REVISION 0

ST. LOUIS DOWNTOWN SITE ANNUAL ENVIRONMENTAL MONITORING DATA AND ANALYSIS REPORT FOR CALENDAR YEAR 2013

ST. LOUIS, MISSOURI

JULY 23, 2014

U.S. Army Corps of Engineers
St. Louis District Office
Formerly Utilized Sites Remedial Action Program

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prepared by:

U.S. Army Corps of Engineers, St. Louis District Office,
Formerly Utilized Sites Remedial Action Program

with assistance from:

Leidos, formerly part of Science Applications International Corporation
under Contract No. W912P9-12-D-0506, Delivery Order 0002

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ACRONYMS AND ABBREVIATIONS

Both English and metric units are used in this report. The units used in a specific situation are based on common unit usage or regulatory language (e.g., depths are given in feet and meters, and areas are given in square feet and square meters). Acres are given for areas when applicable.

°C	degree(s) Celsius
µCi/mL	microcurie(s) per milliliter
µg/L	microgram(s) per liter
µS/cm	microSiemen(s) per centimeter
AEC	U.S. Atomic Energy Commission
amsl	above mean sea level
ARAR	applicable or relevant and appropriate requirement
ATD	alpha track detector
BTOC	below top of casing
CEDE	committed effective dose equivalent
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	*Code of Federal Regulations*
Ci	curie(s)
Ci/yr	curie(s) per year
COC	contaminant of concern
CY	calendar year
DL	detection limit
DO	dissolved oxygen
DOD	U.S. Department of Defense
DOD-QSM	*DOD Quality Systems Manual for Environmental Laboratories*
DQO	data quality objective
EDE	effective dose equivalent
ELAP	Environmental Laboratory Accreditation Program
EM	Engineer Manual
EMDAR	Environmental Monitoring Data and Analysis Report
EMG	*Environmental Monitoring Guide for the St. Louis Sites*
EMICY	Environmental Monitoring Implementation for Calendar Year
EMICY13	*Environmental Monitoring Implementation Plan for the St. Louis Downtown Site for Calendar Year 2013*
EMP	Environmental Monitoring Program
ER	Engineer Regulation
FFA	Federal Facility Agreement
ft	foot/feet
ft^2	square foot/feet
FUSRAP	Formerly Utilized Sites Remedial Action Program
GRAAA	Ground-Water Remedial Action Alternative Assessment
HU	hydrostratigraphic unit
ICP	inductively coupled plasma
IL	investigative limit
K	potassium
KPA	kinetic phosphorescence analysis
m	meter(s)
m^2	square meter(s)

ACRONYMS AND ABBREVIATIONS (Continued)

m^3	cubic meter(s)
Mallinckrodt	Mallinckrodt LLC
MARSSIM	*Multi-Agency Radiation Survey and Site Investigation Manual*
MDNR	Missouri Department of Natural Resources
MDA	minimum detectable activity
MDC	minimum detectable concentration
MDL	method detection limit
MED	Manhattan Engineer District
mg/L	milligram(s) per liter
mL	milliliter(s)
mL/min	milliliter(s) per minute
mrem	millirem
mrem/qtr	millirem per quarter
mrem/yr	millirem per year
MSD	Metropolitan St. Louis Sewer District
mSv/yr	millisievert per year
mV	millivolt(s)
NAD	normalized absolute difference
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NTU	nephelometric turbidity unit
ORP	oxidation reduction potential
pCi/L	picocurie per liter
PDI	pre-design investigation
QA	quality assurance
QAPP	Quality Assurance Program Plan
QC	quality control
RA	remedial action
Ra	Radium
RL	reporting limit
RME	reasonably maximally exposed
Rn	Radon
ROD	*Record of Decision for the St. Louis Downtown Site*
RPD	relative percent difference
SAG	*Sampling and Analysis Guide for the St. Louis Sites*
SLDS	St. Louis Downtown Site
SLS	St. Louis Sites
SOP	standard operating procedure
SOR	sum of ratios
SU	survey unit
TEDE	total effective dose equivalent
Th	thorium
TLD	thermoluminescent dosimeter
TSS	total suspended solid(s)
U	uranium
UNSCEAR	United Nations Scientific Committee on the Effects of Atomic Radiation
USACE	U.S. Army Corps of Engineers

ACRONYMS AND ABBREVIATIONS (Continued)

USCS	Unified Soil Classification System
USEPA	U.S. Environmental Protection Agency
VP	vicinity property
VQ	validation qualifier
WL	working level
yd^3	cubic yard(s)

EXECUTIVE SUMMARY

This Annual Environmental Monitoring Data and Analysis Report (EMDAR) for calendar year (CY) 2013 applies to the St. Louis Downtown Site (SLDS) within the Formerly Utilized Sites Remedial Action Program (FUSRAP) (Figure 1-1). This EMDAR provides an evaluation of the data collected as part of the implementation of the Environmental Monitoring Program (EMP) for the SLDS within the FUSRAP. The SLDS consists of the Mallinckrodt LLC (Mallinckrodt) plant and surrounding vicinity properties (VPs) (Figure 1-2). Environmental monitoring of various media at the SLDS is required under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), a commitment outlined in the Federal Facility Agreement (FFA), and under the commitments in the *Record of Decision for the St. Louis Downtown Site* (ROD) (USACE 1998a).

The purpose of this report is:

1) to document the environmental monitoring activities, and
2) to assess whether the remedial actions (RAs) had a measurable environmental impact by:
    a) reporting the current condition of the SLDS,
    b) summarizing the data collection effort for CY 2013, and
    c) providing an analysis of the environmental monitoring data to date.

The U.S. Army Corps of Engineers (USACE), St. Louis District, collects comprehensive environmental data for decision-making and planning purposes. Environmental monitoring, performed as a Best Management Practice or as a component of RA, serves as a critical component in the evaluation of the current status of residual contaminants and assessment of the potential future migration of residual contaminants.

All environmental monitoring required through implementation of the *Environmental Monitoring Implementation Plan for the St. Louis Downtown Site for Calendar Year 2013* (EMICY13) (USACE 2012) was conducted as planned during CY 2013. The evaluation of environmental monitoring data for all SLDS properties demonstrates compliance with applicable or relevant and appropriate requirements (ARARs).

RADIOLOGICAL AIR MONITORING

Radiological air data were collected and evaluated at the SLDS through airborne radioactive particulate, radon (indoor and outdoor), and gamma radiation monitoring, as required in the EMICY13. In addition to environmental monitoring purposes, radiological air data were also used as inputs to calculate total effective dose equivalent (TEDE) to the hypothetical maximally exposed individual at the SLDS.

The TEDE calculated for the hypothetical maximally exposed individual at the SLDS was less than 0.1 millirem per year (mrem/yr) (0.001 millisievert per year [mSv/yr]). The results of the radiological air monitoring conducted at the SLDS demonstrated compliance with ARARs for the SLDS.

EXCAVATION-WATER DISCHARGE MONITORING AT THE ST. LOUIS DOWNTOWN SITE

CY 2013 was the fifteenth year that excavation-water discharge from the SLDS was monitored and reported. Excavation water from the SLDS was discharged to the St. Louis sanitary sewer

system in compliance with the requirements stated in the July 23, 2001, Metropolitan St. Louis Sewer District (MSD) authorization letter (MSD 2001) and amended in the October 13, 2004, MSD letter (MSD 2004). This authorization was extended through the issuance of letters dated June 19, 2006, May 22, 2008, May 10, 2010, and May 24, 2012 (MSD 2006, 2008, 2010, 2012). This authorization expires July 23, 2014 (MSD 2012). During CY 2013, no exceedances of the MSD limits occurred at the SLDS.

GROUND-WATER MONITORING

Ground water was sampled during CY 2013 at the SLDS following a protocol for individual wells and analytes, and analyzed for various radiological constituents and inorganic parameters. Static ground-water elevations for all SLDS wells were measured quarterly.

The environmental sampling requirements and ground-water criteria for each analyte are consistent with the EMICY13. The ground-water criteria are used for comparison and discussion purposes. The criteria for assessing ground-water sampling data at the SLDS include the investigative limits (ILs) as identified in the ROD (USACE 1998a) and the combined radium (Ra)-226/Ra-228 concentration limit from 40 *Code of Federal Regulations* (*CFR*) 192.02 (Table 1 to Subpart A). The ground-water criteria are presented in Table 2-6 of the EMICY13 and in Section 4.0 of this report. For those stations where an analyte exceeded the ground-water criteria at least once during CY 2013 and sufficient data were available to evaluate trends, Mann-Kendall statistical trend analyses were completed to assess whether analyte concentrations were increasing or decreasing through time.

During CY 2013, three hydrostratigraphic unit (HU)-A monitoring wells (B16W06S, B16W12S, and DW21) were sampled (Figure 4-3). B16W06S was sampled for arsenic and cadmium during the second quarter. B16W12S was sampled for arsenic, cadmium, Ra-226, Ra-228, thorium (Th)-228, Th-230, Th-232, uranium (U)-234, U-235, and U-238 during the second quarter. DW21 was sampled for arsenic and cadmium during the third quarter. Because the majority (greater than 50 percent) of historical results were near or below detection limits (DLs), a trend analysis was not performed for cadmium in B16W06S, B16W12S, or DW21, or for arsenic in B16W12S. Because total U values are calculated using the U-234 and U-238 values, the trends in their values should be the same as the total U trend results. Therefore, it was unnecessary to perform a separate trend analysis for each of the isotopes. Trend analysis was conducted for arsenic in B16W06S and DW21 and for total U in B16W12S. Based on the graph and a quantitative evaluation of the trend using the Mann-Kendall Trend Test (Section 4.2.3), there is a downward trend in arsenic concentrations in B16W06S and DW21. There is no trend for total U in HU-A well B16W12S. The remaining SLDS contaminants of concern (COCs) (Ra-226, Ra-228, Th-228, Th-230, Th-232, and U-235) were not detected in HU-A ground water during CY 2013.

During CY 2013, six SLDS wells completed in the Mississippi Alluvial Aquifer (HU-B) were sampled. Mann-Kendall Trend Testing was conducted for two of the three COCs that exceeded the ILs in HU-B wells during CY 2013: arsenic in DW14 and DW18 and total U in DW19. A trend analysis was not conducted for cadmium in DW14 or DW19 because historical results were generally below or only slightly above their DLs. The results of the Mann-Kendall Trend Tests indicate arsenic exhibits a statistically significant downward trend in DW14 and exhibits a statistically significant upward trend in DW18. The Mann-Kendall Trend Test results indicate that there is no statistically significant trend for total U in HU-B well DW19, but levels have remained above the IL since 1999. However, the concentration of total U reported for the August 2013 sample from DW19 is the lowest concentration ever reported for a sample collected from this well.

Potentiometric surface maps were created from ground-water elevations measured in May and December to illustrate ground-water flow conditions in wet and dry seasons, respectively. The ground-water surface in HU-A under the eastern portion of the Mallinckrodt plant is generally sloping northeastward toward the Mississippi River (Figures 4-7 and 4-9). In HU-B, ground-water flow and direction are strongly influenced by river stage which indicates a hydraulic connection to the Mississippi River. Both the May and December 2013 potentiometric surface maps (Figures 4-8 and 4-10) indicate the presence of relatively low hydraulic gradients in the vicinity of DW19 and the former location of Building 101. The December 2013 potentiometric surface map for HU-B indicates a potentiometric high located in the vicinity of DW16. The flow direction at the site is generally northeastward toward the Mississippi River.

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1.0 HISTORICAL SITE BACKGROUND AND CURRENT SITE STATUS

1.1 INTRODUCTION

This Annual Environmental Monitoring Data and Analysis Report (EMDAR) for calendar year (CY) 2013 applies to the St. Louis Downtown Site (SLDS) within the Formerly Utilized Sites Remedial Action Program (FUSRAP) (Figure 1-1). This EMDAR provides an evaluation of the data collected as part of the implementation of the Environmental Monitoring Program (EMP) for the SLDS within the FUSRAP. The SLDS consists of the Mallinckrodt LLC (Mallinckrodt) plant and surrounding vicinity properties (VPs) (Figure 1-2). Environmental monitoring of various media at the SLDS is required under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), a commitment outlined in the Federal Facility Agreement (FFA), and under the commitments in the *Record of Decision for the St. Louis Downtown Site* (ROD) (USACE 1998a).

1.2 PURPOSE

The purpose of this report is to document the environmental monitoring activities and to assess whether the remedial actions (RAs) being performed at the SLDS could cause a measurable environmental impact. In addition, this report serves to enhance the reader's awareness of the current condition of the SLDS, summarizes the data collection efforts for CY 2013, and provides analysis of the CY 2013 environmental monitoring data results. This document presents the following information:

- Sample collection data for various media at the SLDS and interpretation of CY 2013 EMP results;
- The compliance status of the SLDS with federal and state applicable or relevant and appropriate requirements (ARARs) or other benchmarks (e.g., *Environmental Monitoring Implementation Plan for the St. Louis Downtown Site for CY 2013* [EMICY13] [USACE 2012]);
- Dose assessments for radiological contaminants as appropriate at the SLDS;
- A summary of trends based on changes in contaminant concentrations to support RAs, public safety, and maintain surveillance monitoring requirements at the SLDS; and
- The identification of data gaps and future EMP needs.

1.3 ST. LOUIS SITE PROGRAM AND SITE BACKGROUND

The FUSRAP was executed by the U.S. Atomic Energy Commission (AEC) in 1974 to identify, remediate, or otherwise control sites where residual radioactivity remains from operations conducted for the Manhattan Engineer District (MED) and AEC during the early years of the nation's atomic energy program. The FUSRAP was continued by the follow-on agencies to the AEC until 1997, when the U.S. Congress transferred responsibility for FUSRAP to the U.S. Army Corps of Engineers (USACE).

The SLDS properties were involved with some of the following operations: refining of uranium ores, production of uranium metal and compounds, uranium recovery from residues and scrap, and the storage and disposal of associated process byproducts. The processing activities were conducted in parts of the SLDS under contract to the MED/AEC between the early 1940s and the 1950s.

Detailed descriptions and histories for the SLDS can be found in the *Remedial Investigation Report for the St. Louis Site* (DOE 1994); the *Remedial Investigation Addendum for the St. Louis Site* (DOE 1995); the ROD (USACE 1998a); and the *Environmental Monitoring Guide for the St. Louis Sites* (EMG) (USACE 1999a).

During CY 2013, the following documents were finalized:

- *CY2012 Fourth Quarter Laboratory QA/QC Report for the FUSRAP St. Louis Radioanalytical Laboratory & Associated Satellite Laboratories, St. Louis, Missouri* (February);
- *Pre-Design Investigation Summary Report, Kiesel Hall Street Property, FUSRAP St. Louis Downtown Site* (March 14);
- *CY2013 First Quarter Laboratory QA/QC Report for the FUSRAP St. Louis Radioanalytical Laboratory & Associated Satellite Laboratories, St. Louis, Missouri* (May);
- *Kiesel Hall Street Property, Remedial Action Work Area-Specific Description and Design Package, FUSRAP St. Louis Downtown Site* (June 11);
- FWV-155: Amended the design to remove the abandoned rail spur from and incorporate the rail spur area into the Area 7 limits of restoration (modified the *Kiesel Hall Street Property Remedial Action Work Area-Specific Description and Design Package, FUSRAP St. Louis Downtown Site*) (July11);
- *Post-Remedial Action Report and Final Status Survey Evaluation for the St. Louis Downtown Site Vicinity Property DT-8* (July 15);
- *St. Louis Downtown Site Annual Environmental Monitoring Data and Analysis Report for Calendar Year 2012* (July 19);
- FWV 011: Amended Appendix A, Site Safety and Health Plan, to clarify vehicle/equipment inspection frequency and incorporate visitor policy requirements (modified the *Accident Prevention Plan, St. Louis FUSRAP Sites, St. Louis, Missouri*) (August 1);
- *CY2013 Second Quarter Laboratory QA/QC Report for the FUSRAP St. Louis Radioanalytical Laboratory & Associated Satellite Laboratories, St. Louis, Missouri* (September);
- *Post-Remedial Action Report and Final Status Survey Evaluation for the St. Louis Downtown Site Terminal Railroad Soil Spoils Area* (September 10);
- *Post-Remedial Action Report and Final Status Survey Evaluation for the St. Louis Downtown Site Vicinity Property DT-3* (September 23);
- *Pre-Design Investigation Summary Report and Final Status Survey Evaluation for the St. Louis Downtown Site Vicinity Property DT-37* (September 23);
- FWV-012: Amended to update acronyms, the procedure to follow in case of a power outage in Section 2.4, the primary and alternate site contacts at the St. Louis FUSRAP Sites in Appendix B, and the Utility Contact List in Appendix C (modified the *St. Louis FUSRAP Sites On-Call Book [Guide to After-Hours Monitoring], St. Louis FUSRAP Sites*) (September 30);

- *CY2013 Third Quarter Laboratory QA/QC Report for the FUSRAP St. Louis Radioanalytical Laboratory & Associated Satellite Laboratories* (November); and
- *Environmental Monitoring Implementation Plan for the St. Louis Downtown Site for Calendar Year 2014* (December 27).

1.3.1 St. Louis Downtown Site Calendar Year 2013 Remedial Actions

During CY 2013, RAs were performed at the following SLDS properties (Figure 1-2): Plant 6 West Half Building 101, Kiesel Hall Street Property (and adjacent City Property and Gunther Salt Property), and City Property Vicinity Property (VP) (DT-2) Phase 2 East of the Levee. Excavation activities continued at the Plant 6 West Half Building 101 throughout the year. Excavation activities at the Kiesel Hall Street Property began in the second quarter and continued throughout the year. Excavation at DT-2 Phase 2 East of the Levee, the City Property, and at the Gunther Salt Property began in the fourth quarter. A total of 23,349 cubic yards (yd^3) (17,852 cubic meters [m^3]) of contaminated material were excavated from the SLDS. All of the contaminated material was shipped via railcar to US Ecology in Idaho for proper disposal.

During CY 2013, *Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)* (DOD 2000) Class 1 verifications were performed at the following SLDS properties (survey units [SUs]): DT-2 Phase 2 East of the Levee (SU-5), Kiesel Hall Street Property (SU-1 through SU-4), Gunther Salt (SU-1) and City Property (SU-1), and Plant 6 West Half (SU-12). MARSSIM Class 2 verifications were performed at DT-37, DT-2 Phase 2 East of the Levee, Gunther Salt Property and City Property. No MARSSIM Class 3 verifications were performed. Verifications at the SLDS were performed to confirm that the remediation goals of the ROD were achieved. The SLDS is shown on Figure 1-2.

A characterization/pre-design investigation (PDI) was performed at the Kiesel Hall Street Property during CY 2013.

No monitoring wells were decommissioned in CY 2013.

In accordance with the Metropolitan St. Louis Sewer District (MSD) authorization letter for the SLDS, 1,675,409 gallons of excavation water were discharged in CY 2013. Since the beginning of the project, 16,010,166 gallons have been treated and released to MSD at the SLDS.

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2.0 EVALUATION OF RADIOLOGICAL AIR MONITORING DATA

This section documents environmental monitoring activities related to radiological air data. The radiological air measurements taken at the SLDS are conducted as part of the EMP. Radiological air data is collected to evaluate the compliance status of each site with respect to ARARs, to evaluate trends, and to perform dose assessments for radiological contaminants, as appropriate, at each site. Section 2.1 includes a description of the types of radiological measurements conducted at the SLDS, potential sources of the contaminants to be measured (including natural background), and measurement techniques employed during CY 2013.

All radiological air monitoring required through implementation of the *Environmental Monitoring Implementation Plan for the St. Louis Downtown Site for Calendar Year 2013* (EMICY13) (USACE 2012) was conducted as planned during CY 2013. The evaluations of radiological air monitoring data for all SLDS demonstrate compliance with ARARs.

A total effective dose equivalent (TEDE) for the reasonably maximally exposed (RME) member of the public was calculated for the SLDS by summing the dose due to gamma radiation, radiological air particulates, and radon. The TEDE for the RME individual at the SLDS was less than 0.1 millirem per year (mrem/yr) (less than 0.001 millisievert per year [mSv/yr]). The TEDE for the SLDS was below the 10 *Code of Federal Regulations* (*CFR)* 20.1301 limit for members of the public, which is 100 mrem/yr (1 mSv/yr). Details of the radiological dose assessment (TEDE calculation) are presented in Section 6.0.

2.1 RADIOLOGICAL AIR MEASUREMENTS

The three types of radiological air monitoring that were conducted at the St. Louis Sites (SLS) during CY 2013 are gamma radiation, airborne radioactive particulates, and airborne radon. Section 2.2 provides details of the air monitoring conducted at the SLDS.

2.1.1 Gamma Radiation

Gamma radiation is emitted from natural, cosmic, and manmade sources. The earth naturally contains gamma radiation-emitting substances, such as the uranium decay series, the thorium decay series, and potassium (K)-40. Cosmic radiation originates in outer space and filters through the atmosphere to the earth. Together, these two sources make up the majority of natural gamma background radiation. The United Nations Scientific Committee on the Effects of Atomic Radiation (UNSCEAR) estimates that the total naturally occurring background radiation dose equivalent due to gamma exposure is 65 mrem/yr (0.65 mSv/yr), 35 mrem/yr (0.35 mSv/yr) of which originates from sources on earth, and 30 mrem/yr (0.3 mSv/yr) of which originates from cosmic sources (UNSCEAR 1982). The background monitoring locations for the SLS (Figure 2-1) are reasonably representative of background gamma radiation for the St. Louis Metropolitan Area.

Gamma radiation was measured at the SLDS during CY 2013 using thermoluminescent dosimeters (TLDs). TLDs were located at locations representative of areas accessible to the public in order to provide input for calculation of TEDE.

The TLDs were placed at the monitoring location approximately 3 feet (ft) (0.9 meters [m]) above the ground surface inside a housing shelter. The TLDs were collected quarterly and sent to a properly certified, off-site laboratory for analysis.

2.1.2 Airborne Radioactive Particulates

2.1.2.1 Air Sampling

Airborne radioactive particulates result from radionuclides in soils that become suspended in the air. The radionuclides in soil normally become airborne as a result of wind erosion of the surface soil or as a result of the soil being disturbed (e.g., excavation). This airborne radioactive material includes naturally occurring background concentrations, as well as above background concentrations of radioactive materials present at the SLDS.

Airborne radioactive particulates were measured at the SLDS by drawing air through a filter membrane with an air sampling pump placed approximately 3 ft (0.9 m) above the ground, and then analyzing the material contained on the filter. The results of the analysis, when compared to the amount of air drawn through the filter, were reported as radioactive contaminant concentrations (i.e., microcurie per milliliter [µCi/mL]). Particulate air monitors were located in predominant wind directions at excavation and loadout area perimeter locations, as appropriate, to provide input for the National Emissions Standard for Hazardous Air Pollutants (NESHAP) Report and calculation of TEDE to the critical receptor. Air particulate samples were typically collected weekly or more frequently.

2.1.2.2 Estimation of Emissions in Accordance with the National Emissions Standard for Hazardous Air Pollutants

The SLDS CY 2013 NESHAP Report (Appendix A) presents the calculation of the effective dose equivalent (EDE) from radionuclide emissions to critical receptors in accordance with the NESHAP. The report is prepared in accordance with the requirements and procedures contained in 40 *CFR* 61, Subpart I.

Emission rates calculated using air sampling data, activity fractions, and other site-specific information were used for the SLDS as inputs to the U.S. Environmental Protection Agency (USEPA) CAP88-PC Version 3.0 modeling code (USEPA 2007) to demonstrate compliance with the 10 mrem/yr ARAR in 40 *CFR* 61, Subpart I.

The SLDS was in compliance with the 10 mrem/yr ARAR in 40 *CFR* 61, Subpart I. Results from CY 2013 demonstrating compliance are discussed in Section 2.2.1.

2.1.3 Airborne Radon

U-238 is a naturally occurring radionuclide that is commonly found in soil and rock. Radon (Rn)-222 is a naturally occurring radioactive gas found in the uranium decay series. A fraction of the radon produced from the radioactive decay of naturally occurring U-238 diffuses from soil and rock into the atmosphere, accounting for natural background airborne radon concentrations. In addition to this natural source, radon is produced from the above background concentrations of radioactive materials present at the SLDS.

Outdoor airborne radon concentration is governed by the emission rate and dilution factors, both of which are strongly affected by meteorological conditions. Surface soil is the largest source of radon. Secondary contributors include oceans, natural gas, geothermal fluids, volcanic gases, ventilation from caves and mines, and coal combustion. Radon levels in the atmosphere have been observed to vary with elevation, season, time of day, or location. The chief meteorological parameter governing airborne radon concentration is atmospheric stability; however, the largest variations in atmospheric radon occur spatially (USEPA 1987).

Radon alpha track detectors (ATDs) were used at the SLDS to measure alpha particles emitted from radon and its associated decay products. Radon ATDs were co-located with environmental TLDs 3 ft (0.9 m) above the ground surface in housing shelters at locations representative of areas accessible to the public. Outdoor ATDs were collected approximately every six months and sent to an off-site laboratory for analysis. Recorded radon concentrations are listed in picocurie per liter (pCi/L), and are compared to the value of 0.5 pCi/L average annual concentration above background as listed in 40 *CFR* 192.02(b).

The SLDS was in compliance with the 0.5 pCi/L ARAR in 40 *CFR* 192.02(b). Results from CY 2013 demonstrating compliance are discussed in Section 2.2.3.

At the SLDS, ATDs were also placed in locations within applicable structures (Building 26 in Plant 1 and South Storage Building at DT-4 North) to monitor for indoor radon exposure. The ATDs were located in areas that represent the highest likely exposure from indoor radon. ATD locations were selected with consideration given to known Ra-226 concentrations under applicable buildings and occupancy times at any one location within each building. Annual average indoor radon data in each applicable building were compared to the 40 *CFR* 192.12(b) ARAR value of 0.02 working levels (WLs). In accordance with 40 *CFR* 192.12(b), reasonable effort shall be made to achieve, in each habitable or occupied building, an annual average (or equivalent) radon decay product concentration (including background) not to exceed 0.02 WL. In any case, the radon decay product concentration shall not exceed 0.03 WL. Background indoor radon monitors were not necessary because the regulatory standard of 0.02 WL includes background. Indoor ATDs were also collected approximately every six months and sent to an off-site laboratory for analysis.

The SLDS was in compliance with the 0.02 WL ARAR in 40 *CFR* 192.12(b). Results from CY 2013 demonstrating compliance are discussed in Section 2.2.4.

2.2 EVALUATION OF RADIOLOGICAL AIR MONITORING DATA

2.2.1 Evaluation of Gamma Radiation Data

Gamma radiation monitoring was performed at the SLDS during CY 2013 at four locations that were representative of areas accessible to the public (Figure 2-2) and at the background location (Figure 2-1) to compare on-site/off-site exposure and to provide input for calculation of TEDE to the critical receptor. The EMP uses two TLDs at Monitoring Station DA-1 (for each monitoring period) to provide additional quality control (QC) of monitoring data (Figure 2-2). A summary of TLD monitoring results for CY 2013 at the SLDS is shown in Table 2-1. TLD data are located in Appendix B, Table B-2, of this report.

Table 2-1. Summary of SLDS Gamma Radiation Data for CY 2013

Monitoring Location	Monitoring Station	First Quarter TLD Data (mrem/qtr) Rpt./Cor.		Second Quarter TLD Data (mrem/qtr) Rpt./Cor.		Third Quarter TLD Data (mrem/qtr) Rpt./Cor.		Fourth Quarter TLD Data (mrem/qtr) Rpt./Cor.		CY 2013 Net TLD Data (mrem/yr)
		Rpt.	Cor.[a,b]	Rpt.	Cor.[a,b]	Rpt.	Cor.[a,b]	Rpt.	Cor.[a,b]	
SLDS Perimeter	DA-1	16	0	16.5	0	16	0	18.2	0	0
	DA-1[c]	15.3	0	18.9	0	16	0	18.9	0	0
	DA-2	17.0	0	20.6	1.7	18.9	0	20.7	0	2
	DA-3	15.9	0	18.3	0	18.9	0	20.1	0	0
	DA-6	---[d]	---	18.8	0	20.4	0	21.4	0.3	0
Background	BA-1	18.3	---	18.9	---	22.0	---	21.1	---	20.1

[a] All quarterly data reported from the vendor have been normalized to exactly one quarter's exposure above background.
[b] CY 2013 net TLD data are corrected for background, shelter absorption (s/a = 1.075), and fade.
[c] A QC duplicate is collected at the same time and location and is analyzed by the same method for evaluating precision in sampling and analysis. Duplicate sample results were not included in calculations.
[d] The first quarter TLD at station DA-6 was lost and could not be collected. First quarter results were assumed the same as second quarter.
mrem/qtr = millirem per quarter
Rpt. = reported; Cor. = corrected
--- Result calculation not required.

2.2.2 Evaluation of Airborne Radioactive Particulate Data

Air sampling for radiological particulates was not conducted at the SLDS perimeter locations during CY 2013 due to the insignificant potential for material to become airborne at the site. The ground surface at the SLDS is generally covered with asphalt or concrete, which limits the potential for material to become airborne. Air sampling for radiological particulates during CY 2013 was conducted by the RA contractor at the perimeter of each active excavation and loadout area within the SLDS. Air particulate data were used as inputs to the NESHAP Report (Appendix A) and calculation of TEDE to the critical receptor (Section 6.0). A summary of air particulate monitoring data from excavation perimeters is shown in Table 2-2. Airborne radioactive particulate data are located in Appendix B, Table B-1, of this report.

Table 2-2. Summary of SLDS Airborne Radioactive Particulate Data for CY 2013

Monitoring Location	Average Concentration (µCi/mL)	
	Gross Alpha	Gross Beta
DT-2	2.80E-15	2.43E-14
Kiesel Hall Street	3.62E-15	2.21E-14
Plant 6	2.09E-15	2.71E-14
Plant 6 Loadout	3.29E-15	2.99E-14
Background Concentration[a]	3.68E-15	2.06E-14

[a] These concentrations are only provided for informational purposes.

2.2.3 Evaluation of Outdoor Airborne Radon Data

Outdoor airborne radon monitoring was performed at the SLDS using ATDs to measure radon emissions. Four detectors were co-located with the TLDs at locations shown in Figure 2-2. One additional detector was located at Monitoring Station DA-1 as a QC duplicate. A background ATD, co-located with the background TLD (Section 2.2.1), was used to compare on-site exposure and off-site background exposure. In accordance with 40 *CFR* 192.02(b)(2), control of residual radioactive materials from a uranium mill tailings pile must be designed to provide reasonable assurance that releases of radon to the atmosphere will not increase the annual average concentration of radon outside the disposal site by more than 0.5 pCi/L. Although a

uranium mill tailings pile is not associated with any of the SLS, these standards are used for comparative purposes. Outdoor airborne radon data were used as an input for calculation of TEDE to the critical receptor (Section 6) and compared to the 0.5 pCi/L average annual concentration above background value as listed in 40 *CFR* 192.02(b)(2). The average annual radon concentration above background of 0 pCi/L at the SLDS monitoring stations met the 40 *CFR* 192.02(b)(2) limit of 0.5 pCi/L. A summary of outdoor airborne radon data is shown in Table 2-3. Outdoor ATD data is located in Appendix B, Table B-3, of this report.

Table 2-3. Summary of SLDS Outdoor Airborne Radon (Rn-222) Data for CY 2013

Monitoring Location	Monitoring Station	Average Annual Concentration (pCi/L)		
		01/07/13 to 07/09/13 [a] (uncorrected)	07/09/13 to 01/10/14[a] (uncorrected)	Average Annual Concentration[b]
SLDS	DA-1	0.2	0.2	0.0
	DA-1[c]	0.2	0.2	0.0
	DA-2	0.2	0.2	0.0
	DA-3	0.2	0.2	0.0
	DA-6	--- [d]	0.2	0.0
Background	BA-1	0.2	0.2	---

[a] Detectors were installed and removed on the dates listed. Data are as reported from the vendor (gross data including background).
[b] Results reported from vendor for two periods are time-weighted and averaged to estimate an annual average radon concentration (pCi/L) above background.
[c] A QC duplicate is collected at the same time and location and is analyzed by the same method for evaluating precision in sampling and analysis.
[d] The first semi-annual ATD at station DA-6 was lost and could not be collected. First semi-annual results were assumed the same as second semi-annual monitoring period.
--- Result calculation not required.

2.2.4 Evaluation of Indoor Airborne Radon Data

Indoor radon monitoring was performed at two SLDS buildings (Building 26 in Plant 1 and South Storage Building at DT-4 North) using one ATD placed in each building at a height of 4 ft (1.2 m) (to approximate breathing zone conditions) to measure radon concentrations (Figure 2-2). The ATDs were installed in January CY 2013 at each monitoring location, collected for analysis after approximately six months of exposure, and replaced with another set that would represent radon exposure for the rest of the year. Recorded radon concentrations, listed in pCi/L, were converted to radon WLs and an indoor radon equilibrium factor of 0.4 (NCRP 1988) was applied.

The results (including background) were evaluated based on the criteria contained in 40 *CFR* 192.12(b). The average annual radon concentration was determined to be less than the 40 *CFR* 192.12(b) criterion of 0.02 WL in each building (Leidos 2014). Additional details of the data and calculation methodology used to determine indoor radon WLs in SLDS buildings are located in Table 2-4. Indoor ATD data are located in Appendix B, Table B-3, of this report.

Table 2-4. Summary of Indoor Airborne Radon (Rn-222) Data for CY 2013

Monitoring Location	Monitoring Station	Average Annual Concentration			
		01/07/13 to 07/09/13[a] (pCi/L)	07/09/13 to 01/10/14[a] (pCi/L)	Annual Average (pCi/L)[b]	WL[c]
Plant 1 Building 26	DI-1	0.9	0.2	0.55	0.002
DT-4 North South Storage Building	DI-2	0.6	0.8	0.70	0.003

[a] Detectors were installed and removed on the dates listed. Data are as reported from the vendor.
[b] Results reported from vendor for two periods are averaged to estimate an annual average radon concentration (pCi/L).
[c] The average annual WL is calculated by dividing the average pCi/L by 100 pCi/L per WL and multiplying by 0.4. The average annual WL must be less than 0.02 (40 CFR 192.12(b)).

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3.0 EXCAVATION-WATER MONITORING DATA

This section provides a description of the excavation-water discharge monitoring activities conducted at the SLDS during CY 2013. Excavation water is storm water and ground water that accumulates in excavations that are present at the SLDS as a result of RAs. Excavation-water effluent from the SLDS is discharged to a combined (sanitary and storm) MSD sewer inlet located at the SLDS and flows to the Bissell Point Sewage Treatment Plant under a special discharge authorization. This excavation water is collected, treated, and tested before being discharged to MSD manhole 17D4-353C. This MSD inlet is depicted on Figure 3-1.

The purpose of excavation-water discharge sampling at the SLDS is to maintain compliance with specific discharge limits to ensure protection of human health and the environment. The MSD is the regulatory authority for water discharges and has issued authorization letters for the SLDS that allow discharges of excavation water that meet discharge-limit-based criteria (MSD 1998, 2001, 2004, 2006, 2008, 2010, 2012). On October 30, 1998, the USACE received an MSD conditional authorization letter to discharge the excavation water collected at the SLDS resulting from USACE RAs (MSD 1998). On July 23, 2001, the MSD issued a separate conditional discharge authorization letter for discharges of excavation water that result from USACE RAs (MSD 2001). The MSD issued a change to the self-monitoring and special discharge authorization for the SLDS on October 13, 2004, and issued a two-year extension to that authorization dated June 19, 2006 (MSD 2004, 2006). On May 22, 2008, and May 10, 2010, the MSD issued extensions to the special discharge authorization for the SLDS that remained in effect until July 23, 2010 and July 23, 2012, respectively (MSD 2008, 2010). On May 24, 2012, the MSD issued an extension to the special discharge authorization for the SLDS that remains in effect until July 23, 2014 (MSD 2012).The results obtained from these monitoring activities are presented and evaluated with respect to the discharge limits as described in the EMICY13 (USACE 2012).

Section 2.2.2 of the EMICY13 outlines the parameters and annual average discharge limits for the excavation-water discharges at the site (USACE 2012). For cases where the local regulatory authorities have not provided discharge limits for the SLDS radiological contaminants of concern (COCs), parameters from 10 *CFR* 20 Appendix B water effluent values are used to calculate the sum of ratios (SOR) value for each discharge. Additionally, the SOR aids in the establishment of water management protocols.

3.1 EVALUATION OF EXCAVATION-WATER DISCHARGE MONITORING RESULTS AT THE ST. LOUIS DOWNTOWN SITE

During CY 2013, approximately 1,675,409 gallons of excavation water from 12 batches were discharged to MSD manhole 17D4-353C. The analytical results for all measured parameters by batch, along with the total activity discharged for each parameter, are included in Appendix C, Table C-1. A summary of the number of discharges, gallons of water discharged, and total radiological activity for the CY 2013 excavation-water discharges is provided in Table 3-1. All excavation-water monitoring required through implementation of the EMICY13 was conducted as planned during CY 2013. The evaluation of monitoring data demonstrated compliance with all MSD criteria.

Table 3-1. Excavation Water Discharged at the SLDS During CY 2013

Quarter	Number of Discharges	Number of Gallons Discharged[a]	Total Activity (Curies [Ci])		
			Thorium[b]	U (KPA)[c]	Radium[d]
1	3	154,652	1.9E-06	3.0E-05	1.1E-06
2	3	975,519	3.5E-05	1.2E-03	8.4E-06
3	3	434,504	3.9E-06	5.3E-04	2.8E-06
4	3	110,734	1.2E-06	2.1E-05	6.1E-07
Annual Totals	12	1,675,409	4.2E-05	1.8E-03	1.3E-05

[a] Quantities based on actual quarterly discharges from the SLDS.
[b] Calculated value based on the addition of isotopic analyses: Th-228, Th-230, and Th-232.
[c] Activity based on total U results (kinetic phosphorescence analysis [KPA]).
[d] Calculated value based on the addition of isotopic analyses: Ra-226 and Ra-228.

4.0 GROUND-WATER MONITORING DATA

Nine ground-water monitoring wells were sampled at the SLDS during CY 2013. Ground water was sampled following a protocol for individual wells and analytes, and was analyzed for various radiological constituents and inorganic analytes. Static water levels were measured quarterly at the SLDS. In addition, field parameters were measured continuously during purging of the wells prior to sampling. The ground-water field parameter results for CY 2013 sampling at the SLDS are presented in Appendix D, Table D-1. Summary tables providing the SLDS ground-water analytical sampling results for CY 2013 are found in Appendix D, Table D-2.

Stratigraphy at the St. Louis Downtown Site

Ground water at the SLDS is found within three hydrostratigraphic units (HUs). These units are, in order of increasing depth, the Upper HU (HU-A), which consists of fill overlying clay and silt; the Lower HU (HU-B), also referred to as the Mississippi Alluvial Aquifer, consisting of sandy silts and silty sands; and the Limestone Bedrock Unit, referred to as HU-C (Figures 4-1 and 4-2). The upper unit, HU-A, is not an aquifer and is not considered a potential source of drinking water because it has insufficient yield and poor natural water quality. HU-B is one of the principal aquifers in the St. Louis area, but expected future use as drinking water at the SLDS is minimal because the Mississippi and Missouri Rivers provide a readily available source and the water from the aquifer is of poor quality due to elevated concentrations of iron and manganese. HU-C would be an unlikely water supply source, as it is a deeper and less productive HU. There are no known drinking-water wells in the vicinity of the SLDS. The City of St. Louis has Ordinance 66777 which explicitly forbids the installation of wells into the subsurface for the purposes of using the ground water as a potable water supply (City of St. Louis 2005). The expected future use of SLDS ground water is not anticipated to change from its current use.

As shown in the geologic cross-section of the SLDS (Figure 4-2), the erosional surface of the bedrock dips eastward toward the river. HU-A overlies HU-B on the eastern side of the SLDS and overlies bedrock on the western side of the SLDS. HU-B thins westerly along the bedrock surface until it becomes absent beneath the SLDS. HU-C underlies the unconsolidated sediments at depths ranging from 6 m (19 ft) on the western side of SLDS to 24 m (80 ft) near the Mississippi River.

Ground-Water Criteria

The CY 2013 monitoring data for HU-B ground water at the SLDS are compared to the following ground-water criteria established in the ROD: 50 micrograms per liter (µg/L) arsenic, 5 µg/L cadmium, 20 µg/L total U, and 5 pCi/L combined Ra-226 and Ra-228. The ROD did not establish ground-water criteria for HU-A ground water. An evaluation of concentration trends is conducted for COCs detected in HU-A.

Summary of Calendar Year 2013 Ground-Water Monitoring Results for the St. Louis Downtown Site

A decreasing arsenic concentration trend was observed in two HU-A wells (B16W06S and DW21) and one HU-B well (DW14) at the SLDS during CY 2013. An increasing arsenic concentration trend was observed in one HU-B well (DW18) during CY 2013. No other significant changes in the concentrations of the COCs occurred in shallow or deep ground water during CY 2013. Trend analysis of the COCs detected in HU-A ground water indicates continued improvement in HU-A ground-water quality, as reflected in the decreasing trend in arsenic concentrations observed in HU-A wells B16W06S and DW21.

Three COCs (arsenic, cadmium and total U) were detected at concentrations above the ROD ground-water criteria in HU-B ground water during CY 2013. The arsenic concentration exceeded the investigative limit (IL) (50 µg/L) in HU-B well DW18 (71 µg/L) and DW14 (1,100 µg/L). The Mann-Kendall Trend Test results indicate that there is a statistically significant upward trend in arsenic concentrations in DW18 and a statistically significant downward trend in arsenic concentrations in DW14. The cadmium concentration exceeded the IL (5 µg/L) in the first quarter sample from HU-B well DW14 (120 µg/L), but decreased to levels below the IL in the second and fourth quarter samples from this well. Based on the elevated turbidity value reported for this well in March 2013, the elevated arsenic and cadmium results for the first quarter sample from DW14 may have been at least in part due to high particulate content in the ground-water sample. The total U concentration exceeded the IL (20 µg/L) in the third quarter sample from DW19 (37.0 µg/L). No statistically significant trend was observed in total U concentrations in DW19. The total U concentration reported for the August 2013 sample from DW19 (37.0 µg/L) is the lowest concentration ever reported for this well.

4.1 GROUND-WATER MONITORING AT THE ST. LOUIS DOWNTOWN SITE

The selected remedy presented in the ROD involves excavation and disposal of radiologically contaminated accessible soil and ground-water monitoring. The goal of the ground-water portion of the SLDS remedy is to maintain protection of the HU-B and to establish the effectiveness of the source removal action. This goal is achieved by monitoring perimeter wells on a routine basis to ensure that there are no significant impacts from COCs on HU-B. The HU-B ground-water results for the SLDS COCs are compared to the following ROD ground-water criteria (USACE 1998a):

1) the ILs: 50 µg/L arsenic, 5 µg/L cadmium, and 20 µg/L total U; and
2) the concentration limits from the Uranium Mill Tailings Radiation Control Act regulations listed in 40 *CFR* 192.02, Table 1 to Subpart A: 5 pCi/L combined Ra-226 and Ra-228.

The concentration limits for other SLDS COCs listed in 40 *CFR* 192.02, Table 1 to Subpart A (50 µg/L arsenic, 10 µg/L cadmium, and 30 pCi/L combined U-234 and U-238) are not relevant or appropriate because these limits are equal to or less stringent than the ILs.

If monitoring of HU-B indicates that the concentrations of SLDS COCs significantly exceed the above criteria, the ROD requires that a Ground-Water Remedial Action Alternative Assessment (GRAAA) be initiated to further assess the fate and transport of the COCs in HU-B and to determine if additional RAs are necessary. Total U concentrations were above the IL in HU-B well DW19 over an extended period, initiating Phase 1 of the GRAAA. The first phase of the GRAAA was completed in CY 2003 (USACE 2003). Phase 1 summarized the sampling data available for each of the monitoring wells completed in HU-B and provided recommendations for further investigation of HU-B. This EMDAR carefully reviews the HU-B data to provide additional information for future phases of the GRAAA. The ROD also specifies that a ground-water monitoring plan will be developed to assess the fate and transport of MED/AEC residual contaminants through and following the RA.

Because HU-A is not considered a potential source of drinking water, the ROD did not establish ground-water criteria for HU-A ground water. An evaluation of concentration trends is conducted for select COCs detected in HU-A ground water to support assessment of the effectiveness of the RA in the CERCLA five-year reviews. The results of the trend analysis are presented in Section 4.2.3.

4.2 EVALUATION OF GROUND-WATER MONITORING DATA

St. Louis Downtown Site Monitoring Well Network

The EMP monitoring well network for the SLDS is shown on Figure 4-3. The screened HUs for the SLDS ground-water monitoring wells are identified in Table 4-1. Prior to initiating long-term monitoring of the HU-B, as specified by the ROD (USACE 1998a), there was no EMP sampling performed at the SLDS. In CY 2013, nine monitoring wells (three HU-A and six HU-B) were sampled for radionuclides and inorganic COCs at the SLDS. No new ground-water monitoring wells were installed or transferred at the SLDS in CY 2013. In CY 2013, ground-water sampling at the SLDS was conducted on March 7 (first quarter); May 21 (second quarter); August 27 (third quarter); and December 5 (fourth quarter). The CY 2013 analytical results for the SLDS are presented in Appendix D, Table D-2. For discussion purposes, the ground-water analytical data acquired from the CY 2013 sampling events at the SLDS are presented separately for HU-A and HU-B.

Table 4-1. Screened HUs for SLDS Ground-Water Monitoring Wells During CY 2013

Well ID	Screened HU
B16W06D	HU-B
B16W06S[a]	HU-A
B16W07D[a]	HU-B
B16W08D	HU-B
B16W08S	HU-A
B16W09D	HU-B
B16W12S[a]	HU-A
DW14[a]	HU-B
DW15[a]	HU-B
DW16[a]	HU-B
DW17	HU-B
DW18[a]	HU-B
DW19[a]	HU-B
DW21[a]	HU-A
DW22R	HU-B

[a] Wells sampled in CY 2013

4.2.1 Evaluation of HU-A Ground-Water Monitoring Data

The results of the CY 2013 ground-water sampling of HU-A ground water at the SLDS are summarized in Table 4-2. During CY 2013, three HU-A monitoring wells (B16W06S, B16W12S, and DW21) were sampled. B16W06S was sampled for arsenic and cadmium during the second quarter. B16W12S was sampled for arsenic, cadmium, Ra-226, Ra-228, Th-228, Th-230, Th-232, U-234, U-235, and U-238 during the second quarter. DW21 was sampled for arsenic and cadmium during the third quarter.

Table 4-2. Analytes Detected in HU-A Ground Water at the SLDS During CY 2013

Analyte	Units	Station	Minimum Detected	Maximum Detected	Mean Detected	Frequency of Detection
Arsenic	µg/L	B16W06S	150	150	150	1/1
		B16W12S	1.5 J	1.5 J	1.5 J	1/1
		DW21	94	94	94	1/1
Cadmium	µg/L	B16W06S	0.27	0.27	0.27	1/1
		B16W12S	0.21	0.21	0.21	1/1
		DW21	0.71	0.71	0.71	1/1

Table 4-2. Analytes Detected in HU-A Ground Water at the SLDS During CY 2013 (Continued)

Analyte	Units	Station[a]	Minimum Detected	Maximum Detected	Mean Detected	Frequency of Detection
U-234	pCi/L	B16W12S	3.13	3.13	3.13	1/1
U-238	pCi/L	B16W12S	2.76	2.76	2.76	1/1
Total U[b]	µg/L	B16W12S	8.32	8.32	8.32	1/1

[a] Table lists only those stations at which the analyte was detected in HU-A ground water.
[b] Total U values were calculated from isotopic concentrations in pCi/L and converted to µg/L using radionuclide-specific activities and assuming secular equilibrium.
J = Validation qualifier (VQ) indicating the analyte was identified as estimated quantity.

The analytes detected in HU-A ground water in CY 2013 are listed in Table 4-2. The remaining SLDS COCs (Ra-226, Ra-228, Th-228, Th-230, Th-232, and U-235) were not detected in the three HU-A ground-water wells monitored during CY 2013. Because the majority of their historical results were near or below their detection limits (DLs), a trend analysis was not performed for cadmium in B16W06S, B16W12S, or DW21, or for arsenic in B16W12S. Because total U values are calculated using the U-234 and U-238 values, the trends in their values should be the same as the total U trend results. Therefore, it was unnecessary to perform a separate trend analysis for each of these isotopes. Trend analysis was conducted for arsenic in B16W06S and DW21 and total U in B16W12S. Based on the graphs and quantitative evaluation of trends using the Mann-Kendall Trend Test (Section 4.2.3), there is a statistically significant downward trend in arsenic concentrations in B16W06S and DW21. Figures 4-4 and 4-5 show the concentrations trends for arsenic and total U, respectively, at the SLDS. Figure 4-6 provides an expanded version of the time-versus-concentration plots for arsenic in B16W06S and DW21.

4.2.2 Evaluation of HU-B Ground-Water Monitoring Data

During CY 2013, six SLDS wells completed in the HU-B were monitored for various parameters, including the COCs arsenic, cadmium, Ra-226, Ra-228, Th-228, Th-230, Th-232, U-234, U-235, and U-238. Detected concentrations were compared to the respective ROD ground-water criteria. Table 4-3 lists the analytes that were detected in HU-B ground water during CY 2013 and compares the results with the ROD ground-water criteria.

Table 4-3. Analytes Detected in HU-B Ground Water at the SLDS During CY 2013

Analyte	ROD Ground-Water Criteria		Units	Station[b]	Minimum Detected	Maximum Detected	Mean Detected	# Detects > ROD Ground-Water Criteria	Frequency of Detection
	IL[a]	40 *CFR* 192.02 Table 1, Subpart A							
Arsenic	50	NA	µg/L	B16W07D	36	36	36	0	1/1
				DW14	16	1,100	405	2	3/3
				DW15	2.7	2.7	2.7	0	1/1
				DW18	71	71	71	1	1/1
				DW19	5.5	5.5	5.5	0	1/1
Cadmium	5	NA	µg/L	B16W07D	0.79	0.79	0.79	0	1/1
				DW14	0.58	120	40.73	1	3/3
				DW15	2.8	2.8	2.8	0	1/1
				DW18	1.7	1.7	1.7	0	1/1
				DW19	6.5[c]	6.5[c]	6.5[c]	1	1/1
Ra-226	NA[d]	5[e]	pCi/L	DW16	2.4 J	2.4 J	2.4 J	0	1/1
				DW18	2.25 J	2.25 J	2.25 J	0	1/2

Table 4-3. Analytes Detected in HU-B Ground Water at the SLDS During CY 2013 (Continued)

Analyte	ROD Ground-Water Criteria		Units	Station[b]	Minimum Detected	Maximum Detected	Mean Detected	# Detects > ROD Ground-Water Criteria	Frequency of Detection
	IL[a]	40 *CFR* 192.02 Table 1, Subpart A							
Th-228	NA	NA	pCi/L	DW16	0.87 J	0.87 J	0.87 J	NA	1/1
				DW18	0.52 J	0.52 J	0.52 J	NA	1/2
Th-230	NA	NA	pCi/L	DW18	0.4 J	0.4 J	0.4 J	NA	1/2
U-234	NA	NA	pCi/L	DW15	0.95 J	0.95 J	0.95 J	NA	1/1
			pCi/L	DW16	0.50 J	0.50 J	0.50 J	NA	1/1
			pCi/L	DW18	0.83 J	0.83 J	0.83 J	NA	1/2
			pCi/L	DW19	9.81	9.81	9.81	NA	1/1
U-235	NA	NA	pCi/L	DW19	0.58 J	0.58 J	0.58 J	NA	1/1
U-238	NA	NA	pCi/L	DW15	0.46 J	0.46 J	0.46 J	NA	1/1
			pCi/L	DW16	0.88 J	0.88 J	0.88 J	NA	1/1
			pCi/L	DW18	0.96 J	0.96 J	0.96 J	NA	1/2
			pCi/L	DW19	12.3	12.3	12.3	NA	1/1
Total U[f]	20	NA	µg/L	DW15	1.36	1.36	1.36	0	1/1
				DW16	2.64	2.64	2.64	0	1/1
				DW18	0.43	2.87	1.65	0	2/2
				DW19	37.0	37.0	37.0	1	1/1

[a] USACE 1998a.
[b] Table lists only those stations at which the analyte was detected in HU-B ground water.
[c] The concentration of cadmium detected in DW19 is not above the IL when measurement error is taken into account.
[d] Although the ROD does not reference an IL for Ra-226, it does reference the maximum constituent concentration listed in 40 *CFR* 192.02, Table 1, Subpart A.
[e] Concentration limit for combined Ra-226 and Ra-228.
[f] Total U values were calculated from isotopic concentrations in pCi/L and converted to µg/L using radionuclide-specific activities and assuming secular equilibrium.
J Validation qualifier (VQ) indicating the analyte was identified as estimated quantity.
NA Not appropriate. No IL is specified or the concentration limits specified in Table 1 are the same or less stringent than the IL and thus are not relevant or appropriate.

Two inorganic SLDS COCs (arsenic and cadmium) were detected at concentrations above their ROD ground-water criteria in HU-B ground water during CY 2013. The concentration of arsenic exceeded the IL (50 µg/L) in the December 2013 sample from DW18 (71 µg/L). The concentration of arsenic also exceeded the IL in the March and May 2013 samples from DW14 (1100 µg/L and 100 µg/L, respectively) but fell below the IL in the December 2013 sample (16 µg/L). Figure 4-6 provides the time-versus-concentration plots for arsenic in DW14 and DW18. The concentration of cadmium in the March 2013 sample from DW14 (120 µg/L) exceeded the IL (5 µg/L), but decreased to levels below the IL in the May and December 2013 samples. A high turbidity value (401 nephelometric turbidity units [NTUs]) was reported for DW14 during the March 2013 sampling event, suggesting that the elevated arsenic and cadmium results may have been at least in part due to particulates being inadvertently entrained in the March 2013 ground-water sample. The concentration of cadmium in the August 2013 sample from DW19 (6.5 µg/L) slightly exceeded the IL. However, when measurement error is taken into account, the result was not above the IL.

One radiological COC, total U, was above the ROD ground-water criteria in HU-B ground water during CY 2013. The concentration of total U exceeded the IL (20 µg/L) in the August 2013 sample from DW19 (37.0 µg/L). Figure 4-5 shows the total U concentrations trends in unfiltered ground water at the SLDS. It includes the time-versus-concentration plot for total U in DW19 at the SLDS.

4.2.3 Comparison of Historical Ground-Water Data at the St. Louis Downtown Site

A quantitative evaluation of COC concentration trends in SLDS ground water was conducted based on available sampling data for the period from January 1999 through December 2013. Mann-Kendall Trend Testing is used to evaluate possible trends for those COCs that are detected in HU-A and for those COCs that exceed ROD ground-water criteria in HU-B during CY 2013. Mann-Kendall Trend Testing was not conducted for those COCs that have insufficient sampling data (fewer than six sampling results for the period January 1999 to December 2013), a detection frequency less than 50 percent, or historical results that were generally within the range of measurement error of their DLs. For HU-A, a trend analysis was not conducted for cadmium in B16W06S, B16W12S, or DW21 because their historical results were generally below or only slightly above their DLs. Trend analysis was conducted for arsenic in HU-A wells B16W06S and DW21 and for total U in B16W12S. Mann-Kendall Trend Testing was also conducted for two COCs that exceeded the ILs in HU-B wells during CY 2013: arsenic in DW14 and DW18 and total U in DW19. A trend analysis was not conducted for cadmium in DW14 or DW19 because historical results were generally below or only slightly above their DLs.

