

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

Air Monitoring Summary Report February 1 to February 28, 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 May 2022



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Prepared for:

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Acronyms and Abbreviations

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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
µg/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 February 1st through February 28th, 2022 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 February 1st, 2nd, 3rd, 4th, 7th, 8th, 9th, 10th, 11th, 14th, 15th, 16th, 17th, 21st, 22nd, 23rd, and 24th 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, DMW13, DMW25) and two PDRs are placed in downwind perimeter locations (DMW8, DMW9, DMW14, DMW15, DMW26, DMW27).

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 between the South and West directions at 2-9 miles/hour with gusts up to 18 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. All AMS samplers run approximately 24 hours before the sample is collected however per FCR04 the final set of samples for the week will be collected on the last workday of the week once intrusive activities have finished for the day. These samples will have a runtime of 7-10 hours to cover the full work shift which meets the minimum 4-hour runtime required for lab analysis. Two sets of samples will be sent to the lab for examination on that final workday of the week. The results will be adjusted for the reduced runtime and fully comparable against project screening criteria.

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**.

On February 4th, 7th, 8th, 11th, and 14th PDR readings were observed above project screening criteria, however, the delta between the upwind and downwind monitors remained below action levels. On these days the field team documented foggy, hazy, and or thick low hanging marine layer conditions presented in **Attachment 1**. On the days mentioned above, elevated or high readings were noted during setup before any intrusive activities had begun. In conclusion, field work continued as field activities were not generating visible dust and onsite atmospheric conditions generated elevated PDR data.

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

Table 1: Dust Monitoring Project Action Levels

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/m³ milligrams per cubic meter
- PDR personal data-logging real-time aerosol monitor

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°	Occupational and public air concentration limits for Ra-226 published in 10 Code of Federal Regulations Part 20.

Table 2: Air Monitoring Project Screening Criteria

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 \sim 55 mg/m³ 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/m³ 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/m³ 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/m³) 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 February 2022 did not exceed the project-specific screening criteria presented in **Table 2-2**.

TSP analytical results from February 2022 are presented in **Table 2-3**. The following details any exceedances that occurred during the February reporting period.

- A one-day exceedance of the TSP screening criteria was observed on February 11th at 86.07 ug/m³. The associated PM10 reading (12 ug/m³) and downwind PDR monitors (-0.001 mg/m³ and 0.004 mg/m³) were below project limits.
- The field team's operation on February 11th consisted of screening/clearing soil for UXO at the laydown area shown in **Figure 1** along with a gamma drive over survey of the radiological screening area onsite. 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 contacted when the contractor received the results and the field crew continues to maintain diligent dust control measures

- The field sampler who collected the February 11th air samples documented the AMSW2 TSP filter looking dirtier than normal and seemed to be covered in graphite from the brushes used to power the motor for the air monitoring station. A brush change was completed on this station the previous day however it was unsuccessful and a new motor was required and inserted. When the motor burns through the brushes quickly it is a clear sign a new motor is needed and in this process the graphite volatizes and is inhaled through the AMS ultimately ending up on the sample filter.

Metals (lead), PAHs, total PCBs, and dioxin analytical results from February 2022, did not exceed the project-specific screening criteria presented in **Table 2-4** through **Table 2-7**.

6.0 References

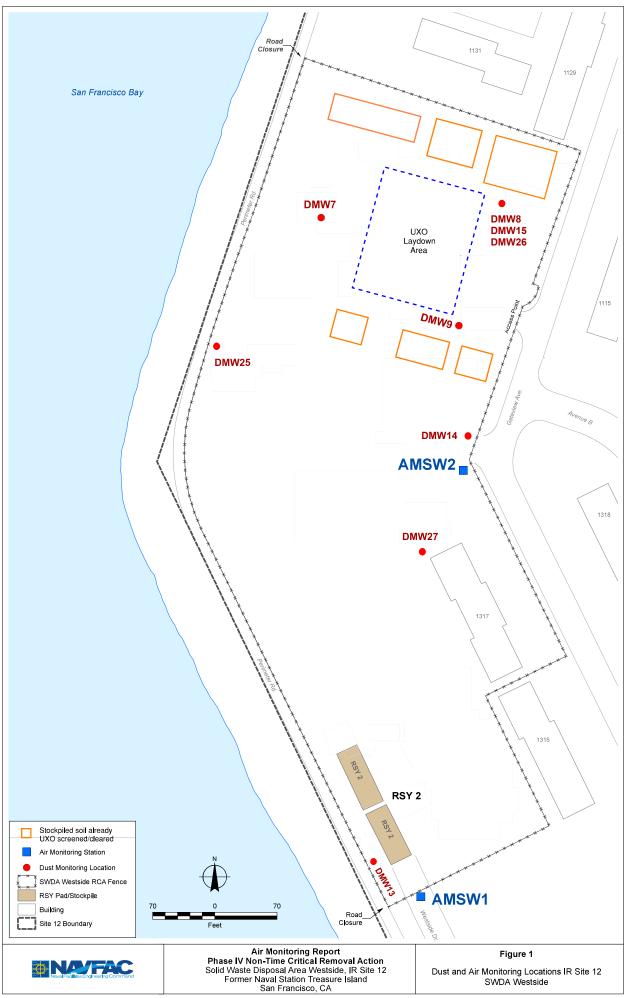
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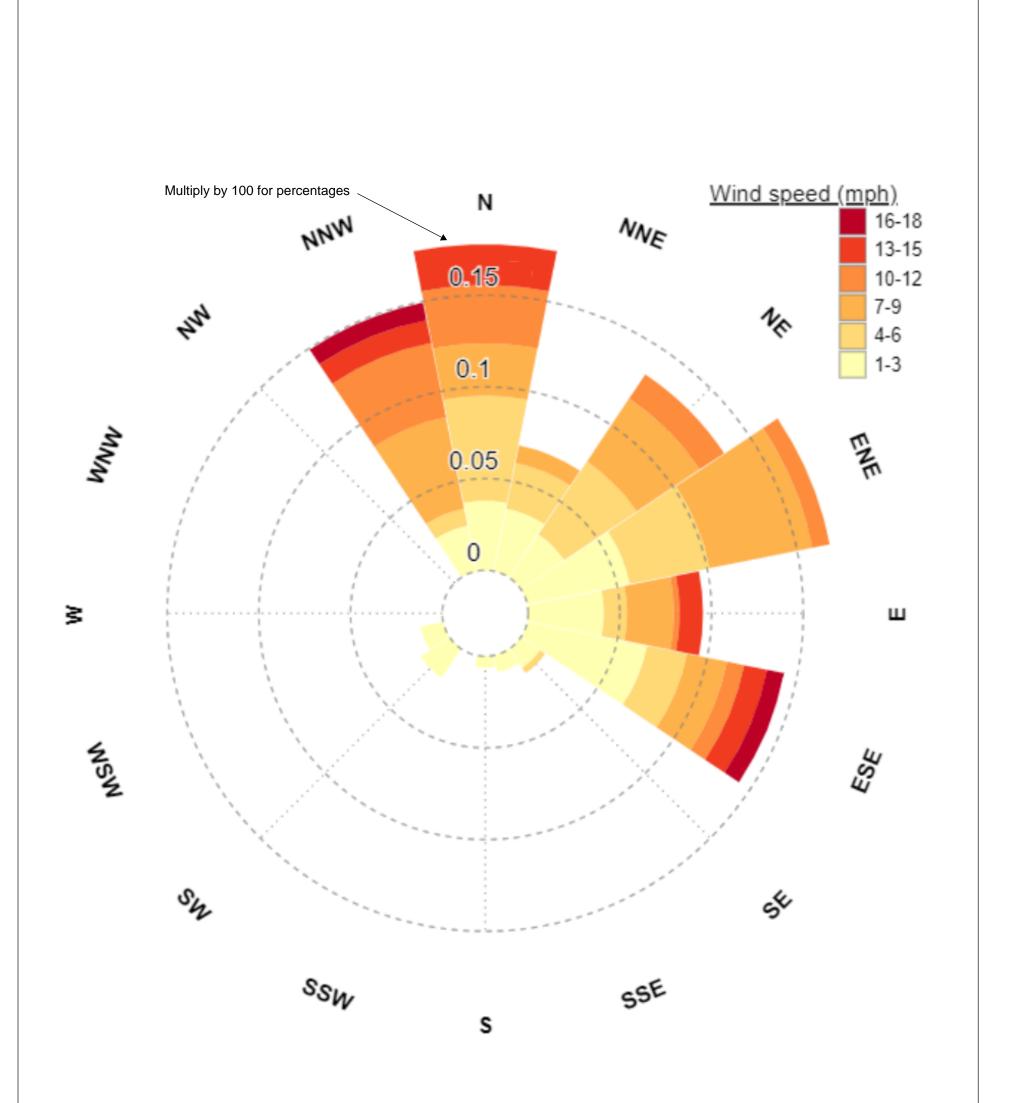
Figures

