



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

AIR MONITORING SUMMARY REPORT 03 FOR PARCEL B REMOVAL SITE EVALUATION

HUNTERS POINT NAVAL SHIPYARD

SAN FRANCISCO, CALIFORNIA

July 7th, 2022 through November 3rd, 2022

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Prepared for:

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Acronyms and Abbreviations

AMSR	<i>Air Monitoring Summary Report</i>
Cal/OSHA	<i>California Occupational Safety and Health Administration</i>
Cfm	<i>cubic feet per minute</i>
CFR	<i>Code of Federal Regulations</i>
CTO	<i>Contract Task Order</i>
DMCP	<i>Dust Monitoring and Control Plan</i>
DTSC	<i>State of California Department of Toxic Substances Control</i>
EPA	<i>United States Environmental Protection Agency</i>
fiber/cm ³	<i>fibers per cubic centimeter</i>
Gilbane	<i>Gilbane Federal</i>
HERO	<i>Human and Ecological Risk Office</i>
HPNS	<i>Hunters Point Naval Shipyard</i>
L/min	<i>liters per minute</i>
MDC	<i>minimum detectable concentration</i>
mg/m ³	<i>milligrams per cubic meter</i>
Navy	<i>U.S. Department of the Navy</i>
NIOSH	<i>National Institute for Occupational Safety and Health</i>
PEL	<i>permissible exposure limit</i>
PM10	<i>particulate matter less than 10 microns in diameter</i>
RAWP	<i>Remedial Action Work Plan</i>
RDL	<i>required detection limit</i>
ROC	<i>Radionuclide of concern</i>
TSP	<i>total suspended particulates</i>
TWA	<i>time-weighted average</i>
µg/m ³	<i>micrograms per cubic meter</i>

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) N6247317F5364. Gilbane is performing air monitoring at Hunters Point Naval Shipyard (HPNS) in accordance with the Final Dust Management and Air Monitoring Plan (DMAMP), included as Appendix E to *Final Parcel B Removal Site Evaluation Work Plan, Hunters Point Naval Shipyard, San Francisco, California* (WP; Gilbane, 2022). The DMAMP describes the procedures that minimize dust during work activities and requires air monitoring to ensure these procedures are effective. The methods and procedures detailed in the DMAMP help to 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 Parcel B from July 7th, 2022 through November 3rd, 2022 and compares the results with the established action levels presented in the DMAMP (Appendix E of the WP [Gilbane, 2022]).

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2.0 Monitoring Site Locations

Air monitoring stations were deployed at the minimum of one upwind and one downwind location whenever active soil handling operations were in progress. In addition, a southernmost air monitoring station (near Building 113A) was operated as a supplemental air monitoring location during earthmoving activities. Additional radiological air monitors may be placed within the daily work areas to monitor for worker health and safety. Based on past meteorological data, the prevalent wind direction at HPNS was from the west or west-southwest. The locations of Parcel B 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 APTIM – KCASANFR1504 or Bayview Manor - KCASANFR1775 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) and Metals (Lead and Manganese)
3. Total suspended particulates (TSP)
4. Radionuclides

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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 the course of a period not to exceed 25 hours and submitted to A&B Laboratories of Houston, TX for analysis. Asbestos results were reviewed for anomalies and compliance with the action levels listed below.

3.2 PM10, Lead and Manganese

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 the course of a period not to exceed 25 hours in accordance with the U.S. Environmental Protection Agency (EPA) reference sampling method for PM10 as described in Title 40 Code of Federal Regulations (CFR), Part 50, Subpart J (EPA, 1999a). During the sampling, 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 Eurofins, West Sacramento, CA for analysis. The concentration is gravimetrically determined. The sample results are reviewed for field and laboratory anomalies to provide confidence in the data and compared to air quality criteria to ensure compliance with the action levels listed below. In this way the precise amount of PM10 present in each cubic meter of air is determined.

Once the PM10 concentration was gravimetrically determined, the filter was analyzed for manganese and lead in accordance with EPA Method 6020 (equivalent to IO-3.5 in the Compendium of Methods for the Determination of Inorganic Compounds in Ambient Air [EPA, 1999b]).

3.3 TSP

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 40 CFR 50, Subpart B. Each sample was collected on a filter over the course of a period not to exceed 25 hours (depending on the duration of the work activity). The filter was then weighed to determine the amount of TSP collected. The resulting concentration was compared to the HPNS Basewide level listed below to minimize permissible dust releases from the site.

3.4 Radionuclides of Concern

Radiological air samples were collected on filter media with a LV-1 low-volume air sampler. The air filter concentration is 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, 2019).

Perimeter samples for ROCs were analyzed at ARS Aleut Analytical, of Port Allen, LA by the radiological methods listed below.

- Gamma Spectroscopy by EPA Method 901.1
- Alpha Spectroscopy/Eichrom Resin Separation by HASL 300 Pu-02RC
- Alpha Emitting Isotopes by EPA Method 9315
- Gas Flow Proportional Counting/Eichrom Resin Separation by EPA 905.0

The calculated airborne concentration in microcuries per filter was 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 is the minimum concentration 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 concentration in air 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 media, 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. Calculated negative values indicating that the upwind concentration was greater than the downwind concentration and non-detected values where no delta was calculated, 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; and radionuclide activities were compared to the airborne concentration action levels listed in Table 2 of the approved DMAMP (Appendix E of the WP [Gilbane, 2022]). The PM10 delta was additionally compared to the criterion taken from the *Final Basewide Dust Control Plan, Revision 1, Hunters Point Shipyard, San Francisco, California* (Tetra Tech EC, 2010) of 50 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$).

Table 4-1: Air Monitoring Threshold Criteria

Test Parameter	Threshold Criteria	Threshold Criteria Reference
Asbestos	0.1 fiber/cm ³	Cal/OSHA PEL (on-site workers)
PM10 ^a	50 $\mu\text{g}/\text{m}^3$	DTSC HERO developed action level (residents and public receptors) ^a
	5,000 $\mu\text{g}/\text{m}^3$	Cal/OSHA PEL (on-site workers) ^b
TSP	0.5 mg/m ³	Basewide HPNS Level selected to minimize overall permissible dust release from sites
Lead	0.050 mg/m ³	Cal/OSHA PEL (on-site workers)
Manganese	0.200 mg/m ³	Cal/OSHA PEL (on-site workers)
Cesium-137	4.00E-11 $\mu\text{Ci}/\text{mL}$	10 CFR, Part 20, Appendix B, Table 2 Column 1 adjusted from 50 mrem per year to maximum annual exposure of 10 mrem per year at the receptor (public receptor) ^c
Plutonium-239	4.00E-15 $\mu\text{Ci}/\text{mL}$	
Radium-226	1.80E-13 $\mu\text{Ci}/\text{mL}$	
Strontium-90	1.20E-12 $\mu\text{Ci}/\text{mL}$	
Cobalt-60	1.00E-11 $\mu\text{Ci}/\text{mL}$	

Notes:

^a = The DTSC HERO action level is based on the CSAAQs. The CSAAQs is designed to protect the general public from airborne particulates generated in the urban, suburban, and rural environments. The CSAAQs is not meant to be applied to general project-specific construction actions and related air quality. Rather, the standard is used to attain city- or regional-wide ambient air quality goals for the benefit of the general public. The current CSAAQs for PM10 is 50 $\mu\text{g}/\text{m}^3$ average per 24-hour day. The City and County of San Francisco is currently a nonattainment area for the CSAAQs for PM10.

^b = The Cal/OSHA PEL for particulates not otherwise regulated (respiratory) is used for PM10 comparison.

^c = Results may be evaluated using 40 CFR Appendix E to Part 61 to demonstrate compliance with the National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61).

$\mu\text{Ci}/\text{mL}$ microcurie per milliliter

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter

Cal/OSHA = California Division of Occupational Safety and Health Administration

DTSC HERO = California Department of Toxic Substances Control, Human and Ecological Risk Office

fiber/cm³ = fibers per cubic centimeter

HPNS = Hunters Point Naval Shipyard

mg/m³ = milligrams per cubic meter

PEL = permissible exposure limit

PM10 = particulate matter less than 10 microns in diameter

TSP = total suspended particulates

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5.0 Air Monitoring Results

Weather information (including ambient pressure and temperature data) is presented in the table included as **Attachment 1**. Meteorological data for Stations 1, 2, and Building 113A were sourced from the Weather Underground (wunderground.com) station APTIM - KCASANFR1504 and Bayview Manor - KCASANFR1775. **Table 5-1** displays each air monitoring report and the associated dates covered in the report.

Air monitoring results are presented in the following attachments:

- Asbestos – **Attachment 2**
- PM10 – **Attachment 3**
- Lead and Manganese – **Attachment 4**
- TSP – **Attachment 5**
- Radiological – **Attachment 6**

Laboratory reports are included as **Attachment 7** and were subjected to cursory review by the Project Chemist. Radiological data were qualified for low-level contamination below the required detection limit (RDL) in the field filter blanks, negative results, or for minimum detectable concentrations (MDCs) above the RDL. PM10, TSP and metals had some data estimated due to low-level particulates collected on the field blank media. No values exceeded the criteria outlined in Table 4-1. Data, as qualified are considered usable for their intended purposes.

Due to the nature of radiological laboratory analysis, radiological data will be presented as the contractor receives it. Ultimately the radiological results will be slightly delayed in comparison to the Asbestos, PM10, TSP, Lead, and Manganese results.

Table 5-1: Air Monitoring Report Summary

Air Monitoring Report Number	Data Date Range
01	07/07/22 – 09/15/22
02	09/15/22 – 10/13/22
03	10/13/22 – 11/03/22

5.1 Report 01

Air monitoring results representing onsite activities did not exceed the threshold criteria and action levels for this reporting period.

5.2 Report 02

Air monitoring analytical results did not exceed project-specific screening criteria during this reporting period's site operations.

5.3 Report 03

Air monitoring analytical results did not exceed project-specific screening criteria during this reporting period's site operations.

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6.0 References

California Department of Toxic Substances Control, 2021, *Human and Ecological Risk Office (HERO) Memorandum, Dust Action Levels for Parcel B, Hunters Point Naval Shipyard, San Francisco, California*, March 24.

National Institute for Occupational Safety and Health, 1994, *NIOSH Manual of Analytical Methods, Method 7400*, August.

United States Environmental Protection Agency (EPA), 1999a. Quality Assurance Handbook for Air Pollution Measurement Systems, Volume II: Ambient Air Specific Methods.

EPA, 1999b. Compendium of Methods for the Determination of Inorganic Compounds in Ambient Air.

Gilbane Federal (Gilbane), 2019. *PR-RP-150 "Radiological Survey and Sampling"*. November.

Gilbane, 2022. *Final Parcel B Removal Site Evaluation Work Plan, Former Hunters Point Naval Shipyard, San Francisco, California*. January.

