Naval Facilities Engineering Systems Command Southwest
BRAC PMO West
San Diego, CA

Air Monitoring Summary Report
July 1 to July 31, 2021

Phase IV Non-Time Critical Removal Action, Solid Waste Disposal Area Westside, Installation Restoration Site 12
Former Naval Station Treasure Island
San Francisco, CA
August 2021

DCN: GLBN-0005-F5271-0014

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Prepared for:

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Naval Facilities Engineering Systems Command Southwest
BRAC PMO West
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Acronyms and Abbreviations

AMP	Air Monitoring Plan
BAAQMD	Bay Area Air Quality Management District
BAP(Eq)	benzo(a)pyrene equivalency
cfm	cubic feet per minute
CFR	Code of Federal Regulations
DAC	derived air concentration
DCP	Dust Control Plan
DTSC	Department of Toxic Substances Control
Gilbane	Gilbane Federal
HERO	Human and Ecological Risk Office
IR	Installation Restoration
mg/m^3	milligram per cubic meter
Navy	U.S. Department of the Navy
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyl
PDR	personal data-logging real-time aerosol monitor
PM10	particulate matter less than 10 microns in diameter
PUF	polyurethane foam
Ra-226	radium-226
TCDD	2,3,7,8-tetrachlorodibenzo-p-dioxin
TLV	threshold limit value
TSP	total suspended particulates
$\mu g/m^3$	microgram per cubic meter
USEPA	United States Environmental Protection Agency
Work Plan	*Final Work Plan, Phase IV Non-Time Critical Removal Action, Solid Waste Disposal Area Westside, Installation Restoration Site 12, Former Naval Station Treasure Island, San Francisco, California*

1.0 Introduction

This Air Monitoring Report was prepared by Gilbane Federal (Gilbane) as requested by the United States Department of the Navy (Navy) under the Radiological Multiple Award Contract (RADMAC II) N62473-12-D-D005, Contract Task Order N6247317F5271. Gilbane is performing dust and air monitoring at Former Naval Station Treasure Island in accordance with the Final Dust Control Plan (DCP) and Air Monitoring Plan (AMP), included as appendices to *Phase IV Non-Time Critical Removal Action Work Plan, Solid Waste Disposal Area Westside, Installation Restoration Site 12, Former Naval Station Treasure Island, San Francisco, California* (Work Plan; Gilbane, 2021).

The DCP describes best management practices and procedures to be implemented to minimize dust generation during work activities. Dust monitoring is conducted to ensure that these procedures are effective. Dust monitoring is also conducted to verify that the working environment meets occupational health and safety standards and that workers are safe. The AMP outlines the requirements for prevention of exposure for construction workers to dust and potential airborne chemicals of concern from the work area. The AMP also establishes the conservative project action levels for dust at the work area boundary to protect residents.

This summary report describes the following:

- Dust and air monitoring sampling locations – **Section 2.0**,
- Dust and air monitoring sample collection and analytical methods – **Section 3.0**,
- Dust and air monitoring data – **Section 4.0**, and,
- Dust and air monitoring results – **Section 5.0**.

This summary report presents the dust and air monitoring test results at Installation Restoration (IR) Site 12 from July 1st through July 31st , 2021 and compares the results with the established action levels included in the Work Plan (Gilbane, 2021). During this reporting period, the Site 12 air monitoring stations (AMSW1 and AMSW2) operated on July 1st, 2nd, 7th , 8th, 9th, 10th ,13th, 14th, 15th, 16th, 20th, 21st, 22nd, 23rd, 27th, 28th, 29th and 30th, for earth-moving tasks involving potentially contaminated soil.

During the reporting period, personal data-logging real-time aerosol monitoring (PDR) dust data was collected. Air samples were collected and analyzed for lead, polychlorinated biphenyls (PCBs), polycyclic aromatic hydrocarbons (PAHs), dioxin [2,3,7,8-tetrachlorodibenzo-p-dioxin (TCDD)], total suspended particulates (TSP), and particulate matter less than 10 microns in diameter (PM10). In addition, air samples were analyzed for radiological gross alpha and beta levels. Lastly, the generators supplying power to the air monitoring stations experienced issues with the fuel filters creating anomalous data on 15, 16 and 22 July. The filters have been replaced and the problems have been mitigated.

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2.0 Monitoring Site Locations

2.1 Dust Monitoring

During earthmoving activities, several PDR stations are set up to monitor real-time airborne dust concentrations. The purpose of the PDR stations is to act as a first line of defense in protecting workers' health, and ultimately the public's health, during field activities. PDR stations are situated immediately adjacent to the current work area locations most likely to generate the greatest volume of airborne dust and are adjusted as necessary due to changes in wind direction and/or work location. Real-time dust monitoring ensures dust levels remain below action levels during fieldwork operations.

The general locations for dust monitors in IR Site 12 are shown on **Figure 1**. Specific locations of each PDR are described in the individual PDR daily data files. Field forms from each location are presented in **Attachment 1** of this report. During earth moving activities at IR Site 12 (i.e., transportation of excavated soil to the radiological screening yard, excavation, and backfilling), one PDR serves as the upwind (background) location (DMW7, DMW10, DMW13) and two PDRs are placed in downwind perimeter locations (DMW8, DMW9, DMW11, DMW12, DMW14, DMW15). Weather forecasts including wind direction are checked daily with a weather station located at Building 572. The weather station records temperature, pressure, wind speed and direction, etc., every 30 minutes, 24 hours per day. Wind speed is also monitored near the work site during soil excavation and handling to ensure that work is stopped if sustained winds over 25 miles per hour are encountered. No work stoppages due to sustained wind speed exceedances were required during this reporting period. Wind speed and direction data gathered during work hours for this reporting period, presented on a wind rose diagram in **Figure 2**, generally depict the wind blowing East-North-East at 8-13 miles/hour with gusts up to 19 miles/hour. Detailed weather data is not reported in this document but can be provided upon request.

2.2 Air Monitoring

Air monitoring samples collected using high volume samplers are collected to identify and quantify airborne contaminants and to confirm the results recorded during dust (PDR) monitoring. Air monitoring stations are mobilized to collect air monitoring samples upwind and downwind of work areas. General locations of the IR Site 12 air monitoring stations are shown on **Figure 1**. The locations of the air monitoring stations are determined based on the prevailing wind direction (typically from the southwest) and are modified as needed. A weather station is erected to monitor the wind direction.

High volume air monitoring stations remain stationary while sampling is being conducted; however, locations may be adjusted when the wind direction changes and when overall excavation work areas change from one site to another. Each upwind and downwind high-volume monitoring station includes separate monitoring systems for the

following:

- TSP - collected daily
- PM10 - collected daily
- Lead - collected daily
- PAHs, PCBs, and dioxin - collected on alternating days

2.3 Radiological Air Monitoring

Radiological air samplers are positioned adjacent to excavation work activities for radiologically impacted soil at one upwind and one downwind location during earthmoving activities associated with radiologically impacted soil. The radiological air samplers may be co-located with PDRs or the high-volume samplers.

3.0 Sampling and Analytical Methods

Dust and air samples are collected during earthmoving activities. However, during precipitation events, the dust and air monitoring units may not be operable. An attempt will be made to collect samples and readings regardless of the weather. If dust or air monitors are found to be malfunctioning or nonfunctional, earthmoving activities will stop until monitors can be repaired or replaced. The Site Health and Safety Officer is responsible for monitoring the air and dust monitoring sampling equipment. In rare cases, due to ancillary equipment malfunction such as generator failure during the night, a sample may be collected that represents a period of less than 24 hours. If this situation occurs, a note is added to the sample result data tables indicating why the full sampling period was not achieved.

3.1 Dust Samples

The PDR is a high sensitivity photometric monitor with a light-scattering sensing configuration that has been optimized for the measurement of the respirable fraction of airborne dust, smoke, fumes, and mists. PDRs are used to evaluate real-time monitoring of airborne dust concentrations, to determine if there is a need for additional dust control or personal protection.

3.2 Air Samples

Air samples were sampled in accordance with the United States Environmental Protection Agency (USEPA) reference sampling method for PM10, described in 40 Code of Federal Regulations (CFR) 50, Subpart J. Each sample was collected on a filter over an approximately 24-hour period; the filter was then weighed to determine the amount of PM10 collected.

TSP samples were collected with a high-volume (39 to 60 cubic feet per minute [cfm]) air sampler in accordance with USEPA's reference sampling method for TSP, described in Title 40 CFR, Part 50, Subpart B. Each sample was collected on a filter over an approximately 24-hour period; the filter was then weighed to determine the amount of TSP collected. Once the filter weight was determined, the sample was analyzed for lead in accordance with USEPA Method 6020 using inductively coupled mass spectrometry.

Air samples for PCBs, PAHs, and dioxin are collected and analyzed in accordance with USEPA Methods TO-4A, TO-13, TO-9A, respectively, using TISCH polyurethane (PUF) samplers. The filter media collected from the air samplers is submitted to the analytical laboratory for appropriate analysis.

PCB, PAH, and dioxin samples are collected on alternating days at the downwind and upwind stations during earthmoving activities.

3.3 Radiological Air Samples

Radiological air monitoring is also conducted upwind and downwind on days of earthmoving activities. Radiological samples are collected with a LV-1 low volume air sampler. Air filters are counted on site following a decay period and are compared with public air concentration limits published in 10 CFR Part 20. Radiological air sampling methods and procedures are detailed in Gilbane Radiological Procedure PR-RP-150 *Radiological Survey and Sampling* (Gilbane, 2016).

The radiological air sample is counted on a Low Background Protean WPC-9950 and analyzed for gross alpha and beta activity. The calculated airborne concentration in microcuries is then compared to the effluent concentration (often but incorrectly refer to as a derived air concentration [DAC] which applies only to occupational exposures) limit specified in Table 2 of Appendix B to 10 CFR 20. The effluent concentration is the concentration of a given radionuclide in air which, if inhaled continuously over the course of a year, results in an exposure equal to the annual regulatory limit specified in 10 CFR 20.1302. The threshold for radiological effluent air monitoring samples is 10 percent of the effluent concentration, which ensures work practices are evaluated and modified as necessary to ensure the limit is not reached.

