

***Report on Air Monitoring, Area IV,  
Twenty-Third Quarter and Annual  
Summary 2023***

***Santa Susana Field Laboratory  
Ventura County, California***



***Prepared for:  
United States  
Department of Energy***

***Prepared by:  
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**Report on Air Monitoring, Area IV,  
Twenty-Third Quarter and Annual Summary 2023**

**Santa Susana Field Laboratory  
Ventura County, CA**

**April 2024  
Revision 0**

**Contract No. DE-EM0000837-DT0007583**

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## EXECUTIVE SUMMARY

This report summarizes the United States Department of Energy (DOE) air monitoring activities conducted during the twenty-third quarter (Q23) of the air monitoring period (October 1, 2023, to December 31, 2023) at Area IV within the Santa Susana Field Laboratory (SSFL), located in Ventura County, California. The report also provides an annual summary for the sixth year of the air monitoring period (Q20 through Q23, January 1, 2023, through December 31, 2023). The area specifically discussed within this report is the DOE portion, Area IV of SSFL, known as the Energy Technology Engineering Center (ETEC). Year one of the Baseline Air Monitoring Program consisted of Quarter 1 through Quarter 4 (Q1 through Q4). Year two consisted of Q5 through Q7. Year three consisted of Q8 through Q11. Year four consisted of Q12 through Q15. Year five consisted of Q16 through Q19. Year six consists of Q20 through Q23. The program is continuing for a seventh year, which consists of 2024 reporting periods Q24 through Q27.

This report has been developed by North Wind Portage, Inc., on behalf of DOE in cooperation with The Boeing Company (Boeing) and the National Aeronautics and Space Administration (NASA), as part of the Air Monitoring Program.

In accordance with the Final Baseline Air Monitoring Work Plan, Santa Susana Field Laboratory, Ventura County, California (NASA 2017), the responsible parties are monitoring for particulate matter between 2.5 and 10 microns in aerodynamic diameter (PM<sub>10</sub>), volatile organic compounds (VOCs), and radionuclides at air monitoring stations DOE-1, DOE-2, DOE-3, and DOE-4 encompassing the ETEC, Area IV portion of the SSFL. Having developed the baseline levels for PM<sub>10</sub>, VOCs, and radionuclides helps distinguish between levels that naturally occur or were previously present at the ETEC site and if onsite remediation activities produce elevated results. Year 6 observations show a very similar trend when compared to data collected during Years 1, 2, 3, 4, and 5. These stable data trends indicate that site activities are not having an effect on site air conditions. High heat, wind, fires, and holidays like the Fourth of July all show consistent impacts to the air report readings. Air monitoring will be continued throughout remediation activities to be able to compare results from onsite remediation activities to baseline data in the Annual Air Monitoring Reports. The following air monitoring activities conducted during quarters Q20 through Q23 by DOE within Area IV are summarized in this report:

- Collected meteorological data from one location (DOE-4);
- Collected PM<sub>10</sub> data from four locations (DOE-1 through DOE-4);
- Collected air samples from four locations (DOE-1 through DOE-4) for VOC laboratory analysis; and
- Collected radionuclide samples for laboratory analysis from four locations (DOE-1 through DOE-4).

Meteorological data and radionuclide data all met the data completeness goal of 80% and VOC data met the completeness goal of 85% for Q23. PM<sub>10</sub> data did not meet the 80% goal during Q23 due to a filter sensor pressure failure caused by battery and power issues at DOE-3 and DOE-4 for a large portion of Q23, resulting in a 78% operational time frame for Q23. These issues have now been resolved and operational time moving forward should be above 80% again. This was the second time over the 23 quarters that the 80% goal was not met. However, since the start of the project, over the entire 23 quarters, the PM<sub>10</sub> operational time has been 93%. The air monitoring is to be continued beginning January 1, 2024, with the twenty-fourth quarter (Year 7) of air monitoring. Future data collected during remediation may be compared to these summarized conditions.

The following site activities were conducted during Q23 by DOE within Area IV:

- Quarterly site-wide groundwater level monitoring;
- CDM Smith conducted groundwater sampling activities at the Former Sodium Disposal Facility as a part of groundwater interim measures; and
- Surveillance and maintenance.

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## ACRONYMS AND ABBREVIATIONS

°C	degrees Celsius
°F	degrees Fahrenheit
μCi	microcurie(s)
μg/m <sup>3</sup>	microgram(s) per cubic meter
Boeing	The Boeing Company
CAAQS	California Ambient Air Quality Standards
CFR	Code of Federal Regulations
Cs-137	cesium-137
DAC	derived airborne concentration
DASC	Data Assessment Statistical Calculator
DOE	U.S. Department of Energy
DTSC	State of California Department of Toxic Substances Control
EPA	U.S. Environmental Protection Agency
ETEC	Energy Technology Engineering Center
FSDf	Former Sodium Disposal Facility
GC	gas chromatography
Hg	mercury
HHRA	Human Health Risk Assessment
m	meter(s)
m/sec	meter(s) per second
mb	millibar(s)
MDC	minimum detectable concentration
mL	milliliter(s)
mph	miles per hour
MS	mass spectrometry

NAAQS	National Ambient Air Quality Standards
NASA	National Aeronautics and Space Administration
NIST	National Institute of Standards and Technology
pCi	picocurie(s)
PM <sub>10</sub>	particulate matter less than 10 microns in aerodynamic diameter
Q20	twentieth quarter
Q21	twenty-first quarter
Q22	twenty-second quarter
Q23	twenty-third quarter
QA	quality assurance
QC	quality control
Ra-226	radium-226
Ra-228	radium-228
RAWS	Remote Automatic Weather Stations
RMHF	Radioactive Materials Handling Facility
RPD	relative percent difference
RSL	regional screening level
SDG	sample delivery group
SLAMS	State and Local Air Monitoring Stations
Sr-90	strontium-90
SSFL	Santa Susana Field Laboratory
VOC	volatile organic compound

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## 1. INTRODUCTION

National Aeronautics and Space Administration (NASA), The Boeing Company (Boeing), and the U.S. Department of Energy (DOE), also known as the responsible parties, are performing air monitoring at the Santa Susana Field Laboratory (SSFL) site located in Ventura County, California. The SSFL was a business segment of Boeing. SSFL includes 2,849 acres located atop a range of hills between the Simi and San Fernando valleys, north of Los Angeles. The westernmost 290 acres of the SSFL, known as Area IV, contains both DOE and Boeing former facilities. The DOE portion is mainly contained within the 90 acres known as the Energy Technology Engineering Center (ETEC).

When opened in the late 1950s, ETEC was ideally remote from population centers to enable development of security-sensitive projects. These projects supported research for DOE and its predecessor agencies for nuclear research and energy development. Area IV include buildings that housed a test apparatus for large-scale heat transfer and fluid mechanics experiments, mechanical and chemical test facilities, office buildings, and auxiliary facilities.

Air monitoring is being conducted in accordance with the *Final Baseline Air Monitoring Work Plan, Santa Susana Field Laboratory, Ventura County, California* (NASA 2017), which was submitted to the State of California Department of Toxic Substances Control (DTSC) on September 21, 2017. DTSC approved the Work Plan. Final locations of the air monitoring locations were approved by DTSC on January 30, 2018 (DTSC 2018).

The objective of the Air Monitoring Program is to evaluate project conditions and provide a basis for determining the magnitude of deviation from those baseline conditions resulting from onsite remediation activities (project) at SSFL. Responsible parties are monitoring for particulate matter between 2.5 and 10 microns in aerodynamic diameter (PM<sub>10</sub>), and volatile organic compounds (VOCs), at 14 locations at SSFL. Data were collected from four perimeter samplers (DOE-1 through DOE-4) and analyzed for gross alpha and gross beta. Individual radionuclide concentrations were determined by analysis at an offsite laboratory for these same four locations. Meteorological data are also collected as a part of the Air Monitoring Program.

Figure 1 shows the air monitoring locations for the Air Monitoring Program. These locations were selected based on the areas to be remediated, with consideration of winds in the area, topographic features, and accessibility. The air monitoring sites were selected based on guidance obtained from the U.S. Environmental Protection Agency's (EPA's) *Quality Assurance Handbook for Air Pollution Measurement Systems, Volume II, Ambient Air Monitoring Program* (EPA 2017) and *Meteorological Monitoring Guidance for Regulatory Modeling Applications* (EPA 2000). Sites were evaluated per 40 Code of Federal Regulations (CFR) 58, Appendix C – Ambient Air Quality Monitoring Methodology. DOE is responsible for DOE-1, DOE-2, DOE-3, and DOE-4 of the 14 monitoring locations, represented in Figure 1. VOCs, PM<sub>10</sub>, and radionuclides are monitored at the four DOE monitoring locations, and meteorological conditions are monitored at the DOE-4 location. The DOE monitoring locations DOE-1 through DOE-4 are shown in Figure 2.

This report summarizes the Q23 quarterly results and quality assurance (QA) activities performed at the DOE locations between October 1, 2023, and December 31, 2023. The report also provides an annual summary for the sixth year of the air monitoring period (Q20 through Q23, January 1, 2023, through December 31, 2023). The air monitoring is to be continued beginning January 1, 2024, for 2024 with the seventh year (beginning with Q24) of the Air Monitoring Program.

## **1.1 Regional Climate and Wind Direction**

The climate in the SSFL area is characterized as “Mediterranean.” The mean temperature during the winter months is approximately 50 degrees Fahrenheit (°F) and the mean temperature in the summer months is approximately 70°F. Based on climate data between 2022 and 2023 from Weather Currents, average 12-month total rainfall is on the order of 17.83 inches. The majority of the rainfall occurs between December and April with January and February being the wettest months.

Through the fourth quarter in 2023, the Simi Valley received approximately 4.25 inches of rainfall.

The average hourly wind speed in Simi Valley varies significantly by season. The more turbulent part of the year lasts for 6 months, from November to April, with average western wind speeds of more than 7 miles per hour (mph). The calmer time of year lasts for 6 months, with northerly winds from May to October.

During the fall, winter, and spring, Santa Ana winds can blow from the north or northeast in excess of 35 mph.

## 2. SUMMARY

This report summarizes the air monitoring data collected during the Q23 reporting period. The report also provides an annual summary for the sixth year of the air monitoring period (Q20 through Q23, January 1, 2023, through December 31, 2023).

Quality objectives and data completeness were met for all meteorological, VOC, and radionuclide data for Q23 of the Air Monitoring Program. One PM<sub>10</sub> station was not functioning during the majority of Q23 so the data completeness goal was not met for the quarter; however, the cumulative total project data completeness has been calculated as 93% for Q1 through Q23.

Urban background data compared with air monitoring data indicate that the PM<sub>10</sub> concentrations measured at stations DOE-1, DOE-2, DOE-3, and DOE-4 during Q20 through Q23 are comparable to the PM<sub>10</sub> concentrations measured at stations characterizing urban background. Concentrations of VOCs characteristic of motor vehicle emissions, fossil fuel combustion, and wildfires are comparable around SSFL compared with the urban background, reflecting the site's relatively remote location from vehicle traffic. PM<sub>10</sub> concentrations exceeded the California Ambient Air Quality Standard (CAAQS; 50 micrograms per cubic meter [ $\mu\text{g}/\text{m}^3$ ]) once at DOE-1 during Q23, but the concentrations were below the National Ambient Air Quality Standard (NAAQS; 150  $\mu\text{g}/\text{m}^3$ ). Graphs 5–8 in Section 4.2 show that the PM<sub>10</sub> data for Year 6 are consistent with the baseline data from Year 1, Year 2, Year 3, Year 4, and Year 5.

During Q23 three VOC analytes were detected above the EPA regional screening level (RSL). Ethylbenzene was detected at DOE-4, chloroform was detected at DOE-1, and ethyl acetate was being detected at both DOE-1 and DOE-4. Ethylbenzene and chloroform are both made from crude oil or coal tar. They can be produced during cigarette smoke, car exhaust, and smoke from forest fires. Ethyl acetate is a solvent used in a variety of industries and applications, such as adhesives, paint and coating products, pharmaceuticals, and printing inks. By using the results from the baseline Air Monitoring Program, along with other site characterization information, analytes were selected for routine air monitoring during soil disturbances. Establishing sources for specific contaminants or performing source apportionment was not a requirement for identifying remedial air quality impacts nor was it within the scope or data quality objectives of the Air Monitoring Program.

During the remainder of Year 6 (Q20, Q21, and Q22), there were two additional instances of VOC analytes detected above either the EPA Residential Air RSL or the DTSC human health risk assessment (HHRA) RSL. During Q20 there were two VOC analytes detected above the EPA Residential Air RSL or the DTSC HHRA: one at DOE-2, two at DOE-3, and two at DOE-4. During Q21 and Q22 there were no detections above the EPA Residential Air RSL or the DTSC HHRA. VOC data analyzed during Year 6 are consistent with the baseline data from Year 1, Year 2, Year 3, Year 4, and Year 5. The distribution of the VOC data cannot be explained by the extensive site database.

During Q20 through Q23, detections for gross alpha and gross beta that exceeded the minimum detectable concentration (MDC) are all naturally occurring radionuclides or global fallout. The naturally occurring radionuclides were much higher than the artificial radionuclides. Detections are expected because the results are calculated at a 95% confidence level. Gross alpha, gross beta, and radionuclide data analyzed during Year 6 are consistent with the baseline data from Year 1, Year 2, Year 3, Year 4, and Year 5. All radiological data reported for the air filter samples are naturally occurring.

Data collected during Q20 through Q23 agree with data collected, analyzed, and reported by the State of California DTSC, Los Angeles County Emergency Response Organization, the DOE Emergency Response

organization, or other Multi-Agency Task Forces. The remaining data were validated and there are no statistically significant changes in the air monitoring results. Air monitoring at Area IV of the SSFL is to be continued starting January 1, 2024, for 2024 with the seventh year (beginning with Q24) of the Air Monitoring Program.

Site activities during Q23 included surveillance and maintenance, and groundwater sampling activities conducted by CDM Smith at the Former Sodium Disposal Facility (FSDF) as part of the groundwater interim measures. Work area air monitoring was conducted during building demolition, confirming there was no airborne contamination resulting from the demolition activities (see Section 4). Building demolition was completed by March 1, 2022. Routine activities onsite during the baseline period (Q1–Q7) also included general site maintenance, operations of the meteorological stations, the FSDF groundwater interim measure, which started November 2017, and groundwater sampling. When comparing Q23 and the rest of the Year 6 data, to Year 1, Year 2, Year 3, Year 4, and Year 5 data, the PM<sub>10</sub>, VOC, and RAD data collected are consistent, indicating that building demolition activities had no impact on the site air conditions.

### 3. ANALYTICAL SAMPLING EVENTS

VOCs are collected according to the EPA Toxic Compendium Method TO-15, *Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS)* (EPA 1999). Twenty-four-hour time-integrated samples are collected into Summa canisters via a flow controller and sent to an offsite laboratory for analysis. VOCs are collected every other week. There were seven VOC sampling events in this reporting period. One field duplicate sample was collected during each sampling event.

During Q23, radionuclide samples were collected at four perimeter sampling locations, DOE-1 through DOE-4. These samples were collected on glass fiber (Type A/E) filters that are changed twice a week. After a minimum 120-hour holding time to allow the decay of short-lived radon-220 and radon-222 daughter products, the samples are simultaneously counted for gross alpha and beta activity with a low-background, thin-window, gas-flow proportional-counting system continually purged with P-10 argon/methane counting gas over a preset time interval. There were 95 airborne radioactivity filter samples collected in Q23 — 24 each with DOE-1, DOE-2, and DOE-4; and 23 with DOE-3. Following analysis for gross alpha and gross beta radiation, sample filters from each of the locations were combined to form one composite sample representative of each location. The four composite samples were then analyzed for individual radionuclides at an offsite laboratory.

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## 4. DATA

Sections 4.1 through 4.4 discuss Q23 air monitoring data.

### 4.1 Meteorological Data

#### General Summary

Meteorological data, also called weather data, are being collected as part of the ETEC cleanup and restoration effort. This information, particularly the wind direction and wind speed, can be used to help understand how dust and other air pollutants from the site are carried by the wind and possibly affect nearby public and residential areas. This is especially important when the E-BAM particulate monitors at the site detect higher-than-normal amounts of dust in the air. Scientific computer models can be used with this weather data and particulate monitoring data to describe the air quality for the people and communities living near the ETEC site. However, before the weather data can be used with the computer models it must first be tested for completeness and accuracy. A detailed description of the weather data collection and quality testing is provided in the following paragraphs.

Monitored meteorology parameters at the DOE-4 station included wind speed, wind direction, air temperature at 2 meters (m) and 10 m, relative humidity, precipitation, barometric pressure, and solar radiation. In addition, statistical parameters provided by the data logger included delta temperature (i.e., defined as the 10-m temperature minus the 2-m temperature), maximum wind speed (i.e., wind gust), and standard deviation of wind direction. Observations were recorded at 15-minute intervals for :00, :15, :30, and :45 minutes each hour. There were 92 days in this reporting period (Q23), which covers October 1, 2023, through December 31, 2023, with a total of 8,832 possible 15-minute observations. During year 6 (Q20 through Q23), there were a total of 35,040 possible 15-minute observations.

#### Data Validation and Statistics

Data validation screening was performed on the recorded meteorological observations pursuant to EPA's *Meteorological Monitoring Guidance for Regulatory Modeling Applications* (EPA 2000), *Table 8-4 (Suggested Data Screening Criteria)* and *Table 8-3 (Suggested Quality Control Codes)*. Validation screening provided the basis for evaluating data completeness and for determining sensor performance and/or maintenance status. Validation was performed routinely throughout the reporting period following each weekly data download. Data validation quality control codes applied to the meteorological observations are defined in Table 1.

Table 1. Data screening quality control codes for meteorological data.

Code	Meaning	Description (as used for ETEC meteorological data validation)
0	Valid	PASS – Observation is accurate within the performance limits of the instrument (i.e., value passes all data validation screening criteria).
3	Acceptable	PASS – Observation originally failed initial QC check (see Code 6), but additional review using other independent data and meteorological judgment support final validity.
6	Failed initial QC check	FAIL – Observation did not pass data validation screening criteria.
7	Suspect	FAIL – Observation failed initial data validation QC check (see Code 6) and could not be verified through additional review using other independent data.
8	Invalid	FAIL – Observation judged to be inaccurate or in error, and the cause is known.
9	Missing	FAIL – Observation was not collected.

The validation screening involved comparing, on an individual parameter basis, the recorded values (i.e., observations) against the EPA screening criteria shown in Table 2. The data validation procedure involved an initial automated review to apply a first-level quality control (QC) Code of 0 (valid), 6 (failed), or 9 (missing), as defined in Table 1. Observations initially flagged with a QC Code = 6 were then manually (i.e., second-level) reviewed by a project meteorologist. The procedure is outlined below:

- Values meeting all screening criteria for the respective meteorological parameter were automatically considered “valid” (QC Code = 0).
- Values not meeting all applicable screening criteria were automatically flagged as “failed initial QC” (QC Code = 6). These values were subjected to second-level manual meteorological review using other available observations (e.g., 2-m vs. 10-m temperature at DOE-4 or from nearby Remote Automatic Weather Stations [RAWS] meteorological station CEEC1 in the Cheeseboro Canyon, California, area located 2.6 miles south of the DOE-4 site), and meteorological judgment:
  - Values confirmed by second-level review were deemed “acceptable” (final QC Code = 3).
  - Otherwise, the values were deemed “suspect” (final QC Code = 7).
- Observations known to be “invalid” (QC Code = 8).
- Missing observations were automatically flagged as “missing” (QC Code = 9).

Values that pass validation with a final QC Code of 0 or 3 are included in the data completeness statistics and the final validated meteorological data set. Values with a final QC Code of 7, 8, or 9 are excluded from the final dataset and counted against the data completeness percentage. Quarterly data statistics for the meteorological parameters are listed in Table 2 along with year-to-date and project-to-date results. Year-to-date and project-to-date percentages are calculated as total valid observations through the completed quarters for the year divided by the total possible observations through this same period.

The completeness goal for meteorological data is 80% on an annual basis. Data completeness statistics for all completed reporting quarters in Year 6 of the baseline monitoring are presented in Table 2.

**Wind Rose**

The final validated 15-minute meteorological dataset was used to develop wind rose diagrams for Q23 and Year 6 as presented in Figure 3-1 and Figure 3-2, respectively. A wind rose is a graphical representation of wind speed and direction distribution (or wind climatology) for the period of interest. The frequency of winds blowing from specific directions are shown as petals on the wind rose, with the frequency of wind speeds depicted by color bands. Calm winds are identified as being less than 0.5 meters per second (m/sec).

During Q23, data capture for wind speed and direction at DOE-4 was 100%. The average and maximum wind speeds were 4.40 m/sec and 20.8 m/s, respectively. The maximum recorded wind gust was 29.6 m/sec. The predominant wind directions this quarter were from the east-southeast (ESE) and from the north-northeast (NNE).

For entire Year 6, data capture for wind speed and direction at DOE-4 was 99.997%. The annual average and maximum wind speeds were 3.94 m/sec and 21.6 m/s, respectively. The maximum recorded wind gust for the year was 30.8 m/sec. The predominant wind direction is from the ESE.

Table 2. Data screening summary for monitored meteorological parameters.

Meteorological Parameter	Screening Criteria <sup>(1)</sup> (for valid sensor responses)	Data Completeness Percent (%) <sup>(2)</sup>					
		Q20	Q21	Q22	Q23	Year 6	Project to Date
Wind Speed	between 0 and 25 m/sec	99.99	100	100	100	99.997	95.53
	> 0.1 m/sec variation over 3 hours						
	> 0.5 m/sec variation over 12 hours						
Wind Direction	between 0 and 360 degrees	99.99	100	100	100	99.997	96.22
	> 1 degree variation over 3 hours						
	> 10 degree variation over 12 hours						
Standard Deviation of Wind Direction	Inherits the completeness stats of Wind Direction	99.99	100	100	100	99.997	96.22
Temperature @ 2 m	≤ local record high (monthly basis)	99.99	100	100	100	99.997	96.22
	≥ local record low (monthly basis)						
	> 0.5 degrees Celsius (°C) variation over 12 hours						
Temperature @ 10 m	≤ local record high (monthly basis)	99.99	100	100	100	99.997	96.22
	≥ local record low (monthly basis)						
	> 0.5°C variation over 12 hours						
Delta Temperature	≤ 0.1°C during daytime	99.99	100	100	100	99.997	96.22
	≥ -0.1°C during nighttime						
	between -3.0 and 5.0°C						
Relative Humidity (and Dewpoint Temperature)	relative humidity between 0–100%	99.99	100	100	88.64	97.135	91.42
	dew point T ≤ ambient T						
	dew point T ≤ 5.0°C variation over 1 hour						
	dew point T > 0.5°C variation over 12 hours						
Precipitation	≤ 1 inch in 1 hour	99.99	100	100	100	99.997	96.22
	≤ 4 inches in 24 hours						
	≥ 2 inches in 3 months						
Barometric Pressure	between 871 and 982 millibar (mb) (local) (i.e., between 940 and 1060 mb sea level)	99.99	100	100	100	99.997	96.22
	≤ 6 mb variation over 3 hours						
Solar Radiation	> 0 at night	99.99	100	100	100	99.997	96.18
	≤ maximum possible for date and latitude						

(1) Screening criteria from EPA Meteorological Monitoring Guidance (EPA 2000), Table 8-4.

(2) Data Completeness % = [Observations Passing] / [Possible Observations].

- a. Missing or suspect observations count against data completeness statistics.
- b. Year Two is an abbreviated data collection year spanning the period Apr 15-Dec 31, 2019 (i.e., Quarters 5, 6, and 7). This was done to synchronize future data collection years with calendar years.
- c. Last column in this table represents the cumulative Completeness % for all completed quarterly reporting periods.

(3) The number of possible 15-minute observations in the completed reporting periods:

- Q01 = 8,736
- Q02 = 8,832
- Q03 = 8,832
- Q04 = 8,640
- Year One = 35,040
- Q05 = 8,736
- Q06 = 8,832
- Q07 = 7,488
- (only 3 quarters)
- Year Two = 25,056 (abbreviated)
- Q08 = 8,736
- Q09 = 8,736
- Q10 = 8,832
- Q11 = 8,832
- Year Three = 35,136
- Q12 = 8,640
- Q13 = 8,736
- Q14 = 8,832
- Q15 = 8,832
- Year Four = 35,040
- Q16 = 8,640
- Q17 = 8,736
- Q18 = 8,832
- Q19 = 8,832
- Year Five = 35,040
- Q20 = 8,640
- Q21 = 8,736
- Q22 = 8,832
- Q23 = 8,832
- Year Six = 35,040
- Project = 200,352 (to-date)

## 4.2 PM<sub>10</sub> Data

PM<sub>10</sub> data, also defined as coarse particles between 2.5 and 10 micrometers in diameter, are measured at the ETEC site. Sources of particulate matter can be naturally occurring or caused by human activity. The air monitoring conducted at ETEC is used to determine if any suspended particles are from activities conducted onsite or if they are consistent with surrounding air quality data. Some of the naturally occurring particles can originate from high winds, forest or grass fires, burning of fossil fuels in vehicles, or stirred-up road dust.

PM<sub>10</sub> data are being collected with Met One E-BAM monitors at four monitoring locations. The Met One E-BAM uses the principle of beta attenuation to provide a determination of mass concentration. Twenty-four-hour concentrations are calculated from the hourly concentrations. There were 92 days in the Q23 reporting period.

- DOE-1 had valid readings 91 out of 92 days.
- DOE-2 had valid readings all 92 days.
- DOE-3 had valid readings 30 out of 92 days.
- DOE-4 had valid readings 72 out of 92 days.

DOE-2 had 100% data completeness for PM<sub>10</sub> in Q23. DOE-1 had 99% data completeness for PM<sub>10</sub> in Q23. DOE-3 and DOE-4 had data completeness of 33% and 78%, respectively, for a total data completeness in 2023 of 54% and 69%, respectively, not meeting the project goal of 80% completeness for total samples collected during Q23 (see Table 3). However, the cumulative total project data completeness has been calculated as 93% for Q1 through Q23. The complete table of DOE-1, DOE-2, DOE-3, and DOE-4 daily averages for Q23 is presented in Appendix A. In addition, the nearby State and Local Air Monitoring Stations (SLAMS), Simi Valley – Cochran Street - PM<sub>10</sub> Daily Averages, from 01/01/2022 to 07/31/2023 has been presented in Appendix A. During Q23 no downtime was observed for the unit at DOE-2. The units at DOE-3 and DOE-4 both experienced downtimes due to battery and power issues and were not operational for large portions of Q23. All operational issues were resolved with repairs to units prior to the end of Q23.

Table 3. PM<sub>10</sub> data completeness for October 1, 2023 – December 31, 2023.

Location	Valid Readings (Days)	Possible Readings (Days)	Data Completeness (Percent)
DOE-1	91	92	99
DOE-2	92	92	100
DOE-3	30	92	33
DOE-4	72	92	78
Total Completeness			77.5

During the 365 days of the annual reporting period (Q20–Q23) the PM<sub>10</sub> monitoring stations (DOE-1, DOE-2, DOE-3, and DOE-4) exceeded the project goal of 80% data completeness, as shown in Table 4.

Table 4. PM<sub>10</sub> data completeness for Year 6, January 1, 2023 – December 31, 2023.

Location	Valid Readings (Days)	Possible Readings (Days)	Data Completeness (Percent)
DOE-1	363	365	99.5
DOE-2	361	365	98.9
DOE-3	196	365	53.7
DOE-4	251	365	68.8
Total Completeness			80.2

The five highest PM<sub>10</sub> results identified for the reporting period are listed in Table 5 along with the CAAQS for PM<sub>10</sub>. PM<sub>10</sub> concentrations were consistent with levels typically found in urban air. Of these top five results, two were recorded at DOE-1, two were recorded at DOE-2, and one at DOE-4. One of the five values was above the CAAQS but below the NAAQS of 150 µg/m<sup>3</sup>. All of the top five readings were in October 2023. Over these dates elevated winds may have aided in the elevated readings. From year to year, it has been noticeable that there is a direct correlation between high wind speeds and higher PM<sub>10</sub> readings.

Table 5. Top five PM<sub>10</sub> 24-hour average concentration days for October 1, 2023 – December 31, 2023.

Date	Location	PM <sub>10</sub> Value (µg/m <sup>3</sup> )	CAAQS (µg/m <sup>3</sup> )
10/29/2023	DOE-1	<b>51.458</b>	50
10/12/2023	DOE-1	46.909	50
10/29/2023	DOE-2	46.125	50
10/29/2023	DOE-4	36.275	50
10/13/2023	DOE-2	29.291	50

Bold text and gray shaded – Value exceeds CAAQS.

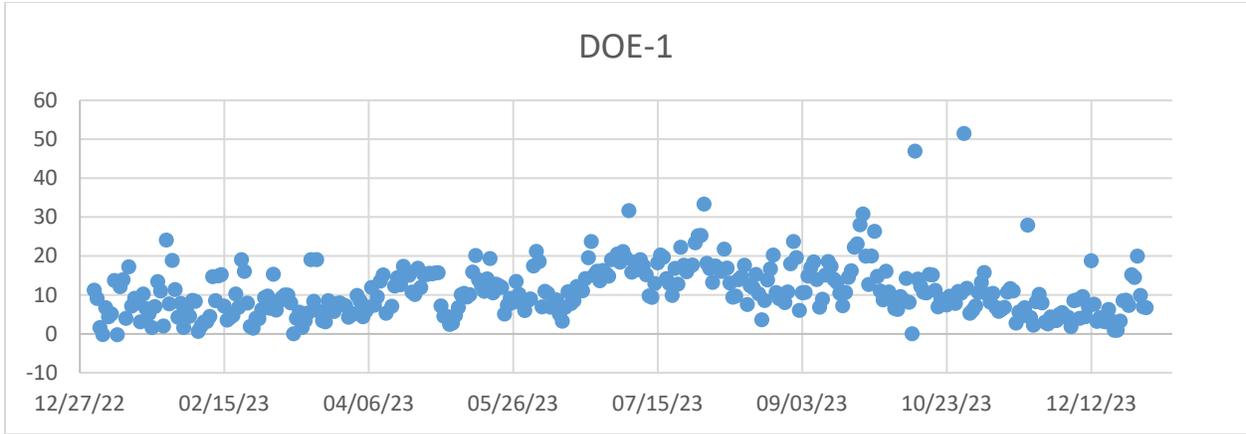
The five highest PM<sub>10</sub> results identified for the reporting year are listed in Table 6. Four of the five values were above the CAAQS but below the NAAQS of 150 µg/m<sup>3</sup>. Wildfires, high temperatures, and high winds all occurred during this recording period and are known to increase air particulates (as shown in the tables and graphs below).

Table 6. Top five PM<sub>10</sub> 24-hour average concentration days for January 1, 2023 – December 31, 2023.

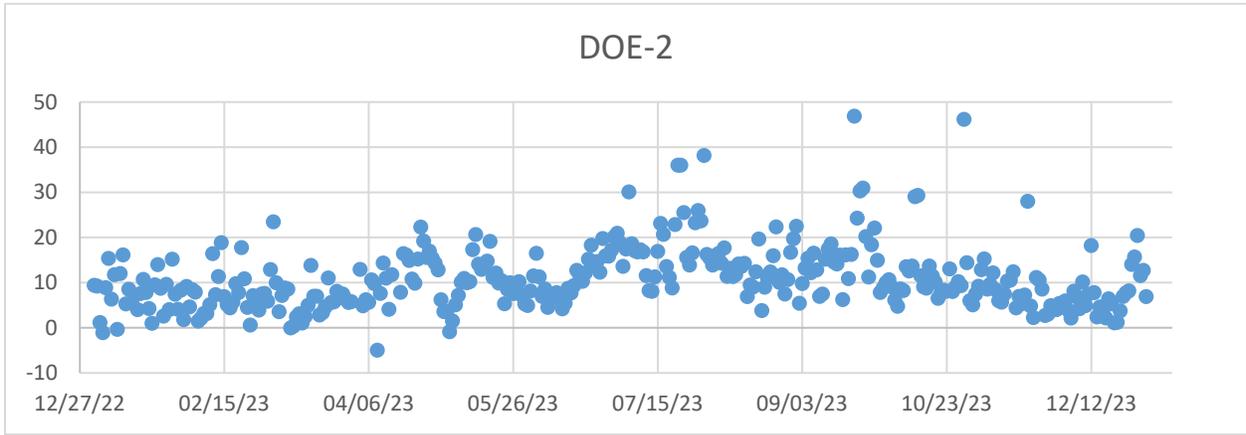
Date	Location	PM <sub>10</sub> Value (µg/m <sup>3</sup> )	CAAQS (µg/m <sup>3</sup> )
03/13/2023	DOE-3	<b>54.166</b>	50
06/25/2023	DOE-3	<b>53.500</b>	50
10/29/2023	DOE-1	<b>51.458</b>	50
05/13/2023	DOE-3	<b>50.500</b>	50
10/12/2023	DOE-1	46.909	50

Bold text and gray shaded – Value exceeds CAAQS.

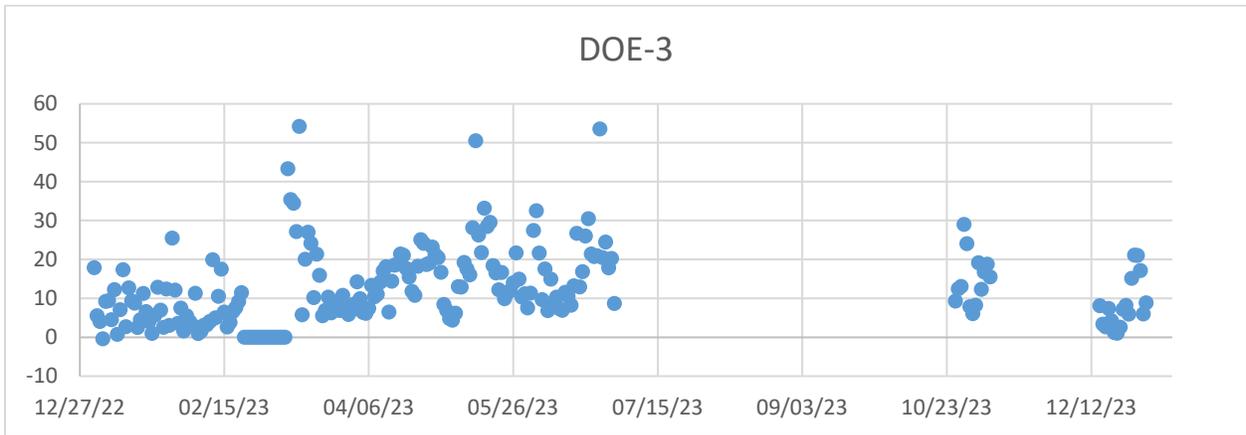
The Year 6 trend data from each monitor are shown below in Graphs 1 through 4. The Year 1 through Year 6 trend data are shown in Graphs 5 through 8 for trend comparison. When reviewing Graphs 5 through 8, one can determine that PM<sub>10</sub> values have remained constant through baseline and site activities.



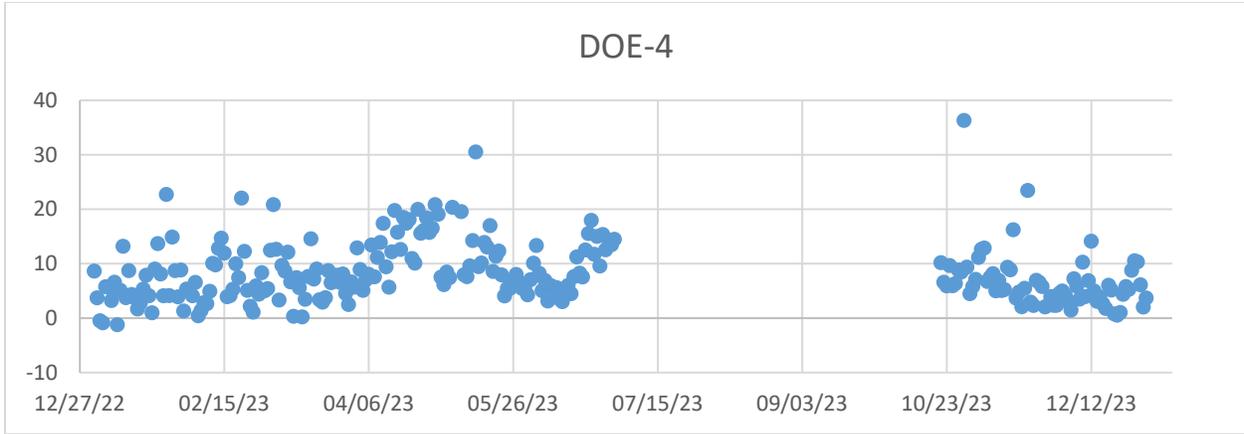
Graph 1. Year 6 trend data, Q20–Q23, for PM<sub>10</sub> at monitor DOE-1.



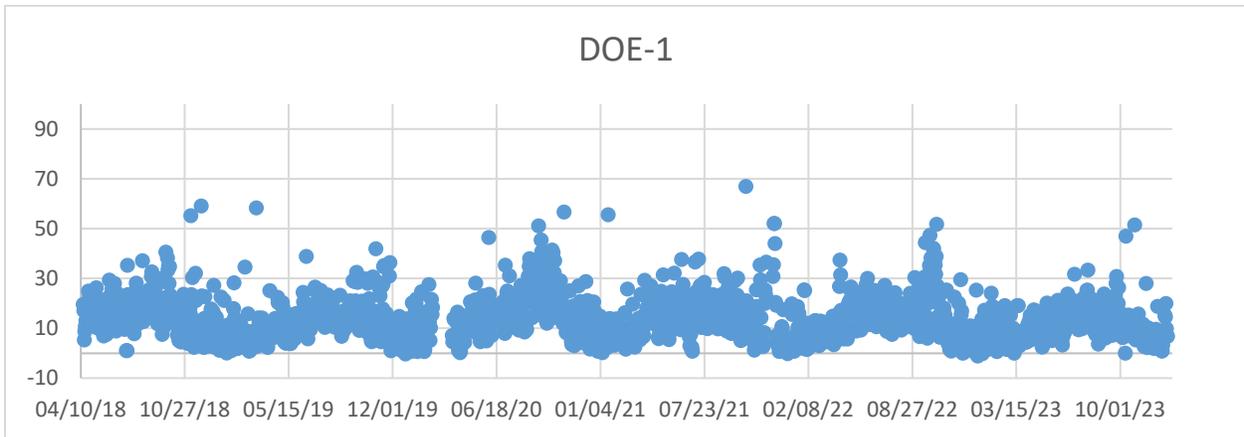
Graph 2. Year 6 trend data, Q20–Q23, for PM<sub>10</sub> at monitor DOE-2.



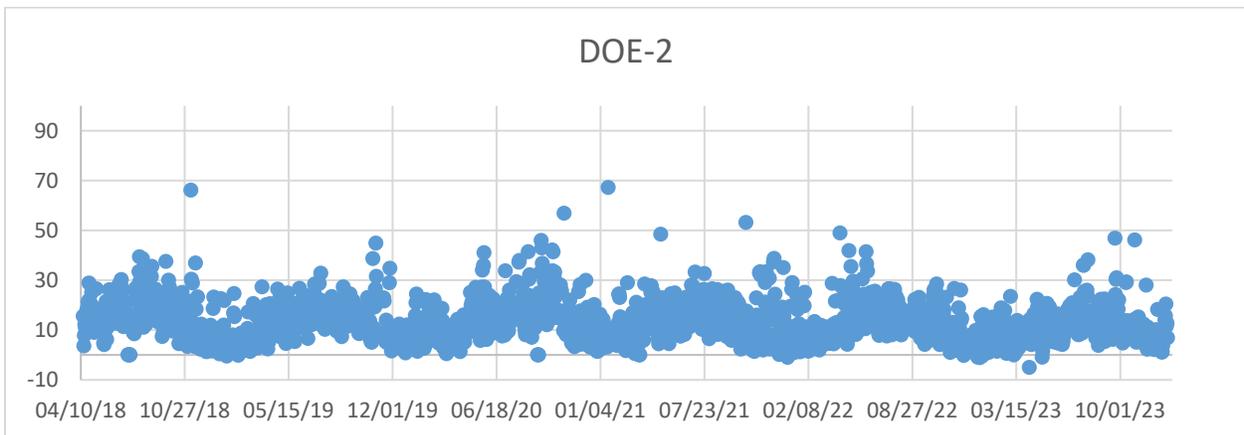
Graph 3. Year 6 trend data, Q20–Q23, for PM<sub>10</sub> at monitor DOE-3.



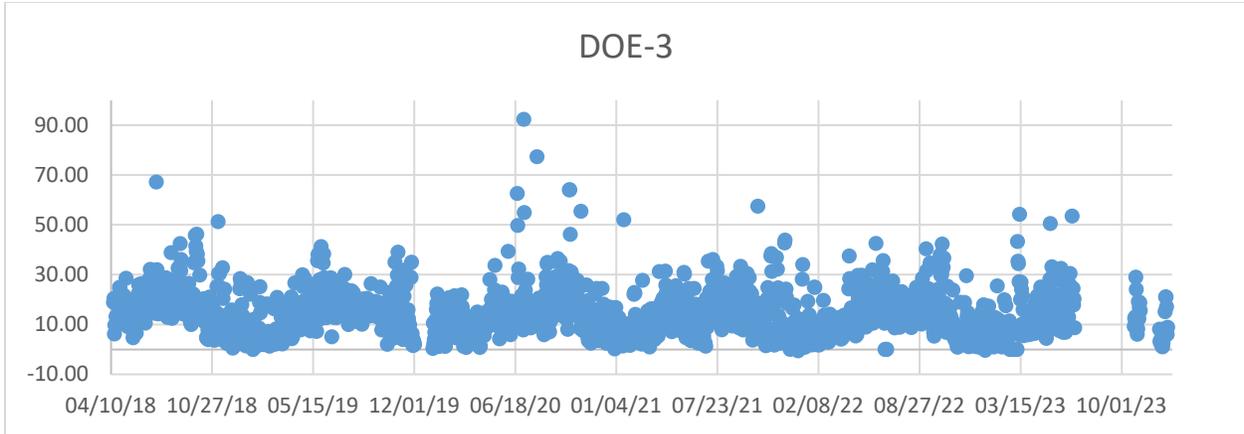
Graph 4. Year 6 trend data, Q20–Q23, for PM<sub>10</sub> at monitor DOE-4.



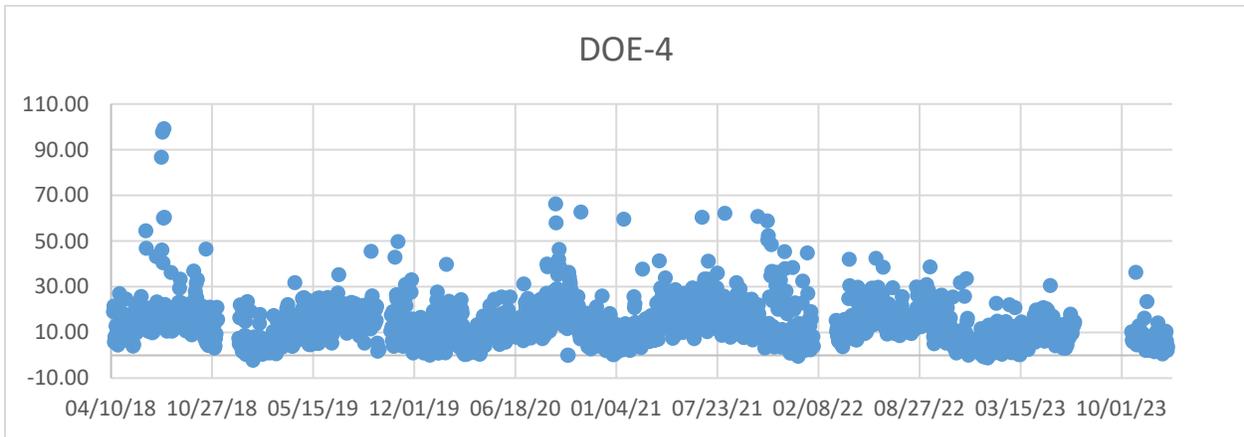
Graph 5. Years 1–6 trend data, Q1–Q23, for PM<sub>10</sub> at monitor DOE-1.



Graph 6. Years 1–6 trend data, Q1–Q23, for PM<sub>10</sub> at monitor DOE-2.



Graph 7. Years 1–6 trend data, Q1–Q23, for PM<sub>10</sub> at monitor DOE-3.



Graph 8. Years 1–6 trend data, Q1–Q23, for PM<sub>10</sub> at monitor DOE-4.

### 4.3 Volatile Organic Compound Data

VOCs are organic chemicals that have a high vapor pressure, which causes them to evaporate quickly and enter the surrounding air. VOCs can be both naturally occurring or man-made. The VOC data collected can help distinguish between man-made detections from onsite activities or naturally existing organic chemicals. The VOC data collected are compared against screening levels. These screening levels are risk-based concentrations derived from standardized equations combining exposure information with toxicity data.

There were seven VOC sampling events in the Q23 reporting period. Each of the four DOE locations were sampled during each sampling event. Data completeness goals for VOCs exceeded the project goal of 85% (see Table 7).