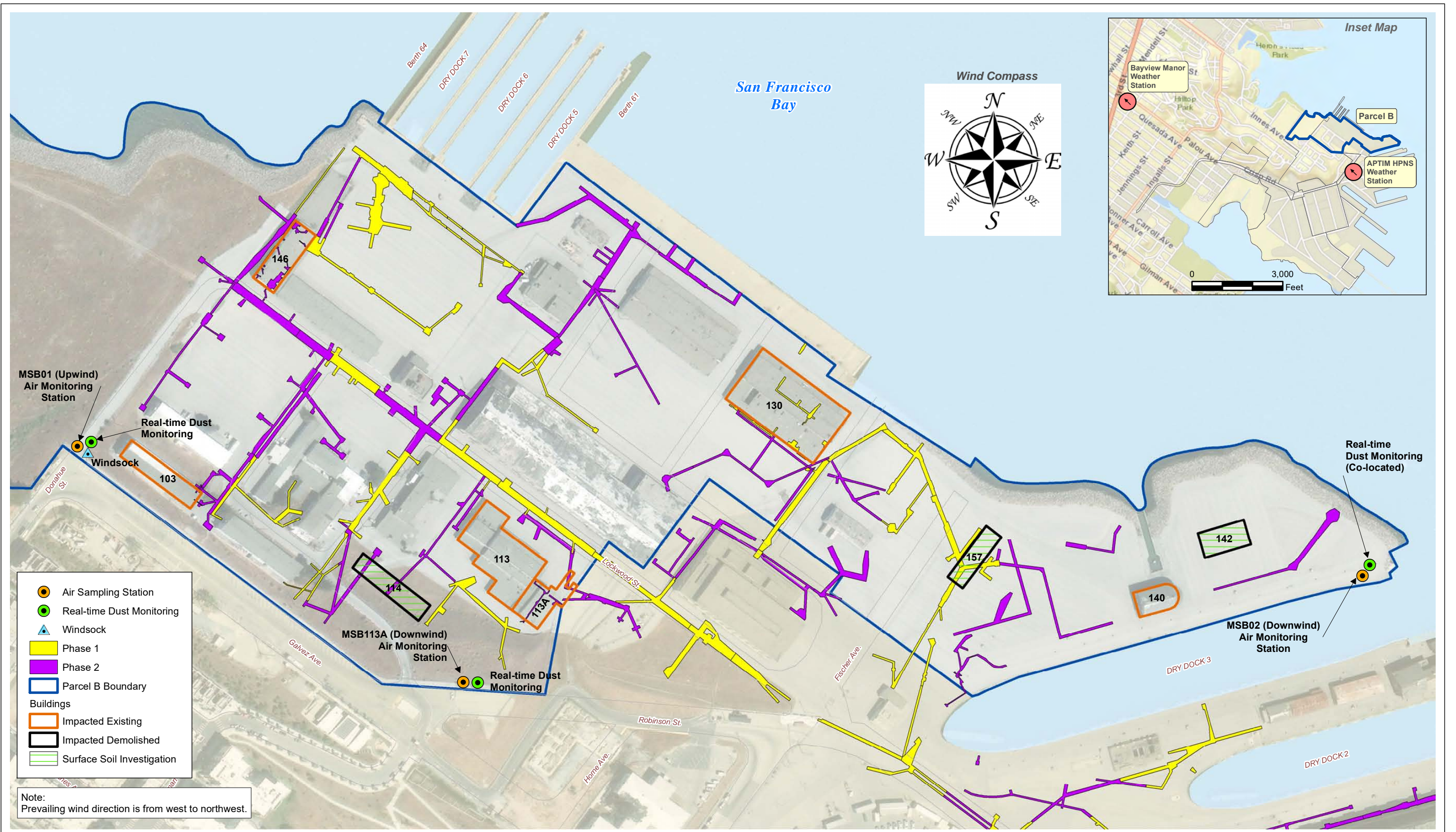
Tetra Tech EC, 2010, *Final Basewide Dust Control Plan, Revision 1, Hunters Point Shipyard, San Francisco, California*, November 29.

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FIGURES

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ATTACHMENT 1
AMBIENT PRESSURE, TEMPERATURE, AND
PREVALENT WIND DIRECTION MONITORING RESULTS



- Air Sampling Station
- Real-time Dust Monitoring
- Windsock
- Phase 1
- Phase 2
- Parcel B Boundary
- Buildings
- Impacted Existing
- Impacted Demolished
- Surface Soil Investigation

Note:
Prevailing wind direction is from west to northwest.



**Removal Site Evaluation Work Plan
Radiological Investigation, Survey, and Reporting, Parcel B
Hunters Point Naval Shipyard
San Francisco, California**

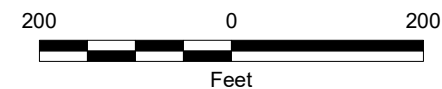


Figure 2-1
Air Sampling and Dust Monitoring Locations

ATTACHMENT 1
AMBIENT PRESSURE, TEMPERATURE, AND
PREVALENT WIND DIRECTION MONITORING RESULTS

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Attachment 1: Ambient Pressure, Temperature, and Prevalent Wind Direction Monitoring Results

Start Date	Ambient Pressure (in Hg)	Ambient Temperature (°F)	Prevalent Wind Direction
7/7/2022 ¹	30.01	58.95	WSW
7/11/2022 ¹	29.89	58.88	WSW
7/12/2022 ¹	29.90	61.20	W
7/13/2022 ¹	29.95	59.13	WSW
7/14/2022 ¹	29.96	57.43	WSW
7/18/2022 ²	30.04	59.79	W
7/19/2022 ²	30.10	56.27	W
7/20/2022 ²	30.12	55.63	W
7/21/2022 ²	30.07	55.85	W
7/25/2022 ²	29.99	59.20	W
7/26/2022 ²	30.04	60.27	W
7/27/2022 ²	30.05	58.27	W
7/28/2022 ²	29.99	58.28	W
8/1/2022 ²	30.06	63.50	WNW
8/2/2022 ²	30.07	62.18	W
8/3/2022 ²	29.97	61.20	W
8/4/2022 ²	29.98	63.57	W
8/8/2022 ²	30.06	64.64	W
8/9/2022 ²	30.08	65.58	W
8/10/2022 ²	30.13	66.09	W
8/11/2022 ²	30.11	63.63	W
8/15/2022 ²	29.90	63.70	W
8/16/2022 ²	29.87	64.82	WNW
8/17/2022 ²	29.97	60.52	WNW
8/18/2022 ²	30.00	59.94	W
8/22/2022 ²	30.04	62.66	W
8/23/2022 ²	29.89	60.89	WSW
8/24/2022 ²	29.94	60.73	W
8/25/2022 ²	30.04	65.88	WSW
8/29/2022 ²	30.00	62.42	W
8/30/2022 ²	30.07	62.44	WSW
8/31/2022 ²	30.01	61.79	WSW
9/1/2022 ²	29.97	65.10	W
9/6/2022 ²	29.89	75.08	W
9/7/2022 ²	29.98	71.58	NW
9/8/2022 ²	29.87	74.28	WNW
9/12/2022 ²	30.00	61.63	WSW
9/13/2022 ²	29.98	61.93	W

Attachment 1: Ambient Pressure, Temperature, and Prevalent Wind Direction Monitoring Results

Start Date	Ambient Pressure (in Hg)	Ambient Temperature (°F)	Prevalent Wind Direction
9/14/2022 ²	30.04	63.16	W
9/15/2022 ²	30.11	62.63	W
9/19/2022 ²	29.92	64.57	S
9/20/2022 ²	29.99	64.78	NNW
9/21/2022 ²	30.07	65.29	W
9/22/2022 ²	30.15	66.46	WNW
9/26/2022 ²	30.05	58.51	W
9/27/2022 ¹	29.99	59.41	WSW
9/28/2022 ¹	30.04	59.95	WSW
9/29/2022 ¹	30.03	67.48	WSW
10/3/2022 ²	30.10	61.70	W
10/4/2022 ²	30.07	58.62	W
10/5/2022 ²	30.07	58.73	W
10/6/2022 ²	30.12	60.51	WNW
10/10/2022 ²	30.04	56.04	WSW
10/11/2022 ¹	30.01	56.86	WSW
10/12/2022 ¹	30.08	57.39	WSW
10/13/2022 ¹	30.05	57.88	WSW
10/17/2022 ¹	30.03	61.97	SE
10/18/2022 ¹	30.04	67.52	NW
10/19/2022 ¹	30.00	65.67	WSW
10/20/2022 ¹	29.97	59.54	WSW
10/24/2022 ²	30.26	59.41	WSW
10/25/2022 ²	30.17	55.60	W
10/26/2022 ²	30.12	57.13	WSW
10/27/2022 ²	30.14	60.51	SSW
10/31/2022 ²	29.95	56.90	SW
11/01/2022 ²	30.03	53.35	WSW
11/02/2022 ²	30.17	52.51	W
11/03/2022 ²	30.29	52.61	NNW

Notes:

¹Data collected using wunderground.com from Bayview Manor - KCASANFR1775

²Data collected using wunderground.com from APTIM HPNS - KCASANFR1504

°F = degree Fahrenheit

in Hg = inches of mercury

E = East

N = North

S = South

W = West

ATTACHMENT 2

ASBESTOS MONITORING RESULTS

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Attachment 2: Asbestos Monitoring Results

