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

AIR MONITORING SUMMARY REPORT

DECEMBER 22 TO JANUARY 4, 2019

Remedial Action/Non-Time-Critical Removal Action Installation Restoration Site 12

FORMER NAVAL STATION TREASURE ISLAND, SAN FRANCISCO, CA

January 2019

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DCN: GLBN-0005-F4239-020

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Contract Number: N62473-17-D-0005; Task Order No. F4239
DCN: GLBN-0005-F4239-020

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LIST OF ABBREVIATIONS AND ACRONYMS

4,4'-DDD	4,4-dichlorodiphenyldichloroethane
AMP	Air Monitoring Plan
BAAQMD	Bay Area Air Quality Management District
BAP	benzo(a)pyrene
cfm	cubic feet per minute
CFR	Code of Federal Regulations
DAC	derived air concentration
Gilbane	Gilbane Federal
DCP	Dust Control Plan
DTSC	Department of Toxic Substances Control
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, Remedial Action/Non-Time Critical Removal Action, 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 F4239. 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 *Remedial Action/Non-Time Critical Removal Action Work Plan, Installation Restoration Site 12, Former Naval Station Treasure Island, San Francisco, California* (Work Plan; Gilbane, 2018).

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**; and
- Dust and air monitoring data evaluation – **Section 4.0**.

This summary report presents the dust and air monitoring test results at Installation Restoration (IR) Site 32 from December 22nd, 2018 through January 4th, 2019, and compares the results with the established action levels included in the Work Plan (Gilbane, 2018). The monitoring period includes the site end-of-year holiday from December 21, 2018, to January 2, 2019, during which there was no monitoring.

IR Site 32, located 600 yards to the east of IR Site 12, is being used as a radiological screening yard and staging yard for the IR Site 12 project activities. The screening criteria established for IR Site 12 will be applied to the air monitoring at IR Site 32.

During the reporting period, personal data-logging real-time aerosol monitoring (PDR) dust data was collected. Air samples were collected and analyzed for lead, chromium, 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.

2.0 MONITORING SITE LOCATIONS

2.1 Dust Monitoring

During earthmoving activities, multiple 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. Dust levels are monitored at, and immediately adjacent to, the work area at the locations that will most likely contain the greatest volume of airborne dust. The objective of this dust monitoring approach is to demonstrate that dust levels are below action levels.

The general locations for dust monitors in IR Site 32 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 (i.e. grading soil, loading trucks for transportation and disposal, managing radiological screening yard pads, etc.) at IR Site 32, one PDR serves as the upwind (background) location and two PDRs are placed in downwind perimeter locations. Weather forecasts including wind direction are checked daily with a weather station located at Building 572.

2.2 Air Monitoring

Air monitoring samples were collected at the upwind Perimeter Road location and at the downwind location at the gate to Site 32. 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 air monitoring stations are shown on Figure 2. The locations of the air monitoring stations are determined based on the prevailing wind direction (typically from the northwest) and are modified as needed. A weather station is erected to monitor the wind direction.

High volume air monitoring stations remain stationary while sampling is being conducted; however,

locations may be adjusted when the wind direction changes and when overall excavation work areas change from one site to another. Each upwind and downwind high volume monitoring station includes separate monitoring systems for the following:

- TSP – collected daily
- PM10 – collected daily
- Lead and chromium – collected daily
- PAHs, PCBs, and Dioxins – collected on alternating days

For period from December 22, 2018 to January 4, 2019, the rotation did not include Dioxins as only two days of monitoring are reported representing the two days of earth-moving activity performed during the period.

2.3 Radiological Air Monitoring

Radiological air samplers are positioned adjacent to excavation work activities for radiologically impacted soil at one upwind and two downwind locations 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 monitoring sampling equipment. In rare cases, due to ancillary equipment malfunction such as generator failure during the night, a sample may be collected that represents a period of less than 24 hours. If this situation occurs, a note is added to the sample result data tables indicating why the full sampling period was not achieved.

3.1 Dust Samples

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

need for additional dust control or personal protection.