4.0 Dust and Air Monitoring Data

The Human and Ecological Risk Office (HERO) at the request of the California Department of Toxic Substances Control (DTSC) developed dust action levels for community air monitoring for IR Site 12. Sub-chronic and chronic dust action levels as PM10 were calculated for lead, dioxin, benzo(a)pyrene (BAP) equivalency (Eq) by PAHs analysis, and PCBs. As presented in the document *Dust Action Levels for Installation Restoration Site 12, Former Naval Station Treasure Island, San Francisco, California* (HERO, 2018), the action levels were calculated using the maximum chemicals of concern soil concentrations at IR Site 12.

Based on HERO's recommendations, a PM10 dust action level of 50 microgram per cubic meter (ug/m^3) will be implemented for all excavation areas at IR Site 12. TSP is expected to be further controlled based on the limit employed for PM10, in accordance with guidance provided by the San Francisco Bay Area Air Quality Management District (BAAQMD), which estimates that PM10 makes up approximately 55 percent of TSP. If it is apparent that project activities are the cause of exceedances, additional control measures will be considered and implemented.

Dust monitoring action levels that are implemented on a real-time basis are listed in **Table 1**. PDR data are collected and reviewed each day by the Site Health and Safety Manager. PDR data are included in **Attachment 1**.

Analytical results from air monitoring samples are compared with the project screening criteria (threshold limit values [TLV]) listed in **Table 2**. Air monitoring results are included in **Attachment 2**.

Table 1: Dust Monitoring Project Action Levels

Method	Monitoring Location	Monitoring Frequency [a]	Action Level [b]	Action
PDR	Near Workers' Breathing Zones (typically on equipment)	Periodically [c]	<2.0 mg/m^3 >2.0 mg/m^3	<2.0 mg/m^3 continue work in Level D. Increase dust control (i.e., apply water or other suppression method) and/or upgrade to Level C if concentrations >2.0 mg/m^3.
	Job Site Perimeter	Continuously	<1.0 mg/m^3 >1.0 mg/m^3	Continue work. STOP work, apply water or other dust suppression methods until levels decrease below 1.0 mg/m^3

Notes:

Only the Health and Safety Manager is authorized to downgrade levels of personal protective equipment.

a Frequency of air monitoring may be adjusted by the project Certified Industrial Hygienist after sufficient characterization of site contaminants has been completed, tasks have been modified, or site controls have proven effective.

b Five readings exceeding the action level in any 15-minute period or a sustained reading exceeding the action level for five minutes will trigger a response. Action levels represent airborne particulate concentrations in excess of background particulate concentrations.

c PDR will be monitored a minimum of three times a day.

< less than

> greater than

mg/m^3 milligrams per cubic meter

PDR personal data-logging real-time aerosol monitor

Table 2: Air Monitoring Project Screening Criteria

Chemicals of Concern	Project Screening Criteria (Threshold Limit Value) µg/m^3	Basis
Lead	1,575	TI Site 12 Subchronic Dust Action Level
TSP	50	TI Site 12 Dust Action Level
PM10	50	BAAQMD Ambient Air Quality Standard
BAP(Eq)	55,330	TI Site 12 Chronic Dust Action Level
PCBs[a]	NA	TI Site 12 Dust Action Level
Dioxin[a]	1E+07	TI Site 12 Chronic Dust Action Level
Radiological (Ra-226)	10% of DAC[c]	Occupational and public air concentration limits for Ra-226 published in 10 Code of Federal Regulations Part 20.

Notes:

a The dust action level was increased by a factor of 10 to account for the short-term duration of the project relative to the lifetime assumptions incorporated into the toxicity criteria and exposure assumption.

b BAP(Eq) action level will be ~55 mg/m^3 for all excavations

c Public air concentration limits are commonly referred to as DAC, but are actually Effluent Concentrations from Table 2 for 10 CFR Part 20.

BAAQMD	Bay Area Air Quality Management District
BAP(Eq)	benzo(a)pyrene equivalency
DAC	derived air concentration
mg/m^3	milligrams per cubic meter
PCBs	polychlorinated biphenyls
PM10	particulate matter smaller than 10 microns in diameter
Ra-226	radium-226
TSP	total suspended particulates
µg/m^3	micrograms per cubic meter

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5.0 Air Monitoring Results

If dust (PDR) monitoring equipment alarms, the source of exceedance will be determined by evaluating both upwind and downwind dust (PDR) sample locations. If the difference between upwind and downwind concentrations is greater than the action level for a sustained period of 15 minutes, then earthmoving activities will be halted until dust control measures are implemented. These may include, but are not limited to, adding water to the work area during earth moving tasks, evaluation of alternate work procedures or equipment, and/or cessation of the activity that is creating the dust until the PDR readings are below the screening criteria.

PDR summary results are presented in **Attachment 1**. Weather information (including ambient pressure and temperature data) and high-volume air monitoring sample results are presented in Attachment 2. Weather information was collected from the weather station at Building 572, Avenue M, Treasure Island, San Francisco, California. Radiological air monitoring results are presented in **Attachment 3**.

PM10 analytical results from July 2021 did not exceed the project-specific screening criteria presented in **Table 2-2**.

TSP analytical results from July 2021 are presented in **Table 2-3**. The following details any exceedances that occurred during the July reporting period and the appropriate mitigation measures taken:

- A one-day exceedance of the TSP criteria was recorded on July 7th at 98 ug/m3 despite any intrusive, dirt moving, or hauling activities that would have generated any measurable dust being present within the vicinity of the downwind air monitoring station. The associated PM10 reading (35ug/m3) and PDR (-0.001) reading were also below threshold limits and do not support the anomalous TSP reading. The appropriate parties were notified when the contractor received these results. The field crew continues to maintain diligent dust control measures.

- The TSP samples recorded July 15th and 16th at AMSW1 and July 22nd at AMSW1 were collected and submitted but the result is considered too uncertain due to a fowling generator causing the air monitoring station to shut off.

There were no exceedances recorded for the PDR results on the corresponding dust monitoring days in July 2021. The field PDR data sheets are found in **Attachment 1**.

Metals (lead), PAHs, total PCBs, and dioxin analytical results from July 2021, did not exceed the project-specific screening criteria presented in **Table 2**.

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6.0 References

Gilbane, 2016. *Radiological Procedure PR-RP-150 Radiological Survey and Sampling*. January.

Gilbane, 2021. *Phase IV Non-Time Critical Removal Action Work Plan, Solid Waste Disposal Area Westside, Installation Restoration Site 12, Former Naval Station Treasure Island, San Francisco, California*. March.

Gilbane, 2021. *Phase IV Non-Time Critical Removal Action Work Plan, Air Monitoring Plan, Solid Waste Disposal Area Westside, Installation Restoration Site 12, Former Naval Station Treasure Island, San Francisco, California*. March.

Gilbane, 2021. *Phase IV Non-Time Critical Removal Action Work Plan, Dust Control Plan, Solid Waste Disposal Area Westside, Installation Restoration Site 12, Former Naval Station Treasure Island, San Francisco, California*. March.

HERO, 2018. *Dust Action Levels for Installation Restoration Site 12, Former Naval Station Treasure Island, San Francisco, California. September*.

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FIGURES

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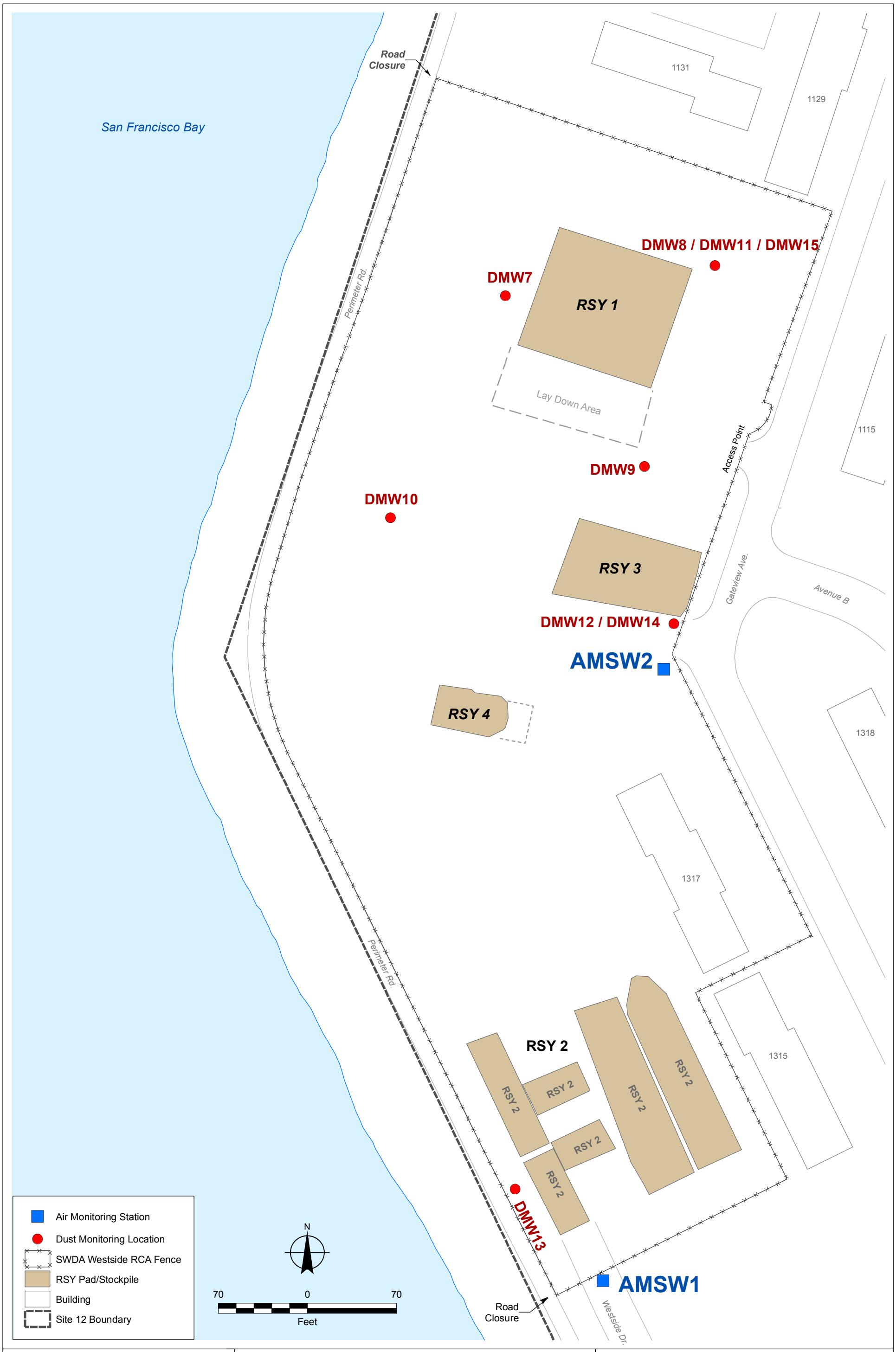