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 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 (PD	R) Aerosol Montoring Results
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DustTrak Unit	IR Site	Date	Maximum ¹ (mg/m ³)	Average ¹ (mg/m ³)	Delta Between Upwind and Downwind Stations	Below action level? (0.050 mg/m ³) (Yes/No)	
DIMAG	0:4- 40		,		(mg/m ³)		
DMW25	Site 12	2/1/2022	0.010	0.004	NA	Yes	
DMW26	Site 12	2/1/2022	0.005	0.002	-0.002 0.002	Yes	
DMW27 DMW25	Site 12 Site 12		0.017 0.009	0.006	0.002 NA	Yes Yes	
DMW25 DMW26	Site 12 Site 12	2/2/2022	0.009	0.005	0.000	Yes	
DMW28 DMW27	Site 12 Site 12	21212022	0.013	0.005	0.000	Yes	
DMW25	Site 12		0.009	0.000	NA	Yes	
DMW26	Site 12	2/3/2022	0.018	0.010	-0.001	Yes	
DMW27	Site 12	LIGILOLL	0.018	0.013	0.002	Yes	
DMW25	Site 12		0.103	0.082	NA	Yes	
DMW26	Site 12	2/4/2022	0.106	0.084	0.002	Yes	
DMW27	Site 12		0.109	0.091	0.009	Yes	
DMW25	Site 12		0.061	0.048	NA	Yes	
DMW26	Site 12	2/7/2022	0.063	0.047	-0.001	Yes	
DMW27	Site 12		0.069	0.046	-0.002	Yes	
DMW25	Site 12		0.053	0.036	NA	Yes	
DMW26	Site 12	2/8/2022	0.064	0.039	0.003	Yes	
DMW27	Site 12		0.070	0.057	0.021	Yes	
DMW25	Site 12		0.032	0.018	NA	Yes	
DMW26	Site 12	2/9/2022	0.029	0.016	-0.002	Yes	
DMW27	Site 12		0.038	0.019	0.001	Yes	
DMW25	Site 12		0.019	0.010	NA	Yes	
DMW26	Site 12		0.032	0.012	0.002	Yes	
DMW27	Site 12	2/10/2022	0.027	0.013	0.003	Yes	
DMW13	Site 12	2/10/2022	0.014	0.010	NA	Yes	
DMW14	Site 12		0.031	0.013	0.003	Yes	
DMW15	Site 12		0.027	0.010	0.000	Yes	
DMW25	Site 12		0.099	0.052	NA	Yes	
DMW26	Site 12	2/11/2022	0.087	0.051	-0.001	Yes	
DMW27	Site 12		0.090	0.056	0.004	Yes	
DMW7	Site 12		0.036	0.023	NA	Yes	
DMW8	Site 12	2/14/2022	0.052	0.029	0.006	Yes	
DMW9	Site 12		0.037	0.023	0.000	Yes	
DMW7	Site 12	0/4 5/0000	0.013	0.003	NA	Yes	
DMW8	Site 12	2/15/2022	0.014	0.004	0.001	Yes	
DMW9	Site 12		0.012	0.003	0.000	Yes	
DMW13	Site 12		0.042	0.010	NA	Yes	
DMW14 DMW15	Site 12		0.022	0.010	0.000	Yes	
	Site 12 Site 12	2/16/2022	0.048		0.000 NA	Yes Yes	
DMW7				0.020			
DMW8 DMW9	Site 12 Site 12		0.030 0.026	0.021	0.001 -0.001	Yes Yes	
DMW7	Site 12		0.028	0.019	-0.001 NA	Yes	
DIVIV7 DMW8	Site 12 Site 12	2/17/2022	0.029	0.007	0.002	Yes	
DIVIV8 DMW9	Site 12	2/11/2022	0.030	0.009	0.002	Yes	
DMW7	Site 12 Site 12		0.012	0.008	NA	Yes	
DMW8	Site 12 Site 12	2/21/2022	0.011	0.006	0.000	Yes	
DMW9	Site 12	_,_ ,, _, _, _, _	0.010	0.007	0.000	Yes	
DMW7	Site 12		0.010	0.006	NA	Yes	
DMW8	Site 12		0.010	0.006	0.000	Yes	
DMW9	Site 12	0/00/05-5-	0.008	0.006	0.000	Yes	
DMW13	Site 12	2/22/2022	0.011	0.009	NA	Yes	
DMW14	Site 12		0.010	0.007	-0.002	Yes	
DMW15	Site 12		0.011	0.008	-0.001	Yes	
DMW7	Site 12		0.008	0.004	NA	Yes	
DMW8	Site 12	2/23/2022	0.010	0.004	0.000	Yes	
DMW9	Site 12		0.021	0.004	0.000	Yes	
DMW7	Site 12		0.020	0.013	NA	Yes	
DMW8	Site 12	2/24/2022	0.022	0.013	0.000	Yes	
DMW9	Site 12		0.015	0.013	0.000	Yes	
DMW7	Site 12		0.026	0.017	NA	Yes	
DMW8	Site 12	2/28/2022	0.024	0.017	0.000	Yes	
DMW9	Site 12		0.030	0.017	0.000	Yes	

Notes: bold = results above screening criteria mg/m³ = milligrams per cubic meter NA = not applicable ¹ Maximum and average dust readings from daily PDR data downloads. Data are available upon request.



