.S. Department of Energy Radiological Emissions at the Paducah Gaseous Diffusion Plant*, FPDP-RPT-0036**

This certification pertains to the following emission source:

Paducah Deactivation Project

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment. (See 18 *U.S.C.* 1001)

Bobby D. Smith, Program Manager
Fluor Federal Services, Inc.

6/15/2016
Date Signed

Jennifer Woodard, Paducah Site Lead
U.S. Department of Energy

6/20/16
Date Signed

CERTIFICATION

Document Identification: ***National Emissions Standards for Hazardous Air Pollutants Annual Report for 2015 U.S. Department of Energy Radiological Emissions at the Paducah Gaseous Diffusion Plant*, FPDP-RPT-0036**

This certification pertains to the following emission source:

Depleted Uranium Hexafluoride Conversion Facility (BWCS)

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment. (See 18 *U.S.C.* 1001)

John D. Woolery

John D. Woolery, President and Project Manager
BWXT Conversion Services, LLC

6/8/2016
Date Signed

FPDP-RPT-0036

National Emissions Standards for Hazardous Air Pollutants Annual Report for 2015 U.S. Department of Energy Radiological Emissions at the Paducah Gaseous Diffusion Plant

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This document is approved for public release per review by:

David Hayden — 6-13-16

FPDP Classification Support — Date

FPDP-RPT-0036

National Emissions Standards for Hazardous Air Pollutants Annual Report for 2015 U.S. Department of Energy Radiological Emissions at the Paducah Gaseous Diffusion Plant

Date Issued—June 2016

U.S. DEPARTMENT OF ENERGY
Office of Environmental Management

Prepared by
FLUOR FEDERAL SERVICES, INC.,
Paducah Deactivation Project
managing the
Deactivation Project at the
Paducah Gaseous Diffusion Plant
under Task Order DE-DT0007774

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ACRONYMS

ATU	alternate treatment unit
CAP-88	Clean Air Act Assessment Package-1988
CFR	*Code of Federal Regulations*
DAC	derived air concentration
DOE	U.S. Department of Energy
EDE	effective dose equivalent
EPA	U.S. Environmental Protection Agency
FGR	Federal Guidance Report
HEPA	high-efficiency particulate air
KAR	*Kentucky Administrative Regulations*
KPDES	Kentucky Pollutant Discharge Elimination System
NESHAP	National Emission Standards for Hazardous Air Pollutants
PGDP	Paducah Gaseous Diffusion Plant
SX	seal exhaust
USEC	United States Enrichment Corporation
WA	wet air

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EXECUTIVE SUMMARY

The Kentucky Division for Air Quality regulates air emissions of radionuclides, other than radon, from U.S. Department of Energy (DOE) Paducah Site under 401 *KAR* 57:002 and 40 *CFR* Part 61, Subparts A and H, regulations. Submission of this report fulfills the annual reporting requirements of 40 *CFR* § 61.94.

Paducah Site radionuclide emissions include emissions from the depleted uranium hexafluoride (DUF_6) conversion facility, which began operations in 2011. The DUF_6 facility converts the material generated by the uranium enrichment process to a more stable uranium oxide compound. Other emission sources include deactivation of the Paducah Gaseous Diffusion Plant activities, waste management facilities, inactive buildings, and environmental restoration operations.

DOE emissions were used to estimate the Paducah Site dose to the public. The dose to the public is calculated using the computer modeling program (CAP-88) specified in 40 *CFR* § 61.93. Inputs to the computer program are obtained through continuous monitoring, engineering estimates, emission factors, and other U.S. Environmental Protection Agency-approved methods. This report meets the annual reporting requirements and establishes the total annual effective dose equivalent to the maximally exposed member of the public from Paducah Site emissions to be 0.000087 mrem for calendar year 2015. This is well below the annual limit of 10 mrem per year set forth in 40 *CFR* § 61.94.

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1. FACILITY DESCRIPTION

Site Name: Paducah Site

Location: Paducah, Kentucky

Owner: U.S. Department of Energy
Portsmouth/Paducah Project Office
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2. INTRODUCTION

The U.S. Department of Energy (DOE) owns the Paducah Site, which has radionuclide air emissions. The site was established to enrich uranium and was known as the Paducah Gaseous Diffusion Plant (PGDP). Over time, the enrichment process was privatized and operated by United States Enrichment Corporation (USEC) in accordance with Nuclear Regulatory Commission regulations. During 2014, USEC finished post-enrichment activities. When enrichment activities ceased and USEC's lease ended, the entire DOE-owned area was identified as the Paducah Site. DOE subsequently began deactivation of the enrichment facilities.

Paducah Site emissions include emissions from the depleted uranium hexafluoride (DUF_6) conversion facility, which began operations in 2011. The DUF_6 facility converts material generated by the enrichment process to a more stable uranium oxide compound. Other emission sources include deactivation activities, waste management facilities, inactive buildings, and environmental restoration operations.

Emissions from all of these sources were analyzed together and used to calculate the resultant dose.

3. SITE DESCRIPTION

The Paducah Site was established based on the need to construct and operate PGDP. The Paducah Site is located on a reservation consisting of approximately 3,500 acres in western McCracken County, 10 miles west of Paducah, Kentucky, and 3.5 miles south of the Ohio River. Roughly 650 acres of the reservation are enclosed within a fenced security area. An uninhabited buffer zone of at least 400 yards surrounds the entire fenced area. During World War II, Kentucky Ordnance Works, a trinitrotoluene production facility, was operated in an area southwest of the plant on what is now a wildlife management area, not on the DOE Reservation.

Construction of the PGDP facility began in 1951. The plant was fully operational by 1955, supplying enriched uranium for commercial reactors and defense uses. Enriched uranium is defined as uranium in which the concentration of the fissionable uranium-235 (U-235) isotope has been increased from its natural assay. Natural uranium is primarily uranium-238 (U-238), with about 0.71% U-235 and 0.0055% uranium-234 (U-234). Uranium mills process the ores to produce concentrated uranium oxide [triuranium octoxide (U_3O_8)], which then is converted commercially to uranium hexafluoride (UF_6). The UF_6 then was sent to PGDP for enrichment. In 2011, DOE began operation of a facility to convert the stored DUF_6, the depleted material remaining after enrichment, to a more stable uranium oxide, primarily U_3O_8.

The radioactive materials used at PGDP are associated with enrichment of the uranium isotope U-235 by utilizing a gaseous diffusion process. During enriching operations from 1953 to 1975, UF_6 feed material derived from recycled uranium (called "reactor tails") from government reactors and "work for others" material also was used intermittently in addition to the UF_6 processed from uranium ore, which typically was used. Reactor tails were the spent fuel from nuclear reactors that is depleted in U-235 content that had been reprocessed to remove most of the fission products. The reactor fuel assemblies were processed at other DOE facilities (where most of the fission products were removed), and the enriched uranium and the remaining fission products were fed into the PGDP cascade system in the chemical form of UF_6. Use of the reactor tails resulted in the introduction of technetium-99 (Tc-99), a fission by-product, and transuranics, most notably neptunium-237 (Np-237) and plutonium-239 (Pu-239), into the cascade.

The West Kentucky Wildlife Management Area and lightly populated farmlands are in the immediate environs of PGDP. Based on population data from the 2010 census, the population within a 50-mile radius is approximately 534,000 persons. Of these, 89,000 live within 10 miles of the plant and 104,000 live within 20 miles of the plant. The unincorporated communities of Grahamville and Heath are 1.24 and 1.86 miles east of the plant, respectively. Portions of 28 counties—11 of which are in Kentucky, 4 in Missouri, 10 in Illinois, and 3 in Tennessee—are included within the 50-mile radius of the plant. Larger cities in the region include Paducah, Kentucky, located 10 air miles east of the plant; Cape Girardeau, Missouri, located 40 air miles to the west; and Metropolis, Illinois, located 6 air miles to the northeast. The nearest neighbor residences in each direction are observed and entered into the dose modeling software. The results of the dose modeling are presented in Section 6.

Paducah is located in the humid continental zone. Summers generally are dry; precipitation occurs mainly in the spring and fall. Winters are characterized by moderately cold days; the average temperature during the coldest month, January, is about 35°F. Summers are warm and humid; the average temperature in July is 79°F. Yearly precipitation averages about 44 inches. The prevailing wind direction is south to southwest.

4. PADUCAH SITE SOURCE HANDLING AND PROCESSING DESCRIPTION

Radioactive material handling and processing that occurred last year, 2015, included conversion of DUF_6 to uranium oxides, cleanout of the uranium enrichment processes, environmental remediation of hazardous and radioactive materials, and management of radioactive waste.

The point sources from shutdown and clean out of the enrichment processes are grouped as described in the following sections. Some of these activities will be reduced or may cease as deactivation of the enrichment facilities progresses.

4.1 DEPLETED URANIUM HEXAFLUORIDE CONVERSION FACILITY

The DUF_6 conversion facility has operated since 2011. The facility converts DUF_6 stored in cylinders to a more stable uranium oxide powder. The form of uranium oxide is primarily U_3O_8. Multiple prefilters and primary high-efficiency particulate air (HEPA) filter banks within the facility heating, ventilation, and air-conditioning system control particulate emissions of oxide powder. Prior to atmospheric venting of process off gas through the stack, air passes through a secondary set of HEPA filter banks. The conversion building also is maintained at negative pressure to help eliminate the possibility of fugitive emissions. Radioactive emissions from the conversion operations are monitored continuously.

4.2 DEACTIVATION OF THE PADUCAH GASEOUS DIFFUSION PLANT

The emission point sources previously analyzed for operation of PGDP also were emission sources for deactivation. These deactivation sources are grouped in the same manner as the enrichment source grouping.

4.2.1 Group A—the C-400 Group

This grouping includes all of the C-400 sources. These sources were inactive in 2015, but are included because there may be emissions in the future as a result of deactivation.

4.2.1.1 C-400 decontamination spray booth

This facility was used to decontaminate equipment. It consists of a large booth equipped with a high-pressure sprayer, which sprays a water solution on the contaminated machinery. Radionuclides are entrained in the spray solution during the decontamination process. Emissions were estimated in accordance with Appendix D. The decontamination spray booth was removed from service in October 2014.

4.2.1.2 C-400 No. 5 dissolver/rotary vacuum filter

This facility is used to dissolve and precipitate the uranium solutions from the C-400 cylinder wash and decontamination spray booth. It also is used to treat uranium salvaged from laboratory activities. The solution is treated chemically to precipitate the uranium forming a slurry solution. The solution then is passed through a rotary vacuum filter, which collects the precipitate (filter cake) for future disposal, and leaves the filtrate. After sampling, the filtrate is discharged via Kentucky Pollutant Discharge Elimination

System (KPDES)-permitted outfalls. The radionuclide emissions originate from the vent on the pump pulling the slurry solution through the rotary vacuum filter. Emissions are minimal because the pump and its vent are downstream of the rotary vacuum filter, which traps the uranium as filter cake. Emissions were estimated in accordance with 40 *CFR* Part 61, Appendix D. The concentration of radionuclides in the filtrate multiplied by the filtrate volume is considered as the "Curies used." The No. 5 dissolver/rotary vacuum filter was removed from service in October 2014.

4.2.1.3 C-400 laundry

The C-400 laundry washes and dries protective clothing used to prevent skin contamination on personnel working in radiological areas. The driers are equipped with lint filters. Emissions from the laundry are estimated using data from health physics lint filter surveys. Alpha radiation is assumed to be 10% Np-237 and 90% uranium. Beta emissions are assumed to be Tc-99. The emission factor for cloth filters in 40 *CFR* Part 61, Appendix D, is used to estimate the emissions.

4.2.2 Group B—C-400 Cylinder Drying Station

This facility is used to dry UF_6 cylinders after the "heel" has been removed in the C-400 cylinder washstand. Dry plant air is passed through the cylinder to evaporate any remaining moisture from washing and hydrostatic testing. Emissions were estimated in accordance with 40 *CFR* Part 61, Appendix D. Concentrations of radionuclides in the cylinder wash water multiplied by the total volume of wash water used are considered as the "Curies used." The C-400 cylinder drying station was removed from service in October 2014.

4.2.3 Group D—C-709/C-710 Laboratory Hoods

The C-709/C-710 laboratories are the main facilities for sample analysis and research at the Paducah Site. There were a total of 56 laboratory hoods and canopies in the C-709/C-710 Buildings that were used for radiological activities during the year. The radionuclides involved in analyses consist primarily of uranium, with a slight potential for emissions of Tc-99, Np-237, Pu-239, and the thorium daughter products of uranium.

Four methods, depending on the type of operation occurring in the hood or radiological area in which each hood is located, are used to estimate emissions.

1. Estimation of the maximum quantity of uranium lost based on laboratory methods. (If an American Society for Testing and Materials analytical method specifies a maximum 1.6% mass loss during analysis, all samples analyzed using the method were assumed to lose 1.6% of the uranium in the sample.)

2. 40 *CFR* Part 61, Appendix D, emission factors.

3. Chemical trap efficiencies and uranium throughput information.

4. Knowledge of analytical or sample preparation process.

All methods use the total inventory of uranium processed in the hood or radiological area as the basis for the emission estimate.

4.2.4 Group E—C-310 Stack

The C-310 stack is located near the southwest corner of the C-310 Product Withdrawal Building. It was the primary emission point of potential radionuclide air emissions during uranium enrichment operations. The effluent is routed through alumina traps prior to being emitted via the C-310 stack. The stack was inactive in 2015, but is included because there may be emissions in the future as a result of deactivation.

The cylinder burp facility, located on the east side of C-310, is used to vent low molecular weight gases from product cylinders. This facility is a potential source of uranium, Tc-99, and transuranics. The effluent from the burp facility is routed through a bank of sodium fluoride (NaF) traps prior to being emitted from the C-310 stack. There are two banks of chemical traps associated with this system. Each bank has five primary and two secondary traps. Uranium is recovered from the NaF traps and returned to the enrichment cascade.

Emissions from the C-310 stack were based on results from the continuous potassium hydroxide bubbler stack sampling system approved by the U.S. Environmental Protection Agency (EPA) in 1992. The continuous sampling system consists of a series of three caustic (potassium hydroxide solution) scrubbers and a sample flow totalizer. Stack flow is determined using periodic confirmatory methods as approved by EPA. Normally the first bubbler in the C-310 purge and vent sample train is changed daily. Samples are sent to the laboratory for analysis, and monthly and quarterly composite samples are prepared from the daily samples.

As part of the quality assurance/quality control requirements for the C-310 stack sampler, a range for the sample flow has been established. During the year, there were no samples where the sample flow was outside of the established range.

4.2.5 Group F—Seal Exhaust/Wet Air Group

The seal exhaust (SX) and wet air (WA) systems have been evaluated for air emissions. It was determined the alumina traps, which are designed to protect pump oil and not to control emissions, are not pollution control devices under 40 *CFR* Part 61, Subpart H. The determination was forwarded to EPA January 28, 1994.

4.2.5.1 Seal exhaust systems

Emissions from the seal exhaust systems are routed through alumina traps and pump oil prior to venting. Seals on the UF_6 compressors are supplied with an intricate array of air pressures to minimize releases during seal failure. A seal failure allows UF_6 to enter the seal exhaust system. If UF_6 reaches the pump by virtue of trap breakthrough, it reacts with the pump oil creating a thick sludge that quickly causes pump failure. In turn, pump failure limits the amount that can be emitted. Although the pump oil serves as an excellent uranium emission control device due to the reaction between UF_6 and pump oil, no credit is taken for it as a pollution control device.

There is one SX vent per cascade building, one on the C-310 Product Withdrawal Building, and one on the C-315 Tails Withdrawal Building. The locations of the six SX systems are as follows:

- C-310 Product Withdrawal Building
- C-315 Tails Withdrawal Building
- C-331 Process Building
- C-333 Process Building

- C-335 Process Building
- C-337 Process Building

Periodic confirmatory measurements are made on each type of SX/WA system to verify low emissions. Emissions from these systems originally were estimated based on results of a modified 40 *CFR* Part 60 Method 5 stack sampling performed in 2014.

4.2.5.2 Wet air exhaust systems

When maintenance is required on process equipment, it is evacuated to other sections of the cascade or surge drums. The equipment is swept in a series of purges with dry plant air. After maintenance, the system is closed, and the ambient (wet) air is pumped from the system by the WA pumps. During dry air purges and WA evacuations, air is routed through alumina traps for uranium trapping to protect the WA pump oil and then to an exhaust vent. In process buildings C-310, C-335, and C-337, the exhaust vent is shared with the seal exhaust system for those buildings. As discussed under SX systems, emissions from the WA exhaust systems are estimated based on the most recent Method 5 stack sampling results. The following are the locations of the five wet air exhaust systems.

- C-310 Product Withdrawal Building (same as SX)
- C-331 Process Building
- C-333 Process Building
- C-335 Process Building (same as SX)
- C-337 Process Building (same as SX)

4.2.5.3 CFC-114/UF_6 separation system

The CFC-114/UF_6 separation system is located in C-335 and is used to freeze out UF_6 from process gas that has been significantly contaminated with CFC-114 coolant. Such mixtures usually result from equipment failure, but also may result from abnormal cascade operation. Surge drums are used to store these mixtures until they can be separated. The primary purpose of the CFC-114/UF_6 separation system is to remove the coolant and return the UF_6 to the cascade.

The separation system operates by freezing out the UF_6 from the process gas. To freeze out the UF_6, the UF_6/CFC-114 mixture is transferred from the surge drum through a refrigerated set of favorable geometry cold traps. The gas stream then passes through NaF traps and alumina traps to absorb any residual UF_6. Typically the gas stream flows through the alumina traps, although these traps can be bypassed. The trap discharge is connected to the SX/WA pump system and to atmosphere through the existing common discharge header. The UF_6 is sublimed back to cascade after the processing of the contaminated gas has been completed.

To improve nuclear criticality safety, modification of the CFC-114/UF_6 separation system was made, and initial baseline emissions testing completed in 2004. The modification reduced potential radionuclide emissions.

4.2.5.4 Cylinder valve connection activities

Activities involving connection and disconnection to UF_6 cylinders include cold pressure checks, sampling activities, withdrawals and feeding activities, and cylinder burping. The cylinder valves are connected to the associated process via a "pigtail." Pigtails consist of a single length of copper tubing and threaded couplings. Pigtail disconnection procedures require a series of purges to ensure that no UF_6 remains in the pigtail prior to disconnection. Although adherence to these procedures minimizes UF_6

emissions, rarely a small amount of UF_6 may be released during disconnection of the pigtails. Equipment containing a HEPA filter is used to minimize emissions. No credit is taken for the HEPA pollution control equipment. The following are the locations of the pigtail systems using HEPA filter equipment.

- C-310 Product Withdrawal Building
- C-315 Tails Withdrawal Building
- C-333-A Feed Facility
- C-337-A Feed Facility
- C-360 Transfer Facility (Group H)

Emissions are based on the number of pigtail disconnections in each facility. An assumed quantity of UF_6 in each pigtail, based on engineering calculations, is multiplied by the number of disconnections to determine emissions.

4.2.5.5 Building ventilation

Radiological areas at PGDP are established under health physics procedures, DOE orders, and 10 *CFR* Part 835. A radiological area is any area where (1) an individual can receive a dose equivalent greater than 5 mrem in 1 hour; (2) airborne radioactivity concentrations are greater than 10% of a derived air concentration (DAC), which is defined as the airborne concentrations of radionuclides in the workplace that would cause a maximum internal radiation dose of 5,000 mrem/year (regulatory exposure limit) to workers breathing the air over a normal year; or (3) high levels of surface contamination. Airborne radioactivity from building ventilation relates to emission quantities that are used as the basis for analyzing radiological emissions.

A number of radiological areas at PGDP with potential airborne radioactivity concentrations could exceed threshold values. These areas are monitored by health physics using low-volume air samplers. The samplers use a low-volume pump (approximately 20 to 40 liters per minute) to draw building air through a filter. Typically, the samplers run 24 hours per day, and the filters are changed on a 2-, 3-, 4-, or 5-day basis, depending on filter loading and weekend/holiday schedules. After sample collection, the filters are counted for radioactivity concentrations.

Building ventilation sources from C-315, C-331, C-333, C-333-A, C-335, C-337, C-337-A, and C-720 are grouped with the SX/WA group. Building ventilation sources from C-310, C-360, C-400, and C-709/C-710 are grouped with their respective building emissions. Alpha and beta results from health physics air sampling are evaluated based on the most restrictive DAC applicable, listed in 10 *CFR* Part 20. For alpha emissions, Np-237 is used. For beta emissions, Tc-99 is used. Only air sampling results exceeding 10% of the designated DAC are used in emission calculations.

4.2.6 Group G—C-409 Dissolver/Rotary Vacuum Filter

This facility was used to dissolve and precipitate high assay uranium solutions from the laboratory and various sources. Emissions are estimated in accordance with 40 *CFR* Part 61, Appendix D. This source was inactive in 2015, but is included because there may be emissions in the future as a result of deactivation.

4.2.7 Group H—C-360

This group consists of cylinder valve disconnection activities. Emission determinations from these sources have been discussed in Section 4.2.5.4 and are applicable to Group H. Cylinder valve

disconnection activities in C-360 ceased in October 2014. This source was inactive in 2015, but is included because there may be emissions in the future as a result of deactivation.

4.3 ENVIRONMENTAL RESTORATION ACTIVITIES

DOE had two point sources for restoration activities.

4.3.1 Northwest Plume Interim Remedial Action Project

On September 1, 1995, DOE began operation of a treatment system designed to remove trichloroethene (TCE) and Tc-99 from contaminated groundwater at PGDP. The facility, C-612, is located at the northwest corner of the PGDP site security area. The facility consists of an air stripper to remove volatile organics. The facility was shut down for several months in 2015 for a modernization upgrade.

Historical sampling has shown very little change in the concentration of Tc-99 in the water when it passes through the air stripper. Emissions of Tc-99 were estimated using 40 *CFR* Part 61, Subpart H, Appendix D, emission factors and the analysis of the groundwater. The exhaust from the air stripper is passed through a carbon adsorption unit prior to release to the atmosphere. Historical data have shown that Tc-99 is not retained in the carbon; therefore, no reduction in Tc-99 emissions due to use of the adsorption unit was assumed. The results of the analysis of the estimated emissions are reported in Section 6.

4.3.2 Northeast Plume Containment System

DOE began normal operation of the Northeast Plume Containment System (C-614 Northeast Plume Treatment System), a second treatment system, on February 28, 1997, as an interim remedial action also to treat contaminated groundwater. The C-614 system extracts contaminated groundwater and pumps it to an air stripper for removal of TCE. Initially, the contaminated groundwater did not contain radionuclides; however, low concentration Tc-99 was detected in the groundwater and, consequently, could have been emitted to the air since 2005. Emissions of Tc-99 were estimated using 40 *CFR* Part 61, Subpart H, Appendix D, emission factors and the analysis of the groundwater.

In June 2013, USEC ceased operation of the cooling tower that was the emission point for the Northeast Plume Treatment System. DOE ceased Northeast Plume Treatment System operations until an alternate treatment unit (ATU) containing an air stripper was installed. The Northeast Plume Treatment System resumed operation in September 2013, with the ATU as the emission point. As with the initial system, emissions of Tc-99 from the ATU were estimated using 40 *CFR* Part 61, Subpart H, Appendix D emission factors and analysis of the groundwater.

The results of the analysis of the estimated emissions are reported in Section 6.

4.4 FUGITIVE AND DIFFUSE SOURCES

Diffuse/fugitive emission sources include any source that is distributed spatially, diffuse in nature, or not emitted with forced air from a stack, vent, or other confined conduit. In this case, radionuclides are transported entirely by diffusion and/or thermally driven air currents. Typical examples of diffuse/fugitive emissions include emissions from building breathing; resuspension of contaminated soils, debris, or other materials; unventilated tanks; ponds, lakes, and streams; wastewater treatment systems; outdoor storage and processing areas; and leaks in piping, valves, or other process equipment. DOE has identified many

potential fugitive and diffuse emission sources such as inactive facilities, building roofs, scrap metal storage yards, landfills, and various contamination areas. Specific activities that could generate fugitive emissions include transport and disposal of waste, demolition of contaminated facilities such as the C-410 Building (demolished in 2014), decontamination of contaminated equipment, and most environmental remediation activities. The use of ambient air monitors to evaluate emissions from fugitive and diffuse sources is described in Section 9.

5. WAIVER OF CONSTRUCTION AND MODIFICATION ACTIVITIES

No construction or modification activities occurred in this reporting period that were waived under 40 *CFR* § 61.96.

6. SOURCE CHARACTERISTICS AND AIR EMISSIONS DATA

Tables 1 through 4 contain specific emission information for each Paducah Site emission point. Table 1 lists the emission points and efficiency of control devices, as required by 40 *CFR* § 61.94 (b) (4) and (5). It is assumed that control for the Northwest Plume Treatment System has 0% efficiency because no credit is taken for any Tc-99 removal as a result of carbon filtration. Table 2 lists the distances from each emission point to receptors of concern, as listed in 40 *CFR* § 61.94 (b) (6). Table 3 contains emission point information required to estimate the resulting potential exposure, as required by 40 *CFR* § 61.94 (b) (7). Table 4 contains a list of Paducah Site radioactive materials, as required by 40 *CFR* § 61.94 (b) (2), their emission rates, and total Paducah Site emissions by nuclide.

Table 1. Emission Point Effluent Controls and Efficiencies

Emission Points	Type Control	Efficiency %	Distance (m) and Direction to Nearest Receptor
Group A C-400 Group	None	0	1,920 ESE
Group B C-400 Cylinder Drying Station	None	0	1,900 ESE
Group D C-709/710 Laboratory Hoods	None	0	1,960 ESE
Group E C-310 Stack	NaF Trap	99.9	1,740 ESE
	Alumina Trap	98.6	
Group F SX/WA Group	Alumina Traps	98.6	1,490 ESE
Group F Cylinder Valve Disconnections	HEPA Filter	99	1,490 ESE
Group F Building Ventilation	None	0	1,490 ESE
Group G C-409 Dissolver	None	0	2,060 ESE
Group H C-360 Cylinder Valve Disconnections	HEPA Filter	99	1,180 SE
Northwest Plume Treatment System	Carbon	0	1,095 NNE
Northeast Plume Treatment System ATU	None	0	978 ESE
DUF_6 Conversion Facility	HEPA	99.9	2,150 E

NOTE: The building ventilation and cylinder valve connection activities not serviced by a stack are grouped with the SX/WA Group or respective building.