Sample, Date and Station Information			Sampler Run Information			Asbestos Fibers		
Sample ID	Sample End Date ¹	Monitoring Station	Ave Flow Rate (l/min)	Duration of Run (min)	Total Air Volume Monitored (L)	Asbestos (fibers)	Conc Asbestos (fibers/cm ³)	Exceedance (Yes/No)
MSB01-070722	07/08/22	1	3.0	1,431	4293	13.0	0.001	No
MSB02-070722	07/08/22	2	3.0	1,437	4311	7.5	0.001	No
MSB113A-070722	07/08/22	113A	3.0	1,429	4287	12.5	0.001	No
MSB01-071122	07/11/22	1	2.4	443	1063	5.5	0.003	No
MSB02-071122	07/11/22	2	3.1	448	1388	6.0	0.002	No
MSB113A-071122	07/11/22	113A	2.3	436	1002	2.0	< 0.003	No
MSB01-071222	07/12/22	1	3.3	448	1478	5.5	0.002	No
MSB02-071222	07/12/22	2	2.8	440	1232	5.0	< 0.002	No
MSB113A-071222	07/12/22	113A	1.9	424	805.6	4.0	< 0.003	No
MSB01-071322	07/13/22	1	2.0	524	1048	9.5	0.004	No
MSB02-071322	07/13/22	2	3.0	417	1251	8.5	0.003	No
MSB113A-071322	07/13/22	113A	3.0	420	1260	2.5	< 0.002	No
MSB01-071422	07/15/22	1	2.3	1,466	3371	1.5	< 0.001	No
MSB02-071422	07/15/22	2	3.0	1,443	4329	3.0	< 0.001	No
MSB113A-071422	07/15/22	113A	2.1	1,472	3091	2.0	< 0.001	No
MSB01-071822	07/19/22	1	2.5	1,378	3445	1.0	< 0.001	No
MSB02-071822	07/19/22	2	2.6	1,419	3689	1.0	< 0.001	No
MSB113A-071822	07/19/22	113A	3.6	1,422	5119	1.0	< 0.001	No
MSB01-071922	07/20/22	1	3.2	1,429	4572	0.5	< 0.001	No
MSB02-071922	07/20/22	2	2.5	1,422	3555	2.0	< 0.001	No
MSB113A-071922	07/20/22	113A	2.3	1,424	3275	2.0	< 0.001	No
MSB01-072022	07/21/22	1	2.7	1,473	3387	0.5	< 0.001	No
MSB02-072022	07/21/22	2	2.3	1,462	3947	3.0	< 0.001	No
MSB113A-072022	07/21/22	113A	2.3	1,468	3376	0.0	< 0.001	No
MSB01-072122	07/22/22	1	2.7	1,433	3869	0.5	< 0.001	No
MSB02-072122	07/22/22	2	2.9	1,456	4222	2.0	< 0.001	No
MSB113A-072122	07/22/22	113A	2.3	1,441	3314	1.0	< 0.001	No
MSB01-072522	07/26/22	1	2.4	1,454	3490	3.5	< 0.002	No
MSB02-072522	07/26/22	2	2.9	1,443	4185	2.0	< 0.002	No
MSB113A-072522	07/26/22	113A	2.2	1,454	3199	4.0	< 0.002	No
MSB01-072622	07/27/22	1	3.7	1,431	5295	4.0	< 0.002	No
MSB02-072622	07/27/22	2	3.0	1,432	4296	0.5	< 0.002	No
MSB113A-072622	07/27/22	113A	3.4	1,422	4835	1.5	< 0.002	No
MSB01-072722	07/28/22	1	3.4	1,464	4978	0.5	< 0.002	No
MSB02-072722	07/28/22	2	3.0	1,475	4425	1.5	< 0.002	No
MSB113A-072722	07/28/22	113A	3.4	1,469	4995	7.0	0.002	No
MSB01-072822	07/29/22	1	3.3	1,455	4802	8.0	0.003	No
MSB02-072822	07/29/22	2	2.9	1,466	4251	4.5	< 0.002	No
MSB113A-072822	07/29/22	113A	3.4	1,462	4971	13.0	0.004	No
MSB01-080122	08/02/22	1	3.5	1,450	5075	3.5	< 0.001	No
MSB02-080122	08/02/22	2	3.1	1,439	4460	0.0	< 0.001	No
MSB113A-080122	08/02/22	113A	3.5	1,449	5071	5.0	< 0.001	No
MSB01-080222	08/03/22	1	3.5	1,421	4973	3.5	< 0.001	No
MSB02-080222	08/03/22	2	3.4	1,426	4848	2.0	< 0.001	No
MSB113A-080222	08/03/22	113A	3.6	1,424	5126	2.5	< 0.001	No
MSB01-080322	08/04/22	1	3.4	1,430	4862	3.0	< 0.001	No
MSB02-080322	08/04/22	2	3.6	1,429	5144	8.0	0.001	No
MSB113A-080322	08/04/22	113A	3.4	1,429	4858	1.5	< 0.001	No
MSB01-080422	08/05/22	1	3.4	1,480	5032	3.5	< 0.001	No
MSB02-080422	08/05/22	2	3.4	1,466	4984	11.0	0.001	No
MSB113A-080422	08/05/22	113A	3.5	1,468	5138	28.0	0.003	No
MSB01-080822	08/09/22	1	3.7	1,443	5339	9.0	0.001	No
MSB02-080822	08/09/22	2	3.0	1,438	4314	11.0	0.001	No
MSB113A-080822	08/09/22	113A	3.6	1,442	5191	1.0	<0.001	No
MSB01-080922	08/10/22	1	3.6	1,448	5213	4.5	<0.001	No
MSB02-080922	08/10/22	2	3.8	1,444	5487	8.5	0.001	No
MSB113A-080922	08/10/22	113A	3.3	1,441	4755	4.5	<0.001	No
MSB01-081022	08/11/22	1	3.2	1,446	4627	5.5	0.001	No
MSB02-081022	08/11/22	2	3.4	1,449	4927	3.5	<0.001	No
MSB113A-081022	08/11/22	113A	3.2	1,448	4634	3.0	<0.001	No
MSB01-081122	08/12/22	1	3.0	1,418	4254	2.5	<0.001	No
MSB02-081122	08/12/22	2	3.4	1,414	4808	2.0	<0.001	No
MSB113A-081122	08/12/22	113A	3.0	1,415	4245	1.5	<0.001	No
MSB01-081522	08/16/22	1	3.6	1,444	5198	3.0	<0.001	No
MSB02-081522	08/16/22	2	3.3	1,431	4722	2.0	<0.001	No
MSB113A-081522	08/16/22	113A	3.1	1,444	4476	2.0	<0.001	No

Attachment 2: Asbestos Monitoring Results

Sample, Date and Station Information			Sampler Run Information			Asbestos Fibers		
Sample ID	Sample End Date ¹	Monitoring Station	Ave Flow Rate (l/min)	Duration of Run (min)	Total Air Volume Monitored (L)	Asbestos (fibers)	Conc Asbestos (fibers/cm ³)	Exceedance (Yes/No)
MSB01-081622	08/17/22	1	3.2	1,434	4589	4.5	<0.001	No
MSB02-081622	08/17/22	2	3.3	1,440	4752	4.0	<0.001	No
MSB113A-081622	08/17/22	113A	3.2	1,433	4586	4.5	<0.001	No
MSB01-081722	08/18/22	1	3.7	1,429	5287	0.0	<0.001	No
MSB02-081722	08/18/22	2	3.1	1,428	4427	3.5	<0.001	No
MSB113A-081722	08/18/22	113A	3.2	1,431	4579	3.0	<0.001	No
MSB01-081822	08/19/22	1	3.4	1,457	4954	1.5	<0.001	No
MSB02-081822	08/19/22	2	3.1	1,471	4560	1.0	<0.001	No
MSB113A-081822	08/19/22	113A	3.2	1,462	4678	1.5	<0.001	No
MSB01-082222	08/23/22	1	3.5	1,460	5110	4.0	<0.001	No
MSB02-082222	08/23/22	2	3.2	1,444	4621	10.0	0.001	No
MSB113A-082222	08/23/22	113A	3.0	1,452	4356	4.0	<0.001	No
MSB01-082322	08/22/22	1	3.3	1,413	4663	1.5	<0.001	No
MSB02-082322	08/22/22	2	3.1	1,421	4405	1.5	<0.001	No
MSB113A-082322	08/22/22	113A	2.9	1,417	4109	0.5	<0.001	No
MSB01-082422	08/25/22	1	3.2	1,418	4538	2.5	<0.001	No
MSB02-082422	08/25/22	2	3.3	1,442	4759	3.5	<0.001	No
MSB113A-082422	08/25/22	113A	3.3	1,418	4679	1.0	<0.001	No
MSB01-082522	08/25/22 ²	1	3.0	459	1377	1.0	<0.002	No
MSB02-082522	08/25/22 ²	2	3.1	473	1466	6.0	0.002	No
MSB113A-082522	08/25/22 ²	113A	3.3	462	1525	5.5	0.002	No
MSB01-082922	08/30/22	1	3.1	1,441	4467	7.0	0.001	No
MSB02-082922	08/30/22	2	3.3	1,453	4795	7.5	0.001	No
MSB113A-082922	08/30/22	113A	3.4	1,450	4930	7.0	0.001	No
MSB01-083022	08/31/22	1	3.2	1,438	4602	5.0	<0.001	No
MSB02-083022	08/31/22	2	3.3	1,444	4765	5.0	<0.001	No
MSB113A-083022	08/31/22	113A	3.1	1,438	4458	5.5	0.001	No
MSB01-083122	09/01/22	1	3.5	1,434	5019	6.5	0.001	No
MSB02-083122	09/01/22	2	3.3	1,438	4745	7.0	0.001	No
MSB113A-083122	09/01/22	113A	3.0	1,437	4311	5.5	0.001	No
MSB01-090122	09/01/22 ²	1	3.5	389	1362	6.5	0.002	No
MSB02-090122	09/01/22 ²	2	3.1	397	1231	4.0	<0.002	No
MSB113A-090122	09/01/22 ²	113A	3.1	393	1218	4.5	<0.002	No
MSB01-090622	09/07/22	1	3.5	1,423	4980	6.5	0.001	No
MSB02-090622	09/07/22	2	3.2	1,423	4553	5.0	<0.001	No
MSB113A-090622	09/07/22	113A	3.4	1,424	4841	4.0	<0.001	No
MSB01-090722	09/08/22	1	3.5	1,459	5106	1.0	<0.001	No
MSB02-090722	09/08/22	2	3.6	1,457	5245	4.5	<0.001	No
MSB113A-090722	09/08/22	113A	3.4	1,458	4957	2.5	<0.001	No
MSB01-090822	09/08/22 ²	1	3.3	421	1389	3.5	<0.002	No
MSB02-090822	09/08/22 ²	2	3.5	455	1592	2.5	<0.002	No
MSB113A-090822	09/08/22 ²	113A	3.5	441	1543	2.0	<0.002	No
MSB01-091222	09/13/22	1	3.5	1,429	5001	2.0	<0.001	No
MSB02-091222	09/13/22	2	3.1	1,425	4417	3.0	<0.001	No
MSB113A-091222	09/13/22	113A	3.6	1,426	5133	2.5	<0.001	No
MSB01-091322	09/14/22	1	3.1	1,456	4513	1.5	<0.001	No
MSB02-091322	09/14/22	2	3.5	1,453	5085	5.0	<0.001	No
MSB113A-091322	09/14/22	113A	3.3	1,457	4808	2.5	<0.001	No
MSB01-091422	09/15/22	1	3.3	1,456	4804	4.5	<0.001	No
MSB02-091422	09/15/22	2	3.2	1,456	4659	2.5	<0.001	No
MSB113A-091422	09/15/22	113A	3.4	1,453	4940	7.5	0.001	No
MSB01-091522	09/15/22 ²	1	3.2	407	1302	3.0	<0.002	No
MSB02-091522	09/15/22 ²	2	3.5	451	1578	2.5	<0.002	No
MSB113A-091522	09/15/22 ²	113A	3.2	424	1356	2.0	<0.002	No
MSB01-091922	09/20/22	1	3.4	1,417	4817	1.5	< 0.001	No
MSB02-091922	09/20/22	2	3.4	1,435	4879	4.0	< 0.005	No
MSB113A-091922	09/20/22	113A	3.5	1,424	4984	2.0	< 0.000	No
MSB01-092022	09/21/22	1	3.6	1,466	5277	3.5	< 0.001	No
MSB02-092022	09/21/22	2	3.0	1,463	4389	2.5	< 0.001	No
MSB113A-092022	09/21/22	113A	3.0	1,469	4407	4.0	< 0.001	No
MSB01-092122	09/22/22	1	3.4	1,490	5066	2.5	< 0.001	No
MSB02-092122	09/22/22	2	3.0	1,433	4299	3.0	<0.001	No
MSB113A-092122	09/22/22	113A	3.0	1,428	4284	1.5	< 0.001	No
MSB01-092222	9/22/22 ²	1	3.3	335	1105	1.5	< 0.002	No
MSB02-092222	9/22/22 ²	2	3.4	427	1451	2.0	< 0.002	No
MSB113A-092222	9/22/22 ²	113A	3.3	407	1343	2.0	< 0.002	No
MSB01-092622	09/27/22	1	3.4	1,440	4896	4.5	< 0.001	No
MSB02-092622	09/27/22	2	3.5	1,438	5033	8.5	0.001	No