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Weather	nt Type: <u>Dusi</u>					_		
		Jsed_Factory Calibrated						
Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks			
0400	DMW8325	screening area K	0.014	1280	sexup.	1		
- m	Dmw26	DW Pad / Jaydown	0.014	2251		1		
	DMW27	ow 1	0.015	2341		1		
1730	DMW25		0.010	0-1	·Lunch	1		
	DMW26		0.017			1		
Ŧ	DMW27		0.011			1,		
1510	DMW25		0.010		· op closing for	olay.		
	DMW26		0.009			1		
	DMW27		0.008			1		
						-		
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			455	r / i		1		
			$\sim$	[3]		]		
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Client Name NAVFAC Date 21422									
Project No. J310000800 SWDA Westside, Site 12, Treasure Island Page of									
Logged b	Project No. J310000800 SWDA Westside, Site 12, Treasure Island Page of Logged by								
Weather		44°F-61°F.7	unny. Ha	22/109	all day.	<u></u>			
Colibratic	nt Type: <u>Dus</u>	t Trak II		/		_			
	Dust	Jsed Factory Calibrated	<u> </u>	1					
Time	Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks				
0500	DMW25	=UW UXO Scieening	0.056	1230	"Setup / prep	1			
	Dmw26	"Un uxo screening Opid 1 along Unith Building "Un Rad screening areg	0.060	0534		I from Fag			
-	DMU2	i DW	0.055	2341	· Neudings elevite even though i bregon · wort Will continue	10 W-V L 495			
12.55	DMW25		0.075		· m:d-day.	e.			
	DMW26		0.078		· Fay st. 11 presen	<del>X</del> .			
	DMW27		0.085		. delta well bol	De Eltien limix			
1515	DANN 25		0,096			1			
	VMW26		0.092						
	SAMU27		0.097			1			
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AIR WONTFORING LOG       Client Name NAVFAC       Project No. J310000800 SWDA Westside, Site 12, Treasure Island       Page       Logged by									
Project No. J310000800 SWDA Westside, Site 12, Treasure Island Page of Used by Logan Schwing Weather 44°F-62°F. Soun Y. AM Slight 482P									
Logged b	y logan	Schwing	, An c	NoLL I	$\sim \rho$				
Weather	440	62°F. 5-44)	AM 9	right u	428				
	nt Type: <u>Dus</u>								
Calibratio		Jsed Factory Calibrated	1						
Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks				
0800	DMW25	building Rad	0.034	1280	"Setup				
	DMW26	DW screeking	0.031	0534	oprep				
	DMW27	DW	0.032	2341					
1250	DMW25		0.032		• mid-day				
	DMW26		0.034						
	DMW27		0.032		and the part of the				
1515	DMW25		0.033		· wrapping of of.				
	DMW26		0.033	· · · · · · · · · · · · · · · · · · ·					
	DMW27		0.036						
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_		<u>NITORING L</u>					101-		
Client Name NAVFAC Date 218/22									
Project No. J310000800 SWDA Westside, Site 12, Treasure Island Page of									
Logged by Logan Schwing Weather 45°F-67°F. Sunny, Small amount of haze in AM.									
V	Veather_	<u>457-</u>	<u>61 F</u>	Sound a	yman av	HOUNT OT	nece in AM	. *	
		nt Type: <u>Dus</u> t		actory Calibrated				_	
Ē		Dust	JSeu <u>Fa</u>	actory Calibrated				ī	
	Time	Monitoring Station Number		Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks		
0	906	DAW25	·UW	und by Iding	0.037	1280	· Prep.		
		DMW26	e duo	and building Rad Foreuing	0.034	0534	· sight hase,	na:/	
		DMW27	·DW	area	0.037	2341			
1	220	DMW25			0.022		mid-day		
		DMW26			0.028			]	
	1	DMW27			0.024				
1	510	DMW25			0.016		+ tusks f. n. shin	for folgy.	
		DMW26			0.016				
L	+	DMW27			0.018				
$\Box$									
	$\mathbf{\mathbf{A}}$							5	
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Client Name NAVFAC Date 2922									
Project N	ect No. J310000800 SWDA Westside, Site 12 Treasure Island Page ) of )								
Logged b	Logged by <u>logan</u> Gchwing Weather <u>46°F-69°F</u> . Sunny								
			Sonny.						
	nt Type: <u>Dus</u>								
Calibratic		Jsed_Factory Calibrated	k						
	Dust Monitoring		Instrument	1.111					
Time	Station	Location	Reading	Unit Number	Activities, Remarks				
	Number		(mg/m3)	i vanibei	Tiemarks				
0800	DMW25	· VW SXO Chearing	0.014	1280	·Setul				
	DMW26	· DW building had	0.020	0534					
	DMWZ7	DW	0.013	2341					
1330	DMW25		0.006		·m, id-day				
	DMW26		0.009						
	DAIW27		0.003						
1515	DMW25		0.004		· OP wrapping UP				
	DAW26	10	0.013						
	DAW267	214/22	0.010						
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		~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	19/22						
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AIR MONITORING LOG

Client Name NAVFAC Date2 lolz2_ Project No. J310000800 SWDA Westside, Site 12, Treasure Island Pageof Logged by	
Logged by / cgan_Schw_sug Weather /SF-68°F. Gunty. Instrument Type: Dust Dust Monitoring	
Weather User Instrument Type: Dust Trak II Calibration Standards Used Factory Calibrated Dust Instrument Monitoring Instrument	
Instrument Type: <u>Dust Trak II</u> Calibration Standards Used <u>Factory Calibrated</u> Dust Monitoring Instrument Unit Activities	
Calibration Standards Used <u>Factory Calibrated</u> Dust Instrument Unit Activities	
Dust Monitoring Instrument Unit Activities	
Number Location Reading (mg/m3) Number Remarks	
0800 DMW25 NW BUILding Rad 0.014 1280 prep.	
DBOG DIMULS Gavening, 0.018 0534	
DAW27 DW 0.014 2341	
1100 NMW25 0.009 • Mid-day.	
DMW26 0.008	
DMW27 0.013	
1115 DMW13 · UW huiting KSY 0,008 1280 · dost mon 'tars me DMW14 DW Pud 1 raydown 0.0/1 0534 soilto Pad 2	of Rey?
DAWIY DW Pud / raydown 0.0/1 0534 Soilto Pad 7	erdown area.
AMW15 DW 0.007 2341	
1510 DMW13 0.015 00 Wrapping up for	day.
DMW14 0.024	
* DMW15 0.016	

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Client Name NAVFAC Date 2/11/22									
Project No. J310000800 SWDA Westside, Site 12, Treasure Island Page of									
Logged by Loggin Schning									
Weather 47"F-68"F. Sonny. P.M. haze.									
	nt Type: <u>Dus</u>					_			
Calibratio		Jsed Factory Calibrated	<u></u>			=			
Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks				
0800	DMW25	·UW uxu screening	0.017	1280	oset of mobilize	1			
	DMWZ6	DW drive over of Dw Did screening	0.015	0534					
	DMW27	DW avea	0.019	2341					
1305	DMW25		0.080		· hase present in	Bay.			
	DMW26		0.078		no visible dust delta below ac	Neud ing 5.			
	DMW27		0.085		-delta below ac,	Kion limits.			
1520	DMW25		0.074		·Hize 5X. 11 prese	22			
	pmw2b		0.074		no welk act: v. X: e	s as of now			
	DAW27		0.077		-op wapping totog:	ng up for telay.			
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		455	21						
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			- A						

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		NITORING L					
	Client Na	me <u>NAVFAC</u>		г	Date	2/14/22	
			00 SWDA Westside, Sit	e 12 Treasure			
0	Logged b	I OUL	Chining				
	Weather	48°F	-53°F, cloudy.	Slight ANI	Fri		
		nt Type: <u>Dus</u> i	t I rak II				<u>-</u> 1
	Calibratic	n Standards L	Jsed_Factory Calibrated	t			_
	Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks	
	0300	DMW7	OUW UXO Screening OP@ fuel 1 PDW 14910WM	0.035	1280	·mobilize	
		DMWS	DW Javdown area	0.037	0534	·setup	
		DMW9	·DW	0.033	2341		
	1350	DMWT		0.014		· michely veicting	5
		DMWS		0.014		· Slight Fog has die	sipated.
	_	DMW4		0.015			
	1700	DMW7		0.010		· op wapping up · 1001-intrusive.	
		DMW4		0.015		· 11011-jutrusive.	
		DMW9		0.011			
			Visc				
	3		\sim	21.		ł	
				19/			
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-							