Table 2. Distances to Selected Receptors

Emission Points	Distances (m) to Selected Receptors		
	Nearest Farm	Nearest Business	Nearest School
Group A	1,920	2,819	4,225
Group B	1,900	2,819	4,100
Group D	1,960	2,705	3,900
Group E	1,740	2,705	3,840
Group F	1,490	2,438	3,840
Group G	2,060	2,900	4,040
Group H	1,180	2,000	3,840
Northwest Plume Treatment System	1,100	2,550	5,150
Northeast Plume Treatment System ATU	1,330	1,800	3,660
DUF_6 Conversion Facility	2,550	3,250	3,400

Table 3. Characteristics of Stacks, Vents, or Other Emission Points that Emit Radionuclides

Emission Points	Type	Height (m)	Diameter (m)	Gas Exit Velocity (m/s)	Gas Exit Temp. (°C)	Distance (m) & Direction to Maximally Exposed Individual for Each Source
Group A	Point	11.3	N/A	0	Ambient	2,040 N
Group B	Point	2.4	.05	0	Ambient	2,120 N
Group D	Point	7.1	N/A	0	Ambient	2,370 N
Group E	Point	61.0	0.3	0	21.7	3,040 NNE
Group F	Point	21.0	N/A	0	Ambient	2,350 N
Group G	Point	2.3	0.08	0	Ambient	2,134 N
Group H	Point	16.0	N/A	0	Ambient	1,180 SE
Northwest Plume Treatment System	Point	7.0	0.35	9.45	Ambient	1,080 NNE
Northeast Plume Treatment System Cooling Tower	Point	10.22	8.18	4.84	Ambient	1,360 SE
Northeast Plume Treatment System ATU	Point	5.94	0.19	10.8	Ambient	987 SE
DUF_6 Conversion Facility	Point	21.95	1.067	16.19	33.9	2,171 S

Table 4. Radionuclide Materials and Emissions Data (Curies)

Nuclide	Group A C-400 Group	Group B C-400 Drying Station	Group D C-709/710 Lab	Group E C-310 Stack	Group F Seal Exhaust/ Wet Air	Group G C-409	Group H C-360 Cylinder Valves	Northwest Plume	Northeast Plume ATU	DUF_6 Conversion Facility	Total Site Emissions
U-234	0	0	6.50E-05	0	3.37E-06	0	0	0	0	2.27E-07	6.86E-05
U-235	0	0	2.60E-06	0	1.17E-06	0	0	0	0	1.04E-08	3.78E-06
U-238	2.60E-07	0	6.03E-06	0	3.49E-07	0	0	0	0	5.57E-07	7.20E-06
Tc-99	5.94E-06	0	0	0	1.38E-06	0	0	8.32E-05[a]	7.45E-06	0	9.80E-05
Th-230	0	0	0	0	0	0	0	0	0	0	0
Th-231	0	0	0	0	0	0	0	0	0	3.35E-08	3.35E-08
Th-234	0	0	0	0	0	0	0	0	0	3.06E-06	3.06E-06
Np-237	2.89E-08	0	0	0	0	0	0	0	0	0	2.89E-08
Pu-239	0	0	0	0	0	0	0	0	0	0	0
Pa-234m	0	0	0	0	0	0	0	0	0	3.06E-06	3.06E-06
Total Curies/ Year	**6.23E-06**	**0**	**7.36E-05**	**0**	**6.27E-06**	**0**	**0**	**8.32E-05**	**7.45E-06**	**6.95E-06**	**1.84E-04**

[A] The Northwest Plume facility was shut down for several months for a modernization upgrade project.

7. DOSE ASSESSMENT

7.1 DESCRIPTION OF DOSE MODEL

The radiation dose calculations were performed using the Clean Air Act Assessment Package-1988 (CAP-88) PC, Version 4. The CAP-88 model is a set of computer programs, databases, and associated utility programs for estimation of dose and risk from radionuclide emissions to air. CAP-88 is composed of modified versions of the AIRDOS-EPA and DARTAB computer codes. CAP-88-PC contains EPA's version of the AIRDOS-EPA computer code, which implements a steady-state, Gaussian plume, atmospheric dispersion model to calculate environmental concentrations of released radionuclides and then food chain models are used to calculate human exposures, both internal and external, to the environmental concentrations.

CAP-88-PC, Version 4, incorporates age-dependent dose factors from DCFPAK-2.2 combined with factors and method of Federal Guidance Report (FGR) 13. The FGR 13 dose factors are based on the methods in 1996 Publication 72 of the International Commission on Radiological Protection. The dose factors are used to calculate effective doses. The effective dose is the weighted sum of equivalent doses to 12 specific tissues and organs, plus a general category that accounts for the remaining organs and tissues.

7.2 SUMMARY OF INPUT PARAMETERS

Default input parameters are used except for those provided in Section 6 and immediately below.

Meteorological input information is from the National Weather Service at Paducah, except for the on-site joint frequency distribution information. The 2015 annual precipitation and average air temperature from the National Climatic Data Center "Climate at a Glance" database were used to account for current rainfall and air temperatures. The rainfall rate in 2015 (150.4 cm) was slightly more than the 1971–2000 average rainfall (149.8 cm). The mixing height of 542 m is based on evaluation of 2014 National Weather Service data for the Paducah area by K. Birdwell (ORNL meteorologist). For consistency, the mixing height from 2014 was used for the 2015 CAP-88 runs. Typically, mixing heights do not vary much from year to year; however, they can vary more over a period of years.

Joint frequency distribution:	Five-year stability array (STAR) distribution from 60-m station on PGDP meteorological tower for the years 1988 through 1992.
Rainfall rate:	150.39 cm/year
Average air temperature:	14.9°C
Average mixing layer height:	542 m

Fraction of foodstuffs from (rural default values):

	Local Area	50-Mile Radius	Beyond 50 Miles
Vegetables and produce:	0.700	0.300	0.000
Meat:	0.400	0.600	0.000
Milk:	0.440	0.560	0.000

7.3 DOSE ESTIMATE

Effective dose equivalent (EDE) to maximally exposed individual for each individual point source and the Paducah Site is provided in Table 5.

Table 5. Dose Analysis

Emission Sources*	EDE to the Maximum Exposed Individual for Each Source (mrem)	EDE to the Maximum Exposed Individual for the Plant (mrem)
Group A—C-400 Group	2.0E-06	2.0E-06
Group D—C-709/C-710 Laboratory Hoods	2.1E-05	2.1E-05
Group F—SX/WA Group	2.0E-06	2.0E-06
Northwest Plume Treatment System	6.0E-05	6.0E-05
Northeast Plume Treatment System	4.3E-05	1.7E-06
DUF_6 Conversion Facility	3.8E-07	2.4E-07
Total from All Sources		**8.7E-05**

The maximally exposed individual from all plant emissions is located 1,080 m northeast of Northwest Plume Treatment System.

Based on population data from the 2010 census, the total collective EDE to the 50-mile population (approximately 534,000 persons) was 0.0005 person-rem.

8. UNPLANNED RELEASES

There were no DOE unplanned radioactive airborne releases in 2015.

9. AMBIENT AIR MONITORING

In accordance with the *National Emission Standards for Hazardous Air Pollutants Management Plan for Emission of Radionuclides for the U.S. Department of Energy Operations at the Paducah Site, Paducah, Kentucky*, PAD-REG-1017, November 2013, DOE used ambient air monitoring data to verify insignificant levels of radionuclides in off-site ambient air. Ambient air stations collect radionuclide samples at sites surrounding the plant. The ambient air monitors capture airborne radionuclides emitted from all sources, including fugitive and diffuse sources. The locations of the ambient air monitoring stations are shown in Figure 1.

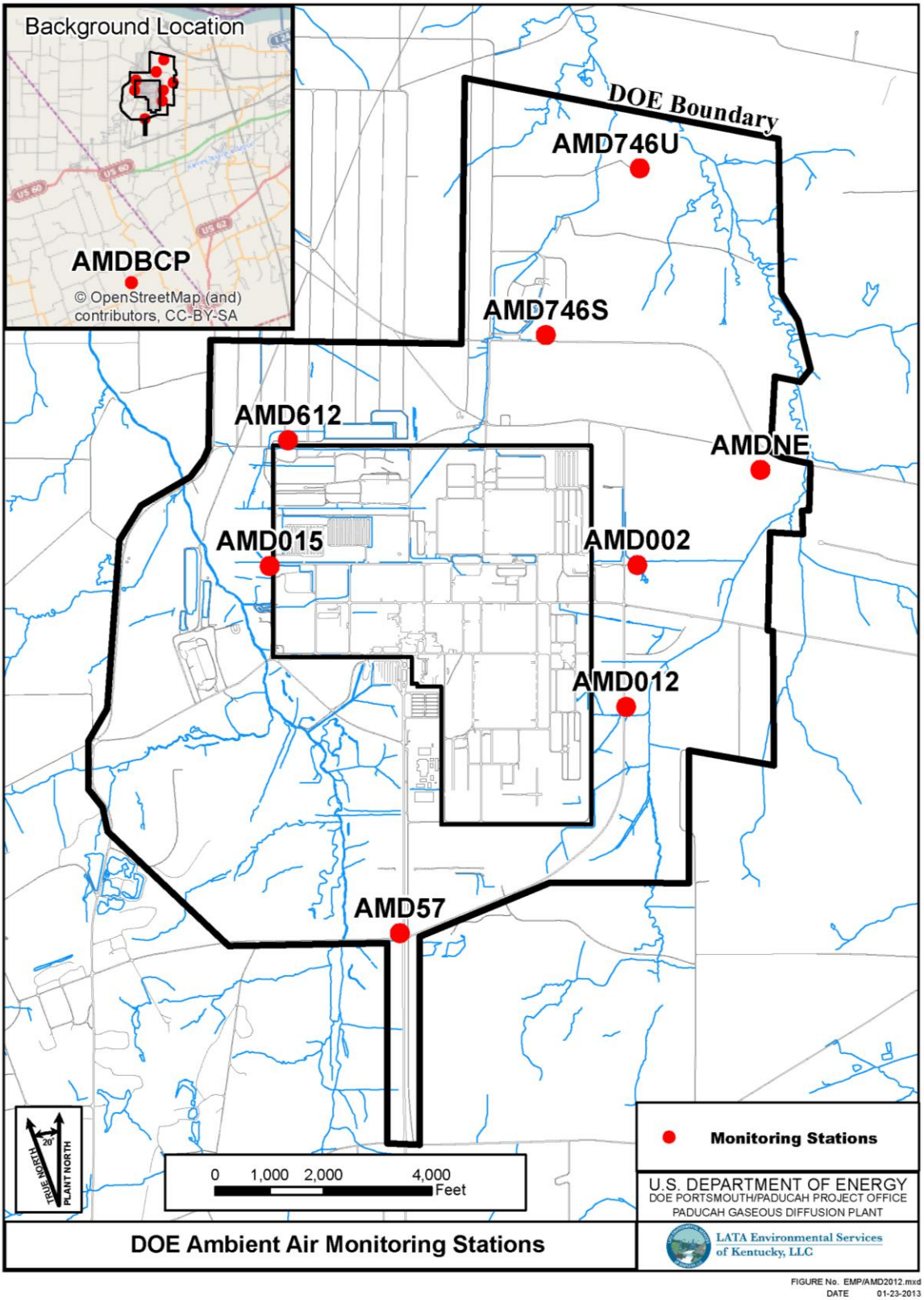

Figure 1. Location of Paducah Site Ambient Air Monitoring Stations

The ambient air monitoring stations operate continuously, drawing air through a filter paper to capture particles that may be radioactive. Filter paper is changed weekly; composited filter papers for a three-month period are measured for radioactivity by a laboratory.

The analyses of ambient air monitoring results indicate that plant-derived radionuclides were not detected in concentrations greater than 40 *CFR* Part 61, Appendix E, Table 2, concentrations. The actual results of each air monitoring station are listed in the appendix of this report.

10. STATUS OF 40 *CFR* PART 61, SUBPART H, COMPLIANCE

DOE remains in compliance with 40 *CFR* Part 61, Subpart H. Kentucky Division for Air Quality has received a delegation of authority to administer the NESHAP program. An update to the NESHAP Management Plan was approved by EPA Region 4 on February 6, 2014.

Ambient air monitors measure radionuclide emissions from Paducah Site point sources, fugitive air emission sources, and background levels of radionuclides. In accordance with the NESHAP Management Plan, ambient air monitors are used to confirm that radiological emissions from the site produce a dose less than the levels allowed by 40 *CFR* Part 61, Subpart H.

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APPENDIX

AMBIENT AIR MONITORING

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Table A.1. Air Monitoring Calculations for 2015

Station	Client Sample ID	Date Collected	Analysis	Result	Units	Concentration	Concentration	Standard	Fraction of Standard	Qualifier	Assessment Code
1st Quarter January through March											
	Quarter Air Flow	5453	m^3			pCi/m^3	Ci/m^3	Ci/m^3	Fraction		
AMD002	Q2AMD0022-15	30-Apr-15	Americium-241	1.39	pCi/sample	2.55E-04	2.55E-16	1.90E-15	1.34E-01	U	
AMD002	Q2AMD0022-15	30-Apr-15	Neptunium-237	-0.031	pCi/sample	-5.68E-06	-5.68E-18	1.20E-15	-4.74E-03	U	
AMD002	Q2AMD0022-15	30-Apr-15	Plutonium-238	-0.02	pCi/sample	-3.67E-06	-3.67E-18	2.10E-15	-1.75E-03	U	
AMD002	Q2AMD0022-15	30-Apr-15	Plutonium-239/240	0.133	pCi/sample	2.44E-05	2.44E-17	2.00E-15	1.22E-02	U	
AMD002	Q2AMD0022-15	30-Apr-15	Technetium-99	53	pCi/sample	9.72E-03	9.72E-15	1.40E-13	6.94E-02		
AMD002	Q2AMD0022-15	30-Apr-15	Thorium-234	23.388	pCi/sample	4.29E-03	4.29E-15	2.20E-12	1.95E-03	U	
AMD002	Q2AMD0022-15	30-Apr-15	Uranium-234	0.176	pCi/sample	3.23E-05	3.23E-17	7.70E-15	4.19E-03	U	
AMD002	Q2AMD0022-15	30-Apr-15	Uranium-235	0.14	pCi/sample	2.57E-05	2.57E-17	7.10E-15	3.62E-03	U	
AMD002	Q2AMD0022-15	30-Apr-15	Uranium-238	0.371	pCi/sample	6.80E-05	6.80E-17	8.30E-15	8.20E-03	U	
							Sum of the Fractions of the Standard		2.27E-01		
	Quarter Air Flow	5453	m^3			pCi/m^3	Ci/m^3	Ci/m^3	Fraction		
AMD012	Q2AMD0122-15	30-Apr-15	Americium-241	-2.004	pCi/sample	-3.67E-04	-3.67E-16	1.90E-15	-1.93E-01	U	
AMD012	Q2AMD0122-15	30-Apr-15	Neptunium-237	-2.013	pCi/sample	-3.69E-04	-3.69E-16	1.20E-15	-3.08E-01	U	
AMD012	Q2AMD0122-15	30-Apr-15	Plutonium-238	0.114	pCi/sample	2.09E-05	2.09E-17	2.10E-15	9.95E-03	U	
AMD012	Q2AMD0122-15	30-Apr-15	Plutonium-239/240	0.061	pCi/sample	1.12E-05	1.12E-17	2.00E-15	5.59E-03	U	
AMD012	Q2AMD0122-15	30-Apr-15	Technetium-99	46	pCi/sample	8.44E-03	8.44E-15	1.40E-13	6.03E-02		
AMD012	Q2AMD0122-15	30-Apr-15	Thorium-234	19.078	pCi/sample	3.50E-03	3.50E-15	2.20E-12	1.59E-03	U	
AMD012	Q2AMD0122-15	30-Apr-15	Uranium-234	0.546	pCi/sample	1.00E-04	1.00E-16	7.70E-15	1.30E-02		
AMD012	Q2AMD0122-15	30-Apr-15	Uranium-235	0.128	pCi/sample	2.35E-05	2.35E-17	7.10E-15	3.31E-03	U	
AMD012	Q2AMD0122-15	30-Apr-15	Uranium-238	0.593	pCi/sample	1.09E-04	1.09E-16	8.30E-15	1.31E-02		
							Sum of the Fractions of the Standard		-3.94E-01		
	Quarter Air Flow	4953	m^3			pCi/m^3	Ci/m^3	Ci/m^3	Fraction		
AMD015	Q2AMD0152-15	30-Apr-15	Americium-241	1.372	pCi/sample	2.77E-04	2.77E-16	1.90E-15	1.46E-01	U	
AMD015	Q2AMD0152-15	30-Apr-15	Neptunium-237	3.009	pCi/sample	6.08E-04	6.08E-16	1.20E-15	5.06E-01	U	
AMD015	Q2AMD0152-15	30-Apr-15	Plutonium-238	-0.019	pCi/sample	-3.84E-06	-3.84E-18	2.10E-15	-1.83E-03	U	
AMD015	Q2AMD0152-15	30-Apr-15	Plutonium-239/240	-0.019	pCi/sample	-3.84E-06	-3.84E-18	2.00E-15	-1.92E-03	U	
AMD015	Q2AMD0152-15	30-Apr-15	Technetium-99	30	pCi/sample	6.06E-03	6.06E-15	1.40E-13	4.33E-02		
AMD015	Q2AMD0152-15	30-Apr-15	Thorium-234	15.195	pCi/sample	3.07E-03	3.07E-15	2.20E-12	1.39E-03	U	
AMD015	Q2AMD0152-15	30-Apr-15	Uranium-234	0.982	pCi/sample	1.98E-04	1.98E-16	7.70E-15	2.57E-02		
AMD015	Q2AMD0152-15	30-Apr-15	Uranium-235	0.051	pCi/sample	1.03E-05	1.03E-17	7.10E-15	1.45E-03	U	
AMD015	Q2AMD0152-15	30-Apr-15	Uranium-238	0.446	pCi/sample	9.00E-05	9.00E-17	8.30E-15	1.08E-02		
							Sum of the Fractions of the Standard		7.31E-01		

Table A.1. Air Monitoring Calculations for 2015 (Continued)

Station	Client Sample ID	Date Collected	Analysis	Result	Units	Concentration	Concentration	Standard	Fraction of Standard	Qualifier	Assessment Code
1st Quarter January through March											
	Quarter Air Flow	5455	m^3			pCi/m^3	Ci/m^3	Ci/m^3	Fraction		
AMD57	Q2AMD572-15	30-Apr-15	Americium-241	0.25	pCi/sample	4.58E-05	4.58E-17	1.90E-15	2.41E-02	U	
AMD57	Q2AMD572-15	30-Apr-15	Neptunium-237	-0.01	pCi/sample	-1.83E-06	-1.83E-18	1.20E-15	-1.53E-03	U	
AMD57	Q2AMD572-15	30-Apr-15	Plutonium-238	-0.045	pCi/sample	-8.25E-06	-8.25E-18	2.10E-15	-3.93E-03	U	
AMD57	Q2AMD572-15	30-Apr-15	Plutonium-239/240	0.045	pCi/sample	8.25E-06	8.25E-18	2.00E-15	4.12E-03	U	
AMD57	Q2AMD572-15	30-Apr-15	Technetium-99	24.9	pCi/sample	4.56E-03	4.56E-15	1.40E-13	3.26E-02		
AMD57	Q2AMD572-15	30-Apr-15	Thorium-234	-3.138	pCi/sample	-5.75E-04	-5.75E-16	2.20E-12	-2.61E-04	U	
AMD57	Q2AMD572-15	30-Apr-15	Uranium-234	0.353	pCi/sample	6.47E-05	6.47E-17	7.70E-15	8.40E-03		
AMD57	Q2AMD572-15	30-Apr-15	Uranium-235	0.017	pCi/sample	3.12E-06	3.12E-18	7.10E-15	4.39E-04	U	
AMD57	Q2AMD572-15	30-Apr-15	Uranium-238	0.308	pCi/sample	5.65E-05	5.65E-17	8.30E-15	6.80E-03		
							Sum of the Fractions of the Standard		7.08E-02		
	Quarter Air Flow	4150	m^3			pCi/m^3	Ci/m^3	Ci/m^3	Fraction		
AMD612	Q2AMD6122-15	30-Apr-15	Americium-241	2.086	pCi/sample	5.03E-04	5.03E-16	1.90E-15	2.65E-01	U	
AMD612	Q2AMD6122-15	30-Apr-15	Neptunium-237	1.116	pCi/sample	2.69E-04	2.69E-16	1.20E-15	2.24E-01	U	
AMD612	Q2AMD6122-15	30-Apr-15	Plutonium-238	0.018	pCi/sample	4.34E-06	4.34E-18	2.10E-15	2.07E-03	U	
AMD612	Q2AMD6122-15	30-Apr-15	Plutonium-239/240	0	pCi/sample	0.00E+00	0.00E+00	2.00E-15	0.00E+00	U	
AMD612	Q2AMD6122-15	30-Apr-15	Technetium-99	22.3	pCi/sample	5.37E-03	5.37E-15	1.40E-13	3.84E-02		
AMD612	Q2AMD6122-15	30-Apr-15	Thorium-234	50.458	pCi/sample	1.22E-02	1.22E-14	2.20E-12	5.53E-03		
AMD612	Q2AMD6122-15	30-Apr-15	Uranium-234	0.322	pCi/sample	7.76E-05	7.76E-17	7.70E-15	1.01E-02		
AMD612	Q2AMD6122-15	30-Apr-15	Uranium-235	0.011	pCi/sample	2.65E-06	2.65E-18	7.10E-15	3.73E-04	U	
AMD612	Q2AMD6122-15	30-Apr-15	Uranium-238	0.385	pCi/sample	9.28E-05	9.28E-17	8.30E-15	1.12E-02		
							Sum of the Fractions of the Standard		5.56E-01		
	Quarter Air Flow	5456	m^3			pCi/m^3	Ci/m^3	Ci/m^3	Fraction		
AMD746S	Q2AMD746S2-15	30-Apr-15	Americium-241	0	pCi/sample	0.00E+00	0.00E+00	1.90E-15	0.00E+00	U	
AMD746S	Q2AMD746S2-15	30-Apr-15	Neptunium-237	0.409	pCi/sample	7.50E-05	7.50E-17	1.20E-15	6.25E-02	U	
AMD746S	Q2AMD746S2-15	30-Apr-15	Plutonium-238	0.021	pCi/sample	3.85E-06	3.85E-18	2.10E-15	1.83E-03	U	
AMD746S	Q2AMD746S2-15	30-Apr-15	Plutonium-239/240	-0.032	pCi/sample	-5.87E-06	-5.87E-18	2.00E-15	-2.93E-03	U	
AMD746S	Q2AMD746S2-15	30-Apr-15	Technetium-99	27	pCi/sample	4.95E-03	4.95E-15	1.40E-13	3.53E-02		
AMD746S	Q2AMD746S2-15	30-Apr-15	Thorium-234	23.826	pCi/sample	4.37E-03	4.37E-15	2.20E-12	1.98E-03	U	
AMD746S	Q2AMD746S2-15	30-Apr-15	Uranium-234	0.942	pCi/sample	1.73E-04	1.73E-16	7.70E-15	2.24E-02		
AMD746S	Q2AMD746S2-15	30-Apr-15	Uranium-235	0.116	pCi/sample	2.13E-05	2.13E-17	7.10E-15	2.99E-03	U	
AMD746S	Q2AMD746S2-15	30-Apr-15	Uranium-238	0.824	pCi/sample	1.51E-04	1.51E-16	8.30E-15	1.82E-02		
							Sum of the Fractions of the Standard		1.42E-01		

Table A.1. Air Monitoring Calculations for 2015 (Continued)

