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

November 18th through November 30th, 2019

Approved for public release; distribution is unlimited

DCN: GLBN-0005-4332-0031

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November 18th through November 30th, 2019

Prepared for:

Department of the Navy
Naval Facilities Engineering Command Southwest
BRAC PMO West
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Prepared by:

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Contract Number: N62473-17-D-0005; Task Order No. N6247317F4332
DCN: GLBN-0005-4332-0031

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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*

DCP……*Dust Control Plan*

EPA……*United States Environmental Protection Agency*

fiber/cm3……*fiber per cubic centimeter*

Gilbane……..*Gilbane Federal*

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*

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 Control Plan (DCP), 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 DCP describes the procedures that minimize dust during work activities and requires air monitoring to ensure these procedures are effective. The DCP 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 November 18th through November 30th, 2019 and compares the results with the established action levels presented in the DCP (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 wind sock. Atmospheric parameters were checked daily at www.dateandtime.com (see Attachment 1). Monitoring stations remained stationary while sampling was conducted. Each monitoring station included three 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)

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

Air samples were sampled in accordance with the U.S. Environmental Protection Agency (EPA) reference sampling method for PM10, described in 40 CFR 50, Subpart J. 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 PM10 collected.

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.

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 Action Levels

Analytical data from air monitoring samples were compared with the threshold criteria listed in Table 4-1 reproduced from Table 1 of the approved DCP (Appendix E of the RAWP [Gilbane, 2019].

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[a]
TSP	0.5 mg/m^3	Basewide HPNS Level selected to minimize overall permissible dust release from sites
Copper	0.1 mg/m^3	Cal/OSHA PEL
Lead	0.050 mg/m^3	Cal/OSHA PEL
Manganese	0.200 mg/m^3	Cal/OSHA PEL

Notes:
[a] = Cal/OSHA PEL for particulates not otherwise regulated (respirator) 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) and air monitoring results are presented in the tables included as Attachment 1. Data was collected from upwind Station 1 in Parcel D-1 and downwind Station 2 in Parcel E from November 18th through November 20th, 2019, during which Gilbane was grubbing 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 November 21st since there were no earth-moving tasks during that time. Due to the Thanksgiving Holiday, there was no site activity the following week, starting on November 25th, 2019.

Asbestos results are presented in the table included as Attachment 2. PM10 results are present in the tables included as Attachment 3. TSP, lead and manganese results are presented in tables included as Attachment 4. Lab reports are included in Attachment 5.

Construction and remediation activities conducted between November 18th through November 30th, 2019, did not result in the exceedance of the established threshold criteria.