	Client Name NAVFAC Date 2/15/22								
\bigcirc				Westside, Site	12, Treasure Island Page \ of \				
	Logged by Logger Schwing								
	Weather 47°F-64°F. Junny, AMSlight Fog								
	Instrument Type: <u>Dust Trak II</u>								
	Calibration Standards Used_Factory Calibrated								
		Dust			Instrument				
	Time	Monitoring Station	Location		Reading	Unit	Activities,		
		Number			(mg/m3)	Number	Remarks		
	0500	DMWT	OUW UXO	ydown area	0.01/	1290	mobilize.		
		DAWS	•DW		0.012	0534			
		DMW9	·DW		0.012	2341			
	1305	DMW7			0.004		"mid-day read	ling	
		DMW8			0.010				
		DMW9			0.005				
710	1510	EZDMW7			0.007		· of finishing for	Took !	
		DMW8			0.007				
		DMW9			0.006				
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AIR MONITORING LOG

Client Na	ame <u>NAVFAC</u>	;			Date	2116122	
Project N	lo <u>J3100008</u> (00 SWDA We	stside, Site	e 12, Treasure	<u>e Island</u> Pa	2//6/22 ge_l_of_l_	
Loggea	y = correction	gall schur	19				
Weather			Youry.				_
	nt Type: <u>Dus</u>	t Frak II Jsed <u>Factory</u>	Colibratos				_
	Dust	Jseu <u>raciory</u>	Calibrated				7
Time	Monitoring Station Number	Locat		Instrument Reading (mg/m3)	Unit Number	Activities, Remarks	
0400	DMWB	OW houtin	4 RATE	0.010	1280	·Setup.	1
	DMW14	DW 1940	to pad 1 lown	0.009	231110	534	1
	DMW15	i DW		0.013	2341		
1340	DMW13			0.011		chapting writting u	P .
	DMW14			0.016			1
	DMW15			0.014] , ,
1350	DMW7	· UN UXU 4	creening	0.009	1280	olugt mon ters l incorporate uxu screen.ing c	nerved ti
	DMW8	·DW		0.010	0534	UNU Screening a	, <i>A</i> ,
	DMW9	1000		0.012	2341		1
1705	DMW7			0.008		of finishing.	
	DAWS		_	0.007			1
	DMW9			0.012			
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AIR	MO	NITO	RING	LOG

		me <u>NAVFAC</u>		Date 2/17/22			
\bigcirc	Project No	o <u>J31000080</u>	00 SWDA Westside, Site	e 12, Treasure	Island Pag	ge <u> </u>	
	Logged by	y <u>Ley</u>	46°F-66°F,	Suny.			
		nt Type: <u>Dust</u>	0				
			Jsed Factory Calibrated]			
		Dust		Instrument			
	Time	Monitoring Station Number	Location	Reading (mg/m3)	Unit Number	Activities, Remarks	
	0800	DMW7	-UW UNUSCREPHING		1280	·Setup.	
		DAM8	rDW	6.034	0534		
	4	DMWG	DW	0.08	2341		
	1300	DAWT		0.006		·mid-day.	
		DMW3		0.010			
		DMW9		0.005			
	1705	DMW7		0.008		op finishing of	
		5MW8		0.011			
		DMW9		0.013			
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	Client Nar	me <u>NAVFAC</u>		C	Date 🧾 🧧	2/21/22	
\bigcirc	Project No	o <u>. J31000080</u>	00 SWDA Westside, Sit	te 12, Treasure			
		у/	coan Schwing	,			
	Weather	44°F	53°F, Sundy	. windy			
	Instrumen	nt Type: _Dust					
			Jsed Factory Calibrate	d			_
		Dust				41-14-	1
	Time	Monitoring	Location	Instrument	Unit	Activities,	
	I IIIIe	Station	Location	Reading (mg/m3)	Number	Remarks	
		Number					
	0400	DMN7	·UW UXO Foreening p@ 19/10000 iDW aveal	0.005	1280	·Sexup Mobilize	
		· · · · · · · · · · · · · · · · · · ·	DW areal.	0.00%	0534		1
		DAW8	DW	P00.0	052472	41	-
					eterna IU.	· Ypamon lunch.	4
	1250	DMW7		0.004			
		DMWS		0.007		ting distance not	implemented.
		DMW9		0.003			
	1710	DMUT		0.008		· Frig distance not	ar today
		DAWB		0.007			1
		DAWY		0.011			1
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	Clie	ent Na	me NAVFAC					Date Z	-122122	
-	Pro	ject N	o <u>. J31000080</u>	<u>do swe</u>	DA We	stside, Site	e 12, Treasure	<u>s Island</u> Pa	_ 22 22 lgeof	
\bigcirc	Log	gged b	у <u>Log</u> c 42°F	in sc	chw?	19		1 1		
	We	ather_	42°F	-490-	. Wie	hdy, p	artly C	loudy.		•
			nt Type: <u>Dust</u>							-
	Cal	Ibratio	n Standards L	Jsed <u>F</u>	actory	Calibrated			1	ī
	т	ïme	Dust Monitoring Station Number	Location		Instrument Reading (mg/m3)	Unit Number	Activities, Remarks		
	04	,00	DMW7	.vw	OFOI	aydown area	0.011	1280	omobilize,	
				·Dw		018.	0.008	0534	monintrusive.	
			DMW9	·DW		-	0.009	2341		
	112	30	DMWT				0.006		"Scrupping of aller materies	ar Oyu cheaved
			DMWB				0.005		ino Frag distance.	
			DMW9	ww ha	. lind	2002 0	0.006			AND ADVA
	11:	50	DMW13	10 10	puel 1	4972 Suit syduwn Loscreenedr	0.008	1280	· monitors moved. to to have Rs pace 1/2,	2 Stockpilo
			DMW14	oDW t	. bt UX	oscietned r	0,009	2341	1411/9,	down,
0			DAW15	'DW		*	0.007	0534		
	17	10	DMW13				0.010		107 Wrupping up 1	10 , (4)
			DMW14				0.007			
	_	-	DAW15				0.011			
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	Client Na	me <u>NAVFAC</u>		D	ate2	23 22				
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	Client Name <u>NAVFAC</u> Date <u>2/23/22</u> Project No. J310000800 SWDA Westside, Site 12, Treasure Island Page <u>1</u> of <u>1</u> Logged by <u>Lizan Schwing</u>									
	Weather <u>37°F-53°F</u> . Joun Y. Instrument Type: <u>Dust Trak II</u>									
	Calibratio		Jsed Factory Calibrated	2	1		i			
	Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks				
	0500	DMW7	OW UXU Screening	0.003	1280	smobilize				
		DMW8	DW	0.003	0534					
	4	DMW9	DW .	0,005	2341					
	300	DMW7		0.004		* uxo teave on lui * non intrusive	nch			
		DMWS		0.003						
		DMW9		0.003						
	1710	DAW7		0.005		optinishing for tou	197,			
		DMW8		0.003						
\bigcirc		DMW9		0.007						
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\bigcirc	Project N	lo <u>J31000080</u>	00 SWDA Westside, Site	e 12, Treasure	<u>e Island</u> Pa	geof			
\bigcirc	Logged b	by lig	an Schwing 39°F-55°F.						
	Weather	nt Type: Due	57-7-55 F. SI	VANY					
	Instrument Type: <u>Dust Trak II</u> Calibration Standards Used <u>Factory Calibrated</u>								
	Time	Dust Monitoring Station Number	Location	Instrument Reading (mg/m3)	Unit Number	Activities, Remarks			
	0300	DMW7	200 UXO Screening	0.020	1280	- mobilize			
		DMUS	.DW f	0.020	2341	·se tup			
		DMWg	~ DW	0.022	0534				
	1300	DMW7		0.0121		* Lunch			
		DMWS		0.016		· Non-intrusive			
	Ţ	DMW9	oni	0.015					
	1710	DMW7		0.013		· op wrapping up			
		DMW4		0.017					
		DMW9		0.013					
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0	Client Na	me <u>NAVFAC</u>				Date2	2/28/22		
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	Logged b	y <u>log</u>	in Genn.						
	Project No. J310000800 SWDA Westside, Site 12, Treasure Island Page (of 1 Logged by 109 un 500 uning Weather 45°F 500 y.								
		nt Type: <u>Dust</u>						_	
	Calibratio	n Standards U	Jsed Factory	Calibrated	<u>k</u>				
	Time	Dust Monitoring Station Number	Locati		Instrument Reading (mg/m3)	Unit Number	Activities, Remarks		
	6400	DMW7	IUW UXO 9	cireening P	0.020	1290	imobilize]	
		DMUKS	DW		0.024	0534			
	t	DAWY	·DW	-	0.019	2341			
	1305	DANOT			0.016		a) eum on longe	1	
		DMWS			0.018		· Arug distance no	rack wited	
		DMV9			0.018		0.0	_	
	1710	DUM			0.012		10? finishing up.	-	
-		DMW4			0.014				
\bigcirc	+	DWM			0.013			_	
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ATTACHMENT 2 SUMMARY OF AIR MONITORING AND AIR SAMPLING RESULTS