Station	Client Sample ID	Date Collected	Analysis	Result	Units	Concentration	Concentration	Standard	Fraction of Standard	Qualifier	Assessment Code
1st Quarter January through March											
	Quarter Air Flow	5457	m^3			pCi/m^3	Ci/m^3	Ci/m^3	Fraction		
AMD746U	Q2AMD746U2-15	30-Apr-15	Americium-241	0.317	pCi/sample	5.81E-05	5.81E-17	1.90E-15	3.06E-02	U	
AMD746U	Q2AMD746U2-15	30-Apr-15	Neptunium-237	1.037	pCi/sample	1.90E-04	1.90E-16	1.20E-15	1.58E-01	U	
AMD746U	Q2AMD746U2-15	30-Apr-15	Plutonium-238	0	pCi/sample	0.00E+00	0.00E+00	2.10E-15	0.00E+00	U	
AMD746U	Q2AMD746U2-15	30-Apr-15	Plutonium-239/240	0	pCi/sample	0.00E+00	0.00E+00	2.00E-15	0.00E+00	U	
AMD746U	Q2AMD746U2-15	30-Apr-15	Technetium-99	21.3	pCi/sample	3.90E-03	3.90E-15	1.40E-13	2.79E-02		
AMD746U	Q2AMD746U2-15	30-Apr-15	Thorium-234	6.242	pCi/sample	1.14E-03	1.14E-15	2.20E-12	5.20E-04	U	
AMD746U	Q2AMD746U2-15	30-Apr-15	Uranium-234	0.476	pCi/sample	8.72E-05	8.72E-17	7.70E-15	1.13E-02		
AMD746U	Q2AMD746U2-15	30-Apr-15	Uranium-235	0.008	pCi/sample	1.47E-06	1.47E-18	7.10E-15	2.06E-04	U	
AMD746U	Q2AMD746U2-15	30-Apr-15	Uranium-238	0.377	pCi/sample	6.91E-05	6.91E-17	8.30E-15	8.32E-03		
							Sum of the Fractions of the Standard		2.37E-01		
	Quarter Air Flow	5373	m^3			pCi/m^3	Ci/m^3	Ci/m^3	Fraction		
AMDBCP	Q2AMDBCP2-15	30-Apr-15	Americium-241	-1.532	pCi/sample	-2.85E-04	-2.85E-16	1.90E-15	-1.50E-01	U	
AMDBCP	Q2AMDBCP2-15	30-Apr-15	Neptunium-237	-1.681	pCi/sample	-3.13E-04	-3.13E-16	1.20E-15	-2.61E-01	U	
AMDBCP	Q2AMDBCP2-15	30-Apr-15	Plutonium-238	-0.022	pCi/sample	-4.09E-06	-4.09E-18	2.10E-15	-1.95E-03	U	
AMDBCP	Q2AMDBCP2-15	30-Apr-15	Plutonium-239/240	0.033	pCi/sample	6.14E-06	6.14E-18	2.00E-15	3.07E-03	U	
AMDBCP	Q2AMDBCP2-15	30-Apr-15	Technetium-99	24.3	pCi/sample	4.52E-03	4.52E-15	1.40E-13	3.23E-02		
AMDBCP	Q2AMDBCP2-15	30-Apr-15	Thorium-234	13.218	pCi/sample	2.46E-03	2.46E-15	2.20E-12	1.12E-03	U	
AMDBCP	Q2AMDBCP2-15	30-Apr-15	Uranium-234	0.235	pCi/sample	4.37E-05	4.37E-17	7.70E-15	5.68E-03		
AMDBCP	Q2AMDBCP2-15	30-Apr-15	Uranium-235	0.058	pCi/sample	1.08E-05	1.08E-17	7.10E-15	1.52E-03	U	
AMDBCP	Q2AMDBCP2-15	30-Apr-15	Uranium-238	0.312	pCi/sample	5.81E-05	5.81E-17	8.30E-15	7.00E-03		
							Sum of the Fractions of the Standard		-3.62E-01		
	Quarter Air Flow	5453	m^3			pCi/m^3	Ci/m^3	Ci/m^3	Fraction		
AMDNE	Q2AMDNE2-15	30-Apr-15	Americium-241	1.773	pCi/sample	3.25E-04	3.25E-16	1.90E-15	1.71E-01	U	
AMDNE	Q2AMDNE2-15	30-Apr-15	Neptunium-237	-0.413	pCi/sample	-7.57E-05	-7.57E-17	1.20E-15	-6.31E-02	U	
AMDNE	Q2AMDNE2-15	30-Apr-15	Plutonium-238	-0.01	pCi/sample	-1.83E-06	-1.83E-18	2.10E-15	-8.73E-04	U	
AMDNE	Q2AMDNE2-15	30-Apr-15	Plutonium-239/240	0	pCi/sample	0.00E+00	0.00E+00	2.00E-15	0.00E+00	U	
AMDNE	Q2AMDNE2-15	30-Apr-15	Technetium-99	16.1	pCi/sample	2.95E-03	2.95E-15	1.40E-13	2.11E-02		
AMDNE	Q2AMDNE2-15	30-Apr-15	Thorium-234	23.351	pCi/sample	4.28E-03	4.28E-15	2.20E-12	1.95E-03	U	
AMDNE	Q2AMDNE2-15	30-Apr-15	Uranium-234	0.548	pCi/sample	1.00E-04	1.00E-16	7.70E-15	1.31E-02		
AMDNE	Q2AMDNE2-15	30-Apr-15	Uranium-235	0.018	pCi/sample	3.30E-06	3.30E-18	7.10E-15	4.65E-04	U	
AMDNE	Q2AMDNE2-15	30-Apr-15	Uranium-238	0.383	pCi/sample	7.02E-05	7.02E-17	8.30E-15	8.46E-03		
							Sum of the Fractions of the Standard		1.52E-01		

Table A.1. Air Monitoring Calculations for 2015 (Continued)

Station	Client Sample ID	Date Collected	Analysis	Result	Units	Concentration	Concentration	Standard	Fraction of Standard	Qualifier	Assessment Code
2nd Quarter April through June											
	Quarter Air Flow	7412	m^3			pCi/m^3	Ci/m^3	Ci/m^3	Fraction		
AMD002	Q3AMD0023-15	22-Jul-15	Americium-241	0.888	pCi/Sample	1.20E-04	1.20E-16	1.90E-15	6.31E-02	U	
AMD002	Q3AMD0023-15	22-Jul-15	Neptunium-237	0.832	pCi/Sample	1.12E-04	1.12E-16	1.20E-15	9.35E-02	U	
AMD002	Q3AMD0023-15	22-Jul-15	Plutonium-238	0.063	pCi/Sample	8.50E-06	8.50E-18	2.10E-15	4.05E-03	U	
AMD002	Q3AMD0023-15	22-Jul-15	Plutonium-239/240	0.111	pCi/Sample	1.50E-05	1.50E-17	2.00E-15	7.49E-03	U	
AMD002	Q3AMD0023-15	22-Jul-15	Technetium-99	121	pCi/Sample	1.63E-02	1.63E-14	1.40E-13	1.17E-01		
AMD002	Q3AMD0023-15	22-Jul-15	Thorium-234	16.407	pCi/Sample	2.21E-03	2.21E-15	2.20E-12	1.01E-03	U	
AMD002	Q3AMD0023-15	22-Jul-15	Uranium-234	2.029	pCi/Sample	2.74E-04	2.74E-16	7.70E-15	3.56E-02		
AMD002	Q3AMD0023-15	22-Jul-15	Uranium-235	-0.018	pCi/Sample	-2.43E-06	-2.43E-18	7.10E-15	-3.42E-04	U	
AMD002	Q3AMD0023-15	22-Jul-15	Uranium-238	1.464	pCi/Sample	1.98E-04	1.98E-16	8.30E-15	2.38E-02		
						Sum of the Fractions of the Standard			3.45E-01		
	Quarter Air Flow	7409	m^3			pCi/m^3	Ci/m^3	Ci/m^3	Fraction		
AMD012	Q3AMD0123-15	22-Jul-15	Americium-241	-0.347	pCi/Sample	-4.68E-05	-4.68E-17	1.90E-15	-2.46E-02	U	
AMD012	Q3AMD0123-15	22-Jul-15	Neptunium-237	-0.386	pCi/Sample	-5.21E-05	-5.21E-17	1.20E-15	-4.34E-02	U	
AMD012	Q3AMD0123-15	22-Jul-15	Plutonium-238	0	pCi/Sample	0.00E+00	0.00E+00	2.10E-15	0.00E+00	U	
AMD012	Q3AMD0123-15	22-Jul-15	Plutonium-239/240	0	pCi/Sample	0.00E+00	0.00E+00	2.00E-15	0.00E+00	U	
AMD012	Q3AMD0123-15	22-Jul-15	Technetium-99	68	pCi/Sample	9.18E-03	9.18E-15	1.40E-13	6.56E-02		
AMD012	Q3AMD0123-15	22-Jul-15	Thorium-234	44.378	pCi/Sample	5.99E-03	5.99E-15	2.20E-12	2.72E-03	U	
AMD012	Q3AMD0123-15	22-Jul-15	Uranium-234	1.317	pCi/Sample	1.78E-04	1.78E-16	7.70E-15	2.31E-02		
AMD012	Q3AMD0123-15	22-Jul-15	Uranium-235	-0.032	pCi/Sample	-4.32E-06	-4.32E-18	7.10E-15	-6.08E-04	U	
AMD012	Q3AMD0123-15	22-Jul-15	Uranium-238	1.259	pCi/Sample	1.70E-04	1.70E-16	8.30E-15	2.05E-02		
						Sum of the Fractions of the Standard			4.32E-02		
	Quarter Air Flow	7407	m^3			pCi/m^3	Ci/m^3	Ci/m^3	Fraction		
AMD015	Q3AMD0153-15	22-Jul-15	Americium-241	2.324	pCi/Sample	3.14E-04	3.14E-16	1.90E-15	1.65E-01	U	
AMD015	Q3AMD0153-15	22-Jul-15	Neptunium-237	0.185	pCi/Sample	2.50E-05	2.50E-17	1.20E-15	2.08E-02	U	
AMD015	Q3AMD0153-15	22-Jul-15	Plutonium-238	0.022	pCi/Sample	2.97E-06	2.97E-18	2.10E-15	1.41E-03	U	
AMD015	Q3AMD0153-15	22-Jul-15	Plutonium-239/240	-0.045	pCi/Sample	-6.07E-06	-6.07E-18	2.00E-15	-3.04E-03	U	
AMD015	Q3AMD0153-15	22-Jul-15	Technetium-99	42	pCi/Sample	5.67E-03	5.67E-15	1.40E-13	4.05E-02		
AMD015	Q3AMD0153-15	22-Jul-15	Thorium-234	25.531	pCi/Sample	3.45E-03	3.45E-15	2.20E-12	1.57E-03	U	
AMD015	Q3AMD0153-15	22-Jul-15	Uranium-234	1.541	pCi/Sample	2.08E-04	2.08E-16	7.70E-15	2.70E-02		
AMD015	Q3AMD0153-15	22-Jul-15	Uranium-235	0.104	pCi/Sample	1.40E-05	1.40E-17	7.10E-15	1.98E-03	U	
AMD015	Q3AMD0153-15	22-Jul-15	Uranium-238	1.935	pCi/Sample	2.61E-04	2.61E-16	8.30E-15	3.15E-02		
						Sum of the Fractions of the Standard			2.87E-01		

Table A.1. Air Monitoring Calculations for 2015 (Continued)

Station	Client Sample ID	Date Collected	Analysis	Result	Units	Concentration	Concentration	Standard	Fraction of Standard	Qualifier	Assessment Code
2nd Quarter April through June											
	Quarter Air Flow	7406	m^3			pCi/m^3	Ci/m^3	Ci/m^3	Fraction		
AMD57	Q3AMD573-15	22-Jul-15	Americium-241	10.444	pCi/Sample	1.41E-03	1.41E-15	1.90E-15	7.42E-01		
AMD57	Q3AMD573-15	22-Jul-15	Neptunium-237	-0.717	pCi/Sample	-9.68E-05	-9.68E-17	1.20E-15	-8.07E-02	U	
AMD57	Q3AMD573-15	22-Jul-15	Plutonium-238	0.106	pCi/Sample	1.43E-05	1.43E-17	2.10E-15	6.82E-03	U	
AMD57	Q3AMD573-15	22-Jul-15	Plutonium-239/240	-0.045	pCi/Sample	-6.08E-06	-6.08E-18	2.00E-15	-3.04E-03	U	
AMD57	Q3AMD573-15	22-Jul-15	Technetium-99	13	pCi/Sample	1.76E-03	1.76E-15	1.40E-13	1.25E-02	U	
AMD57	Q3AMD573-15	22-Jul-15	Thorium-234	34.661	pCi/Sample	4.68E-03	4.68E-15	2.20E-12	2.13E-03	U	
AMD57	Q3AMD573-15	22-Jul-15	Uranium-234	0.751	pCi/Sample	1.01E-04	1.01E-16	7.70E-15	1.32E-02		
AMD57	Q3AMD573-15	22-Jul-15	Uranium-235	0.097	pCi/Sample	1.31E-05	1.31E-17	7.10E-15	1.84E-03	U	
AMD57	Q3AMD573-15	22-Jul-15	Uranium-238	0.513	pCi/Sample	6.93E-05	6.93E-17	8.30E-15	8.35E-03		
						Sum of the Fractions of the Standard			7.03E-01		
	Quarter Air Flow	7441	m^3			pCi/m^3	Ci/m^3	Ci/m^3	Fraction		
AMD612	Q3AMD6123-15	22-Jul-15	Americium-241	0.317	pCi/Sample	4.26E-05	4.26E-17	1.90E-15	2.24E-02	U	
AMD612	Q3AMD6123-15	22-Jul-15	Neptunium-237	-1.349	pCi/Sample	-1.81E-04	-1.81E-16	1.20E-15	-1.51E-01	U	
AMD612	Q3AMD6123-15	22-Jul-15	Plutonium-238	0	pCi/Sample	0.00E+00	0.00E+00	2.10E-15	0.00E+00	U	
AMD612	Q3AMD6123-15	22-Jul-15	Plutonium-239/240	-0.052	pCi/Sample	-6.99E-06	-6.99E-18	2.00E-15	-3.49E-03	U	
AMD612	Q3AMD6123-15	22-Jul-15	Technetium-99	22	pCi/Sample	2.96E-03	2.96E-15	1.40E-13	2.11E-02	U	
AMD612	Q3AMD6123-15	22-Jul-15	Thorium-234	0	pCi/Sample	0.00E+00	0.00E+00	2.20E-12	0.00E+00	U	
AMD612	Q3AMD6123-15	22-Jul-15	Uranium-234	0.801	pCi/Sample	1.08E-04	1.08E-16	7.70E-15	1.40E-02		
AMD612	Q3AMD6123-15	22-Jul-15	Uranium-235	0.015	pCi/Sample	2.02E-06	2.02E-18	7.10E-15	2.84E-04	U	
AMD612	Q3AMD6123-15	22-Jul-15	Uranium-238	0.72	pCi/Sample	9.68E-05	9.68E-17	8.30E-15	1.17E-02		
						Sum of the Fractions of the Standard			-8.51E-02		
	Quarter Air Flow	7408	m^3			pCi/m^3	Ci/m^3	Ci/m^3	Fraction		
AMD746S	Q3AMD746S3-15	22-Jul-15	Americium-241	1.104	pCi/Sample	1.49E-04	1.49E-16	1.90E-15	7.84E-02	U	
AMD746S	Q3AMD746S3-15	22-Jul-15	Neptunium-237	-1.748	pCi/Sample	-2.36E-04	-2.36E-16	1.20E-15	-1.97E-01	U	
AMD746S	Q3AMD746S3-15	22-Jul-15	Plutonium-238	0.03	pCi/Sample	4.05E-06	4.05E-18	2.10E-15	1.93E-03	U	
AMD746S	Q3AMD746S3-15	22-Jul-15	Plutonium-239/240	0.076	pCi/Sample	1.03E-05	1.03E-17	2.00E-15	5.13E-03	U	
AMD746S	Q3AMD746S3-15	22-Jul-15	Technetium-99	37	pCi/Sample	4.99E-03	4.99E-15	1.40E-13	3.57E-02		
AMD746S	Q3AMD746S3-15	22-Jul-15	Thorium-234	2.272	pCi/Sample	3.07E-04	3.07E-16	2.20E-12	1.39E-04	U	
AMD746S	Q3AMD746S3-15	22-Jul-15	Uranium-234	1.78	pCi/Sample	2.40E-04	2.40E-16	7.70E-15	3.12E-02		
AMD746S	Q3AMD746S3-15	22-Jul-15	Uranium-235	0.018	pCi/Sample	2.43E-06	2.43E-18	7.10E-15	3.42E-04	U	
AMD746S	Q3AMD746S3-15	22-Jul-15	Uranium-238	1.618	pCi/Sample	2.18E-04	2.18E-16	8.30E-15	2.63E-02		
						Sum of the Fractions of the Standard			-1.75E-02		

Table A.1. Air Monitoring Calculations for 2015 (Continued)

Station	Client Sample ID	Date Collected	Analysis	Result	Units	Concentration	Concentration	Standard	Fraction of Standard	Qualifier	Assessment Code
2nd Quarter April through June											
	Quarter Air Flow	7409	m^3			pCi/m^3	Ci/m^3	Ci/m^3	Fraction		
AMD746U	Q3AMD746U3-15	22-Jul-15	Americium-241	-0.422	pCi/Sample	-5.70E-05	-5.70E-17	1.90E-15	-3.00E-02	U	
AMD746U	Q3AMD746U3-15	22-Jul-15	Neptunium-237	0.415	pCi/Sample	5.60E-05	5.60E-17	1.20E-15	4.67E-02	U	
AMD746U	Q3AMD746U3-15	22-Jul-15	Plutonium-238	0.015	pCi/Sample	2.02E-06	2.02E-18	2.10E-15	9.64E-04	U	
AMD746U	Q3AMD746U3-15	22-Jul-15	Plutonium-239/240	-0.015	pCi/Sample	-2.02E-06	-2.02E-18	2.00E-15	-1.01E-03	U	
AMD746U	Q3AMD746U3-15	22-Jul-15	Technetium-99	21	pCi/Sample	2.83E-03	2.83E-15	1.40E-13	2.02E-02	U	
AMD746U	Q3AMD746U3-15	22-Jul-15	Thorium-234	0	pCi/Sample	0.00E+00	0.00E+00	2.20E-12	0.00E+00	U	
AMD746U	Q3AMD746U3-15	22-Jul-15	Uranium-234	1.798	pCi/Sample	2.43E-04	2.43E-16	7.70E-15	3.15E-02		
AMD746U	Q3AMD746U3-15	22-Jul-15	Uranium-235	0.072	pCi/Sample	9.72E-06	9.72E-18	7.10E-15	1.37E-03	U	
AMD746U	Q3AMD746U3-15	22-Jul-15	Uranium-238	1.64	pCi/Sample	2.21E-04	2.21E-16	8.30E-15	2.67E-02		
								Sum of the Fractions of the Standard	9.65E-02		
	Quarter Air Flow	7400	m^3			pCi/m^3	Ci/m^3	Ci/m^3	Fraction		
AMDBCP	Q3AMDBCP3-15	22-Jul-15	Americium-241	0.637	pCi/Sample	8.61E-05	8.61E-17	1.90E-15	4.53E-02	U	
AMDBCP	Q3AMDBCP3-15	22-Jul-15	Neptunium-237	0.089	pCi/Sample	1.20E-05	1.20E-17	1.20E-15	1.00E-02	U	
AMDBCP	Q3AMDBCP3-15	22-Jul-15	Plutonium-238	0.076	pCi/Sample	1.03E-05	1.03E-17	2.10E-15	4.89E-03	U	
AMDBCP	Q3AMDBCP3-15	22-Jul-15	Plutonium-239/240	0.06	pCi/Sample	8.11E-06	8.11E-18	2.00E-15	4.05E-03	U	
AMDBCP	Q3AMDBCP3-15	22-Jul-15	Technetium-99	1	pCi/Sample	1.35E-04	1.35E-16	1.40E-13	9.65E-04	U	
AMDBCP	Q3AMDBCP3-15	22-Jul-15	Thorium-234	10.212	pCi/Sample	1.38E-03	1.38E-15	2.20E-12	6.27E-04	U	
AMDBCP	Q3AMDBCP3-15	22-Jul-15	Uranium-234	2.412	pCi/Sample	3.26E-04	3.26E-16	7.70E-15	4.23E-02		
AMDBCP	Q3AMDBCP3-15	22-Jul-15	Uranium-235	-0.065	pCi/Sample	-8.78E-06	-8.78E-18	7.10E-15	-1.24E-03	U	
AMDBCP	Q3AMDBCP3-15	22-Jul-15	Uranium-238	0.266	pCi/Sample	3.59E-05	3.59E-17	8.30E-15	4.33E-03	U	
								Sum of the Fractions of the Standard	1.11E-01		
	Quarter Air Flow	7424	m^3			pCi/m^3	Ci/m^3	Ci/m^3	Fraction		
AMDNE	Q3AMDNE3-15	22-Jul-15	Americium-241	1.725	pCi/Sample	2.32E-04	2.32E-16	1.90E-15	1.22E-01	U	
AMDNE	Q3AMDNE3-15	22-Jul-15	Neptunium-237	0.541	pCi/Sample	7.29E-05	7.29E-17	1.20E-15	6.07E-02	U	
AMDNE	Q3AMDNE3-15	22-Jul-15	Plutonium-238	0.032	pCi/Sample	4.31E-06	4.31E-18	2.10E-15	2.05E-03	U	
AMDNE	Q3AMDNE3-15	22-Jul-15	Plutonium-239/240	-0.016	pCi/Sample	-2.16E-06	-2.16E-18	2.00E-15	-1.08E-03	U	
AMDNE	Q3AMDNE3-15	22-Jul-15	Technetium-99	22	pCi/Sample	2.96E-03	2.96E-15	1.40E-13	2.12E-02	U	
AMDNE	Q3AMDNE3-15	22-Jul-15	Thorium-234	39.69	pCi/Sample	5.35E-03	5.35E-15	2.20E-12	2.43E-03	U	
AMDNE	Q3AMDNE3-15	22-Jul-15	Uranium-234	0.966	pCi/Sample	1.30E-04	1.30E-16	7.70E-15	1.69E-02		
AMDNE	Q3AMDNE3-15	22-Jul-15	Uranium-235	0.224	pCi/Sample	3.02E-05	3.02E-17	7.10E-15	4.25E-03	U	
AMDNE	Q3AMDNE3-15	22-Jul-15	Uranium-238	0.854	pCi/Sample	1.15E-04	1.15E-16	8.30E-15	1.39E-02		
								Sum of the Fractions of the Standard	2.43E-01		

Table A.1. Air Monitoring Calculations for 2015 (Continued)

Station	Client Sample ID	Date Collected	Analysis	Result	Units	Concentration	Concentration	Standard	Fraction of Standard	Qualifier	Assessment Code
3rd Quarter July through September											
	Quarter Air Flow	7396	m^3			pCi/m^3	Ci/m^3	Ci/m^3	Fraction		
AMD002	Q4AMD0024-15	13-Nov-15	Americium-241	1.968	pCi/Sample	2.66E-04	2.66E-16	1.90E-15	1.40E-01	U	
AMD002	Q4AMD0024-15	13-Nov-15	Neptunium-237	-1.824	pCi/Sample	-2.47E-04	-2.47E-16	1.20E-15	-2.06E-01	U	
AMD002	Q4AMD0024-15	13-Nov-15	Plutonium-238	0.086	pCi/Sample	1.16E-05	1.16E-17	2.10E-15	5.54E-03	U	
AMD002	Q4AMD0024-15	13-Nov-15	Plutonium-239/240	0.281	pCi/Sample	3.80E-05	3.80E-17	2.00E-15	1.90E-02		
AMD002	Q4AMD0024-15	13-Nov-15	Technetium-99	11.7	pCi/Sample	1.58E-03	1.58E-15	1.40E-13	1.13E-02		
AMD002	Q4AMD0024-15	13-Nov-15	Thorium-234	-21.847	pCi/Sample	-2.95E-03	-2.95E-15	2.20E-12	-1.34E-03	U	
AMD002	Q4AMD0024-15	13-Nov-15	Uranium-234	6.861	pCi/Sample	9.28E-04	9.28E-16	7.70E-15	1.20E-01	X	
AMD002	Q4AMD0024-15	13-Nov-15	Uranium-235	0.382	pCi/Sample	5.17E-05	5.17E-17	7.10E-15	7.27E-03	UX	
AMD002	Q4AMD0024-15	13-Nov-15	Uranium-238	24.492	pCi/Sample	3.31E-03	3.31E-15	8.30E-15	3.99E-01	X	
							Sum of the Fractions of the Standard		4.96E-01		
	Quarter Air Flow	7394	m^3			pCi/m^3	Ci/m^3	Ci/m^3	Fraction		
AMD012	Q4AMD0124-15	13-Nov-15	Americium-241	1.482	pCi/Sample	2.00E-04	2.00E-16	1.90E-15	1.05E-01	U	
AMD012	Q4AMD0124-15	13-Nov-15	Neptunium-237	-1.487	pCi/Sample	-2.01E-04	-2.01E-16	1.20E-15	-1.68E-01	U	
AMD012	Q4AMD0124-15	13-Nov-15	Plutonium-238	0.019	pCi/Sample	2.57E-06	2.57E-18	2.10E-15	1.22E-03	U	
AMD012	Q4AMD0124-15	13-Nov-15	Plutonium-239/240	0.268	pCi/Sample	3.62E-05	3.62E-17	2.00E-15	1.81E-02	U	
AMD012	Q4AMD0124-15	13-Nov-15	Technetium-99	15.4	pCi/Sample	2.08E-03	2.08E-15	1.40E-13	1.49E-02		
AMD012	Q4AMD0124-15	13-Nov-15	Thorium-234	20.279	pCi/Sample	2.74E-03	2.74E-15	2.20E-12	1.25E-03	U	
AMD012	Q4AMD0124-15	13-Nov-15	Uranium-234	14.324	pCi/Sample	1.94E-03	1.94E-15	7.70E-15	2.52E-01		
AMD012	Q4AMD0124-15	13-Nov-15	Uranium-235	0.634	pCi/Sample	8.57E-05	8.57E-17	7.10E-15	1.21E-02		
AMD012	Q4AMD0124-15	13-Nov-15	Uranium-238	13.849	pCi/Sample	1.87E-03	1.87E-15	8.30E-15	2.26E-01		
							Sum of the Fractions of the Standard		4.63E-01		
	Quarter Air Flow	7392	m^3			pCi/m^3	Ci/m^3	Ci/m^3	Fraction		
AMD015	Q4AMD0154-15	13-Nov-15	Americium-241	-3.405	pCi/Sample	-4.61E-04	-4.61E-16	1.90E-15	-2.42E-01	U	
AMD015	Q4AMD0154-15	13-Nov-15	Neptunium-237	1.899	pCi/Sample	2.57E-04	2.57E-16	1.20E-15	2.14E-01	U	
AMD015	Q4AMD0154-15	13-Nov-15	Plutonium-238	0.12	pCi/Sample	1.62E-05	1.62E-17	2.10E-15	7.73E-03	U	
AMD015	Q4AMD0154-15	13-Nov-15	Plutonium-239/240	0.159	pCi/Sample	2.15E-05	2.15E-17	2.00E-15	1.08E-02	U	
AMD015	Q4AMD0154-15	13-Nov-15	Technetium-99	14.9	pCi/Sample	2.02E-03	2.02E-15	1.40E-13	1.44E-02		
AMD015	Q4AMD0154-15	13-Nov-15	Thorium-234	24.995	pCi/Sample	3.38E-03	3.38E-15	2.20E-12	1.54E-03	U	
AMD015	Q4AMD0154-15	13-Nov-15	Uranium-234	0.761	pCi/Sample	1.03E-04	1.03E-16	7.70E-15	1.34E-02	U	
AMD015	Q4AMD0154-15	13-Nov-15	Uranium-235	0.132	pCi/Sample	1.79E-05	1.79E-17	7.10E-15	2.51E-03	U	
AMD015	Q4AMD0154-15	13-Nov-15	Uranium-238	1.025	pCi/Sample	1.39E-04	1.39E-16	8.30E-15	1.67E-02		
							Sum of the Fractions of the Standard		3.87E-02		

Table A.1. Air Monitoring Calculations for 2015 (Continued)