6.0 References

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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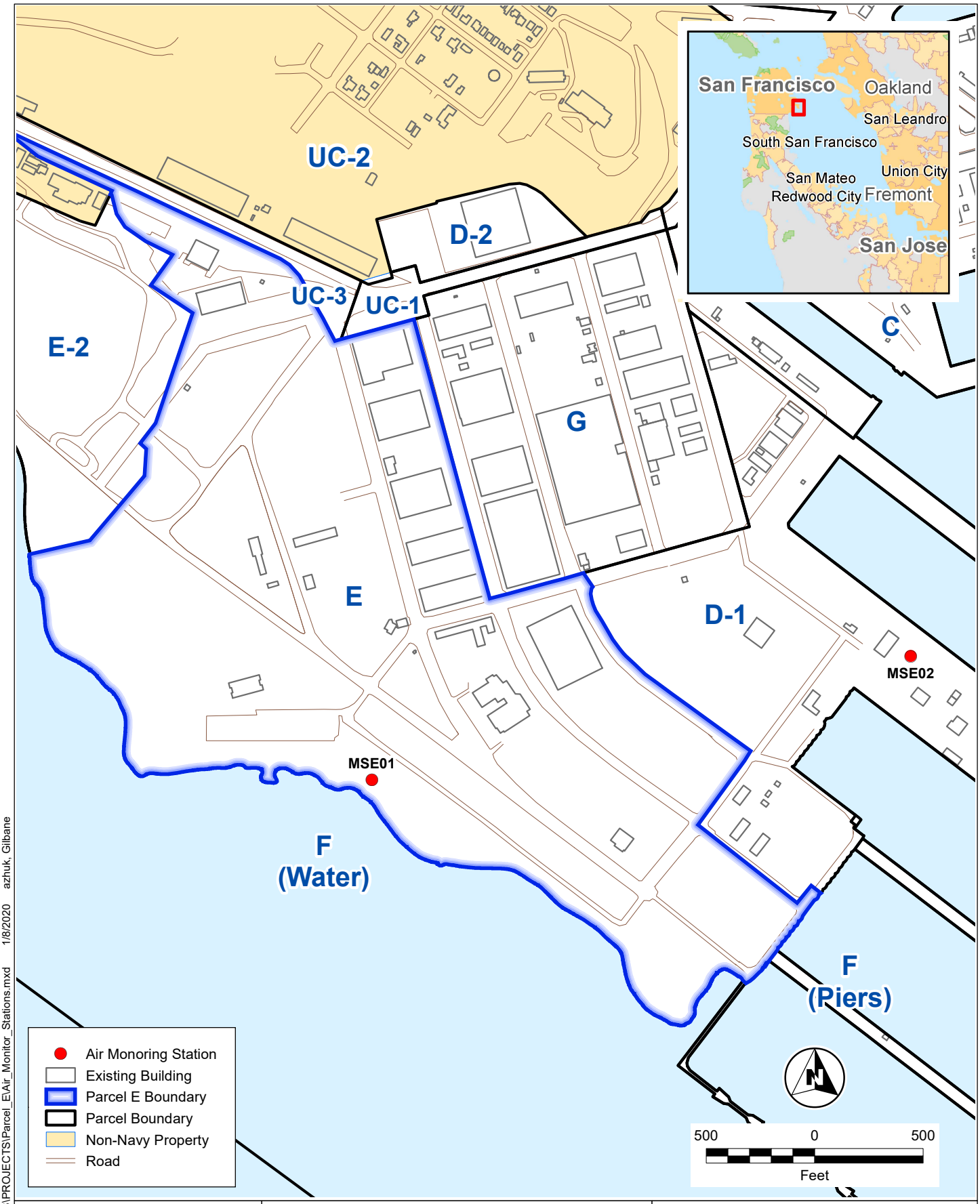

G:\ArcGIS\Navy\HPS\PROJECTS\Parcel_E\Air_Monitor_Stations.mxd 1/8/2020 azhuk, Gilbane

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 and Temperature Monitoring Result
Remedial Action Parcel E, Phase 2
Hunters Point Naval Shipyard, San Francisco, California

Date	Ambient Pressure (in Hg)	Ambient Temperature (°F)
11/18/2019	29.84	59.0
11/19/2019	29.65	56.0
11/20/2019	29.62	59.0

Note:
°F = degree Fareheit
in Hg = inches of mercury

ATTACHMENT 2

ASBESTOS MONITORING RESULTS

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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 (m^3)	Asbestos (fibers)	Conc Asbestos (fibers/cm^3)	Exceedance (Yes/No)
MSE01-111819	11/18/19	1	320	640	15.5	0.012	No
MSE02-111819	11/18/19	2	362	724	10.5	0.007	No
MSE01-111919	11/19/19	1	402	804	12.0	0.007	No
MSE02-111919	11/19/19	2	376	752	12.5	0.008	No
MSE01-112019	11/20/19	1	438	876	9.5	0.005	No
MSE02-112019	11/20/19	2	471	942	12.5	0.007	No

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

ATTACHMENT 3

PM10 MONITORING RESULTS

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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)	Exceedance (Yes/No)
Q0388646-MSE01	1	11/18/19	1502.85	42	0.028	No
Q0388645-MSE02	2	11/18/19	1545.70	41	0.026	No
Q0388648-MSE01	1	11/19/19	1579.23	47	0.030	No
Q0388647-MSE02	2	11/19/19	1598.54	41	0.026	No
Q0388659-MSE01	1	11/20/19	1591.96	74	0.046	No
Q0388658-MSE02	2	11/20/19	1647.15	70	0.042	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

