



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

## **Air Monitoring Summary Report** **June 1 to July 12, 2022**

Phase IV Non-Time Critical Removal Action, Solid Waste Disposal Area  
Westside, Installation Restoration Site 12

Former Naval Station Treasure Island

San Francisco, CA

July 2022



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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 <sup>3</sup>	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
µg/m <sup>3</sup>	microgram per cubic meter
USEPA	United States Environmental Protection Agency
Work Plan	<i>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</i>

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

This summary report presents the dust monitoring results at Installation Restoration (IR) Site 12 from June 1<sup>st</sup> through July 12<sup>th</sup>, 2022 and compares the results with the established action levels included in the Work Plan (Gilbane, 2021). During this reporting period PDR dust monitoring was the only testing activity conducted throughout the month of June and July because earth-work operations solely consisted of site grading and acceptance of clean import soil. Earth-moving tasks involving potentially contaminated soil wrapped up in May 2022 and the field crew shutdown the high-volume air monitoring samplers as well as the radiological air samplers.

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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**. This reporting period's prevailing wind direction is displayed on the wind rose in **Figure 2**. 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 and two PDRs are placed in downwind perimeter locations to represent dust generation from onsite activities. The dust monitors are moved to encompass field work whenever the contractor changes operations and are then given a new naming convention. During this reporting period two sets of monitoring locations were used to incorporate field operations (DMW31, DMW32, DMW33) and (DMW34, DMW35, DMW36). Specifically, the upwind PDR stations DMW31/DMW34 and the downwind monitors DMW32, DMW33, DMW35 and DMW36.

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## **3.0 Sampling and Analytical Methods**

Dust samples are collected during clean soil earthmoving activities. However, during precipitation events, the dust monitoring units may not be operable. An attempt will be made to collect samples and readings regardless of the weather. If dust 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 dust monitoring sampling equipment.

### **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.

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## 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**.

- On June 9<sup>th</sup> the upwind PDR DMW31 recorded one instantaneous reading above project screening criteria. This monitor is upwind of project activities and should exhibit background atmospheric conditions. This reading should be considered an anomaly.
- On June 15<sup>th</sup> the downwind PDR DMW33 recorded a reading above project screening criteria. Dustrak Instrument readings were somewhat high during setup which was before any earth-moving tasks had begun presumably from atmospheric conditions. The delta between the upwind and downwind monitor remained below action levels and work continued onsite. The field crew continues to maintain diligent dust control measures.
- On June 22<sup>nd</sup> the downwind PDR DMW32 experienced readings above project screening criteria. The field personnel noted on the dust log presented in **Attachment 1** that the dustrak unit 0534 was having technical difficulties where troubleshooting techniques were implemented but failed to fix the machine. A new machine was picked up the next day. The other downwind monitor recorded values well below action levels and the field technician noted no visible dust was present onsite within the dust log field form.

**Table 1: Dust Monitoring Project Action Levels**

Method	Monitoring Location	Monitoring Frequency <sup>a</sup>	Action Level <sup>b</sup>	Action
PDR	Near Workers' Breathing Zones (typically on equipment)	Periodically <sup>c</sup>	<2.0 mg/m <sup>3</sup> >2.0 mg/m <sup>3</sup>	<2.0 mg/m <sup>3</sup> 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 <sup>3</sup> .
	Job Site Perimeter	Continuously	<1.0 mg/m <sup>3</sup> >1.0 mg/m <sup>3</sup>	Continue work. STOP work, apply water or other dust suppression methods until levels decrease below 1.0 mg/m <sup>3</sup>

**Notes:**

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

<sup>a</sup> 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.

<sup>b</sup> 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.

<sup>c</sup> PDR will be monitored a minimum of three times a day.

< less than

> greater than

mg/m<sup>3</sup> milligrams per cubic meter

PDR personal data-logging real-time aerosol monitor

## 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.

There are no air monitoring and radiological results to present for the field work conducted for this reporting period. No earth-moving tasks involving potentially contaminated soil were performed.