(Provided on CD)

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Sample Date	Ambient Pressure (inches of Hg)	Ambient Temperature (°F)	Ambient Temperature (°K)
2/1/2022	30.10	51.26	283.85
2/2/2022	30.10	55.33	286.11
2/3/2022	30.21	53.24	284.95
2/4/2022	30.30	51.55	284.01
2/4/2022	30.42	56.17	286.58
2/8/2022	30.31	52.66	284.63
2/9/2022	30.23	55.71	286.32
2/10/2022	30.16	59.50	288.43
2/11/2022	30.11	59.10	288.21
2/11/2022	30.12	59.82	288.61
2/15/2022	30.04	50.67	283.52
2/16/2022	29.99	54.80	285.82
2/17/2022	30.11	57.62	287.38
2/17/2022	30.30	60.92	289.22
2/22/2022	30.00	49.33	282.78
2/23/2022	29.98	45.95	280.90
2/24/2022	30.21	46.60	281.26
2/24/2022	30.32	49.91	283.10

 Table 2-1: Ambient Pressure and Temperature Monitoring Results

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

Location ID	Sampling Period (Hours)	Sample Date	Particulate Matter Less Than 10 Microns in Diameter (ug/m³)	Delta between Downwind and Upwind Stations (ug/m ³)	PM10 Exceedance? (Yes/No)
		Screening	, Criteria		50
	23.43	02/01/2022	16	NA	NA
	23.53	02/02/2022	15	NA	NA
	23.69	02/03/2022	15	NA	NA
	20.89	02/04/2022	19	NA	NA
	6.32	02/04/2022	40	NA	NA
	23.89	02/08/2022	20	NA	NA
	23.3	02/09/2022	17	NA	NA
	24.07	02/10/2022	23	NA	NA
	21.22	02/11/2022	20	NA	NA
AMSW1	7.03	02/11/2022	32	NA	NA
	23.31	02/15/2022	5.5	NA	NA
	22.03	02/16/2022	7.3	NA	NA
	21.28	02/17/2022	12	NA	NA
	7.65	02/17/2022	11	NA	NA
	23.59	02/22/2022	7.9	NA	NA
	23.42	02/23/2022	1.9	NA	NA
	21.1	02/24/2022	13	NA	NA
	8.05	02/24/2022	14	NA	NA
	24.00	02/01/2022	24	8	No
	23.95	02/02/2022	35	20	No
	24.05	02/03/2022	27	12	No
	21.33	02/04/2022	23	4	No
	6.34	02/04/2022	46	6	No
	24.5	02/08/2022	24	4	No
	23.57	02/09/2022	24	7	No
	24.65	02/10/2022	32	9	No
AMSW2	21.64	02/11/2022	35	15	No
7.00072	7.15	02/11/2022	44	12	No
	23.82	02/15/2022	20	14.5	No
	24.41	02/16/2022	16	8.7	No
	11.28	02/17/2022	21	9	No
	7.77	02/17/2022	4.8	-6.2	No
	24.21	02/22/2022	15	7.1	No
	23.81	02/23/2022	8.1	6.2	No
	21.57	02/24/2022	19	6	No
	7.88	02/24/2022	20	6	No

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

Notes:

ug/m3 = micrograms per cubic meter

NA = Not applicable

PM10 = particulate matter less then 10 microns in diameter

* = generator/sampler malfunction

bold = result above screening criteria

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
	23.44	02/01/2022	30.9096	NA	NA
	23.55	02/02/2022	45.6472	NA	NA
	23.7	02/03/2022	30.9803	NA	NA
	20.9	02/04/2022	29.9991	NA	NA
	6.29	02/04/2022	67.9633	NA	NA
	23.93	02/08/2022	36.3987	NA	NA
	23.31	02/09/2022	31.8323	NA	NA
	24.08	02/10/2022	53.1794	NA	NA
	21.23	02/11/2022	42.6817	NA	NA
AMSW1	6.99	02/11/2022	57.4544	NA	NA
	23.65	02/15/2022	27.5513	NA	NA
	23.95	02/16/2022	26.7392	NA	NA
	21.28	02/17/2022	42.6387	NA	NA
	7.72	02/17/2022	61.1811	NA	NA
	23.63	02/22/2022	19.1395	NA	NA
	23.42	02/23/2022	23.3888	NA	NA
	21.12	02/24/2022	21.2229	NA	NA
	8.02	02/24/2022	20.3972	NA	NA
	23.99	02/01/2022	41.9333	11.0237	No
	23.96	02/02/2022	60.6099	14.9627	No
	24.04	02/03/2022	42.0889	11.1086	No
	21.34	02/04/2022	33.9161	3.917	No
	6.37	02/04/2022	69.9814	2.0181	No
	24.51	02/08/2022	38.2109	1.8122	No
	23.55	02/09/2022	36.41	4.5777	No
	24.66	02/10/2022	36.0505	-17.1289	No
	21.35	02/11/2022	31.9342	-10.7475	No
AMSW2	7.18	02/11/2022	143.5307	86.0763	Yes
	23.8	02/15/2022	56.2721	28.7208	No
	24.4	02/16/2022	34.4974	7.7582	No
	21.79	02/17/2022	51.2539	8.6152	No
	7.76	02/17/2022	38.6789	-22.5022	No
	24.23	02/22/2022	25.9546	6.8151	No
	23.81	02/23/2022	24.7972	1.4084	No
	21.57	02/24/2022	29.6392	8.4163	No
	7.82	02/24/2022	33.6611	13.2639	No

Table 2-3: Total Suspended Particulates Monitoring Results

Notes:

J = estimated value

ug/m³ = micrograms per cubic meter

NA = Not applicable

TSP = total suspended particulate

bold = results above screening criteria

* = generator/sampler malfunction

Location ID	Sampling Period (Hours)	Sample Date	Lead (ug/m³)	Lead Exceedance? (Yes/No)
	Screenin	g Criteria		1,575
	23.43	02/01/2022	0.0048	No
	23.53	02/02/2022	0.0016	No
	23.69	02/03/2022	0.0023	No
	20.89	02/04/2022	0.0014	No
	6.32	02/04/2022	0.0043	No
	23.89	02/08/2022	0.002	No
	23.3	02/09/2022	0.0045	No
	24.07	02/10/2022	0.0039	No
AMSW1	21.22	02/11/2022	0.003	No
AMOWI	7.03	02/11/2022	0.004	No
	23.31	02/15/2022	0.0004 J	No
	22.03	02/16/2022	0.0007 J	No
	21.28	02/17/2022	0.0014	No
	7.65	02/17/2022	0.0024	No
	23.59	02/22/2022	0.00069 J	No
	23.42	02/23/2022	0.0015	No
	21.1	02/24/2022	0.0019	No
	8.05	02/24/2022	0.0037	No
	24	02/01/2022	0.0058	No
	23.95	02/02/2022	0.0066	No
	24.05	02/03/2022	0.004	No
	21.33	02/04/2022	0.0015	No
	6.34	02/04/2022	0.0052	No
	24.5	02/08/2022	0.0028	No
	23.57	02/09/2022	0.007	No
	24.65	02/10/2022	0.0051	No
	21.64	02/11/2022	0.0051	No
AMSW2	7.15	02/11/2022	0.0048	No
	23.82	02/15/2022	0.0043	No
	24.41	02/16/2022	0.0024	No
	11.28	02/17/2022	0.0033	No
	7.77	02/17/2022	0.0031	No
	24.21	02/22/2022	0.0023	No
	23.81	02/23/2022	0.0023	No
	21.57	02/24/2022	0.0025	No
	7.88	02/24/2022	0.0041	No