Attachment 2: Asbestos Monitoring Results

Sample, Date and Station Information			Sampler Run Information			Asbestos Fibers		
Sample ID	Sample End Date ¹	Monitoring Station	Ave Flow Rate (l/min)	Duration of Run (min)	Total Air Volume Monitored (L)	Asbestos (fibers)	Conc Asbestos (fibers/cm ³)	Exceedance (Yes/No)
MSB113A-092622	09/27/22	113A	3.5	1,435	5022	4.0	< 0.001	No
MSB01-092722	09/28/22	1	3.3	1,434	4732	8.0	0.001	No
MSB02-092722	09/28/22	2	3.6	1,436	5169	2.0	< 0.001	No
MSB113A-092722	09/28/22	113A	3.3	1,439	4748	2.5	< 0.001	No
MSB01-092822	09/29/22	1	3.0	1,426	4278	4.5	< 0.001	No
MSB02-092822	09/29/22	2	3.4	1,422	4834	4.5	< 0.001	No
MSB113A-092822	09/29/22	113A	3.0	1,425	4275	3.5	< 0.001	No
MSB01-092922	9/29/22 ²	1	3.5	451	1578	5.0	< 0.002	No
MSB02-092922	9/29/22 ²	2	3.3	478	1577	2.0	< 0.002	No
MSB113A-092922	9/29/22 ²	113A	3.1	458	1419	1.5	< 0.002	No
MSB01-100322	10/04/22	1	3.1	1,471	4560	4.5	< 0.001	No
MSB02-100322	10/04/22	2	3.3	1,462	4824	2.0	< 0.001	No
MSB113A-100322	10/04/22	113A	3.4	1,469	4994	1.5	< 0.001	No
MSB01-100422	10/05/22	1	3.4	1,435	4879	17.0	0.002	No
MSB02-100422	10/05/22	2	3.6	1,442	5191	1.0	< 0.001	No
MSB113A-100422	10/05/22	113A	3.4	1,436	4882	0.5	< 0.001	No
MSB01-100522	10/06/22	1	3.3	1,439	4748	17.5	0.002	No
MSB02-100522	10/06/22	2	3.4	1,434	4875	1.5	< 0.001	No
MSB113A-100522	10/06/22	113A	3.2	1,430	4576	7.0	0.001	No
MSB01-100622	10/6/22 ²	1	3.3	425	1402	3.5	< 0.002	No
MSB02-100622	10/6/22 ²	2	3.4	460	1564	2.0	< 0.002	No
MSB113A-100622	10/6/22 ²	113A	3.1	440	1364	0.0	< 0.002	No
MSB01-101022	10/11/22	1	3.8	1,480	5624	5.5	0.000	No
MSB02-101022	10/11/22	2	3.6	1,441	5187	1.0	< 0.001	No
MSB113A-101022	10/11/22	113A	3.1	1,468	4550	1.0	< 0.001	No
MSB01-101122	10/12/22	1	3.6	1,413	5086	1.5	< 0.001	No
MSB02-101122	10/12/22	2	3.1	1,447	4485	4.0	< 0.001	No
MSB113A-101122	10/12/22	113A	3.1	1,418	4395	3.5	< 0.001	No
MSB01-101222	10/13/22	1	3.5	1,416	4956	2.0	< 0.001	No
MSB02-101222	10/13/22	2	3.2	1,420	4544	2.5	< 0.001	No
MSB113A-101222	10/13/22	113A	3.3	1,417	4676	3.5	< 0.001	No
MSB01-101322	10/13/22 ²	1	3.4	419	1424	3.0	< 0.002	No
MSB02-101322	10/13/22 ²	2	3.1	439	1360	1.0	< 0.002	No
MSB113A-101322	10/13/22 ²	113A	3.2	431	1379	1.0	< 0.002	No
MSB01-101722	10/18/22	1	3.4	1,414	4807	2.0	< 0.001	No
MSB02-101722	10/18/22	2	3.1	1,424	4414	1.0	< 0.001	No
MSB113A-101722	10/18/22	113A	3.3	1,414	4666	2.5	< 0.001	No
MSB01-101822	10/19/22	1	3.3	1,455	4801	9.0	0.001	No
MSB02-101822	10/19/22	2	3.1	1,453	4504	3.0	< 0.001	No
MSB113A-101822	10/19/22	113A	3.5	1,456	5096	4.0	< 0.001	No
MSB01-101922	10/20/22	1	3.4	1,422	4834	4.0	< 0.001	No
MSB02-101922	10/20/22	2	3.1	1,421	4405	3.5	< 0.001	No
MSB113A-101922	10/20/22	113A	3.4	1,421	4831	5.5	0.001	No
MSB01-102022	10/20/22 ²	1	3.5	329	1151	2.5	< 0.002	No
MSB02-102022	10/20/22 ²	2	3.3	384	1267	3.0	< 0.002	No
MSB113A-102022	10/20/22 ²	113A	3.3	354	1168	4.0	< 0.002	No
MSB01-102422	10/25/22	1	3.4	1,449	4926	19.0	0.001	No
MSB02-102422	10/25/22	2	3.3	1,446	4771	8.5	0.000	No
MSB113A-102422	10/25/22	113A	3.5	1,447	5064	13.0	0.001	No
MSB01-102522	10/26/22	1	3.3	1,446	4771	15.5	0.001	No
MSB02-102522	10/26/22	2	3.2	1,449	4636	8.0	0.000	No
MSB113A-102522	10/26/22	113A	3.2	1,449	4636	17.0	0.001	No
MSB01-102622	10/27/22	1	3.2	1,429	4572	15.0	0.001	No
MSB02-102622	10/27/22	2	3.3	1,429	4715	8.5	0.000	No
MSB113A-102622	10/27/22	113A	3.3	1,430	4719	6.5	0.000	No
MSB01-102722	10/27/22 ²	1	3.3	437	1442	13.5	0.003	No
MSB02-102722	10/27/22 ²	2	3.2	472	1510	5.5	0.000	No
MSB113A-102722	10/27/22 ²	113A	3.4	454	1543	11.5	0.002	No
MSB01-103122	11/01/22	1	3.3	1,430	4719	3.5	< 0.001	No
MSB02-103122	11/01/22	2	3.2	1,424	4556.8	2.0	< 0.001	No
MSB113A-103122	11/01/22	113A	3.4	1,428	4855	2.0	< 0.001	No
MSB01-110122	11/02/22	1	3.3	1,434	4732	3.0	< 0.001	No
MSB02-110122	11/02/22	2	3.1	1,443	4473	3.0	< 0.001	No
MSB113A-110122	11/02/22	113A	3.4	1,438	4889	2.0	< 0.001	No
MSB01-110222	11/03/22	1	3.2	1,427	4566	2.0	< 0.001	No
MSB02-110222	11/03/22	2	3.1	1,424	4414	5.0	< 0.001	No
MSB113A-110222	11/03/22	113A	3.3	1,423	4695	14.0	0.001	No

Attachment 2: Asbestos Monitoring Results

Sample, Date and Station Information			Sampler Run Information			Asbestos Fibers		
Sample ID	Sample End Date ¹	Monitoring Station	Ave Flow Rate (l/min)	Duration of Run (min)	Total Air Volume Monitored (L)	Asbestos (fibers)	Conc Asbestos (fibers/cm ³)	Exceedance (Yes/No)
MSB01-110322	11/03/22 ²	1	3.1	437	1354	1.5	< 0.002	No
MSB02-110322	11/03/22 ²	2	3.2	459	1468	3.0	< 0.002	No
MSB113A-110322	11/03/22 ²	113A	3.2	446	1427	3.5	< 0.002	No

Notes:

¹Sample "end" date indicates the date upon which sample collection ended.

²Air sample was taken down during the afternoon after field activities ceased.

Sample locations are shown on Figure 2-1

l/min = liters per minute

L = liter

min = minutes

fibers/cm³ = fibers per cubic centimeter

< = below detection limit

ATTACHMENT 3
PARTICULATE MATTER, SMALLER THAN TEN MICRONS
(PM10) MONITORING RESULTS

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Attachment 3: Particulate Matter, Smaller than Ten Microns (PM10) Monitoring Results

Sample, Date and Station Information			Sampler Run Information	PM10								
Sample ID	Monitoring Station	Sample End Date ¹	Total Air Volume Monitored (m ³)	Concentration in Air (mg/m ³)	PM10 Perimeter Concentration (Downwind - Upwind) (mg/m ³)	PM10 Perimeter Concentration (Downwind - Upwind) (ug/m ³)	PM10 MSB113A Concentration (Downwind - Upwind) (mg/m ³)	PM10 MSB113A Perimeter Concentration (Downwind - Upwind) (ug/m ³)	Cal/OSHA PEL (ug/m ³)	Exceedance (Yes/No)	HERO Action Level ² (ug/m ³)	Exceedance (Yes/No) ²
GES_PM061322-38	MSB01	7/8/2022	1575.14	0.019	-0.0170	-17.000	-0.0060	-6.000	5,000	No	50	No
GES_PM061322-39	MSB02	7/8/2022	1626.27	0.0020								
GES_PM061322-40	MSB113A	7/8/2022	1587.75	0.013								
GES_PM061322-41	MSB01	7/12/2022	1586.87	0.0081	0.0013	1.300	-0.0006	-0.600	5,000	No	50	No
GES_PM061322-42	MSB02	7/12/2022	1593.10	0.0094								
GES_PM061322-43	MSB113A	7/12/2022	1578.52	0.0075								
GES_PM061322-44	MSB01	7/13/2022	1668.76	0.0052	-0.0030	-3.000	-0.0015	-1.500	5,000	No	50	No
GES_PM061322-45	MSB02	7/13/2022	1607.71	0.0022								
GES_PM061322-46	MSB113A	7/13/2022	1600.23	0.0037								
GES_PM061322-47	MSB01	7/14/2022	1571.88	0.015	-0.0020	-2.000	0.0000	0.000	5,000	No	50	No
GES_PM061322-48	MSB02	7/14/2022	1547.49	0.013								
GES_PM061322-49	MSB113A	7/14/2022	1586.39	0.015								
GES_PM061322-50	MSB01	7/15/2022	1671.83	0.021	-0.0020	-2.000	0.0040	4.000	5,000	No	50	No
GES_PM061322-51	MSB02	7/15/2022	1636.90	0.019								
GES_PM061322-52	MSB113A	7/15/2022	1626.56	0.025								
GES_PM061322-53	MSB01	7/19/2022	1604.22	0.025	0.0000	0.000	-0.0010	-1.000	5,000	No	50	No
GES_PM061322-54	MSB02	7/19/2022	1584.87	0.025								
GES_PM070522-73	MSB113A	7/19/2022	1584.48	0.024 J								
GES_PM070522-74	MSB01	7/20/2022	1649.08	0.0082	-0.0007	-0.700	0.0038	3.800	5,000	No	50	No
GES_PM070522-75	MSB02	7/20/2022	1593.23	0.0075								
GES_PM070522-76	MSB113A	7/20/2022	1543.80	0.012 J								
GES_PM070522-78	MSB01	7/21/2022	1681.99	0.0056	0.0040	4.000	0.0020	2.000	5,000	No	50	No
GES_PM070522-79	MSB02	7/21/2022	1631.55	0.0096								
GES_PM070522-80	MSB113A	7/21/2022	1577.49	0.0076 J								
GES_PM070522-81	MSB01	7/22/2022	1645.32	0.012	0.0020	2.000	0.0000	0.000	5,000	No	50	No
GES_PM070522-82	MSB02	7/22/2022	1624.79	0.014								
GES_PM070522-83	MSB113A	7/22/2022	1609.69	0.012 J								
GES_PM070522-84	MSB01	7/26/2022	1656.40	0.0062	0.0009	0.900	-0.0001	-0.100	5,000	No	50	No
GES_PM070522-85	MSB02	7/26/2022	1640.17	0.0071								
GES_PM070522-86	MSB113A	7/26/2022	1621.60	0.0061								
GES_PM070522-87	MSB01	7/27/2022	1630.68	0.0074	0.0000	0.000	-0.0015	-1.500	5,000	No	50	No
GES_PM070522-88	MSB02	7/27/2022	1601.47	0.0074								
GES_PM070522-89	MSB113A	7/27/2022	1585.40	0.0059								
GES_PM071122-91	MSB01	7/28/2022	1652.35	0.0057	-0.0010	-1.000	-0.0036	-3.600	5,000	No	50	No
GES_PM071122-92	MSB02	7/28/2022	1645.25	0.0047								
GES_PM071122-93	MSB113A	7/28/2022	1618.52	0.0021 J+								
GES_PM071122-94	MSB01	7/29/2022	1656.03	0.0053	0.0007	0.700	-0.0035	-3.500	5,000	No	50	No
GES_PM071122-95	MSB02	7/29/2022	1630.44	0.0060								
GES_PM071122-96	MSB113A	7/29/2022	1602.17	0.0018 J+								
GES_PM071122-97	MSB01	08/02/22	1664.38	0.0084	0.001	0.900	0.0016	1.600	5,000	No	50	No
GES_PM071122-98	MSB02	08/02/22	1621.19	0.0093								
GES_PM071122-99	MSB113A	08/02/22	1620.16	0.01								
GES_PM071122-101	MSB01	08/03/22	1633.03	0.0087	0.003	3.300	0.0011	1.100	5,000	No	50	No
GES_PM071122-102	MSB02	08/03/22	1606.01	0.012								
GES_PM071122-103	MSB113A	08/03/22	1586.91	0.0098								