Station	Client Sample ID	Date Collected	Analysis	Result	Units	Concentration	Concentration	Standard	Fraction of Standard	Qualifier	Assessment Code
3rd Quarter July through September											
	Quarter Air Flow	7394	m^3			pCi/m^3	Ci/m^3	Ci/m^3	Fraction		
AMD57	Q4AMD574-15	13-Nov-15	Americium-241	0.264	pCi/Sample	3.57E-05	3.57E-17	1.90E-15	1.88E-02	U	
AMD57	Q4AMD574-15	13-Nov-15	Neptunium-237	3.342	pCi/Sample	4.52E-04	4.52E-16	1.20E-15	3.77E-01	U	
AMD57	Q4AMD574-15	13-Nov-15	Plutonium-238	0.216	pCi/Sample	2.92E-05	2.92E-17	2.10E-15	1.39E-02		
AMD57	Q4AMD574-15	13-Nov-15	Plutonium-239/240	0.065	pCi/Sample	8.79E-06	8.79E-18	2.00E-15	4.40E-03	U	
AMD57	Q4AMD574-15	13-Nov-15	Technetium-99	17	pCi/Sample	2.30E-03	2.30E-15	1.40E-13	1.64E-02	U	
AMD57	Q4AMD574-15	13-Nov-15	Thorium-234	0	pCi/Sample	0.00E+00	0.00E+00	2.20E-12	0.00E+00	U	
AMD57	Q4AMD574-15	13-Nov-15	Uranium-234	0.859	pCi/Sample	1.16E-04	1.16E-16	7.70E-15	1.51E-02		
AMD57	Q4AMD574-15	13-Nov-15	Uranium-235	0.08	pCi/Sample	1.08E-05	1.08E-17	7.10E-15	1.52E-03	U	
AMD57	Q4AMD574-15	13-Nov-15	Uranium-238	0.857	pCi/Sample	1.16E-04	1.16E-16	8.30E-15	1.40E-02		
							Sum of the Fractions of the Standard		4.61E-01		
	Quarter Air Flow	7412	m^3			pCi/m^3	Ci/m^3	Ci/m^3	Fraction		
AMD612	Q4AMD6124-15	13-Nov-15	Americium-241	1.272	pCi/Sample	1.72E-04	1.72E-16	1.90E-15	9.03E-02	U	
AMD612	Q4AMD6124-15	13-Nov-15	Neptunium-237	-0.145	pCi/Sample	-1.96E-05	-1.96E-17	1.20E-15	-1.63E-02	U	
AMD612	Q4AMD6124-15	13-Nov-15	Plutonium-238	0.131	pCi/Sample	1.77E-05	1.77E-17	2.10E-15	8.42E-03	U	
AMD612	Q4AMD6124-15	13-Nov-15	Plutonium-239/240	0.15	pCi/Sample	2.02E-05	2.02E-17	2.00E-15	1.01E-02	U	
AMD612	Q4AMD6124-15	13-Nov-15	Technetium-99	10.7	pCi/Sample	1.44E-03	1.44E-15	1.40E-13	1.03E-02	U	
AMD612	Q4AMD6124-15	13-Nov-15	Thorium-234	48.779	pCi/Sample	6.58E-03	6.58E-15	2.20E-12	2.99E-03	U	
AMD612	Q4AMD6124-15	13-Nov-15	Uranium-234	1.728	pCi/Sample	2.33E-04	2.33E-16	7.70E-15	3.03E-02		
AMD612	Q4AMD6124-15	13-Nov-15	Uranium-235	0.182	pCi/Sample	2.46E-05	2.46E-17	7.10E-15	3.46E-03	U	
AMD612	Q4AMD6124-15	13-Nov-15	Uranium-238	1.019	pCi/Sample	1.37E-04	1.37E-16	8.30E-15	1.66E-02		
							Sum of the Fractions of the Standard		1.56E-01		
	Quarter Air Flow	7392	m^3			pCi/m^3	Ci/m^3	Ci/m^3	Fraction		
AMD746S	Q4AMD746S4-15	13-Nov-15	Americium-241	1.5	pCi/Sample	2.03E-04	2.03E-16	1.90E-15	1.07E-01	U	
AMD746S	Q4AMD746S4-15	13-Nov-15	Neptunium-237	-1.047	pCi/Sample	-1.42E-04	-1.42E-16	1.20E-15	-1.18E-01	U	
AMD746S	Q4AMD746S4-15	13-Nov-15	Plutonium-238	0.04	pCi/Sample	5.41E-06	5.41E-18	2.10E-15	2.58E-03	U	
AMD746S	Q4AMD746S4-15	13-Nov-15	Plutonium-239/240	0.02	pCi/Sample	2.71E-06	2.71E-18	2.00E-15	1.35E-03	U	
AMD746S	Q4AMD746S4-15	13-Nov-15	Technetium-99	3.1	pCi/Sample	4.19E-04	4.19E-16	1.40E-13	3.00E-03	U	
AMD746S	Q4AMD746S4-15	13-Nov-15	Thorium-234	21.421	pCi/Sample	2.90E-03	2.90E-15	2.20E-12	1.32E-03	U	
AMD746S	Q4AMD746S4-15	13-Nov-15	Uranium-234	1.05	pCi/Sample	1.42E-04	1.42E-16	7.70E-15	1.84E-02		
AMD746S	Q4AMD746S4-15	13-Nov-15	Uranium-235	0.142	pCi/Sample	1.92E-05	1.92E-17	7.10E-15	2.71E-03	U	
AMD746S	Q4AMD746S4-15	13-Nov-15	Uranium-238	1.397	pCi/Sample	1.89E-04	1.89E-16	8.30E-15	2.28E-02		
							Sum of the Fractions of the Standard		4.09E-02		

Table A.1. Air Monitoring Calculations for 2015 (Continued)

Station	Client Sample ID	Date Collected	Analysis	Result	Units	Concentration	Concentration	Standard	Fraction of Standard	Qualifier	Assessment Code
3rd Quarter July through September											
	Quarter Air Flow	7394	m^3			pCi/m^3	Ci/m^3	Ci/m^3	Fraction		
AMD746U	Q4AMD746U4-15	13-Nov-15	Americium-241	1.891	pCi/Sample	2.56E-04	2.56E-16	1.90E-15	1.35E-01	U	
AMD746U	Q4AMD746U4-15	13-Nov-15	Neptunium-237	-0.974	pCi/Sample	-1.32E-04	-1.32E-16	1.20E-15	-1.10E-01	U	
AMD746U	Q4AMD746U4-15	13-Nov-15	Plutonium-238	0.213	pCi/Sample	2.88E-05	2.88E-17	2.10E-15	1.37E-02		
AMD746U	Q4AMD746U4-15	13-Nov-15	Plutonium-239/240	0.018	pCi/Sample	2.43E-06	2.43E-18	2.00E-15	1.22E-03	U	
AMD746U	Q4AMD746U4-15	13-Nov-15	Technetium-99	9.1	pCi/Sample	1.23E-03	1.23E-15	1.40E-13	8.79E-03	U	
AMD746U	Q4AMD746U4-15	13-Nov-15	Thorium-234	-2.871	pCi/Sample	-3.88E-04	-3.88E-16	2.20E-12	-1.77E-04	U	
AMD746U	Q4AMD746U4-15	13-Nov-15	Uranium-234	1.333	pCi/Sample	1.80E-04	1.80E-16	7.70E-15	2.34E-02		
AMD746U	Q4AMD746U4-15	13-Nov-15	Uranium-235	-0.063	pCi/Sample	-8.52E-06	-8.52E-18	7.10E-15	-1.20E-03	U	
AMD746U	Q4AMD746U4-15	13-Nov-15	Uranium-238	1.88	pCi/Sample	2.54E-04	2.54E-16	8.30E-15	3.06E-02		
							Sum of the Fractions of the Standard		1.01E-01		
	Quarter Air Flow	6923	m^3			pCi/m^3	Ci/m^3	Ci/m^3	Fraction		
AMDBCP	Q4AMDBCP4-15	13-Nov-15	Americium-241	-1.214	pCi/Sample	-1.75E-04	-1.75E-16	1.90E-15	-9.23E-02	U	
AMDBCP	Q4AMDBCP4-15	13-Nov-15	Neptunium-237	0.519	pCi/Sample	7.50E-05	7.50E-17	1.20E-15	6.25E-02	U	
AMDBCP	Q4AMDBCP4-15	13-Nov-15	Plutonium-238	0	pCi/Sample	0.00E+00	0.00E+00	2.10E-15	0.00E+00	U	
AMDBCP	Q4AMDBCP4-15	13-Nov-15	Plutonium-239/240	0.109	pCi/Sample	1.57E-05	1.57E-17	2.00E-15	7.87E-03	U	
AMDBCP	Q4AMDBCP4-15	13-Nov-15	Technetium-99	11	pCi/Sample	1.59E-03	1.59E-15	1.40E-13	1.13E-02	U	
AMDBCP	Q4AMDBCP4-15	13-Nov-15	Thorium-234	9.141	pCi/Sample	1.32E-03	1.32E-15	2.20E-12	6.00E-04	U	
AMDBCP	Q4AMDBCP4-15	13-Nov-15	Uranium-234	1.347	pCi/Sample	1.95E-04	1.95E-16	7.70E-15	2.53E-02	X	
AMDBCP	Q4AMDBCP4-15	13-Nov-15	Uranium-235	0.312	pCi/Sample	4.51E-05	4.51E-17	7.10E-15	6.35E-03	X	
AMDBCP	Q4AMDBCP4-15	13-Nov-15	Uranium-238	0.986	pCi/Sample	1.42E-04	1.42E-16	8.30E-15	1.72E-02	X	
							Sum of the Fractions of the Standard		3.88E-02		
	Quarter Air Flow	7413	m^3			pCi/m^3	Ci/m^3	Ci/m^3	Fraction		
AMDNE	Q4AMDNE4-15	13-Nov-15	Americium-241	-0.068	pCi/Sample	-9.17E-06	-9.17E-18	1.90E-15	-4.83E-03	U	
AMDNE	Q4AMDNE4-15	13-Nov-15	Neptunium-237	-2.968	pCi/Sample	-4.00E-04	-4.00E-16	1.20E-15	-3.34E-01	U	
AMDNE	Q4AMDNE4-15	13-Nov-15	Plutonium-238	0.02	pCi/Sample	2.70E-06	2.70E-18	2.10E-15	1.28E-03	U	
AMDNE	Q4AMDNE4-15	13-Nov-15	Plutonium-239/240	0.123	pCi/Sample	1.66E-05	1.66E-17	2.00E-15	8.30E-03	U	
AMDNE	Q4AMDNE4-15	13-Nov-15	Technetium-99	76	pCi/Sample	1.03E-02	1.03E-14	1.40E-13	7.32E-02		
AMDNE	Q4AMDNE4-15	13-Nov-15	Thorium-234	12.917	pCi/Sample	1.74E-03	1.74E-15	2.20E-12	7.92E-04	U	
AMDNE	Q4AMDNE4-15	13-Nov-15	Uranium-234	0.661	pCi/Sample	8.92E-05	8.92E-17	7.70E-15	1.16E-02	UX	
AMDNE	Q4AMDNE4-15	13-Nov-15	Uranium-235	0	pCi/Sample	0.00E+00	0.00E+00	7.10E-15	0.00E+00	UX	
AMDNE	Q4AMDNE4-15	13-Nov-15	Uranium-238	1.918	pCi/Sample	2.59E-04	2.59E-16	8.30E-15	3.12E-02	X	
							Sum of the Fractions of the Standard		-2.12E-01		

Table A.1. Air Monitoring Calculations for 2015 (Continued)

Station	Client Sample ID	Date Collected	Analysis	Result	Units	Concentration	Concentration	Standard	Fraction of Standard	Qualifier	Assessment Code
4th Quarter October through December											
	Quarter Air Flow	7921	m^3			pCi/m^3	Ci/m^3	Ci/m^3	Fraction		
AMD002	Q1AMD0021-16	05-Feb-16	Americium-241	0.0899	pCi/sample	1.14E-05	1.14E-17	1.90E-15	5.97E-03	U	
AMD002	Q1AMD0021-16	05-Feb-16	Neptunium-237	-1	pCi/sample	-1.26E-04	-1.26E-16	1.20E-15	-1.05E-01	U	
AMD002	Q1AMD0021-16	05-Feb-16	Plutonium-238	-0.0212	pCi/sample	-2.68E-06	-2.68E-18	2.10E-15	-1.27E-03	U	
AMD002	Q1AMD0021-16	05-Feb-16	Plutonium-239/240	-0.127	pCi/sample	-1.60E-05	-1.60E-17	2.00E-15	-8.02E-03	U	
AMD002	Q1AMD0021-16	05-Feb-16	Technetium-99	36	pCi/sample	4.55E-03	4.55E-15	1.40E-13	3.25E-02	U	
AMD002	Q1AMD0021-16	05-Feb-16	Thorium-234	0.775	pCi/sample	9.78E-05	9.78E-17	2.20E-12	4.45E-05	U	
AMD002	Q1AMD0021-16	05-Feb-16	Uranium-234	1.64	pCi/sample	2.07E-04	2.07E-16	7.70E-15	2.69E-02		
AMD002	Q1AMD0021-16	05-Feb-16	Uranium-235	0.354	pCi/sample	4.47E-05	4.47E-17	7.10E-15	6.29E-03	U	
AMD002	Q1AMD0021-16	05-Feb-16	Uranium-238	2.5	pCi/sample	3.16E-04	3.16E-16	8.30E-15	3.80E-02		
							Sum of the Fractions of the Standard		-4.81E-03		
	Quarter Air Flow	7919	m^3			pCi/m^3	Ci/m^3	Ci/m^3	Fraction		
AMD012	Q1AMD0121-16	05-Feb-16	Americium-241	-2.66	pCi/sample	-3.36E-04	-3.36E-16	1.90E-15	-1.77E-01	U	
AMD012	Q1AMD0121-16	05-Feb-16	Neptunium-237	0.873	pCi/sample	1.10E-04	1.10E-16	1.20E-15	9.19E-02	U	
AMD012	Q1AMD0121-16	05-Feb-16	Plutonium-238	0.0454	pCi/sample	5.73E-06	5.73E-18	2.10E-15	2.73E-03	U	
AMD012	Q1AMD0121-16	05-Feb-16	Plutonium-239/240	-0.0628	pCi/sample	-7.93E-06	-7.93E-18	2.00E-15	-3.97E-03	U	
AMD012	Q1AMD0121-16	05-Feb-16	Technetium-99	26.4	pCi/sample	3.33E-03	3.33E-15	1.40E-13	2.38E-02	U	
AMD012	Q1AMD0121-16	05-Feb-16	Thorium-234	104	pCi/sample	1.31E-02	1.31E-14	2.20E-12	5.97E-03	U	
AMD012	Q1AMD0121-16	05-Feb-16	Uranium-234	2.54	pCi/sample	3.21E-04	3.21E-16	7.70E-15	4.17E-02		
AMD012	Q1AMD0121-16	05-Feb-16	Uranium-235	0.219	pCi/sample	2.77E-05	2.77E-17	7.10E-15	3.90E-03	U	
AMD012	Q1AMD0121-16	05-Feb-16	Uranium-238	1.9	pCi/sample	2.40E-04	2.40E-16	8.30E-15	2.89E-02		
							Sum of the Fractions of the Standard		1.81E-02		
	Quarter Air Flow	7916	m^3			pCi/m^3	Ci/m^3	Ci/m^3	Fraction		
AMD015	Q1AMD0151-16	05-Feb-16	Americium-241	4.23	pCi/sample	5.34E-04	5.34E-16	1.90E-15	2.81E-01	U	
AMD015	Q1AMD0151-16	05-Feb-16	Neptunium-237	-1.88	pCi/sample	-2.38E-04	-2.38E-16	1.20E-15	-1.98E-01	U	
AMD015	Q1AMD0151-16	05-Feb-16	Plutonium-238	0	pCi/sample	0.00E+00	0.00E+00	2.10E-15	0.00E+00	U	
AMD015	Q1AMD0151-16	05-Feb-16	Plutonium-239/240	0.165	pCi/sample	2.08E-05	2.08E-17	2.00E-15	1.04E-02	U	
AMD015	Q1AMD0151-16	05-Feb-16	Technetium-99	30.5	pCi/sample	3.85E-03	3.85E-15	1.40E-13	2.75E-02	U	
AMD015	Q1AMD0151-16	05-Feb-16	Thorium-234	-73.4	pCi/sample	-9.27E-03	-9.27E-15	2.20E-12	-4.21E-03	U	
AMD015	Q1AMD0151-16	05-Feb-16	Uranium-234	1.97	pCi/sample	2.49E-04	2.49E-16	7.70E-15	3.23E-02		
AMD015	Q1AMD0151-16	05-Feb-16	Uranium-235	0.249	pCi/sample	3.15E-05	3.15E-17	7.10E-15	4.43E-03	U	
AMD015	Q1AMD0151-16	05-Feb-16	Uranium-238	2.18	pCi/sample	2.75E-04	2.75E-16	8.30E-15	3.32E-02		
							Sum of the Fractions of the Standard		1.87E-01		

Table A.1. Air Monitoring Calculations for 2015 (Continued)

Station	Client Sample ID	Date Collected	Analysis	Result	Units	Concentration	Concentration	Standard	Fraction of Standard	Qualifier	Assessment Code
4th Quarter October through December											
	Quarter Air Flow	7916	m3			pCi/m3	Ci/m3	Ci/m3	Fraction		
AMD57	Q1AMD571-16	05-Feb-16	Americium-241	-0.845	pCi/sample	-1.07E-04	-1.07E-16	1.90E-15	-5.62E-02	U	
AMD57	Q1AMD571-16	05-Feb-16	Neptunium-237	0.939	pCi/sample	1.19E-04	1.19E-16	1.20E-15	9.88E-02	U	
AMD57	Q1AMD571-16	05-Feb-16	Plutonium-238	-0.0173	pCi/sample	-2.19E-06	-2.19E-18	2.10E-15	-1.04E-03	U	
AMD57	Q1AMD571-16	05-Feb-16	Plutonium-239/240	-0.0517	pCi/sample	-6.53E-06	-6.53E-18	2.00E-15	-3.27E-03	U	
AMD57	Q1AMD571-16	05-Feb-16	Technetium-99	7.47	pCi/sample	9.44E-04	9.44E-16	1.40E-13	6.74E-03	U	
AMD57	Q1AMD571-16	05-Feb-16	Thorium-234	-22.8	pCi/sample	-2.88E-03	-2.88E-15	2.20E-12	-1.31E-03	U	
AMD57	Q1AMD571-16	05-Feb-16	Uranium-234	2.33	pCi/sample	2.94E-04	2.94E-16	7.70E-15	3.82E-02		
AMD57	Q1AMD571-16	05-Feb-16	Uranium-235	0.31	pCi/sample	3.92E-05	3.92E-17	7.10E-15	5.52E-03	U	
AMD57	Q1AMD571-16	05-Feb-16	Uranium-238	1.93	pCi/sample	2.44E-04	2.44E-16	8.30E-15	2.94E-02		
								Sum of the Fractions of the Standard	1.17E-01		
	Quarter Air Flow	7925	m3			pCi/m3	Ci/m3	Ci/m3	Fraction		
AMD612	Q1AMD6121-16	05-Feb-16	Americium-241	-29	pCi/sample	-3.66E-03	-3.66E-15	1.90E-15	-1.93E+00	U	
AMD612	Q1AMD6121-16	05-Feb-16	Neptunium-237	1.99	pCi/sample	2.51E-04	2.51E-16	1.20E-15	2.09E-01	U	
AMD612	Q1AMD6121-16	05-Feb-16	Plutonium-238	0.0363	pCi/sample	4.58E-06	4.58E-18	2.10E-15	2.18E-03	U	
AMD612	Q1AMD6121-16	05-Feb-16	Plutonium-239/240	-0.0335	pCi/sample	-4.23E-06	-4.23E-18	2.00E-15	-2.11E-03	U	
AMD612	Q1AMD6121-16	05-Feb-16	Technetium-99	-7.36	pCi/sample	-9.29E-04	-9.29E-16	1.40E-13	-6.63E-03	U	
AMD612	Q1AMD6121-16	05-Feb-16	Thorium-234	5.92	pCi/sample	7.47E-04	7.47E-16	2.20E-12	3.40E-04	U	
AMD612	Q1AMD6121-16	05-Feb-16	Uranium-234	2.34	pCi/sample	2.95E-04	2.95E-16	7.70E-15	3.83E-02		
AMD612	Q1AMD6121-16	05-Feb-16	Uranium-235	0.32	pCi/sample	4.04E-05	4.04E-17	7.10E-15	5.69E-03	U	
AMD612	Q1AMD6121-16	05-Feb-16	Uranium-238	2.61	pCi/sample	3.29E-04	3.29E-16	8.30E-15	3.97E-02		
								Sum of the Fractions of the Standard	-1.64E+00		
	Quarter Air Flow	7915	m3			pCi/m3	Ci/m3	Ci/m3	Fraction		
AMD746S	Q1AMD746S1-16	05-Feb-16	Americium-241	-7.9	pCi/sample	-9.98E-04	-9.98E-16	1.90E-15	-5.25E-01	U	
AMD746S	Q1AMD746S1-16	05-Feb-16	Neptunium-237	0.472	pCi/sample	5.96E-05	5.96E-17	1.20E-15	4.97E-02	U	
AMD746S	Q1AMD746S1-16	05-Feb-16	Plutonium-238	0	pCi/sample	0.00E+00	0.00E+00	2.10E-15	0.00E+00	U	
AMD746S	Q1AMD746S1-16	05-Feb-16	Plutonium-239/240	-0.0699	pCi/sample	-8.83E-06	-8.83E-18	2.00E-15	-4.42E-03	U	
AMD746S	Q1AMD746S1-16	05-Feb-16	Technetium-99	15.6	pCi/sample	1.97E-03	1.97E-15	1.40E-13	1.41E-02	U	
AMD746S	Q1AMD746S1-16	05-Feb-16	Thorium-234	-68.8	pCi/sample	-8.69E-03	-8.69E-15	2.20E-12	-3.95E-03	U	
AMD746S	Q1AMD746S1-16	05-Feb-16	Uranium-234	1.65	pCi/sample	2.08E-04	2.08E-16	7.70E-15	2.71E-02		
AMD746S	Q1AMD746S1-16	05-Feb-16	Uranium-235	0.444	pCi/sample	5.61E-05	5.61E-17	7.10E-15	7.90E-03	U	
AMD746S	Q1AMD746S1-16	05-Feb-16	Uranium-238	2.75	pCi/sample	3.47E-04	3.47E-16	8.30E-15	4.19E-02		
								Sum of the Fractions of the Standard	-3.93E-01		

Table A.1. Air Monitoring Calculations for 2015 (Continued)

Station	Client Sample ID	Date Collected	Analysis	Result	Units	Concentration	Concentration	Standard	Fraction of Standard	Qualifier	Assessment Code
4th Quarter October through December											
	Quarter Air Flow	7917	m3			pCi/m3	Ci/m3	Ci/m3	Fraction		
AMD746U	Q1AMD746U1-16	05-Feb-16	Americium-241	0.371	pCi/sample	4.69E-05	4.69E-17	1.90E-15	2.47E-02	U	
AMD746U	Q1AMD746U1-16	05-Feb-16	Neptunium-237	1.88	pCi/sample	2.37E-04	2.37E-16	1.20E-15	1.98E-01	U	
AMD746U	Q1AMD746U1-16	05-Feb-16	Plutonium-238	-0.0186	pCi/sample	-2.35E-06	-2.35E-18	2.10E-15	-1.12E-03	U	
AMD746U	Q1AMD746U1-16	05-Feb-16	Plutonium-239/240	-0.0372	pCi/sample	-4.70E-06	-4.70E-18	2.00E-15	-2.35E-03	U	
AMD746U	Q1AMD746U1-16	05-Feb-16	Technetium-99	9.2	pCi/sample	1.16E-03	1.16E-15	1.40E-13	8.30E-03	U	
AMD746U	Q1AMD746U1-16	05-Feb-16	Thorium-234	21.7	pCi/sample	2.74E-03	2.74E-15	2.20E-12	1.25E-03	U	
AMD746U	Q1AMD746U1-16	05-Feb-16	Uranium-234	1.94	pCi/sample	2.45E-04	2.45E-16	7.70E-15	3.18E-02		
AMD746U	Q1AMD746U1-16	05-Feb-16	Uranium-235	0.424	pCi/sample	5.36E-05	5.36E-17	7.10E-15	7.54E-03		
AMD746U	Q1AMD746U1-16	05-Feb-16	Uranium-238	2.4	pCi/sample	3.03E-04	3.03E-16	8.30E-15	3.65E-02		
							Sum of the Fractions of the Standard		3.05E-01		
	Quarter Air Flow	7916	m3			pCi/m3	Ci/m3	Ci/m3	Fraction		
AMDBCP	Q1AMDBCP1-16	05-Feb-16	Americium-241	-1.55	pCi/sample	-1.96E-04	-1.96E-16	1.90E-15	-1.03E-01	U	
AMDBCP	Q1AMDBCP1-16	05-Feb-16	Neptunium-237	-0.0968	pCi/sample	-1.22E-05	-1.22E-17	1.20E-15	-1.02E-02	U	
AMDBCP	Q1AMDBCP1-16	05-Feb-16	Plutonium-238	-0.0192	pCi/sample	-2.43E-06	-2.43E-18	2.10E-15	-1.15E-03	U	
AMDBCP	Q1AMDBCP1-16	05-Feb-16	Plutonium-239/240	0.182	pCi/sample	2.30E-05	2.30E-17	2.00E-15	1.15E-02	U	
AMDBCP	Q1AMDBCP1-16	05-Feb-16	Technetium-99	1.44	pCi/sample	1.82E-04	1.82E-16	1.40E-13	1.30E-03	U	
AMDBCP	Q1AMDBCP1-16	05-Feb-16	Thorium-234	-25.9	pCi/sample	-3.27E-03	-3.27E-15	2.20E-12	-1.49E-03	U	
AMDBCP	Q1AMDBCP1-16	05-Feb-16	Uranium-234	2.1	pCi/sample	2.65E-04	2.65E-16	7.70E-15	3.45E-02		
AMDBCP	Q1AMDBCP1-16	05-Feb-16	Uranium-235	0.173	pCi/sample	2.19E-05	2.19E-17	7.10E-15	3.08E-03	U	
AMDBCP	Q1AMDBCP1-16	05-Feb-16	Uranium-238	1.61	pCi/sample	2.03E-04	2.03E-16	8.30E-15	2.45E-02		
							Sum of the Fractions of the Standard		-4.11E-02		
	Quarter Air Flow	7920	m3			pCi/m3	Ci/m3	Ci/m3	Fraction		
AMDNE	Q1AMDNE1-16	05-Feb-16	Americium-241	-2.04	pCi/sample	-2.58E-04	-2.58E-16	1.90E-15	-1.36E-01	U	
AMDNE	Q1AMDNE1-16	05-Feb-16	Neptunium-237	0.0404	pCi/sample	5.10E-06	5.10E-18	1.20E-15	4.25E-03	U	
AMDNE	Q1AMDNE1-16	05-Feb-16	Plutonium-238	0	pCi/sample	0.00E+00	0.00E+00	2.10E-15	0.00E+00	U	
AMDNE	Q1AMDNE1-16	05-Feb-16	Plutonium-239/240	-0.137	pCi/sample	-1.73E-05	-1.73E-17	2.00E-15	-8.65E-03	U	
AMDNE	Q1AMDNE1-16	05-Feb-16	Technetium-99	13.6	pCi/sample	1.72E-03	1.72E-15	1.40E-13	1.23E-02	U	
AMDNE	Q1AMDNE1-16	05-Feb-16	Thorium-234	54.9	pCi/sample	6.93E-03	6.93E-15	2.20E-12	3.15E-03	U	
AMDNE	Q1AMDNE1-16	05-Feb-16	Uranium-234	2.26	pCi/sample	2.85E-04	2.85E-16	7.70E-15	3.71E-02		
AMDNE	Q1AMDNE1-16	05-Feb-16	Uranium-235	0.188	pCi/sample	2.37E-05	2.37E-17	7.10E-15	3.34E-03	U	
AMDNE	Q1AMDNE1-16	05-Feb-16	Uranium-238	2.53	pCi/sample	3.19E-04	3.19E-16	8.30E-15	3.85E-02		
							Sum of the Fractions of the Standard		-4.57E-02		