Table 7. Ambient air VOC data completeness for Q23.

Location	Valid Readings (Days)	Possible Readings (Days)	Data Completeness (Percent)
DOE-1	7	7	100
DOE-2	7	7	100
DOE-3	7	7	100
DOE-4	7	7	100
Average Total Data Completeness			100

There were 27 annual VOC sampling events. Each of the four locations was sampled during each sampling event. Data completeness goals for VOCs exceeded the project goal of 85% (Table 8).

Table 8. Ambient air VOC data completeness for Q20–Q23.

Location	Valid Readings (Days)	Possible Readings (Days)	Data Completeness (Percent)
DOE-1	27	27	100
DOE-2	27	27	100
DOE-3	27	27	100
DOE-4	27	27	100
Average Total Data Completeness			100

VOC detection results for Q23 are presented in Table B-1 (Appendix B), including comparison to the April 2019 DTSC HHRA Note 3 Screening Levels (DTSC 2019) or the or the EPA RSLs. Ethylbenzene was detected at the October 11, 2023, sampling at concentration of 2.1  $\mu\text{g}/\text{m}^3$ , which exceeds its EPA RSL limit of 1.1  $\mu\text{g}/\text{m}^3$ . Chloroform was detected at the October 24, 2023, sampling at concentration of 0.69  $\mu\text{g}/\text{m}^3$ , which exceeds its EPA RSL limit of 0.12  $\mu\text{g}/\text{m}^3$ . Ethyl acetate was detected at the November 7, 2023, sampling at two locations at concentrations of 110  $\mu\text{g}/\text{m}^3$  and 120  $\mu\text{g}/\text{m}^3$ , which exceeds its EPA RSL limit of 73  $\mu\text{g}/\text{m}^3$ .

VOC analytical results for Q20 through Q23 are presented in Table B-2 (Appendix B). During Q20 there were two VOC analytes detected above the EPA Residential Air RSL or the DTSC HHRA: one at DOE-2, two at DOE-3, and two at DOE-4. During Q21 and Q22 there were no detections above the EPA Residential Air RSL or the DTSC HHRA. During Q23 three VOC analytes were detected above the EPA Residential Air RSL or the DTSC HHRA: two VOC analytes at DOE-1 and two at DOE-4.

Two man-made VOC analytes, dichlorodifluoromethane (Freon-12) and ethyl acetate, have been detected routinely at all four monitoring stations, during all quarterly sampling events, including Year 1, Year 2, Year 3, Year 4, Year 5, and Year 6 baseline monitoring, indicating that these VOCs were not caused by the 2021-2022 building demolition activities that were performed. Based on laboratory QC data (method blanks, clean canister certifications), the sampling process and laboratory process are not the sources of the two analytes. The onsite source of the analytes is currently unknown.

VOC data analyzed for Year 6 are consistent with VOC data analyzed for Year 1, Year 2, Year 3, Year 4, and Year 5 baseline data. Please note that time versus concentration plots for VOCs are presented in Appendix G. Specifically, only chemicals detected above the relevant screening level at least three times since the start of the monitoring programs through the current period have been plotted. Each VOC has its own separate plot with individual symbols for each monitoring station. And each plot includes a horizontal line indicating reporting limit as well as a horizontal line indicating the screening level.

## 4.4 Radionuclide Data

DOE continuously monitors air at multiple locations for radioactive particles. This activity is performed for two reasons: (1) to determine the background airborne radioactivity concentration so that any possible releases from future work activities can be detected, and (2) to detect any possible release from existing activities. During Q23, the background airborne radioactive contamination continued at low and stable concentrations, and there was no detected release of material. Based on EPA's 3,000 soil samples, the radionuclides of concern are strontium-90 (Sr-90) and cesium-137 (Cs-137). The locations with elevated concentrations of both radionuclides are near the Radioactive Materials Handling Facility (RMHF), beneath the RMHF asphalt, and in the rocky terrain area south of the Sodium Reactor Experiment complex. There has been no dust-producing activity in the Sr-90 and Cs-137 impacted soil areas to contribute to any sample. The EPA's data show the majority of Area IV to be free of these radiological contaminants.

There were 95 airborne radioactivity samples collected in Q23 — 24 each with DOE-1, DOE-2, and DOE-4; and 23 with DOE-3. Each sample was collected on a glass-fiber filter (as discussed in Section 3) and was analyzed using a "low background" Protean radiation counter system onsite. These samples included background radioactive materials and the potential of Area IV-specific radioactive materials.

Gross alpha and gross beta data are used to evaluate whether site remediation work is potentially causing airborne radionuclide emissions. The gross alpha and beta analyses are performed at the site using a Protean alpha/beta radiation counter and a Ludlum 2929 gross alpha/beta counter.

The individual filters are analyzed within approximately one week following collection. The delay in analysis is required for the naturally occurring short-lived radon daughters to decay and not affect the analysis results. The benefit of analyzing the filters at the site is to allow for an early warning of potential site remediation-caused elevated radionuclide emissions.

The air sample analysis results are tabulated and reviewed for trends. Some results are less than zero once background is subtracted, some are above background, and some are above MDC, a value statistically above background. The MDC is tracked and reviewed with every analysis to determine if the instrument performance is stable. Any variation will be investigated and may provoke a repair or a calibration.

While approximately 10% of the gross alpha results and most (63%) of the gross beta-gamma results are above the MDC, none of these results are significant. This is due to the fact that the "background" value is computed with a clean filter, not a filter exposed to background airborne concentrations. While a proportion of the beta results were detectable, the average results remained low. The results do correlate in time with the regional fires that release natural radioactive materials into the air.

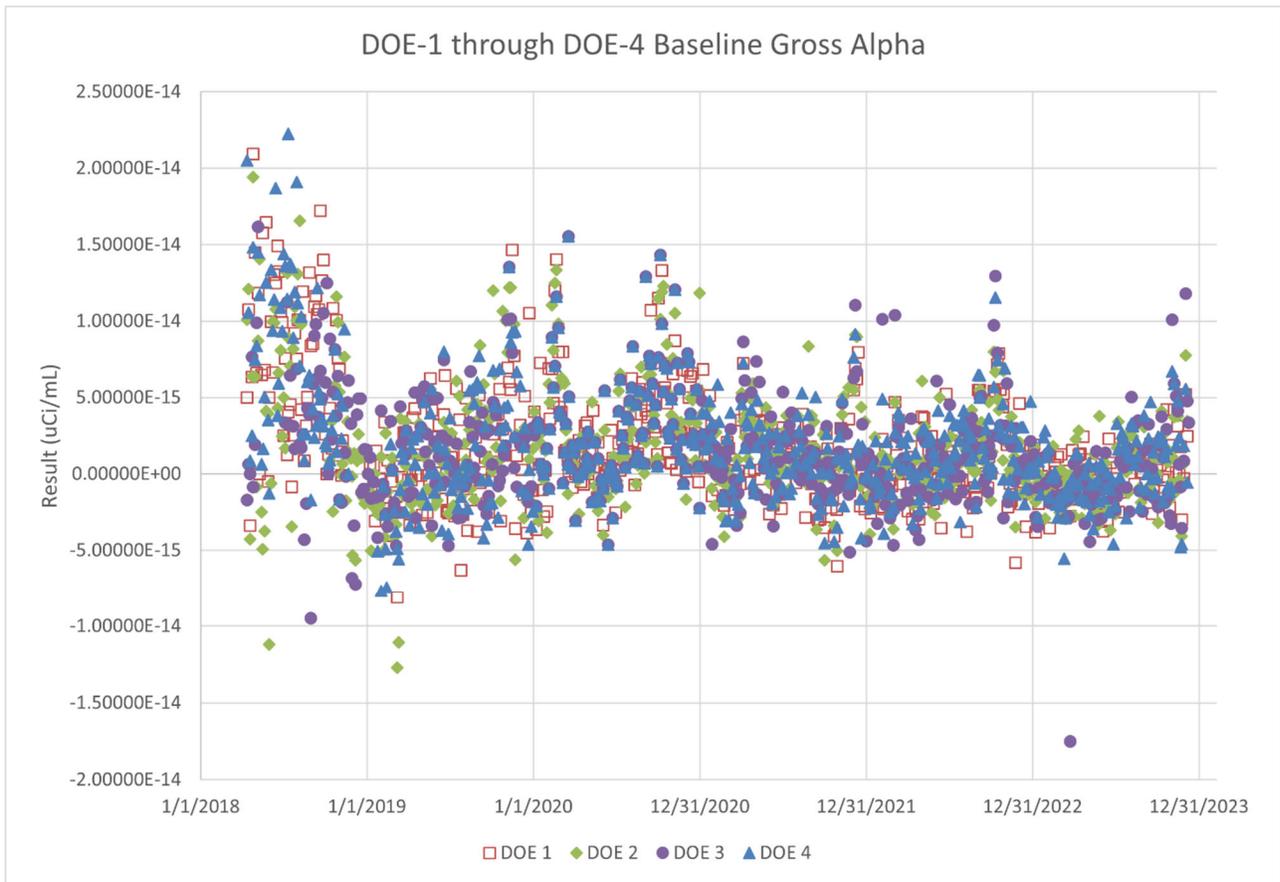
For conservatism, the air sample gross counting results are reviewed considering that all alpha activity is from the most restrictive expected radionuclide (plutonium-239 [Pu-239]), and all beta activity is from the most restrictive expected radionuclide (strontium/yttrium-90). In all cases the results are less than 1% of the airborne limit for the most conservative radionuclide.

After the end of a quarter, the samples are composited and sent to a laboratory for detailed isotopic analysis. All analyses to date show a broad range of radioactive material consistent with background material and global fallout. These results vary seasonally, and do not show any contribution from ETEC activities. There is a small spike in November 2020 that is attributed to environmental factors external to

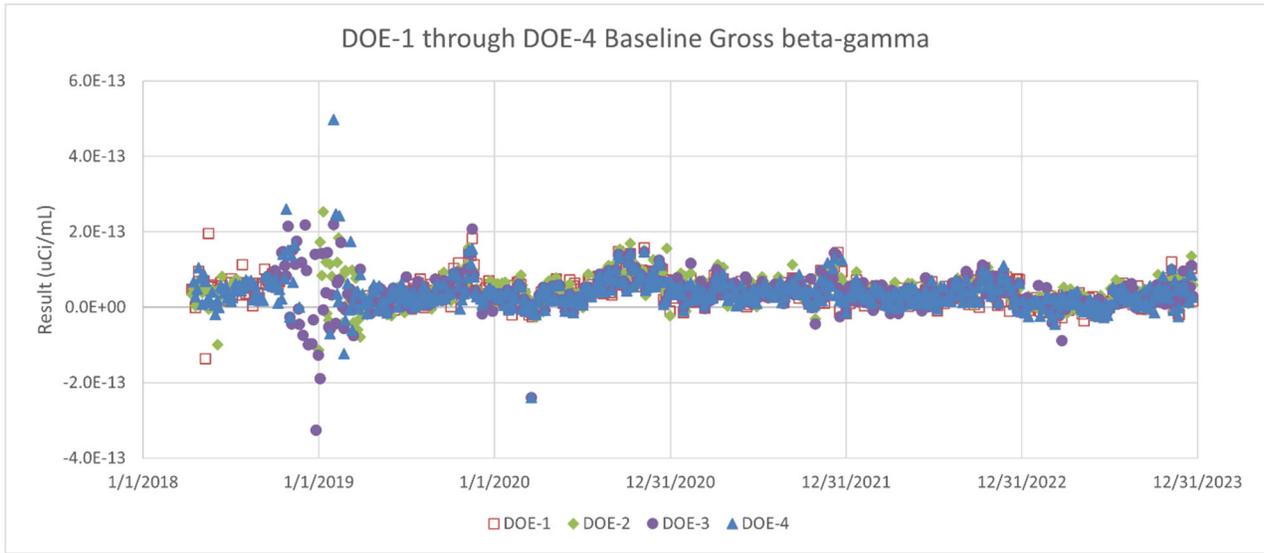
SSFL. A similar spike was seen in November 2019. Gross alpha and gross beta results along with the radionuclide analytical results for Q23 and Year 6 (Q20–Q23) can be found in Appendix C. The gross alpha and gross beta results for Year 1 through Year 6 are presented in Graph 9 and Graph 10, respectively, with multiple years included to show the natural variability. To give a full picture of the significance in background variation, Graph 11 presents the gross alpha results for Year 1 through Year 6 compared to the Pu-239 limit. Graph 11 shows how the air samples are less than 1% of the limit, hover around 0.1%, and are sometimes less than zero.

Table 9. Gross alpha and beta-gamma average results for Q23.

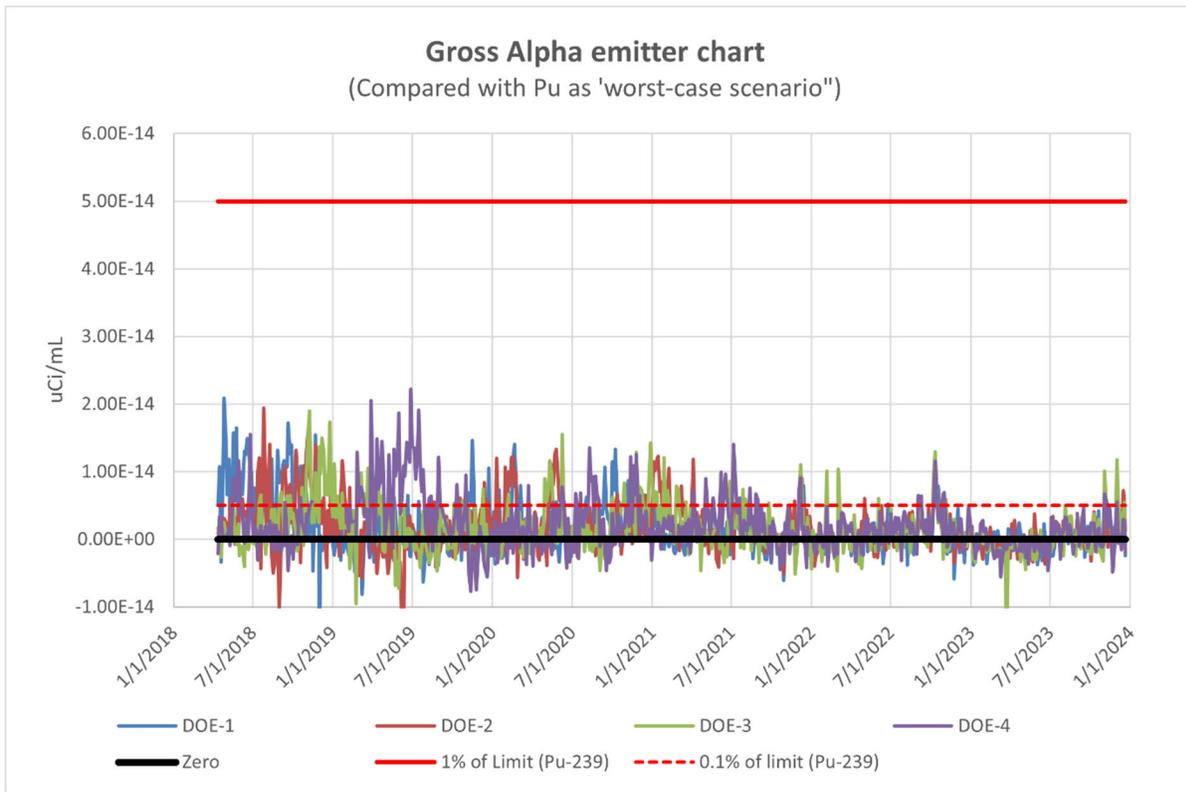
Location	Average alpha result (μCi/mL)	Average alpha MDC (μCi/mL)	Average beta result (μCi/mL)	Average beta MDC (μCi/mL)
DOE-1	6.53E-16	6.17E-15	4.39E-14	2.70E-14
DOE-2	1.58E-15	6.17E-15	5.19E-14	2.70E-14
DOE-3	1.96E-15	6.24E-15	4.36E-14	2.73E-14
DOE-4	1.10E-15	6.48E-15	3.96E-14	2.82E-14
Average	1.31E-15	6.27E-15	4.48E-14	2.74E-14



Graph 9. Gross alpha results for Year 1 through Year 6.



Graph 10. Gross beta results for Year 1 through Year 6.



Graph 11. Year 1 through Year 6 gross alpha worst-case emitter chart.

When radionuclides are collated and compared, it is clear that the primary contributors are background radioactive materials. The two most common indicators of artificial radionuclides are Cs-137 and cobalt-60, which have short half-lives. These radionuclides are either negative values, or below the MDC in all cases. For this analysis, the radioisotopic analyses from Year 6 were summed, then compared to the airborne radioactivity limits (derived airborne concentration [DAC]) (Table 10).

Table 10. Comparison of air sample results with DAC.

Radionuclide	Average (no Zero) $\mu\text{Ci/mL}$	% contribution to total alpha activity	DAC alpha	%DAC (of measured nuclides)	DAC beta	% of DAC (of measured nuclides)	% contribution to beta-gamma activity
Cesium-137	0				8.00E-08	0.00E+00	0.00%
Strontium-90	9.53E-16				1.00E-08	9.53E-08	0.56%
Cobalt-60	0				3.00E-08	0.00E+00	0.00%
Potassium-40	6.05E-14				1.00E-07	6.05E-07	35.49%
Beryllium-7	1.09E-13				2.00E-08	5.45E-06	63.95%
Plutonium-238	1.01E-17	0.04%	5.00E-11	0			
Polonium-210	1.01E-14	38.83%	2.00E-10	5.03E-05			
Plutonium-241	7.39E-15	28.53%	2.00E-10	0			
Thorium-230	9.83E-16	3.79%	3.00E-12	3.28E-04			
Thorium-228	6.75E-16	2.61%	2.00E-11	3.38E-05			
Actinium-228	0	0.00%	6.00E-09	0			
Americium-241	4.62E-18	0.02%	5.00E-12	9.23E-07			
Plutonium-239	0	0.00%	5.00E-12	0			
Ra-228 – total	2.42E-15	9.34%	1.00E-10	2.42E-05			
Radium-226, 228 combined	2.45E-15	9.44%	2.00E-10	1.22E-05			
Thorium-232	7.13E-16	2.75%	3.00E-12	2.38E-04			
Uranium-238	6.16E-16	2.38%	3.00E-10	2.05E-06			
Uranium-233/234	5.53E-16	2.13%	2.00E-10	2.76E-06			
Uranium-235/236	3.56E-17	0.14%	3.00E-10	1.19E-07			
Artificial Radionuclides							
Natural Radionuclides							

Most of the alpha-emitting radionuclide activity is from background radioactive materials, indicating airborne dust. Less than 1% of the alpha contribution is from artificial radionuclides (e.g., plutonium). As discussed above, it is likely that most of the airborne radioactivity is from the environment, either cosmogenic or global fallout. There is no indication of a local release, as there is no clear mixture associated with fission reactions, given the absence of Cs-137 and Sr-90. The air sample results are compared using conservative assumptions. Since the results hover near or below the detection limit of the instruments, there are no plans to investigate minor variations in background. These radionuclide data are consistent with Year 1, Year 2, Year 3, Year 4, Year 5, and Year 6 baseline data.

## 5. QA/QC ACTIVITIES

The following QA/QC activities were conducted for the PM<sub>10</sub>, VOC, radionuclide, and meteorological data collection and analysis.

### 5.1 Field QA/QC

#### 5.1.1 PM<sub>10</sub>

The 24-hour daily averages for Q23 are presented in Appendix A along with the monthly average minimum, maximum, and 95<sup>th</sup> percentile for each station location. In addition, the nearby SLAMS, Simi Valley – Cochran Street – PM<sub>10</sub> Daily Averages, from 01/01/2022 to 07/31/2023 along with the monthly average minimum, maximum, and 95<sup>th</sup> percentile for the Simi Valley – Cochran Street location, has been presented in Appendix A. Please note, only the Simi Valley PM<sub>10</sub> data from the SLAMS have been reported. The Simi Valley PM<sub>2.5</sub> and the Reseda PM<sub>2.5</sub> have not been reported here since this report discusses only PM<sub>10</sub> data, not PM<sub>2.5</sub> data.

#### Flow Rate Verifications

Functionality of the Met One E-BAM units is verified and recorded monthly during instrument audits; however, the instruments are also checked several times a week for operability. During the monthly audits, the Met One E-BAM temperature, pressure, and flow rate are verified against a National Institute of Standards and Technology (NIST) traceable flowmeter. E-BAM units are occasionally swapped out for maintenance, and preliminary audits of the new units are performed. During Q23 the E-BAM monitors at sites DOE-1, DOE-2, and DOE-4 showed quarterly bias percentages that ranged from -3.12 to -2.29%. These results were within the flow rate measurement quality objective of +/- 4%. However, the October audit of the E-BAM monitor at DOE-3 revealed a bias percentage of -7.75%, which did not meet the quality objective of +/- 4%. Therefore, this DOE-3 monitor was removed from service for maintenance but was not replaced with a working monitor until after the November audit. The December audit of the DOE-3 replacement monitor showed a bias percentage of -2.55%, which did meet the quality objective of +/- 4%.

Complete audit reports and flow verification results for Q23 are presented in Appendix D of this document. The flow rate verifications were based on 40 CFR 58, Appendix A, 3.3.1 and 4.2.2 through 4.2.3, along with the *Guideline on the Meaning and the Use of Precision and Bias Data Required by 40 CFR Part 58 Appendix A* (EPA 2007). The *Data Assessment Statistical Calculator* (DASC) tool, which is an EPA Excel-based software application, was used to perform the necessary statistical calculations based on the flowrate data collected during the monthly audits. Sections 2 and 2.5 of this EPA guidance document (EPA 2007) provide additional information and instruction for using the DASC tool.

#### 5.1.2 VOCs

A minimum of 20% of the VOC results are undergoing third-party data validation. During Q23, two of the seven sample delivery groups (SDGs), #P2305115 and P2305992, underwent data validation. The data validation ensures that the required analytical measurement quality objectives are met to ensure the data are of sufficient quality for their intended purpose.

Data completeness goals for VOCs exceeded the project goal of 85%.

### 5.1.3 Field Duplicates

Seven field duplicates were collected during this reporting period. Seven sampling events were conducted for the Q23 effort. Toluene in SDG #P2305372 and ethyl acetate in all seven SDGs were detected in seven field duplicates pair that exceeded the quality objective of +/- 15% relative percent difference (RPD). Fourteen sample and duplicate analyte detections were within the quality objective of +/- 15% RPD. There were no other detections associated with the samples and associated duplicates collected during this reporting period.

### 5.1.4 Canister Pressure

Vacuum in the canisters is measured before and after sampling with an analog pressure gauge to ensure proper function. Final canister vacuums ranged from -5 inches mercury (Hg) to -1 inches Hg during this reporting period.

### 5.1.5 Radiological

The detector for onsite gross alpha and beta sample analysis is calibrated annually by a third-party vendor using sources traceable to the NIST. The detector is checked in by counting alpha- and beta-emitting sources at the site when received from the vendor following calibration. This establishes an acceptable performance range for daily source checks. On each day the detector is used, performance is determined with the site source. The detector may be used if the daily check is within the acceptable performance range.

Samples analyzed at the offsite laboratory are QC-checked at the laboratory. These QC checks include blanks, laboratory replicates, matrix spikes, and matrix spike duplicates. While some QC tests for radium appeared to be biased low, the results do not indicate a release of radium, which is not a contaminant of concern at the site because it is a natural radionuclide. Since Q13, 100% of the radiological analytical results have undergone Level IV, third-party data validation. The data validation ensures that the required analytical measurement quality objectives are met to ensure the data are of sufficient quality for their intended purpose.

### 5.1.6 Meteorological

During the reporting period, a weekly data validation screening and review was performed on the monitored meteorological parameters based on the EPA guidance document *Meteorological Monitoring Guidance for Regulatory Modeling Applications* (EPA 2000), *Table 8-4 – Suggested Data Screening Criteria*, as outlined in Section 4.1. The data validation procedure provided the basis for evaluating data completeness and for determining sensor performance and/or maintenance status.

### 5.1.7 Maintenance

Routine visual checks were performed on the meteorological station during weekly data downloading site visits. This included inspection of the meteorological tower sensors, E-BAM monitoring unit wind sensors, and solar-powered batteries to ensure proper functioning.

### 5.1.8 Corrective Action

Issues and corrective actions regarding the PM<sub>10</sub> monitors and the meteorological station are noted in Sections 5.1.8.1 and Section 5.1.8.2, respectively. No issues or corrective actions were noted regarding the remaining monitoring equipment or sampling events during this reporting period.

### 5.1.8.1 *PM<sub>10</sub> Monitors*

Refer to Section 4.2 for a detailed description of PM<sub>10</sub> air monitoring equipment issues that occurred during Q23.

### 5.1.8.2 *Meteorological Station*

Although the data percent completion goal during Q23 has been met: (1) the delta temperature calculated by the datalogger continues to be post-processed to resolve a datalogger programming equation where the 10-m and 2-m temperature parameters are reversed, (2) the relative humidity sensor failed mid-December, and the recommended sensor maintenance schedule is provided as item (3) below.

#### (1) Delta Temperature Calculation

- Data Quality Issue:
  - For meteorological monitoring, delta temperature should be defined as T at the higher level minus T at the lower level. However, the datalogger was improperly programmed to calculate the inverse of delta temperature when the station was replaced after the Woolsey Wildfire. Consequently, delta temperature observations are being calculated with an opposite sign compared to the values from the original data logger.
- Corrective Action:
  - Datalogger Equation – Instead of reprogramming the datalogger to correctly calculate delta temperature, an adjustment multiplication factor of “-1” has been applied to the delta temperature values from the new data logger prior to performing the data validation.

Resolution – With application of the “-1” adjustment factor, delta temperature values in the validated project dataset accurately present delta temperature as:

$$\text{Delta Temperature} = [\text{Temperature @ 10 m}] \text{ minus } [\text{Temperature @ 2 m}]$$

#### (2) Relative Humidity Sensor:

- Data Quality Issue:
  - The relative humidity sensor failed in mid-December 2023. During the data quality validation, the DOE-4 relative humidity observations were found to have significantly deviated from observations at nearby off-site meteorological stations CEEC1 (Cheeseboro Canyon 2.6 miles south of DOE-4) and SV (Simi Valley 4.0 miles north-northeast of DOE-4) starting on December 21, 2023, at 13:30 PST. Additionally, there have been multiple occurrences of the DOE-4 relative humidity observations falling to 0% for extended periods of time after this initial failure date. The cause of sensor failure has not been determined.

- Corrective Action:
  - Replacement Sensor – The site manager was notified and provided evidence of the relative humidity sensor failure. It has been recommended that the relative humidity sensor be replaced as soon as possible. As of the end of Q23, the sensor replacement has not occurred.

**(3) Recommended Maintenance Schedule:**

Although not a corrective action, the manufacturer’s recommended maintenance frequency for meteorological sensors is presented below for information purposes. Proper and timely maintenance of the meteorological sensors is critical for ensuring that the data are not only valid (based on screening criteria) but also accurate. Schedules for maintenance and calibration are provided in the sensor user manuals and based on the in-service time of the sensor. Table 11 lists the recommended maintenance schedules for the Met One sensors installed at the DOE-4 meteorological station.

Table 11. Meteorological sensor recommended maintenance frequency (Met One).

Sensor	Frequency	Maintenance
WS	6–12 Month	Inspect for proper operation (manual check of pulses per revolution, bearing condition, anemometer cup condition, and bearing replacement if warranted)
	12–24 Month	Return to Met One for complete overhaul
WD	6–12 Month	Inspect for proper operation (manual check of sensor readings through 360°)
	6–12 Month	Field calibration
	12–24 month	Replace bearings and potentiometer
T	6–12 Month	Inspect sensor for proper operation (field comparison sensor reading against a precision mercury thermometer)
RH	6–12 Month	Inspect sensor for proper operation (compare sensor reading against local weather service or field psychrometer)
	12 Month	Return sensor to Met One for calibration and replacement of O-rings and filter membrane
Rain Gauge	6 Month	Clean sensor and bucket and field verify proper operation
Pressure	12 Month	Return sensor to Met One for calibration and replacement of O-rings and filter membrane
Radiometer	Monthly	Clean sensor glass dome with clean rag/tissue

Note: Maintenance schedules are specified in the respective Met One sensor user manuals.

## 5.2 Laboratory QA/QC

This report covers 35 air monitoring samples for VOCs collected and analyzed according to the EPA Toxic Compendium Method TO-15, *Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially-Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS)* (EPA 1999). These samples were reported under seven SDGs by the laboratory. All six SDG analyses were performed by ALS in Simi Valley, CA. For each SDG, the laboratory ran continuing calibration verification, a method blank, and laboratory control samples, and verified surrogate recoveries for each sample.

The laboratory provided certified clean canisters for the sampling events. The certification of the canister batch is considered the equipment blank for each sampling event. The certified clean canisters are discussed by ALS in the case narrative of each SDG.

## 5.3 Audit Results

The PM<sub>10</sub> instruments were calibrated at the manufacturer and were functioning properly upon installation. The PM<sub>10</sub> instruments were audited monthly with a secondary NIST traceable flow meter. Although audits occur only monthly, the instruments were checked several times a week to ensure that they were functioning. Table 12 lists the dates for audits conducted in October through December. No flow rate comparisons exceeded the project's acceptance criterion of +/- 4. The sample nozzles and support vanes were cleaned as needed. Complete audit reports are presented in Appendix D.

Table 12. PM<sub>10</sub> audit completeness.

Location	Met One E-BAM Serial Number	Parameter	Date
DOE-1	W23313	PM <sub>10</sub>	10/13/2023
DOE-2	Y12096	PM <sub>10</sub>	10/13/2023
DOE-3	B20070	PM <sub>10</sub>	10/26/2023
DOE-4	B18932	PM <sub>10</sub>	10/21/2023
DOE-1	W23313	PM <sub>10</sub>	11/15/2023
DOE-2	Y12096	PM <sub>10</sub>	11/15/2023
DOE-3	—	PM <sub>10</sub>	—
DOE-4	B18932	PM <sub>10</sub>	11/15/2023
DOE-1	W23313	PM <sub>10</sub>	12/18/2023
DOE-2	Y12096	PM <sub>10</sub>	12/18/2023
DOE-3	X16067	PM <sub>10</sub>	12/15/2023
DOE-4	B18932	PM <sub>10</sub>	12/18/2023

Note:

Gray-shaded boxes indicate a filter sensor pressure failure due to battery and power issues.

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## **6. CONCLUSION**

The Year 6 data (PM<sub>10</sub>, VOC, gross alpha and gross beta, and RAD) show a very similar pattern when compared to the baseline data collected during Years 1–5 (Q1–Q19). This conclusion is supported by the data shown in the graphs for Years 1–6, PM<sub>10</sub> data, and radionuclide data, shown in Section 4 of this report. These stable trends indicate that onsite remediation activities performed in Year 4 had no recordable impact on the site air conditions.

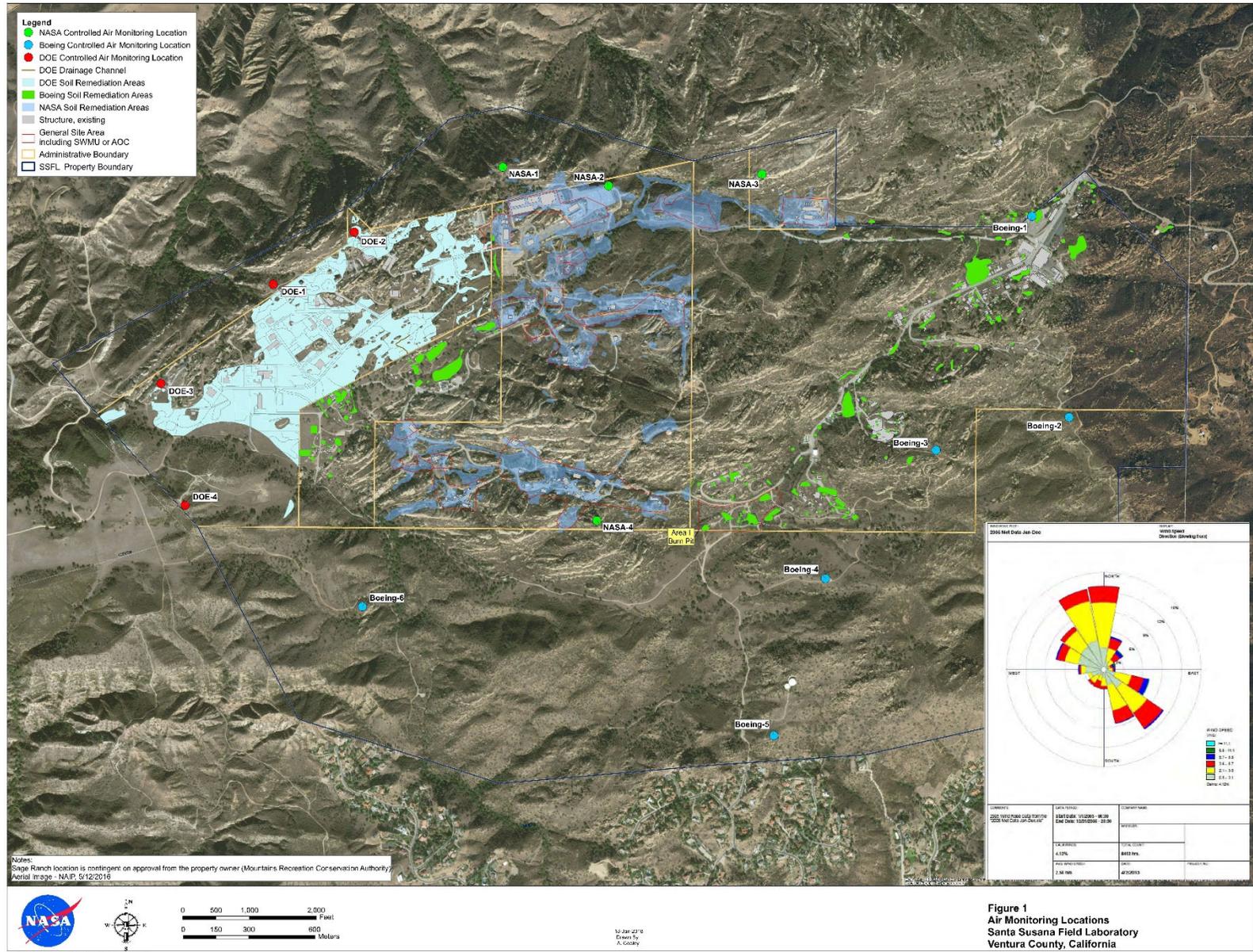
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## 7. REFERENCES

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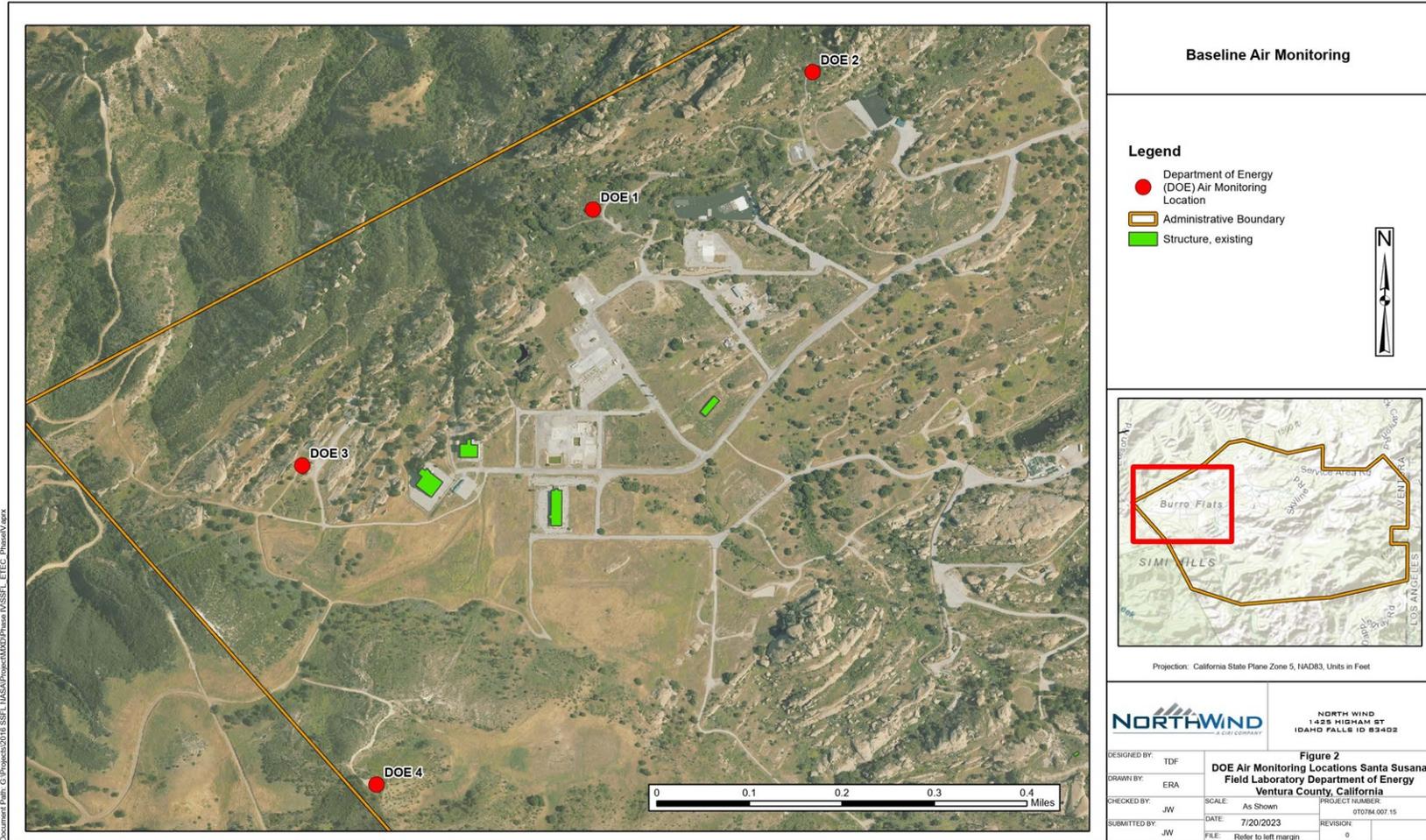
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**Figure 1**  
**SSFL Air Monitoring Locations**

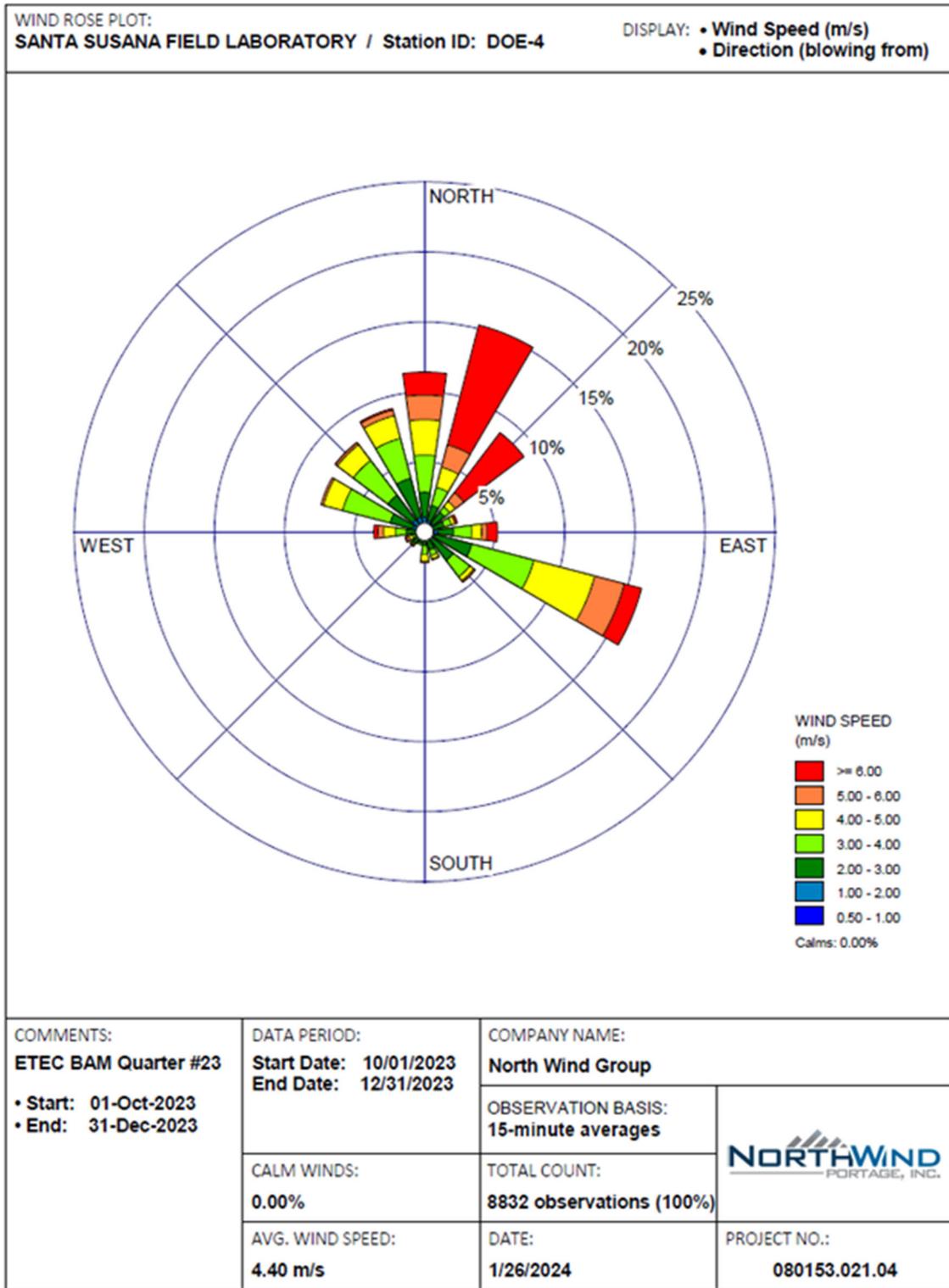


## **Figure 2**

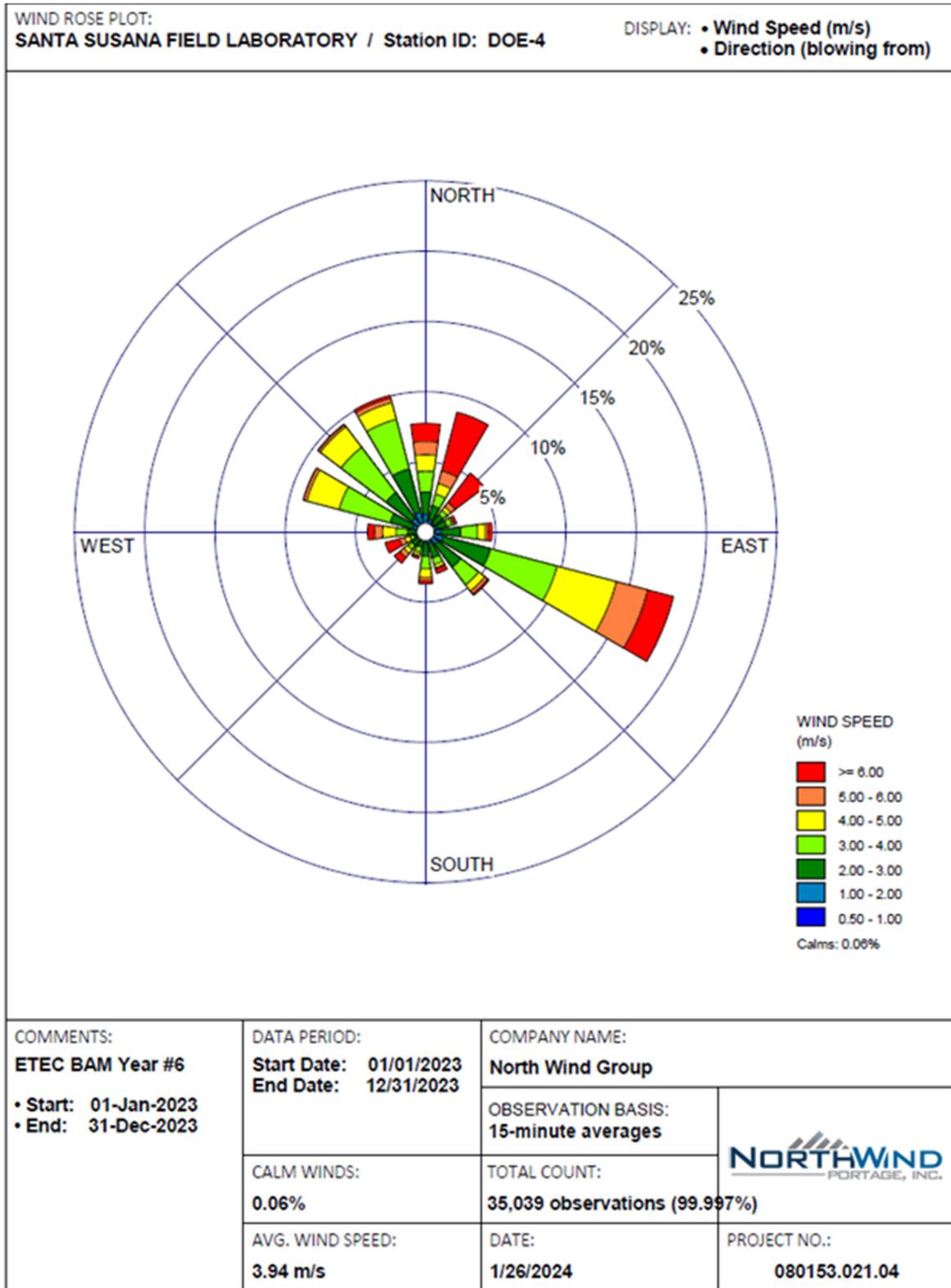
### **DOE Air Monitoring Locations**



**Figure 3 – DOE Quarterly Wind Rose**



**Figure 4 – DOE Annual Wind Rose**



## **APPENDIX A**

### **PM<sub>10</sub> Daily Averages and Monthly Statistics**

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PM<sub>10</sub> Daily Averages, Q23

Site ID	DOE-1	DOE-2	DOE-3	DOE-4
Sample Date	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )
10/01/23	8.708	8.75	—	—
10/02/23	16.041	9.958	—	—
10/03/23	10.75	10.625	—	—
10/04/23	8.875	9.041	—	—
10/05/23	6.5	6.125	—	—
10/06/23	6.25	4.75	—	—
10/07/23	9.541	8.583	—	—
10/08/23	8.75	8.208	—	—
10/09/23	14.208	13.5	—	—
10/10/23	8.083	12.541	—	—
10/11/23	—	13.666	—	—
10/12/23	46.909	29	—	—
10/13/23	14.041	29.291	—	—
10/14/23	12.166	11.5	—	—
10/15/23	10.666	9.041	—	—
10/16/23	10.5	8.75	—	—
10/17/23	15.25	13.666	—	—
10/18/23	15.125	11.416	—	—
10/19/23	11.125	10.083	—	—
10/20/23	6.875	6.5	—	—
10/21/23	8.833	7.625	—	10.183
10/22/23	7.5	8.291	—	6.57
10/23/23	7.375	8.083	—	5.895
10/24/23	9.625	13	—	9.65
10/25/23	8.791	8	—	5.941
10/26/23	7.791	8.958	9.25	6.333
10/27/23	10.875	10.208	12.408	8.858
10/28/23	10.416	9.333	13.016	8.45
10/29/23	<b>51.458</b>	46.125	28.975	36.275
10/30/23	11.666	14.375	24.041	9.362
10/31/23	5.25	5.958	7.825	4.475
11/01/23	6.041	5.041	6.054	5.795
11/02/23	7.125	7.458	8.195	7.112
11/03/23	10.583	9.166	19.129	11.129
11/04/23	13.208	12.833	12.304	12.633
11/05/23	15.708	15.25	16.766	12.845
11/06/23	10.166	8.541	18.75	6.737

Site ID	DOE-1	DOE-2	DOE-3	DOE-4
Sample Date	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )
11/07/23	8.125	9.583	15.483	7.495
11/08/23	10.375	12.125	—	8.154
11/09/23	6.791	8.375	—	5.004
11/10/23	5.75	5.958	—	6.933
11/11/23	6.25	5.666	—	5.070
11/12/23	6.791	7.458	—	5.220
11/13/23	10.708	10.347	—	9.325
11/14/23	11.583	10.5	—	8.850
11/15/23	11	12.375	—	16.204
11/16/23	2.708	4.375	—	3.650
11/17/23	5.583	6.916	—	4.762
11/18/23	4.583	5.291	—	2.087
11/19/23	6.708	7.25	—	5.475
11/20/23	27.916	28	—	23.416
11/21/23	4.166	4.791	—	2.929
11/22/23	2.208	2.25	—	2.304
11/23/23	8.208	11.125	—	6.920
11/24/23	10.125	10.541	—	6.537
11/25/23	7.916	8.541	—	5.783
11/26/23	2.958	2.708	—	2.045
11/27/23	2.541	2.958	—	2.329
11/28/23	4.333	4.875	—	3.962
11/29/23	3.708	4.458	—	2.345
11/30/23	3.375	4	—	2.337
12/01/23	4.958	5.375	—	4.520
12/02/23	5.416	4.708	—	4.966
12/03/23	4.333	5.916	—	4.250
12/04/23	4.25	3.875	—	2.979
12/05/23	1.833	2.125	—	1.479
12/06/23	8.5	8.083	—	7.220
12/07/23	8.708	6.791	—	5.850
12/08/23	3.958	4.208	—	3.491
12/09/23	9.541	10.125	—	10.250
12/10/23	4.375	4.875	—	3.941
12/11/23	7	7.416	—	6.862
12/12/23	18.75	18.208	—	14.116
12/13/23	7.583	7.75	—	4.975
12/14/23	3.166	2.375	—	3.058

Site ID	DOE-1	DOE-2	DOE-3	DOE-4
Sample Date	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )
12/15/23	4.125	4.583	8.076	3.887
12/16/23	3.208	3	3.333	2.616
12/17/23	3.041	2.166	2.625	1.754
12/18/23	6.25	6.375	7.375	6.012
12/19/23	3.291	5.25	4.25	5.154
12/20/23	1.17	1.083	1.166	0.775
12/21/23	0.750	1.166	1	0.516
12/22/23	3.25	3.708	2.541	1.037
12/23/23	8.5	6.916	7.125	4.345
12/24/23	8.625	7.708	8.166	5.791
12/25/23	7.25	8.166	5.916	5.262
12/26/23	15.166	14	15.125	8.754
12/27/23	14.458	15.666	21.083	10.508
12/28/23	19.916	20.416	21	10.312
12/29/23	9.833	11.541	17.125	6.116
12/30/23	6.875	12.708	5.958	2.029
12/31/23	6.708	6.875	8.833	3.691

Notes:

Gray-shaded boxes indicate a filter sensor pressure failure.