Statistical Method and Trend Analysis

Several statistical methods are available to evaluate contaminant trends in ground water. These include the Mann-Kendall Trend Test, the Wilcoxon Rank Sum Test, and the Seasonal Kendall Test (USEPA 2000). The latter two tests are applicable to data that may or may not exhibit seasonal behavior, but generally require larger sample sizes than the Mann-Kendall Trend Test. The Mann-Kendall Trend Test was selected for this project because this test can be used with small sample sizes (as few as four data points) and because a seasonal variation in concentrations was not indicated by the time-versus-concentration plots at the SLDS. The Mann-Kendall Trend Test is a non-parametric test and, as such, is not dependent upon assumptions of distribution, missing data, or irregularly-spaced monitoring periods. In addition, data reported as being less than the DL can be used (Gibbons 1994). The test can assess whether a time-ordered dataset exhibits an increasing or decreasing trend, within a predetermined level of significance. While the Mann-Kendall Trend Test can use as few as four data points, often this is not enough data to detect a trend. Therefore, the test was performed only at those monitoring stations where data have been collected for at least six sampling events.

A customized Microsoft Excel spreadsheet was used to perform the Mann-Kendall Trend Test. The test involves listing the sampling results in chronological order and computing all differences that may be formed between current measurements and earlier measurements. The value of the test statistic (S) is the difference between the number of strictly positive differences and the number of strictly negative differences. If S is a large positive value, then there is evidence of an increasing trend in the data. If S is a large negative value, then there is evidence of a decreasing trend in the data. If there is no trend and all observations are independent, then all rank orderings of the annual statistics are equally likely (USEPA 2000). The results of the Mann-Kendall Trend Test are reported in terms of a p value or Z-score, depending on sample size, N. If the sample size is less than or equal to 10, then the p value is computed. If the p value is less than or equal to 0.05, the test concludes that the trend is statistically significant. If the p value is greater than 0.05, the test concludes there is no evidence of a significant trend. For dataset sizes larger than 10, the Z-score is compared to ±1.64, which is the comparison level at a 95 percent confidence level. If the Z-score is greater than +1.64, the test concludes that a significant upward trend exists. If the Z-score is less than –1.64, the test concludes that a

significant downward trend exists. For Z-scores between –1.64 and +1.64, there is no evidence of a significant trend.

The results of the Mann-Kendall Trend Test are less reliable for datasets containing high numbers of non-detects, particularly if the DL changes over time. For that reason, for datasets where more than 50 percent of the time-series data are non-detect, the Mann-Kendall Trend Test was not conducted. There is no general consensus regarding the percentage of non-detects that can be handled by the Mann-Kendall Trend Test. However, because the Mann-Kendall Trend Test is a nonparametric test that uses relative magnitudes, not actual values, it is generally valid even in cases where there are large numbers of non-detects.

Only unfiltered data were used and split sample and QC sample results were not included in the database for the Mann-Kendall Trend Test. The Mann-Kendall Trend Test is used to evaluate the data and determine trends without regard to isotopic analysis. In addition, for monitoring wells where the Mann-Kendall Trend Test has indicated a trend (either upward or downward), another analysis is performed to determine if the trend is due to inherent error associated with the analytical test method for each sample analysis. For this analysis, graphs are generated to depict the trends, if present, and the associated error bars.

Results of Trend Analysis for Ground Water at the St. Louis Downtown Site

The Mann-Kendall Trend Test results are provided in Table 4-4. Figure 4-6 provides time-versus-concentration plots for those wells and analytes exhibiting a statistically significant trend based on the Mann-Kendall Trend Test results (i.e., arsenic in B16W06S, DW21, DW14, and DW18).

Table 4-4. Results of Mann-Kendall Trend Test[a] for SLDS Ground Water During CY 2013

Analyte	Station	HU	N[b]	Test Statistics[c]		Trend[d]
				S	Z	
Arsenic	B16W06S	HU-A	17	-71	-2.89	Downward Trend
	DW14	HU-B	19	-77	-2.66	Downward Trend
	DW18	HU-B	24	135	3.32	Upward Trend
	DW21	HU-A	23	-148	-3.89	Downward Trend
Total U	B16W12S	HU-A	17	20	0.78	No Trend
	DW19	HU-B	26	-53	-1.15	No Trend

[a] One-tailed Mann-Kendall Trend Tests were performed at a 95 percent level of confidence. For non-radiological data, non-detected results were replaced with one half of the lowest DL.
[b] N is the number of unfiltered ground-water sample results for a particular analyte at the well for the period between January 1999 and December 2013.
[c] Test Statistics: S = the S-Statistic; Z = Z- score, or normalized test statistic (used if N>10).
[d] Trend: The Z-score is compared to ±1.64 to determine trend significance.

Inorganics

Based on the results of the Mann-Kendall Trend Test, three wells exhibit downward trends for arsenic (two HU-A wells, B16W06S and DW21, and one HU-B well, DW14), and one well exhibits an upward trend for arsenic (HU-B well DW18). Because the Mann-Kendall Trend Test does not consider the effects of measurement error and does not provide any information concerning the magnitude of the trend, time-versus-concentration plots of arsenic in B16W06S, DW14, DW18, and DW21 were used to evaluate these factors (Figure 4-6). The plots also show the best-fit trend lines based on the data scatter. No other significant changes in the concentrations of the inorganic COCs occurred in shallow or deep ground water during CY 2013.

Radionuclides

The Mann-Kendall Trend Test results indicate that there is no trend for total U in HU-A well B16W12S or HU-B well DW19. As shown in the time-versus-concentration plot for DW19 on Figure 4-5, concentrations of total U have decreased since reaching the maximum concentration of 201 µg/L in CY 2007; however, concentrations have remained above the IL (20 µg/L) since 1999. The concentration of total U reported for the August 2013 sample from DW19 (37.0 µg/L) is the lowest concentration ever reported for a sample collected from this well.

4.2.4 Evaluation of Potentiometric Surface at the St. Louis Downtown Site

Ground-water elevations were measured in monitoring wells at the SLDS in March, May, August, and December of CY 2013. Potentiometric surface maps were created from the May and December measurements to illustrate ground-water flow conditions in wet and dry seasons, respectively. The potentiometric maps for both HU-A and HU-B are presented on Figures 4-7 through 4-10.

The ground-water surface in HU-A under the eastern portion of the Mallinckrodt plant is generally sloping northeastward toward the Mississippi River (Figures 4-7 and 4-9). The ground water may be present in separate lenses or subunits of the heterogeneous HU-A. Comparison of Figure 4-7 (May) with Figure 4-9 (December) indicates ground-water flow direction patterns in HU-A are similar for the wet and dry season conditions, but the hydraulic gradient is much higher (steeper) during the dry season. During CY 2013, the HU-A potentiometric surface elevations showed some seasonal fluctuation in ground-water elevations, with elevations averaging approximately 3.6 m (11.7 ft) higher during the wet season (May) than during the dry season (December). A larger difference between the dry and wet season elevations is observed in the two wells located near the river (B16W06S and B16W08S), with the December elevations averaging 6.1 m (20 ft) lower than the May elevations. The effects of seasonal fluctuations in river stage on the HU-A ground-water levels are generally limited to the area nearest to the river.

As shown in Figures 4-8 and 4-10, the ground-water flow direction and gradient in HU-B are strongly influenced by river stage. This indicates that ground water in HU-B is hydraulically connected to the Mississippi River. The water levels measured at the SLDS indicate that HU-B ground-water elevations averaged approximately 6.9 m (22.8 ft) higher on May 21 than on December 5; this generally corresponds to the difference in the daily river stage, which was approximately 8.0 m (26.3 ft) higher on May 21 (123.9 m [406.6 ft] above mean sea level [amsl]) than on December 5 (115.9 m [380.3 ft] amsl). Both the May and December 2013 potentiometric surface maps indicate the presence of relatively low hydraulic gradients in the vicinity of DW19 and the former location of Building 101. The December 2013 potentiometric surface map for HU-B (Figure 4-10) indicates a potentiometric high located in the vicinity of DW16. The flow direction at the site is generally northeastward toward the Mississippi River.

5.0 ENVIRONMENTAL QUALITY ASSURANCE PROGRAM

5.1 PROGRAM OVERVIEW

The environmental quality assurance (QA) program includes management of the QA and QC programs, plans, and procedures governing environmental monitoring activities at all SLS and at subcontracted vendor laboratories. This section describes the environmental monitoring standards at FUSRAP and the goals for these programs, plans, and procedures.

The environmental QA program provides FUSRAP with reliable, accurate, and precise monitoring data. The program furnishes guidance and directives to detect and prevent problems from the time a sample is collected until the associated data are evaluated. The Missouri Department of Natural Resources (MDNR) conducted site visits to observe and participate in the environmental monitoring activities. USEPA and MDNR regulatory oversight of sampling activities provided an additional level of QA/QC.

Key elements in achieving the goals of this program are maintaining compliance with the QA program, personnel training, compliance assessments, use of QC samples, documentation of field activities and laboratory analyses, and a review of data documents for precision, accuracy, and completeness.

General objectives are as follows:

- To provide data of sufficient quality and quantity to support ongoing remedial efforts, to aid in defining potential COCs, to meet the requirements of the EMG (USACE 1999a) and the *Sampling and Analysis Guide for the St. Louis Sites* (SAG) (USACE 2000), and to support the ROD (USACE 1998a).
- To provide data of sufficient quality to meet applicable State of Missouri and federal concerns (e.g., reporting requirements).
- To ensure samples were collected using approved techniques and are representative of existing site conditions.

5.2 QUALITY ASSURANCE PROGRAM PLAN

The Quality Assurance Program Plan (QAPP) for activities performed at the SLS is described within Section 3.0 of the SAG. The QAPP provides the organization, objectives, functional activities, and specific QA/QC activities associated with investigations and sampling activities at the SLS.

QA/QC procedures are performed in accordance with applicable professional technical standards, USEPA requirements, government regulations and guidelines, and specific project goals and requirements. The QAPP was prepared in accordance with USEPA and USACE guidance documents, including *Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans* (USEPA 1991), *EPA Requirements for Quality Assurance Project Plans for Environmental Data Operations* (USEPA 1994), and *Requirements for the Preparation of Sampling and Analysis Plans* (USACE 2001).

5.3 SAMPLING AND ANALYSIS GUIDE

The SAG summarizes standard operating procedures (SOPs) and data quality requirements for collecting and analyzing environmental data. The SAG integrates protocols and methodologies

identified under various USACE and regulatory guidance. It describes administrative procedures for managing environmental data and governs sampling plan preparation, data review, evaluation and validation, database administration, and data archiving. The structure for identified sampling/monitoring was delineated through programmatic documents such as the EMG (USACE 1999a), which is an upper tier companion document to the SAG (USACE 2000). The EMICY13 document outlines the analyses to be performed at each site for various media (USACE 2012).

Flexibility to address non-periodic environmental sampling, such as specific studies regarding environmental impacts, well installations, and/or in-situ waste characterizations, was accomplished by the issuance of work descriptions. Environmental monitoring data obtained during these sampling activities were reported to USEPA Region VII on a quarterly basis, per the requirements of the FFA.

5.4 FIELD SAMPLE COLLECTION AND MEASUREMENT

Prior to beginning field sampling, field personnel were trained, as necessary, and participated in a project-specific readiness review. These activities ensured that standard procedures were followed in sample collection and in completing field logbooks, chain-of-custody forms, labels, and custody seals. Documentation of training and readiness was submitted to the project file.

The master field investigation documents are the site field logbooks. The primary purpose of these documents is to record each day's field activities; personnel on each sampling team; and any administrative occurrences, conditions, or activities that may have affected the fieldwork or data quality of any environmental samples for any given day. Guidance for documenting specific types of field sampling activities in field logbooks or log sheets is provided in Appendix C of Engineer Manual (EM)-200-1-3 (USACE 2001).

At any point in the process of sample collection or data and document review, a non-conformance report may be initiated if non-conformances are identified (SAIC 2002). Data entered into the database may be flagged accordingly.

5.5 PERFORMANCE AND SYSTEM AUDITS

Performance and system audits of both field and laboratory activities are conducted to verify that sampling and analysis activities were performed in accordance with the procedures established in the SAG and activity-specific work description or Environmental Monitoring Implementation for Calendar Year (EMICY) documents.

5.5.1 Field Assessments

Internal assessments (audit or surveillance) of field activities (sampling and measurements) are conducted by the QA/QC Officer (or designee). Assessments include an examination of field sampling records, field instrument operating records, sample collection, handling and packaging procedures, maintenance of QA procedures, and chain-of-custody forms. These assessments occurred at the onset of the project to verify that all established procedures were followed (systems audit).

Performance assessments followed the systems audit to ensure that deficiencies had been corrected and to verify that QA practices/procedures were being maintained throughout the

duration of the project. These assessments involved reviewing field measurement records, instrumentation calibration records, and sample documentation.

External assessments may be conducted at the discretion of the USACE, USEPA Region VII, or the State of Missouri.

5.5.2 Laboratory Audits

The on-site laboratories are subject to USACE periodic review(s) by the local USACE Chemist to demonstrate compliance with the *DOD Quality Systems Manual for Environmental Laboratories* (DOD-QSM) Version 4.2 (DOD 2010). In conjunction, blind third-party performance evaluation studies (performance audits) are participated in at least twice per year, and results are reported to the local USACE point(s) of contact. In addition, contract laboratories are required to be accredited under the U.S. Department of Defense (DOD) Environmental Laboratory Accreditation Program (ELAP). The DOD ELAP requires an annual audit and re-accreditation every three years.

These system audits include examining laboratory documentation of sample receipt, sample log-in, sample storage, chain-of-custody procedures, sample preparation and analysis, and instrument operating records. Performance audits consist of USACE laboratories receiving performance evaluation samples from an outside vendor for an ongoing assessment of laboratory precision and accuracy. The analytical results of the analysis of performance evaluation samples are evaluated by USACE Hazardous, Toxic and Radioactive Waste – Center of Expertise and/or the local oversight chemist to ensure that laboratories maintain acceptable performance.

Internal performance and system audits of laboratories were conducted by the Laboratory QA Manager as directed in the *Laboratory Quality Assurance Plan for the FUSRAP St. Louis Radiological Laboratory* (USACE 2013). These system audits included an examination of laboratory documentation of sample receipt, sample log-in, sample storage, chain-of-custody procedures, sample preparation and analysis, and instrument operating records against the requirements of the laboratory's SOPs. Internal performance audits were also conducted on a regular basis. Single-blind performance samples were prepared and submitted along with project samples to the laboratory for analysis. The Laboratory QA Manager evaluated the analytical results of these single-blind performance samples to ensure that the laboratory maintained acceptable performance. Quarterly QA/QC reports are generated and provided to the local USACE authority – the reports document the ongoing QC elements and provide for further monitoring of quality processes/status. Also, QA plans and methodology are to follow the guidance as presented in the DOD-QSM (DOD 2010).

5.6 SUBCONTRACTED LABORATORY PROGRAMS

All samples collected during environmental monitoring activities were analyzed by USACE-approved laboratories. QA samples were collected for ground water and soil and were analyzed by the designated USACE QA laboratory. Each laboratory supporting this work maintained statements of qualifications, including organizational structure, QA Manual, and SOPs. Additionally, subcontracted laboratories are also required to be an accredited laboratory under the DOD ELAP.

Samples collected during these investigations were analyzed by USEPA SW-846 methods and by other documented USEPA or nationally recognized methods. Laboratory SOPs are based on

the USEPA methods contained in *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods SW-846*, Third Edition (USEPA 1993).

5.7 QUALITY ASSURANCE AND QUALITY CONTROL SAMPLES

QA/QC samples were collected and analyzed for the purpose of assessing the quality of the sampling effort and the reported analytical data. QA/QC samples include duplicate samples (–1) and split samples (–2). The equation utilized for accuracy and precision can be found in Section 5.9.

5.7.1 Duplicate Samples

Duplicate samples measure precision and were collected by the sampling teams. Samples were submitted for analysis to the on-site laboratory or contract laboratories. The identity of duplicate samples is held blind to the analysts, and the purpose of these samples is to provide activity-specific, field-originated information regarding the homogeneity of the sampled matrix and the consistency of the sampling effort. These samples were collected concurrently with the primary environmental samples and equally represent the medium at a given time and location. Duplicate samples were collected from each medium addressed by this project and were submitted to the contracted laboratories for analysis. Approximately one duplicate sample was collected for every 20 field samples of each matrix and analyte across the SLS. Precision is measured by the relative percent difference (RPD) for radiological and non-radiological analyses or by the normalized absolute difference (NAD) for radiological analyses.

The non-radiological analyses RPDs are presented in Table 5-1. The radiological analyses RPDs and NADs are presented in Table 5-2. The overall precision for the CY 2013 environmental monitoring sampling activities was acceptable. See Section 5.9 for the evaluation process.

Table 5-1. Non-radiological Duplicate Sample Analysis for CY 2013

Ground-water Sample Name	Arsenic	Cadmium
	RPD	RPD
SLD154817 / SLD154817-1	6.45	**167.82**
SLD166412 / SLD166412-1	8.82	**93.75**

-1 Sample Duplicate
Boldface Values exceed the control limits. Values not in boldface are within control limits.

Table 5-2. Radiological Duplicate Sample Analysis for CY 2013

Sample Name	Ra-226		Ra-228		Th-228		Th-230	
	RPD	NAD	RPD	NAD	RPD	NAD	RPD	NAD
SLD154817 / SLD154817-1	NC	NA	*	*	NC	NA	NC	NA
SLD166412 / SLD166412-1	NC	NA	*	*	NC	NA	NC	NA
	Th-232		U-234		U-235		U-238	
	RPD	NAD	RPD	NAD	RPD	NAD	RPD	NAD
SLD154817 / SLD154817-1	NC	NA	37.12	0.67	NC	NA	43.18	0.86
SLD166412 / SLD166412-1	NC	NA	31.37	0.34	NC	NA	33.43	0.33

NC Not calculated due to one or both concentrations being below minimum detectable concentrations (MDCs).
NA Not applicable; see RPD.
* Not calculated because either the parent or duplicate sample was not analyzed.
-1 Sample Duplicate

5.7.2 Split Samples

Split samples measure accuracy and were collected by the sampling team and sent to a USACE QA laboratory for analysis to provide an independent assessment of contractor and subcontractor laboratory performance. Approximately one split sample was collected for every 20 field samples of each matrix for non-radiological and radiological analytes across the SLS. The non-radiological analyses RPDs are presented in Table 5-3. The radiological analyses RPDs and NADs are presented in Table 5-4. The overall accuracy for CY 2013 environmental monitoring sampling activities was acceptable. See Section 5.9 for the evaluation process.

Table 5-3. Non-radiological Split Sample Analysis for CY 2013

Ground-water Sample Name	Arsenic	Cadmium
	RPD	RPD
SLD154817 / SLD154817-2	NC	NA
SLD166412 / SLD166412-2	NC	NA

NC Not calculated due to one or both concentrations being below MDCs.
NA Not applicable; see RPD.
-2 Sample Split

Table 5-4. Radiological Split Sample Analysis for CY 2013

Sample Name	Ra-226		Ra-228		Th-228		Th-230	
	RPD	NAD	RPD	NAD	RPD	NAD	RPD	NAD
SLD154817 / SLD154817-2	NC	NA	*	*	NC	NA	NC	NA
SLD166412 / SLD166412-2	118.70	1.16	*	*	NC	NA	47.30	.40
	Th-232		U-234		U-235		U-238	
	RPD	NAD	RPD	NAD	RPD	NAD	RPD	NAD
SLD154817 / SLD154817-2	NC	NA	16.98	NA	NC	NA	21.24	NA
SLD166412 / SLD166412-2	NC	NA	NC	NA	NC	NA	NC	NA

NC Not calculated due to one or both concentrations being below MDCs.
NA Not applicable; see RPD.
* Not calculated because either the parent or duplicate sample was not analyzed.
-2 Sample Split

5.7.3 Equipment Rinsate Blanks

Equipment rinsate blanks are typically taken from the water rinsate collected from equipment decontamination activities and comprise samples of analyte-free water, which has been rinsed over sampling equipment for the purposes of decontamination, collected, and submitted for analysis of the parameters of interest. All of the monitoring wells have dedicated sampling equipment; therefore, equipment rinsate blanks were not employed to assess the effectiveness of the decontamination process because it does not apply.

5.8 DATA REVIEW, EVALUATION, AND VALIDATION

All data packages received from the analytical laboratory were reviewed and either evaluated or validated by data management personnel. Data validation is the systematic process of ensuring that the precision and accuracy of the analytical data are adequate for their intended use. Validation was performed in accordance with USEPA regional or National Functional Guidelines or with project-specific guidelines. General chemical data quality management guidance found in Engineer Regulation (ER)-1110-1-263 (USACE 1998b) was also used when planning for chemical data management and evaluation. Additional details of data review, evaluation, and validation are

provided in the *FUSRAP Laboratory Data Management Process for the St. Louis Site* (USACE 1999b). Data assessment guidance, to determine the usability of data from hazardous, toxic and radioactive waste projects, was provided in EM-200-1-6 (USACE 1997).

One hundred (100) percent of the data generated from all analytical laboratories was independently reviewed and either evaluated or validated. The data review process documents the possible effects on the data that result from various QC failures; it does not determine data usability, nor does it include assignment of data validation qualifier (VQ) flags. The data evaluation process uses the results of the data review to determine the usability of the data. The process of data evaluation summarizes the potential effects of QA/QC failures on the data, and the USACE District Chemist or District Health Physicist assesses their impact on the attainment of the project-specific data quality objectives (DQOs). Consistent with the data quality requirements, as defined in the DQOs, approximately 10 percent of all project data was validated.

5.9 PRECISION, ACCURACY, REPRESENTATIVENESS, COMPARABILITY, COMPLETENESS, AND SENSITIVITY

The data evaluation process considers precision, accuracy, representativeness, completeness, comparability, and sensitivity. The following subsections will provide detail to the particular parameters and to how the data was evaluated for each with discussion and tables to present the associated data.

Accuracy and precision can be measured by the RPD or the NAD using the following equations:

$$RPD = \left(\frac{|S - D|}{\frac{S + D}{2}} \right) \times 100$$

$$NAD = \frac{|S - D|}{\sqrt{U_S^2 + U_D^2}}$$

Where:

S = Parent Sample Result
D = Duplicate/Split Sample Result
U_S = Parent Sample Uncertainty
U_D = Duplicate/Split Sample Uncertainty

The RPD is calculated for all samples if a detectable result is reported for both the parent and the QA field split or field duplicate. For radiological samples, when the RPD is greater than 30 percent, the NAD is used to determine the accuracy or precision of the method. NAD accounts for uncertainty in the results, RPD does not. The NAD should be less than or equal to 1.96. Neither equation is used when the analyte in one or both of the samples is not detected. In cases where neither equation can be used, the comparison is counted as acceptable in the overall number of comparisons.

Precision is a measure of mutual agreement among individual measurements performed under the same laboratory controls. To evaluate for precision, a field duplicate is submitted to the same laboratory as the original sample to be analyzed under the same laboratory conditions. The RPD and NAD between the two results was calculated and used as an indication of the precision of the analyses performed (Tables 5-1 and 5-2). Sample collection precision was measured in the laboratory by the analyses of duplicates. The overall precision for the CY 2013 environmental monitoring sampling activities was acceptable.

Accuracy provides a gauge or measure of the agreement between an observed result and the true value for an analysis. The RPD and NAD between the two results was calculated and used as an indication of the accuracy of the analyses performed (Tables 5-3 and 5-4). For this report, accuracy is measured through the use of the field split samples through a comparison of the prime laboratory results versus the results of an independent laboratory. The overall accuracy for CY 2013 environmental monitoring sampling activities was acceptable.

Representativeness expresses the degree to which data accurately and precisely represents a characteristic of a population, parameter variations at a sampling point, a process condition, or an environmental condition. Representativeness is a qualitative parameter that depends upon the proper design of the sampling program and proper laboratory protocols. Representativeness is satisfied through proper design of the sampling network, use of proper sampling techniques, following proper analytical procedures, and not exceeding holding times of the samples. Representativeness was determined by assessing the combined aspects of the QA program, QC measures, and data evaluations. The network design was developed from the EMICY13; the sampling protocols from the SAG have been followed; and, analytical procedures were conducted within the bounds of the QAPP. The overall representativeness of the CY 2013 environmental monitoring sampling activities was acceptable for the media and the media's sampling previously listed in this document.

Comparability expresses the confidence with which one dataset can be compared to another. The extent to which analytical data will be comparable depends upon the similarity of sampling and analytical methods, as well as sample-to-sample and historical comparability. Standardized and consistent procedures used to obtain analytical data are expected to provide comparable results. These most recent (post CY 1997) analytical data, however, may not be directly comparable to data collected before CY 1997 because of differences in DQOs. Some media, such as storm-water and radiological monitoring have values that are primarily useful in the present and the comparison to historic data is not as relevant. The overall comparability of the applicable environmental monitoring sampling data met the project DQOs.

Completeness is a measure of the amount of valid data obtained from a measurement system compared to the amount expected to be obtained under normal conditions. It is expected that laboratories will provide data meeting QC acceptance criteria for all samples tested. For the CY 2013 environmental monitoring sampling activities, the data completeness was 100 percent (FUSRAP DQO for completeness is 90 percent).

Sensitivity is the determination of minimum detectable concentration (MDC) values that allows the investigation to assess the relative confidence that can be placed in a value in comparison to the magnitude or level of analyte concentration observed. For this report, MDC is a term generically used to represent both the method detection limit (MDL) for non-radiological analytes and the minimum detectable activity (MDA) for radiological analytes. The closer a measured value comes to the MDC, the less confidence and more variation the measurement will have. Project sensitivity goals were expressed as quantitation level goals in the SAG. These levels were achieved or exceeded throughout the analytical process.

The MDC is reported for each result obtained by laboratory analysis. These very low MDCs are achieved through the use of gamma spectroscopy for all radionuclides of concern, with additional analyses from alpha spectroscopy for thorium, and inductively coupled plasma (ICP) for metals. Variations in MDCs for the same radiological analyte reflects variability in the detection efficiencies and conversion factors due to factors such as individual sample aliquot,

sample density, and variations in analyte background radioactivity for gamma and alpha spec, at the laboratory. Variations in MDLs for the same non-radiological analyte reflect variability in calibrations between laboratories, dilutions, and analytical methods. In order to complete the Data Evaluation (i.e. precision, accuracy, representativeness, and comparability), analytical results that exceed the MDC of the analyte are desired.

5.10 DATA QUALITY ASSESSMENT SUMMARY

The overall quality of the data meets the established project objectives. Through proper implementation of the project data review, evaluation, validation, and assessment process, project information has been determined to be acceptable for use.

Data, as presented, have been qualified as usable, but estimated when necessary. Data that have been estimated have concentrations/activities that are below the quantitation limit or are indicative of accuracy, precision, or sensitivity being less than desired but adequate for interpretation.

These data can withstand scientific scrutiny, are appropriate for their intended purpose, are technically defensible, and are of known and acceptable precision and accuracy. Data integrity has been documented through proper implementation of QA/QC measures. The environmental information presented has an established confidence, which allows utilization for the project objectives and provides data for future needs.

5.11 RESULTS FOR PARENT SAMPLES AND THE ASSOCIATED DUPLICATE AND SPLIT SAMPLES

Summaries of the QA parent sample results and associated duplicate and/or split sample results are presented in Tables 5-5 and 5-6.

Table 5-5. Non-Radiological Parent Samples and Associated Duplicate and Split Samples for CY 2013

Ground-water Sample Name[b]	Arsenic[a]			Cadmium[a]		
	Result	MDC	VQ	Result	MDC	VQ
SLD154817	1.50	1.20	=	0.21	0.10	=
SLD154817-1	1.60	1.20	=	0.10	0.10	=
SLD154817-2	3.00	3.00	U	0.20	0.20	U
SLD166412	71.00	1.20	=	1.70	0.10	=
SLD166412-1	65.00	1.20	=	4.70	0.10	=
SLD166412-2	69.70	10.00	=	1.00	1.00	U

[a] Results are expressed in ug/L.
[b] Samples ending in "-1" are duplicate samples. Samples ending in "-2" are split samples.
Validation Qualifier (VQ) symbols indicate: "=" for positively identified results, "U" for not detected, "J" analyte was identified as estimated quantity.
MDC Minimum detectable concentration.

Table 5-6. Radiological Parent Samples and Associated Duplicate and Split Samples for CY 2013

Ground-water Sample Name[b]	Ra-226[a]				Ra-228[a]				Th-228[a]			
	Result	Error	MDC	VQ	Result	Error	MDC	VQ	Result	Error	MDC	VQ
SLD154817	0.84	1.33	2.53	UJ	*	*	*	*	011	0.21	0.43	UJ
SLD154817-1	0.78	0.90	0.70	UJ	*	*	*	*	0.07	0.13	0.18	UJ
SLD154817-2	0.12	0.10	0.14	U	*	*	*	*	0.05	0.17	0.16	UJ
SLD166412	2.25	1.44	1.28	J	*	*	*	*	0.15	0.22	0.37	UJ
SLD166412-1	0.71	0.83	0.65	UJ	*	*	*	*	0.42	0.39	0.52	U
SLD166412-2	0.57	0.14	0.11	=	*	*	*	*	0.26	0.17	0.14	J
	Th-230[a]				Th-232[a]				U-234[a]			
	Result	Error	MDC	VQ	Result	Error	MDC	VQ	Result	Error	MDC	VQ
SLD154817	0.18	0.26	0.43	UJ	0.00	0.00	0.19	U	3.13	1.15	0.20	=
SLD154817-1	0.42	0.36	0.39	J	0.03	0.15	0.39	UJ	2.15	0.92	0.53	=
SLD154817-2	0.37	0.37	0.10	UJ	0.00	0.02	0.10	UJ	2.64	0.51	0.08	=
SLD166412	0.40	0.34	0.37	J	0.09	0.19	0.37	UJ	0.83	0.62	0.68	J
SLD166412-1	0.28	0.28	0.19	UJ	0.11	0.21	0.42	UJ	0.60	0.47	0.23	J
SLD166412-2	0.25	0.17	0.17	J	0.02	0.05	0.11	UJ	0.05	0.14	0.23	U
	U-235[a]				U-238[a]							
	Result	Error	MDC	VQ	Result	Error	MDC	VQ				
SLD154817	0.18	0.26	0.24	UJ	2.76	1.06	0.20	=				
SLD154817-1	0.18	0.25	0.24	UJ	4.28	1.41	0.19	=				
SLD154817-2	0.17	0.13	0.11	J	2.23	0.46	0.05	=				
SLD166412	0.00	0.00	0.31	U	0.96	0.65	0.55	J				
SLD166412-1	0.11	0.21	0.29	UJ	69	0.51	0.23	J				
SLD166412-2	0.01	0.09	0.25	UJ	0.11	0.15	0.24	UJ				

[a] Results are expressed in pCi/L. Negative results are less than the laboratory system's background level.
[b] Samples ending in "-1" are duplicate samples. Samples ending in "-2" are split samples.
* Data for analyte not available from laboratory analysis. Ra-228 assumed to be in equilibrium with Th-228.
Validation Qualifier (VQ) symbols indicate: "=" for positively identified results, "U" for not detected, "J" analyte was identified as estimated quantity, and "UJ" analyte was not detected and had QC deficiencies.
MDC Minimum detectable concentration.

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6.0 RADIOLOGICAL DOSE ASSESSMENT

This section evaluates the cumulative dose to a hypothetically impacted individual from exposure to radiological contaminants at the SLDS and documents dose trends. The regulatory dose limit for members of the public is 100 mrem/yr as stated in 10 *CFR* 20.1301. Although 10 *CFR* 20.1301 is not an ARAR for the SLDS, the USACE has provided this evaluation to evaluate public exposures from FUSRAP cleanup operations. Compliance with the dose limit in §20.1301 can be demonstrated in one of the two following methods [§20.1302(b)(1) and (2)]:

1) Demonstrating by measurement or calculation that the TEDE to the individual likely to receive the highest dose from SLDS operations does not exceed the annual dose limit (i.e., 100 mrem/yr); or
2) Demonstrating that: (*i*) the annual average concentration of radioactive material released in gaseous and liquid effluents at the boundary of the unrestricted area does not exceed the values specified in Table 2 of Appendix B to Part 20; and (*ii*) if an individual were continuously present in an unrestricted area, the dose from external sources would not exceed 2 millirem (mrem) per hour.

USACE has elected to demonstrate compliance by calculation of the TEDE to a hypothetical individual likely to receive the highest dose from the SLDS operations (method 1). This section describes the methodology employed for this evaluation.

Dose calculations are presented for a hypothetical maximally exposed individual at the SLDS. The monitoring data used in the dose calculations are reported in the respective environmental monitoring sections of this report.

Dose calculations related to airborne emissions, as required by 40 *CFR* 61, Subpart I (*National Emission Standards for Emissions of Radionuclides Other Than Radon From Federal Facilities Other Than Nuclear Regulatory Commission Licensees and Not Covered By Subpart H*), are presented in Appendix A, the SLDS FUSRAP CY 2013 Radionuclide Emissions NESHAP Report.

6.1 SUMMARY OF ASSESSMENT RESULTS

The TEDE from the SLDS to the receptor from all complete/applicable pathways combined was less than 0.1 mrem/yr, estimated for an individual who works full-time at Thomas & Proetz Lumber Company (DT-10).

Figure 6-1 documents annual dose trends from CY 2000 to CY 2013 at the SLDS. Figure 6-2 provides a comparison of the maximum annual dose from CY 2000 to CY 2013 at the SLDS to the annual average natural background dose of approximately 300 mrem/yr.

6.2 PATHWAY ANALYSIS

Table 6-1 lists the four complete pathways for exposure from radiological contaminants evaluated by the St. Louis FUSRAP EMP. These pathways are used to identify data gaps in the EMP and to estimate potential radiological exposures from the site. Of the four complete pathways, three were applicable in CY 2013, and were thus incorporated into radiological dose estimates.

Table 6-1. Complete Radiological Exposure Pathways for the SLDS

Exposure Pathway	Pathway Description	Applicable to CY 2013 Dose Estimate
Liquid A	Ingestion of ground water from local wells downgradient from the site.	N
Airborne A	Inhalation of particulates dispersed through wind erosion and RAs.	Y
Airborne B	Inhalation of Rn-222 and decay products emitted from contaminated soils/wastes.	Y
External	Direct gamma radiation from contaminated soils/wastes.	Y

Data from the SLDS storm-water discharges and MSD discharges are not applicable to the hypothesized recreational receptor; therefore, those data are not evaluated in this section.
N Not applicable for the site.
Y Applicable for the site.

In developing specific elements of the St. Louis FUSRAP EMP, potential exposure pathways of the radioactive materials present on-site are reviewed to determine which pathways are complete. Evaluation of each exposure pathway is based on hypothesized sources, release mechanisms, types, probable environmental fates of contaminants, and the locations and activities of potential receptors. Pathways are then reviewed to determine whether a link exists between one or more radiological contaminant sources, or between one or more environmental transport processes, to an exposure point where human receptors are present. If it is determined that a link exists, the pathway is termed complete. Each complete pathway is reviewed to determine whether a potential for exposure was present during CY 2013. If this is the case, the pathway is termed applicable. Only applicable pathways are considered in estimates of dose.

Table 6-1 shows the pathways that are applicable to the CY 2013 dose estimates for the SLDS. The Liquid A exposure pathway was not applicable in CY 2013 because the aquifer is of naturally low quality and it is not known to be used for any domestic purpose in the vicinity of the SLDS (DOE 1994).

6.3 EXPOSURE SCENARIOS

Dose calculations were performed for a maximally exposed individual at a critical receptor location for applicable exposure pathways (Table 6-1) to assess dose due to radiological releases from the SLDS. A second set of dose equivalent calculations were performed to meet NESHAP requirements (Appendix A), which were also used for purposes of TEDE calculation.

The scenarios and models used to evaluate these radiological exposures are conservative, but appropriate. Although radiation doses can be calculated or measured for individuals, it is not appropriate to predict the health risk to a single individual using the methods prescribed here. Dose equivalents to a single individual are estimated by hypothesizing a maximally exposed individual and placing this individual in a reasonable, but conservative scenario. This method is acceptable when the magnitude of the dose to a hypothetical maximally exposed individual is small, as is the case for the SLDS. This methodology provides for reasonable estimates of potential exposure to the public and maintains a conservative approach. The scenarios and resulting estimated doses are outlined in Section 6.4.

6.4 DETERMINATION OF TOTAL EFFECTIVE DOSE EQUIVALENT FOR EXPOSURE SCENARIOS

The TEDE for the exposure scenario was calculated using CY 2013 monitoring data. Calculations for dose scenarios are provided in Appendix E. Dose equivalent estimates are well below the standards set by the NRC for annual public exposure and USEPA NESHAP limits.

The CY 2013 TEDE for a hypothetical maximally exposed individual near the SLDS is less than 0.1 mrem/yr.

This section discusses the estimated TEDE to a hypothetical maximally exposed individual assumed to frequent the perimeter of the SLDS and receive a radiation dose by the exposure pathways identified above. No private residences are adjacent to the site. Therefore, all calculations of dose equivalent due to the applicable pathway assume a realistic residence time that is less than 100 percent. A full-time employee business receptor was considered to be the maximally exposed individual from the SLDS.

The exposure scenario assumptions are as follows:

- Exposure to radiation from all SLDS sources occurs to the maximally exposed individual while working full-time outside at the receptor location facility located approximately 50 m (164 ft) from the assumed line source. Exposure time is 2,000 hours per year (Leidos 2014).
- Exposure from external gamma radiation was calculated using environmental TLD monitoring data at the site locations representative of areas accessible to the public between the source and the receptor. The site is assumed to represent a line-source to the receptor.
- Exposure from airborne radioactive particulates was estimated using soil concentration data and air particulate monitoring data to determine a source term and then running the CAP-88 PC modeling code to estimate dose to the receptor (Leidos 2014).
- Exposure from Rn-222 (and progeny) was calculated using a dispersion factor and Rn-222 (alpha track) monitoring data at the site locations representative of areas accessible to the public between the source and receptor (Leidos 2014).

Based on the exposure scenario and assumptions described above, a maximally exposed individual working outside at the receptor location facility received less than 0.1 mrem/yr from external gamma, less than 0.1 mrem/yr from airborne radioactive particulates, and 0 mrem/yr from Rn-222, for a TEDE of less than 0.1 mrem/yr (Leidos 2014). In comparison, the average exposure to natural background radiation in the United States results in a TEDE of approximately 300 mrem/yr (NCRP 2009).

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FIGURES

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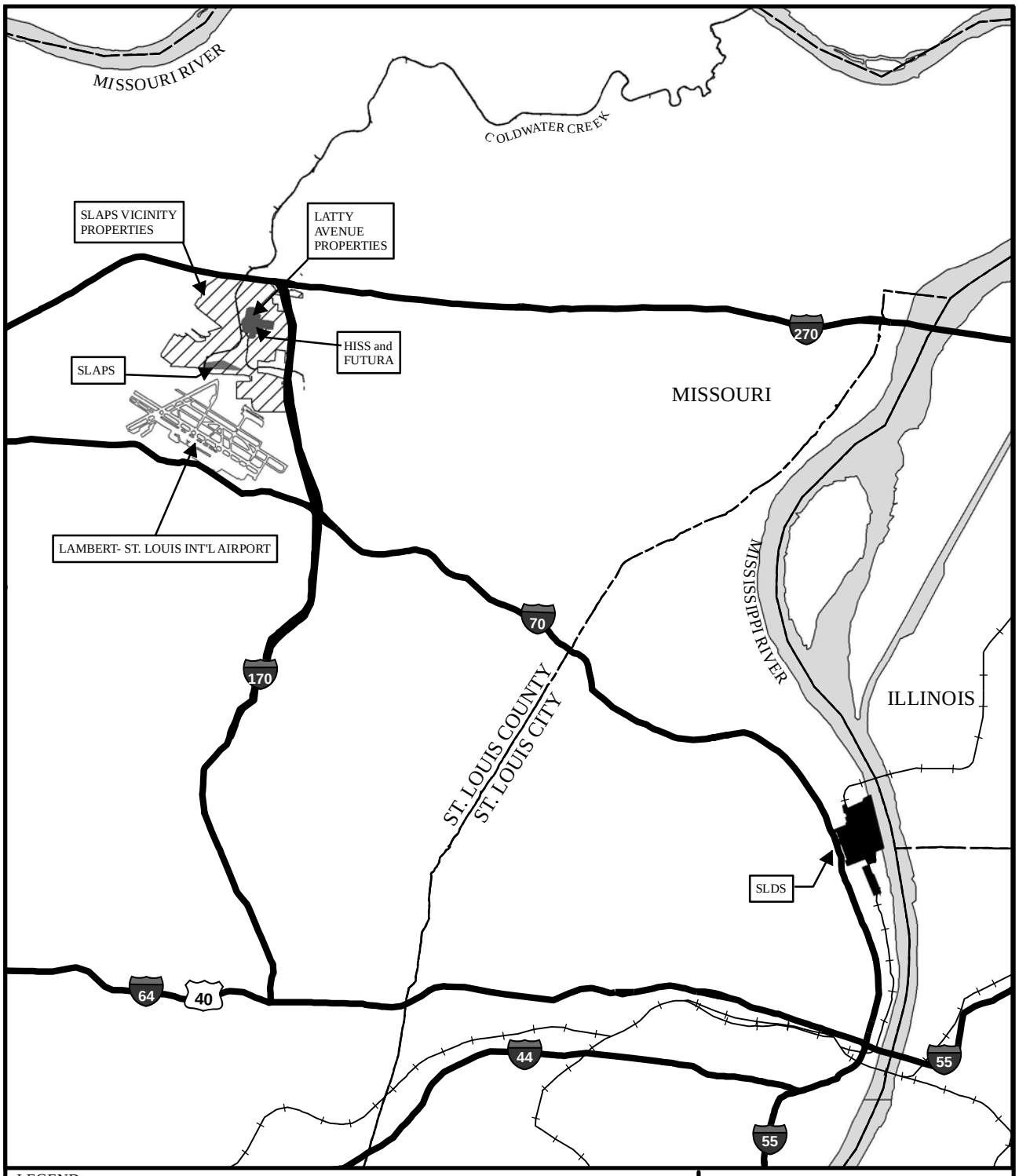

LEGEND:

- Interstate
- US Highway
- Railroad
- North St. Louis County Sites
- Airfield
- SLDS
- SLAPS & HISS/Futura
- River/Stream

N
W E
S

MO-East State Plane
(NAD 83, Feet)

0 5,500 11,000 Feet

Figure 1-1.
Location Map of the
St. Louis Sites

FUSRAP

DRAWN BY:	REV:	DATE:
TDC	0	7/3/2014

Path: U:\GPS\EMDAR\SLDS Projects\FY2014\RevB\Figure 1-1 Location Map of the St Louis Site2.mxd

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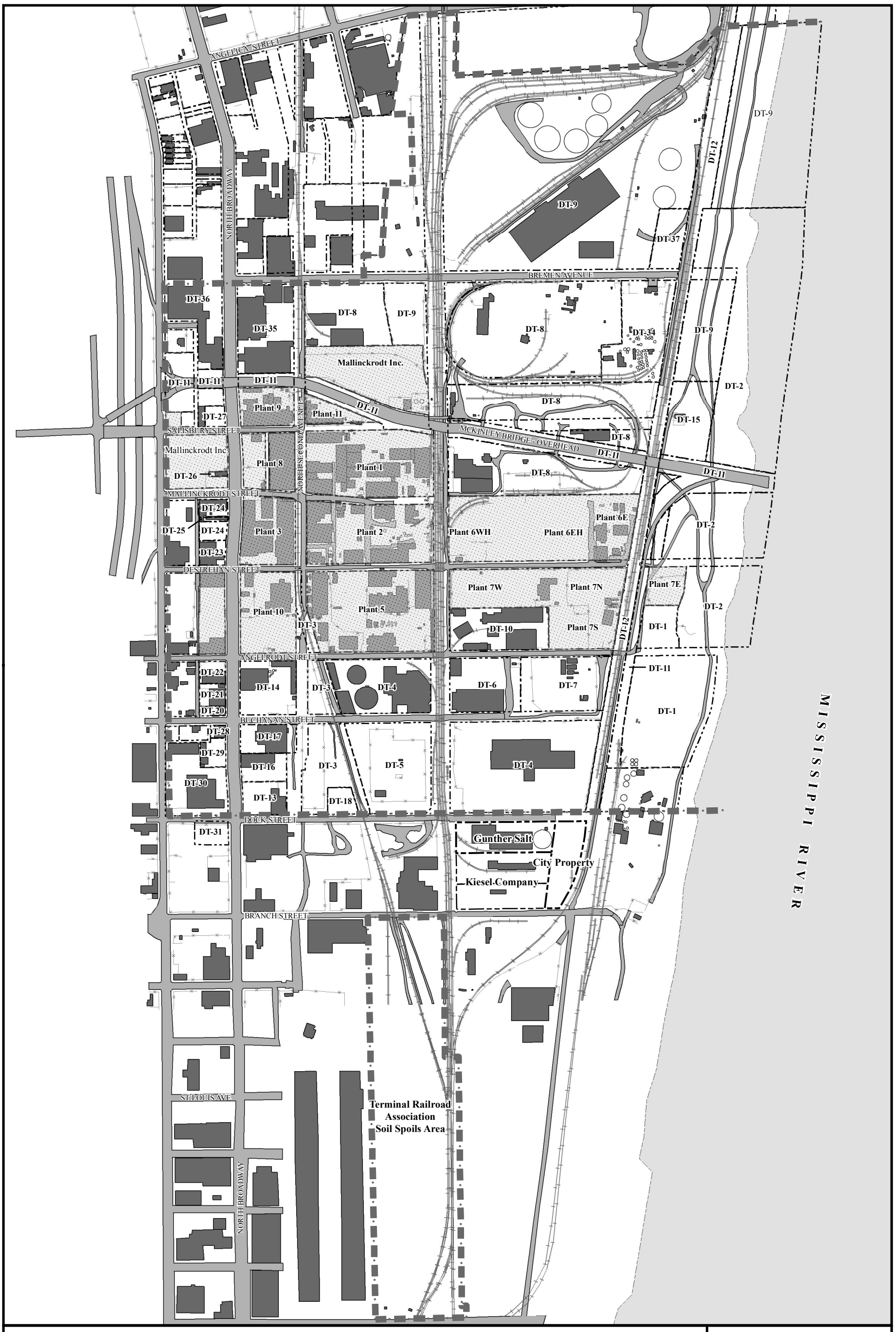

LEGEND

- Railroad
- Fence
- ROD Boundary
- Property Boundary
- Mallinckrodt Property
- River/Stream
- Road
- Building
- Tank

MO-East State Plane
(NAD 83, Feet)

0 330 660 Feet

Figure 1-2. Plan View of the SLDS

FUSRAP

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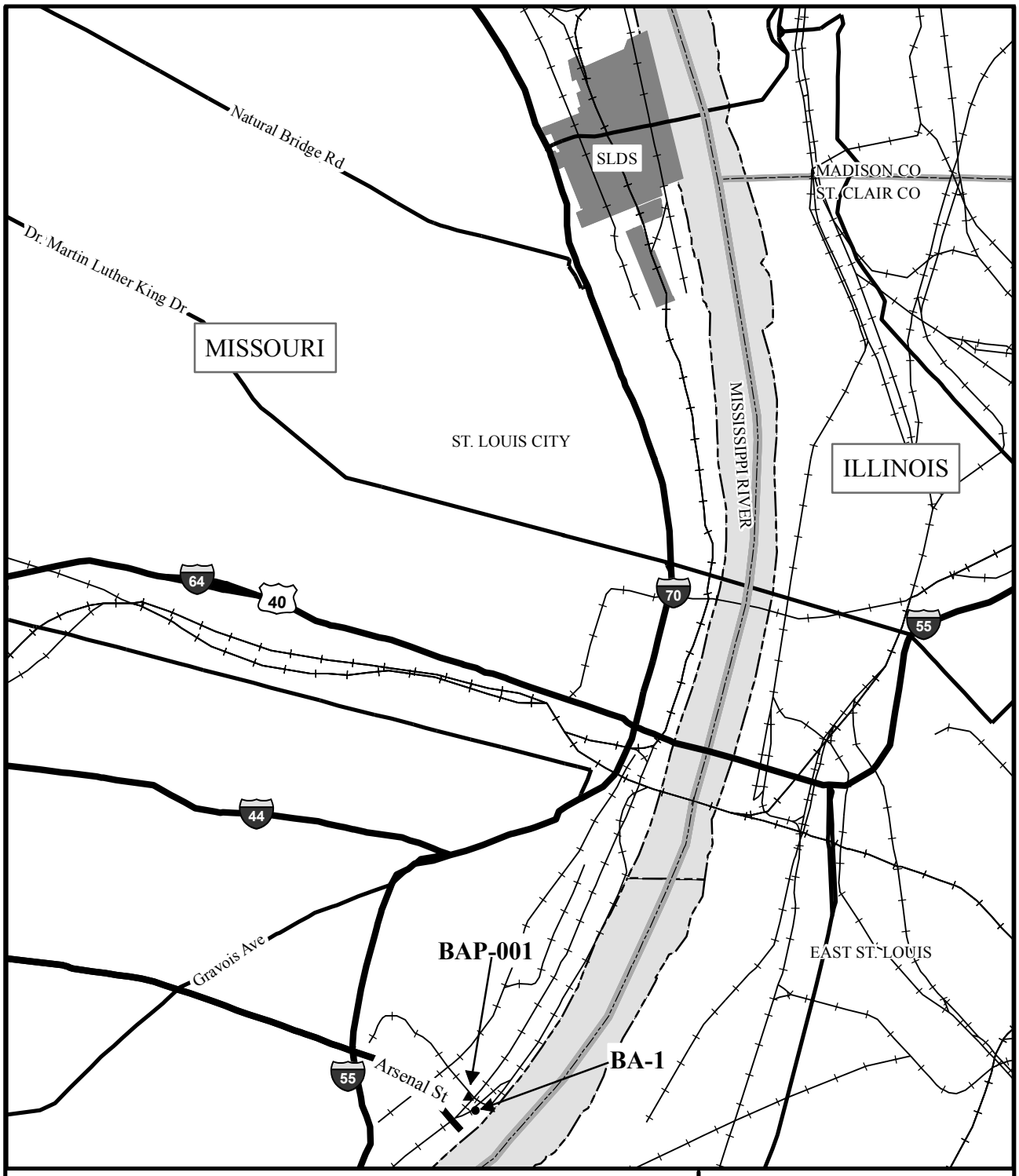
TDC	0	7/3/2014



Legend

- Roads
- Railroad
- State/County Boundary
- SLDS
- River/Stream
- County Boundary

● BA = Background monitoring for external gamma (TLD) and radon monitor (alpha track)

▲ BAP = Background air particulate monitor

N W E S

MO-East State Plane (NAD 83, Feet)

0 1,750 3,500 Feet

Figure 2-1. Gamma Radiation, Rn, and Particulate Air Monitoring at St. Louis Background Location - USACE Service Base

FUSRAP

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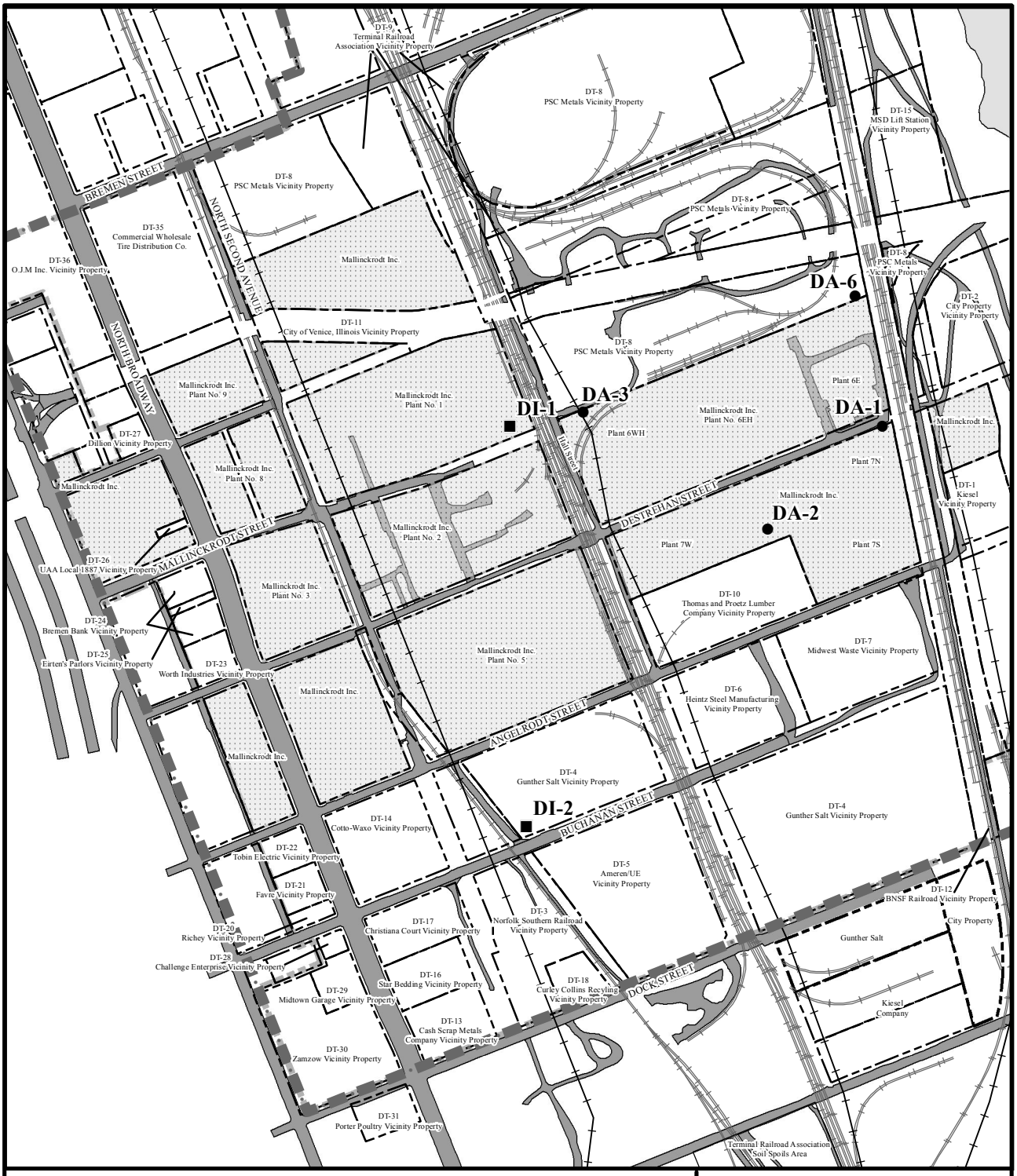
Path: U:\GPS\EMDAR\SLDS Projects\FY2014\Rev B\Figure 2-1 Gamma Radiation, Rn, and Particulate Air Monitoring at St Louis Background Location.mxd



Legend

- Vicinity Properties
- Railroad
- River/Stream
- Mallinckrodt Property
- Road
- ROD Boundary
- External Gamma (TLD) and Radon (ATD) Monitoring Location
- DI =SLDS indoor air monitoring for radon monitoring (ATD)

N
W E
S

MO-East State Plane (NAD 83, Feet)

0 210 420 Feet

Figure 2-2. Gamma Radiation and Radon Monitoring Locations at the SLDS

FUSRAP

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TDC	0	7/3/2014

Path: U:\GPS\EMDAR\SLDS Projects\FY2014\RevB\Figure 2-2 Gamma Radiation and Rn Monitoring Locations at the SLDS.mxd

Legend

- ROD Boundary
- Vicinity Properties
- Mallinckrodt Property
- River/Stream
- Railroad
- Road
- MSD Manhole (Discharge Point)

N
W E
S

MO-East State Plane (NAD 83, Feet)

0 230 460 Feet

Figure 3-1. Excavation-Water Discharge MSD Manhole at the SLDS

FUSRAP

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TDC	0	7/3/2014

Path: U:\GPS\EMDAR\SLDS Projects\FY2014\RevB\Figure 3-1 Excavation-Water Discharge Stations at the SLDS.mxd

Unit Designation	Approximate Thickness (ft)	Description
Upper Hydrostratigraphic Unit (HU-A)	0-25	**RUBBLE and FILL** Grayish black (N2) to brownish black (5YR2/1). Dry to slightly moist, generally becoming moist at 5-6 ft and saturated at 10-12 ft. Slight cohesion, variable with depth, moisture content and percentage of fines present. Consistency of relative density is unrepresentative due to large rubble fragments. Rubble is concrete, brick, glass, and coal slag. Percentage of fines as silt or clay increases with depth from 5 to 30 percent. Some weakly cemented aggregations of soil particles. Adhesion of fines to rubble increases with depth and higher moisture content. Degree of compaction is slight to moderate with frequent large voids.
	0-10	**Silty CLAY (CH)** Layers are mostly olive gray (5Y2/1), with some olive black (5Y2/1). Predominantly occurs at contact of undisturbed material, or at boundary of material with elevated activity. Abundant dark, decomposed organics. Variable percentages of silt and clay composition.
	0-5	**CLAY (CL)** Layers are light olive gray (5Y5/2), or dark greenish gray (5GY4/1). Slightly moist to moist, moderate cohesion, medium stiff consistency. Tends to have lowest moisture content. Slight to moderate plasticity.
	0-2.5	**Interbedded CLAY, silty CLAY, SILT and Sandy SILT (CL, ML, SM)** Dark greenish gray (5GY4/1) to light olive gray (5Y6/1). Moist to saturated, dependent on percentage of particle size. Contacts are sharp, with structure normal to sampler axis to less than 15 degrees downdip. Layer thicknesses are variable, random in alternation with no predictable vertical gradation or lateral continuity. Some very fine-grained, rounded silica sand as stringers. Silt in dark mafic, biotite flakes. Some decomposed organics.
Lower Hydrostratigraphic Unit (HU-B)	0-10	**Sandy SILT (ML)** Olive gray (5Y4/1). Moist with zones of higher sand content saturated. Slight to moderate cohesion, moderate compaction. Stiff to very stiff consistency, rapid dilatancy, nonplastic. Sand is well sorted, very fine and fine-grained rounded quartz particles.
	0-50	**Silty SAND and SAND (SM, SP, SW)** Olive gray (5Y4/1). Saturated, slight cohesion, becoming noncohesive with decrease of silt particles with depth. Dense, moderate compaction. Moderate to well-graded, mostly fine- and medium-grained, with some fine- and coarse-grained particles. Mostly rounded with coarse grains slightly subrounded. Gradual gradation from upper unit, silty sand has abundant dark mafic/biotite flakes. Sand is well-graded, fine gravel to fine sand. Mostly medium-grained, with some fine-grained and few coarse-grained and fine gravel.
Limestone Bedrock Unit (HU-C)	Total thickness not penetrated during drilling	**LIMESTONE** Light olive gray (5Y4/1) with interbedded chert nodules. Generally hard to very hard; difficult to scratch with knife. Slightly weathered, moderately fresh with little to no discoloration or staining. Top 5 ft is moderately fractured, with 99 percent of joints normal to the core axis. Joints are open, planar, and smooth. Some are slightly discolored with trace of hematite staining.