min = minutes

m^3 = cubic meters

mg = milligrams

mg/m^3 = milligrams per cubic meter

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

ATTACHMENT 4

TSP, COPPER, LEAD, AND MANGANESE MONITORING RESULTS

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

Sample, Date and Station Information			Run Information	Total Suspended Particulates			Copper			Lead			Manganese		
Sample ID	Monitoring Station	Sample Start Date[1]	Total Air Volume Monitored (m^3)	Total Mass (mg)	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)	Result (ug)	Concen-tration in Air (mg/m^3)	Exceedance (Yes/No)
9764190-MSE01	1	11/18/19	1526.78	61	0.040	No	470	0.00031	No	ND	<0.000016	No	44	0.000029	No
9764189-MSE02	2	11/18/19	1385.85	24	0.017	No	350	0.00026	No	ND	<0.000018	No	ND	<0.000018	No
9764192-MSE01	1	11/19/19	1604.48	64	0.040	No	520	0.00032	No	26	0.000016	No	31	0.000019	No
9764191-MSE02	2	11/19/19	1698.45	48	0.028	No	320	0.00019	No	ND	<0.000015	No	ND	<0.000015	No
9524723-MSE01	1	11/20/19	1610.54	120	0.075	No	310	0.00019	No	ND	<0.000016	No	100	0.000064	No
9524722-MSE02	2	11/20/19	1736.61	100	0.059	No	400	0.00023	No	ND	<0.000014	No	87	0.000050	No

Notes:
[1]Air sample was not collected on days with rain or when contaminated soil was not disturbed.
Samples analyzed by ALS Environmenta
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

ATTACHMENT 5

LABORATORY REPORTS

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03-Dec-2019

Kristen Carlyon
Gilbane Company
2730 Shadelands Drive
Walnut Creek, CA 94598

Tel: (925) 946-3220
Fax: (925) 946-3292

Re: J310000400 HPNS Parcel E Phase 2 Work Order: **1911965**

Dear Kristen,

ALS Environmental received 12 samples on 22-Nov-2019 09:25 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,

Rob Nieman

Electronically approved by: Rob Nieman

Rob Nieman
Project Manager

ALS Environmental

Date: 03-Dec-19

Client: Gilbane Company
Project: J310000400 HPNS Parcel E Phase 2
Work Order: **1911965**

Work Order Sample Summary

Lab Samp ID	Client Sample ID	Matrix	Tag Number	Collection Date	Date Received	Hold
1911965-01	Q0388646-MSE01	Air		11/19/2019 08:29	11/22/2019 09:25	☐
1911965-02	9764190-MSE01	Air		11/19/2019 08:29	11/22/2019 09:25	☐
1911965-03	Q0388645-MSE02	Air		11/19/2019 08:04	11/22/2019 09:25	☐
1911965-04	9764189-MSE02	Air		11/19/2019 08:04	11/22/2019 09:25	☐
1911965-05	Q0388648-MSE01	Air		11/20/2019 08:06	11/22/2019 09:25	☐
1911965-06	9764192-MSE01	Air		11/20/2019 08:06	11/22/2019 09:25	☐
1911965-07	Q0388647-MSE02	Air		11/20/2019 07:41	11/22/2019 09:25	☐
1911965-08	9764191-MSE02	Air		11/20/2019 07:41	11/22/2019 09:25	☐
1911965-09	Q0388659-MSE01	Air		11/21/2019 07:46	11/22/2019 09:25	☐
1911965-10	9524723-MSE01	Air		11/21/2019 07:46	11/22/2019 09:25	☐
1911965-11	Q0388658-MSE02	Air		11/21/2019 08:02	11/22/2019 09:25	☐
1911965-12	9524722-MSE02	Air		11/21/2019 08:02	11/22/2019 09:25	☐

ALS Environmental

Date: 03-Dec-19

Client:	Gilbane Company
Project:	J310000400 HPNS Parcel E Phase 2
Work Order:	1911965

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.