Table A.2. Ambient Air Monitoring 2015 Individual Sample Isotopic Concentrations

STA_NAME	D_COLLECTED	CHEMICAL_NAME	ANA_METHOD	RESULTS	UNITS	RSLTQUAL	ETECT_LIMI	RAD_ERR	TPU
AMD002	30-Apr-15	Americium-241	EPA-901.1-M	1.39	pCi/sample	U	4.73	2.798	2.798
AMD002	30-Apr-15	Neptunium-237	EPA-901.1-M	-0.031	pCi/sample	U	8	20.903	20.903
AMD002	30-Apr-15	Plutonium-238	Eichrom ACW-03	-0.02	pCi/sample	U	0.172	0.057	0.057
AMD002	30-Apr-15	Plutonium-239/240	Eichrom ACW-03	0.133	pCi/sample	U	0.156	0.118	0.119
AMD002	30-Apr-15	Protactinium-233	EPA-901.1-M	-0.031	pCi/sample	U	8	20.903	20.903
AMD002	30-Apr-15	Technetium-99	Eichrom TCW01	53	pCi/sample		15	15	15
AMD002	30-Apr-15	Thorium-234	EPA-901.1-M	23.388	pCi/sample	U	55.5	37.203	37.253
AMD002	30-Apr-15	Uranium-234	Eichrom ACW-03	0.176	pCi/sample	U	0.428	0.252	0.252
AMD002	30-Apr-15	Uranium-235	Eichrom ACW-03	0.14	pCi/sample	U	0.296	0.178	0.179
AMD002	30-Apr-15	Uranium-238	EPA-901.1-M	23.388	pCi/sample	U	55.5	37.203	37.253
AMD002	30-Apr-15	Uranium-238	Eichrom ACW-03	0.371	pCi/sample	U	0.408	0.268	0.272
AMD002	22-Jul-15	Americium-241	EPA-901.1-M	0.888	pCi/sample	U	4.66	2.717	2.718
AMD002	22-Jul-15	Neptunium-237	EPA-901.1-M	0.832	pCi/sample	U	7.23	4.091	4.092
AMD002	22-Jul-15	Plutonium-238	Eichrom ACW-03	0.063	pCi/sample	U	0.086	0.088	0.088
AMD002	22-Jul-15	Plutonium-239/240	Eichrom ACW-03	0.111	pCi/sample	U	0.242	0.149	0.149
AMD002	22-Jul-15	Protactinium-233	EPA-901.1-M	0.832	pCi/sample	U	7.23	4.091	4.092
AMD002	22-Jul-15	Technetium-99	EICHROM TCW01	121	pCi/sample		27	18	33
AMD002	22-Jul-15	Thorium-234	EPA-901.1-M	16.407	pCi/sample	U	48.7	27.464	27.498
AMD002	22-Jul-15	Uranium-234	Eichrom ACW-03	2.029	pCi/sample		0.417	0.532	0.585
AMD002	22-Jul-15	Uranium-235	Eichrom ACW-03	-0.018	pCi/sample	U	0.329	0.128	0.128
AMD002	22-Jul-15	Uranium-238	Eichrom ACW-03	1.464	pCi/sample		0.481	0.481	0.512
AMD002	22-Jul-15	Uranium-238	EPA-901.1-M	16.407	pCi/sample	U	48.7	27.464	27.498
AMD002	13-Nov-15	Americium-241	EPA-901.1-M	1.968	pCi/sample	U	4.64	2.792	2.796
AMD002	13-Nov-15	Neptunium-237	EPA-901.1-M	-1.824	pCi/sample	U	8.95	5.482	5.483
AMD002	13-Nov-15	Plutonium-238	Eichrom ACW-03	0.086	pCi/sample	U	0.291	0.158	0.159
AMD002	13-Nov-15	Plutonium-239/240	Eichrom ACW-03	0.281	pCi/sample		0.24	0.228	0.23
AMD002	13-Nov-15	Protactinium-233	EPA-901.1-M	-1.824	pCi/sample	U	8.95	5.482	5.483
AMD002	13-Nov-15	Technetium-99	EICHROM TCW01	11.7	pCi/sample		10	6.2	6.8
AMD002	13-Nov-15	Thorium-234	EPA-901.1-M	-21.847	pCi/sample	U	61.3	68.534	68.558
AMD002	13-Nov-15	Uranium-234	Eichrom ACW-03	6.861	pCi/sample	X	1.66	2.02	2.183
AMD002	13-Nov-15	Uranium-235	Eichrom ACW-03	0.382	pCi/sample	UX	1.169	0.653	0.655
AMD002	13-Nov-15	Uranium-238	Eichrom ACW-03	24.492	pCi/sample	X	1.949	3.645	4.696
AMD002	13-Nov-15	Uranium-238	EPA-901.1-M	-21.847	pCi/sample	U	61.3	68.534	68.558
AMD002	05-Feb-16	Americium-241	HASL 300, 4.5.2.3	0.0899	pCi/sample	U	2.66	1.66	1.66
AMD002	05-Feb-16	Neptunium-237	HASL 300, 4.5.2.3	-1	pCi/sample	U	3.92	2.27	2.31
AMD002	05-Feb-16	Plutonium-238	HASL 300, Pu-11-RC M	-0.0212	pCi/Sample	U	0.423	0.183	0.183
AMD002	05-Feb-16	Plutonium-239/240	HASL 300, Pu-11-RC M	-0.127	pCi/Sample	U	0.652	0.205	0.205
AMD002	05-Feb-16	Protactinium-233	HASL 300, 4.5.2.3	-1	pCi/sample	U	3.92	2.27	2.31
AMD002	05-Feb-16	Technetium-99	HASL 300, Tc-02-RC M	36	pCi/Sample	U	70.1	41.7	41.8
AMD002	05-Feb-16	Thorium-234	HASL 300, 4.5.2.3	0.775	pCi/sample	U	27.2	42.3	42.3
AMD002	05-Feb-16	Uranium-234	HASL 300, U-02-RC M	1.64	pCi/Sample		0.368	0.638	0.677
AMD002	05-Feb-16	Uranium-235	HASL 300, U-02-RC M	0.354	pCi/Sample	U	0.357	0.361	0.364
AMD002	05-Feb-16	Uranium-238	HASL 300, 4.5.2.3	0.775	pCi/sample	U	27.2	42.3	42.3
AMD002	05-Feb-16	Uranium-238	HASL 300, U-02-RC M	2.5	pCi/Sample		0.333	0.775	0.848
AMD012	30-Apr-15	Americium-241	EPA-901.1-M	-2.004	pCi/sample	U	4.94	3.523	3.527
AMD012	30-Apr-15	Neptunium-237	EPA-901.1-M	-2.013	pCi/sample	U	7.83	7.424	7.426

U = Indicates the analyte was analyzed for but not detected.
X = Lab noted tracer recovery was below acceptance criteria.

Table A.2. Ambient Air Monitoring 2015 Individual Sample Isotopic Concentrations (Continued)

STA_NAME	D_COLLECTED	CHEMICAL_NAME	ANA_METHOD	RESULTS	UNITS	RSLTQUAL	ETECT_LIMI	RAD_ERR	TPU
AMD012	30-Apr-15	Plutonium-238	Eichrom ACW-03	0.114	pCi/sample	U	0.159	0.11	0.111
AMD012	30-Apr-15	Plutonium-239/240	Eichrom ACW-03	0.061	pCi/sample	U	0.134	0.082	0.082
AMD012	30-Apr-15	Protactinium-233	EPA-901.1-M	-2.013	pCi/sample	U	7.83	7.424	7.426
AMD012	30-Apr-15	Technetium-99	Eichrom TCW01	46	pCi/sample		13	14	14
AMD012	30-Apr-15	Thorium-234	EPA-901.1-M	19.078	pCi/sample	U	58.5	13.789	13.879
AMD012	30-Apr-15	Uranium-234	Eichrom ACW-03	0.546	pCi/sample		0.325	0.248	0.256
AMD012	30-Apr-15	Uranium-235	Eichrom ACW-03	0.128	pCi/sample	U	0.306	0.18	0.181
AMD012	30-Apr-15	Uranium-238	EPA-901.1-M	19.078	pCi/sample	U	58.5	13.789	13.879
AMD012	30-Apr-15	Uranium-238	Eichrom ACW-03	0.593	pCi/sample		0.317	0.25	0.26
AMD012	22-Jul-15	Americium-241	EPA-901.1-M	-0.347	pCi/sample	U	4.5	8.43	8.43
AMD012	22-Jul-15	Neptunium-237	EPA-901.1-M	-0.386	pCi/sample	U	7.74	29.017	29.017
AMD012	22-Jul-15	Plutonium-238	Eichrom ACW-03	0	pCi/sample	U	0.092	0.067	0.067
AMD012	22-Jul-15	Plutonium-239/240	Eichrom ACW-03	0	pCi/sample	U	0.23	0.082	0.082
AMD012	22-Jul-15	Protactinium-233	EPA-901.1-M	-0.386	pCi/sample	U	7.74	29.017	29.017
AMD012	22-Jul-15	Technetium-99	EICHROM TCW01	68	pCi/sample		32	20	25
AMD012	22-Jul-15	Thorium-234	EPA-901.1-M	44.378	pCi/sample	U	48.7	26.282	26.537
AMD012	22-Jul-15	Uranium-234	Eichrom ACW-03	1.317	pCi/sample		0.395	0.422	0.451
AMD012	22-Jul-15	Uranium-235	Eichrom ACW-03	-0.032	pCi/sample	U	0.219	0.045	0.045
AMD012	22-Jul-15	Uranium-238	EPA-901.1-M	44.378	pCi/sample	U	48.7	26.282	26.537
AMD012	22-Jul-15	Uranium-238	Eichrom ACW-03	1.259	pCi/sample		0.395	0.414	0.441
AMD012	13-Nov-15	Americium-241	EPA-901.1-M	1.482	pCi/sample	U	3.99	2.361	2.364
AMD012	13-Nov-15	Neptunium-237	EPA-901.1-M	-1.487	pCi/sample	U	8.05	9.22	9.22
AMD012	13-Nov-15	Plutonium-238	Eichrom ACW-03	0.019	pCi/sample	U	0.392	0.18	0.18
AMD012	13-Nov-15	Plutonium-239/240	Eichrom ACW-03	0.268	pCi/sample	U	0.322	0.237	0.239
AMD012	13-Nov-15	Protactinium-233	EPA-901.1-M	-1.487	pCi/sample	U	8.05	9.22	9.22
AMD012	13-Nov-15	Technetium-99	EICHROM TCW01	15.4	pCi/sample		11	6.7	7.6
AMD012	13-Nov-15	Thorium-234	EPA-901.1-M	20.279	pCi/sample	U	49.2	27.261	27.312
AMD012	13-Nov-15	Uranium-234	Eichrom ACW-03	14.324	pCi/sample		0.482	1.667	2.404
AMD012	13-Nov-15	Uranium-235	Eichrom ACW-03	0.634	pCi/sample		0.485	0.423	0.43
AMD012	13-Nov-15	Uranium-238	Eichrom ACW-03	13.849	pCi/sample		0.582	1.647	2.348
AMD012	13-Nov-15	Uranium-238	EPA-901.1-M	20.279	pCi/sample	U	49.2	27.261	27.312
AMD012	05-Feb-16	Americium-241	HASL 300, 4.5.2.3	-2.66	pCi/sample	U	24.3	21.6	21.6
AMD012	05-Feb-16	Neptunium-237	HASL 300, 4.5.2.3	0.873	pCi/sample	U	6.38	3.64	3.67
AMD012	05-Feb-16	Plutonium-238	HASL 300, Pu-11-RC M	0.0454	pCi/Sample	U	0.484	0.252	0.253
AMD012	05-Feb-16	Plutonium-239/240	HASL 300, Pu-11-RC M	-0.0628	pCi/Sample	U	0.533	0.19	0.19
AMD012	05-Feb-16	Protactinium-233	HASL 300, 4.5.2.3	0.873	pCi/sample	U	6.38	3.64	3.67
AMD012	05-Feb-16	Technetium-99	HASL 300, Tc-02-RC M	26.4	pCi/Sample	U	68.7	40.5	40.6
AMD012	05-Feb-16	Thorium-234	HASL 300, 4.5.2.3	104	pCi/sample	U	175	187	188
AMD012	05-Feb-16	Uranium-234	HASL 300, U-02-RC M	2.54	pCi/Sample		0.356	0.808	0.882
AMD012	05-Feb-16	Uranium-235	HASL 300, U-02-RC M	0.219	pCi/Sample	U	0.381	0.316	0.317
AMD012	05-Feb-16	Uranium-238	HASL 300, U-02-RC M	1.9	pCi/Sample		0.356	0.703	0.751
AMD012	05-Feb-16	Uranium-238	HASL 300, 4.5.2.3	104	pCi/sample	U	175	187	188
AMD015	30-Apr-15	Americium-241	EPA-901.1-M	1.372	pCi/sample	U	2.98	2.293	2.296
AMD015	30-Apr-15	Neptunium-237	EPA-901.1-M	3.009	pCi/sample	U	5.35	4.636	4.642
AMD015	30-Apr-15	Plutonium-238	Eichrom ACW-03	-0.019	pCi/sample	U	0.162	0.053	0.054
AMD015	30-Apr-15	Plutonium-239/240	Eichrom ACW-03	-0.019	pCi/sample	U	0.162	0.053	0.053

U = Indicates the analyte was analyzed for but not detected.

X = Lab noted tracer recovery was below acceptance criteria.

Table A.2. Ambient Air Monitoring 2015 Individual Sample Isotopic Concentrations (Continued)

STA_NAME	D_COLLECTED	CHEMICAL_NAME	ANA_METHOD	RESULTS	UNITS	RSLTQUAL	ETECT_LIMI	RAD_ERR	TPU
AMD015	30-Apr-15	Protactinium-233	EPA-901.1-M	3.009	pCi/sample	U	5.35	4.636	4.642
AMD015	30-Apr-15	Technetium-99	Eichrom TCW01	30	pCi/sample		17	13	13
AMD015	30-Apr-15	Thorium-234	EPA-901.1-M	15.195	pCi/sample	U	35.4	11.378	11.432
AMD015	30-Apr-15	Uranium-234	Eichrom ACW-03	0.982	pCi/sample		0.221	0.277	0.301
AMD015	30-Apr-15	Uranium-235	Eichrom ACW-03	0.051	pCi/sample	U	0.155	0.087	0.087
AMD015	30-Apr-15	Uranium-238	EPA-901.1-M	15.195	pCi/sample	U	35.4	11.378	11.432
AMD015	30-Apr-15	Uranium-238	Eichrom ACW-03	0.446	pCi/sample		0.197	0.195	0.202
AMD015	22-Jul-15	Americium-241	EPA-901.1-M	2.324	pCi/sample	U	3.7	2.295	2.302
AMD015	22-Jul-15	Neptunium-237	EPA-901.1-M	0.185	pCi/sample	U	7.2	4.048	4.048
AMD015	22-Jul-15	Plutonium-238	Eichrom ACW-03	0.022	pCi/sample	U	0.249	0.098	0.098
AMD015	22-Jul-15	Plutonium-239/240	Eichrom ACW-03	-0.045	pCi/sample	U	0.377	0.124	0.124
AMD015	22-Jul-15	Protactinium-233	EPA-901.1-M	0.185	pCi/sample	U	7.2	4.048	4.048
AMD015	22-Jul-15	Technetium-99	EICHROM TCW01	42	pCi/sample		29	18	20
AMD015	22-Jul-15	Thorium-234	EPA-901.1-M	25.531	pCi/sample	U	44.4	19.971	20.077
AMD015	22-Jul-15	Uranium-234	Eichrom ACW-03	1.541	pCi/sample		0.277	0.409	0.449
AMD015	22-Jul-15	Uranium-235	Eichrom ACW-03	0.104	pCi/sample	U	0.165	0.12	0.121
AMD015	22-Jul-15	Uranium-238	EPA-901.1-M	25.531	pCi/sample	U	44.4	19.971	20.077
AMD015	22-Jul-15	Uranium-238	Eichrom ACW-03	1.935	pCi/sample		0.435	0.488	0.541
AMD015	13-Nov-15	Americium-241	EPA-901.1-M	-3.405	pCi/sample	U	8.73	5.264	5.271
AMD015	13-Nov-15	Neptunium-237	EPA-901.1-M	1.899	pCi/sample	U	5.82	3.431	3.434
AMD015	13-Nov-15	Plutonium-238	Eichrom ACW-03	0.12	pCi/sample	U	0.386	0.214	0.214
AMD015	13-Nov-15	Plutonium-239/240	Eichrom ACW-03	0.159	pCi/sample	U	0.268	0.183	0.184
AMD015	13-Nov-15	Protactinium-233	EPA-901.1-M	1.899	pCi/sample	U	5.82	3.431	3.434
AMD015	13-Nov-15	Technetium-99	EICHROM TCW01	14.9	pCi/sample		13	7.9	8.6
AMD015	13-Nov-15	Thorium-234	EPA-901.1-M	24.995	pCi/sample	U	59.8	13.858	14.004
AMD015	13-Nov-15	Uranium-234	Eichrom ACW-03	0.761	pCi/sample	U	1.126	0.723	0.729
AMD015	13-Nov-15	Uranium-235	Eichrom ACW-03	0.132	pCi/sample	U	0.904	0.449	0.449
AMD015	13-Nov-15	Uranium-238	EPA-901.1-M	24.995	pCi/sample	U	59.8	13.858	14.004
AMD015	13-Nov-15	Uranium-238	Eichrom ACW-03	1.025	pCi/sample		0.855	0.67	0.681
AMD015	05-Feb-16	Americium-241	HASL 300, 4.5.2.3	4.23	pCi/sample	U	12.3	6.88	7.15
AMD015	05-Feb-16	Neptunium-237	HASL 300, 4.5.2.3	-1.88	pCi/sample	U	4.2	2.57	2.71
AMD015	05-Feb-16	Plutonium-238	HASL 300, Pu-11-RC M	0	pCi/Sample	U	0.244	0.164	0.164
AMD015	05-Feb-16	Plutonium-239/240	HASL 300, Pu-11-RC M	0.165	pCi/Sample	U	0.534	0.329	0.33
AMD015	05-Feb-16	Protactinium-233	HASL 300, 4.5.2.3	-1.88	pCi/sample	U	4.2	2.57	2.71
AMD015	05-Feb-16	Technetium-99	HASL 300, Tc-02-RC M	30.5	pCi/Sample	U	62.2	36.9	37
AMD015	05-Feb-16	Thorium-234	HASL 300, 4.5.2.3	-73.4	pCi/sample	U	109	95.5	103
AMD015	05-Feb-16	Uranium-234	HASL 300, U-02-RC M	1.97	pCi/Sample		0.257	0.648	0.699
AMD015	05-Feb-16	Uranium-235	HASL 300, U-02-RC M	0.249	pCi/Sample	U	0.317	0.293	0.295
AMD015	05-Feb-16	Uranium-238	HASL 300, U-02-RC M	2.18	pCi/Sample		0.257	0.681	0.74
AMD015	05-Feb-16	Uranium-238	HASL 300, 4.5.2.3	-73.4	pCi/sample	U	109	95.5	103
AMD57	30-Apr-15	Americium-241	EPA-901.1-M	0.25	pCi/sample	U	4.43	2.522	2.522
AMD57	30-Apr-15	Neptunium-237	EPA-901.1-M	-0.01	pCi/sample	U	8.8	7.552	7.552
AMD57	30-Apr-15	Plutonium-238	Eichrom ACW-03	-0.045	pCi/sample	U	0.19	0.044	0.045
AMD57	30-Apr-15	Plutonium-239/240	Eichrom ACW-03	0.045	pCi/sample	U	0.152	0.083	0.083
AMD57	30-Apr-15	Protactinium-233	EPA-901.1-M	-0.01	pCi/sample	U	8.8	7.552	7.552
AMD57	30-Apr-15	Technetium-99	Eichrom TCW01	24.9	pCi/sample		9.3	8.2	8.2

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Table A.2. Ambient Air Monitoring 2015 Individual Sample Isotopic Concentrations (Continued)

STA_NAME	D_COLLECTED	CHEMICAL_NAME	ANA_METHOD	RESULTS	UNITS	RSLTQUAL	ETECT_LIMI	RAD_ERR	TPU
AMD57	30-Apr-15	Thorium-234	EPA-901.1-M	-3.138	pCi/sample	U	56.7	38.915	38.915
AMD57	30-Apr-15	Uranium-234	Eichrom ACW-03	0.353	pCi/sample		0.294	0.208	0.212
AMD57	30-Apr-15	Uranium-235	Eichrom ACW-03	0.017	pCi/sample	U	0.169	0.08	0.08
AMD57	30-Apr-15	Uranium-238	Eichrom ACW-03	0.308	pCi/sample		0.246	0.181	0.185
AMD57	30-Apr-15	Uranium-238	EPA-901.1-M	-3.138	pCi/sample	U	56.7	38.915	38.915
AMD57	22-Jul-15	Americium-241	EPA-901.1-M	10.444	pCi/sample		7.82	5.029	5.094
AMD57	22-Jul-15	Neptunium-237	EPA-901.1-M	-0.717	pCi/sample	U	6.93	3.944	3.945
AMD57	22-Jul-15	Plutonium-238	Eichrom ACW-03	0.106	pCi/sample	U	0.275	0.16	0.16
AMD57	22-Jul-15	Plutonium-239/240	Eichrom ACW-03	-0.045	pCi/sample	U	0.231	0.051	0.052
AMD57	22-Jul-15	Protactinium-233	EPA-901.1-M	-0.717	pCi/sample	U	6.93	3.944	3.945
AMD57	22-Jul-15	Technetium-99	EICHROM TCW01	13	pCi/sample	U	24	15	15
AMD57	22-Jul-15	Thorium-234	EPA-901.1-M	34.661	pCi/sample	U	46	21.751	21.931
AMD57	22-Jul-15	Uranium-234	Eichrom ACW-03	0.751	pCi/sample		0.234	0.299	0.312
AMD57	22-Jul-15	Uranium-235	Eichrom ACW-03	0.097	pCi/sample	U	0.217	0.134	0.135
AMD57	22-Jul-15	Uranium-238	EPA-901.1-M	34.661	pCi/sample	U	46	21.751	21.931
AMD57	22-Jul-15	Uranium-238	Eichrom ACW-03	0.513	pCi/sample		0.381	0.297	0.303
AMD57	13-Nov-15	Americium-241	EPA-901.1-M	0.264	pCi/sample	U	3.68	2.743	2.743
AMD57	13-Nov-15	Neptunium-237	EPA-901.1-M	3.342	pCi/sample	U	6.28	2.582	2.594
AMD57	13-Nov-15	Plutonium-238	Eichrom ACW-03	0.216	pCi/sample		0.117	0.19	0.191
AMD57	13-Nov-15	Plutonium-239/240	Eichrom ACW-03	0.065	pCi/sample	U	0.393	0.194	0.194
AMD57	13-Nov-15	Protactinium-233	EPA-901.1-M	3.342	pCi/sample	U	6.28	2.582	2.594
AMD57	13-Nov-15	Technetium-99	EICHROM TCW01	17	pCi/sample	U	17	10	11
AMD57	13-Nov-15	Thorium-234	EPA-901.1-M	0	pCi/sample	U	35.4	5.466	5.466
AMD57	13-Nov-15	Uranium-234	Eichrom ACW-03	0.859	pCi/sample		0.525	0.517	0.528
AMD57	13-Nov-15	Uranium-235	Eichrom ACW-03	0.08	pCi/sample	U	0.216	0.156	0.156
AMD57	13-Nov-15	Uranium-238	EPA-901.1-M	0	pCi/sample	U	35.4	5.466	5.466
AMD57	13-Nov-15	Uranium-238	Eichrom ACW-03	0.857	pCi/sample		0.834	0.612	0.621
AMD57	05-Feb-16	Americium-241	HASL 300, 4.5.2.3	-0.845	pCi/sample	U	2.24	1.41	1.46
AMD57	05-Feb-16	Neptunium-237	HASL 300, 4.5.2.3	0.939	pCi/sample	U	4.68	2.67	2.7
AMD57	05-Feb-16	Plutonium-238	HASL 300, Pu-11-RC M	-0.0173	pCi/Sample	U	0.345	0.149	0.149
AMD57	05-Feb-16	Plutonium-239/240	HASL 300, Pu-11-RC M	-0.0517	pCi/Sample	U	0.439	0.156	0.156
AMD57	05-Feb-16	Protactinium-233	HASL 300, 4.5.2.3	0.939	pCi/sample	U	4.68	2.67	2.7
AMD57	05-Feb-16	Technetium-99	HASL 300, Tc-02-RC M	7.47	pCi/Sample	U	65.8	38.2	38.2
AMD57	05-Feb-16	Thorium-234	HASL 300, 4.5.2.3	-22.8	pCi/sample	U	23.2	20.4	23.5
AMD57	05-Feb-16	Uranium-234	HASL 300, U-02-RC M	2.33	pCi/Sample		0.365	0.723	0.789
AMD57	05-Feb-16	Uranium-235	HASL 300, U-02-RC M	0.31	pCi/Sample	U	0.38	0.334	0.336
AMD57	05-Feb-16	Uranium-238	HASL 300, U-02-RC M	1.93	pCi/Sample		0.389	0.664	0.713
AMD57	05-Feb-16	Uranium-238	HASL 300, 4.5.2.3	-22.8	pCi/sample	U	23.2	20.4	23.5
AMD612	30-Apr-15	Americium-241	EPA-901.1-M	2.086	pCi/sample	U	3.7	2.263	2.269
AMD612	30-Apr-15	Neptunium-237	EPA-901.1-M	1.116	pCi/sample	U	6.3	3.502	3.502
AMD612	30-Apr-15	Plutonium-238	Eichrom ACW-03	0.018	pCi/sample	U	0.123	0.056	0.057
AMD612	30-Apr-15	Plutonium-239/240	Eichrom ACW-03	0	pCi/sample	U	0.049	0.036	0.036
AMD612	30-Apr-15	Protactinium-233	EPA-901.1-M	1.116	pCi/sample	U	6.3	3.502	3.502
AMD612	30-Apr-15	Technetium-99	Eichrom TCW01	22.3	pCi/sample		9.9	8	8
AMD612	30-Apr-15	Thorium-234	EPA-901.1-M	50.458	pCi/sample		48.9	24.219	24.576
AMD612	30-Apr-15	Uranium-234	Eichrom ACW-03	0.322	pCi/sample		0.224	0.183	0.187