SOURCE: MODIFIED FROM DOE 1994.
NOTE: THE CODES IN PARENTHESES FOLLOWING THE LITHOLOGIES ARE THE UNIFIED SOIL CLASSIFICATION SYSTEM (USCS) CODES.

THE CODES IN PARENTHESES FOLLOWING THE COLORS REPRESENT CHROMA, HUE, AND VALUE FROM THE MUNSELL SOIL COLOR CHARTS.

NOT TO SCALE

FUSRAP

Figure 4-1. Generalized Stratigraphic Column for the SLDS

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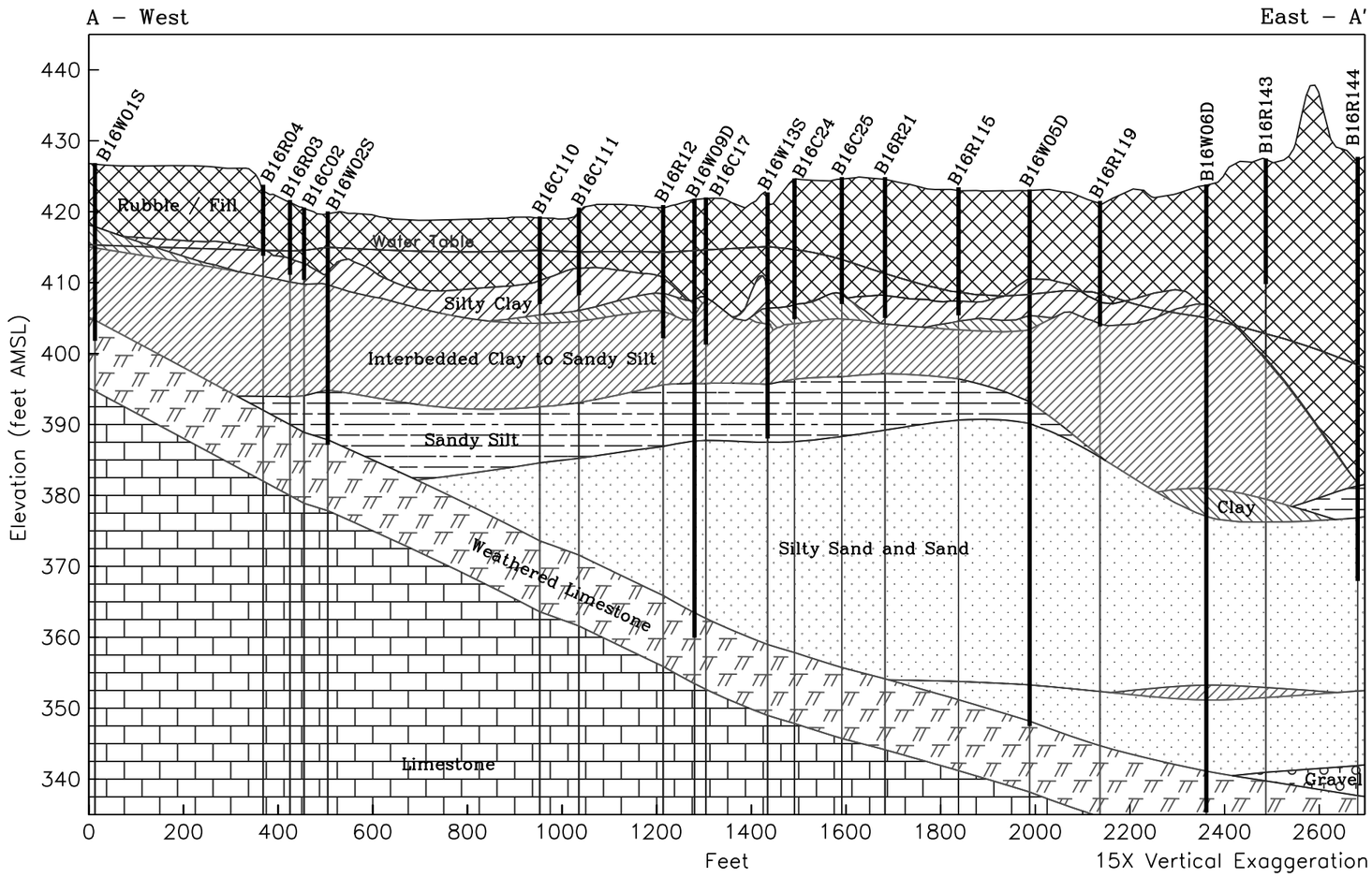
C.Kaple	0 - 06/01/00	



Geologic data used in the cross section collected prior to 1998.

Cross Section Location Map

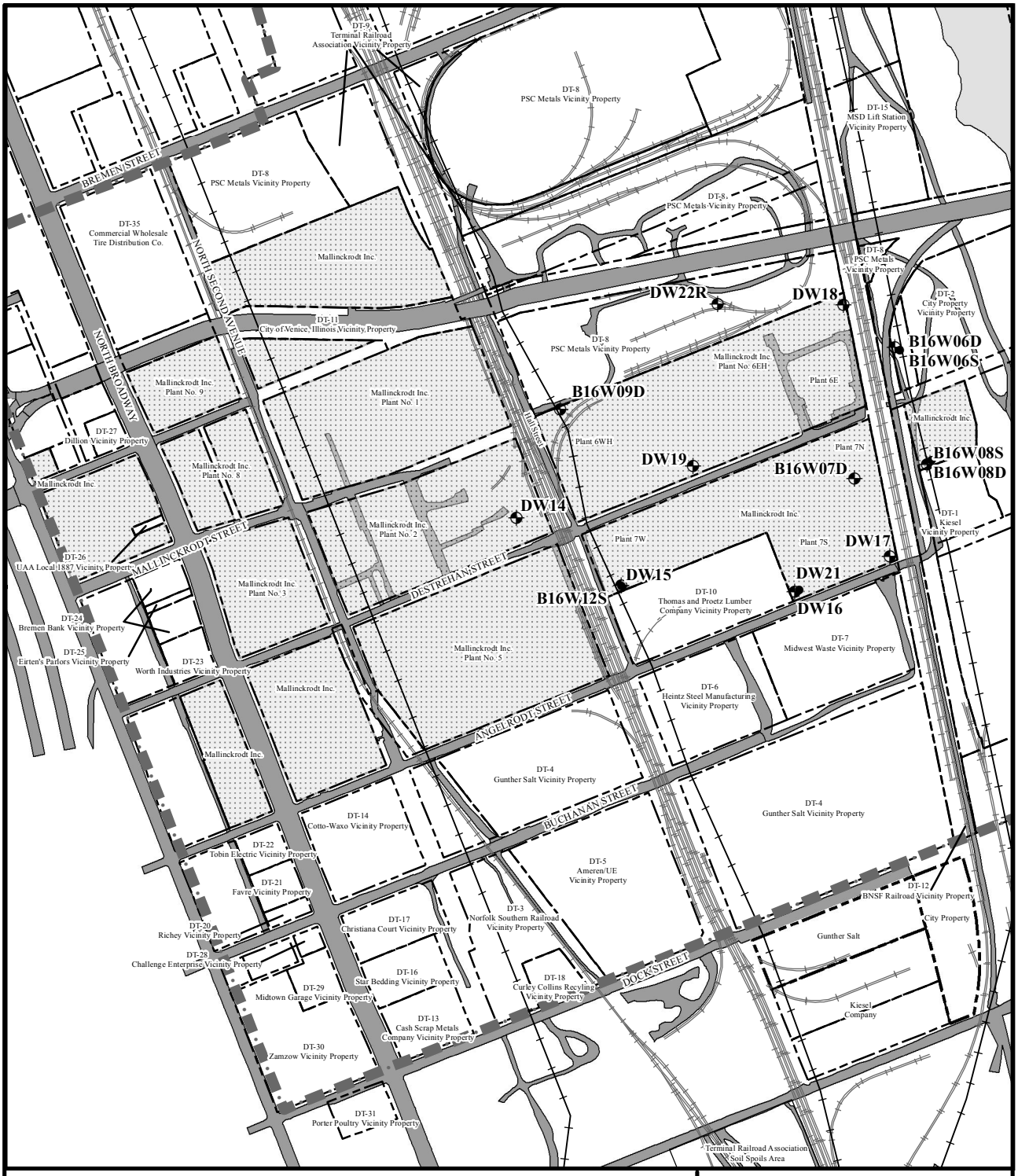
FUSRAP

Figure 4-2. SLDS Geologic Cross-Section A-A'

Drawn By: R. Smith

Rev. No. - Date: 0 - 03/24/99

File: SLDSGlg01XSectA.sho



Legend

- HU-A
- HU-B
- ROD Boundary
- Vicinity Properties
- Railroad
- Mallinckrodt Property
- Road

N
W E
S

MO-East State Plane
(NAD 83, Feet)

0 120 240 Feet

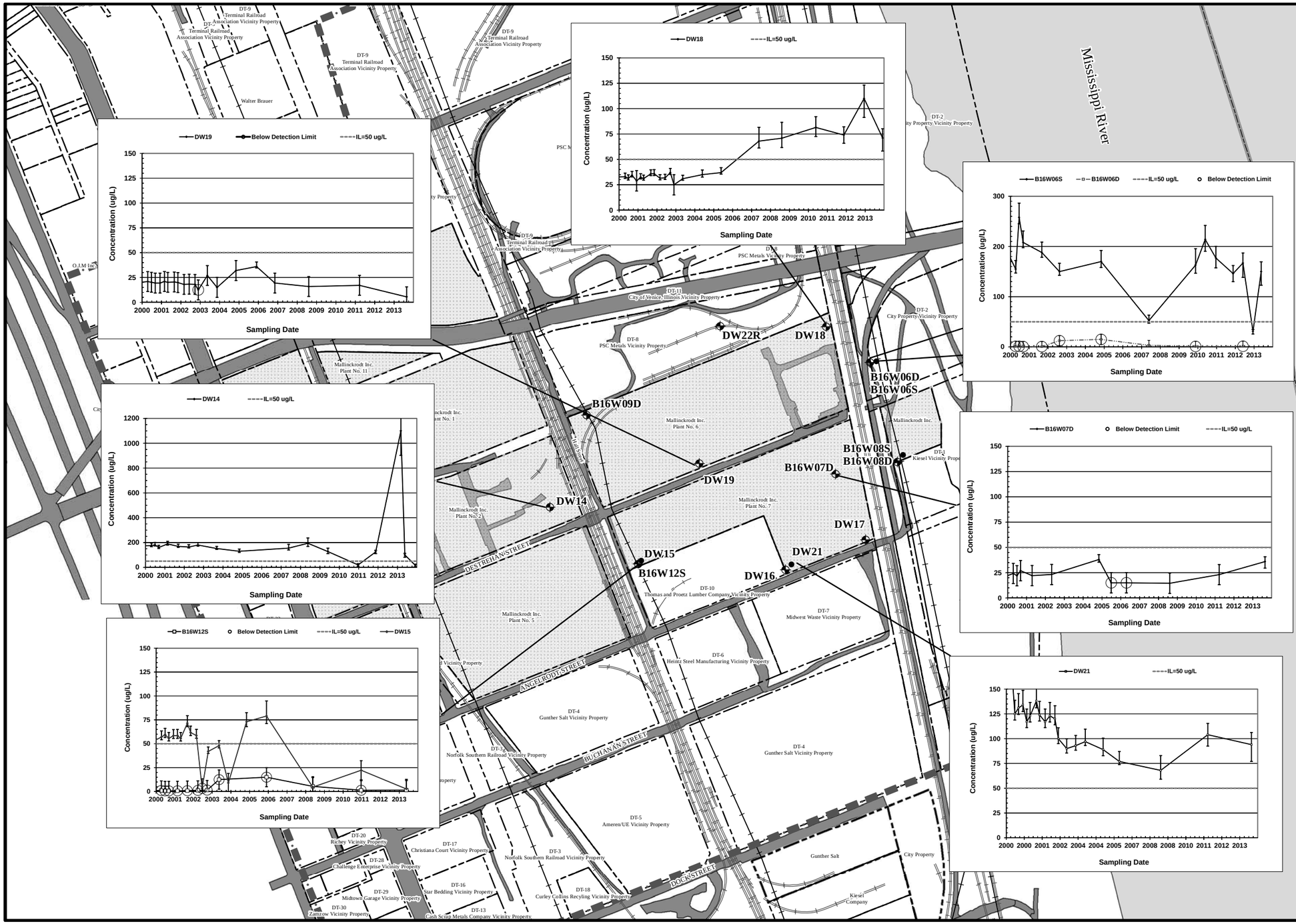
Figure 4-3.
Ground-Water Monitoring Well Locations at the SLDS

FUSRAP

DRAWN BY:	REV:	DATE:
TDC	0	7/3/2014

Path: U:\GPS\EMDAR\SLDS Projects\FY2014\RevB\Figure 4-3 Ground-Water Monitoring Well Locations at the SLDS.mxd

Path: U:\GPS\EMDAR\SLDS Projects\FY2014\RevB\Figure 4-4 Arsenic Concentration Trends in Unfiltered Ground Water at the SLDS.mxd



Legend

- Existing HU-A Monitoring Well
- Existing HU-B Monitoring Well
- ROD Boundary
- Vicinity Properties
- Mallinckrodt Property
- Railroad
- Road
- River/Stream
- Error Bars

N W E S

MO-East State Plane
(NAD 83, Feet)

0 87.5 175 Feet

Figure 4-4. Arsenic Concentration Trends in Unfiltered Ground Water at the SLDS

FUSRAP

DRAWN BY:	REV:	DATE:
TDC	0	7/3/2014

Path: U:\GPS\EMDAR\SLDS Projects\FY2014\RevB\Figure 4-5 Total Uranium Concentrations in Unfiltered HZ-A Ground Water at the Latty Avenue Properties.mxd

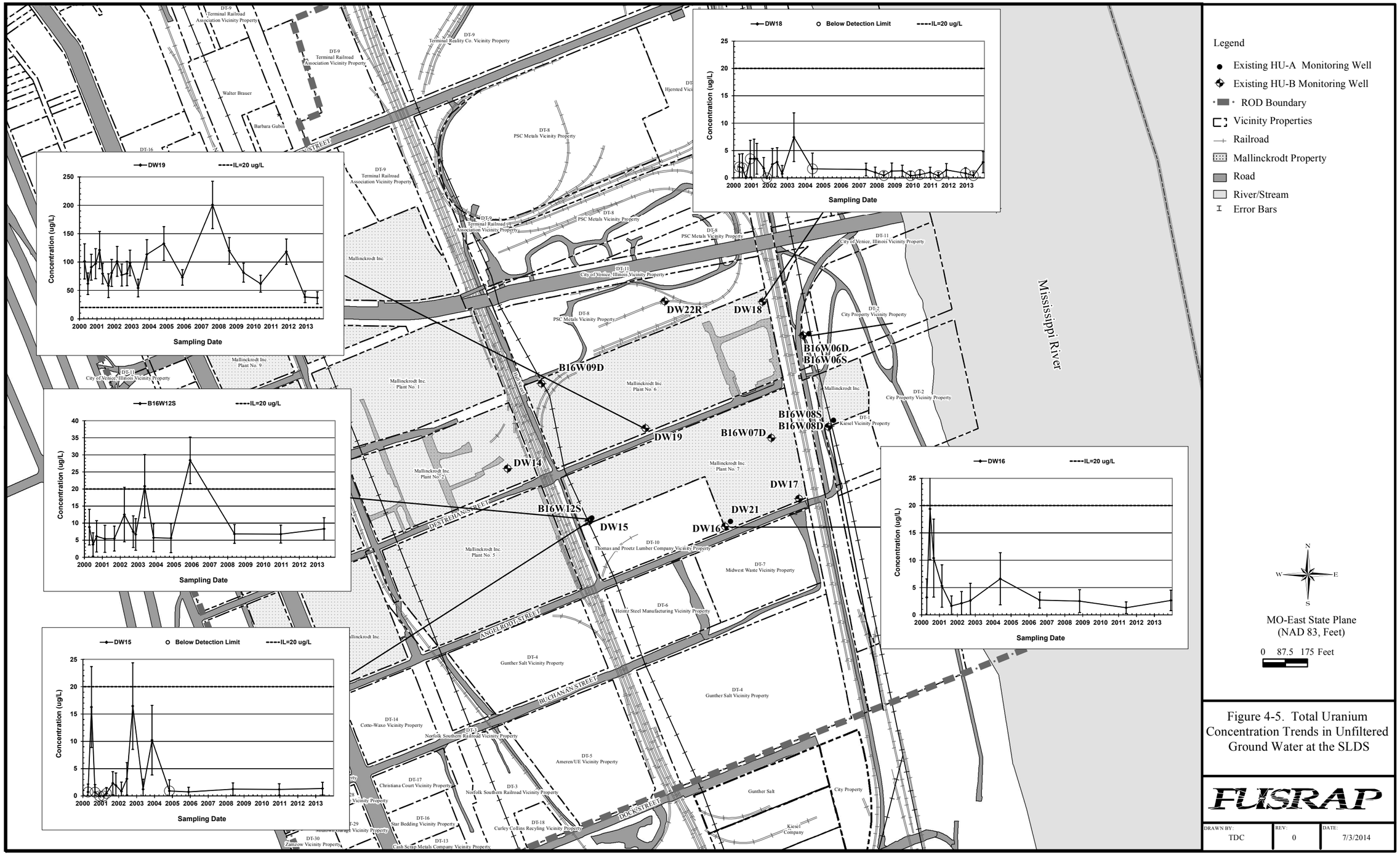


Figure 4-5. Total Uranium Concentration Trends in Unfiltered Ground Water at the SLDS

FUSRAP

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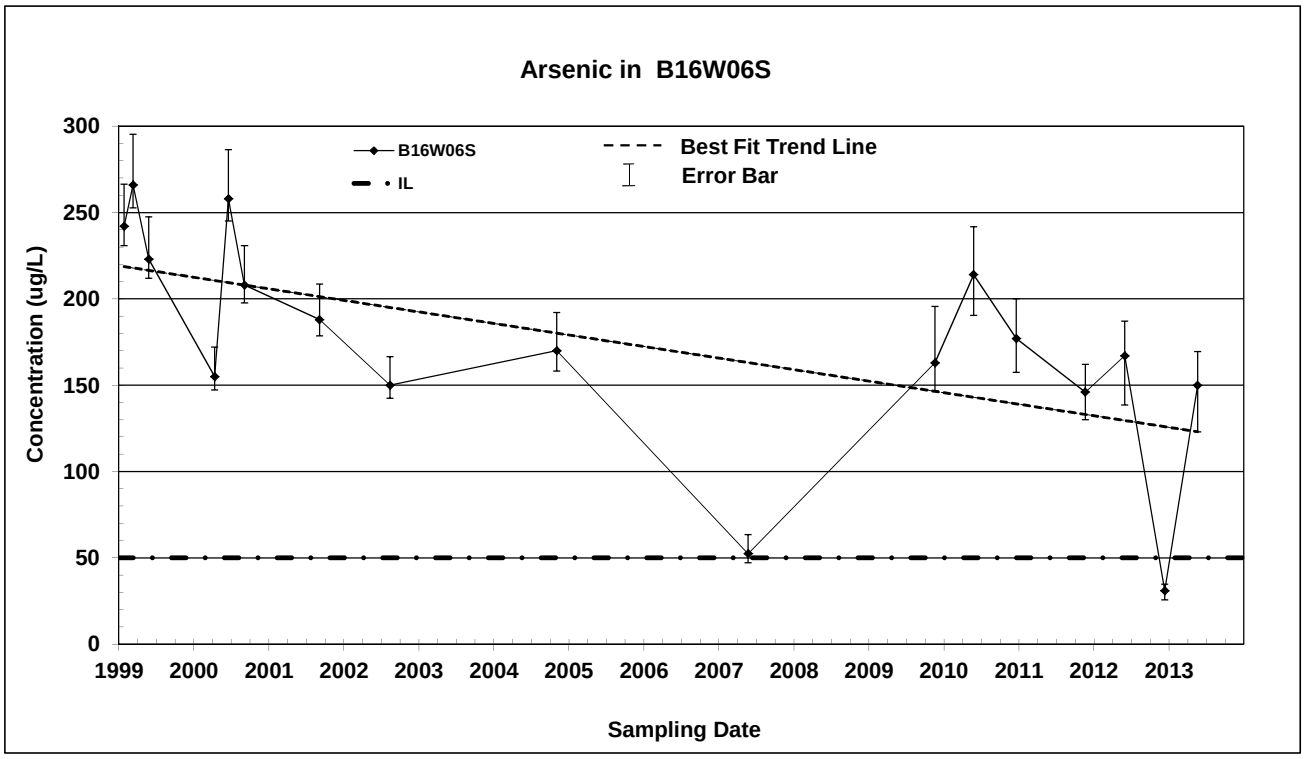
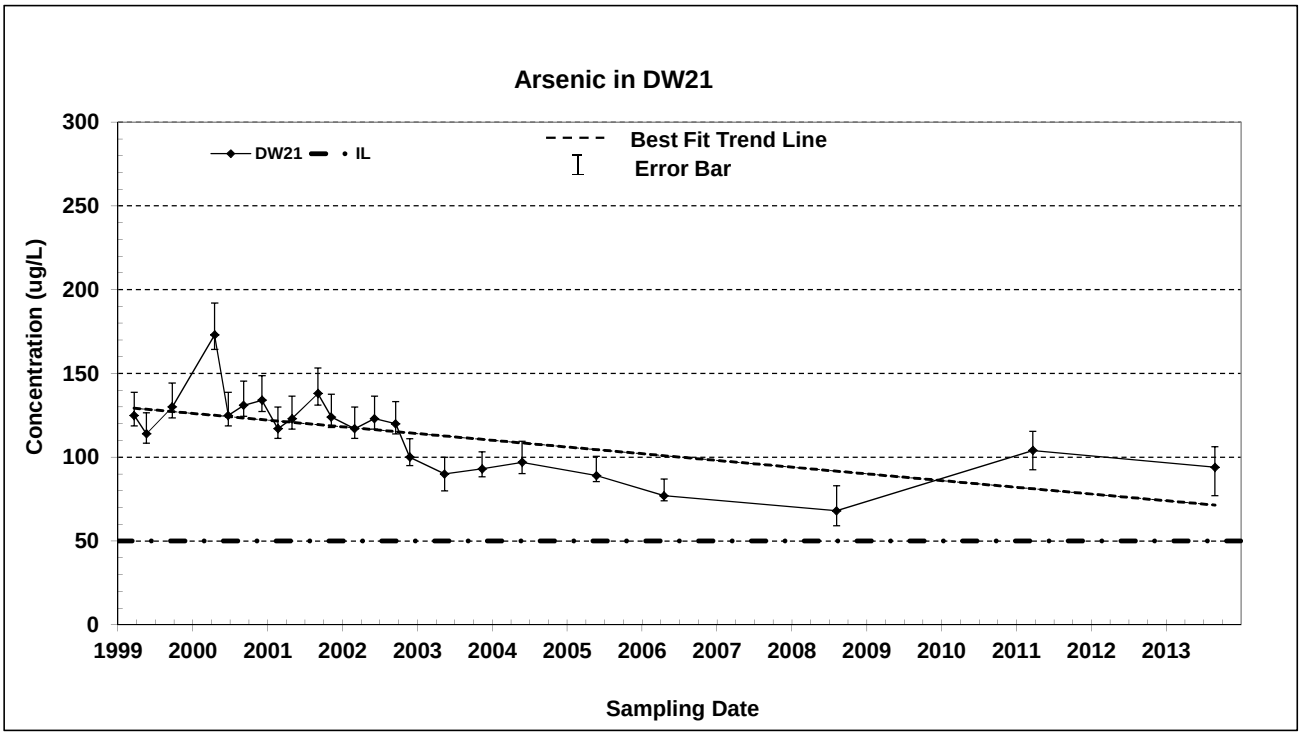
TDC	0	7/3/2014





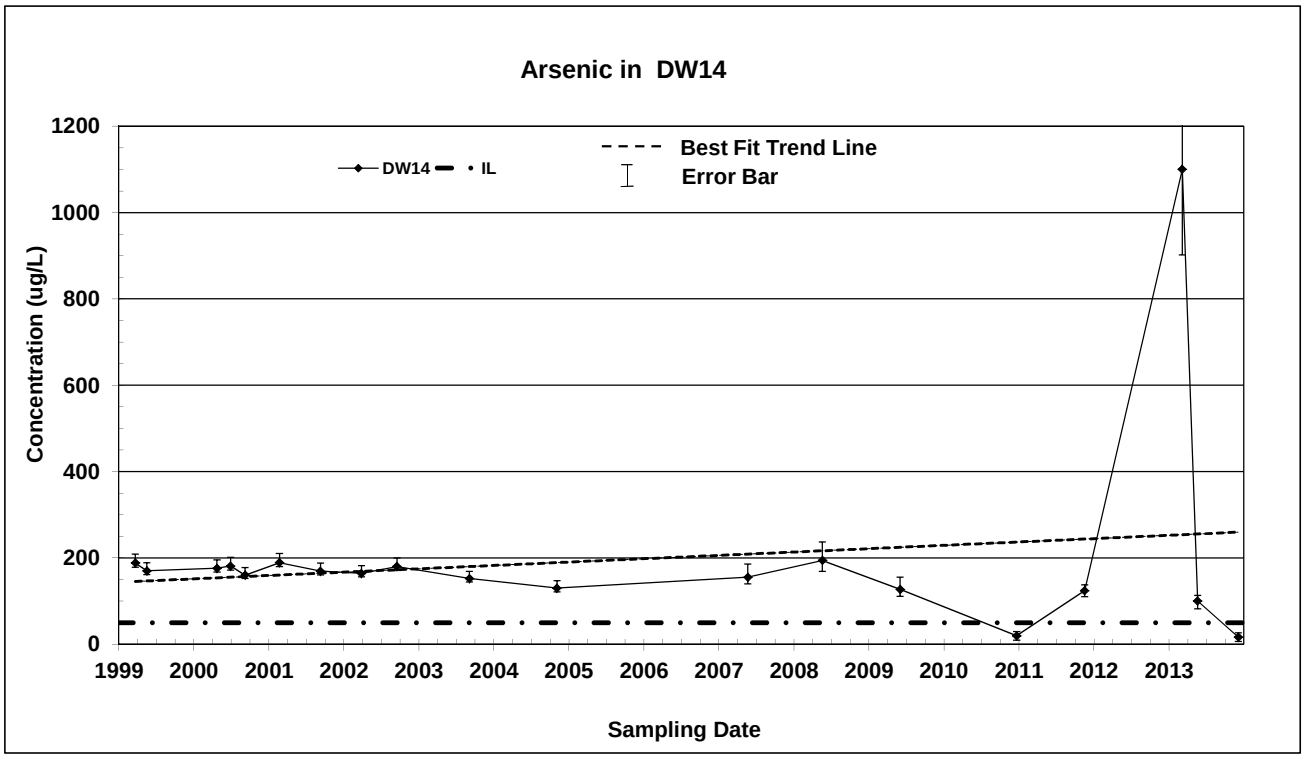
Notes:

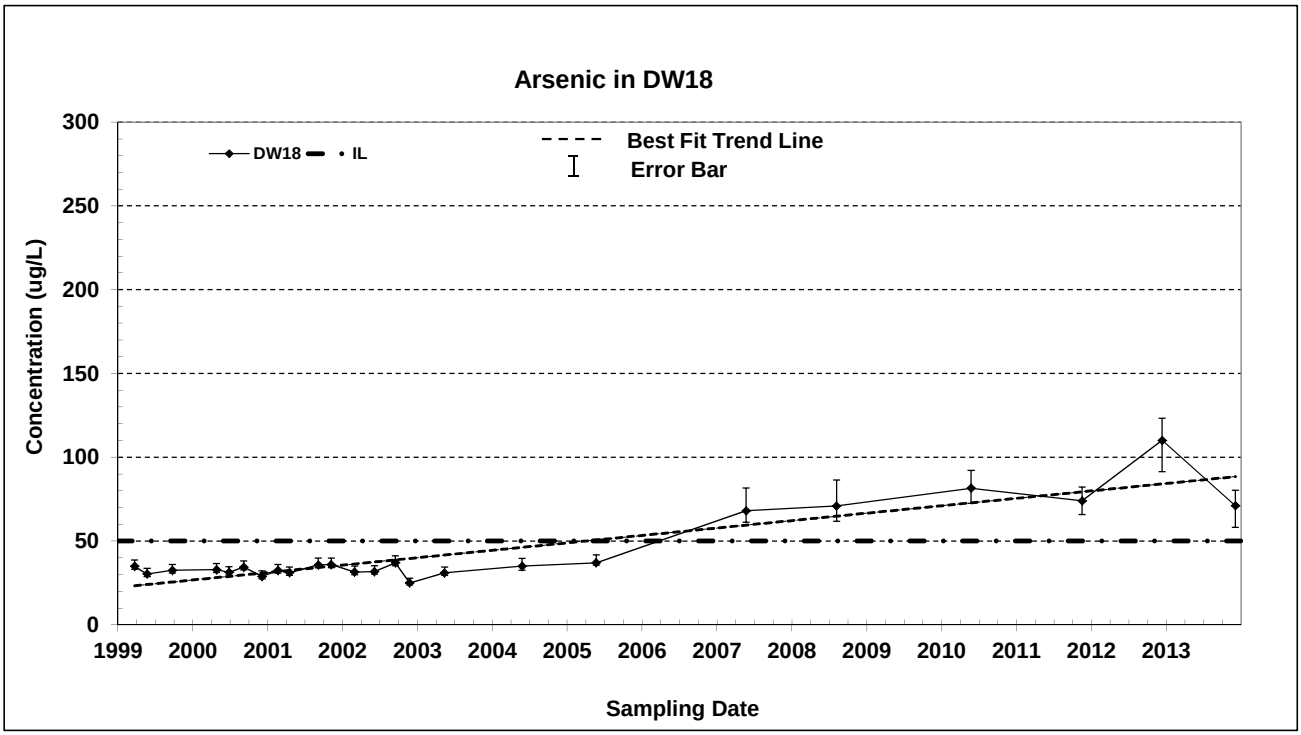
For arsenic results less than 3 times the reporting limit (RL), the error bar represents ± RL.

For arsenic results exceeding 3 times the RL, the error bar represents the Upper and Lower Control Limits on the Control Spike Samples.

Arsenic error bars for 2003 and earlier are based on laboratory control limits for 2003. Error bars for 2004 and later are based on laboratory control limits reported for the respective years.

Figure 4-6. Time-Versus-Concentration Plots for Arsenic in Ground-Water Monitoring Wells at SLDS





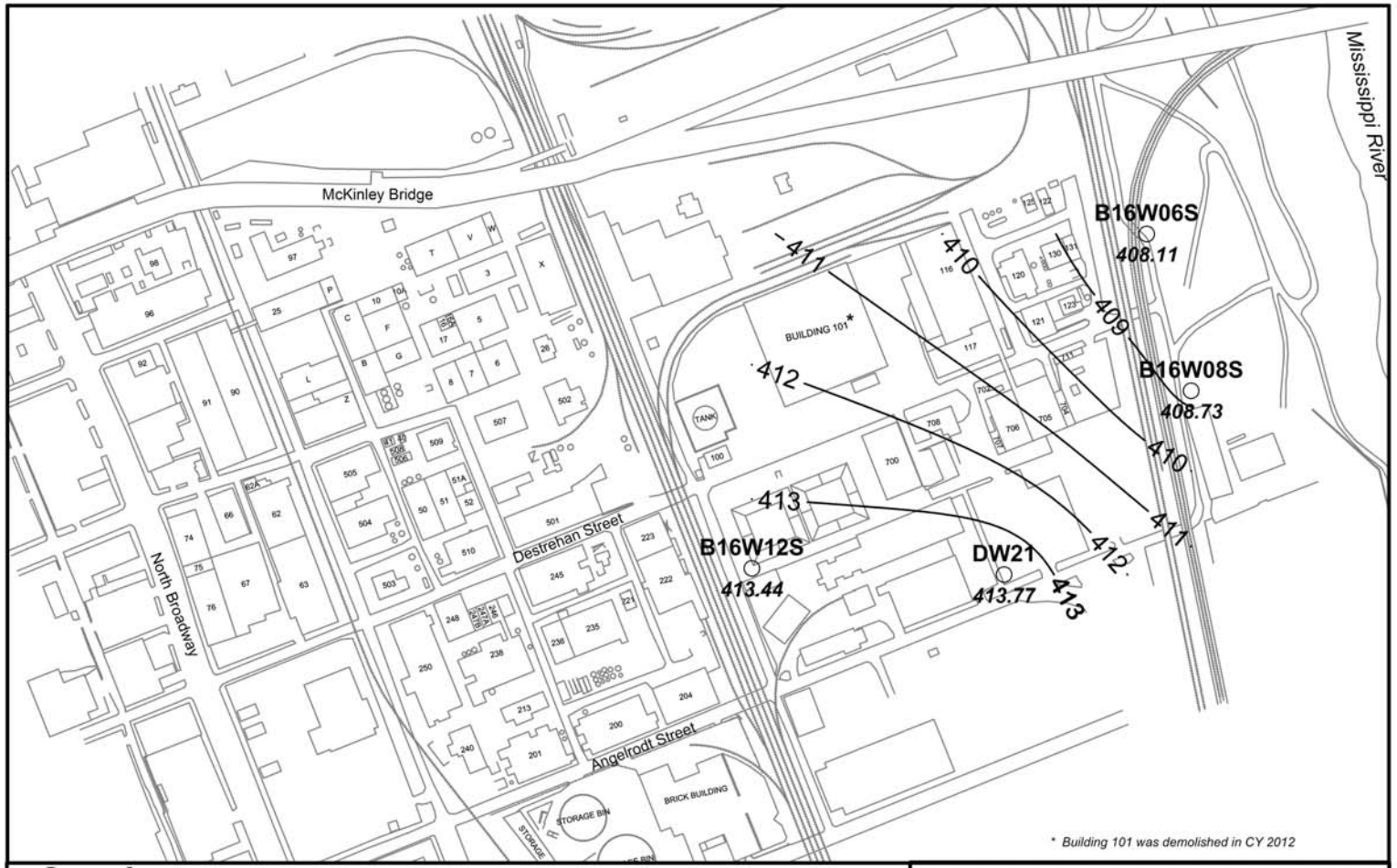
Notes:

For arsenic results less than 3 times the reporting limit (RL), the error bar represents ± RL.

For arsenic results exceeding 3 times the RL, the error bar represents the Upper and Lower Control Limits on the Control Spike Samples.

Arsenic error bars for 2003 and earlier are based on laboratory control limits for 2003. Error bars for 2004 and later are based on laboratory control limits reported for the respective years.

Figure 4-6. Time-Versus-Concentration Plots for Arsenic in Ground-Water Monitoring Wells at SLDS (Continued)



Legend:

——— **HU-A Ground-Water Elevation Contours**

○ **HU-A Monitoring Well Locations**

Ground-water elevations in feet above mean sea level (amsl)
2.0 - foot contour interval; contours dashed where inferred.

SCALE: 1 inch = 400 ft

0 200 400 600 800

N

MO - East State Plane Coordinate System (NAD83, Feet)

FUSRAP

Figure 4-7. HU-A Potentiometric Surface at the SLDS (May 21, 2013)

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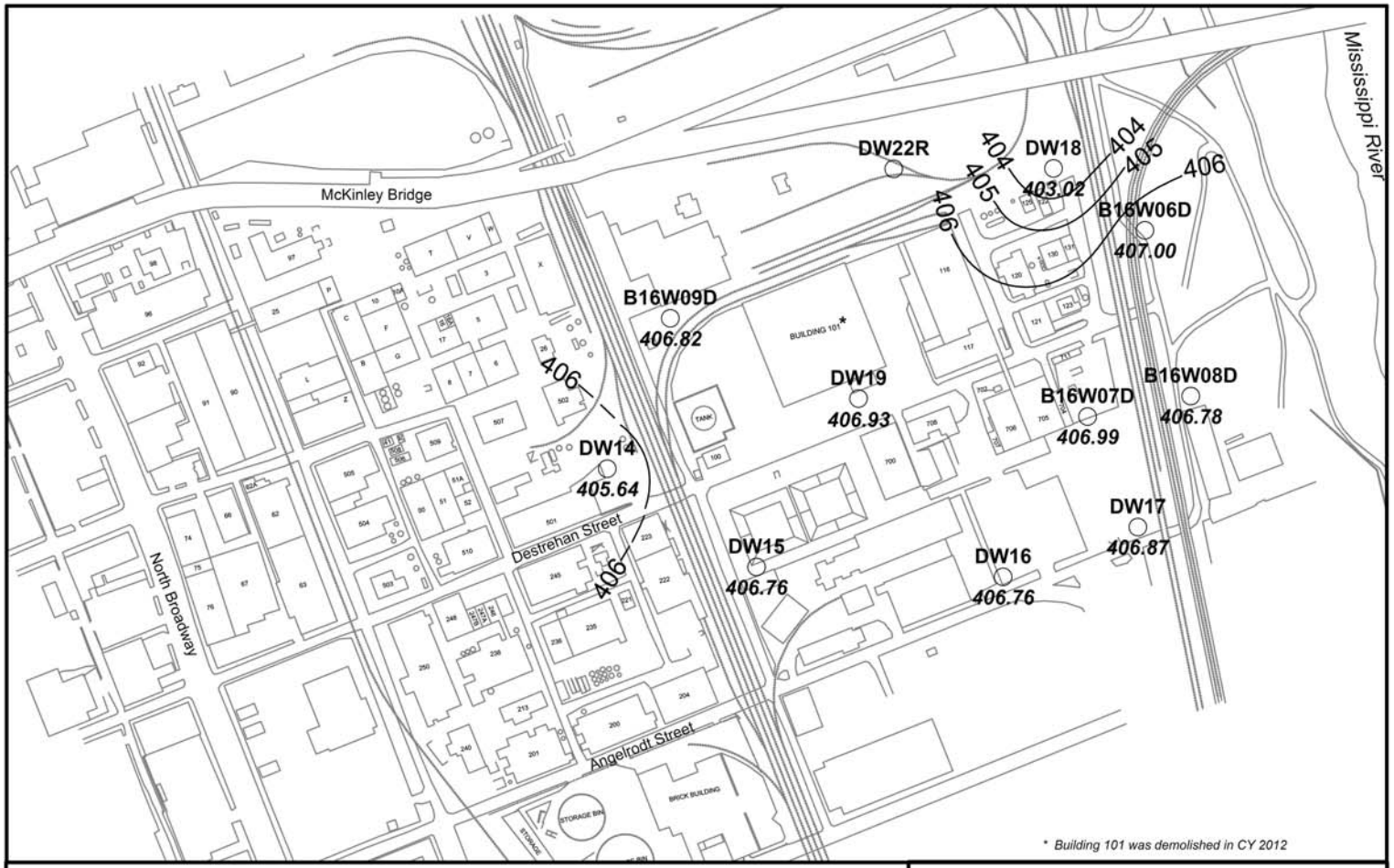


Legend:

——— **HU-B Ground-Water Elevation Contours**

○ **HU-B Monitoring Well Locations**

Ground-water elevations in feet above mean sea level (amsl)
1.0 foot contour interval; contours dashed where inferred.

SCALE: 1 inch = 400 ft

0 200 400 600 800

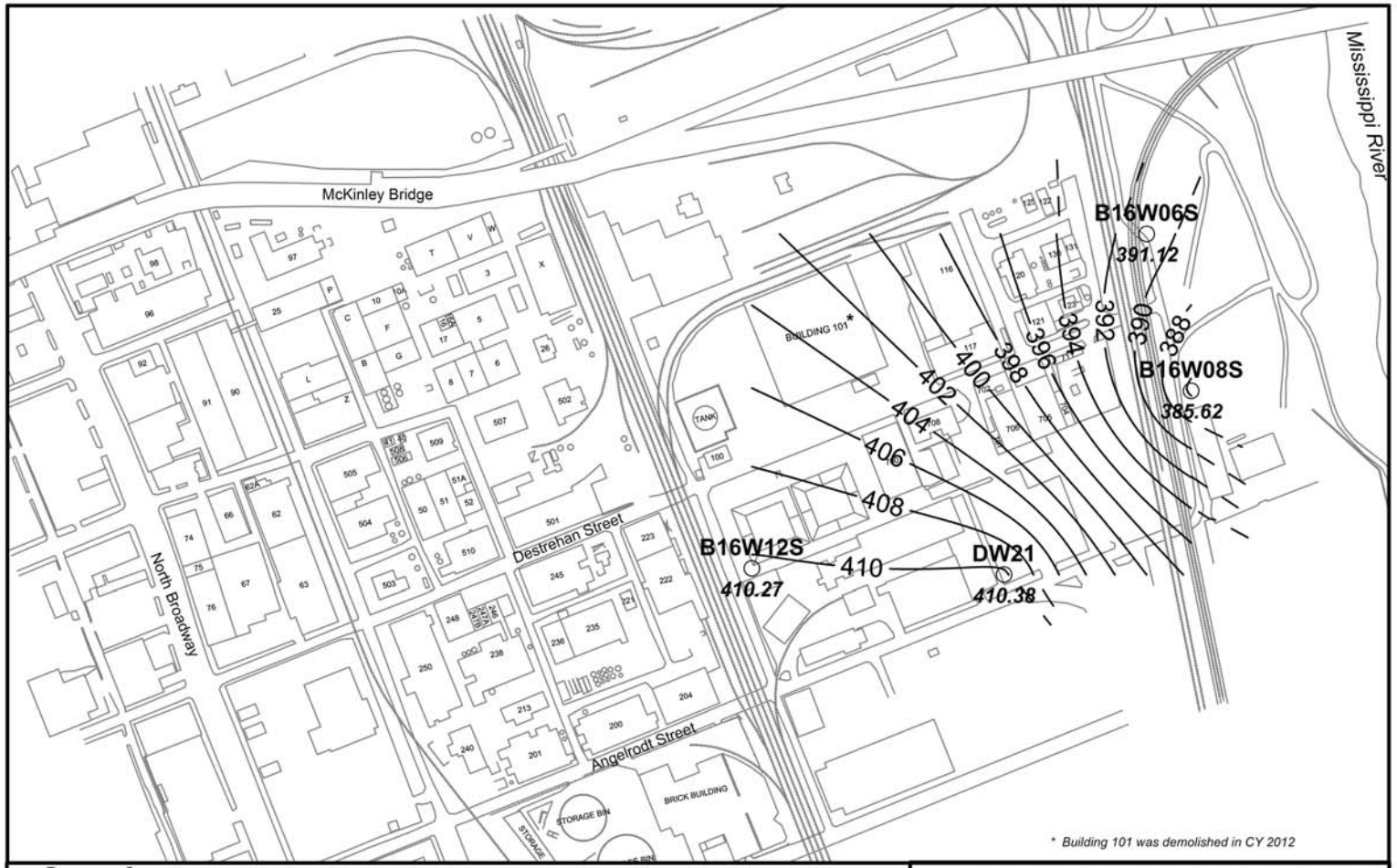
N

MO - East State Plane
Coordinate System
(NAD83, Feet)

FUSRAP

Figure 4-8. HU-B Potentiometric Surface at the SLDS (May 21, 2013)

DRAWN BY:	REV. - DATE:
CMW	0 - 10/15/13



Legend:

——— **HU-A Ground-Water Elevation Contours**

○ **HU-A Monitoring Well Locations**

Ground-water elevations in feet above mean sea level (amsl)
2.0 - foot contour interval; contours dashed where inferred.

SCALE: 1 inch = 400 ft

0 200 400 600 800

N

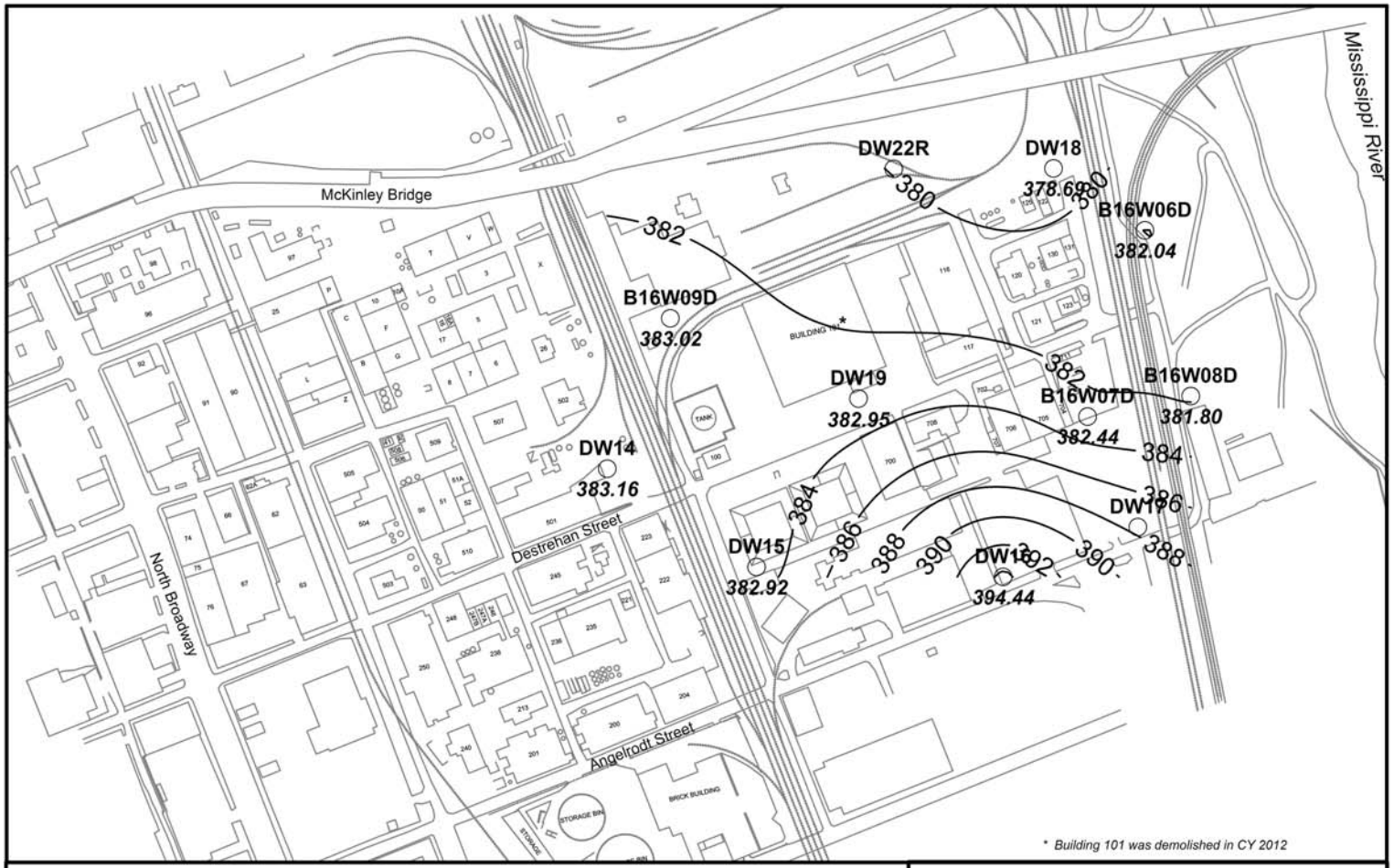
MO - East State Plane Coordinate System (NAD83, Feet)

FUSRAP

Figure 4-9. HU-A Potentiometric Surface at the SLDS (December 5, 2013)

DRAWN BY: CMW

REV. - DATE: 0 - 12/10/2013



Legend:

——— **HU-B Ground-Water Elevation Contours**

○ **HU-B Monitoring Well Locations**

Ground-water elevations in feet above mean sea level (amsl)
2.0 foot contour interval; contours dashed where inferred.

SCALE: 1 inch = 400 ft

0 200 400 600 800

N

MO - East State Plane Coordinate System (NAD83, Feet)

FUSRAP

Figure 4-10. HU-B Potentiometric Surface at the SLDS (December 5, 2013)

DRAWN BY:	REV. - DATE:
CMW	0 - 12/10/13

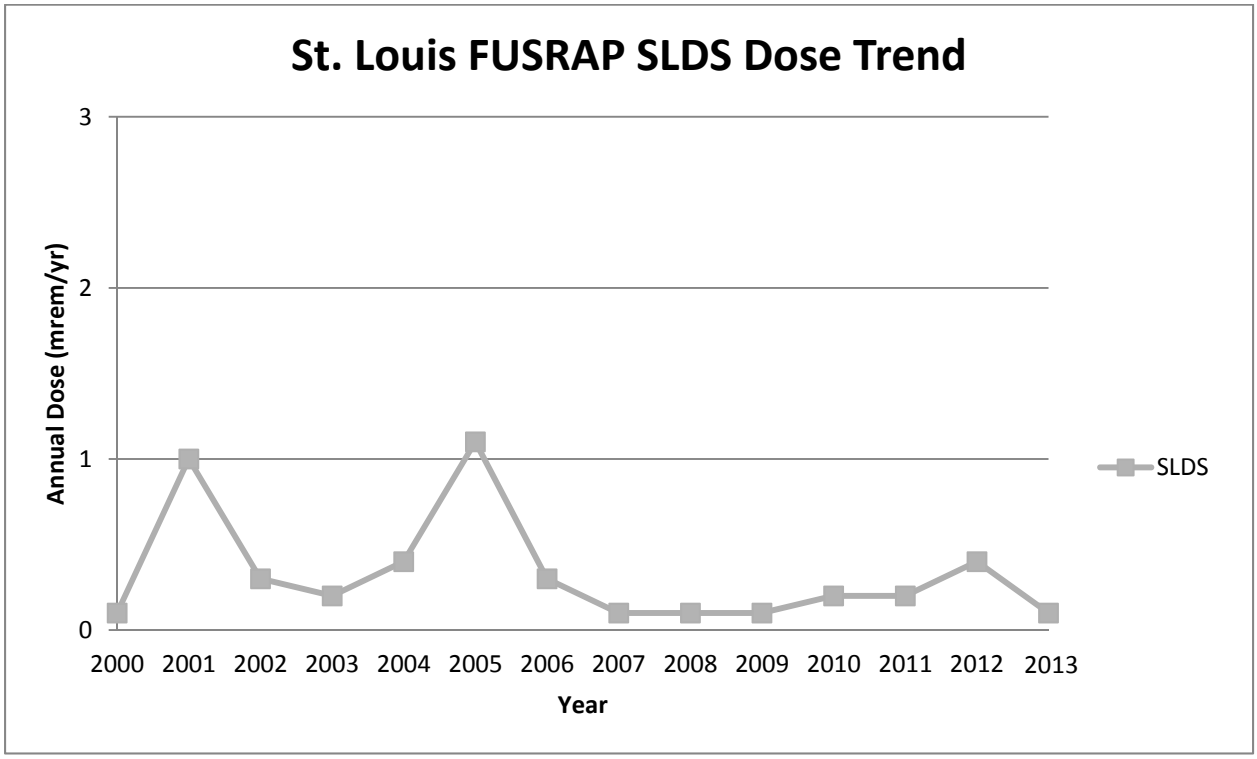


Figure 6-1. St. Louis FUSRAP SLDS Dose Trends

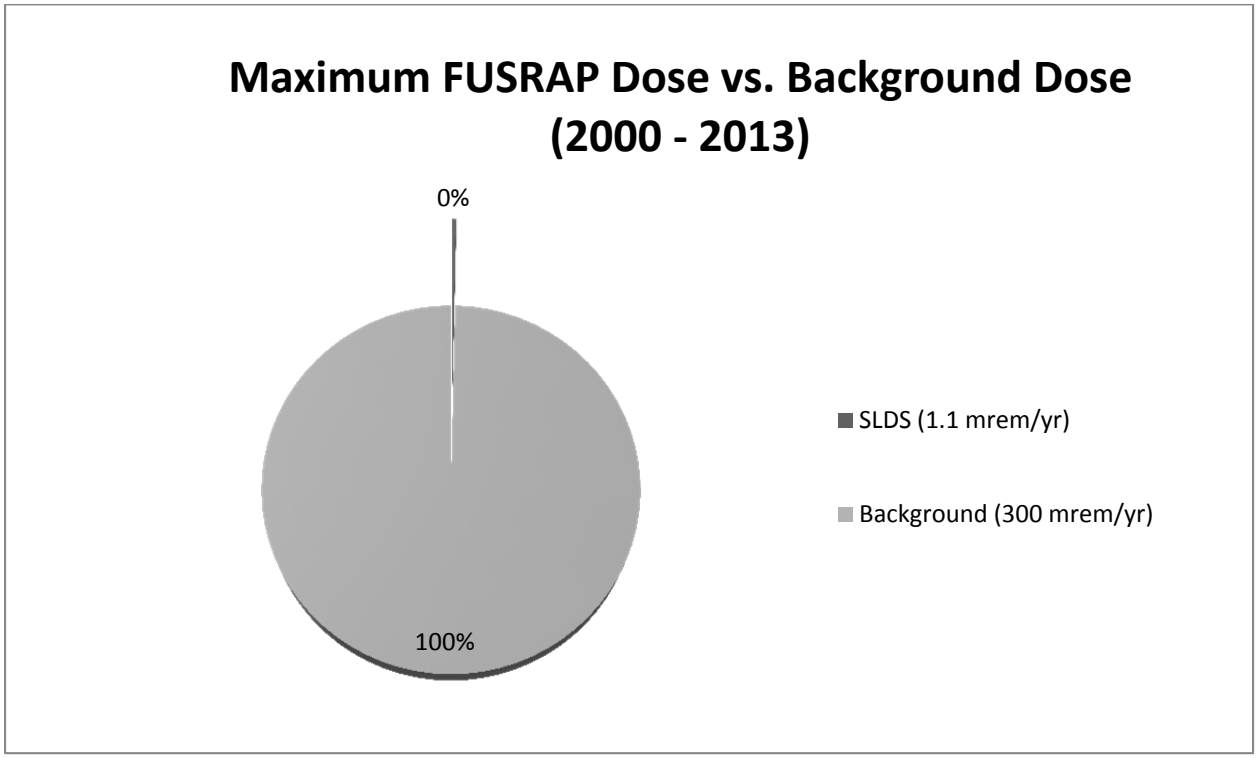


Figure 6-2. St. Louis FUSRAP SLDS Maximum Dose vs. Background Dose

APPENDIX A

ST. LOUIS DOWNTOWN SITE 2013 RADIONUCLIDE EMISSIONS NESHAP REPORT SUBMITTED IN ACCORDANCE WITH REQUIREMENTS OF 40 *CFR* 61, SUBPART I

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LIST OF ATTACHMENTS

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Attachment A-2 CAP88-PC Runs for St. Louis Downtown Site Properties

ACRONYMS AND ABBREVIATIONS

Both English and metric units are used in this report. The units used in a specific situation are based on common unit usage or regulatory language (e.g., depths are given in feet and meters, and areas are given in square feet and square meters). Acres are given for areas when applicable.