ALS Environmental

Date: *03-Dec-19*

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

Work Order: 1911965

Analytical Results

Lab ID: 1911965-01A
Collection Date: 11/19/2019 8:29:00 AM
Client Sample ID: Q0388646-MSE01
Matrix: AIR

Analyses

PM : PM10 40CFR 50 APPDIX J		Method: **PM10**	Air Volume (L): **1502850**	Analyst: **CS**
Date Analyzed: 11/26/2019		Reporting Limit		
	mg/sample	mg/sample	**mg/m3**	
Particulate as PM10	**42**	**1.0**	**0.028**	

Lab ID: 1911965-02A
Collection Date: 11/19/2019 8:29:00 AM
Client Sample ID: 9764190-MSE01
Matrix: AIR

Analyses

TSP 40 CFR 50 APPDX B		Method: **TSP**	Air Volume (L): **1526780**	Analyst: **CS**
Date Analyzed: 11/26/2019		Reporting Limit		
	mg/sample	mg/sample	**mg/m3**	
Total suspended particulate	**61**	**1.0**	**0.040**	

METALS BY EPA METHOD 12 MOD.		Method: **E12**	Air Volume (L): **1526780**	Analyst: **SBD**
Date Analyzed: 11/27/2019 15:46		Reporting Limit		
	µg/sample	µg/sample	**mg/m3**	
Copper	**470**	**25**	**0.00031**	
Lead	ND	25	<0.000016	
Manganese	**44**	**25**	**0.000029**	

Lab ID: 1911965-03A
Collection Date: 11/19/2019 8:04:00 AM
Client Sample ID: Q0388645-MSE02
Matrix: AIR

Analyses

PM : PM10 40CFR 50 APPDIX J		Method: **PM10**	Air Volume (L): **1545700**	Analyst: **CS**
Date Analyzed: 11/26/2019		Reporting Limit		
	mg/sample	mg/sample	**mg/m3**	
Particulate as PM10	**41**	**1.0**	**0.026**	

Note:

Client: Gilbane Company **Work Order:** 1911965
Project: J310000400 HPNS Parcel E Phase 2

Analytical Results

Lab ID: 1911965-04A **Collection Date:** 11/19/2019 8:04:00 AM
Client Sample ID: 9764189-MSE02 **Matrix:** AIR

Analyses

TSP 40 CFR 50 APPDX B		Method: **TSP**	Air Volume (L): **1385850**	Analyst: **CS**
Date Analyzed: 11/26/2019		Reporting Limit		
	mg/sample	mg/sample	mg/m3	
Total suspended particulate	**24**	**1.0**	**0.017**	

METALS BY EPA METHOD 12 MOD.		Method: **E12**	Air Volume (L): **1385850**	Analyst: **SBD**
Date Analyzed: 11/27/2019 15:56		Reporting Limit		
	µg/sample	µg/sample	**mg/m3**	
Copper	**350**	**25**	**0.00026**	
Lead	ND	25	<0.000018	
Manganese	ND	25	<0.000018	

Lab ID: 1911965-05A **Collection Date:** 11/20/2019 8:06:00 AM
Client Sample ID: Q0388648-MSE01 **Matrix:** AIR

Analyses

PM : PM10 40CFR 50 APPDIX J		Method: **PM10**	Air Volume (L): **1579230**	Analyst: **CS**
Date Analyzed: 11/26/2019		Reporting Limit		
	mg/sample	mg/sample	**mg/m3**	
Particulate as PM10	**47**	**1.0**	**0.030**	

Lab ID: 1911965-06A **Collection Date:** 11/20/2019 8:06:00 AM
Client Sample ID: 9764192-MSE01 **Matrix:** AIR

Analyses

TSP 40 CFR 50 APPDX B		Method: **TSP**	Air Volume (L): **1604480**	Analyst: **CS**
Date Analyzed: 11/26/2019		Reporting Limit		
	mg/sample	mg/sample	**mg/m3**	
Total suspended particulate	**64**	**1.0**	**0.040**	

METALS BY EPA METHOD 12 MOD.		Method: **E12**	Air Volume (L): **1604480**	Analyst: **SBD**
Date Analyzed: 11/27/2019 16:00		Reporting Limit		
	µg/sample	µg/sample	**mg/m3**	
Copper	**520**	**25**	**0.00032**	
Lead	**26**	**25**	**0.000016**	
Manganese	**31**	**25**	**0.000019**	

Note:

Client: Gilbane Company **Work Order:** 1911965
Project: J310000400 HPNS Parcel E Phase 2

Analytical Results

Lab ID: 1911965-07A **Collection Date:** 11/20/2019 7:41:00 AM
Client Sample ID: Q0388647-MSE02 **Matrix:** AIR

Analyses

PM : PM10 40CFR 50 APPDIX J		Method: **PM10**	Air Volume (L): **1598540**	Analyst: **CS**
Date Analyzed: 11/26/2019		Reporting Limit		
	mg/sample	mg/sample	**mg/m3**	
Particulate as PM10	**41**	**1.0**	**0.026**	

