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

Air Monitoring Summary Report
October 1 to October 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
January 2022

DCN: GLBN-0005-F5271-0018

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San Francisco, CA
December 2021

DCN: GLBN-0005-F5271-0018

Prepared for:

Department of the Navy
Naval Facilities Engineering Systems Command Southwest
BRAC PMO West
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Contract Number: N62473-17-D-0005; Task Order No. N62473-18-F5271

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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 October 1st through October 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 October, 1st, 4th, 5th, 6th, 7th, 12th ,13th, 14th, 15th, 18th, 19th, 20th, 21st, 26th, 27th, 28th and 29th 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.

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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, DMW16) and two PDRs are placed in downwind perimeter locations (DMW8, DMW9, DMW17, DMW18).

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.

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 5-13 miles/hour with gusts up to 17 miles/hour. Detailed weather data is not reported in this document but can be provided upon request.

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. The field team has continued running the air monitoring stations for work onsite, however, has initiated collecting the samples once intrusive activities have wrapped up for the final workday of each week resulting in a sampling period less than 24 hours.

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 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.

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**.

PDR results for October 2021 did not exceed project-specific screening criteria shown within **Table 1**.

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

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.

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**. 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 October 2021 did not exceed the project-specific screening criteria presented in **Table 2-2**.

- On October 21 the downwind AMSW2 PM10 sample that obtains the shortened runtime and was collected once intrusive activities wrapped up for the day displayed the value 0 X within **Table 2-2**. The lab recorded the sample with a negative net weight and noted a corner of the filter was torn off about the size of a pea. Therefore, the X qualifier was assigned by the validator to indicate this data point is not technically sound or valid.

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

- A one-day exceedance of the TSP screening criteria was recorded on October 1st at 61.53 ug/m^3. The associated PM10 reading (38.0 ug/m^3) and downwind PDR monitors (-0.001 mg/m^3 and 0.000 mg/m^3) were below project limits.
- A one-day exceedance of the TSP screening criteria was observed on October

7th at 59.10 ug/m^3 associated with downwind PDR monitor which had a daily max detection value of 49 mg/m^3, just under the action limit (not adjusted for upwind contribution). The corresponding PM10 reading (15.0 ug/m^3) and downwind PDR monitors (0.002 mg/m^3 and 0.003 mg/m^3) were below project limits.

- Another one-day exceedance of the TSP screening criteria was recorded on October 15th with a delta result of 50.49 ug/m^3. The associated PM10 reading (31.0 ug/m^3) and downwind PDR monitors (-0.003 mg/m^3 and -0.005 mg/m^3) were below project limits.

The field team's operation on the days with exceedances mentioned above consisted of screening/clearing soil for UXO at the laydown area shown in **Figure 1**. No dirt moving or hauling activities were present within the area of the downwind air monitoring station that would have generated any magnitude of dust. The appropriate parties were notified when the contractor received these results and the field crew continues to maintain persistent dust control measures.

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

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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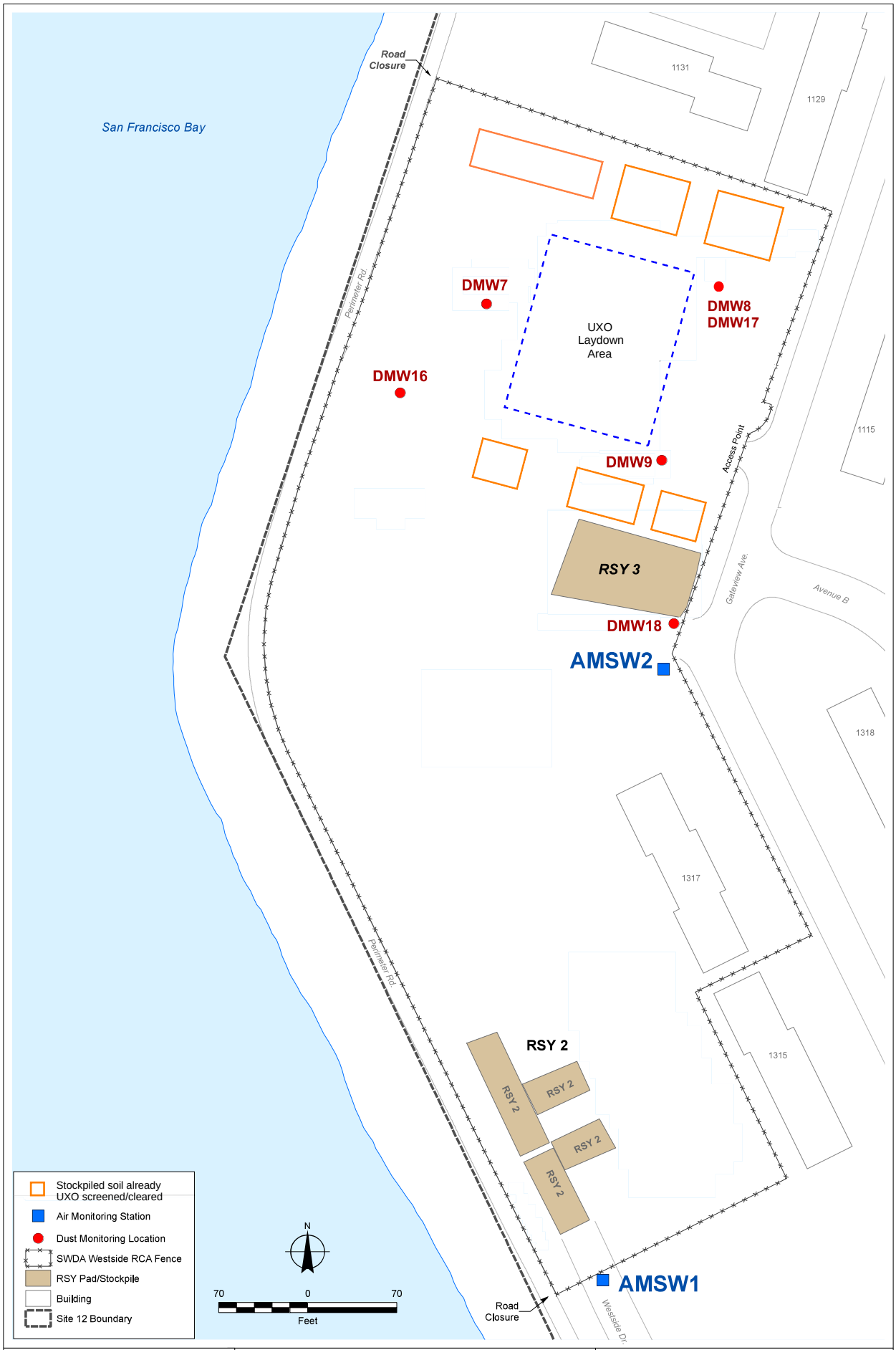