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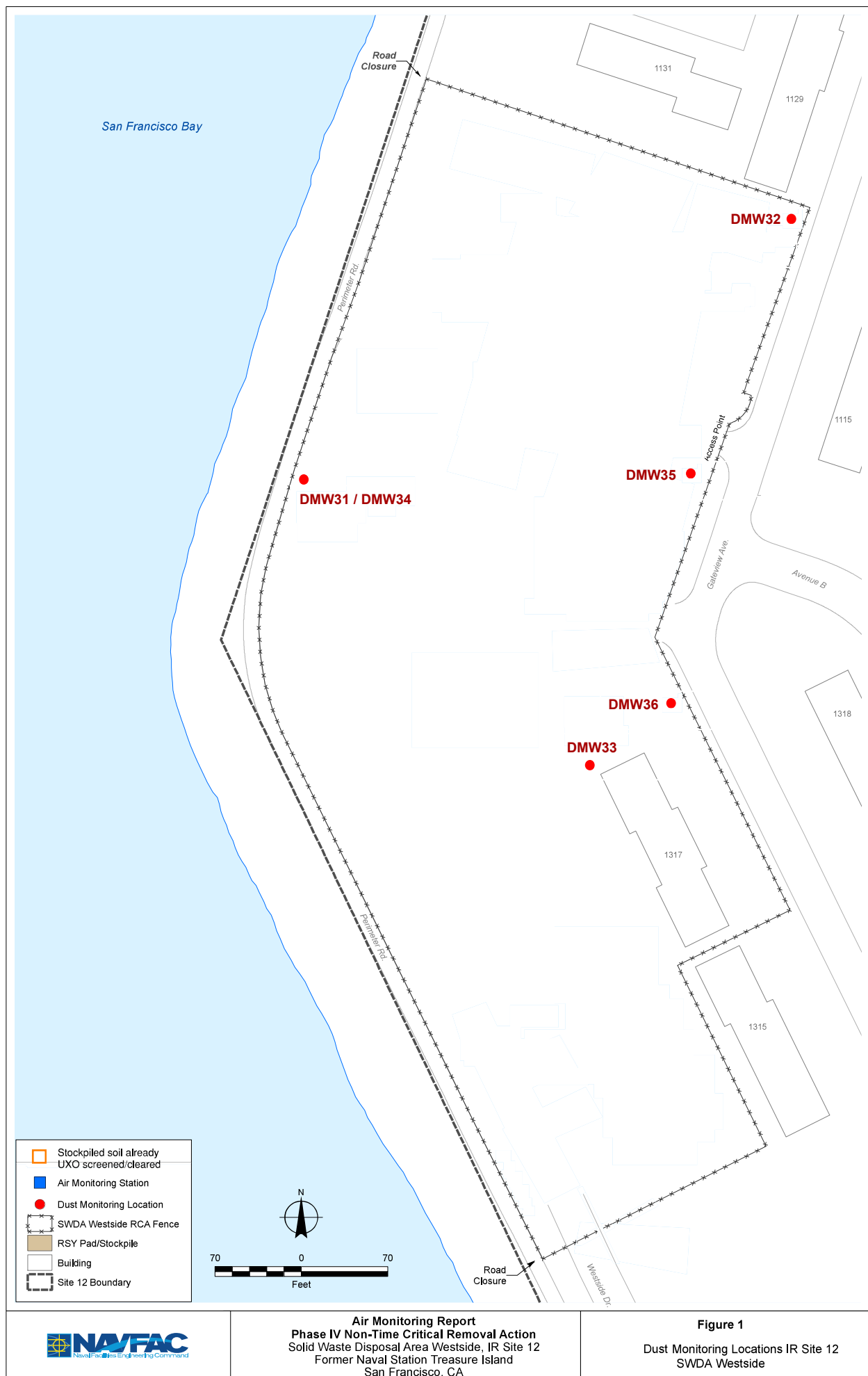
## 6.0 References