3.2 Air Samples

Air samples were sampled in accordance with the United States Environmental Protection Agency (USEPA) reference sampling method for PM10, described in 40 Code of Federal Regulations (CFR) 50, Subpart J. Each sample was collected on a filter over an approximately 24-hour period; the filter was then weighted 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 weighted to determine the amount of TSP collected. Once the filter weight was determined, the sample was analyzed for lead and chromium in in accordance with USEPA Method 6020 using inductively coupled mass spectrometry.

Air samples for PCBs, PAHs, and dioxins are collected and analyzed in accordance with USEPA Methods TO-4A, TO-13, TO-9A, respectively, using TISH polyurethane foam (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*.

The radiological air sample is counted on a Low Background Protean WPC-9950 and analyzed for gross alpha and beta activity. The calculated airborne concentration in microcuries is then compared to the effluent concentration (often but incorrectly refer to as a derived air concentration [DAC] which applies only to occupational exposures) limit specified in Table 2 of Appendix B to 10 CFR 20. The effluent

concentration is the concentration of a given radionuclide in air which, if inhaled continuously over the course of a year, results in an exposure equal to the annual regulatory limit specified in 10 CFR 20.1302. The threshold for radiological effluent air monitoring samples is 10 percent of the effluent concentration, which ensures work practices are evaluated and modified as necessary to ensure the limit is not reached.

4.0 DUST AND AIR MONITORING DATA

The Human and Ecological Risk Office (HERO) at the request of the California Department of Toxic Substances Control (DTSC) developed dust action levels for community air monitoring for IR Site 12. Subchronic and chronic dust action levels as PM10 were calculated for lead, chromium, dioxin, benzo(a)pyrene (BAP), 4,4-dichlorodiphenyldichloroethane (4,4'-DDD), 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. As noted in Section 1.0, IR Site 12 action levels will be implemented for project work at IR Site 32.

Based on HERO's recommendations, a PM10 dust action level of 50 microgram per cubic meter (ug/m^3) will be implemented for all excavations areas at IR Site 12 except at the area surrounding sampling location KCH-1217-1 which will have a limit of 8 ug/m^3 due to the elevated level of contaminants historically measured at this location. TSP is expected to be further controlled based on the limit employed for PM10, in accordance with guidance provided by the San Francisco Bay Area Air Quality Management District (BAAQMD), which estimates that PM10 makes up approximately 55 percent of TSP. If it is apparent that project activities are the cause of exceedances, additional control measures will be considered and implemented.

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

Analytical results from air monitoring samples are compared with the project screening criteria (threshold limit values [TLV]) listed in Table 2. Air monitoring results are included in Attachment 2. Radiological monitoring results are included in Attachment 3.

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]	<2.5 mg/m^3	Continue work.
			>2.5 mg/m^3	Use Level D and increase dust control (i.e., apply water or other suppression method). Optionally upgrade to Level C until concentrations are reduced.
	Job Site Perimeter	Continuously	<1.0 mg/m^3	Continue work.
			>1.0 mg/m^3	Increase dust control and re- evaluate. Stop work if levels do not decrease.

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 *milligram 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	242	TI Site 12 Dust Action Level
Chromium	929	TI Site 12 Dust Action Level
TSP	50	TI Site 12 Dust Action Level
PM10	50	BAAQMD ambient air quality
BAP	50 (8)[b]	TI Site 12 Dust Action Level
PCBs[a]	NA	TI Site 12 Dust Action Level
4,4'-DDD	200	TI Site 12 Dust Action Level
Dioxin[a]	1E+07	TI Site 12 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 action levels will be 50* µg/m^3 *for all excavations except for the area surrounding sample locations KCH-1217-1 at which it will be 8* µg/m^3

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

%	*percent*
4,4'-DDD	*dichlorodiphenyldichloroethane*
BAAQMD	*Bay Area Air Quality Management District*
BAP	*benzo(a)pyrene*
DAC	*derived air concentration*
PCBs	*polychlorinated biphenyls*
PM10	*particulate matter smaller than 10 microns in diameter*
Ra-226	*radium-226*
TSP	*total suspended particulates*
µg/m^3	*microgram per cubic meter*

5.0 AIR MONITORING RESULTS

If dust (PDR) monitoring equipment alarm, 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.

If the action levels are exceeded at the upwind location earth moving activities will continue and the Navy will notify DTSC. A dust monitoring result exceedance in the upwind location was noted on January 3, 2019. Field notes indicate smoggy conditions for that day.