NAVFAC Naval Facilities Engineering Command

Air Monitoring Report
Phase IV Non-Time Critical Removal Action
Solid Waste Disposal Area Westside, IR Site 12
Former Naval Station Treasure Island
San Francisco, CA

Figure 1

Dust and Air Monitoring Locations IR Site 12
SWDA Westside

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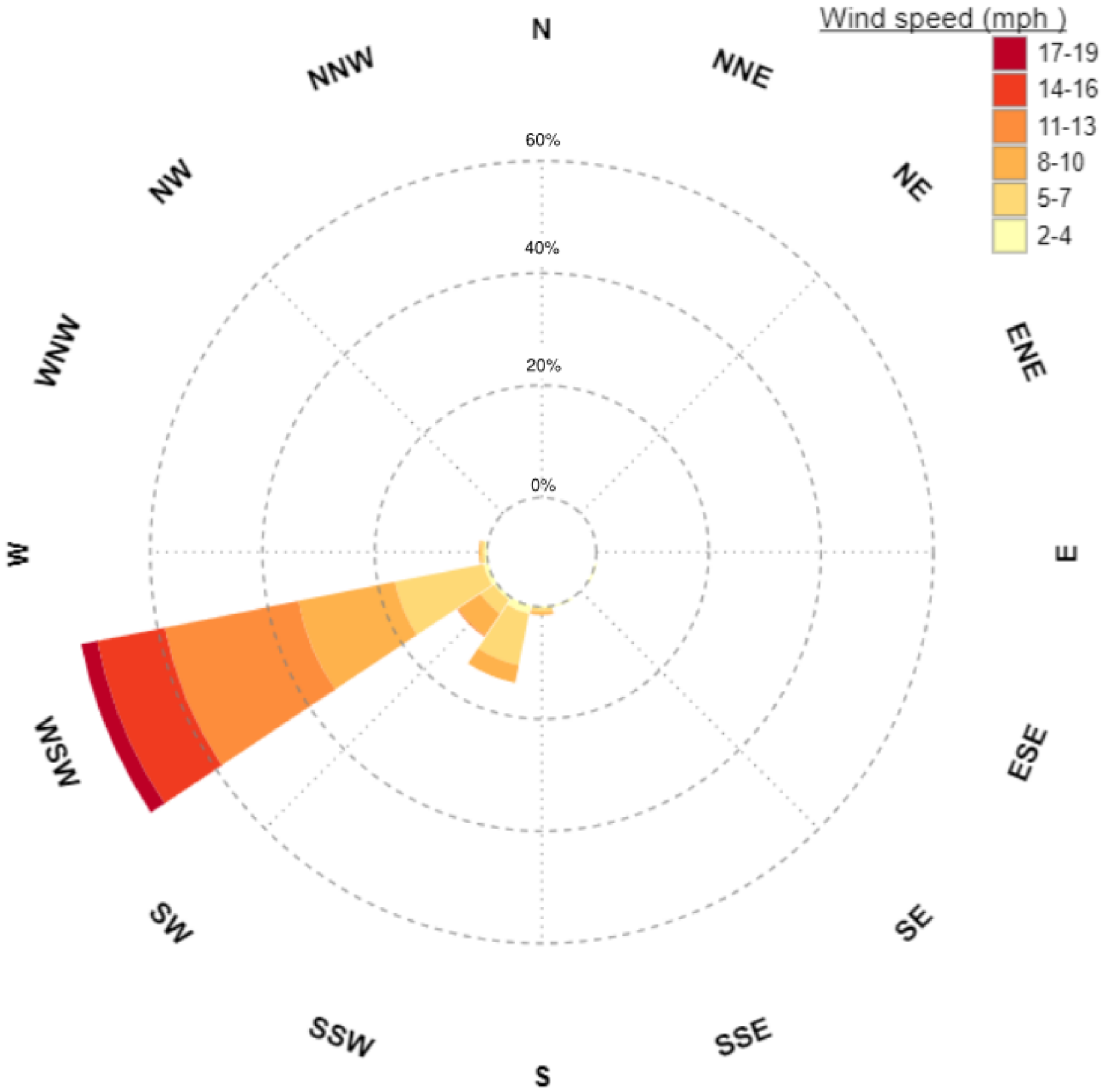

Air Monitoring Report
Phase IV Non-Time Critical Removal Action
Solid Waste Disposal Area Westside, IR Site 12
Former Naval Station Treasure Island
San Francisco, CA

Figure 2

Wind Rose
IR Site 12 SWDA Westside

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ATTACHMENT 1
PDR SUMMARY TABLE AND FIELD FORMS
(Provided on CD)

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Table 1-1: Personal Data-Logging Real-Time (PDR) Aerosol Montoring Results

DustTrak Unit	IR Site	Date	Maximum[1] (mg/m^3)	Average[1] (mg/m^3)	Delta Between Upwind and Downwind Stations (mg/m^3)	Below action level? (0.050 mg/m^3) (Yes/No)
DMW7	Site 12	7/1/2021	0.015	0.010	NA	Yes
DMW8	Site 12		0.012	0.009	-0.001	Yes
DMW9	Site 12		0.013	0.008	-0.002	Yes
DMW7	Site 12	7/6/2021	0.016	0.008	NA	Yes
DMW8	Site 12		0.014	0.006	-0.002	Yes
DMW9	Site 12		0.042	0.013	0.005	Yes
DMW7	Site 12	7/7/2021	0.019	0.014	NA	Yes
DMW8	Site 12		0.022	0.013	-0.001	Yes
DMW9	Site 12		0.017	0.012	-0.002	Yes
DMW7	Site 12	7/8/2021	0.029	0.021	NA	Yes
DMW8	Site 12		0.041	0.025	0.004	Yes
DMW9	Site 12		0.026	0.020	-0.001	Yes
DMW10	Site 12	7/9/2021	0.039	0.031	NA	Yes
DMW11	Site 12		0.046	0.031	0.000	Yes
DMW12	Site 12		0.043	0.031	0.000	Yes
DMW13	Site 12		0.026	0.024	NA	Yes
DMW14	Site 12		0.031	0.023	-0.001	Yes
DMW15	Site 12		0.024	0.021	-0.003	Yes
DMW7	Site 12	7/12/2021	0.028	0.024	NA	Yes
DMW8	Site 12		0.031	0.026	0.002	Yes
DMW9	Site 12		0.028	0.024	0.000	Yes
DMW13	Site 12		0.019	0.011	NA	Yes
DMW14	Site 12		0.026	0.014	0.003	Yes
DMW15	Site 12		0.045	0.016	0.005	Yes
DMW7	Site 12	7/13/2021	0.019	0.011	NA	Yes
DMW8	Site 12		0.023	0.011	0.000	Yes
DMW9	Site 12		0.017	0.011	0.000	Yes
DMW7	Site 12	7/14/2021	0.018	0.013	NA	Yes
DMW8	Site 12		0.025	0.015	0.002	Yes
DMW9	Site 12		0.020	0.015	0.002	Yes
DMW7	Site 12	7/15/2021	0.007	0.005	NA	Yes
DMW8	Site 12		0.010	0.006	0.001	Yes
DMW9	Site 12		0.007	0.005	0.000	Yes
DMW13	Site 12		0.010	0.008	NA	Yes
DMW14	Site 12		0.010	0.007	-0.001	Yes
DMW15	Site 12		0.030	0.013	0.005	Yes
DMW13	Site 12	7/19/2021	0.035	0.027	NA	Yes
DMW14	Site 12		0.045	0.028	0.001	Yes
DMW15	Site 12		0.039	0.028	0.001	Yes
DMW7	Site 12	7/20/2021	0.021	0.014	NA	Yes
DMW8	Site 12		0.026	0.013	-0.001	Yes
DMW9	Site 12		0.020	0.012	-0.002	Yes
DMW7	Site 12	7/21/2021	0.033	0.026	NA	Yes
DMW8	Site 12		0.035	0.027	0.001	Yes
DMW9	Site 12		0.029	0.025	-0.001	Yes
DMW7	Site 12	7/22/2021	0.031	0.025	NA	Yes
DMW8	Site 12		0.048	0.031	0.006	Yes
DMW9	Site 12		0.030	0.025	0.000	Yes
DMW13	Site 12		0.032	0.030	NA	Yes
DMW14	Site 12		0.025	0.024	-0.006	Yes
DMW15	Site 12		0.046	0.039	0.009	Yes
DMW13	Site 12	7/26/2021	0.027	0.015	NA	Yes
DMW14	Site 12		0.029	0.013	-0.002	Yes
DMW15	Site 12		0.022	0.014	-0.001	Yes
DMW7	Site 12	7/27/2021	0.018	0.013	NA	Yes
DMW8	Site 12		0.039	0.019	0.006	Yes
DMW9	Site 12		0.022	0.008	-0.005	Yes
DMW7	Site 12	7/28/2021	0.011	0.007	NA	Yes
DMW8	Site 12		0.043	0.017	0.010	Yes
DMW9	Site 12		0.009	0.006	-0.001	Yes
DMW7	Site 12	7/29/2021	0.019	0.009	NA	Yes
DMW8	Site 12		0.025	0.013	0.004	Yes
DMW9	Site 12		0.019	0.008	-0.001	Yes

Notes:

bold = results above screening criteria

mg/m^3 = milligrams per cubic meter

NA = not applicable

[1] Maximum and average dust readings from daily PDR data downloads. Data are available upon request.

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 7/1/21

Project No. J310000300 Page 1 of 1

Logged by Logan Schwing

Weather 53°F - 60°F . Cloudy.

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0900	DMW7	• DW RSP Pad 1	0.008	2845	• operation Setup • non-intrusive
↓	DMW8	• DW RSP Pad 1	0.017	2341	
↓	DMW9	• DW RSP Pad 1	0.014	2726	
1000	DMW7		0.007		• UXO team on Small break.
↓	DMW8		0.008		• Frag distance not implemented
↓	DMW9		0.010		
1300	DMW7		0.010		• Teams on lunch.
↓	DMW8		0.011		• no earth moving
↓	DMW9		0.008		

LSS 7/1/21

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AIR MONITORING LOG

Client Name NAVFAC Date 7/6/2021

Project / No. T.I. Westside Phase IV NTCRA / J310000800 Page 1 of 1

Logged by Tom

Weather 56 - 67°F Foggy AM slightly cloudy PM

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0800	DMW7	upwind	0.005	2845	UXO clearing RS4 pad 1 Lot-21
↓	DMW8	downwind	0.003	2726	
↓	DMW9	downwind	0.006	2341	
1130	DMW7		0.008		
↓	DMW8		0.005		
↓	DMW9		0.007		
1330	DMW7		0.007		
↓	DMW8		0.007		
↓	DMW9		0.006		
1545	DMW7		0.019		increase in wind high 20MPH.
↓	DMW8		0.022		
↓	DMW9		0.032		
			TK		
				7/6/21	

Gilbane

AIR / DUST MONITORING LOG

Client Name _Navy NAVFAC_____ Date 7/7/21

Project No. J310000800 SWDA Westside, Site 12, Treasure Island Page 1 of 1

Logged by Logan Schwing

Weather 51°F - 60°F. partly cloudy

Instrument Type: __Dust Trak II_____

Calibration Standards Used: _Factory Calibrated_____

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0800	DMW7	•UWRSY1	0.009	2845	• setup/prep
↓	DMW8	•DWRSY1	0.010	2341	
↓	DMW9	•DWRSY1	0.011	2726	
1310	DMW7		0.012		• UXO team on lunch • non-intrusive
↓	DMW8		0.015		
↓	DMW9		0.014		
1700	DMW7		0.010		• of finishing for day.
↓	DMW8		0.013		
↓	DMW9		0.016		

LSS 7/7/21

Gilbane

AIR / DUST MONITORING LOG

Client Name _Navy NAVFAC_____ Date 7/8/21

Project No. J310000800 SWDA Westside, Site 12, Treasure Island Page 1 of 1

Logged by Logan Schwing

Weather 58°F - 66°F. partly cloudy. Low hanging Fog in AM.

Instrument Type: __Dust Trak II_____

Calibration Standards Used: _Factory Calibrated_____

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0800	DMW7	·DWRSA1	0.020	2845	·op startup/setup
↓	DMW8	·DWRSA1	0.027	2341	·Note: Low hanging marine layer causing somewhat higher readings in AM with no activities occurring.
↓	DMW9	·DWRSA1	0.030	2726	
1105	DMW7		0022		
↓	DMW8		0.025		·post Demo Shot readings.
↓	DMW9		0.026		-non-intrusive
1655	DMW7		0.019		-op wrapping up for day.
↓	DMW8		0.018		
↓	DMW9		0.025		

LSS 7/8/21

Gilbane

AIR / DUST MONITORING LOG

Client Name _Navy NAVFAC_____ Date 7/9/21

Project No. J310000800 SWDA Westside, Site 12, Treasure Island Page 1 of 1

Logged by Logan Schwing

Weather H 74°F - L 60°F. Sunny Low hanging Fog in AM.

Instrument Type: __Dust Trak II_____

Calibration Standards Used: _Factory Calibrated_____

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0755	DMW10	•UW RSY1 material to stockpile area	0.030	2845	•Team setting up/prep for op.
↓	DMW11	•DW RSY1 material to stockpile area	0.035	2726	• low hanging marine layer causing elevated morning readings before op. even has begun.
↓	DMW12	•DW RSY1 material to stockpile area	0.028	2341	
1115	DMW10		0.027		•Team still stockpiling soil from RSY pad 1 to westside Drive area.
↓	DMW11		0.030		
↓	DMW12		0.033		•Fog starting to diminish
1340	DMW13	•UW RSY2 soil hauled to RSY1 laydown	0.026	2845	•Dust monitors moved to incorporate RSY2 material being hauled to RSY1 laydown area.
↓	DMW14	•DW RSY2 soil hauled to RSY1 laydown •DW ↑	0.032	2341	
↓	DMW15		0.035	2726	
1700	DMW13		0.023		eop wrapping up for today
↓	DMW14		0.025		
↓	DMW15		0.022		

LSS 7/9/21

Gilbane

AIR / DUST MONITORING LOG

Client Name _Navy NAVFAC_____ Date 7/12/21

Project No. J310000800 SWDA Westside, Site 12, Treasure Island Page 1 of 1

Logged by Logan Schwing

Weather 48°F-58°F. Cloudy.

Instrument Type: __Dust Trak II_____

Calibration Standards Used: _Factory Calibrated_____

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0800	DMW13	•DW RSY2 soil haul to RSY1 laydown	0.008	2845	•DXO team prep.
↓	DMW14	•DW RSY2 soil hauled to RSY1 laydown •DW	0.011	2341	•RSY2 material to RSY1 laydown area. Constructing the Lot.
↓	DMW15		0.009	2726	
1330	DMW13		0.012		•DXO team on lunch -non-intrusive
↓	DMW14		0.017		
↓	DMW15		0.014		
1530	DMW7	•DW RSY1 laydown area	0.018	2845	•Team finished hauling RSY2 material and is now screening soil in RSY1 laydown area.
↓	DMW8	•DW RSY1 laydown area	0.022	2726	
↓	DMW9	•DW RSY1 laydown area	0.024	2341	•Dosimeters moved to incorporate tasks.
1700	DMW7		0.024		
↓	DMW8		0.029		•OP finishing for today.
↓	DMW9		0.028		

LSS 7/12/21

Gilbane

AIR / DUST MONITORING LOG

LS 7/13/24

Client Name _Navy NAVFAC_____ Date 7/14/24 7/13/24

Project No. J310000800 SWDA Westside, Site 12, Treasure Island Page 1 of 1

Logged by Logan Schwing

Weather 49°F-57°F. Mostly cloudy.

Instrument Type: __Dust Trak II_____

Calibration Standards Used: _Factory Calibrated_____

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0900	DMW7	•DW Rst Pad1 UXO screening	0.009	2845	•non-intrusive •prep
↓	DMW8	•DW Rst Pad UXO screening	0.015	2726	•Team screening Rst2
↓	DMW9	•DW Rst Pad 1 UXO screening	0.013	2341	material in Rst1 laydown area
1320	DMW7		0.012		•Team wrapping up lunch
↓	DMW8		0.023		
↓	DMW9		0.013		
1700	DMW7		0.014		•Of wrapping up for today.
↓	DMW8		0.020		
↓	DMW9		0.018		

LS 7/13/24

Gilbane

AIR / DUST MONITORING LOG

Client Name _Navy NAVFAC_____ Date 7/14/21

Project No. J310000800 SWDA Westside, Site 12, Treasure Island Page 1 of 1

Logged by Logan Schwing

Weather 51°F-61°F, morning clouds.

Instrument Type: __Dust Trak II_____

Calibration Standards Used: _Factory Calibrated_____

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0800	DMW7	• UW screening of RSY1 laydown	0.010	2845	• non-intrusive screening RSY2 material
↓	DMW8	• DW UXO screening RSY1 laydown	0.012	2726	at RSY pad / laydown area.
↓	DMW9	• DW screening RSY1 laydown.	0.013	2341	
1300	DMW7		0.014		• Team on lunch.
↓	DMW8		0.025		
↓	DMW9		0.018		
1655	DMW7		0.012		• EOD wrapping up for day.
↓	DMW8		0.020		
↓	DMW9		0.019		

1655 7/14/21

Gilbane

AIR / DUST MONITORING LOG

Client Name _Navy NAVFAC_____ Date 7/15/21

Project No. J310000800 SWDA Westside, Site 12, Treasure Island Page 1 of 1

Logged by Logan Schwing

Weather 54°F - 65°F. partly cloudy

Instrument Type: __Dust Trak II_____

Calibration Standards Used: _Factory Calibrated_____

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0800	DMW7	•DW RSA1 laydown	0.006	2845	•S.T.E prep •mob.l.ze
↓	DMW8	•DW RSA1 laydown	0.009	2726	
↓	DMW9	•DW RSA1 laydown	0.006	2341	
1200	DMW7		0.008		•last readings for DMW7-DMW9
↓	DMW8		0.022		•after lunch. Team will be hauling RSA 2 material to RSA pad 1 laydown area.
↓	DMW9		0.016		
1230	DMW13		0.009	2845	•RSA 2 material to RSA1 laydown.
↓	DMW14		0.018	2341	
↓	DMW15		0.020	2726	
1700	DMW13		0.010		•cp wrapping up for today.
↓	DMW14		0.026		•tidy up S.T.E.
↓	DMW15		0.014		

LS 7/15/21

Gilbane

AIR / DUST MONITORING LOG

Client Name _Navy NAVFAC_____ Date LS 7/19/21 7/19/21

Project No. J310000800 SWDA Westside, Site 12, Treasure Island Page ___ of ___

Logged by Logan Schwing

Weather 55°F - 69°F

Instrument Type: __Dust Trak II_____

Calibration Standards Used: _Factory Calibrated_____

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0800	DMW13	•DW RSY2 soil to RSY1 laydown	0.030	2845	•site prep
↓	DMW14	•DW RSY2 soil to RSY1 laydown	0.036	2341	•hauling RSY2 material to RSY1 laydown area
↓	DMW15	•DW RSY2 soil to RSY1 laydown	0.035	2726	
1245	DMW13		0.029		•team on lunch
↓	DMW14		0.030		•non-intrusive
↓	DMW15		0.026		
1650	DMW13		0.027		•op Beginning to wrap up for today.
↓	DMW14		0.029		
↓	DMW15		0.037		
		LS 7/19/21			

Gilbane

AIR / DUST MONITORING LOG

Client Name _Navy NAVFAC_____ Date 7/20/21

Project No. J310000800 SWDA Westside, Site 12, Treasure Island Page 1 of 1

Logged by Logan Schwing

Weather 55°F - 68°F. cloudy.

Instrument Type: __Dust Trak II_____

Calibration Standards Used: _Factory Calibrated_____

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0755	DMW7	DW RSY 1 laydown	0.018	2845	• UXO screening RSY 2 material at RSY 1 laydown area.
↓	DMW8	DW RSY 1 laydown	0.026	2341	
↓	DMW9	DW RSY 1 laydown.	0.020	2726	
1310	DMW7		0.012		• Team on lunch • Frag distance not implemented
↓	DMW8		0.014		
↓	DMW9		0.015		
1700	DMW7		0.015		• operation wrapping up for today.
↓	DMW8		0.019		
↓	DMW9		0.021		

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7/20/21

Gilbane

AIR / DUST MONITORING LOG

Client Name _Navy NAVFAC_____ Date 7/21/21

Project No. J310000800 SWDA Westside, Site 12, Treasure Island Page 1 of 1

Logged by Logan Schwing

Weather 53°F-68°F. Sunny

Instrument Type: __Dust Trak II_____

Calibration Standards Used: _Factory Calibrated_____

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0900	DMW7	•DW RSY2 Soil @RSY1	0.028	2845	•OP prep/setup
↓	DMW8	•DW RSY2 Soil @RSY1	0.032	2341	
↓	DMW9	•DW RSY2 Soil @RSY1	0.030	2726	
1340	DMW7		0.022		•mid-day readings
↓	DMW8		0.023		
↓	DMW9		0.025		
1700	DMW7		0.020		•operation wrapping up for today.
↓	DMW8		0.029		
↓	DMW9		0.027		
			LSS 7/21/21		

Gilbane

AIR / DUST MONITORING LOG

Client Name _Navy NAVFAC_____ Date 7/22/21

Project No. J310000800 SWDA Westside, Site 12, Treasure Island Page 1 of 1

Logged by Logan Schwing

Weather 53°F - 67°F. Sunny.

Instrument Type: __Dust Trak II_____

Calibration Standards Used: _Factory Calibrated_____

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0800	DMW7	•DW RSP 1 laydown area	0.025	2845	•Setup
↓	DMW6	•DW RSP 1 laydown area	0.031	2341	
↓	DMW9	•DW RSP 1 laydown area	0.032	2726	
1115	DMW7		0.023		• Stockpiling RSP 2 material next to RSP 1 laydown
↓	DMW8		0.033		
↓	DMW9		0.024		
1435	DMW13		0.022	2845	• Team preparing to take RSP 2 material to RSP 1 laydown area.
↓	DMW14		0.026	2726	
↓	DMW15		0.028	2341	
1700	DMW13		0.024		• Site Security/Tidy up
↓	DMW14		0.031		• OP wrapping up for day.
↓	DMW15		0.036		

LES 7/22/21

Gilbane

AIR MONITORING LOG

Client Name NAVFAC

Date 7/26/21

Project No. J310000300

Page 1 of 1

Logged by Logan Schwing

Weather

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0800	DMW13	•Upwind hauling RSY2 Soil to RSY1 laydown	0.014	2845	• Prep/setup
↓	DMW14	•DW hauling RSY2 Soil to RSY1 laydown	0.015	2726	
↓	DMW15	•DW hauling RSY2 Soil to RSY1 laydown.	0.018	2341	
1240	DMW13		0.015		•Team starting lunch
↓	DMW14		0.017		•Grab mid-day readings
↓	DMW15		0.020		
1700	DMW13		0.019		•OP wrapping up for day.
↓	DMW14		0.030		
↓	DMW15		0.022		

7/26/21 LS

Gilbane

AIR MONITORING LOG

Client Name NAVFAC　　　　Date 7/27/21

Project No. J310000300　　　　Page 1 of 1

Logged by Logan Schwing

Weather 55°F - 75°F; AM Clouds. PM Sun.

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0800	DMW7	•DW screening RSP2 soil @ RSY1 laydown	0.013	2845	•prep/setup
↓	DMW8	•DW ↓	0.020	2341	
↓	DMW9	•DW ↓	0.015	2726	
1300	DMW7		0.015		•Team on lunch
↓	DMW8		0.014		•fray distance not implemented.
↓	DMW9		0.018		
1700	DMW7		0.018		•Tasks wrapping up for today.
↓	DMW8		0.021		
↓	DMW9		0.024		

LSS 7/27/21

Gilbane

AIR MONITORING LOG

Client Name NAVFAC

Date 7/28/21

Project No. J310000300

Page 1 of 1

Logged by Logan Schwing

Weather 55°F - 68°F. Sunny PM

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0800	DMW7	•Upwind RSY2 material @RSY1 laydown	0.008	2845	•non-intrusive
↓	DMW8	•Downwind RSY2 material @RSY1 laydown	0.013	2341	
↓	DMW9	•Downwind RSY2 material @RSY1 laydown	0.011	2726	
1300	DMW7		0.009		•Team on lunch
↓	DMW8		0.012		
↓	DMW9		0.010		
1700	DMW7		0.007		•Tasks finishing for today.
↓	DMW8		0.030		
↓	DMW9		0.015		

LSS 7/28/21

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 7/29/21

Project No. J310000300 Page 1 of 1

Logged by Logan Schwing

Weather 57°F-64°F. partly cloudy.

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0900	DMW7	• UW UXO screening RSY 2 soil at pad 1	0.009	2845	• Team setup
↓	DMW8	• DW UXO screening RSY 2 soil at pad 1	0.017	2341	
↓	DMW9	• UW UXO screening RSY 2 soil at pad 1	0.015	2726	
1300	DMW7		0.007		• UXO on lunch
↓	DMW8		0.009		
↓	DMW9		0.010		
1700	DMW7		0.011		• UP wrapping up for day
↓	DMW8		0.020		
↓	DMW9		0.016		

LSS 7/29/21

ATTACHMENT 2

SUMMARY OF AIR MONITORING AND AIR SAMPLING RESULTS

(Provided on CD)

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Table 2-1: Ambient Pressure and Temperature Monitoring Results

Sample Date	Ambient Pressure (inches of Hg)	Ambient Temperature (°F)	Ambient Temperature (°K)
7/1/2021	29.86	58.80	288.04
7/2/2021	29.87	59.29	288.31
7/7/2021	29.94	57.47	287.30
7/8/2021	29.84	57.30	287.21
7/9/2021	29.80	59.55	288.46
7/10/2021	29.89	57.96	287.57
7/13/2021	29.86	54.85	285.84
7/14/2021	29.88	56.00	286.48
7/15/2021	29.92	56.22	286.61
7/16/2021	29.93	55.36	286.13
7/20/2021	29.98	57.62	287.38
7/21/2021	29.93	58.07	287.63
7/22/2021	29.88	58.83	288.06
7/23/2021	29.94	58.14	287.67
7/27/2021	29.90	58.15	287.68
7/28/2021	29.96	59.29	288.31
7/29/2021	29.94	58.54	287.89
7/30/2021	29.86	58.02	287.61

Notes:

Weather data collected from weather station at Building 572, Avenue M, Treasure Island, San Francisco, CA

°F = Degrees Fahrenheit

Hg = mercury

°K = Degrees Kelvin

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Table 2-2: Particulate Matter Smaller than Ten Microns (PM10)