Attachment 3: Particulate Matter, Smaller than Ten Microns (PM10) Monitoring Results

Sample, Date and Station Information			Sampler Run Information	PM10								
Sample ID	Monitoring Station	Sample End Date ¹	Total Air Volume Monitored (m ³)	Concentration in Air (mg/m ³)	PM10 Perimeter Concentration (Downwind - Upwind) (mg/m ³)	PM10 Perimeter Concentration (Downwind - Upwind) (ug/m ³)	PM10 MSB113A Concentration (Downwind - Upwind) (mg/m ³)	PM10 MSB113A Perimeter Concentration (Downwind - Upwind) (ug/m ³)	Cal/OSHA PEL (ug/m ³)	Exceedance (Yes/No)	HERO Action Level ² (ug/m ³)	Exceedance (Yes/No) ²
GESPM072622-145	MSB01	08/04/22	1641.25	0.011	0.002	2.000	0.0020	2.000	5,000	No	50	No
GESPM072622-146	MSB02	08/04/22	1607.65	0.013								
GESPM072622-147	MSB113A	08/04/22	1592.35	0.013 J								
GESPM072622-148	MSB01	08/05/22	1703.92	0.013	0.002	2.000	0.0010	1.000	5,000	No	50	No
GESPM072622-149	MSB02	08/05/22	1653.18	0.015								
GESPM072622-150	MSB113A	08/05/22	1484.68	0.014								
GES_PM071122-105	MSB01	08/09/22	1663.70	0.01	0.002	2.000	0.0000	0.000	5,000	No	50	No
GES_PM071122-106	MSB02	08/09/22	1622.89	0.012								
GES_PM071122-107	MSB113A	08/09/22	1623.49	0.01								
GESPM072622-153	MSB01	08/10/22	1699.59	0.008	0.002	1.600	0.0008	0.800	5,000	No	50	No
GESPM072622-154	MSB02	08/10/22	1630.75	0.0096								
GESPM072622-155	MSB113A	08/10/22	1637.96	0.0088								
GES_PM072622-108	MSB01	08/11/22	1657.11	0.0097	0.000	-0.300	-0.0007	-0.700	5,000	No	50	No
GESPM072622-151	MSB02	08/11/22	1635.06	0.0094								
GESPM072622-152	MSB113A	08/11/22	1642.95	0.009								
GESPM072622-156	MSB01	08/12/22	1623.36	0.01	-0.001	-1.300	0.0040	4.000	5,000	No	50	No
GESPM072622-157	MSB02	08/12/22	1598.56	0.0087								
GESPM072622-158	MSB113A	08/12/22	1601.40	0.014								
GESPM072622-159	MSB01	08/16/22	1666.46	0.026	0.000	0.000	-0.0010	-1.000	5,000	No	50	No
GESPM072622-160	MSB02	08/16/22	1629.77	0.026								
GESPM072622-161	MSB113A	08/16/22	1641.67	0.025								
GESPM080822-163	MSB01	08/17/22	1669.85	0.0093	0.002	1.700	0.0047	4.700	5,000	No	50	No
GESPM080822-164	MSB02	08/17/22	1548.50	0.011								
GESPM080822-165	MSB113A	08/17/22	1532.16	0.014								
GESPM080822-166	MSB01	08/18/22	1638.74	0.0047	0.001	0.600	0.0006	0.600	5,000	No	50	No
GESPM080822-167	MSB02	08/18/22	1637.56	0.0053								
GESPM080822-168	MSB113A	08/18/22	1611.00	0.0053								
GESPM080822-169	MSB01	08/19/22	1668.62	0.0025	0.006	6.100	0.0013	1.300	5,000	No	50	No
GESPM080822-170	MSB02	08/19/22	1660.59	0.0086								
GESPM080822-171	MSB113A	08/19/22	1660.29	0.0038								
GESPM080822-172	MSB01	08/23/22	1674.26	0.0066	0.002	1.600	0.0006	0.600	5,000	No	50	No
GESPM080822-173	MSB02	08/23/22	1639.37	0.0082								
GESPM080822-174	MSB113A	08/23/22	1601.43	0.0072								
GESPM080822-176	MSB01	08/24/22	1639.29	0.0068	-0.001	-0.800	0.0010	1.000	5,000	No	50	No
GESPM080822-177	MSB02	08/24/22	1609.09	0.006								
GESPM080822-178	MSB113A	08/24/22	1571.14	0.0078								
GESPM080822-179	MSB01	08/25/22	1655.34	0.0048	-0.001	-0.900	0.0007	0.700	5,000	No	50	No
GESPM080822-180	MSB02	08/25/22	1633.41	0.0039								
GESPM080822-181	MSB113A	08/25/22	1584.08	0.0055								
GESPM080822-182	MSB01	08/25/22 ³	513.61	0.006	-0.005	-5.000	0.0020	2.000	5,000	No	50	No
GESPM080822-183	MSB02	08/25/22 ³	527.62	< 0.00095								
GESPM080822-184	MSB113A	08/25/22 ³	510.18	0.008								
GESPM080822-185	MSB01	08/30/22	1636.24	0.019	-0.001	-1.000	0.0020	2.000	5,000	No	50	No
GESPM080822-186	MSB02	08/30/22	1617.12	0.018								
GESPM080822-187	MSB113A	08/30/22	1582.23	0.021								

Attachment 3: Particulate Matter, Smaller than Ten Microns (PM10) Monitoring Results

Sample, Date and Station Information			Sampler Run Information	PM10								
Sample ID	Monitoring Station	Sample End Date ¹	Total Air Volume Monitored (m ³)	Concentration in Air (mg/m ³)	PM10 Perimeter Concentration (Downwind - Upwind) (mg/m ³)	PM10 Perimeter Concentration (Downwind - Upwind) (ug/m ³)	PM10 MSB113A Concentration (Downwind - Upwind) (mg/m ³)	PM10 MSB113A Perimeter Concentration (Downwind - Upwind) (ug/m ³)	Cal/OSHA PEL (ug/m ³)	Exceedance (Yes/No)	HERO Action Level ³ (ug/m ³)	Exceedance (Yes/No) ²
GESPM080822-189	MSB01	08/31/22	1648.08	0.018								
GESPM080822-190	MSB02	08/31/22	1637.85	0.013	-0.005	-5.000	-0.0020	-2.000	5,000	No	50	No
GESPM080822-191	MSB113A	08/31/22	1596.26	0.016								
GESPM080822-192	MSB01	09/01/22	1655.98	0.012	-0.001	-1.000	0.0030	3.000	5,000	No	50	No
GESPM080822-193	MSB02	09/01/22	1629.07	0.011								
GESPM080822-194	MSB113A	09/01/22	1588.04	0.015								
GESPM080822-195	MSB01	09/01/22 ³	439.21	0.008	0.002	2.000	0.0010	1.000	5,000	No	50	No
GESPM080822-196	MSB02	09/01/22 ³	450.62	0.01								
GESPM080822-197	MSB113A	09/01/22 ³	431.76	0.009								
GESPM080822-198	MSB01	09/07/22	1649.77	0.037	-0.009	-9.000	-0.0020	-2.000	5,000	No	50	No
GESPM082222-199	MSB02	09/07/22	1630.41	0.028								
GESPM082222-200	MSB113A	09/07/22	1611.43	0.035								
GESPM082222-202	MSB01	09/08/22	1685.89	0.028	-0.003	-3.000	-0.0070	-7.000	5,000	No	50	No
GESPM082222-203	MSB02	09/08/22	1668.92	0.025								
GESPM082222-204	MSB113A	09/08/22	1661.41	0.021								
GESPM082222-205	MSB01	09/08/22 ³	435.50	0.042	-0.016	-16.000	-0.0030	-3.000	5,000	No	50	No
GESPM082222-206	MSB02	09/08/22 ³	512.06	0.026								
GESPM082222-207	MSB113A	09/08/22 ³	491.77	0.039								
GESPM082222-208	MSB01	09/13/22	1589.23	0.024	-0.001	-1.000	0.0030	3.000	5,000	No	50	No
GESPM082222-209	MSB02	09/13/22	1614.36	0.023								
GESPM082222-210	MSB113A	09/13/22	1608.82	0.027								
GESPM082222-212	MSB01	09/14/22	1674.65	0.0094	-0.001	-0.900	0.0002	0.200	5,000	No	50	No
GESPM082222-213	MSB02	09/14/22	1649.19	0.0085								
GESPM082222-214	MSB113A	09/14/22	1643.13	0.0096								
GESPM082222-215	MSB01	09/15/22	1670.91	0.010	-0.002	-2.100	0.0040	4.000	5,000	No	50	No
GESPM082222-216	MSB02	09/15/22	1648.13	0.0079								
GESPM090622-235	MSB113A	09/15/22	1648.11	0.014								
GESPM090622-236	MSB01	09/15/22 ³	469.15	0.0045	-0.001	-0.900	-0.0034	-3.400	5,000	No	50	No
GESPM090622-237	MSB02	09/15/22 ³	495.02	0.0036								
GESPM090622-238	MSB113A	09/15/22 ³	472.73	< 0.0011								
GESPM090622-239	MSB01	09/20/22	1635.64	0.0170	-0.0030	-3.000	0.0010	1.000	5,000	No	50	No
GESPM090622-240	MSB02	09/20/22	1637.45	0.0140								
GESPM090622-241	MSB113A	09/20/22	1593.05	0.0180								
GESPM090622-243	MSB01	09/21/22	1692.11	0.0150 J	-0.0030	-3.000	-0.001	-1.000	5,000	No	50	No
GESPM090622-244	MSB02	09/21/22	1669.66	0.0120								
GESPM090622-245	MSB113A	09/21/22	1630.46	0.0140								
GESPM090622-246	MSB01	09/22/22	1680.46	0.0140	-0.0020	-2.000	-0.0045	-4.500	5,000	No	50	No
GESPM090622-247	MSB02	09/22/22	1637.21	0.0120								
GESPM090622-248	MSB113A	09/22/22	1588.35	0.0095								
GESPM090622-249	MSB01	09/22/22 ³	373.53	< 0.0013 J	-0.0003	-0.300	0.00000	0.000	5,000	No	50	No
GESPM090622-250	MSB02	09/22/22 ³	479.58	< 0.001 J								
GESPM090622-251	MSB113A	09/22/22 ³	451.8	0.0013								
GESPM091922-289	MSB01	09/27/22	1640.65	0.0110	-0.0010	-1.000	0.0010	1.000	5,000	No	50	No
GESPM091922-290	MSB02	09/27/22	1624.03	0.0100								
GESPM091922-291	MSB113A	09/27/22	1603.22	0.0120								