Bold numbers indicate value exceeded CAAQS but is below the NAAQS of 150 µg/m<sup>3</sup>.

**PM<sub>10</sub> Daily Averages, Q20 through Q23**

Site ID	DOE-1	DOE-2	DOE-3	DOE-4
Sample Date	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )
<b>Q20</b>				
01/01/23	11.166	9.375	17.833	8.625
01/02/23	9.041	9.208	5.5	3.708
01/03/23	1.583	1.125	4.041	-0.5
01/04/23	-0.208	-1.125	-0.416	-0.875
01/05/23	6.708	8.875	9.166	5.75
01/06/23	4.375	15.333	9.333	5.666
01/07/23	5.083	6.333	4.5	3.208
01/08/23	13.666	11.75	12.208	6.583
01/09/23	-0.25	-0.375	0.708	-1.208
01/10/23	12.083	12	7.041	5.125
01/11/23	13.875	16.125	17.333	13.166

Site ID	DOE-1	DOE-2	DOE-3	DOE-4
Sample Date	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )
01/12/23	3.958	5.25	2.666	3.75
01/13/23	17.208	8.5	12.666	8.708
01/14/23	7.083	5.625	9.291	4.333
01/15/23	9.083	7.208	8.75	3.75
01/16/23	7.875	4	2.458	1.666
01/17/23	3.041	7.541	4.5	2.791
01/18/23	10.208	10.708	11.208	5.333
01/19/23	6.458	7.791	6.583	7.875
01/20/23	5.125	4.25	4	4.083
01/21/23	1.583	0.958	0.958	0.958
01/22/23	6.958	9.5	5.625	9
01/23/23	13.375	13.958	12.833	13.666
01/24/23	11	8.708	6.916	8.083
01/25/23	2	2.541	2.5	4.083
01/26/23	24.041	9.583	12.375	22.708
01/27/23	7.666	4	3	4.125
01/28/23	18.833	15.166	25.458	14.875
01/29/23	11.333	7.416	12.083	8.708
01/30/23	4.25	4.083	3.541	3.875
01/31/23	7.791	8.291	7.458	8.833
02/01/23	1.583	1.791	1.583	1.291
02/02/23	5.875	9.125	5.5	5.333
02/03/23	4.5	4.583	4.041	4.958
02/04/23	8.583	8.416	3.083	4.083
02/05/23	8.333	7.875	11.25	6.541
02/06/23	0.583	1.458	0.916	0.416
02/07/23	1.958	2.083	1.541	1.375
02/08/23	3	3.166	3.041	2.833
02/09/23	3.125	3.125	3.166	2.625
02/10/23	4.458	5.083	4.041	4.916
02/11/23	14.666	16.416	19.916	10.041
02/12/23	8.5	7.291	4.958	9.75
02/13/23	14.875	11.333	10.5	12.791
02/14/23	15.208	18.833	17.5	14.666
02/15/23	7.083	6.875	6.458	11.916
02/16/23	3.5	5.083	2.583	3.916
02/17/23	4.166	4.375	3.791	4.125

Site ID	DOE-1	DOE-2	DOE-3	DOE-4
Sample Date	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )
02/18/23	4.708	5.666	6.583	5.291
02/19/23	10.208	9.75	7.541	9.958
02/20/23	6.791	7.75	9.125	7.416
02/21/23	19.041	17.75	11.416	22.041
02/22/23	16	10.833	—	12.25
02/23/23	7.875	4.5	—	5.083
02/24/23	1.875	0.583	—	2.166
02/25/23	1.416	7.083	—	1.083
02/26/23	4	4.583	—	5.916
02/27/23	3.875	3.875	—	4.375
02/28/23	6.208	7.458	—	8.333
03/01/23	9.25	7.583	—	5
03/02/23	9.666	5.875	—	5.416
03/03/23	6.541	12.875	—	12.458
03/04/23	15.291	23.458	—	20.833
03/05/23	6.083	9.958	—	12.625
03/06/23	8.375	3.541	—	3.291
03/07/23	9.25	7.125	—	9.666
03/08/23	9.958	8.791	—	8.625
03/09/23	9.916	8.541	43.285	12.083
03/10/23	7.916	-0.041	35.333	6.625
03/11/23	0	0.333	34.416	0.333
03/12/23	3.958	2.375	27.125	7.416
03/13/23	5.541	3.083	<b>54.166</b>	5.583
03/14/23	1.625	1.041	5.75	0.208
03/15/23	3.333	2.458	20	3.458
03/16/23	5.333	4.958	26.958	7.625
03/17/23	19.041	13.791	24.125	14.541
03/18/23	8.333	6.958	10.166	7.166
03/19/23	19.041	6.958	21.333	9
03/20/23	5.666	2.791	15.875	3.375
03/21/23	3.333	3.333	5.5	2.916
03/22/23	3.041	4.625	6.875	3.75
03/23/23	8.5	11	10.291	8.708
03/24/23	6.5	5.583	6.25	6.5
03/25/23	5.708	5.708	7.291	6.833
03/26/23	7.75	8.041	8.75	7.875

Site ID	DOE-1	DOE-2	DOE-3	DOE-4
Sample Date	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )
03/27/23	7.916	6.625	6.833	6.583
03/28/23	7.458	7.458	10.75	8.083
03/29/23	7.125	6.333	8.083	4.541
03/30/23	4.25	5.583	5.833	2.5
03/31/23	4.833	5.75	6.916	6.625
<b>Q21</b>				
04/01/23	5.125	—	8.5	5.666
04/02/23	9.833	—	14.208	12.875
04/03/23	8.458	12.916	9.875	8.916
04/04/23	4.375	4.833	6.375	5.083
04/05/23	5.791	6.166	6.125	7
04/06/23	6.791	5.625	7.375	8.041
04/07/23	11.875	10.583	13.333	13.416
04/08/23	7.333	9.75	10.375	7.583
04/09/23	9.458	-5	11.041	11.125
04/10/23	13.5	7.583	14.125	13.875
04/11/23	15.125	14.333	17	17.375
04/12/23	5.25	10.958	18.083	9.416
04/13/23	—	4.083	6.458	5.666
04/14/23	7.041	11.75	14.375	12.166
04/15/23	12.25	—	18.5	19.75
04/16/23	14.416	—	18.75	15.75
04/17/23	12.583	7.833	21.375	12.583
04/18/23	17.333	16.416	21.041	18.458
04/19/23	15.833	16.083	17.666	17.416
04/20/23	15.041	14.875	15.458	18.083
04/21/23	10.708	10.75	11.75	10.916
04/22/23	10.083	9.833	10.75	10.083
04/23/23	16.833	15.208	18.208	19.958
04/24/23	11.875	22.291	25.041	15.583
04/25/23	15.25	19.166	24.125	16.083
04/26/23	15.208	15.541	18.666	18.416
04/27/23	15.5	16.958	19	15.708
04/28/23	15.416	15.375	23.166	16.5
04/29/23	15.583	14.291	21.208	20.833
04/30/23	15.666	12.791	20.416	19.041
05/01/23	7.125	6.166	16.666	7.5

Site ID	DOE-1	DOE-2	DOE-3	DOE-4
Sample Date	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )
05/02/23	4.5	3.583	8.416	6.125
05/03/23	4.5	3.541	6.833	8.458
05/04/23	2.416	-0.916	4.75	7.416
05/05/23	2.708	1.478	4.375	20.333
05/06/23	4.708	5.041	6.166	—
05/07/23	6.75	7.166	13	—
05/08/23	10.041	10.083	12.875	19.555
05/09/23	10.375	10.916	19.208	7.946
05/10/23	9.416	9.958	17.541	7.604
05/11/23	10.041	10.208	16	9.596
05/12/23	15.833	17.291	28.125	14.238
05/13/23	20.083	20.625	50.5	30.504
05/14/23	13.833	14.083	26.25	9.429
05/15/23	12.416	12.916	21.75	10.104
05/16/23	10.916	13.458	33.125	13.883
05/17/23	14.083	14.75	28.458	13.029
05/18/23	19.333	19.125	29.5	16.988
05/19/23	10.5	11.125	18.375	8.571
05/20/23	12.75	12.083	16.5	11.367
05/21/23	12.375	9.875	12.166	12.296
05/22/23	11.916	10.416	16.625	7.925
05/23/23	5.041	5.291	9.875	4.067
05/24/23	7.333	8.5	11.333	5.458
05/25/23	9.083	9.958	11.958	5.463
05/26/23	8.083	7.541	13.958	6.938
05/27/23	13.416	8.708	21.666	8.017
05/28/23	10.125	10.208	14.916	6.558
05/29/23	7.833	7.125	10.291	5.479
05/30/23	5.958	5.25	11.166	5.371
05/31/23	8.458	4.916	7.5	4.275
06/01/23	8.958	8.125	11.291	7.050
06/02/23	17.416	11.458	27.416	10.092
06/03/23	21.166	16.458	32.5	13.333
06/04/23	18.541	11.25	21.625	8.217
06/05/23	6.875	6.916	9.625	5.017
06/06/23	10.916	8.583	17.541	6.883
06/07/23	10.375	4.5	6.791	3.121

Site ID	DOE-1	DOE-2	DOE-3	DOE-4
Sample Date	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )
06/08/23	6.833	6.75	14.916	5.950
06/09/23	7.583	7.458	8.958	5.558
06/10/23	8.708	7.75	10.291	5.571
06/11/23	5	6.208	7.291	3.538
06/12/23	3.208	4.166	6.875	3.017
06/13/23	6.791	5.416	11.5	4.383
06/14/23	10.791	8.708	10.541	6.000
06/15/23	7.75	7.708	8.208	4.475
06/16/23	8.5	9.333	13.208	7.613
06/17/23	12.125	12.708	26.666	11.213
06/18/23	11.916	11.625	12.916	8.238
06/19/23	11.041	10.25	16.833	7.550
06/20/23	14.166	12.125	26	12.504
06/21/23	19.541	15.166	30.458	15.500
06/22/23	23.708	18.25	21.375	17.938
06/23/23	15.041	13.75	20.708	11.725
06/24/23	16.041	14.625	20.916	14.996
06/25/23	13.583	12.291	53.5	9.546
06/26/23	16.25	19.75	20.416	15.338
06/27/23	15.541	15.916	24.416	12.521
06/28/23	14.791	15.833	17.791	14.296
06/29/23	19.041	17.166	20.208	13.483
06/30/23	19.208	20.125	8.666	14.467
<b>Q22</b>				
07/01/23	20.458	20.916	—	—
07/02/23	18.375	18.791	—	—
07/03/23	21.125	13.583	—	—
07/04/23	19.5	17.416	—	—
07/05/23	31.625	30.083	—	—
07/06/23	15.791	18.583	—	—
07/07/23	18.375	17.083	—	—
07/08/23	16.458	16.791	—	—
07/09/23	19.041	17.25	—	—
07/10/23	17.541	16.791	—	—
07/11/23	15.166	11.541	—	—
07/12/23	9.708	8.208	—	—
07/13/23	9.333	8.041	—	—

Site ID	DOE-1	DOE-2	DOE-3	DOE-4
Sample Date	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )
07/14/23	12.916	11.25	—	—
07/15/23	18.208	16.875	—	—
07/16/23	20.208	23.083	—	—
07/17/23	19.666	20.666	—	—
07/18/23	14.166	13.541	—	—
07/19/23	12.916	11.166	—	—
07/20/23	9.833	8.791	—	—
07/21/23	16.791	22.833	—	—
07/22/23	12.75	36	—	—
07/23/23	22.208	36	—	—
07/24/23	17.583	25.5	—	—
07/25/23	15.916	15.541	—	—
07/26/23	17.208	13.875	—	—
07/27/23	17.625	16.583	—	—
07/28/23	23.375	23.25	—	—
07/29/23	25.166	25.958	—	—
07/30/23	25.25	23.666	—	—
07/31/23	33.291	38.125	—	—
08/01/23	18.083	16.208	—	—
08/02/23	16.75	15.416	—	—
08/03/23	13.208	13.875	—	—
08/04/23	17.416	15.958	—	—
08/05/23	16.75	16.416	—	—
08/06/23	16	14.291	—	—
08/07/23	21.75	17.666	—	—
08/08/23	16.875	11.375	—	—
08/09/23	13.041	13.166	—	—
08/10/23	9.375	11.333	—	—
08/11/23	9.666	11.75	—	—
08/12/23	13.875	14.125	—	—
08/13/23	14.625	13.583	—	—
08/14/23	17.583	14.25	—	—
08/15/23	7.5	6.875	—	—
08/16/23	12.333	9.458	—	—
08/17/23	11.833	9	—	—
08/18/23	15.25	12.375	—	—
08/19/23	10.25	19.625	—	—

Site ID	DOE-1	DOE-2	DOE-3	DOE-4
Sample Date	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )
08/20/23	3.583	3.791	—	—
08/21/23	8.541	8.958	—	—
08/22/23	13.791	10.958	—	—
08/23/23	16.666	12.333	—	—
08/24/23	20.208	15.958	—	—
08/25/23	10.583	22.315	—	—
08/26/23	9	10.041	—	—
08/27/23	10.083	11.708	—	—
08/28/23	8	7.458	—	—
08/29/23	10.75	10.666	—	—
08/30/23	17.958	16.666	—	—
08/31/23	23.708	19.708	—	—
09/01/23	19.583	22.458	—	—
09/02/23	6	5.416	—	—
09/03/23	10.541	9.791	—	—
09/04/23	10.625	13.208	—	—
09/05/23	14.833	15.375	—	—
09/06/23	17	12.166	—	—
09/07/23	18.458	16.5	—	—
09/08/23	13.916	12.791	—	—
09/09/23	6.833	6.916	—	—
09/10/23	8.875	7.458	—	—
09/11/23	15.083	15.166	—	—
09/12/23	18.541	17.416	—	—
09/13/23	17.333	18.541	—	—
09/14/23	14	14.541	—	—
09/15/23	13.208	14.125	—	—
09/16/23	10.416	16.083	—	—
09/17/23	7.166	6.208	—	—
09/18/23	10.625	16.125	—	—
09/19/23	14.5	10.875	—	—
09/20/23	16.166	16.208	—	—
09/21/23	22.208	46.857	—	—
09/22/23	23.083	24.25	—	—
09/23/23	28	30.291	—	—
09/24/23	30.75	30.916	—	—
09/25/23	19.916	20.166	—	—

Site ID	DOE-1	DOE-2	DOE-3	DOE-4
Sample Date	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )
09/26/23	12.666	11.208	—	—
09/27/23	19.958	18.375	—	—
09/28/23	26.291	22.083	—	—
09/29/23	14.75	14.916	—	—
09/30/23	11	7.791	—	—
<b>Q23</b>				
10/01/23	8.708	8.75	—	—
10/02/23	16.041	9.958	—	—
10/03/23	10.75	10.625	—	—
10/04/23	8.875	9.041	—	—
10/05/23	6.5	6.125	—	—
10/06/23	6.25	4.75	—	—
10/07/23	9.541	8.583	—	—
10/08/23	8.75	8.208	—	—
10/09/23	14.208	13.5	—	—
10/10/23	8.083	12.541	—	—
10/11/23	—	13.666	—	—
10/12/23	46.909	29	—	—
10/13/23	14.041	29.291	—	—
10/14/23	12.166	11.5	—	—
10/15/23	10.666	9.041	—	—
10/16/23	10.5	8.75	—	—
10/17/23	15.25	13.666	—	—
10/18/23	15.125	11.416	—	—
10/19/23	11.125	10.083	—	—
10/20/23	6.875	6.5	—	—
10/21/23	8.833	7.625	—	10.183
10/22/23	7.5	8.291	—	6.57
10/23/23	7.375	8.083	—	5.895
10/24/23	9.625	13	—	9.65
10/25/23	8.791	8	—	5.941
10/26/23	7.791	8.958	9.25	6.333
10/27/23	10.875	10.208	12.408	8.858
10/28/23	10.416	9.333	13.016	8.45
10/29/23	<b>51.458</b>	46.125	28.975	36.275
10/30/23	11.666	14.375	24.041	9.362
10/31/23	5.25	5.958	7.825	4.475

Site ID	DOE-1	DOE-2	DOE-3	DOE-4
Sample Date	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )
11/01/23	6.041	5.041	6.054	5.795
11/02/23	7.125	7.458	8.195	7.112
11/03/23	10.583	9.166	19.129	11.129
11/04/23	13.208	12.833	12.304	12.633
11/05/23	15.708	15.25	16.766	12.845
11/06/23	10.166	8.541	18.75	6.737
11/07/23	8.125	9.583	15.483	7.495
11/08/23	10.375	12.125	—	8.154
11/09/23	6.791	8.375	—	5.004
11/10/23	5.75	5.958	—	6.933
11/11/23	6.25	5.666	—	5.070
11/12/23	6.791	7.458	—	5.220
11/13/23	10.708	10.347	—	9.325
11/14/23	11.583	10.5	—	8.850
11/15/23	11	12.375	—	16.204
11/16/23	2.708	4.375	—	3.650
11/17/23	5.583	6.916	—	4.762
11/18/23	4.583	5.291	—	2.087
11/19/23	6.708	7.25	—	5.475
11/20/23	27.916	28	—	23.416
11/21/23	4.166	4.791	—	2.929
11/22/23	2.208	2.25	—	2.304
11/23/23	8.208	11.125	—	6.920
11/24/23	10.125	10.541	—	6.537
11/25/23	7.916	8.541	—	5.783
11/26/23	2.958	2.708	—	2.045
11/27/23	2.541	2.958	—	2.329
11/28/23	4.333	4.875	—	3.962
11/29/23	3.708	4.458	—	2.345
11/30/23	3.375	4	—	2.337
12/01/23	4.958	5.375	—	4.520
12/02/23	5.416	4.708	—	4.966
12/03/23	4.333	5.916	—	4.250
12/04/23	4.25	3.875	—	2.979
12/05/23	1.833	2.125	—	1.479
12/06/23	8.5	8.083	—	7.220
12/07/23	8.708	6.791	—	5.850

Site ID	DOE-1	DOE-2	DOE-3	DOE-4
Sample Date	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )
12/08/23	3.958	4.208	—	3.491
12/09/23	9.541	10.125	—	10.250
12/10/23	4.375	4.875	—	3.941
12/11/23	7	7.416	—	6.862
12/12/23	18.75	18.208	—	14.116
12/13/23	7.583	7.75	—	4.975
12/14/23	3.166	2.375	—	3.058
12/15/23	4.125	4.583	8.076	3.887
12/16/23	3.208	3	3.333	2.616
12/17/23	3.041	2.166	2.625	1.754
12/18/23	6.25	6.375	7.375	6.012
12/19/23	3.291	5.25	4.25	5.154
12/20/23	1.17	1.083	1.166	0.775
12/21/23	0.750	1.166	1	0.516
12/22/23	3.25	3.708	2.541	1.037
12/23/23	8.5	6.916	7.125	4.345
12/24/23	8.625	7.708	8.166	5.791
12/25/23	7.25	8.166	5.916	5.262
12/26/23	15.166	14	15.125	8.754
12/27/23	14.458	15.666	21.083	10.508
12/28/23	19.916	20.416	21	10.312
12/29/23	9.833	11.541	17.125	6.116
12/30/23	6.875	12.708	5.958	2.029
12/31/23	6.708	6.875	8.833	3.691

Notes:

Negative values mean the background exceeded the particulate count.

Gray-shaded boxes indicate a filter sensor pressure failure.

Bold numbers indicate value exceeded CAAQS but is below the NAAQS of 150 µg/m<sup>3</sup>.

**EPA – Simi Valley – Cochran Street – PM<sub>10</sub> Daily Averages, 01/01/2022–07/31/2023**

<b>Simi Valley AQS # 061112002</b>	
<b>Simi Valley PM<sub>10</sub> Sample Date</b>	<b>PM<sub>10</sub> (µg/m<sup>3</sup>) (CAAQS 50 µg/m<sup>3</sup>)</b>
01/01/22	6
01/02/22	6
01/03/22	11
01/04/22	14
01/05/22	5
01/06/22	13
01/07/22	25
01/08/22	26
01/09/22	9
01/10/22	5
01/11/22	5
01/12/22	6
01/13/22	22
01/19/22	16
01/20/22	6
01/21/22	27
01/22/22	16
01/23/22	5
01/24/22	13
01/25/22	16
01/26/22	7
01/27/22	7
01/28/22	15
01/29/22	7
01/30/22	9
01/31/22	31
02/01/22	35
02/02/22	20
02/03/22	14
02/04/22	10
02/05/22	4
02/06/22	5
02/07/22	5
02/08/22	5
02/09/22	8
02/10/22	11

	<b>Simi Valley AQS # 061112002</b>
<b>Simi Valley PM<sub>10</sub> Sample Date</b>	<b>PM<sub>10</sub> (µg/m<sup>3</sup>) (CAAQS 50 µg/m<sup>3</sup>)</b>
02/11/22	8
02/12/22	8
02/13/22	11
02/14/22	19
02/15/22	20
02/16/22	17
02/17/22	16
02/18/22	13
02/19/22	13
02/20/22	20
02/21/22	19
02/22/22	18
02/23/22	6
02/24/22	9
02/25/22	13
02/26/22	9
02/27/22	6
02/28/22	7
03/01/22	19
03/02/22	28
03/03/22	22
03/04/22	15
03/05/22	18
03/06/22	12
03/07/22	11
03/08/22	11
03/09/22	26
03/10/22	23
03/11/22	15
03/12/22	14
03/13/22	18
03/14/22	21
03/15/22	23
03/16/22	15
03/17/22	17
03/18/22	17
03/19/22	17

	<b>Simi Valley AQS # 061112002</b>
<b>Simi Valley PM<sub>10</sub> Sample Date</b>	<b>PM<sub>10</sub> (µg/m<sup>3</sup>) (CAAQS 50 µg/m<sup>3</sup>)</b>
03/20/22	10
03/21/22	13
03/22/22	12
03/23/22	16
03/24/22	17
03/25/22	17
03/26/22	19
03/27/22	17
03/28/22	6
03/29/22	8
03/30/22	20
03/31/22	18
04/01/22	20
04/02/22	22
04/03/22	18
04/04/22	23
04/05/22	15
04/06/22	23
04/07/22	18
04/08/22	19
04/09/22	38
04/10/22	45
04/11/22	33
04/12/22	22
04/13/22	20
04/14/22	23
04/15/22	19
04/16/22	11
04/17/22	14
04/18/22	18
04/19/22	24
04/20/22	27
04/21/22	13
04/22/22	12
04/23/22	10
04/24/22	12
04/25/22	13
04/26/22	26
04/27/22	37

<b>Simi Valley AQS # 061112002</b>	
<b>Simi Valley PM<sub>10</sub> Sample Date</b>	<b>PM<sub>10</sub> (µg/m<sup>3</sup>) (CAAQS 50 µg/m<sup>3</sup>)</b>
04/28/22	35
04/29/22	33
04/30/22	29
05/01/22	29
05/02/22	34
05/03/22	36
05/04/22	36
05/05/22	31
05/06/22	28
05/07/22	28
05/08/22	33
05/09/22	27
05/10/22	23
05/11/22	19
05/12/22	22
05/13/22	21
05/14/22	21
05/15/22	24
05/16/22	27
05/17/22	32
05/18/22	40
05/19/22	32
05/20/22	14
05/21/22	21
05/22/22	25
05/23/22	31
05/24/22	37
05/25/22	34
05/26/22	32
05/27/22	19
05/28/22	17
05/29/22	21
05/30/22	34
05/31/22	38
06/01/22	39
06/02/22	40
06/03/22	30
06/04/22	25
06/05/22	19

	<b>Simi Valley AQS # 061112002</b>
<b>Simi Valley PM<sub>10</sub> Sample Date</b>	<b>PM<sub>10</sub> (µg/m<sup>3</sup>) (CAAQS 50 µg/m<sup>3</sup>)</b>
06/06/22	21
06/07/22	29
06/08/22	34
06/09/22	36
06/10/22	33
06/11/22	22
06/12/22	18
06/13/22	23
06/14/22	34
06/15/22	40
06/16/22	39
06/17/22	26
06/18/22	25
06/19/22	21
06/20/22	25
06/21/22	30
06/22/22	25
06/23/22	25
06/24/22	21
06/25/22	21
06/26/22	23
06/27/22	37
06/28/22	31
06/29/22	33
06/30/22	33
07/01/22	32
07/02/22	29
07/03/22	24
07/04/22	25
07/05/22	33
07/06/22	17
07/07/22	21
07/08/22	25
07/09/22	24
07/10/22	22
07/11/22	27
07/12/22	23
07/13/22	22

	<b>Simi Valley AQS # 061112002</b>
<b>Simi Valley PM<sub>10</sub> Sample Date</b>	<b>PM<sub>10</sub> (µg/m<sup>3</sup>) (CAAQS 50 µg/m<sup>3</sup>)</b>
07/14/22	27
07/15/22	37
07/16/22	41
07/17/22	29
07/18/22	29
07/19/22	23
07/20/22	24
07/21/22	29
07/22/22	36
07/23/22	32
07/24/22	27
07/25/22	27
07/26/22	25
07/27/22	24
07/28/22	28
07/29/22	30
07/30/22	27
07/31/22	20
08/01/22	24
08/02/22	22
08/03/22	29
08/04/22	40
08/05/22	34
08/06/22	20
08/07/22	19
08/08/22	36
08/09/22	29
08/10/22	26
08/11/22	24
08/12/22	30
08/13/22	30
08/14/22	24
08/15/22	36
08/16/22	37
08/17/22	32
08/18/22	31
08/19/22	34
08/20/22	34

	<b>Simi Valley AQS # 061112002</b>
<b>Simi Valley PM<sub>10</sub> Sample Date</b>	<b>PM<sub>10</sub> (µg/m<sup>3</sup>) (CAAQS 50 µg/m<sup>3</sup>)</b>
08/21/22	27
08/22/22	28
08/23/22	33
08/24/22	32
08/25/22	27
08/26/22	25
08/27/22	22
08/28/22	19
08/29/22	28
08/30/22	31
08/31/22	27
09/01/22	45
09/02/22	42
09/03/22	35
09/04/22	23
09/05/22	30
09/06/22	39
09/07/22	35
09/08/22	28
09/09/22	45
09/10/22	12
09/11/22	13
09/12/22	11
09/13/22	25
09/14/22	25
09/15/22	25
09/16/22	31
09/17/22	30
09/18/22	20
09/19/22	11
09/20/22	8
09/21/22	11
09/22/22	25
09/23/22	29
09/24/22	20
09/25/22	17
09/26/22	21
09/27/22	35

	<b>Simi Valley AQS # 061112002</b>
<b>Simi Valley PM<sub>10</sub> Sample Date</b>	<b>PM<sub>10</sub> (µg/m<sup>3</sup>) (CAAQS 50 µg/m<sup>3</sup>)</b>
09/28/22	35
09/29/22	32
09/30/22	34
10/01/22	26
10/02/22	19
10/03/22	24
10/04/22	27
10/05/22	35
10/06/22	28
10/07/22	39
10/08/22	38
10/09/22	30
10/10/22	30
10/11/22	33
10/12/22	23
10/13/22	28
10/14/22	32
10/15/22	10
10/16/22	10
10/17/22	23
10/18/22	30
10/19/22	18
10/20/22	16
10/21/22	34
10/22/22	17
10/23/22	27
10/24/22	24
10/25/22	24
10/26/22	30
10/27/22	33
10/28/22	25
10/29/22	22
10/30/22	19
10/31/22	28
11/01/22	26
11/02/22	12
11/03/22	11
11/04/22	12

	<b>Simi Valley AQS # 061112002</b>
<b>Simi Valley PM<sub>10</sub> Sample Date</b>	<b>PM<sub>10</sub> (µg/m<sup>3</sup>) (CAAQS 50 µg/m<sup>3</sup>)</b>
11/05/22	15
11/06/22	10
11/07/22	3
11/08/22	3
11/09/22	5
11/10/22	4
11/11/22	4
11/12/22	8
11/13/22	11
11/14/22	11
11/15/22	15
11/16/22	22
11/17/22	8
11/18/22	11
11/19/22	19
11/20/22	5
11/21/22	7
11/22/22	10
11/23/22	14
11/24/22	18
11/25/22	9
11/26/22	17
11/27/22	20
11/28/22	32
11/29/22	26
11/30/22	24
12/01/22	9
12/02/22	4
12/03/22	8
12/04/22	6
12/05/22	7
12/06/22	14
12/07/22	8
12/08/22	9
12/09/22	12
12/10/22	7
12/11/22	7
12/12/22	5

	<b>Simi Valley AQS # 061112002</b>
<b>Simi Valley PM<sub>10</sub> Sample Date</b>	<b>PM<sub>10</sub> (µg/m<sup>3</sup>) (CAAQS 50 µg/m<sup>3</sup>)</b>
12/13/22	7
12/14/22	15
12/15/22	10
12/16/22	5
12/17/22	8
12/18/22	11
12/19/22	18
12/20/22	12
12/21/22	8
12/22/22	17
12/23/22	12
12/24/22	6
12/25/22	5
12/26/22	11
12/27/22	13
12/28/22	10
12/29/22	13
12/30/22	9
12/31/22	1
01/01/23	12
01/02/23	9
01/03/23	3
01/04/23	2
01/05/23	12
01/06/23	9
01/07/23	12
01/08/23	10
01/09/23	1
01/10/23	11
01/11/23	17
01/12/23	6
01/13/23	17
01/14/23	11
01/15/23	8
01/16/23	4
01/17/23	5
01/18/23	11
01/24/23	16

	<b>Simi Valley AQS # 061112002</b>
<b>Simi Valley PM<sub>10</sub> Sample Date</b>	<b>PM<sub>10</sub> (µg/m<sup>3</sup>) (CAAQS 50 µg/m<sup>3</sup>)</b>
01/25/23	6
01/26/23	10
01/27/23	13
01/28/23	19
01/29/23	14
01/30/23	8
01/31/23	16
02/01/23	6
02/02/23	15
02/03/23	14
02/05/23	7
02/06/23	3
02/07/23	4
02/08/23	8
02/09/23	7
02/10/23	12
02/11/23	15
02/12/23	11
02/13/23	14
02/14/23	26
02/15/23	9
02/16/23	8
02/17/23	10
02/18/23	13
02/19/23	15
02/20/23	17
02/21/23	33
02/22/23	20
02/23/23	5
02/24/23	2
02/25/23	3
02/26/23	6
02/27/23	6
02/28/23	6
03/01/23	6
03/02/23	8
03/03/23	14
03/04/23	21

<b>Simi Valley AQS # 061112002</b>	
<b>Simi Valley PM<sub>10</sub> Sample Date</b>	<b>PM<sub>10</sub> (µg/m<sup>3</sup>) (CAAQS 50 µg/m<sup>3</sup>)</b>
03/05/23	10
03/06/23	7
03/07/23	7
03/08/23	12
03/09/23	12
03/10/23	3
03/11/23	2
03/12/23	2
03/13/23	8
03/14/23	6
03/15/23	7
03/16/23	13
03/17/23	17
03/18/23	12
03/19/23	11
03/20/23	6
03/21/23	7
03/22/23	7
03/23/23	10
03/24/23	8
03/25/23	9
03/26/23	11
03/27/23	13
03/28/23	11
03/29/23	8
03/30/23	5
03/31/23	9
04/01/23	9
04/02/23	13
04/03/23	12
04/04/23	10
04/05/23	11
04/06/23	12
04/07/23	17
04/08/23	13
04/09/23	13
04/10/23	20
04/11/23	19

	<b>Simi Valley AQS # 061112002</b>
<b>Simi Valley PM<sub>10</sub> Sample Date</b>	<b>PM<sub>10</sub> (µg/m<sup>3</sup>) (CAAQS 50 µg/m<sup>3</sup>)</b>
04/12/23	25
04/13/23	11
04/14/23	16
04/15/23	20
04/16/23	20
04/17/23	23
04/18/23	26
04/19/23	27
04/20/23	24
04/21/23	20
04/22/23	16
04/23/23	23
04/24/23	22
04/25/23	27
04/26/23	25
04/27/23	23
04/28/23	21
04/29/23	18
04/30/23	18
05/01/23	10
05/02/23	6
05/03/23	4
05/04/23	4
05/05/23	5
05/06/23	5
05/07/23	9
05/08/23	14
05/09/23	17
05/10/23	19
05/11/23	18
05/12/23	27
05/13/23	29
05/14/23	29
05/15/23	23
05/16/23	17
05/17/23	18
05/18/23	28
05/19/23	24

<b>Simi Valley AQS # 061112002</b>	
<b>Simi Valley PM<sub>10</sub> Sample Date</b>	<b>PM<sub>10</sub> (µg/m<sup>3</sup>) (CAAQS 50 µg/m<sup>3</sup>)</b>
05/20/23	21
05/21/23	16
05/22/23	18
05/23/23	9
05/24/23	13
05/25/23	15
05/26/23	12
05/27/23	17
05/28/23	16
05/29/23	12
05/30/23	14
05/31/23	11
06/01/23	24
06/02/23	27
06/03/23	24
06/04/23	21
06/05/23	12
06/06/23	13
06/07/23	8
06/08/23	10
06/09/23	15
06/10/23	15
06/11/23	11
06/12/23	9
06/13/23	11
06/14/23	15
06/15/23	12
06/16/23	15
06/17/23	19
06/18/23	16
06/19/23	16
06/20/23	21
06/21/23	25
06/22/23	24
06/23/23	19
06/24/23	19
06/25/23	16
06/26/23	22

	Simi Valley AQS # 061112002
Simi Valley PM <sub>10</sub> Sample Date	PM <sub>10</sub> (µg/m <sup>3</sup> ) (CAAQS 50 µg/m <sup>3</sup> )
06/27/23	26
06/28/23	27
06/29/23	28
06/30/23	32
07/01/23	24
07/02/23	20
07/03/23	23
07/04/23	28
07/05/23	32
07/06/23	25
07/07/23	27
07/08/23	28
07/09/23	25
07/10/23	30
07/11/23	25
07/12/23	20
07/13/23	19
07/14/23	27
07/15/23	32
07/16/23	27
07/17/23	33
07/18/23	29
07/19/23	26
07/20/23	29
07/21/23	36
07/22/23	25
07/23/23	28
07/24/23	31
07/25/23	33
07/26/23	36
07/27/23	36
07/28/23	41
07/29/23	37
07/30/23	38
07/31/23	<b>85</b>

Notes:

Data supplied from: [https://aqs.epa.gov/aqsweb/airdata/download\\_files.html](https://aqs.epa.gov/aqsweb/airdata/download_files.html). Only the Simi Valley PM<sub>10</sub> data from the State and Local Air Monitoring Stations (SLAMS) have been reported here. The Simi Valley PM<sub>2.5</sub> and the Reseda PM<sub>2.5</sub> have not been reported here since this report discusses only PM<sub>10</sub> data, not PM<sub>2.5</sub> data.

Bold numbers indicate value exceeded CAAQS but is below the NAAQS of 150 µg/m<sup>3</sup>.

**PM<sub>10</sub> Monthly Statistics, Q23**

Location ID	October 2023			November 2023			December 2023		
	PM <sub>10</sub>			PM <sub>10</sub>			PM <sub>10</sub>		
	High	Low	95 <sup>th</sup> PCTL	High	Low	95 <sup>th</sup> PCTL	High	Low	95 <sup>th</sup> PCTL
DOE-1	51.45800	0.00000	31.47500	27.91600	2.20800	14.58300	19.91600	0.87500	16.95800
DOE-2	46.12500	4.75000	29.14550	28.00000	2.25000	14.16235	20.41600	1.08300	16.93700
DOE-3	28.97500	7.82500	27.74150	19.12900	6.05400	19.01530	21.08300	1.00000	21.01660
DOE-4	36.27500	4.47500	23.22900	23.41600	2.04500	14.69245	14.11600	0.51600	10.41000

PCTL = percentile

**PM<sub>10</sub> Monthly Statistics, Q20 through Q23**

Location ID	January 2023			February 2023			March 2023		
	PM <sub>10</sub>			PM <sub>10</sub>			PM <sub>10</sub>		
	High	Low	95 <sup>th</sup> PCTL	High	Low	95 <sup>th</sup> PCTL	High	Low	95 <sup>th</sup> PCTL
DOE-1	24.04100	0.25000	18.02050	19.04100	0.58300	15.72280	19.04100	0.00000	17.54100
DOE-2	16.12500	1.12500	15.24950	18.83300	0.58300	17.28310	23.45800	0.04100	13.42460
DOE-3	25.45800	0.41600	17.58300	19.91600	0.91600	17.50000	54.16600	5.50000	42.48980
DOE-4	22.70800	1.20800	14.27050	22.04100	0.41600	14.00975	20.83300	0.20800	13.77460
Location ID	April 2023			May 2023			June 2023		
	PM <sub>10</sub>			PM <sub>10</sub>			PM <sub>10</sub>		
	High	Low	95 <sup>th</sup> PCTL	High	Low	95 <sup>th</sup> PCTL	High	Low	95 <sup>th</sup> PCTL
DOE-1	17.33300	4.37500	16.43300	20.08300	2.41600	17.58300	23.70800	3.20800	20.43475
DOE-2	22.29100	5.00000	18.61400	20.62500	0.91600	18.20800	20.12500	4.16600	19.07500
DOE-3	25.04100	6.12500	23.69345	50.50000	4.37500	31.31250	53.50000	6.79100	31.58110
DOE-4	20.83300	5.08300	19.86440	30.50417	4.06667	20.02180	17.93750	3.01667	15.42688

Location ID	July 2023			August 2023			September 2023		
	PM <sub>10</sub>			PM <sub>10</sub>			PM <sub>10</sub>		
	High	Low	95th PCTL	High	Low	95th PCTL	High	Low	95th PCTL
DOE-1	33.29100	9.33300	28.43750	23.70800	3.58300	20.97900	30.75000	6.00000	27.23095
DOE-2	38.12500	8.04100	36.00000	22.31500	3.79100	19.66650	46.85700	5.41600	30.63475
DOE-3	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
DOE-4	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
Location ID	October 2023			November 2023			December 2023		
	PM <sub>10</sub>			PM <sub>10</sub>			PM <sub>10</sub>		
	High	Low	95th PCTL	High	Low	95th PCTL	High	Low	95th PCTL
DOE-1	51.45800	0.00000	31.47500	27.91600	2.20800	14.58300	19.91600	0.87500	16.95800
DOE-2	46.12500	4.75000	29.14550	28.00000	2.25000	14.16235	20.41600	1.08300	16.93700
DOE-3	28.97500	7.82500	27.74150	19.12900	6.05400	19.01530	21.08300	1.00000	21.01660
DOE-4	36.27500	4.47500	23.22900	23.41600	2.04500	14.69245	14.11600	0.51600	10.41000

Note: DOE-3 and DOE-4 had no valid readings in July, August, or September 2023.