Lab ID: 1911965-08A **Collection Date:** 11/20/2019 7:41:00 AM
Client Sample ID: 9764191-MSE02 **Matrix:** AIR

Analyses

TSP 40 CFR 50 APPDX B		Method: **TSP**	Air Volume (L): **1698450**	Analyst: **CS**
Date Analyzed: 11/26/2019		Reporting Limit		
	mg/sample	mg/sample	mg/m3	
Total suspended particulate	**48**	**1.0**	**0.028**	

METALS BY EPA METHOD 12 MOD.		Method: **E12**	Air Volume (L): **1698450**	Analyst: **SBD**
Date Analyzed: 11/27/2019 16:04		Reporting Limit		
	µg/sample	µg/sample	**mg/m3**	
Copper	**320**	**25**	**0.00019**	
Lead	ND	25	<0.000015	
Manganese	ND	25	<0.000015	

Lab ID: 1911965-09A **Collection Date:** 11/21/2019 7:46:00 AM
Client Sample ID: Q0388659-MSE01 **Matrix:** AIR

Analyses

PM : PM10 40CFR 50 APPDIX J		Method: **PM10**	Air Volume (L): **1591960**	Analyst: **CS**
Date Analyzed: 11/26/2019		Reporting Limit		
	mg/sample	mg/sample	**mg/m3**	
Particulate as PM10	**74**	**1.0**	**0.046**	

Note:

Client: Gilbane Company **Work Order:** 1911965
Project: J310000400 HPNS Parcel E Phase 2

Analytical Results

Lab ID: 1911965-10A **Collection Date:** 11/21/2019 7:46:00 AM
Client Sample ID: 9524723-MSE01 **Matrix:** AIR

Analyses

TSP 40 CFR 50 APPDX B		Method: **TSP**	Air Volume (L): **1610540**	Analyst: **CS**
Date Analyzed: 11/26/2019		Reporting Limit		
	mg/sample	mg/sample	**mg/m3**	
Total suspended particulate	**120**	**1.0**	**0.075**	

METALS BY EPA METHOD 12 MOD.		Method: **E12**	Air Volume (L): **1610540**	Analyst: **SBD**
Date Analyzed: 11/27/2019 16:15		Reporting Limit		
	µg/sample	µg/sample	**mg/m3**	
Copper	**310**	**25**	**0.00019**	
Lead	ND	25	<0.000016	
Manganese	**100**	**25**	**0.000064**	

Lab ID: 1911965-11A **Collection Date:** 11/21/2019 8:02:00 AM
Client Sample ID: Q0388658-MSE02 **Matrix:** AIR

Analyses

PM : PM10 40CFR 50 APPDIX J		Method: **PM10**	Air Volume (L): **1647150**	Analyst: **CS**
Date Analyzed: 11/26/2019		Reporting Limit		
	mg/sample	mg/sample	**mg/m3**	
Particulate as PM10	**70**	**1.0**	**0.042**	

Lab ID: 1911965-12A **Collection Date:** 11/21/2019 8:02:00 AM
Client Sample ID: 9524722-MSE02 **Matrix:** AIR

Analyses

TSP 40 CFR 50 APPDX B		Method: **TSP**	Air Volume (L): **1736610**	Analyst: **CS**
Date Analyzed: 11/26/2019		Reporting Limit		
	mg/sample	mg/sample	**mg/m3**	
Total suspended particulate	**100**	**1.0**	**0.059**	

METALS BY EPA METHOD 12 MOD.		Method: **E12**	Air Volume (L): **1736610**	Analyst: **SBD**
Date Analyzed: 11/27/2019 16:18		Reporting Limit		
	µg/sample	µg/sample	**mg/m3**	
Copper	**400**	**25**	**0.00023**	
Lead	ND	25	<0.000014	
Manganese	**87**	**25**	**0.000050**	

Note:

ALS Environmental

Date: 03-Dec-19

Client: Gilbane Company

QC BATCH REPORT

Work Order: 1911965

Project: J310000400 HPNS Parcel E Phase 2

Batch ID: **R172666** Instrument ID **BAL2** Method: **PM10**

DUP Sample ID: **1911965-01a dup** Units: **mg/sample** Analysis Date: **11/26/2019**