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Table A.2. Ambient Air Monitoring 2015 Individual Sample Isotopic Concentrations (Continued)

STA_NAME	D_COLLECTED	CHEMICAL_NAME	ANA_METHOD	RESULTS	UNITS	RSLTQUAL	ETECT_LIMI	RAD_ERR	TPU
AMD612	30-Apr-15	Uranium-235	Eichrom ACW-03	0.011	pCi/sample	U	0.163	0.069	0.069
AMD612	30-Apr-15	Uranium-238	EPA-901.1-M	50.458	pCi/sample		48.9	24.219	24.576
AMD612	30-Apr-15	Uranium-238	Eichrom ACW-03	0.385	pCi/sample		0.154	0.176	0.182
AMD612	22-Jul-15	Americium-241	EPA-901.1-M	0.317	pCi/sample	U	3.2	2.365	2.365
AMD612	22-Jul-15	Neptunium-237	EPA-901.1-M	-1.349	pCi/sample	U	7.57	6.468	6.468
AMD612	22-Jul-15	Plutonium-238	Eichrom ACW-03	0	pCi/sample	U	0.094	0.068	0.068
AMD612	22-Jul-15	Plutonium-239/240	Eichrom ACW-03	-0.052	pCi/sample	U	0.266	0.059	0.059
AMD612	22-Jul-15	Protactinium-233	EPA-901.1-M	-1.349	pCi/sample	U	7.57	6.468	6.468
AMD612	22-Jul-15	Technetium-99	EICHROM TCW01	22	pCi/sample	U	22	13	14
AMD612	22-Jul-15	Thorium-234	EPA-901.1-M	0	pCi/sample	U	34.6	10.932	10.932
AMD612	22-Jul-15	Uranium-234	Eichrom ACW-03	0.801	pCi/sample		0.313	0.321	0.335
AMD612	22-Jul-15	Uranium-235	Eichrom ACW-03	0.015	pCi/sample	U	0.237	0.101	0.101
AMD612	22-Jul-15	Uranium-238	Eichrom ACW-03	0.72	pCi/sample		0.356	0.32	0.331
AMD612	22-Jul-15	Uranium-238	EPA-901.1-M	0	pCi/sample	U	34.6	10.932	10.932
AMD612	13-Nov-15	Americium-241	EPA-901.1-M	1.272	pCi/sample	U	4.98	2.932	2.933
AMD612	13-Nov-15	Neptunium-237	EPA-901.1-M	-0.145	pCi/sample	U	8.48	9.518	9.518
AMD612	13-Nov-15	Plutonium-238	Eichrom ACW-03	0.131	pCi/sample	U	0.208	0.151	0.152
AMD612	13-Nov-15	Plutonium-239/240	Eichrom ACW-03	0.15	pCi/sample	U	0.252	0.172	0.173
AMD612	13-Nov-15	Protactinium-233	EPA-901.1-M	-0.145	pCi/sample	U	8.48	9.518	9.518
AMD612	13-Nov-15	Technetium-99	EICHROM TCW01	10.7	pCi/sample	U	11	6.7	7.1
AMD612	13-Nov-15	Thorium-234	EPA-901.1-M	48.779	pCi/sample	U	52.7	25.217	25.537
AMD612	13-Nov-15	Uranium-234	Eichrom ACW-03	1.728	pCi/sample		0.761	0.793	0.82
AMD612	13-Nov-15	Uranium-235	Eichrom ACW-03	0.182	pCi/sample	U	0.247	0.252	0.253
AMD612	13-Nov-15	Uranium-238	EPA-901.1-M	48.779	pCi/sample	U	52.7	25.217	25.537
AMD612	13-Nov-15	Uranium-238	Eichrom ACW-03	1.019	pCi/sample		0.76	0.643	0.655
AMD612	05-Feb-16	Americium-241	HASL 300, 4.5.2.3	-29	pCi/sample	U	10.2	6.41	14.8
AMD612	05-Feb-16	Neptunium-237	HASL 300, 4.5.2.3	1.99	pCi/sample	U	4.38	2.91	3.05
AMD612	05-Feb-16	Plutonium-238	HASL 300, Pu-11-RC M	0.0363	pCi/Sample	U	0.387	0.202	0.202
AMD612	05-Feb-16	Plutonium-239/240	HASL 300, Pu-11-RC M	-0.0335	pCi/Sample	U	0.386	0.148	0.148
AMD612	05-Feb-16	Protactinium-233	HASL 300, 4.5.2.3	1.99	pCi/sample	U	4.38	2.91	3.05
AMD612	05-Feb-16	Technetium-99	HASL 300, Tc-02-RC M	-7.36	pCi/Sample	U	64.8	37.1	37.1
AMD612	05-Feb-16	Thorium-234	HASL 300, 4.5.2.3	5.92	pCi/sample	U	106	86	86
AMD612	05-Feb-16	Uranium-234	HASL 300, U-02-RC M	2.34	pCi/Sample		0.355	0.777	0.843
AMD612	05-Feb-16	Uranium-235	HASL 300, U-02-RC M	0.32	pCi/Sample	U	0.522	0.39	0.392
AMD612	05-Feb-16	Uranium-238	HASL 300, 4.5.2.3	5.92	pCi/sample	U	106	86	86
AMD612	05-Feb-16	Uranium-238	HASL 300, U-02-RC M	2.61	pCi/Sample		0.308	0.816	0.894
AMD746S	30-Apr-15	Americium-241	EPA-901.1-M	0	pCi/sample	U	5.22	3.001	3.001
AMD746S	30-Apr-15	Neptunium-237	EPA-901.1-M	0.409	pCi/sample	U	5.11	2.822	2.822
AMD746S	30-Apr-15	Plutonium-238	Eichrom ACW-03	0.021	pCi/sample	U	0.058	0.042	0.042
AMD746S	30-Apr-15	Plutonium-239/240	Eichrom ACW-03	-0.032	pCi/sample	U	0.162	0.036	0.036
AMD746S	30-Apr-15	Protactinium-233	EPA-901.1-M	0.409	pCi/sample	U	5.11	2.822	2.822
AMD746S	30-Apr-15	Technetium-99	Eichrom TCW01	27	pCi/sample		14	11	11
AMD746S	30-Apr-15	Thorium-234	EPA-901.1-M	23.826	pCi/sample	U	49.5	18.137	18.239
AMD746S	30-Apr-15	Uranium-234	Eichrom ACW-03	0.942	pCi/sample		0.334	0.3	0.321
AMD746S	30-Apr-15	Uranium-235	Eichrom ACW-03	0.116	pCi/sample	U	0.163	0.114	0.115
AMD746S	30-Apr-15	Uranium-238	EPA-901.1-M	23.826	pCi/sample	U	49.5	18.137	18.239

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Table A.2. Ambient Air Monitoring 2015 Individual Sample Isotopic Concentrations (Continued)

STA_NAME	D_COLLECTED	CHEMICAL_NAME	ANA_METHOD	RESULTS	UNITS	RSLTQUAL	ETECT_LIMI	RAD_ERR	TPU
AMD746S	30-Apr-15	Uranium-238	Eichrom ACW-03	0.824	pCi/sample		0.3	0.275	0.293
AMD746S	22-Jul-15	Americium-241	EPA-901.1-M	1.104	pCi/sample	U	4.95	2.905	2.906
AMD746S	22-Jul-15	Neptunium-237	EPA-901.1-M	-1.748	pCi/sample	U	8.27	5.063	5.065
AMD746S	22-Jul-15	Plutonium-238	Eichrom ACW-03	0.03	pCi/sample	U	0.082	0.059	0.06
AMD746S	22-Jul-15	Plutonium-239/240	Eichrom ACW-03	0.076	pCi/sample	U	0.168	0.107	0.107
AMD746S	22-Jul-15	Protactinium-233	EPA-901.1-M	-1.748	pCi/sample	U	8.27	5.063	5.065
AMD746S	22-Jul-15	Technetium-99	EICHROM TCW01	37	pCi/sample		28	17	19
AMD746S	22-Jul-15	Thorium-234	EPA-901.1-M	2.272	pCi/sample	U	58.6	39.163	39.164
AMD746S	22-Jul-15	Uranium-234	Eichrom ACW-03	1.78	pCi/sample		0.267	0.479	0.525
AMD746S	22-Jul-15	Uranium-235	Eichrom ACW-03	0.018	pCi/sample	U	0.205	0.081	0.081
AMD746S	22-Jul-15	Uranium-238	EPA-901.1-M	2.272	pCi/sample	U	58.6	39.163	39.164
AMD746S	22-Jul-15	Uranium-238	Eichrom ACW-03	1.618	pCi/sample		0.214	0.45	0.491
AMD746S	13-Nov-15	Americium-241	EPA-901.1-M	1.5	pCi/sample	U	3.77	2.237	2.241
AMD746S	13-Nov-15	Neptunium-237	EPA-901.1-M	-1.047	pCi/sample	U	6.7	10.557	10.558
AMD746S	13-Nov-15	Plutonium-238	Eichrom ACW-03	0.04	pCi/sample	U	0.109	0.079	0.079
AMD746S	13-Nov-15	Plutonium-239/240	Eichrom ACW-03	0.02	pCi/sample	U	0.224	0.088	0.088
AMD746S	13-Nov-15	Protactinium-233	EPA-901.1-M	-1.047	pCi/sample	U	6.7	10.557	10.558
AMD746S	13-Nov-15	Technetium-99	EICHROM TCW01	3.1	pCi/sample	U	11	6.6	6.6
AMD746S	13-Nov-15	Thorium-234	EPA-901.1-M	21.421	pCi/sample	U	47	27.34	27.398
AMD746S	13-Nov-15	Uranium-234	Eichrom ACW-03	1.05	pCi/sample		0.595	0.605	0.618
AMD746S	13-Nov-15	Uranium-235	Eichrom ACW-03	0.142	pCi/sample	U	0.48	0.263	0.263
AMD746S	13-Nov-15	Uranium-238	EPA-901.1-M	21.421	pCi/sample	U	47	27.34	27.398
AMD746S	13-Nov-15	Uranium-238	Eichrom ACW-03	1.397	pCi/sample		0.752	0.722	0.741
AMD746S	05-Feb-16	Americium-241	HASL 300, 4.5.2.3	-7.9	pCi/sample	U	11.7	6.84	7.77
AMD746S	05-Feb-16	Neptunium-237	HASL 300, 4.5.2.3	0.472	pCi/sample	U	6.13	3.67	3.68
AMD746S	05-Feb-16	Plutonium-238	HASL 300, Pu-11-RC M	0	pCi/Sample	U	0.219	0.147	0.147
AMD746S	05-Feb-16	Plutonium-239/240	HASL 300, Pu-11-RC M	-0.0699	pCi/Sample	U	0.48	0.162	0.162
AMD746S	05-Feb-16	Protactinium-233	HASL 300, 4.5.2.3	0.472	pCi/sample	U	6.13	3.67	3.68
AMD746S	05-Feb-16	Technetium-99	HASL 300, Tc-02-RC M	15.6	pCi/Sample	U	66.8	39	39.1
AMD746S	05-Feb-16	Thorium-234	HASL 300, 4.5.2.3	-68.8	pCi/sample	U	108	90.8	97.3
AMD746S	05-Feb-16	Uranium-234	HASL 300, U-02-RC M	1.65	pCi/Sample		0.583	0.821	0.864
AMD746S	05-Feb-16	Uranium-235	HASL 300, U-02-RC M	0.444	pCi/Sample	U	0.566	0.523	0.528
AMD746S	05-Feb-16	Uranium-238	HASL 300, 4.5.2.3	-68.8	pCi/sample	U	108	90.8	97.3
AMD746S	05-Feb-16	Uranium-238	HASL 300, U-02-RC M	2.75	pCi/Sample		0.458	1.03	1.12
AMD746U	30-Apr-15	Americium-241	EPA-901.1-M	0.317	pCi/sample	U	3.2	2.365	2.365
AMD746U	30-Apr-15	Neptunium-237	EPA-901.1-M	1.037	pCi/sample	U	5.68	4.752	4.752
AMD746U	30-Apr-15	Plutonium-238	Eichrom ACW-03	0	pCi/sample	U	0.048	0.035	0.035
AMD746U	30-Apr-15	Plutonium-239/240	Eichrom ACW-03	0	pCi/sample	U	0.048	0.035	0.035
AMD746U	30-Apr-15	Protactinium-233	EPA-901.1-M	1.037	pCi/sample	U	5.68	4.752	4.752
AMD746U	30-Apr-15	Technetium-99	Eichrom TCW01	21.3	pCi/sample		10	8.1	8.1
AMD746U	30-Apr-15	Thorium-234	EPA-901.1-M	6.242	pCi/sample	U	31.3	23.962	23.966
AMD746U	30-Apr-15	Uranium-234	Eichrom ACW-03	0.476	pCi/sample		0.136	0.17	0.18
AMD746U	30-Apr-15	Uranium-235	Eichrom ACW-03	0.008	pCi/sample	U	0.09	0.036	0.036
AMD746U	30-Apr-15	Uranium-238	Eichrom ACW-03	0.377	pCi/sample		0.15	0.157	0.164
AMD746U	30-Apr-15	Uranium-238	EPA-901.1-M	6.242	pCi/sample	U	31.3	23.962	23.966
AMD746U	22-Jul-15	Americium-241	EPA-901.1-M	-0.422	pCi/sample	U	3.93	2.959	2.96

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Table A.2. Ambient Air Monitoring 2015 Individual Sample Isotopic Concentrations (Continued)

STA_NAME	D_COLLECTED	CHEMICAL_NAME	ANA_METHOD	RESULTS	UNITS	RSLTQUAL	ETECT_LIMI	RAD_ERR	TPU
AMD746U	22-Jul-15	Neptunium-237	EPA-901.1-M	0.415	pCi/sample	U	7.8	6.616	6.616
AMD746U	22-Jul-15	Plutonium-238	Eichrom ACW-03	0.015	pCi/sample	U	0.169	0.067	0.067
AMD746U	22-Jul-15	Plutonium-239/240	Eichrom ACW-03	-0.015	pCi/sample	U	0.169	0.03	0.03
AMD746U	22-Jul-15	Protactinium-233	EPA-901.1-M	0.415	pCi/sample	U	7.8	6.616	6.616
AMD746U	22-Jul-15	Technetium-99	EICHROM TCW01	21	pCi/sample	U	27	16	17
AMD746U	22-Jul-15	Thorium-234	EPA-901.1-M	0	pCi/sample	U	34.6	14.717	14.717
AMD746U	22-Jul-15	Uranium-234	Eichrom ACW-03	1.798	pCi/sample		0.261	0.475	0.522
AMD746U	22-Jul-15	Uranium-235	Eichrom ACW-03	0.072	pCi/sample	U	0.242	0.132	0.132
AMD746U	22-Jul-15	Uranium-238	EPA-901.1-M	0	pCi/sample	U	34.6	14.717	14.717
AMD746U	22-Jul-15	Uranium-238	Eichrom ACW-03	1.64	pCi/sample		0.414	0.483	0.522
AMD746U	13-Nov-15	Americium-241	EPA-901.1-M	1.891	pCi/sample	U	3.89	2.363	2.367
AMD746U	13-Nov-15	Neptunium-237	EPA-901.1-M	-0.974	pCi/sample	U	6.6	3.774	3.775
AMD746U	13-Nov-15	Plutonium-238	Eichrom ACW-03	0.213	pCi/sample		0.096	0.17	0.172
AMD746U	13-Nov-15	Plutonium-239/240	Eichrom ACW-03	0.018	pCi/sample	U	0.322	0.143	0.143
AMD746U	13-Nov-15	Protactinium-233	EPA-901.1-M	-0.974	pCi/sample	U	6.6	3.774	3.775
AMD746U	13-Nov-15	Technetium-99	EICHROM TCW01	9.1	pCi/sample	U	10	6.2	6.5
AMD746U	13-Nov-15	Thorium-234	EPA-901.1-M	-2.871	pCi/sample	U	47.9	34.679	34.68
AMD746U	13-Nov-15	Uranium-234	Eichrom ACW-03	1.333	pCi/sample		0.562	0.596	0.617
AMD746U	13-Nov-15	Uranium-235	Eichrom ACW-03	-0.063	pCi/sample	U	0.647	0.245	0.245
AMD746U	13-Nov-15	Uranium-238	Eichrom ACW-03	1.88	pCi/sample		0.593	0.697	0.733
AMD746U	13-Nov-15	Uranium-238	EPA-901.1-M	-2.871	pCi/sample	U	47.9	34.679	34.68
AMD746U	05-Feb-16	Americium-241	HASL 300, 4.5.2.3	0.371	pCi/sample	U	6.64	4.44	4.44
AMD746U	05-Feb-16	Neptunium-237	HASL 300, 4.5.2.3	1.88	pCi/sample	U	4.51	2.58	2.72
AMD746U	05-Feb-16	Plutonium-238	HASL 300, Pu-11-RC M	-0.0186	pCi/Sample	U	0.372	0.161	0.161
AMD746U	05-Feb-16	Plutonium-239/240	HASL 300, Pu-11-RC M	-0.0372	pCi/Sample	U	0.429	0.164	0.165
AMD746U	05-Feb-16	Protactinium-233	HASL 300, 4.5.2.3	1.88	pCi/sample	U	4.51	2.58	2.72
AMD746U	05-Feb-16	Technetium-99	HASL 300, Tc-02-RC M	9.2	pCi/Sample	U	67.5	39.2	39.2
AMD746U	05-Feb-16	Thorium-234	HASL 300, 4.5.2.3	21.7	pCi/sample	U	61.2	73	73.2
AMD746U	05-Feb-16	Uranium-234	HASL 300, U-02-RC M	1.94	pCi/Sample		0.33	0.682	0.732
AMD746U	05-Feb-16	Uranium-235	HASL 300, U-02-RC M	0.424	pCi/Sample		0.353	0.385	0.389
AMD746U	05-Feb-16	Uranium-238	HASL 300, U-02-RC M	2.4	pCi/Sample		0.364	0.759	0.827
AMD746U	05-Feb-16	Uranium-238	HASL 300, 4.5.2.3	21.7	pCi/sample	U	61.2	73	73.2
AMDBCP	30-Apr-15	Americium-241	EPA-901.1-M	-1.532	pCi/sample	U	5.53	3.369	3.371
AMDBCP	30-Apr-15	Neptunium-237	EPA-901.1-M	-1.681	pCi/sample	U	7.93	4.86	4.861
AMDBCP	30-Apr-15	Plutonium-238	Eichrom ACW-03	-0.022	pCi/sample	U	0.148	0.03	0.031
AMDBCP	30-Apr-15	Plutonium-239/240	Eichrom ACW-03	0.033	pCi/sample	U	0.122	0.065	0.065
AMDBCP	30-Apr-15	Protactinium-233	EPA-901.1-M	-1.681	pCi/sample	U	7.93	4.86	4.861
AMDBCP	30-Apr-15	Technetium-99	Eichrom TCW01	24.3	pCi/sample		8	7.6	7.6
AMDBCP	30-Apr-15	Thorium-234	EPA-901.1-M	13.218	pCi/sample	U	0.138	8.813	8.88
AMDBCP	30-Apr-15	Uranium-234	Eichrom ACW-03	0.235	pCi/sample		0.146	0.13	0.133
AMDBCP	30-Apr-15	Uranium-235	Eichrom ACW-03	0.058	pCi/sample	U	0.092	0.067	0.067
AMDBCP	30-Apr-15	Uranium-238	Eichrom ACW-03	0.312	pCi/sample		62.4	0.143	0.148
AMDBCP	30-Apr-15	Uranium-238	EPA-901.1-M	13.218	pCi/sample	U	0.138	8.813	8.88
AMDBCP	22-Jul-15	Americium-241	EPA-901.1-M	0.637	pCi/sample	U	4.45	2.582	2.582
AMDBCP	22-Jul-15	Neptunium-237	EPA-901.1-M	0.089	pCi/sample	U	5.92	3.264	3.264
AMDBCP	22-Jul-15	Plutonium-238	Eichrom ACW-03	0.076	pCi/sample	U	0.168	0.107	0.107

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Table A.2. Ambient Air Monitoring 2015 Individual Sample Isotopic Concentrations (Continued)

STA_NAME	D_COLLECTED	CHEMICAL_NAME	ANA_METHOD	RESULTS	UNITS	RSLTQUAL	ETECT_LIMI	RAD_ERR	TPU
AMDBCP	22-Jul-15	Plutonium-239/240	Eichrom ACW-03	0.06	pCi/sample	U	0.204	0.111	0.111
AMDBCP	22-Jul-15	Protactinium-233	EPA-901.1-M	0.089	pCi/sample	U	5.92	3.264	3.264
AMDBCP	22-Jul-15	Technetium-99	EICHROM TCW01	1	pCi/sample	U	26	15	15
AMDBCP	22-Jul-15	Thorium-234	EPA-901.1-M	10.212	pCi/sample	U	43.6	24.12	24.135
AMDBCP	22-Jul-15	Uranium-234	Eichrom ACW-03	2.412	pCi/sample		0.353	0.536	0.61
AMDBCP	22-Jul-15	Uranium-235	Eichrom ACW-03	-0.065	pCi/sample	U	0.35	0.127	0.128
AMDBCP	22-Jul-15	Uranium-238	Eichrom ACW-03	0.266	pCi/sample	U	0.315	0.221	0.223
AMDBCP	22-Jul-15	Uranium-238	EPA-901.1-M	10.212	pCi/sample	U	43.6	24.12	24.135
AMDBCP	13-Nov-15	Americium-241	EPA-901.1-M	-1.214	pCi/sample	U	3.68	2.815	2.816
AMDBCP	13-Nov-15	Neptunium-237	EPA-901.1-M	0.519	pCi/sample	U	6.56	5.503	5.503
AMDBCP	13-Nov-15	Plutonium-238	Eichrom ACW-03	0	pCi/sample	U	0.119	0.086	0.086
AMDBCP	13-Nov-15	Plutonium-239/240	Eichrom ACW-03	0.109	pCi/sample	U	0.243	0.155	0.155
AMDBCP	13-Nov-15	Protactinium-233	EPA-901.1-M	0.519	pCi/sample	U	6.56	5.503	5.503
AMDBCP	13-Nov-15	Technetium-99	EICHROM TCW01	11	pCi/sample	U	17	10	10
AMDBCP	13-Nov-15	Thorium-234	EPA-901.1-M	9.141	pCi/sample	U	29.5	22.804	22.814
AMDBCP	13-Nov-15	Uranium-234	Eichrom ACW-03	1.347	pCi/sample	X	0.605	0.715	0.733
AMDBCP	13-Nov-15	Uranium-235	Eichrom ACW-03	0.312	pCi/sample	X	0.282	0.353	0.355
AMDBCP	13-Nov-15	Uranium-238	EPA-901.1-M	9.141	pCi/sample	U	29.5	22.804	22.814
AMDBCP	13-Nov-15	Uranium-238	Eichrom ACW-03	0.986	pCi/sample	X	0.753	0.657	0.668
AMDBCP	05-Feb-16	Americium-241	HASL 300, 4.5.2.3	-1.55	pCi/sample	U	2.77	2.36	2.46
AMDBCP	05-Feb-16	Neptunium-237	HASL 300, 4.5.2.3	-0.0968	pCi/sample	U	4.14	2.36	2.36
AMDBCP	05-Feb-16	Plutonium-238	HASL 300, Pu-11-RC M	-0.0192	pCi/Sample	U	0.383	0.165	0.166
AMDBCP	05-Feb-16	Plutonium-239/240	HASL 300, Pu-11-RC M	0.182	pCi/Sample	U	0.487	0.321	0.322
AMDBCP	05-Feb-16	Protactinium-233	HASL 300, 4.5.2.3	-0.0968	pCi/sample	U	4.14	2.36	2.36
AMDBCP	05-Feb-16	Technetium-99	HASL 300, Tc-02-RC M	1.44	pCi/Sample	U	69.9	40.3	40.3
AMDBCP	05-Feb-16	Thorium-234	HASL 300, 4.5.2.3	-25.9	pCi/sample	U	39.1	36.5	38.9
AMDBCP	05-Feb-16	Uranium-234	HASL 300, U-02-RC M	2.1	pCi/Sample		0.461	0.78	0.836
AMDBCP	05-Feb-16	Uranium-235	HASL 300, U-02-RC M	0.173	pCi/Sample	U	0.26	0.297	0.298
AMDBCP	05-Feb-16	Uranium-238	HASL 300, 4.5.2.3	-25.9	pCi/sample	U	39.1	36.5	38.9
AMDBCP	05-Feb-16	Uranium-238	HASL 300, U-02-RC M	1.61	pCi/Sample		0.461	0.69	0.728
AMDNE	30-Apr-15	Americium-241	EPA-901.1-M	1.773	pCi/sample	U	3.49	2.107	2.112
AMDNE	30-Apr-15	Neptunium-237	EPA-901.1-M	-0.413	pCi/sample	U	6.3	2.951	2.951
AMDNE	30-Apr-15	Plutonium-238	Eichrom ACW-03	-0.01	pCi/sample	U	0.109	0.019	0.019
AMDNE	30-Apr-15	Plutonium-239/240	Eichrom ACW-03	0	pCi/sample	U	0.132	0.047	0.047
AMDNE	30-Apr-15	Protactinium-233	EPA-901.1-M	-0.413	pCi/sample	U	6.3	2.951	2.951
AMDNE	30-Apr-15	Technetium-99	Eichrom TCW01	16.1	pCi/sample		8.1	6.2	6.2
AMDNE	30-Apr-15	Thorium-234	EPA-901.1-M	23.351	pCi/sample	U	52.2	18.062	18.165
AMDNE	30-Apr-15	Uranium-234	Eichrom ACW-03	0.548	pCi/sample		0.132	0.189	0.201
AMDNE	30-Apr-15	Uranium-235	Eichrom ACW-03	0.018	pCi/sample	U	0.049	0.036	0.036
AMDNE	30-Apr-15	Uranium-238	Eichrom ACW-03	0.383	pCi/sample		0.12	0.158	0.165
AMDNE	30-Apr-15	Uranium-238	EPA-901.1-M	23.351	pCi/sample	U	52.2	18.062	18.165
AMDNE	22-Jul-15	Americium-241	EPA-901.1-M	1.725	pCi/sample	U	3.65	2.191	2.195
AMDNE	22-Jul-15	Neptunium-237	EPA-901.1-M	0.541	pCi/sample	U	7.21	3.97	3.971
AMDNE	22-Jul-15	Plutonium-238	Eichrom ACW-03	0.032	pCi/sample	U	0.086	0.062	0.062
AMDNE	22-Jul-15	Plutonium-239/240	Eichrom ACW-03	-0.016	pCi/sample	U	0.243	0.082	0.082
AMDNE	22-Jul-15	Protactinium-233	EPA-901.1-M	0.541	pCi/sample	U	7.21	3.97	3.971