Air Monitoring Report
Phase IV Non-Time Critical Removal Action
Solid Waste Disposal Area Westside, IR Site 12
Former Naval Station Treasure Island
San Francisco, CA

Figure 1

Dust and Air Monitoring Locations IR Site 12
SWDA Westside

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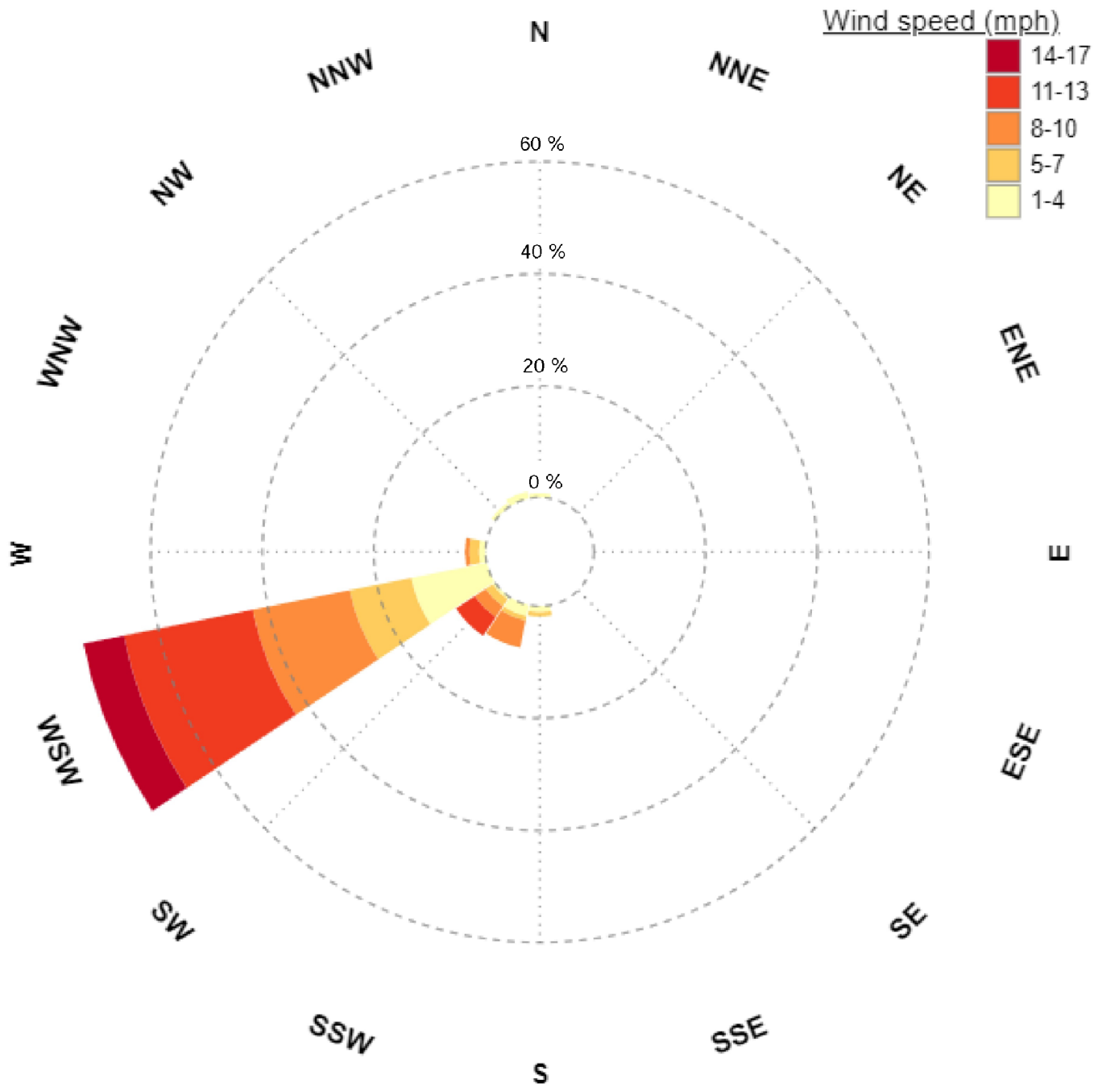

Air Monitoring Report
Phase IV Non-Time Critical Removal Action
Solid Waste Disposal Area Westside, IR Site 12
Former Naval Station Treasure Island
San Francisco, CA