Attachment 3: Particulate Matter, Smaller than Ten Microns (PM10) Monitoring Results

Sample, Date and Station Information			Sampler Run Information	PM10								
Sample ID	Monitoring Station	Sample End Date ¹	Total Air Volume Monitored (m ³)	Concentration in Air (mg/m ³)	PM10 Perimeter Concentration (Downwind - Upwind) (mg/m ³)	PM10 Perimeter Concentration (Downwind - Upwind) (ug/m ³)	PM10 MSB113A Concentration (Downwind - Upwind) (mg/m ³)	PM10 MSB113A Perimeter Concentration (Downwind - Upwind) (ug/m ³)	Cal/OSHA PEL (ug/m ³)	Exceedance (Yes/No)	HERO Action Level ³ (ug/m ³)	Exceedance (Yes/No) ²
GESPM091922-292	MSB01	09/28/22	1621.57	0.0120	-0.0010	-1.000	0.0020	2.000	5,000	No	50	No
GESPM091922-293	MSB02	09/28/22	1636.33	0.0110								
GESPM091922-294	MSB113A	09/28/22	1592.5	0.0140								
GESPM091922-295	MSB01	09/29/22	1623.64	0.0110	0.0000	0.000	0.0020	2.000	5,000	No	50	No
GESPM091922-296	MSB02	09/29/22	1618.33	0.0110								
GESPM091922-297	MSB113A	09/29/22	1589.08	0.0130								
GESPM091922-298	MSB01	09/29/22 ³	514.58	0.0310	-0.0150	-15.000	-0.0070	-7.000	5,000	No	50	No
GESPM091922-299	MSB02	09/29/22 ³	547.95	0.0160								
GESPM091922-300	MSB113A	09/29/22 ³	516.71	0.0240								
GESPM091922-301	MSB01	10/04/22	1672.44	0.019	-0.0010	-1.000	0.0020	2.000	5,000	No	50	No
GESPM091922-302	MSB02	10/04/22	1656.00	0.018								
GESPM091922-303	MSB113A	10/04/22	1631.28	0.021								
GESPM091922-305	MSB01	10/05/22	1635.08	0.020	-0.0020	-2.000	-0.0040	-4.000	5,000	No	50	No
GESPM091922-306	MSB02	10/05/22	1627.94	0.018								
GESPM092122-307	MSB113A	10/05/22	1597.77	0.016								
GESPM092122-308	MSB01	10/06/22	1636.07	0.0076	-0.0014	-1.400	-0.0005	-0.500	5,000	No	50	No
GESPM092122-309	MSB02	10/06/22	1618.34	0.0062								
GESPM092122-310	MSB113A	10/06/22	1593.63	0.0071								
GESPM092122-311	MSB01	10/06/22 ²	486.80	0.0043	-0.0004	-0.400	-0.0014	-1.400	5,000	No	50	No
GESPM092122-312	MSB02	10/06/22 ²	513.71	0.0039 J								
GESPM092122-313	MSB113A	10/06/22 ²	485.14	0.0029								
GESPM092122-314	MSB01	10/11/22	1673.47	0.0084	-0.0003	-0.300	-0.0003	-0.300	5,000	No	50	No
GESPM092122-315	MSB02	10/11/22	1632.85	0.0081								
GESPM092122-316	MSB113A	10/11/22	1625.79	0.0081								
GESPM092122-318	MSB01	10/12/22	1616.62	0.015	-0.0010	-1.000	0.0040	4.000	5,000	No	50	No
GESPM092122-319	MSB02	10/12/22	1628.68	0.014								
GESPM092122-320	MSB113A	10/12/22	1582.42	0.019								
GESPM092122-321	MSB01	10/13/22	1604.98	0.0097	-0.0020	-2.000	0.0003	0.300	5,000	No	50	No
GESPM092122-322	MSB02	10/13/22	1605.94	0.0077								
GESPM092122-323	MSB113A	10/13/22	1574.95	0.010								
GESPM092122-324	MSB01	10/13/22 ²	476.31	< 0.001 J	0.0004	0.400	0.0014	1.400	5,000	No	50	No
GESPM092122-325	MSB02	10/13/22 ²	498.56	0.0014								
GESPM092122-326	MSB113A	10/13/22 ²	491.16	0.0024								
GESPM092122-327	MSB01	10/18/22	1614.25	0.021	-0.0040	-4.000	0.0000	0.000	5,000	No	50	No
GESPM092122-328	MSB02	10/18/22	1612.96	0.017								
GESPM092122-329	MSB113A	10/18/22	1579.58	0.021								
GESPM092122-331	MSB01	10/19/22	1661.56	0.033	-0.0070	-7.000	0.0000	0.000	5,000	No	50	No
GESPM092122-332	MSB02	10/19/22	1644.44	0.026								
GESPM092122-333	MSB113A	10/19/22	1626.73	0.033								
GESPM092122-334	MSB01	10/20/22	1627.83	0.018	-0.0010	-1.000	0.0030	3.000	5,000	No	50	No
GESPM092122-335	MSB02	10/20/22	1611.53	0.017								
GESPM092122-336	MSB113A	10/20/22	1585.09	0.021								
GESPM092122-337	MSB01	10/20/22 ²	365.09	0.014	-0.0040	-4.000	-0.0056	-5.600	5,000	No	50	No
GESPM092122-338	MSB02	10/20/22 ²	370.39	0.01								
GESPM092122-339	MSB113A	10/20/22 ²	391.25	0.0084								
GESPM092122-340	MSB01	10/25/22	1646.41	0.013	-0.0020	-2.000	-0.0034	-3.400	5,000	No	50	No

Attachment 3: Particulate Matter, Smaller than Ten Microns (PM10) Monitoring Results

Sample, Date and Station Information			Sampler Run Information	PM10								
Sample ID	Monitoring Station	Sample End Date ¹	Total Air Volume Monitored (m ³)	Concentration in Air (mg/m ³)	PM10 Perimeter Concentration (Downwind - Upwind) (mg/m ³)	PM10 Perimeter Concentration (Downwind - Upwind) (ug/m ³)	PM10 MSB113A Concentration (Downwind - Upwind) (mg/m ³)	PM10 MSB113A Perimeter Concentration (Downwind - Upwind) (ug/m ³)	Cal/OSHA PEL (ug/m ³)	Exceedance (Yes/No)	HERO Action Level ³ (ug/m ³)	Exceedance (Yes/No) ²
GESPM092122-341	MSB02	10/25/22	1633.73	0.011								
GESPM092122-342	MSB113A	10/25/22	1548.34	0.0096								
GESPM100322-344	MSB01	10/26/22	1645.67	0.018	0.0084	8.400	0.0020	2.000	5,000	No	50	No
GESPM100322-345	MSB02	10/26/22	1592.33	0.032								
GESPM100322-346	MSB113A	10/26/22	1610.55	0.02								
GESPM100322-347	MSB01	10/27/22	1665.33	0.012	0.0050	5.000	0.0070	7.000	5,000	No	50	No
GESPM100322-348	MSB02	10/27/22	1609.51	0.017								
GESPM100322-349	MSB113A	10/27/22	1592.94	0.019								
GESPM100322-350	MSB01	10/27/22 ²	496.95	0.0032	0.0039	3.900	0.0010	1.000	5,000	No	50	No
GESPM100322-351	MSB02	10/27/22 ²	534.53	0.0071								
GESPM100322-352	MSB113A	10/27/22 ²	504.08	0.0042								
GESPM100322-356	MSB01	11/01/22	1624.14	0.019	-0.0010	-1.000	0.0010	1.000	5,000	No	50	No
GESPM100322-355	MSB02	11/01/22	1605.49	0.018								
GESPM100322-354	MSB113A	11/01/22	1597.24	0.020								
GESPM100322-357	MSB01	11/02/22	1628.41	0.0092	-0.0017	-1.700	-0.0005	-0.500	5,000	No	50	No
GESPM100322-359	MSB02	11/02/22	1613.51	0.0075								
GESPM100322-358	MSB113A	11/02/22	1594.35	0.0087								
GESPM100322-360	MSB01	11/03/22	1609.52	0.007	-0.0025	-2.500	-0.0051	-5.100	5,000	No	50	No
GESPM100322-379	MSB02	11/03/22	1589.40	0.0045								
GESPM100322-380	MSB113A	11/03/22	1567.30	0.0019								
GESPM100322-381	MSB01	11/03/22 ²	500.38	0.0096 J	-0.0060	-6.000	0.0064	6.400	5,000	No	50	No
GESPM100322-382	MSB02	11/03/22 ²	520.08	0.0036								
GESPM100322-383	MSB113A	11/03/22 ²	495.88	0.016 J								

Notes:

¹Air sample was not collected on days with rain.

²PM10 data is additionally compared to the recommended dust action level of 50 ug/m3 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.

³Air sample was taken down during the afternoon after field activities ceased.

Sample locations are shown on Figure 2-1

min = minutes

Cal/OSHA = California Division of Occupational Safety and Health

HERO = Human and Ecological Risk Office

J = estimated concentration. See data review report for details.