Client ID: **Q0388646-MSE01** Run ID: **BAL2_191126A** SeqNo: **2147896** 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	42.36	1.0	0	0	0		42.4	0.0944		

The following samples were analyzed in this batch:

1911965-01a	1911965-03a	1911965-05a
1911965-07a	1911965-09a	1911965-11a

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

Client: Gilbane Company
Work Order: 1911965
Project: J310000400 HPNS Parcel E Phase 2

QC BATCH REPORT

Batch ID: **R172667** Instrument ID **BAL2** Method: **TSP**

DUP Sample ID: **1911965-02a dup** Units: **mg/sample** Analysis Date: **11/26/2019**
Client ID: **9764190-MSE01** Run ID: **BAL2_191126B** SeqNo: **2147905** 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	60.63	1.0	0	0	0		60.6	0.0495		

The following samples were analyzed in this batch:

1911965-02a	1911965-04a	1911965-06a
1911965-08a	1911965-10a	1911965-12a

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

Client: Gilbane Company
Work Order: 1911965
Project: J310000400 HPNS Parcel E Phase 2

QC BATCH REPORT

Batch ID: **63516** Instrument ID **ICP1** Method: **E12**

MBLK Sample ID: **MBLK-63516-63516** Units: **µg/sample** Analysis Date: **11/27/2019 03:35 PM**
Client ID: Run ID: **ICP1_191127B** SeqNo: **2149436** Prep Date: **11/27/2019** DF: **1**

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

LCS Sample ID: **LCS-63516-63516** Units: **µg/sample** Analysis Date: **11/27/2019 03:38 PM**
Client ID: Run ID: **ICP1_191127B** SeqNo: **2149437** Prep Date: **11/27/2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	408.8	25	450	0	90.8	75-125	0			
Lead	434.1	25	450	0	96.5	75-125	0			
Manganese	441.9	25	450	0	98.2	75-125	0			

LCSD Sample ID: **LCSD-63516-63516** Units: **µg/sample** Analysis Date: **11/27/2019 03:42 PM**
Client ID: Run ID: **ICP1_191127B** SeqNo: **2149438** Prep Date: **11/27/2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	406.8	25	450	0	90.4	75-125	408.8	0.485	20	
Lead	430.7	25	450	0	95.7	75-125	434.1	0.78	20	
Manganese	440.3	25	450	0	97.8	75-125	441.9	0.377	20	

MS Sample ID: **1911965-08A MS** Units: **µg/sample** Analysis Date: **11/27/2019 04:07 PM**
Client ID: **9764191-MSE02** Run ID: **ICP1_191127B** SeqNo: **2149443** Prep Date: **11/27/2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	720	25	450	317.8	89.4	75-125	0			
Lead	455.8	25	450	13.02	98.4	75-125	0			
Manganese	473	25	450	22.72	100	75-125	0			

MSD Sample ID: **1911965-08A MSD** Units: **µg/sample** Analysis Date: **11/27/2019 04:11 PM**
Client ID: **9764191-MSE02** Run ID: **ICP1_191127B** SeqNo: **2149444** Prep Date: **11/27/2019** DF: **1**

Analyte	Result	PQL	SPK Val	SPK Ref Value	%REC	Control Limit	RPD Ref Value	%RPD	RPD Limit	Qual
Copper	698.4	25	450	317.8	84.6	75-125	720	3.05	20	
Lead	449.1	25	450	13.02	96.9	75-125	455.8	1.49	20	
Manganese	473	25	450	22.72	100	75-125	473	0	20	

The following samples were analyzed in this batch:

1911965-02A	1911965-04A	1911965-06A
1911965-08A	1911965-10A	1911965-12A

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

ALS Environmental

Date: 03-Dec-19

Client: Gilbane Company
Project: J310000400 HPNS Parcel E Phase 2
WorkOrder: **1911965**

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-Nov-19 09:25**

Work Order: **1911965** Received by: **DNS**

Checklist completed by Rob Nieman 27-Nov-19 Reviewed by: Rob Nieman 27-Nov-19

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 ☐	
Temperature(s)/Thermometer(s):			
Cooler(s)/Kit(s):			
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: