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

AIR MONITORING SUMMARY REPORT FOR PARCEL E REMEDIAL ACTION PHASE 2

HUNTERS POINT NAVAL SHIPYARD, SAN FRANCISCO, CALIFORNIA

January 1st, 2021 through January 31st, 2021

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HUNTERS POINT NAVAL SHIPYARD, SAN FRANCISCO, CALIFORNIA

January 1st, 2021 through January 31st, 2021

Prepared for:

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Naval Facilities Engineering Command Southwest
BRAC PMO West
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Contract Number: N62473-17-D-0005; Task Order No. N6247317F4332
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Table of Contents

Table of Contents iv
List of Attachments iv
List of Figures v
List of Tables v
Acronyms and Abbreviations vi
1.0 Introduction 1-1
2.0 Monitoring Site Locations 2-1
3.0 Analytical Methods 3-1
3.1 Asbestos 3-1
3.2 PM10 3-1
3.3 TSP, Copper, Lead, and Manganese 3-1
3.4 Radionuclides of Concern 3-1
4.0 Air Monitoring Data Interpretation and Action Levels 4-1
5.0 Air Monitoring Results 5-1
6.0 References 6-1

List of Attachments

Attachment 1: Ambient Pressure, Temperature, and Prevalent Wind Direction Monitoring Results A-1
Attachment 2: Asbestos Monitoring Results B-1
Attachment 3: Particulate Matter, Smaller than Ten Microns (PM10) Monitoring Results C-1
Attachment 4: Total Suspended Particulates Monitoring Results D-1
Attachment 5: Copper, Lead, and Manganese Monitoring Results E-1
Attachment 6: Radiological Air Monitoring Results F-1
Attachment 7: Laboratory Reports G-1

List of Figures

Figure 2-1: Air Monitoring Locations

List of Tables

Table 4-1: Air Monitoring Threshold Criteria..... 4-1

Acronyms and Abbreviations

AMSR .....*Air Monitoring Summary Report*

Cal/OSHA.....*California Occupational Safety and Health Administration*

Cfm……*cubic feet per minute*

CFR……*Code of Federal Regulations*

CTO……*Contract Task Order*

DMCP……*Dust Monitoring and Control Plan*

DTSC……State of California Department of Toxic Substances Control

EPA……*United States Environmental Protection Agency*

fiber/cm3……*fiber per cubic centimeter*

Gilbane……..*Gilbane Federal*

HERO……*Human and Ecological Risk Office*

HPNS……*Hunters Point Naval Shipyard*

L/min……*liters per minute*

mg/m3……..milligrams per cubic meter

Navy……*U.S. Department of the Navy*

NIOSH……*National Institute for Occupational Safety and Health*

PDR……..personal data-logging real-time

PEL……*permissible exposure limit*

PM10……*particulate matter less than 10 microns in diameter*

TSP……*total suspended particulates*

TWA……*time-weighted average*

µg/m3……*micrograms per cubic meter*

1.0 Introduction

This Air Monitoring Summary Report (AMSR) was prepared by Gilbane Federal (Gilbane) as requested by the United States Department of the Navy (Navy) under Radiological Environmental Multiple Award Contract N62473-17-D-0005, Contract Task Order (CTO) N6247317F4332. Gilbane is performing air monitoring at Hunters Point Naval Shipyard (HPNS) in accordance with the Final Dust Monitoring and Control Plan (DMCP), included as Appendix E to *Final Remedial Action Work Plan, Parcel E Remedial Action Phase 2, Hunters Point Naval Shipyard, San Francisco, California* (RAWP; Gilbane, 2019). The DMCP describes the procedures that minimize dust during work activities and requires air monitoring to ensure these procedures are effective. The DMCP helps prevent exposure of residents and construction crews to potential airborne chemicals of concern, and dust from the work area.

This summary report describes the following:

- Where and how air monitoring samples were collected.
- What test methods were used to analyze air monitoring samples.
- How air monitoring data were evaluated.

This AMSR summarizes the air monitoring activities conducted by Gilbane at HPNS from January 1st, 2021 through January 31st, 2021 and compares the results with the established action levels presented in the DMCP (Appendix E of the RAWP [Gilbane, 2019]).

2.0 Monitoring Site Locations

Air monitoring stations were deployed at one upwind and one downwind location from the work area whenever active soil handling operations were in progress. Based on past meteorological data, the prevalent wind direction at HPNS was from the west or west-southwest. The locations of Parcel E air monitoring stations are presented on Figure 2-1.

Air monitoring was performed to estimate and assess the impact of field activities. The locations of air monitoring stations were determined based on the prevailing wind direction and were modified as needed for accessibility and worker safety considerations. Wind direction was monitored daily using a windsock and confirmed with the prevalent wind direction recorded for the Hunters Point Station (KCSANFR994) published at Weather Underground (www.wunderground.com). Upwind/downwind station designations were assigned based on the prevalent wind direction. Atmospheric parameters were checked daily at www.wunderground.com (see Attachment 1). Monitoring stations remained stationary while sampling was conducted. Each monitoring station included four different monitoring systems:

1. Asbestos
2. Particulate matter less than 10 microns in diameter (PM10)
3. Total suspended particulates (TSP) and Metals (Copper, Lead, and Manganese)
4. Radiological air samplers.

3.0 Analytical Methods

3.1 Asbestos

Air samples were sampled and analyzed in accordance with National Institute for Occupational Safety and Health (NIOSH) Method 7400, from the NIOSH Manual of Analytical Methods (NIOSH, 1994). Method 7400 requires that samples be collected on three-piece cellulose ester filters fitted with conductive cowlings at a sampling rate of between 0.5 liters per minute (L/min) and 16 L/min. Each sample was collected over a period of less than 24 hours.

3.2 PM10

Filter-based PM10 data are collected to ensure the protection of public health and safety during construction operations. Filter-based PM10 data are generated by sampling with calibrated air monitoring equipment that are operated continuously over a period of time (usually 8 or 24 hours) in accordance with the U.S. Environmental Protection Agency (EPA) reference sampling method for PM10 as described in 40 CFR 50, Subpart J, during which time measurements are taken to precisely calculate the volume of air that has passed through the filter media sample. The period sampled is dependent on the duration of the work activity. The sample is then shipped to a certified analytical laboratory where the sample results are gravimetrically determined, after which the results are validated for quality assurance. In this way the precise amount of PM10 present in each cubic meter of air is determined.

3.3 TSP, Copper, Lead, and Manganese

TSP samples were collected with a high-volume (39 to 60 cubic feet per minute [cfm]) air sampler in accordance with EPA's reference sampling method for TSP, described in Title 40 Code of Federal Regulations (CFR), Part 50, Subpart B. Each sample was collected on a filter over an approximately 8 to 24-hour period (depending on the duration of the work activity). The filter was then weighed to determine the amount of TSP collected. Once the filter weight was determined, the sample was analyzed for copper and manganese in accordance with one of the IO-3 methods identified in Compendium of Methods for the Determination of Inorganic Compounds in Ambient Air (EPA, 1999), and for lead in accordance with a modified EPA Method 12.

3.4 Radionuclides of Concern

Radiological air samples were collected with a LV-1 low-volume air sampler. Air filters are counted onsite 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 limit specified in Table 2 of Appendix B to 10 CFR 20. The effluent 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.

The equipment specifications and sampling procedures have complied with the specifications provided in the regulations for the sampler, filter, accuracy, calibration, and quality assurance.

4.0 Air Monitoring Data Interpretation and Action Levels

To facilitate the comparison to project action levels, the delta between the upwind and downwind PM10 and TSP analytical results was calculated for detected values. Negative results indicating that the upwind concentration was greater than the downwind concentration, or instances where no delta was calculated due to non-detected results, are interpreted as acceptable.

The resulting deltas for PM10 and TSP and analytical data from air monitoring metals and radiological samples were compared with the threshold criteria listed in Table 4-1 reproduced from Table 1 of the approved DMCP (Appendix E of the RAWP [Gilbane, 2019]. The PM10 delta was additionally compared to the criterion taken from the *Technical Memorandum: Draft Dust Action Levels for Parcel E, Hunters Point Shipyard, San Francisco, California* (Department of Toxic Substances Control [DTSC] 2017) of 50 ug/m^3.

Table 4-1: Air Monitoring Threshold Criteria

Test Parameter	Threshold Criterion	Threshold Criteria Reference
Asbestos	0.1 fiber/cm^3	Cal/OSHA PEL
PM10	5,000 ug/m^3	Cal/OSHA PEL
TSP	0.5 mg/m^3	Basewide HPNS Level selected to minimize overall permissible dust release from sites
Copper	1.0 mg/m^3	Cal/OSHA PEL
Lead	0.050 mg/m^3	Cal/OSHA PEL
Manganese	0.200 mg/m^3	Cal/OSHA PEL
Radiological	10% of Effluent Concentration Values	Occupational and public air concentration limits for ROCs are published in 10 Code of Federal Regulations Part 20, Appendix B.

Notes:
[a] = Cal/OSHA PEL for particulates not otherwise regulated (respiratory) used for PM10.
µg/m^3 = micrograms per cubic meter
Cal/OSHA = California Division of Occupational Safety and Health Administration
fiber/cm^3 = fiber per cubic centimeter
HPNS = Hunters Point Naval Shipyard
mg/m^3 = milligrams per cubic meter
PEL = permissible exposure limit
PM10 = particulate matter less than 10 microns in diameter
TSP = total suspended particulates

5.0 Air Monitoring Results

Weather information (including ambient pressure and temperature data) is presented in the table included as Attachment 1. Data was collected from Station 1 in Parcel E and Station 2 in Parcel D-1 from January 19th to January 28th, 2021, during which Gilbane was drilling, grading, installing road in preparation for the turbidity curtain, laying out fence, and hammering concrete/rock in Parcel E. Samples were not collected during periods of site inactivity, rain events, and/or while site work was limited to non-earth moving tasks. Air samples were not run on January 1st through January 14th, 2021 as the site was closed, and on January 18th and January 21st, 2021 as there were no earth moving activities.

Construction and remediation activities conducted from January 1st through January 31st, 2021, did not result in the exceedance of the established threshold criteria, as described in detail below.

Asbestos results from January 1st through January 31st, 2021 did not exceed the project-specific screening criteria presented in Table 4-1. The results are presented as Attachment 2.

PM10 results from January 1st through January 31st, 2021 did not exceed the project-specific screening criteria presented in Table 4-1. The results are presented as Attachment 3.

TSP, lead, manganese, and copper results from January 1st through January 31st, 2021 did not exceed the project-specific screening criteria presented in Table 4-1. The results are presented as Attachments 4 and 5.

Radiological air sampling results from January 1st through January 31st, 2021 did not exceed the project-specific screening criteria presented in Table 4-1. The results are presented as Attachment 6.

Analytical laboratory reports were subjected to cursory review by the Project Chemist. No data quality issues were noted with the following exception:

- The chains-of-custody for SDGs 21020119, 21011621, and 21012014 state that custody seals were present on the container used to ship the samples. However, the sample receipt log state no custody seals were present.
- When contacted, the laboratory stated that the sample receipt staff had been directed to use the check box for coolers only and that going forward, a statement clarify the discrepancy would be provided in the report case narrative.