J+ = estimated concentration biased high. See data review report for details.

m³ = cubic meters

mg/m³ = milligrams per cubic meter

PEL = permissible exposure limit

PM10 = particulate matter smaller than 10 microns in diameter

ug/m³ = micrograms per cubic meter

ATTACHMENT 4

LEAD AND MANGANESE MONITORING RESULTS

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Attachment 4: Copper, Lead, and Manganese Monitoring Results

Sample, Date and Station Information			Sampler Run Information	Lead		Manganese	
Sample ID	Monitoring Station	Sample End Date ¹	Total Air Volume Monitored (m ³)	Concentration in Air (mg/m ³)	Exceedance (Yes/No)	Concentration in Air (mg/m ³)	Exceedance (Yes/No)
GES_PM061322-38	MSB01	7/8/2022	1575.14	0.0000029	No	0.0000075	No
GES_PM061322-39	MSB02	7/8/2022	1626.27	0.0000012	No	0.0000026	No
GES_PM061322-40	MSB113A	7/8/2022	1587.75	0.0000082	No	0.0000024	No
GES_PM061322-41	MSB01	7/12/2022	1586.87	0.0000012	No	0.0000030	No
GES_PM061322-42	MSB02	7/12/2022	1593.10	0.0000088	No	0.0000026	No
GES_PM061322-43	MSB113A	7/12/2022	1578.52	0.0000078	No	0.0000019	No
GES_PM061322-44	MSB01	7/13/2022	1668.76	0.0000063 J	No	0.0000024	No
GES_PM061322-45	MSB02	7/13/2022	1607.71	0.0000012	No	0.0000014	No
GES_PM061322-46	MSB113A	7/13/2022	1600.23	0.0000069 J	No	0.0000021	No
GES_PM061322-47	MSB01	7/14/2022	1571.88	0.0000076	No	0.0000029	No
GES_PM061322-48	MSB02	7/14/2022	1547.49	0.0000063 J	No	0.0000014	No
GES_PM061322-49	MSB113A	7/14/2022	1586.39	0.0000073 J	No	0.0000019	No
GES_PM061322-50	MSB01	7/15/2022	1671.83	0.0000090	No	0.0000020	No
GES_PM061322-51	MSB02	7/15/2022	1636.90	0.0000070 J	No	0.0000021	No
GES_PM061322-52	MSB113A	7/15/2022	1626.56	0.0000098	No	0.0000028	No
GES_PM061322-53	MSB01	7/19/2022	1604.22	0.0000013	No	0.0000029	No
GES_PM061322-54	MSB02	7/19/2022	1584.87	0.0000075 J	No	0.0000220	No
GES_PM070522-73	MSB113A	7/19/2022	1584.48	0.0000011	No	0.0000027	No
GES_PM070522-74	MSB01	7/20/2022	1649.08	0.0000076	No	0.0000020	No
GES_PM070522-75	MSB02	7/20/2022	1593.23	0.0000044 J	No	0.0000014	No
GES_PM070522-76	MSB113A	7/20/2022	1543.80	0.0000013	No	0.0000028	No
GES_PM070522-78	MSB01	7/21/2022	1681.99	0.0000010	No	0.0000028	No
GES_PM070522-79	MSB02	7/21/2022	1631.55	0.0000072 J	No	0.0000190	No
GES_PM070522-80	MSB113A	7/21/2022	1577.49	0.0000081	No	0.0000220	No
GES_PM070522-81	MSB01	7/22/2022	1645.32	0.0000010	No	0.0000031	No
GES_PM070522-82	MSB02	7/22/2022	1624.79	0.0000066 J	No	0.0000025	No
GES_PM070522-83	MSB113A	7/22/2022	1609.69	0.0000072 J	No	0.0000020	No
GES_PM070522-84	MSB01	7/26/2022	1656.40	0.0000090	No	0.0000025 J+	No
GES_PM070522-85	MSB02	7/26/2022	1640.17	0.0000055 J	No	0.0000015 J+	No
GES_PM070522-86	MSB113A	7/26/2022	1621.60	0.0000052 J	No	0.0000016 J+	No
GES_PM070522-87	MSB01	7/27/2022	1630.68	0.0000091	No	0.0000019 J+	No
GES_PM070522-88	MSB02	7/27/2022	1601.47	0.0000048 J	No	0.0000015 J+	No
GES_PM070522-89	MSB113A	7/27/2022	1585.40	0.0000075 J	No	0.0000018 J+	No
GES_PM071122-91	MSB01	7/28/2022	1652.35	0.0000011	No	0.0000028 J+	No
GES_PM071122-92	MSB02	7/28/2022	1645.25	0.0000064 J	No	0.0000014 J+	No
GES_PM071122-93	MSB113A	7/28/2022	1618.52	0.0000077	No	0.0000014 J+	No
GES_PM071122-94	MSB01	7/29/2022	1656.03	0.0000040 J	No	0.0000017 J+	No
GES_PM071122-95	MSB02	7/29/2022	1630.44	0.0000039 J	No	0.0000024 J+	No
GES_PM071122-96	MSB113A	7/29/2022	1602.17	0.0000058 J	No	0.0000012 J+	No
GES_PM071122-97	MSB01	08/02/22	1664.38	0.0000007 J	No	0.0000026	No
GES_PM071122-98	MSB02	08/02/22	1621.19	0.0000079	No	0.0000019	No
GES_PM071122-99	MSB113A	08/02/22	1620.16	0.0000093	No	0.0000028	No

Attachment 4: Copper, Lead, and Manganese Monitoring Results

Sample, Date and Station Information			Sampler Run Information	Lead		Manganese	
Sample ID	Monitoring Station	Sample End Date ¹	Total Air Volume Monitored (m ³)	Concentration in Air (mg/m ³)	Exceedance (Yes/No)	Concentration in Air (mg/m ³)	Exceedance (Yes/No)
GES_PM071122-101	MSB01	08/03/22	1633.03	0.0000089	No	0.0000025	No
GES_PM071122-102	MSB02	08/03/22	1606.01	0.0000007 J	No	0.0000031	No
GES_PM071122-103	MSB113A	08/03/22	1586.91	0.00000076	No	0.0000026	No
GESPM072622-145	MSB01	08/04/22	1641.25	0.00000046 J	No	0.0000016	No
GESPM072622-146	MSB02	08/04/22	1607.65	0.00000059 J	No	0.0000025	No
GESPM072622-147	MSB113A	08/04/22	1592.35	0.00000044 J	No	0.0000017	No
GESPM072622-148	MSB01	08/05/22	1703.92	0.0000006 J	No	0.0000021	No
GESPM072622-149	MSB02	08/05/22	1653.18	0.0000012	No	0.0000031	No
GESPM072622-150	MSB113A	08/05/22	1484.68	0.00000069 J	No	0.0000021	No
GES_PM071122-105	MSB01	08/09/22	1663.70	< 0.00000072	No	0.0000002	No
GES_PM071122-106	MSB02	08/09/22	1622.89	< 0.00000074	No	0.0000035	No
GES_PM071122-107	MSB113A	08/09/22	1623.49	< 0.00000074	No	0.0000018	No
GESPM072622-153	MSB01	08/10/22	1699.59	< 0.00000071	No	0.0000019	No
GESPM072622-154	MSB02	08/10/22	1630.75	< 0.00000074	No	0.0000026	No
GESPM072622-155	MSB113A	08/10/22	1637.96	< 0.00000073	No	0.0000002	No
GES_PM072622-108	MSB01	08/11/22	1657.11	< 0.00000072	No	0.0000021	No
GESPM072622-151	MSB02	08/11/22	1635.06	< 0.00000073	No	0.0000016	No
GESPM072622-152	MSB113A	08/11/22	1642.95	< 0.00000073	No	0.0000018	No
GESPM072622-156	MSB01	08/12/22	1623.36	< 0.00000074	No	0.0000002	No
GESPM072622-157	MSB02	08/12/22	1598.56	< 0.00000075	No	0.0000023	No
GESPM072622-158	MSB113A	08/12/22	1601.40	< 0.00000075	No	0.0000045	No
GESPM072622-159	MSB01	08/16/22	1666.46	< 0.00000072	No	0.0000034	No
GESPM072622-160	MSB02	08/16/22	1629.77	< 0.00000074	No	0.0000033	No
GESPM072622-161	MSB113A	08/16/22	1641.67	< 0.00000073	No	0.0000036	No
GESPM080822-163	MSB01	08/17/22	1669.85	< 0.00000072	No	0.0000025	No
GESPM080822-164	MSB02	08/17/22	1548.50	< 0.00000077	No	0.0000036	No
GESPM080822-165	MSB113A	08/17/22	1532.16	< 0.00000078	No	0.0000048	No
GESPM080822-166	MSB01	08/18/22	1638.74	< 0.00000073	No	0.0000022	No
GESPM080822-167	MSB02	08/18/22	1637.56	< 0.00000073	No	0.0000022	No
GESPM080822-168	MSB113A	08/18/22	1611.00	< 0.00000074	No	0.0000027	No
GESPM080822-169	MSB01	08/19/22	1668.62	< 0.00000072	No	0.0000019	No
GESPM080822-170	MSB02	08/19/22	1660.59	< 0.00000072	No	0.0000071	No
GESPM080822-171	MSB113A	08/19/22	1660.29	< 0.00000072	No	0.0000023	No
GESPM080822-172	MSB01	08/23/22	1674.26	0.00000075	No	0.0000028	No
GESPM080822-173	MSB02	08/23/22	1639.37	0.00000068 J	No	0.0000041	No
GESPM080822-174	MSB113A	08/23/22	1601.43	0.00000056 J	No	0.0000018	No
GESPM080822-176	MSB01	08/24/22	1639.29	0.0000006 J	No	0.0000015	No
GESPM080822-177	MSB02	08/24/22	1609.09	0.00000057 J	No	0.0000017	No
GESPM080822-178	MSB113A	08/24/22	1571.14	0.00000067 J	No	0.0000002	No
GESPM080822-179	MSB01	08/25/22	1655.34	0.00000044 J	No	0.0000017	No
GESPM080822-180	MSB02	08/25/22	1633.41	0.00000061 J	No	0.0000025	No
GESPM080822-181	MSB113A	08/25/22	1584.08	0.00000051 J	No	0.0000019	No