µCi/cm^3	microcurie(s) per cubic centimeter
µCi/mL	microcurie(s) per milliliter
Ac	actinium
AEC	U.S. Atomic Energy Commission
°C	degree(s) Celsius (centigrade)
CFR	*Code of Federal Regulations*
Ci/yr	curie(s) per year
cm^3	cubic centimeter(s)
cm/yr	centimeter(s) per year
CY	calendar year
EDE	effective dose equivalent
ft	foot/feet
FUSRAP	Formerly Utilized Sites Remedial Action Program
GIS	geographic information system
m	meter(s)
m^2	square meter(s)
Mallinckrodt	Mallinckrodt LLC
MED	Manhattan Engineer District
m/min	meter(s) per minute
m^3/min	cubic meter(s) per minute
mL	milliliter(s)
mrem/yr	millirem per year
mSv/yr	millisievert per year
NESHAP	National Emission Standard for Hazardous Air Pollutants
Pa	protactinium
pCi/g	picocurie(s) per gram
Ra	radium
SLDS	St. Louis Downtown Site
SU	survey unit
Th	thorium
U	uranium
USEPA	U.S. Environmental Protection Agency
VP	vicinity property

EXECUTIVE SUMMARY AND DECLARATION STATEMENT

This report presents the results of National Emission Standard for Hazardous Air Pollutants (NESHAP) calculations for the St. Louis Formerly Utilized Sites Remedial Action Program (FUSRAP) St. Louis Downtown Site (SLDS) for calendar year (CY) 2013. NESHAP requires the calculation of the effective dose equivalent (EDE) from radionuclide emissions to critical receptors. The report follows the requirements and procedures contained in 40 *Code of Federal Regulations* (*CFR*) 61, Subpart I, *National Emission Standards for Radionuclide Emissions From Federal Facilities Other Than Nuclear Regulatory Commission Licensees and Not Covered by Subpart H* (USEPA 1989).

This report evaluates SLDS properties where there was a reasonable potential for radionuclide emissions due to St. Louis FUSRAP activities. These sites include: City Property (DT-2), Kiesel Hall Street Property, Plant 6, and Plant 6 Loadout.

Emissions from the SLDS were evaluated for the entire CY 2013 to provide a conservative estimate of total emissions.

The NESHAP standard of EDE to a critical receptor from radionuclide emissions is 10 millirem per year (mrem/yr) (0.1 millisievert per year [mSv/yr]). The SLDS did not exceed this standard. The EDE from radionuclide emissions at the SLDS was calculated using soil characterization data, air particulate monitoring data, and the U.S. Environmental Protection Agency (USEPA) CAP88-PC modeling code, which resulted in an EDE at the SLDS of less than 0.1 mrem/yr (0.001 mSv/yr).

The evaluation for the SLDS resulted in less than 10 percent of the dose standard in 40 *CFR* 61.102. This site is exempt from the reporting requirements of 40 *CFR* 61.104(a).

DECLARATION STATEMENT – 40 *CFR* 61.104(a)(xvi)

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.Code* 1001.

_____ _____

Signature Date

Office: U.S. Army Corps of Engineers, St. Louis District Office
Address: 8945 Latty Ave.
Berkeley, MO 63134
Contact: Jon Rankins

1.0 PURPOSE

This report calculates the EDE from radionuclide emissions (exclusive of radon) to critical receptors from the SLDS where there was a reasonable potential for radionuclide emissions due to St. Louis FUSRAP activities. These sites include: DT-2, Keisel Hall Street, Plant 6, and Plant 6 Loadout. The air emissions from the SLDS are ground releases of particulate radionuclides in soil as a result of windblown action and remedial activity in the form of excavation and off-site disposal of soil.

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2.0 METHOD

Emission rates for the SLDS were modeled using guidance documents referenced in 40 *CFR* 61, Appendix E, *Compliance Procedures Methods for Determining Compliance with Subpart I* (USEPA 1989), and were measured by collection of environmental air samples. Emission rates were input into the USEPA computer code CAP88-PC, along with appropriate meteorological data and distances to critical receptors[1], to obtain the EDE from the air emissions.

Although 40 *CFR* 61.103 requires the use of the USEPA computer code COMPLY, USEPA no longer supplies technical support for COMPLY. However, the USEPA lists both COMPLY and CAP88-PC as "Atmospheric transport models for assessing dose and risk from radioactive air emissions" (USEPA 2007). The USEPA continues to maintain and update the CAP88-PC modeling program and has updated it as recently as December 9, 2007. In previous FUSRAP NESHAP reports, both COMPLY and CAP88-PC results have been compared. This comparison indicated that CAP88-PC is a comparable and conservative method of demonstrating compliance with 40 *CFR* 61, Subpart I. For these reasons, CAP88-PC was used in this report to demonstrate compliance with the NESHAP standard.

2.1 EMISSION RATE

The method used to determine particulate radionuclide emission rates from the SLDS was 40 *CFR* 61, Appendix D, *Methods for Estimating Radionuclide Emissions*. Emissions during excavations were evaluated using air sampling data at the excavation and loadout perimeters.

2.2 EFFECTIVE DOSE EQUIVALENT

The EDE to critical receptors[1] is obtained using USEPA computer code CAP88-PC, Version 3.0 (USEPA 2007). CAP88-PC uses a Gaussian plume equation to estimate the dispersion of radionuclides and is referenced by the USEPA to demonstrate compliance with the NESHAP emissions criterion in 40 *CFR* 61. An area ground release at a height of 3 feet (ft) (1 meter [m]) is modeled for the SLDS.

The EDE is calculated by combining doses from ingestion, inhalation, air immersion, and external ground surface. CAP88-PC contains historical weather data libraries for major airports across the country, and the results can be modeled for receptors at multiple distances from the emissions source.

[1] "Critical receptors," as used in this report, are the locations for the nearest residence, school, business, and farm.

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3.0 METEOROLOGICAL DATA

Meteorological data was obtained from the CAP88-PC code for the Lambert – St. Louis International Airport (wind file 13994.WND). Data in the file was accumulated from 1988 through 1992.

- Average Annual Wind Velocity: 4.446 m/second
- Average Annual Precipitation Rate: 111 centimeters per year (cm/yr)
- Average Annual Air Temperature: 14.18 degrees Celsius (ºC)

Wind speed frequency data was obtained from Lambert – St. Louis International Airport (Table A.3-1).

Table A.3-1. St. Louis Wind Speed Frequency

Wind Speed Group, Knots[a]	Frequency
0 – 3	0.10
4 – 7	0.29
8 – 12	0.36
13 – 18	0.21
19 – 24	0.03
25 – 31	0.01

[a] knot = 1.151 miles per hour

Wind direction frequency was obtained from the CAP88-PC wind file, 13994.WND (Table A.3-2).

Table A.3-2. St. Louis Wind Rose Frequency

Wind direction (wind toward)	Wind From	Wind Frequency	Wind direction (wind toward)	Wind From	Wind Frequency
N	S	0.131	S	N	0.056
NNW	SSE	0.074	SSE	NNW	0.043
NW	SE	0.068	SE	NW	0.061
WNW	ESE	0.069	ESE	WNW	0.087
W	E	0.055	E	W	0.090
WSW	ENE	0.028	ENE	WSW	0.068
SW	NE	0.031	NE	SW	0.054
SSW	NNE	0.037	NNE	SSW	0.050

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4.0 ST. LOUIS DOWNTOWN SITE PROPERTIES UNDER ACTIVE REMEDIATION

4.1 SITE HISTORY

From 1942 until 1957, Mallinckrodt LLC (Mallinckrodt) was contracted by the Manhattan Engineer District (MED) and the U.S. Atomic Energy Commission (AEC) to process uranium ore for the production of uranium metal. Residuals of the process, including spent pitchblende ore, and radium, thorium, uranium, and their radioactive decay products, were inadvertently released from the Mallinckrodt property into the environment. Residuals from the uranium process had elevated levels of radioactive radium, thorium, and uranium. From 1942 to 1945, Plants 1, 2, 6, 7, and 4 (now Plant 10) were involved in the development of uranium-processing techniques, uranium compounds and metal production, and uranium metal recovery from residues and scrap. Mallinckrodt decontaminated Plants 1 and 2 from 1948 through 1950 to meet the AEC criteria then in effect, and the AEC released these plants for use without radiological restrictions in 1951.

4.2 MATERIAL HANDLING AND PROCESSING FOR CALENDAR YEAR 2013

Excavation activities were performed at the SLDS areas of DT-2, Kiesel Hall Street, Plant 6, and the City and Gunther Salt Properties. For the purposes of this evaluation, the excavations at the City and Gunther Salt Properties are included with the Kiesel Hall Street excavation. Additionally, loadout activities were performed at Plant 6. Excavated soils placed in the loadout area remained covered for most of the year, except during normal working hours. The excavated soils were removed from the site by rail. General area air samples were collected around excavation perimeters during CY 2013, with the results used to determine the excavation emissions. In situ emissions from inactive areas of the SLDS were not calculated because the ground surface soil at the SLDS is generally covered with asphalt or concrete that limits the potential for material to become airborne.

4.3 SOURCE DESCRIPTION – RADIONUCLIDE SOIL CONCENTRATIONS

For the SLDS excavation areas, the activity fraction for each radionuclide was determined from radionuclide concentrations listed in the *St. Louis FUSRAP Internal Dosimetry Technical Basis Manual* (USACE 1999) or in property-specific Pre-Design Investigation Reports. Attachment A-1 contains summary tables of the radionuclide concentrations for each area or plant and vicinity properties (VPs). The averaged total alpha and total beta air particulate concentrations at each SLDS property and the activity fraction for each corresponding property were used to calculate the emission rate for each area.

4.4 LIST OF ASSUMED AIR RELEASES FOR CALENDAR YEAR 2013

Wind erosion during periods of remedial action excavations and periods where the loadout pile was uncovered is assumed for the particulate radionuclide emission determinations from the SLDS. Unexcavated plants and VPs do not contribute to the emission determinations for periods of inactivity due to the low activity and cover.

4.5 DISTANCES TO CRITICAL RECEPTORS

The distances to critical receptors are shown on Figure A-1 and are listed in Table A.4-1. Distances and directions to critical receptors are determined by using tools in a geographic information system (GIS).

Table A.4-1. SLDS Critical Receptors for CY 2013

Sources	Resident		Farm		Business		School	
	Distance (m)	Direction	Distance (m)	Direction	Distance (m)	Direction	Distance (m)	Direction
DT-2	875	SW	2,515	ENE	325	SW	1,165	WSW
Kiesel Hall Street	650	WNW	3,130	NW	380	NNW	1,145	NW
Plant 6	495	SW	2,915	NE	160	SSE	750	W
Plant 6 Loadout	495	SW	2,915	NE	160	SSE	750	W

4.6 EMISSIONS DETERMINATION

4.6.1 Measured Airborne Radioactive Particulate Emissions

Particulate air samples were collected from several locations around the perimeter of the SLDS excavation and loadout areas to measure the radionuclide emissions from remedial activities. The samples were established at the start of each remedial activity and provide the basis for determining the radionuclide emission rates during CY 2013. The average gross alpha and beta concentrations in microcuries per milliliter (μCi/mL) are determined for each area or plant location for CY 2013. The area or plant average concentrations are presented in Table A.4-2.

Table A.4-2. SLDS Average Gross Alpha and Beta Airborne Particulate Emissions for CY 2013

Sampler Location	Average Concentration (μCi/mL)	
	Gross Alpha	Gross Beta
DT-2	2.80E-15	2.43E-14
Kiesel Hall Street	3.62E-15	2.21E-14
Plant 6[a]	2.09E-15	2.71E-14
Background Concentration[b]	3.29E-15	2.99E-14

[a] Includes the emission rates from the remedial action and loadout.

[b] These concentrations are only provided for informational purposes. However, as a conservative approach, they were not subtracted from the gross average concentration during the determination of the EDE.

The activity fractions for all radionuclides at each SLDS property were determined as discussed in Section 4.3. The product of the radionuclide activity fraction and the gross concentration for each property provides the radionuclide emission concentration in microcuries per cubic centimeter (μCi/cm^3) for that area. The gross average concentration (μCi/cm^3) is converted to a release (emission) rate as measured in curies per year (Ci/yr) using Equations 1 and 2. The emission rates are summarized in Table A.4-5.

USEPA 1989 (page 3-21, [2]) provides Equation 1 for determination of the effective diameter of a non-circular stack or vent.

$$D = (1.3\ A)^{1/2} \qquad \textbf{Equation 1}$$

where:

D is the effective diameter of the release in m, and

A is the area of the stack, vent or release point (in square meters [m^2]).

Table A.4-3 provides the effective surface area available for release of airborne radionuclides normalized to one year and the effective diameter for each area or plant of the SLDS where excavation or loadout was conducted in CY 2013. Calculation of the effective surface area can be referenced in Attachment A-1.

Table A.4-3. SLDS Excavation Effective Areas and Effective Diameters for CY 2013

SLDS Location	Effective Area (m^2)	Effective Diameters (m)
DT-2	879	34
Kiesel Hall Street	1,294	41
Plant 6	2,016	51
Plant 6 Loadout	460	24

The average annual wind speed for the Lambert – St. Louis International Airport is provided in CAP88-PC as 4.446 m/second. Conversion of this wind speed to a flow rate through stacks with the listed effective diameters for each area is completed using Equation 2.

$$V = (4)\ F / \pi\ (D)^2 \qquad \textbf{Equation 2}$$

where:

- V is the wind velocity (in meters per minute [m/min]) = 266.76 m/min,
- F is the flow rate (in cubic meters per minute [m^3/min]),
- π is a mathematical constant, and
- D is the effective diameter of the release determined using Equation 1 (in m).

Converting the velocity of emissions from the sites to an effective flow rate results in the following site release flow rates for the SLDS areas, as listed in Table A.4-4. The product of the flow rate, the activity fraction associated with each radionuclide, and the appropriate conversion factors provide the site emission rate for each radionuclide, as illustrated in Table A.4-5. Attachment A-1 can be referenced for flow rate and average radionuclide concentration data.

Table A.4-4. SLDS Site Release Flow Rates for CY 2013

SLDS Location	Site Release Flow Rate (m^3/min)
DT-2	2.4E+05
Kiesel Hall Street	3.5E+05
Plant 6	5.5E+05
Plant 6 Loadout	1.3E+05

4.6.2 St. Louis Downtown Site Total Airborne Radioactive Particulate Emission Rates

The CY 2013 emission rates for each excavated SLDS area are presented in Table A.4-5 and are based on the air samples collected from the perimeter of the excavated areas.

Table A.4-5. SLDS Area Airborne Radioactive Particulate Emission Rates Based on Excavation Perimeter Air Samples for CY 2013

Radionuclide	Emission (Ci/yr)[a]			
	DT-2	Kiesel Hall Street	Plant 6	Plant 6 Loadout
Uranium (U)-238	1.3E-04	2.4E-04	2.1E-04	8.1E-05
U-235	6.0E-06	1.1E-05	1.1E-05	3.9E-06
U-234	1.3E-04	2.4E-04	2.1E-04	8.0E-05
Radium (Ra)-226	3.4E-05	6.5E-05	4.1E-05	1.9E-05
Thorium (Th)-232	3.8E-06	7.2E-06	1.1E-05	3.2E-06
Th-230	3.3E-05	6.2E-05	7.8E-05	2.5E-05
Th-228	3.8E-06	7.2E-06	1.1E-05	3.2E-06
Ra-224	3.8E-06	7.2E-06	1.1E-05	3.2E-06
Th-234	1.5E-03	1.9E-03	3.6E-03	9.6E-04
Protactinium (Pa)-234m	1.5E-03	1.9E-03	3.6E-03	9.6E-04
Th-231	6.8E-05	8.8E-05	1.8E-04	4.6E-05
Ra-228	4.3E-05	5.7E-05	1.8E-04	3.8E-05
Actinium (Ac)-228	4.3E-05	5.7E-05	1.8E-04	3.8E-05
Pa-231	6.0E-06	1.1E-05	1.1E-05	3.9E-06
Ac-227	6.0E-06	1.1E-05	1.1E-05	3.9E-06

[a] Release rate based on 365-day period at a respective flow rate (as presented in Table A.4-4) as determined from the average annual wind speed (4.446 m/second) and the effective site area (as presented in Table A.4-3) for each location.

4.7 CAP88-PC RESULTS

The CAP88-PC report is contained in Attachment A-2. The effective area factor input was taken from Table A.4-3. This evaluation demonstrates that all SLDS critical receptors receive less than 10 percent of the dose standard in 40 *CFR* 61.102 and therefore, the SLDS is exempt from the reporting requirements of 40 *CFR* 61.104(a). Table A.4-6 summarizes the results.

Table A.4-6. SLDS CAP88-PC Results for Critical Receptors for CY 2013

Source	Dose (mrem/yr)			
	Resident[a]	School[b]	Business[b]	Farm[a]
DT-2	<0.1	<0.1	<0.1	<0.1
Kiesel Hall Street	<0.1	<0.1	<0.1	<0.1
Plant 6	<0.1	<0.1	<0.1	<0.1
Plant 6 Loadout	<0.1	<0.1	<0.1	<0.1
SLDS Total Dose[c]	**0.1**	**<0.1**	**<0.1**	**<0.1**

[a] 100 percent occupancy factor.
[b] Corrected for the 23 percent occupancy factor (40 hours/week for 50 weeks/year).
[c] Combined dose from all sources at the SLDS.

5.0 REFERENCES

USACE 1999. *St. Louis-FUSRAP Internal Dosimetry Technical Basis Manual*, U.S. Army Corps of Engineers, St. Louis District Office, FUSRAP, November.

USEPA 1989. EPA 520/1-89-002, *A Guide for Determining Compliance with the Clean Air Act Standards for Radionuclide Emissions from NRC-Licensed and Non-DOE Federal Facilities*, U.S. Environmental Protection Agency, Office of Radiation Programs, Washington, DC, October.

USEPA 2007. CAP88-PC Version 3.0 Computer Code, U.S. Environmental Protection Agency, December.

40 *CFR* 61, Subpart I. *National Emission Standards for Radionuclide Emissions from Federal Facilities Other Than Nuclear Regulatory Commission Licensees and Not Covered by Subpart H.*

40 *CFR* 61, Appendix D. *Methods for Estimating Radionuclide Emissions.*

40 *CFR* 61, Appendix E. *Compliance Procedures Methods for Determining Compliance with Subpart I.*

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APPENDIX A

FIGURE

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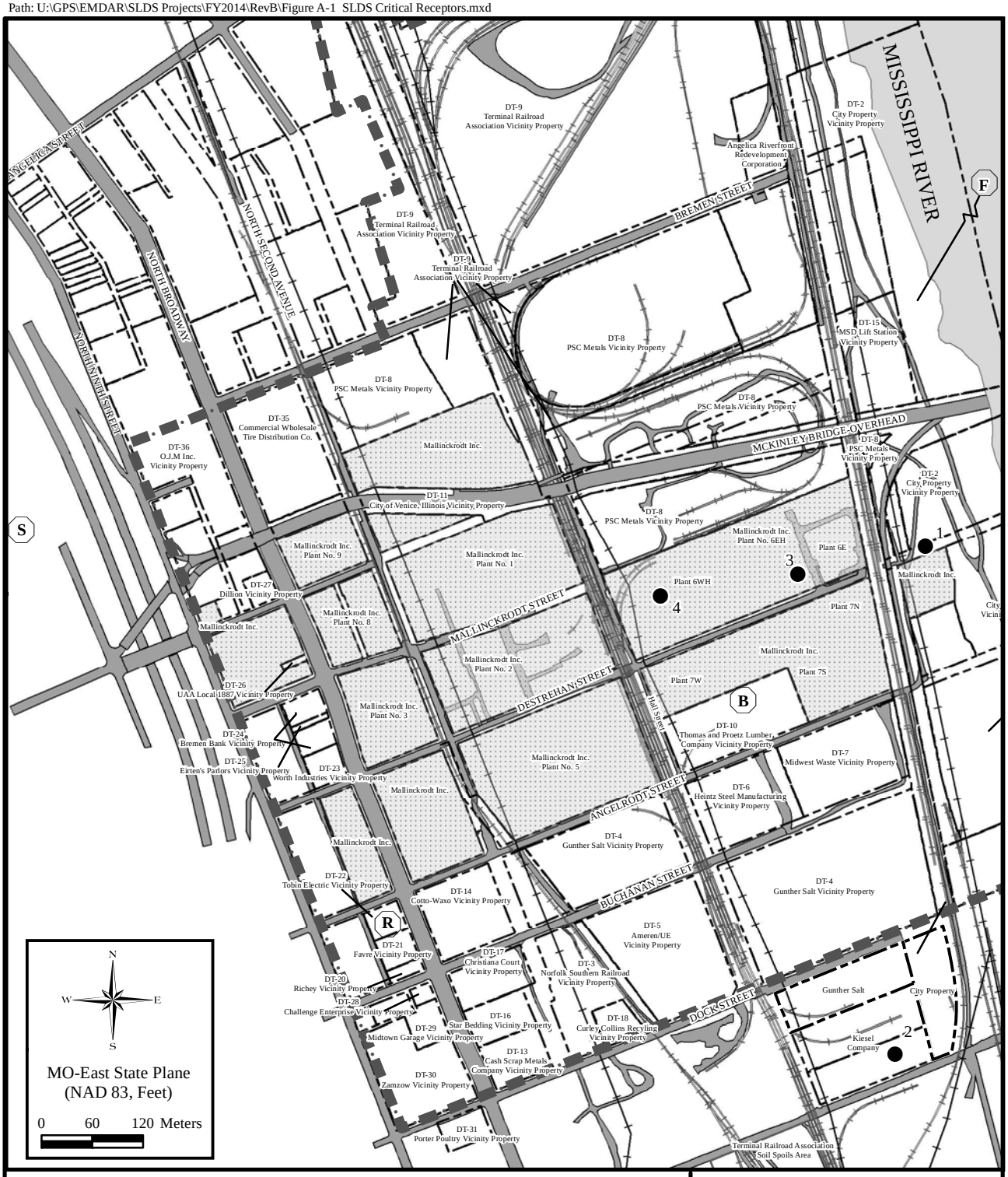
Path: U:\GPS\EMDAR\SLDS Projects\FY2014\RevB\Figure A-1 SLDS Critical Receptors.mxd



Legend

- ROD Boundary
- Vicinity Properties
- Railroad
- Mallinckrodt Property
- Road
- River/Stream

Location	R Residential	F Farm	B Business	S School
1. DT-2	875 SW	2516 ENE	325 SW	1165 WSW
2. Kiesel Hall	650 WNW	3130 NW	380 NNW	1145 NW
3. Plant 6	495 SW	2915 NE	160 SSE	750 W
4. Plant 6 Loadout	495 SW	2915 NE	160 SSE	750 W

*Distances from property to receptors are in meters

Figure A-1.
SLDS Critical Receptors

FUSRAP

DRAWN BY:	REV:	DATE:
TDC	0	7/3/2014

ATTACHMENT A-1

CALCULATED EMISSION RATES FROM ST. LOUIS DOWNTOWN SITE PROPERTIES

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Table A1-1. SLDS Excavation/Loadout Area Soil Radionuclide Concentrations for CY 2013

Property	DT-2[a]	Kiesel Hall Street[a]	Plant 6[a]	Plant 6 Loadout[b]	Average[b]
Radionuclide	**Average Concentration (pCi/g)**				
U-238	75	75	140	97	97
U-235	3.5	3	7	5	5
U-234	74	74	140	96	96
Ra-226	20	20	27	22	22
Ra-228	2.2	2	7	4	4
Th-232	2.2	2	7	4	4
Th-230	19	19	52	30	30
Th-228	2.2	2	7	4	4

[a] Radionuclides and concentrations from *St. Louis-FUSRAP Internal Dosimetry Technical Basis Manual* (USACE 1999) or in property-specific Pre-Design Investigation Reports.
[b] Average concentration from the SLDS CY 2013 excavated property and loadout area.
pCi/g = picocuries per gram

Table A1-2. SLDS Average Gross Alpha and Beta Airborne Particulate Concentrations for CY 2013

Location	Average Concentration (µCi/mL) for Location[a]	
	Gross Alpha	Gross Beta
DT-2	2.80E-15	2.43E-14
Kiesel Hall Street	3.62E-15	2.21E-14
Plant 6	2.09E-15	2.71E-14
Plant 6 Loadout	3.29E-15	2.99E-14
Background Concentration[b]	3.68E-15	2.06E-14

[a] Average concentration values for the sampling period by location.
[b] These concentrations are only provided for informational purposes. However, as a conservative approach, they were not subtracted from the gross average concentration during the determination of EDE.

Table A1-3. SLDS Excavation Data for CY 2013

Excavation Location Name	Surface Area (m^2)	Start Date	Backfill Date
Kiesel Hall Street, survey unit (SU)-1A	246	05/27/13	06/18/13
Kiesel Hall Street, SU-1B	1,152	05/27/13	06/25/13
Kiesel Hall Street, SU-1C	34	06/12/13	07/09/13
Kiesel Hall Street, SU-2A	715	06/05/13	08/05/13
Kiesel Hall Street, SU-2B	110	06/13/13	07/24/13
Kiesel Hall Street, SU-2C	375	05/27/13	08/21/13
Kiesel Hall Street, SU-2D	320	05/27/13	08/28/13
Kiesel Hall Street, SU-3A	1,450	08/03/13	10/31/13
Kiesel Hall Street, SU-3B	706	07/03/13	10/31/13
Kiesel Hall Street, SU-4	50	09/24/13	12/02/13
Kiesel Hall Street/Gunther, SU-1	165	11/11/13	12/31/13
Kiesel Hall Street/City, SU-1A (1)	1,042	09/24/13	12/10/13
Kiesel Hall Street/City, SU-1B	368	12/04/13	12/31/13
DT-2, Area 7, Shored & Remaining Area	2,500	10/23/13	12/31/13
DT-2, Area 8, SU-4D	400	01/01/13	12/31/13
Plant 6WH, Bldg. 101, SU-12	821	01/01/13	10/01/13
Plant 6WH, Bldg. 101	1,400	01/01/13	12/31/13
Plant 6 Loadout	2,000	01/01/13	12/31/13

Note: Open/close dates set to start or stop at the CY boundary.

Table A1-4. SLDS Average Surface Area and Flow Rate Per Location at the SLDS for CY 2013

Location	Total Days	Surface Area *Total Days	Average Surface Area/year[a] (m^2)	Diameter of Stack $D=(1.3*A)^{1/2}$(m)	Flow Rate $F=V*Pi*(D)^2/4$ (m^3/min)
Kiesel Hall Street					
SU-1A	23	5,658			
SU-1B	30	34,560			
SU-1C	28	952			
SU-2A	62	44,330			
SU-2B	42	4,620			
SU-2C	87	32,625			
SU-2D	94	30,080			
SU-3A	90	130,500			
SU-3B	121	85,426			
SU-4	70	3,500			
Gunther, SU-1	51	8,415			
City, SU-1A	78	81,276			
City, SU-1B	28	10,304			
	Total	472,246	1,294	41	**3.5E+05**
DT-2					
Area 7, Shored & Remaining Area	70	175,000			
Area 8, SU-4D	365	146,000			
	Total	321,000	879	34	**2.4E+05**
Plant 6					
Bldg. 101, SU-12	274	224,954			
Bldg. 101	365	511,000			
	Total	735,954	2,016	51	**5.5E+05**
Plant 6 Loadout					
Plant 6 Loadout	365	167,900			
	Total	167,900	460	24	**1.3E+05[b]**

[a] Average surface area/year = [Σ(surface area x total days)]/365.
[b] This value has been multiplied by a factor of 0.23 to account for the loadout pile being uncovered for only 2,000 hours per year.

Table A1-5. SLDS Airborne Radioactive Particulate Emissions Based on Excavation Perimeter Air Samples for CY 2013

Property	DT-2			Kiesel Hall Street			Plant 6			Plant 6 Loadout		
Radionuclide	Activity Fraction[a]	Emission Conc. ($\mu Ci/cm^3$)[b]	Release Rate (Ci/yr)[c]	Activity Fraction[a]	Emission Conc. ($\mu Ci/cm^3$)[b]	Release Rate (Ci/yr)[c]	Activity Fraction[a]	Emission Conc. ($\mu Ci/cm^3$)[b]	Release Rate (Ci/yr)[c]	Activity Fraction[a]	Emission Conc. ($\mu Ci/cm^3$)[b]	Release Rate (Ci/yr)[c]
U-238	0.37	1.0E-15	1.3E-04	0.37	1.3E-15	2.4E-04	0.35	7.3E-16	2.1E-04	0.36	1.2E-15	8.1E-05
U-235	0.02	4.8E-17	6.0E-06	0.02	6.0E-17	1.1E-05	0.02	3.6E-17	1.1E-05	0.02	5.6E-17	3.9E-06
U-234[d]	0.36	1.0E-15	1.3E-04	0.36	1.3E-15	2.4E-04	0.35	7.3E-16	2.1E-04	0.36	1.2E-15	8.0E-05
Ra-226	0.10	2.7E-16	3.4E-05	0.10	3.5E-16	6.5E-05	0.07	1.4E-16	4.1E-05	0.08	2.7E-16	1.9E-05
Th-232	0.01	3.0E-17	3.8E-06	0.01	3.9E-17	7.2E-06	0.02	3.6E-17	1.1E-05	0.01	4.6E-17	3.2E-06
Th-230	0.09	2.6E-16	3.3E-05	0.09	3.4E-16	6.2E-05	0.13	2.7E-16	7.8E-05	0.11	3.7E-16	2.5E-05
Th-228[d]	0.01	3.0E-17	3.8E-06	0.01	3.9E-17	7.2E-06	0.02	3.6E-17	1.1E-05	0.01	4.6E-17	3.2E-06
Ra-224[d]	0.01	3.0E-17	3.8E-06	0.01	3.9E-17	7.2E-06	0.02	3.6E-17	1.1E-05	0.01	4.6E-17	3.2E-06
Th-234[d]	0.47	1.2E-14	1.5E-03	0.48	1.1E-14	1.9E-03	0.47	1.3E-14	3.6E-03	0.47	1.4E-14	9.6E-04
Pa-234m[d]	0.47	1.2E-14	1.5E-03	0.48	1.1E-14	1.9E-03	0.47	1.3E-14	3.6E-03	0.47	1.4E-14	9.6E-04
Th-231[d]	0.02	5.4E-16	6.8E-05	0.02	4.8E-16	8.8E-05	0.02	6.3E-16	1.8E-04	0.02	6.7E-16	4.6E-05
Ra-228[d]	0.01	3.4E-16	4.3E-05	0.01	3.1E-16	5.7E-05	0.02	6.3E-16	1.8E-04	0.02	5.5E-16	3.8E-05
Ac-228 [d]	0.01	3.4E-16	4.3E-05	0.01	3.1E-16	5.7E-05	0.02	6.3E-16	1.8E-04	0.02	5.5E-16	3.8E-05
Pa-231[d]	0.02	4.8E-17	6.0E-06	0.02	6.0E-17	1.1E-05	0.02	3.6E-17	1.1E-05	0.02	5.6E-17	3.9E-06
Ac-227[d]	0.02	4.8E-17	6.0E-06	0.02	6.0E-17	1.1E-05	0.02	3.6E-17	1.1E-05	0.02	5.6E-17	3.9E-06

[a] Derived from the average soil radionuclide concentrations for the SLDS, as presented in Table A1-1.

[b] Emission concentration is equal to the activity fraction * the gross alpha or gross beta airborne particulate concentrations listed in Table A1-2.

[c] Release rate based on 365-day period at measured flow rate (Table A1-4) for each site, as determined from the average annual wind speed (4.446 m/second) and calculated site area (Table A1-4). (Note: 1 mL = 1 cm^3)

[d] Note: When data was not available, the radionuclide was assumed to be in secular equilibrium with parent.

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ATTACHMENT A-2

CAP88-PC OUTPUT REPORT FOR ST. LOUIS DOWNTOWN SITE PROPERTIES

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CAP88 OUTPUT RESULTS

DT-2

C A P 8 8 - P C

Version 3.0

Clean Air Act Assessment Package - 1988

D O S E A N D R I S K E Q U I V A L E N T S U M M A R I E S

Non-Radon Individual Assessment
Mar 19, 2014 10:13 am

```
     Facility:  DT-2 City Property
      Address:  Bremen
         City:  Saint Louis
        State:  MO
          Zip:  63147

Source Category:  Area
    Source Type:  Area
  Emission Year:  2013

Comments:  Air
           Air

       Dataset Name:  DT2 CP 2013
       Dataset Date:  3/19/2014 10:13:00 AM
          Wind File:  C:\Program Files (x86)\CAP88-
PC30\WindLib\13994.WND
```

Mar 19, 2014 10:13 am SUMMARY
Page 1

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)
Adrenals	3.41E-04
B Surfac	6.52E-02
Breasts	3.61E-04
St Wall	3.50E-04
ULI Wall	3.89E-04
Kidneys	1.51E-03
Lungs	1.44E-02
Ovaries	8.31E-04
R Marrow	3.22E-03
Spleen	3.54E-04
Thymus	3.48E-04
Uterus	3.46E-04
Bld Wall	3.52E-04
Brain	3.48E-04
Esophagu	4.40E-03
SI Wall	3.50E-04
LLI Wall	4.72E-04
Liver	4.27E-03
Muscle	3.65E-04
Pancreas	3.42E-04
Skin	5.99E-03
Testes	8.56E-04
Thyroid	3.55E-04
EFFEC	6.50E-02

PATHWAY EFFECTIVE DOSE EQUIVALENT SUMMARY

Pathway	Selected Individual (mrem/y)
INGESTION	4.30E-03
INHALATION	6.05E-02
AIR IMMERSION	3.57E-07
GROUND SURFACE	1.74E-04
INTERNAL	6.48E-02
EXTERNAL	1.74E-04
TOTAL	6.50E-02

Mar 19, 2014 10:13 am

SUMMARY
Page 2

NUCLIDE EFFECTIVE DOSE EQUIVALENT SUMMARY

Nuclide	Selected Individual (mrem/y)
U-238	8.19E-03
Th-234	3.52E-04
Pa-234m	5.89E-05
Pa-234	1.61E-06
U-234	9.94E-03
Th-230	1.01E-02
Ra-226	3.62E-03
Rn-222	5.63E-14
Po-218	2.95E-10
Pb-214	8.19E-06
Bi-214	4.91E-05
Po-214	2.70E-09
Pb-210	4.45E-10
Bi-210	6.63E-09
Po-210	4.15E-13
At-218	1.48E-11
U-235	4.09E-04
Th-231	5.79E-07
Pa-231	1.21E-02
Ac-227	1.03E-02
Th-227	7.98E-07
Ra-223	4.79E-07
Rn-219	0.00E+00
Po-215	6.65E-10
Pb-211	3.76E-07
Bi-211	1.74E-07
Tl-207	2.19E-07
Po-211	7.83E-11
Fr-223	1.18E-08
Th-232	2.04E-03
Ra-228	4.26E-03
Ac-228	5.08E-05
Th-228	3.22E-03
Ra-224	2.41E-04
Rn-220	5.79E-12
Po-216	1.04E-10
Pb-212	9.68E-07
Bi-212	1.44E-06
Po-212	0.00E+00
Tl-208	6.82E-06
TOTAL	6.50E-02

Mar 19, 2014 10:13 am

SUMMARY
Page 3

CANCER RISK SUMMARY

Cancer	Selected Individual Total Lifetime Fatal Cancer Risk
Esophagu	4.03E-11
Stomach	1.18E-10
Colon	6.34E-10
Liver	1.04E-09
LUNG	2.88E-08
Bone	9.60E-10
Skin	8.63E-12
Breast	6.68E-11
Ovary	1.44E-10
Bladder	9.39E-11
Kidneys	1.37E-10
Thyroid	8.80E-12
Leukemia	2.01E-10
Residual	5.11E-10
Total	3.28E-08
TOTAL	6.56E-08

PATHWAY RISK SUMMARY

Pathway	Selected Individual Total Lifetime Fatal Cancer Risk
INGESTION	1.54E-09
INHALATION	3.12E-08
AIR IMMERSION	1.63E-13
GROUND SURFACE	7.05E-11
INTERNAL	3.27E-08
EXTERNAL	7.06E-11
TOTAL	3.28E-08

Mar 19, 2014 10:13 am

SUMMARY
Page 4

NUCLIDE RISK SUMMARY

Nuclide	Selected Individual Total Lifetime Fatal Cancer Risk
U-238	6.68E-09
Th-234	3.82E-10
Pa-234m	9.46E-12
Pa-234	8.80E-13
U-234	8.13E-09
Th-230	5.11E-09
Ra-226	2.50E-09
Rn-222	3.06E-20
Po-218	1.62E-16
Pb-214	4.37E-12
Bi-214	2.61E-11
Po-214	1.48E-15
Pb-210	1.97E-16
Bi-210	7.35E-16
Po-210	2.28E-19
At-218	7.00E-18
U-235	3.33E-10
Th-231	5.10E-13
Pa-231	1.14E-09
Ac-227	2.71E-09
Th-227	5.32E-13
Ra-223	2.59E-13
Rn-219	0.00E+00
Po-215	3.65E-16
Pb-211	1.25E-13
Bi-211	9.54E-14
Tl-207	2.80E-14
Po-211	4.29E-17
Fr-223	6.68E-15
Th-232	8.93E-10
Ra-228	1.88E-09
Ac-228	2.82E-11
Th-228	2.75E-09
Ra-224	2.07E-10
Rn-220	3.16E-18
Po-216	5.67E-17
Pb-212	5.60E-13
Bi-212	6.46E-13
Po-212	0.00E+00
Tl-208	3.72E-12
TOTAL	3.28E-08

Mar 19, 2014 10:13 am SUMMARY
Page 5

INDIVIDUAL EFFECTIVE DOSE EQUIVALENT RATE (mrem/y)
(All Radionuclides and Pathways)

	Distance (m)				
Direction	325	875	1165	2515	
N	6.5E-02	1.3E-02	8.8E-03	4.6E-03	
NNW	3.5E-02	8.0E-03	6.0E-03	3.8E-03	
NW	4.0E-02	8.8E-03	6.5E-03	4.0E-03	
WNW	4.9E-02	1.0E-02	7.2E-03	4.2E-03	
W	3.7E-02	8.3E-03	6.2E-03	3.9E-03	
WSW	2.0E-02	5.6E-03	4.5E-03	3.4E-03	School
SW	2.6E-02	6.6E-03	5.1E-03	3.6E-03	Business / Residence
SSW	3.2E-02	7.4E-03	5.7E-03	3.7E-03	
S	2.8E-02	7.0E-03	5.4E-03	3.7E-03	
SSE	2.1E-02	5.8E-03	4.7E-03	3.5E-03	
SE	2.9E-02	7.0E-03	5.4E-03	3.7E-03	
ESE	4.7E-02	9.8E-03	7.1E-03	4.1E-03	
E	6.1E-02	1.2E-02	8.3E-03	4.4E-03	
ENE	5.1E-02	1.0E-02	7.4E-03	4.2E-03	Farm
NE	3.2E-02	7.5E-03	5.7E-03	3.8E-03	
NNE	2.8E-02	6.8E-03	5.3E-03	3.7E-03	

Mar 19, 2014 10:13 am SUMMARY
Page 6

INDIVIDUAL LIFETIME RISK (deaths)
(All Radionuclides and Pathways)

	Distance (m)			
Direction	325	875	1165	2515
N	3.3E-08	6.0E-09	4.0E-09	1.9E-09
NNW	1.7E-08	3.6E-09	2.6E-09	1.5E-09
NW	2.0E-08	4.0E-09	2.8E-09	1.6E-09
WNW	2.5E-08	4.7E-09	3.2E-09	1.7E-09
W	1.9E-08	3.8E-09	2.7E-09	1.5E-09
WSW	9.5E-09	2.4E-09	1.9E-09	1.3E-09
SW	1.3E-08	2.9E-09	2.2E-09	1.4E-09
SSW	1.6E-08	3.3E-09	2.4E-09	1.4E-09
S	1.4E-08	3.1E-09	2.3E-09	1.4E-09
SSE	1.0E-08	2.5E-09	1.9E-09	1.3E-09
SE	1.4E-08	3.1E-09	2.3E-09	1.4E-09
ESE	2.4E-08	4.6E-09	3.2E-09	1.7E-09
E	3.1E-08	5.6E-09	3.8E-09	1.8E-09
ENE	2.6E-08	4.8E-09	3.3E-09	1.7E-09
NE	1.6E-08	3.4E-09	2.5E-09	1.5E-09
NNE	1.4E-08	3.0E-09	2.2E-09	1.4E-09

CAP88 OUTPUT RESULTS

Kiesel Hall Street

C A P 8 8 - P C

Version 3.0

Clean Air Act Assessment Package - 1988

D O S E A N D R I S K E Q U I V A L E N T S U M M A R I E S

Non-Radon Individual Assessment
Mar 19, 2014 11:07 am

```
     Facility:  Keisel Hall Street City Property
      Address:  Hall Street
         City:  Saint Louis
        State:  MO
          Zip:  63147

Source Category:  Area
    Source Type:  Area
  Emission Year:  2013

     Comments:  Air
                Air

        Dataset Name:  KHSCP2013
        Dataset Date:  3/19/2014 11:06:00 AM
           Wind File:  C:\Program Files (x86)\CAP88-
PC30\WindLib\13994.WND
```

Mar 19, 2014 11:07 am SUMMARY
Page 1

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)
Adrenals	4.39E-04
B Surfac	8.56E-02
Breasts	4.63E-04
St Wall	4.50E-04
ULI Wall	5.04E-04
Kidneys	2.02E-03
Lungs	1.87E-02
Ovaries	1.07E-03
R Marrow	4.16E-03
Spleen	4.55E-04
Thymus	4.47E-04
Uterus	4.44E-04
Bld Wall	4.53E-04
Brain	4.47E-04
Esophagu	5.70E-03
SI Wall	4.50E-04
LLI Wall	6.21E-04
Liver	5.42E-03
Muscle	4.67E-04
Pancreas	4.39E-04
Skin	6.37E-03
Testes	1.10E-03
Thyroid	4.55E-04
EFFEC	8.46E-02

PATHWAY EFFECTIVE DOSE EQUIVALENT SUMMARY

Pathway	Selected Individual (mrem/y)
INGESTION	5.90E-03
INHALATION	7.85E-02
AIR IMMERSION	3.46E-07
GROUND SURFACE	2.04E-04
INTERNAL	8.44E-02
EXTERNAL	2.05E-04
TOTAL	8.46E-02

Mar 19, 2014 11:07 am SUMMARY
Page 2

NUCLIDE EFFECTIVE DOSE EQUIVALENT SUMMARY

Nuclide	Selected Individual (mrem/y)
U-238	1.13E-02
Th-234	3.46E-04
Pa-234m	6.05E-05
Pa-234	1.78E-06
U-234	1.37E-02
Th-230	1.42E-02
Ra-226	5.39E-03
Rn-222	8.06E-14
Po-218	4.24E-10
Pb-214	1.18E-05
Bi-214	7.07E-05
Po-214	3.88E-09
Pb-210	6.40E-10
Bi-210	9.55E-09
Po-210	5.97E-13
At-218	3.53E-11
U-235	5.61E-04
Th-231	5.98E-07
Pa-231	1.66E-02
Ac-227	1.28E-02
Th-227	9.98E-07
Ra-223	6.02E-07
Rn-219	0.00E+00
Po-215	8.36E-10
Pb-211	4.72E-07
Bi-211	2.19E-07
Tl-207	2.76E-07
Po-211	1.01E-10
Fr-223	1.48E-08
Ra-228	4.47E-03
Ac-228	5.06E-05
Th-228	4.55E-03
Ra-224	3.40E-04
Rn-220	8.22E-12
Po-216	1.28E-10
Pb-212	1.22E-06
Bi-212	1.78E-06
Po-212	0.00E+00
Tl-208	8.44E-06
TOTAL	8.46E-02

Mar 19, 2014 11:07 am SUMMARY
Page 3

CANCER RISK SUMMARY

Cancer	Selected Individual Total Lifetime Fatal Cancer Risk
Esophagu	5.20E-11
Stomach	1.50E-10
Colon	8.02E-10
Liver	1.30E-09
LUNG	3.81E-08
Bone	1.25E-09
Skin	9.76E-12
Breast	8.50E-11
Ovary	1.84E-10
Bladder	1.21E-10
Kidneys	1.83E-10
Thyroid	1.13E-11
Leukemia	2.57E-10
Residual	6.86E-10
Total	4.32E-08
TOTAL	8.64E-08

PATHWAY RISK SUMMARY

Pathway	Selected Individual Total Lifetime Fatal Cancer Risk
INGESTION	2.04E-09
INHALATION	4.11E-08
AIR IMMERSION	1.59E-13
GROUND SURFACE	8.58E-11
INTERNAL	4.31E-08
EXTERNAL	8.60E-11
TOTAL	4.32E-08

Mar 19, 2014 11:07 am SUMMARY
Page 4

NUCLIDE RISK SUMMARY

Nuclide	Selected Individual Total Lifetime Fatal Cancer Risk
U-238	9.21E-09
Th-234	3.81E-10
Pa-234m	9.71E-12
Pa-234	9.68E-13
U-234	1.12E-08
Th-230	7.16E-09
Ra-226	3.64E-09
Rn-222	4.38E-20
Po-218	2.33E-16
Pb-214	6.28E-12
Bi-214	3.76E-11
Po-214	2.13E-15
Pb-210	2.83E-16
Bi-210	1.06E-15
Po-210	3.28E-19
At-218	1.67E-17
U-235	4.56E-10
Th-231	5.09E-13
Pa-231	1.56E-09
Ac-227	3.37E-09
Th-227	6.65E-13
Ra-223	3.26E-13
Rn-219	0.00E+00
Po-215	4.58E-16
Pb-211	1.57E-13
Bi-211	1.20E-13
Tl-207	3.52E-14
Po-211	5.52E-17
Fr-223	8.33E-15
Ra-228	1.96E-09
Ac-228	2.80E-11
Th-228	3.89E-09
Ra-224	2.93E-10
Rn-220	4.49E-18
Po-216	7.02E-17
Pb-212	7.09E-13
Bi-212	8.00E-13
Po-212	0.00E+00
Tl-208	4.60E-12
TOTAL	4.32E-08

Mar 19, 2014 11:07 am SUMMARY
Page 5

INDIVIDUAL EFFECTIVE DOSE EQUIVALENT RATE (mrem/y)
(All Radionuclides and Pathways)

	Distance (m)				
Direction	380	650	1145	3130	
N	8.5E-02	3.4E-02	1.5E-02	6.2E-03	
NNW	4.5E-02	1.9E-02	9.7E-03	5.3E-03	Business
NW	5.3E-02	2.2E-02	1.0E-02	5.5E-03	School / Farm
WNW	6.4E-02	2.6E-02	1.2E-02	5.7E-03	Residence
W	4.9E-02	2.0E-02	1.0E-02	5.4E-03	
WSW	2.6E-02	1.2E-02	7.1E-03	4.9E-03	
SW	3.5E-02	1.5E-02	8.1E-03	5.1E-03	
SSW	4.2E-02	1.8E-02	9.0E-03	5.2E-03	
S	3.7E-02	1.6E-02	8.6E-03	5.1E-03	
SSE	2.7E-02	1.3E-02	7.3E-03	4.9E-03	
SE	3.8E-02	1.7E-02	8.7E-03	5.2E-03	
ESE	6.2E-02	2.5E-02	1.2E-02	5.7E-03	
E	8.0E-02	3.1E-02	1.4E-02	6.1E-03	
ENE	6.7E-02	2.7E-02	1.2E-02	5.8E-03	
NE	4.2E-02	1.8E-02	9.1E-03	5.2E-03	
NNE	3.6E-02	1.6E-02	8.4E-03	5.1E-03	

Mar 19, 2014 11:07 am SUMMARY
Page 6

INDIVIDUAL LIFETIME RISK (deaths)
(All Radionuclides and Pathways)

	Distance (m)			
Direction	380	650	1145	3130
N	4.3E-08	1.7E-08	6.8E-09	2.5E-09
NNW	2.3E-08	9.3E-09	4.3E-09	2.0E-09
NW	2.7E-08	1.1E-08	4.7E-09	2.1E-09
WNW	3.2E-08	1.3E-08	5.4E-09	2.2E-09
W	2.5E-08	9.9E-09	4.4E-09	2.0E-09
WSW	1.3E-08	5.5E-09	2.9E-09	1.8E-09
SW	1.7E-08	7.2E-09	3.5E-09	1.9E-09
SSW	2.1E-08	8.5E-09	3.9E-09	2.0E-09
S	1.9E-08	7.7E-09	3.7E-09	1.9E-09
SSE	1.3E-08	5.9E-09	3.0E-09	1.8E-09
SE	1.9E-08	7.8E-09	3.7E-09	1.9E-09
ESE	3.1E-08	1.2E-08	5.3E-09	2.2E-09
E	4.1E-08	1.6E-08	6.4E-09	2.4E-09
ENE	3.4E-08	1.3E-08	5.5E-09	2.2E-09
NE	2.1E-08	8.6E-09	4.0E-09	2.0E-09
NNE	1.8E-08	7.5E-09	3.6E-09	1.9E-09

CAP88 OUTPUT RESULTS

Plant 6

C A P 8 8 - P C

Version 3.0

Clean Air Act Assessment Package - 1988

D O S E A N D R I S K E Q U I V A L E N T S U M M A R I E S

Non-Radon Individual Assessment
Mar 19, 2014 10:58 am

```
     Facility:  Plant 6
      Address:  Destrehan
         City:  Saint Louis
        State:  MO
          Zip:  63147

Source Category:  Area
    Source Type:  Area
  Emission Year:  2013

Comments:  Air
           Air

       Dataset Name:  Plt 6 2013
       Dataset Date:  3/19/2014 10:55:00 AM
          Wind File:  C:\Program Files (x86)\CAP88-
PC30\WindLib\13994.WND
```

Mar 19, 2014 10:58 am SUMMARY
Page 1

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)
Adrenals	2.70E-03
B Surfac	4.98E-01
Breasts	2.87E-03
St Wall	2.77E-03
ULI Wall	3.04E-03
Kidneys	1.13E-02
Lungs	1.07E-01
Ovaries	6.28E-03
R Marrow	2.62E-02
Spleen	2.79E-03
Thymus	2.75E-03
Uterus	2.74E-03
Bld Wall	2.79E-03
Brain	2.75E-03
Esophagu	3.50E-02
SI Wall	2.76E-03
LLI Wall	3.60E-03
Liver	2.97E-02
Muscle	2.90E-03
Pancreas	2.70E-03
Skin	4.90E-02
Testes	6.50E-03
Thyroid	2.82E-03
EFFEC	4.89E-01

PATHWAY EFFECTIVE DOSE EQUIVALENT SUMMARY

Pathway	Selected Individual (mrem/y)
INGESTION	3.97E-02
INHALATION	4.48E-01
AIR IMMERSION	4.24E-06
GROUND SURFACE	1.51E-03
INTERNAL	4.88E-01
EXTERNAL	1.51E-03
TOTAL	4.89E-01

Mar 19, 2014 10:58 am

SUMMARY
Page 2

NUCLIDE EFFECTIVE DOSE EQUIVALENT SUMMARY

Nuclide	Selected Individual (mrem/y)
U-238	4.90E-02
Th-234	3.06E-03
Pa-234m	4.81E-04
Pa-234	1.24E-05
U-234	5.95E-02
Th-230	8.87E-02
Ra-226	1.58E-02
Rn-222	2.46E-13
Po-218	1.28E-09
Pb-214	3.55E-05
Bi-214	2.13E-04
Po-214	1.17E-08
Pb-210	1.93E-09
Bi-210	2.88E-08
Po-210	1.80E-12
At-218	9.68E-11
U-235	2.78E-03
Th-231	5.39E-06
Pa-231	8.23E-02
Ac-227	6.38E-02
Th-227	4.85E-06
Ra-223	2.88E-06
Rn-219	0.00E+00
Po-215	3.99E-09
Pb-211	2.25E-06
Bi-211	1.05E-06
Tl-207	1.32E-06
Po-211	4.82E-10
Fr-223	7.19E-08
Th-232	2.19E-02
Ra-228	6.38E-02
Ac-228	7.71E-04
Th-228	3.46E-02
Ra-224	2.59E-03
Rn-220	6.08E-11
Po-216	1.29E-09
Pb-212	1.19E-05
Bi-212	1.79E-05
Po-212	0.00E+00
Tl-208	8.49E-05
TOTAL	4.89E-01

Mar 19, 2014 10:58 am SUMMARY
Page 3

CANCER RISK SUMMARY

Cancer	Selected Individual Total Lifetime Fatal Cancer Risk
Esophagu	3.37E-10
Stomach	1.08E-09
Colon	5.34E-09
Liver	7.63E-09
LUNG	2.13E-07
Bone	8.19E-09
Skin	7.26E-11
Breast	6.09E-10
Ovary	1.16E-09
Bladder	7.74E-10
Kidneys	1.08E-09
Thyroid	7.89E-11
Leukemia	1.83E-09
Residual	4.21E-09
Total	2.45E-07
TOTAL	4.90E-07

PATHWAY RISK SUMMARY

Pathway	Selected Individual Total Lifetime Fatal Cancer Risk
INGESTION	1.48E-08
INHALATION	2.30E-07
AIR IMMERSION	2.03E-12
GROUND SURFACE	6.22E-10
INTERNAL	2.45E-07
EXTERNAL	6.24E-10
TOTAL	2.45E-07