Analytical laboratory reports are included as Attachment 7.

6.0 References

Department of Toxic Substances Control (DTSC), 2017. Draft Technical Memorandum: Dust Action Levels for Parcel E, Hunters Point. May.

National Institute for Occupational Safety and Health, (NIOSH), 1994. Manual of Analytical Methods.

United States Environmental Protection Agency (EPA), 1998. Quality Assurance Handbook for Air Pollution Measurement Systems, Volume II: Ambient Air Specific Methods.

Gilbane Federal, 2014. Final Remedial Action Work Plan, Parcel E Remedial Action, Phase 2, Hunters Point Naval Shipyard, San Francisco, California. October

FIGURES

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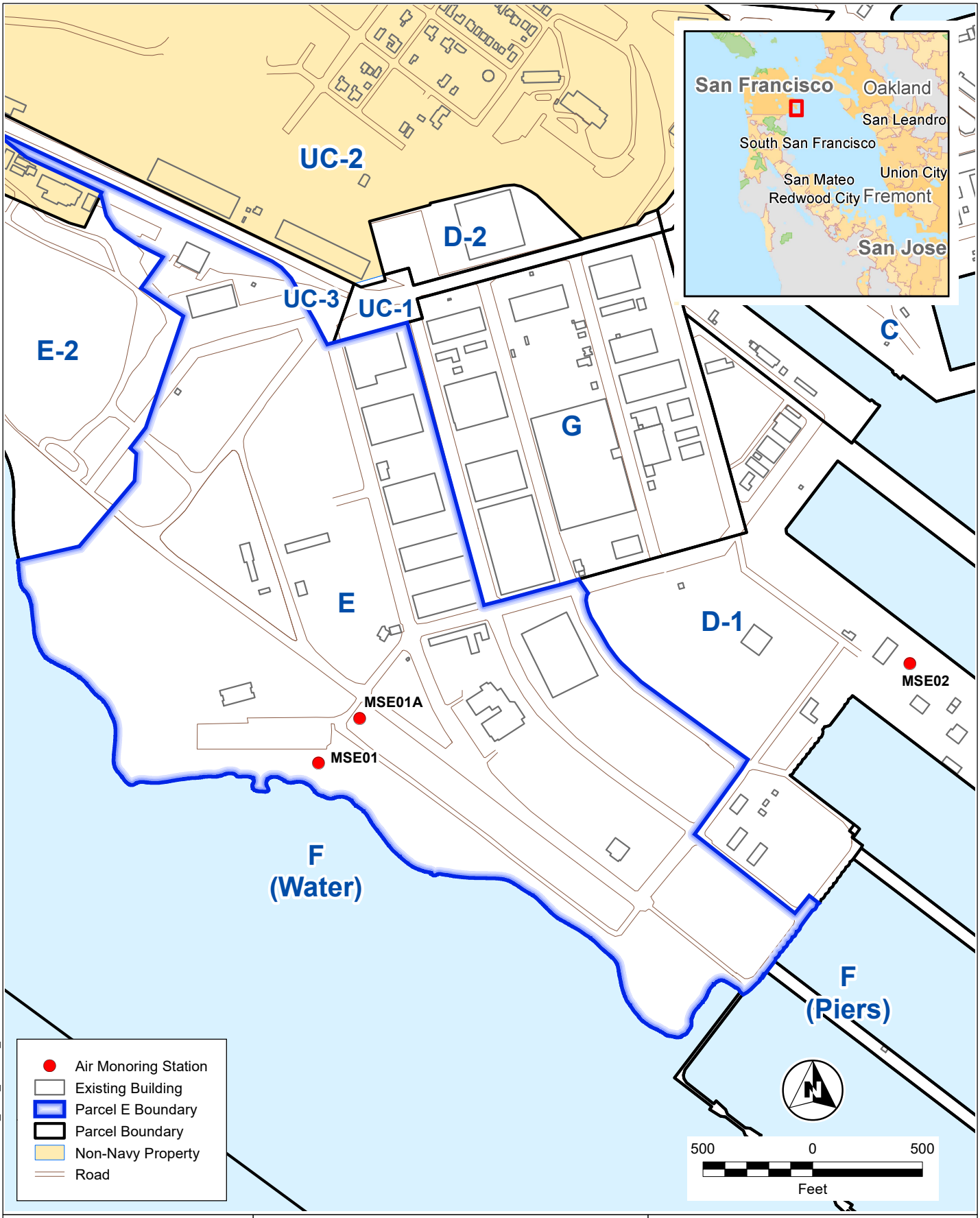

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Gilbane

Parcel E
Hunters Point Naval Shipyard
San Franscisco, California

Figure 2-1
Air Monitoring Stations

ATTACHMENTS

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ATTACHMENT 1

AMBIENT PRESSURE AND TEMPERATURE MONITORING RESULTS

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Attachment 1
Ambient Pressure, Temperature, and Prevalent Wind Direction Monitoring Results
Remedial Action Parcel E, Phase 2
Hunters Point Naval Shipyard, San Francisco, California

Start Date	Ambient Pressure (in Hg)	Ambient Temperature (°F)	Prevalent Wind Direction
1/20/2021	30.07	57.14	NW
1/26/2021	29.92	46.19	SE
1/27/2021	29.85	48.47	SE
1/28/2021	29.77	49.82	ESE

Notes:

Data collected using wunderground.com from Hunters Point Station - KCASANSFR994.

°F = degree Fareheit

in Hg = inches of mercury

E = East

N = North

S = South

W = West

ATTACHMENT 2

ASBESTOS MONITORING RESULTS

Attachment 2
Asbestos Monitoring Results
Remedial Action Parcel E, Phase 2
Hunters Point Naval Shipyard, San Francisco, California

Sample, Date and Station Information			Sampler Run Information		Asbestos Fibers		
Sample ID	Sample Start Date[1]	Monitoring Station	Duration of Run (min)	Total Air Volume Monitored (L)	Asbestos (fibers)	Conc Asbestos (fibers/cm^3)	Exceedance (Yes/No)
MSE01-011921	01/19/21	1	580	1160	10.0	0.004	No
MSE02-011921	01/19/21	2	508	1016	8.5	0.004	No
MSE01-012521	01/25/21	1	681	1362	12.5	0.005	No
MSE02-012521	01/25/21	2	622	1244	10.5	0.004	No
MSE01-012621	01/26/21	1	517	1034	9.0	0.004	No
MSE02-012621	01/26/21	2	501	1002	11.0	0.005	No
MSE01-012721	01/27/21	1	330	660	11.0	0.008	No
MSE02-012721	01/27/21	2	345	690	10.5	0.007	No
MSE01-012821	01/28/21	1	350	700	8.0	0.006	No
MSE02-012821	01/28/21	2	339	678	7.5	0.005	No

Notes:
Samples analyzed by A&B Labs
Sample locations are shown on Figure 2-1
min = minutes
L = liter
fibers/cm^3 = fibers per cubic centimeter

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ATTACHMENT 3

PM10 MONITORING RESULTS

Attachment 3
Particulate Matter, Smaller than Ten Microns (PM10) Monitoring Results
Remedial Action Parcel E, Phase 2
Hunters Point Naval Shipyard, San Francisco, California

Sample, Date and Station Information			Sampler Run Information	PM10s							
Sample ID	Monitoring Station	Sample Start Date[1]	Total Air Volume Monitored (m^3)	Total Mass (mg)	Concen-tration in Air (mg/m^3)	Delta between Downwind and Upwind (mg/m^3)	Delta between Downwind and Upwind (ug/m^3)	Cal/OSHA PEL (ug/m^3)	Exceedance (Yes/No)	HERO Action Level[2] (ug/m^3)	Exceedance (Yes/No)
Q0374014-MSE01	1	1/20/21	1792.46	73	0.041				No		No
Q0374015-MSE02	2	1/20/21	1576.32	59	0.038	-0.003	-3.0	5,000	No	50	No
Q0374016-MSE01	1	1/26/21	1680.79	27	0.016				No		No
Q0374017-MSE02	2	1/26/21	1625.07	21	0.013	0.003	3.0	5,000	No	50	No
Q0374018-MSE01	1	1/27/21	1762.39	32	0.018				No		No
Q0374019-MSE02	2	1/27/21	809.81	19	0.023	-0.005	-5.0	5,000	No	50	No
Q0374021-MSE01	1	1/28/21	1584.98	23	0.014				No		No
Q0374020-MSE02	2	1/28/21	1559.99	10	0.0065	0.008	7.5	5,000	No	50	No
Q0374022-MSE01	1	1/28/21	408.52	2	0.005				No		No
Q0374023-MSE02	2	1/28/21	373.86	2	0.0053	0.000	-0.3	5,000	No	50	No

Notes:

[1]Air sample was not collected on days with rain or when contaminated soil was not disturbed.

[2]PM10 data is additionally compared to the recommended dust action level of 50 ug/m^3 for total PM10 in accordance with the DTSC Human and Ecological Risk Office (HERO) Parcel E Memorandum dated April 29, 2019 (DTSC, 2019) for informational purposes only.

Samples analyzed by ALS Environmental

Sample locations are shown on Figure 2-1

DTSC = Department of Toxic Substances Control

m^3 = cubic meters

mg = milligrams

mg/m^3 = milligrams per cubic meter

PM_{10}-particulate matter smaller than 10 microns in diameter

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ATTACHMENT 4

TSP MONITORING RESULTS

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Attachment 4
Total Suspended Particulates Monitoring Results
Remedial Action Parcel E, Phase 2
Hunters Point Naval Shipyard, San Francisco, California

Sample, Date and Station Information			Sampler Run Information	Total Suspended Particulates				
Sample ID	Monitoring Station	Sample Start Date[1]	Total Air Volume Monitored (m^3)	Total Mass (mg)	Concen-tration in Air (mg/m^3)	Delta between Downwind and Upwind (mg/m^3)	Basewide HPNS Level (mg/m^3)	Exceedance (Yes/No)
9764101-MSE01	1	1/20/21	1538.04	87	0.056			No
9764102-MSE02	2	1/20/21	1694.82	100	0.061	0.005	0.5	No
9764103-MSE01	1	1/26/21	1694.37	43	0.025			No
9764104-MSE02	2	1/26/21	1596.17	29	0.018	0.007	0.5	No
9764105-MSE01	1	1/27/21	1764.57	62	0.035			No
9764106-MSE02	2	1/27/21	826.69	22	0.026	0.009	0.5	No
9764107-MSE01	1	1/28/21	1647.20	17	0.01			No
9764108-MSE02	2	1/28/21	1533.38	19	0.012	-0.002	0.5	No
9764109-MSE01	1	1/28/21	424.98	15	0.035			No
9764110-MSE02	2	1/28/21	316.93	4.5	0.014	0.021	0.5	No

Notes:
[1]Air sample was not collected on days with rain or when contaminated soil was not disturbed.
Samples analyzed by ALS Environmental
Sample locations are shown on Figure 2-1
-- indicates difference was not calculated
< = below detection limit
HPNS = Hunters Point Naval Shipyard
mg = milligrams
mg/m^3 = milligrams per cubic meter
m^3 = cubic meters
NA = not applicable
ug = micrograms

ATTACHMENT 5

COPPER, LEAD, AND MANGANESE MONITORING RESULTS

Attachment 5
Copper, Lead, and Manganese Monitoring Results
Remedial Action Parcel E, Phase 2
Hunters Point Naval Shipyard, San Francisco, California

Sample, Date and Station Information			Sampler Run Information	Copper			Lead			Manganese		
Sample ID	Monitoring Station	Sample Start Date[1]	Total Air Volume Monitored (m^3)	Result (ug)	Concen-tration in Air (mg/m^3)	Exceedance (Yes/No)	Result (ug)	Concen-tration in Air (mg/m^3)	Exceedance (Yes/No)	Result (ug)	Concen-tration in Air (mg/m^3)	Exceedance (Yes/No)
9764101-MSE01	1	1/20/21	1538.04	710	0.00046	No	ND	<0.000016	No	80	0.000052	No
9764102-MSE02	2	1/20/21	1694.82	610	0.00036	No	ND	<0.000015	No	71	0.000042	No
9764103-MSE01	1	1/26/21	1694.37	210	0.00012	No	ND	<0.000015	No	ND	<0.000059	No
9764104-MSE02	2	1/26/21	1596.17	230	0.00015	No	ND	<0.000016	No	ND	<0.000063	No
9764105-MSE01	1	1/27/21	1764.57	140	0.000077	No	ND	<0.000014	No	ND	<0.000057	No
9764106-MSE02	2	1/27/21	826.69	150	0.00018	No	ND	<0.000030	No	ND	<0.00012	No
9764107-MSE01	1	1/28/21	1647.20	84	0.000051	No	ND	<0.000015	No	ND	<0.000015	No
9764108-MSE02	2	1/28/21	1533.38	230	0.00015	No	ND	<0.000016	No	ND	<0.000065	No
9764109-MSE01	1	1/28/21	424.98	ND	<0.00024	No	ND	<0.000059	No	ND	<0.00024	No
9764110-MSE02	2	1/28/21	316.93	ND	<0.00032	No	ND	<0.000079	No	ND	<0.00032	No

Notes:
[1]Air sample was not collected on days with rain or when contaminated soil was not disturbed.
Samples analyzed by ALS Environmental
Sample locations are shown on Figure 2-1
mg = milligrams
mg/m^3 = milligrams per cubic meter
< = below detection limit
m^3 = cubic meters
ug = micrograms

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ATTACHMENT 6

RADIOLOGICAL AIR MONITORING RESULTS

Gilbane

AIR SAMPLE RESULTS - PUBLIC EXPOSURE MONITORING

Project Information		
Contract / Task Order Number:	Project Title / Location:	Gilbane Project Number:
N62473-17-D-0005 / F4332	Parcel E RA HPNS, SF, CA	J310000400
Information effective as of: 2/18/2021		

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

Sampling Period
Air samples collected between January 1, 2021 and January 31, 2021

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

Sample Collection									Count Information								Sample Results				Initials	
Sample Number	Sample Type	Sample Location	Equip No	Ave Flow Rate (lpm)	Start Day Time	End Date Time	Elapsed Time (min)	Volume (ml)	Inst No	Count Date	Time (min)	Counting Units	Gross Activity		Net dpm		Activity (µCi/ml)		Effluent Conc (%)		Count Tech	Data Reviewer
													Alpha	Beta	Alpha	Beta	Alpha	Beta	Alpha	Beta		
AS-0073	Perimeter	MSE02	PE05	40	1/19/21 8:30	1/19/21 14:15	345	1.4E+07	C	2/2/21	1	cpm	0.200	3.300	0.6	6.0	1.8E-14	1.9E-13	***2.0%***	***3.2%***	*DVT*	*CB*
AS-0074	Perimeter	MSE01	PE06	40	1/19/21 7:55	1/19/21 14:25	390	1.6E+07	C	2/2/21	1	cpm	0.100	2.850	0.3	4.7	8.1E-15	1.4E-13	***0.9%***	***2.3%***	*DVT*	*CB*
AS-0075	Perimeter	MSE02	PE05	60	1/25/21 8:19	1/25/21 15:15	416	2.5E+07	C	2/2/21	1	cpm	0.200	2.700	0.6	4.3	1.0E-14	7.7E-14	***1.1%***	***1.3%***	*DVT*	*CB*
AS-0076	Perimeter	MSE01	PE06	40	1/25/21 8:40	1/25/21 15:00	380	1.5E+07	C	2/2/21	1	cpm	0.050	2.650	0.1	4.1	4.2E-15	1.2E-13	***0.5%***	***2.0%***	*DVT*	*CB*
AS-0077	Perimeter	MSE02	PE05	60	1/26/21 7:00	1/26/21 13:35	395	2.4E+07	C	2/2/21	1	cpm	0.150	3.800	0.4	7.4	8.0E-15	1.4E-13	***0.9%***	***2.3%***	*DVT*	*CB*
AS-0078	Perimeter	MSE01	PE06	40	1/26/21 6:55	1/26/21 13:30	395	1.6E+07	C	2/2/21	1	cpm	0.250	3.100	0.7	5.4	2.0E-14	1.5E-13	***2.2%***	***2.6%***	*DVT*	*CB*
AS-0079	Perimeter	MSE02	PE05	60	1/27/21 9:10	1/27/21 14:48	338	2.0E+07	C	2/2/21	1	cpm	0.150	3.850	0.4	7.5	9.4E-15	1.7E-13	***1.0%***	***2.8%***	*DVT*	*CB*
AS-0080	Perimeter	MSE01	PE06	40	1/27/21 9:05	1/27/21 14:55	350	1.4E+07	C	2/2/21	1	cpm	0.200	3.850	0.6	7.5	1.8E-14	2.4E-13	***2.0%***	***4.0%***	*DVT*	*CB*
AS-0081	Perimeter	MSE02	PE05	60	1/28/21 6:50	1/28/21 13:45	415	2.5E+07	C	2/2/21	1	cpm	0.050	4.200	0.1	8.5	2.5E-15	1.5E-13	***0.3%***	***2.6%***	*DVT*	*CB*
AS-0082	Perimeter	MSE01	PE06	40	1/28/21 6:45	1/28/21 13:30	405	1.6E+07	C	2/2/21	1	cpm	0.100	3.650	0.3	7.0	7.8E-15	1.9E-13	***0.9%***	***3.2%***	*DVT*	*CB*

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ATTACHMENT 7

LABORATORY REPORTS

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09-Feb-2021

[redacted]
Gilbane Company
[redacted]
[redacted]

Re: **HPNS Parcel E RA Phase 2; J310000400** Work Order: **21010739**

Dear [redacted]

ALS Environmental received 4 samples on 22-Jan-2021 10:00 AM for the analyses presented in the following report.

This is a REVISED REPORT. The Case Narrative provides information discussing the reason for issuing a revised report. The total number of pages in this revision is 10.

If you have any questions regarding these test results, please feel free to contact me.

Sincerely,

[redacted]
Electronically approved by: Rob Nieman

[redacted]
Project Manager

Report of Laboratory Analysis

ALS Environmental

Date: 09-Feb-21

Client: Gilbane Company
Project: HPNS Parcel E RA Phase 2; J310000400
Work Order: **21010739**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
21010739-01	Q0374014-MSE01	Air		1/20/2021 07:45	1/22/2021 10:00	☐
21010739-02	9764101-MSE01	Air		1/20/2021 07:45	1/22/2021 10:00	☐
21010739-03	Q0374015-MSE02	Air		1/20/2021 08:00	1/22/2021 10:00	☐
21010739-04	9764102-MSE02	Air		1/20/2021 08:00	1/22/2021 10:00	☐

Client:	Gilbane Company
Project:	HPNS Parcel E RA Phase 2; J310000400
Work Order:	21010739

Case Narrative

The sample condition upon receipt was acceptable except where noted.

Results relate only to the items tested and are not blank corrected unless indicated.

ALS is an EPA recognized NLLAP laboratory for lead paint, soil, and dust wipe analyses under its AIHA-LAP accreditation.

All sampling information was provided by the client.

This report was revised as follows: Analyte list was updated.

ALS Environmental

Date: *09-Feb-21*

Client: Gilbane Company
Project: HPNS Parcel E RA Phase 2; J310000400

Work Order: 21010739

Analytical Results

Lab ID: 21010739-01A
Collection Date: 1/20/2021 7:45:00 AM
Client Sample ID: Q0374014-MSE01
Matrix: AIR

Analyses

PM : PM10 40CFR 50 APPDIX J		Method: **PM10**	Air Volume (L): **1792460**	Analyst: **SRL**
Date Analyzed: 1/29/2021		Reporting Limit		
	mg/sample	mg/sample	**mg/m3**	
Particulate as PM10	**73**	**1.0**	**0.041**	

Lab ID: 21010739-02A
Collection Date: 1/20/2021 7:45:00 AM
Client Sample ID: 9764101-MSE01
Matrix: AIR

Analyses

TSP 40 CFR 50 APPDX B		Method: **TSP**	Air Volume (L): **1538040**	Analyst: **SRL**
Date Analyzed: 1/29/2021		Reporting Limit		
	mg/sample	mg/sample	**mg/m3**	
Total suspended particulate	**87**	**1.0**	**0.056**	
METALS BY EPA METHOD 12 MOD.		Method: **E12**	Air Volume (L): **1538040**	Analyst: **AZ**
Date Analyzed: 1/29/2021 14:54		Reporting Limit		
	µg/sample	µg/sample	**mg/m3**	
Copper	**710**	**25**	**0.00046**	
Lead	ND	25	<0.000016	
Manganese	**80**	**25**	**0.000052**	

Lab ID: 21010739-03A
Collection Date: 1/20/2021 8:00:00 AM
Client Sample ID: Q0374015-MSE02
Matrix: AIR

Analyses

PM : PM10 40CFR 50 APPDIX J		Method: **PM10**	Air Volume (L): **1576320**	Analyst: **SRL**
Date Analyzed: 1/29/2021		Reporting Limit		
	mg/sample	mg/sample	**mg/m3**	
Particulate as PM10	**59**	**1.0**	**0.038**	

Note:

ALS Environmental

Date: *09-Feb-21*

Client: Gilbane Company
Project: HPNS Parcel E RA Phase 2; J310000400

Work Order: 21010739

Analytical Results

Lab ID: 21010739-04A
Client Sample ID: 9764102-MSE02

Collection Date: 1/20/2021 8:00:00 AM
Matrix: AIR

Analyses

TSP 40 CFR 50 APPDX B		Method: **TSP**	Air Volume (L): **1694820**	Analyst: **SRL**
Date Analyzed: 1/29/2021		Reporting Limit		
	mg/sample	mg/sample	**mg/m3**	
Total suspended particulate	**100**	**1.0**	**0.061**	
METALS BY EPA METHOD 12 MOD.		Method: **E12**	Air Volume (L): **1694820**	Analyst: **AZ**
Date Analyzed: 1/29/2021 14:58		Reporting Limit		
	µg/sample	µg/sample	**mg/m3**	
Copper	**610**	**25**	**0.00036**	
Lead	ND	25	<0.000015	
Manganese	**71**	**25**	**0.000042**	

Note:

ALS Environmental

Date: 09-Feb-21

Client: Gilbane Company

QC BATCH REPORT

Work Order: 21010739

Project: HPNS Parcel E RA Phase 2; J310000400

Batch ID: **R187348** Instrument ID **BAL2** Method: **TSP**

DUP Sample ID: **21010739-02a dup** Units: **mg/sample** Analysis Date: **1/29/2021**

Client ID: **9764101-MSE01** Run ID: **BAL2_210129A** SeqNo: **2389767** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total suspended particulate	88.62	1.0	0	0	0		86.59	2.32	20	

The following samples were analyzed in this batch: 21010739-02a 21010739-04a

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Gilbane Company
Work Order: 21010739
Project: HPNS Parcel E RA Phase 2; J310000400

QC BATCH REPORT

Batch ID: **72434** Instrument ID **ICP1** Method: **E12**

MBLK Sample ID: **MBLK-72434-72434** Units: **µg/sample** Analysis Date: **1/29/2021 02:42 PM**
Client ID: Run ID: **ICP1_210129B** SeqNo: **2390558** Prep Date: **1/29/2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	ND	100								
Lead	ND	25								
Manganese	ND	100								

LCS Sample ID: **LCS-72434-72434** Units: **µg/sample** Analysis Date: **1/29/2021 02:46 PM**
Client ID: Run ID: **ICP1_210129B** SeqNo: **2390559** Prep Date: **1/29/2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	388.7	100	450	0	86.4	75-125	0			
Lead	391.1	25	450	0	86.9	75-125	0			
Manganese	425	100	450	0	94.4	75-125	0			

LCSD Sample ID: **LCSD-72434-72434** Units: **µg/sample** Analysis Date: **1/29/2021 02:50 PM**
Client ID: Run ID: **ICP1_210129B** SeqNo: **2390560** Prep Date: **1/29/2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	375.6	100	450	0	83.5	75-125	388.7	3.43	20	
Lead	381.5	25	450	0	84.8	75-125	391.1	2.5	20	
Manganese	417.9	100	450	0	92.9	75-125	425	1.7	20	

MS Sample ID: **21010739-04A MS** Units: **µg/sample** Analysis Date: **1/29/2021 03:02 PM**
Client ID: **9764102-MSE02** Run ID: **ICP1_210129B** SeqNo: **2390563** Prep Date: **1/29/2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	1038	100	450	609.8	95.1	75-125	0			
Lead	405.2	25	450	4.343	89.1	75-125	0			
Manganese	511.6	100	450	70.88	98	75-125	0			

MSD Sample ID: **21010739-04A MSD** Units: **µg/sample** Analysis Date: **1/29/2021 03:05 PM**
Client ID: **9764102-MSE02** Run ID: **ICP1_210129B** SeqNo: **2390564** Prep Date: **1/29/2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	1029	100	450	609.8	93.2	75-125	1038	0.827	20	
Lead	404.4	25	450	4.343	88.9	75-125	405.2	0.2	20	
Manganese	524.7	100	450	70.88	101	75-125	511.6	2.52	20	

The following samples were analyzed in this batch: 21010739-02A 21010739-04A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

ALS Environmental

Date: 09-Feb-21

Client: Gilbane Company
Project: HPNS Parcel E RA Phase 2; J310000400
WorkOrder: **21010739**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

Acronym	Description
DUP	Method Duplicate
E	EPA Method
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SDL	Sample Detection Limit
SW	SW-846 Method

Units Reported	Description
µg/sample	
mg/sample	

ALS Environmental

Sample Receipt Checklist

Client Name: **GILBANE-WALNUTCREEK** Date/Time Received: **22-Jan-21 10:00**

Work Order: **21010739** Received by: **SNH**

Checklist completed by [redacted] 22-Jan-21 Reviewed by: [redacted] 25-Jan-21

eSignature Date eSignature Date

Matrices: air

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☐	No ☑	
Temperature(s)/Thermometer(s):			
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:			
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☑
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑
pH adjusted?	Yes ☐	No ☐	N/A ☑
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

CHAIN-OF-CUSTODY RECORD

Gilbane Federal
[redacted]

COC # KT-012021

210 | 0739

Gilbane

Project Name: Hunters Point Shipyard, Parcel E RA Phase 2	Laboratory: ALS Laboratory Group, Cincinnati, OH	Event: Parcel E Phase 2 Air Monitoring
Project Number: J310000400	POC: [redacted]	
WBS Code: J310000400	Ship to: [redacted]	

Comments:

Equipment:

Code	Matrix
A	Air

Code	Container/Preservative
1	1x 250-mL Plastic, 4 Degrees C
1	1x Envelope, None

Analytical Test Method

Event: Parcel E Phase 2 Air Monitoring

	Sample ID	Matrix	Date	Time	Samp Init.	CAAIR - Air PM10	E12 - Air Pb Mn Cu	N0500 - Air TSP	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
						1	1	1						
1	Q0374014-MSE01	A	01/20/2021	0745	KT	X			AMSE1	N1	0.00	0.00	1	VOLUME: 1792.46
2	9764101-MSE01	A	01/20/2021	0745	KT		X	X	AMSE1	N1	0.00	0.00	1	VOLUME: 1538.04
3	Q0374015-MSE02	A	01/20/2021	0800	KT	X			AMSE2	N1	0.00	0.00	1	VOLUME: 1576.32
4	9764102-MSE02	A	01/20/2021	0800	KT		X	X	AMSE2	N1	0.00	0.00	1	VOLUME: 1694.82

Turnaround Time: 5 Day

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[redacted]	1/21/21	1400	Fed Ex	1/21/21	1400
			[redacted]	1-22-21	1000

Shipping Date / Carrier / Airbill Number

Shipping Date: 1/21/2021 Fedex 7726 9125 9670

Received by Laboratory: *(Signature, Date, Time)* **& condition**

Fedex Custody Seal

04-Feb-2021

[redacted]
Gilbane Company
[redacted]
[redacted]

Re: **J310000400; Parcel E RA Phase 2** Work Order: **21010998**

Dear[redacted]

ALS Environmental received 8 samples on 28-Jan-2021 10:41 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

QC sample results for this data met laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 12.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

[redacted]
Electronically approved by: Rob Nieman

[redacted]
Project Manager

Report of Laboratory Analysis

ALS Environmental

Date: 04-Feb-21

Client: Gilbane Company
Project: J310000400; Parcel E RA Phase 2
Work Order: **21010998**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
21010998-01	Q0374016-MSE01	Air		1/26/2021 08:00	1/28/2021	☐
21010998-02	9764103-MSE01	Air		1/26/2021 08:00	1/28/2021	☐
21010998-03	Q0374017-MSE02	Air		1/26/2021 08:30	1/28/2021	☐
21010998-04	9764104-MSE02	Air		1/26/2021 08:30	1/28/2021	☐
21010998-05	Q0374018-MSE01	Air		1/27/2021 08:14	1/28/2021	☐
21010998-06	9764105-MSE01	Air		1/27/2021 08:14	1/28/2021	☐
21010998-07	Q0374019-MSE02	Air		1/27/2021 09:00	1/28/2021	☐
21010998-08	9764106-MSE02	Air		1/27/2021 09:00	1/28/2021	☐

ALS Environmental

Date: 04-Feb-21

Client:	Gilbane Company
Project:	J310000400; Parcel E RA Phase 2
Work Order:	21010998

Case Narrative

The sample condition upon receipt was acceptable except where noted.

Results relate only to the items tested and are not blank corrected unless indicated.

ALS is an EPA recognized NLLAP laboratory for lead paint, soil, and dust wipe analyses under its AIHA-LAP accreditation.

All sampling information was provided by the client.

ALS Environmental

Date: *04-Feb-21*

Client: Gilbane Company
Project: J310000400; Parcel E RA Phase 2

Work Order: 21010998

Analytical Results

Lab ID: 21010998-01A
Collection Date: 1/26/2021 8:00:00 AM
Client Sample ID: Q0374016-MSE01
Matrix: AIR

Analyses

PM : PM10 40CFR 50 APPDIX J		Method: **PM10**	Air Volume (L): **1680790**	Analyst: **SRL**
Date Analyzed: 2/3/2021		Reporting Limit		
	mg/sample	mg/sample	**mg/m3**	
Particulate as PM10	**27**	**1.0**	**0.016**	

Lab ID: 21010998-02A
Collection Date: 1/26/2021 8:00:00 AM
Client Sample ID: 9764103-MSE01
Matrix: AIR

Analyses

TSP 40 CFR 50 APPDX B		Method: **TSP**	Air Volume (L): **1694370**	Analyst: **SRL**
Date Analyzed: 2/3/2021		Reporting Limit		
	mg/sample	mg/sample	mg/m3	
Total suspended particulate	**43**	**1.0**	**0.025**	
METALS BY EPA METHOD 12 MOD.		Method: **E12**	Air Volume (L): **1694370**	Analyst: **AZ**
Date Analyzed: 2/4/2021 12:33		Reporting Limit		
	µg/sample	µg/sample	**mg/m3**	
Copper	**210**	**100**	**0.00012**	
Lead	ND	25	<0.000015	
Manganese	ND	100	<0.000059	

Lab ID: 21010998-03A
Collection Date: 1/26/2021 8:30:00 AM
Client Sample ID: Q0374017-MSE02
Matrix: AIR

Analyses

PM : PM10 40CFR 50 APPDIX J		Method: **PM10**	Air Volume (L): **1625070**	Analyst: **SRL**
Date Analyzed: 2/3/2021		Reporting Limit		
	mg/sample	mg/sample	**mg/m3**	
Particulate as PM10	**21**	**1.0**	**0.013**	

Note:

Client: Gilbane Company **Work Order:** 21010998
Project: J310000400; Parcel E RA Phase 2

Analytical Results

Lab ID: 21010998-04A **Collection Date:** 1/26/2021 8:30:00 AM
Client Sample ID: 9764104-MSE02 **Matrix:** AIR

Analyses

TSP 40 CFR 50 APPDX B		Method: **TSP**	Air Volume (L): **1596170**	Analyst: **SRL**
Date Analyzed: 2/3/2021		Reporting Limit		
	mg/sample	mg/sample	mg/m3	
Total suspended particulate	**29**	**1.0**	**0.018**	
METALS BY EPA METHOD 12 MOD.		Method: **E12**	Air Volume (L): **1596170**	Analyst: **AZ**
Date Analyzed: 2/4/2021 12:45		Reporting Limit		
	µg/sample	µg/sample	**mg/m3**	
Copper	**230**	**100**	**0.00015**	
Lead	ND	25	<0.000016	
Manganese	ND	100	<0.000063	

Lab ID: 21010998-05A **Collection Date:** 1/27/2021 8:14:00 AM
Client Sample ID: Q0374018-MSE01 **Matrix:** AIR

Analyses

PM : PM10 40CFR 50 APPDIX J		Method: **PM10**	Air Volume (L): **1762390**	Analyst: **SRL**
Date Analyzed: 2/3/2021		Reporting Limit		
	mg/sample	mg/sample	**mg/m3**	
Particulate as PM10	**32**	**1.0**	**0.018**	

Lab ID: 21010998-06A **Collection Date:** 1/27/2021 8:14:00 AM
Client Sample ID: 9764105-MSE01 **Matrix:** AIR

Analyses

TSP 40 CFR 50 APPDX B		Method: **TSP**	Air Volume (L): **1764570**	Analyst: **SRL**
Date Analyzed: 2/3/2021		Reporting Limit		
	mg/sample	mg/sample	mg/m3	
Total suspended particulate	**62**	**1.0**	**0.035**	
METALS BY EPA METHOD 12 MOD.		Method: **E12**	Air Volume (L): **1764570**	Analyst: **AZ**
Date Analyzed: 2/4/2021 12:49		Reporting Limit		
	µg/sample	µg/sample	**mg/m3**	
Copper	**140**	**100**	**0.000077**	
Lead	ND	25	<0.000014	
Manganese	ND	100	<0.000057	

Note:

Client: Gilbane Company **Work Order:** 21010998
Project: J310000400; Parcel E RA Phase 2

Analytical Results

Lab ID: 21010998-07A **Collection Date:** 1/27/2021 9:00:00 AM
Client Sample ID: Q0374019-MSE02 **Matrix:** AIR

Analyses

PM : PM10 40CFR 50 APPDIX J		Method: **PM10**	Air Volume (L): **809810**	Analyst: **SRL**
Date Analyzed: 2/3/2021		Reporting Limit		
	mg/sample	mg/sample	**mg/m3**	
Particulate as PM10	**19**	**1.0**	**0.023**	

Lab ID: 21010998-08A **Collection Date:** 1/27/2021 9:00:00 AM
Client Sample ID: 9764106-MSE02 **Matrix:** AIR

Analyses

TSP 40 CFR 50 APPDX B		Method: **TSP**	Air Volume (L): **826690**	Analyst: **SRL**
Date Analyzed: 2/3/2021		Reporting Limit		
	mg/sample	mg/sample	mg/m3	
Total suspended particulate	**22**	**1.0**	**0.026**	
METALS BY EPA METHOD 12 MOD.		Method: **E12**	Air Volume (L): **826690**	Analyst: **AZ**
Date Analyzed: 2/4/2021 12:53		Reporting Limit		
	µg/sample	µg/sample	**mg/m3**	
Copper	**150**	**100**	**0.00018**	
Lead	ND	25	<0.000030	
Manganese	ND	100	<0.00012	

Note:

QC BATCH REPORT

Batch ID: **R187481** Instrument ID **BAL2** Method: **TSP**

DUP Sample ID: **21010998-02A DUP** Units: **mg/sample** Analysis Date: **2/3/2021**

Client ID: **9764103-MSE01** Run ID: **BAL2_210203A** SeqNo: **2392629** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total suspended particulate	42.81	1.0	0	0	0		42.66	0.351	20	

The following samples were analyzed in this batch:

21010998-02A 21010998-04A 21010998-06A
21010998-08A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Gilbane Company
Work Order: 21010998
Project: J310000400; Parcel E RA Phase 2

QC BATCH REPORT

Batch ID: **R187483** Instrument ID **BAL2** Method: **PM10**

DUP Sample ID: **21010998-07A DUP** Units: **mg/sample** Analysis Date: **2/3/2021**
Client ID: **Q0374019-MSE02** Run ID: **BAL2_210203B** SeqNo: **2392651** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Particulate as PM10	18.51	1.0	0	0	0		18.72	1.13	20	

The following samples were analyzed in this batch:

21010998-01A 21010998-03A 21010998-05A
21010998-07A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Gilbane Company
Work Order: 21010998
Project: J310000400; Parcel E RA Phase 2

QC BATCH REPORT

Batch ID: **72513** Instrument ID **ICP1** Method: **E12**

MBLK Sample ID: **MBLK-72513-72513** Units: **µg/sample** Analysis Date: **2/4/2021 12:13 PM**
Client ID: Run ID: **ICP1_210204A** SeqNo: **2393175** Prep Date: **2/4/2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	ND	100								
Lead	ND	25								
Manganese	ND	100								

LCS Sample ID: **LCS-72513-72513** Units: **µg/sample** Analysis Date: **2/4/2021 12:17 PM**
Client ID: Run ID: **ICP1_210204A** SeqNo: **2393176** Prep Date: **2/4/2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	417.5	100	450	0	92.8	75-125	0			
Lead	419.9	25	450	0	93.3	75-125	0			
Manganese	437.1	100	450	0	97.1	75-125	0			

LCSD Sample ID: **LCSD-72513-72513** Units: **µg/sample** Analysis Date: **2/4/2021 12:21 PM**
Client ID: Run ID: **ICP1_210204A** SeqNo: **2393177** Prep Date: **2/4/2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	425.2	100	450	0	94.5	75-125	417.5	1.83	20	
Lead	423.2	25	450	0	94	75-125	419.9	0.779	20	
Manganese	448.4	100	450	0	99.6	75-125	437.1	2.54	20	

MS Sample ID: **21010998-02A MS** Units: **µg/sample** Analysis Date: **2/4/2021 12:37 PM**
Client ID: **9764103-MSE01** Run ID: **ICP1_210204A** SeqNo: **2393179** Prep Date: **2/4/2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	641.2	100	450	209.6	95.9	75-125	0			
Lead	454.5	25	450	24.01	95.7	75-125	0			
Manganese	455.8	100	450	15.93	97.8	75-125	0			

MSD Sample ID: **21010998-02A MSD** Units: **µg/sample** Analysis Date: **2/4/2021 12:41 PM**
Client ID: **9764103-MSE01** Run ID: **ICP1_210204A** SeqNo: **2393180** Prep Date: **2/4/2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	647.6	100	450	209.6	97.3	75-125	641.2	0.978	20	
Lead	451.4	25	450	24.01	95	75-125	454.5	0.695	20	
Manganese	438.6	100	450	15.93	93.9	75-125	455.8	3.85	20	

The following samples were analyzed in this batch: 21010998-02A 21010998-04A 21010998-06A 21010998-08A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

ALS Environmental

Date: 04-Feb-21

Client: Gilbane Company
Project: J310000400; Parcel E RA Phase 2
WorkOrder: **21010998**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

Acronym	Description
DUP	Method Duplicate
E	EPA Method
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SDL	Sample Detection Limit
SW	SW-846 Method

Units Reported	Description
µg/sample	
mg/sample	

ALS Environmental

Sample Receipt Checklist

Client Name: **GILBANE-WALNUTCREEK** Date/Time Received: **28-Jan-21 10:41**

Work Order: **21010998** Received by: **DNS**

Checklist completed by [redacted] 28-Jan-21 Reviewed by: [redacted] 02-Feb-21

eSignature Date eSignature Date

Matrices:

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☐	No ☑	
Temperature(s)/Thermometer(s):			
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:			
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☐	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

CHAIN-OF-CUSTODY RECORD

Gilbane Federal [redacted]

21010998

COC # KT-012721

Gilbane

Project Name: Hunters Point Shipyard, Parcel E RA Phase 2	Laboratory: ALS Laboratory Group, Cincinnati, OH	Event: Parcel E Phase 2 Air Monitoring
Project Number: J310000400	POC: [redacted]	
WBS Code: J310000400	Ship to: [redacted]	

Comments:

Equipment:

Code	Matrix
A	Air

Code	Container/Preservative
1	1x 250-mL Plastic, 4 Degrees C
1	1x Envelope, None

						Analytical Test Method											
						CAAIR - Air PM10	E12 - Air Pb Mn Cu	N0500 - Air TSP									
	Event: Parcel E Phase 2 Air Monitoring					1	1	1									
	Sample ID	Matrix	Date	Time	Samp Init.										Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
1	Q0374016-MSE01	A	01/26/2021	0800	KT	X									AMSE1	N1	0.00	0.00	1	VOLUME: 1680.79
2	9764103-MSE01	A	01/26/2021	0800	KT		X	X							AMSE1	N1	0.00	0.00	1	VOLUME: 1694.37
3	Q0374017-MSE02	A	01/26/2021	0830	KT	X									AMSE2	N1	0.00	0.00	1	VOLUME: 1625.07
4	9764104-MSE02	A	01/26/2021	0830	KT		X	X							AMSE2	N1	0.00	0.00	1	VOLUME: 1596.17
5	Q0374018-MSE01	A	01/27/2021	0814	KT	X									AMSE1	N1	0.00	0.00	1	VOLUME: 1762.39
6	9764105-MSE01	A	01/27/2021	0814	KT		X	X							AMSE1	N1	0.00	0.00	1	VOLUME: 1764.57
7	Q0374019-MSE02	A	01/27/2021	0900	KT	X									AMSE2	N1	0.00	0.00	1	VOLUME: 809.81
8	9764106-MSE02	A	01/27/2021	0900	KT		X	X							AMSE2	N1	0.00	0.00	1	VOLUME: 826.69

Turnaround Time: 5 days

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[redacted]	1/27/21	1500	FedEx	1/27/21	1500

Shipping Date / Carrier / Airbill Number

Shipping Date: 1/27/2021 / FedEx 7727 4943 9422

Received by Laboratory: *(Signature, Date, Time)* **& condition**

[redacted]

Cust. Seal on package

10-Mar-2021

[redacted]
Gilbane Company
[redacted]
[redacted]

Re: **HPNS Parcel E-2; J310000400** Work Order: **21020054**

Dear[redacted]

ALS Environmental received 8 samples on 02-Feb-2021 10:50 AM for the analyses presented in the following report.

The analytical data provided relates directly to the samples received by ALS Environmental and for only the analyses requested.

QC sample results for this data met laboratory specifications. Any exceptions are noted in the Case Narrative, or noted with qualifiers in the report or QC batch information. Should this laboratory report need to be reproduced, it should be reproduced in full unless written approval has been obtained from ALS Laboratory Group. Samples will be disposed in 30 days unless storage arrangements are made.

The total number of pages in this report is 12.

If you have any questions regarding this report, please feel free to contact me.

Sincerely,

[redacted]
Electronically approved by: Rob Nieman

[redacted]
Project Manager

Report of Laboratory Analysis

ALS Environmental

Date: 10-Mar-21

Client: Gilbane Company
Project: HPNS Parcel E-2; J310000400
Work Order: **21020054**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
21020054-01	Q0374021-MSE01	Air		1/28/2021 07:52	2/2/2021	☐
21020054-02	9764107-MSE01	Air		1/28/2021 07:52	2/2/2021	☐
21020054-03	Q0374020-MSE02	Air		1/28/2021 08:05	2/2/2021	☐
21020054-04	9764108-MSE02	Air		1/28/2021 08:05	2/2/2021	☐
21020054-05	Q0374022-MSE01	Air		1/28/2021 13:30	2/2/2021	☐
21020054-06	9764109-MSE01	Air	1/28/21	1/28/2021 13:30	2/2/2021	☐
21020054-07	Q0374023-MSE02	Air		1/28/2021 13:45	2/2/2021	☐
21020054-08	9764110-MSE02	Air		1/28/2021 13:45	2/2/2021	☐

ALS Environmental

Date: 10-Mar-21

Client:	Gilbane Company
Project:	HPNS Parcel E-2; J310000400
Work Order:	21020054

Case Narrative

The sample condition upon receipt was acceptable except where noted.