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

PM10 analytical results from December 22, 2018 to January 4, 2019 did not exceed the project-specific screening criteria presented in Table 2.

TSP analytical results from December 22, 2018 to January 4, 2019 did not exceed the project-specific screening criteria presented in Table 2.

Metals (chromium and lead), PAHs, and total PCB analytical results from December 22 2018 to January 4, 2019 did not exceed the project-specific screening criteria presented in Table 2.

Dust (PDR) delta action levels did not exceed during the reporting period. The data sheets are found in Attachment 1.

Radiological air monitoring action levels were not exceeded during the reporting period.

6.0 REFERENCES

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

Gilbane, 2018. *Remedial Action/Non-Time Critical Removal Action Work Plan, Installation Restoration Site 12, Former Naval Station Treasure Island, San Francisco, California*. September.

Gilbane, 2018. *Remedial Action/Non-Time Critical Removal Action Work Plan, Air Monitoring Report, Installation Restoration Site 12, Former Naval Station Treasure Island, San Francisco, California*. September.

Gilbane, 2018. *Remedial Action/Non-Time Critical Removal Action Work Plan, Dust Control Plan, Installation Restoration Site 12, Former Naval Station Treasure Island, San Francisco, California*. September.

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

FIGURES

NAVFAC Naval Facilities Engineering Command

IR Site 12 Non-SWDA Remedial Action/
SWDA Removal Action
Former Naval Station Treasure Island
San Francisco, CA

Figure 1
PDR Monitoring Locations

G:\ArcGIS\Navy\Treasure_Island\PROJECTS\Site12_SWDA_RA\TI_Site32_Monitoring_Locs_PDR.mxd 11/7/2018 [11:08 AM] EANDERSON, Gilbane

IR Site 12 Non-SWDA Remedial Action/
SWDA Removal Action
Former Naval Station Treasure Island
San Francisco, CA

Figure 2
Air Monitoring Locations

G:\ArcGIS\Navy\Treasure_Island\PROJECTS\Site12_SWDA_RA\TI_Site32_Monitoring_Locs_Air.mxd 11/7/2018 [11:07 AM] EANDERSON, Gilbane

ATTACHMENTS

ATTACHMENT 1

PDR SUMMARY TABLE AND FIELD FORMS

Table 1-1
Personal Data-logging Real-time (PDR) Aerosol Monitoring Results
Remedial Action/NTCRA IR Site 12
Former Naval Station Treasure Island, San Francisco, California

DustTrak Unit	Date	Maximum (mg/m^3)	Average (mg/m^3)	Delta Between Upwind and Downwind stations (mg/m^3)	Below action level? (0.050 mg/m^3) (Yes/No)
DM1	1/2/2019	0.023	0.019	NA	NA
DM2		0.026	0.021	0.002	Yes
DM3		0.024	0.018	0.001	Yes
DM1	1/3/2019	0.102	0.078	NA	NA
DM2		0.114	0.085	0.007	Yes
DM3		0.091	0.069	0.009	Yes

Notes:
bold = results above screening criteria
mg/m^3 = milligram per cubic meter
NA = not applicable

DUST MONITORING LOG

Client Name _ NAVFAC

Date Jan 3, 2019

Project No. J310000300

Page 1 of 1

Logged by Mark Blaisdell

Weather AM: clear, cold, calm winds"

Instrument Type: _Dust Trak II

Calibration Standards Used: Factory calibrated, zero filter

Time	Location	Instrument Readings, (Units) mg/m³			Unit #	KSA 2-4-19	PPE Used	Activities, Remarks
0655	Office	0.015			2776			office comp
↓	↓	0.015			2724			check
↓	↓	0.017			3703			
0740	DM1	0.052			2776			N winds.
0800	DM2	0.064			3703		Unit did not start in field.	Berkley hills some what
0830	DM3	0.051			2724		checked at office, works	Smoggy, UC Campanile visable but fuzzy
0835	DM2	0.086						
0850	DM3	0.069						
1105	DM2	0.050						Very light N winds
↓	DM3	0.040						
1115	DM1	0.050						
1335	DM1	0.090						Smoggy
1345	DM2	0.114						
↓	DM3	0.091						
1500	DM1	0.094						
1510	DM2	0.104						
↓	DM3	0.089						
1615	DM1	0.102						
↓	DM2	0.090						
↓	DM3	0.073						

ATTACHMENT 2

SUMMARY OF AIR MONITORING AND AIR SAMPLING RESULTS

Table 2-1
Ambient Pressure and Temperature Monitoring Results
Remedial Action/NTCRA IR Site 12
Former Naval Station Treasure Island, San Francisco, California

Sample Date	Ambient Pressure (inches of Hg)	Ambient Temperature (°F)	Ambient Temperature (K)
1/3/2019	30.43	47.9	281.98
1/4/2019	30.35	48.23	282.17

Notes:

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

°F = Degrees Fahrenheit

Hg = mercury

K = Kelvin

Table 2-2
Particulate Matter Smaller than Ten Microns (PM10)
Remedial Action/NTCRA IR Site 12
Former Naval Station Treasure Island, San Francisco, California

Location ID	Sampling Period (Hours)	Sample Date	Particulate Matter Less Than 10 Microns in Diameter (ug/m^3)	Delta between Upwind and Downwind Stations (ug/m^3)	PM10 Exceedance? (Yes/No)
Screening Criteria					50
AMS01	23.22	1/3/2019	26	NA	NA
	23.13	1/4/2019	37	NA	NA
AMS02	23.15	1/3/2019	23	3.0	No
	22.93	1/4/2019	38	1.0	No

Notes:
NA = not applicable
PM10 = particulate matter less then 10 microns in diameter
ug/m^3 = microgram per cubic meter

Table 2-3
Total Suspended Particulates Monitoring Results
Remedial Action/NTCRA IR Site 12
Former Naval Station Treasure Island, San Francisco, California

Location ID	Sampling Period (Hours)	Sample Date	Total Suspended Particulate (ug/m^3)	Delta Between Upwind and Downwind Stations (ug/m^3)	TSP Exceedance? (Yes/No)
Screening Criteria					50
AMS01	23.21	1/3/2019	21.7	NA	NA
	23.15	1/4/2019	33.2	NA	NA
AMS02	23.14	1/3/2019	35.4	13.69	No
	22.90	1/4/2019	56.3	23.10	No

Notes:
NA = not applicable

TSP = total suspended particulate

ug/m^3 = microgram per cubic meter

Table 2-4
Metals by EPA 6020 Monitoring Results
Remedial Action/NTCRA IR Site 12
Former Naval Station Treasure Island, San Francisco, California

Location ID	Sampling Period (Hours)	Sample Date	Lead (ug/m^3)	Lead Exceedance? (Yes/No)	Chromium (ug/m^3)	Chromium Exceedance? (Yes/No)
Screening Criteria				242		929
AMS01	23.22	1/3/2019	0.0082	NA	0.0027	NA
	23.13	1/4/2019	0.0039	NA	0.0026	NA
AMS02	23.15	1/3/2019	0.0098	No	0.0031	No
	22.93	1/4/2019	0.004	No	0.0028	No

Notes:

ug/m^3 = microgram per cubic meter

NA = not applicable

Table 2-5
Polycyclic Aromatic Hydrocarbons by TO-13 Monitoring Results
Remedial Action/NTCRA IR Site 12
Former Naval Station Treasure Island, San Francisco, California

Location ID	Sampling Period (Hours)	Sample Date	BAP(Eq) Exceedance? (Yes/No)	BAP(Eq)	2-Methyl-naphthalene (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) fluoranthene (ug/m^3)	Benzo(g,h,i) perylene (ug/m^3)	Benzo(k) fluoranthene (ug/m^3)	Chrysene (ug/m^3)	Dibenz(a,h) anthracene (ug/m^3)	Fluoran-thene (ug/m3)	Fluorene (ug/m3)	Indeno(1,2,3-c,d)pyrene (ug/m3)	Naphthalene (ug/m3)	Phenan-threne (ug/m3)	Pyrene (ug/m3)
Screening Criteria[1]				50	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
AMS01	23.15	1/4/2019	NA	ND	0.0052	0.00039 J	< 0.00041	< 0.00041	< 0.00041	< 0.00041	< 0.00041	< 0.00041	< 0.00041	< 0.00041	< 0.00041	< 0.00041	0.00052	< 0.00041	0.011	0.00064	< 0.00041
AMS02	22.89	1/4/2019	No	ND	0.005	0.00057	< 0.00038	< 0.00038	< 0.00038	< 0.00038	< 0.00038	< 0.00038	< 0.00038	< 0.00038	< 0.00038	0.00023 J	0.00069	< 0.00038	0.011	0.0013	0.00022 J

Notes:

[1] The screening criteria for BAP(Eq) is 50 ug/m^3 except for the area surrounding excavation KCH-1217-1 at which it will be 8 ug/m^3.

BAP(Eq) = Benzo(a) pyrene equivalency

J = estimated value

NA = not applicable

ND = Not detected

NE = Not established

ug/m^3 = microgram per cubic meter

< = nondetected less than associated reporting limit

Table 2-6
Polychlorinated Biphenyls by TO-4A Monitoring Results
Remedial Action/NTCRA IR Site 12
Former Naval Station Treasure Island, San Francisco, California

Location ID	Sampling Period (Hours)	Sample Date	Total PCB Exceedance? (Yes/No)	Total PCB	PCB-1016 (Arochlor 1016) (ug/m^3)	PCB-1221 (Arochlor 1221) (ug/m^3)	PCB-1232 (Arochlor 1232) (ug/m^3)	PCB-1242 (Arochlor 1242) (ug/m^3)	PCB-1248 (Arochlor 1248) (ug/m^3)	PCB-1254 (Arochlor 1254) (ug/m^3)	PCB-1260 (Arochlor 1260) (ug/m^3)
Screening Criteria				NE							
AMS01	22.97	1/3/2019	NA	ND	<0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057	< 0.00057
AMS02	21.24	1/3/2019	No	ND	<0.00056	<0.00056	<0.00056	<0.00056	<0.00056	<0.00056	<0.00056

Notes:

NA = Not available

ND = Not detected

NE = None established

PCB = polychlorinated biphenyl

ug/m^3 = microgram per cubic meter

< = nondetected less than associated reporting limit

ATTACHMENT 3

RADIOLOGICAL AIR MONITORING RESULTS

Gilbane

AIR SAMPLE RESULTS - PUBLIC EXPOSURE MONITORING

Project Information			Effluent Air Concentration			Sampling Period	Color Codes	
Contract / Task Order Number:	Project Title / Location:	Gilbane Project Number:		Alpha	Beta	Air samples collected	Value < MDC	Value < 0.1 x Effluent Conc
N62473-17-D-0005	IR Site 12 RD/RA, Treasure Island, SF, CA	J310000300	Radionuclide	Ra-226	Sr-90	between January 1, 2019	< 72 hr decay time	Value > 0.1 x Effluent Conc
Information effective as of: 1/30/2019			Effluent Conc (µCi/ml)	9.E-13	6.E-12	and January 2, 2019	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		Net dpm		Activity (µCi/ml)		Effluent Conc (%)		Count Tech	Data Reviewer
													Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta		
AS-065	Perimeter	AMS-01	PE01	50	1/2/19 7:20	1/2/19 16:00	520	2.6E+07	A	1/8/19	20	cpm	0.800	3.750	2.3	7.7	4.0E-14	1.3E-13	***4.4%***	***2.2%***	*BS*	*CB*
AS-066	Perimeter	AMS-02	PE02	60	1/2/19 7:30	1/2/19 16:10	520	3.1E+07	A	1/8/19	20	cpm	0.750	3.850	2.2	8.0	3.1E-14	1.2E-13	***3.5%***	***1.9%***	*BS*	*CB*
AS-067	Perimeter	AMS-01	PE01	50	1/3/19 7:10	1/3/19 15:50	520	2.6E+07	A	1/8/19	20	cpm	0.500	4.650	1.4	10.2	2.5E-14	1.8E-13	***2.8%***	***2.9%***	*BS*	*CB*
AS-068	Perimeter	AMS-02	PE02	60	1/3/19 7:15	1/3/19 16:00	525	3.1E+07	A	1/8/19	20	cpm	0.500	3.050	1.4	5.8	2.1E-14	8.3E-14	***2.3%***	***1.4%***	*BS*	*CB*