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	10/1/2021	0.030	0.016	NA	Yes
DMW8	Site 12		0.025	0.016	0.000	Yes
DMW9	Site 12		0.022	0.015	-0.001	Yes
DMW7	Site 12	10/4/2021	0.027	0.025	NA	Yes
DMW8	Site 12		0.039	0.030	0.005	Yes
DMW9	Site 12		0.028	0.026	0.001	Yes
DMW16	Site 12		0.025	0.017	NA	Yes
DMW17	Site 12		0.030	0.021	0.004	Yes
DMW18	Site 12		0.032	0.019	0.002	Yes
DMW7	Site 12	10/5/2021	0.028	0.015	NA	Yes
DMW8	Site 12		0.033	0.015	0.000	Yes
DMW9	Site 12		0.032	0.016	0.001	Yes
DMW7	Site 12	10/6/2021	0.015	0.012	NA	Yes
DMW8	Site 12		0.022	0.017	0.005	Yes
DMW9	Site 12		0.016	0.012	0.000	Yes
DMW7	Site 12	10/7/2021	0.026	0.017	NA	Yes
DMW8	Site 12		0.049	0.019	0.002	Yes
DMW9	Site 12		0.030	0.020	0.003	Yes
DMW7	Site 12	10/12/2021	0.015	0.006	NA	Yes
DMW8	Site 12		0.022	0.008	0.002	Yes
DMW9	Site 12		0.016	0.008	0.002	Yes
DMW7	Site 12	10/13/2021	0.015	0.010	NA	Yes
DMW8	Site 12		0.016	0.009	-0.001	Yes
DMW9	Site 12		0.017	0.010	0.000	Yes
DMW7	Site 12	10/14/2021	0.025	0.019	NA	Yes
DMW8	Site 12		0.018	0.013	-0.006	Yes
DMW9	Site 12		0.017	0.012	-0.007	Yes
DMW7	Site 12	10/15/2021	0.029	0.015	NA	Yes
DMW8	Site 12		0.017	0.010	-0.005	Yes
DMW9	Site 12		0.020	0.012	-0.003	Yes
DMW7	Site 12	10/18/2021	0.006	0.005	NA	Yes
DMW8	Site 12		0.024	0.007	0.002	Yes
DMW9	Site 12		0.009	0.005	0.000	Yes
DMW16	Site 12	10/19/2021	0.021	0.014	NA	Yes
DMW17	Site 12		0.029	0.015	0.001	Yes
DMW18	Site 12		0.037	0.019	0.005	Yes
DMW7	Site 12	10/20/2021	0.014	0.010	NA	Yes
DMW8	Site 12		0.010	0.008	-0.002	Yes
DMW9	Site 12		0.009	0.005	-0.005	Yes
DMW7	Site 12	10/21/2021	0.024	0.007	NA	Yes
DMW8	Site 12		0.020	0.004	-0.003	Yes
DMW9	Site 12		0.026	0.007	0.000	Yes
DMW7	Site 12	10/26/2021	0.018	0.013	NA	Yes
DMW8	Site 12		0.019	0.015	0.002	Yes
DMW9	Site 12		0.016	0.011	-0.002	Yes
DMW7	Site 12	10/27/2021	0.026	0.016	NA	Yes
DMW8	Site 12		0.036	0.021	0.005	Yes
DMW9	Site 12		0.029	0.018	0.002	Yes
DMW16	Site 12	10/28/2021	0.020	0.014	NA	Yes
DMW17	Site 12		0.017	0.011	-0.003	Yes
DMW18	Site 12		0.023	0.016	0.002	Yes
DMW7	Site 12		0.019	0.012	NA	Yes
DMW8	Site 12		0.026	0.014	0.002	Yes
DMW9	Site 12		0.018	0.012	0.000	Yes
DMW7	Site 12	10/29/2021	0.037	0.020	NA	Yes
DMW8	Site 12		0.039	0.022	0.002	Yes
DMW9	Site 12		0.033	0.019	-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 10/1/21

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

Logged by Logan Schuring

Weather 51°F - 76°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
0755	DMW7	NW UXO Screening area	0.014	2845	Site Prep
↓	DMW8	NW UXO Screening area	0.015	2726	
↓	DMW9	NW UXO Screening area	0.016	2341	
1310	DMW7		0.013		Team on lunch
↓	DMW8		0.018		
↓	DMW9		0.012		
1700	DMW7		0.015		Stop wrapping up Friday.
↓	DMW8		0.018		Reading taken from dust upload.
↓	DMW9		0.020		

LSS 10/1/21

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 10/4/21

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

Logged by Logan Schwing

Weather 51°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	•UW OXO Stockpiling Lot #31	0.025	2845	•Site Setup Prep
↓	DMW8	•DW Stockpiling Lot #31	0.030	2341	
↓	DMW9	•DW Stockpiling Lot #31	0.027	2726	
0845	DMW7		0.020		•Wrapping up Stockpiling •Move Dustraks to incorporate hauling RS#3 Soil to Pad F.
↓	DMW8		0.024		
↓	DMW9		0.018		
0855	DMW16		0.019	2845	
↓	DMW17		0.022	2341	
↓	DMW18		0.019	2726	
1305	DMW16		0.018		•Lunch
↓	DMW17		0.022		
↓	DMW18		0.018		

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AIR MONITORING LOG

Client Name NAVFAC Date 10/5/21

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

Logged by Logan Schwing

Weather 54°F - 64°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	DMW7	• UW UXO screening op	0.028	2845	• site prep
↓	DMW8	• DW UXO screening op	0.030	2726	• non intrusive
↓	DMW9	• DW UXO screening op.	0.029	2341	
1300	DMW7		0.011		• Lunch for UXO team.
↓	DMW8		0.011		• Drag distance not applied.
↓	DMW9		0.012		
1700	DMW7		0.013		• OP finishing for today
↓	DMW8		0.015		
↓	DMW9		0.015		

EOS 10/5/21

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 10/6/21

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

Logged by Logan Schwing

Weather 53°F-60°F. Cloudy 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		0.013	2945	• Prep/setup
↓	DMW8		0.020	2341	
↓	DMW9		0.014	2726	
1310	DMW7		0.011		• Lunch.
↓	DMW8		0.014		• non-intrusive
↓	DMW9		0.012		
1655	DMW7		0.013		• op finishing up
↓	DMW8		0.019		for today.
↓	DMW9		0.020		

Logan 10/6/21

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 10/7/21

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

Logged by Logan Schwing

Weather 51°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	DMW7	DW UXO screening op @pad 1	0.016	2845	• site prep
↓	DMW8	• DW UXO screening op @pad 1	0.018	2726	
↓	DMW9	• DW UXO screening op @pad 1	0.020	2341	
1305	DMW7		0.014		• Lunch. non-intrusive.
↓	DMW8		0.017		
↓	DMW9		0.018		
1655	DMW7		0.013		• op finishing for today/weekend.
↓	DMW8		0.013		
↓	DMW9		0.017		

LS 10/7/21

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 10/12/2021

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

Logged by TDM

Weather 56 - 67 °F clear windy 12 MPH gust to 19 MPH

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 UXO clear Lot 32	0.004	2845	• site set up.
↓	DMW8	Downwind UXO clear Lot 32	0.006	2341	
↓	DMW9	Downwind UXO clear Lot 32	0.003	2726	
1035	DMW7		0.004		• UXO break no earth movement.
↓	DMW8		0.008		
↓	DMW9		0.005		
1500	DMW7		0.019		• UXO clear Resumed S Lot 32
↓	DMW8		0.021		
↓	DMW9		0.018		

10/12/21

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 10/13/21

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

Logged by TGK

Weather 52 - 64° F Slightly cloudy.