Mar 19, 2014 10:58 am

SUMMARY
Page 4

NUCLIDE RISK SUMMARY

Nuclide	Selected Individual Total Lifetime Fatal Cancer Risk
U-238	4.00E-08
Th-234	3.29E-09
Pa-234m	7.72E-11
Pa-234	6.76E-12
U-234	4.87E-08
Th-230	4.48E-08
Ra-226	1.11E-08
Rn-222	1.34E-19
Po-218	7.01E-16
Pb-214	1.89E-11
Bi-214	1.13E-10
Po-214	6.42E-15
Pb-210	8.54E-16
Bi-210	3.19E-15
Po-210	9.88E-19
At-218	4.59E-17
U-235	2.27E-09
Th-231	4.87E-12
Pa-231	7.77E-09
Ac-227	1.68E-08
Th-227	3.24E-12
Ra-223	1.56E-12
Rn-219	0.00E+00
Po-215	2.19E-15
Pb-211	7.48E-13
Bi-211	5.73E-13
Tl-207	1.68E-13
Po-211	2.64E-16
Fr-223	4.08E-14
Th-232	9.60E-09
Ra-228	2.83E-08
Ac-228	4.28E-10
Th-228	2.96E-08
Ra-224	2.23E-09
Rn-220	3.32E-17
Po-216	7.07E-16
Pb-212	6.83E-12
Bi-212	8.05E-12
Po-212	0.00E+00
Tl-208	4.63E-11
TOTAL	2.45E-07

Mar 19, 2014 10:58 am SUMMARY
Page 5

INDIVIDUAL EFFECTIVE DOSE EQUIVALENT RATE (mrem/y)
(All Radionuclides and Pathways)

	Distance (m)				
Direction	160	495	750	2915	
N	4.9E-01	8.4E-02	5.3E-02	3.0E-02	
NNW	2.6E-01	5.7E-02	4.1E-02	2.9E-02	
NW	3.1E-01	6.2E-02	4.3E-02	2.9E-02	
WNW	3.7E-01	6.9E-02	4.6E-02	2.9E-02	
W	2.9E-01	5.9E-02	4.2E-02	2.9E-02	School
WSW	1.5E-01	4.3E-02	3.4E-02	2.8E-02	
SW	2.0E-01	4.9E-02	3.7E-02	2.9E-02	Residence
SSW	2.5E-01	5.4E-02	3.9E-02	2.9E-02	
S	2.2E-01	5.1E-02	3.8E-02	2.9E-02	
SSE	1.6E-01	4.4E-02	3.5E-02	2.8E-02	Business
SE	2.2E-01	5.1E-02	3.8E-02	2.9E-02	
ESE	3.6E-01	6.8E-02	4.6E-02	2.9E-02	
E	4.7E-01	8.0E-02	5.1E-02	3.0E-02	
ENE	3.9E-01	7.1E-02	4.7E-02	2.9E-02	
NE	2.5E-01	5.4E-02	4.0E-02	2.9E-02	Farm
NNE	2.1E-01	5.0E-02	3.8E-02	2.9E-02	

Mar 19, 2014 10:58 am SUMMARY
Page 6

INDIVIDUAL LIFETIME RISK (deaths)
(All Radionuclides and Pathways)

	Distance (m)			
Direction	160	495	750	2915
N	2.5E-07	3.9E-08	2.3E-08	1.2E-08
NNW	1.3E-07	2.5E-08	1.7E-08	1.1E-08
NW	1.5E-07	2.8E-08	1.8E-08	1.1E-08
WNW	1.8E-07	3.1E-08	2.0E-08	1.1E-08
W	1.4E-07	2.6E-08	1.8E-08	1.1E-08
WSW	7.3E-08	1.8E-08	1.4E-08	1.1E-08
SW	1.0E-07	2.1E-08	1.5E-08	1.1E-08
SSW	1.2E-07	2.4E-08	1.6E-08	1.1E-08
S	1.1E-07	2.2E-08	1.6E-08	1.1E-08
SSE	7.7E-08	1.9E-08	1.4E-08	1.1E-08
SE	1.1E-07	2.2E-08	1.6E-08	1.1E-08
ESE	1.8E-07	3.1E-08	2.0E-08	1.1E-08
E	2.3E-07	3.7E-08	2.2E-08	1.1E-08
ENE	1.9E-07	3.2E-08	2.0E-08	1.1E-08
NE	1.2E-07	2.4E-08	1.6E-08	1.1E-08
NNE	1.0E-07	2.2E-08	1.5E-08	1.1E-08

CAP88 OUTPUT RESULTS

Plant 6 Loadout

```
C A P 8 8 - P C

Version 3.0

Clean Air Act Assessment Package - 1988

D O S E   A N D   R I S K   E Q U I V A L E N T   S U M M A R I E S

Non-Radon Individual Assessment
Apr 14, 2014 11:45 am


Facility:  Plant 6 Loadout
 Address:  Destrehan
    City:  Saint Louis
   State:  MO          Zip:    63147


Source Category:  Area
    Source Type:  Area
  Emission Year:  2013


Comments:  Air
           Air


   Dataset Name:  PT6LO2013
   Dataset Date:  4/14/2014 11:44:00 AM
      Wind File:  .   C:\Program Files (x86)\CAP88-
PC30\WindLib\13994.WND
```

Apr 14, 2014 11:45 am SUMMARY
Page 1

ORGAN DOSE EQUIVALENT SUMMARY

Organ	Selected Individual (mrem/y)
Adrenals	8.34E-04
B Surfac	1.62E-01
Breasts	8.84E-04
St Wall	8.56E-04
ULI Wall	9.45E-04
Kidneys	3.70E-03
Lungs	3.63E-02
Ovaries	2.03E-03
R Marrow	8.08E-03
Spleen	8.62E-04
Thymus	8.49E-04
Uterus	8.45E-04
Bld Wall	8.61E-04
Brain	8.50E-04
Esophagu	1.14E-02
SI Wall	8.54E-04
LLI Wall	1.14E-03
Liver	9.91E-03
Muscle	8.92E-04
Pancreas	8.34E-04
Skin	1.39E-02
Testes	2.09E-03
Thyroid	8.68E-04
EFFEC	1.62E-01

PATHWAY EFFECTIVE DOSE EQUIVALENT SUMMARY

Pathway	Selected Individual (mrem/y)
INGESTION	1.07E-02
INHALATION	1.51E-01
AIR IMMERSION	9.95E-07
GROUND SURFACE	4.25E-04
INTERNAL	1.62E-01
EXTERNAL	4.26E-04
TOTAL	1.62E-01

Apr 14, 2014 11:45 am

SUMMARY
Page 2

NUCLIDE EFFECTIVE DOSE EQUIVALENT SUMMARY

Nuclide	Selected Individual (mrem/y)
U-238	1.89E-02
Th-234	8.17E-04
Pa-234m	1.35E-04
Pa-234	3.68E-06
U-234	2.27E-02
Th-230	2.84E-02
Ra-226	7.33E-03
Rn-222	1.14E-13
Po-218	5.93E-10
Pb-214	1.65E-05
Bi-214	9.88E-05
Po-214	5.42E-09
Pb-210	8.94E-10
Bi-210	1.33E-08
Po-210	8.34E-13
At-218	0.00E+00
U-235	9.84E-04
Th-231	1.44E-06
Pa-231	2.92E-02
Ac-227	2.26E-02
Th-227	1.04E-06
Ra-223	1.02E-06
Rn-219	0.00E+00
Po-215	1.42E-09
Pb-211	7.99E-07
Bi-211	3.71E-07
Tl-207	4.67E-07
Po-211	8.49E-11
Fr-223	2.55E-08
Th-232	6.38E-03
Ra-228	1.35E-02
Ac-228	1.63E-04
Th-228	1.01E-02
Ra-224	7.53E-04
Rn-220	1.77E-11
Po-216	3.21E-10
Pb-212	3.00E-06
Bi-212	4.45E-06
Po-212	0.00E+00
Tl-208	2.11E-05
TOTAL	1.62E-01

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CANCER RISK SUMMARY

Cancer	Selected Individual Total Lifetime Fatal Cancer Risk
Esophagu	1.00E-10
Stomach	3.00E-10
Colon	1.51E-09
Liver	2.44E-09
LUNG	7.24E-08
Bone	2.43E-09
Skin	2.06E-11
Breast	1.70E-10
Ovary	3.58E-10
Bladder	2.32E-10
Kidneys	3.38E-10
Thyroid	2.23E-11
Leukemia	5.17E-10
Residual	1.24E-09
Total	8.21E-08
TOTAL	1.64E-07

PATHWAY RISK SUMMARY

Pathway	Selected Individual Total Lifetime Fatal Cancer Risk
INGESTION	3.85E-09
INHALATION	7.81E-08
AIR IMMERSION	4.67E-13
GROUND SURFACE	1.76E-10
INTERNAL	8.19E-08
EXTERNAL	1.76E-10
TOTAL	8.21E-08

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NUCLIDE RISK SUMMARY

Nuclide	Selected Individual Total Lifetime Fatal Cancer Risk
U-238	1.54E-08
Th-234	8.78E-10
Pa-234m	2.17E-11
Pa-234	2.01E-12
U-234	1.86E-08
Th-230	1.44E-08
Ra-226	5.13E-09
Rn-222	6.20E-20
Po-218	3.25E-16
Pb-214	8.78E-12
Bi-214	5.25E-11
Po-214	2.98E-15
Pb-210	3.96E-16
Bi-210	1.48E-15
Po-210	4.58E-19
At-218	0.00E+00
U-235	8.04E-10
Th-231	1.27E-12
Pa-231	2.75E-09
Ac-227	5.95E-09
Th-227	5.63E-13
Ra-223	5.52E-13
Rn-219	0.00E+00
Po-215	7.76E-16
Pb-211	2.65E-13
Bi-211	2.03E-13
Tl-207	5.96E-14
Po-211	4.65E-17
Fr-223	1.45E-14
Th-232	2.79E-09
Ra-228	5.96E-09
Ac-228	9.04E-11
Th-228	8.61E-09
Ra-224	6.48E-10
Rn-220	9.66E-18
Po-216	1.76E-16
Pb-212	1.74E-12
Bi-212	2.00E-12
Po-212	0.00E+00
Tl-208	1.15E-11
TOTAL	8.21E-08

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INDIVIDUAL EFFECTIVE DOSE EQUIVALENT RATE (mrem/y)
(All Radionuclides and Pathways)

	Distance (m)				
Direction	160	495	750	2915	
N	1.6E-01	2.6E-02	1.6E-02	8.2E-03	
NNW	8.6E-02	1.7E-02	1.2E-02	7.8E-03	
NW	1.0E-01	1.9E-02	1.3E-02	7.9E-03	
WNW	1.2E-01	2.1E-02	1.4E-02	8.0E-03	
W	9.4E-02	1.8E-02	1.2E-02	7.9E-03	School
WSW	4.9E-02	1.2E-02	9.7E-03	7.6E-03	
SW	6.6E-02	1.4E-02	1.1E-02	7.7E-03	Residence
SSW	8.1E-02	1.6E-02	1.1E-02	7.8E-03	
S	7.1E-02	1.5E-02	1.1E-02	7.8E-03	
SSE	5.1E-02	1.3E-02	9.9E-03	7.7E-03	Business
SE	7.2E-02	1.5E-02	1.1E-02	7.8E-03	
ESE	1.2E-01	2.1E-02	1.4E-02	8.0E-03	
E	1.5E-01	2.5E-02	1.5E-02	8.2E-03	
ENE	1.3E-01	2.2E-02	1.4E-02	8.0E-03	
NE	8.1E-02	1.6E-02	1.1E-02	7.8E-03	Farm
NNE	6.9E-02	1.5E-02	1.1E-02	7.7E-03	

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INDIVIDUAL LIFETIME RISK (deaths)
(All Radionuclides and Pathways)

	Distance (m)			
Direction	160	495	750	2915
N	8.2E-08	1.2E-08	7.1E-09	3.1E-09
NNW	4.3E-08	7.6E-09	5.0E-09	2.9E-09
NW	5.1E-08	8.5E-09	5.3E-09	2.9E-09
WNW	6.2E-08	9.8E-09	5.9E-09	3.0E-09
W	4.7E-08	8.0E-09	5.1E-09	2.9E-09
WSW	2.4E-08	5.2E-09	3.8E-09	2.8E-09
SW	3.3E-08	6.3E-09	4.3E-09	2.8E-09
SSW	4.0E-08	7.2E-09	4.7E-09	2.9E-09
S	3.5E-08	6.6E-09	4.5E-09	2.8E-09
SSE	2.5E-08	5.4E-09	3.9E-09	2.8E-09
SE	3.6E-08	6.7E-09	4.5E-09	2.9E-09
ESE	6.0E-08	9.6E-09	5.8E-09	3.0E-09
E	7.8E-08	1.2E-08	6.8E-09	3.1E-09
ENE	6.5E-08	1.0E-08	6.1E-09	3.0E-09
NE	4.0E-08	7.2E-09	4.7E-09	2.9E-09
NNE	3.4E-08	6.5E-09	4.4E-09	2.8E-09

APPENDIX B

ENVIRONMENTAL THERMOLUMINESCENT DOSIMETER, ALPHA TRACK, AND PERIMETER AIR DATA

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Table B-1. SLDS Perimeter Air Data Results for CY 2013

Sample Name	Station Name	Sample Collection Date	Method Type	Analyte Name	Analytical Result	Measurement Error	DL	Units	VQ	Validation Reason Code	Sampling Event Name
SLD150987	6WH LOADOUT	01/02/13	Gross Alpha/Beta	Gross Alpha	9.58E-15	7.63E-15	9.899E-15	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
				Gross Beta	7.795E-14	1.746E-14	1.549E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD150988	6WH LOADOUT	01/02/13	Gross Alpha/Beta	Gross Alpha	7.25E-16	5.857E-15	1.231E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	9.617E-14	2.166E-14	1.927E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD150989	6WH LOADOUT	01/02/13	Gross Alpha/Beta	Gross Alpha	5.08E-15	6.85E-15	1.098E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.858E-14	1.541E-14	1.717E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD150990	6WH LOADOUT	01/03/13	Gross Alpha/Beta	Gross Alpha	4.078E-15	6.655E-15	1.127E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.9E-14	1.667E-14	1.763E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD150991	6WH LOADOUT	01/03/13	Gross Alpha/Beta	Gross Alpha	5.72E-16	4.618E-15	9.709E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	5.093E-14	1.511E-14	1.519E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD150992	6WH LOADOUT	01/03/13	Gross Alpha/Beta	Gross Alpha	6.135E-15	7.139E-15	1.088E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.685E-14	1.515E-14	1.703E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD150993	Plant 6WH	01/02/13	Gross Alpha/Beta	Gross Alpha	1.173E-14	8.746E-15	1.098E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
				Gross Beta	8.924E-14	1.957E-14	1.717E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD150994	Plant 6WH	01/03/13	Gross Alpha/Beta	Gross Alpha	1.755E-15	5.672E-15	1.098E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.577E-14	1.515E-14	1.717E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD150995	6WH LOADOUT	01/07/13	Gross Alpha/Beta	Gross Alpha	8.008E-15	1.06E-14	1.259E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	7.326E-14	1.672E-14	1.58E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD150996	6WH LOADOUT	01/07/13	Gross Alpha/Beta	Gross Alpha	3.38E-15	1.098E-14	1.442E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	6.553E-14	1.765E-14	1.81E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD150997	6WH LOADOUT	01/07/13	Gross Alpha/Beta	Gross Alpha	3.349E-15	1.088E-14	1.429E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	8.316E-14	1.898E-14	1.794E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD150998	6WH LOADOUT	01/08/13	Gross Alpha/Beta	Gross Alpha	-1.273E-15	1.009E-14	1.462E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.064E-14	1.455E-14	1.835E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD150999	6WH LOADOUT	01/08/13	Gross Alpha/Beta	Gross Alpha	1.916E-15	9.257E-15	1.244E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	5.082E-14	1.473E-14	1.562E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151000	6WH LOADOUT	01/08/13	Gross Alpha/Beta	Gross Alpha	-2.414E-15	9.677E-15	1.442E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	5.302E-14	1.655E-14	1.81E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151001	6WH LOADOUT	01/09/13	Gross Alpha/Beta	Gross Alpha	1.939E-15	9.367E-15	1.259E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.537E-14	1.343E-14	1.58E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151002	6WH LOADOUT	01/09/13	Gross Alpha/Beta	Gross Alpha	-2.482E-15	9.948E-15	1.482E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.695E-14	1.632E-14	1.861E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151003	6WH LOADOUT	01/09/13	Gross Alpha/Beta	Gross Alpha	2.143E-15	1.035E-14	1.391E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.548E-14	1.545E-14	1.747E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151004	6WH LOADOUT	01/10/13	Gross Alpha/Beta	Gross Alpha	-6.742E-15	8.127E-15	1.379E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.524E-14	1.437E-14	1.732E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151005	6WH LOADOUT	01/10/13	Gross Alpha/Beta	Gross Alpha	-2.392E-15	9.589E-15	1.429E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.359E-14	1.46E-14	1.794E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151006	Plant 6WH	01/07/13	Gross Alpha/Beta	Gross Alpha	-8.9E-17	9.404E-15	1.327E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.118E-13	2.018E-14	1.666E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151007	Plant 6WH	01/08/13	Gross Alpha/Beta	Gross Alpha	9.78E-16	9.643E-15	1.327E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.61E-14	1.499E-14	1.666E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151008	Plant 6WH	01/09/13	Gross Alpha/Beta	Gross Alpha	-3.261E-15	8.577E-15	1.316E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.907E-14	1.517E-14	1.653E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151009	Plant 6WH	01/10/13	Gross Alpha/Beta	Gross Alpha	-5.377E-15	8.039E-15	1.316E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.169E-14	1.449E-14	1.653E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151010	6WH LOADOUT	01/14/13	Gross Alpha/Beta	Gross Alpha	-5.909E-15	6.883E-14	4.153E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	-2.65E-14	4.116E-14	7.106E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD151011	6WH LOADOUT	01/14/13	Gross Alpha/Beta	Gross Alpha	-7.973E-15	2.116E-14	1.311E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.921E-14	1.632E-14	2.244E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD151012	6WH LOADOUT	01/14/13	Gross Alpha/Beta	Gross Alpha	1.9E-16	2.451E-14	1.466E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.179E-14	1.736E-14	2.508E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD151013	Plant 6WH	01/14/13	Gross Alpha/Beta	Gross Alpha	-1.987E-15	2.314E-14	1.396E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.213E-14	1.665E-14	2.389E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD151014	6WH LOADOUT	01/15/13	Gross Alpha/Beta	Gross Alpha	-5.306E-15	2.314E-14	1.414E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.963E-14	1.663E-14	2.42E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air

Table B-1. SLDS Perimeter Air Data Results for CY 2013

Sample Name	Station Name	Sample Collection Date	Method Type	Analyte Name	Analytical Result	Measurement Error	DL	Units	VQ	Validation Reason Code	Sampling Event Name
SLD151015	6WH LOADOUT	01/15/13	Gross Alpha/Beta	Gross Alpha	-4.483E-15	2.475E-14	1.507E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.324E-14	1.95E-14	2.578E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151016	6WH LOADOUT	01/15/13	Gross Alpha/Beta	Gross Alpha	-4.92E-15	2.145E-14	1.311E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.237E-14	1.492E-14	2.244E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD151017	Plant 6WH	01/15/13	Gross Alpha/Beta	Gross Alpha	-3.982E-15	2.199E-14	1.338E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.106E-14	1.753E-14	2.29E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151018	6WH LOADOUT	01/16/13	Gross Alpha/Beta	Gross Alpha	-6.547E-15	2.355E-14	1.446E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.221E-14	1.718E-14	2.474E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD151019	6WH LOADOUT	01/16/13	Gross Alpha/Beta	Gross Alpha	-6.821E-15	2.453E-14	1.507E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.718E-14	1.74E-14	2.578E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD151020	6WH LOADOUT	01/16/13	Gross Alpha/Beta	Gross Alpha	-2.75E-15	2.064E-14	1.251E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.466E-14	1.61E-14	2.14E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151021	Plant 6WH	01/16/13	Gross Alpha/Beta	Gross Alpha	-6.06E-15	2.179E-14	1.338E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.915E-14	1.661E-14	2.29E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD151022	6WH LOADOUT	01/17/13	Gross Alpha/Beta	Gross Alpha	-1.937E-15	2.256E-14	1.361E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	8.798E-15	1.513E-14	2.329E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD151023	6WH LOADOUT	01/17/13	Gross Alpha/Beta	Gross Alpha	-3.87E-15	2.137E-14	1.301E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.091E-14	1.634E-14	2.226E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD151024	6WH LOADOUT	01/17/13	Gross Alpha/Beta	Gross Alpha	-9.52E-16	2.451E-14	1.472E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	9.518E-15	1.637E-14	2.519E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD151025	Plant 6WH	01/17/13	Gross Alpha/Beta	Gross Alpha	-4.032E-15	2.227E-14	1.355E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.416E-14	1.638E-14	2.319E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD151026	6WH LOADOUT	01/21/13	Gross Alpha/Beta	Gross Alpha	9.716E-15	8.721E-15	1.049E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
				Gross Beta	2.191E-14	2.06E-14	2.744E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD151027	6WH LOADOUT	01/21/13	Gross Alpha/Beta	Gross Alpha	1.22E-15	5.905E-15	1.054E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.745E-14	2.11E-14	2.757E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD151028	6WH LOADOUT	01/21/13	Gross Alpha/Beta	Gross Alpha	1.927E-15	5.044E-15	8.32E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.247E-14	1.596E-14	2.176E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD151029	Plant 6WH	01/21/13	Gross Alpha/Beta	Gross Alpha	3.117E-15	5.824E-15	8.973E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.808E-14	1.757E-14	2.347E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD151030	6WH LOADOUT	01/22/13	Gross Alpha/Beta	Gross Alpha	3.697E-15	6.909E-15	1.064E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.537E-14	2.113E-14	2.784E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD151031	6WH LOADOUT	01/22/13	Gross Alpha/Beta	Gross Alpha	-1.039E-15	4.078E-15	8.973E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.072E-14	1.777E-14	2.347E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD151032	6WH LOADOUT	01/22/13	Gross Alpha/Beta	Gross Alpha	3.725E-15	5.544E-15	8.042E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.442E-14	1.561E-14	2.104E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD151033	Plant 6WH	01/22/13	Gross Alpha/Beta	Gross Alpha	3.066E-15	5.729E-15	8.827E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.949E-14	1.814E-14	2.309E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD151034	6WH LOADOUT	01/23/13	Gross Alpha/Beta	Gross Alpha	2.552E-15	6.682E-15	1.102E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.652E-14	2.115E-14	2.883E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD151035	6WH LOADOUT	01/23/13	Gross Alpha/Beta	Gross Alpha	9.487E-15	8.516E-15	1.024E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
				Gross Beta	2.365E-14	2.028E-14	2.679E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD151036	6WH LOADOUT	01/23/13	Gross Alpha/Beta	Gross Alpha	4.798E-15	6.028E-15	8.288E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.891E-14	1.712E-14	2.168E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD151037	Plant 6WH	01/23/13	Gross Alpha/Beta	Gross Alpha	0	4.673E-15	9.162E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.238E-14	1.747E-14	2.397E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD151038	6WH LOADOUT	01/24/13	Gross Alpha/Beta	Gross Alpha	5.105E-15	7.598E-15	1.102E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.87E-14	2.206E-14	2.883E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD151039	6WH LOADOUT	01/24/13	Gross Alpha/Beta	Gross Alpha	3.169E-15	5.922E-15	9.124E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.779E-14	1.856E-14	2.387E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD151040	6WH LOADOUT	01/24/13	Gross Alpha/Beta	Gross Alpha	1.905E-15	4.986E-15	8.225E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.597E-14	1.75E-14	2.152E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151041	Plant 6WH	01/24/13	Gross Alpha/Beta	Gross Alpha	-1.048E-15	4.112E-15	9.048E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.423E-14	1.958E-14	2.367E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151042	6WH LOADOUT	01/28/13	Gross Alpha/Beta	Gross Alpha	5.447E-15	6.966E-15	1.043E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.748E-14	2.222E-14	2.79E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air

Table B-1. SLDS Perimeter Air Data Results for CY 2013

Sample Name	Station Name	Sample Collection Date	Method Type	Analyte Name	Analytical Result	Measurement Error	DL	Units	VQ	Validation Reason Code	Sampling Event Name
SLD151043	6WH LOADOUT	01/28/13	Gross Alpha/Beta	Gross Alpha	1.71E-15	5.543E-15	1.064E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.314E-14	2.303E-14	2.846E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD151044	6WH LOADOUT	01/28/13	Gross Alpha/Beta	Gross Alpha	6.395E-15	6.286E-15	8.378E-15	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
				Gross Beta	3.524E-14	1.822E-14	2.241E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD151045	Plant 6WH	01/28/13	Gross Alpha/Beta	Gross Alpha	9.07E-15	7.448E-15	9.031E-15	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
				Gross Beta	2.206E-14	1.848E-14	2.415E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD151046	6WH LOADOUT	01/29/13	Gross Alpha/Beta	Gross Alpha	2.876E-15	5.869E-15	1.023E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.262E-14	2.075E-14	2.735E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD151047	Plant 6WH	01/29/13	Gross Alpha/Beta	Gross Alpha	3.79E-16	4.357E-15	9.44E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.595E-14	1.953E-14	2.524E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD151048	6WH LOADOUT	01/30/13	Gross Alpha/Beta	Gross Alpha	1.007E-14	8.272E-15	1.003E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
				Gross Beta	1.449E-14	1.976E-14	2.682E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD151049	6WH LOADOUT	01/30/13	Gross Alpha/Beta	Gross Alpha	-1.806E-15	2.799E-15	8.992E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.231E-14	1.916E-14	2.405E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD151050	6WH LOADOUT	01/30/13	Gross Alpha/Beta	Gross Alpha	3.22E-16	3.703E-15	8.024E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.529E-14	1.609E-14	2.146E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD151051	Plant 6WH	01/30/13	Gross Alpha/Beta	Gross Alpha	7.014E-15	6.896E-15	9.19E-15	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
				Gross Beta	1.469E-14	1.821E-14	2.458E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD151052	6WH LOADOUT	01/31/13	Gross Alpha/Beta	Gross Alpha	4.07E-16	4.674E-15	1.013E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	5.115E-14	2.262E-14	2.708E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151053	Plant 6WH	01/31/13	Gross Alpha/Beta	Gross Alpha	6.58E-15	6.468E-15	8.621E-15	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
				Gross Beta	4.552E-14	1.939E-14	2.305E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151054	6WH LOADOUT	02/04/13	Gross Alpha/Beta	Gross Alpha	-4.019E-15	1.144E-14	1.585E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.397E-14	1.404E-14	2.041E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD151055	Plant 6WH	02/04/13	Gross Alpha/Beta	Gross Alpha	9.39E-16	1.111E-14	1.408E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.385E-14	1.372E-14	1.812E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD151056	6WH LOADOUT	02/05/13	Gross Alpha/Beta	Gross Alpha	1.045E-15	1.237E-14	1.567E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.646E-14	1.725E-14	2.018E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151057	Plant 6WH	02/05/13	Gross Alpha/Beta	Gross Alpha	9.48E-16	1.122E-14	1.421E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.503E-14	1.591E-14	1.83E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151058	6WH LOADOUT	02/06/13	Gross Alpha/Beta	Gross Alpha	5.995E-15	1.32E-14	1.549E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.231E-14	1.469E-14	1.995E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD151059	Plant 6WH	02/06/13	Gross Alpha/Beta	Gross Alpha	2.107E-15	1.156E-14	1.435E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.307E-14	1.489E-14	1.848E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151060	Plant 6WH	02/07/13	Gross Alpha/Beta	Gross Alpha	-4.034E-15	1.148E-14	1.591E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.13E-14	1.491E-14	2.049E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD151062	Plant 6WH	02/11/13	Gross Alpha/Beta	Gross Alpha	1.636E-15	5.633E-15	9.939E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.452E-14	1.842E-14	2.444E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD151063	Plant 6WH	02/12/13	Gross Alpha/Beta	Gross Alpha	4.762E-15	6.584E-15	9.642E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.766E-14	1.957E-14	2.371E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD151064	Plant 6WH	02/13/13	Gross Alpha/Beta	Gross Alpha	5.254E-15	7.265E-15	1.064E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.859E-14	2.139E-14	2.617E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD151065	Plant 6WH	02/14/13	Gross Alpha/Beta	Gross Alpha	3.817E-15	6.423E-15	9.936E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.354E-14	1.909E-14	2.444E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD151066	6WH LOADOUT	02/14/13	Gross Alpha/Beta	Gross Alpha	3.863E-15	8.56E-15	1.408E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.435E-14	2.712E-14	3.463E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD151067	6WH LOADOUT	02/14/13	Gross Alpha/Beta	Gross Alpha	-2.808E-15	7.172E-15	1.706E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.281E-14	3.294E-14	4.196E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD151068	6WH LOADOUT	02/14/13	Gross Alpha/Beta	Gross Alpha	8.13E-16	7.744E-15	1.482E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.337E-14	2.684E-14	3.645E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD151069	6WH LOADOUT	02/18/13	Gross Alpha/Beta	Gross Alpha	6.732E-15	7.82E-15	1.104E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.861E-14	1.492E-14	2.002E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD151070	6WH LOADOUT	02/18/13	Gross Alpha/Beta	Gross Alpha	8.353E-15	7.735E-15	9.872E-15	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
				Gross Beta	2.633E-14	1.343E-14	1.791E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD151071	6WH LOADOUT	02/18/13	Gross Alpha/Beta	Gross Alpha	1.66E-16	3.974E-15	8.415E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.434E-14	1.166E-14	1.527E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air

Table B-1. SLDS Perimeter Air Data Results for CY 2013

Sample Name	Station Name	Sample Collection Date	Method Type	Analyte Name	Analytical Result	Measurement Error	DL	Units	VQ	Validation Reason Code	Sampling Event Name
SLD151072	Plant 6WH	02/18/13	Gross Alpha/Beta	Gross Alpha	5.823E-15	6.764E-15	9.545E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.473E-14	1.173E-14	1.732E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD151073	6WH LOADOUT	02/19/13	Gross Alpha/Beta	Gross Alpha	2.618E-15	5.919E-15	1.023E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.189E-14	1.442E-14	1.856E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151074	6WH LOADOUT	02/19/13	Gross Alpha/Beta	Gross Alpha	3.365E-15	5.624E-15	9.002E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.536E-14	1.239E-14	1.633E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151075	6WH LOADOUT	02/19/13	Gross Alpha/Beta	Gross Alpha	3.037E-15	5.076E-15	8.124E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.08E-14	1.202E-14	1.474E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151076	Plant 6WH	02/19/13	Gross Alpha/Beta	Gross Alpha	2.461E-15	5.566E-15	9.622E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.855E-14	1.341E-14	1.746E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151077	6WH LOADOUT	02/20/13	Gross Alpha/Beta	Gross Alpha	7.805E-15	8.008E-15	1.072E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.663E-14	1.545E-14	1.945E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151078	6WH LOADOUT	02/20/13	Gross Alpha/Beta	Gross Alpha	1.287E-15	4.935E-15	9.347E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.403E-14	1.369E-14	1.696E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151079	6WH LOADOUT	02/20/13	Gross Alpha/Beta	Gross Alpha	4.171E-15	5.664E-15	8.479E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.579E-14	1.188E-14	1.538E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151080	Plant 6WH	02/20/13	Gross Alpha/Beta	Gross Alpha	1.92E-16	4.596E-15	9.732E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.72E-14	1.223E-14	1.766E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD151081	6WH LOADOUT	02/21/13	Gross Alpha/Beta	Gross Alpha	4.66E-16	1.12E-14	2.371E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.591E-14	2.781E-14	4.301E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD151082	Plant 6WH	02/21/13	Gross Alpha/Beta	Gross Alpha	5.16E-16	1.238E-14	2.622E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.831E-14	3.319E-14	4.757E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD151083	Plant 6WH	02/25/13	Gross Alpha/Beta	Gross Alpha	-3.986E-15	1.208E-14	1.354E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.543E-14	1.64E-14	1.857E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151084	6WH LOADOUT	02/25/13	Gross Alpha/Beta	Gross Alpha	-1.87E-15	1.471E-14	1.588E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	6.024E-14	2.091E-14	2.177E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151085	6WH LOADOUT	02/25/13	Gross Alpha/Beta	Gross Alpha	-1.301E-15	1.024E-14	1.105E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	5.618E-14	1.574E-14	1.515E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151086	6WH LOADOUT	02/25/13	Gross Alpha/Beta	Gross Alpha	2.588E-15	1.09E-14	1.099E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.724E-14	1.494E-14	1.507E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151087	Plant 6WH	02/26/13	Gross Alpha/Beta	Gross Alpha	7.59E-16	1.236E-14	1.289E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.287E-14	1.456E-14	1.766E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD151088	6WH LOADOUT	02/26/13	Gross Alpha/Beta	Gross Alpha	4.747E-15	1.476E-14	1.466E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.863E-14	1.58E-14	2.01E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD151089	Plant 6WH	02/27/13	Gross Alpha/Beta	Gross Alpha	6.253E-15	1.297E-14	1.25E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	6.071E-15	1.241E-14	1.713E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD151090	6WH LOADOUT	02/27/13	Gross Alpha/Beta	Gross Alpha	2.134E-15	1.415E-14	1.45E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.793E-14	1.756E-14	1.988E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151091	Plant 6WH	02/28/13	Gross Alpha/Beta	Gross Alpha	6.437E-15	1.335E-14	1.286E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.159E-14	1.63E-14	1.763E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151092	6WH LOADOUT	02/28/13	Gross Alpha/Beta	Gross Alpha	3.306E-15	1.392E-14	1.404E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	5.798E-14	1.889E-14	1.925E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151093	6WH LOADOUT	02/28/13	Gross Alpha/Beta	Gross Alpha	6.96E-16	1.135E-14	1.183E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	5.681E-14	1.658E-14	1.622E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151094	6WH LOADOUT	02/28/13	Gross Alpha/Beta	Gross Alpha	7.211E-15	1.289E-14	1.225E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.548E-14	1.515E-14	1.679E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD151095	6WH LOADOUT	03/04/13	Gross Alpha/Beta	Gross Alpha	-2.02E-15	5.174E-15	1.224E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.054E-14	1.663E-14	2.774E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD151096	6WH LOADOUT	03/04/13	Gross Alpha/Beta	Gross Alpha	1.911E-15	7.879E-15	1.448E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.794E-14	2.017E-14	3.281E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD152516	6WH LOADOUT	03/04/13	Gross Alpha/Beta	Gross Alpha	3.326E-15	8.339E-15	1.44E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	6.956E-15	1.905E-14	3.263E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD152517	Plant 6WH	03/04/13	Gross Alpha/Beta	Gross Alpha	3.63E-16	5.573E-15	1.1E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.155E-14	1.513E-14	2.492E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD152518	6WH LOADOUT	03/05/13	Gross Alpha/Beta	Gross Alpha	-3.202E-15	4.532E-15	1.213E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.497E-14	1.778E-14	2.749E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air

Table B-1. SLDS Perimeter Air Data Results for CY 2013

Sample Name	Station Name	Sample Collection Date	Method Type	Analyte Name	Analytical Result	Measurement Error	DL	Units	VQ	Validation Reason Code	Sampling Event Name
SLD152519	Plant 6WH	03/05/13	Gross Alpha/Beta	Gross Alpha	2.564E-15	6.429E-15	1.11E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.166E-14	1.528E-14	2.516E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD152520	6WH LOADOUT	03/06/13	Gross Alpha/Beta	Gross Alpha	3.94E-16	6.05E-15	1.194E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.833E-14	1.781E-14	2.705E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152521	Plant 6WH	03/06/13	Gross Alpha/Beta	Gross Alpha	4.8E-15	7.202E-15	1.119E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	9.637E-15	1.521E-14	2.536E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD152522	6WH LOADOUT	03/07/13	Gross Alpha/Beta	Gross Alpha	-8.19E-16	5.792E-15	1.241E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.242E-14	1.792E-14	2.813E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD152523	Plant 6WH	03/07/13	Gross Alpha/Beta	Gross Alpha	-2.865E-15	4.054E-15	1.086E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.85E-14	1.643E-14	2.46E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152525	6WH LOADOUT	03/11/13	Gross Alpha/Beta	Gross Alpha	7.287E-15	8.383E-15	1.049E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.637E-14	1.88E-14	2.705E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD152526	Plant 6WH	03/11/13	Gross Alpha/Beta	Gross Alpha	2.177E-15	6.115E-15	9.4E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.436E-14	1.763E-14	2.424E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152527	6WH LOADOUT	03/12/13	Gross Alpha/Beta	Gross Alpha	3.397E-15	6.755E-15	9.781E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.833E-14	1.934E-14	2.522E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152528	6WH LOADOUT	03/12/13	Gross Alpha/Beta	Gross Alpha	0	4.766E-15	8.482E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.261E-14	1.595E-14	2.187E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152529	6WH LOADOUT	03/12/13	Gross Alpha/Beta	Gross Alpha	-9.78E-16	4.326E-15	8.449E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.813E-14	1.633E-14	2.178E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152530	Plant 6WH	03/12/13	Gross Alpha/Beta	Gross Alpha	8.632E-15	8.054E-15	9.32E-15	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
				Gross Beta	1.729E-14	1.693E-14	2.403E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD152531	6WH LOADOUT	03/13/13	Gross Alpha/Beta	Gross Alpha	3.413E-15	6.785E-15	9.826E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.764E-14	1.859E-14	2.533E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152532	6WH LOADOUT	03/13/13	Gross Alpha/Beta	Gross Alpha	9.9E-16	5.196E-15	8.549E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.531E-14	1.628E-14	2.204E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152533	6WH LOADOUT	03/13/13	Gross Alpha/Beta	Gross Alpha	9.63E-16	5.057E-15	8.32E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.77E-14	1.608E-14	2.145E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152534	Plant 6WH	03/13/13	Gross Alpha/Beta	Gross Alpha	1.208E-14	9.043E-15	9.482E-15	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
				Gross Beta	6.406E-15	1.629E-14	2.445E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD152535	6WH LOADOUT	03/14/13	Gross Alpha/Beta	Gross Alpha	2.275E-15	6.391E-15	9.826E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.402E-14	1.831E-14	2.533E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD152536	6WH LOADOUT	03/14/13	Gross Alpha/Beta	Gross Alpha	4.835E-15	6.386E-15	8.352E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	5.304E-14	1.796E-14	2.153E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD152537	6WH LOADOUT	03/14/13	Gross Alpha/Beta	Gross Alpha	9.74E-16	5.115E-15	8.416E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	5.283E-14	1.806E-14	2.17E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD152538	Plant 6WH	03/14/13	Gross Alpha/Beta	Gross Alpha	-1.098E-15	4.855E-15	9.482E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.065E-14	1.9E-14	2.445E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD152539	6WH LOADOUT	03/18/13	Gross Alpha/Beta	Gross Alpha	-5.66E-16	5.178E-15	1.13E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	7.612E-15	1.126E-14	1.721E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD152540	6WH LOADOUT	03/18/13	Gross Alpha/Beta	Gross Alpha	-1.459E-15	3.999E-15	9.7E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.21E-14	1.036E-14	1.478E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD152541	6WH LOADOUT	03/18/13	Gross Alpha/Beta	Gross Alpha	2.47E-15	5.667E-15	9.851E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.667E-14	1.103E-14	1.501E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152542	Plant 6WH	03/18/13	Gross Alpha/Beta	Gross Alpha	7.16E-16	7.145E-15	1.428E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	9.621E-15	1.423E-14	2.176E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD152543	6WH LOADOUT	03/19/13	Gross Alpha/Beta	Gross Alpha	1.677E-15	6.009E-15	1.115E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	6.802E-15	1.102E-14	1.698E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD152544	6WH LOADOUT	03/19/13	Gross Alpha/Beta	Gross Alpha	-4.9E-16	4.481E-15	9.775E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.775E-14	1.216E-14	1.489E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD152545	6WH LOADOUT	03/19/13	Gross Alpha/Beta	Gross Alpha	-4.88E-16	4.464E-15	9.738E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.198E-14	1.256E-14	1.484E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD152546	Plant 6WH	03/19/13	Gross Alpha/Beta	Gross Alpha	5.72E-16	5.703E-15	1.14E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.872E-14	1.38E-14	1.737E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD152547	6WH LOADOUT	03/20/13	Gross Alpha/Beta	Gross Alpha	1.73E-15	6.2E-15	1.15E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.27E-16	1.048E-14	1.752E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air

Table B-1. SLDS Perimeter Air Data Results for CY 2013

Sample Name	Station Name	Sample Collection Date	Method Type	Analyte Name	Analytical Result	Measurement Error	DL	Units	VQ	Validation Reason Code	Sampling Event Name
SLD152548	Plant 6WH	03/20/13	Gross Alpha/Beta	Gross Alpha	2.871E-15	6.586E-15	1.145E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.448E-14	1.339E-14	1.744E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152549	6WH LOADOUT	03/21/13	Gross Alpha/Beta	Gross Alpha	-5.69E-16	5.201E-15	1.135E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	9.813E-15	1.158E-14	1.729E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD152550	Plant 6WH	03/21/13	Gross Alpha/Beta	Gross Alpha	-1.655E-15	4.535E-15	1.1E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.213E-14	1.272E-14	1.676E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152551	6WH LOADOUT	03/26/13	Gross Alpha/Beta	Gross Alpha	-5.59E-16	5.11E-15	1.115E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	8.931E-15	1.129E-14	1.698E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD152552	6WH LOADOUT	03/26/13	Gross Alpha/Beta	Gross Alpha	-4.86E-16	4.447E-15	9.7E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.518E-14	1.072E-14	1.478E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152553	6WH LOADOUT	03/26/13	Gross Alpha/Beta	Gross Alpha	-1.476E-15	4.045E-15	9.813E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.911E-14	1.127E-14	1.495E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152554	Plant 6WH	03/26/13	Gross Alpha/Beta	Gross Alpha	-2.807E-15	4.032E-15	1.12E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	-3.861E-15	9.591E-15	1.706E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD152555	6WH LOADOUT	03/27/13	Gross Alpha/Beta	Gross Alpha	-4.77E-16	4.364E-15	9.519E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.308E-14	1.031E-14	1.45E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD152556	Plant 6WH	03/27/13	Gross Alpha/Beta	Gross Alpha	1.655E-15	5.931E-15	1.1E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.372E-14	1.175E-14	1.676E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD152557	6WH LOADOUT	03/28/13	Gross Alpha/Beta	Gross Alpha	8.871E-15	7.29E-15	9.31E-15	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
				Gross Beta	2.05E-14	1.095E-14	1.419E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152558	Plant 6WH	03/28/13	Gross Alpha/Beta	Gross Alpha	-5.79E-16	5.296E-15	1.155E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.367E-14	1.225E-14	1.76E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD152559	6WH LOADOUT	04/01/13	Gross Alpha/Beta	Gross Alpha	6.478E-15	7.873E-15	1.124E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.604E-14	1.485E-14	1.794E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD152560	Plant 6WH	04/01/13	Gross Alpha/Beta	Gross Alpha	2.943E-15	6.567E-15	1.085E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.499E-14	1.334E-14	1.732E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152561	6WH LOADOUT	04/02/13	Gross Alpha/Beta	Gross Alpha	1.931E-15	6.494E-15	1.14E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	8.581E-15	1.2E-14	1.818E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD152562	Plant 6WH	04/02/13	Gross Alpha/Beta	Gross Alpha	-3.88E-16	5.632E-15	1.145E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.97E-14	1.335E-14	1.827E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152563	6WH LOADOUT	04/03/13	Gross Alpha/Beta	Gross Alpha	2.213E-15	7.441E-15	1.306E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.669E-14	1.569E-14	2.084E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152564	Plant 6WH	04/03/13	Gross Alpha/Beta	Gross Alpha	4.249E-15	7.275E-15	1.14E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.741E-14	1.304E-14	1.818E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD152565	6WH LOADOUT	04/04/13	Gross Alpha/Beta	Gross Alpha	3.895E-15	6.669E-15	1.045E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.472E-14	1.291E-14	1.667E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152566	Plant 6WH	04/04/13	Gross Alpha/Beta	Gross Alpha	4.173E-15	7.145E-15	1.119E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.866E-14	1.406E-14	1.786E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD152567	Plant 6WH	04/08/13	Gross Alpha/Beta	Gross Alpha	1.911E-15	9.323E-15	1.374E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.271E-14	1.197E-14	1.896E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD152568	6WH LOADOUT	04/08/13	Gross Alpha/Beta	Gross Alpha	3.766E-15	8.647E-15	1.196E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.574E-14	1.101E-14	1.651E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD152569	6WH LOADOUT	04/08/13	Gross Alpha/Beta	Gross Alpha	8.741E-15	9.538E-15	1.159E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.882E-14	1.221E-14	1.6E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD152570	6WH LOADOUT	04/08/13	Gross Alpha/Beta	Gross Alpha	-4.13E-16	7.128E-15	1.129E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.925E-14	1.091E-14	1.558E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152571	Plant 6WH	04/09/13	Gross Alpha/Beta	Gross Alpha	-4.48E-16	7.729E-15	1.224E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.565E-14	1.237E-14	1.689E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD152572	6WH LOADOUT	04/09/13	Gross Alpha/Beta	Gross Alpha	2.675E-15	8.264E-15	1.179E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.668E-14	1.213E-14	1.627E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD152573	6WH LOADOUT	04/09/13	Gross Alpha/Beta	Gross Alpha	-4.1E-16	7.069E-15	1.119E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.722E-14	1.06E-14	1.545E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152574	6WH LOADOUT	04/09/13	Gross Alpha/Beta	Gross Alpha	-3.96E-16	6.83E-15	1.081E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.327E-14	1.1E-14	1.492E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD152575	Plant 6WH	04/10/13	Gross Alpha/Beta	Gross Alpha	-5.176E-15	7.001E-15	1.334E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	7.874E-15	1.104E-14	1.841E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air

Table B-1. SLDS Perimeter Air Data Results for CY 2013

Sample Name	Station Name	Sample Collection Date	Method Type	Analyte Name	Analytical Result	Measurement Error	DL	Units	VQ	Validation Reason Code	Sampling Event Name
SLD152576	6WH LOADOUT	04/10/13	Gross Alpha/Beta	Gross Alpha	1.569E-15	7.653E-15	1.128E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.735E-14	1.068E-14	1.556E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152577	6WH LOADOUT	04/10/13	Gross Alpha/Beta	Gross Alpha	2.57E-15	7.937E-15	1.132E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.184E-14	1.123E-14	1.562E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152578	6WH LOADOUT	04/10/13	Gross Alpha/Beta	Gross Alpha	2.531E-15	7.818E-15	1.115E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.275E-14	1.12E-14	1.539E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD152579	Plant 6WH	04/11/13	Gross Alpha/Beta	Gross Alpha	-4.88E-16	8.424E-15	1.334E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	-1.054E-15	9.757E-15	1.841E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD152580	6WH LOADOUT	04/11/13	Gross Alpha/Beta	Gross Alpha	-3.322E-15	6.125E-15	1.107E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	9.77E-16	8.372E-15	1.527E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD152581	Plant 6WH	04/15/13	Gross Alpha/Beta	Gross Alpha	-1.603E-15	7.813E-15	1.288E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.407E-14	1.15E-14	1.778E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD152582	6WH LOADOUT	04/15/13	Gross Alpha/Beta	Gross Alpha	-3.97E-16	6.842E-15	1.083E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.271E-14	1.095E-14	1.495E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD152583	6WH LOADOUT	04/15/13	Gross Alpha/Beta	Gross Alpha	5.68E-16	7.269E-15	1.109E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.881E-14	1.181E-14	1.53E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD152584	6WH LOADOUT	04/15/13	Gross Alpha/Beta	Gross Alpha	3.478E-15	7.985E-15	1.105E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.131E-14	1.096E-14	1.525E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152585	Plant 6WH	04/16/13	Gross Alpha/Beta	Gross Alpha	8.58E-16	1.098E-14	1.674E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.736E-14	1.483E-14	2.311E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD152586	6WH LOADOUT	04/16/13	Gross Alpha/Beta	Gross Alpha	-1.379E-15	6.721E-15	1.108E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.014E-14	1.085E-14	1.529E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152587	6WH LOADOUT	04/17/13	Gross Alpha/Beta	Gross Alpha	5.72E-16	7.315E-15	1.116E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.152E-14	1.107E-14	1.54E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152588	6WH LOADOUT	04/17/13	Gross Alpha/Beta	Gross Alpha	4.494E-15	8.301E-15	1.116E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.09E-14	1.1E-14	1.54E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152589	6WH LOADOUT	04/17/13	Gross Alpha/Beta	Gross Alpha	5.63E-16	7.204E-15	1.099E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.733E-14	1.158E-14	1.517E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD152590	Plant 6WH	04/17/13	Gross Alpha/Beta	Gross Alpha	5.93E-15	9.241E-15	1.209E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.399E-14	1.207E-14	1.668E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152591	6WH LOADOUT	04/18/13	Gross Alpha/Beta	Gross Alpha	-3.224E-15	1.571E-14	2.59E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	9.512E-15	2.064E-14	3.575E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD152592	6WH LOADOUT	04/18/13	Gross Alpha/Beta	Gross Alpha	-8.661E-15	1.171E-14	2.232E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	-1.763E-15	1.632E-14	3.08E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD152593	6WH LOADOUT	04/18/13	Gross Alpha/Beta	Gross Alpha	1.144E-15	1.463E-14	2.232E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.06E-14	2.069E-14	3.08E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD152594	6WH LOADOUT	04/22/13	Gross Alpha/Beta	Gross Alpha	1.058E-15	5.124E-15	9.262E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.513E-14	1.27E-14	1.465E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD152595	6WH LOADOUT	04/22/13	Gross Alpha/Beta	Gross Alpha	4.003E-15	6.164E-15	9.297E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.842E-14	1.206E-14	1.471E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD152596	6WH LOADOUT	04/22/13	Gross Alpha/Beta	Gross Alpha	5.83E-15	6.608E-15	9.088E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.987E-14	1.093E-14	1.438E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152597	Plant 6WH	04/22/13	Gross Alpha/Beta	Gross Alpha	-9.66E-16	4.654E-15	9.989E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.856E-14	1.377E-14	1.58E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD152598	6WH LOADOUT	04/23/13	Gross Alpha/Beta	Gross Alpha	-9.06E-16	4.365E-15	9.369E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.303E-14	1.26E-14	1.482E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD152599	Plant 6WH	04/23/13	Gross Alpha/Beta	Gross Alpha	5.491E-15	7.127E-15	1.024E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.788E-14	1.292E-14	1.62E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD152600	6WH LOADOUT	04/24/13	Gross Alpha/Beta	Gross Alpha	7.8E-17	4.512E-15	8.822E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.347E-14	1.21E-14	1.396E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD152601	Plant 6WH	04/24/13	Gross Alpha/Beta	Gross Alpha	2.168E-15	5.842E-15	9.867E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.827E-14	1.149E-14	1.561E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152602	6WH LOADOUT	04/25/13	Gross Alpha/Beta	Gross Alpha	-1.879E-15	3.863E-15	9.297E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.971E-14	1.111E-14	1.471E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152603	Plant 6WH	04/25/13	Gross Alpha/Beta	Gross Alpha	1.17E-15	5.666E-15	1.024E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.24E-14	1.232E-14	1.62E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air

Table B-1. SLDS Perimeter Air Data Results for CY 2013

Sample Name	Station Name	Sample Collection Date	Method Type	Analyte Name	Analytical Result	Measurement Error	DL	Units	VQ	Validation Reason Code	Sampling Event Name
SLD152604	6WH LOADOUT	04/29/13	Gross Alpha/Beta	Gross Alpha	-1.864E-15	4.653E-15	9.947E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.3E-14	1.501E-14	2.445E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD152605	Plant 6WH	04/29/13	Gross Alpha/Beta	Gross Alpha	2.367E-15	6.231E-15	9.822E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	9.486E-15	1.452E-14	2.414E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD152606	6WH LOADOUT	04/30/13	Gross Alpha/Beta	Gross Alpha	-8.02E-16	5.139E-15	9.989E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.621E-14	1.704E-14	2.455E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD152607	6WH LOADOUT	04/30/13	Gross Alpha/Beta	Gross Alpha	2.428E-15	6.391E-15	1.008E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.141E-14	1.593E-14	2.476E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD152608	6WH LOADOUT	04/30/13	Gross Alpha/Beta	Gross Alpha	6.686E-15	7.653E-15	9.989E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.689E-14	1.709E-14	2.455E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD152609	Plant 6WH	04/30/13	Gross Alpha/Beta	Gross Alpha	4.471E-15	6.907E-15	9.822E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.489E-14	1.587E-14	2.414E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152610	6WH LOADOUT	05/01/13	Gross Alpha/Beta	Gross Alpha	7.723E-15	7.915E-15	9.947E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.673E-14	1.702E-14	2.445E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD152611	6WH LOADOUT	05/01/13	Gross Alpha/Beta	Gross Alpha	1.372E-15	6.12E-15	1.025E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.366E-14	1.72E-14	2.52E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152612	6WH LOADOUT	05/01/13	Gross Alpha/Beta	Gross Alpha	5.714E-15	7.473E-15	1.016E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.268E-14	1.7E-14	2.498E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD152613	Plant 6WH	05/01/13	Gross Alpha/Beta	Gross Alpha	3.462E-15	6.661E-15	9.947E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.945E-14	1.724E-14	2.445E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD152614	6WH LOADOUT	05/02/13	Gross Alpha/Beta	Gross Alpha	-1.947E-15	4.859E-15	1.039E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.836E-14	1.777E-14	2.553E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD152615	6WH LOADOUT	05/02/13	Gross Alpha/Beta	Gross Alpha	-1.921E-15	4.796E-15	1.025E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.807E-14	1.674E-14	2.52E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD154636	6WH LOADOUT	05/02/13	Gross Alpha/Beta	Gross Alpha	6.832E-15	7.819E-15	1.021E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.89E-14	1.59E-14	2.509E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD154637	Plant 6WH	05/02/13	Gross Alpha/Beta	Gross Alpha	3.268E-15	6.288E-15	9.39E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.212E-14	1.586E-14	2.308E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD154638	6WH LOADOUT	05/06/13	Gross Alpha/Beta	Gross Alpha	2.93E-15	5.25E-15	9.332E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.302E-14	9.689E-15	1.477E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD154639	Plant 6WH	05/06/13	Gross Alpha/Beta	Gross Alpha	-2.16E-15	7.484E-15	1.622E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.8E-15	1.294E-14	2.228E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD154640	6WH LOADOUT	05/07/13	Gross Alpha/Beta	Gross Alpha	1.931E-15	7.725E-15	1.45E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.839E-14	1.298E-14	1.992E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD154641	6WH LOADOUT	05/07/13	Gross Alpha/Beta	Gross Alpha	-1.976E-15	6.846E-15	1.484E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.819E-14	1.322E-14	2.038E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD154642	6WH LOADOUT	05/07/13	Gross Alpha/Beta	Gross Alpha	-5.098E-15	6.12E-15	1.531E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.23E-14	1.301E-14	2.104E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD154643	Plant 6WH	05/07/13	Gross Alpha/Beta	Gross Alpha	0	8.152E-15	1.636E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.075E-14	1.464E-14	2.247E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD154644	6WH LOADOUT	05/08/13	Gross Alpha/Beta	Gross Alpha	-9.8E-16	7.07E-15	1.472E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.556E-14	1.288E-14	2.023E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD154645	6WH LOADOUT	05/08/13	Gross Alpha/Beta	Gross Alpha	5.202E-15	9.072E-15	1.562E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.18E-14	1.417E-14	2.147E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD154646	6WH LOADOUT	05/08/13	Gross Alpha/Beta	Gross Alpha	-3.833E-15	6.062E-15	1.439E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	7.3E-15	1.18E-14	1.977E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD154647	Plant 6WH	05/08/13	Gross Alpha/Beta	Gross Alpha	-4.357E-15	6.891E-15	1.636E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.383E-14	1.397E-14	2.247E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD154648	6WH LOADOUT	05/09/13	Gross Alpha/Beta	Gross Alpha	-1.931E-15	6.69E-15	1.45E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.839E-14	1.298E-14	1.992E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD154649	Plant 6WH	05/09/13	Gross Alpha/Beta	Gross Alpha	1.22E-15	9.448E-15	1.832E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.942E-14	1.698E-14	2.516E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD154650	6WH LOADOUT	05/13/13	Gross Alpha/Beta	Gross Alpha	3.367E-15	4.729E-15	7.545E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.285E-14	1.59E-14	2.029E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD154651	Plant 6WH	05/13/13	Gross Alpha/Beta	Gross Alpha	4.932E-15	5.83E-15	8.64E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.762E-14	1.821E-14	2.324E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air