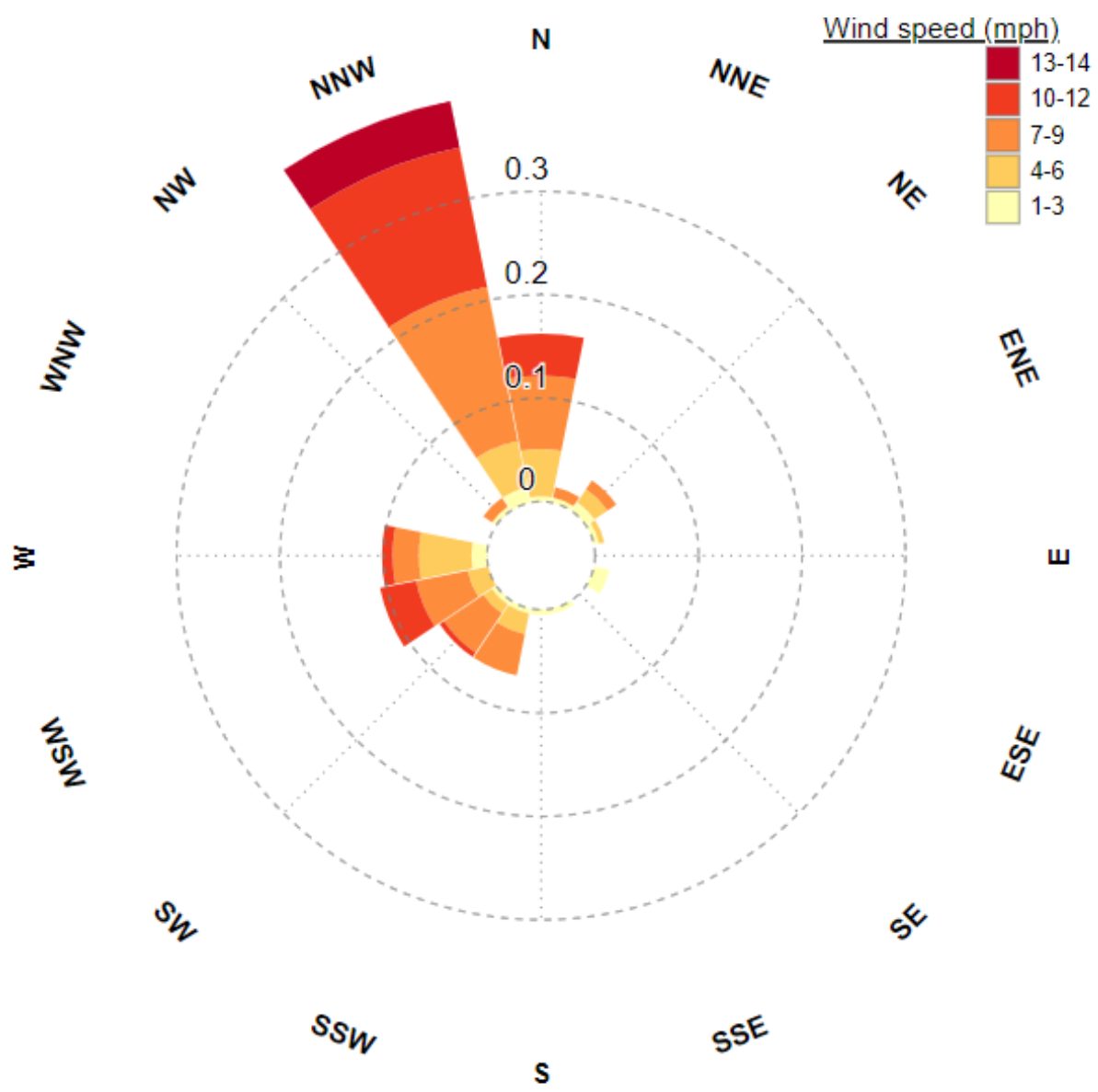
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- Gilbane, 2021. *Phase IV Non-Time Critical Removal Action Work Plan, Air Monitoring Plan, Solid Waste Disposal Area Westside, Installation Restoration Site 12, Former Naval Station Treasure Island, San Francisco, California*. March.
- Gilbane, 2021.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