EPA – Simi Valley – Cochran Street – PM<sub>10</sub> Monthly Statistics, 01/01/2022–07/31/2023

Location ID	January 2022			February 2022			March 2022		
	PM <sub>10</sub>			PM <sub>10</sub>			PM <sub>10</sub>		
	High	Low	95th PCTL	High	Low	95th PCTL	High	Low	95th PCTL
Simi Valley AQS # 061112002 (PM <sub>10</sub> )	31.00000	5.00000	26.75000	35.00000	4.00000	20.00000	28.00000	6.00000	24.50000
Location ID	April 2022			May 2022			June 2022		
	PM <sub>10</sub>			PM <sub>10</sub>			PM <sub>10</sub>		
	High	Low	95th PCTL	High	Low	95th PCTL	High	Low	95th PCTL
Simi Valley AQS # 061112002 (PM <sub>10</sub> )	45.00000	10.00000	37.55000	40.00000	14.00000	37.50000	40.00000	18.00000	39.55000
Location ID	July 2022			August 2022			September 2022		
	PM <sub>10</sub>			PM <sub>10</sub>			PM <sub>10</sub>		
	High	Low	95th PCTL	High	Low	95th PCTL	High	Low	95th PCTL
Simi Valley AQS # 061112002 (PM <sub>10</sub> )	41.00000	17.00000	36.50000	40.00000	19.00000	36.50000	45.00000	8.00000	43.65000
Location ID	October 2022			November 2022			December 2022		
	PM <sub>10</sub>			PM <sub>10</sub>			PM <sub>10</sub>		
	High	Low	95th PCTL	High	Low	95th PCTL	High	Low	95th PCTL
Simi Valley AQS # 061112002 (PM <sub>10</sub> )	39.00000	10.00000	36.50000	32.00000	3.00000	26.00000	18.00000	1.00000	16.00000
Location ID	January 2023			February 2023			March 2023		
	PM <sub>10</sub>			PM <sub>10</sub>			PM <sub>10</sub>		
	High	Low	95th PCTL	High	Low	95th PCTL	High	Low	95th PCTL
Simi Valley AQS # 061112002 (PM <sub>10</sub> )	19.00000	1.00000	17.00000	33.00000	2.00000	24.20000	21.00000	2.00000	15.50000

Location ID	April 2023			May 2023			June 2023		
	PM <sub>10</sub>			PM <sub>10</sub>			PM <sub>10</sub>		
	High	Low	95th PCTL	High	Low	95th PCTL	High	Low	95th PCTL
Simi Valley AQS # 061112002 (PM <sub>10</sub> )	27.00000	9.00000	26.55000	29.00000	4.00000	28.50000	32.00000	8.00000	27.55000
Location ID	July 2023								
	PM <sub>10</sub>								
	High	Low	95th PCTL						
Simi Valley AQS # 061112002 (PM <sub>10</sub> )	85.00000	19.00000	39.50000						

Notes:

Data supplied from: [https://aqs.epa.gov/aqsweb/airdata/download\\_files.html](https://aqs.epa.gov/aqsweb/airdata/download_files.html). Only the Simi Valley PM<sub>10</sub> data from the State and Local Air Monitoring Stations (SLAMS) has been reported here. The Simi Valley PM<sub>2.5</sub> and the Reseda PM<sub>2.5</sub> have not been reported here since this report discusses only PM<sub>10</sub> data, not PM<sub>2.5</sub> data.

## **APPENDIX B**

### **Analytical Results for Ambient Air VOCs**

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Table B-1. Ambient air VOC detection results compared to RSLs.

Location ID	Sample Date	Analyte	Method Detection Limit	Result (µg/m <sup>3</sup> )	Screening Level Value (µg/m <sup>3</sup> )	Screening Level Source
DOE-1	10/11/2023	Dichlorodifluoromethane	0.13	2.1	100	US EPA RSL
DOE-1	10/11/2023	Ethyl acetate	0.41	17	73	US EPA RSL
DOE-1	10/11/2023	Trichlorofluoromethane	0.12	1.0	1300	DTSC HHRA NOTE 3
DOE-2	10/11/2023	Dichlorodifluoromethane	0.14	2.1	100	US EPA RSL
DOE-2	10/11/2023	Ethyl acetate	0.44	15	73	US EPA RSL
DOE-2	10/11/2023	Trichlorofluoromethane	0.13	0.98	1300	DTSC HHRA NOTE 3
DOE-3	10/11/2023	Dichlorodifluoromethane	0.14	2.1	100	US EPA RSL
DOE-3	10/11/2023	Ethyl acetate	0.45	25	73	US EPA RSL
DOE-3	10/11/2023	Trichlorofluoromethane	0.13	1.0	1300	DTSC HHRA NOTE 3
DOE-4	10/11/2023	1,2,4-trimethylbenzene	0.12	1.7	63	US EPA RSL
DOE-4	10/11/2023	1,2-dimethyl-benzene	0.12	4.0	100	US EPA RSL
DOE-4	10/11/2023	Dichlorodifluoromethane	0.14	2.1	100	US EPA RSL
DOE-4	10/11/2023	Ethyl acetate	0.45	6.6	73	US EPA RSL
DOE-4	10/11/2023	Ethylbenzene	0.12	<b>2.1</b>	1.1	US EPA RSL
DOE-4	10/11/2023	M-xylene & p-xylene	0.22	9.2	100	US EPA RSL
DOE-4	10/11/2023	Trichlorofluoromethane	0.13	0.98	1300	DTSC HHRA NOTE 3
DOE-4	10/11/2023	Xylenes, total	0.22	13	100	US EPA RSL
DOE-1	10/24/2023	Chloroform	0.11	<b>0.69</b>	0.12	US EPA RSL
DOE-1	10/24/2023	Dichlorodifluoromethane	0.13	2.1	100	US EPA RSL
DOE-1	10/24/2023	Ethyl acetate	0.43	43	73	US EPA RSL
DOE-1	10/24/2023	Toluene	0.099	0.95	310	DTSC HHRA NOTE 3
DOE-1	10/24/2023	Trichlorofluoromethane	0.12	1.1	1300	DTSC HHRA NOTE 3
DOE-2	10/24/2023	Dichlorodifluoromethane	0.13	2.1	100	US EPA RSL
DOE-2	10/24/2023	Ethyl acetate	0.41	50	73	US EPA RSL
DOE-2	10/24/2023	Toluene	0.096	0.8	310	DTSC HHRA NOTE 3
DOE-2	10/24/2023	Trichlorofluoromethane	0.12	0.98	1300	DTSC HHRA NOTE 3
DOE-3	10/24/2023	Dichlorodifluoromethane	0.11	2.1	100	US EPA RSL
DOE-3	10/24/2023	Ethyl acetate	0.36	59	73	US EPA RSL
DOE-3	10/24/2023	Trichlorofluoromethane	0.1	0.97	1300	DTSC HHRA NOTE 3
DOE-4	10/24/2023	Dichlorodifluoromethane	0.13	2.1	100	US EPA RSL
DOE-4	10/24/2023	Ethyl acetate	0.41	13 ;J	73	US EPA RSL
DOE-4	10/24/2023	Trichlorofluoromethane	0.12	0.96	1300	DTSC HHRA NOTE 3
DOE-1	11/07/2023	Dichlorodifluoromethane	0.13	1.9	100	US EPA RSL
DOE-1	11/07/2023	Ethyl acetate	0.43	<b>110</b>	73	US EPA RSL
DOE-1	11/07/2023	Toluene	0.099	1.2	310	DTSC HHRA NOTE 3
DOE-1	11/07/2023	Trichlorofluoromethane	0.12	0.89	1300	DTSC HHRA NOTE 3
DOE-2	11/07/2023	Dichlorodifluoromethane	0.13	1.9	100	US EPA RSL

Location ID	Sample Date	Analyte	Method Detection Limit	Result (µg/m <sup>3</sup> )	Screening Level Value (µg/m <sup>3</sup> )	Screening Level Source
DOE-2	11/07/2023	Ethyl acetate	0.42	19	73	US EPA RSL
DOE-2	11/07/2023	Ethyl acetate	0.42	19	73	US EPA RSL
DOE-2	11/07/2023	Trichlorofluoromethane	0.12	0.92	1300	DTSC HHRA NOTE 3
DOE-3	11/07/2023	Dichlorodifluoromethane	0.13	1.9	100	US EPA RSL
DOE-3	11/07/2023	Ethyl acetate	0.43	41	73	US EPA RSL
DOE-3	11/07/2023	Trichlorofluoromethane	0.13	0.91	1300	DTSC HHRA NOTE 3
DOE-4	11/07/2023	Dichlorodifluoromethane	0.13	1.8	100	US EPA RSL
DOE-4	11/07/2023	Ethyl acetate	0.42	120	73	US EPA RSL
DOE-4	11/07/2023	Toluene	0.097	1.6	310	DTSC HHRA NOTE 3
DOE-4	11/07/2023	Trichlorofluoromethane	0.12	0.88	1300	DTSC HHRA NOTE 3
DOE-1	11/21/2023	Dichlorodifluoromethane	0.12	2.5	100	US EPA RSL
DOE-1	11/21/2023	Ethyl acetate	0.39	34	73	US EPA RSL
DOE-1	11/21/2023	Methylene chloride	0.21	0.84	1	DTSC HHRA NOTE 3
DOE-1	11/21/2023	Toluene	0.092	1.2	310	DTSC HHRA NOTE 3
DOE-1	11/21/2023	Trichlorofluoromethane	0.11	1.3	1300	DTSC HHRA NOTE 3
DOE-2	11/21/2023	Dichlorodifluoromethane	0.13	2.7	100	US EPA RSL
DOE-2	11/21/2023	Ethyl acetate	0.43	4.4	73	US EPA RSL
DOE-2	11/21/2023	Trichlorofluoromethane	0.12	1.3	1300	DTSC HHRA NOTE 3
DOE-3	11/21/2023	Dichlorodifluoromethane	0.13	2.6	100	US EPA RSL
DOE-3	11/21/2023	Ethyl acetate	0.42	8.6	73	US EPA RSL
DOE-3	11/21/2023	Trichlorofluoromethane	0.12	1.4	1300	DTSC HHRA NOTE 3
DOE-4	11/21/2023	Dichlorodifluoromethane	0.13	2.7	100	US EPA RSL
DOE-4	11/21/2023	Ethyl acetate	0.42	17	73	US EPA RSL
DOE-4	11/21/2023	Toluene	0.098	0.90	310	DTSC HHRA NOTE 3
DOE-4	11/21/2023	Trichlorofluoromethane	0.12	1.3	1300	DTSC HHRA NOTE 3
DOE-1	12/06/2023	Dichlorodifluoromethane	0.14	1.9	100	US EPA RSL
DOE-1	12/06/2023	Ethyl acetate	0.45	8.3	73	US EPA RSL
DOE-1	12/06/2023	Trichlorofluoromethane	0.13	0.94	1300	DTSC HHRA NOTE 3
DOE-2	12/06/2023	Dichlorodifluoromethane	0.13	2.0	100	US EPA RSL
DOE-2	12/06/2023	Ethyl acetate	0.43	62	73	US EPA RSL
DOE-2	12/06/2023	Toluene	0.10	0.85	310	DTSC HHRA NOTE 3
DOE-2	12/06/2023	Trichlorofluoromethane	0.13	0.98	1300	DTSC HHRA NOTE 3
DOE-3	12/06/2023	Dichlorodifluoromethane	0.14	2.0	100	US EPA RSL
DOE-3	12/06/2023	Ethyl acetate	0.46	4.4	73	US EPA RSL
DOE-3	12/06/2023	Trichlorofluoromethane	0.13	0.96	1300	DTSC HHRA NOTE 3
DOE-4	12/06/2023	Dichlorodifluoromethane	0.14	2.0	100	US EPA RSL
DOE-4	12/06/2023	Ethyl acetate	0.44	11	73	US EPA RSL

Location ID	Sample Date	Analyte	Method Detection Limit	Result (µg/m <sup>3</sup> )	Screening Level Value (µg/m <sup>3</sup> )	Screening Level Source
DOE-1	12/15/2023	Dichlorodifluoromethane	0.11	2.1	100	US EPA RSL
DOE-1	12/15/2023	Ethyl acetate	0.36	12	73	US EPA RSL
DOE-1	12/15/2023	Trichlorofluoromethane	0.11	1	1300	DTSC HHRA NOTE 3
DOE-2	12/15/2023	Dichlorodifluoromethane	0.13	1.9	100	US EPA RSL
DOE-2	12/15/2023	Ethyl acetate	0.42	36	73	US EPA RSL
DOE-2	12/15/2023	Trichlorofluoromethane	0.12	0.85	1300	DTSC HHRA NOTE 3
DOE-3	12/15/2023	Dichlorodifluoromethane	0.12	2.1	100	US EPA RSL
DOE-3	12/15/2023	Ethyl acetate	0.39	23	73	US EPA RSL
DOE-3	12/15/2023	Trichlorofluoromethane	0.11	0.96	1300	DTSC HHRA NOTE 3
DOE-4	12/15/2023	Dichlorodifluoromethane	0.13	2.1	100	US EPA RSL
DOE-4	12/15/2023	Ethyl acetate	0.43	16 (J)	73	US EPA RSL
DOE-4	12/15/2023	Trichlorofluoromethane	0.13	0.95	1300	DTSC HHRA NOTE 3
DOE-1	01/04/2024	Dichlorodifluoromethane	0.12	2.2	100	US EPA RSL
DOE-1	01/04/2024	Ethyl acetate	0.38	14	73	US EPA RSL
DOE-1	01/04/2024	Trichlorofluoromethane	0.11	1.1	1300	DTSC HHRA NOTE 3
DOE-2	01/04/2024	Dichlorodifluoromethane	0.13	2.2	100	US EPA RSL
DOE-2	01/04/2024	Ethyl acetate	0.41	22	73	US EPA RSL
DOE-2	01/04/2024	Trichlorofluoromethane	0.12	1.1	1300	DTSC HHRA NOTE 3
DOE-3	01/04/2024	Dichlorodifluoromethane	0.13	2.2	100	US EPA RSL
DOE-3	01/04/2024	Ethyl acetate	0.42	26	73	US EPA RSL
DOE-3	01/04/2024	Toluene	0.097	1.0	310	DTSC HHRA NOTE 3
DOE-3	01/04/2024	Trichlorofluoromethane	0.12	1.1	1300	DTSC HHRA NOTE 3
DOE-4	01/04/2024	Dichlorodifluoromethane	0.13	2.1	100	US EPA RSL
DOE-4	01/04/2024	Ethyl acetate	0.41	100	73	US EPA RSL
DOE-4	01/04/2024	Trichlorofluoromethane	0.12	1.0	1300	DTSC HHRA NOTE 3

Notes:

Bold text and gray-shaded boxes indicate detection above reporting limit, and also exceeds the EPA or DTSC Screening Level.

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

Table B-2. Year 6 Ambient air VOC detection results compared to RSLs.

Location ID	Sample Date	Analyte	Method Detection Limit	Result (µg/m <sup>3</sup> )	Screening Level Value (µg/m <sup>3</sup> )	Screening Level Source
DOE-1	01/05/2023	Dichlorodifluoromethane	0.11	2.1	100	US EPA RSL
DOE-1	01/05/2023	Ethyl acetate	0.37	20	73	US EPA RSL
DOE-1	01/05/2023	Trichlorofluoromethane	0.11	1.1	1300	DTSC HHRA NOTE 3
DOE-2	01/05/2023	Dichlorodifluoromethane	0.11	2.1	100	US EPA RSL
DOE-2	01/05/2023	Ethyl acetate	0.36	17	73	US EPA RSL
DOE-2	01/05/2023	Toluene	0.085	0.71	310	DTSC HHRA NOTE 3
DOE-2	01/05/2023	Trichlorofluoromethane	0.11	1.1	1300	DTSC HHRA NOTE 3
DOE-3	01/05/2023	Dichlorodifluoromethane	0.12	2.1 (;J)	100	US EPA RSL
DOE-3	01/05/2023	Ethyl acetate	0.38	18 (;J)	73	US EPA RSL
DOE-3	01/05/2023	Toluene	0.087	1.7 (;J)	310	DTSC HHRA NOTE 3
DOE-3	01/05/2023	Trichlorofluoromethane	0.11	1.1	1300	DTSC HHRA NOTE 3
DOE-3	01/05/2023	2-butanone	0.14	1.4	5200	US EPA RSL
DOE-3	01/05/2023	Benzene	0.095	2	0.097	DTSC HHRA NOTE 3
DOE-3	01/05/2023	Carbon disulfide	0.2	12	730	US EPA RSL
DOE-3	01/05/2023	Dichlorodifluoromethane	0.11	2 (;J)	100	US EPA RSL
DOE-3	01/05/2023	Ethyl acetate	0.35	200(;J)	73	US EPA RSL
DOE-3	01/05/2023	Toluene	0.081	6.2 (;J)	310	DTSC HHRA NOTE 3
DOE-3	01/05/2023	Trichlorofluoromethane	0.1	0.81	1300	DTSC HHRA NOTE 3
DOE-4	01/05/2023	Dichlorodifluoromethane	0.12	2	100	US EPA RSL
DOE-4	01/05/2023	Ethyl acetate	0.38	37	73	US EPA RSL
DOE-4	01/05/2023	Toluene	0.088	0.9	310	DTSC HHRA NOTE 3
DOE-4	01/05/2023	Trichlorofluoromethane	0.11	1.1	1300	DTSC HHRA NOTE 3
DOE-1	01/20/2023	Chloromethane	0.11	0.65	94	US EPA RSL
DOE-1	01/20/2023	Dichlorodifluoromethane	0.11	2.7	100	US EPA RSL
DOE-1	01/20/2023	Ethyl acetate	0.34	8.0	73	US EPA RSL
DOE-1	01/20/2023	Trichlorofluoromethane	0.10	1.1	1300	DTSC HHRA NOTE 3
DOE-2	01/20/2023	Dichlorodifluoromethane	0.12	2.6	100	US EPA RSL
DOE-2	01/20/2023	Ethyl acetate	0.39	80	73	US EPA RSL
DOE-2	01/20/2023	Toluene	0.092	1.4	310	DTSC HHRA NOTE 3
DOE-2	01/20/2023	Trichlorofluoromethane	0.11	1.2	1300	DTSC HHRA NOTE 3

Location ID	Sample Date	Analyte	Method Detection Limit	Result (µg/m <sup>3</sup> )	Screening Level Value (µg/m <sup>3</sup> )	Screening Level Source
DOE-3	01/20/2023	Dichlorodifluoromethane	0.13	2.9	100	US EPA RSL
DOE-3	01/20/2023	Ethyl acetate	0.41	4.0	73	US EPA RSL
DOE-3	01/20/2023	Trichlorofluoromethane	0.12	1.3	1300	DTSC HHRA NOTE 3
DOE-4	01/20/2023	Dichlorodifluoromethane	0.12	2.8	100	US EPA RSL
DOE-4	01/20/2023	Ethyl acetate	0.37	46	73	US EPA RSL
DOE-4	01/20/2023	Toluene	0.086	0.96	310	DTSC HHRA NOTE 3
DOE-4	01/20/2023	Trichlorofluoromethane	0.11	1.3	1300	DTSC HHRA NOTE 3
DOE-4	01/20/2023	Dichlorodifluoromethane	0.11	2.9	100	US EPA RSL
DOE-4	01/20/2023	Ethyl acetate	0.35	5.6	73	US EPA RSL
DOE-4	01/20/2023	Trichlorofluoromethane	0.10	1.3	1300	DTSC HHRA NOTE 3
DOE-1	02/03/2023	Carbon disulfide	0.22	2.2	730	US EPA RSL
DOE-1	02/03/2023	Dichlorodifluoromethane	0.12	1.9	100	US EPA RSL
DOE-1	02/03/2023	Ethyl acetate	0.38	4.5	73	US EPA RSL
DOE-1	02/03/2023	Trichlorofluoromethane	0.11	0.99	1300	DTSC HHRA NOTE 3
DOE-1	02/03/2023	Dichlorodifluoromethane	0.12	1.9	100	US EPA RSL
DOE-1	02/03/2023	Ethyl acetate	0.39	4.3	73	US EPA RSL
DOE-1	02/03/2023	Trichlorofluoromethane	0.11	1.0	1300	DTSC HHRA NOTE 3
DOE-2	02/03/2023	Dichlorodifluoromethane	0.13	1.9	100	US EPA RSL
DOE-2	02/03/2023	Trichlorofluoromethane	0.12	1.0	1300	DTSC HHRA NOTE 3
DOE-3	02/03/2023	Dichlorodifluoromethane	0.12	1.8	100	US EPA RSL
DOE-3	02/03/2023	Ethyl acetate	0.38	2.9	73	US EPA RSL
DOE-3	02/03/2023	Trichlorofluoromethane	0.11	0.98	1300	DTSC HHRA NOTE 3
DOE-4	02/03/2023	Dichlorodifluoromethane	0.12	1.8	100	US EPA RSL
DOE-4	02/03/2023	Trichlorofluoromethane	0.12	0.97	1300	DTSC HHRA NOTE 3
DOE-1	02/16/2023	Dichlorodifluoromethane	0.11	2.1	100	US EPA RSL
DOE-1	02/16/2023	Ethyl acetate	0.37	9.4	73	US EPA RSL
DOE-1	02/16/2023	Trichlorofluoromethane	0.11	1.2	1300	DTSC HHRA NOTE 3
DOE-2	02/16/2023	Dichlorodifluoromethane	0.11	2.2	100	US EPA RSL
DOE-2	02/16/2023	Ethyl acetate	0.36	5.8 (;J)	73	US EPA RSL
DOE-2	02/16/2023	Trichlorofluoromethane	0.1	1.2	1300	DTSC HHRA NOTE 3
DOE-2	02/16/2023	Dichlorodifluoromethane	0.11	2.1	100	US EPA RSL

Location ID	Sample Date	Analyte	Method Detection Limit	Result (µg/m <sup>3</sup> )	Screening Level Value (µg/m <sup>3</sup> )	Screening Level Source
DOE-2	02/16/2023	Ethyl acetate	0.36	24 (J)	73	US EPA RSL
DOE-2	02/16/2023	Toluene	0.083	0.68	310	DTSC HHRA NOTE 3
DOE-2	02/16/2023	Trichlorofluoromethane	0.1	1.2	1300	DTSC HHRA NOTE 3
DOE-3	02/16/2023	Dichlorodifluoromethane	0.11	2.2	100	US EPA RSL
DOE-3	02/16/2023	Ethyl acetate	0.36	12	73	US EPA RSL
DOE-3	02/16/2023	Trichlorofluoromethane	0.1	1.2	1300	DTSC HHRA NOTE 3
DOE-4	02/16/2023	Dichlorodifluoromethane	0.11	2.1	100	US EPA RSL
DOE-4	02/16/2023	Ethyl acetate	0.37	22	73	US EPA RSL
DOE-4	02/16/2023	Toluene	0.085	1	310	DTSC HHRA NOTE 3
DOE-4	02/16/2023	Trichlorofluoromethane	0.11	1.2	1300	DTSC HHRA NOTE 3
DOE-1	03/01/2023	Dichlorodifluoromethane	0.12	2.2	100	US EPA RSL
DOE-1	03/01/2023	Ethyl acetate	0.38	13	73	US EPA RSL
DOE-1	03/01/2023	Trichlorofluoromethane	0.11	1.0	1300	DTSC HHRA NOTE 3
DOE-4	03/01/2023	Dichlorodifluoromethane	0.13	2.3	100	US EPA RSL
DOE-4	03/01/2023	Ethyl acetate	0.42	26	73	US EPA RSL
DOE-4	03/01/2023	Trichlorofluoromethane	0.12	1.1	1300	DTSC HHRA NOTE 3
DOE-2	03/01/2023	Carbon disulfide	0.22	3.4	730	US EPA RSL
DOE-2	03/01/2023	Dichlorodifluoromethane	0.12	2.2	100	US EPA RSL
DOE-2	03/01/2023	Ethyl acetate	0.38	42	73	US EPA RSL
DOE-2	03/01/2023	Toluene	0.089	0.88	310	DTSC HHRA NOTE 3
DOE-2	03/01/2023	Trichlorofluoromethane	0.11	1.0	1300	DTSC HHRA NOTE 3
DOE-3	03/01/2023	Dichlorodifluoromethane	0.12	2.3	100	US EPA RSL
DOE-3	03/01/2023	Ethyl acetate	0.39	26	73	US EPA RSL
DOE-3	03/01/2023	Trichlorofluoromethane	0.11	1.0	1300	DTSC HHRA NOTE 3
DOE-3	03/01/2023	Dichlorodifluoromethane	0.11	2.2	100	US EPA RSL
DOE-3	03/01/2023	Ethyl acetate	0.35	20	73	US EPA RSL
DOE-3	03/01/2023	Trichlorofluoromethane	0.10	1.0	1300	DTSC HHRA NOTE 3
DOE-1	03/14/2023	Carbon disulfide	0.21	2.5	730	US EPA RSL
DOE-1	03/14/2023	Dichlorodifluoromethane	0.11	2.4	100	US EPA RSL
DOE-1	03/14/2023	Ethyl acetate	0.37	31	73	US EPA RSL
DOE-1	03/14/2023	Toluene	0.086	0.91	310	DTSC HHRA NOTE 3

Location ID	Sample Date	Analyte	Method Detection Limit	Result (µg/m <sup>3</sup> )	Screening Level Value (µg/m <sup>3</sup> )	Screening Level Source
DOE-1	03/14/2023	Trichlorofluoromethane	0.11	1.2	1300	DTSC HHRA NOTE 3
DOE-2	03/14/2023	Dichlorodifluoromethane	0.12	2.4	100	US EPA RSL
DOE-2	03/14/2023	Ethyl acetate	0.38	19	73	US EPA RSL
DOE-2	03/14/2023	Trichlorofluoromethane	0.11	1.2	1300	DTSC HHRA NOTE 3
DOE-3	03/14/2023	Dichlorodifluoromethane	0.12	2.4	100	US EPA RSL
DOE-3	03/14/2023	Ethyl acetate	0.39	17	73	US EPA RSL
DOE-3	03/14/2023	Trichlorofluoromethane	0.11	1.2	1300	DTSC HHRA NOTE 3
DOE-4	03/14/2023	Dichlorodifluoromethane	0.12	2.5	100	US EPA RSL
DOE-4	03/14/2023	Ethyl acetate	0.39	38	73	US EPA RSL
DOE-4	03/14/2023	Toluene	0.090	1.2	310	DTSC HHRA NOTE 3
DOE-4	03/14/2023	Trichlorofluoromethane	0.11	1.2	1300	DTSC HHRA NOTE 3
DOE-4	03/14/2023	Dichlorodifluoromethane	0.11	2.4	100	US EPA RSL
DOE-4	03/14/2023	Ethyl acetate	0.36	22	73	US EPA RSL
DOE-4	03/14/2023	Toluene	0.083	0.95	310	DTSC HHRA NOTE 3
DOE-4	03/14/2023	Trichlorofluoromethane	0.10	1.2	1300	DTSC HHRA NOTE 3
DOE-1	03/28/2023	Dichlorodifluoromethane	0.13	2.9	100	US EPA RSL
DOE-1	03/28/2023	Ethyl acetate	0.40	55	73	US EPA RSL
DOE-1	03/28/2023	Toluene	0.094	1.2	310	DTSC HHRA NOTE 3
DOE-1	03/28/2023	Trichlorofluoromethane	0.12	1.4	1300	DTSC HHRA NOTE 3
DOE-1	03/28/2023	Dichlorodifluoromethane	0.12	2.8	100	US EPA RSL
DOE-1	03/28/2023	Ethyl acetate	0.40	12	73	US EPA RSL
DOE-1	03/28/2023	Trichlorofluoromethane	0.12	1.3	1300	DTSC HHRA NOTE 3
DOE-2	03/28/2023	1,3,5-trimethylbenzene	0.10	0.91	63	US EPA RSL
DOE-2	03/28/2023	4-ethyltoluene	0.11	0.96	-----	-----
DOE-2	03/28/2023	4-isopropyltoluene	0.11	0.85	-----	-----
DOE-2	03/28/2023	Dichlorodifluoromethane	0.12	2.6	100	US EPA RSL
DOE-2	03/28/2023	Ethyl acetate	0.37	11	73	US EPA RSL
DOE-2	03/28/2023	Hexane, n-	0.15	0.90	730	US EPA RSL
DOE-2	03/28/2023	Isopropylbenzene	0.10	0.97	420	US EPA RSL
DOE-2	03/28/2023	N-heptane	0.11	0.95	420	US EPA RSL
DOE-2	03/28/2023	N-octane	0.16	0.87	100	US EPA RSL

Location ID	Sample Date	Analyte	Method Detection Limit	Result (µg/m <sup>3</sup> )	Screening Level Value (µg/m <sup>3</sup> )	Screening Level Source
DOE-2	03/28/2023	Trichlorofluoromethane	0.11	1.3	1300	DTSC HHRA NOTE 3
DOE-3	03/28/2023	Dichlorodifluoromethane	0.13	2.7	100	US EPA RSL
DOE-3	03/28/2023	Ethyl acetate	0.41	15	73	US EPA RSL
DOE-3	03/28/2023	Trichlorofluoromethane	0.12	1.3	1300	DTSC HHRA NOTE 3
DOE-4	03/28/2023	Benzene	0.11	<b>0.89</b>	0.097	DTSC HHRA NOTE 3
DOE-4	03/28/2023	Dichlorodifluoromethane	0.12	2.6	100	US EPA RSL
DOE-4	03/28/2023	Ethyl acetate	0.40	<b>110</b>	73	US EPA RSL
DOE-4	03/28/2023	Toluene	0.093	2.7	310	DTSC HHRA NOTE 3
DOE-4	03/28/2023	Trichlorofluoromethane	0.12	1.3	1300	DTSC HHRA NOTE 3
DOE-1	04/12/2023	2-butanone	0.14	1.6	5200	US EPA RSL
DOE-1	04/12/2023	Dichlorodifluoromethane	0.11	2.6	100	US EPA RSL
DOE-1	04/12/2023	Isopropanol	0.28	1.9	210	US EPA RSL
DOE-1	04/12/2023	Toluene	0.081	0.92	310	DTSC HHRA NOTE 3
DOE-1	04/12/2023	Trichlorofluoromethane	0.1	1.3	1300	DTSC HHRA NOTE 3
DOE-2	04/12/2023	Dichlorodifluoromethane	0.15	2.6	100	US EPA RSL
DOE-2	04/12/2023	Trichlorofluoromethane	0.14	1.2	1300	DTSC HHRA NOTE 3
DOE-3	04/12/2023	Dichlorodifluoromethane	0.19	2.6	100	US EPA RSL
DOE-3	04/12/2023	Trichlorofluoromethane	0.17	1.3	1300	DTSC HHRA NOTE 3
DOE-4	04/12/2023	Dichlorodifluoromethane	0.15	2.6	100	US EPA RSL
DOE-4	04/12/2023	Trichlorofluoromethane	0.14	1.3	1300	DTSC HHRA NOTE 3
DOE-1	04/27/2023	Dichlorodifluoromethane	0.12	2.3	100	US EPA RSL
DOE-1	04/27/2023	Ethyl acetate	0.39	13	73	US EPA RSL
DOE-1	04/27/2023	Trichlorofluoromethane	0.11	1.2	1300	DTSC HHRA NOTE 3
DOE-2	04/27/2023	Dichlorodifluoromethane	0.13	2.4	100	US EPA RSL
DOE-2	04/27/2023	Ethyl acetate	0.41	14	73	US EPA RSL
DOE-2	04/27/2023	Trichlorofluoromethane	0.12	1.2	1300	DTSC HHRA NOTE 3
DOE-3	04/27/2023	Dichlorodifluoromethane	0.11	2.4	100	US EPA RSL
DOE-3	04/27/2023	Ethyl acetate	0.36	5.6	73	US EPA RSL
DOE-3	04/27/2023	Toluene	0.085	0.71	310	DTSC HHRA NOTE 3
DOE-3	04/27/2023	Trichlorofluoromethane	0.11	1.2	1300	DTSC HHRA NOTE 3
DOE-4	04/27/2023	Dichlorodifluoromethane	0.12	2.3	100	US EPA RSL

Location ID	Sample Date	Analyte	Method Detection Limit	Result (µg/m <sup>3</sup> )	Screening Level Value (µg/m <sup>3</sup> )	Screening Level Source
DOE-4	04/27/2023	Ethyl acetate	0.38	9.6	73	US EPA RSL
DOE-4	04/27/2023	Trichlorofluoromethane	0.11	1.2	1300	DTSC HHRA NOTE 3
DOE-1	05/12/2023	Dichlorodifluoromethane	0.12	1.9	100	US EPA RSL
DOE-1	05/12/2023	Ethyl acetate	0.39	52	73	US EPA RSL
DOE-1	05/12/2023	Trichlorofluoromethane	0.11	0.95	1300	DTSC HHRA NOTE 3
DOE-2	05/12/2023	Carbon disulfide	0.23	1.8	730	US EPA RSL
DOE-2	05/12/2023	Dichlorodifluoromethane	0.12	2.0	100	US EPA RSL
DOE-2	05/12/2023	Ethyl acetate	0.40	3.3	73	US EPA RSL
DOE-2	05/12/2023	Trichlorofluoromethane	0.12	0.97	1300	DTSC HHRA NOTE 3
DOE-3	05/12/2023	Dichlorodifluoromethane	0.12	2.0	100	US EPA RSL
DOE-3	05/12/2023	Ethyl acetate	0.39	55	73	US EPA RSL
DOE-3	05/12/2023	Toluene	0.090	0.80	310	DTSC HHRA NOTE 3
DOE-3	05/12/2023	Trichlorofluoromethane	0.11	1.0	1300	DTSC HHRA NOTE 3
DOE-4	05/12/2023	Dichlorodifluoromethane	0.13	2.0	100	US EPA RSL
DOE-4	05/12/2023	Ethyl acetate	0.41	8.0	73	US EPA RSL
DOE-4	05/12/2023	Trichlorofluoromethane	0.12	0.98	1300	DTSC HHRA NOTE 3
DOE-1	05/26/2023	Dichlorodifluoromethane	0.12	1.6	100	US EPA RSL
DOE-1	05/26/2023	Ethyl acetate	0.40	61	73	US EPA RSL
DOE-2	05/26/2023	Dichlorodifluoromethane	0.13	1.6	100	US EPA RSL
DOE-2	05/26/2023	Ethyl acetate	0.43	53	73	US EPA RSL
DOE-3	05/26/2023	Carbon disulfide	0.21	1.6	730	US EPA RSL
DOE-3	05/26/2023	Dichlorodifluoromethane	0.11	1.7	100	US EPA RSL
DOE-3	05/26/2023	Ethyl acetate	0.36	64	73	US EPA RSL
DOE-3	05/26/2023	Toluene	0.084	0.80	310	DTSC HHRA NOTE 3
DOE-3	05/26/2023	Trichlorofluoromethane	0.10	0.79	1300	DTSC HHRA NOTE 3
DOE-4	05/26/2023	Dichlorodifluoromethane	0.11	1.6	100	US EPA RSL
DOE-4	05/26/2023	Ethyl acetate	0.36	41	73	US EPA RSL
DOE-4	05/26/2023	Trichlorofluoromethane	0.10	0.76	1300	DTSC HHRA NOTE 3
DOE-1	06/08/2023	Dichlorodifluoromethane	0.12	2.4	100	US EPA RSL
DOE-1	06/08/2023	Ethyl acetate	0.39	12	73	US EPA RSL
DOE-1	06/08/2023	Trichlorofluoromethane	0.11	1.2	1300	DTSC HHRA NOTE 3

Location ID	Sample Date	Analyte	Method Detection Limit	Result (µg/m <sup>3</sup> )	Screening Level Value (µg/m <sup>3</sup> )	Screening Level Source
DOE-2	06/08/2023	Dichlorodifluoromethane	0.13	2.4	100	US EPA RSL
DOE-2	06/08/2023	Trichlorofluoromethane	0.12	1.2	1300	DTSC HHRA NOTE 3
DOE-3	06/08/2023	Dichlorodifluoromethane	0.12	2.4	100	US EPA RSL
DOE-3	06/08/2023	Trichlorofluoromethane	0.11	1.2	1300	DTSC HHRA NOTE 3
DOE-4	06/08/2023	Dichlorodifluoromethane	0.13	2.5	100	US EPA RSL
DOE-4	06/08/2023	Trichlorofluoromethane	0.12	1.2	1300	DTSC HHRA NOTE 3
DOE-1	06/21/2023	Ethyl acetate	0.35	8.7	73	US EPA RSL
DOE-1	06/21/2023	Trichlorofluoromethane	0.1	1.1	1300	DTSC HHRA NOTE 3
DOE-2	06/21/2023	Ethyl acetate	0.39	5.4	73	US EPA RSL
DOE-2	06/21/2023	Trichlorofluoromethane	0.11	1.1	1300	DTSC HHRA NOTE 3
DOE-3	06/21/2023	Ethyl acetate	0.39	3.5 (;J)	73	US EPA RSL
DOE-3	06/21/2023	Trichlorofluoromethane	0.11	1.2	1300	DTSC HHRA NOTE 3
DOE-4	06/21/2023	Ethyl acetate	0.38	25	73	US EPA RSL
DOE-4	06/21/2023	Trichlorofluoromethane	0.11	1.2	1300	DTSC HHRA NOTE 3
DOE-1	07/06/2023	Dichlorodifluoromethane	0.12	2.5	100	US EPA RSL
DOE-1	07/06/2023	Ethyl acetate	0.40	3.5	73	US EPA RSL
DOE-1	07/06/2023	Trichlorofluoromethane	0.12	1.3	1300	DTSC HHRA NOTE 3
DOE-2	07/06/2023	Dichlorodifluoromethane	0.11	2.5	100	US EPA RSL
DOE-2	07/06/2023	Ethyl acetate	0.37	25	73	US EPA RSL
DOE-2	07/06/2023	Trichlorofluoromethane	0.11	1.3	1300	DTSC HHRA NOTE 3
DOE-3	07/06/2023	Dichlorodifluoromethane	0.14	2.4	100	US EPA RSL
DOE-3	07/06/2023	Trichlorofluoromethane	0.13	1.3	1300	DTSC HHRA NOTE 3
DOE-4	07/06/2023	Dichlorodifluoromethane	0.13	2.4	100	US EPA RSL
DOE-4	07/06/2023	Ethyl acetate	0.43	8.8	73	US EPA RSL
DOE-4	07/06/2023	Trichlorofluoromethane	0.12	1.3	1300	DTSC HHRA NOTE 3
DOE-1	07/18/2023	Dichlorodifluoromethane	0.15	2.5	100	US EPA RSL
DOE-1	07/18/2023	Trichlorofluoromethane	0.14	1.3	1300	DTSC HHRA NOTE 3
DOE-2	07/18/2023	Dichlorodifluoromethane	0.13	2.6	100	US EPA RSL
DOE-2	07/18/2023	Ethyl acetate	0.42	7.1	73	US EPA RSL
DOE-2	07/18/2023	Trichlorofluoromethane	0.12	1.4	1300	DTSC HHRA NOTE 3
DOE-3	07/18/2023	Dichlorodifluoromethane	0.14	2.6	100	US EPA RSL

Location ID	Sample Date	Analyte	Method Detection Limit	Result (µg/m <sup>3</sup> )	Screening Level Value (µg/m <sup>3</sup> )	Screening Level Source
DOE-3	07/18/2023	Ethyl acetate	0.45	5.5	73	US EPA RSL
DOE-3	07/18/2023	Trichlorofluoromethane	0.13	1.4	1300	DTSC HHRA NOTE 3
DOE-4	07/18/2023	Dichlorodifluoromethane	0.13	2.6	100	US EPA RSL
DOE-4	07/18/2023	Trichlorofluoromethane	0.12	1.4	1300	DTSC HHRA NOTE 3
DOE-1	08/04/2023	Dichlorodifluoromethane	0.13	2.2	100	US EPA RSL
DOE-1	08/04/2023	Ethyl acetate	0.41	22	73	US EPA RSL
DOE-1	08/04/2023	Hexane, n-	0.16	1.2	730	US EPA RSL
DOE-1	08/04/2023	Tetrahydrofuran	0.098	0.90	2100	US EPA RSL
DOE-1	08/04/2023	Toluene	0.095	0.87	310	DTSC HHRA NOTE 3
DOE-1	08/04/2023	Trichlorofluoromethane	0.12	1.0	1300	DTSC HHRA NOTE 3
DOE-2	08/04/2023	Dichlorodifluoromethane	0.13	2.1	100	US EPA RSL
DOE-2	08/04/2023	Ethyl acetate	0.42	7.6	73	US EPA RSL
DOE-2	08/04/2023	Trichlorofluoromethane	0.12	1.0	1300	DTSC HHRA NOTE 3
DOE-3	08/04/2023	Dichlorodifluoromethane	0.14	2.2	100	US EPA RSL
DOE-3	08/04/2023	Ethyl acetate	0.46	8.7	73	US EPA RSL
DOE-3	08/04/2023	Trichlorofluoromethane	0.13	1.0	1300	DTSC HHRA NOTE 3
DOE-4	08/04/2023	Dichlorodifluoromethane	0.13	2.2	100	US EPA RSL
DOE-4	08/04/2023	Trichlorofluoromethane	0.12	1.0	1300	DTSC HHRA NOTE 3
DOE-1	08/17/2023	Dichlorodifluoromethane	0.15	2.1	100	US EPA RSL
DOE-1	08/17/2023	Ethyl acetate	0.49	17	73	US EPA RSL
DOE-1	08/17/2023	Trichlorofluoromethane	0.14	1.2	1300	DTSC HHRA NOTE 3
DOE-2	08/17/2023	2-butanone	0.16	1.7	5200	US EPA RSL
DOE-2	08/17/2023	Dichlorodifluoromethane	0.12	2.7	100	US EPA RSL
DOE-2	08/17/2023	Ethyl acetate	0.4	7.7	73	US EPA RSL
DOE-2	08/17/2023	Trichlorofluoromethane	0.12	1.2	1300	DTSC HHRA NOTE 3
DOE-3	08/17/2023	Dichlorodifluoromethane	0.13	2.4	100	US EPA RSL
DOE-3	08/17/2023	Ethyl acetate	0.43	9.3 (;J)	73	US EPA RSL
DOE-3	08/17/2023	Trichlorofluoromethane	0.12	1 (;J)	1300	DTSC HHRA NOTE 3
DOE-4	08/17/2023	Dichlorodifluoromethane	0.13	2.9	100	US EPA RSL
DOE-4	08/17/2023	Ethyl acetate	0.41	5.3	73	US EPA RSL
DOE-4	08/17/2023	Trichlorofluoromethane	0.12	1.3	1300	DTSC HHRA NOTE 3

Location ID	Sample Date	Analyte	Method Detection Limit	Result (µg/m <sup>3</sup> )	Screening Level Value (µg/m <sup>3</sup> )	Screening Level Source
DOE-1	09/01/2023	Dichlorodifluoromethane	0.11	1.8	100	US EPA RSL
DOE-1	09/01/2023	Ethyl acetate	0.36	8.0	73	US EPA RSL
DOE-1	09/01/2023	Trichlorofluoromethane	0.10	0.89	1300	DTSC HHRA NOTE 3
DOE-2	09/01/2023	Dichlorodifluoromethane	0.14	1.9	100	US EPA RSL
DOE-2	09/01/2023	Ethyl acetate	0.45	10	73	US EPA RSL
DOE-2	09/01/2023	Trichlorofluoromethane	0.13	0.90	1300	DTSC HHRA NOTE 3
DOE-3	09/01/2023	Ethyl acetate	0.41	27	73	US EPA RSL
DOE-3	09/01/2023	Toluene	0.096	0.97	310	DTSC HHRA NOTE 3
DOE-3	09/01/2023	Trichlorofluoromethane	0.12	0.85	1300	DTSC HHRA NOTE 3
DOE-4	09/01/2023	Dichlorodifluoromethane	0.13	1.6	100	US EPA RSL
DOE-4	09/01/2023	Ethyl acetate	0.41	5.1	73	US EPA RSL
DOE-1	09/15/2023	Dichlorodifluoromethane	0.14	1.9	100	US EPA RSL
DOE-1	09/15/2023	Ethyl acetate	0.44	4.5	73	US EPA RSL
DOE-1	09/15/2023	Trichlorofluoromethane	0.13	0.93	1300	DTSC HHRA NOTE 3
DOE-2	09/15/2023	Dichlorodifluoromethane	0.15	2	100	US EPA RSL
DOE-2	09/15/2023	Ethyl acetate	0.47	5.2	73	US EPA RSL
DOE-2	09/15/2023	Trichlorofluoromethane	0.14	0.96	1300	DTSC HHRA NOTE 3
DOE-3	09/15/2023	Benzene	0.13	1.4	0.097	DTSC HHRA NOTE 3
DOE-3	09/15/2023	Dichlorodifluoromethane	0.14	2	100	US EPA RSL
DOE-3	09/15/2023	Trichlorofluoromethane	0.13	0.95	1300	DTSC HHRA NOTE 3
DOE-4	09/15/2023	Dichlorodifluoromethane	0.13	2	100	US EPA RSL
DOE-4	09/15/2023	Ethyl acetate	0.43	8.8	73	US EPA RSL
DOE-4	09/15/2023	Trichlorofluoromethane	0.12	0.95	1300	DTSC HHRA NOTE 3
DOE-1	09/28/2023	Dichlorodifluoromethane	0.13	1.9	100	US EPA RSL
DOE-1	09/28/2023	Ethyl acetate	0.41	6.5	73	US EPA RSL
DOE-1	09/28/2023	Trichlorofluoromethane	0.12	0.91	1300	DTSC HHRA NOTE 3
DOE-2	09/28/2023	Dichlorodifluoromethane	0.13	1.9	100	US EPA RSL
DOE-2	09/28/2023	Ethyl acetate	0.42	3.9	73	US EPA RSL
DOE-2	09/28/2023	Trichlorofluoromethane	0.12	0.90	1300	DTSC HHRA NOTE 3
DOE-3	09/28/2023	Dichlorodifluoromethane	0.13	1.9	100	US EPA RSL
DOE-3	09/28/2023	Ethyl acetate	0.42	5.4	73	US EPA RSL