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Table A.2. Ambient Air Monitoring 2015 Individual Sample Isotopic Concentrations (Continued)

STA_NAME	D_COLLECTED	CHEMICAL_NAME	ANA_METHOD	RESULTS	UNITS	RSLTQUAL	ETECT_LIMI	RAD_ERR	TPU
AMDNE	22-Jul-15	Technetium-99	EICHROM TCW01	22	pCi/sample	U	30	18	19
AMDNE	22-Jul-15	Thorium-234	EPA-901.1-M	39.69	pCi/sample	U	53.6	37.455	37.598
AMDNE	22-Jul-15	Uranium-234	Eichrom ACW-03	0.966	pCi/sample		0.409	0.377	0.395
AMDNE	22-Jul-15	Uranium-235	Eichrom ACW-03	0.224	pCi/sample	U	0.31	0.213	0.214
AMDNE	22-Jul-15	Uranium-238	EPA-901.1-M	39.69	pCi/sample	U	53.6	37.455	37.598
AMDNE	22-Jul-15	Uranium-238	Eichrom ACW-03	0.854	pCi/sample		0.426	0.366	0.381
AMDNE	13-Nov-15	Americium-241	EPA-901.1-M	-0.068	pCi/sample	U	5.48	6.305	6.305
AMDNE	13-Nov-15	Neptunium-237	EPA-901.1-M	-2.968	pCi/sample	U	8.73	5.345	5.35
AMDNE	13-Nov-15	Plutonium-238	Eichrom ACW-03	0.02	pCi/sample	U	0.228	0.09	0.09
AMDNE	13-Nov-15	Plutonium-239/240	Eichrom ACW-03	0.123	pCi/sample	U	0.276	0.17	0.171
AMDNE	13-Nov-15	Protactinium-233	EPA-901.1-M	-2.968	pCi/sample	U	8.73	5.345	5.35
AMDNE	13-Nov-15	Technetium-99	EICHROM TCW01	76	pCi/sample		11	7.7	19
AMDNE	13-Nov-15	Thorium-234	EPA-901.1-M	12.917	pCi/sample	U	62.1	37.2	37.215
AMDNE	13-Nov-15	Uranium-234	Eichrom ACW-03	0.661	pCi/sample	UX	1.091	0.716	0.721
AMDNE	13-Nov-15	Uranium-235	Eichrom ACW-03	0	pCi/sample	UX	0.939	0.334	0.334
AMDNE	13-Nov-15	Uranium-238	EPA-901.1-M	12.917	pCi/sample	U	62.1	37.2	37.215
AMDNE	13-Nov-15	Uranium-238	Eichrom ACW-03	1.918	pCi/sample	X	0.325	0.94	0.968
AMDNE	05-Feb-16	Americium-241	HASL 300, 4.5.2.3	-2.04	pCi/sample	U	17.2	11.5	11.5
AMDNE	05-Feb-16	Neptunium-237	HASL 300, 4.5.2.3	0.0404	pCi/sample	U	5.75	3.39	3.39
AMDNE	05-Feb-16	Plutonium-238	HASL 300, Pu-11-RC M	0	pCi/Sample	U	0.251	0.168	0.169
AMDNE	05-Feb-16	Plutonium-239/240	HASL 300, Pu-11-RC M	-0.137	pCi/Sample	U	0.747	0.268	0.268
AMDNE	05-Feb-16	Protactinium-233	HASL 300, 4.5.2.3	0.0404	pCi/sample	U	5.75	3.39	3.39
AMDNE	05-Feb-16	Technetium-99	HASL 300, Tc-02-RC M	13.6	pCi/Sample	U	66.5	38.8	38.8
AMDNE	05-Feb-16	Thorium-234	HASL 300, 4.5.2.3	54.9	pCi/sample	U	138	172	173
AMDNE	05-Feb-16	Uranium-234	HASL 300, U-02-RC M	2.26	pCi/Sample		0.363	0.71	0.771
AMDNE	05-Feb-16	Uranium-235	HASL 300, U-02-RC M	0.188	pCi/Sample	U	0.326	0.271	0.272
AMDNE	05-Feb-16	Uranium-238	HASL 300, 4.5.2.3	54.9	pCi/sample	U	138	172	173
AMDNE	05-Feb-16	Uranium-238	HASL 300, U-02-RC M	2.53	pCi/Sample		0.165	0.74	0.814

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Table A.3. Air Monitoring Flows for 2015

QUARTER	Results	Chemical Name	Station	Units	Date Collected	Project Sample ID
1	23053	Flow-total	AMD002	ft^3	26-Mar-15	W09AMD0022-15
1	17686	Flow-total	AMD002	ft^3	06-Jan-15	W01AMD0022-15
1	23022	Flow-total	AMD002	ft^3	20-Jan-15	W02AMD0022-15
1	23172	Flow-total	AMD002	ft^3	28-Jan-15	W03AMD0022-15
1	22768	Flow-total	AMD002	ft^3	05-Feb-15	W04AMD0022-15
1	20159	Flow-total	AMD002	ft^3	12-Feb-15	W05AMD0022-15
1	17360	Flow-total	AMD002	ft^3	18-Feb-15	W06AMD0022-15
1	22341	Flow-total	AMD002	ft^3	10-Mar-15	W07AMD0022-15
1	22983	Flow-total	AMD002	ft^3	18-Mar-15	W08AMD0022-15
1	17686	Flow-total	AMD012	ft^3	06-Jan-15	W01AMD0122-15
1	23017	Flow-total	AMD012	ft^3	20-Jan-15	W02AMD0122-15
1	23162	Flow-total	AMD012	ft^3	28-Jan-15	W03AMD0122-15
1	22792	Flow-total	AMD012	ft^3	05-Feb-15	W04AMD0122-15
1	20172	Flow-total	AMD012	ft^3	12-Feb-15	W05AMD0122-15
1	17355	Flow-total	AMD012	ft^3	18-Feb-15	W06AMD0122-15
1	22339	Flow-total	AMD012	ft^3	10-Mar-15	W07AMD0122-15
1	22977	Flow-total	AMD012	ft^3	18-Mar-15	W08AMD0122-15
1	23053	Flow-total	AMD012	ft^3	26-Mar-15	W09AMD0122-15
1	20196	Flow-total	AMD015	ft^3	12-Feb-15	W05AMD0152-15
1	22777	Flow-total	AMD015	ft^3	05-Feb-15	W04AMD0152-15
1	22991	Flow-total	AMD015	ft^3	18-Mar-15	W08AMD0152-15
1	17346	Flow-total	AMD015	ft^3	18-Feb-15	W06AMD0152-15
1	23034	Flow-total	AMD015	ft^3	26-Mar-15	W09AMD0152-15
1	23168	Flow-total	AMD015	ft^3	28-Jan-15	W03AMD0152-15
1	22323	Flow-total	AMD015	ft^3	10-Mar-15	W07AMD0152-15
1	23056	Flow-total	AMD015	ft^3	20-Jan-15	W02AMD0152-15
1	17358	Flow-total	AMD57	ft^3	18-Feb-15	W06AMD572-15
1	23176	Flow-total	AMD57	ft^3	28-Jan-15	W03AMD572-15
1	23028	Flow-total	AMD57	ft^3	20-Jan-15	W02AMD572-15
1	17692	Flow-total	AMD57	ft^3	06-Jan-15	W01AMD572-15
1	22990	Flow-total	AMD57	ft^3	18-Mar-15	W08AMD572-15
1	22336	Flow-total	AMD57	ft^3	10-Mar-15	W07AMD572-15
1	23056	Flow-total	AMD57	ft^3	26-Mar-15	W09AMD572-15
1	20182	Flow-total	AMD57	ft^3	12-Feb-15	W05AMD572-15
1	22803	Flow-total	AMD57	ft^3	05-Feb-15	W04AMD572-15
1	22377	Flow-total	AMD612	ft^3	10-Mar-15	W07AMD6122-15
1	17385	Flow-total	AMD612	ft^3	18-Feb-15	W06AMD6122-15
1	22510	Flow-total	AMD612	ft^3	12-Feb-15	W05AMD6122-15
1	23052	Flow-total	AMD612	ft^3	18-Mar-15	W08AMD6122-15
1	17737.7	Flow-total	AMD612	ft^3	06-Jan-15	W01AMD6122-15
1	23092	Flow-total	AMD612	ft^3	26-Mar-15	W09AMD6122-15
1	20389	Flow-total	AMD612	ft^3	04-Feb-15	W04AMD6122-15
1	22438	Flow-total	AMD746S	ft^3	10-Mar-15	W07AMD746S2-15
1	17673	Flow-total	AMD746S	ft^3	06-Jan-15	W01AMD746S2-15

Table A.3. Air Monitoring Flows for 2015 (Continued)

QUARTER	Results	Chemical Name	Station	Units	Date Collected	Project Sample ID
1	23013	Flow-total	AMD746S	ft^3	20-Jan-15	W02AMD746S2-15
1	23167	Flow-total	AMD746S	ft^3	28-Jan-15	W03AMD746S2-15
1	17276	Flow-total	AMD746S	ft^3	18-Feb-15	W06AMD746S2-15
1	22926	Flow-total	AMD746S	ft^3	18-Mar-15	W08AMD746S2-15
1	23069	Flow-total	AMD746S	ft^3	26-Mar-15	W09AMD746S2-15
1	20268	Flow-total	AMD746S	ft^3	12-Feb-15	W05AMD746S2-15
1	22823	Flow-total	AMD746S	ft^3	05-Feb-15	W04AMD746S2-15
1	17398	Flow-total	AMD746U	ft^3	18-Feb-15	W06AMD746U2-15
1	17685	Flow-total	AMD746U	ft^3	06-Jan-15	W01AMD746U2-15
1	23021	Flow-total	AMD746U	ft^3	20-Jan-15	W02AMD746U2-15
1	23168	Flow-total	AMD746U	ft^3	28-Jan-15	W03AMD746U2-15
1	20150	Flow-total	AMD746U	ft^3	12-Feb-15	W05AMD746U2-15
1	22400	Flow-total	AMD746U	ft^3	10-Mar-15	W07AMD746U2-15
1	22976	Flow-total	AMD746U	ft^3	18-Mar-15	W08AMD746U2-15
1	23059	Flow-total	AMD746U	ft^3	26-Mar-15	W09AMD746U2-15
1	22815	Flow-total	AMD746U	ft^3	05-Feb-15	W04AMD746U2-15
1	20149	Flow-total	AMDBCP	ft^3	12-Feb-15	W05AMDBCP2-15
1	14621	Flow-total	AMDBCP	ft^3	18-Feb-15	W06AMDBCP2-15
1	17676	Flow-total	AMDBCP	ft^3	06-Jan-15	W01AMDBCP2-15
1	23017	Flow-total	AMDBCP	ft^3	20-Jan-15	W02AMDBCP2-15
1	23164	Flow-total	AMDBCP	ft^3	28-Jan-15	W03AMDBCP2-15
1	22799	Flow-total	AMDBCP	ft^3	05-Feb-15	W04AMDBCP2-15
1	22255	Flow-total	AMDBCP	ft^3	10-Mar-15	W07AMDBCP2-15
1	22970	Flow-total	AMDBCP	ft^3	18-Mar-15	W08AMDBCP2-15
1	23054	Flow-total	AMDBCP	ft^3	26-Mar-15	W09AMDBCP2-15
1	22525	Flow-total	AMDNE	ft^3	10-Mar-15	W07AMDNE2-15
1	22360	Flow-total	AMDNE	ft^3	18-Mar-15	W08AMDNE2-15
1	17319	Flow-total	AMDNE	ft^3	18-Feb-15	W06AMDNE2-15
1	20323	Flow-total	AMDNE	ft^3	12-Feb-15	W05AMDNE2-15
1	22878	Flow-total	AMDNE	ft^3	05-Feb-15	W04AMDNE2-15
1	23229	Flow-total	AMDNE	ft^3	28-Jan-15	W03AMDNE2-15
1	17715	Flow-total	AMDNE	ft^3	06-Jan-15	W01AMDNE2-15
1	23127	Flow-total	AMDNE	ft^3	26-Mar-15	W09AMDNE2-15
1	23062	Flow-total	AMDNE	ft^3	20-Jan-15	W02AMDNE2-15
2	17275	Flow-total	AMD002	ft^3	01-Apr-15	W10AMD0022-15
2	20161	Flow-total	AMD002	ft^3	25-Jun-15	W12AMD0023-15
2	20277	Flow-total	AMD002	ft^3	18-Jun-15	W11AMD0023-15
2	20090	Flow-total	AMD002	ft^3	04-Jun-15	W09AMD0023-15
2	20097	Flow-total	AMD002	ft^3	28-May-15	W08AMD0023-15
2	20164	Flow-total	AMD002	ft^3	21-May-15	W07AMD0023-15
2	22934	Flow-total	AMD002	ft^3	09-Apr-15	W01AMD0023-15
2	20212	Flow-total	AMD002	ft^3	16-Apr-15	W02AMD0023-15
2	20116	Flow-total	AMD002	ft^3	23-Apr-15	W03AMD0023-15
2	19961	Flow-total	AMD002	ft^3	30-Apr-15	W04AMD0023-15

Table A.3. Air Monitoring Flows for 2015 (Continued)

QUARTER	Results	Chemical Name	Station	Units	Date Collected	Project Sample ID
2	20178	Flow-total	AMD002	ft^3	14-May-15	W06AMD0023-15
2	20101	Flow-total	AMD002	ft^3	07-May-15	W05AMD0023-15
2	20143	Flow-total	AMD002	ft^3	11-Jun-15	W10AMD0023-15
2	20086	Flow-total	AMD012	ft^3	28-May-15	W08AMD0123-15
2	22926	Flow-total	AMD012	ft^3	09-Apr-15	W01AMD0123-15
2	20208	Flow-total	AMD012	ft^3	16-Apr-15	W02AMD0123-15
2	17271	Flow-total	AMD012	ft^3	01-Apr-15	W10AMD0122-15
2	20114	Flow-total	AMD012	ft^3	23-Apr-15	W03AMD0123-15
2	19952	Flow-total	AMD012	ft^3	30-Apr-15	W04AMD0123-15
2	20097	Flow-total	AMD012	ft^3	07-May-15	W05AMD0123-15
2	20171	Flow-total	AMD012	ft^3	14-May-15	W06AMD0123-15
2	20154	Flow-total	AMD012	ft^3	25-Jun-15	W12AMD0123-15
2	20087	Flow-total	AMD012	ft^3	04-Jun-15	W09AMD0123-15
2	20251	Flow-total	AMD012	ft^3	18-Jun-15	W11AMD0123-15
2	20159	Flow-total	AMD012	ft^3	21-May-15	W07AMD0123-15
2	20150	Flow-total	AMD012	ft^3	11-Jun-15	W10AMD0123-15
2	22985	Flow-total	AMD015	ft^3	09-Apr-15	W01AMD0153-15
2	20088	Flow-total	AMD015	ft^3	04-Jun-15	W09AMD0153-15
2	20117	Flow-total	AMD015	ft^3	18-Jun-15	W11AMD0153-15
2	17172	Flow-total	AMD015	ft^3	01-Apr-15	W10AMD0152-15
2	20296	Flow-total	AMD015	ft^3	25-Jun-15	W12AMD0153-15
2	20055	Flow-total	AMD015	ft^3	16-Apr-15	W02AMD0153-15
2	20183	Flow-total	AMD015	ft^3	23-Apr-15	W03AMD0153-15
2	20014	Flow-total	AMD015	ft^3	30-Apr-15	W04AMD0153-15
2	20103	Flow-total	AMD015	ft^3	07-May-15	W05AMD0153-15
2	20155	Flow-total	AMD015	ft^3	14-May-15	W06AMD0153-15
2	20173	Flow-total	AMD015	ft^3	21-May-15	W07AMD0153-15
2	20088	Flow-total	AMD015	ft^3	28-May-15	W08AMD0153-15
2	20128	Flow-total	AMD015	ft^3	11-Jun-15	W10AMD0153-15
2	20215	Flow-total	AMD57	ft^3	16-Apr-15	W02AMD573-15
2	20159	Flow-total	AMD57	ft^3	21-May-15	W07AMD573-15
2	20074	Flow-total	AMD57	ft^3	23-Apr-15	W03AMD573-15
2	19946	Flow-total	AMD57	ft^3	30-Apr-15	W04AMD573-15
2	20102	Flow-total	AMD57	ft^3	07-May-15	W05AMD573-15
2	20171	Flow-total	AMD57	ft^3	14-May-15	W06AMD573-15
2	20092	Flow-total	AMD57	ft^3	28-May-15	W08AMD573-15
2	20043	Flow-total	AMD57	ft^3	04-Jun-15	W09AMD573-15
2	20167	Flow-total	AMD57	ft^3	11-Jun-15	W10AMD573-15
2	20234	Flow-total	AMD57	ft^3	18-Jun-15	W11AMD573-15
2	20154	Flow-total	AMD57	ft^3	25-Jun-15	W12AMD573-15
2	22940	Flow-total	AMD57	ft^3	09-Apr-15	W01AMD573-15
2	17217	Flow-total	AMD57	ft^3	01-Apr-15	W10AMD572-15
2	20610	Flow-total	AMD612	ft^3	07-May-15	W05AMD6123-15
2	20209	Flow-total	AMD612	ft^3	23-Apr-15	W03AMD6123-15

Table A.3. Air Monitoring Flows for 2015 (Continued)

QUARTER	Results	Chemical Name	Station	Units	Date Collected	Project Sample ID
2	20453	Flow-total	AMD612	ft^3	21-May-15	W07AMD6123-15
2	20355	Flow-total	AMD612	ft^3	25-Jun-15	W12AMD6123-15
2	20142.5	Flow-total	AMD612	ft^3	18-Jun-15	W11AMD6123-15
2	20209.37	Flow-total	AMD612	ft^3	11-Jun-15	W10AMD6123-15
2	20142	Flow-total	AMD612	ft^3	04-Jun-15	W09AMD6123-15
2	19924	Flow-total	AMD612	ft^3	28-May-15	W08AMD6123-15
2	20103	Flow-total	AMD612	ft^3	30-Apr-15	W04AMD6123-15
2	20109	Flow-total	AMD612	ft^3	16-Apr-15	W02AMD6123-15
2	23042	Flow-total	AMD612	ft^3	09-Apr-15	W01AMD6123-15
2	17217	Flow-total	AMD612	ft^3	01-Apr-15	W10AMD6122-15
2	20211	Flow-total	AMD612	ft^3	14-May-15	W06AMD6123-15
2	20160	Flow-total	AMD746S	ft^3	14-May-15	W06AMD746S3-15
2	20524	Flow-total	AMD746S	ft^3	04-Jun-15	W09AMD746S3-15
2	20130	Flow-total	AMD746S	ft^3	23-Apr-15	W03AMD746S3-15
2	19975	Flow-total	AMD746S	ft^3	30-Apr-15	W04AMD746S3-15
2	23009	Flow-total	AMD746S	ft^3	09-Apr-15	W01AMD746S3-15
2	20083	Flow-total	AMD746S	ft^3	07-May-15	W05AMD746S3-15
2	20114	Flow-total	AMD746S	ft^3	16-Apr-15	W02AMD746S3-15
2	20126	Flow-total	AMD746S	ft^3	21-May-15	W07AMD746S3-15
2	20106	Flow-total	AMD746S	ft^3	28-May-15	W08AMD746S3-15
2	17201	Flow-total	AMD746S	ft^3	01-Apr-15	W10AMD746S2-15
2	20257	Flow-total	AMD746S	ft^3	25-Jun-15	W12AMD746S3-15
2	20137	Flow-total	AMD746S	ft^3	18-Jun-15	W11AMD746S3-15
2	19757	Flow-total	AMD746S	ft^3	11-Jun-15	W10AMD746S3-15
2	20249	Flow-total	AMD746U	ft^3	25-Jun-15	W12AMD746U3-15
2	19968	Flow-total	AMD746U	ft^3	30-Apr-15	W04AMD746U3-15
2	20154	Flow-total	AMD746U	ft^3	18-Jun-15	W11AMD746U3-15
2	22963	Flow-total	AMD746U	ft^3	09-Apr-15	W01AMD746U3-15
2	20162	Flow-total	AMD746U	ft^3	16-Apr-15	W02AMD746U3-15
2	20108	Flow-total	AMD746U	ft^3	23-Apr-15	W03AMD746U3-15
2	19746	Flow-total	AMD746U	ft^3	11-Jun-15	W10AMD746U3-15
2	20082	Flow-total	AMD746U	ft^3	07-May-15	W05AMD746U3-15
2	20174	Flow-total	AMD746U	ft^3	14-May-15	W06AMD746U3-15
2	20169	Flow-total	AMD746U	ft^3	21-May-15	W07AMD746U3-15
2	20527	Flow-total	AMD746U	ft^3	04-Jun-15	W09AMD746U3-15
2	17216	Flow-total	AMD746U	ft^3	01-Apr-15	W10AMD746U2-15
2	20078	Flow-total	AMD746U	ft^3	28-May-15	W08AMD746U3-15
2	19958	Flow-total	AMDBCP	ft^3	30-Apr-15	W04AMDBCP3-15
2	19982	Flow-total	AMDBCP	ft^3	18-Jun-15	W11AMDBCP3-15
2	17200	Flow-total	AMDBCP	ft^3	01-Apr-15	W10AMDBCP2-15
2	22948	Flow-total	AMDBCP	ft^3	09-Apr-15	W01AMDBCP3-15
2	20176	Flow-total	AMDBCP	ft^3	16-Apr-15	W02AMDBCP3-15
2	20121	Flow-total	AMDBCP	ft^3	23-Apr-15	W03AMDBCP3-15
2	20169	Flow-total	AMDBCP	ft^3	14-May-15	W06AMDBCP3-15

Table A.3. Air Monitoring Flows for 2015 (Continued)

QUARTER	Results	Chemical Name	Station	Units	Date Collected	Project Sample ID
2	20141	Flow-total	AMDBCP	ft^3	21-May-15	W07AMDBCP3-15
2	20091	Flow-total	AMDBCP	ft^3	28-May-15	W08AMDBCP3-15
2	19828	Flow-total	AMDBCP	ft^3	11-Jun-15	W10AMDBCP3-15
2	20081	Flow-total	AMDBCP	ft^3	25-Jun-15	W12AMDBCP3-15
2	20523	Flow-total	AMDBCP	ft^3	04-Jun-15	W09AMDBCP3-15
2	20082	Flow-total	AMDBCP	ft^3	07-May-15	W05AMDBCP3-15
2	20101	Flow-total	AMDNE	ft^3	07-May-15	W05AMDNE3-15
2	17241	Flow-total	AMDNE	ft^3	01-Apr-15	W10AMDNE2-15
2	23071	Flow-total	AMDNE	ft^3	09-Apr-15	W01AMDNE3-15
2	20162	Flow-total	AMDNE	ft^3	16-Apr-15	W02AMDNE3-15
2	20063	Flow-total	AMDNE	ft^3	30-Apr-15	W04AMDNE3-15
2	20227	Flow-total	AMDNE	ft^3	14-May-15	W06AMDNE3-15
2	20149	Flow-total	AMDNE	ft^3	28-May-15	W08AMDNE3-15
2	20578	Flow-total	AMDNE	ft^3	04-Jun-15	W09AMDNE3-15
2	19812.69	Flow-total	AMDNE	ft^3	11-Jun-15	W10AMDNE3-15
2	20133.1	Flow-total	AMDNE	ft^3	18-Jun-15	W11AMDNE3-15
2	20311	Flow-total	AMDNE	ft^3	25-Jun-15	W12AMDNE3-15
2	20130	Flow-total	AMDNE	ft^3	21-May-15	W07AMDNE3-15
2	20157	Flow-total	AMDNE	ft^3	23-Apr-15	W03AMDNE3-15
3	19705	Flow-total	AMD002	ft^3	16-Jul-15	W02AMD0024-15
3	20176	Flow-total	AMD002	ft^3	17-Sep-15	W11AMD0024-15
3	20054	Flow-total	AMD002	ft^3	03-Sep-15	W09AMD0024-15
3	20178	Flow-total	AMD002	ft^3	27-Aug-15	W08AMD0024-15
3	19920	Flow-total	AMD002	ft^3	20-Aug-15	W07AMD0024-15
3	20208	Flow-total	AMD002	ft^3	13-Aug-15	W06AMD0024-15
3	20083	Flow-total	AMD002	ft^3	06-Aug-15	W05AMD0024-15
3	17276	Flow-total	AMD002	ft^3	22-Jul-15	W03AMD0024-15
3	23564	Flow-total	AMD002	ft^3	09-Jul-15	W01AMD0024-15
3	16891	Flow-total	AMD002	ft^3	01-Jul-15	W13AMD0023-15
3	20049	Flow-total	AMD002	ft^3	24-Sep-15	W12AMD0024-15
3	22909	Flow-total	AMD002	ft^3	30-Jul-15	W04AMD0024-15
3	20131	Flow-total	AMD002	ft^3	10-Sep-15	W10AMD0024-15
3	20116	Flow-total	AMD012	ft^3	10-Sep-15	W10AMD0124-15
3	16883	Flow-total	AMD012	ft^3	01-Jul-15	W13AMD0123-15
3	20042	Flow-total	AMD012	ft^3	24-Sep-15	W12AMD0124-15
3	20170	Flow-total	AMD012	ft^3	17-Sep-15	W11AMD0124-15
3	23560	Flow-total	AMD012	ft^3	09-Jul-15	W01AMD0124-15
3	19701	Flow-total	AMD012	ft^3	16-Jul-15	W02AMD0124-15
3	22905	Flow-total	AMD012	ft^3	30-Jul-15	W04AMD0124-15
3	20078	Flow-total	AMD012	ft^3	06-Aug-15	W05AMD0124-15
3	20180	Flow-total	AMD012	ft^3	13-Aug-15	W06AMD0124-15
3	19937	Flow-total	AMD012	ft^3	20-Aug-15	W07AMD0124-15
3	20172	Flow-total	AMD012	ft^3	27-Aug-15	W08AMD0124-15
3	20063	Flow-total	AMD012	ft^3	03-Sep-15	W09AMD0124-15