Table B-1. SLDS Perimeter Air Data Results for CY 2013

Sample Name	Station Name	Sample Collection Date	Method Type	Analyte Name	Analytical Result	Measurement Error	DL	Units	VQ	Validation Reason Code	Sampling Event Name
SLD154652	6WH LOADOUT	05/14/13	Gross Alpha/Beta	Gross Alpha	5.38E-15	5.566E-15	7.736E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3E-14	1.602E-14	2.08E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD154653	6WH LOADOUT	05/14/13	Gross Alpha/Beta	Gross Alpha	3.521E-15	4.946E-15	7.89E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.561E-14	1.745E-14	2.122E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD154654	6WH LOADOUT	05/14/13	Gross Alpha/Beta	Gross Alpha	2.698E-15	4.821E-15	8.385E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	5.18E-14	1.878E-14	2.255E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD154655	Plant 6WH	05/14/13	Gross Alpha/Beta	Gross Alpha	6.008E-15	6.217E-15	8.64E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	5.2E-14	1.926E-14	2.324E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD154656	6WH LOADOUT	05/15/13	Gross Alpha/Beta	Gross Alpha	5.51E-16	3.443E-15	7.581E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.323E-14	1.673E-14	2.039E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD154657	Plant 6WH	05/15/13	Gross Alpha/Beta	Gross Alpha	6.008E-15	6.217E-15	8.64E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.077E-14	1.768E-14	2.324E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD154658	6WH LOADOUT	05/16/13	Gross Alpha/Beta	Gross Alpha	4.323E-15	5.109E-15	7.573E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.417E-14	1.605E-14	2.036E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD154659	Plant 6WH	05/16/13	Gross Alpha/Beta	Gross Alpha	2.754E-15	4.921E-15	8.559E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.677E-14	1.874E-14	2.302E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD154660	6WH LOADOUT	05/20/13	Gross Alpha/Beta	Gross Alpha	1.266E-15	6.207E-15	1.11E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.06E-14	1.331E-14	1.752E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD154661	Plant 6WH	05/20/13	Gross Alpha/Beta	Gross Alpha	3.808E-15	7.676E-15	1.231E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	-1.59E-15	1.195E-14	1.942E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD154662	6WH LOADOUT	05/21/13	Gross Alpha/Beta	Gross Alpha	3.001E-15	6.049E-15	9.698E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.258E-14	1.105E-14	1.531E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD154663	Plant 6WH	05/21/13	Gross Alpha/Beta	Gross Alpha	1.244E-15	6.103E-15	1.092E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.755E-14	1.28E-14	1.723E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD154664	6WH LOADOUT	05/22/13	Gross Alpha/Beta	Gross Alpha	-8.2E-16	4.896E-15	1.007E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.307E-14	1.148E-14	1.59E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD154665	Plant 6WH	05/22/13	Gross Alpha/Beta	Gross Alpha	1.79E-16	5.742E-15	1.096E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.966E-14	1.307E-14	1.73E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD154666	6WH LOADOUT	05/23/13	Gross Alpha/Beta	Gross Alpha	2.092E-15	5.853E-15	9.882E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.788E-15	9.981E-15	1.56E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD154667	Plant 6WH	05/23/13	Gross Alpha/Beta	Gross Alpha	-3.009E-15	4.347E-15	1.087E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.315E-15	1.114E-14	1.715E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD154668	6WH LOADOUT	05/28/13	Gross Alpha/Beta	Gross Alpha	5.541E-15	6.084E-15	7.404E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.929E-14	1.666E-14	2.286E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD154669	6WH LOADOUT	05/28/13	Gross Alpha/Beta	Gross Alpha	4.158E-15	5.279E-15	6.839E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.507E-14	1.529E-14	2.112E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD154670	6WH LOADOUT	05/28/13	Gross Alpha/Beta	Gross Alpha	4.239E-15	5.382E-15	6.972E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.704E-14	1.488E-14	2.153E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD154671	Kiesel/Hall St.	05/28/13	Gross Alpha/Beta	Gross Alpha	3.92E-16	4.431E-15	8.373E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.003E-14	1.588E-14	2.585E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD154672	Plant 6WH	05/28/13	Gross Alpha/Beta	Gross Alpha	2.562E-15	5.177E-15	7.824E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.733E-14	1.727E-14	2.416E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD154673	6WH LOADOUT	05/29/13	Gross Alpha/Beta	Gross Alpha	4.558E-15	5.787E-15	7.497E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.242E-14	1.628E-14	2.315E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD154674	6WH LOADOUT	05/29/13	Gross Alpha/Beta	Gross Alpha	7.064E-15	6.269E-15	6.865E-15	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
				Gross Beta	2.172E-14	1.423E-14	2.12E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD154675	6WH LOADOUT	05/29/13	Gross Alpha/Beta	Gross Alpha	3.286E-15	5.051E-15	7.026E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.666E-14	1.576E-14	2.17E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD154676	Kiesel/Hall St.	05/29/13	Gross Alpha/Beta	Gross Alpha	4.716E-15	5.988E-15	7.756E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.454E-14	1.608E-14	2.395E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD154677	Plant 6WH	05/29/13	Gross Alpha/Beta	Gross Alpha	1.346E-15	4.311E-15	7.196E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.505E-14	1.424E-14	2.222E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD154678	6WH LOADOUT	05/30/13	Gross Alpha/Beta	Gross Alpha	2.3E-15	4.649E-15	7.026E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.784E-14	1.418E-14	2.17E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD154679	6WH LOADOUT	05/30/13	Gross Alpha/Beta	Gross Alpha	6.953E-15	6.796E-15	7.824E-15	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
				Gross Beta	2.475E-14	1.622E-14	2.416E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air

Table B-1. SLDS Perimeter Air Data Results for CY 2013

Sample Name	Station Name	Sample Collection Date	Method Type	Analyte Name	Analytical Result	Measurement Error	DL	Units	VQ	Validation Reason Code	Sampling Event Name
SLD154680	6WH LOADOUT	05/30/13	Gross Alpha/Beta	Gross Alpha	1.346E-15	4.311E-15	7.196E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.377E-14	1.412E-14	2.222E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD154681	Kiesel/Hall St.	05/30/13	Gross Alpha/Beta	Gross Alpha	2.518E-15	5.088E-15	7.69E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.677E-14	1.528E-14	2.375E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD154682	Plant 6WH	05/30/13	Gross Alpha/Beta	Gross Alpha	5.451E-15	5.985E-15	7.284E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.458E-14	1.435E-14	2.249E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD154683	6WH LOADOUT	06/03/13	Gross Alpha/Beta	Gross Alpha	-3.12E-16	3.052E-15	7.418E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.735E-14	1.415E-14	2.07E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD154684	6WH LOADOUT	06/03/13	Gross Alpha/Beta	Gross Alpha	1.612E-15	4.179E-15	7.675E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.349E-14	1.51E-14	2.142E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD154685	6WH LOADOUT	06/03/13	Gross Alpha/Beta	Gross Alpha	2.682E-15	4.79E-15	7.981E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.123E-14	1.544E-14	2.228E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD154686	Plant 6WH	06/03/13	Gross Alpha/Beta	Gross Alpha	6.68E-16	3.836E-15	7.95E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.35E-14	1.473E-14	2.219E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD154687	Kiesel/Hall St.	06/03/13	Gross Alpha/Beta	Gross Alpha	1.753E-15	4.546E-15	8.349E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.824E-14	1.664E-14	2.33E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD154688	6WH LOADOUT	06/04/13	Gross Alpha/Beta	Gross Alpha	5.565E-15	5.789E-15	7.794E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.761E-14	1.564E-14	2.176E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD154689	6WH LOADOUT	06/04/13	Gross Alpha/Beta	Gross Alpha	1.69E-15	4.381E-15	8.046E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.172E-14	1.474E-14	2.246E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD154690	6WH LOADOUT	06/04/13	Gross Alpha/Beta	Gross Alpha	2.841E-15	5.074E-15	8.455E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.114E-14	1.624E-14	2.36E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD154691	Plant 6WH	06/04/13	Gross Alpha/Beta	Gross Alpha	1.814E-15	4.703E-15	8.638E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.644E-14	1.699E-14	2.411E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD154692	Kiesel/Hall St.	06/04/13	Gross Alpha/Beta	Gross Alpha	1.71E-15	4.434E-15	8.144E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.121E-14	1.486E-14	2.273E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD154693	6WH LOADOUT	06/05/13	Gross Alpha/Beta	Gross Alpha	6.3E-16	3.62E-15	7.501E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.597E-14	1.5E-14	2.094E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD154694	6WH LOADOUT	06/05/13	Gross Alpha/Beta	Gross Alpha	-1.275E-15	2.469E-15	7.587E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.262E-14	1.488E-14	2.118E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD154695	6WH LOADOUT	06/05/13	Gross Alpha/Beta	Gross Alpha	3.763E-15	5.302E-15	8.144E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.93E-14	1.716E-14	2.273E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD154696	Plant 6WH	06/05/13	Gross Alpha/Beta	Gross Alpha	3.857E-15	5.435E-15	8.349E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.096E-14	1.764E-14	2.33E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD154697	Kiesel/Hall St.	06/05/13	Gross Alpha/Beta	Gross Alpha	3.973E-15	5.599E-15	8.601E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.943E-14	1.635E-14	2.401E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD154698	Kiesel/Hall St.	06/05/13	Gross Alpha/Beta	Gross Alpha	7.52E-16	4.318E-15	8.948E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.103E-14	1.868E-14	2.497E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD154699	6WH LOADOUT	06/06/13	Gross Alpha/Beta	Gross Alpha	2.492E-15	4.451E-15	7.418E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.294E-14	1.616E-14	2.07E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD154700	6WH LOADOUT	06/06/13	Gross Alpha/Beta	Gross Alpha	6.45E-16	3.703E-15	7.675E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.565E-14	1.681E-14	2.142E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD154701	6WH LOADOUT	06/06/13	Gross Alpha/Beta	Gross Alpha	-1.352E-15	2.618E-15	8.046E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.915E-14	1.772E-14	2.246E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD154702	Plant 6WH	06/06/13	Gross Alpha/Beta	Gross Alpha	-3.46E-16	3.393E-15	8.245E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.59E-14	1.628E-14	2.301E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD154703	6WH LOADOUT	06/10/13	Gross Alpha/Beta	Gross Alpha	7.12E-16	4.286E-15	7.44E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	9.914E-15	2.149E-14	2.143E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD154704	6WH LOADOUT	06/10/13	Gross Alpha/Beta	Gross Alpha	6.552E-15	6.477E-15	7.613E-15	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
				Gross Beta	1.88E-14	2.246E-14	2.192E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD154705	6WH LOADOUT	06/10/13	Gross Alpha/Beta	Gross Alpha	-2.63E-16	4.261E-15	8.25E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	9.654E-15	2.375E-14	2.376E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD154706	Plant 6WH	06/10/13	Gross Alpha/Beta	Gross Alpha	4.998E-15	6.52E-15	9.595E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.21E-14	1.245E-14	1.666E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD154707	Kiesel/Hall St.	06/10/13	Gross Alpha/Beta	Gross Alpha	7.42E-16	5.106E-15	9.972E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.65E-14	1.332E-14	1.731E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air

Table B-1. SLDS Perimeter Air Data Results for CY 2013

Sample Name	Station Name	Sample Collection Date	Method Type	Analyte Name	Analytical Result	Measurement Error	DL	Units	VQ	Validation Reason Code	Sampling Event Name
SLD154708	Kiesel/Hall St.	06/10/13	Gross Alpha/Beta	Gross Alpha	2.797E-15	5.653E-15	9.397E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	7.658E-15	1.055E-14	1.631E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD154709	6WH LOADOUT	06/11/13	Gross Alpha/Beta	Gross Alpha	-1.267E-15	3.571E-15	7.95E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.415E-14	2.371E-14	2.289E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD154710	6WH LOADOUT	06/11/13	Gross Alpha/Beta	Gross Alpha	2.845E-15	5.516E-15	8.114E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.147E-14	2.347E-14	2.337E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD154711	6WH LOADOUT	06/11/13	Gross Alpha/Beta	Gross Alpha	1.93E-15	5.448E-15	8.648E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.82E-14	2.643E-14	2.49E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD154712	Plant 6WH	06/11/13	Gross Alpha/Beta	Gross Alpha	-3.73E-16	4.615E-15	1.002E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.526E-14	1.211E-14	1.739E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD154713	Kiesel/Hall St.	06/11/13	Gross Alpha/Beta	Gross Alpha	3.048E-15	6.16E-15	1.024E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	6.894E-15	1.131E-14	1.778E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD154714	Kiesel/Hall St.	06/11/13	Gross Alpha/Beta	Gross Alpha	2.146E-15	6.442E-15	1.153E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.574E-14	1.488E-14	2.002E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD154715	6WH LOADOUT	06/12/13	Gross Alpha/Beta	Gross Alpha	4.558E-15	5.794E-15	7.525E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.858E-14	2.221E-14	2.167E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD154716	6WH LOADOUT	06/12/13	Gross Alpha/Beta	Gross Alpha	7.45E-16	4.489E-15	7.793E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.126E-14	2.365E-14	2.244E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD154717	6WH LOADOUT	06/12/13	Gross Alpha/Beta	Gross Alpha	1.841E-15	5.198E-15	8.25E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.501E-14	2.405E-14	2.376E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD154718	Plant 6WH	06/12/13	Gross Alpha/Beta	Gross Alpha	1.823E-15	5.475E-15	9.8E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.466E-14	1.294E-14	1.701E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD154719	Kiesel/Hall St.	06/12/13	Gross Alpha/Beta	Gross Alpha	-3.81E-16	4.718E-15	1.024E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.415E-14	1.221E-14	1.778E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD154720	Kiesel/Hall St.	06/12/13	Gross Alpha/Beta	Gross Alpha	2.19E-15	6.575E-15	1.177E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.71E-14	1.413E-14	2.044E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD154721	6WH LOADOUT	06/13/13	Gross Alpha/Beta	Gross Alpha	1.654E-15	4.67E-15	7.412E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.056E-15	2.096E-14	2.135E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD154722	6WH LOADOUT	06/13/13	Gross Alpha/Beta	Gross Alpha	8.661E-15	7.178E-15	7.763E-15	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
				Gross Beta	9.714E-15	2.238E-14	2.235E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD154723	6WH LOADOUT	06/13/13	Gross Alpha/Beta	Gross Alpha	-2.57E-16	4.157E-15	8.048E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.555E-14	2.46E-14	2.317E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD154724	Plant 6WH	06/13/13	Gross Alpha/Beta	Gross Alpha	4.029E-15	6.316E-15	9.843E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.43E-14	1.182E-14	1.709E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD154725	Kiesel/Hall St.	06/13/13	Gross Alpha/Beta	Gross Alpha	1.872E-15	5.619E-15	1.006E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.176E-14	1.173E-14	1.746E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD154726	Kiesel/Hall St.	06/13/13	Gross Alpha/Beta	Gross Alpha	4.064E-15	6.371E-15	9.928E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.513E-14	1.2E-14	1.724E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD154727	6WH LOADOUT	06/17/13	Gross Alpha/Beta	Gross Alpha	6.33E-16	3.811E-15	6.616E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.043E-14	1.92E-14	1.905E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD154728	6WH LOADOUT	06/17/13	Gross Alpha/Beta	Gross Alpha	-2.26E-16	3.663E-15	7.092E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.19E-14	2.171E-14	2.042E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD154729	6WH LOADOUT	06/17/13	Gross Alpha/Beta	Gross Alpha	1.612E-15	4.55E-15	7.222E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.959E-14	2.141E-14	2.08E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD154730	Plant 6WH	06/17/13	Gross Alpha/Beta	Gross Alpha	3.578E-15	7.23E-15	1.202E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.235E-14	1.381E-14	2.087E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD154731	Kiesel/Hall St.	06/17/13	Gross Alpha/Beta	Gross Alpha	9.09E-16	6.252E-15	1.221E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.899E-14	1.594E-14	2.12E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD154732	Kiesel/Hall St.	06/17/13	Gross Alpha/Beta	Gross Alpha	5.164E-15	8.096E-15	1.262E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.833E-14	1.515E-14	2.19E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD154733	6WH LOADOUT	06/18/13	Gross Alpha/Beta	Gross Alpha	2.599E-15	5.039E-15	7.412E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.011E-14	2.197E-14	2.135E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD154734	6WH LOADOUT	06/18/13	Gross Alpha/Beta	Gross Alpha	1.654E-15	4.67E-15	7.412E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.733E-14	2.236E-14	2.135E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD154735	6WH LOADOUT	06/18/13	Gross Alpha/Beta	Gross Alpha	1.811E-15	5.112E-15	8.114E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.003E-14	2.394E-14	2.337E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air

Table B-1. SLDS Perimeter Air Data Results for CY 2013

Sample Name	Station Name	Sample Collection Date	Method Type	Analyte Name	Analytical Result	Measurement Error	DL	Units	VQ	Validation Reason Code	Sampling Event Name
SLD155287	Plant 6WH	06/18/13	Gross Alpha/Beta	Gross Alpha	3.911E-15	6.131E-15	9.554E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.268E-14	1.247E-14	1.659E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155288	Kiesel/Hall St.	06/18/13	Gross Alpha/Beta	Gross Alpha	-3.9E-16	4.827E-15	1.048E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.151E-14	1.213E-14	1.819E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD155289	6WH LOADOUT	06/19/13	Gross Alpha/Beta	Gross Alpha	1.719E-15	4.853E-15	7.702E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.964E-14	2.276E-14	2.218E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD155290	6WH LOADOUT	06/19/13	Gross Alpha/Beta	Gross Alpha	2.799E-15	5.427E-15	7.983E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.165E-14	2.366E-14	2.299E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD155291	6WH LOADOUT	06/19/13	Gross Alpha/Beta	Gross Alpha	4.081E-15	6.199E-15	8.535E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.839E-14	2.612E-14	2.458E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155292	Plant 6WH	06/19/13	Gross Alpha/Beta	Gross Alpha	-2.281E-15	6.178E-15	1.533E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.901E-14	1.801E-14	2.661E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
SLD155293	6WH LOADOUT	06/20/13	Gross Alpha/Beta	Gross Alpha	4.558E-15	5.794E-15	7.525E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.263E-14	2.297E-14	2.167E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155294	6WH LOADOUT	06/20/13	Gross Alpha/Beta	Gross Alpha	5.737E-15	6.348E-15	7.824E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.964E-14	2.418E-14	2.253E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155295	6WH LOADOUT	06/20/13	Gross Alpha/Beta	Gross Alpha	6.074E-15	6.722E-15	8.284E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.995E-14	2.55E-14	2.386E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155296	Plant 6WH	06/20/13	Gross Alpha/Beta	Gross Alpha	-4.01E-16	4.963E-15	1.077E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.473E-14	1.503E-14	1.87E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD155297	Kiesel/Hall St.	06/20/13	Gross Alpha/Beta	Gross Alpha	3.994E-15	6.263E-15	9.759E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.354E-14	1.383E-14	1.694E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD155298	Kiesel/Hall St.	06/20/13	Gross Alpha/Beta	Gross Alpha	1.494E-14	1.095E-14	1.255E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.334E-14	1.676E-14	2.178E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155299	Kiesel/Hall St.	06/19/13	Gross Alpha/Beta	Gross Alpha	1.236E-14	9.059E-15	1.038E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.096E-14	1.314E-14	1.802E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155300	6WH LOADOUT	06/24/13	Gross Alpha/Beta	Gross Alpha	-6.5E-16	5.102E-15	9.026E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.621E-14	1.592E-14	2.169E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155301	6WH LOADOUT	06/24/13	Gross Alpha/Beta	Gross Alpha	-1.739E-15	5.048E-15	9.663E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.806E-14	1.704E-14	2.322E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155302	6WH LOADOUT	06/24/13	Gross Alpha/Beta	Gross Alpha	3.66E-16	6.153E-15	1.017E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.953E-14	1.793E-14	2.444E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155303	Plant 6WH	06/24/13	Gross Alpha/Beta	Gross Alpha	2.145E-15	7.455E-15	1.293E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.618E-14	1.56E-14	1.885E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD155304	Kiesel/Hall St.	06/24/13	Gross Alpha/Beta	Gross Alpha	-2.86E-16	6.156E-15	1.206E-14	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	2.794E-14	1.396E-14	1.758E-14	µCi/mL	=		Kiesel/Hall Street (General Area) Perimeter Air
SLD155305	6WH LOADOUT	06/25/13	Gross Alpha/Beta	Gross Alpha	5.098E-15	6.859E-15	8.855E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.91E-14	1.663E-14	2.128E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD155306	6WH LOADOUT	06/25/13	Gross Alpha/Beta	Gross Alpha	3.435E-15	6.791E-15	9.544E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.952E-14	1.773E-14	2.293E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD155307	6WH LOADOUT	06/25/13	Gross Alpha/Beta	Gross Alpha	3.521E-15	6.962E-15	9.785E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.177E-14	1.751E-14	2.351E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155308	Plant 6WH	06/25/13	Gross Alpha/Beta	Gross Alpha	3.088E-15	7.191E-15	1.185E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.6E-14	1.458E-14	1.727E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD155309	Kiesel/Hall St.	06/25/13	Gross Alpha/Beta	Gross Alpha	4.138E-15	7.404E-15	1.164E-14	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	2.767E-14	1.355E-14	1.697E-14	µCi/mL	=		Kiesel/Hall Street (General Area) Perimeter Air
SLD155310	Kiesel/Hall St.	06/25/13	Gross Alpha/Beta	Gross Alpha	8.31E-16	6.367E-15	1.17E-14	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	1.161E-14	1.18E-14	1.705E-14	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
SLD155311	6WH LOADOUT	06/26/13	Gross Alpha/Beta	Gross Alpha	-6.76E-16	5.307E-15	9.39E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.178E-14	1.691E-14	2.256E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155312	6WH LOADOUT	06/26/13	Gross Alpha/Beta	Gross Alpha	4.821E-15	7.663E-15	1.031E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.629E-14	1.866E-14	2.476E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155313	6WH LOADOUT	06/26/13	Gross Alpha/Beta	Gross Alpha	6.123E-15	8.237E-15	1.063E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.649E-14	1.841E-14	2.555E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155314	Plant 6WH	06/26/13	Gross Alpha/Beta	Gross Alpha	5.43E-15	8.003E-15	1.206E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.213E-14	1.334E-14	1.758E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air

Table B-1. SLDS Perimeter Air Data Results for CY 2013

Sample Name	Station Name	Sample Collection Date	Method Type	Analyte Name	Analytical Result	Measurement Error	DL	Units	VQ	Validation Reason Code	Sampling Event Name
SLD155315	Kiesel/Hall St.	06/26/13	Gross Alpha/Beta	Gross Alpha	-2.83E-16	6.101E-15	1.196E-14	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	1.331E-14	1.224E-14	1.743E-14	µCi/mL	U	T04, T05	Kiesel/Hall Street (General Area) Perimeter Air
SLD155316	Kiesel/Hall St.	06/26/13	Gross Alpha/Beta	Gross Alpha	-2.88E-16	6.212E-15	1.217E-14	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	2.16E-14	1.338E-14	1.774E-14	µCi/mL	J	T04	Kiesel/Hall Street (General Area) Perimeter Air
SLD155317	6WH LOADOUT	06/27/13	Gross Alpha/Beta	Gross Alpha	3.24E-16	5.44E-15	8.992E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.487E-14	1.576E-14	2.161E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155318	6WH LOADOUT	06/27/13	Gross Alpha/Beta	Gross Alpha	6.395E-15	7.522E-15	9.353E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	4.13E-14	1.756E-14	2.247E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD155319	6WH LOADOUT	06/27/13	Gross Alpha/Beta	Gross Alpha	3.61E-16	6.073E-15	1.004E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.259E-14	1.797E-14	2.412E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155320	Plant 6WH	06/27/13	Gross Alpha/Beta	Gross Alpha	8.46E-16	6.48E-15	1.19E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.826E-14	1.276E-14	1.735E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155321	Kiesel/Hall St.	06/27/13	Gross Alpha/Beta	Gross Alpha	-2.72E-16	5.866E-15	1.15E-14	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	1.971E-14	1.256E-14	1.675E-14	µCi/mL	J	T04	Kiesel/Hall Street (General Area) Perimeter Air
SLD155322	6WH LOADOUT	07/01/13	Gross Alpha/Beta	Gross Alpha	-2.79E-16	6.317E-15	9.922E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.673E-14	2.053E-14	2.572E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155323	6WH LOADOUT	07/01/13	Gross Alpha/Beta	Gross Alpha	6.023E-15	7.842E-15	9.301E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.173E-14	1.902E-14	2.411E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
SLD155324	6WH LOADOUT	07/01/13	Gross Alpha/Beta	Gross Alpha	8.66E-15	8.947E-15	9.922E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.033E-14	2.008E-14	2.572E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
SLD155325	Kiesel/Hall St.	07/01/13	Gross Alpha/Beta	Gross Alpha	4.228E-15	7.811E-15	1.001E-14	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	2.123E-14	2.031E-14	2.595E-14	µCi/mL	U	T04, T05	Kiesel/Hall Street (General Area) Perimeter Air
SLD155326	Kiesel/Hall St.	07/01/13	Gross Alpha/Beta	Gross Alpha	1.553E-14	1.262E-14	1.283E-14	µCi/mL	J	T04	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	2.905E-14	2.616E-14	3.326E-14	µCi/mL	U	T04, T05	Kiesel/Hall Street (General Area) Perimeter Air
SLD155327	6WH LOADOUT	07/02/13	Gross Alpha/Beta	Gross Alpha	7.346E-15	8.436E-15	9.664E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.505E-14	2.061E-14	2.505E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155328	6WH LOADOUT	07/02/13	Gross Alpha/Beta	Gross Alpha	4.489E-15	8.294E-15	1.063E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.111E-14	2.075E-14	2.755E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD155329	6WH LOADOUT	07/02/13	Gross Alpha/Beta	Gross Alpha	1.252E-14	9.546E-15	9.459E-15	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.956E-14	1.985E-14	2.452E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155330	6WH LOADOUT	07/03/13	Gross Alpha/Beta	Gross Alpha	1.788E-15	6.461E-15	9.075E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.404E-14	1.804E-14	2.352E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD155331	6WH LOADOUT	07/03/13	Gross Alpha/Beta	Gross Alpha	3.961E-15	7.318E-15	9.38E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.989E-14	1.903E-14	2.431E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
SLD155332	6WH LOADOUT	07/03/13	Gross Alpha/Beta	Gross Alpha	5.998E-15	7.81E-15	9.263E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.429E-14	1.912E-14	2.401E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155333	Kiesel/Hall St.	07/03/13	Gross Alpha/Beta	Gross Alpha	5.513E-15	1.019E-14	1.306E-14	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	5.226E-15	2.485E-14	3.384E-14	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
SLD155334	Kiesel/Hall St.	07/03/13	Gross Alpha/Beta	Gross Alpha	9.62E-16	7.692E-15	1.139E-14	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	2.661E-14	2.328E-14	2.952E-14	µCi/mL	U	T04, T05	Kiesel/Hall Street (General Area) Perimeter Air
SLD155335	6WH LOADOUT	07/08/13	Gross Alpha/Beta	Gross Alpha	3.24E-16	3.928E-15	9.013E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.884E-14	1.377E-14	1.513E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155336	6WH LOADOUT	07/08/13	Gross Alpha/Beta	Gross Alpha	2.351E-15	4.967E-15	9.333E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.695E-14	1.403E-14	1.567E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155337	6WH LOADOUT	07/08/13	Gross Alpha/Beta	Gross Alpha	8.092E-15	7.348E-15	1.022E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.506E-14	1.504E-14	1.716E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
SLD155338	Kiesel/Hall St.	07/08/13	Gross Alpha/Beta	Gross Alpha	1.18E-14	1.884E-14	3.28E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	5.619E-15	4.409E-14	5.506E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD155339	Kiesel/Hall St.	07/08/13	Gross Alpha/Beta	Gross Alpha	-1.967E-15	3.4E-15	1.093E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.611E-14	1.609E-14	1.835E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
SLD155340	6WH LOADOUT	07/09/13	Gross Alpha/Beta	Gross Alpha	1.273E-15	4.301E-15	8.844E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.243E-14	1.296E-14	1.485E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD155341	6WH LOADOUT	07/09/13	Gross Alpha/Beta	Gross Alpha	7.568E-15	6.872E-15	9.56E-15	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.046E-14	1.553E-14	1.605E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155342	6WH LOADOUT	07/09/13	Gross Alpha/Beta	Gross Alpha	2.489E-15	5.258E-15	9.88E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.659E-14	1.473E-14	1.659E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air

Table B-1. SLDS Perimeter Air Data Results for CY 2013

Sample Name	Station Name	Sample Collection Date	Method Type	Analyte Name	Analytical Result	Measurement Error	DL	Units	VQ	Validation Reason Code	Sampling Event Name
SLD155343	Kiesel/Hall St.	07/09/13	Gross Alpha/Beta	Gross Alpha	1.422E-15	4.805E-15	9.88E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	6.432E-15	1.376E-14	1.659E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD155344	Kiesel/Hall St.	07/09/13	Gross Alpha/Beta	Gross Alpha	1.349E-15	4.557E-15	9.37E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.215E-14	1.455E-14	1.573E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155345	6WH LOADOUT	07/10/13	Gross Alpha/Beta	Gross Alpha	-3.035E-15	5.245E-15	1.687E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.56E-14	2.394E-14	2.832E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD155346	6WH LOADOUT	07/11/13	Gross Alpha/Beta	Gross Alpha	7.274E-15	6.605E-15	9.188E-15	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.48E-14	1.364E-14	1.543E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
SLD155347	6WH LOADOUT	07/11/13	Gross Alpha/Beta	Gross Alpha	3.399E-15	5.425E-15	9.445E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.039E-14	1.449E-14	1.586E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155348	6WH LOADOUT	07/11/13	Gross Alpha/Beta	Gross Alpha	4.761E-15	6.246E-15	1.018E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.616E-14	1.599E-14	1.709E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155349	Kiesel/Hall St.	07/11/13	Gross Alpha/Beta	Gross Alpha	1.144E-14	8.869E-15	1.135E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.229E-14	1.811E-14	1.906E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155350	Plant 6WH	07/08/13	Gross Alpha/Beta	Gross Alpha	6.998E-15	1.478E-14	2.778E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.189E-14	3.906E-14	4.664E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD155351	6WH LOADOUT	07/15/13	Gross Alpha/Beta	Gross Alpha	5.169E-15	5.841E-15	8.978E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.754E-14	1.361E-14	1.507E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155352	6WH LOADOUT	07/15/13	Gross Alpha/Beta	Gross Alpha	4.366E-15	5.727E-15	9.333E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.143E-14	1.444E-14	1.567E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155353	6WH LOADOUT	07/15/13	Gross Alpha/Beta	Gross Alpha	4.845E-15	6.355E-15	1.036E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.449E-14	1.608E-14	1.739E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155354	6WH LOADOUT	07/16/13	Gross Alpha/Beta	Gross Alpha	2.262E-15	4.778E-15	8.978E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.384E-15	1.226E-14	1.507E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD155355	6WH LOADOUT	07/16/13	Gross Alpha/Beta	Gross Alpha	3.41E-16	4.133E-15	9.483E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	6.174E-15	1.321E-14	1.592E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD155356	6WH LOADOUT	07/16/13	Gross Alpha/Beta	Gross Alpha	1.416E-15	4.785E-15	9.839E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.247E-14	1.429E-14	1.652E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD155357	Kiesel/Hall St.	07/16/13	Gross Alpha/Beta	Gross Alpha	7.207E-15	7.227E-15	1.054E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.854E-14	1.669E-14	1.77E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155358	Kiesel/Hall St.	07/16/13	Gross Alpha/Beta	Gross Alpha	-7.36E-16	3.87E-15	1.022E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	6.655E-15	1.424E-14	1.716E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD155359	6WH LOADOUT	07/17/13	Gross Alpha/Beta	Gross Alpha	1.333E-15	4.504E-15	9.26E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.238E-14	1.351E-14	1.555E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD155360	6WH LOADOUT	07/17/13	Gross Alpha/Beta	Gross Alpha	9.039E-15	7.543E-15	1.005E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.1E-14	1.536E-14	1.687E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155361	6WH LOADOUT	07/17/13	Gross Alpha/Beta	Gross Alpha	-3.008E-15	2.339E-15	1.045E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.614E-14	1.635E-14	1.754E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155362	Kiesel/Hall St.	07/17/13	Gross Alpha/Beta	Gross Alpha	2.754E-15	5.818E-15	1.093E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.236E-14	1.573E-14	1.835E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD155363	6WH LOADOUT	07/18/13	Gross Alpha/Beta	Gross Alpha	2.171E-15	4.586E-15	8.618E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.042E-14	1.425E-14	1.447E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD155364	6WH LOADOUT	07/18/13	Gross Alpha/Beta	Gross Alpha	6.209E-15	6.226E-15	9.082E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.272E-14	1.421E-14	1.525E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155365	6WH LOADOUT	07/18/13	Gross Alpha/Beta	Gross Alpha	3.44E-15	5.491E-15	9.56E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.046E-14	1.553E-14	1.605E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155366	Kiesel/Hall St.	07/18/13	Gross Alpha/Beta	Gross Alpha	4.105E-15	6.552E-15	1.141E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.557E-14	1.846E-14	1.915E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155370	Kiesel/Hall St.	07/22/13	Gross Alpha/Beta	Gross Alpha	8.77E-15	8.46E-15	1.166E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.633E-14	1.334E-14	1.788E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
SLD155374	Plant 6WH	07/23/13	Gross Alpha/Beta	Gross Alpha	-1.715E-15	4.615E-15	1.14E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.524E-14	1.296E-14	1.748E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
SLD155375	Kiesel/Hall St.	07/23/13	Gross Alpha/Beta	Gross Alpha	5.4E-16	5.324E-15	1.077E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.44E-14	1.224E-14	1.652E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
SLD155379	Plant 6WH	07/24/13	Gross Alpha/Beta	Gross Alpha	1.641E-15	5.82E-15	1.091E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.042E-14	1.192E-14	1.673E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air

Table B-1. SLDS Perimeter Air Data Results for CY 2013

Sample Name	Station Name	Sample Collection Date	Method Type	Analyte Name	Analytical Result	Measurement Error	DL	Units	VQ	Validation Reason Code	Sampling Event Name
SLD155380	Kiesel/Hall St.	07/24/13	Gross Alpha/Beta	Gross Alpha	-2.633E-15	3.694E-15	1.05E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.137E-14	1.163E-14	1.611E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD155384	Plant 6WH	07/25/13	Gross Alpha/Beta	Gross Alpha	-1.677E-15	4.514E-15	1.115E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.916E-14	1.314E-14	1.71E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD155385	Kiesel/Hall St.	07/25/13	Gross Alpha/Beta	Gross Alpha	2.771E-15	6.299E-15	1.105E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	7.036E-15	1.166E-14	1.695E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD156173	6WH LOADOUT	07/30/13	Gross Alpha/Beta	Gross Alpha	5.493E-15	6.782E-15	1.095E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.149E-14	1.248E-14	1.587E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156174	6WH LOADOUT	07/30/13	Gross Alpha/Beta	Gross Alpha	1.568E-15	5.928E-15	1.195E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.085E-14	1.324E-14	1.732E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156175	6WH LOADOUT	07/30/13	Gross Alpha/Beta	Gross Alpha	5.03E-16	5.999E-15	1.303E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.748E-14	1.485E-14	1.889E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156176	6WH LOADOUT	07/31/13	Gross Alpha/Beta	Gross Alpha	1.517E-15	5.737E-15	1.156E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.985E-14	1.282E-14	1.676E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156177	6WH LOADOUT	07/31/13	Gross Alpha/Beta	Gross Alpha	1.426E-15	5.395E-15	1.087E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.679E-14	1.191E-14	1.576E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156178	6WH LOADOUT	07/31/13	Gross Alpha/Beta	Gross Alpha	-5.63E-16	4.388E-15	1.041E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.26E-14	1.107E-14	1.509E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156179	6WH LOADOUT	08/01/13	Gross Alpha/Beta	Gross Alpha	1.52E-15	5.747E-15	1.158E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.399E-14	1.327E-14	1.679E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156180	6WH LOADOUT	08/01/13	Gross Alpha/Beta	Gross Alpha	3.376E-15	5.986E-15	1.067E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.887E-14	1.393E-14	1.546E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156181	6WH LOADOUT	08/01/13	Gross Alpha/Beta	Gross Alpha	7.086E-15	6.939E-15	1.032E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
				Gross Beta	3.028E-14	1.182E-14	1.495E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156182	Plant 6WH	07/29/13	Gross Alpha/Beta	Gross Alpha	3.666E-15	6.501E-15	1.158E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.106E-14	1.186E-14	1.679E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156183	Plant 6WH	07/29/13	Gross Alpha/Beta	Gross Alpha	-6.13E-16	4.785E-15	1.135E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.665E-14	1.23E-14	1.646E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156184	Plant 6WH	07/29/13	Gross Alpha/Beta	Gross Alpha	-1.687E-15	4.355E-15	1.151E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.565E-14	1.231E-14	1.668E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156185	Plant 6WH	07/29/13	Gross Alpha/Beta	Gross Alpha	2.698E-15	6.384E-15	1.205E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.687E-14	1.29E-14	1.747E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156186	Plant 6WH	07/30/13	Gross Alpha/Beta	Gross Alpha	-7.968E-15	1.1E-14	3.33E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.137E-14	2.922E-14	4.827E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD156187	Plant 6WH	07/31/13	Gross Alpha/Beta	Gross Alpha	1.631E-15	6.168E-15	1.243E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.552E-14	1.306E-14	1.802E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156188	Plant 6WH	08/01/13	Gross Alpha/Beta	Gross Alpha	7.43E-15	8.084E-15	1.25E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.375E-14	1.402E-14	1.812E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156189	Kiesel/Hall St.	07/29/13	Gross Alpha/Beta	Gross Alpha	8.939E-15	8.754E-15	1.301E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
				Gross Beta	3.36E-14	1.443E-14	1.886E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156190	Kiesel/Hall St.	07/31/13	Gross Alpha/Beta	Gross Alpha	6.137E-15	7.577E-15	1.223E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.008E-14	1.227E-14	1.773E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156191	Kiesel/Hall St.	08/01/13	Gross Alpha/Beta	Gross Alpha	1.621E-15	6.131E-15	1.236E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.19E-14	1.37E-14	1.791E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156192	6WH LOADOUT	08/05/13	Gross Alpha/Beta	Gross Alpha	5.025E-15	6.479E-15	1.008E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.113E-14	1.281E-14	1.605E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD156193	6WH LOADOUT	08/05/13	Gross Alpha/Beta	Gross Alpha	5.511E-15	7.106E-15	1.106E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.197E-14	1.382E-14	1.76E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD156194	6WH LOADOUT	08/05/13	Gross Alpha/Beta	Gross Alpha	1.933E-15	5.459E-15	1.022E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.086E-14	1.182E-14	1.628E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD156195	6WH LOADOUT	08/06/13	Gross Alpha/Beta	Gross Alpha	6.114E-15	6.861E-15	1.016E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.941E-14	1.16E-14	1.618E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD156196	6WH LOADOUT	08/06/13	Gross Alpha/Beta	Gross Alpha	-1.359E-15	4.484E-15	1.13E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.675E-14	1.348E-14	1.799E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD156197	6WH LOADOUT	08/06/13	Gross Alpha/Beta	Gross Alpha	-2.604E-15	3.953E-15	1.165E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.615E-14	1.258E-14	1.856E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air

Table B-1. SLDS Perimeter Air Data Results for CY 2013

Sample Name	Station Name	Sample Collection Date	Method Type	Analyte Name	Analytical Result	Measurement Error	DL	Units	VQ	Validation Reason Code	Sampling Event Name
SLD156198	6WH LOADOUT	08/07/13	Gross Alpha/Beta	Gross Alpha	5.489E-15	7.077E-15	1.101E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.391E-14	1.289E-14	1.753E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD156199	6WH LOADOUT	08/07/13	Gross Alpha/Beta	Gross Alpha	-1.78E-16	4.623E-15	1.033E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.973E-14	1.179E-14	1.645E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD156200	6WH LOADOUT	08/07/13	Gross Alpha/Beta	Gross Alpha	4.901E-15	6.319E-15	9.833E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.393E-14	1.18E-14	1.566E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD156201	6WH LOADOUT	08/08/13	Gross Alpha/Beta	Gross Alpha	5.575E-15	7.188E-15	1.118E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	4.332E-14	1.509E-14	1.781E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD156202	6WH LOADOUT	08/08/13	Gross Alpha/Beta	Gross Alpha	4.389E-15	6.757E-15	1.11E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.919E-14	1.356E-14	1.768E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD156203	6WH LOADOUT	08/08/13	Gross Alpha/Beta	Gross Alpha	4.78E-15	6.163E-15	9.59E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	4.154E-14	1.337E-14	1.527E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD156204	6WH LOADOUT	08/12/13	Gross Alpha/Beta	Gross Alpha	6.426E-15	7.21E-15	1.068E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	4.767E-14	1.502E-14	1.701E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD156205	6WH LOADOUT	08/12/13	Gross Alpha/Beta	Gross Alpha	9.62E-16	5.512E-15	1.119E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.162E-14	1.39E-14	1.781E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD156206	6WH LOADOUT	08/13/13	Gross Alpha/Beta	Gross Alpha	8.084E-15	7.36E-15	1.001E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.745E-14	1.338E-14	1.593E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD156207	6WH LOADOUT	08/13/13	Gross Alpha/Beta	Gross Alpha	2.103E-15	5.942E-15	1.112E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.217E-14	1.39E-14	1.771E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD156208	6WH LOADOUT	08/05/13	Gross Alpha/Beta	Gross Alpha	2.046E-15	5.78E-15	1.082E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.35E-14	1.267E-14	1.723E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD156209	6WH LOADOUT	08/06/13	Gross Alpha/Beta	Gross Alpha	3.537E-15	6.931E-15	1.211E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.946E-14	1.453E-14	1.927E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD156210	6WH LOADOUT	08/07/13	Gross Alpha/Beta	Gross Alpha	3.372E-15	6.607E-15	1.154E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.901E-14	1.281E-14	1.837E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD156211	6WH LOADOUT	08/08/13	Gross Alpha/Beta	Gross Alpha	1.013E-14	8.495E-15	1.112E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.778E-14	1.342E-14	1.77E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD156212	6WH LOADOUT	08/12/13	Gross Alpha/Beta	Gross Alpha	-2.24E-16	5.817E-15	1.3E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	4.101E-14	1.661E-14	2.07E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD156213	6WH LOADOUT	08/12/13	Gross Alpha/Beta	Gross Alpha	3.81E-15	5.865E-15	9.636E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.607E-14	1.288E-14	1.534E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD156214	6WH LOADOUT	08/13/13	Gross Alpha/Beta	Gross Alpha	1.906E-15	5.383E-15	1.008E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.706E-14	1.341E-14	1.605E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD156215	6WH LOADOUT	08/13/13	Gross Alpha/Beta	Gross Alpha	2.082E-15	5.881E-15	1.101E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.328E-14	1.391E-14	1.753E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD156216	Kiesel/Hall St.	08/05/13	Gross Alpha/Beta	Gross Alpha	7.989E-15	8.002E-15	1.134E-14	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	2.313E-14	1.311E-14	1.805E-14	µCi/mL	J	T04	Kiesel/Hall Street (General Area) Perimeter Air
SLD156217	Kiesel/Hall St.	08/06/13	Gross Alpha/Beta	Gross Alpha	4.3E-15	6.62E-15	1.088E-14	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	2.006E-14	1.233E-14	1.732E-14	µCi/mL	J	T04	Kiesel/Hall Street (General Area) Perimeter Air
SLD156218	Kiesel/Hall St.	08/07/13	Gross Alpha/Beta	Gross Alpha	2.107E-15	5.95E-15	1.114E-14	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	2.055E-14	1.263E-14	1.774E-14	µCi/mL	J	T04	Kiesel/Hall Street (General Area) Perimeter Air
SLD156219	Kiesel/Hall St.	08/08/13	Gross Alpha/Beta	Gross Alpha	4.176E-15	6.429E-15	1.056E-14	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	2.985E-14	1.313E-14	1.682E-14	µCi/mL	=		Kiesel/Hall Street (General Area) Perimeter Air
SLD156220	Kiesel/Hall St.	08/12/13	Gross Alpha/Beta	Gross Alpha	1.349E-14	1.513E-14	2.242E-14	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	1.199E-14	2.174E-14	3.569E-14	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
SLD156221	Kiesel/Hall St.	08/13/13	Gross Alpha/Beta	Gross Alpha	3.279E-15	6.425E-15	1.122E-14	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	2.51E-14	1.322E-14	1.787E-14	µCi/mL	J	T04	Kiesel/Hall Street (General Area) Perimeter Air
SLD156222	6WH LOADOUT	08/14/13	Gross Alpha/Beta	Gross Alpha	3.912E-15	4.617E-15	6.893E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	7.968E-15	1.372E-14	2.163E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD156223	6WH LOADOUT	08/14/13	Gross Alpha/Beta	Gross Alpha	4.023E-15	4.749E-15	7.09E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	-2.868E-15	1.311E-14	2.225E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD156224	6WH LOADOUT	08/14/13	Gross Alpha/Beta	Gross Alpha	1.82E-16	3.119E-15	8.022E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.692E-14	1.662E-14	2.518E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
SLD156225	6WH LOADOUT	08/20/13	Gross Alpha/Beta	Gross Alpha	-8.05E-16	1.967E-15	7.09E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.524E-14	1.63E-14	2.225E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air

Table B-1. SLDS Perimeter Air Data Results for CY 2013

Sample Name	Station Name	Sample Collection Date	Method Type	Analyte Name	Analytical Result	Measurement Error	DL	Units	VQ	Validation Reason Code	Sampling Event Name
SLD156226	6WH LOADOUT	08/20/13	Gross Alpha/Beta	Gross Alpha	1.38E-14	8.952E-15	9.076E-15	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
				Gross Beta	5.062E-14	2.127E-14	2.848E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD156227	6WH LOADOUT	08/20/13	Gross Alpha/Beta	Gross Alpha	3.481E-15	4.937E-15	8.071E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.493E-14	1.654E-14	2.533E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD156228	6WH LOADOUT	08/18/13	Gross Alpha/Beta	Gross Alpha	1.259E-14	7.778E-15	7.597E-15	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
				Gross Beta	4.83E-14	1.824E-14	2.384E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD156229	6WH LOADOUT	08/19/13	Gross Alpha/Beta	Gross Alpha	7.456E-15	6.266E-15	7.639E-15	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
				Gross Beta	4.062E-14	1.776E-14	2.397E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD156230	6WH LOADOUT	08/19/13	Gross Alpha/Beta	Gross Alpha	9.437E-15	6.857E-15	7.559E-15	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
				Gross Beta	3.495E-14	1.718E-14	2.372E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156231	6WH LOADOUT	08/15/13	Gross Alpha/Beta	Gross Alpha	5.18E-15	5.326E-15	7.362E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	9.786E-15	1.476E-14	2.31E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD156232	6WH LOADOUT	08/15/13	Gross Alpha/Beta	Gross Alpha	1.208E-15	3.611E-15	7.605E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	8.132E-15	1.508E-14	2.387E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD156233	6WH LOADOUT	08/15/13	Gross Alpha/Beta	Gross Alpha	4.641E-15	5.478E-15	8.178E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.229E-14	1.652E-14	2.567E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD156234	Kiesel/Hall St.	08/20/13	Gross Alpha/Beta	Gross Alpha	6.097E-15	8.241E-15	1.208E-14	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	3.097E-14	1.399E-14	1.859E-14	µCi/mL	=		Kiesel/Hall Street (General Area) Perimeter Air
SLD156235	Kiesel/Hall St.	08/19/13	Gross Alpha/Beta	Gross Alpha	7.853E-15	8.257E-15	1.122E-14	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	3.154E-14	1.328E-14	1.726E-14	µCi/mL	=		Kiesel/Hall Street (General Area) Perimeter Air
SLD156236	Kiesel/Hall St.	08/14/13	Gross Alpha/Beta	Gross Alpha	1.73E-16	5.572E-15	1.064E-14	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	1.012E-14	1.03E-14	1.637E-14	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
SLD156237	Plant 6WH	08/15/13	Gross Alpha/Beta	Gross Alpha	-1.963E-15	4.877E-15	1.096E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.722E-14	1.145E-14	1.686E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD156238	Plant 6WH	08/14/13	Gross Alpha/Beta	Gross Alpha	1.286E-15	6.306E-15	1.128E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.731E-15	9.986E-15	1.736E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD156239	Plant 6WH	08/19/13	Gross Alpha/Beta	Gross Alpha	3.776E-15	7.613E-15	1.221E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	8.126E-14	1.88E-14	1.878E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD156240	Plant 6WH	08/20/13	Gross Alpha/Beta	Gross Alpha	3.989E-15	6.405E-15	9.799E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.12E-14	1.199E-14	1.508E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD156241	6WH LOADOUT	08/21/13	Gross Alpha/Beta	Gross Alpha	9.523E-15	8.252E-15	1.021E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
				Gross Beta	4.992E-14	2.011E-14	2.484E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156242	6WH LOADOUT	08/21/13	Gross Alpha/Beta	Gross Alpha	7.254E-15	7.584E-15	1.017E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.913E-14	1.851E-14	2.474E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156243	6WH LOADOUT	08/21/13	Gross Alpha/Beta	Gross Alpha	5.525E-15	6.522E-15	9.154E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.198E-14	1.71E-14	2.227E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156244	6WH LOADOUT	08/22/13	Gross Alpha/Beta	Gross Alpha	1.022E-14	8.216E-15	9.805E-15	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
				Gross Beta	5.754E-14	1.998E-14	2.386E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156245	6WH LOADOUT	08/22/13	Gross Alpha/Beta	Gross Alpha	6.274E-15	6.56E-15	8.796E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.827E-14	1.625E-14	2.14E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156246	6WH LOADOUT	08/22/13	Gross Alpha/Beta	Gross Alpha	7.034E-15	7.354E-15	9.861E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.376E-14	1.837E-14	2.399E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156247	6WH LOADOUT	08/26/13	Gross Alpha/Beta	Gross Alpha	4.789E-15	6.571E-15	9.697E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	5.758E-14	1.981E-14	2.359E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156248	6WH LOADOUT	08/26/13	Gross Alpha/Beta	Gross Alpha	5.672E-15	6.695E-15	9.397E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.232E-14	1.675E-14	2.286E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD156249	6WH LOADOUT	08/26/13	Gross Alpha/Beta	Gross Alpha	2.422E-15	5.315E-15	8.829E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.405E-14	1.598E-14	2.148E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156250	6WH LOADOUT	08/27/13	Gross Alpha/Beta	Gross Alpha	4.852E-15	6.658E-15	9.826E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.707E-14	1.856E-14	2.391E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156251	6WH LOADOUT	08/27/13	Gross Alpha/Beta	Gross Alpha	4.762E-15	6.533E-15	9.642E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.974E-14	1.846E-14	2.346E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156252	6WH LOADOUT	08/27/13	Gross Alpha/Beta	Gross Alpha	2.389E-15	5.241E-15	8.706E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.893E-14	1.689E-14	2.118E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156253	6WH LOADOUT	08/28/13	Gross Alpha/Beta	Gross Alpha	6.477E-15	6.771E-15	9.079E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.347E-14	1.633E-14	2.209E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air

Table B-1. SLDS Perimeter Air Data Results for CY 2013

Sample Name	Station Name	Sample Collection Date	Method Type	Analyte Name	Analytical Result	Measurement Error	DL	Units	VQ	Validation Reason Code	Sampling Event Name
SLD156254	6WH LOADOUT	08/28/13	Gross Alpha/Beta	Gross Alpha	2.53E-15	5.552E-15	9.223E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.286E-14	1.728E-14	2.244E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156255	6WH LOADOUT	08/28/13	Gross Alpha/Beta	Gross Alpha	6.663E-15	6.966E-15	9.341E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.589E-14	1.769E-14	2.273E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156256	6WH LOADOUT	08/29/13	Gross Alpha/Beta	Gross Alpha	6.955E-15	7.271E-15	9.75E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.043E-14	1.716E-14	2.372E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD156257	6WH LOADOUT	08/29/13	Gross Alpha/Beta	Gross Alpha	7.101E-15	7.424E-15	9.955E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.434E-14	1.78E-14	2.422E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156258	6WH LOADOUT	08/29/13	Gross Alpha/Beta	Gross Alpha	3.824E-15	6.38E-15	9.955E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.13E-14	1.834E-14	2.422E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156259	Plant 6WH	08/21/13	Gross Alpha/Beta	Gross Alpha	1.352E-14	9.079E-15	1.061E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
				Gross Beta	4.694E-14	1.57E-14	1.759E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156260	Plant 6WH	08/22/13	Gross Alpha/Beta	Gross Alpha	1.164E-14	8.78E-15	1.094E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
				Gross Beta	5.708E-14	1.696E-14	1.815E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156261	Plant 6WH	08/26/13	Gross Alpha/Beta	Gross Alpha	4.327E-15	6.168E-15	1.005E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.729E-14	1.217E-14	1.666E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156262	Plant 6WH	08/27/13	Gross Alpha/Beta	Gross Alpha	7.7E-17	3.911E-15	8.769E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.55E-14	1.171E-14	1.454E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156263	Plant 6WH	08/28/13	Gross Alpha/Beta	Gross Alpha	5.27E-15	6.381E-15	9.831E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.664E-14	1.293E-14	1.63E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156264	Plant 6WH	08/29/13	Gross Alpha/Beta	Gross Alpha	3.685E-15	6.534E-15	1.133E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.146E-14	1.499E-14	1.879E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156265	Plant 6WH	09/03/13	Gross Alpha/Beta	Gross Alpha	1.369E-15	5.913E-15	1.199E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.034E-14	1.335E-14	1.988E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD156266	Plant 6WH	09/04/13	Gross Alpha/Beta	Gross Alpha	1.166E-15	5.036E-15	1.021E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.228E-14	1.287E-14	1.693E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156267	Plant 6WH	09/05/13	Gross Alpha/Beta	Gross Alpha	3.411E-15	6.048E-15	1.049E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	9.746E-15	1.176E-14	1.74E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD156268	Plant 6WH	09/09/13	Gross Alpha/Beta	Gross Alpha	1.257E-15	5.431E-15	1.101E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.927E-14	1.541E-14	1.825E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156269	Kiesel/Hall St.	08/21/13	Gross Alpha/Beta	Gross Alpha	4.75E-15	6.772E-15	1.103E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.825E-14	1.328E-14	1.829E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD156270	Kiesel/Hall St.	08/22/13	Gross Alpha/Beta	Gross Alpha	5.738E-15	6.948E-15	1.07E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.124E-14	1.327E-14	1.775E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156271	Kiesel/Hall St.	08/26/13	Gross Alpha/Beta	Gross Alpha	3.446E-15	6.11E-15	1.06E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.292E-14	1.436E-14	1.758E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156272	Kiesel/Hall St.	08/27/13	Gross Alpha/Beta	Gross Alpha	6.198E-15	7.505E-15	1.156E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.684E-14	1.367E-14	1.917E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD156805	Kiesel/Hall St.	08/28/13	Gross Alpha/Beta	Gross Alpha	4.476E-15	6.381E-15	1.04E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.514E-14	1.229E-14	1.724E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD156806	Kiesel/Hall St.	08/29/13	Gross Alpha/Beta	Gross Alpha	-9.95E-16	4.046E-15	1.03E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.5E-14	1.217E-14	1.707E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD156807	Kiesel/Hall St.	09/03/13	Gross Alpha/Beta	Gross Alpha	-2.163E-15	3.549E-15	1.07E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	9.944E-15	1.2E-14	1.775E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD156808	Kiesel/Hall St.	09/04/13	Gross Alpha/Beta	Gross Alpha	6.668E-15	7.095E-15	1.04E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.857E-14	1.267E-14	1.724E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156809	Kiesel/Hall St.	09/05/13	Gross Alpha/Beta	Gross Alpha	4.655E-15	6.636E-15	1.081E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.338E-15	1.143E-14	1.793E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD156810	Kiesel/Hall St.	09/09/13	Gross Alpha/Beta	Gross Alpha	2.306E-15	5.632E-15	1.05E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.291E-14	1.324E-14	1.741E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156811	6WH LOADOUT	09/03/13	Gross Alpha/Beta	Gross Alpha	-1.138E-15	4.837E-15	1.179E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.446E-14	1.343E-14	1.706E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156812	6WH LOADOUT	09/03/13	Gross Alpha/Beta	Gross Alpha	6.306E-15	7.134E-15	1.089E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.592E-14	1.175E-14	1.576E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156813	6WH LOADOUT	09/03/13	Gross Alpha/Beta	Gross Alpha	-1.167E-15	4.961E-15	1.209E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.782E-14	1.175E-14	1.75E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air