Results relate only to the items tested and are not blank corrected unless indicated.

ALS is an EPA recognized NLLAP laboratory for lead paint, soil, and dust wipe analyses under its AIHA-LAP accreditation.

All sampling information was provided by the client.

ALS Environmental

Date: *10-Mar-21*

Client: Gilbane Company
Project: HPNS Parcel E-2; J310000400

Work Order: 21020054

Analytical Results

Lab ID: 21020054-01A
Collection Date: 1/28/2021 7:52:00 AM
Client Sample ID: Q0374021-MSE01
Matrix: AIR

Analyses

PM : PM10 40CFR 50 APPDIX J		Method: **PM10**	Air Volume (L): **1584980**	Analyst: **SRL**
Date Analyzed: 2/8/2021		Reporting Limit		
	mg/sample	mg/sample	**mg/m3**	
Particulate as PM10	**23**	**1.0**	**0.014**	

Lab ID: 21020054-02A
Collection Date: 1/28/2021 7:52:00 AM
Client Sample ID: 9764107-MSE01
Matrix: AIR

Analyses

TSP 40 CFR 50 APPDX B		Method: **TSP**	Air Volume (L): **1647200**	Analyst: **SRL**
Date Analyzed: 2/8/2021		Reporting Limit		
	mg/sample	mg/sample	mg/m3	
Total suspended particulate	**17**	**1.0**	**0.010**	
METALS BY EPA METHOD 12 MOD.		Method: **E12**	Air Volume (L): **1647200**	Analyst: **AZ**
Date Analyzed: 2/9/2021 12:34		Reporting Limit		
	µg/sample	µg/sample	**mg/m3**	
Copper	**84**	**25**	**0.000051**	
Lead	ND	25	<0.000015	
Manganese	ND	25	<0.000015	

Lab ID: 21020054-03A
Collection Date: 1/28/2021 8:05:00 AM
Client Sample ID: Q0374020-MSE02
Matrix: AIR

Analyses

PM : PM10 40CFR 50 APPDIX J		Method: **PM10**	Air Volume (L): **1559990**	Analyst: **SRL**
Date Analyzed: 2/8/2021		Reporting Limit		
	mg/sample	mg/sample	**mg/m3**	
Particulate as PM10	**10**	**1.0**	**0.0065**	

Note:

Client: Gilbane Company **Work Order:** 21020054
Project: HPNS Parcel E-2; J310000400

Analytical Results

Lab ID: 21020054-04A **Collection Date:** 1/28/2021 8:05:00 AM
Client Sample ID: 9764108-MSE02 **Matrix:** AIR

Analyses

TSP 40 CFR 50 APPDX B		Method: **TSP**	Air Volume (L): **1533380**	Analyst: **SRL**
Date Analyzed: 2/8/2021		Reporting Limit		
	mg/sample	mg/sample	mg/m3	
Total suspended particulate	**19**	**1.0**	**0.012**	
METALS BY EPA METHOD 12 MOD.		Method: **E12**	Air Volume (L): **1533380**	Analyst: **AZ**
Date Analyzed: 2/9/2021 12:38		Reporting Limit		
	µg/sample	µg/sample	**mg/m3**	
Copper	**230**	**100**	**0.00015**	
Lead	ND	25	<0.000016	
Manganese	ND	100	<0.000065	

Lab ID: 21020054-05A **Collection Date:** 1/28/2021 1:30:00 PM
Client Sample ID: Q0374022-MSE01 **Matrix:** AIR

Analyses

PM : PM10 40CFR 50 APPDIX J		Method: **PM10**	Air Volume (L): **408520**	Analyst: **SRL**
Date Analyzed: 2/8/2021		Reporting Limit		
	mg/sample	mg/sample	**mg/m3**	
Particulate as PM10	**2.0**	**1.0**	**0.0050**	

Lab ID: 21020054-06A **Collection Date:** 1/28/2021 1:30:00 PM
Client Sample ID: 9764109-MSE01 **Matrix:** AIR

Analyses

TSP 40 CFR 50 APPDX B		Method: **TSP**	Air Volume (L): **424980**	Analyst: **SRL**
Date Analyzed: 2/8/2021		Reporting Limit		
	mg/sample	mg/sample	mg/m3	
Total suspended particulate	**15**	**1.0**	**0.035**	
METALS BY EPA METHOD 12 MOD.		Method: **E12**	Air Volume (L): **424980**	Analyst: **AZ**
Date Analyzed: 2/9/2021 12:43		Reporting Limit		
	µg/sample	µg/sample	**mg/m3**	
Copper	ND	100	<0.00024	
Lead	ND	25	<0.000059	
Manganese	ND	100	<0.00024	

Note:

ALS Environmental

Date: *10-Mar-21*

Client: Gilbane Company
Project: HPNS Parcel E-2; J310000400

Work Order: 21020054

Analytical Results

Lab ID: 21020054-07A
Client Sample ID: Q0374023-MSE02

Collection Date: 1/28/2021 1:45:00 PM
Matrix: AIR

Analyses

PM : PM10 40CFR 50 APPDIX J		Method: **PM10**	Air Volume (L): **373860**	Analyst: **SRL**
Date Analyzed: 2/8/2021		Reporting Limit		
	mg/sample	mg/sample	**mg/m3**	
Particulate as PM10	**2.0**	**1.0**	**0.0053**	

Lab ID: 21020054-08A
Client Sample ID: 9764110-MSE02

Collection Date: 1/28/2021 1:45:00 PM
Matrix: AIR

Analyses

TSP 40 CFR 50 APPDX B		Method: **TSP**	Air Volume (L): **316930**	Analyst: **SRL**
Date Analyzed: 2/8/2021		Reporting Limit		
	mg/sample	mg/sample	mg/m3	
Total suspended particulate	**4.5**	**1.0**	**0.014**	
METALS BY EPA METHOD 12 MOD.		Method: **E12**	Air Volume (L): **316930**	Analyst: **AZ**
Date Analyzed: 2/9/2021 12:47		Reporting Limit		
	µg/sample	µg/sample	**mg/m3**	
Copper	ND	100	<0.00032	
Lead	ND	25	<0.000079	
Manganese	ND	100	<0.00032	

Note:

ALS Environmental

Date: 10-Mar-21

Client: Gilbane Company

Work Order: 21020054

Project: HPNS Parcel E-2; J310000400

QC BATCH REPORT

Batch ID: **R187593** Instrument ID **BAL2** Method: **TSP**

DUP Sample ID: **21020054-02A DUP** Units: **mg/sample** Analysis Date: **2/8/2021**

Client ID: **9764107-MSE01** Run ID: **BAL2_210208A** SeqNo: **2395145** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Total suspended particulate	16.91	1.0	0	0	0		16.51	2.39	20	

The following samples were analyzed in this batch:

21020054-02A 21020054-04A 21020054-06A
21020054-08A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Gilbane Company
Work Order: 21020054
Project: HPNS Parcel E-2; J310000400

QC BATCH REPORT

Batch ID: **R187605** Instrument ID **BAL2** Method: **PM10**

DUP Sample ID: **21020054-07A DUP** Units: **mg/sample** Analysis Date: **2/8/2021**

Client ID: **Q0374023-MSE02** Run ID: **BAL2_210208B** SeqNo: **2395314** Prep Date: DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Particulate as PM10	2.35	1.0	0	0	0		2	16.1	20	

The following samples were analyzed in this batch:

21020054-01A 21020054-03A 21020054-05A
21020054-07A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

Client: Gilbane Company
Work Order: 21020054
Project: HPNS Parcel E-2; J310000400

QC BATCH REPORT

Batch ID: **72580** Instrument ID **ICP3** Method: **E12**

MBLK Sample ID: **MBLK-72580-72580** Units: **µg/sample** Analysis Date: **2/9/2021 12:22 PM**
Client ID: Run ID: **ICP3_210209A** SeqNo: **2395796** Prep Date: **2/9/2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	ND	100								
Lead	ND	25								
Manganese	ND	100								

LCS Sample ID: **LCS-72580-72580** Units: **µg/sample** Analysis Date: **2/9/2021 12:26 PM**
Client ID: Run ID: **ICP3_210209A** SeqNo: **2395797** Prep Date: **2/9/2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	450.9	100	450	0	100	75-125	0			
Lead	440.2	25	450	0	97.8	75-125	0			
Manganese	432.6	100	450	0	96.1	75-125	0			

LCSD Sample ID: **LCSD-72580-72580** Units: **µg/sample** Analysis Date: **2/9/2021 12:30 PM**
Client ID: Run ID: **ICP3_210209A** SeqNo: **2395798** Prep Date: **2/9/2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	447.7	100	450	0	99.5	75-125	450.9	0.711	20	
Lead	441.4	25	450	0	98.1	75-125	440.2	0.286	20	
Manganese	428	100	450	0	95.1	75-125	432.6	1.07	20	

MS Sample ID: **21020054-08A MS** Units: **µg/sample** Analysis Date: **2/9/2021 12:51 PM**
Client ID: **9764110-MSE02** Run ID: **ICP3_210209A** SeqNo: **2395803** Prep Date: **2/9/2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	429.9	100	450	37.8	87.1	75-125	0			
Lead	387.9	25	450	0.1012	86.2	75-125	0			
Manganese	380.6	100	450	2.228	84.1	75-125	0			

MSD Sample ID: **21020054-08A MSD** Units: **µg/sample** Analysis Date: **2/9/2021 12:55 PM**
Client ID: **9764110-MSE02** Run ID: **ICP3_210209A** SeqNo: **2395804** Prep Date: **2/9/2021** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	419.5	100	450	37.8	84.8	75-125	429.9	2.44	20	
Lead	383.8	25	450	0.1012	85.3	75-125	387.9	1.07	20	
Manganese	374.4	100	450	2.228	82.7	75-125	380.6	1.65	20	

The following samples were analyzed in this batch:

21020054-02A 21020054-04A 21020054-06A
21020054-08A

Note: See Qualifiers Page for a list of Qualifiers and their explanation.