Table A.3. Air Monitoring Flows for 2015 (Continued)

QUARTER	Results	Chemical Name	Station	Units	Date Collected	Project Sample ID
3	17270	Flow-total	AMD012	ft^3	22-Jul-15	W03AMD0124-15
3	19701	Flow-total	AMD015	ft^3	16-Jul-15	W02AMD0154-15
3	20046	Flow-total	AMD015	ft^3	03-Sep-15	W09AMD0154-15
3	20114	Flow-total	AMD015	ft^3	10-Sep-15	W10AMD0154-15
3	20096	Flow-total	AMD015	ft^3	17-Sep-15	W11AMD0154-15
3	20115	Flow-total	AMD015	ft^3	24-Sep-15	W12AMD0154-15
3	19947	Flow-total	AMD015	ft^3	20-Aug-15	W07AMD0154-15
3	20163	Flow-total	AMD015	ft^3	13-Aug-15	W06AMD0154-15
3	20076	Flow-total	AMD015	ft^3	06-Aug-15	W05AMD0154-15
3	16840	Flow-total	AMD015	ft^3	01-Jul-15	W13AMD0153-15
3	17259	Flow-total	AMD015	ft^3	22-Jul-15	W03AMD0154-15
3	23596	Flow-total	AMD015	ft^3	09-Jul-15	W01AMD0154-15
3	20171	Flow-total	AMD015	ft^3	27-Aug-15	W08AMD0154-15
3	22904	Flow-total	AMD015	ft^3	30-Jul-15	W04AMD0154-15
3	22905	Flow-total	AMD57	ft^3	30-Jul-15	W04AMD574-15
3	16882	Flow-total	AMD57	ft^3	01-Jul-15	W13AMD573-15
3	19704	Flow-total	AMD57	ft^3	16-Jul-15	W02AMD574-15
3	17267	Flow-total	AMD57	ft^3	22-Jul-15	W03AMD574-15
3	20118	Flow-total	AMD57	ft^3	10-Sep-15	W10AMD574-15
3	20079	Flow-total	AMD57	ft^3	06-Aug-15	W05AMD574-15
3	23559	Flow-total	AMD57	ft^3	09-Jul-15	W01AMD574-15
3	20106	Flow-total	AMD57	ft^3	17-Sep-15	W11AMD574-15
3	20052	Flow-total	AMD57	ft^3	03-Sep-15	W09AMD574-15
3	20173	Flow-total	AMD57	ft^3	27-Aug-15	W08AMD574-15
3	19944	Flow-total	AMD57	ft^3	20-Aug-15	W07AMD574-15
3	20175	Flow-total	AMD57	ft^3	13-Aug-15	W06AMD574-15
3	20105	Flow-total	AMD57	ft^3	24-Sep-15	W12AMD574-15
3	20143	Flow-total	AMD612	ft^3	10-Sep-15	W10AMD6124-15
3	17235	Flow-total	AMD612	ft^3	22-Jul-15	W03AMD6124-15
3	20105	Flow-total	AMD612	ft^3	03-Sep-15	W09AMD6124-15
3	20034	Flow-total	AMD612	ft^3	20-Aug-15	W07AMD6124-15
3	20175	Flow-total	AMD612	ft^3	17-Sep-15	W11AMD6124-15
3	16922	Flow-total	AMD612	ft^3	01-Jul-15	W13AMD6123-15
3	20230	Flow-total	AMD612	ft^3	27-Aug-15	W08AMD6124-15
3	20190	Flow-total	AMD612	ft^3	13-Aug-15	W06AMD6124-15
3	22978.02	Flow-total	AMD612	ft^3	30-Jul-15	W04AMD6124-15
3	19765	Flow-total	AMD612	ft^3	16-Jul-15	W02AMD6124-15
3	23625.83	Flow-total	AMD612	ft^3	09-Jul-15	W01AMD6124-15
3	20175	Flow-total	AMD612	ft^3	24-Sep-15	W12AMD6124-15
3	20135	Flow-total	AMD612	ft^3	06-Aug-15	W05AMD6124-15
3	17315	Flow-total	AMD746S	ft^3	22-Jul-15	W03AMD746S4-15
3	20112	Flow-total	AMD746S	ft^3	24-Sep-15	W12AMD746S4-15
3	16800	Flow-total	AMD746S	ft^3	01-Jul-15	W13AMD746S3-15
3	23642	Flow-total	AMD746S	ft^3	09-Jul-15	W01AMD746S4-15

Table A.3. Air Monitoring Flows for 2015 (Continued)

QUARTER	Results	Chemical Name	Station	Units	Date Collected	Project Sample ID
3	19683	Flow-total	AMD746S	ft^3	16-Jul-15	W02AMD746S4-15
3	22846	Flow-total	AMD746S	ft^3	30-Jul-15	W04AMD746S4-15
3	20067	Flow-total	AMD746S	ft^3	06-Aug-15	W05AMD746S4-15
3	20317	Flow-total	AMD746S	ft^3	13-Aug-15	W06AMD746S4-15
3	19796	Flow-total	AMD746S	ft^3	20-Aug-15	W07AMD746S4-15
3	20210	Flow-total	AMD746S	ft^3	27-Aug-15	W08AMD746S4-15
3	20017	Flow-total	AMD746S	ft^3	03-Sep-15	W09AMD746S4-15
3	20056	Flow-total	AMD746S	ft^3	17-Sep-15	W11AMD746S4-15
3	20163	Flow-total	AMD746S	ft^3	10-Sep-15	W10AMD746S4-15
3	16841	Flow-total	AMD746U	ft^3	01-Jul-15	W13AMD746U3-15
3	17311	Flow-total	AMD746U	ft^3	22-Jul-15	W03AMD746U4-15
3	20160	Flow-total	AMD746U	ft^3	10-Sep-15	W10AMD746U4-15
3	23611	Flow-total	AMD746U	ft^3	09-Jul-15	W01AMD746U4-15
3	19682	Flow-total	AMD746U	ft^3	16-Jul-15	W02AMD746U4-15
3	20076	Flow-total	AMD746U	ft^3	06-Aug-15	W05AMD746U4-15
3	20322	Flow-total	AMD746U	ft^3	13-Aug-15	W06AMD746U4-15
3	19799	Flow-total	AMD746U	ft^3	20-Aug-15	W07AMD746U4-15
3	22854	Flow-total	AMD746U	ft^3	30-Jul-15	W04AMD746U4-15
3	20161	Flow-total	AMD746U	ft^3	27-Aug-15	W08AMD746U4-15
3	20118	Flow-total	AMD746U	ft^3	24-Sep-15	W12AMD746U4-15
3	20061	Flow-total	AMD746U	ft^3	17-Sep-15	W11AMD746U4-15
3	20074	Flow-total	AMD746U	ft^3	03-Sep-15	W09AMD746U4-15
3	22856	Flow-total	AMDBCP	ft^3	30-Jul-15	W04AMDBCP4-15
3	16953	Flow-total	AMDBCP	ft^3	01-Jul-15	W13AMDBCP3-15
3	23489	Flow-total	AMDBCP	ft^3	09-Jul-15	W01AMDBCP4-15
3	17313	Flow-total	AMDBCP	ft^3	22-Jul-15	W03AMDBCP4-15
3	20127	Flow-total	AMDBCP	ft^3	10-Sep-15	W10AMDBCP4-15
3	19738	Flow-total	AMDBCP	ft^3	24-Sep-15	W12AMDBCP4-15
3	19687	Flow-total	AMDBCP	ft^3	16-Jul-15	W02AMDBCP4-15
3	3888	Flow-total	AMDBCP	ft^3	17-Sep-15	W11AMDBCP4-15
3	20071	Flow-total	AMDBCP	ft^3	06-Aug-15	W05AMDBCP4-15
3	20054	Flow-total	AMDBCP	ft^3	03-Sep-15	W09AMDBCP4-15
3	20162	Flow-total	AMDBCP	ft^3	27-Aug-15	W08AMDBCP4-15
3	19913	Flow-total	AMDBCP	ft^3	20-Aug-15	W07AMDBCP4-15
3	20201	Flow-total	AMDBCP	ft^3	13-Aug-15	W06AMDBCP4-15
3	19851	Flow-total	AMDNE	ft^3	20-Aug-15	W07AMDNE4-15
3	20057	Flow-total	AMDNE	ft^3	17-Sep-15	W11AMDNE4-15
3	20076	Flow-total	AMDNE	ft^3	03-Sep-15	W09AMDNE4-15
3	20222	Flow-total	AMDNE	ft^3	10-Sep-15	W10AMDNE4-15
3	16803	Flow-total	AMDNE	ft^3	01-Jul-15	W13AMDNE3-15
3	20260	Flow-total	AMDNE	ft^3	27-Aug-15	W08AMDNE4-15
3	20220	Flow-total	AMDNE	ft^3	24-Sep-15	W12AMDNE4-15
3	20113	Flow-total	AMDNE	ft^3	06-Aug-15	W05AMDNE4-15
3	22914.72	Flow-total	AMDNE	ft^3	30-Jul-15	W04AMDNE4-15

Table A.3. Air Monitoring Flows for 2015 (Continued)

QUARTER	Results	Chemical Name	Station	Units	Date Collected	Project Sample ID
3	17370.32	Flow-total	AMDNE	ft^3	22-Jul-15	W03AMDNE4-15
3	19735	Flow-total	AMDNE	ft^3	16-Jul-15	W02AMDNE4-15
3	23752.63	Flow-total	AMDNE	ft^3	09-Jul-15	W01AMDNE4-15
3	20374	Flow-total	AMDNE	ft^3	13-Aug-15	W06AMDNE4-15
4	20227	Flow-total	AMD002	ft^3	08-Oct-15	W01AMD0021-16
4	17278	Flow-total	AMD002	ft^3	25-Nov-15	W08AMD0021-16
4	19994	Flow-total	AMD002	ft^3	19-Nov-15	W07AMD0021-16
4	20268	Flow-total	AMD002	ft^3	12-Nov-15	W06AMD0021-16
4	20209	Flow-total	AMD002	ft^3	05-Nov-15	W05AMD0021-16
4	20014	Flow-total	AMD002	ft^3	29-Oct-15	W04AMD0021-16
4	22964	Flow-total	AMD002	ft^3	03-Dec-15	W09AMD0021-16
4	20106	Flow-total	AMD002	ft^3	15-Oct-15	W02AMD0021-16
4	20351	Flow-total	AMD002	ft^3	17-Dec-15	W11AMD0021-16
4	21002	Flow-total	AMD002	ft^3	30-Dec-15	W13AMD0021-16
4	20101	Flow-total	AMD002	ft^3	01-Oct-15	W13AMD0024-15
4	20060	Flow-total	AMD002	ft^3	22-Oct-15	W03AMD0021-16
4	20137	Flow-total	AMD002	ft^3	10-Dec-15	W10AMD0021-16
4	16968	Flow-total	AMD002	ft^3	23-Dec-15	W12AMD0021-16
4	20996	Flow-total	AMD012	ft^3	30-Dec-15	W13AMD0121-16
4	20213	Flow-total	AMD012	ft^3	08-Oct-15	W01AMD0121-16
4	20098	Flow-total	AMD012	ft^3	15-Oct-15	W02AMD0121-16
4	20095	Flow-total	AMD012	ft^3	01-Oct-15	W13AMD0124-15
4	20071	Flow-total	AMD012	ft^3	22-Oct-15	W03AMD0121-16
4	19993	Flow-total	AMD012	ft^3	29-Oct-15	W04AMD0121-16
4	16951	Flow-total	AMD012	ft^3	23-Dec-15	W12AMD0121-16
4	20262	Flow-total	AMD012	ft^3	12-Nov-15	W06AMD0121-16
4	20005	Flow-total	AMD012	ft^3	19-Nov-15	W07AMD0121-16
4	17264	Flow-total	AMD012	ft^3	25-Nov-15	W08AMD0121-16
4	22960	Flow-total	AMD012	ft^3	03-Dec-15	W09AMD0121-16
4	20135	Flow-total	AMD012	ft^3	10-Dec-15	W10AMD0121-16
4	20362	Flow-total	AMD012	ft^3	17-Dec-15	W11AMD0121-16
4	20207	Flow-total	AMD012	ft^3	05-Nov-15	W05AMD0121-16
4	20104	Flow-total	AMD015	ft^3	15-Oct-15	W02AMD0151-16
4	20089	Flow-total	AMD015	ft^3	01-Oct-15	W13AMD0154-15
4	20097	Flow-total	AMD015	ft^3	10-Dec-15	W10AMD0151-16
4	16981	Flow-total	AMD015	ft^3	23-Dec-15	W12AMD0151-16
4	21009	Flow-total	AMD015	ft^3	30-Dec-15	W13AMD0151-16
4	22949	Flow-total	AMD015	ft^3	03-Dec-15	W09AMD0151-16
4	17233	Flow-total	AMD015	ft^3	25-Nov-15	W08AMD0151-16
4	20337	Flow-total	AMD015	ft^3	17-Dec-15	W11AMD0151-16
4	20036	Flow-total	AMD015	ft^3	19-Nov-15	W07AMD0151-16
4	20201	Flow-total	AMD015	ft^3	12-Nov-15	W06AMD0151-16
4	20193	Flow-total	AMD015	ft^3	05-Nov-15	W05AMD0151-16
4	20108	Flow-total	AMD015	ft^3	22-Oct-15	W03AMD0151-16

Table A.3. Air Monitoring Flows for 2015 (Continued)

QUARTER	Results	Chemical Name	Station	Units	Date Collected	Project Sample ID
4	20156	Flow-total	AMD015	ft^3	08-Oct-15	W01AMD0151-16
4	20006	Flow-total	AMD015	ft^3	29-Oct-15	W04AMD0151-16
4	20082	Flow-total	AMD57	ft^3	19-Nov-15	W07AMD571-16
4	20094	Flow-total	AMD57	ft^3	01-Oct-15	W13AMD574-15
4	20166	Flow-total	AMD57	ft^3	08-Oct-15	W01AMD571-16
4	20094	Flow-total	AMD57	ft^3	15-Oct-15	W02AMD571-16
4	20147	Flow-total	AMD57	ft^3	22-Oct-15	W03AMD571-16
4	19974	Flow-total	AMD57	ft^3	29-Oct-15	W04AMD571-16
4	20196	Flow-total	AMD57	ft^3	12-Nov-15	W06AMD571-16
4	17190	Flow-total	AMD57	ft^3	25-Nov-15	W08AMD571-16
4	22951	Flow-total	AMD57	ft^3	03-Dec-15	W09AMD571-16
4	20109	Flow-total	AMD57	ft^3	10-Dec-15	W10AMD571-16
4	16994	Flow-total	AMD57	ft^3	23-Dec-15	W12AMD571-16
4	21001	Flow-total	AMD57	ft^3	30-Dec-15	W13AMD571-16
4	20328	Flow-total	AMD57	ft^3	17-Dec-15	W11AMD571-16
4	20204	Flow-total	AMD57	ft^3	05-Nov-15	W05AMD571-16
4	17284	Flow-total	AMD612	ft^3	25-Nov-15	W08AMD6121-16
4	20158	Flow-total	AMD612	ft^3	22-Oct-15	W03AMD6121-16
4	20398	Flow-total	AMD612	ft^3	17-Dec-15	W11AMD6121-16
4	20073	Flow-total	AMD612	ft^3	29-Oct-15	W04AMD6121-16
4	20162	Flow-total	AMD612	ft^3	08-Oct-15	W01AMD6121-16
4	20251	Flow-total	AMD612	ft^3	05-Nov-15	W05AMD6121-16
4	20160	Flow-total	AMD612	ft^3	15-Oct-15	W02AMD6121-16
4	20260.1	Flow-total	AMD612	ft^3	12-Nov-15	W06AMD6121-16
4	16704.4	Flow-total	AMD612	ft^3	23-Dec-15	W12AMD6121-16
4	23010	Flow-total	AMD612	ft^3	03-Dec-15	W09AMD6121-16
4	20155	Flow-total	AMD612	ft^3	10-Dec-15	W10AMD6121-16
4	21053	Flow-total	AMD612	ft^3	30-Dec-15	W13AMD6121-16
4	20146	Flow-total	AMD612	ft^3	01-Oct-15	W13AMD6124-15
4	20034	Flow-total	AMD612	ft^3	19-Nov-15	W07AMD6121-16
4	20076	Flow-total	AMD746S	ft^3	01-Oct-15	W13AMD746S4-15
4	20229	Flow-total	AMD746S	ft^3	05-Nov-15	W05AMD746S1-16
4	20162	Flow-total	AMD746S	ft^3	08-Oct-15	W01AMD746S1-16
4	20083	Flow-total	AMD746S	ft^3	15-Oct-15	W02AMD746S1-16
4	20038	Flow-total	AMD746S	ft^3	29-Oct-15	W04AMD746S1-16
4	20120	Flow-total	AMD746S	ft^3	12-Nov-15	W06AMD746S1-16
4	20107	Flow-total	AMD746S	ft^3	19-Nov-15	W07AMD746S1-16
4	17136	Flow-total	AMD746S	ft^3	25-Nov-15	W08AMD746S1-16
4	22968	Flow-total	AMD746S	ft^3	03-Dec-15	W09AMD746S1-16
4	20111	Flow-total	AMD746S	ft^3	10-Dec-15	W10AMD746S1-16
4	17016	Flow-total	AMD746S	ft^3	23-Dec-15	W12AMD746S1-16
4	20992	Flow-total	AMD746S	ft^3	30-Dec-15	W13AMD746S1-16
4	20291	Flow-total	AMD746S	ft^3	17-Dec-15	W11AMD746S1-16
4	20133	Flow-total	AMD746S	ft^3	22-Oct-15	W03AMD746S1-16

Table A.3. Air Monitoring Flows for 2015 (Continued)

QUARTER	Results	Chemical Name	Station	Units	Date Collected	Project Sample ID
4	20993	Flow-total	AMD746U	ft^3	30-Dec-15	W13AMD746U1-16
4	20054	Flow-total	AMD746U	ft^3	15-Oct-15	W02AMD746U1-16
4	20140	Flow-total	AMD746U	ft^3	22-Oct-15	W03AMD746U1-16
4	20015	Flow-total	AMD746U	ft^3	29-Oct-15	W04AMD746U1-16
4	20250	Flow-total	AMD746U	ft^3	05-Nov-15	W05AMD746U1-16
4	20139	Flow-total	AMD746U	ft^3	12-Nov-15	W06AMD746U1-16
4	20118	Flow-total	AMD746U	ft^3	19-Nov-15	W07AMD746U1-16
4	17154	Flow-total	AMD746U	ft^3	25-Nov-15	W08AMD746U1-16
4	22972	Flow-total	AMD746U	ft^3	03-Dec-15	W09AMD746U1-16
4	20116	Flow-total	AMD746U	ft^3	10-Dec-15	W10AMD746U1-16
4	17017	Flow-total	AMD746U	ft^3	23-Dec-15	W12AMD746U1-16
4	20080	Flow-total	AMD746U	ft^3	01-Oct-15	W13AMD746U4-15
4	20196	Flow-total	AMD746U	ft^3	08-Oct-15	W01AMD746U1-16
4	20292	Flow-total	AMD746U	ft^3	17-Dec-15	W11AMD746U1-16
4	20095	Flow-total	AMDBCP	ft^3	01-Oct-15	W13AMDBCP4-15
4	20146	Flow-total	AMDBCP	ft^3	22-Oct-15	W03AMDBCP1-16
4	20097	Flow-total	AMDBCP	ft^3	15-Oct-15	W02AMDBCP1-16
4	19997	Flow-total	AMDBCP	ft^3	29-Oct-15	W04AMDBCP1-16
4	20266	Flow-total	AMDBCP	ft^3	05-Nov-15	W05AMDBCP1-16
4	20113	Flow-total	AMDBCP	ft^3	12-Nov-15	W06AMDBCP1-16
4	20127	Flow-total	AMDBCP	ft^3	19-Nov-15	W07AMDBCP1-16
4	17142	Flow-total	AMDBCP	ft^3	25-Nov-15	W08AMDBCP1-16
4	22954	Flow-total	AMDBCP	ft^3	03-Dec-15	W09AMDBCP1-16
4	20111	Flow-total	AMDBCP	ft^3	10-Dec-15	W10AMDBCP1-16
4	20327	Flow-total	AMDBCP	ft^3	17-Dec-15	W11AMDBCP1-16
4	16993	Flow-total	AMDBCP	ft^3	23-Dec-15	W12AMDBCP1-16
4	21008	Flow-total	AMDBCP	ft^3	30-Dec-15	W13AMDBCP1-16
4	20136	Flow-total	AMDBCP	ft^3	08-Oct-15	W01AMDBCP1-16
4	20134	Flow-total	AMDNE	ft^3	01-Oct-15	W13AMDNE4-15
4	20171	Flow-total	AMDNE	ft^3	19-Nov-15	W07AMDNE1-16
4	21044	Flow-total	AMDNE	ft^3	30-Dec-15	W13AMDNE1-16
4	17066.4	Flow-total	AMDNE	ft^3	23-Dec-15	W12AMDNE1-16
4	20342	Flow-total	AMDNE	ft^3	17-Dec-15	W11AMDNE1-16
4	20220	Flow-total	AMDNE	ft^3	10-Dec-15	W10AMDNE1-16
4	17175	Flow-total	AMDNE	ft^3	25-Nov-15	W08AMDNE1-16
4	20195.8	Flow-total	AMDNE	ft^3	12-Nov-15	W06AMDNE1-16
4	20320	Flow-total	AMDNE	ft^3	05-Nov-15	W05AMDNE1-16
4	20057	Flow-total	AMDNE	ft^3	29-Oct-15	W04AMDNE1-16
4	20189	Flow-total	AMDNE	ft^3	22-Oct-15	W03AMDNE1-16
4	20128	Flow-total	AMDNE	ft^3	15-Oct-15	W02AMDNE1-16
4	20229	Flow-total	AMDNE	ft^3	08-Oct-15	W01AMDNE1-16
4	22386	Flow-total	AMDNE	ft^3	03-Dec-15	W09AMDNE1-16

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CERTIFICATION

Document Identification: ***National Emissions Standards for Hazardous Air Pollutants Annual Report for 2015 U.S. Department of Energy Radiological Emissions at the Paducah Gaseous Diffusion Plant*, FPDP-RPT-0036**

This certification pertains to the following emission source:

Depleted Uranium Hexafluoride Conversion Facility (BWCS)

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment. (See 18 *U.S.C.* 1001)

John D. Woolery

John D. Woolery, President and Project Manager
BWXT Conversion Services, LLC

6/8/2016
Date Signed

CERTIFICATION

Document Identification: ***National Emissions Standards for Hazardous Air Pollutants Annual Report for 2015 U.S. Department of Energy Radiological Emissions at the Paducah Gaseous Diffusion Plant,*** **FPDP-RPT-0036**

This certification pertains to the following emission source:

Paducah Deactivation Project

I certify under penalty of law that I have personally examined and am familiar with the information submitted herein and based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment. (See 18 *U.S.C.* 1001)

_____ _____

Bobby D. Smith, Program Manager Date Signed
Fluor Federal Services, Inc.

_____ _____

Jennifer Woodard, Paducah Site Lead Date Signed
U.S. Department of Energy

Mr. Sean Alteri, Director
Division for Air Quality
Kentucky Department for Environmental Protection
200 Fair Oaks Lane
Frankfort, KY 40601-1403

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Ms. Beverly Banister, Director
Air, Pesticides, and Toxics Management Division
U.S. Environmental Protection Agency, Region 4
61 Forsythe, SW, Suite 9T43
Atlanta, GA 30303-8960

Mr. Reid Rosnick
Office of Radiation and Indoor Air
U.S. Environmental Protection Agency
Headquarters MS6608J
1200 Pennsylvania Avenue, Northwest
Washington, DC 20460

Dear Mr. Alteri, Ms. Banister, and Mr. Rosnick:

SUBMITTAL OF THE NATIONAL EMISSIONS STANDARDS FOR HAZARDOUS AIR POLLUTANTS ANNUAL REPORT FOR 2015 U.S. DEPARTMENT OF ENERGY RADIOLOGICAL EMISSIONS AT THE PADUCAH GASEOUS DIFFUSION PLANT, FPDP-RPT-0036

Enclosed is the calendar year 2015 Annual National Emissions Standards for Hazardous Air Pollutants Report, required by 40 *CFR* Part 61, Subpart H. This report summarizes airborne radionuclide emissions from the U.S. Department of Energy (DOE) Paducah Site. The total 2015 dose resulting from DOE emissions was 0.000087 mrem. This is well below the annual limit of 10 mrem per year.

If you have any questions or require additional information, please contact Don Dihel at (270) 441-6824.

Sincerely,

Jennifer Woodard
Paducah Site Lead
Portsmouth/Paducah Project Office

Enclosures:
1. National Emissions Standards for Hazardous Air Pollutants Annual Report for 2015
2. Certification Pages

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