Table B-1. SLDS Perimeter Air Data Results for CY 2013

Sample Name	Station Name	Sample Collection Date	Method Type	Analyte Name	Analytical Result	Measurement Error	DL	Units	VQ	Validation Reason Code	Sampling Event Name
SLD156814	6WH LOADOUT	09/04/13	Gross Alpha/Beta	Gross Alpha	6.86E-15	6.935E-15	1.016E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.213E-14	1.183E-14	1.47E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156815	6WH LOADOUT	09/04/13	Gross Alpha/Beta	Gross Alpha	5.098E-15	6.614E-15	1.057E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.45E-14	1.133E-14	1.529E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156816	6WH LOADOUT	09/04/13	Gross Alpha/Beta	Gross Alpha	6.116E-15	6.92E-15	1.056E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.47E-14	1.243E-14	1.529E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156817	6WH LOADOUT	09/05/13	Gross Alpha/Beta	Gross Alpha	1.013E-14	8.576E-15	1.166E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
				Gross Beta	3.76E-14	1.365E-14	1.688E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156818	6WH LOADOUT	09/05/13	Gross Alpha/Beta	Gross Alpha	2.148E-15	5.889E-15	1.113E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.782E-14	1.216E-14	1.611E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156819	6WH LOADOUT	09/05/13	Gross Alpha/Beta	Gross Alpha	5.931E-15	6.71E-15	1.024E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.241E-14	1.193E-14	1.483E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156820	6WH LOADOUT	09/09/13	Gross Alpha/Beta	Gross Alpha	6.044E-15	6.838E-15	1.044E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.878E-14	1.372E-14	1.511E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156821	6WH LOADOUT	09/09/13	Gross Alpha/Beta	Gross Alpha	4.528E-15	6.985E-15	1.173E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	5.553E-14	1.548E-14	1.698E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156822	6WH LOADOUT	09/09/13	Gross Alpha/Beta	Gross Alpha	9.847E-15	8.337E-15	1.134E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
				Gross Beta	6.393E-14	1.589E-14	1.641E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156823	6WH LOADOUT	09/10/13	Gross Alpha/Beta	Gross Alpha	6.676E-15	6.054E-15	7.513E-15	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
				Gross Beta	5.508E-14	1.79E-14	2.385E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156824	6WH LOADOUT	09/10/13	Gross Alpha/Beta	Gross Alpha	7.859E-15	6.52E-15	7.637E-15	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
				Gross Beta	4.372E-14	1.725E-14	2.424E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156825	6WH LOADOUT	09/10/13	Gross Alpha/Beta	Gross Alpha	1.013E-14	7.286E-15	7.731E-15	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
				Gross Beta	4.564E-14	1.757E-14	2.454E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156826	6WH LOADOUT	09/11/13	Gross Alpha/Beta	Gross Alpha	1.545E-14	8.111E-15	6.74E-15	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
				Gross Beta	3.858E-14	1.523E-14	2.14E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156827	6WH LOADOUT	09/11/13	Gross Alpha/Beta	Gross Alpha	1.083E-14	7.35E-15	7.472E-15	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
				Gross Beta	3.676E-14	1.64E-14	2.372E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156828	6WH LOADOUT	09/11/13	Gross Alpha/Beta	Gross Alpha	8.818E-15	6.78E-15	7.541E-15	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
				Gross Beta	6E-14	1.832E-14	2.394E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156829	6WH LOADOUT	09/12/13	Gross Alpha/Beta	Gross Alpha	6.154E-15	5.581E-15	6.925E-15	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
				Gross Beta	2.727E-14	1.463E-14	2.198E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156830	6WH LOADOUT	09/12/13	Gross Alpha/Beta	Gross Alpha	1.005E-14	7.228E-15	7.67E-15	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
				Gross Beta	1.924E-14	1.525E-14	2.435E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD156831	6WH LOADOUT	09/12/13	Gross Alpha/Beta	Gross Alpha	3.594E-15	4.931E-15	7.685E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.261E-14	1.725E-14	2.439E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156832	6WH LOADOUT	09/16/13	Gross Alpha/Beta	Gross Alpha	3.194E-15	4.383E-15	6.83E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.97E-14	1.548E-14	2.168E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156833	6WH LOADOUT	09/16/13	Gross Alpha/Beta	Gross Alpha	9.983E-15	7.183E-15	7.622E-15	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
				Gross Beta	2.729E-14	1.587E-14	2.42E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156834	6WH LOADOUT	09/16/13	Gross Alpha/Beta	Gross Alpha	9.195E-15	7.071E-15	7.864E-15	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
				Gross Beta	3.939E-14	1.731E-14	2.496E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156835	6WH LOADOUT	09/17/13	Gross Alpha/Beta	Gross Alpha	5.291E-15	5.338E-15	7.07E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.047E-14	1.597E-14	2.244E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156836	6WH LOADOUT	09/17/13	Gross Alpha/Beta	Gross Alpha	4.596E-15	5.296E-15	7.558E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.731E-14	1.739E-14	2.399E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156837	6WH LOADOUT	09/17/13	Gross Alpha/Beta	Gross Alpha	2.204E-15	6.044E-15	1.142E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	6.785E-14	1.631E-14	1.653E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156838	6WH LOADOUT	09/18/13	Gross Alpha/Beta	Gross Alpha	1.188E-14	8.775E-15	1.119E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
				Gross Beta	5.836E-14	1.526E-14	1.619E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156839	6WH LOADOUT	09/18/13	Gross Alpha/Beta	Gross Alpha	3.391E-15	6.598E-15	1.171E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	5.262E-14	1.519E-14	1.695E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156840	6WH LOADOUT	09/18/13	Gross Alpha/Beta	Gross Alpha	1.166E-14	9.184E-15	1.208E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
				Gross Beta	5.135E-14	1.539E-14	1.748E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156841	6WH LOADOUT	09/19/13	Gross Alpha/Beta	Gross Alpha	4.444E-15	6.855E-15	1.151E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.685E-14	1.446E-14	1.666E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air

Table B-1. SLDS Perimeter Air Data Results for CY 2013

Sample Name	Station Name	Sample Collection Date	Method Type	Analyte Name	Analytical Result	Measurement Error	DL	Units	VQ	Validation Reason Code	Sampling Event Name
SLD156842	6WH LOADOUT	09/19/13	Gross Alpha/Beta	Gross Alpha	7.671E-15	7.755E-15	1.136E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	6.335E-14	1.586E-14	1.644E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156843	6WH LOADOUT	09/19/13	Gross Alpha/Beta	Gross Alpha	4.408E-15	6.8E-15	1.142E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	5.475E-14	1.513E-14	1.653E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156844	Building 101	09/10/13	Gross Alpha/Beta	Gross Alpha	2.894E-15	8.48E-15	1.154E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.161E-14	1.537E-14	2.584E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD156845	Building 101	09/11/13	Gross Alpha/Beta	Gross Alpha	1.611E-15	7.567E-15	1.071E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	5.111E-14	1.771E-14	2.397E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156846	Building 101	09/12/13	Gross Alpha/Beta	Gross Alpha	-2.616E-15	6.069E-15	1.043E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.247E-14	1.585E-14	2.335E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156847	Building 101	09/16/13	Gross Alpha/Beta	Gross Alpha	5.4E-16	7.29E-15	1.076E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.006E-14	1.606E-14	2.408E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156848	Building 101	09/17/13	Gross Alpha/Beta	Gross Alpha	6.02E-16	8.127E-15	1.199E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.427E-14	1.797E-14	2.685E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156849	Building 101	09/18/13	Gross Alpha/Beta	Gross Alpha	4.313E-15	9.358E-15	1.229E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.609E-14	1.932E-14	2.75E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156850	Building 101	09/19/13	Gross Alpha/Beta	Gross Alpha	4.045E-15	8.775E-15	1.152E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.145E-14	1.714E-14	2.579E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156851	Kiesel/Hall St.	09/10/13	Gross Alpha/Beta	Gross Alpha	-1.972E-15	8.064E-15	1.311E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.075E-14	1.906E-14	2.934E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156852	Kiesel/Hall St.	09/11/13	Gross Alpha/Beta	Gross Alpha	5.184E-15	9.047E-15	1.149E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.161E-14	1.794E-14	2.571E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156853	Kiesel/Hall St.	09/12/13	Gross Alpha/Beta	Gross Alpha	2.635E-15	7.721E-15	1.051E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.862E-14	1.474E-14	2.352E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD156854	Kiesel/Hall St.	09/16/13	Gross Alpha/Beta	Gross Alpha	5.214E-15	1.131E-14	1.485E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	5.098E-14	2.297E-14	3.325E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156855	Kiesel/Hall St.	09/17/13	Gross Alpha/Beta	Gross Alpha	9.045E-15	9.387E-15	1.061E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.573E-14	1.635E-14	2.375E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156856	Kiesel/Hall St.	09/18/13	Gross Alpha/Beta	Gross Alpha	9.594E-15	9.956E-15	1.125E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.293E-14	1.776E-14	2.519E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156857	Kiesel/Hall St.	09/19/13	Gross Alpha/Beta	Gross Alpha	9.949E-15	1.278E-14	1.526E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.263E-14	2.278E-14	3.416E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156858	6WH LOADOUT	09/23/13	Gross Alpha/Beta	Gross Alpha	4.872E-15	5.593E-15	8.416E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.649E-14	1.557E-14	2.264E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD156859	6WH LOADOUT	09/23/13	Gross Alpha/Beta	Gross Alpha	3.165E-15	5.266E-15	9.113E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.524E-14	1.743E-14	2.452E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156860	6WH LOADOUT	09/23/13	Gross Alpha/Beta	Gross Alpha	3.317E-15	5.518E-15	9.549E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.801E-14	1.761E-14	2.569E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD156861	6WH LOADOUT	09/24/13	Gross Alpha/Beta	Gross Alpha	1.08E-14	7.872E-15	9.328E-15	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
				Gross Beta	3.821E-14	1.877E-14	2.51E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156862	6WH LOADOUT	09/24/13	Gross Alpha/Beta	Gross Alpha	2.026E-15	4.631E-15	8.75E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.069E-14	1.723E-14	2.354E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156863	6WH LOADOUT	09/24/13	Gross Alpha/Beta	Gross Alpha	8.609E-15	7.222E-15	9.294E-15	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
				Gross Beta	3.602E-14	1.856E-14	2.501E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156864	6WH LOADOUT	09/25/13	Gross Alpha/Beta	Gross Alpha	7.817E-15	6.558E-15	8.44E-15	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
				Gross Beta	3.209E-14	1.68E-14	2.271E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156865	6WH LOADOUT	09/25/13	Gross Alpha/Beta	Gross Alpha	9.351E-15	7.28E-15	8.974E-15	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
				Gross Beta	2.751E-14	1.737E-14	2.415E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156866	6WH LOADOUT	09/25/13	Gross Alpha/Beta	Gross Alpha	2.132E-15	4.873E-15	9.207E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.772E-14	1.853E-14	2.477E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156867	6WH LOADOUT	09/26/13	Gross Alpha/Beta	Gross Alpha	1.895E-15	4.332E-15	8.185E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.931E-14	1.616E-14	2.202E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156868	6WH LOADOUT	09/26/13	Gross Alpha/Beta	Gross Alpha	5.936E-15	6.016E-15	8.545E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.5E-14	1.72E-14	2.299E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156869	6WH LOADOUT	09/26/13	Gross Alpha/Beta	Gross Alpha	6.508E-15	6.596E-15	9.369E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	5.081E-14	1.975E-14	2.521E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air

Table B-1. SLDS Perimeter Air Data Results for CY 2013

Sample Name	Station Name	Sample Collection Date	Method Type	Analyte Name	Analytical Result	Measurement Error	DL	Units	VQ	Validation Reason Code	Sampling Event Name
SLD156870	6WH LOADOUT	09/30/13	Gross Alpha/Beta	Gross Alpha	0	3.469E-15	8.347E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	5.895E-15	1.458E-14	2.246E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD156871	6WH LOADOUT	09/30/13	Gross Alpha/Beta	Gross Alpha	9.92E-16	4.077E-15	8.568E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.868E-14	1.6E-14	2.305E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD156872	6WH LOADOUT	09/30/13	Gross Alpha/Beta	Gross Alpha	4.329E-15	5.821E-15	9.348E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.278E-14	1.841E-14	2.515E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156873	6WH LOADOUT	10/01/13	Gross Alpha/Beta	Gross Alpha	-1.033E-15	3.08E-15	8.92E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.616E-14	1.639E-14	2.4E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD156874	6WH LOADOUT	10/01/13	Gross Alpha/Beta	Gross Alpha	1.056E-15	4.341E-15	9.122E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.72E-14	1.682E-14	2.454E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD156875	6WH LOADOUT	10/01/13	Gross Alpha/Beta	Gross Alpha	6.472E-15	6.56E-15	9.317E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.65E-14	1.788E-14	2.507E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156880	Kiesel/Hall St.	10/01/13	Gross Alpha/Beta	Gross Alpha	4.377E-15	1.024E-14	1.246E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.767E-14	1.323E-14	1.711E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156886	Plant 6WH	10/01/13	Gross Alpha/Beta	Gross Alpha	-2.287E-15	8.502E-15	1.224E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.169E-14	1.24E-14	1.681E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156887	6WH LOADOUT	10/02/13	Gross Alpha/Beta	Gross Alpha	7.443E-15	7.173E-15	9.773E-15	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
				Gross Beta	1.521E-14	1.1E-14	1.628E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD156888	6WH LOADOUT	10/02/13	Gross Alpha/Beta	Gross Alpha	1.334E-15	5.565E-15	1.076E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.674E-14	1.211E-14	1.791E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD156889	6WH LOADOUT	10/02/13	Gross Alpha/Beta	Gross Alpha	6.708E-15	7.191E-15	1.024E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.478E-14	1.254E-14	1.705E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156890	6WH LOADOUT	10/03/13	Gross Alpha/Beta	Gross Alpha	-2.025E-15	3.779E-15	1.04E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.434E-15	1.022E-14	1.731E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD156891	6WH LOADOUT	10/03/13	Gross Alpha/Beta	Gross Alpha	-9.29E-16	4.417E-15	1.049E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.424E-14	1.156E-14	1.747E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD156892	6WH LOADOUT	10/03/13	Gross Alpha/Beta	Gross Alpha	1.83E-16	4.864E-15	1.031E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.605E-14	1.161E-14	1.717E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD156893	6WH LOADOUT	10/07/13	Gross Alpha/Beta	Gross Alpha	6.391E-15	6.852E-15	9.754E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.129E-14	1.051E-14	1.624E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD156894	6WH LOADOUT	10/07/13	Gross Alpha/Beta	Gross Alpha	3.481E-15	6.19E-15	1.035E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.129E-14	1.106E-14	1.723E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD156895	6WH LOADOUT	10/07/13	Gross Alpha/Beta	Gross Alpha	5.822E-15	7.1E-15	1.06E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	-1.821E-15	9.526E-15	1.766E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD156896	6WH LOADOUT	10/08/13	Gross Alpha/Beta	Gross Alpha	4.614E-15	6.617E-15	1.042E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.008E-14	1.328E-14	1.735E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156897	6WH LOADOUT	10/08/13	Gross Alpha/Beta	Gross Alpha	1.83E-16	4.871E-15	1.033E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.392E-14	1.359E-14	1.72E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156898	6WH LOADOUT	10/08/13	Gross Alpha/Beta	Gross Alpha	4.217E-15	6.048E-15	9.525E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.356E-14	1.057E-14	1.586E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD156899	Plant 6WH	10/02/13	Gross Alpha/Beta	Gross Alpha	-4.044E-15	3.961E-15	1.343E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.269E-14	1.533E-14	2.237E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD156900	Plant 6WH	10/03/13	Gross Alpha/Beta	Gross Alpha	-9.27E-16	4.409E-15	1.047E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	9.337E-15	1.093E-14	1.744E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD156901	Plant 6WH	10/07/13	Gross Alpha/Beta	Gross Alpha	6.847E-15	7.341E-15	1.045E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.001E-14	1.1E-14	1.74E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD156902	Plant 6WH	10/08/13	Gross Alpha/Beta	Gross Alpha	-9.17E-16	4.359E-15	1.035E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.987E-14	1.319E-14	1.724E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD156903	Kiesel/Hall St.	10/02/13	Gross Alpha/Beta	Gross Alpha	-1.357E-15	1.002E-14	1.397E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.848E-14	1.343E-14	1.918E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD156904	Kiesel/Hall St.	10/03/13	Gross Alpha/Beta	Gross Alpha	8.595E-15	1.086E-14	1.211E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.602E-14	1.164E-14	1.662E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD165245	Kiesel/Hall St.	10/07/13	Gross Alpha/Beta	Gross Alpha	-1.165E-15	8.601E-15	1.199E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.083E-15	9.921E-15	1.647E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD165246	Kiesel/Hall St.	10/08/13	Gross Alpha/Beta	Gross Alpha	1.047E-14	1.097E-14	1.177E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.406E-14	1.332E-14	1.616E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air

Table B-1. SLDS Perimeter Air Data Results for CY 2013

Sample Name	Station Name	Sample Collection Date	Method Type	Analyte Name	Analytical Result	Measurement Error	DL	Units	VQ	Validation Reason Code	Sampling Event Name
SLD165247	Kiesel/Hall St.	10/09/13	Gross Alpha/Beta	Gross Alpha	-2.545E-15	9.458E-15	1.362E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.726E-14	1.301E-14	1.87E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD165248	Kiesel/Hall St.	10/10/13	Gross Alpha/Beta	Gross Alpha	1.12E-15	1.036E-14	1.362E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.726E-14	1.301E-14	1.87E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD165249	6WH LOADOUT	10/09/13	Gross Alpha/Beta	Gross Alpha	-4.778E-15	8.435E-15	1.305E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.239E-14	1.313E-14	1.792E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD165250	6WH LOADOUT	10/09/13	Gross Alpha/Beta	Gross Alpha	1.095E-15	1.013E-14	1.332E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.836E-14	1.289E-14	1.828E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD165251	6WH LOADOUT	10/10/13	Gross Alpha/Beta	Gross Alpha	1.069E-15	9.891E-15	1.3E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.398E-14	1.434E-14	1.785E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD165252	6WH LOADOUT	10/09/13	Gross Alpha/Beta	Gross Alpha	-1E-16	9.845E-15	1.332E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.629E-14	1.484E-14	1.828E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD165253	6WH LOADOUT	10/10/13	Gross Alpha/Beta	Gross Alpha	2.293E-15	1.043E-14	1.334E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.262E-14	1.448E-14	1.832E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD165254	6WH LOADOUT	10/10/13	Gross Alpha/Beta	Gross Alpha	1.171E-14	1.227E-14	1.317E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.032E-14	1.512E-14	1.808E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD165255	Plant 6WH	10/09/13	Gross Alpha/Beta	Gross Alpha	-3.877E-15	9.406E-15	1.402E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.776E-14	1.339E-14	1.925E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD165256	Plant 6WH	10/10/13	Gross Alpha/Beta	Gross Alpha	4.406E-15	1.031E-14	1.255E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.645E-14	1.317E-14	1.723E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD165257	6WH LOADOUT	10/14/13	Gross Alpha/Beta	Gross Alpha	2.982E-15	5.663E-15	8.875E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.245E-14	1.899E-14	2.472E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD165258	6WH LOADOUT	10/14/13	Gross Alpha/Beta	Gross Alpha	2.782E-15	5.283E-15	8.28E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.097E-14	1.701E-14	2.306E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
SLD165259	6WH LOADOUT	10/14/13	Gross Alpha/Beta	Gross Alpha	6.797E-15	6.587E-15	8.092E-15	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.569E-14	1.702E-14	2.253E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD165260	6WH LOADOUT	10/15/13	Gross Alpha/Beta	Gross Alpha	7.661E-15	6.761E-15	7.931E-15	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
				Gross Beta	6.144E-14	1.925E-14	2.209E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165261	6WH LOADOUT	10/15/13	Gross Alpha/Beta	Gross Alpha	4.866E-15	6.052E-15	8.276E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.225E-14	1.786E-14	2.305E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD165262	6WH LOADOUT	10/15/13	Gross Alpha/Beta	Gross Alpha	5.909E-15	6.403E-15	8.276E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	5.615E-14	1.956E-14	2.305E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165263	6WH LOADOUT	10/16/13	Gross Alpha/Beta	Gross Alpha	-1.469E-15	3.42E-15	8.744E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.233E-14	1.718E-14	2.435E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD165264	6WH LOADOUT	10/16/13	Gross Alpha/Beta	Gross Alpha	-2.415E-15	2.459E-15	8.215E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.361E-15	1.537E-14	2.288E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD165265	6WH LOADOUT	10/16/13	Gross Alpha/Beta	Gross Alpha	3.916E-15	5.817E-15	8.477E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	9.915E-15	1.649E-14	2.361E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD165266	6WH LOADOUT	10/17/13	Gross Alpha/Beta	Gross Alpha	7.41E-16	4.665E-15	8.817E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.446E-14	1.828E-14	2.456E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
SLD165267	6WH LOADOUT	10/17/13	Gross Alpha/Beta	Gross Alpha	1.751E-15	4.887E-15	8.338E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.848E-14	1.769E-14	2.322E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD165268	6WH LOADOUT	10/17/13	Gross Alpha/Beta	Gross Alpha	6.617E-15	7.171E-15	9.268E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.084E-14	1.802E-14	2.581E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD165270	Plant 6WH	10/15/13	Gross Alpha/Beta	Gross Alpha	3.95E-15	5.87E-15	8.56E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	4.98E-14	1.97E-14	2.38E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165271	Plant 6WH	10/16/13	Gross Alpha/Beta	Gross Alpha	3.766E-15	5.593E-15	8.151E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.738E-14	1.649E-14	2.27E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
SLD165272	Plant 6WH	10/17/13	Gross Alpha/Beta	Gross Alpha	2.842E-15	5.397E-15	8.459E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.329E-14	1.673E-14	2.356E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD165273	Kiesel/Hall St.	10/14/13	Gross Alpha/Beta	Gross Alpha	1.757E-15	4.903E-15	8.366E-15	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	9.115E-15	1.622E-14	2.33E-14	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
SLD165274	Kiesel/Hall St.	10/15/13	Gross Alpha/Beta	Gross Alpha	-3.69E-16	4.084E-15	8.781E-15	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	1.098E-14	1.714E-14	2.445E-14	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
SLD165275	Kiesel/Hall St.	10/16/13	Gross Alpha/Beta	Gross Alpha	3.829E-15	5.687E-15	8.288E-15	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	1.634E-14	1.666E-14	2.308E-14	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air

Table B-1. SLDS Perimeter Air Data Results for CY 2013

Sample Name	Station Name	Sample Collection Date	Method Type	Analyte Name	Analytical Result	Measurement Error	DL	Units	VQ	Validation Reason Code	Sampling Event Name
SLD165276	Kiesel/Hall St.	10/17/13	Gross Alpha/Beta	Gross Alpha	1.791E-15	4.998E-15	8.527E-15	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	-6.44E-15	1.517E-14	2.375E-14	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
SLD165277	City Property	10/16/13	Gross Alpha/Beta	Gross Alpha	-9.54E-16	1.057E-14	2.273E-14	µCi/mL	UJ	T06	City Property (General Area) Perimeter Air
				Gross Beta	3.57E-14	4.495E-14	6.329E-14	µCi/mL	UJ	T06	City Property (General Area) Perimeter Air
SLD165278	City Property	10/17/13	Gross Alpha/Beta	Gross Alpha	5.704E-15	7.093E-15	9.7E-15	µCi/mL	UJ	T06	City Property (General Area) Perimeter Air
				Gross Beta	1.057E-14	1.88E-14	2.702E-14	µCi/mL	UJ	T06	City Property (General Area) Perimeter Air
SLD165279	City Property	10/18/13	Gross Alpha/Beta	Gross Alpha	6.099E-15	6.609E-15	8.542E-15	µCi/mL	UJ	T06	City Property (General Area) Perimeter Air
				Gross Beta	2.849E-14	1.807E-14	2.379E-14	µCi/mL	J	T04	City Property (General Area) Perimeter Air
SLD165280	6WH LOADOUT	10/21/13	Gross Alpha/Beta	Gross Alpha	2.754E-15	5.231E-15	8.198E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.748E-14	1.658E-14	2.283E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
SLD165281	6WH LOADOUT	10/21/13	Gross Alpha/Beta	Gross Alpha	2.835E-15	5.384E-15	8.437E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	6.485E-15	1.613E-14	2.35E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD165282	6WH LOADOUT	10/21/13	Gross Alpha/Beta	Gross Alpha	2.65E-15	5.032E-15	7.887E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	6.062E-15	1.508E-14	2.196E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD165283	Plant 6WH	10/21/13	Gross Alpha/Beta	Gross Alpha	4.889E-15	6.08E-15	8.314E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.506E-14	1.739E-14	2.315E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD165284	Kiesel/Hall St.	10/21/13	Gross Alpha/Beta	Gross Alpha	-3.69E-16	4.089E-15	8.79E-15	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	1.804E-14	1.772E-14	2.448E-14	µCi/mL	U	T04, T05	Kiesel/Hall Street (General Area) Perimeter Air
SLD165285	Plant 6WH	10/22/13	Gross Alpha/Beta	Gross Alpha	9.939E-15	7.365E-15	8.496E-15	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.793E-14	1.462E-14	2.369E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
SLD165286	Plant 6WH	10/23/13	Gross Alpha/Beta	Gross Alpha	5.29E-16	3.864E-15	8.592E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	8.7E-15	1.39E-14	2.396E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD165287	Plant 6WH	10/24/13	Gross Alpha/Beta	Gross Alpha	-1.786E-15	2.751E-15	9.666E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.452E-15	1.481E-14	2.695E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD165288	Plant 6WH	10/28/13	Gross Alpha/Beta	Gross Alpha	2.801E-15	5.177E-15	9.098E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	4.773E-14	1.807E-14	2.537E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165289	Plant 6WH	10/29/13	Gross Alpha/Beta	Gross Alpha	4.708E-15	5.671E-15	8.496E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.924E-14	1.645E-14	2.369E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165290	Plant 6WH	10/30/13	Gross Alpha/Beta	Gross Alpha	4.816E-15	5.802E-15	8.691E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.128E-14	1.61E-14	2.423E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD165291	Plant 6WH	11/04/13	Gross Alpha/Beta	Gross Alpha	4.708E-15	5.671E-15	8.496E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.326E-14	1.51E-14	2.369E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
SLD165292	6WH LOADOUT	10/22/13	Gross Alpha/Beta	Gross Alpha	2.502E-15	4.625E-15	8.128E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.46E-14	1.376E-14	2.266E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
SLD165293	6WH LOADOUT	10/22/13	Gross Alpha/Beta	Gross Alpha	1.339E-14	8.046E-15	8.055E-15	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.889E-14	1.404E-14	2.246E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
SLD165294	6WH LOADOUT	10/23/13	Gross Alpha/Beta	Gross Alpha	4.797E-15	5.778E-15	8.656E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.419E-14	1.452E-14	2.413E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD165295	6WH LOADOUT	10/23/13	Gross Alpha/Beta	Gross Alpha	5.29E-16	3.865E-15	8.596E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.477E-14	1.448E-14	2.397E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
SLD165296	6WH LOADOUT	10/23/13	Gross Alpha/Beta	Gross Alpha	2.789E-15	5.155E-15	9.06E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.841E-14	1.553E-14	2.526E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
SLD165297	6WH LOADOUT	10/24/13	Gross Alpha/Beta	Gross Alpha	9.019E-15	7.158E-15	8.617E-15	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.291E-14	1.526E-14	2.402E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
SLD165298	6WH LOADOUT	10/24/13	Gross Alpha/Beta	Gross Alpha	-5.01E-16	3.058E-15	8.128E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	6.956E-15	1.303E-14	2.266E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD165299	6WH LOADOUT	10/24/13	Gross Alpha/Beta	Gross Alpha	8.28E-15	6.572E-15	7.91E-15	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.979E-14	1.39E-14	2.206E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
SLD165300	6WH LOADOUT	10/28/13	Gross Alpha/Beta	Gross Alpha	4.472E-15	5.387E-15	8.07E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	7.207E-14	1.823E-14	2.25E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165301	6WH LOADOUT	10/28/13	Gross Alpha/Beta	Gross Alpha	8.524E-15	6.765E-15	8.143E-15	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
				Gross Beta	4.272E-14	1.618E-14	2.27E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165302	6WH LOADOUT	10/28/13	Gross Alpha/Beta	Gross Alpha	1.538E-14	8.528E-15	8.055E-15	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
				Gross Beta	4.73E-14	1.64E-14	2.246E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165303	6WH LOADOUT	10/29/13	Gross Alpha/Beta	Gross Alpha	7.48E-15	6.423E-15	8.099E-15	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
				Gross Beta	4.884E-14	1.658E-14	2.258E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air

Table B-1. SLDS Perimeter Air Data Results for CY 2013

Sample Name	Station Name	Sample Collection Date	Method Type	Analyte Name	Analytical Result	Measurement Error	DL	Units	VQ	Validation Reason Code	Sampling Event Name
SLD165304	6WH LOADOUT	10/29/13	Gross Alpha/Beta	Gross Alpha	5.83E-15	6.126E-15	8.607E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.221E-14	1.518E-14	2.4E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
SLD165305	6WH LOADOUT	10/29/13	Gross Alpha/Beta	Gross Alpha	7.253E-15	6.827E-15	9.061E-15	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
				Gross Beta	4.966E-14	1.817E-14	2.526E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165306	6WH LOADOUT	10/30/13	Gross Alpha/Beta	Gross Alpha	2.602E-15	4.809E-15	8.451E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	4.367E-14	1.674E-14	2.356E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165307	6WH LOADOUT	10/30/13	Gross Alpha/Beta	Gross Alpha	1.546E-15	4.292E-15	8.37E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.538E-14	1.594E-14	2.334E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165308	6WH LOADOUT	10/30/13	Gross Alpha/Beta	Gross Alpha	4.3E-15	5.179E-15	7.759E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.705E-14	1.512E-14	2.163E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165309	6WH LOADOUT	10/22/13	Gross Alpha/Beta	Gross Alpha	2.631E-15	4.862E-15	8.545E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	5.303E-15	1.35E-14	2.382E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD165310	6WH LOADOUT	11/04/13	Gross Alpha/Beta	Gross Alpha	3.555E-15	5.115E-15	8.248E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.163E-14	1.544E-14	2.3E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165311	6WH LOADOUT	11/04/13	Gross Alpha/Beta	Gross Alpha	2.731E-15	5.047E-15	8.87E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	4.027E-14	1.712E-14	2.473E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165312	6WH LOADOUT	11/04/13	Gross Alpha/Beta	Gross Alpha	1.43E-15	3.971E-15	7.744E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.727E-14	1.429E-14	2.159E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD165313	6WH LOADOUT	11/05/13	Gross Alpha/Beta	Gross Alpha	3.831E-15	5.513E-15	8.889E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.269E-14	1.652E-14	2.478E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD165314	6WH LOADOUT	11/05/13	Gross Alpha/Beta	Gross Alpha	3.639E-15	5.236E-15	8.443E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.841E-14	1.547E-14	2.354E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD165315	6WH LOADOUT	11/05/13	Gross Alpha/Beta	Gross Alpha	7.142E-15	6.723E-15	8.922E-15	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
				Gross Beta	4.121E-14	1.728E-14	2.488E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165316	Kiesel/Hall St.	10/22/13	Gross Alpha/Beta	Gross Alpha	4.795E-15	6.825E-15	9.976E-15	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	1.443E-14	1.169E-14	1.668E-14	µCi/mL	U	T04, T05	Kiesel/Hall Street (General Area) Perimeter Air
SLD165317	Kiesel/Hall St.	10/23/13	Gross Alpha/Beta	Gross Alpha	2.624E-15	6.095E-15	9.976E-15	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	1.375E-14	1.161E-14	1.668E-14	µCi/mL	U	T04, T05	Kiesel/Hall Street (General Area) Perimeter Air
SLD165318	Kiesel/Hall St.	10/24/13	Gross Alpha/Beta	Gross Alpha	4.48E-16	5.216E-15	9.882E-15	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	1.699E-14	1.189E-14	1.653E-14	µCi/mL	J	T04	Kiesel/Hall Street (General Area) Perimeter Air
SLD165319	Kiesel/Hall St.	10/28/13	Gross Alpha/Beta	Gross Alpha	1.24E-14	8.921E-15	9.976E-15	µCi/mL	J	T04	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	3.345E-14	1.374E-14	1.668E-14	µCi/mL	=		Kiesel/Hall Street (General Area) Perimeter Air
SLD165320	Kiesel/Hall St.	10/29/13	Gross Alpha/Beta	Gross Alpha	4.75E-15	6.761E-15	9.882E-15	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	3.044E-14	1.334E-14	1.653E-14	µCi/mL	=		Kiesel/Hall Street (General Area) Perimeter Air
SLD165321	Kiesel/Hall St.	10/30/13	Gross Alpha/Beta	Gross Alpha	6.901E-15	7.414E-15	9.882E-15	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	2.91E-14	1.32E-14	1.653E-14	µCi/mL	=		Kiesel/Hall Street (General Area) Perimeter Air
SLD165322	Kiesel/Hall St.	11/04/13	Gross Alpha/Beta	Gross Alpha	-2.616E-15	6.509E-15	1.518E-14	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	2.713E-14	1.839E-14	2.539E-14	µCi/mL	J	T04	Kiesel/Hall Street (General Area) Perimeter Air
SLD165323	City Property	10/22/13	Gross Alpha/Beta	Gross Alpha	1.478E-15	5.475E-15	9.589E-15	µCi/mL	UJ	T06	City Property (General Area) Perimeter Air
				Gross Beta	1.191E-14	1.101E-14	1.604E-14	µCi/mL	U	T04, T05	City Property (General Area) Perimeter Air
SLD165324	City Property	10/23/13	Gross Alpha/Beta	Gross Alpha	1.471E-15	5.448E-15	9.542E-15	µCi/mL	UJ	T06	City Property (General Area) Perimeter Air
				Gross Beta	1.77E-14	1.163E-14	1.596E-14	µCi/mL	J	T04	City Property (General Area) Perimeter Air
SLD165325	City Property	10/28/13	Gross Alpha/Beta	Gross Alpha	2.762E-15	6.416E-15	1.05E-14	µCi/mL	UJ	T06	City Property (General Area) Perimeter Air
				Gross Beta	6.612E-15	1.126E-14	1.756E-14	µCi/mL	UJ	T06	City Property (General Area) Perimeter Air
SLD165326	City Property	10/28/13	Gross Alpha/Beta	Gross Alpha	2.599E-15	6.038E-15	9.883E-15	µCi/mL	UJ	T06	City Property (General Area) Perimeter Air
				Gross Beta	3.919E-14	1.421E-14	1.653E-14	µCi/mL	=		City Property (General Area) Perimeter Air
SLD165327	City Property	10/29/13	Gross Alpha/Beta	Gross Alpha	3.167E-15	7.358E-15	1.204E-14	µCi/mL	UJ	T06	City Property (General Area) Perimeter Air
				Gross Beta	3.628E-14	1.617E-14	2.014E-14	µCi/mL	=		City Property (General Area) Perimeter Air
SLD165328	City Property	10/30/13	Gross Alpha/Beta	Gross Alpha	3.061E-15	7.111E-15	1.164E-14	µCi/mL	UJ	T06	City Property (General Area) Perimeter Air
				Gross Beta	3.11E-14	1.522E-14	1.947E-14	µCi/mL	=		City Property (General Area) Perimeter Air
SLD165329	City Property	11/04/13	Gross Alpha/Beta	Gross Alpha	2.591E-15	6.02E-15	9.853E-15	µCi/mL	UJ	T06	City Property (General Area) Perimeter Air
				Gross Beta	2.566E-14	1.281E-14	1.648E-14	µCi/mL	=		City Property (General Area) Perimeter Air
SLD165330	6WH LOADOUT	11/06/13	Gross Alpha/Beta	Gross Alpha	8.034E-15	7.365E-15	9.204E-15	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
				Gross Beta	3.86E-14	1.724E-14	2.219E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD165331	6WH LOADOUT	11/06/13	Gross Alpha/Beta	Gross Alpha	1.82E-15	5.336E-15	9.232E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.64E-15	1.436E-14	2.225E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air

Table B-1. SLDS Perimeter Air Data Results for CY 2013

Sample Name	Station Name	Sample Collection Date	Method Type	Analyte Name	Analytical Result	Measurement Error	DL	Units	VQ	Validation Reason Code	Sampling Event Name
SLD165332	6WH LOADOUT	11/06/13	Gross Alpha/Beta	Gross Alpha	9.507E-15	8.022E-15	9.647E-15	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
				Gross Beta	3.354E-14	1.753E-14	2.325E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD165333	6WH LOADOUT	11/07/13	Gross Alpha/Beta	Gross Alpha	6.935E-15	7.001E-15	9.122E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.256E-14	1.584E-14	2.199E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD165334	6WH LOADOUT	11/07/13	Gross Alpha/Beta	Gross Alpha	-2.353E-15	3.364E-15	9.286E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.894E-14	1.739E-14	2.238E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD165335	6WH LOADOUT	11/07/13	Gross Alpha/Beta	Gross Alpha	1.96E-15	5.749E-15	9.945E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.961E-14	1.685E-14	2.397E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD165336	6WH LOADOUT	11/11/13	Gross Alpha/Beta	Gross Alpha	1.895E-15	5.557E-15	9.614E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.929E-14	1.714E-14	2.317E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD165337	6WH LOADOUT	11/11/13	Gross Alpha/Beta	Gross Alpha	-3.267E-15	2.535E-15	8.926E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.488E-14	1.652E-14	2.152E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD165338	6WH LOADOUT	11/11/13	Gross Alpha/Beta	Gross Alpha	8.308E-15	7.617E-15	9.519E-15	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
				Gross Beta	2.969E-14	1.703E-14	2.294E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD165339	6WH LOADOUT	11/12/13	Gross Alpha/Beta	Gross Alpha	5.102E-15	6.655E-15	9.537E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.316E-14	1.733E-14	2.299E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD165340	6WH LOADOUT	11/12/13	Gross Alpha/Beta	Gross Alpha	2.872E-15	5.754E-15	9.274E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.693E-14	1.643E-14	2.235E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD165341	6WH LOADOUT	11/12/13	Gross Alpha/Beta	Gross Alpha	7.89E-16	4.972E-15	9.342E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.574E-14	1.56E-14	2.252E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD165342	6WH LOADOUT	11/13/13	Gross Alpha/Beta	Gross Alpha	8.07E-16	5.086E-15	9.555E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.98E-14	1.709E-14	2.303E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD165343	6WH LOADOUT	11/13/13	Gross Alpha/Beta	Gross Alpha	8.193E-15	7.511E-15	9.387E-15	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
				Gross Beta	3.062E-14	1.69E-14	2.262E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD165344	6WH LOADOUT	11/13/13	Gross Alpha/Beta	Gross Alpha	3.163E-15	7.228E-15	1.171E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.323E-14	1.323E-14	1.709E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD165345	6WH LOADOUT	11/14/13	Gross Alpha/Beta	Gross Alpha	3.088E-15	7.057E-15	1.143E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.199E-14	1.052E-14	1.669E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD165346	6WH LOADOUT	11/14/13	Gross Alpha/Beta	Gross Alpha	-1.226E-15	5.349E-15	1.102E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.536E-14	1.18E-14	1.609E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD165347	6WH LOADOUT	11/14/13	Gross Alpha/Beta	Gross Alpha	-2.46E-15	5.315E-15	1.191E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.385E-14	1.235E-14	1.738E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD165348	6WH LOADOUT	11/18/13	Gross Alpha/Beta	Gross Alpha	5.161E-15	7.544E-15	1.12E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.043E-14	1.138E-14	1.635E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD165349	6WH LOADOUT	11/18/13	Gross Alpha/Beta	Gross Alpha	9.08E-16	6.345E-15	1.143E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.515E-14	1.32E-14	1.668E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD165350	6WH LOADOUT	11/18/13	Gross Alpha/Beta	Gross Alpha	-4.216E-15	1.84E-14	3.791E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.975E-14	3.487E-14	5.533E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD165351	Kiesel/Hall St.	11/06/13	Gross Alpha/Beta	Gross Alpha	-6.017E-15	8.045E-15	1.993E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.496E-14	1.754E-14	2.909E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD165352	Kiesel/Hall St.	11/07/13	Gross Alpha/Beta	Gross Alpha	1.007E-15	7.039E-15	1.268E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.841E-14	1.349E-14	1.85E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD165353	Kiesel/Hall St.	11/11/13	Gross Alpha/Beta	Gross Alpha	3.998E-15	9.136E-15	1.48E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.376E-14	1.691E-14	2.16E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD165354	Kiesel/Hall St.	11/12/13	Gross Alpha/Beta	Gross Alpha	3.931E-15	6.949E-15	1.076E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.513E-14	1.038E-14	1.57E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD165355	Kiesel/Hall St.	11/13/13	Gross Alpha/Beta	Gross Alpha	2.148E-15	7.217E-15	1.229E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.389E-14	1.266E-14	1.794E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD165356	Kiesel/Hall St.	11/14/13	Gross Alpha/Beta	Gross Alpha	8.64E-16	6.036E-15	1.087E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.723E-14	1.073E-14	1.587E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD165357	Kiesel/Hall St.	11/18/13	Gross Alpha/Beta	Gross Alpha	3.23E-15	7.382E-15	1.196E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.823E-14	1.289E-14	1.745E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD165358	Plant 6WH	11/06/13	Gross Alpha/Beta	Gross Alpha	-1.52E-15	4.603E-15	1.08E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.128E-14	1.829E-14	2.602E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD165359	Plant 6WH	11/07/13	Gross Alpha/Beta	Gross Alpha	1.831E-15	5.37E-15	9.29E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.497E-14	1.709E-14	2.239E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air

Table B-1. SLDS Perimeter Air Data Results for CY 2013

Sample Name	Station Name	Sample Collection Date	Method Type	Analyte Name	Analytical Result	Measurement Error	DL	Units	VQ	Validation Reason Code	Sampling Event Name
SLD165360	Plant 6WH	11/11/13	Gross Alpha/Beta	Gross Alpha	1.831E-15	5.37E-15	9.29E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.497E-14	1.709E-14	2.239E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD165361	Plant 6WH	11/12/13	Gross Alpha/Beta	Gross Alpha	2.857E-15	5.723E-15	9.225E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.29E-14	1.518E-14	2.223E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD165362	Plant 6WH	11/13/13	Gross Alpha/Beta	Gross Alpha	6.016E-15	6.814E-15	9.29E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.497E-14	1.709E-14	2.239E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD165363	Plant 6WH	11/14/13	Gross Alpha/Beta	Gross Alpha	1.804E-15	5.291E-15	9.154E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.592E-14	1.616E-14	2.206E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD165364	Plant 6WH	11/18/13	Gross Alpha/Beta	Gross Alpha	2.988E-15	5.986E-15	9.647E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.599E-14	1.849E-14	2.325E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD165365	6WH LOADOUT	11/25/13	Gross Alpha/Beta	Gross Alpha	-1.49E-16	6.616E-15	1.16E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.84E-14	1.189E-14	1.717E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD165366	6WH LOADOUT	11/25/13	Gross Alpha/Beta	Gross Alpha	3.167E-15	7.593E-15	1.149E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	7.878E-15	1.049E-14	1.701E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
SLD165367	6WH LOADOUT	11/25/13	Gross Alpha/Beta	Gross Alpha	2.952E-15	7.078E-15	1.071E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	1.572E-14	1.083E-14	1.586E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
SLD165368	6WH LOADOUT	11/26/13	Gross Alpha/Beta	Gross Alpha	9.842E-15	8.653E-15	1.038E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.083E-14	1.223E-14	1.536E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165369	6WH LOADOUT	11/26/13	Gross Alpha/Beta	Gross Alpha	6.527E-15	8.564E-15	1.158E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.673E-14	1.282E-14	1.714E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165370	6WH LOADOUT	11/26/13	Gross Alpha/Beta	Gross Alpha	-2.333E-15	5.709E-15	1.138E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.627E-14	1.26E-14	1.685E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165371	6WH LOADOUT	11/27/13	Gross Alpha/Beta	Gross Alpha	1.875E-15	6.605E-15	1.045E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.224E-14	1.137E-14	1.547E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD165372	6WH LOADOUT	11/27/13	Gross Alpha/Beta	Gross Alpha	3.054E-15	7.323E-15	1.109E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.159E-14	1.292E-14	1.641E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165373	6WH LOADOUT	11/27/13	Gross Alpha/Beta	Gross Alpha	2.659E-14	1.184E-14	1.03E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.553E-14	1.263E-14	1.524E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165374	6WH LOADOUT	12/02/13	Gross Alpha/Beta	Gross Alpha	4.641E-15	8.592E-15	1.249E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	7.689E-14	1.839E-14	1.849E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165375	6WH LOADOUT	12/02/13	Gross Alpha/Beta	Gross Alpha	6.589E-15	8.645E-15	1.169E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	7.405E-14	1.739E-14	1.73E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165376	6WH LOADOUT	12/02/13	Gross Alpha/Beta	Gross Alpha	7.568E-15	8.765E-15	1.147E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	7.198E-14	1.7E-14	1.698E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165377	6WH LOADOUT	12/03/13	Gross Alpha/Beta	Gross Alpha	2.05E-15	7.223E-15	1.143E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	4.425E-14	1.449E-14	1.692E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165378	6WH LOADOUT	12/03/13	Gross Alpha/Beta	Gross Alpha	-1.256E-15	6.196E-15	1.153E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	4.049E-14	1.422E-14	1.707E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165379	6WH LOADOUT	12/03/13	Gross Alpha/Beta	Gross Alpha	8.56E-16	6.188E-15	1.028E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	4.597E-14	1.361E-14	1.521E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165380	6WH LOADOUT	11/19/13	Gross Alpha/Beta	Gross Alpha	9.311E-15	7.525E-15	9.72E-15	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.249E-14	1.226E-14	1.533E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165381	6WH LOADOUT	11/19/13	Gross Alpha/Beta	Gross Alpha	7.356E-15	7.035E-15	9.849E-15	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.447E-14	1.149E-14	1.553E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165382	6WH LOADOUT	11/19/13	Gross Alpha/Beta	Gross Alpha	4.359E-15	6.214E-15	1.012E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.116E-14	1.248E-14	1.596E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165383	6WH LOADOUT	11/20/13	Gross Alpha/Beta	Gross Alpha	1.5E-15	3.663E-15	6.827E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.453E-14	9.775E-15	1.077E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165384	6WH LOADOUT	11/20/13	Gross Alpha/Beta	Gross Alpha	8.692E-15	7.595E-15	1.02E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.072E-14	1.25E-14	1.608E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165385	6WH LOADOUT	11/20/13	Gross Alpha/Beta	Gross Alpha	1.262E-15	5.451E-15	1.105E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.308E-14	1.238E-14	1.743E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD165386	6WH LOADOUT	11/21/13	Gross Alpha/Beta	Gross Alpha	5.624E-15	6.81E-15	1.049E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	4.614E-14	1.436E-14	1.655E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165387	6WH LOADOUT	11/21/13	Gross Alpha/Beta	Gross Alpha	5.462E-15	6.613E-15	1.019E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.876E-14	1.334E-14	1.607E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air

Table B-1. SLDS Perimeter Air Data Results for CY 2013

Sample Name	Station Name	Sample Collection Date	Method Type	Analyte Name	Analytical Result	Measurement Error	DL	Units	VQ	Validation Reason Code	Sampling Event Name
SLD165388	6WH LOADOUT	11/21/13	Gross Alpha/Beta	Gross Alpha	5.327E-15	6.45E-15	9.937E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.059E-14	1.225E-14	1.567E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165389	Plant 6WH	11/19/13	Gross Alpha/Beta	Gross Alpha	5.599E-15	6.577E-15	8.711E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.889E-14	1.634E-14	2.324E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD165390	Plant 6WH	11/20/13	Gross Alpha/Beta	Gross Alpha	-1.763E-15	3.528E-15	8.777E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.238E-14	1.59E-14	2.341E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
SLD165391	Plant 6WH	11/21/13	Gross Alpha/Beta	Gross Alpha	2.45E-15	5.469E-15	8.711E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.758E-14	1.704E-14	2.324E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165392	Plant 6WH	11/25/13	Gross Alpha/Beta	Gross Alpha	1.384E-15	4.992E-15	8.615E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.791E-14	1.611E-14	2.298E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD165393	Plant 6WH	11/26/13	Gross Alpha/Beta	Gross Alpha	1.473E-15	5.311E-15	9.166E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.126E-14	1.643E-14	2.445E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
SLD165394	Plant 6WH	11/27/13	Gross Alpha/Beta	Gross Alpha	-1.999E-15	4E-15	9.95E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.232E-14	1.777E-14	2.654E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
SLD165395	Plant 6WH	12/02/13	Gross Alpha/Beta	Gross Alpha	4E-16	5.252E-15	9.968E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	5.447E-14	2.039E-14	2.659E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165396	Plant 6WH	12/03/13	Gross Alpha/Beta	Gross Alpha	3.241E-15	5.427E-15	8.068E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.975E-14	1.617E-14	2.152E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165397	Kiesel/Hall St.	11/19/13	Gross Alpha/Beta	Gross Alpha	3.861E-15	6.053E-15	9.716E-15	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	1.406E-14	1.941E-14	2.835E-14	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
SLD165398	Kiesel/Hall St.	12/04/13	Gross Alpha/Beta	Gross Alpha	4.29E-15	5.485E-15	8.097E-15	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	1.854E-14	1.674E-14	2.363E-14	µCi/mL	U	T04, T05	Kiesel/Hall Street (General Area) Perimeter Air
SLD165399	Kiesel/Hall St.	12/05/13	Gross Alpha/Beta	Gross Alpha	2.076E-15	7.791E-15	1.567E-14	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	2.4E-14	3.142E-14	4.574E-14	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
SLD165400	Kiesel/Hall St.	12/09/13	Gross Alpha/Beta	Gross Alpha	4.271E-15	5.461E-15	8.061E-15	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	4.768E-14	1.891E-14	2.352E-14	µCi/mL	=		Kiesel/Hall Street (General Area) Perimeter Air
SLD165401	Kiesel/Hall St.	12/10/13	Gross Alpha/Beta	Gross Alpha	7.404E-15	6.547E-15	7.985E-15	µCi/mL	U	T04, T05	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	3.983E-14	1.819E-14	2.33E-14	µCi/mL	=		Kiesel/Hall Street (General Area) Perimeter Air
SLD165402	Kiesel/Hall St.	12/11/13	Gross Alpha/Beta	Gross Alpha	2.116E-15	4.499E-15	7.985E-15	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	4.319E-14	1.844E-14	2.33E-14	µCi/mL	=		Kiesel/Hall Street (General Area) Perimeter Air
SLD165403	Kiesel/Hall St.	12/12/13	Gross Alpha/Beta	Gross Alpha	3.298E-15	5.17E-15	8.298E-15	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	1.481E-14	1.681E-14	2.421E-14	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
SLD165404	Kiesel/Hall St.	12/16/13	Gross Alpha/Beta	Gross Alpha	9.52E-15	7.746E-15	8.983E-15	µCi/mL	J	T04	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	5.162E-14	2.097E-14	2.621E-14	µCi/mL	=		Kiesel/Hall Street (General Area) Perimeter Air
SLD165405	Kiesel/Hall St.	12/17/13	Gross Alpha/Beta	Gross Alpha	2.312E-15	4.917E-15	8.726E-15	µCi/mL	UJ	T06	Kiesel/Hall Street (General Area) Perimeter Air
				Gross Beta	3.249E-14	1.904E-14	2.546E-14	µCi/mL	J	T04	Kiesel/Hall Street (General Area) Perimeter Air
SLD165406	6WH LOADOUT	12/04/13	Gross Alpha/Beta	Gross Alpha	1.259E-15	5.437E-15	1.102E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.974E-14	1.42E-14	1.738E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165407	6WH LOADOUT	12/04/13	Gross Alpha/Beta	Gross Alpha	3.244E-15	5.752E-15	9.977E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.676E-14	1.186E-14	1.573E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165408	6WH LOADOUT	12/04/13	Gross Alpha/Beta	Gross Alpha	3.326E-15	5.897E-15	1.023E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.621E-14	1.311E-14	1.613E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165409	6WH LOADOUT	12/05/13	Gross Alpha/Beta	Gross Alpha	2.527E-15	6.171E-15	1.15E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.251E-14	1.271E-14	1.814E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD165410	6WH LOADOUT	12/05/13	Gross Alpha/Beta	Gross Alpha	-3.859E-15	6.331E-15	1.909E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.729E-14	1.984E-14	3.011E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
SLD165411	6WH LOADOUT	12/09/13	Gross Alpha/Beta	Gross Alpha	9.807E-15	7.926E-15	1.024E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
				Gross Beta	6.461E-14	1.582E-14	1.615E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165412	6WH LOADOUT	12/09/13	Gross Alpha/Beta	Gross Alpha	1.046E-14	7.889E-15	9.833E-15	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
				Gross Beta	7.308E-14	1.613E-14	1.551E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165413	6WH LOADOUT	12/09/13	Gross Alpha/Beta	Gross Alpha	7.942E-15	7.596E-15	1.063E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.484E-14	1.333E-14	1.677E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165414	6WH LOADOUT	12/10/13	Gross Alpha/Beta	Gross Alpha	3.239E-15	5.743E-15	9.961E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	4.775E-14	1.401E-14	1.571E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165415	6WH LOADOUT	12/10/13	Gross Alpha/Beta	Gross Alpha	1.155E-15	4.988E-15	1.011E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	5.113E-14	1.448E-14	1.595E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air