Location ID	Sample Date	Analyte	Method Detection Limit	Result (µg/m <sup>3</sup> )	Screening Level Value (µg/m <sup>3</sup> )	Screening Level Source
DOE-3	09/28/2023	Trichlorofluoromethane	0.12	0.93	1300	DTSC HHRA NOTE 3
DOE-4	09/28/2023	Dichlorodifluoromethane	0.11	1.9	100	US EPA RSL
DOE-4	09/28/2023	Ethyl acetate	0.35	5.1	73	US EPA RSL
DOE-4	09/28/2023	Trichlorofluoromethane	0.10	0.92	1300	DTSC HHRA NOTE 3
DOE-1	10/11/2023	Dichlorodifluoromethane	0.13	2.1	100	US EPA RSL
DOE-1	10/11/2023	Ethyl acetate	0.41	17	73	US EPA RSL
DOE-1	10/11/2023	Trichlorofluoromethane	0.12	1.0	1300	DTSC HHRA NOTE 3
DOE-2	10/11/2023	Dichlorodifluoromethane	0.14	2.1	100	US EPA RSL
DOE-2	10/11/2023	Ethyl acetate	0.44	15	73	US EPA RSL
DOE-2	10/11/2023	Trichlorofluoromethane	0.13	0.98	1300	DTSC HHRA NOTE 3
DOE-3	10/11/2023	Dichlorodifluoromethane	0.14	2.1	100	US EPA RSL
DOE-3	10/11/2023	Ethyl acetate	0.45	25	73	US EPA RSL
DOE-3	10/11/2023	Trichlorofluoromethane	0.13	1.0	1300	DTSC HHRA NOTE 3
DOE-4	10/11/2023	1,2,4-trimethylbenzene	0.12	1.7	63	US EPA RSL
DOE-4	10/11/2023	1,2-dimethyl-benzene	0.12	4.0	100	US EPA RSL
DOE-4	10/11/2023	Dichlorodifluoromethane	0.14	2.1	100	US EPA RSL
DOE-4	10/11/2023	Ethyl acetate	0.45	6.6	73	US EPA RSL
DOE-4	10/11/2023	Ethylbenzene	0.12	<b>2.1</b>	1.1	US EPA RSL
DOE-4	10/11/2023	M-xylene & p-xylene	0.22	9.2	100	US EPA RSL
DOE-4	10/11/2023	Trichlorofluoromethane	0.13	0.98	1300	DTSC HHRA NOTE 3
DOE-4	10/11/2023	Xylenes, total	0.22	13	100	US EPA RSL
DOE-1	10/24/2023	Chloroform	0.11	<b>0.69</b>	0.12	US EPA RSL
DOE-1	10/24/2023	Dichlorodifluoromethane	0.13	2.1	100	US EPA RSL
DOE-1	10/24/2023	Ethyl acetate	0.43	43	73	US EPA RSL
DOE-1	10/24/2023	Toluene	0.099	0.95	310	DTSC HHRA NOTE 3
DOE-1	10/24/2023	Trichlorofluoromethane	0.12	1.1	1300	DTSC HHRA NOTE 3
DOE-2	10/24/2023	Dichlorodifluoromethane	0.13	2.1	100	US EPA RSL
DOE-2	10/24/2023	Ethyl acetate	0.41	50	73	US EPA RSL
DOE-2	10/24/2023	Toluene	0.096	0.8	310	DTSC HHRA NOTE 3
DOE-2	10/24/2023	Trichlorofluoromethane	0.12	0.98	1300	DTSC HHRA NOTE 3
DOE-3	10/24/2023	Dichlorodifluoromethane	0.11	2.1	100	US EPA RSL

Location ID	Sample Date	Analyte	Method Detection Limit	Result (µg/m <sup>3</sup> )	Screening Level Value (µg/m <sup>3</sup> )	Screening Level Source
DOE-3	10/24/2023	Ethyl acetate	0.36	59	73	US EPA RSL
DOE-3	10/24/2023	Trichlorofluoromethane	0.1	0.97	1300	DTSC HHRA NOTE 3
DOE-4	10/24/2023	Dichlorodifluoromethane	0.13	2.1	100	US EPA RSL
DOE-4	10/24/2023	Ethyl acetate	0.41	13 (;J)	73	US EPA RSL
DOE-4	10/24/2023	Trichlorofluoromethane	0.12	0.96	1300	DTSC HHRA NOTE 3
DOE-1	11/07/2023	Dichlorodifluoromethane	0.13	1.9	100	US EPA RSL
DOE-1	11/07/2023	Ethyl acetate	0.43	<b>110</b>	73	US EPA RSL
DOE-1	11/07/2023	Toluene	0.099	1.2	310	DTSC HHRA NOTE 3
DOE-1	11/07/2023	Trichlorofluoromethane	0.12	0.89	1300	DTSC HHRA NOTE 3
DOE-2	11/07/2023	Dichlorodifluoromethane	0.13	1.9	100	US EPA RSL
DOE-2	11/07/2023	Ethyl acetate	0.42	19	73	US EPA RSL
DOE-2	11/07/2023	Trichlorofluoromethane	0.12	0.92	1300	DTSC HHRA NOTE 3
DOE-3	11/07/2023	Dichlorodifluoromethane	0.13	1.9	100	US EPA RSL
DOE-3	11/07/2023	Ethyl acetate	0.43	41	73	US EPA RSL
DOE-3	11/07/2023	Trichlorofluoromethane	0.13	0.91	1300	DTSC HHRA NOTE 3
DOE-4	11/07/2023	Dichlorodifluoromethane	0.13	1.8	100	US EPA RSL
DOE-4	11/07/2023	Ethyl acetate	0.42	<b>120</b>	73	US EPA RSL
DOE-4	11/07/2023	Toluene	0.097	1.6	310	DTSC HHRA NOTE 3
DOE-4	11/07/2023	Trichlorofluoromethane	0.12	0.88	1300	DTSC HHRA NOTE 3
DOE-1	11/21/2023	Dichlorodifluoromethane	0.12	2.5	100	US EPA RSL
DOE-1	11/21/2023	Ethyl acetate	0.39	34	73	US EPA RSL
DOE-1	11/21/2023	Methylene chloride	0.21	0.84	1	DTSC HHRA NOTE 3
DOE-1	11/21/2023	Toluene	0.092	1.2	310	DTSC HHRA NOTE 3
DOE-1	11/21/2023	Trichlorofluoromethane	0.11	1.3	1300	DTSC HHRA NOTE 3
DOE-2	11/21/2023	Dichlorodifluoromethane	0.13	2.7	100	US EPA RSL
DOE-2	11/21/2023	Ethyl acetate	0.43	4.4	73	US EPA RSL
DOE-2	11/21/2023	Trichlorofluoromethane	0.12	1.3	1300	DTSC HHRA NOTE 3
DOE-3	11/21/2023	Dichlorodifluoromethane	0.13	2.6	100	US EPA RSL
DOE-3	11/21/2023	Ethyl acetate	0.42	8.6	73	US EPA RSL
DOE-3	11/21/2023	Trichlorofluoromethane	0.12	1.4	1300	DTSC HHRA NOTE 3
DOE-4	11/21/2023	Dichlorodifluoromethane	0.13	2.7	100	US EPA RSL

Location ID	Sample Date	Analyte	Method Detection Limit	Result (µg/m <sup>3</sup> )	Screening Level Value (µg/m <sup>3</sup> )	Screening Level Source
DOE-4	11/21/2023	Ethyl acetate	0.42	17	73	US EPA RSL
DOE-4	11/21/2023	Toluene	0.098	0.90	310	DTSC HHRA NOTE 3
DOE-4	11/21/2023	Trichlorofluoromethane	0.12	1.3	1300	DTSC HHRA NOTE 3
DOE-1	12/06/2023	Dichlorodifluoromethane	0.14	1.9	100	US EPA RSL
DOE-1	12/06/2023	Ethyl acetate	0.45	8.3	73	US EPA RSL
DOE-1	12/06/2023	Trichlorofluoromethane	0.13	0.94	1300	DTSC HHRA NOTE 3
DOE-2	12/06/2023	Dichlorodifluoromethane	0.13	2.0	100	US EPA RSL
DOE-2	12/06/2023	Ethyl acetate	0.43	62	73	US EPA RSL
DOE-2	12/06/2023	Toluene	0.10	0.85	310	DTSC HHRA NOTE 3
DOE-2	12/06/2023	Trichlorofluoromethane	0.13	0.98	1300	DTSC HHRA NOTE 3
DOE-3	12/06/2023	Dichlorodifluoromethane	0.14	2.0	100	US EPA RSL
DOE-3	12/06/2023	Ethyl acetate	0.46	4.4	73	US EPA RSL
DOE-3	12/06/2023	Trichlorofluoromethane	0.13	0.96	1300	DTSC HHRA NOTE 3
DOE-4	12/06/2023	Dichlorodifluoromethane	0.14	2.0	100	US EPA RSL
DOE-4	12/06/2023	Ethyl acetate	0.44	11	73	US EPA RSL
DOE-4	12/06/2023	Trichlorofluoromethane	0.13	0.94	1300	DTSC HHRA NOTE 3
DOE-1	12/15/2023	Dichlorodifluoromethane	0.11	2.1	100	US EPA RSL
DOE-1	12/15/2023	Ethyl acetate	0.36	12	73	US EPA RSL
DOE-1	12/15/2023	Trichlorofluoromethane	0.11	1	1300	DTSC HHRA NOTE 3
DOE-2	12/15/2023	Dichlorodifluoromethane	0.13	1.9	100	US EPA RSL
DOE-2	12/15/2023	Ethyl acetate	0.42	36	73	US EPA RSL
DOE-2	12/15/2023	Trichlorofluoromethane	0.12	0.85	1300	DTSC HHRA NOTE 3
DOE-3	12/15/2023	Dichlorodifluoromethane	0.12	2.1	100	US EPA RSL
DOE-3	12/15/2023	Ethyl acetate	0.39	23	73	US EPA RSL
DOE-3	12/15/2023	Trichlorofluoromethane	0.11	0.96	1300	DTSC HHRA NOTE 3
DOE-4	12/15/2023	Dichlorodifluoromethane	0.13	2.1	100	US EPA RSL
DOE-4	12/15/2023	Ethyl acetate	0.43	16 (;J)	73	US EPA RSL
DOE-4	12/15/2023	Trichlorofluoromethane	0.13	0.95	1300	DTSC HHRA NOTE 3
DOE-1	01/04/2024	Dichlorodifluoromethane	0.12	2.2	100	US EPA RSL
DOE-1	01/04/2024	Ethyl acetate	0.38	14	73	US EPA RSL
DOE-1	01/04/2024	Trichlorofluoromethane	0.11	1.1	1300	DTSC HHRA NOTE 3

Location ID	Sample Date	Analyte	Method Detection Limit	Result (µg/m <sup>3</sup> )	Screening Level Value (µg/m <sup>3</sup> )	Screening Level Source
DOE-2	01/04/2024	Dichlorodifluoromethane	0.13	2.2	100	US EPA RSL
DOE-2	01/04/2024	Ethyl acetate	0.41	22	73	US EPA RSL
DOE-2	01/04/2024	Trichlorofluoromethane	0.12	1.1	1300	DTSC HHRA NOTE 3
DOE-3	01/04/2024	Dichlorodifluoromethane	0.13	2.2	100	US EPA RSL
DOE-3	01/04/2024	Ethyl acetate	0.42	26	73	US EPA RSL
DOE-3	01/04/2024	Toluene	0.097	1.0	310	DTSC HHRA NOTE 3
DOE-3	01/04/2024	Trichlorofluoromethane	0.12	1.1	1300	DTSC HHRA NOTE 3
DOE-4	01/04/2024	Dichlorodifluoromethane	0.13	2.1	100	US EPA RSL
DOE-4	01/04/2024	Ethyl acetate	0.41	100	73	US EPA RSL
DOE-4	01/04/2024	Trichlorofluoromethane	0.12	1.0	1300	DTSC HHRA NOTE 3

Notes:

Bold text and gray-shaded boxes indicate detection above reporting limit, and also exceeds the EPA or DTSC Screening Level.

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

**APPENDIX C**  
**Radiological Results**

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Table C-1. Gross alpha and gross beta air sample results for air samplers, Q23

Quarter	Air Station ID	Sample Collection Date	Gross Alpha (μCi/mL)	Gross Alpha MDC (μCi/mL)	Gross Beta (μCi/mL)	Gross Beta MDC (μCi/mL)
<b>Sample Location – DOE-1</b>						
Q23	DOE-1	10/2/2023	-1.85E-15	6.79E-15	2.42E-14	2.86E-14
Q23	DOE-1	10/6/2023	5.97E-16	5.23E-15	3.33E-14	2.20E-14
Q23	DOE-1	10/9/2023	1.11E-15	6.86E-15	5.08E-14	2.89E-14
Q23	DOE-1	10/13/2023	-4.08E-16	5.15E-15	3.11E-14	2.17E-14
Q23	DOE-1	10/16/2023	-8.88E-16	6.96E-15	3.81E-14	2.93E-14
Q23	DOE-1	10/20/2023	4.21E-15	5.32E-15	7.86E-14	2.24E-14
Q23	DOE-1	10/23/2023	-2.06E-16	6.67E-15	3.13E-14	2.81E-14
Q23	DOE-1	10/27/2023	-2.21E-15	5.30E-15	5.16E-14	2.23E-14
Q23	DOE-1	10/30/2023	-3.07E-15	6.58E-15	4.49E-14	2.77E-14
Q23	DOE-1	11/2/2023	1.87E-15	6.63E-15	7.13E-14	3.03E-14
Q23	DOE-1	11/6/2023	4.21E-15	4.65E-15	1.20E-13	2.13E-14
Q23	DOE-1	11/10/2023	1.10E-16	4.80E-15	-4.53E-15	2.20E-14
Q23	DOE-1	11/13/2023	3.12E-15	6.37E-15	7.10E-14	2.91E-14
Q23	DOE-1	11/17/2023	1.11E-16	4.86E-15	3.76E-14	2.22E-14
Q23	DOE-1	11/20/2023	1.79E-15	6.34E-15	-1.79E-14	2.90E-14
Q23	DOE-1	11/22/2023	-2.99E-15	1.04E-14	-1.89E-14	4.74E-14
Q23	DOE-1	11/27/2023	-3.05E-16	3.77E-15	6.22E-14	1.72E-14
Q23	DOE-1	12/1/2023	5.20E-15	5.09E-15	8.02E-14	2.22E-14
Q23	DOE-1	12/4/2023	2.45E-15	6.62E-15	2.57E-14	2.89E-14
Q23	DOE-1	12/8/2023	2.10E-15	5.00E-15	3.40E-14	2.18E-14
Q23	DOE-1	12/11/2023	-8.63E-16	6.63E-15	1.79E-14	2.89E-14
Q23	DOE-1	12/15/2023	-4.08E-16	5.09E-15	7.03E-14	2.22E-14
Q23	DOE-1	12/18/2023	4.37E-15	6.51E-15	1.03E-13	2.84E-14
Q23	DOE-1	12/20/2023	-2.39E-15	1.04E-14	1.68E-14	4.54E-14
<b>Sample Location – DOE-2</b>						
Q23	DOE-2	10/2/2023	-3.18E-15	6.81E-15	3.41E-14	2.87E-14
Q23	DOE-2	10/6/2023	2.12E-15	5.23E-15	4.90E-14	2.20E-14
Q23	DOE-2	10/9/2023	4.10E-15	6.86E-15	8.63E-14	2.89E-14
Q23	DOE-2	10/13/2023	2.58E-15	5.14E-15	4.26E-14	2.17E-14
Q23	DOE-2	10/16/2023	1.47E-15	6.96E-15	1.46E-14	2.93E-14
Q23	DOE-2	10/20/2023	1.64E-15	5.32E-15	6.64E-14	2.24E-14
Q23	DOE-2	10/23/2023	7.61E-16	6.67E-15	1.30E-14	2.81E-14
Q23	DOE-2	10/27/2023	-1.70E-15	5.28E-15	4.43E-14	2.23E-14

Quarter	Air Station ID	Sample Collection Date	Gross Alpha (µCi/mL)	Gross Alpha MDC (µCi/mL)	Gross Beta (µCi/mL)	Gross Beta MDC (µCi/mL)
Q23	DOE-2	10/30/2023	-5.51E-16	6.95E-15	4.13E-14	2.93E-14
Q23	DOE-2	11/2/2023	1.12E-15	6.26E-15	6.88E-14	2.86E-14
Q23	DOE-2	11/6/2023	3.73E-15	4.65E-15	1.01E-13	2.13E-14
Q23	DOE-2	11/10/2023	-1.14E-15	4.81E-15	-2.94E-15	2.20E-14
Q23	DOE-2	11/13/2023	3.78E-15	6.37E-15	7.91E-14	2.91E-14
Q23	DOE-2	11/17/2023	-3.94E-16	4.86E-15	7.70E-14	2.22E-14
Q23	DOE-2	11/20/2023	-8.44E-16	6.34E-15	-2.80E-17	2.90E-14
Q23	DOE-2	11/22/2023	-4.07E-15	1.04E-14	4.86E-14	4.74E-14
Q23	DOE-2	11/27/2023	6.74E-16	3.77E-15	6.93E-14	1.72E-14
Q23	DOE-2	12/1/2023	7.74E-15	5.09E-15	7.38E-14	2.22E-14
Q23	DOE-2	12/4/2023	3.45E-15	6.62E-15	4.50E-14	2.89E-14
Q23	DOE-2	12/8/2023	1.60E-15	5.00E-15	3.26E-14	2.18E-14
Q23	DOE-2	12/11/2023	1.13E-15	6.61E-15	1.04E-14	2.89E-14
Q23	DOE-2	12/15/2023	7.25E-15	5.10E-15	5.58E-14	2.23E-14
Q23	DOE-2	12/18/2023	5.36E-15	6.53E-15	1.36E-13	2.85E-14
Q23	DOE-2	12/20/2023	1.25E-15	1.04E-14	5.87E-14	4.53E-14
Sample Location – DOE-3						
Q23	DOE-3	10/2/2023	-2.18E-15	6.80E-15	1.29E-14	2.87E-14
Q23	DOE-3	10/6/2023	1.87E-15	5.25E-15	5.90E-14	2.21E-14
Q23	DOE-3	10/9/2023	3.76E-15	6.85E-15	5.93E-14	2.89E-14
Q23	DOE-3	10/13/2023	1.08E-15	5.14E-15	3.06E-14	2.17E-14
Q23	DOE-3	10/16/2023	-1.90E-15	6.96E-15	1.28E-14	2.93E-14
Q23	DOE-3	10/20/2023	2.93E-15	5.33E-15	5.61E-14	2.25E-14
Q23	DOE-3	10/23/2023	-1.50E-15	6.69E-15	9.21E-15	2.82E-14
Q23	DOE-3	10/27/2023	-2.72E-15	5.28E-15	3.31E-14	2.23E-14
Q23	DOE-3	10/30/2023	-3.24E-15	6.95E-15	2.29E-14	2.93E-14
Q23	DOE-3	11/2/2023	1.01E-14	6.63E-15	5.42E-14	3.03E-14
Q23	DOE-3	11/6/2023	5.90E-15	4.64E-15	9.93E-14	2.12E-14
Q23	DOE-3	11/10/2023	5.11E-15	4.81E-15	6.62E-15	2.20E-14
Q23	DOE-3	11/13/2023	4.11E-15	6.37E-15	5.27E-14	2.91E-14
Q23	DOE-3	11/17/2023	6.15E-16	4.85E-15	3.81E-14	2.22E-14
Q23	DOE-3	11/20/2023	-8.45E-16	6.35E-15	2.56E-14	2.90E-14
Q23	DOE-3	11/22/2023	-3.53E-15	1.04E-14	1.60E-14	4.73E-14
Q23	DOE-3	11/27/2023	8.69E-16	3.77E-15	5.81E-14	1.72E-14
Q23	DOE-3	12/1/2023	1.18E-14	5.08E-15	9.56E-14	2.22E-14

Quarter	Air Station ID	Sample Collection Date	Gross Alpha (μCi/mL)	Gross Alpha MDC (μCi/mL)	Gross Beta (μCi/mL)	Gross Beta MDC (μCi/mL)
Q23	DOE-3	12/4/2023	4.78E-15	6.64E-15	6.19E-14	2.90E-14
Q23	DOE-3	12/8/2023	3.35E-15	5.00E-15	4.23E-14	2.18E-14
Q23	DOE-3	12/11/2023	1.13E-15	6.62E-15	1.86E-14	2.89E-14
Q23	DOE-3	12/18/2023	5.46E-15	6.66E-15	1.10E-13	2.91E-14
Q23	DOE-3	12/20/2023	-1.90E-15	1.05E-14	2.90E-14	4.60E-14
<b>Sample Location – DOE-4</b>						
Q23	DOE-4	10/2/2023	2.43E-15	6.81E-15	-1.40E-14	2.87E-14
Q23	DOE-4	10/6/2023	2.12E-15	5.25E-15	2.66E-14	2.21E-14
Q23	DOE-4	10/9/2023	2.44E-15	6.85E-15	4.97E-14	2.89E-14
Q23	DOE-4	10/13/2023	-1.80E-15	1.02E-14	5.06E-14	4.30E-14
Q23	DOE-4	10/16/2023	1.13E-15	6.96E-15	2.80E-14	2.93E-14
Q23	DOE-4	10/20/2023	1.64E-15	5.35E-15	8.12E-14	2.25E-14
Q23	DOE-4	10/23/2023	-8.62E-16	6.75E-15	4.79E-14	2.84E-14
Q23	DOE-4	10/27/2023	-1.18E-15	5.28E-15	2.54E-14	2.22E-14
Q23	DOE-4	10/30/2023	-8.87E-16	6.94E-15	4.53E-14	2.93E-14
Q23	DOE-4	11/2/2023	6.69E-15	6.63E-15	2.45E-14	3.03E-14
Q23	DOE-4	11/6/2023	5.89E-15	4.64E-15	1.02E-13	2.12E-14
Q23	DOE-4	11/10/2023	1.86E-15	4.81E-15	-7.73E-15	2.20E-14
Q23	DOE-4	11/13/2023	4.78E-15	6.37E-15	6.93E-14	2.91E-14
Q23	DOE-4	11/17/2023	2.38E-15	4.85E-15	4.58E-14	2.22E-14
Q23	DOE-4	11/20/2023	-4.80E-15	6.35E-15	-2.46E-14	2.90E-14
Q23	DOE-4	11/22/2023	-4.60E-15	1.03E-14	-2.33E-15	4.73E-14
Q23	DOE-4	11/27/2023	1.85E-15	3.77E-15	4.75E-14	1.72E-14
Q23	DOE-4	12/1/2023	5.54E-15	5.17E-15	6.39E-14	2.21E-14
Q23	DOE-4	12/4/2023	-5.42E-16	6.76E-15	4.04E-14	2.89E-14
Q23	DOE-4	12/8/2023	-1.53E-16	5.09E-15	4.01E-14	2.18E-14
Q23	DOE-4	12/11/2023	-1.49E-15	8.27E-15	1.31E-14	3.54E-14
Q23	DOE-4	12/15/2023	2.96E-15	5.19E-15	8.60E-14	2.22E-14
Q23	DOE-4	12/18/2023	2.79E-15	6.63E-15	8.55E-14	2.84E-14
Q23	DOE-4	12/20/2023	-1.87E-15	1.04E-14	2.70E-14	4.45E-14

Note: Results less than the MDC are noted in the table as negative numbers.

Table C-2. Gross alpha and gross beta air sample results for air samplers, Q20–Q23.

Quarter	Air Station ID	Sample Collection Date	Result Alpha (µCi/mL)	MDC – Alpha (µCi/mL)	Result Beta (µCi/mL)	MDC – Beta (µCi/mL)
<b>Sample location DOE-1</b>						
Q20	DOE-1	1/3/2023	1.91E-15	2.62E-15	2.12E-14	1.15E-14
Q20	DOE-1	1/6/2023	-3.82E-15	6.44E-15	2.07E-14	2.84E-14
Q20	DOE-1	1/10/2023	8.76E-17	4.78E-15	3.33E-15	2.11E-14
Q20	DOE-1	1/13/2023	-1.94E-15	6.76E-15	-7.61E-15	2.98E-14
Q20	DOE-1	1/17/2023	-1.11E-15	4.69E-15	-8.55E-15	2.07E-14
Q20	DOE-1	1/23/2023	-7.80E-16	3.30E-15	5.84E-15	1.46E-14
Q20	DOE-1	1/27/2023	-1.60E-16	4.90E-15	5.25E-16	2.16E-14
Q20	DOE-1	1/30/2023	-8.72E-16	6.49E-15	2.50E-14	2.86E-14
Q20	DOE-1	2/3/2023	1.12E-15	5.04E-15	1.62E-14	2.24E-14
Q20	DOE-1	2/6/2023	-3.56E-15	6.56E-15	-1.11E-14	2.91E-14
Q20	DOE-1	2/10/2023	-6.76E-16	5.03E-15	3.17E-15	2.23E-14
Q20	DOE-1	2/13/2023	-1.56E-15	6.60E-15	-1.40E-14	2.93E-14
Q20	DOE-1	2/17/2023	6.02E-16	5.01E-15	9.37E-15	2.22E-14
Q20	DOE-1	2/20/2023	1.27E-16	6.94E-15	8.87E-15	3.08E-14
Q20	DOE-1	2/23/2023	1.12E-15	6.54E-15	3.05E-14	2.90E-14
Q20	DOE-1	2/28/2023	-1.92E-15	3.92E-15	7.96E-15	1.74E-14
Q20	DOE-1	3/3/2023	1.27E-15	6.72E-15	-8.78E-15	2.96E-14
Q20	DOE-1	3/7/2023	-3.11E-16	4.98E-15	1.01E-14	2.19E-14
Q20	DOE-1	3/9/2023	-1.10E-15	9.78E-15	-3.81E-14	4.31E-14
Q20	DOE-1	3/13/2023	1.95E-16	5.09E-15	-1.32E-14	2.24E-14
Q20	DOE-1	3/17/2023	-2.80E-15	4.95E-15	-5.14E-15	2.18E-14
Q20	DOE-1	3/20/2023	-7.57E-16	6.71E-15	1.11E-14	2.96E-14
Q20	DOE-1	3/23/2023	-2.76E-15	6.64E-15	-2.73E-14	2.93E-14
Q20	DOE-1	3/27/2023	1.54E-15	5.30E-15	3.22E-14	2.34E-14
Q20	DOE-1	3/31/2023	-1.03E-15	4.82E-15	2.28E-15	2.13E-14
Q21	DOE-1	4/4/2023	-1.28E-15	4.94E-15	-1.14E-15	2.22E-14
Q21	DOE-1	4/7/2023	-1.68E-15	6.47E-15	-8.27E-15	2.91E-14
Q21	DOE-1	4/10/2023	1.25E-15	6.13E-15	3.17E-14	2.76E-14
Q21	DOE-1	4/14/2023	1.31E-15	5.12E-15	1.12E-14	2.31E-14
Q21	DOE-1	4/17/2023	-6.56E-16	6.24E-15	1.33E-14	2.81E-14
Q21	DOE-1	4/21/2023	2.42E-15	4.73E-15	1.97E-14	2.13E-14
Q21	DOE-1	4/24/2023	9.63E-16	6.32E-15	1.52E-14	2.84E-14
Q21	DOE-1	4/28/2023	-2.71E-16	5.06E-15	3.87E-14	2.27E-14
Q21	DOE-1	5/2/2023	-1.70E-15	4.85E-15	-1.43E-15	2.16E-14
Q21	DOE-1	5/5/2023	3.07E-16	6.72E-15	-1.78E-14	2.99E-14

Quarter	Air Station ID	Sample Collection Date	Result Alpha (μCi/mL)	MDC – Alpha (μCi/mL)	Result Beta (μCi/mL)	MDC – Beta (μCi/mL)
Q21	DOE-1	5/8/2023	-6.90E-16	6.69E-15	-3.52E-14	2.98E-14
Q21	DOE-1	5/12/2023	-1.31E-15	5.19E-15	6.88E-16	2.31E-14
Q21	DOE-1	5/15/2023	6.22E-16	6.52E-15	7.84E-15	2.91E-14
Q21	DOE-1	5/19/2023	-1.27E-15	5.04E-15	2.41E-14	2.25E-14
Q21	DOE-1	5/22/2023	-2.35E-15	6.68E-15	1.71E-16	2.98E-14
Q21	DOE-1	5/26/2023	-1.04E-15	5.11E-15	2.83E-14	2.28E-14
Q21	DOE-1	5/30/2023	-1.94E-15	4.84E-15	3.75E-15	2.16E-14
Q21	DOE-1	6/2/2023	-3.74E-15	7.13E-15	-1.23E-14	3.13E-14
Q21	DOE-1	6/5/2023	-1.60E-15	6.82E-15	-6.12E-15	2.99E-14
Q21	DOE-1	6/8/2023	-6.28E-16	6.94E-15	5.92E-15	3.05E-14
Q21	DOE-1	6/12/2023	-3.11E-15	5.43E-15	-5.44E-15	2.39E-14
Q21	DOE-1	6/16/2023	2.30E-15	5.23E-15	-5.23E-15	2.30E-14
Q21	DOE-1	6/19/2023	7.15E-16	7.00E-15	5.61E-15	3.07E-14
Q21	DOE-1	6/23/2023	-6.74E-16	4.86E-15	-5.86E-15	2.13E-14
Q21	DOE-1	6/26/2023	-2.29E-15	6.90E-15	1.55E-14	3.03E-14
Q21	DOE-1	6/30/2023	-1.03E-15	5.52E-15	-1.26E-15	2.42E-14
Q22	DOE-1	7/3/2023	4.35E-16	6.61E-15	1.44E-14	2.73E-14
Q22	DOE-1	7/7/2023	-2.48E-15	5.32E-15	2.93E-14	2.20E-14
Q22	DOE-1	7/10/2023	-1.21E-15	6.90E-15	9.14E-15	2.85E-14
Q22	DOE-1	7/14/2023	8.80E-16	5.42E-15	4.63E-14	2.24E-14
Q22	DOE-1	7/17/2023	2.06E-15	6.68E-15	5.31E-14	2.76E-14
Q22	DOE-1	7/21/2023	1.62E-15	5.27E-15	3.04E-14	2.18E-14
Q22	DOE-1	7/24/2023	4.64E-16	7.05E-15	1.18E-14	2.91E-14
Q22	DOE-1	7/28/2023	9.05E-16	5.57E-15	6.33E-14	2.30E-14
Q22	DOE-1	7/31/2023	7.73E-16	6.77E-15	3.19E-14	2.80E-14
Q22	DOE-1	8/4/2023	1.83E-15	4.99E-15	3.01E-14	2.14E-14
Q22	DOE-1	8/7/2023	1.47E-15	6.71E-15	3.28E-14	2.88E-14
Q22	DOE-1	8/11/2023	-6.39E-16	5.07E-15	2.67E-14	2.18E-14
Q22	DOE-1	8/15/2023	1.37E-15	5.13E-15	2.61E-14	2.20E-14
Q22	DOE-1	8/18/2023	8.13E-16	6.77E-15	7.88E-15	2.91E-14
Q22	DOE-1	8/22/2023	1.40E-15	5.24E-15	8.86E-15	2.25E-14
Q22	DOE-1	8/25/2023	1.47E-16	6.79E-15	1.61E-14	2.92E-14
Q22	DOE-1	8/28/2023	1.43E-16	6.60E-15	5.69E-14	2.84E-14
Q22	DOE-1	9/1/2023	5.17E-16	5.09E-15	2.52E-14	2.23E-14
Q22	DOE-1	9/5/2023	5.32E-16	5.25E-15	-4.66E-15	2.30E-14
Q22	DOE-1	9/8/2023	-1.35E-15	6.84E-15	-1.73E-15	3.00E-14
Q22	DOE-1	9/11/2023	6.64E-16	6.54E-15	1.57E-14	2.87E-14

Quarter	Air Station ID	Sample Collection Date	Result Alpha (μCi/mL)	MDC – Alpha (μCi/mL )	Result Beta (μCi/mL )	MDC – Beta (μCi/mL )
Q22	DOE-1	9/15/2023	1.96E-15	4.89E-15	2.44E-14	2.14E-14
Q22	DOE-1	9/18/2023	-2.60E-15	6.57E-15	-6.18E-15	2.88E-14
Q22	DOE-1	9/22/2023	-7.61E-16	5.17E-15	2.47E-14	2.27E-14
Q22	DOE-1	9/25/2023	1.96E-15	6.54E-15	4.62E-14	2.86E-14
Q22	DOE-1	9/29/2023	2.73E-16	5.28E-15	3.08E-14	2.31E-14
Q23	DOE-1	10/2/2023	-1.85E-15	6.79E-15	2.42E-14	2.86E-14
Q23	DOE-1	10/6/2023	5.97E-16	5.23E-15	3.33E-14	2.20E-14
Q23	DOE-1	10/9/2023	1.11E-15	6.86E-15	5.08E-14	2.89E-14
Q23	DOE-1	10/13/2023	-4.08E-16	5.15E-15	3.11E-14	2.17E-14
Q23	DOE-1	10/16/2023	-8.88E-16	6.96E-15	3.81E-14	2.93E-14
Q23	DOE-1	10/20/2023	4.21E-15	5.32E-15	7.86E-14	2.24E-14
Q23	DOE-1	10/23/2023	-2.06E-16	6.67E-15	3.13E-14	2.81E-14
Q23	DOE-1	10/27/2023	-2.21E-15	5.30E-15	5.16E-14	2.23E-14
Q23	DOE-1	10/30/2023	-3.07E-15	6.58E-15	4.49E-14	2.77E-14
Q23	DOE-1	11/2/2023	1.87E-15	6.63E-15	7.13E-14	3.03E-14
Q23	DOE-1	11/6/2023	4.21E-15	4.65E-15	1.20E-13	2.13E-14
Q23	DOE-1	11/10/2023	1.10E-16	4.80E-15	-4.53E-15	2.20E-14
Q23	DOE-1	11/13/2023	3.12E-15	6.37E-15	7.10E-14	2.91E-14
Q23	DOE-1	11/17/2023	1.11E-16	4.86E-15	3.76E-14	2.22E-14
Q23	DOE-1	11/20/2023	1.79E-15	6.34E-15	-1.79E-14	2.90E-14
Q23	DOE-1	11/22/2023	-2.99E-15	1.04E-14	-1.89E-14	4.74E-14
Q23	DOE-1	11/27/2023	-3.05E-16	3.77E-15	6.22E-14	1.72E-14
Q23	DOE-1	12/1/2023	5.20E-15	5.09E-15	8.02E-14	2.22E-14
Q23	DOE-1	12/4/2023	2.45E-15	6.62E-15	2.57E-14	2.89E-14
Q23	DOE-1	12/8/2023	2.10E-15	5.00E-15	3.40E-14	2.18E-14
Q23	DOE-1	12/11/2023	-8.63E-16	6.63E-15	1.79E-14	2.89E-14
Q23	DOE-1	12/15/2023	-4.08E-16	5.09E-15	7.03E-14	2.22E-14
Q23	DOE-1	12/18/2023	4.37E-15	6.51E-15	1.03E-13	2.84E-14
Q23	DOE-1	12/20/2023	-2.39E-15	1.04E-14	1.68E-14	4.54E-14
Sample location DOE-2						
Q20	DOE-2	1/3/2023	1.77E-15	2.42E-15	2.11E-14	1.07E-14
Q20	DOE-2	1/6/2023	-1.85E-15	6.43E-15	1.07E-14	2.83E-14
Q20	DOE-2	1/10/2023	8.76E-17	4.78E-15	9.73E-15	2.11E-14
Q20	DOE-2	1/13/2023	-5.65E-16	6.76E-15	2.94E-14	2.98E-14
Q20	DOE-2	1/17/2023	-1.53E-16	4.69E-15	-2.76E-15	2.07E-14
Q20	DOE-2	1/23/2023	-1.12E-15	3.30E-15	9.19E-15	1.45E-14
Q20	DOE-2	1/27/2023	-2.91E-15	4.90E-15	4.99E-15	2.16E-14

Quarter	Air Station ID	Sample Collection Date	Result Alpha (µCi/mL)	MDC – Alpha (µCi/mL )	Result Beta (µCi/mL )	MDC – Beta (µCi/mL )
Q20	DOE-2	1/30/2023	-8.73E-16	6.49E-15	6.96E-16	2.86E-14
Q20	DOE-2	2/3/2023	-1.64E-16	5.04E-15	2.11E-14	2.24E-14
Q20	DOE-2	2/6/2023	-2.14E-16	6.57E-15	2.75E-14	2.91E-14
Q20	DOE-2	2/10/2023	-1.64E-16	5.03E-15	2.32E-14	2.23E-14
Q20	DOE-2	2/13/2023	1.80E-15	6.59E-15	1.27E-14	2.93E-14
Q20	DOE-2	2/17/2023	-6.74E-16	5.01E-15	2.61E-14	2.22E-14
Q20	DOE-2	2/20/2023	-2.00E-15	6.95E-15	3.47E-14	3.09E-14
Q20	DOE-2	2/23/2023	-1.54E-15	6.53E-15	9.39E-15	2.90E-14
Q20	DOE-2	2/28/2023	-2.52E-15	3.92E-15	-5.34E-15	1.74E-14
Q20	DOE-2	3/3/2023	2.57E-16	6.73E-15	1.62E-14	2.97E-14
Q20	DOE-2	3/7/2023	-5.61E-16	4.97E-15	2.35E-14	2.19E-14
Q20	DOE-2	3/9/2023	-2.09E-15	9.78E-15	2.99E-14	4.31E-14
Q20	DOE-2	3/13/2023	-1.34E-15	5.09E-15	-6.58E-17	2.24E-14
Q20	DOE-2	3/17/2023	-1.56E-15	4.96E-15	-1.93E-14	2.19E-14
Q20	DOE-2	3/20/2023	-8.11E-17	6.71E-15	-8.10E-16	2.96E-14
Q20	DOE-2	3/23/2023	-1.75E-15	6.64E-15	-2.19E-14	2.93E-14
Q20	DOE-2	3/27/2023	-6.41E-17	5.30E-15	5.31E-14	2.34E-14
Q20	DOE-2	3/31/2023	-2.73E-15	4.82E-15	2.27E-15	2.12E-14
Q21	DOE-2	4/4/2023	2.28E-15	4.94E-15	-1.56E-14	2.22E-14
Q21	DOE-2	4/7/2023	6.52E-16	6.46E-15	2.77E-14	2.91E-14
Q21	DOE-2	4/10/2023	2.83E-15	6.13E-15	4.79E-14	2.76E-14
Q21	DOE-2	4/14/2023	-8.02E-16	5.13E-15	3.92E-14	2.31E-14
Q21	DOE-2	4/17/2023	-2.90E-15	6.23E-15	1.71E-14	2.81E-14
Q21	DOE-2	4/21/2023	2.34E-16	4.73E-15	3.59E-14	2.13E-14
Q21	DOE-2	4/24/2023	-1.96E-15	6.32E-15	-8.77E-15	2.84E-14
Q21	DOE-2	4/28/2023	-7.91E-16	5.05E-15	1.34E-15	2.27E-14
Q21	DOE-2	5/2/2023	-2.60E-16	4.85E-15	3.49E-14	2.16E-14
Q21	DOE-2	5/5/2023	-1.69E-15	6.72E-15	-4.85E-15	2.99E-14
Q21	DOE-2	5/8/2023	3.05E-16	6.68E-15	1.37E-14	2.98E-14
Q21	DOE-2	5/12/2023	-2.59E-15	5.17E-15	2.67E-14	2.31E-14
Q21	DOE-2	5/15/2023	1.27E-15	6.53E-15	-6.47E-15	2.91E-14
Q21	DOE-2	5/19/2023	-2.52E-15	5.04E-15	1.17E-14	2.25E-14
Q21	DOE-2	5/22/2023	-3.34E-15	6.68E-15	-1.98E-14	2.97E-14
Q21	DOE-2	5/26/2023	3.79E-15	5.11E-15	1.16E-14	2.28E-14
Q21	DOE-2	5/30/2023	-2.60E-16	4.85E-15	1.26E-14	2.16E-14
Q21	DOE-2	6/2/2023	-2.70E-15	7.12E-15	6.44E-15	3.13E-14
Q21	DOE-2	6/5/2023	3.94E-17	6.82E-15	1.92E-14	3.00E-14

Quarter	Air Station ID	Sample Collection Date	Result Alpha (μCi/mL)	MDC – Alpha (μCi/mL)	Result Beta (μCi/mL)	MDC – Beta (μCi/mL)
Q21	DOE-2	6/8/2023	7.09E-16	6.94E-15	2.09E-14	3.05E-14
Q21	DOE-2	6/12/2023	-4.92E-16	5.43E-15	3.12E-14	2.39E-14
Q21	DOE-2	6/16/2023	-2.23E-15	5.22E-15	-1.20E-14	2.29E-14
Q21	DOE-2	6/19/2023	-3.67E-15	7.00E-15	-1.53E-14	3.07E-14
Q21	DOE-2	6/23/2023	-1.84E-15	4.86E-15	5.64E-15	2.13E-14
Q21	DOE-2	6/26/2023	-9.56E-16	6.89E-15	1.99E-16	3.03E-14
Q21	DOE-2	6/30/2023	-2.62E-15	5.51E-15	1.15E-14	2.42E-14
Q22	DOE-2	7/3/2023	1.71E-15	6.61E-15	4.95E-14	2.73E-14
Q22	DOE-2	7/7/2023	3.43E-15	5.31E-15	4.46E-14	2.19E-14
Q22	DOE-2	7/10/2023	-5.46E-16	6.89E-15	2.83E-14	2.85E-14
Q22	DOE-2	7/14/2023	8.80E-16	5.42E-15	7.17E-14	2.24E-14
Q22	DOE-2	7/17/2023	1.09E-15	6.69E-15	2.17E-14	2.76E-14
Q22	DOE-2	7/21/2023	2.13E-15	5.27E-15	2.46E-14	2.18E-14
Q22	DOE-2	7/24/2023	1.23E-16	7.05E-15	2.50E-14	2.91E-14
Q22	DOE-2	7/28/2023	-1.25E-15	5.57E-15	6.17E-14	2.30E-14
Q22	DOE-2	7/31/2023	2.73E-15	6.76E-15	2.47E-14	2.79E-14
Q22	DOE-2	8/4/2023	6.00E-16	4.99E-15	3.09E-14	2.14E-14
Q22	DOE-2	8/7/2023	2.46E-15	6.72E-15	5.22E-14	2.89E-14
Q22	DOE-2	8/11/2023	1.36E-15	5.08E-15	4.82E-14	2.18E-14
Q22	DOE-2	8/15/2023	3.39E-15	5.13E-15	4.85E-14	2.20E-14
Q22	DOE-2	8/18/2023	4.80E-16	6.77E-15	4.91E-14	2.91E-14
Q22	DOE-2	8/22/2023	-9.18E-16	5.24E-15	2.01E-14	2.25E-14
Q22	DOE-2	8/25/2023	-1.86E-15	6.79E-15	2.86E-14	2.92E-14
Q22	DOE-2	8/28/2023	-1.16E-15	6.60E-15	4.30E-14	2.84E-14
Q22	DOE-2	9/1/2023	3.05E-15	5.09E-15	4.11E-14	2.23E-14
Q22	DOE-2	9/5/2023	-1.03E-15	5.25E-15	1.87E-14	2.30E-14
Q22	DOE-2	9/8/2023	-1.01E-15	6.84E-15	4.25E-14	3.00E-14
Q22	DOE-2	9/11/2023	1.97E-15	6.54E-15	4.83E-14	2.87E-14
Q22	DOE-2	9/15/2023	-7.20E-16	4.89E-15	2.18E-14	2.14E-14
Q22	DOE-2	9/18/2023	-1.29E-15	6.56E-15	-5.13E-15	2.87E-14
Q22	DOE-2	9/22/2023	1.30E-15	5.17E-15	2.72E-14	2.27E-14
Q22	DOE-2	9/25/2023	9.89E-16	6.54E-15	4.79E-14	2.87E-14
Q22	DOE-2	9/29/2023	1.05E-17	5.26E-15	2.57E-14	2.31E-14
Q23	DOE-2	10/2/2023	-3.18E-15	6.81E-15	3.41E-14	2.87E-14
Q23	DOE-2	10/6/2023	2.12E-15	5.23E-15	4.90E-14	2.20E-14
Q23	DOE-2	10/9/2023	4.10E-15	6.86E-15	8.63E-14	2.89E-14
Q23	DOE-2	10/13/2023	2.58E-15	5.14E-15	4.26E-14	2.17E-14

Quarter	Air Station ID	Sample Collection Date	Result Alpha (µCi/mL)	MDC – Alpha (µCi/mL)	Result Beta (µCi/mL)	MDC – Beta (µCi/mL)
Q23	DOE-2	10/16/2023	1.47E-15	6.96E-15	1.46E-14	2.93E-14
Q23	DOE-2	10/20/2023	1.64E-15	5.32E-15	6.64E-14	2.24E-14
Q23	DOE-2	10/23/2023	7.61E-16	6.67E-15	1.30E-14	2.81E-14
Q23	DOE-2	10/27/2023	-1.70E-15	5.28E-15	4.43E-14	2.23E-14
Q23	DOE-2	10/30/2023	-5.51E-16	6.95E-15	4.13E-14	2.93E-14
Q23	DOE-2	11/2/2023	1.12E-15	6.26E-15	6.88E-14	2.86E-14
Q23	DOE-2	11/6/2023	3.73E-15	4.65E-15	1.01E-13	2.13E-14
Q23	DOE-2	11/10/2023	-1.14E-15	4.81E-15	-2.94E-15	2.20E-14
Q23	DOE-2	11/13/2023	3.78E-15	6.37E-15	7.91E-14	2.91E-14
Q23	DOE-2	11/17/2023	-3.94E-16	4.86E-15	7.70E-14	2.22E-14
Q23	DOE-2	11/20/2023	-8.44E-16	6.34E-15	-2.80E-17	2.90E-14
Q23	DOE-2	11/22/2023	-4.07E-15	1.04E-14	4.86E-14	4.74E-14
Q23	DOE-2	11/27/2023	6.74E-16	3.77E-15	6.93E-14	1.72E-14
Q23	DOE-2	12/1/2023	7.74E-15	5.09E-15	7.38E-14	2.22E-14
Q23	DOE-2	12/4/2023	3.45E-15	6.62E-15	4.50E-14	2.89E-14
Q23	DOE-2	12/8/2023	1.60E-15	5.00E-15	3.26E-14	2.18E-14
Q23	DOE-2	12/11/2023	1.13E-15	6.61E-15	1.04E-14	2.89E-14
Q23	DOE-2	12/15/2023	7.25E-15	5.10E-15	5.58E-14	2.23E-14
Q23	DOE-2	12/18/2023	5.36E-15	6.53E-15	1.36E-13	2.85E-14
Q23	DOE-2	12/20/2023	1.25E-15	1.04E-14	5.87E-14	4.53E-14
<b>Sample location DOE-3</b>						
Q20	DOE-3	1/3/2023	1.28E-15	2.69E-15	1.93E-14	1.18E-14
Q20	DOE-3	1/6/2023	-2.83E-15	6.42E-15	-6.88E-15	2.83E-14
Q20	DOE-3	1/10/2023	-3.45E-15	7.03E-15	2.60E-14	3.10E-14
Q20	DOE-3	1/13/2023	-9.10E-16	6.77E-15	2.32E-14	2.98E-14
Q20	DOE-3	1/17/2023	—	—	—	—
Q20	DOE-3	1/23/2023	1.07E-15	3.30E-15	7.07E-15	1.45E-14
Q20	DOE-3	1/27/2023	-6.59E-16	4.90E-15	1.31E-14	2.16E-14
Q20	DOE-3	1/30/2023	-5.43E-16	6.50E-15	1.11E-14	2.86E-14
Q20	DOE-3	2/3/2023	1.38E-15	5.04E-15	5.72E-14	2.24E-14
Q20	DOE-3	2/6/2023	-1.89E-15	6.57E-15	1.62E-14	2.92E-14
Q20	DOE-3	2/10/2023	-1.64E-16	5.03E-15	3.44E-15	2.23E-14
Q20	DOE-3	2/13/2023	-1.56E-15	6.59E-15	3.45E-15	2.93E-14
Q20	DOE-3	2/17/2023	-1.44E-15	5.01E-15	1.56E-14	2.22E-14
Q20	DOE-3	2/20/2023	-5.81E-16	6.96E-15	5.19E-14	3.09E-14
Q20	DOE-3	2/23/2023	-1.87E-15	6.52E-15	1.08E-14	2.89E-14
Q20	DOE-3	2/28/2023	-2.03E-15	4.62E-15	-1.15E-14	2.05E-14

Quarter	Air Station ID	Sample Collection Date	Result Alpha (µCi/mL)	MDC – Alpha (µCi/mL)	Result Beta (µCi/mL)	MDC – Beta (µCi/mL)
Q20	DOE-3	3/3/2023	-2.03E-15	7.70E-15	-3.99E-14	3.39E-14
Q20	DOE-3	3/7/2023	-1.31E-15	4.97E-15	2.30E-14	2.19E-14
Q20	DOE-3	3/9/2023	-1.60E-15	9.78E-15	2.41E-14	4.31E-14
Q20	DOE-3	3/13/2023	-2.91E-15	7.00E-15	-2.05E-14	3.09E-14
Q20	DOE-3	3/17/2023	-1.72E-15	8.04E-15	-2.22E-14	3.55E-14
Q20	DOE-3	3/20/2023	-2.78E-15	6.71E-15	-4.06E-15	2.96E-14
Q20	DOE-3	3/23/2023	-1.75E-14	3.09E-14	-8.86E-14	1.36E-13
Q20	DOE-3	3/27/2023	-8.66E-16	5.31E-15	2.31E-14	2.34E-14
Q20	DOE-3	3/31/2023	6.67E-16	4.80E-15	-5.23E-15	2.11E-14
Q21	DOE-3	4/4/2023	-1.29E-15	4.96E-15	2.81E-14	2.23E-14
Q21	DOE-3	4/7/2023	9.84E-16	6.46E-15	9.89E-15	2.90E-14
Q21	DOE-3	4/10/2023	-1.26E-17	6.14E-15	1.35E-14	2.76E-14
Q21	DOE-3	4/14/2023	-1.60E-15	5.13E-15	2.85E-14	2.31E-14
Q21	DOE-3	4/17/2023	-6.55E-16	6.23E-15	2.98E-14	2.80E-14
Q21	DOE-3	4/21/2023	2.34E-16	4.73E-15	8.29E-15	2.13E-14
Q21	DOE-3	4/24/2023	-3.26E-15	6.32E-15	6.19E-15	2.84E-14
Q21	DOE-3	4/28/2023	-7.91E-16	5.05E-15	1.75E-14	2.27E-14
Q21	DOE-3	5/2/2023	-1.22E-15	4.85E-15	-2.99E-15	2.16E-14
Q21	DOE-3	5/5/2023	-4.42E-15	8.04E-15	-7.10E-15	3.58E-14
Q21	DOE-3	5/8/2023	-2.01E-15	6.66E-15	1.76E-14	2.97E-14
Q21	DOE-3	5/12/2023	-1.31E-15	5.19E-15	-3.47E-15	2.31E-14
Q21	DOE-3	5/15/2023	-1.65E-15	6.54E-15	1.22E-15	2.91E-14
Q21	DOE-3	5/19/2023	1.48E-15	5.04E-15	1.58E-14	2.25E-14
Q21	DOE-3	5/22/2023	-3.01E-15	6.68E-15	-1.66E-14	2.98E-14
Q21	DOE-3	5/26/2023	-5.28E-16	5.11E-15	-5.34E-15	2.28E-14
Q21	DOE-3	5/30/2023	-2.91E-15	4.85E-15	4.01E-15	2.16E-14
Q21	DOE-3	6/2/2023	-3.02E-16	7.12E-15	-2.47E-14	3.13E-14
Q21	DOE-3	6/5/2023	-9.46E-16	6.82E-15	-3.32E-15	3.00E-14
Q21	DOE-3	6/8/2023	1.38E-15	6.94E-15	2.17E-14	3.05E-14
Q21	DOE-3	6/12/2023	-2.30E-16	5.43E-15	7.16E-16	2.39E-14
Q21	DOE-3	6/16/2023	-7.25E-16	5.22E-15	-2.08E-14	2.29E-14
Q21	DOE-3	6/19/2023	-9.71E-16	7.00E-15	-4.85E-15	3.08E-14
Q21	DOE-3	6/23/2023	-1.61E-15	4.86E-15	-2.06E-14	2.13E-14
Q21	DOE-3	6/26/2023	-6.24E-16	6.89E-15	-1.19E-14	3.03E-14
Q21	DOE-3	6/30/2023	-2.35E-15	5.50E-15	-2.39E-15	2.42E-14
Q22	DOE-3	7/3/2023	-1.49E-15	6.64E-15	4.44E-15	2.74E-14
Q22	DOE-3	7/7/2023	-9.35E-16	5.31E-15	4.41E-14	2.19E-14

Quarter	Air Station ID	Sample Collection Date	Result Alpha (µCi/mL)	MDC – Alpha (µCi/mL )	Result Beta (µCi/mL )	MDC – Beta (µCi/mL )
Q22	DOE-3	7/10/2023	7.86E-16	6.89E-15	4.15E-14	2.84E-14
Q22	DOE-3	7/14/2023	8.65E-16	5.32E-15	3.75E-14	2.27E-14
Q22	DOE-3	7/17/2023	4.33E-16	6.58E-15	4.09E-14	2.80E-14
Q22	DOE-3	7/21/2023	5.91E-16	5.18E-15	4.65E-14	2.21E-14
Q22	DOE-3	7/24/2023	-8.83E-16	6.91E-15	1.09E-14	2.95E-14
Q22	DOE-3	7/28/2023	1.69E-15	5.48E-15	4.29E-14	2.34E-14
Q22	DOE-3	7/31/2023	-2.45E-15	6.63E-15	3.40E-14	2.83E-14
Q22	DOE-3	8/4/2023	5.02E-15	4.99E-15	5.64E-14	2.15E-14
Q22	DOE-3	8/7/2023	3.12E-15	6.72E-15	2.19E-14	2.89E-14
Q22	DOE-3	8/11/2023	8.60E-16	5.08E-15	2.75E-14	2.18E-14
Q22	DOE-3	8/15/2023	3.39E-15	5.13E-15	6.25E-14	2.20E-14
Q22	DOE-3	8/18/2023	3.48E-15	6.77E-15	4.91E-14	2.91E-14
Q22	DOE-3	8/22/2023	-1.12E-15	6.39E-15	7.37E-16	2.74E-14
Q22	DOE-3	8/25/2023	4.82E-16	6.80E-15	-2.07E-15	2.92E-14
Q22	DOE-3	8/28/2023	-2.46E-15	6.60E-15	2.05E-14	2.84E-14
Q22	DOE-3	9/1/2023	1.53E-15	5.09E-15	2.33E-14	2.23E-14
Q22	DOE-3	9/5/2023	5.33E-16	5.25E-15	2.01E-14	2.30E-14
Q22	DOE-3	9/8/2023	-1.35E-15	6.84E-15	3.42E-14	3.00E-14
Q22	DOE-3	9/11/2023	3.27E-15	6.54E-15	2.75E-14	2.87E-14
Q22	DOE-3	9/15/2023	1.71E-15	4.89E-15	3.33E-14	2.14E-14
Q22	DOE-3	9/18/2023	3.39E-16	6.56E-15	5.99E-15	2.87E-14
Q22	DOE-3	9/22/2023	-1.53E-15	5.17E-15	2.83E-14	2.27E-14
Q22	DOE-3	9/25/2023	-1.61E-15	6.54E-15	3.02E-14	2.87E-14
Q22	DOE-3	9/29/2023	-1.82E-15	5.26E-15	9.81E-15	2.30E-14
Q23	DOE-3	10/3/2022	2.47E-15	6.43E-15	1.21E-14	2.96E-14
Q23	DOE-3	10/7/2022	9.74E-15	4.82E-15	9.18E-14	2.21E-14
Q23	DOE-3	10/2/2023	-2.18E-15	6.80E-15	1.29E-14	2.87E-14
Q23	DOE-3	10/6/2023	1.87E-15	5.25E-15	5.90E-14	2.21E-14
Q23	DOE-3	10/9/2023	3.76E-15	6.85E-15	5.93E-14	2.89E-14
Q23	DOE-3	10/13/2023	1.08E-15	5.14E-15	3.06E-14	2.17E-14
Q23	DOE-3	10/16/2023	-1.90E-15	6.96E-15	1.28E-14	2.93E-14
Q23	DOE-3	10/20/2023	2.93E-15	5.33E-15	5.61E-14	2.25E-14
Q23	DOE-3	10/23/2023	-1.50E-15	6.69E-15	9.21E-15	2.82E-14
Q23	DOE-3	10/27/2023	-2.72E-15	5.28E-15	3.31E-14	2.23E-14
Q23	DOE-3	10/30/2023	-3.24E-15	6.95E-15	2.29E-14	2.93E-14
Q23	DOE-3	11/2/2023	1.01E-14	6.63E-15	5.42E-14	3.03E-14
Q23	DOE-3	11/6/2023	5.90E-15	4.64E-15	9.93E-14	2.12E-14

Quarter	Air Station ID	Sample Collection Date	Result Alpha (µCi/mL)	MDC – Alpha (µCi/mL)	Result Beta (µCi/mL)	MDC – Beta (µCi/mL)
Q23	DOE-3	11/10/2023	5.11E-15	4.81E-15	6.62E-15	2.20E-14
Q23	DOE-3	11/13/2023	4.11E-15	6.37E-15	5.27E-14	2.91E-14
Q23	DOE-3	11/17/2023	6.15E-16	4.85E-15	3.81E-14	2.22E-14
Q23	DOE-3	11/20/2023	-8.45E-16	6.35E-15	2.56E-14	2.90E-14
Q23	DOE-3	11/22/2023	-3.53E-15	1.04E-14	1.60E-14	4.73E-14
Q23	DOE-3	11/27/2023	8.69E-16	3.77E-15	5.81E-14	1.72E-14
Q23	DOE-3	12/1/2023	1.18E-14	5.08E-15	9.56E-14	2.22E-14
Q23	DOE-3	12/4/2023	4.78E-15	6.64E-15	6.19E-14	2.90E-14
Q23	DOE-3	12/8/2023	3.35E-15	5.00E-15	4.23E-14	2.18E-14
Q23	DOE-3	12/11/2023	1.13E-15	6.62E-15	1.86E-14	2.89E-14
Q23	DOE-3	12/18/2023	5.46E-15	6.66E-15	1.10E-13	2.91E-14
<b>Sample location DOE-4</b>						
Q20	DOE-4	1/3/2023	5.37E-16	2.42E-15	1.88E-14	1.07E-14
Q20	DOE-4	1/6/2023	1.17E-16	6.39E-15	-1.51E-14	2.82E-14
Q20	DOE-4	1/10/2023	-2.83E-15	4.78E-15	3.58E-15	2.11E-14
Q20	DOE-4	1/13/2023	8.19E-16	6.82E-15	-2.52E-14	3.01E-14
Q20	DOE-4	1/17/2023	-1.35E-15	4.69E-15	1.16E-14	2.07E-14
Q20	DOE-4	1/23/2023	2.41E-15	3.30E-15	1.68E-14	1.45E-14
Q20	DOE-4	1/27/2023	2.83E-15	4.90E-15	1.94E-14	2.16E-14
Q20	DOE-4	1/30/2023	1.11E-15	6.50E-15	1.15E-14	2.87E-14
Q20	DOE-4	2/3/2023	1.63E-15	5.04E-15	1.27E-14	2.24E-14
Q20	DOE-4	2/6/2023	-1.55E-15	6.57E-15	-2.35E-14	2.92E-14
Q20	DOE-4	2/10/2023	-1.64E-16	5.03E-15	8.05E-15	2.23E-14
Q20	DOE-4	2/13/2023	-2.15E-16	6.59E-15	-4.71E-15	2.93E-14
Q20	DOE-4	2/17/2023	9.19E-17	5.01E-15	2.18E-14	2.23E-14
Q20	DOE-4	2/20/2023	-2.00E-15	6.96E-15	2.54E-14	3.09E-14
Q20	DOE-4	2/23/2023	-2.87E-15	6.52E-15	2.52E-14	2.89E-14
Q20	DOE-4	2/28/2023	-1.53E-15	3.92E-15	-1.27E-14	1.74E-14
Q20	DOE-4	3/3/2023	-2.11E-15	6.72E-15	-2.76E-14	2.96E-14
Q20	DOE-4	3/7/2023	-1.57E-15	4.98E-15	2.17E-14	2.20E-14
Q20	DOE-4	3/9/2023	-5.54E-15	9.78E-15	-4.55E-14	4.31E-14
Q20	DOE-4	3/13/2023	-2.88E-15	5.08E-15	9.80E-15	2.24E-14
Q20	DOE-4	3/17/2023	-8.09E-16	4.96E-15	-1.45E-14	2.18E-14
Q20	DOE-4	3/20/2023	-1.10E-15	6.71E-15	2.41E-14	2.96E-14
Q20	DOE-4	3/23/2023	-1.41E-15	6.62E-15	3.27E-14	2.92E-14
Q20	DOE-4	3/27/2023	-3.32E-16	5.32E-15	8.24E-15	2.35E-14
Q20	DOE-4	3/31/2023	-7.82E-16	4.79E-15	4.85E-15	2.11E-14

Quarter	Air Station ID	Sample Collection Date	Result Alpha (µCi/mL)	MDC – Alpha (µCi/mL)	Result Beta (µCi/mL)	MDC – Beta (µCi/mL)
Q21	DOE-4	4/4/2023	1.27E-15	4.96E-15	1.66E-14	2.23E-14
Q21	DOE-4	4/7/2023	1.32E-15	6.46E-15	9.18E-15	2.91E-14
Q21	DOE-4	4/10/2023	-6.45E-16	6.14E-15	3.38E-14	2.76E-14
Q21	DOE-4	4/14/2023	-1.60E-15	5.13E-15	7.29E-15	2.31E-14
Q21	DOE-4	4/17/2023	-1.62E-15	6.24E-15	3.50E-14	2.81E-14
Q21	DOE-4	4/21/2023	-1.72E-15	4.74E-15	2.06E-14	2.13E-14
Q21	DOE-4	4/24/2023	-1.30E-17	6.32E-15	4.27E-14	2.84E-14
Q21	DOE-4	4/28/2023	-1.83E-15	5.05E-15	9.41E-15	2.27E-14
Q21	DOE-4	5/2/2023	7.03E-16	4.85E-15	-3.94E-16	2.16E-14
Q21	DOE-4	5/5/2023	-2.69E-15	6.72E-15	-5.21E-15	2.99E-14
Q21	DOE-4	5/8/2023	-6.87E-16	6.66E-15	-1.23E-14	2.97E-14
Q21	DOE-4	5/12/2023	-3.62E-15	5.19E-15	2.07E-15	2.31E-14
Q21	DOE-4	5/15/2023	-6.76E-16	6.55E-15	-4.38E-15	2.92E-14
Q21	DOE-4	5/19/2023	4.81E-16	5.04E-15	1.79E-14	2.25E-14
Q21	DOE-4	5/22/2023	-3.58E-16	6.68E-15	2.09E-14	2.98E-14
Q21	DOE-4	5/26/2023	-1.80E-15	5.11E-15	-1.16E-14	2.28E-14
Q21	DOE-4	5/30/2023	7.03E-16	4.85E-15	8.68E-15	2.16E-14
Q21	DOE-4	6/2/2023	3.84E-16	7.12E-15	-2.25E-14	3.13E-14
Q21	DOE-4	6/5/2023	-1.60E-15	6.82E-15	9.68E-15	3.00E-14
Q21	DOE-4	6/8/2023	-9.63E-16	6.94E-15	-1.16E-14	3.05E-14
Q21	DOE-4	6/12/2023	3.14E-17	5.43E-15	2.40E-15	2.39E-14
Q21	DOE-4	6/16/2023	-2.49E-15	5.22E-15	-2.16E-14	2.29E-14
Q21	DOE-4	6/19/2023	-9.71E-16	7.00E-15	-2.68E-14	3.07E-14
Q21	DOE-4	6/23/2023	-4.40E-16	4.86E-15	9.40E-15	2.13E-14
Q21	DOE-4	6/26/2023	-4.60E-15	6.89E-15	-2.07E-14	3.02E-14
Q21	DOE-4	6/30/2023	-2.09E-15	5.50E-15	-1.26E-15	2.41E-14
Q22	DOE-4	7/3/2023	3.27E-15	6.53E-15	7.91E-15	2.78E-14
Q22	DOE-4	7/7/2023	1.61E-15	5.22E-15	5.17E-14	2.22E-14
Q22	DOE-4	7/10/2023	-2.09E-16	6.77E-15	9.60E-15	2.88E-14
Q22	DOE-4	7/14/2023	2.66E-15	5.32E-15	4.52E-14	2.27E-14
Q22	DOE-4	7/17/2023	2.34E-15	6.59E-15	2.96E-14	2.81E-14
Q22	DOE-4	7/21/2023	1.87E-15	5.25E-15	2.74E-14	2.24E-14
Q22	DOE-4	7/24/2023	-2.89E-15	6.91E-15	4.76E-14	2.94E-14
Q22	DOE-4	7/28/2023	1.43E-15	5.50E-15	5.28E-14	2.34E-14
Q22	DOE-4	7/31/2023	1.08E-15	6.63E-15	2.22E-14	2.83E-14
Q22	DOE-4	8/4/2023	3.30E-15	4.99E-15	2.41E-14	2.15E-14
Q22	DOE-4	8/7/2023	3.12E-15	6.72E-15	1.59E-14	2.89E-14

Quarter	Air Station ID	Sample Collection Date	Result Alpha (µCi/mL)	MDC – Alpha (µCi/mL)	Result Beta (µCi/mL)	MDC – Beta (µCi/mL)
Q22	DOE-4	8/11/2023	6.10E-16	5.07E-15	2.77E-14	2.18E-14
Q22	DOE-4	8/15/2023	2.13E-15	5.13E-15	2.21E-14	2.21E-14
Q22	DOE-4	8/18/2023	1.15E-15	6.77E-15	2.03E-14	2.91E-14
Q22	DOE-4	8/22/2023	-2.21E-15	5.24E-15	7.20E-15	2.25E-14
Q22	DOE-4	8/25/2023	-8.73E-16	6.93E-15	3.21E-14	2.98E-14
Q22	DOE-4	8/28/2023	—	—	—	—
Q22	DOE-4	9/1/2023	3.81E-15	5.09E-15	2.08E-14	2.23E-14
Q22	DOE-4	9/5/2023	-1.03E-15	5.25E-15	2.85E-15	2.30E-14
Q22	DOE-4	9/8/2023	1.36E-17	6.84E-15	4.44E-15	3.00E-14
Q22	DOE-4	9/11/2023	2.29E-15	6.54E-15	4.48E-14	2.87E-14
Q22	DOE-4	9/15/2023	4.70E-15	4.96E-15	1.35E-14	2.17E-14
Q22	DOE-4	9/18/2023	-3.13E-16	6.56E-15	-2.35E-15	2.87E-14
Q22	DOE-4	9/22/2023	1.41E-15	5.63E-15	5.64E-14	2.47E-14
Q22	DOE-4	9/25/2023	-1.29E-15	6.54E-15	1.64E-14	2.87E-14
Q22	DOE-4	9/29/2023	-2.52E-16	5.27E-15	2.66E-14	2.31E-14
Q23	DOE-4	10/2/2023	2.43E-15	6.81E-15	-1.40E-14	2.87E-14
Q23	DOE-4	10/6/2023	2.12E-15	5.25E-15	2.66E-14	2.21E-14
Q23	DOE-4	10/9/2023	2.44E-15	6.85E-15	4.97E-14	2.89E-14
Q23	DOE-4	10/13/2023	-1.80E-15	1.02E-14	5.06E-14	4.30E-14
Q23	DOE-4	10/16/2023	1.13E-15	6.96E-15	2.80E-14	2.93E-14
Q23	DOE-4	10/20/2023	1.64E-15	5.35E-15	8.12E-14	2.25E-14
Q23	DOE-4	10/23/2023	-8.62E-16	6.75E-15	4.79E-14	2.84E-14
Q23	DOE-4	10/27/2023	-1.18E-15	5.28E-15	2.54E-14	2.22E-14
Q23	DOE-4	10/30/2023	-8.87E-16	6.94E-15	4.53E-14	2.93E-14
Q23	DOE-4	11/2/2023	6.69E-15	6.63E-15	2.45E-14	3.03E-14
Q23	DOE-4	11/6/2023	5.89E-15	4.64E-15	1.02E-13	2.12E-14
Q23	DOE-4	11/10/2023	1.86E-15	4.81E-15	-7.73E-15	2.20E-14
Q23	DOE-4	11/13/2023	4.78E-15	6.37E-15	6.93E-14	2.91E-14
Q23	DOE-4	11/17/2023	2.38E-15	4.85E-15	4.58E-14	2.22E-14
Q23	DOE-4	11/20/2023	-4.80E-15	6.35E-15	-2.46E-14	2.90E-14
Q23	DOE-4	11/22/2023	-4.60E-15	1.03E-14	-2.33E-15	4.73E-14
Q23	DOE-4	11/27/2023	1.85E-15	3.77E-15	4.75E-14	1.72E-14
Q23	DOE-4	12/1/2023	5.54E-15	5.17E-15	6.39E-14	2.21E-14
Q23	DOE-4	12/4/2023	-5.42E-16	6.76E-15	4.04E-14	2.89E-14
Q23	DOE-4	12/8/2023	-1.53E-16	5.09E-15	4.01E-14	2.18E-14
Q23	DOE-4	12/11/2023	-1.49E-15	8.27E-15	1.31E-14	3.54E-14
Q23	DOE-4	12/15/2023	2.96E-15	5.19E-15	8.60E-14	2.22E-14

Quarter	Air Station ID	Sample Collection Date	Result Alpha ( $\mu\text{Ci/mL}$ )	MDC – Alpha ( $\mu\text{Ci/mL}$ )	Result Beta ( $\mu\text{Ci/mL}$ )	MDC – Beta ( $\mu\text{Ci/mL}$ )
Q23	DOE-4	12/18/2023	2.79E-15	6.63E-15	8.55E-14	2.84E-14
Q23	DOE-4	12/20/2023	-1.87E-15	1.04E-14	2.70E-14	4.45E-14

Note: Results less than the MDC are noted in the table as negative numbers.  
Gray-shaded boxes indicate that DOE-3 and DOE-4 were shut off due to rain.

Table C-3. Individual radionuclide analysis for composite filter samples, Q23.

Radionuclide	Result (pCi/sample)	MDC (pCi/sample)	Data Qualifier <sup>1</sup>	Airborne Concentration (µCi/mL)
<b>Location DOE-1 – Air volume/sample = 8.90E+08</b>				<b>8.90E+08</b>
Cesium-137	-3.46	7.32	U U	-3.677E-15
Strontium-90	0.57	2.64	U U	6.057E-16
Cobalt-60	2.68	11.7	U U	2.848E-15
Potassium-40	108	78.3	UI UJ	1.148E-13
Beryllium-7	151	82.7		1.605E-13
Plutonium-238	0.143	0.384	U U	1.520E-16
Polonium-210	12.8	0.745	J	1.360E-14
Plutonium-241	4.85	67.2	U U	5.154E-15
Thorium-230	1.04	0.783	UJ	1.105E-15
Thorium-228	0.528	0.693	U U	5.611E-16
Actinium-228	-2.18	37.3	U U	-2.317E-15
Americium-241	0.0614	0.184	U U	6.525E-17
Plutonium-239	-0.0251	0.545	U U	-2.667E-17
Ra-228 - total	-0.528	4.3	U U	-5.611E-16
Radium-226, -228 combined	1.73	1.74	U U	1.838E-15
Thorium-232	0.58	0.511	UJ	6.164E-16
Uranium-238	0.599	0.517	UJ	6.366E-16
Uranium-233/234	0.434	0.537	U U	4.612E-16
Uranium-235/236	0.0657	0.414	U U	6.982E-17
<b>Location DOE-2 – Air volume/sample =8.90E+08</b>				<b>8.90E+08</b>
Cesium-137	2.69	8.16	U U	3.022E-15
Strontium-90	0.114	2.85	U U	1.281E-16
Cobalt-60	-1.12	7.57	U U	-1.258E-15
Potassium-40	24.9	81.5	U U	2.798E-14
Beryllium-7	87.5	106	U U	9.831E-14
Plutonium-238	0.075	0.44	U U	8.427E-17
Polonium-210	12.6	0.443	J	1.416E-14
Plutonium-241	10.8	42.6	U U	1.213E-14
Thorium-230	1.71	0.687	UJ	1.921E-15
Thorium-228	0.816	0.826	U U	9.169E-16
Actinium-228	-16.2	31.3	U U	-1.820E-14
Americium-241	0.157	0.272	U U	1.764E-16
Plutonium-239	0.0182	0.44	U U	2.045E-17
Ra-228 - total	2.15	3.32	U U	2.416E-15
Radium-226, -228 combined	1.29	2.53	U U	1.449E-15
Thorium-232	0.293	0.491	U U	3.292E-16
Uranium-238	0.685	0.638	UJ	7.697E-16
Uranium-233/234	0.105	1.08	U U	1.180E-16
Uranium-235/236	0	0.305	U U	0.000E+0

Radionuclide	Result (pCi/sample)	MDC (pCi/sample)	Data Qualifier <sup>1</sup>	Airborne Concentration (µCi/mL)
<b>Location DOE-3 – Air volume/sample = 8.44E+08</b>				<b>8.44E+08</b>
Cesium-137	-0.405	13.1	U U	-4.799E-16
Strontium-90	0.0262	2.84	U U	3.104E-17
Cobalt-60	0.926	9.56	U U	1.097E-15
Potassium-40	44.8	106	U U	5.308E-14
Beryllium-7	185	113		2.192E-13
Plutonium-238	-0.14	0.641	U U	-1.659E-16
Polonium-210	14.4	0.425	J	1.706E-14
Plutonium-241	4.32	43.8	U U	5.118E-15
Thorium-230	0.296	0.637	U U	3.507E-16
Thorium-228	0.491	0.555	U U	5.818E-16
Actinium-228	2.03	33.5	U U	2.405E-15
Americium-241	0.0325	0.346	U U	3.851E-17
Plutonium-239	0.183	0.398	U U	2.168E-16
Ra-228 - total	0.553	3.25	U U	6.552E-16
Radium-226, -228 combined	2.74	1.78	UJ	3.246E-15
Thorium-232	0.709	0.294	UJ	8.400E-16
Uranium-238	0.543	0.233	UJ	6.434E-16
Uranium-233/234	0.812	0.565	UJ	9.621E-16
Uranium-235/236	0	0.287	U U	0.000E+0
<b>Location DOE-4 – Air volume/sample = 8.60E+08</b>				<b>8.60E+08</b>
Cesium-137	-3.6	6.97	U U	-4.186E-15
Strontium-90	2.52	2.86	U U	2.930E-15
Cobalt-60	20.5	7.83		2.384E-14
Potassium-40	18	79	U U	2.093E-14
Beryllium-7	162	87.5		1.884E-13
Plutonium-238	0.192	0.515	U U	2.233E-16
Polonium-210	14.2	0.233	J	1.651E-14
Plutonium-241	-4.67	59	U U	-5.430E-15
Thorium-230	0.542	0.609	U U	6.302E-16
Thorium-228	0.516	0.727	U U	6.000E-16
Actinium-228	4.58	37.2	U U	5.326E-15
Americium-241	-0.0127	0.444	U U	-1.477E-17
Plutonium-239	0.239	0.706	U U	2.779E-16
Ra-228 - total	4.4	3.33		5.116E-15
Radium-226, -228 combined	1.68	2.85	U U	1.953E-15
Thorium-232	0.576	0.446	UJ	6.698E-16
Uranium-238	0.539	0.397	UJ	6.267E-16
Uranium-233/234	0.801	0.554	UJ	9.314E-16
Uranium-235/236	0	0.266	U U	0.000E+0

<sup>1</sup> Qualifier column contains laboratory flags; validation qualifiers.

Notes:

UU = Sample was analyzed for but not detected and is qualified as a non-detect.

UJ = Sample was rejected by laboratory due to spectra issues and was determined to be an estimated value.

J – The analyte was detected; however, the result is estimated because of discrepancies in meeting certain analyte-specific QC criteria.

Table C-4. Individual radionuclide analysis for composite filter samples, Q20 through Q23.

Quarter	Radionuclide	Result (pCi/sample)	MDC (pCi/sample)	Data Qualifier <sup>1</sup>	Airborne Concentration (μCi/mL)
<b>Q20</b>					
<b>Location DOE-1 – Air volume/sample = 1.02E+09</b>					<b>1.02E+09</b>
Q20	Cesium-137	-3.02	6.72	U U	-2.961E-15
Q20	Strontium-90	0.0243	1.9	U U	2.382E-17
Q20	Cobalt-60	2.44	9.02	U U	2.392E-15
Q20	Potassium-40	10.2	92.5	U U	1.000E-14
Q20	Beryllium-7	54.2	105	U U	5.314E-14
Q20	Plutonium-238	-0.0427	0.362	U U	-4.186E-17
Q20	Polonium-210	5.92	1.69		5.804E-15
Q20	Plutonium-241	45	49.8	U U	4.412E-14
Q20	Thorium-230	1.25	0.746		1.225E-15
Q20	Thorium-228	0.86	0.87	U U	8.431E-16
Q20	Actinium-228	-6.33	44.3	U U	-6.206E-15
Q20	Americium-241	-0.0287	0.331	U U	-2.814E-17
Q20	Plutonium-239	0.194	0.362	U U	1.902E-16
Q20	Ra-228 – total	0.585	5.08	U U	5.735E-16
Q20	Radium-226, -228 combined	3.04	2.17		2.980E-15
Q20	Thorium-232	0.21	0.597	U U	2.059E-16
Q20	Uranium-238	0.659	0.393	UJ	6.461E-16
Q20	Uranium-233/234	0.555	0.525		5.441E-16
Q20	Uranium-235/236	0.056	0.354	U U	5.490E-17
<b>Location DOE-2 – Air volume/sample = 1.03E+09</b>					<b>1.02E+09</b>
Q20	Cesium-137	3.26	7.27	U U	3.165E-15
Q20	Strontium-90	-1.15	2.02	U UJ	-1.117E-15
Q20	Cobalt-60	-1.07	8.27	U U	-1.039E-15
Q20	Potassium-40	98.9	80.8	UI UJ	9.602E-14
Q20	Beryllium-7	179	102		1.738E-13
Q20	Plutonium-238	0.0169	0.369	U U	1.641E-17
Q20	Polonium-210	6.68	1.23		6.485E-15
Q20	Plutonium-241	3.17	52.3	U U	3.078E-15
Q20	Thorium-230	1.02	1.02	U U	9.903E-16
Q20	Thorium-228	0.694	1.22	U U	6.738E-16
Q20	Actinium-228	-5.56	37.5	U U	-5.398E-15
Q20	Americium-241	0.188	0.351	U U	1.825E-16
Q20	Plutonium-239	0.00242	0.398	U U	2.350E-18
Q20	Ra-228 – total	1.82	3.45	U U	1.767E-15

Quarter	Radionuclide	Result (pCi/sample)	MDC (pCi/sample)	Data Qualifier <sup>1</sup>	Airborne Concentration ( $\mu$ Ci/mL)
Q20	Radium-226, -228 combined	2	3.11	U U	1.942E-15
Q20	Thorium-232	0.444	0.749	U U	4.311E-16
Q20	Uranium-238	0.536	0.384	UJ	5.204E-16
Q20	Uranium-233/234	0.229	0.418	U U	2.223E-16
Q20	Uranium-235/236	-0.0811	0.474	U U	-7.874E-17
<b>Location DOE-3 – Air volume/sample = 8.95E+08</b>					<b>8.95E+08</b>
Q20	Cesium-137	1.46	7.08	U U	1.631E-15
Q20	Strontium-90	0.257	1.76	U U	2.872E-16
Q20	Cobalt-60	-0.0273	7.77	U U	-3.050E-17
Q20	Potassium-40	95.2	72.3	UI UJ	1.064E-13
Q20	Beryllium-7	82.7	89.2	U U	9.240E-14
Q20	Plutonium-238	0.104	0.283	U U	1.162E-16
Q20	Polonium-210	7.55	2.05		8.436E-15
Q20	Plutonium-241	17.1	52.4	U U	1.911E-14
Q20	Thorium-230	1.59	1.1		1.777E-15
Q20	Thorium-228	1.2	1.37	U U	1.341E-15
Q20	Actinium-228	-4.03	37.2	U U	-4.503E-15
Q20	Americium-241	-0.0966	0.496	U U	-1.079E-16
Q20	Plutonium-239	0.163	0.283	U U	1.821E-16
Q20	Ra-228 – total	3.53	3.25		3.944E-15
Q20	Radium-226, -228 combined	1.98	2.37	U U	2.212E-15
Q20	Thorium-232	1.44	0.6	UJ	1.609E-15
Q20	Uranium-238	0.309	0.31	U U	3.453E-16
Q20	Uranium-233/234	0.727	0.445		8.123E-16
Q20	Uranium-235/236	-0.0166	0.332	U U	-1.855E-17
<b>Location DOE-4 – Air volume/sample = 1.03E+09</b>					<b>1.03E+09</b>
Q20	Cesium-137	0.0594	8.21	U U	5.767E-17
Q20	Strontium-90	-0.685	2.13	U U	-6.650E-16
Q20	Cobalt-60	-0.579	4.2	U U	-5.621E-16
Q20	Potassium-40	140	98.7		1.359E-13
Q20	Beryllium-7	172	71.9	UI UJ	1.670E-13
Q20	Plutonium-238	-0.0128	0.256	U U	-1.243E-17
Q20	Polonium-210	6.44	1.54		6.252E-15
Q20	Plutonium-241	14.3	45.6	U U	1.388E-14
Q20	Thorium-230	0.498	0.584	U U	4.835E-16
Q20	Thorium-228	0.294	0.613	U U	2.854E-16
Q20	Actinium-228	-10.7	32.6	U U	-1.039E-14

Quarter	Radionuclide	Result (pCi/sample)	MDC (pCi/sample)	Data Qualifier <sup>1</sup>	Airborne Concentration ( $\mu$ Ci/mL)
Q20	Americium-241	-0.0487	0.414	U U	-4.728E-17
Q20	Plutonium-239	0.0406	0.256	U U	3.942E-17
Q20	Ra-228 – total	0.766	3.51	U U	7.437E-16
Q20	Radium-226, -228 combined	4.41	3.71		4.282E-15
Q20	Thorium-232	0.781	0.318	UJ	7.583E-16
Q20	Uranium-238	0.729	0.395	UJ	7.078E-16
Q20	Uranium-233/234	0.748	0.457		7.262E-16
Q20	Uranium-235/236	0.0415	0.442	U U	4.029E-17
<b>Q21</b>					
<b>Location DOE-1 – Air volume/sample = 9.83E+08</b>					<b>9.83E+08</b>
Q21	Cesium-137	-4.04	9.72	U U	-4.110E-15
Q21	Strontium-90	0.975	1.19	U U	9.919E-16
Q21	Cobalt-60	5.89	17.7	U U	5.992E-15
Q21	Potassium-40	25.9	186	U U	2.635E-14
Q21	Beryllium-7	127	90.5		1.292E-13
Q21	Plutonium-238	0.0318	0.278	U U	3.235E-17
Q21	Polonium-210	5.65	0.451	J	5.748E-15
Q21	Plutonium-241	-2.21	34.6	U U	-2.248E-15
Q21	Thorium-230	0.182	0.505	U U	1.851E-16
Q21	Thorium-228	0.466	0.455	UJ	4.741E-16
Q21	Actinium-228	10.9	50.8	U U	1.109E-14
Q21	Americium-241	0.0321	0.777	U U	3.266E-17
Q21	Plutonium-239	0.0301	0.19	U U	3.062E-17
Q21	Ra-228 – total	1.76	7.86	U U	1.790E-15
Q21	Radium-226, -228 combined	3.56	1.51		3.622E-15
Q21	Thorium-232	0.767	0.365	UJ	7.803E-16
Q21	Uranium-238	0.342	0.287	UJ	3.479E-16
Q21	Uranium-233/234	0.63	0.407	UJ	6.409E-16
Q21	Uranium-235/236	0.116	0.174	U U	1.180E-16
<b>Location DOE-2 – Air volume/sample = 9.83E+08</b>					<b>9.83E+08</b>
Q21	Cesium-137	5.8	3.99	UI UJ	5.900E-15
Q21	Strontium-90	0.789	1.88	U U	8.026E-16
Q21	Cobalt-60	2.41	8.27	U U	2.452E-15
Q21	Potassium-40	64.2	64.2	UI UJ	6.531E-14
Q21	Beryllium-7	62.2	75.2	U U	6.328E-14
Q21	Plutonium-238	0.104	0.301	U U	1.058E-16
Q21	Polonium-210	7.03	0.524		7.152E-15

Quarter	Radionuclide	Result (pCi/sample)	MDC (pCi/sample)	Data Qualifier <sup>1</sup>	Airborne Concentration (µCi/mL)
Q21	Plutonium-241	4.52	37.3	U U	4.598E-15
Q21	Thorium-230	0.562	0.539		5.717E-16
Q21	Thorium-228	0.539	0.444	UJ	5.483E-16
Q21	Actinium-228	9.83	33.4	U U	1.000E-14
Q21	Americium-241	-0.363	1.27	U U	-3.693E-16
Q21	Plutonium-239	0.00163	0.268	U U	1.658E-18
Q21	Ra-228 – total	2.54	3.61	U U	2.584E-15
Q21	Radium-226, -228 combined	-0.616	2.98	U U	-6.267E-16
Q21	Thorium-232	0.253	0.267	U U	2.574E-16
Q21	Uranium-238	0.598	0.327	UJ	6.083E-16
Q21	Uranium-233/234	0.238	0.556	U U	2.421E-16
Q21	Uranium-235/236	0.0172	0.375	U U	1.750E-17
<b>Location DOE-3 – Air volume/sample = 9.78E+08</b>					<b>9.78E+08</b>
Q21	Cesium-137	-1.87	8.19	U U	-1.895E-15
Q21	Strontium-90	0.543	2.84	U U	5.502E-16
Q21	Cobalt-60	-2.42	8.78	U U	-2.452E-15
Q21	Potassium-40	87.3	148	U U	8.845E-14
Q21	Beryllium-7	38.5	72.4	U U	3.901E-14
Q21	Plutonium-238	-0.0309	0.352	U U	-3.131E-17
Q21	Polonium-210	6.41	0.737	J	6.494E-15
Q21	Plutonium-241	0.956	42.1	U U	9.686E-16
Q21	Thorium-230	0.794	0.497		8.045E-16
Q21	Thorium-228	0.607	0.355	UJ	6.150E-16
Q21	Actinium-228	-11.4	41.3	U U	-1.155E-14
Q21	Americium-241	-0.199	0.887	U U	-2.016E-16
Q21	Plutonium-239	0.0127	0.277	U U	1.287E-17
Q21	Ra-228 – total	2.29	3.29	U U	2.320E-15
Q21	Radium-226, -228 combined	1.48	2.35	U U	1.499E-15
Q21	Thorium-232	0.24	0.255	U U	2.432E-16
Q21	Uranium-238	0.307	0.255	UJ	3.110E-16
Q21	Uranium-233/234	0.878	0.383	UJ	8.896E-16
Q21	Uranium-235/236	0.0342	0.365	U U	3.465E-17
<b>Location DOE-4 – Air volume/sample = 9.83E+08</b>					<b>9.83E+08</b>
Q21	Cesium-137	-0.7	6.54	U U	-7.121E-16
Q21	Strontium-90	0.229	1.42	U U	2.330E-16
Q21	Cobalt-60	-0.114	6.54	U U	-1.160E-16
Q21	Potassium-40	131	88.4	UI UJ	1.333E-13

Quarter	Radionuclide	Result (pCi/sample)	MDC (pCi/sample)	Data Qualifier <sup>1</sup>	Airborne Concentration ( $\mu$ Ci/mL)
Q21	Beryllium-7	69.8	73.1	U U	7.101E-14
Q21	Plutonium-238	-0.0648	0.402	U U	-6.592E-17
Q21	Polonium-210	6.64	0.375		6.755E-15
Q21	Plutonium-241	-11.5	42	U U	-1.170E-14
Q21	Thorium-230	0.529	0.588	U U	5.381E-16
Q21	Thorium-228	0.257	0.604	U U	2.614E-16
Q21	Actinium-228	-14.2	31.6	U U	-1.445E-14
Q21	Americium-241	0.0181	1.15	U U	1.841E-17
Q21	Plutonium-239	0.037	0.324	U U	3.764E-17
Q21	Ra-228 – total	8.61	4.8	UJ	8.759E-15
Q21	Radium-226, -228 combined	2.92	3.11	U U	2.970E-15
Q21	Thorium-232	0.821	0.305	UJ	8.352E-16
Q21	Uranium-238	0.888	0.24	UJ	9.034E-16
Q21	Uranium-233/234	0.443	0.403	UJ	4.507E-16
Q21	Uranium-235/236	0.0939	0.342	U U	9.552E-17
<b>Q22</b>					
<b>Location DOE-1 – Air volume/sample = 9.84+08</b>					<b>9.84E+08</b>
Q22	Cesium-137	1.68	14.6	U U	1.707E-15
Q22	Strontium-90	1.4	2.36	U U	1.423E-15
Q22	Cobalt-60	6.56	16.5	U U	6.667E-15
Q22	Potassium-40	0.956	123	U U	9.715E-16
Q22	Beryllium-7	109	159	U U	1.108E-13
Q22	Plutonium-238	-0.0584	0.401	U U	-5.935E-17
Q22	Polonium-210	12.1	0.359		1.230E-14
Q22	Plutonium-241	4.34	51.5	U U	4.411E-15
Q22	Thorium-230	1.57	0.879	UJ	1.596E-15
Q22	Thorium-228	0.969	0.92		9.848E-16
Q22	Actinium-228	-10.7	51.7	U U	-1.087E-14
Q22	Americium-241	0.0418	0.264	U U	4.248E-17
Q22	Plutonium-239	-0.0998	0.545	U U	-1.014E-16
Q22	Ra-228 – total	4.64	2.95		4.715E-15
Q22	Radium-226, -228 combined	2.18	3.79	U U	2.215E-15
Q22	Thorium-232	0.683	0.603	UJ	6.941E-16
Q22	Uranium-238	0.687	0.4	UJ	6.982E-16
Q22	Uranium-233/234	0.648	0.577	UJ	6.585E-16
Q22	Uranium-235/236	0.157	0.428	U U	1.596E-16