Table 2-4: Lead by EPA 6020 Monitoring Results

Notes:

J = indicates an estimated value

ug/m³ = 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/m³)	Acenaph- thene (ug/m³)	Acenaph- thylene (ug/m³)	Anthracene (ug/m³)	Benzo(a) anthracene (ug/m³)	Benzo(a) pyrene (ug/m³)	Benzo(b) fluoran- thene (ug/m³)	Benzo(g,h,i) perylene (ug/m³)	Benzo(k) fluoran- thene (ug/m³)	Chrysene (ug/m³)	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	23.63	02/03/2022	No	0	0.009	0.001	< 0.00056	< 0.00056	< 0.00056	< 0.00056	< 0.00056	< 0.00056	< 0.00056	< 0.00056	< 0.00056	0.00031 J	0.00074	< 0.00056	0.018	0.001	0.00029 J
	23.93	02/08/2022	No	0	0.0055	0.00081	< 0.00055	< 0.00055	< 0.00055	< 0.00055	< 0.00055	< 0.00055	< 0.00055	< 0.00055	< 0.00055	0.00033 J	0.00073	< 0.00055	0.011	0.0011	0.00023 J
	21.23	02/11/2022	No	0	0.0053	0.0012	< 0.00064	< 0.00064	< 0.00064	< 0.00064	< 0.00064	< 0.00064	< 0.00064	< 0.00064	< 0.00064	0.0004 J	0.00099	< 0.00064	0.012	0.0014	0.00028 J
	23.64	02/16/2022	No	0	0.0027	0.00059	< 0.00055	< 0.00055	< 0.00055	< 0.00055	< 0.00055	< 0.00055	< 0.00055	< 0.00055	< 0.00055	0.00024 J	0.00044 J	< 0.00055	0.0069	0.00074	0.00022 J
	23.63	02/22/2022	No	0	0.00064 J	0.00025 J	< 0.00054	< 0.00054	< 0.00054	< 0.00054	< 0.00054	< 0.00054	< 0.00054	< 0.00054	< 0.00054	< 0.00054	< 0.00054	< 0.00054	0.0015	0.0003 J	< 0.00054
	7.94	02/24/2022	No	0	0.0032 J	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	< 0.0016	0.0092	0.0008 J	< 0.0016
AMSW2	24.06	02/03/2022	No	0	0.007	0.00077	< 0.00047	< 0.00047	< 0.00047	< 0.00047	< 0.00047	< 0.00047	< 0.00047	< 0.00047	< 0.00047	0.00047	0.00069	< 0.00047	0.014	0.0017	0.00033 J
	24.51	02/08/2022	No	0	0.0049	0.00062	< 0.00046	0.00048	< 0.00046	< 0.00046	< 0.00046	< 0.00046	< 0.00046	< 0.00046	< 0.00046	0.0013	0.0011	< 0.00046	0.011	0.0049	0.00077
	21.66	02/11/2022	No	0	0.0049	0.00076	< 0.00057	0.00026 J	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	0.00077	0.00099	< 0.00057	0.011	0.0031	0.00052 J
	24.42	02/16/2022	No	0	0.0029	0.00071	< 0.00048	0.0002 J	< 0.00048	< 0.00048	< 0.00048	< 0.00048	< 0.00048	< 0.00048	< 0.00048	0.00062	0.00072	< 0.00048	0.007	0.0025	0.00044 J
	24.23	02/22/2022	No	0	< 0.00097	< 0.00048	< 0.00048	< 0.00048	< 0.00048	< 0.00048	< 0.00048	< 0.00048	< 0.00048	< 0.00048	< 0.00048	< 0.00048	0.00019 J	< 0.00048	0.00098	0.00063	< 0.00048
	7.94	02/24/2022	No	0	0.004	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	< 0.0014	0.0086	0.0016	< 0.0014

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/m³ = micrograms per cubic meter

bold = results above screening criteria

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)
	Screen	ing Criteria		NE							
	23.46	02/01/2022	NA	0	< 0.00073	< 0.00073	< 0.00073	< 0.00073	< 0.00073	< 0.00073	< 0.00073
	20.9	02/04/2022	NA	0	< 0.00084	< 0.00084	< 0.00084	< 0.00084	< 0.00084	< 0.00084	< 0.00084
AMSW1	23.32	02/09/2022	NA	0	< 0.00089	< 0.00089	< 0.00089	< 0.00089	< 0.00089	< 0.00089	< 0.00089
AIVISVVI	6.91	02/11/2022	NA	0	< 0.0028	< 0.0028	< 0.0028	< 0.0028	< 0.0028	< 0.0028	< 0.0028
	21.29	02/17/2022	NA	0	< 0.00084	< 0.00084	< 0.00084	< 0.00084	< 0.00084	< 0.00084	< 0.00084
	23.44	02/23/2022	NA	0	< 0.00081	< 0.00081	< 0.00081	< 0.00081	< 0.00081	< 0.00081	< 0.00081
	24	02/01/2022	NA	0	< 0.00069	< 0.00069	< 0.00069	< 0.00069	< 0.00069	< 0.00069	< 0.00069
	21.33	02/04/2022	NA	0	< 0.00075	< 0.00075	< 0.00075	< 0.00075	< 0.00075	< 0.00075	< 0.00075
AMSW2	23.58	02/09/2022	NA	0	< 0.00067	< 0.00067	< 0.00067	< 0.00067	< 0.00067	< 0.00067	< 0.00067
AIVISVVZ	7.13	02/11/2022	NA	0	< 0.0023	< 0.0023	< 0.0023	< 0.0023	< 0.0023	< 0.0023	< 0.0023
	21.77	02/17/2022	NA	0	< 0.00076	< 0.00076	< 0.00076	< 0.00076	< 0.00076	< 0.00076	< 0.00076
Notos	23.81	02/23/2022	NA	0	< 0.00071	< 0.00071	< 0.00071	< 0.00071	< 0.00071	< 0.00071	< 0.00071

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

Notes:

NA = Not applicable

NE = None established

PCB = polychlorinated biphenyl

ug/m³ = micrograms per cubic meter

< = nondetected less than associated reporting limit

J = estimated value

* = sampler/generator malfunction

Location ID	Sampling Period (Hours)	Sample Date	2,3,7,8-Tetrachlorodibenzo-p- dioxin (ug/m³)	Dioxin Exceedance? (Yes/No)
	S	Screening Criteria	a	10,000,000 ug/m³
	23.56	02/02/2022	< 0.0000002	No
	6.23	02/04/2022	< 0.0000008	No
AMSW1	23.58	02/10/2022	< 0.0000002	No
ANISVI	23.66	02/15/2022	< 0.0000002	No
	7.73	02/17/2022	< 0.0000006	No
	21.12	02/24/2022	< 0.0000002	No
	23.96	02/02/2022	< 0.0000002	No
	6.32	02/04/2022	< 0.0000007	No
AMSW2	24.66	02/10/2022	< 0.0000002	No
AIVI3VV2	23.8	02/15/2022	< 0.0000002	No
	7.77	02/17/2022	< 0.0000006	No
	21.58	02/24/2022	< 0.0000002	No