Location ID	Sampling Period (Hours)	Sample Date	Particulate Matter Less Than 10 Microns in Diameter (ug/m^3)	Delta between Downwind and Upwind Stations (ug/m^3)	PM10 Exceedance? (Yes/No)
Screening Criteria					**50**
AMSW1	23.88	07/01/2021	9.3	No	NA
	22.59	07/02/2021	7.5	No	NA
	24.24	07/07/2021	11	No	NA
	24.24	07/08/2021	18	No	NA
	23.99	07/09/2021	25	No	NA
	23.99	07/10/2021	17	No	NA
	24.49	07/13/2021	9	No	NA
	23.81	07/14/2021	10	No	NA
	8.87*	07/15/2021	11	No	NA
	21.34	07/16/2021	14	No	NA
	23.89	07/20/2021	17	No	NA
	23.96	07/21/2021	19	No	NA
	23.99	07/22/2021	26	No	NA
	23.89	07/23/2021	26	No	NA
	23.71	07/27/2021	7.6	No	NA
	24.17	07/28/2021	7.3	No	NA
	23.87	07/29/2021	4.9	No	NA
	22.12	07/30/2021	5.1	No	NA
AMSW2	23.75	07/01/2021	17	7.7	No
	22.77	07/02/2021	9.7	2.2	No
	24.15	07/07/2021	46	35	No
	23.99	07/08/2021	24	6	No
	23.64	07/09/2021	60	35	No
	24.00	07/10/2021	25	8	No
	24.42	07/13/2021	19	10	No
	23.73	07/14/2021	12	2	No
	24.23	07/15/2021	20	9	No
	21.76	07/16/2021	13	-1	No
	23.89	07/20/2021	26	9	No
	23.94	07/21/2021	24	5	No
	23.95	07/22/2021	42	16	No
	24.01	07/23/2021	5.2	-20.8	No
	23.69	07/27/2021	9.7	2.1	No
	24.30	07/28/2021	23	15.7	No
	23.67	07/29/2021	8.4	3.5	No
	22.01	07/30/2021	5.4	0.3	No

Notes:

ug/m3 = micrograms per cubic meter

NA = Not applicable

PM10 = particulate matter less then 10 microns in diameter

* = generator/sampler malfunction

Table 2-3: Total Suspended Particulates Monitoring Results

Location ID	Sampling Period (Hours)	Sample Date	Total Suspended Particulate (ug/m^3)	Delta Between Downwind and Upwind Stations (ug/m^3)	TSP Exceedance? (Yes/No)
Screening Criteria					**50**
AMSW1	23.90	07/01/2021	14.4723	NA	NA
	22.56	07/02/2021	10.4371	NA	NA
	24.25	07/07/2021	19.1135	NA	NA
	24.19	07/08/2021	28.5771	NA	NA
	24.00	07/09/2021	37.5722	NA	NA
	23.96	07/10/2021	27.2266	NA	NA
	24.49	07/13/2021	17.8743	NA	NA
	23.79	07/14/2021	17.7641	NA	NA
	8.68*	07/15/2021	23.7244	NA	NA
	6.48*	07/16/2021	45.1737	NA	NA
	23.89	07/20/2021	24.5734	NA	NA
	23.95	07/21/2021	27.9574	NA	NA
	24.00	07/22/2021	35.1941	NA	NA
	23.90	07/23/2021	36.357	NA	NA
	23.73	07/27/2021	16.7506	NA	NA
	24.18	07/28/2021	34.338	NA	NA
	23.88	07/29/2021	11.3218	NA	NA
	22.12	07/30/2021	9.4912	NA	NA
AMSW2	22.97	07/01/2021	22.5898	8.1175	No
	24.28	07/02/2021	14.6554	4.2183	No
	23.89	07/07/2021	117.095	**97.9815**	Yes
	23.94	07/08/2021	37.795	9.2179	No
	23.98	07/09/2021	71.8992	34.327	No
	22.66	07/10/2021	44.5093	17.2827	No
	21.86	07/13/2021	28.3367	10.4624	No
	24.16	07/14/2021	19.7415	1.9774	No
	23.17	07/15/2021	40.337	16.6126	No
	22.5	07/16/2021	23.254	-21.9197	No
	23.51	07/20/2021	37.6982	13.1248	No
	23.36	07/21/2021	27.4839	-0.4735	No
	23.56*	07/22/2021	27.008 X	NA	No
	23.95	07/23/2021	43.073	6.716	No
	23.56	07/27/2021	16.764	0.0134	No
	23.68	07/28/2021	27.5073	-6.8307	No
	23.38	07/29/2021	16.2939	4.9721	No
	23.57	07/30/2021	11.6194	2.1282	No

Notes:

J = estimated value

ug/m^3 = micrograms per cubic meter

NA = Not applicable

TSP = total suspended particulate

bold = result above screening criteria

R = rejected data; result unusable

* = generator/sampler malfunction

X = Uncertainity in this result due to the TSP value being much less than the PM10 value (Table 2-2). Motor malfunction was observed and the runtime was deemed uncertain. Recommended to be rejected.

Table 2-4: Lead by EPA 6020 Monitoring Results

Location ID	Sampling Period (Hours)	Sample Date	Lead (ug/m^3)	Lead Exceedance? (Yes/No)
Screening Criteria				**1,575**
AMSW1	23.88	07/01/2021	0.00026 J	No
	22.59	07/02/2021	0.00041 J	No
	24.24	07/07/2021	0.00037 J	No
	24.24	07/08/2021	0.00038 J	No
	23.99	07/09/2021	0.00027 J	No
	23.99	07/10/2021	0.00041 J	No
	24.49	07/13/2021	0.00023 J	No
	23.81	07/14/2021	0.00028 J	No
	8.87*	07/15/2021	0.0012 J	No
	21.34	07/16/2021	0.00046 J	No
	23.89	07/20/2021	0.00051 J	No
	23.96	07/21/2021	0.00051 J	No
	23.99	07/22/2021	0.00076	No
	23.89	07/23/2021	0.00042 J	No
	23.71	07/27/2021	0.0044	No
	24.17	07/28/2021	0.0011	No
	23.87	07/29/2021	0.0016	No
	22.12	07/30/2021	0.0014	No
AMSW2	23.75	07/01/2021	0.002	No
	22.77	07/02/2021	0.00097	No
	24.15	07/07/2021	0.0077	No
	23.99	07/08/2021	0.001	No
	23.64	07/09/2021	0.0053	No
	24.00	07/10/2021	0.002	No
	24.42	07/13/2021	0.0015	No
	23.73	07/14/2021	0.00073 J	No
	24.23	07/15/2021	0.0026	No
	21.76	07/16/2021	0.001	No
	23.89	07/20/2021	0.0015	No
	23.94	07/21/2021	0.00081	No
	23.95	07/22/2021	0.009	No
	24.01	07/23/2021	0.0013	No
	23.69	07/27/2021	0.0038	No
	24.30	07/28/2021	0.0062	No
	23.67	07/29/2021	0.0032	No
	22.01	07/30/2021	0.0013	No

Notes:

J = indicates an estimated value

ug/m^3 = micrograms per cubic meter

* = generator/sampler malfunction

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Table 2-5: Polycyclic Aromatic Hydrocarbons by TO-13 Monitoring Results

Location ID	Sampling Period (Hours)	Sample Date	BAP(Eq) Exceed-ance? (Yes/No)	BAP(Eq)	2-Methyl-naph-thalene (ug/m^3)	Acenaph-thene (ug/m^3)	Acenaph-thylene (ug/m^3)	Anthracene (ug/m^3)	Benzo(a) anthracene (ug/m^3)	Benzo(a) pyrene (ug/m^3)	Benzo(b) fluoran-thene (ug/m^3)	Benzo(g,h,i) perylene (ug/m^3)	Benzo(k) fluoran-thene (ug/m^3)	Chrysene (ug/m^3)	Dibenz(a,h)anth racene (ug/m^3)	Fluoran-thene (ug/m3)	Fluorene (ug/m3)	Indeno (1,2,3-c,d) pyrene (ug/m3)	Naph-thalene (ug/m3)	Phenan-threne (ug/m3)	Pyrene (ug/m3)
Screening Criteria[1]				55,330	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
AMSW1	24.27	07/07/2021	No	0	< 0.0011	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	0.00061 J	0.00026 J	< 0.00057
	23.94	07/10/2021	No	0	< 0.0011	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	0.0011	0.0004 J	< 0.00057
	8.49	07/15/2021	No	0	< 0.0031	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0015	< 0.0031	< 0.0015	< 0.0015
	23.97	07/21/2021	No	0	0.00071 J	0.00041 J	< 0.00055	< 0.00055	< 0.00055	< 0.00055	< 0.00055	< 0.00055	< 0.00055	< 0.00055	< 0.00055	< 0.00055	0.00022 J	< 0.00055	0.0014	0.00044 J	< 0.00055
	23.91	07/23/2021	No	0	0.00066 J	0.00029 J	< 0.00058	< 0.00058	< 0.00058	< 0.00058	< 0.00058	< 0.00058	< 0.00058	< 0.00058	< 0.00058	0.00036 J	< 0.00058	< 0.00058	0.0017	0.00049 J	0.00023 J
	23.86	07/29/2021	No	0	0.00061 J	< 0.00055	< 0.00055	< 0.00055	< 0.00055	< 0.00055	< 0.00055	< 0.00055	< 0.00055	< 0.00055	< 0.00055	0.00028 J	< 0.00055	< 0.00055	0.0011	0.00038 J	< 0.00055
AMSW2	24.17	07/07/2021	No	0	< 0.00091	0.00019 J	< 0.00045	0.0003 J	< 0.00045	< 0.00045	< 0.00045	< 0.00045	< 0.00045	< 0.00045	< 0.00045	0.00053	0.00046	< 0.00045	0.0005 J	0.0021	0.00034 J
	24.00	07/10/2021	No	0	< 0.00091	0.00022 J	< 0.00046	< 0.00046	< 0.00046	< 0.00046	< 0.00046	< 0.00046	< 0.00046	< 0.00046	< 0.00046	0.00034 J	0.0003 J	< 0.00046	0.001	0.0012	0.00022 J
	24.23	07/15/2021	No	0	< 0.00091	< 0.00046	< 0.00046	< 0.00046	< 0.00046	< 0.00046	< 0.00046	< 0.00046	< 0.00046	< 0.00046	< 0.00046	0.0002 J	< 0.00046	< 0.00046	0.00064 J	0.00065	< 0.00046
	23.96	07/21/2021	No	0	0.00059 J	0.00026 J	< 0.00048	0.0003 J	< 0.00048	< 0.00048	< 0.00048	< 0.00048	< 0.00048	< 0.00048	< 0.00048	0.00064	0.00051	< 0.00048	0.0011	0.0024	0.00039 J
	24.02	07/23/2021	No	0	0.00054 J	0.00021 J	< 0.00048	< 0.00048	< 0.00048	< 0.00048	< 0.00048	< 0.00048	< 0.00048	< 0.00048	< 0.00048	0.00031 J	0.00026 J	< 0.00048	0.0014	0.001	0.0002 J
	23.65	07/29/2021	No	0	0.00057 J	< 0.00047	< 0.00047	< 0.00047	< 0.00047	< 0.00047	< 0.00047	< 0.00047	< 0.00047	< 0.00047	< 0.00047	0.00023 J	0.00019 J	< 0.00047	0.00097	0.00077	< 0.00047

Notes:

[1] The dust action level was adjusted by a factor of 10 to account for the short-term duration of the project.