Table B-1. SLDS Perimeter Air Data Results for CY 2013

Sample Name	Station Name	Sample Collection Date	Method Type	Analyte Name	Analytical Result	Measurement Error	DL	Units	VQ	Validation Reason Code	Sampling Event Name
SLD165416	6WH LOADOUT	12/10/13	Gross Alpha/Beta	Gross Alpha	2.386E-15	5.827E-15	1.086E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	5.779E-14	1.582E-14	1.713E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165417	6WH LOADOUT	12/11/13	Gross Alpha/Beta	Gross Alpha	3.553E-15	6.3E-15	1.093E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.508E-14	1.362E-14	1.723E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165418	6WH LOADOUT	12/11/13	Gross Alpha/Beta	Gross Alpha	3.679E-15	6.523E-15	1.132E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	5.424E-14	1.592E-14	1.784E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165419	6WH LOADOUT	12/11/13	Gross Alpha/Beta	Gross Alpha	4.17E-15	5.945E-15	9.685E-15	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	5.217E-14	1.416E-14	1.527E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165420	6WH LOADOUT	12/12/13	Gross Alpha/Beta	Gross Alpha	5.571E-15	6.746E-15	1.039E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.857E-14	1.243E-14	1.639E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165421	6WH LOADOUT	12/12/13	Gross Alpha/Beta	Gross Alpha	8.048E-15	7.696E-15	1.077E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
				Gross Beta	5.307E-14	1.529E-14	1.699E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165422	6WH LOADOUT	12/12/13	Gross Alpha/Beta	Gross Alpha	2.309E-15	5.639E-15	1.051E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	4.899E-14	1.465E-14	1.658E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD165423	Plant 6WH	12/04/13	Gross Alpha/Beta	Gross Alpha	7.653E-15	7.322E-15	9.855E-15	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
				Gross Beta	4.443E-14	1.823E-14	2.398E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD165424	Plant 6WH	12/05/13	Gross Alpha/Beta	Gross Alpha	-2.148E-15	5.973E-15	1.62E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.148E-14	2.559E-14	3.942E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD165425	Plant 6WH	12/09/14	Gross Alpha/Beta	Gross Alpha	1.086E-14	8.19E-15	9.72E-15	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
				Gross Beta	5.788E-14	1.905E-14	2.366E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD165426	Plant 6WH	12/10/13	Gross Alpha/Beta	Gross Alpha	6.229E-15	6.641E-15	9.397E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.1E-14	1.727E-14	2.287E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD165427	Plant 6WH	12/11/13	Gross Alpha/Beta	Gross Alpha	5.132E-15	6.248E-15	9.343E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.55E-14	1.754E-14	2.274E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD165428	Plant 6WH	12/12/13	Gross Alpha/Beta	Gross Alpha	4.346E-15	6.271E-15	9.977E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.632E-14	1.776E-14	2.428E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD165429	Plant 6WH	12/16/13	Gross Alpha/Beta	Gross Alpha	4.477E-15	6.459E-15	1.028E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	5.599E-14	1.976E-14	2.501E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD165430	Plant 6WH	12/17/13	Gross Alpha/Beta	Gross Alpha	1.374E-14	9.228E-15	1.022E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
				Gross Beta	6.526E-14	2.035E-14	2.486E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD165431	Plant 6WH	12/18/13	Gross Alpha/Beta	Gross Alpha	-3.377E-15	1.708E-15	9.385E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	7.692E-15	1.438E-14	2.284E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD165432	Plant 6WH	12/19/13	Gross Alpha/Beta	Gross Alpha	1.103E-14	8.313E-15	9.866E-15	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
				Gross Beta	4.376E-14	1.819E-14	2.401E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD165433	Plant 6WH	12/23/13	Gross Alpha/Beta	Gross Alpha	-1.394E-15	3.875E-15	1.051E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.47E-14	1.667E-14	2.558E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
SLD165434	Plant 6WH	12/26/13	Gross Alpha/Beta	Gross Alpha	8.57E-16	4.427E-15	9.052E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.098E-14	1.595E-14	2.203E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD165435	Plant 6WH	12/30/13	Gross Alpha/Beta	Gross Alpha	-1.308E-15	3.638E-15	9.866E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.594E-14	1.585E-14	2.401E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD165436	Plant 6WH	12/31/13	Gross Alpha/Beta	Gross Alpha	1.999E-15	5.175E-15	9.594E-15	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.966E-14	1.578E-14	2.335E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD165437	Kiesel/Hall St.	12/18/13	Gross Alpha/Beta	Gross Alpha	3.619E-15	8.028E-15	1.179E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.67E-14	1.186E-14	1.699E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD165438	Kiesel/Hall St.	12/19/13	Gross Alpha/Beta	Gross Alpha	6.861E-15	1.213E-14	1.719E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.732E-14	1.763E-14	2.477E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD165439	Kiesel/Hall St.	12/30/13	Gross Alpha/Beta	Gross Alpha	2.687E-15	8.197E-15	1.25E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.699E-14	1.249E-14	1.801E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD165440	Kiesel/Hall St.	12/31/13	Gross Alpha/Beta	Gross Alpha	1.434E-15	7.347E-15	1.168E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.076E-14	1.428E-14	1.682E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD165441	6WH LOADOUT	12/16/13	Gross Alpha/Beta	Gross Alpha	1.051E-14	9.983E-15	1.222E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
				Gross Beta	7.645E-14	1.791E-14	1.761E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD165442	6WH LOADOUT	12/16/13	Gross Alpha/Beta	Gross Alpha	1.015E-14	9.648E-15	1.181E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
				Gross Beta	8.137E-14	1.79E-14	1.702E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD165443	6WH LOADOUT	12/16/13	Gross Alpha/Beta	Gross Alpha	4.805E-15	8.493E-15	1.204E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	7.739E-14	1.781E-14	1.735E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air

Table B-1. SLDS Perimeter Air Data Results for CY 2013

Sample Name	Station Name	Sample Collection Date	Method Type	Analyte Name	Analytical Result	Measurement Error	DL	Units	VQ	Validation Reason Code	Sampling Event Name
SLD165444	6WH LOADOUT	12/17/13	Gross Alpha/Beta	Gross Alpha	6.929E-15	8.933E-15	1.188E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	7.158E-14	1.718E-14	1.712E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD167467	6WH LOADOUT	12/17/13	Gross Alpha/Beta	Gross Alpha	-1.923E-15	6.794E-15	1.253E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	6.467E-14	1.722E-14	1.805E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD167468	6WH LOADOUT	12/17/13	Gross Alpha/Beta	Gross Alpha	4.688E-15	8.287E-15	1.175E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.371E-14	1.462E-14	1.693E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD167469	6WH LOADOUT	12/18/13	Gross Alpha/Beta	Gross Alpha	3.66E-16	7.181E-15	1.194E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	2.172E-14	1.255E-14	1.72E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD167470	6WH LOADOUT	12/18/13	Gross Alpha/Beta	Gross Alpha	2.557E-15	7.8E-15	1.19E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.48E-14	1.173E-14	1.714E-14	µCi/mL	U	T04, T05	SLDS (General Area)-Perimeter Air
SLD167471	6WH LOADOUT	12/18/13	Gross Alpha/Beta	Gross Alpha	7.992E-15	9.162E-15	1.183E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	1.812E-14	1.206E-14	1.705E-14	µCi/mL	J	T04	SLDS (General Area)-Perimeter Air
SLD167472	6WH LOADOUT	12/19/13	Gross Alpha/Beta	Gross Alpha	3.85E-16	7.552E-15	1.255E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	3.297E-14	1.428E-14	1.809E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD167473	6WH LOADOUT	12/19/13	Gross Alpha/Beta	Gross Alpha	5.846E-15	8.678E-15	1.19E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.634E-14	1.501E-14	1.715E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD167474	6WH LOADOUT	12/19/13	Gross Alpha/Beta	Gross Alpha	5.928E-15	8.799E-15	1.207E-14	µCi/mL	UJ	T06	SLDS (General Area)-Perimeter Air
				Gross Beta	4.282E-14	1.482E-14	1.739E-14	µCi/mL	=		SLDS (General Area)-Perimeter Air
SLD167475	6WH LOADOUT	12/23/13	Gross Alpha/Beta	Gross Alpha	5.444E-15	7.533E-15	1.078E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.312E-14	1.343E-14	1.637E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD167476	6WH LOADOUT	12/23/13	Gross Alpha/Beta	Gross Alpha	1.83E-16	6.139E-15	1.126E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.909E-14	1.347E-14	1.71E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD167477	6WH LOADOUT	12/23/13	Gross Alpha/Beta	Gross Alpha	2.262E-15	6.529E-15	1.068E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.739E-14	1.375E-14	1.622E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD167478	6WH LOADOUT	12/24/13	Gross Alpha/Beta	Gross Alpha	1.432E-14	9.915E-15	1.113E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
				Gross Beta	4.643E-14	1.503E-14	1.689E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD167479	6WH LOADOUT	12/24/13	Gross Alpha/Beta	Gross Alpha	5.672E-15	7.849E-15	1.124E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	4.756E-14	1.524E-14	1.705E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD167480	6WH LOADOUT	12/24/13	Gross Alpha/Beta	Gross Alpha	1.555E-14	1.025E-14	1.124E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
				Gross Beta	4.207E-14	1.473E-14	1.705E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD167481	6WH LOADOUT	12/26/13	Gross Alpha/Beta	Gross Alpha	3.381E-15	7.01E-15	1.093E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.557E-14	1.381E-14	1.659E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD167482	6WH LOADOUT	12/30/13	Gross Alpha/Beta	Gross Alpha	3.479E-15	7.213E-15	1.124E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.56E-14	1.308E-14	1.706E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD167483	6WH LOADOUT	12/30/13	Gross Alpha/Beta	Gross Alpha	1.183E-14	9.184E-15	1.085E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.464E-14	1.364E-14	1.646E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD167484	6WH LOADOUT	12/30/13	Gross Alpha/Beta	Gross Alpha	4.805E-15	7.915E-15	1.18E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.12E-14	1.419E-14	1.791E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD167485	6WH LOADOUT	12/31/13	Gross Alpha/Beta	Gross Alpha	-9.97E-16	6.229E-15	1.224E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	2.638E-14	1.409E-14	1.858E-14	µCi/mL	J	T04	Plant 6WH (General Area) Perimeter Air
SLD167486	6WH LOADOUT	12/31/13	Gross Alpha/Beta	Gross Alpha	1.091E-14	9.051E-15	1.099E-14	µCi/mL	U	T04, T05	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.508E-14	1.381E-14	1.667E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air
SLD167487	6WH LOADOUT	12/31/13	Gross Alpha/Beta	Gross Alpha	1.78E-16	5.943E-15	1.09E-14	µCi/mL	UJ	T06	Plant 6WH (General Area) Perimeter Air
				Gross Beta	3.349E-14	1.358E-14	1.655E-14	µCi/mL	=		Plant 6WH (General Area) Perimeter Air

Table B-2. SLDS TLD (External Gamma Radiation) Results for CY 2013

Sample Name	Station Name	Sample Collection Date	Method Type	Analyte Name	Analytical Result	Measurement Error	DL	Units	VQ	Validation Reason Code	Sampling Event Name
HIS151665	BA-1	04/01/13	Radiological	External gamma radiation	18.3	0	0.1	mrem	J	Y01	HISS Air (TLDs)-Environmental Monitoring
HIS155683	BA-1	07/09/13	Radiological	External gamma radiation	18.9	0	0.1	mrem	J	Y01	HISS Air (TLDs)-Environmental Monitoring
HIS155684	BA-1	10/01/13	Radiological	External gamma radiation	22	0	0.1	mrem	J	Y01	HISS Air (TLDs)-Environmental Monitoring
HIS167397	BA-1	01/10/14	Radiological	External gamma radiation	21.1	0	0.1	mrem	J	Y01	HISS Air (TLDs)-Environmental Monitoring
SLD151660	DA-1	04/01/13	Radiological	External gamma radiation	16	0	0.1	mrem	J	Y01	SLDS Air (TLDs)-Environmental Monitoring
SLD155685	DA-1	07/09/13	Radiological	External gamma radiation	16.5	0	0.1	mrem	J	Y01	SLDS Air (TLDs)-Environmental Monitoring
SLD155689	DA-1	10/01/13	Radiological	External gamma radiation	16	0	0.1	mrem	J	Y01	SLDS Air (TLDs)-Environmental Monitoring
SLD167425	DA-1	01/10/14	Radiological	External gamma radiation	18.2	0	0.1	mrem	J	Y01	SLDS Air (TLDs)-Environmental Monitoring
SLD151660-1	DA-1dup	04/01/13	Radiological	External gamma radiation	15.3	0	0.1	mrem	J	Y01	SLDS Air (TLDs)-Environmental Monitoring
SLD155685-1	DA-1dup	07/09/13	Radiological	External gamma radiation	18.9	0	0.1	mrem	J	Y01	SLDS Air (TLDs)-Environmental Monitoring
SLD155689-1	DA-1dup	10/01/13	Radiological	External gamma radiation	16	0	0.1	mrem	J	Y01	SLDS Air (TLDs)-Environmental Monitoring
SLD167425-1	DA-1dup	01/10/14	Radiological	External gamma radiation	18.9	0	0.1	mrem	J	Y01	SLDS Air (TLDs)-Environmental Monitoring
SLD151661	DA-2	04/01/13	Radiological	External gamma radiation	17	0	0.1	mrem	J	Y01	SLDS Air (TLDs)-Environmental Monitoring
SLD155686	DA-2	07/09/13	Radiological	External gamma radiation	20.6	0	0.1	mrem	J	Y01	SLDS Air (TLDs)-Environmental Monitoring
SLD155690	DA-2	10/01/13	Radiological	External gamma radiation	18.9	0	0.1	mrem	J	Y01	SLDS Air (TLDs)-Environmental Monitoring
SLD167426	DA-2	01/10/14	Radiological	External gamma radiation	20.7	0	0.1	mrem	J	Y01	SLDS Air (TLDs)-Environmental Monitoring
SLD151662	DA-3	04/01/13	Radiological	External gamma radiation	15.9	0	0.1	mrem	J	Y01	SLDS Air (TLDs)-Environmental Monitoring
SLD155687	DA-3	07/09/13	Radiological	External gamma radiation	18.3	0	0.1	mrem	J	Y01	SLDS Air (TLDs)-Environmental Monitoring
SLD155691	DA-3	10/01/13	Radiological	External gamma radiation	18.9	0	0.1	mrem	J	Y01	SLDS Air (TLDs)-Environmental Monitoring
SLD167427	DA-3	01/10/14	Radiological	External gamma radiation	20.1	0	0.1	mrem	J	Y01	SLDS Air (TLDs)-Environmental Monitoring
SLD155688	DA-6	07/09/13	Radiological	External gamma radiation	18.8	0	0.1	mrem	J	Y01	SLDS Air (TLDs)-Environmental Monitoring
SLD155692	DA-6	10/01/13	Radiological	External gamma radiation	20.4	0	0.1	mrem	J	Y01	SLDS Air (TLDs)-Environmental Monitoring
SLD167428	DA-6	01/10/14	Radiological	External gamma radiation	21.4	0	0.1	mrem	J	Y01	SLDS Air (TLDs)-Environmental Monitoring

Table B-3. SLDS Radon-222 Results for CY 2013

Sample Name	Station Name	Sample Collection Date	Method Type	Analyte Name	Analytical Result	Measurement Error	DL	Units	VQ	Validation Reason Code	Sampling Event Name
HIS151617	BA-1	07/09/13	Radiological	Rn-222	0.2	0	0.2	pCi/L	UJ	Y01	HISS/Futura (Alpha Tracks)-Environmental Monitoring
HIS167325	BA-1	01/10/14	Radiological	Rn-222	0.2	0	0.2	pCi/L	UJ	Y01	HISS/Futura (Alpha Tracks)-Environmental Monitoring
SLD151632	DA-1	07/09/13	Radiological	Rn-222	0.2	0	0.2	pCi/L	UJ	Y01	SLDS Air (Alpha Tracks)-Environmental Monitoring
SLD167381	DA-1	01/10/14	Radiological	Rn-222	0.2	0	0.2	pCi/L	UJ	Y01	SLDS Air (Alpha Tracks)-Environmental Monitoring
SLD151632-1	DA-1dup	07/09/13	Radiological	Rn-222	0.2	0	0.2	pCi/L	UJ	Y01	SLDS Air (Alpha Tracks)-Environmental Monitoring
SLD167381-1	DA-1dup	01/10/14	Radiological	Rn-222	0.2	0	0.2	pCi/L	UJ	Y01	SLDS Air (Alpha Tracks)-Environmental Monitoring
SLD151633	DA-2	07/09/13	Radiological	Rn-222	0.2	0	0.2	pCi/L	UJ	Y01	SLDS Air (Alpha Tracks)-Environmental Monitoring
SLD167382	DA-2	01/10/14	Radiological	Rn-222	0.2	0	0.2	pCi/L	UJ	Y01	SLDS Air (Alpha Tracks)-Environmental Monitoring
SLD151634	DA-3	07/09/13	Radiological	Rn-222	0.2	0	0.2	pCi/L	UJ	Y01	SLDS Air (Alpha Tracks)-Environmental Monitoring
SLD167383	DA-3	01/10/14	Radiological	Rn-222	0.2	0	0.2	pCi/L	UJ	Y01	SLDS Air (Alpha Tracks)-Environmental Monitoring
SLD167384	DA-6	01/10/14	Radiological	Rn-222	0.2	0	0.2	pCi/L	UJ	Y01	SLDS Air (Alpha Tracks)-Environmental Monitoring
SLD151636	DI-1	07/09/13	Radiological	Rn-222	1	0	0.2	pCi/L	J	Y01	SLDS Air (Alpha Tracks)-Environmental Monitoring
SLD167385	DI-1	01/10/14	Radiological	Rn-222	0.2	0	0.2	pCi/L	UJ	Y01	SLDS Air (Alpha Tracks)-Environmental Monitoring
SLD151637	DI-2	07/09/13	Radiological	Rn-222	1	0	0.2	pCi/L	J	Y01	SLDS Air (Alpha Tracks)-Environmental Monitoring
SLD167386	DI-2	01/10/14	Radiological	Rn-222	0.8	0	0.2	pCi/L	UJ	Y01	SLDS Air (Alpha Tracks)-Environmental Monitoring

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APPENDIX C

STORM-WATER, WASTE-WATER, AND EXCAVATION-WATER DATA

(On CD-ROM on the Back Cover of this Report)

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Table C-1. First Quarter Self-Monitoring Report for Excavation-Water Discharge at the SLDS During CY 2013

Parameter	Batch Number	Date of Discharge	Batch Results[a]		Amount Discharged (Gallons)	Total Activity per Discharge[b] (Ci)	MSD Discharge Limit		SOR
Gross Alpha (raw water)	SLDS-BK506	01/09/13 - 01/16/13 (6WH)	29	pCi/L	43,066	4.7E-06	3,000	pCi/L	0.03
Gross Beta			33	pCi/L		5.4E-06	N/A		
Th-228			0.4	pCi/L		5.7E-08	2,000	pCi/L	
Th-230			2	pCi/L		3.3E-07	1,000	pCi/L	
Th-232			<0.2	pCi/L		1.9E-08	300	pCi/L	
Uranium (KPA)			74	pCi/L		1.2E-05	3,000	pCi/L	
Ra-226[c]			2	pCi/L		2.5E-07	10	pCi/L	
Ra-228[d,e]			0.4	pCi/L		5.7E-08	30	pCi/L	
TSS			22	mg/L		-	-		
Gross Alpha (raw water)	SLDS-BK507	02/07/13 - 02/18/13 (6WH)	63	pCi/L	39,050	9.3E-06	3,000	pCi/L	0.03
Gross Beta			30	pCi/L		4.4E-06	N/A		
Th-228			<0.5	pCi/L		3.7E-08	2,000	pCi/L	
Th-230			2	pCi/L		3.0E-07	1,000	pCi/L	
Th-232			<0.4	pCi/L		3.0E-08	300	pCi/L	
Uranium (KPA)			67	pCi/L		9.9E-06	3,000	pCi/L	
Ra-226[c]			<2	pCi/L		1.6E-07	10	pCi/L	
Ra-228[d,e]			<0.5	pCi/L		3.7E-08	30	pCi/L	
TSS			28	mg/L		-	-		
Gross Alpha (raw water)	SLDS-BK508	03/07/13 - 03/28/13 (6WH)	32	pCi/L	72,536	8.8E-06	3,000	pCi/L	0.02
Gross Beta			23	pCi/L		6.4E-06	N/A		
Th-228			<0.7	pCi/L		9.2E-08	2,000	pCi/L	
Th-230			3	pCi/L		9.3E-07	1,000	pCi/L	
Th-232			<0.5	pCi/L		6.6E-08	300	pCi/L	
Uranium (KPA)			30	pCi/L		8.1E-06	3,000	pCi/L	
Ra-226[c]			2	pCi/L		4.7E-07	10	pCi/L	
Ra-228[d,e]			<0.7	pCi/L		9.2E-08	30	pCi/L	
TSS			36	mg/L		-	-		

Total Activity Discharged in First Quarter of CY 2013 (Ci)

Th-228	1.9E-07
Th-230	1.6E-06
Th-232	1.1E-07
Uranium (KPA)	3.0E-05
Ra-226	8.8E-07
Ra-228[d]	1.9E-07

Total Activity Discharged through 03/31/13 (Ci)

Th-228	1.9E-07
Th-230	1.6E-06
Th-232	1.1E-07
Uranium (KPA)	3.0E-05
Ra-226	8.8E-07
Ra-228[d]	1.9E-07

Total Volume Discharged in First Quarter of CY 2013 (gallons)

Gallons	154,652

Total Volume Discharged through 03/31/13 (gallons)

Gallons	154,652

NOTES:

[a] Non-detect sample results are converted to half the detection limit.

[b] The weighted average was used to calculate the total activity.

[c] 10 *CFR* 20 limit is 600 pCi/L for Ra-226.

[d] Ra-228 assumed to be in equilibrium with Th-228.

[e] 10 *CFR* 20 limit is 600 pCi/L for Ra-228.

Ci - curie(s)

mg/L - milligram(s) per liter

N/A - Not applicable

pCi/L - picocurie(s) per liter

SOR - sum of ratios

TSS - total suspended solid(s)

- No data/No limit

Table C-1. Second Quarter Self-Monitoring Report for Excavation-Water Discharge at the SLDS During CY 2013

Parameter	Batch Number	Date of Discharge	Batch Results[a]		Amount Discharged (Gallons)	Total Activity per Discharge[b] (Ci)	MSD Discharge Limit		SOR
Gross Alpha (raw water)	SLDS-BK509	04/08/13 - 04/30/13 (6WH)	170	pCi/L	210,722	1.4E-04	3,000	pCi/L	0.11
Gross Beta			92	pCi/L		7.4E-05	N/A		
Th-228			1.4	pCi/L		1.1E-06	2,000	pCi/L	
Th-230			19	pCi/L		1.5E-05	1,000	pCi/L	
Th-232			1.3	pCi/L		1.1E-06	300	pCi/L	
Uranium (KPA)			229	pCi/L		1.8E-04	3,000	pCi/L	
Ra-226[c]			3	pCi/L		2.2E-06	10	pCi/L	
Ra-228[d,e]			1.4	pCi/L		1.1E-06	30	pCi/L	
TSS			41	mg/L		-	-		
Gross Alpha (raw water)	SLDS-BK510	05/06/13 - 05/30/13 (6WH)	346	pCi/L	317,387	4.2E-04	3,000	pCi/L	0.16
Gross Beta			174	pCi/L		2.1E-04	N/A		
Th-228			<0.7	pCi/L		4.1E-07	2,000	pCi/L	
Th-230			10	pCi/L		1.2E-05	1,000	pCi/L	
Th-232			<0.6	pCi/L		3.4E-07	300	pCi/L	
Uranium (KPA)			448	pCi/L		5.4E-04	3,000	pCi/L	
Ra-226[c]			<3	pCi/L		2.0E-06	10	pCi/L	
Ra-228[d,e]			<0.7	pCi/L		4.1E-07	30	pCi/L	
TSS			56	mg/L		-	-		
Gross Alpha (raw water)	SLDS-BK511	06/03/13 - 06/27/13 (6WH)	252	pCi/L	447,410	4.3E-04	3,000	pCi/L	0.11
Gross Beta			128	pCi/L		2.2E-04	N/A		
Th-228			<0.7	pCi/L		6.2E-07	2,000	pCi/L	
Th-230			3	pCi/L		4.6E-06	1,000	pCi/L	
Th-232			<0.6	pCi/L		5.0E-07	300	pCi/L	
Uranium (KPA)			312	pCi/L		5.3E-04	3,000	pCi/L	
Ra-226[c]			<2	pCi/L		2.1E-06	10	pCi/L	
Ra-228[d,e]			<0.7	pCi/L		6.2E-07	30	pCi/L	
TSS			46	mg/L		-	-		

Total Activity Discharged in Second Quarter of CY 2013 (Ci)

Th-228	2.1E-06
Th-230	3.1E-05
Th-232	1.9E-06
Uranium (KPA)	1.2E-03
Ra-226	6.3E-06
Ra-228[d]	2.1E-06

Total Activity Discharged through 06/30/13 (Ci)

Th-228	2.3E-06
Th-230	3.3E-05
Th-232	2.0E-06
Uranium (KPA)	1.3E-03
Ra-226	7.1E-06
Ra-228[d]	2.3E-06

Total Volume Discharged in Second Quarter of CY 2013 (gallons)

Gallons	975,519

Total Volume Discharged through 06/30/13 (gallons)

Gallons	1,130,171

NOTES:

[a] Non-detect sample results are converted to half the detection limit.

[b] The weighted average was used to calculate the total activity.

[c] 10 *CFR* 20 limit is 600 pCi/L for Ra-226.

[d] Ra-228 assumed to be in equilibrium with Th-228.

[e] 10 *CFR* 20 limit is 600 pCi/L for Ra-228.

Ci - curie(s)

mg/L - milligram(s) per liter

N/A - Not applicable

pCi/L - picocurie(s) per liter

SOR - sum of ratios

TSS - total suspended solid(s)

- No data/No limit

Table C-1. Third Quarter Self-Monitoring Report for Excavation-Water Discharge at the SLDS During CY 2013

Parameter	Batch Number	Date of Discharge	Batch Results[a]		Amount Discharged (Gallons)	Total Activity per Discharge[b] (Ci)	MSD Discharge Limit		SOR
Gross Alpha (raw water)	SLDS-BK512	07/01/13 - 07/30/13 (6WH)	382	pCi/L	340,900	4.9E-04	3,000	pCi/L	0.14
Gross Beta			162	pCi/L		2.1E-04	N/A		
Th-228			<0.6	pCi/L		4.1E-07	2,000	pCi/L	
Th-230			2	pCi/L		2.6E-06	1,000	pCi/L	
Th-232			<0.5	pCi/L		3.0E-07	300	pCi/L	
Uranium (KPA)			392	pCi/L		5.1E-04	3,000	pCi/L	
Ra-226[c]			<3	pCi/L		1.8E-06	10	pCi/L	
Ra-228[d,e]			<0.6	pCi/L		4.1E-07	30	pCi/L	
TSS			29	mg/L		-	-		
Gross Alpha (raw water)	SLDS-BK513	08/12/13 - 08/14/13 (6WH)	62	pCi/L	51,382	1.2E-05	3,000	pCi/L	0.03
Gross Beta			20	pCi/L		3.9E-06	N/A		
Th-228			<0.8	pCi/L		8.2E-08	2,000	pCi/L	
Th-230			1	pCi/L		1.8E-07	1,000	pCi/L	
Th-232			<0.5	pCi/L		5.3E-08	300	pCi/L	
Uranium (KPA)			66	pCi/L		1.3E-05	3,000	pCi/L	
Ra-226[c]			<2	pCi/L		1.8E-07	10	pCi/L	
Ra-228[d,e]			<0.8	pCi/L		8.2E-08	30	pCi/L	
TSS			8	mg/L		-	-		
Gross Alpha (raw water)	SLDS-BK514	09/03/13 - 09/19/13 (6WH)	58	pCi/L	42,222	9.3E-06	3,000	pCi/L	0.02
Gross Beta			33	pCi/L		5.3E-06	N/A		
Th-228			<0.6	pCi/L		4.5E-08	2,000	pCi/L	
Th-230			1	pCi/L		2.3E-07	1,000	pCi/L	
Th-232			<0.4	pCi/L		3.4E-08	300	pCi/L	
Uranium (KPA)			58	pCi/L		9.3E-06	3,000	pCi/L	
Ra-226[c]			<3	pCi/L		2.7E-07	10	pCi/L	
Ra-228[d,e]			<0.6	pCi/L		4.5E-08	30	pCi/L	
TSS			12	mg/L		-	-		

Total Activity Discharged in Third Quarter of CY 2013 (Ci)

Th-228	5.4E-07
Th-230	3.0E-06
Th-232	3.9E-07
Uranium (KPA)	5.3E-04
Ra-226	2.3E-06
Ra-228[d]	5.4E-07

Total Activity Discharged through 09/30/13 (Ci)

Th-228	2.9E-06
Th-230	3.6E-05
Th-232	2.4E-06
Uranium (KPA)	1.8E-03
Ra-226	9.4E-06
Ra-228[d]	2.9E-06

Total Volume Discharged in Third Quarter of CY 2013 (gallons)

Gallons	434,504

Total Volume Discharged through 09/30/13 (gallons)

Gallons	1,564,675

NOTES:

[a] Non-detect sample results are converted to half the detection limit.

[b] The weighted average was used to calculate the total activity.

[c] 10 *CFR* 20 limit is 600 pCi/L for Ra-226.

[d] Ra-228 assumed to be in equilibrium with Th-228.

[e] 10 *CFR* 20 limit is 600 pCi/L for Ra-228.

Ci - curie(s)

mg/L - milligram(s) per liter

N/A - Not applicable

pCi/L - picocurie(s) per liter

SOR - sum of ratios

TSS - total suspended solid(s)

- No data/No limit

Table C-1. Fourth Quarter Self-Monitoring Report for Excavation-Water Discharge at the SLDS During CY 2013

Parameter	Batch Number	Date of Discharge	Batch Results[a]		Amount Discharged (Gallons)	Total Activity per Discharge[b] (Ci)	MSD Discharge Limit		SOR
Gross Alpha (raw water)	SLDS-BK515	10/17/13 - 10/31/13 (6WH)	50	pCi/L	49,554	9.4E-06	3,000	pCi/L	0.02
Gross Beta			21	pCi/L		3.9E-06	N/A		
Th-228			<0.6	pCi/L		5.3E-08	2,000	pCi/L	
Th-230			3	pCi/L		6.5E-07	1,000	pCi/L	
Th-232			<0.5	pCi/L		5.1E-08	300	pCi/L	
Uranium (KPA)			50	pCi/L		9.4E-06	3,000	pCi/L	
Ra-226[c]			<2	pCi/L		1.9E-07	10	pCi/L	
Ra-228[d,e]			<0.6	pCi/L		5.3E-08	30	pCi/L	
TSS			60	mg/L		-	-		
Gross Alpha (raw water)	SLDS-BK516	11/06/13 - 11/21/13 (6WH)	62	pCi/L	32,995	7.7E-06	3,000	pCi/L	0.02
Gross Beta			36	pCi/L		4.5E-06	N/A		
Th-228			<0.5	pCi/L		3.2E-08	2,000	pCi/L	
Th-230			2	pCi/L		2.4E-07	1,000	pCi/L	
Th-232			<0.2	pCi/L		1.2E-08	300	pCi/L	
Uranium (KPA)			61	pCi/L		7.6E-06	3,000	pCi/L	
Ra-226[c]			<2	pCi/L		9.7E-08	10	pCi/L	
Ra-228[d,e]			<0.5	pCi/L		3.2E-08	30	pCi/L	
TSS			53	mg/L		-	-		
Gross Alpha (raw water)	SLDS-BK517	12/23/13 (6WH)	50	pCi/L	28,185	5.3E-06	3,000	pCi/L	0.02
Gross Beta			23	pCi/L		2.5E-06	N/A		
Th-228			0.6	pCi/L		6.4E-08	2,000	pCi/L	
Th-230			1	pCi/L		1.3E-07	1,000	pCi/L	
Th-232			<0.3	pCi/L		1.3E-08	300	pCi/L	
Uranium (KPA)			42	pCi/L		4.5E-06	3,000	pCi/L	
Ra-226[c]			<3	pCi/L		1.7E-07	10	pCi/L	
Ra-228[d,e]			0.6	pCi/L		6.4E-08	30	pCi/L	
TSS			13	mg/L		-	-		

Total Activity Discharged in Fourth Quarter of CY 2013 (Ci)		**Total Activity Discharged through 12/31/13 (Ci)**	
Th-228	1.5E-07	**Th-228**	3.0E-06
Th-230	1.0E-06	**Th-230**	3.7E-05
Th-232	7.6E-08	**Th-232**	2.5E-06
Uranium (KPA)	2.1E-05	**Uranium (KPA)**	1.8E-03
Ra-226	4.6E-07	**Ra-226**	9.9E-06
Ra-228[d]	1.5E-07	**Ra-228[d]**	3.0E-06

Total Volume Discharged in Fourth Quarter of CY 2013 (gallons)		**Total Volume Discharged through 12/31/13 (gallons)**	
Gallons	110,734	**Gallons**	1,675,409

NOTES:

[a] Non-detect sample results are converted to half the detection limit.

[b] The weighted average was used to calculate the total activity.

[c] 10 *CFR* 20 limit is 600 pCi/L for Ra-226.

[d] Ra-228 assumed to be in equilibrium with Th-228.

[e] 10 *CFR* 20 limit is 600 pCi/L for Ra-228.

Ci - curie(s)

mg/L - milligram(s) per liter

N/A - Not applicable

pCi/L - picocurie(s) per liter

SOR - sum of ratios

TSS - total suspended solid(s)

- No data/No limit

APPENDIX D

GROUND-WATER FIELD PARAMETER DATA FOR CY 2013, ANALYTICAL DATA RESULTS FOR CY 2013

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Table D-1. Ground-Water Monitoring First Quarter 2013 - Field Parameters for the SLDS

Site	Station ID	Date Sampled	Purge Rate (mL/min)	mL Removed (mL)	pH	Conductivity (µS/cm)	Turbidity (NTU)	DO (mg/L)	Temp (°C)	ORP (mV)	Depth to Water (ft) at Sampling Time	Depth to Water (ft) (BTOC) 03/07/13
SLDS	B16W06D	---	---	---	---	---	---	---	---	---	---	40.42
SLDS	B16W06S	---	---	---	---	---	---	---	---	---	---	38.18
SLDS	B16W07D	---	---	---	---	---	---	---	---	---	---	42.8
SLDS	B16W08D	---	---	---	---	---	---	---	---	---	---	43.04
SLDS	B16W08S	---	---	---	---	---	---	---	---	---	---	36.01
SLDS	B16W09D	---	---	---	---	---	---	---	---	---	---	38.52
SLDS	B16W12S	---	---	---	---	---	---	---	---	---	---	17.58
SLDS	DW14	03/07/13	75	2,300	6.69	1.39	401	3.97	9.7	-204	40.8	35.00
SLDS	DW15	---	---	---	---	---	---	---	---	---	---	44.3
SLDS	DW16	---	---	---	---	---	---	---	---	---	---	29.51
SLDS	DW17	---	---	---	---	---	---	---	---	---	---	*
SLDS	DW18	---	---	---	---	---	---	---	---	---	---	44.08
SLDS	DW19	---	---	---	---	---	---	---	---	---	---	40.59
SLDS	DW21	---	---	---	---	---	---	---	---	---	---	12.5
SLDS	DW22R	---	---	---	---	---	---	---	---	---	---	41.39

Table D-1. Ground-Water Monitoring Second Quarter 2013 - Field Parameters for the SLDS

Site	Station ID	Date Sampled	Purge Rate (mL/min)	mL Removed (mL)	pH	Conductivity (µS/cm)	Turbidity (NTU)	DO (mg/L)	Temp (°C)	ORP (mV)	Depth to Water (ft) at Sampling Time	Depth to Water (ft) (BTOC) 05/21/13
SLDS	B16W06D	---	---	---	---	---	---	---	---	---	---	16.01
SLDS	B16W06S	05/21/13	100	1,500	6.9	0.751	78.2	4.86	16.4	-149	18.62	18.67
SLDS	B16W07D	---	---	---	---	---	---	---	---	---	---	18.41
SLDS	B16W08D	---	---	---	---	---	---	---	---	---	---	18.45
SLDS	B16W08S	---	---	---	---	---	---	---	---	---	---	15.97
SLDS	B16W09D	---	---	---	---	---	---	---	---	---	---	14.56
SLDS	B16W12S	05/21/13	85	1,020	6.5	0.119	20.6	4.96	16.9	98	13.1	13.56
SLDS	DW14	05/21/13	150	2,250	5.95	0.079	12.9	2.19	16.8	-189	12.56	12.17
SLDS	DW15	05/21/13	245	3,675	6.87	0.098	59.8	4.96	17.6	201	20.09	20.09
SLDS	DW16	---	---	---	---	---	---	---	---	---	---	15.48
SLDS	DW17	---	---	---	---	---	---	---	---	---	---	13.95
SLDS	DW18	05/21/13	300	3,600	6.11	0.094	8.9	4.31	17.6	-141	20.12	20.12
SLDS	DW19	---	---	---	---	---	---	---	---	---	---	16.4
SLDS	DW21	---	---	---	---	---	---	---	---	---	---	8.7
SLDS	DW22R	---	---	---	---	---	---	---	---	---	---	**

Table D-1. Ground-Water Monitoring Third Quarter 2013 - Field Parameters for the SLDS

Site	Station ID	Date Sampled	Purge Rate (mL/min)	mL Removed (mL)	pH	Conductivity (µS/cm)	Turbidity (NTU)	DO (mg/L)	Temp (°C)	ORP (mV)	Depth to Water (ft) at Sampling Time	Depth to Water (ft) (BTOC) 08/27/13
SLDS	B16W06D	---	---	---	---	---	---	---	---	---	---	37.80
SLDS	B16W06S	---	---	---	---	---	---	---	---	---	---	36.16
SLDS	B16W07D	08/27/13	270	3,240	6.81	0.172	76.6	4.12	22.1	92	39.81	39.47
SLDS	B16W08D	---	---	---	---	---	---	---	---	---	---	40.07
SLDS	B16W08S	---	---	---	---	---	---	---	---	---	---	32.45
SLDS	B16W09D	---	---	---	---	---	---	---	---	---	---	34.87
SLDS	B16W12S	---	---	---	---	---	---	---	---	---	---	15.20
SLDS	DW14	---	---	---	---	---	---	---	---	---	---	29.26
SLDS	DW15	---	---	---	---	---	---	---	---	---	---	40.41
SLDS	DW16	---	---	---	---	---	---	---	---	---	---	29.23
SLDS	DW17	---	---	---	---	---	---	---	---	---	---	35.08
SLDS	DW18	---	---	---	---	---	---	---	---	---	---	41.30
SLDS	DW19	08/27/13	290	2,610	7	1.31	34.8	3.56	21.9	-131	36.94	36.94
SLDS	DW21	08/27/13	53	795	6.15	1.03	74.3	6.59	20.3	-143	10.10	9.86
SLDS	DW22R	---	---	---	---	---	---	---	---	---	---	38.28

Table D-1. Ground-Water Monitoring Fourth Quarter 2013 - Field Parameters for the SLDS

Site	Station ID	Date Sampled	Purge Rate (mL/min)	mL Removed (mL)	pH	Conductivity (µS/cm)	Turbidity (NTU)	DO (mg/L)	Temp (°C)	ORP (mV)	Depth to Water (ft) at Sampling Time	Depth to Water (ft) (BTOC) 12/05/13
SLDS	B16W06D	---	---	---	---	---	---	---	---	---	---	40.97
SLDS	B16W06S	---	---	---	---	---	---	---	---	---	---	35.66
SLDS	B16W07D	---	---	---	---	---	---	---	---	---	---	42.96
SLDS	B16W08D	---	---	---	---	---	---	---	---	---	---	43.43
SLDS	B16W08S	---	---	---	---	---	---	---	---	---	---	39.08
SLDS	B16W09D	---	---	---	---	---	---	---	---	---	---	38.3
SLDS	B16W12S	---	---	---	---	---	---	---	---	---	---	16.73
SLDS	DW14	12/05/13	150	2,700	6.69	1.56	277.1	3.88	14.4	-187	34.65	34.65
SLDS	DW15	---	---	---	---	---	---	---	---	---	---	43.93
SLDS	DW16	12/05/13	290	4,350	6.37	0.089	15.8	4.06	14.4	-136	28.51	27.8
SLDS	DW17	---	---	---	---	---	---	---	---	---	---	*
SLDS	DW18	12/05/13	300	3,100	6.14	0.077	6.5	4.87	15.2	-139	44.46	44.45
SLDS	DW19	---	---	---	---	---	---	---	---	---	---	40.38
SLDS	DW21	---	---	---	---	---	---	---	---	---	---	12.09
SLDS	DW22R	---	---	---	---	---	---	---	---	---	---	**

--- monitoring well was not sampled during this event.

BTOC - below top of casing

°C - degrees Celsius

DO - dissolved oxygen

mg/L - milligram(s) per liter

mL - milliliter(s)

mL/min - milliliter(s) per minute

mV - millivolt(s)

NTU - nephelometric turbidity unit

ORP - oxidation reduction potential

µS/cm - microSiemen(s) per centimeter

* Water level below dedicated pump in well

** Well was not accessible

Table D-2. CY 2013 Ground-Water Sampling Data for the SLDS

Site: SLDS											
Sample Name	**Station Name**	**Sample Collect Date**	**Analytical Method**	**Analyte**	**Analytical Result**	**Measurement Error**	**DL**	**Units**	**VQ[a]**	**Validation Reason Code(s)[b]**	**Filtered**
SLD154816	B16W06S	05/21/13	SW846 6020	Arsenic	150		1.2	µg/L	=		No
SLD154816	B16W06S	05/21/13	SW846 6020	Cadmium	0.27		0.1	µg/L	=		No
SLD156500	B16W07D	08/27/13	SW846 6020	Arsenic	36		1.2	µg/L	=		No
SLD156500	B16W07D	08/27/13	SW846 6020	Cadmium	0.79		0.1	µg/L	=		No
SLD154817	B16W12S	05/21/13	SW846 6020	Arsenic	1.5		1.2	µg/L	=		No
SLD154817	B16W12S	05/21/13	SW846 6020	Cadmium	0.21		0.1	µg/L	=		No
SLD154817	B16W12S	05/21/13	ML-006	Ra-226	0.841	1.33	2.53	pCi/L	UJ	T06	No
SLD154817	B16W12S	05/21/13	ML-005	Th-228	0.107	0.214	0.427	pCi/L	UJ	T06	No
SLD154817	B16W12S	05/21/13	ML-005	Th-230	0.178	0.259	0.428	pCi/L	UJ	T06	No
SLD154817	B16W12S	05/21/13	ML-005	Th-232	0	0	0.193	pCi/L	U		No
SLD154817	B16W12S	05/21/13	ML-015	U-234	3.13	1.15	0.198	pCi/L	=		No
SLD154817	B16W12S	05/21/13	ML-015	U-235	0.18	0.257	0.244	pCi/L	UJ	T06	No
SLD154817	B16W12S	05/21/13	ML-015	U-238	2.76	1.06	0.197	pCi/L	=		No
SLD152042	DW14	03/07/13	SW846 6020	Antimony	2.8		1.7	µg/L	J		No
SLD152042	DW14	03/07/13	SW846 6020	Arsenic	1,100		1.2	µg/L	=		No
SLD152042	DW14	03/07/13	SW846 6020	Barium	3,900		0.22	µg/L	=		No
SLD152042	DW14	03/07/13	SW846 6020	Cadmium	120		0.1	µg/L	=		No
SLD152042	DW14	03/07/13	SW846 6020	Chromium	120		3.3	µg/L	=		No
SLD152042	DW14	03/07/13	SW846 6020	Molybdenum	30		1	µg/L	=		No
SLD152042	DW14	03/07/13	SW846 6020	Nickel	560		0.4	µg/L	=		No
SLD152042	DW14	03/07/13	SW846 6020	Selenium	12		1.6	µg/L	=		No
SLD152042	DW14	03/07/13	SW846 6020	Thallium	1.4		0.55	µg/L	J		No
SLD152042	DW14	03/07/13	SW846 6020	Vanadium	160		2.4	µg/L	=		No
SLD154818	DW14	05/21/13	SW846 6020	Arsenic	100		1.2	µg/L	=		No
SLD154818	DW14	05/21/13	SW846 6020	Arsenic	86		1.2	µg/L	=		Yes
SLD154818	DW14	05/21/13	SW846 6020	Cadmium	1.6		0.1	µg/L	=		No
SLD154818	DW14	05/21/13	SW846 6020	Cadmium	0.2		0.1	µg/L	=		Yes
SLD166411	DW14	12/05/13	SW846 6020	Arsenic	16		1.2	µg/L	=		No
SLD166411	DW14	12/05/13	SW846 6020	Cadmium	0.58		0.1	µg/L	=		No
SLD154819	DW15	05/21/13	SW846 6020	Arsenic	2.7		1.2	µg/L	=		No
SLD154819	DW15	05/21/13	SW846 6020	Cadmium	2.8		0.1	µg/L	=		No
SLD154819	DW15	05/21/13	ML-006	Ra-226	0.512	0.739	1.23	pCi/L	UJ	T06	No
SLD154819	DW15	05/21/13	ML-005	Th-228	0.146	0.211	0.349	pCi/L	UJ	T06	No
SLD154819	DW15	05/21/13	ML-005	Th-230	0.262	0.27	0.35	pCi/L	UJ	T06	No
SLD154819	DW15	05/21/13	ML-005	Th-232	0.0582	0.117	0.158	pCi/L	UJ	T06	No
SLD154819	DW15	05/21/13	ML-015	U-234	0.946	0.543	0.391	pCi/L	J	T04	No
SLD154819	DW15	05/21/13	ML-015	U-235	-9.32E-06	0.197	0.592	pCi/L	UJ	T06	No
SLD154819	DW15	05/21/13	ML-015	U-238	0.455	0.355	0.176	pCi/L	J	T04	No
SLD166413	DW16	12/05/13	ML-006	Ra-226	2.4	1.64	1.77	pCi/L	J	T04	No
SLD166413	DW16	12/05/13	ML-005	Th-228	0.869	0.545	0.453	pCi/L	J	F01, T04	No
SLD166413	DW16	12/05/13	ML-005	Th-230	0.189	0.274	0.454	pCi/L	UJ	T06	No
SLD166413	DW16	12/05/13	ML-005	Th-232	0.0755	0.152	0.205	pCi/L	UJ	T06	No

Table D-2. CY 2013 Ground-Water Sampling Data for the SLDS

Site: SLDS											
Sample Name	**Station Name**	**Sample Collect Date**	**Analytical Method**	**Analyte**	**Analytical Result**	**Measurement Error**	**DL**	**Units**	**VQ[a]**	**Validation Reason Code(s)[b]**	**Filtered**
SLD166413	DW16	12/05/13	ML-015	U-234	0.504	0.425	0.228	pCi/L	J	T04	No
SLD166413	DW16	12/05/13	ML-015	U-235	0.0518	0.232	0.621	pCi/L	UJ	T06	No
SLD166413	DW16	12/05/13	ML-015	U-238	0.878	0.591	0.502	pCi/L	J	F01, T04	No
SLD154820	DW18	05/21/13	ML-006	Ra-226	0.426	0.604	0.578	pCi/L	UJ	T06	No
SLD154820	DW18	05/21/13	ML-005	Th-228	0.522	0.355	0.157	pCi/L	J	F01, T04	No
SLD154820	DW18	05/21/13	ML-005	Th-230	0.232	0.274	0.427	pCi/L	UJ	T06	No
SLD154820	DW18	05/21/13	ML-005	Th-232	0	0	0.157	pCi/L	U		No
SLD154820	DW18	05/21/13	ML-015	U-234	0.0319	0.143	0.383	pCi/L	UJ	T06	No
SLD154820	DW18	05/21/13	ML-015	U-235	0.118	0.237	0.472	pCi/L	UJ	T06	No
SLD154820	DW18	05/21/13	ML-015	U-238	0.127	0.182	0.172	pCi/L	UJ	T06	No
SLD166412	DW18	12/05/13	SW846 6020	Arsenic	71		1.2	µg/L	=		No
SLD166412	DW18	12/05/13	SW846 6020	Cadmium	1.7		0.1	µg/L	=		No
SLD166412	DW18	12/05/13	ML-006	Ra-226	2.25	1.44	1.28	pCi/L	J	T04	No
SLD166412	DW18	12/05/13	ML-005	Th-228	0.154	0.223	0.369	pCi/L	UJ	T06	No
SLD166412	DW18	12/05/13	ML-005	Th-230	0.4	0.336	0.369	pCi/L	J	F01, T04	No
SLD166412	DW18	12/05/13	ML-005	Th-232	0.0922	0.185	0.369	pCi/L	UJ	T06	No
SLD166412	DW18	12/05/13	ML-015	U-234	0.826	0.621	0.676	pCi/L	J	T04	No
SLD166412	DW18	12/05/13	ML-015	U-235	0	0	0.307	pCi/L	U		No
SLD166412	DW18	12/05/13	ML-015	U-238	0.96	0.648	0.548	pCi/L	J	F01, T04	No
SLD156499	DW19	08/27/13	SW846 6020	Arsenic	5.5		1.2	µg/L	=		No
SLD156499	DW19	08/27/13	SW846 6020	Cadmium	6.5		0.1	µg/L	=		No
SLD156499	DW19	08/27/13	ML-006	Ra-226	-0.461	0.533	2.58	pCi/L	UJ	T06	No
SLD156499	DW19	08/27/13	ML-005	Th-228	0.0685	0.217	0.504	pCi/L	UJ	T06	No
SLD156499	DW19	08/27/13	ML-005	Th-230	0.0686	0.217	0.505	pCi/L	UJ	T06	No
SLD156499	DW19	08/27/13	ML-005	Th-232	0	0	0.186	pCi/L	U		No
SLD156499	DW19	08/27/13	ML-015	U-234	9.81	2.9	0.256	pCi/L	=		No
SLD156499	DW19	08/27/13	ML-015	U-235	0.582	0.536	0.315	pCi/L	J	T04	No
SLD156499	DW19	08/27/13	ML-015	U-238	12.3	3.47	0.255	pCi/L	=		No
SLD156501	DW21	08/27/13	SW846 6020	Arsenic	94		1.2	µg/L	=		No
SLD156501	DW21	08/27/13	SW846 6020	Cadmium	0.71		0.1	µg/L	=		No

[a] Validation Qualifiers:

= Indicates that the data met all QA/QC requirements, and that the parameter has been positively identified and the associated concentration value is accurate.

J Indicates that the parameter was positively identified; the associated numerical value is the approximate concentration of the parameter in the sample.

U Indicates that the data met all QA/QC requirements, and that the parameter was analyzed for but was not detected above the reported sample quantitation limit.

UJ Indicates that the parameter was not detected above the reported sample quantitation limit.and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample. However, the reported quantitation limit is approximate

[b] Validation Reason Codes:

F01 Blanks: Sample data were qualified as a result of the method blank.

T04 Radionuclide Quantitation: Professional judgment was used to qualify the data.

T06 Radionuclide Quantitation: Analytical result is less than both the associated counting uncertainty and MDA.

APPENDIX E

DOSE ASSESSMENT ASSUMPTIONS

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DOSE ASSESSMENT ASSUMPTIONS

DOSE FROM THE ST. LOUIS DOWNTOWN SITE TO A MAXIMALLY EXPOSED INDIVIDUAL

An off-site, worker-based receptor is the most realistic choice to represent the hypothetical maximally exposed individual because of the proximity of the receptor, approximately 164 ft (50 m) southeast of the Mallinckrodt fenceline (DT-10), and because of the time the individual will spend at this location. Thus, a realistic assessment of dose can be performed using conservative assumptions of occupancy rate and distance from the source.

The following dose assessment is for a maximally exposed individual who works full-time (2,000 hours per year) at a location approximately 164 ft (50 m) southeast of the external gamma and radon monitoring location and 525 to 1,247 ft (160 to 380 m) from the SLDS excavation areas.

Airborne Radioactive Particulates

An EDE of less than 0.1 mrem/yr to the receptor was calculated by using activity fractions to determine a source term, and then combining the dose results for DT-2, Kiesel Hall Street, Plant 6, and Plant 6 Loadout. The USEPA CAP88-PC modeling code was used to calculate dose to the receptor at 525 to 1,247 ft (160 to 380 m) from the SLDS excavation areas and loadout (Leidos 2014). Figure A-1 of Appendix A presents the distances and directions of the maximally exposed receptor from the excavated areas. Details related to calculation of EDE for the maximally exposed receptor are presented in Appendix A.

External Gamma Pathway

Because station DA-2 was the closest TLD to the receptor, the TLD results from this location were used for the dose calculations. The station DA-2 TLD measured an annual exposure, above background, of 2 mrem/yr, based on 8,760 hours of continuous detector exposure. The EDE due to gamma exposure for the maximally exposed individual is estimated by assuming that the site approximates a line source with a source strength (H_1) that is the average of the TLD measurements between the source and the receptor (Cember 1996).

$$H_1 = \frac{(2)\,\text{mrem/yr}}{1} = 2\ \text{mrem/yr}$$

Based on 100 percent occupancy rate, the exposure rate (H_2) to the receptor was calculated as follows:

$$H_2 = H_1 \times \frac{h_1}{h_2} \times \frac{\tan^{-1}(L/h_2)}{\tan^{-1}(L/h_1)}$$

$$H_2 = 0.05\ \text{mrem/yr}$$

where:

H_2 = exposure rate to the receptor
H_1 = exposure rate to the TLDs
h_2 = distance from the source to the receptor = 164 ft (50 m)
h_1 = distance from the source to the TLDs = 5.2 ft (1.6 m)
L = average distance from centerline of the line source (H_1) to the end of the line source = 492 ft (150 m)

The actual dose to the maximally exposed individual who is only present during a normal work year is calculated as follows:

$$H_{MEI} = H_2 \times \frac{2{,}000 \text{ hours/work year}}{8{,}760 \text{ hours/total year}}$$

$$H_{MEI} = 1.2E\text{-}02 \text{ mrem/yr}$$

Airborne Radon Pathway

Like external gamma calculations, only the radon data from Stations DA-2 was used to determine dose due to radon and progeny. Appendix B presents the radon results at all stations. Station DA-2 ATDs measured annual exposures above background of 0 pCi/L based on 8,760 hours of continuous exposure. Exposure to the receptor from radon (and progeny) was estimated using a dispersion factor (C_2) and the average ATD monitoring data at the site perimeter between the source and the receptor.

In order to calculate the dispersion factor, the effective dose equivalents were determined to a receptor located at 3 ft and 164 ft (1 m and 50 m) respectively, southwest of the SLDS by inputting a radon release rate of 1 Ci/yr, the St. Louis Lambert Airport wind file, and a surface area of 50,052 square feet (ft^2) (4,650 square meters [m^2]) into the CAP-88 model. Effective surface area was determined by summing the time-weighted average annual open surface areas for all SLDS excavation areas and loadout. The CAP88 input data and the result of the CAP88 run are highlighted and presented in Appendix A. The radon dispersion factor (C_2) for the site was calculated as follows.

$$C_2 = \left[\frac{0.16 \ mrem/yr}{0.69 \ mrem/yr} \right] = 0.23$$

The average of ATD monitoring data (S_1) at the site perimeter (Plant 7/DT-10 fenceline) was calculated as follows:

$$S_1 = \left[\frac{(0) \ \text{pCi/L}}{1} \right] = 0 \text{ pCi/L}$$

The actual radon exposure dose to the hypothetical maximally exposed individual was calculated as follows:

$$S_{MEI} = S_1 \times F \times DCF \times T \times C_1 \times C_2$$

$$S_{MEI} = 0 \text{pCi/L} \times 0.0005 \frac{\text{WL}}{\text{pCi/L}} \times 1{,}250 \frac{\text{mrem}}{\text{WLM}} \times \frac{2{,}000 hrs}{yr} \ x \ \frac{1 \text{month}}{170 \text{hrs}} \times 0.23 = 0 \text{ mrem/yr}$$

where:

S_1	=	Fenceline average of ATD measurements between source and receptor
S_{MEI}	=	Radon exposure to the hypothetical maximally exposed individual.
F	=	Equilibrium fraction of 0.05 WL per 100 pCi/L (DOE 1998)

DCF = Dose Conversion Factor (USEPA 1989) = 1,250 mrem/WLM
T = Exposure time for the hypothetical maximally exposed receptor = 2,000 hours/year
C_1 = Occupancy factor constant = 1 month per 170 hours
C_2 = Dispersion Factor
WL = working level (concentration unit)
WLM = working level month (exposure unit)

Total Effective Dose Equivalent

TEDE = CEDE (airborne particulates) + H_{MEI} (external gamma) + S_{MEI} (airborne radon)

TEDE = <0.1 mrem/yr + <0.1 mrem/yr + 0 mrem/yr = <0.1 mrem/yr

where:

CEDE = committed effective dose equivalent

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