Quarter	Radionuclide	Result (pCi/sample)	MDC (pCi/sample)	Data Qualifier <sup>1</sup>	Airborne Concentration ( $\mu$ Ci/mL)
<b>Location DOE-2 – Air volume/sample =9.85+08</b>					<b>9.85E+08</b>
Q22	Cesium-137	-1.12	6.4	U U	-1.137E-15
Q22	Strontium-90	2.48	2.5	U U	2.518E-15
Q22	Cobalt-60	-1.14	4.98	U U	-1.157E-15
Q22	Potassium-40	41.3	150	U U	4.193E-14
Q22	Beryllium-7	102	61		1.036E-13
Q22	Plutonium-238	-0.0721	0.371	U U	-7.320E-17
Q22	Polonium-210	9.42	0.467		9.563E-15
Q22	Plutonium-241	1.03	45.4	U U	1.046E-15
Q22	Thorium-230	0.659	0.829	U U	6.690E-16
Q22	Thorium-228	0.72	0.676		7.310E-16
Q22	Actinium-228	11.4	34.4	U U	1.157E-14
Q22	Americium-241	0.0434	0.274	U U	4.406E-17
Q22	Plutonium-239	0.002	0.33	U U	2.030E-18
Q22	Ra-228 – total	1.04	3.22	U U	1.056E-15
Q22	Radium-226, -228 combined	2.19	2.64	U U	2.223E-15
Q22	Thorium-232	0.784	0.388	UJ	7.959E-16
Q22	Uranium-238	0.649	0.473	UJ	6.589E-16
Q22	Uranium-233/234	0.643	0.575	UJ	6.528E-16
Q22	Uranium-235/236	0.0887	0.266	U U	9.005E-17
<b>Location DOE-3 – Air volume/sample = 9.77+08</b>					<b>9.77E+08</b>
Q22	Cesium-137	0.344	8.71	U U	3.521E-16
Q22	Strontium-90	1.56	2.1	U U	1.597E-15
Q22	Cobalt-60	-1.91	8.4	U U	-1.955E-15
Q22	Potassium-40	138	56.1		1.412E-13
Q22	Beryllium-7	48.4	116	U U	4.954E-14
Q22	Plutonium-238	0.0801	0.218	U U	8.199E-17
Q22	Polonium-210	10.2	0.47		1.044E-14
Q22	Plutonium-241	-12	45.9	U U	-1.228E-14
Q22	Thorium-230	0.84	0.906	U U	8.598E-16
Q22	Thorium-228	0.311	1.18	U U	3.183E-16
Q22	Actinium-228	-18.2	26.4	U U	-1.863E-14
Q22	Americium-241	-0.0295	0.34	U U	-3.019E-17
Q22	Plutonium-239	0.0455	0.136	U U	4.657E-17
Q22	Ra-228 – total	5.68	3.32		5.814E-15
Q22	Radium-226, -228 combined	4.62	2.39	J	4.729E-15
Q22	Thorium-232	0.657	0.58	UJ	6.725E-16

Quarter	Radionuclide	Result (pCi/sample)	MDC (pCi/sample)	Data Qualifier <sup>1</sup>	Airborne Concentration (µCi/mL)
Q22	Uranium-238	0.577	0.257	UJ	5.906E-16
Q22	Uranium-233/234	0.399	0.39	UJ	4.084E-16
Q22	Uranium-235/236	0.0663	0.199	U U	6.786E-17
<b>Location DOE-4 – Air volume/sample = 9.46+08</b>					<b>9.46E+08</b>
Q22	Cesium-137	-3.76	8.31	U U	-3.975E-15
Q22	Strontium-90	5.1	3.44		5.391E-15
Q22	Cobalt-60	0.369	7.74	U U	3.901E-16
Q22	Potassium-40	40.3	84.4	U U	4.260E-14
Q22	Beryllium-7	122	68.9		1.290E-13
Q22	Plutonium-238	0.0501	0.533	U U	5.296E-17
Q22	Polonium-210	11.7	0.514		1.237E-14
Q22	Plutonium-241	-31.2	97.7	U U	-3.298E-14
Q22	Thorium-230	0.912	1.18	U U	9.641E-16
Q22	Thorium-228	0.871	1.2	U U	9.207E-16
Q22	Actinium-228	-20.4	27.6	U U	-2.156E-14
Q22	Americium-241	0.186	0.677	U U	1.966E-16
Q22	Plutonium-239	0.0269	0.588	U U	2.844E-17
Q22	Ra-228 – total	-0.639	3.62	U U	-6.755E-16
Q22	Radium-226, -228 combined	3.55	2.19	UJ	3.753E-15
Q22	Thorium-232	1.09	0.512	UJ	1.152E-15
Q22	Uranium-238	0.615	0.598	UJ	6.501E-16
Q22	Uranium-233/234	0.2	0.764	U U	2.114E-16
Q22	Uranium-235/236	0.092	0.58	U U	9.725E-17
<b>Q23</b>					
<b>Location DOE-1 – Air volume/sample = 8.90E+08</b>					<b>8.90E+08</b>
Q23	Cesium-137	0.99	8.12	U U	1.112E-15
Q23	Strontium-90	0.966	1.8	U U	1.085E-15
Q23	Cobalt-60	1.48	9.46	U U	1.663E-15
Q23	Potassium-40	-5	146	U U	-5.618E-15
Q23	Beryllium-7	119	96.7		1.337E-13
Q23	Plutonium-238	-0.0241	0.278	U U	-2.708E-17
Q23	Polonium-210	13.7	0.534	J	1.539E-14
Q23	Plutonium-241	25	39.3	U U	2.809E-14
Q23	Thorium-230	0.997	0.766	UJ	1.120E-15
Q23	Thorium-228	0.302	0.895	U U	3.393E-16
Q23	Actinium-228	3.63	41.7	U U	4.079E-15
Q23	Americium-241	0.18	0.312	U U	2.022E-16
Q23	Plutonium-239	0.0522	0.331	U U	5.865E-17

Quarter	Radionuclide	Result (pCi/sample)	MDC (pCi/sample)	Data Qualifier <sup>1</sup>	Airborne Concentration (μCi/mL)
Q23	Ra-228 - total	-1.47	2.86	U U	-1.652E-15
Q23	Radium-226, -228 combined	1.19	1.76	U U	1.337E-15
Q23	Thorium-232	1.52	0.531	J	1.708E-15
Q23	Uranium-238	0.466	0.33	UJ	5.236E-16
Q23	Uranium-233/234	0.421	0.537	U U	4.730E-16
Q23	Uranium-235/236	-0.0409	0.472	U U	-4.596E-17
<b>Location DOE-2 – Air volume/sample = 8.90E+08</b>					<b>8.90E+08</b>
Q23	Cesium-137	2.69	8.16	U U	3.022E-15
Q23	Strontium-90	0.114	2.85	U U	1.281E-16
Q23	Cobalt-60	-1.12	7.57	U U	-1.258E-15
Q23	Potassium-40	24.9	81.5	U U	2.798E-14
Q23	Beryllium-7	87.5	106	U U	9.831E-14
Q23	Plutonium-238	0.075	0.44	U U	8.427E-17
Q23	Polonium-210	12.6	0.443	J	1.416E-14
Q23	Plutonium-241	10.8	42.6	U U	1.213E-14
Q23	Thorium-230	1.71	0.687	UJ	1.921E-15
Q23	Thorium-228	0.816	0.826	U U	9.169E-16
Q23	Actinium-228	-16.2	31.3	U U	-1.820E-14
Q23	Americium-241	0.157	0.272	U U	1.764E-16
Q23	Plutonium-239	0.0182	0.44	U U	2.045E-17
Q23	Ra-228 - total	2.15	3.32	U U	2.416E-15
Q23	Radium-226, -228 combined	1.29	2.53	U U	1.449E-15
Q23	Thorium-232	0.293	0.491	U U	3.292E-16
Q23	Uranium-238	0.685	0.638	UJ	7.697E-16
Q23	Uranium-233/234	0.105	1.08	U U	1.180E-16
Q23	Uranium-235/236	0	0.305	U U	0.000E+0
<b>Location DOE-3 – Air volume/sample = 8.44E+08</b>					<b>8.44E+08</b>
Q23	Cesium-137	-0.405	13.1	U U	-4.799E-16
Q23	Strontium-90	0.0262	2.84	U U	3.104E-17
Q23	Cobalt-60	0.926	9.56	U U	1.097E-15
Q23	Potassium-40	44.8	106	U U	5.308E-14
Q23	Beryllium-7	185	113		2.192E-13
Q23	Plutonium-238	-0.14	0.641	U U	-1.659E-16
Q23	Polonium-210	14.4	0.425	J	1.706E-14
Q23	Plutonium-241	4.32	43.8	U U	5.118E-15
Q23	Thorium-230	0.296	0.637	U U	3.507E-16
Q23	Thorium-228	0.491	0.555	U U	5.818E-16

Quarter	Radionuclide	Result (pCi/sample)	MDC (pCi/sample)	Data Qualifier <sup>1</sup>	Airborne Concentration (µCi/mL)
Q23	Actinium-228	2.03	33.5	U U	2.405E-15
Q23	Americium-241	0.0325	0.346	U U	3.851E-17
Q23	Plutonium-239	0.183	0.398	U U	2.168E-16
Q23	Ra-228 - total	0.553	3.25	U U	6.552E-16
Q23	Radium-226, -228 combined	2.74	1.78	UJ	3.246E-15
Q23	Thorium-232	0.709	0.294	UJ	8.400E-16
Q23	Uranium-238	0.543	0.233	UJ	6.434E-16
Q23	Uranium-233/234	0.812	0.565	UJ	9.621E-16
Q23	Uranium-235/236	0	0.287	U U	0.000E+0
<b>Location DOE-4 – Air volume/sample = 8.60E+08</b>					<b>8.60E+08</b>
Q23	Cesium-137	-3.6	6.97	U U	-4.186E-15
Q23	Strontium-90	2.52	2.86	U U	2.930E-15
Q23	Cobalt-60	20.5	7.83		2.384E-14
Q23	Potassium-40	18	79	U U	2.093E-14
Q23	Beryllium-7	162	87.5		1.884E-13
Q23	Plutonium-238	0.192	0.515	U U	2.233E-16
Q23	Polonium-210	14.2	0.233	J	1.651E-14
Q23	Plutonium-241	-4.67	59	U U	-5.430E-15
Q23	Thorium-230	0.542	0.609	U U	6.302E-16
Q23	Thorium-228	0.516	0.727	U U	6.000E-16
Q23	Actinium-228	4.58	37.2	U U	5.326E-15
Q23	Americium-241	-0.0127	0.444	U U	-1.477E-17
Q23	Plutonium-239	0.239	0.706	U U	2.779E-16
Q23	Ra-228 - total	4.4	3.33		5.116E-15
Q23	Radium-226, -228 combined	1.68	2.85	U U	1.953E-15
Q23	Thorium-232	0.576	0.446	UJ	6.698E-16
Q23	Uranium-238	0.539	0.397	UJ	6.267E-16
Q23	Uranium-233/234	0.801	0.554	UJ	9.314E-16
Q23	Uranium-235/236	0	0.266	U U	0.000E+0

<sup>1</sup> Qualifier column contains laboratory flags; validation qualifiers.

Notes:

J = The result is an estimated quantity. The associated numerical value is the approximate concentration of the analyte in the sample.

UU = Sample was analyzed for but not detected and is qualified as a non-detect.

UJ = Sample was rejected by laboratory due to spectra issues and was determined to be an estimated value.

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## **APPENDIX D**

### **Q23 PM<sub>10</sub> Monthly Audit Reports and Flow Verification Results**

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One-Point Flow Rate Bias Estimate

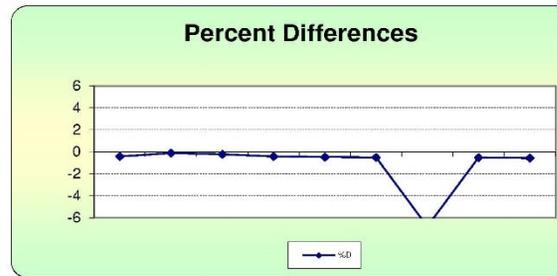
ETEC Site: DOE-1				Pollutant type: PM10				Bias (%)				
Quarter	E-BAM	Date	Meas Val (Y)	Audit Val (X)	d (Eqn. 1)	Percentile	d <sup>2</sup>	d	d  <sup>2</sup>	n	Σ d	"AB" (Eqn 4)
23	W23313	10/13/2023	14.00	14.06	-0.427		0.182	0.427	0.182	9	10.085	1.121
			16.70	16.72	-0.120	25th	0.014	0.120	0.014			
			17.50	17.54	-0.228	-0.536	0.052	0.228	0.052			
23	W23313	11/15/2023	14.00	14.06	-0.427		0.182	0.427	0.182	8	47.647	2.132
			16.70	16.78	-0.477	75th	0.227	0.477	0.227			
			17.50	17.59	-0.512	-0.427	0.262	0.512	0.262			
23	W23313	12/18/2023	14.00	15.02	-6.791		46.117	6.791	46.117			
			16.70	16.79	-0.536		0.287	0.536	0.287			
			17.50	17.60	-0.568		0.323	0.568	0.323			

n	Σ d	"AB" (Eqn 4)
9	10.085	1.121
n-1	Σ d  <sup>2</sup>	"AS" (Eqn 5)
8	47.647	2.132

Bias (%) (Eqn 3)	Both Signs Positive
2.44	FALSE
Signed Bias (%)	Both Signs Negative
-2.44	TRUE

Note: No quality issues reported this quarter.

Reference: U.S. EPA, Ambient Monitoring Technology Information Center (AMTIC) Quality Indicator Assessment Reports Data Assessment Statistical Calculator - Software to calculate precision and bias statistics MS EXCEL filename - "11/3/2017 (dasc)11\_3\_17.xls" <https://www3.epa.gov/ttn/amtic/qareport.html>







One-Point Flow Rate Bias Estimate

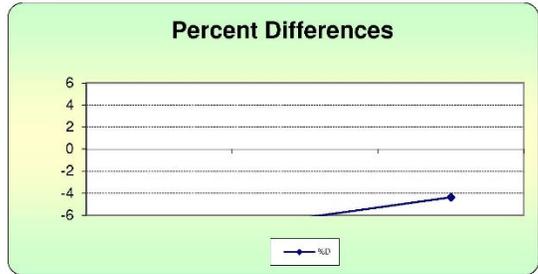
ETEC Site: DOE-3					Pollutant type: PM10					Bias (%)		
Quarter	E-BAM	Date	Meas Val (Y)	Audit Val (X)	d (Eqn. 1)	Percentile	d <sup>2</sup>	d	d  <sup>2</sup>	n	Σ d	"AB" (Eqn 4)
23	B20070	10/26/2023	14.00	14.99	-6.604		43.618	6.604	43.618	3	17.208	5.736
			16.70	17.81	-6.232	25th	38.843	6.232	38.843			
			17.50	18.30	-4.372	-6.418	19.111	4.372	19.111			
										n-1	101.572	1.196
					75th							
					-5.302							

<b>Bias (%) (Eqn 3)</b>	Both Signs Positive
7.75	FALSE
<b>Signed Bias (%)</b>	Both Signs Negative
-7.75	TRUE

Note: E-BAM monitor B20070 did not meet the Flow Rate measurement quality objective of +/- 4%. Therefore, this monitor was removed for maintenance. A replacement E-BAM monitor was placed in service after the November 2023 audit.

Reference: U.S. EPA, Ambient Monitoring Technology Information Center (AMTIC) Quality Indicator Assessment Reports Data Assessment Statistical Calculator - Software to calculate precision and bias statistics MS EXCEL filename - "11/3/2017 (dasc)11\_3\_17.xls" <https://www3.epa.gov/ttn/amtic/qareport.html>





**One-Point Flow Rate Bias Estimate**

ETEC Site: DOE-3			Pollutant type: PM10				Bias (%)		
Quarter	E-BAM	Date	Meas Val (Y)	Audit Val (X)	d (Eqn. 1)	Percentile	d <sup>2</sup>	d	d  <sup>2</sup>
23	X16067	12/18/2023	14.00	14.26	-1.823		3.324	1.823	3.324
			16.70	16.95	-1.475	<b>25th</b>	2.175	1.475	2.175
			17.50	17.91	-2.289	-2.056	5.241	2.289	5.241
					<b>75th</b>				
						-1.649			

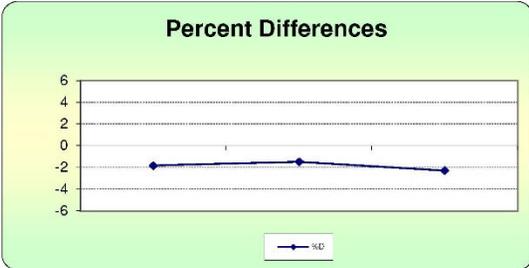
<b>n</b>	$\sum d $	<b>"AB" (Eqn 4)</b>
3	5.587	1.862
<b>n-1</b>	$\sum d ^2$	<b>"AS" (Eqn 5)</b>
2	10.740	0.409

<b>Bias (%) (Eqn 3)</b>	Both Signs Positive
2.55	FALSE
<b>Signed Bias (%)</b>	Both Signs Negative
-2.55	TRUE

**Note:** This E-BAM monitor X16067 replaced monitor B20070 that failed the October 2023 flow rate audit. There was no operating E-BAM monitor at DOE-3 during the November 2023 audit.

**Reference:** U.S. EPA, Ambient Monitoring Technology Information Center (AMTIC) Quality Indicator Assessment Reports  
 Data Assessment Statistical Calculator - Software to calculate precision and bias statistics  
 MS EXCEL filename - "11/3/2017 (dasc)11\_3\_17.xls"  
<https://www3.epa.gov/ttn/amtic/qareport.html>





**One-Point Flow Rate Bias Estimate**

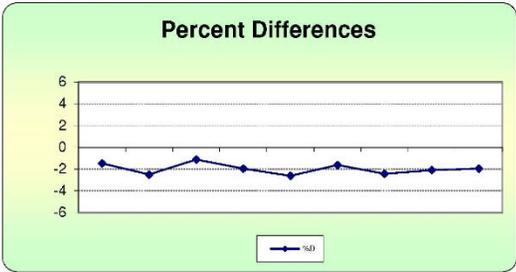
ETEC Site: DOE-4						Pollutant type: PM10			Bias (%)	
Quarter	E-BAM	Date	Meas Val (Y)	Audit Val (X)	d (Eqn. 1)	Percentile	d <sup>2</sup>	d	d  <sup>2</sup>	
23	B18932	10/13/2023	14.00	14.21	-1.478	25th -2.439	2.184	1.478	2.184	
			16.70	17.13	-2.510		6.301	2.510	6.301	
			17.50	17.70	-1.130		1.277	1.130	1.277	
23	B18932	11/15/2023	14.00	14.28	-1.961	75th -1.630	3.845	1.961	3.845	
			16.70	17.15	-2.624		6.885	2.624	6.885	
			17.50	17.79	-1.630		2.657	1.630	2.657	
23	B18932	12/18/2023	14.00	14.35	-2.439		5.949	2.439	5.949	
			16.70	17.06	-2.110		4.453	2.110	4.453	
			17.50	17.85	-1.961		3.845	1.961	3.845	

n	Σ d	"AB" (Eqn 4)
9	17.843	1.983
n-1	Σd <sup>2</sup>	"AS" (Eqn 5)
8	37.395	0.503

Bias (%) (Eqn 3)	Both Signs Positive
2.29	FALSE
Signed Bias (%)	Both Signs Negative
-2.29	TRUE

Note: No quality issues reported this quarter.

Reference: U.S. EPA, Ambient Monitoring Technology Information Center (AMTIC) Quality Indicator Assessment Reports Data Assessment Statistical Calculator - Software to calculate precision and bias statistics MS EXCEL filename - "11/3/2017 (dasc)11\_3\_17.xls" <https://www3.epa.gov/ttn/amtic/qareport.html>





**Baseline Air Monitoring Program - DOE**  
**E-BAM Monthly Audit and Maintenance**

Station # DOE-1 Serial # W23313  
 Audit Date: 10/13/23 Audited By: T.S. Williford

**Flow Audit**

Flow Audit Device Model: BGI Delta Cal DC-1A Serial No: 158047 Calibration Date: 2/27/2023  
 Leak Check Value: as found: 0.5 as left: 0.5

	E-BAM	Ref. Std.		E-BAM	Ref. Std.
Ambient Temperature:	as found: <u>25.3</u> °C	<u>24.5</u> °C	as left:	<u>25.3</u> °C	<u>24.5</u> °C
Barometric Pressure:	as found: <u>710.6</u> mmHg	<u>710.5</u> mmHg	as left:	<u>710.6</u> mmHg	<u>710.5</u> mmHg
16.7 lpm Flow Rate	as found: <u>16.7</u> lpm	<u>16.72</u> lpm	as left:	<u>16.7</u> lpm	<u>16.72</u> lpm
14.0 lpm Flow Rate	as found: <u>14.0</u> lpm	<u>14.06</u> lpm	as left:	<u>14.0</u> lpm	<u>14.06</u> lpm
17.5 lpm Flow Rate	as found: <u>17.5</u> lpm	<u>17.54</u> lpm	as left:	<u>17.5</u> lpm	<u>17.54</u> lpm

**Mechanical Audits (Y = Yes N = No)**

Sample nozzle clean:	as found	<u>Y</u>	as left	<u>Y</u>
Tape support vane clean:	as found	<u>Y</u>	as left	<u>Y</u>
Tape spool covers tight:	as found	<u>Y</u>	as left	<u>Y</u>
PM10 particle trap clean:	as found	<u>Y</u>	as left	<u>Y</u>
PM10 drip jar empty:	as found	<u>Y</u>	as left	<u>Y</u>
PM10 bug screen clear:	as found	<u>Y</u>	as left	<u>Y</u>

Manual Span Membrane Test		Pump Test		
Expected Span Mass (mg/cm2):	<u>0.885</u>	Flow Rate	Vacuum	Quality Category
Measured Span Mass (mg/cm2):	<u>0.871</u>	14.0 - 15.0	Value	Good / Marginal / Poor
Difference (mg/cm2):	<u>0.014</u>	(lpm)	(Hg)	
% Difference / <u>Pass</u> or Fail:	<u>1.60%</u>	<u>14.4</u>	<u>409.8</u>	<u>Good</u>

**Setup and Calibration Values**

Parameter	Expected	Found	Parameter	Expected	Found	Parameter	Expected	Found
Clock	<u>1401</u>	<u>1401</u>	Analog Mode	Hourly	<u>Hourly</u>	Flow Type	Actual	<u>Act</u>
Location	<u>1</u>	<u>1</u>	Baud Rate	9600	<u>9600</u>	Restart Voltage	12.5 v	<u>12.5v</u>
Tape Advance	24 hrs	<u>24hrs</u>	RH Setpoint	45%	<u>45%</u>	Std Cond Temp	25 C	<u>25C</u>
Realtime Avg	60 mins	<u>60mins</u>	Delta T Setpoint	15 C	<u>15C</u>	DAC	8.0 v	<u>8.0v</u>
Machine Type	PM-10	<u>PM-10</u>	RH Control	On	<u>on</u>	RH Connect	No	<u>No</u>
Analog FS	1.0 v	<u>1.0v</u>	Flow Setpoint	16.7	<u>16.7</u>	Pump Protect	Off	<u>off</u>

**Last 6 Errors in E-BAM Error Log**

Error	Date	Time	Error	Date	Time
<u>1 No new messages</u>	<u>10/13/23</u>	<u>1416</u>			
<u>2</u>		<u>5</u>			
<u>3</u>		<u>6</u>			

Audit Notes:  
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Baseline Air Monitoring Program - DOE

E-BAM Monthly Audit and Maintenance

Station # DOE-2 Serial # Y12096  
 Audit Date: 10/13/23 Audited By: T.S. Williford

Flow Audit

Flow Audit Device Model: BGI Delta Cal DC-1A Serial No: 158047 Calibration Date: 2/27/2023  
 Leak Check Value: as found: 0.3 as left: 0.3

	E-BAM	Ref. Std.	E-BAM	Ref. Std.
Ambient Temperature:	as found: <u>27.3</u> °C	<u>28.1</u> °C	as left: <u>27.3</u> °C	<u>28.1</u> °C
Barometric Pressure:	as found: <u>713.0</u> mmHg	<u>713.0</u> mmHg	as left: <u>713.0</u> mmHg	<u>713.0</u> mmHg
16.7 lpm Flow Rate	as found: <u>16.7</u> lpm	<u>17.21</u> lpm	as left: <u>16.7</u> lpm	<u>17.21</u> lpm
14.0 lpm Flow Rate	as found: <u>14.0</u> lpm	<u>14.41</u> lpm	as left: <u>14.0</u> lpm	<u>14.41</u> lpm
17.5 lpm Flow Rate	as found: <u>17.5</u> lpm	<u>18.11</u> lpm	as left: <u>17.5</u> lpm	<u>18.11</u> lpm

Mechanical Audits ( Y = Yes N = No )

Sample nozzle clean:	as found	<u>Y</u>	as left	<u>Y</u>
Tape support vane clean:	as found	<u>Y</u>	as left	<u>Y</u>
Tape spool covers tight:	as found	<u>Y</u>	as left	<u>Y</u>
PM10 particle trap clean:	as found	<u>Y</u>	as left	<u>Y</u>
PM10 drip jar empty:	as found	<u>Y</u>	as left	<u>Y</u>
PM10 bug screen clear:	as found	<u>Y</u>	as left	<u>Y</u>

Manual Span Membrane Test		Pump Test		
Expected Span Mass (mg/cm2):	<u>0.891</u>	Flow Rate	Vacuum	Quality Category
Measured Span Mass (mg/cm2):	<u>0.862</u>	14.0 - 15.0	Value	Good / Marginal / Poor
Difference (mg/cm2):	<u>0.028</u>	(lpm)	(Hg)	
% Difference / Pass or Fail:	<u>3.19%</u>	<u>14.6</u>	<u>391.0</u>	<u>Good</u>

Setup and Calibration Values

Parameter	Expected	Found	Parameter	Expected	Found	Parameter	Expected	Found
Clock	<u>1249</u>	<u>1249</u>	Analog Mode	Hourly	<u>Hourly</u>	Flow Type	Actual	<u>Act</u>
Location	<u>2</u>	<u>2</u>	Baud Rate	9600	<u>9600</u>	Restart Voltage	12.5 v	<u>12.5</u>
Tape Advance	24 hrs	<u>24hr</u>	RH Setpoint	45%	<u>45.06</u>	Std Cond Temp	25 C	<u>25C</u>
Realtime Avg	60 mins	<u>60min</u>	Delta T Setpoint	15 C	<u>15C</u>	DAC	8.0 v	<u>8.0v</u>
Machine Type	PM-10	<u>PM-10</u>	RH Control	On	<u>on</u>	RH Connect	No	<u>No</u>
Analog FS	1.0 v	<u>1.0v</u>	Flow Setpoint	16.7	<u>16.7</u>	Pump Protect	Off	<u>off</u>

Last 6 Errors in E-BAM Error Log

Error	Date	Time	Error	Date	Time
<u>1 No New Messages</u>	<u>10/13/23</u>	<u>1300</u>			
<u>2</u>					
<u>3</u>					

Audit Notes:  
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Baseline Air Monitoring Program - DOE  
E-BAM Monthly Audit and Maintenance

Station # DOE-3 Serial # B20070  
Audit Date: 10/26/2023 Audited By: T.S. Williford

Flow Audit

Flow Audit Device Model: BGI Delta Cal DC-1A Serial No: 158047 Calibration Date: 2/27/2023  
Leak Check Value: as found: 0.41 as left: 0.41

	E-BAM	Ref. Std.	E-BAM	Ref. Std.
Ambient Temperature:	as found: <u>20.8</u> °C	<u>21.6</u> °C	as left: <u>20.8</u> °C	<u>21.6</u> °C
Barometric Pressure:	as found: <u>714.0</u> mmHg	<u>714.0</u> mmHg	as left: <u>714.0</u> mmHg	<u>714.0</u> mmHg
16.7 lpm Flow Rate	as found: <u>16.7</u> lpm	<u>16.7</u> lpm	as left: <u>16.7</u> lpm	<u>17.81</u> lpm
14.0 lpm Flow Rate	as found: <u>14.0</u> lpm	<u>14.99</u> lpm	as left: <u>14.0</u> lpm	<u>14.99</u> lpm
17.5 lpm Flow Rate	as found: <u>17.5</u> lpm	<u>18.3</u> lpm	as left: <u>17.5</u> lpm	<u>18.3</u> lpm

Mechanical Audits ( Y = Yes N = No )

Sample nozzle clean:	as found	<u>Y</u>	as left	<u>Y</u>
Tape support vane clean:	as found	<u>Y</u>	as left	<u>Y</u>
Tape spool covers tight:	as found	<u>Y</u>	as left	<u>Y</u>
PM10 particle trap clean:	as found	<u>Y</u>	as left	<u>Y</u>
PM10 drip jar empty:	as found	<u>Y</u>	as left	<u>Y</u>
PM10 bug screen clear:	as found	<u>Y</u>	as left	<u>Y</u>

Manual Span Membrane Test	Pump Test		
Expected Span Mass (mg/cm2): <u>0.850</u>	Flow Rate	Vacuum	Quality Category
Measured Span Mass (mg/cm2): <u>0.856</u>	14.0 - 15.0	Value	Good / Marginal / Poor
Difference (mg/cm2): <u>0.006</u>	(lpm)	(Hg)	
% Difference / <u>Pass</u> or Fail: <u>0.70%</u>	<u>14.3</u>	<u>401.6</u>	<u>Good</u>

Setup and Calibration Values

Parameter	Expected	Found	Parameter	Expected	Found	Parameter	Expected	Found
Clock	<u>1346</u>	<u>1346</u>	Analog Mode	Hourly	<u>Hourly</u>	Flow Type	Actual	<u>Act</u>
Location	<u>3</u>	<u>3</u>	Baud Rate	<u>9600</u>	<u>115200</u>	Restart Voltage	12.5 v	<u>12.5v</u>
Tape Advance	24 hrs	<u>24 hrs</u>	RH Setpoint	45%	<u>45%</u>	Std Cond Temp	25 C	<u>25C</u>
Realtime Avg	60 mins	<u>60 mins</u>	Delta T Setpoint	15 C	<u>15C</u>	DAC	8.0 v	<u>8.0v</u>
Machine Type	PM-10	<u>PM-10</u>	RH Control	On	<u>on</u>	RH Connect	No	<u>No</u>
Analog FS	1.0 v	<u>1.0v</u>	Flow Setpoint	16.7	<u>16.7</u>	Pump Protect	Off	<u>off</u>

Last 6 Errors in E-BAM Error Log

Error	Date	Time	Error	Date	Time
<u>1 No new messages</u>	<u>10/26/23</u>	<u>1:359</u>	4		
<u>2</u>			5		
<u>3</u>			6		

Audit Notes:  
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**Baseline Air Monitoring Program - DOE**  
**E-BAM Monthly Audit and Maintenance**

Station # DOE-4 Serial # B18932  
 Audit Date: 10/21/2023 Audited By: T.S. Williams

Flow Audit					
Flow Audit Device Model:	BGI Delta Cal DC-1A	Serial No:	158047	Calibration Date:	2/27/2023
Leak Check Value:	as found: <u>0.35</u>		as left: <u>0.35</u>		
Ambient Temperature:	as found:	E-BAM	Ref. Std.	as left:	E-BAM
		26.6 °C	27.3 °C		26.6 °C
Barometric Pressure:	as found:	703.5 mmHg	704.0 mmHg	as left:	703.5 mmHg
16.7 lpm Flow Rate	as found:	16.7 lpm	17.13 lpm	as left:	16.7 lpm
14.0 lpm Flow Rate	as found:	14.0 lpm	14.21 lpm	as left:	14.0 lpm
17.5 lpm Flow Rate	as found:	17.5 lpm	17.70 lpm	as left:	17.5 lpm

Mechanical Audits ( Y = Yes N = No )			
Sample nozzle clean:	as found	<u>Y</u>	as left <u>Y</u>
Tape support vane clean:	as found	<u>Y</u>	as left <u>Y</u>
Tape spool covers tight:	as found	<u>Y</u>	as left <u>Y</u>
PM10 particle trap clean:	as found	<u>Y</u>	as left <u>Y</u>
PM10 drip jar empty:	as found	<u>Y</u>	as left <u>Y</u>
PM10 bug screen clear:	as found	<u>Y</u>	as left <u>Y</u>

Manual Span Membrane Test		Pump Test		
Expected Span Mass (mg/cm2) :	<u>0.854</u>	Flow Rate	Vacuum	Quality Category
Measured Span Mass (mg/cm2) :	<u>0.857</u>	14.0 - 15.0	Value	Good / Marginal / Poor
Difference (mg/cm2) :	<u>0.003</u>	(lpm)	(Hg)	
% Difference / Pass or Fail:	<u>0.35%</u>	<u>14.9</u>	<u>401.6</u>	<u>Good</u>

Setup and Calibration Values									
Parameter	Expected	Found	Parameter	Expected	Found	Parameter	Expected	Found	
Clock	1001	1001	Analog Mode	Hourly	<u>Hourly</u>	Flow Type	Actual	<u>Act</u>	
Location	4	4	Baud Rate	9600	<u>115200</u>	Restart Voltage	12.5 v	<u>12.5v</u>	
Tape Advance	24 hrs	<u>24hr</u>	RH Setpoint	45%	<u>45%</u>	Std Cond Temp	25 C	<u>25C</u>	
Realtime Avg	60 mins	<u>60 min</u>	Delta T Setpoint	15 C	<u>15 C</u>	DAC	8.0 v	<u>8.0v</u>	
Machine Type	PM-10	<u>PM-10</u>	RH Control	On	<u>on</u>	RH Connect	No	<u>No</u>	
Analog FS	1.0 v	<u>1.0v</u>	Flow Setpoint	16.7	<u>16.7</u>	Pump Protect	Off	<u>off</u>	

Last 6 Errors in E-BAM Error Log						
Error	Date	Time	Error	Date	Time	
1 <u>No new messages</u>	<u>10/21/23</u>	<u>1027</u>				
2						
3						

Audit Notes:  
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Baseline Air Monitoring Program - DOE  
E-BAM Monthly Audit and Maintenance

Station # DOE-1 Serial # W23313  
Audit Date: 11/15/2023 Audited By: TS Williford

Flow Audit								
Flow Audit Device Model:	BGI Delta Cal DC-1A	Serial No:	158047	Calibration Date:	2/27/2023			
Leak Check Value:	as found: <u>0.6</u>		as left: <u>0.6</u>					
Ambient Temperature:	as found:	<u>18.4</u> °C	Ref. Std.	<u>18.3</u> °C	as left:	<u>18.4</u> °C	Ref. Std.	<u>18.3</u> °C
Barometric Pressure:	as found:	<u>713.8</u> mmHg	Ref. Std.	<u>713.0</u> mmHg	as left:	<u>713.8</u> mmHg	Ref. Std.	<u>713.0</u> mmHg
16.7 lpm Flow Rate	as found:	<u>16.7</u> lpm	Ref. Std.	<u>16.78</u> lpm	as left:	<u>16.7</u> lpm	Ref. Std.	<u>16.78</u> lpm
14.0 lpm Flow Rate	as found:	<u>14.0</u> lpm	Ref. Std.	<u>14.06</u> lpm	as left:	<u>14.0</u> lpm	Ref. Std.	<u>14.06</u> lpm
17.5 lpm Flow Rate	as found:	<u>17.5</u> lpm	Ref. Std.	<u>17.59</u> lpm	as left:	<u>17.5</u> lpm	Ref. Std.	<u>17.59</u> lpm

Mechanical Audits (Y = Yes N = No)			
Sample nozzle clean:	as found	<u>Y</u>	as left <u>Y</u>
Tape support vane clean:	as found	<u>Y</u>	as left <u>Y</u>
Tape spool covers tight:	as found	<u>Y</u>	as left <u>Y</u>
PM10 particle trap clean:	as found	<u>Y</u>	as left <u>Y</u>
PM10 drip jar empty:	as found	<u>Y</u>	as left <u>Y</u>
PM10 bug screen clear:	as found	<u>Y</u>	as left <u>Y</u>

Manual Span Membrane Test	Pump Test		
Expected Span Mass (mg/cm2): <u>0.885</u>	Flow Rate	Vacuum	Quality Category
Measured Span Mass (mg/cm2): <u>0.890</u>	14.0 - 15.0	Value	Good / Marginal / Poor
Difference (mg/cm2): <u>0.005</u>	(lpm)	(Hg)	
% Difference (Pass or Fail): <u>0.56%</u>	<u>14.9</u>	<u>426.2</u>	<u>Marginal</u>

Setup and Calibration Values								
Parameter	Expected	Found	Parameter	Expected	Found	Parameter	Expected	Found
Clock	<u>1018</u>	<u>1018</u>	Analog Mode	Hourly	<u>Hourly</u>	Flow Type	Actual	<u>Act</u>
Location	<u>1</u>	<u>1</u>	Baud Rate	9600	<u>9600</u>	Restart Voltage	12.5 v	<u>12.5v</u>
Tape Advance	24 hrs	<u>24hr</u>	RH Setpoint	45%	<u>45%</u>	Std Cond Temp	25 C	<u>25C</u>
Realtime Avg	60 mins	<u>60min</u>	Delta T Setpoint	15 C	<u>15C</u>	DAC	8.0 v	<u>8.0v</u>
Machine Type	PM-10	<u>PM-10</u>	RH Control	On	<u>ON</u>	RH Connect	No	<u>NO</u>
Analog FS	1.0 v	<u>1.0v</u>	Flow Setpoint	16.7	<u>16.7</u>	Pump Protect	Off	<u>OFF</u>

Last 6 Errors in E-BAM Error Log						
Error	Date	Time	Error	Date	Time	
<u>1 No new messages</u>	<u>11/15/23</u>	<u>1051</u>				
<u>2</u>						
<u>3</u>						

Audit Notes:  
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**Baseline Air Monitoring Program - DOE**  
**E-BAM Monthly Audit and Maintenance**

Station # DOE-2 Y12096 BW Serial # Y12096  
 Audit Date: 11/15/2023 Audited By: T. Swilliford

Flow Audit			
Flow Audit Device Model:	BGI Delta Cal DC-1A	Serial No:	158047
		Calibration Date:	2/27/2023
Leak Check Value:	as found: <u>0.4</u>	as left:	<u>0.4</u>

		E-BAM	Ref. Std.		E-BAM	Ref. Std.
Ambient Temperature:	as found:	<u>18.4</u> °C	<u>18.5</u> °C	as left:	<u>18.4</u> °C	<u>18.5</u> °C
Barometric Pressure:	as found:	<u>708.9</u> mmHg	<u>710.5</u> mmHg	as left:	<u>708.9</u> mmHg	<u>710.5</u> mmHg
16.7 lpm Flow Rate	as found:	<u>16.7</u> lpm	<u>17.13</u> lpm	as left:	<u>16.7</u> lpm	<u>17.13</u> lpm
14.0 lpm Flow Rate	as found:	<u>14.0</u> lpm	<u>14.34</u> lpm	as left:	<u>14.0</u> lpm	<u>14.34</u> lpm
17.5 lpm Flow Rate	as found:	<u>17.5</u> lpm	<u>17.89</u> lpm	as left:	<u>17.5</u> lpm	<u>17.89</u> lpm

Mechanical Audits ( Y = Yes N = No )			
Sample nozzle clean:	as found	<u>Y</u>	as left <u>Y</u>
Tape support vane clean:	as found	<u>Y</u>	as left <u>Y</u>
Tape spool covers tight:	as found	<u>Y</u>	as left <u>Y</u>
PM10 particle trap clean:	as found	<u>Y</u>	as left <u>Y</u>
PM10 drip jar empty:	as found	<u>Y</u>	as left <u>Y</u>
PM10 bug screen clear:	as found	<u>Y</u>	as left <u>Y</u>

Manual Span Membrane Test	Pump Test		
Expected Span Mass (mg/cm2): <u>0.891</u>	Flow Rate	Vacuum	Quality Category
Measured Span Mass (mg/cm2): <u>0.879</u>	14.0 - 15.0	Value	Good / Marginal / Poor
Difference (mg/cm2): <u>0.012</u>	(lpm)	(Hg)	
% Difference / Pass or Fail: <u>1.36%</u>	<u>14.5</u>	<u>412.8</u>	<u>Marginal</u>

Setup and Calibration Values								
Parameter	Expected	Found	Parameter	Expected	Found	Parameter	Expected	Found
Clock	<u>1006</u>	<u>1006</u>	Analog Mode	Hourly	<u>Hourly</u>	Flow Type	Actual	<u>Act</u>
Location	<u>2</u>	<u>2</u>	Baud Rate	9600	<u>9600</u>	Restart Voltage	12.5 v	<u>12.5v</u>
Tape Advance	24 hrs	<u>24</u>	RH Setpoint	45%	<u>45%</u>	Std Cond Temp	25 C	<u>25C</u>
Realtime Avg	60 mins	<u>60</u>	Delta T Setpoint	15 C	<u>15C</u>	DAC	8.0 v	<u>8.0v</u>
Machine Type	PM-10	<u>PM-10</u>	RH Control	On	<u>ON</u>	RH Connect	No	<u>NO</u>
Analog FS	1.0 v	<u>1.0v</u>	Flow Setpoint	16.7	<u>16.7</u>	Pump Protect	Off	<u>OFF</u>

Last 6 Errors in E-BAM Error Log						
Error	Date	Time	Error	Date	Time	
<u>1 No new messages</u>	<u>11/15/23</u>	<u>1009</u>				
<u>2</u>						
<u>3</u>						

Audit Notes:  
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**Baseline Air Monitoring Program - DOE  
E-BAM Monthly Audit and Maintenance**

Station # \_\_\_\_\_ Serial # \_\_\_\_\_  
 Audit Date: \_\_\_\_\_ Audited By: \_\_\_\_\_

**Flow Audit**

Flow Audit Device Model: BGI Delta Cal DC-1A Serial No: 158047 Calibration Date: 2/27/2023

Leak Check Value: as found: \_\_\_\_\_ as left: \_\_\_\_\_

	as found:	E-BAM	Ref. Std.	as left:	E-BAM	Ref. Std.
Ambient Temperature:	_____	_____	_____	_____	_____	_____
Barometric Pressure:	_____	_____	_____	_____	_____	_____
16.7 lpm Flow Rate	_____	_____	_____	_____	_____	_____
14.0 lpm Flow Rate	_____	_____	_____	_____	_____	_____
17.5 lpm Flow Rate	_____	_____	_____	_____	_____	_____

**Mechanical Audits ( Y = Yes N = No )**

Sample nozzle clean: as found \_\_\_\_\_ as left \_\_\_\_\_

Tape support vane clean: as found \_\_\_\_\_ as left \_\_\_\_\_

Tape spool covers tight: as found \_\_\_\_\_ as left \_\_\_\_\_

PM10 particle trap clean: as found \_\_\_\_\_ as left \_\_\_\_\_

PM10 drip jar empty: as found \_\_\_\_\_ as left \_\_\_\_\_

PM10 bug screen clear: as found \_\_\_\_\_ as left \_\_\_\_\_

Manual Span Membrane Test		Pump Test	
Expected Span Mass (mg/cm2) :	_____	Flow Rate	Vacuum
Measured Span Mass (mg/cm2) :	_____	14.0 - 15.0	Value
Difference (mg/cm2) :	_____	(lpm)	(Hg)
% Difference / Pass or Fail:			Quality Category
			Good / Marginal / Poor

**Setup and Calibration Values**

Parameter	Expected	Found	Parameter	Expected	Found	Parameter	Expected	Found
Clock			Analog Mode	Hourly		Flow Type	Actual	
Location			Baud Rate	9600		Restart Voltage	12.5 v	
Tape Advance	24 hrs		RH Setpoint	45%		Std Cond Temp	25 C	
Realtime Avg	60 mins		Delta T Setpoint	15 C		DAC	8.0 v	
Machine Type	PM-10		RH Control	On		RH Connect	No	
Analog FS	1.0 v		Flow Setpoint	16.7		Pump Protect	Off	

**Last 6 Errors in E-BAM Error Log**

Error	Date	Time	Error	Date	Time
1			4		
2			5		
3			6		

Audit Notes: \_\_\_\_\_  
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**Baseline Air Monitoring Program - DOE**  
**E-BAM Monthly Audit and Maintenance**

Station # DoF-4 Serial # B18932  
 Audit Date: 11/15/23 Audited By: T.S. Williford

**Flow Audit**

Flow Audit Device Model: BGI Delta Cal DC-1A Serial No: 158047 Calibration Date: 2/27/2023  
 Leak Check Value: as found: 0.39 as left: 0.39

	as found:	E-BAM	Ref. Std.	as left:	E-BAM	Ref. Std.
Ambient Temperature:		<u>16.6</u> °C	<u>16.5</u> °C		<u>16.6</u> °C	<u>16.5</u> °C
Barometric Pressure:		<u>704.3</u> mmHg	<u>704.0</u> mmHg		<u>704.3</u> mmHg	<u>704.0</u> mmHg
16.7 lpm Flow Rate		<u>16.67</u> lpm	<u>17.15</u> lpm		<u>16.7</u> lpm	<u>17.15</u> lpm
14.0 lpm Flow Rate		<u>14.8</u> lpm	<u>14.28</u> lpm		<u>14.0</u> lpm	<u>14.28</u> lpm
17.5 lpm Flow Rate		<u>17.5</u> lpm	<u>17.79</u> lpm		<u>17.5</u> lpm	<u>17.79</u> lpm

**Mechanical Audits (Y = Yes N = No)**

Sample nozzle clean:	as found	<u>Y</u>	as left	<u>Y</u>
Tape support vane clean:	as found	<u>Y</u>	as left	<u>Y</u>
Tape spool covers tight:	as found	<u>Y</u>	as left	<u>Y</u>
PM10 particle trap clean:	as found	<u>Y</u>	as left	<u>Y</u>
PM10 drip jar empty:	as found	<u>Y</u>	as left	<u>Y</u>
PM10 bug screen clear:	as found	<u>Y</u>	as left	<u>Y</u>

Manual Span Membrane Test		Pump Test		
Expected Span Mass (mg/cm2):	<u>0.854</u>	Flow Rate	Vacuum Value	Quality Category
Measured Span Mass (mg/cm2):	<u>0.859</u>	14.0 - 15.0 (lpm)	(Hg)	Good / Marginal / Poor
Difference (mg/cm2):	<u>0.005</u>			
% Difference / Pass or Fail:	<u>0.58%</u>	<u>14.4</u>	<u>406.5</u>	<u>Good</u>

**Setup and Calibration Values**

Parameter	Expected	Found	Parameter	Expected	Found	Parameter	Expected	Found
Clock	<u>1213</u>	<u>1213</u>	Analog Mode	Hourly	<u>Hourly</u>	Flow Type	Actual	<u>Act</u>
Location	<u>4</u>	<u>4</u>	Baud Rate	<u>9600</u>	<u>115200</u>	Restart Voltage	12.5 v	<u>12.5</u>
Tape Advance	24 hrs	<u>24hr</u>	RH Setpoint	45%	<u>45%</u>	Std Cond Temp	25 C	<u>25c</u>
Realtime Avg	60 mins	<u>60 mins</u>	Delta T Setpoint	15 C	<u>15c</u>	DAC	8.0 v	<u>8.0v</u>
Machine Type	PM-10	<u>PM 10</u>	RH Control	On	<u>on</u>	RH Connect	No	<u>No</u>
Analog FS	1.0 v	<u>1.0v</u>	Flow Setpoint	16.7	<u>16.7</u>	Pump Protect	Off	<u>off</u>

**Last 6 Errors in E-BAM Error Log**

Error	Date	Time	Error	Date	Time
<u>1 No new messages</u>	<u>11/15/23</u>	<u>1219</u>			
<u>2</u>					
<u>3</u>					

Audit Notes:

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Baseline Air Monitoring Program - DOE  
E-BAM Monthly Audit and Maintenance

Station # DOE-1 Serial # W23313  
Audit Date: 12/18/23 Audited By: T.S. Williford

Flow Audit					
Flow Audit Device Model:	BGI Delta Cal DC-1A	Serial No:	158047	Calibration Date:	2/27/2023
Leak Check Value:	as found:		as left:		
Ambient Temperature:	as found:	E-BAM	Ref. Std.	as left:	E-BAM
		15.9 °C	15.6 °C		15.9 °C
Barometric Pressure:	as found:	707.3 mmHg	706.0 mmHg	as left:	707.3 mmHg
16.7 lpm Flow Rate	as found:	16.7 lpm	16.79 lpm	as left:	16.7 lpm
14.0 lpm Flow Rate	as found:	14.0 lpm	15.02 lpm	as left:	14.0 lpm
17.5 lpm Flow Rate	as found:	17.5 lpm	17.60 lpm	as left:	17.5 lpm

Mechanical Audits ( Y = Yes N = No )			
Sample nozzle clean:	as found	<u>Y</u>	as left <u>Y</u>
Tape support vane clean:	as found	<u>Y</u>	as left <u>Y</u>
Tape spool covers tight:	as found	<u>Y</u>	as left <u>Y</u>
PM10 particle trap clean:	as found	<u>Y</u>	as left <u>Y</u>
PM10 drip jar empty:	as found	<u>Y</u>	as left <u>Y</u>
PM10 bug screen clear:	as found	<u>Y</u>	as left <u>Y</u>

Manual Span Membrane Test		Pump Test		
Expected Span Mass (mg/cm <sup>2</sup> ):	<u>0.885</u>	Flow Rate 14.0 - 15.0 (lpm)	Vacuum Value (Hg)	Quality Category Good / Marginal / Poor
Measured Span Mass (mg/cm <sup>2</sup> ):	<u>0.898</u>			
Difference (mg/cm <sup>2</sup> ):	<u>0.013</u>			
% Difference <u>Pass</u> or Fail:	<u>1.46%</u>	<u>14.5</u>	<u>48.1 P</u> <u>77.6 T</u>	<u>Marginal</u>

Setup and Calibration Values								
Parameter	Expected	Found	Parameter	Expected	Found	Parameter	Expected	Found
Clock	0835	0835	Analog Mode	Hourly	<u>Hourly</u>	Flow Type	Actual	<u>Act</u>
Location	1	1	Baud Rate	9600	<u>9600</u>	Restart Voltage	12.5 v	<u>12.5 v</u>
Tape Advance	24 hrs	<u>24hr</u>	RH Setpoint	45%	<u>45%</u>	Std Cond Temp	25 C	<u>25 C</u>
Realtime Avg	60 mins	<u>60 mins</u>	Delta T Setpoint	15 C	<u>15 C</u>	DAC	8.0 v	<u>8.0 v</u>
Machine Type	PM-10	<u>PM10</u>	RH Control	On	<u>on</u>	RH Connect	No	<u>no</u>
Analog FS	1.0 v	<u>1.0 v</u>	Flow Setpoint	16.7	<u>16.7</u>	Pump Protect	Off	<u>off</u>

Last 6 Errors in E-BAM Error Log					
Error	Date	Time	Error	Date	Time
1 <u>No new message</u>		<u>0838</u>	4		
2			5		
3			6		

Audit Notes:  
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Baseline Air Monitoring Program - DOE  
E-BAM Monthly Audit and Maintenance

Station # DOE-2 Serial # Y12096  
Audit Date: 12/18/23 Audited By: J.S. Williford

Flow Audit  
Flow Audit Device Model: BGI Delta Cal DC-1A Serial No: 158047 Calibration Date: 2/27/2023  
Leak Check Value: as found: \_\_\_\_\_ as left: \_\_\_\_\_

		E-BAM	Ref. Std.		E-BAM	Ref. Std.
Ambient Temperature:	as found:	<u>14.8</u> °C	<u>15.3</u> °C	as left:	<u>14.8</u> °C	<u>15.3</u> °C
Barometric Pressure:	as found:	<u>710.3</u> mmHg	<u>712.8</u> mmHg	as left:	<u>710.3</u> mmHg	<u>712.8</u> mmHg
16.7 lpm Flow Rate	as found:	<u>16.7</u> lpm	<u>17.4</u> lpm	as left:	<u>16.7</u> lpm	<u>17.4</u> lpm
14.0 lpm Flow Rate	as found:	<u>14.0</u> lpm	<u>14.28</u> lpm	as left:	<u>14.0</u> lpm	<u>14.28</u> lpm
17.5 lpm Flow Rate	as found:	<u>17.5</u> lpm	<u>17.88</u> lpm	as left:	<u>17.5</u> lpm	<u>17.88</u> lpm

Mechanical Audits (Y = Yes N = No)

Sample nozzle clean:	as found	<u>Y</u>	as left	<u>Y</u>
Tape support vane clean:	as found	<u>Y</u>	as left	<u>Y</u>
Tape spool covers tight:	as found	<u>Y</u>	as left	<u>Y</u>
PM10 particle trap clean:	as found	<u>Y</u>	as left	<u>Y</u>
PM10 drip jar empty:	as found	<u>Y</u>	as left	<u>Y</u>
PM10 bug screen clear:	as found	<u>Y</u>	as left	<u>Y</u>

Manual Span Membrane Test		Pump Test	
Expected Span Mass (mg/cm2):	<u>0.891</u>	Flow Rate	Vacuum
Measured Span Mass (mg/cm2):	<u>0.880</u>	14.0 - 15.0	Value
Difference (mg/cm2):	<u>0.011</u>	(lpm)	(Hg)
% Difference / Pass or Fail:	<u>1.24%</u>	<u>14.6</u>	<u>409.1</u>
			<u>Good</u>

Setup and Calibration Values

Parameter	Expected	Found	Parameter	Expected	Found	Parameter	Expected	Found
Clock	<u>0934</u>	<u>0934</u>	Analog Mode	Hourly	<u>Hourly</u>	Flow Type	Actual	<u>Act</u>
Location	<u>2</u>	<u>2</u>	Baud Rate	9600	<u>9600</u>	Restart Voltage	12.5 v	<u>12.5V</u>
Tape Advance	24 hrs	<u>24hr</u>	RH Setpoint	45%	<u>45%</u>	Std Cond Temp	25 C	<u>25C</u>
Realtime Avg	60 mins	<u>60 min</u>	Delta T Setpoint	15 C	<u>15C</u>	DAC	8.0 v	<u>8.0V</u>
Machine Type	PM-10	<u>PM-10</u>	RH Control	On	<u>on</u>	RH Connect	No	<u>No</u>
Analog FS	1.0 v	<u>1.0V</u>	Flow Setpoint	16.7	<u>16.7</u>	Pump Protect	Off	<u>off</u>

Last 6 Errors in E-BAM Error Log

Error	Date	Time	Error	Date	Time
<u>1 No new messages</u>	<u>12/18/23</u>	<u>0942</u>	4		
<u>2</u>			5		
<u>3</u>			6		

Audit Notes:  
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**Baseline Air Monitoring Program - DOE**  
**E-BAM Monthly Audit and Maintenance**

Station # DOE-3 Serial # X16067  
 Audit Date: 12/15/23 Audited By: T.S. Williford

Flow Audit								
Flow Audit Device Model:	BGI Delta Cal DC-1A		Serial No:	158047		Calibration Date:	2/27/2023	
Leak Check Value:	as found: <u>0.4</u>		as left: <u>0.4</u>					
Ambient Temperature:	as found:	<u>24.9</u> °C	Ref. Std.	<u>24.2</u> °C	as left:	<u>24.9</u> °C	Ref. Std.	<u>24.2</u> °C
Barometric Pressure:	as found:	<u>711.5</u> mmHg	Ref. Std.	<u>712.0</u> mmHg	as left:	<u>711.5</u> mmHg	Ref. Std.	<u>712.0</u> mmHg
16.7 lpm Flow Rate	as found:	<u>16.7</u> lpm	Ref. Std.	<u>16.95</u> lpm	as left:	<u>16.7</u> lpm	Ref. Std.	<u>16.95</u> lpm
14.0 lpm Flow Rate	as found:	<u>14.0</u> lpm	Ref. Std.	<u>14.26</u> lpm	as left:	<u>14.0</u> lpm	Ref. Std.	<u>14.26</u> lpm
17.5 lpm Flow Rate	as found:	<u>17.5</u> lpm	Ref. Std.	<u>17.91</u> lpm	as left:	<u>17.5</u> lpm	Ref. Std.	<u>17.91</u> lpm

Mechanical Audits (Y = Yes N = No)			
Sample nozzle clean:	as found	<u>Y</u>	as left <u>Y</u>
Tape support vane clean:	as found	<u>Y</u>	as left <u>Y</u>
Tape spool covers tight:	as found	<u>Y</u>	as left <u>Y</u>
PM10 particle trap clean:	as found	<u>Y</u>	as left <u>Y</u>
PM10 drip jar empty:	as found	<u>Y</u>	as left <u>Y</u>
PM10 bug screen clear:	as found	<u>Y</u>	as left <u>Y</u>

Manual Span Membrane Test		Pump Test		
Expected Span Mass (mg/cm2):	<u>0.950</u>	Flow Rate	Vacuum	Quality Category
Measured Span Mass (mg/cm2):	<u>0.927</u>	14.0 - 15.0	Value	Good / Marginal / Poor
Difference (mg/cm2):	<u>0.023</u>	(lpm)	(Hg)	
% Difference / Pass or Fail:	<u>2.45%</u>	<u>14.1</u>	<u>412.6</u>	<u>Marginal</u>

Setup and Calibration Values									
Parameter	Expected	Found	Parameter	Expected	Found	Parameter	Expected	Found	
Clock	<u>1230</u>	<u>1230</u>	Analog Mode	Hourly	<u>Hourly</u>	Flow Type	Actual	<u>Act</u>	
Location	<u>3</u>	<u>3</u>	Baud Rate	9600	<u>9600</u>	Restart Voltage	12.5 v	<u>12.5v</u>	
Tape Advance	24 hrs	<u>24hrs</u>	RH Setpoint	45%	<u>45%</u>	Std Cond Temp	25 C	<u>25C</u>	
Realtime Avg	60 mins	<u>60mins</u>	Delta T Setpoint	15 C	<u>15C</u>	DAC	8.0 v	<u>8.0v</u>	
Machine Type	PM-10	<u>PM10</u>	RH Control	On	<u>On</u>	RH Connect	No	<u>No</u>	
Analog FS	1.0 v	<u>1.0v</u>	Flow Setpoint	16.7	<u>16.7</u>	Pump Protect	Off	<u>off</u>	

Last 6 Errors in E-BAM Error Log						
Error	Date	Time	Error	Date	Time	
1 <u>No New Messages</u>	<u>12/15/23</u>	<u>1238</u>				4
2						5
3						6

Audit Notes:  
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Baseline Air Monitoring Program - DOE  
E-BAM Monthly Audit and Maintenance

Station # DOE-4 Serial # B18932  
Audit Date: 12/18/23 Audited By: T.S. Williford

Flow Audit					
Flow Audit Device Model:	BGI Delta Cal DC-1A	Serial No:	158047	Calibration Date:	2/27/2023
Leak Check Value:	as found: <u>0.33</u>	as left:	<u>0.33</u>		
Ambient Temperature:	as found: <u>17.0</u> °C	Ref. Std.:	<u>16.6</u> °C	as left:	<u>17.0</u> °C
Barometric Pressure:	as found: <u>706.1</u> mmHg	Ref. Std.:	<u>706.0</u> mmHg	as left:	<u>706.1</u> mmHg
16.7 lpm Flow Rate	as found: <u>16.7</u> lpm	Ref. Std.:	<u>17.06</u> lpm	as left:	<u>16.7</u> lpm
14.0 lpm Flow Rate	as found: <u>14.0</u> lpm	Ref. Std.:	<u>14.35</u> lpm	as left:	<u>14.0</u> lpm
17.5 lpm Flow Rate	as found: <u>17.5</u> lpm	Ref. Std.:	<u>17.85</u> lpm	as left:	<u>17.5</u> lpm

Mechanical Audits (Y = Yes N = No)			
Sample nozzle clean:	as found	<u>Y</u>	as left <u>Y</u>
Tape support vane clean:	as found	<u>Y</u>	as left <u>Y</u>
Tape spool covers tight:	as found	<u>Y</u>	as left <u>Y</u>
PM10 particle trap clean:	as found	<u>Y</u>	as left <u>Y</u>
PM10 drip jar empty:	as found	<u>Y</u>	as left <u>Y</u>
PM10 bug screen clear:	as found	<u>Y</u>	as left <u>Y</u>

Manual Span Membrane Test	Pump Test		
Expected Span Mass (mg/cm2): <u>0.854</u>	Flow Rate	Vacuum	Quality Category
Measured Span Mass (mg/cm2): <u>0.852</u>	14.0 - 15.0	Value	Good / Marginal / Poor
Difference (mg/cm2): <u>0.002</u>	(lpm)	(Hg)	
% Difference / Pass or Fail: <u>0.2%</u>	<u>14.7</u>	<u>392.2</u>	<u>Good</u>

Setup and Calibration Values								
Parameter	Expected	Found	Parameter	Expected	Found	Parameter	Expected	Found
Clock	<u>1141</u>	<u>1141</u>	Analog Mode	Hourly	<u>Hourly</u>	Flow Type	Actual	
Location	<u>4</u>	<u>4</u>	Baud Rate	<u>9600</u>	<u>115200</u>	Restart Voltage	12.5 v	<u>12.5v</u>
Tape Advance	24 hrs	<u>24hr</u>	RH Setpoint	45%	<u>45%</u>	Std Cond Temp	25 C	<u>25C</u>
Realtime Avg	60 mins	<u>60min</u>	Delta T Setpoint	15 C	<u>15C</u>	DAC	8.0 v	<u>8.0v</u>
Machine Type	PM-10	<u>PM-10</u>	RH Control	On	<u>on</u>	RH Connect	No	<u>NO</u>
Analog FS	1.0 v	<u>1.0v</u>	Flow Setpoint	16.7	<u>16.7</u>	Pump Protect	Off	<u>off</u>

Last 6 Errors in E-BAM Error Log						
Error	Date	Time	Error	Date	Time	
<u>1 No new messages</u>	<u>12/18/23</u>	<u>1:38</u>	4			
<u>2</u>			5			
<u>3</u>			6			

Audit Notes:  
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## **APPENDIX E**

### **VOC Analytical Data Packages, Q20 through Q23**

Appendix E is available via separate attachment.

## **APPENDIX F**

### **Radiological Analytical Data Packages, Q20 through Q23**

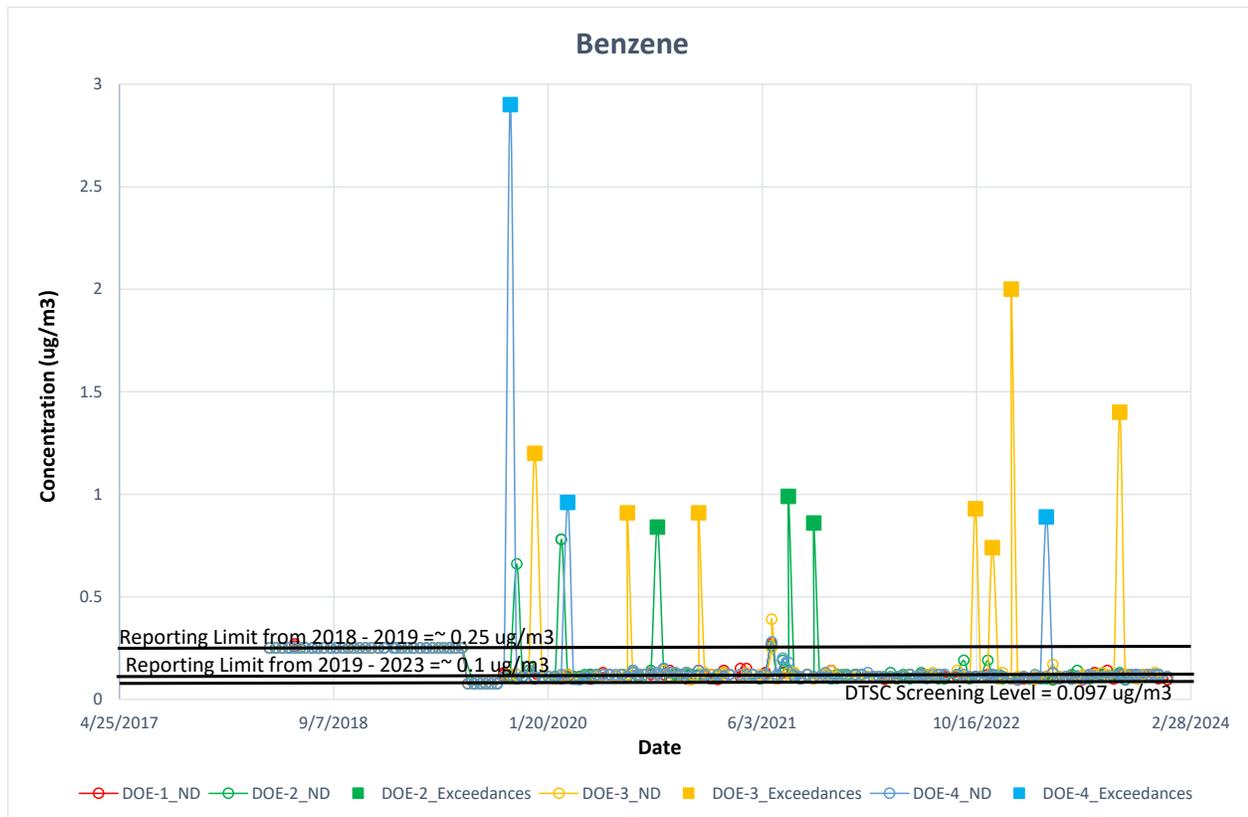
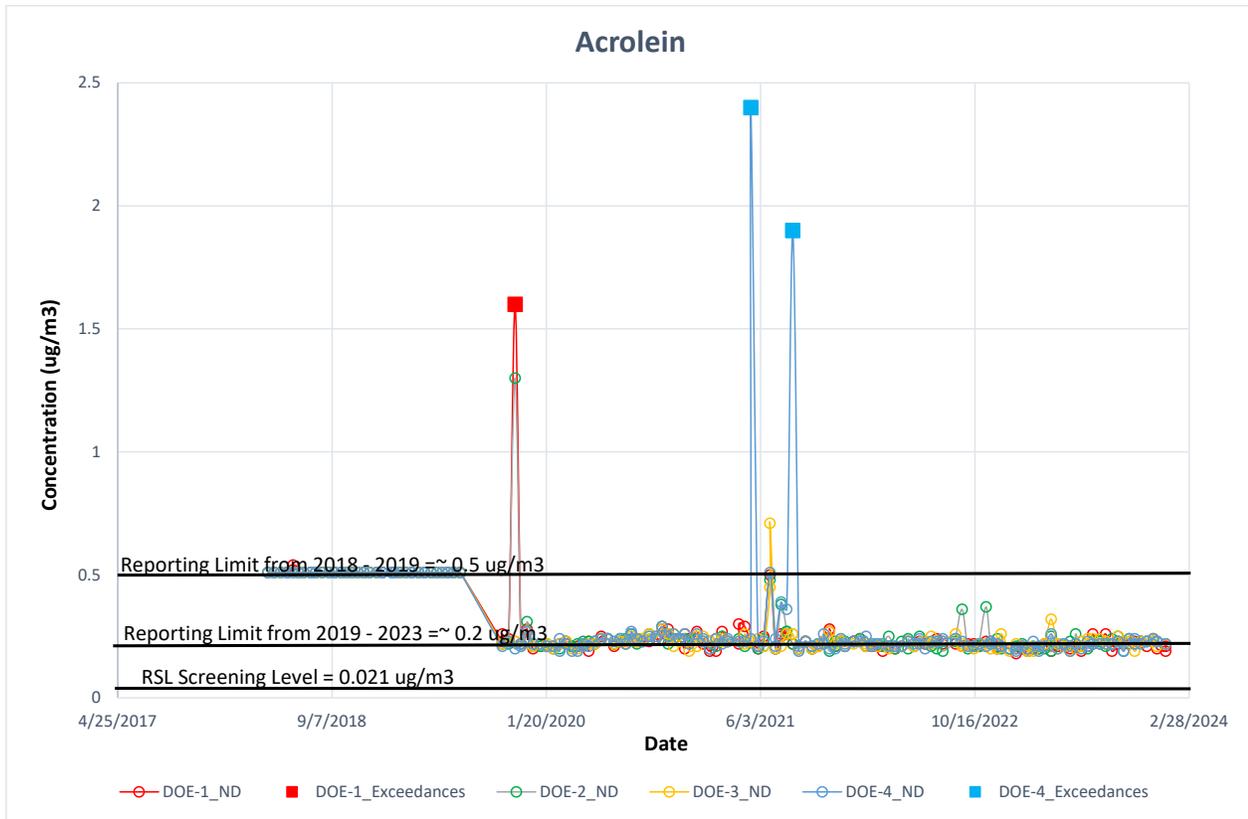
Appendix F is available via separate attachment.

**APPENDIX G**

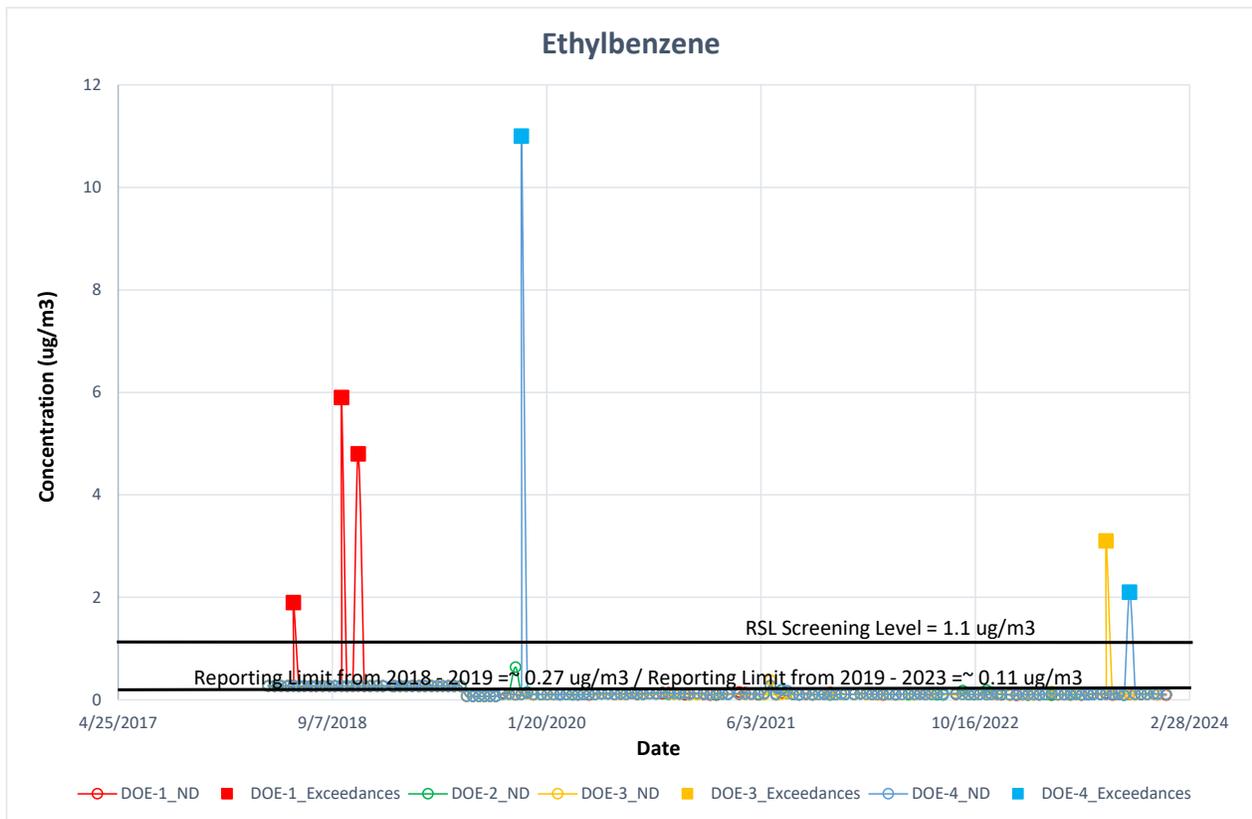
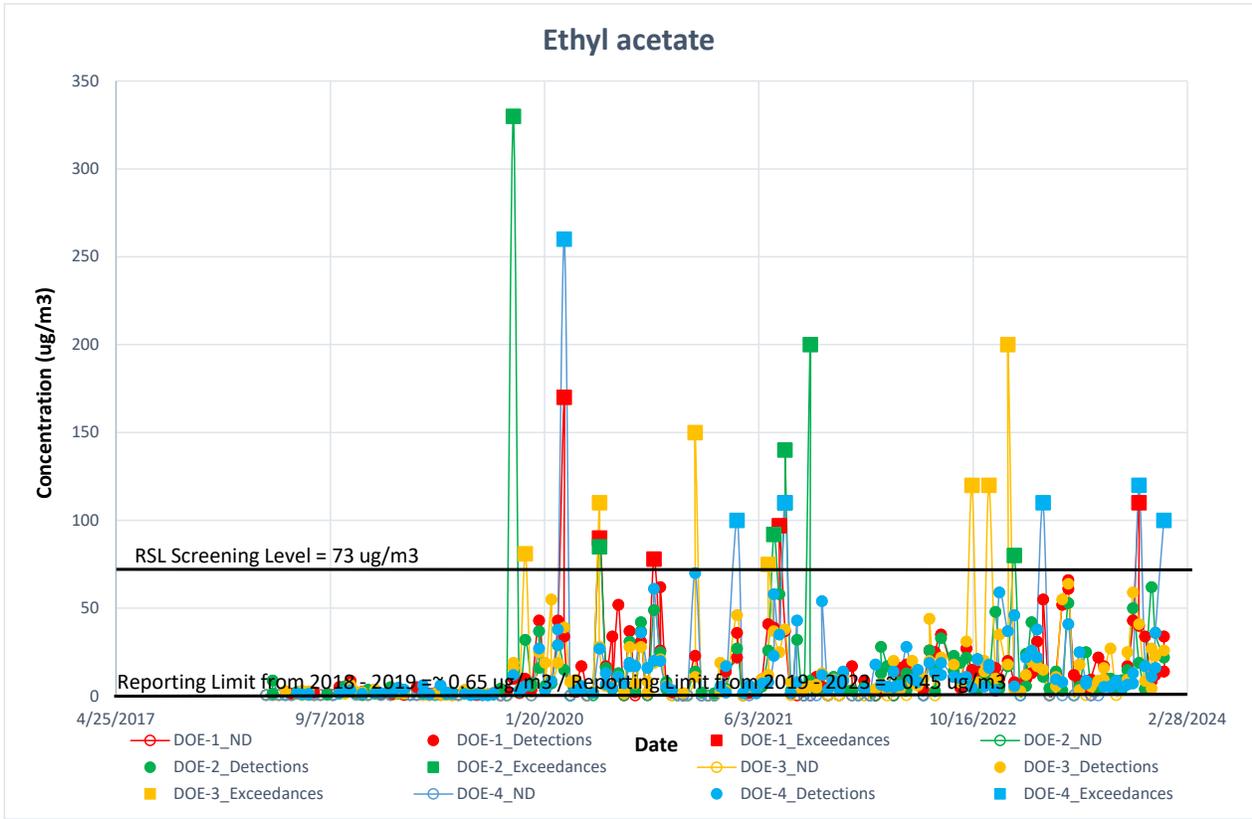
**Select TO-15 VOC Time vs Concentration Plots**

**Q1 through Q23**

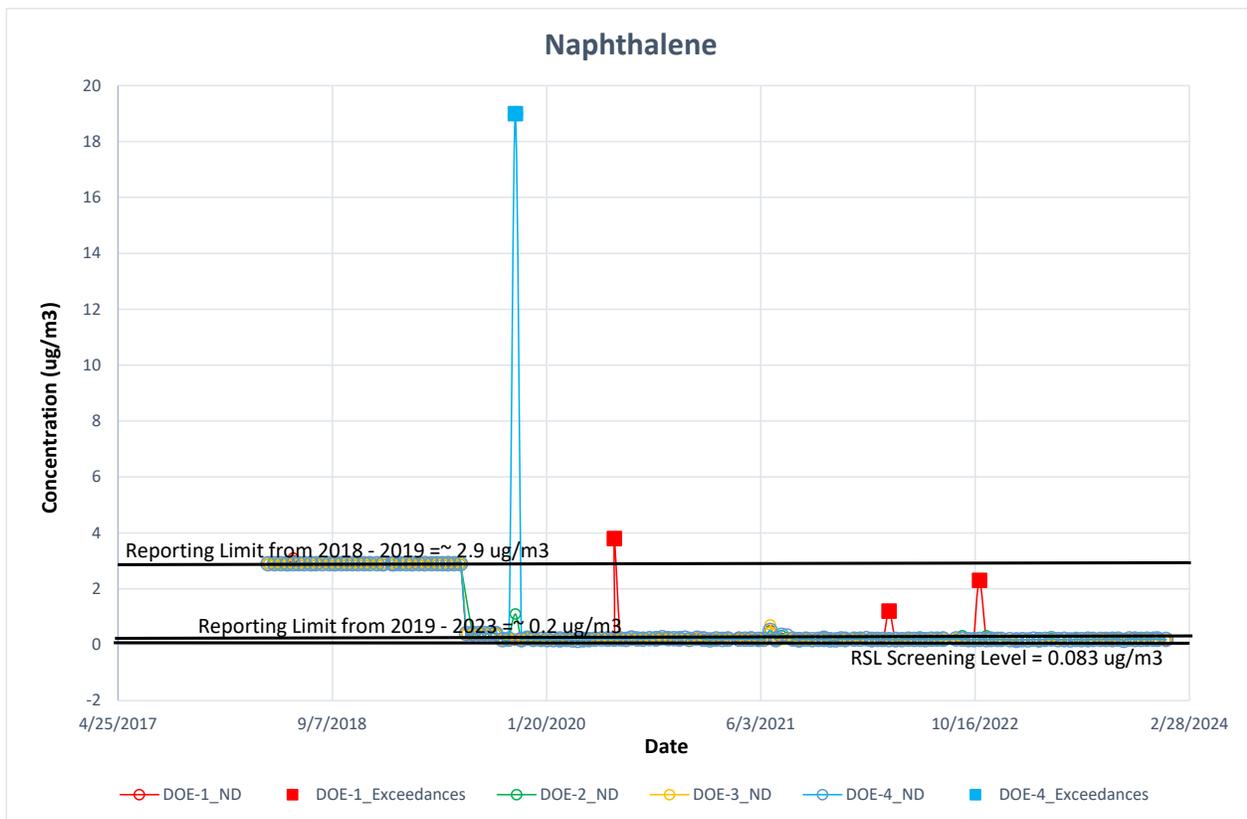
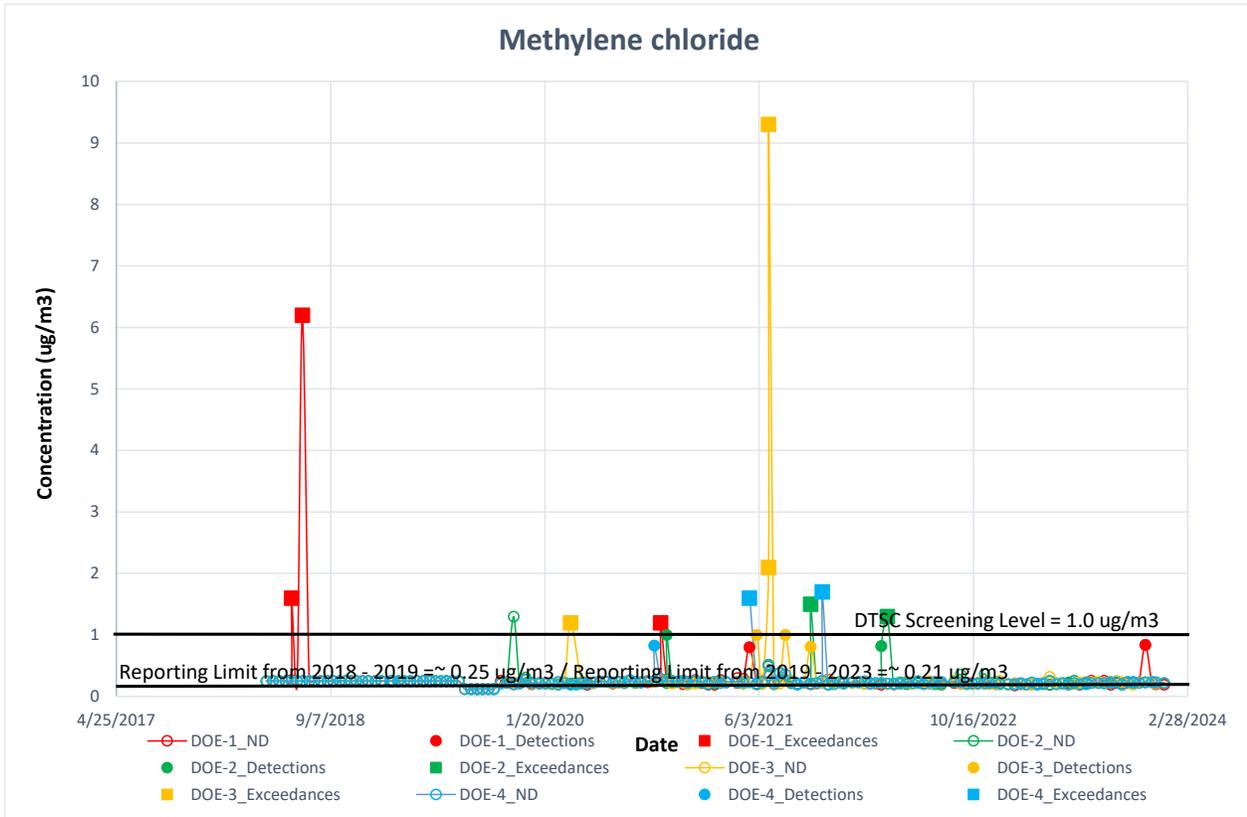
Appendix G is available via separate attachment.



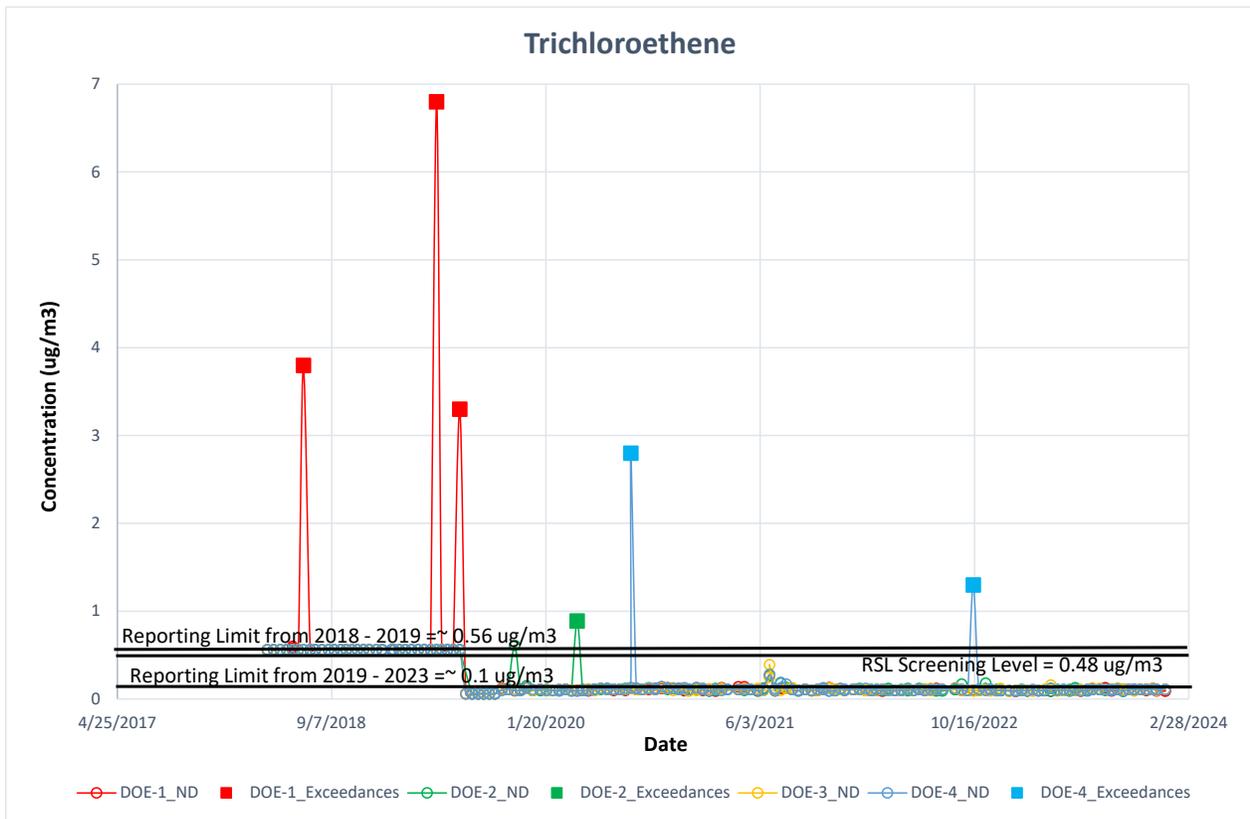
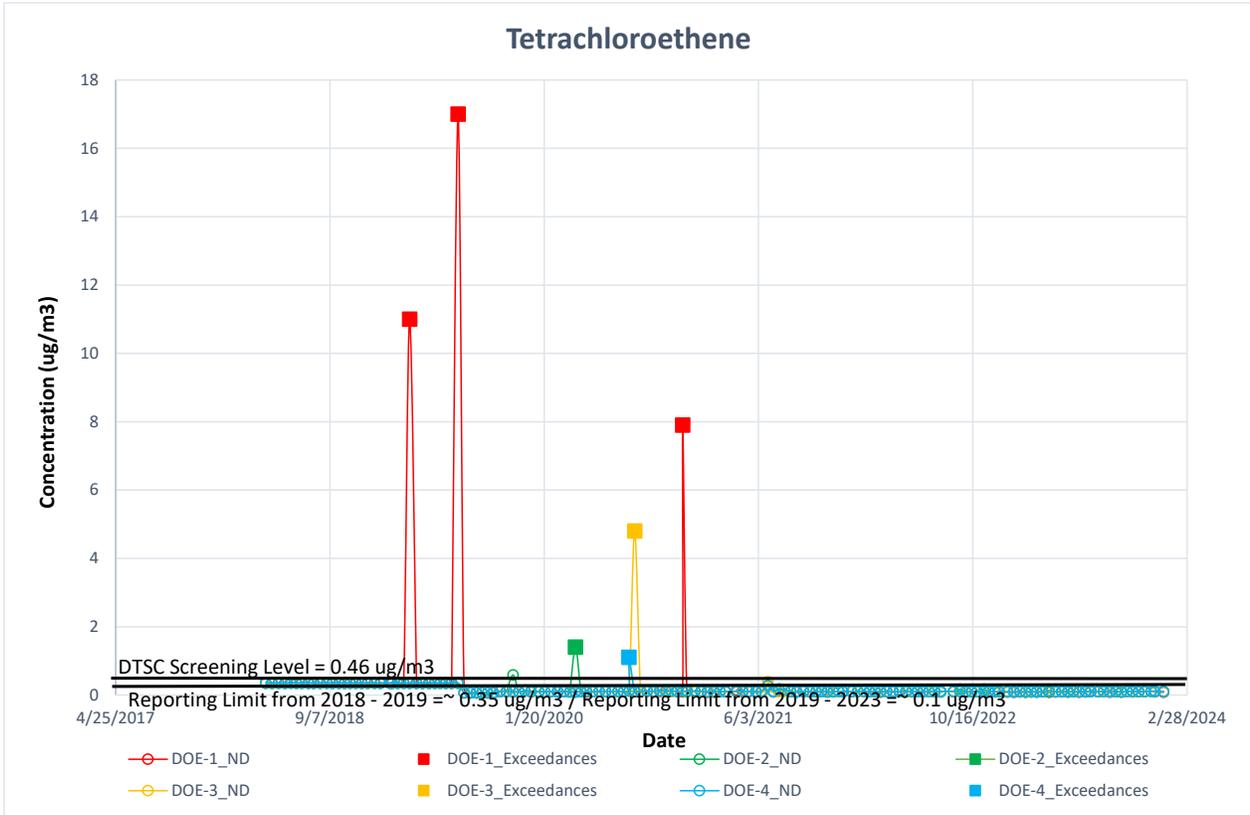
Data from 4/2018 - 12/2023 is presented.  
 Values reported as non-detect were plotted with an open circle.  
 Values reported as detect were plotted with a full circle.  
 Values reported as exceedances plotted with a full square.



Data from 4/2018 - 12/2023 is presented.  
 Values reported as non-detect were plotted with an open circle.  
 Values reported as detect were plotted with a full circle.  
 Values reported as exceedances plotted with a full square.



Data from 4/2018 - 12/2023 is presented.  
 Values reported as non-detect were plotted with an open circle.  
 Values reported as detect were plotted with a full circle.  
 Values reported as exceedances plotted with a full square.



Data from 4/2018 - 12/2023 is presented.  
 Values reported as non-detect were plotted with an open circle.  
 Values reported as detect were plotted with a full circle.  
 Values reported as exceedances plotted with a full square.