DustTrak Unit	IR Site	Date	Maximum <sup>1</sup> (mg/m <sup>3</sup> )	Average <sup>1</sup> (mg/m <sup>3</sup> )	Delta Between Upwind and Downwind Stations (mg/m <sup>3</sup> )	Below action level? (0.050 mg/m <sup>3</sup> ) (Yes/No)
DMW31	Site 12	6/1/2022	0.022	0.016	NA	Yes
DMW32	Site 12		0.039	0.028	0.012	Yes
DMW33	Site 12		0.025	0.020	0.004	Yes
DMW31	Site 12	6/2/2022	0.015	0.013	NA	Yes
DMW32	Site 12		0.032	0.019	0.006	Yes
DMW33	Site 12		0.028	0.017	0.004	Yes
DMW31	Site 12	6/3/2022	0.039	0.006	NA	Yes
DMW32	Site 12		0.011	0.006	0.000	Yes
DMW33	Site 12		0.030	0.009	0.003	Yes
DMW31	Site 12	6/8/2022	0.014	0.007	NA	Yes
DMW32	Site 12		0.020	0.010	0.003	Yes
DMW33	Site 12		0.023	0.010	0.003	Yes
DMW31	Site 12	6/9/2022	<b>0.059</b>	0.020	NA	Yes
DMW32	Site 12		0.032	0.019	-0.001	Yes
DMW33	Site 12		0.034	0.024	0.004	Yes
DMW31	Site 12	6/10/2022	0.032	0.016	NA	Yes
DMW32	Site 12		0.033	0.020	0.004	Yes
DMW33	Site 12		0.034	0.017	0.001	Yes
DMW31	Site 12	6/13/2022	0.001	0.001	NA	Yes
DMW32	Site 12		0.025	0.009	0.008	Yes
DMW33	Site 12		0.045	0.020	0.019	Yes
DMW31	Site 12	6/14/2022	0.026	0.022	NA	Yes
DMW32	Site 12		0.048	0.036	0.014	Yes
DMW33	Site 12		0.033	0.027	0.005	Yes
DMW31	Site 12	6/15/2022	0.042	0.029	NA	Yes
DMW32	Site 12		0.044	0.033	0.004	Yes
DMW33	Site 12		<b>0.058</b>	0.039	0.010	Yes
DMW31	Site 12	6/21/2022	0.030	0.021	NA	Yes
DMW32	Site 12		0.031	0.026	0.005	Yes
DMW33	Site 12		0.028	0.018	-0.003	Yes
DMW31	Site 12	6/22/2022	0.031	0.020	NA	Yes
DMW32	Site 12		<b>0.118</b>	<b>0.070</b>	0.050	Yes
DMW33	Site 12		0.034	0.022	0.002	Yes
DMW31	Site 12	6/23/2022	0.011	0.007	NA	Yes
DMW32	Site 12		0.042	0.020	0.013	Yes
DMW33	Site 12		0.017	0.008	0.001	Yes
DMW31	Site 12	6/24/2022	0.026	0.017	NA	Yes
DMW32	Site 12		0.043	0.026	0.009	Yes
DMW33	Site 12		0.031	0.023	0.006	Yes
DMW31	Site 12	6/27/2022	0.009	0.006	NA	Yes
DMW32	Site 12		0.023	0.010	0.004	Yes
DMW33	Site 12		0.008	0.007	0.001	Yes
DMW31	Site 12	6/28/2022	0.022	0.015	NA	Yes
DMW32	Site 12		0.033	0.017	0.002	Yes
DMW33	Site 12		0.026	0.019	0.004	Yes
DMW31	Site 12	6/29/2022	0.025	0.019	NA	Yes
DMW32	Site 12		0.032	0.024	0.005	Yes
DMW33	Site 12		0.028	0.024	0.005	Yes
DMW31	Site 12	6/30/2022	0.020	0.016	NA	Yes
DMW32	Site 12		0.031	0.018	0.002	Yes
DMW33	Site 12		0.024	0.020	0.004	Yes
DMW34	Site 12	7/12/2022	0.011	0.006	NA	Yes
DMW35	Site 12		0.005	0.005	-0.001	Yes
DMW36	Site 12		0.019	0.008	0.002	Yes

**Notes:**

**bold** = results above screening criteria

mg/m<sup>3</sup> = milligrams per cubic meter

NA = not applicable

<sup>1</sup> Maximum and average dust readings from daily PDR data downloads. Data are available upon request.

## AIR MONITORING LOG

Client Name NAVFAC

Date 6/1/22

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

Logged by TK

Weather Sunny 53-69°F

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated / Zeroed in office

[illegible]



Date \_\_\_\_\_

6/2/22

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

Logged by TR

Weather cloudy 54-66° F

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated, Zeroed in office

[illegible]

[illegible]

[illegible]

[illegible]





Date 6/10/22

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

Logged by TR

Weather Sunny 60-78°F

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated, Zeroed in office

[illegible]

## AIR MONITORING LOG

Client Name NAVFAC

Date 6/13/22

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

Logged by TR

Weather Sunny 55-71° F

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated, zeroed in office

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0800	DmW31	UP wind grading	0.001	1280	Begin grading
↓	DmW32	down wind grading	0.006	2341	
↓	DmW33	down wind grading	0.006	0534	
1130	DmW31		0.001		continue grading
↓	DmW32		0.010		
↓	DmW33		0.031		
1430	DmW31		0.001		Continue grading
↓	DmW32		0.011		
↓	DmW33		0.018		



[illegible]

Client Name NAVFAC

Date \_\_\_\_\_

6/15/22

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

Logged by

TK

Weather Sunny 56-74 °F

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated, Zeroed in office

[illegible]

## AIR MONITORING LOG

Client Name NAVFAC

Date 6/21/22

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

Logged by TR

Weather sunny 59-82°F

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated, Zeroed in office

[illegible]

# AIR MONITORING LOG

Client Name NAVFAC

Date 6/22/22

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

Logged by TK

Weather Sunny 60-73°F

Instrument Type: Dust Trak II

Calibration Standards Used Factory Calibrated, Zeroed in office

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks
0810	DmW31	upwind clean import fill	0.036	1280	Import clean fill & grading
↓	DmW32	down wind clean import fill	0.082	0534	*High reading. No dust. zero out again.
↓	DmW33	down wind clean import fill	0.031	2341	
1130	DmW31		0.020		Import fill grading
↓	DmW32		0.069		*Meter not working properly
↓	DmW33		0.014		zeroed again.
1400	DmW31		0.017		Import fill grading.
↓	DmW32		0.054		*
↓	DmW33		0.023		
* Dust meter 0534 is having technical difficulties. Tried zero out meter, but readings are still high. No dust is being generated within the North east portion of the site. We will have to trouble shoot tomorrow or get a replacement from Eco Rentals. Other meters are working fine.					
TK					

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m <sup>3</sup> )	Unit Number	Activities, Remarks
0755	DMW31	new Import + grading	0.007	12580	
↓	DMW32	DW	0.045	0534	0534 dust truck in again.
↓	DMW33	DW	0.004	2341	Call eco-rental.
1130	DMW31		0.009		
↓	DMW32		0.015	1654	new dust truck
↓	DMW33		0.007		0534 removed
1500	DMW31		0.010		
↓	DMW32		0.023		off wrapping up
↓	DMW33		0.017		
<div style="text-align: center;"> <p>LESS</p> <p>6/23/22</p> </div>					



Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m <sup>3</sup> )	Unit Number	Activities, Remarks
0400	DMW31	new grading fence + fill	0.009	1280	• op mobil set up
↓	DMW32	• DW	0.005	2341	
↓	DMW33	• DW	0.010	1654	
1130	DMW31		0.014		• mid-day reading
↓	DMW32		0.025		
↓	DMW33		0.020		
1500	DMW31		0.024		• op finished fr
↓	DMW32		0.034		
↓	DMW33		0.030		
L45 6/24/22					

[illegible]

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m <sup>3</sup> )	Unit Number	Activities, Remarks
0800	DMW31	• DW Import fill / grading	0.021	1280	• Setup / prep
↓	DMW32	• DW	0.019	2341	• no work when was taken.
↓	DMW33	• DW	0.022	1654	
1200	DMW31		0.015		mid-day resu
↓	DMW32		0.014		
↓	DMW33		0.016		
1500	DMW31		0.014		• op finishing for
↓	DMW32		0.013		• site security.
↓	DMW33		0.014		
165 6/28/22					



[illegible]

Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m <sup>3</sup> )	Unit Number	Activities, Remarks
0800	DMW31	• VW final grade / site cleanup	0.012	12860	• mob / setup
↓	DMW32	• DW	0.012	2341	• Begin ramping up of fencing
↓	DMW33	• DW	0.013	1654	
1115	DMW31		0.019		• mid-day
↓	DMW32		0.020		• grading in progress
↓	DMW33		0.023		
1330	DMW31		0.011		• of wrapping up fence
↓	DMW32		0.014		• site security
↓	DMW33		0.019		• de-mob
<div style="border: 1px solid black; padding: 10px; transform: rotate(-30deg); display: inline-block;">             55 6/30/22           </div>					

[illegible]

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