ALS Environmental

Date: 10-Mar-21

Client: Gilbane Company
Project: HPNS Parcel E-2; J310000400
WorkOrder: **21020054**

QUALIFIERS, ACRONYMS, UNITS

Qualifier	Description
*	Value exceeds Regulatory Limit
a	Not accredited
B	Analyte detected in the associated Method Blank above the Reporting Limit
E	Value above quantitation range
H	Analyzed outside of Holding Time
J	Analyte detected below quantitation limit
n	Not offered for accreditation
ND	Not Detected at the Reporting Limit
O	Sample amount is > 4 times amount spiked
P	Dual Column results percent difference > 40%
R	RPD above laboratory control limit
S	Spike Recovery outside laboratory control limits
U	Analyzed but not detected above the MDL

Acronym	Description
DUP	Method Duplicate
E	EPA Method
LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MBLK	Method Blank
MDL	Method Detection Limit
MQL	Method Quantitation Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
PDS	Post Digestion Spike
PQL	Practical Quantitaion Limit
SDL	Sample Detection Limit
SW	SW-846 Method

Units Reported	Description
µg/sample	
mg/sample	

ALS Environmental

Sample Receipt Checklist

Client Name: **GILBANE-WALNUTCREEK** Date/Time Received: **02-Feb-21 10:50**

Work Order: **21020054** Received by: **RDN**

Checklist completed by [redacted] 02-Feb-21 Reviewed by: [redacted] 04-Feb-21

eSignature Date eSignature Date

Matrices:

Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐
Custody seals intact on sample bottles?	Yes ☐	No ☐	Not Present ☑
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	
Samples in proper container/bottle?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Container/Temp Blank temperature in compliance?	Yes ☑	No ☐	
Sample(s) received on ice?	Yes ☐	No ☑	
Temperature(s)/Thermometer(s):			
Cooler(s)/Kit(s):			
Date/Time sample(s) sent to storage:			
Water - VOA vials have zero headspace?	Yes ☐	No ☐	No VOA vials submitted ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☐
pH adjusted?	Yes ☐	No ☐	N/A ☐
pH adjusted by:			

Login Notes:

Client Contacted: Date Contacted: Person Contacted:

Contacted By: Regarding:

Comments:

CorrectiveAction:

CHAIN-OF-CUSTODY RECORD

Gilbane Federal
[redacted]

21020054

COC # KT-012821

Gilbane

Project Name: Hunters Point Shipyard, Parcel E RA Phase 2	Laboratory: ALS Laboratory Group, Cincinnati, OH	Event: Parcel E Phase 2 Air Monitoring
Project Number: J310000400	POC: [redacted]	
WBS Code: J310000400	Ship to: [redacted]	

Comments:

Equipment:

Analytical Test Method

Code	Matrix
A	Air

Code	Container/Preservative
1	1x 250-mL Plastic, 4 Degrees C
1	1x Envelope, None

Event: Parcel E Phase 2 Air Monitoring

	Sample ID	Matrix	Date	Time	Samp Init.	CAAIR - Air PM10 (1)	E12 - Air Pb Mn Cu (1)	N0500 - Air TSP (1)	Location ID	Sample Type	Depth (ft bgs) Top	Bottom	Cooler	Comments
1	Q0374021-MSE01 01	A	01/28/2021	0752	KT	X			AMSE1	N1	0.00	0.00	1	VOLUME: 1584.98
2	9764107-MSE01 02	A	01/28/2021	0752	KT		X	X	AMSE1	N1	0.00	0.00	1	VOLUME: 1647.20
3	Q0374020-MSE02 03	A	01/28/2021	0805	KT	X			AMSE2	N1	0.00	0.00	1	VOLUME: 1559.99
4	9764108-MSE02 04	A	01/28/2021	0805	KT		X	X	AMSE2	N1	0.00	0.00	1	VOLUME: 1533.38
5	Q0374022-MSE01 05	A	01/28/2021	1330	KT	X			AMSE1	N1	0.00	0.00	1	VOLUME: 408.52
6	9764109-MSE01 06	A	01/28/2021	1330	KT		X	X	AMSE1	N1	0.00	0.00	1	VOLUME: 424.98
7	Q0374023-MSE02 07	A	01/28/2021	1345	KT	X			AMSE2	N1	0.00	0.00	1	VOLUME: 373.86
8	9764110-MSE02 08	A	01/28/2021	1345	KT		X	X	AMSE2	N1	0.00	0.00	1	VOLUME: 316.93

Turnaround Time: NA

Relinquished by: *(Signature)*	Date	Time	**Received by: *(Signature)***	Date	Time
[redacted]	2/1/21	1600	FedEx	2/1/21	1600
			[redacted]	2/2/21	10:56

Shipping Date / Carrier / Airbill Number

Shipping Date: 2/1/2021

77277180 2912

Received by Laboratory: *(Signature, Date, Time)* **& condition**

Laboratory Analysis Report

Job ID : 21011621

[redacted]

Client Project Name :

J310000400 / HPNS Parcel E

Report To :	Client Name:	Gilbane	Total Number of Pages:	5
	Attn:	[redacted]	P.O.#. :	
	Client Address:	[redacted]	Date Received :	01/25/2021 09:30
	City, State, Zip:	[redacted]	Sample Collected By :	[redacted]

A&B Labs has analyzed the following samples...

Client Sample ID	Sample Collection Date & Time	Matrix	A&B Job Sample ID
MSE01-011921	1/19/2021	Cassette	21011621.01
MSE02-011921	1/19/2021	Cassette	21011621.02

[redacted]

Released By: [redacted]

Title: Vice President Operations

Analyst: [redacted]

02/01/2021

ANALYSIS OF AIRBORNE FIBER SAMPLING
SAMPLING PERFORMED BY CLIENT
ANALYSIS CONDUCTED BY A & B ENVIRONMENTAL SERVICES, INC.
[redacted]

Date 2/1/2021

Job ID : 21011621
Analytical Method: NIOSH 7400-I2-Aug1994

Client: Gilbane Project: J310000400 / HPNS Parcel E Attn: [redacted]

A&B Sample ID	Client Sample ID	Collected Date	Area/Person	Flow Rate L/m	Time On	Time Off	Total Time (min)	Volume (Liters)	Total Fields	Total Fibers	F/mm2	Fiber/cc	8 Hour TWA	Analysis Date	Analyzed By
21011621.01	MSE01-011921	01/19/2021	Area	2			580	1160	100	10.0	12.739	0.004		02/01/21	[redacted]
21011621.02	MSE02-011921	01/19/2021	Area	2			508	1016	100	8.5	10.828	0.004		02/01/21	[redacted]

Detection limit of this method is estimated at 7 f/mm2 (5.5 fibers per 100 fields)

Intralaboratory Sr 5-20:0.06 20-50:0.04 50-100:0.02

Sample Condition Checklist

A&B JobID : **21011621**	Date Received : **01/25/2021**	Time Received : **9:30AM**
Client Name : **Gilbane**		
Temperature : **24.1°C**	Sample pH : **NA**	
Thermometer ID : **102002320**	pH Paper ID : **NA**	
Perservative :		

	Check Points	Yes	No	N/A
1.	**Cooler seal present and signed.**	X		
2.	**Sample(s) in a cooler.**			X
3.	**If yes, ice in cooler.**			X
4.	**Sample(s) received with chain-of-custody.**	X		
5.	**C-O-C signed and dated.**	X		
6.	**Sample(s) received with signed sample custody seal.**		X	
7.	**Sample containers arrived intact. (If no comment).**	X		
8.	**Matrix :** **Water** ☐ **Soil** ☐ **Liquid** ☐ **Sludge** ☐ **Solid** ☐ **Cassette** ☑ **Tube** ☐ **Bulk** ☐ **Badge** ☐ **Food** ☐ **Other** ☐			
9.	**Sample(s) were received in appropriate container(s).**	X		
10.	**Sample(s) were received with proper preservative**			X
11.	**All samples were logged or labeled.**	X		
12.	**Sample ID labels match C-O-C ID's**	X		
13.	**Bottle count on C-O-C matches bottles found.**	X		
14.	**Sample volume is sufficient for analyses requested.**	X		
15.	**Samples were received within the hold time.**	X		
16.	**VOA vials completely filled.**			X
17.	**Sample accepted.**	X		
18	**Has client been contacted about sub-out**			X

Comments : Include actions taken to resolve discrepancies/problem:

Received in box with custody seal

Received by : [redacted]

Check in by/date : AOballe / 01/25/2021

Phone : [redacted]

[redacted]

014070

Gilbane

Chain-Of-Custody

Local Address: Phase II RA

Project Name and Number: J310000 400 HPNS Parcel E

Project Manager: [redacted]

Site Location: [redacted]

Laboratory Name: AB Labs

Address: [redacted]

Contact Name: [redacted]

Phone: [redacted]

Date: 1/21/21

Page: 1 of 1

Sample I.D.		Date	Time	Sample Depth (top)	Sample Depth (bottom)	No. of Containers	Sample Matrix	Analysis: Asbestos (Preservative: — ; Container Type: Filter)	Special Instructions/Comments: Flow rate	Time (min)
MSE01-011921	01A	1/19/21	1430	NA	NA	1	AA	X	2 L/min	580
MSE02-011921	02A	1/19/21	1438	NA	NA	1	AA	X	2 L/min	508

Job ID:21011621

AB

Sampled By: [redacted]

Signature:

Special Instructions:

Send Results to: (w/fax #)

Turnaround Time:

Sampler: [redacted]

Courier/Airbill No.: FedEx 7726 9705 3354

Relinquished By/Affiliation:	Date:	Time:	Received By/Affiliation:	Date:	Time:
[redacted]	1/21/21	1400	FedEx	1/21/21	1400
FedEx	1-25-21	930	amanda	1-25-21	930

Graphics/Stationery/chain_custody0614.ai

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ORIGIN ID:JCCA
SHIP DATE: 21JAN21
ACTWGT: 10.00 LB
CAD: 102700259/INET4340
DIMS: 19x13x14 IN
BILL SENDER
TO
56DJ1/136/FE4A
REF: J310000100 B.00.0703000
INV:
PO: J310000400
DEPT:
FedEx Express
J211210115010us
FRI - 22 JAN 4:30P
STANDARD OVERNIGHT
TRK# 7726 9705 3354
0201
AB HBYA
77029
TX-US
IAH

Laboratory Analysis Report

Job ID : 21012014

[redacted]

Client Project Name :

HPNS Parcel E Phase II J310000400

Report To :	Client Name:	Gilbane	Total Number of Pages:	5
	Attn:	[redacted]	P.O.#. :	
	Client Address:	[redacted]	Date Received :	01/28/2021 13:00
	City, State, Zip:	[redacted]	Sample Collected By :	[redacted]

A&B Labs has analyzed the following samples...

Client Sample ID	Sample Collection Date & Time	Matrix	A&B Job Sample ID
MSE01-012521	1/25/2021	Cassette	21012014.01
MSE02-012521	1/25/2021	Cassette	21012014.02
MSE01-012621	1/26/2021	Cassette	21012014.03
MSE02-012621	1/26/2021	Cassette	21012014.04

[redacted]

Released By: [redacted]

Title: Vice President Operations

Analyst: [redacted]

02/02/2021

ANALYSIS OF AIRBORNE FIBER SAMPLING
SAMPLING PERFORMED BY CLIENT
ANALYSIS CONDUCTED BY A & B ENVIRONMENTAL SERVICES, INC.