NA = Not applicable

NE = None established

BAP(Eq) = Benzo(a)pyrene equivalency

J = estimated value

ug/m^3 = micrograms per cubic meter

< = nondetected less than associated reporting limit

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Table 2-6: Polychlorinated Biphenyls by TO-4A Monitoring Results

Location ID	Sampling Period (Hours)	Sample Date	Total PCB Exceedance? (Yes/No)	Total PCB	PCB-1016 (Aroclor 1016) (ug/m^3)	PCB-1221 (Aroclor 1221) (ug/m^3)	PCB-1232 (Aroclor 1232) (ug/m^3)	PCB-1242 (Aroclor 1242) (ug/m^3)	PCB-1248 (Aroclor 1248) (ug/m^3)	PCB-1254 (Aroclor 1254) (ug/m^3)	PCB-1260 (Aroclor 1260) (ug/m^3)
Screening Criteria				**NE**							
AMSW1	22.54	07/02/2021	NA	0	< 0.00086	< 0.00086	< 0.00086	< 0.00086	< 0.00086	< 0.00086	< 0.00086
	24.01	07/09/2021	NA	0	< 0.00082	< 0.00082	< 0.00082	< 0.00082	< 0.00082	< 0.00082	< 0.00082
	23.77	07/14/2021	NA	0	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008	< 0.0008
	23.91	07/20/2021	NA	0	< 0.00076	< 0.00076	< 0.00076	< 0.00076	< 0.00076	< 0.00076	< 0.00076
	23.76	07/27/2021	NA	0	< 0.00079	< 0.00079	< 0.00079	< 0.00079	< 0.00079	< 0.00079	< 0.00079
	22.13	07/30/2021	NA	0	< 0.00085	< 0.00085	< 0.00085	< 0.00085	< 0.00085	< 0.00085	< 0.00085
AMSW2	22.76	07/02/2021	NA	0	< 0.00067	< 0.00067	< 0.00067	< 0.00067	< 0.00067	< 0.00067	< 0.00067
	23.64	07/09/2021	NA	0	< 0.00046	< 0.00046	< 0.00046	< 0.00046	< 0.00046	< 0.00046	< 0.00046 UJ
	23.74	07/14/2021	NA	0	< 0.00067	< 0.00067	< 0.00067	< 0.00067	< 0.00067	< 0.00067	< 0.00067
	23.87	07/20/2021	NA	0	< 0.00066	< 0.00066	< 0.00066	< 0.00066	< 0.00066	< 0.00066	< 0.00066
	23.71	07/27/2021	NA	0	< 0.00066	< 0.00066	< 0.00066	< 0.00066	< 0.00066	< 0.00066	< 0.00066
	22.00	07/30/2021	NA	0	< 0.00073	< 0.00073	< 0.00073	< 0.00073	< 0.00073	< 0.00073	< 0.00073

Notes:

NA = Not applicable

NE = None established

PCB = polychlorinated biphenyl

ug/m^3 = micrograms per cubic meter

< = nondetected less than associated reporting limit

* = sampler/generator malfunction

Table 2-7: Dioxin as 2,3,7,8-TCDD by TO-9A Monitoring Results

Location ID	Sampling Period (Hours)	Sample Date	2,3,7,8-Tetrachlorodibenzo-p-dioxin (ug/m^3)	Dioxin Exceedance? (Yes/No)
Screening Criteria				**10,000,000 ug/m^3**
AMSW1	23.89	07/01/2021	< 0.00000002	No
	24.15	07/08/2021	< 0.00000002	No
	24.49	07/13/2021	< 0.00000002	No
	23.86	07/16/2021	< 0.00000002	No
	23.58	07/22/2021	< 0.000022	No
	24.2	07/28/2021	< 0.00000002	No
AMSW2	23.76	07/01/2021	< 0.00000002	No
	24.00	07/08/2021	< 0.00000002	No
	24.42	07/13/2021	< 0.00000002	No
	22.75	07/16/2021	< 0.00000002	No
	23.99	07/22/2021	< 0.000018	No
	24.32	07/28/2021	< 0.00000002	No

Notes:

J = estimated value

ug/m^3 = micrograms per cubic meter

< = nondetected less than associated reporting limit

ATTACHMENT 3
RADIOLOGICAL AIR MONITORING RESULTS
(Provided on CD)

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Gilbane

AIR SAMPLING EQUIPMENT

Project Information Effective as of: 12 Aug 2021

Contract / Task Order Number:	Project Title / Location:	Gilbane Project Number:
N62473-17-D-0005	IR Site 12 RD/RA, Treasure Island, SF, CA	J310000800

Perimeter/Effluent Air Sampling Equipment | **Breathing Zone Air Sampling Equipment**

Equip Number	Air Sampler Make/Model	Serial Number	Cal Due Date	Equip Number	Air Sampler Make/Model	Serial Number	Cal Due Date
PE01	LV-1	4532	5/20/21	BZ01	Escort Elf	12977	2/5/21
PE02	LV-1	4360	5/20/21	BZ02			
PE03	LV-1	4352	4/20/22	BZ03			
PE04	LV-1	4300	4/20/22	BZ04			
PE05				BZ05			
PE06				BZ06			
PE07				BZ07			
PE08				BZ08			
PE09				BZ09			
PE10				BZ10			
PE11				BZ11			
PE12				BZ12			
PE13				BZ13			
PE14				BZ14			
PE15				BZ15			
PE16				BZ16			
PE17				BZ17			
PE18				BZ18			
PE19				BZ19			
PE20				BZ20			

Sample Counting Instruments

Inst Number	Model Number	Serial Number	Cal Due Date	Count Time (min)		Background (cpm)[a]		Abs Ct Eff (cnts/dis)[b]		MDC (dpm/sample)[c]	
				Bkgrd	Source	Alpha	Beta	Alpha	Beta	Alpha	Beta
A	Protean	615068	9/15/21	1	1	0.0	1.1	0.352	0.355	15.4	29.0
B											
C											
D											
E											

Notes

[a] background values obtained from instrument set-up worksheet

[b] absolute counting efficiency = 4π efficiency calculated as ratio of measured count rate and contained activity [total dpm] of source (see IN-RP-141, *Alpha/Beta Scaler Instrument Set-Up and Operation*)

[c] MDC calculated using the Stapleton approximation (see IN-RP-141, *Alpha/Beta Scaler Instrument Set-Up and Operation)*

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Gilbane

AIR SAMPLE RESULTS - PUBLIC EXPOSURE MONITORING

Project Information		
Contract / Task Order Number:	Project Title / Location:	Gilbane Project Number:
N62473-17-D-0005	IR Site 12 RD/RA, Treasure Island, SF, CA	J310000800
Information effective as of: 12 Aug 2021		

Effluent Air Concentration		
	Alpha	Beta
Radionuclide	Ra-226	Sr-90
Effluent Conc (µCi/ml)	9.E-13	6.E-12

Sampling Period
Air samples collected between 22 Mar 2021 and 05 Aug 2021

Color Codes	
Value < MDC	Value < 0.1 x Effluent Conc
< 72 hr decay time	Value > 0.1 x Effluent Conc
Data reviewed	Value > Effluent Conc