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

Notes:

J = estimated value

ug/m³ = micrograms per cubic meter

< = nondetected less than associated reporting limit

bold = results above screening criteria

* = generator / sampler malfunction

ATTACHMENT 3 RADIOLOGICAL AIR MONITORING RESULTS (Provided on CD)

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Gilbane

AIR SAMPLING EQUIPMENT

					2	formation		Effec		06 May 20				
Contract /	Task Orde	r Number:	-						Gilbane P	roject Num	ber:			
N62	473-17-D-(0005		IR Site 12	RD/RA, Tre	easure Isla	nd, SF, CA	l l	J310000800					
Р	erimeter/E	ffluent Air	[.] Sampling	j Equipme	nt		Breathing Zone Air Sampling Equipment							
Equip		Air Sample	r	Serial	Cal Due	Equip		Air Sample	r	Serial	Cal Due			
Number	1	Make/Mode	el	Number	Date	Number	Γ	Make/Mode	el	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		LV-1		4299	6/9/22	BZ05								
PE06		LV-1		4313	6/9/22	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								
				Sam	ple Counti	ng Instrun	nents			•				
Inst	Model	Serial	Cal Due	Count Ti	me (min)	Backgrou	nd (cpm) ^a	Abs Ct Eff	(cnts/dis) ^b	MDC (dpn	n/sample			
Number	Number	Number	Date	Bkgrd	Source	Alpha	Beta	Alpha	Beta	Alpha	Beta			
А	Protean	615068	9/15/21	1	1	0.0	1.1	0.352	0.355	15.4	29.0			
В	Protean	9085100	10/5/21	1	1	0.0	1.2	0.356	0.352	15.2	29.9			
С	Protean	9085100	10/1/22	1	1	0.0	1.2	0.359	0.355	15.1	29.6			
D														
Е														
Notes	-	-			-	-		-	-	•	-			

^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

GIIO	ane													AIR SA		RESUL	13-P	DELIC	ENPU	SURE	WONT	ORING			
			F	Project Inform	nation					Effluen	t Air Con	centration		Sa	mpling Per	riod			Color	Codes			CFM to	LPM Cor	nverter
Contract /	Task Order N	Number: Project T	Fitle / Locat	ion:		Gilbane Project	Number:					Alpha	Beta		amples coll		V	alue < MD0	0	Value <	< 0.1 x Efflu	ent Conc	1 cfm = 28	.3168465	592 lpm
NE	62473-17-D-0	005 IR Si	ite 12 RD/F	A, Treasure I	sland, SF, CA	J	310000800			Rad	ionuclide	Ra-226	Sr-90	between	22 Mar 20	21	< 72	hr decay ti	ime	Value >	> 0.1 x Efflu	ent Conc	Ente		2.1
		Inf	formation e	ffective as of:	06 May 2022				Et	fluent Conc	(μCi/ml)	9.E-13	6.E-12	and	20 Apr 202	22	Da	ata reviewe	d	Valu	ie > Effluent			lpm:	60.0
				Sample Colle	ction							Count	Informatio	n				Sample	Results		Init	tials			
Sample	Sample	Sample	Equip	Ave Flow	Start	End	Elapsed	Volume	Inst	Count	Time	Counting	Gross	Activity	Net	dpm	Activity	(µCi/ml)	*Effluent	Conc (%)	Count	Data			
Number	Туре	Location	No	Rate (Ipm)	Day Time	Date Time	Time (min)	(ml)	No	Date	(min)	Units	Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta	Tech	Reviewer			
AS-0355	Perimeter	Upwind	PE03	60	2/1/22 6:22	2/1/22 15:05	523	3.1E+07	С	2/16/22	1	cpm	0.45	4.35	1.3	8.9	1.8E-14	1.3E-13	2.0%	2.1%	DB	CB	[
AS-0356	Perimeter	Downwind	PE04	60	2/1/22 6:17	2/1/22 15:00	523	3.1E+07	С	2/16/22	1	cpm	0.50	4.10	1.4	8.2	2.0E-14	1.2E-13	2.2%	2.0%	DB	CB			
AS-0357	Perimeter	Upwind	PE03	60	2/2/22 6:10	2/2/22 15:05	535	3.2E+07	С	2/16/22	1	cpm	0.10	3.95	0.3	7.7	3.9E-15	1.1E-13	0.4%	1.8%	DB	CB	10 CFR 20) Appendi	lix B Table 2 B
AS-0358	Perimeter	Downwind	PE04	60	2/2/22 6:15	2/2/22 15:10	535	3.2E+07	С	2/16/22	1	cpm	0.20	3.75	0.6	7.2	7.8E-15	1.0E-13	0.9%	1.7%	DB	CB	(listed in c	rder of m	nost to least re
AS-0359	Perimeter	Upwind	PE03	60	2/3/22 6:12	2/3/22 15:10	538	3.2E+07	С	2/16/22	1	cpm	0.25	3.85	0.7	7.5	9.7E-15	1.0E-13	1.1%	1.7%	DB	CB			(
AS-0360	Perimeter	Downwind	PE04	60	2/3/22 6:18	2/3/22 15:05	527	3.2E+07	С	2/16/22	1	cpm	0.40	3.85	1.1	7.5	1.6E-14	1.1E-13	1.8%	1.8%	DB	CB	Alpha-Emi		Retention
AS-0361	Perimeter	Upwind	PE03	60	2/4/22 6:45	2/4/22 15:10	505	3.0E+07	С	2/16/22	1	cpm	0.35	5.20	1.0	11.3	1.4E-14	1.7E-13	1.6%	2.8%	DB	CB	Radionucli	de	Class
AS-0362	Perimeter	Downwind	PE04	60	2/4/22 6:40	2/4/22 15:15	515	3.1E+07	С	2/16/22	1	cpm	0.25	4.70	0.7	9.9	1.0E-14	1.4E-13	1.1%	2.4%	DB	CB	Th-232		W
AS-0363	Perimeter	Upwind	PE03	60	2/7/22 6:10	2/7/22 15:15	545	3.3E+07	С	2/16/22	1	cpm	0.10	4.75	0.3	10.0	3.8E-15	1.4E-13	0.4%	2.3%	DB	CB	Pu-239/24	0	W
AS-0364	Perimeter	Downwind	PE04	60	2/7/22 6:15	2/7/22 15:20	545	3.3E+07	С	2/16/22	1	cpm	0.25	4.65	0.7	9.7	9.6E-15	1.3E-13	1.1%	2.2%	DB	CB	Am-241		W
AS-0365	Perimeter	Upwind	PE03	60	2/8/22 6:10	2/8/22 15:10	540	3.2E+07	С	2/16/22	1	cpm	0.25	4.70	0.7	9.9	9.7E-15	1.4E-13	1.1%	2.3%	DB	CB	U-233/234		Y
AS-0366	Perimeter	Downwind	PE04	60	2/8/22 6:15	2/8/22 15:15	540	3.2E+07	С	2/16/22	1	cpm	0.25	4.85	0.7	10.3	9.7E-15	1.4E-13	1.1%	2.4%	DB	CB	U-235		Y
AS-0367	Perimeter	Upwind	PE03	60	2/9/22 6:10	2/9/22 15:05	535	3.2E+07	С	2/16/22	1	cpm	0.15	5.30	0.4	11.5	5.9E-15	1.6E-13	0.7%	2.7%	DB	CB	U-238		Y
AS-0368	Perimeter	Downwind	PE04	60	2/9/22 6:15	2/9/22 15:00	525	3.2E+07	С	2/16/22	1	cpm	0.15	3.40	0.4	6.2	6.0E-15	8.9E-14	0.7%	1.5%	DB	CB	Ra-226		W
AS-0369	Perimeter	Upwind	PE03	60	2/10/22 5:45	2/10/22 15:00	555	3.3E+07	С	2/16/22	1	cpm	0.35	4.10	1.0	8.2	1.3E-14	1.1E-13	1.5%	1.8%	DB	CB	(TBD)		(TBD)
AS-0370	Perimeter	Downwind	PE04	60	2/10/22 5:50	2/10/22 15:05	555	3.3E+07	С	2/16/22	1	cpm	0.20	4.75	0.6	10.0	7.5E-15	1.4E-13	0.8%	2.3%	DB	CB			
AS-0371	Perimeter	Upwind	PE03	60	2/11/22 5:15	2/11/22 15:00	585	3.5E+07	С	2/16/22	1	cpm	0.05	5.40	0.1	11.8	1.8E-15	1.5E-13	0.2%	2.5%	DB	CB			(
AS-0372	Perimeter	Downwind	PE04	60	2/11/22 5:20	2/11/22 15:05	585	3.5E+07	С	2/16/22	1	cpm	0.05	5.10	0.1	11.0	1.8E-15	1.4E-13	0.2%	2.3%	DB	CB	Beta-Emit	ting R	Retention
AS-0373	Perimeter	Upwind	PE03	60	2/14/22 6:05	2/14/22 17:00	655	3.9E+07	С	3/8/22	1	cpm	0.10	4.80	0.3	10.1	3.2E-15	1.2E-13	0.4%	1.9%	DB	CB	Radionucli	de	Class
AS-0374	Perimeter	Downwind	PE04	60	2/14/22 6:00	2/14/22 17:05	665	4.0E+07	С	3/8/22	1	cpm	0.15	4.95	0.4	10.6	4.7E-15	1.2E-13	0.5%	2.0%	DB	CB	Sr-90		Y
AS-0375	Perimeter	Upwind	PE03	60	2/15/22 5:30	2/15/22 16:45	675	4.1E+07	С	3/8/22	1	cpm	0.25	4.30	0.7	8.7	7.7E-15	9.7E-14	0.9%	1.6%	DB	CB	Eu-152		W
AS-0376	Perimeter	Downwind	PE04	60	2/15/22 5:35	2/15/22 16:50	675	4.1E+07	С	3/8/22	1	cpm	0.20	4.75	0.6	10.0	6.2E-15	1.1E-13	0.7%	1.9%	DB	CB	Eu-154		W
AS-0377	Perimeter	Upwind	PE03	60	2/16/22 5:25	2/16/22 16:55	690	4.1E+07	С	3/8/22	1	cpm	0.15	4.05	0.4	8.0	4.5E-15	8.7E-14	0.5%	1.5%	DB	CB	Co-60		Y
AS-0378	Perimeter	Downwind	PE04	60	2/16/22 5:20	2/16/22 17:00	700	4.2E+07	С	3/8/22	1	cpm	0.35	3.60	1.0	6.8	1.0E-14	7.3E-14	1.2%	1.2%	DB	CB	Cs-137		D
AS-0379	Perimeter	Upwind	PE03	60	2/17/22 5:15	2/17/22 15:00	585	3.5E+07	С	3/8/22	1	cpm	0.20	3.35	0.6	6.1	7.1E-15	7.8E-14	0.8%	1.3%	DB	CB	(TBD)		(TBD)
AS-0380	Perimeter	Downwind	PE04	60	2/17/22 5:20	2/17/22 15:05	585	3.5E+07	С	3/8/22	1	cpm	0.30	3.45	0.8	6.3	1.1E-14	8.1E-14	1.2%	1.4%	DB	CB			
AS-0381	Perimeter	Upwind	PE03	60	2/21/22 5:15	2/21/22 14:30	555	3.3E+07	С	3/8/22	1	cpm	0.40	4.25	1.1	8.6	1.5E-14	1.2E-13	1.7%	1.9%	DB	CB			
AS-0382	Perimeter	Downwind	PE04	60	2/21/22 5:20	2/21/22 14:35	555	3.3E+07	С	3/8/22	1	cpm	0.15	4.30	0.4	8.7	5.7E-15	1.2E-13	0.6%	2.0%	DB	CB			Colo
AS-0383	Perimeter	Upwind	PE03	60	2/22/22 5:15	2/22/22 16:45	690	4.1E+07	С	3/8/22	1	cpm	0.10	3.90	0.3	7.6	3.0E-15	8.3E-14	0.3%	1.4%	DB	CB		No ex	xceedance at
AS-0384	Perimeter	Downwind	PE04	60	2/22/22 5:20	2/22/22 16:40	680	4.1E+07	С	3/8/22	1	cpm	0.20	4.80	0.6	10.1	6.2E-15	1.1E-13	0.7%	1.9%	DB	CB	Elev:		ever no excee
AS-0385	Perimeter	Upwind	PE03	60	2/23/22 5:25	2/23/22 17:00	695	4.2E+07	C	3/8/22	1	cpm	0.10	3.95	0.3	7.7	3.0E-15	8.4E-14	0.3%	1.4%	DB	CB		Exc	eedance abo
AS-0386	Perimeter	Downwind	PE04	60	2/23/22 5:30	2/23/22 16:55	685	4.1E+07	С	3/8/22	1	cpm	0.10	3.60	0.3	6.8	3.1E-15	7.4E-14	0.3%	1.2%	DB	CB			
AS-0387	Perimeter	Upwind	PE03	60	2/24/22 6:15	2/24/22 16:50	635	3.8E+07	С	3/8/22	1	cpm	0.15	4.45	0.4	9.2	4.9E-15	1.1E-13	0.5%	1.8%	DB	CB	* Effluent	concentra	ation is a regu
AS-0388	Perimeter	Downwind	PE04	60	2/24/22 6:20	2/24/22 16:45	625	3.7E+07	С	3/8/22	1	com	0.15	5.00	0.4	10.7	5.0E-15	1.3E-13	0.6%	2.1%	DB	CB	protective	e of the pi	ublic
AS-0389	Perimeter	Upwind	PE03	60	2/28/22 5:40	2/28/22 16:45	665	4.0E+07	C	3/8/22	1	cpm	0.30	5.30	0.8	11.5	9.4E-15	1.3E-13	1.0%	2.2%	DB	CB	j		
AS-0390	Perimeter	Downwind	PE04	60	2/28/22 5:45	2/28/22 16:50	665	4.0E+07	C	3/8/22	1	cpm	0.45	4.95	1.3	10.6	1.4E-14	1.2E-13	1.6%	2.0%	DB	CB	t		
				50		2.22.22 10.00	300		L Ŭ	- MLL	. ·		0.10							2.370		50	1		

Sample
Types
Perimeter
Effluent

R 20 Appe	endix B Table	2 Effluent Concentrations	
in order o	f most to leas	t restrictive radionuclide)	
		Column 1	
Emitting	Retention	Air	
nuclide	Class	(µCi/ml)	
2	W	4.E-15	
9/240	W	2.E-14	
11	W	2.E-14	
/234	Y	5.E-14	
	Y	6.E-14	
	Y	6.E-14	

Counting Units
cnts
cpm

(listed in order o	f most to leas	t restrictive radio	nuclio
		Column 1	
Alpha-Emitting	Retention	Air	
Radionuclide	Class	(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)	
		Column 1	
Beta-Emitting	Retention	Air	
Radionuclide	Class	(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	

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

(TBD) (TBD)

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