[redacted]

Date 2/2/2021

Job ID : 21012014
Analytical Method: NIOSH 7400-I2-Aug1994

Client: Gilbane | Project: HPNS Parcel E Phase II J310000400 | Attn: Brett Womack

A&B Sample ID	Client Sample ID	Collected Date	Area/Person	Flow Rate L/m	Time On	Time Off	Total Time (min)	Volume (Liters)	Total Fields	Total Fibers	F/mm2	Fiber/cc	8 Hour TWA	Analysis Date	Analyzed By
21012014.01	MSE01-012521	01/25/2021	Area	2			681	1362	100	12.5	15.924	0.005		02/01/21	Habedi
21012014.02	MSE02-012521	01/25/2021	Area	2			622	1244	100	10.5	13.376	0.004		02/01/21	Habedi
21012014.03	MSE01-012621	01/26/2021	Area	2			517	1034	100	9.0	11.465	0.004		02/01/21	Habedi
21012014.04	MSE02-012621	01/26/2021	Area	2			501	1002	100	11.0	14.013	0.005		02/01/21	Habedi

Detection limit of this method is estimated at 7 f/mm2 (5.5 fibers per 100 fields)

Intralaboratory Sr 5-20:0.06 20-50:0.04 50-100:0.02

Sample Condition Checklist

A&B JobID : **21012014**	Date Received : **01/28/2021**	Time Received : **1:00PM**
Client Name : **Gilbane**		
Temperature : **16.8°C**	Sample pH : **n/a**	
Thermometer ID : **102002320**	pH Paper ID : **n/a**	
Perservative :		

	Check Points	Yes	No	N/A
1.	**Cooler seal present and signed.**	X		
2.	**Sample(s) in a cooler.**		X	
3.	**If yes, ice in cooler.**			X
4.	**Sample(s) received with chain-of-custody.**	X		
5.	**C-O-C signed and dated.**	X		
6.	**Sample(s) received with signed sample custody seal.**		X	
7.	**Sample containers arrived intact. (If no comment).**	X		
8.	**Matrix :** **Water** ☐ **Soil** ☐ **Liquid** ☐ **Sludge** ☐ **Solid** ☐ **Cassette** ☑ **Tube** ☐ **Bulk** ☐ **Badge** ☐ **Food** ☐ **Other** ☐			
9.	**Sample(s) were received in appropriate container(s).**	X		
10.	**Sample(s) were received with proper preservative**			X
11.	**All samples were logged or labeled.**	X		
12.	**Sample ID labels match C-O-C ID's**	X		
13.	**Bottle count on C-O-C matches bottles found.**	X		
14.	**Sample volume is sufficient for analyses requested.**	X		
15.	**Samples were received within the hold time.**	X		
16.	**VOA vials completely filled.**			X
17.	**Sample accepted.**	X		
18	**Has client been contacted about sub-out**			X

Comments : Include actions taken to resolve discrepancies/problem:

Custody seal on box. -ANA 1-29-21.

Received by : [redacted]

Check in by/date : [redacted]

Phone : [redacted]

[redacted]

Event ID: Air Monitoring

Job ID:21012014

COC# KT-012721ASB

Gilbane

Chain-Of-Custody

Project Name and Number: HPNS Parcel E Phase II J310000400

Project Manager: [redacted]

Site Location: Hunters Point, San Francisco, CA 94124

Laboratory Name: A&B Labs

Address: [redacted]

Contact Name: [redacted]

Phone: [redacted]

Date: 01/27/2021

Page: 1 of 1

Analysis:

	Sample ID	Date	Time	Sample Depth (top)	Sample Depth (bottom)	No. of Containers	Sample Matrix	Asbestos	Preservative: None / Container Type: Filter	Special Instructions/Comments: Flow rate	Time Total (min)
01A	MSE01-012521	1/25/21	1531	NA	NA	1	AA	X		2L/min	681
02A	MSE02-012521	1/25/21	1539	NA	NA	1	AA	X		2L/min	622
03A	MSE01-012621	1/26/21	1332	NA	NA	1	AA	X		2L/min	517
04A	MSE02-012621	1/26/21	1336	NA	NA	2	AA	X		2L/min	501

Sampled By: [redacted]

Signature:

Special Instructions: None

1L·8C 1020R32W

Send Results to: kcarlyon@gilbaneco.com; ktom@gilbaneco.com

Turnaround Time: Standard

Sampler: [redacted]

Courier/Airbill No.: FedEX/ 7727 5031 2519

Relinquished By/Affiliation:	Date:	Time:	Received By/ Affiliation:	Date:	Time:
[redacted]	1/27/21	1400	Fed Ex	1/27/21	1400
Fedex	1-28-21	13:00pm 1pm	[redacted]	1-28-21	1300 7pm

ORIGIN ID:JCCA [redacted]
SHIP DATE: 27JAN21
ACTWGT: 10.00 LB
CAD: 102700259/NET4340
DIMS: 19x13x14 IN

BILL SENDER

UNITED STATES US

TO [redacted]

INV [redacted]
PO: J31000400 REF: J31000100 B.00.0703000 DEPT:

56DJ1/1136/FE4A

FedEx Express

E

J211121011901uv

THU - 28 JAN 4:30P
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TRK# 0201 7727 5031 2519

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TX-US

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URE
1/27/21

Laboratory Analysis Report

Job ID : 21020119

[redacted]

Client Project Name :
HPNS Parcel E RA Phase II J310000400

Report To :	Client Name:	Gilbane	Total Number of Pages:	5
	Attn:	[redacted]	P.O.#. :	J310000100-014
	Client Address:	[redacted]	Date Received :	02/02/2021 10:00
	City, State, Zip:	[redacted]	Sample Collected By :	[redacted]

A&B Labs has analyzed the following samples...

Client Sample ID	Sample Collection Date & Time	Matrix	A&B Job Sample ID
MSE01-012721	1/27/2021	Cassette	21020119.01
MSE02-012721	1/27/2021	Cassette	21020119.02
MSE01-012821	1/28/2021	Cassette	21020119.03
MSE02-012821	1/28/2021	Cassette	21020119.04

[redacted]

Released By: [redacted]

Title: Vice President Operations

Analyst: [redacted]

2/10/2021

ANALYSIS OF AIRBORNE FIBER SAMPLING
SAMPLING PERFORMED BY CLIENT
ANALYSIS CONDUCTED BY A & B ENVIRONMENTAL SERVICES, INC.

[redacted]

Date 2/10/2021

Job ID : 21020119
Analytical Method: NIOSH 7400-I2-Aug1994

Client: Gilbane | Project: HPNS Parcel E RA Phase II J310000400 | Attn: [redacted]

A&B Sample ID	Client Sample ID	Collected Date	Area/Person	Flow Rate L/m	Time On	Time Off	Total Time (min)	Volume (Liters)	Total Fields	Total Fibers	F/mm2	Fiber/cc	8 Hour TWA	Analysis Date	Analyzed By
21020119.01	MSE01-012721	01/27/2021	Area	2	10:00	15:30	330	660	100	11.0	14.013	0.008		02/10/21	Habedi
21020119.02	MSE02-012721	01/27/2021	Area	2	09:50	15:35	345	690	100	10.5	13.376	0.007		02/10/21	Habedi
21020119.03	MSE01-012821	01/28/2021	Area	2	08:00	13:50	350	700	100	8.0	10.191	0.006		02/10/21	Habedi
21020119.04	MSE02-012821	01/28/2021	Area	2	08:14	13:53	339	678	100	7.5	9.554	0.005		02/10/21	Habedi

Detection limit of this method is estimated at 7 f/mm2 (5.5 fibers per 100 fields)

Intralaboratory Sr 5-20:0.06 20-50:0.04 50-100:0.02

Sample Condition Checklist

A&B JobID : **21020119**	Date Received : **02/02/2021**	Time Received : **10:00AM**
Client Name : **Gilbane**		
Temperature : **14.6°C**	Sample pH : **na**	
Thermometer ID : **102002320**	pH Paper ID : **na**	
Perservative :		

	Check Points	Yes	No	N/A
1.	**Cooler seal present and signed.**	X		
2.	**Sample(s) in a cooler.**		X	
3.	**If yes, ice in cooler.**			X
4.	**Sample(s) received with chain-of-custody.**	X		
5.	**C-O-C signed and dated.**	X		
6.	**Sample(s) received with signed sample custody seal.**		X	
7.	**Sample containers arrived intact. (If no comment).**	X		
8.	**Matrix :** **Water** ☐ **Soil** ☐ **Liquid** ☐ **Sludge** ☐ **Solid** ☐ **Cassette** ☑ **Tube** ☐ **Bulk** ☐ **Badge** ☐ **Food** ☐ **Other** ☐			
9.	**Sample(s) were received in appropriate container(s).**	X		
10.	**Sample(s) were received with proper preservative**			X
11.	**All samples were logged or labeled.**	X		
12.	**Sample ID labels match C-O-C ID's**	X		
13.	**Bottle count on C-O-C matches bottles found.**	X		
14.	**Sample volume is sufficient for analyses requested.**	X		
15.	**Samples were received within the hold time.**	X		
16.	**VOA vials completely filled.**			X
17.	**Sample accepted.**	X		
18	**Has client been contacted about sub-out**			X

Comments : Include actions taken to resolve discrepancies/problem:

Received in box with C/S. VH 02-02-21

Received by : [redacted]

Check in by/date : [redacted]

Phone : [redacted]

[redacted]

Event ID: Air Monitoring

COC# 01282021 – KT

Gilbane Chain-Of-Custody

Project Name and Number: HPNS Parcel E RA Phase II J310000400
Project Manager: [redacted]
Site Location: [redacted]

Laboratory Name: A&B Labs
Address: [redacted]
Contact Name: [redacted]
Phone: [redacted]

Date: 2/01/2021
Page: 1 of 1

Analysis:

Sample ID	Date	Time	Sample Depth (top)	Sample Depth (bottom)	No. of Containers	Sample Matrix	Asbestos	Preservative: None / Container Type: Filter	Special Instructions/Comments: FLOW RATE 2L/MIN — ON	OFF	TOTAL (MIN)
MSE01-012721	01/27/21	1530	NA	NA	1	AA	X	01A	1060	1530	330
MSE02-012721	01/27/21	1535	NA	NA	1	AA	X	02A	0950	1535	345
MSE01-012821	01/28/21	1350	NA	NA	1	AA	X	03A	0800	1350	350
MSE02-012821	01/28/21	1353	NA	NA	1	AA	X	04A	0814	1353	367

Job ID:21020119

14 deg C
10200320

Sampled By: [redacted]
Signature:
Special Instructions: VOC

Sampler: [redacted]
Courier/Airbill No.: FedEX/ 7727 8129 8613

Relinquished By/Affiliation:	Date:	Time:	Received By/ Affiliation:	Date:	Time:
[redacted]	1/28/21	1600	FEDEX	1/28/21	1600
Fedex	2.2.21	1000	Amanda	2.2.21	1000

Send Results to: kcarlyon@gilbaneco.com; ktom@gilbaneco.com

Turnaround Time: Standard

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Date: 2/1/21

Signature: AB