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated / zero calibrated before work

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0755	DMW7	upwind UXO clear	0.014	2845	• Preparing for work; NO UXO.
↓	DMW8	downwind UXO clear	0.014	2726	
↓	DMW9	downwind UXO clear	0.016	2341	
* 1015	DMW7		0.012		• UXO clearing RS7 pad 3.
↓	DMW8		0.019		
↓	DMW9		0.022		
1600	DMW7		0.020		• UXO clearing
↓	DMW8		0.017		
↓	DMW9		0.013		
*	Note maintenance of weed curbs	walking along Gate View.			painting

TGK

10/13/21

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 10/14/21

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

Logged by TOR

Weather Sunny 51°-69°F

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated / zero cal before work

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0755	DMW7	upwind UXO clear	0.014	2845	• Prep work. No UXO clearing
↓	DMW8	downwind UXO clear	0.015	2726	
↓	DMW9	downwind UXO clear	0.022	2341	
1115	DMW7		0.016		• UXO clearing RS4 pad 32 of 32
↓	DMW8		0.012		
↓	DMW9		0.012		
1500	DMW7		0.033		UXO clearing
↓	DMW8		0.026		
↓	DMW9		0.035		

10/14/21

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 10/15/21

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

Logged by TCK

Weather Sunny 57 - 76° 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
0758	DMW7	upwind UXO clear RSy pad	0.010	2845	- Demo for R UXO. munitions
↓	DMW8	down wind UXO clear	0.009	2341	
↓	DMW9	down wind UXO clear	0.009	2726	
0915	DMW7		0.009		Begin UXO clear RSy pad 3
↓	DMW8		0.010		
↓	DMW9		0.009		
1500	DMW7		0.019		UXO clear RSy pad 3.
↓	DMW8		0.021		
↓	DMW9		0.029		

TCK

10/15/21

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 10/18/21

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

Logged by Logan Schwing

Weather 48°F - 59°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
0750	DMW7	DW UXO screening/ stockpiling op.	0.004	2845	setup/prep.
↓	DMW8	DW UXO screening/ stockpiling op.	0.007	2341	
↓	DMW9	DW screening/ stockpiling op.	0.005	2726	
1300	DMW7		0.006		Lunch.
↓	DMW8		0.008		frag distance not implemented.
↓	DMW9		0.006		
1700	DMW7		0.005		EOD finishing for day
↓	DMW8		0.008		
↓	DMW9		0.003		

LSS 10/18/21

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 10/19/21

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

Logged by Logan Schwing

Weather 48°F - 64°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	DMW916 (LS 10/21)	-DW hauling PST 3 Sp. to pad 1 for laydown	0.018	2845	-Prep / setup.
↓	DMW917	-DW hauling PST 3 Sp. to pad 1 for laydown	0.017	2726	
↓	DMW918	-DW hauling PST 3 Sp. to pad 1 for laydown	0.029	2341	
1250	DMW916		0.010		-Team on lunch.
↓	DMW917		0.011		
↓	DMW918		0.010		
1700	DMW916		0.012		-wrapping up for today.
↓	DMW917		0.015		
↓	DMW918 (LS 10/21)		0.020		

LS 10/19/21

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 10/20/21

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

Logged by Logan Schuring

Weather 56°F - 63°F. Cloudy. morning drizzles

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 UXO screening @ pad	0.006	2845	· Setup
↓	DMW8	· DW UXO screening @ pad	0.007	2341	
↓	DMW9	· DW UXO screening @ pad	0.010	2726	
1300	DMW7		0.005		· Lunch,
↓	DMW8		0.009		· non-intrusive,
↓	DMW9		0.007		
1700	DMW7		0.008		· wrapping up for day, · team post meetings
↓	DMW8		0.010		
↓	DMW9		0.012		

10/20/21

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 10/21/21

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

Logged by Logan Schwing

Weather 57°F - 64°F Cloudy AM Rain.

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 UXO screening operation @ pad 1	0.001	2845	· Setup/prep
↓	DMW8	· DW UXO screening operation @ pad 1	0.002	2726	· mobilize.
↓	DMW9	· DW UXO screening operation @ pad 1	0.005	2341	· Heavy Rain.
1245	DMW7		0.024		· Lunch.
↓	DMW8		0.021		· Frag zone not implemented.
↓	DMW9		0.030		
1700	DMW7		0.019		· Wrapup/clean up.
↓	DMW8		0.027		
↓	DMW9		0.026		

LS 10/21/21

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 10/26/21

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

Logged by Logan Schwing

Weather 51°F-62°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	DMW7	DW UXO screening @pad 1	0.011	2726	Site prep setup.
↓	DMW8	DW UXO screening @pad 1	0.015	2341	
↓	DMW9	DW UXO screening @pad 1	0.010	2845	
1500	DMW7		0.012		Stream on break.
↓	DMW8		0.016		non-intrusive.
↓	DMW9		0.014		
1700	DMW7		0.010		Op finishing for day.
↓	DMW8		0.017		
↓	DMW9		0.011		

LLS 10/26/21

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 10/27/21

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

Logged by Logan Schwing

Weather 53°F - 64°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
0755	DMW7	DW UXO screening operation @ Pad 1	0.009	2845	• Setup.
↓	DMW8	DW UXO screening operation @ Pad 1	0.016	2341	• mobilize.
↓	DMW9	DW UXO screening operation @ Pad 1	0.013	2726	
1310	DMW7		0.027		• Lunch.
↓	DMW8		0.033		• Frag distance ✓
↓	DMW9		0.028		
1700	DMW7		0.024		• Wrapping up for day
↓	DMW8		0.023		• demob
↓	DMW9		0.027		

LS 10/27/21

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 10/28/21

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

Logged by Logan Schwing

Weather 53°F-71°F. Foggy/light mist in AM. PM: 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	DMW16	• DW hauling RG-3 soil to pad 1	0.015	2845	• site prep setup to move dirt.
↓	DMW17	• DW hauling RG-3 soil to pad 1	0.015	2726	
↓	DMW18	• DW hauling RG-3 soil to pad 1	0.018	2341	
1300	DMW16		0.018		• Team is done laying out lot #34
↓	DMW17		0.016		• move DustTrak's to spots to incorporate UXO screening of that will happen after lunch.
↓	DMW18		0.015		
1310	DMW7	• UXO screening @ DW pad 1	0.019		
↓	DMW8	• DW UXO screening @ pad 1	0.017		
↓	DMW9	• DW UXO screening @ pad 1	0.016		
1700	DMW7		0.014		• de-mob
↓	DMW8		0.020		• wrapping up for day.
↓	DMW9		0.018		

LS 10/28/21

Gilbane

AIR MONITORING LOG

Client Name NAVFAC Date 10/29/21

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

Logged by Logan Schwing

Weather 53°F-61°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	•UW UXO screening operation@pad 1	0.013	2845	•mobilize
↓	DMW8	•DW UXO screening operation@pad 1	0.017	2341	•prepare to UXO Screen lot #34
↓	DMW9	•DW UXO screening operation@pad 1	0.013	2726	
1305	DMW7		0.021		•team on lunch
↓	DMW8		0.027		
↓	DMW9		0.022		
1700	DMW7		0.018		•OP Finishing for today
↓	DMW8		0.018		
↓	DMW9		0.020		

10/29/21 LS

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)
10/1/2021	29.92	64.12	290.99
10/1/2021	29.93	67.49	292.87
10/5/2021	29.88	57.87	287.52
10/6/2021	29.95	57.82	287.49
10/7/2021	29.95	57.51	287.32
10/7/2021	29.96	57.69	287.42
10/13/2021	29.99	55.53	286.22
10/14/2021	30.01	55.76	286.35
10/15/2021	30.08	57.98	287.58
10/15/2021	30.10	57.23	287.17
10/19/2021	29.99	56.00	286.48
10/20/2021	29.95	57.00	287.04
10/21/2021	30.03	60.51	288.99
10/21/2021	30.05	60.78	289.14
10/27/2021	30.22	59.44	288.39
10/28/2021	30.19	59.31	288.32
10/29/2021	30.01	60.56	289.02
10/29/2021	29.93	58.93	288.11

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

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	20.53	10/01/2021	19	NA	NA
	7.72	10/01/2021	19	NA	NA
	23.48	10/05/2021	9.1	NA	NA
	23.68	10/06/2021	7	NA	NA
	21.5	10/07/2021	18	NA	NA
	7.81	10/07/2021	16	NA	NA
	23.6	10/13/2021	24	NA	NA
	23.34	10/14/2021	20	NA	NA
	22.17	10/15/2021	25	NA	NA
	7.6	10/15/2021	22	NA	NA
	23.31	10/19/2021	15	NA	NA
	22.97	10/20/2021	17	NA	NA
	22.69	10/21/2021	7.3	NA	NA
	5.21	10/21/2021	5	NA	NA
	23.67	10/27/2021	17	NA	NA
	23.5	10/28/2021	14	NA	NA
	21.26	10/29/2021	18	NA	NA
	7.42	10/29/2021	12	NA	NA
AMSW2	20.65	10/01/2021	25	6	No
	7.59	10/01/2021	57	38	No
	23.76	10/05/2021	14	4.9	No
	23.9	10/06/2021	21	14	No
	21.9	10/07/2021	25	7	No
	7.95	10/07/2021	31	15	No
	24.37	10/13/2021	40	16	No
	23.73	10/14/2021	27	7	No
	17.53	10/15/2021	33	8	No
	7.76	10/15/2021	53	31	No
	22.5	10/19/2021	23	8	No
	22.61	10/20/2021	36	19	No
	23.01	10/21/2021	10	2.7	No
	7.19	10/21/2021	0 X	-5	No
	24.12	10/27/2021	22	5	No
	23.9	10/28/2021	17	3	No
	21.77	10/29/2021	27	9	No
	7.6	10/29/2021	19	7	No

Notes: ug/m3 = micrograms per cubic meter

NA = Not applicable

PM10 = particulate matter less then 10 microns in diameter

* = generator/sampler malfunction

X = validator considers result not technically sound

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	20.55	10/01/2021	27.5541	NA	NA
	7.69	10/01/2021	30.7997	NA	NA
	23.5	10/05/2021	20.8217	NA	NA
	23.66	10/06/2021	17.9565	NA	NA
	21.51	10/07/2021	32.8899	NA	NA
	7.77	10/07/2021	30.5131	NA	NA
	23.59	10/13/2021	40.4656	NA	NA
	23.35	10/14/2021	32.2313	NA	NA
	22.19	10/15/2021	39.9258	NA	NA
	7.63	10/15/2021	41.0183	NA	NA
	23.34	10/19/2021	24.3655	NA	NA
	23.03	10/20/2021	35.0925	NA	NA
	22.71	10/21/2021	16.7906	NA	NA
	6.69	10/21/2021	17.9753	NA	NA
	23.72	10/27/2021	35.1601	NA	NA
	23.51	10/28/2021	25.9128	NA	NA
	21.26	10/29/2021	30.6228	NA	NA
	7.44	10/29/2021	20.5647	NA	NA
AMSW2	20.66	10/01/2021	44.5255	16.9714	No
	7.63	10/01/2021	92.3328	**61.5331**	Yes
	23.77	10/05/2021	31.3379	10.5162	No
	23.91	10/06/2021	44.313	26.3565	No
	21.92	10/07/2021	43.7029	10.813	No
	8	10/07/2021	89.6226	**59.1095**	Yes
	24.36	10/13/2021	73.8891	33.4235	No
	23.73	10/14/2021	49.7796	17.5483	No
	17.53	10/15/2021	58.8903	18.9645	No
	7.8	10/15/2021	91.5088	**50.4905**	Yes
	22.5	10/19/2021	48.6448	24.2793	No
	22.74	10/20/2021	65.9584	30.8659	No
	23.04	10/21/2021	28.7098	11.9192	No
	7.25	10/21/2021	16.2525	-1.7228	No
	24.13	10/27/2021	39.2529	4.0928	No
	23.92	10/28/2021	25.7753	-0.1375	No
	21.75	10/29/2021	34.4091	3.7863	No
	7.61	10/29/2021	31.9662	11.4015	No

Notes:

J = estimated value

ug/m^3 = micrograms per cubic meter

NA = Not applicable

TSP = total suspended particulate

bold = results above screening criteria

* = generator/sampler malfunction

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	20.53	10/01/2021	0.0014	No
	7.72	10/01/2021	0.0058	No
	23.48	10/05/2021	0.00082	No
	23.68	10/06/2021	0.00052 J	No
	21.5	10/07/2021	0.00064 J	No
	7.81	10/07/2021	0.003	No
	23.6	10/13/2021	0.0017	No
	23.34	10/14/2021	0.00087	No
	22.17	10/15/2021	0.0014	No
	7.6	10/15/2021	0.0021 J	No
	23.31	10/19/2021	0.00088	No
	22.97	10/20/2021	0.0021	No
	22.69	10/21/2021	0.0013	No
	5.21	10/21/2021	0.0027 J	No
	23.67	10/27/2021	0.00078	No
	23.5	10/28/2021	0.0013	No
	21.26	10/29/2021	0.0019	No
	7.42	10/29/2021	0.0029	No
AMSW2	20.65	10/01/2021	0.003	No
	7.59	10/01/2021	0.017	No
	23.76	10/05/2021	0.0022	No
	23.9	10/06/2021	0.0037	No
	21.9	10/07/2021	0.0013	No
	7.95	10/07/2021	0.0064	No
	24.37	10/13/2021	0.0054	No
	23.73	10/14/2021	0.0025	No
	17.53	10/15/2021	0.0031	No
	7.76	10/15/2021	0.01	No
	22.5	10/19/2021	0.0026	No
	22.61	10/20/2021	0.0053	No
	23.01	10/21/2021	0.0012	No
	7.19	10/21/2021	0.0018 J	No
	24.12	10/27/2021	0.00061 J	No
	23.9	10/28/2021	0.0017	No
	21.77	10/29/2021	0.0023	No
	7.6	10/29/2021	0.0034	No

Notes:

J = indicates an estimated value

ug/m^3 = micrograms per cubic meter

* = generator/sampler malfunction

bold = results above screening criteria

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	7.62	10/01/2021	No	0	0.002 J	0.00081 J	< 0.0019	< 0.0019	< 0.0019	< 0.0019	< 0.0019	< 0.0019	< 0.0019	< 0.0019	< 0.0019	< 0.0019	< 0.0019	< 0.0019	0.0055	0.0013 J	< 0.0019
	21.52	10/07/2021	No	0	0.00066 J	0.00029 J	< 0.00062	< 0.00062	< 0.00062	< 0.00062	< 0.00062	< 0.00062	< 0.00062	< 0.00062	< 0.00062	< 0.00062	< 0.00062	< 0.00062	0.0018	0.00027 J	< 0.00062
	23.36	10/14/2021	No	0	0.0035	0.0005 J	< 0.00055	< 0.00055	< 0.00055	< 0.00055	< 0.00055	< 0.00055	< 0.00055	< 0.00055	< 0.00055	< 0.00055	0.00034 J	0.00052 J	< 0.00055	0.012	0.00099	0.00026 J
	23.35	10/19/2021	No	0	0.0028	0.00036 J	< 0.00058	< 0.00058	< 0.00058	< 0.00058	< 0.00058	< 0.00058	< 0.00058	< 0.00058	< 0.00058	< 0.00058	0.00027 J	0.00031 J	< 0.00058	0.0065	0.0005 J	< 0.00058
	6.6	10/21/2021	No	0	0.0024 J	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021	0.0089	0.0012 J	< 0.0021
	21.27	10/29/2021	No	0	0.003	0.00095	< 0.00063	< 0.00063	< 0.00063	< 0.00063	< 0.00063	< 0.00063	< 0.00063	< 0.00063	< 0.00063	< 0.00063	0.00086	0.0007	< 0.00063	0.0068	0.0014	0.00063
AMSW2	7.56	10/01/2021	No	0	0.0019 J	< 0.0017	< 0.0017	< 0.0017	< 0.0017	< 0.0017	< 0.0017	< 0.0017	< 0.0017	< 0.0017	< 0.0017	< 0.0017	0.00075 J	0.00075 J	< 0.0017	0.005	0.0025	< 0.0017
	21.92	10/07/2021	No	0	< 0.0011	0.00024 J	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	0.00032 J	0.00027 J	< 0.00057	0.0013	0.001	< 0.00057
	23.73	10/14/2021	No	0	0.0043	0.00041 J	< 0.00056	0.0004 J	< 0.00056	< 0.00056	< 0.00056	< 0.00056	< 0.00056	< 0.00056	< 0.00056	< 0.00056	0.0012	0.00078	< 0.00056	0.013	0.0033	0.00075
	22.51	10/19/2021	No	0	0.0019	0.00032 J	< 0.00058	0.00038 J	< 0.00058	< 0.00058	< 0.00058	< 0.00058	< 0.00058	< 0.00058	< 0.00058	< 0.00058	0.00078	0.00063	< 0.00058	0.0049	0.003	0.0005 J
	7.14	10/21/2021	No	0	0.0018 J	< 0.0018	< 0.0018	< 0.0018	< 0.0018	< 0.0018	< 0.0018	< 0.0018	< 0.0018	< 0.0018	< 0.0018	< 0.0018	0.0013 J	0.00096 J	< 0.0018	0.0056	0.0048	0.00084 J
	21.8	10/29/2021	No	0	0.0027	0.00075	< 0.00061	0.00059 J	< 0.00061	< 0.00061	< 0.00061	< 0.00061	< 0.00061	< 0.00061	< 0.00061	< 0.00061	0.0013	0.0011	< 0.00061	0.0067	0.0046	0.00081

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

bold = results above screening criteria

< = nondetected less than associated reporting limit

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	23.51	10/05/2021	NA	0	< 0.00077	< 0.00077	< 0.00077	< 0.00077	< 0.00077	< 0.00077	< 0.00077
	7.72	10/07/2021	NA	0	< 0.0023	< 0.0023	< 0.0023	< 0.0023	< 0.0023	< 0.0023	< 0.0023
	22.17	10/15/2021	NA	0	< 0.00081	< 0.00081	< 0.00081	< 0.00081	< 0.00081	< 0.00081	< 0.00081
	23.04	10/20/2021	NA	0	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004
	23.73	10/27/2021	NA	0	< 0.00075	< 0.00075	< 0.00075	< 0.00075	< 0.00075	< 0.00075	< 0.00075
	7.39	10/29/2021	NA	0	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025	< 0.0025
AMSW2	23.77	10/05/2021	NA	0	< 0.00075	< 0.00075	< 0.00075	< 0.00075	< 0.00075	< 0.00075	< 0.00075
	7.91	10/07/2021	NA	0	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021	< 0.0021
	17.53	10/15/2021	NA	0	< 0.001 UJ	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001
	22.47	10/20/2021	NA	0	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004	< 0.004
	24.13	10/27/2021	NA	0	< 0.00082	< 0.00082	< 0.00082	< 0.00082	< 0.00082	< 0.00082	< 0.00082
	7.61	10/29/2021	NA	0	< 0.0023	< 0.0023	< 0.0023	< 0.0023	< 0.0023	< 0.0023	< 0.0023

Notes:

NA = Not applicable

NE = None established

PCB = polychlorinated biphenyl

ug/m^3 = micrograms per cubic meter

< = nondetected less than associated reporting limit

J = estimated value

* = 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	20.56	10/01/2021	< 0.00000002	No
	23.68	10/06/2021	< 0.00000002	No
	23.59	10/13/2021	< 0.00000002	No
	7.6	10/15/2021	< 0.00000006	No
	22.73	10/21/2021	< 0.00000002	No
	23.53	10/28/2021	< 0.00000002	No
AMSW2	20.63	10/01/2021	< 0.00000002	No
	23.9	10/06/2021	< 0.00000002	No
	24.38	10/13/2021	< 0.00000002	No
	7.72	10/15/2021	< 0.00000006	No
	20.89	10/21/2021	< 0.00000002	No
	23.22	10/28/2021	< 0.00000002	No

Notes:

J = estimated value

ug/m^3 = micrograms per cubic meter

< = nondetected less than associated reporting limit

bold = results above screening criteria

ATTACHMENT 3
RADIOLOGICAL AIR MONITORING RESULTS
(Provided on CD)

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Gilbane

AIR SAMPLING EQUIPMENT

Project Information Effective as of: 04 Jan 2022

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			
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	Protean	9085100	10/5/21	1	1	0.0	1.2	0.356	0.352	15.2	29.9
C	Protean	9085100	10/1/22	1	1	0.0	1.2	0.359	0.355	15.1	29.6
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)*

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: 16 Nov 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 12 Nov 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-0253	Perimeter	Upwind	PE03	60	10/1/21 7:35	10/1/21 17:20	585	3.5E+07	C	10/5/21	1	cpm	0.15	4.25	0.4	8.6	5.4E-15	1.1E-13	0.6%	1.8%	IH	CB
AS-0254	Perimeter	Downwind	PE04	60	10/1/21 7:41	10/1/21 17:17	576	3.5E+07	C	10/5/21	1	cpm	0.10	4.30	0.3	8.7	3.6E-15	1.1E-13	0.4%	1.9%	IH	CB
AS-0255	Perimeter	Upwind	PE03	60	10/4/21 7:30	10/4/21 16:40	550	3.3E+07	C	10/12/21	1	cpm	0.15	4.30	0.4	8.7	5.7E-15	1.2E-13	0.6%	2.0%	IH	CB
AS-0256	Perimeter	Downwind	PE04	60	10/4/21 7:35	10/4/21 16:45	550	3.3E+07	C	10/12/21	1	cpm	0.25	4.75	0.7	10.0	9.5E-15	1.4E-13	1.1%	2.3%	IH	CB
AS-0257	Perimeter	Upwind	PE03	60	10/5/21 7:35	10/5/21 17:00	565	3.4E+07	C	10/12/21	1	cpm	0.20	3.65	0.6	6.9	7.4E-15	9.2E-14	0.8%	1.5%	IH	CB
AS-0258	Perimeter	Downwind	PE04	60	10/5/21 7:30	10/5/21 17:11	581	3.5E+07	C	10/12/21	1	cpm	0.15	4.95	0.4	10.6	5.4E-15	1.4E-13	0.6%	2.3%	IH	CB
AS-0259	Perimeter	Upwind	PE03	60	10/6/21 7:35	10/6/21 17:10	575	3.5E+07	C	10/12/21	1	cpm	0.15	4.40	0.4	9.0	5.5E-15	1.2E-13	0.6%	2.0%	IH	CB
AS-0260	Perimeter	Downwind	PE04	60	10/6/21 7:30	10/6/21 17:01	571	3.4E+07	C	10/12/21	1	cpm	0.15	3.85	0.4	7.5	5.5E-15	9.8E-14	0.6%	1.6%	IH	CB
AS-0261	Perimeter	Upwind	PE03	60	10/7/21 7:30	10/7/21 16:50	560	3.4E+07	C	10/12/21	1	cpm	0.20	3.70	0.6	7.0	7.5E-15	9.4E-14	0.8%	1.6%	IH	CB
AS-0262	Perimeter	Downwind	PE04	60	10/7/21 7:35	10/7/21 17:00	565	3.4E+07	C	10/12/21	1	cpm	0.25	4.80	0.7	10.1	9.3E-15	1.3E-13	1.0%	2.2%	IH	CB
AS-0263	Perimeter	Upwind	PE03	60	10/12/21 7:31	10/12/21 17:07	576	3.5E+07	C	10/19/21	1	cpm	0.30	4.50	0.8	9.3	1.1E-14	1.2E-13	1.2%	2.0%	IH	CB
AS-0264	Perimeter	Downwind	PE04	60	10/12/21 7:42	10/12/21 17:12	570	3.4E+07	C	10/19/21	1	cpm	0.25	4.20	0.7	8.5	9.2E-15	1.1E-13	1.0%	1.9%	IH	CB
AS-0265	Perimeter	Upwind	PE03	60	10/13/21 7:49	10/13/21 17:15	566	3.4E+07	C	10/19/21	1	cpm	0.25	3.70	0.7	7.0	9.2E-15	9.3E-14	1.0%	1.6%	IH	CB
AS-0266	Perimeter	Downwind	PE04	60	10/13/21 7:50	10/13/21 17:20	570	3.4E+07	C	10/19/21	1	cpm	0.15	5.10	0.4	11.0	5.5E-15	1.4E-13	0.6%	2.4%	IH	CB
AS-0267	Perimeter	Upwind	PE03	60	10/14/21 7:45	10/14/21 17:05	560	3.4E+07	C	10/19/21	1	cpm	0.20	4.95	0.6	10.6	7.5E-15	1.4E-13	0.8%	2.4%	IH	CB
AS-0268	Perimeter	Downwind	PE04	60	10/14/21 7:38	10/14/21 17:10	572	3.4E+07	C	10/19/21	1	cpm	0.20	4.00	0.6	7.9	7.3E-15	1.0E-13	0.8%	1.7%	IH	CB
AS-0269	Perimeter	Upwind	PE03	60	10/15/21 7:35	10/15/21 17:20	585	3.5E+07	C	10/19/21	1	cpm	0.25	5.35	0.7	11.7	8.9E-15	1.5E-13	1.0%	2.5%	IH	CB
AS-0270	Perimeter	Downwind	PE04	60	10/15/21 7:40	10/15/21 17:25	585	3.5E+07	C	10/19/21	1	cpm	0.15	5.15	0.4	11.1	5.4E-15	1.4E-13	0.6%	2.4%	IH	CB
AS-0271	Perimeter	Upwind	PE03	60	10/18/21 7:35	10/18/21 17:15	580	3.5E+07	C	10/25/21	1	cpm	0.10	4.80	0.3	10.1	3.6E-15	1.3E-13	0.4%	2.2%	IH	CB
AS-0272	Perimeter	Downwind	PE04	60	10/18/21 7:31	10/18/21 17:03	572	3.4E+07	C	10/25/21	1	cpm	0.30	5.75	0.8	12.8	1.1E-14	1.7E-13	1.2%	2.8%	IH	CB
AS-0273	Perimeter	Upwind	PE03	60	10/19/21 7:35	10/19/21 17:15	580	3.5E+07	C	10/25/21	1	cpm	0.20	4.80	0.6	10.1	7.2E-15	1.3E-13	0.8%	2.2%	IH	CB
AS-0274	Perimeter	Downwind	PE04	60	10/19/21 7:30	10/19/21 17:11	581	3.5E+07	C	10/25/21	1	cpm	0.20	4.70	0.6	9.9	7.2E-15	1.3E-13	0.8%	2.1%	IH	CB
AS-0275	Perimeter	Upwind	PE03	60	10/20/21 7:45	10/20/21 17:11	566	3.4E+07	C	10/25/21	1	cpm	0.10	4.30	0.3	8.7	3.7E-15	1.2E-13	0.4%	1.9%	IH	CB
AS-0276	Perimeter	Downwind	PE04	60	10/20/21 7:50	10/20/21 17:01	551	3.3E+07	C	10/25/21	1	cpm	0.20	4.45	0.6	9.2	7.6E-15	1.2E-13	0.8%	2.1%	IH	CB
AS-0277	Perimeter	Upwind	PE03	60	10/21/21 7:40	10/21/21 17:13	573	3.4E+07	C	10/25/21	1	cpm	0.30	5.10	0.8	11.0	1.1E-14	1.4E-13	1.2%	2.4%	IH	CB
AS-0278	Perimeter	Downwind	PE04	60	10/21/21 7:35	10/21/21 17:15	580	3.5E+07	C	10/25/21	1	cpm	0.30	4.40	0.8	9.0	1.1E-14	1.2E-13	1.2%	1.9%	IH	CB
AS-0279	Perimeter	Upwind	PE03	60	10/26/21 7:30	10/26/21 17:30	600	3.6E+07	C	11/2/21	1	cpm	0.10	4.00	0.3	7.9	3.5E-15	9.9E-14	0.4%	1.6%	IH	CB
AS-0280	Perimeter	Downwind	PE04	60	10/26/21 7:33	10/26/21 17:15	582	3.5E+07	C	11/2/21	1	cpm	0.10	3.35	0.3	6.1	3.6E-15	7.8E-14	0.4%	1.3%	IH	CB
AS-0281	Perimeter	Upwind	PE03	60	10/27/21 7:41	10/27/21 17:05	564	3.4E+07	C	11/2/21	1	cpm	0.10	3.30	0.3	5.9	3.7E-15	7.9E-14	0.4%	1.3%	IH	CB
AS-0282	Perimeter	Downwind	PE04	60	10/27/21 7:45	10/27/21 16:57	552	3.3E+07	C	11/2/21	1	cpm	0.05	4.50	0.1	9.3	1.9E-15	1.3E-13	0.2%	2.1%	IH	CB
AS-0283	Perimeter	Upwind	PE03	60	10/28/21 7:45	10/28/21 17:18	573	3.4E+07	C	11/2/21	1	cpm	0.15	3.90	0.4	7.6	5.5E-15	1.0E-13	0.6%	1.7%	IH	CB
AS-0284	Perimeter	Downwind	PE04	60	10/28/21 7:40	10/28/21 17:15	575	3.4E+07	C	11/2/21	1	cpm	0.35	3.95	1.0	7.7	1.3E-14	1.0E-13	1.4%	1.7%	IH	CB
AS-0285	Perimeter	Upwind	PE03	60	10/29/21 7:39	10/29/21 17:10	571	3.4E+07	C	11/2/21	1	cpm	0.30	4.20	0.8	8.5	1.1E-14	1.1E-13	1.2%	1.9%	IH	CB
AS-0286	Perimeter	Downwind	PE04	60	10/29/21 7:35	10/29/21 17:07	572	3.4E+07	C	11/2/21	1	cpm	0.45	4.55	1.3	9.4	1.6E-14	1.2E-13	1.8%	2.1%	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