Sample Collection									Count Information								Sample Results				Initials	
Sample Number	Sample Type	Sample Location	Equip No	Ave Flow Rate (lpm)	Start Day Time	End Date Time	Elapsed Time (min)	Volume (ml)	Inst No	Count Date	Time (min)	Counting Units	Gross Activity Alpha	Gross Activity Beta	Net dpm Alpha	Net dpm Beta	Activity (µCi/ml) Alpha	Activity (µCi/ml) Beta	*Effluent Conc (%) Alpha	*Effluent Conc (%) Beta	Count Tech	Data Reviewer
AS-0139	Perimeter	Upwind	PE03	60	7/1/21 7:15	7/1/21 17:03	588	3.5E+07	A	7/7/21	1	cpm	0.100	3.350	0.3	6.3	3.6E-15	8.1E-14	***0.4%***	***1.3%***	*IH*	*CB*
AS-0140	Perimeter	Downwind	PE04	60	7/1/21 7:31	7/1/21 17:10	579	3.5E+07	A	7/7/21	1	cpm	0.150	3.200	0.4	5.9	5.5E-15	7.7E-14	***0.6%***	***1.3%***	*IH*	*CB*
AS-0141	Perimeter	Upwind	PE03	60	7/6/21 9:13	7/6/21 17:05	472	2.8E+07	A	7/13/21	1	cpm	0.150	4.300	0.4	9.0	6.8E-15	1.4E-13	***0.8%***	***2.4%***	*IH*	*CB*
AS-0142	Perimeter	Downwind	PE04	60	7/6/21 9:00	7/6/21 17:00	480	2.9E+07	A	7/13/21	1	cpm	0.150	3.600	0.4	7.0	6.7E-15	1.1E-13	***0.7%***	***1.8%***	*IH*	*CB*
AS-0143	Perimeter	Upwind	PE03	60	7/7/21 7:38	7/7/21 16:55	557	3.3E+07	A	7/13/21	1	cpm	0.100	3.550	0.3	6.9	3.8E-15	9.3E-14	***0.4%***	***1.6%***	*IH*	*CB*
AS-0144	Perimeter	Downwind	PE04	60	7/7/21 7:41	7/7/21 17:03	562	3.4E+07	A	7/13/21	1	cpm	0.100	3.150	0.3	5.8	3.8E-15	7.7E-14	***0.4%***	***1.3%***	*IH*	*CB*
AS-0145	Perimeter	Upwind	PE03	60	7/8/21 7:38	7/8/21 17:11	573	3.4E+07	A	7/13/21	1	cpm	0.200	3.350	0.6	6.3	7.4E-15	8.3E-14	***0.8%***	***1.4%***	*IH*	*CB*
AS-0146	Perimeter	Downwind	PE04	60	7/8/21 7:30	7/8/21 17:05	575	3.4E+07	A	7/13/21	1	cpm	0.200	3.700	0.6	7.3	7.4E-15	9.6E-14	***0.8%***	***1.6%***	*IH*	*CB*
AS-0147	Perimeter	Upwind	PE03	60	7/9/21 7:39	7/9/21 16:45	546	3.3E+07	A	7/13/21	1	cpm	0.150	4.500	0.4	9.6	5.9E-15	1.3E-13	***0.7%***	***2.2%***	*IH*	*CB*
AS-0148	Perimeter	Downwind	PE04	60	7/9/21 7:45	7/9/21 17:00	555	3.3E+07	A	7/13/21	1	cpm	0.250	4.300	0.7	9.0	9.6E-15	1.2E-13	***1.1%***	***2.0%***	*IH*	*CB*
AS-0149	Perimeter	Upwind	PE03	60	7/12/21 9:25	7/12/21 16:51	446	2.7E+07	A	7/20/21	1	cpm	0.100	4.300	0.3	9.0	4.8E-15	1.5E-13	***0.5%***	***2.5%***	*IH*	*CB*
AS-0150	Perimeter	Downwind	PE04	60	7/12/21 9:14	7/12/21 16:49	455	2.7E+07	A	7/20/21	1	cpm	0.150	4.300	0.4	9.0	7.0E-15	1.5E-13	***0.8%***	***2.5%***	*IH*	*CB*
AS-0151	Perimeter	Upwind	PE03	60	7/13/21 7:30	7/13/21 16:45	555	3.3E+07	A	7/20/21	1	cpm	0.150	2.850	0.4	4.9	5.8E-15	6.7E-14	***0.6%***	***1.1%***	*IH*	*CB*
AS-0152	Perimeter	Downwind	PE04	60	7/13/21 7:45	7/13/21 16:55	550	3.3E+07	A	7/20/21	1	cpm	0.000	5.400	0.0	12.1	0.0E+00	1.7E-13	***0.0%***	***2.8%***	*IH*	*CB*
AS-0153	Perimeter	Upwind	PE03	60	7/14/21 7:30	7/14/21 16:45	555	3.3E+07	A	7/20/21	1	cpm	0.050	4.150	0.1	8.6	1.9E-15	1.2E-13	***0.2%***	***1.9%***	*IH*	*CB*
AS-0154	Perimeter	Downwind	PE04	60	7/14/21 7:35	7/14/21 16:51	556	3.3E+07	A	7/20/21	1	cpm	0.200	4.050	0.6	8.3	7.7E-15	1.1E-13	***0.9%***	***1.9%***	*IH*	*CB*
AS-0155	Perimeter	Upwind	PE03	60	7/15/21 7:50	7/15/21 17:13	563	3.4E+07	A	7/20/21	1	cpm	0.250	3.700	0.7	7.3	9.5E-15	9.8E-14	***1.1%***	***1.6%***	*IH*	*CB*
AS-0156	Perimeter	Downwind	PE04	60	7/15/21 7:45	7/15/21 17:07	562	3.4E+07	A	7/20/21	1	cpm	0.150	3.750	0.4	7.5	5.7E-15	1.0E-13	***0.6%***	***1.7%***	*IH*	*CB*
AS-0157	Perimeter	Upwind	PE03	60	7/19/21 9:15	7/19/21 17:11	476	2.9E+07	A	7/27/21	1	cpm	0.050	4.150	0.1	8.6	2.2E-15	1.4E-13	***0.2%***	***2.3%***	*IH*	*CB*
AS-0158	Perimeter	Downwind	PE04	60	7/19/21 9:30	7/19/21 17:03	453	2.7E+07	A	7/27/21	1	cpm	0.050	5.300	0.1	11.8	2.4E-15	2.0E-13	***0.3%***	***3.3%***	*IH*	*CB*
AS-0159	Perimeter	Upwind	PE03	60	7/20/21 7:42	7/20/21 16:50	548	3.3E+07	A	7/27/21	1	cpm	0.050	4.600	0.1	9.9	1.9E-15	1.4E-13	***0.2%***	***2.3%***	*IH*	*CB*
AS-0160	Perimeter	Downwind	PE04	60	7/20/21 7:39	7/20/21 16:48	549	3.3E+07	A	7/27/21	1	cpm	0.200	3.750	0.6	7.5	7.8E-15	1.0E-13	***0.9%***	***1.7%***	*IH*	*CB*
AS-0161	Perimeter	Upwind	PE03	60	7/21/21 6:50	7/21/21 16:38	588	3.5E+07	A	7/27/21	1	cpm	0.050	4.400	0.1	9.3	1.8E-15	1.2E-13	***0.2%***	***2.0%***	*IH*	*CB*
AS-0162	Perimeter	Downwind	PE04	60	7/21/21 7:00	7/21/21 16:45	585	3.5E+07	A	7/27/21	1	cpm	0.000	3.600	0.0	7.0	0.0E+00	9.0E-14	***0.0%***	***1.5%***	*IH*	*CB*
AS-0163	Perimeter	Upwind	PE03	60	7/22/21 7:25	7/22/21 17:14	589	3.5E+07	A	7/27/21	1	cpm	0.050	3.300	0.1	6.2	1.8E-15	7.9E-14	***0.2%***	***1.3%***	*IH*	*CB*
AS-0164	Perimeter	Downwind	PE04	60	7/22/21 7:30	7/22/21 17:21	591	3.5E+07	A	7/27/21	1	cpm	0.300	4.650	0.9	10.0	1.1E-14	1.3E-13	***1.2%***	***2.1%***	*IH*	*CB*
AS-0165	Perimeter	Upwind	PE03	60	7/26/21 9:38	7/26/21 17:05	447	2.7E+07	A	8/3/21	1	cpm	0.100	4.300	0.3	9.0	4.8E-15	1.5E-13	***0.5%***	***2.5%***	*IH*	*CB*
AS-0166	Perimeter	Downwind	PE04	60	7/26/21 9:33	7/26/21 16:51	438	2.6E+07	A	8/3/21	1	cpm	0.200	4.850	0.6	10.6	9.7E-15	1.8E-13	***1.1%***	***3.0%***	*IH*	*CB*
AS-0167	Perimeter	Upwind	PE03	60	7/27/21 7:37	7/27/21 17:03	566	3.4E+07	A	8/3/21	1	cpm	0.050	3.300	0.1	6.2	1.9E-15	8.2E-14	***0.2%***	***1.4%***	*IH*	*CB*
AS-0168	Perimeter	Downwind	PE04	60	7/27/21 7:30	7/27/21 17:07	577	3.5E+07	A	8/3/21	1	cpm	0.100	3.900	0.3	7.9	3.7E-15	1.0E-13	***0.4%***	***1.7%***	*IH*	*CB*
AS-0169	Perimeter	Upwind	PE03	60	7/28/21 7:21	7/28/21 17:09	588	3.5E+07	A	8/3/21	1	cpm	0.100	3.450	0.3	6.6	3.6E-15	8.5E-14	***0.4%***	***1.4%***	*IH*	*CB*
AS-0170	Perimeter	Downwind	PE04	60	7/28/21 7:30	7/28/21 17:05	575	3.4E+07	A	8/3/21	1	cpm	0.150	2.800	0.4	4.8	5.6E-15	6.3E-14	***0.6%***	***1.0%***	*IH*	*CB*
AS-0171	Perimeter	Upwind	PE03	60	7/29/21 7:38	7/29/21 17:10	572	3.4E+07	A	8/3/21	1	cpm	0.150	4.950	0.4	10.8	5.6E-15	1.4E-13	***0.6%***	***2.4%***	*IH*	*CB*
AS-0172	Perimeter	Downwind	PE04	60	7/29/21 7:30	7/29/21 17:05	575	3.4E+07	A	8/3/21	1	cpm	0.000	3.900	0.0	7.9	0.0E+00	1.0E-13	***0.0%***	***1.7%***	*IH*	*CB*

CFM to LPM Converter

1 cfm = 28.316846592 lpm

Enter cfm:	2.1
lpm:	60.0

Sample Types
Perimeter
Effluent

Counting Units
cnts
cpm

10 CFR 20 Appendix B Table 2 Effluent Concentrations
(listed in order of most to least restrictive radionuclide)

Alpha-Emitting Radionuclide	Retention Class	Column 1 Air (µCi/ml)
Th-232	W	4.E-15
Pu-239/240	W	2.E-14
Am-241	W	2.E-14
U-233/234	Y	5.E-14
U-235	Y	6.E-14
U-238	Y	6.E-14
Ra-226	W	9.E-13
(TBD)	(TBD)	(TBD)

Beta-Emitting Radionuclide	Retention Class	Column 1 Air (µCi/ml)
Sr-90	Y	6.E-12
Eu-152	W	3.E-11
Eu-154	W	3.E-11
Co-60	Y	5.E-11
Cs-137	D	2.E-10
(TBD)	(TBD)	(TBD)

Color Legend
No exceedance above regulatory criteria
Elevated however no exceedance above regulatory criteria
Exceedance above regulatory criteria

* Effluent concentration is a regulatory number from the NRC considered protective of the public

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