Attachment 4: Copper, Lead, and Manganese Monitoring Results

Sample, Date and Station Information			Sampler Run Information	Lead		Manganese	
Sample ID	Monitoring Station	Sample End Date ¹	Total Air Volume Monitored (m ³)	Concentration in Air (mg/m ³)	Exceedance (Yes/No)	Concentration in Air (mg/m ³)	Exceedance (Yes/No)
GESPM080822-182	MSB01	08/25/22 ²	513.61	0.0000014 J	No	0.0000044	No
GESPM080822-183	MSB02	08/25/22 ²	527.62	0.000001 J	No	0.0000034	No
GESPM080822-184	MSB113A	08/25/22 ²	510.18	0.0000011 J	No	0.0000036	No
GESPM080822-185	MSB01	08/30/22	1636.24	0.0000016	No	0.0000035	No
GESPM080822-186	MSB02	08/30/22	1617.12	0.00000071 J	No	0.0000048	No
GESPM080822-187	MSB113A	08/30/22	1582.23	0.00000073 J	No	0.0000028	No
GESPM080822-189	MSB01	08/31/22	1648.08	0.0000016	No	0.0000033	No
GESPM080822-190	MSB02	08/31/22	1637.85	0.00000055 J	No	0.0000035	No
GESPM080822-191	MSB113A	08/31/22	1596.26	0.00000059 J	No	0.0000021	No
GESPM080822-192	MSB01	09/01/22	1655.98	0.00000046 J	No	0.0000017	No
GESPM080822-193	MSB02	09/01/22	1629.07	0.00000048 J	No	0.0000021	No
GESPM080822-194	MSB113A	09/01/22	1588.04	0.00000069 J	No	0.0000024	No
GESPM080822-195	MSB01	09/01/22 ²	439.21	0.0000017 J	No	0.0000043	No
GESPM080822-196	MSB02	09/01/22 ²	450.62	0.0000012 J	No	0.0000068	No
GESPM080822-197	MSB113A	09/01/22 ²	431.76	0.0000019 J	No	0.0000054	No
GESPM080822-198	MSB01	09/07/22	1649.77	0.0000023	No	0.0000084	No
GESPM082222-199	MSB02	09/07/22	1630.41	0.0000012	No	0.0000076	No
GESPM082222-200	MSB113A	09/07/22	1611.43	0.0000019	No	0.0000068	No
GESPM082222-202	MSB01	09/08/22	1685.89	0.0000014	No	0.0000039	No
GESPM082222-203	MSB02	09/08/22	1668.92	0.0000013	No	0.0000043	No
GESPM082222-204	MSB113A	09/08/22	1661.41	0.0000012	No	0.0000033	No
GESPM082222-205	MSB01	09/08/22 ²	435.50	0.0000031	No	0.0000021	No
GESPM082222-206	MSB02	09/08/22 ²	512.06	0.0000035	No	0.0000074	No
GESPM082222-207	MSB113A	09/08/22 ²	491.77	0.0000046	No	0.0000012	No
GESPM082222-208	MSB01	09/13/22	1589.23	0.00000091	No	0.0000026	No
GESPM082222-209	MSB02	09/13/22	1614.36	0.00000081	No	0.0000068	No
GESPM082222-210	MSB113A	09/13/22	1608.82	0.0000001	No	0.0000038	No
GESPM082222-212	MSB01	09/14/22	1674.65	0.00000059 J	No	0.0000016	No
GESPM082222-213	MSB02	09/14/22	1649.19	0.00000043 J	No	0.0000024	No
GESPM082222-214	MSB113A	09/14/22	1643.13	0.00000075	No	0.0000022	No
GESPM082222-215	MSB01	09/15/22	1670.91	0.00000042 J	No	0.0000022	No
GESPM082222-216	MSB02	09/15/22	1648.13	0.00000054 J	No	0.0000022	No
GESPM090622-235	MSB113A	09/15/22	1648.11	0.00000056 J	No	0.0000026	No
GESPM090622-236	MSB01	09/15/22 ²	469.15	0.00000072 J	No	0.0000046	No
GESPM090622-237	MSB02	09/15/22 ²	495.02	0.0000011 J	No	0.0000056	No
GESPM090622-238	MSB113A	09/15/22 ²	472.73	0.0000016 J	No	0.0000062	No
GESPM090622-239	MSB01	09/20/22	1635.64	0.0000011 J	No	0.0000023	No
GESPM090622-240	MSB02	09/20/22	1637.45	< 0.00000073 J	No	0.0000012 J	No
GESPM090622-241	MSB113A	09/20/22	1593.05	0.0000012 J	No	0.0000022	No
GESPM090622-243	MSB01	09/21/22	1692.11	0.00000075 J	No	0.0000029	No
GESPM090622-244	MSB02	09/21/22	1669.66	< 0.00000072 J	No	0.0000015	No
GESPM090622-245	MSB113A	09/21/22	1630.46	< 0.00000074 J	No	0.0000024	No
GESPM090622-246	MSB01	09/22/22	1680.46	< 0.00000071 J	No	0.0000026	No
GESPM090622-247	MSB02	09/22/22	1637.21	< 0.00000073 J	No	0.0000016	No
GESPM090622-248	MSB113A	09/22/22	1588.35	< 0.00000076 J	No	0.0000023	No
GESPM090622-249	MSB01	09/22/22 ²	373.53	< 0.0000032 J	No	0.0000034	No
GESPM090622-250	MSB02	09/22/22 ²	479.58	0.0000028	No	0.0000036	No

Attachment 4: Copper, Lead, and Manganese Monitoring Results

Sample, Date and Station Information			Sampler Run Information	Lead		Manganese	
Sample ID	Monitoring Station	Sample End Date ¹	Total Air Volume Monitored (m ³)	Concentration in Air (mg/m ³)	Exceedance (Yes/No)	Concentration in Air (mg/m ³)	Exceedance (Yes/No)
GESPM090622-251	MSB113A	09/22/22 ²	451.80	< 0.0000027 J	No	0.0000037	No
GESPM091922-289	MSB01	09/27/22	1640.65	0.0000061 J	No	0.0000027	No
GESPM091922-290	MSB02	09/27/22	1624.03	0.0000044 J	No	0.000002	No
GESPM091922-291	MSB113A	09/27/22	1603.22	0.0000067 J	No	0.0000024	No
GESPM091922-292	MSB01	09/28/22	1621.57	0.0000074	No	0.0000024	No
GESPM091922-293	MSB02	09/28/22	1636.33	0.0000053 J	No	0.0000019	No
GESPM091922-294	MSB113A	09/28/22	1592.50	0.000001	No	0.000003	No
GESPM091922-295	MSB01	09/29/22	1623.64	0.000004 J	No	0.0000014 J	No
GESPM091922-296	MSB02	09/29/22	1618.33	0.0000055 J	No	0.0000015	No
GESPM091922-297	MSB113A	09/29/22	1589.08	0.0000059 J	No	0.0000018	No
GESPM091922-298	MSB01	09/29/22 ²	514.58	0.0000013 J	No	0.000015	No
GESPM091922-299	MSB02	09/29/22 ²	547.95	0.0000012 J	No	0.0000034	No
GESPM091922-300	MSB113A	09/29/22 ²	516.71	0.0000013 J	No	0.0000046	No
GESPM091922-301	MSB01	10/04/22	1672.44	0.0000073	No	0.0000028 J+	No
GESPM091922-302	MSB02	10/04/22	1656.00	0.0000064 J	No	0.0000026 J+	No
GESPM091922-303	MSB113A	10/04/22	1631.28	0.0000087	No	0.0000033 J+	No
GESPM091922-305	MSB01	10/05/22	1635.08	0.0000072 J	No	0.0000042 J+	No
GESPM091922-306	MSB02	10/05/22	1627.94	0.0000054 J	No	0.0000024 J+	No
GESPM092122-307	MSB113A	10/05/22	1597.77	0.0000095	No	0.0000037 J+	No
GESPM092122-308	MSB01	10/06/22	1636.07	0.0000075	No	0.0000028 J+	No
GESPM092122-309	MSB02	10/06/22	1618.34	0.0000056 J	No	0.0000022 J+	No
GESPM092122-310	MSB113A	10/06/22	1593.63	0.0000098	No	0.0000031 J+	No
GESPM092122-311	MSB01	10/06/22 ²	486.80	0.0000013 J	No	0.0000039 J+	No
GESPM092122-312	MSB02	10/06/22 ²	513.71	0.0000013 J	No	0.0000038 J+	No
GESPM092122-313	MSB113A	10/06/22 ²	485.14	0.0000014 J	No	0.0000042 J+	No
GESPM092122-314	MSB01	10/11/22	1673.47	< 0.0000072	No	0.0000025	No
GESPM092122-315	MSB02	10/11/22	1632.85	< 0.0000073	No	0.0000019	No
GESPM092122-316	MSB113A	10/11/22	1625.79	< 0.0000074	No	0.0000022	No
GESPM092122-318	MSB01	10/12/22	1616.62	< 0.0000074	No	0.0000031	No
GESPM092122-319	MSB02	10/12/22	1628.68	< 0.0000074	No	0.0000024	No
GESPM092122-320	MSB113A	10/12/22	1582.42	< 0.0000076	No	0.000004	No
GESPM092122-321	MSB01	10/13/22	1604.98	< 0.0000075	No	0.0000023	No
GESPM092122-322	MSB02	10/13/22	1605.94	< 0.0000075	No	0.0000018 J+	No
GESPM092122-323	MSB113A	10/13/22	1574.95	< 0.0000076	No	0.0000038	No
GESPM092122-324	MSB01	10/13/22 ²	476.31	0.0000022	No	0.0000048	No
GESPM092122-325	MSB02	10/13/22 ²	498.56	0.0000014	No	0.0000038	No

Attachment 4: Copper, Lead, and Manganese Monitoring Results

Sample, Date and Station Information			Sampler Run Information	Lead		Manganese	
Sample ID	Monitoring Station	Sample End Date ¹	Total Air Volume Monitored (m ³)	Concentration in Air (mg/m ³)	Exceedance (Yes/No)	Concentration in Air (mg/m ³)	Exceedance (Yes/No)
GESPM092122-326	MSB113A	10/13/22 ²	491.16	0.0000028	No	0.0000057	No
GESPM092122-328	MSB02	10/18/22	1612.96	0.0000013	No	0.0000007	No
GESPM092122-329	MSB113A	10/18/22	1579.58	0.0000011	No	0.0000046	No
GESPM092122-331	MSB01	10/19/22	1661.56	0.0000014	No	0.0000063	No
GESPM092122-332	MSB02	10/19/22	1644.44	0.0000026	No	0.000018	No
GESPM092122-333	MSB113A	10/19/22	1626.73	0.0000019	No	0.000011	No
GESPM092122-334	MSB01	10/20/22	1627.83	0.0000029	No	0.000017	No
GESPM092122-335	MSB02	10/20/22	1611.53	0.0000011	No	0.0000062	No
GESPM092122-336	MSB113A	10/20/22	1585.09	0.0000014	No	0.0000079	No
GESPM092122-337	MSB01	01/02/00	365.09	0.0000021 J	No	0.0000084	No
GESPM092122-338	MSB02	01/02/00	370.39	0.0000016 J	No	0.0000061	No
GESPM092122-339	MSB113A	10/20/22 ²	391.25	0.0000024 J	No	0.0000071	No
GESPM092122-340	MSB01	10/25/22	1646.41	0.00000072 J	No	0.0000053	No
GESPM092122-341	MSB02	10/25/22	1633.73	0.00000055 J	No	0.0000027	No
GESPM092122-342	MSB113A	10/25/22	1548.34	0.00000067 J	No	0.0000031	No
GESPM100322-344	MSB01	10/26/22	1645.67	0.00000071 J	No	0.0000026	No
GESPM100322-345	MSB02	10/26/22	1592.33	0.0000019	No	0.000017	No
GESPM100322-346	MSB113A	10/26/22	1610.55	0.00000085	No	0.0000032	No
GESPM100322-347	MSB01	10/27/22	1665.33	0.00000051 J	No	0.0000027	No
GESPM100322-348	MSB02	10/27/22	1609.51	0.00000093	No	0.0000036	No
GESPM100322-349	MSB113A	10/27/22	1592.94	0.0000012	No	0.0000048	No
GESPM100322-350	MSB01	10/27/22 ²	496.95	0.0000017 J	No	0.0000069	No
GESPM100322-351	MSB02	10/27/22 ²	534.53	0.0000024 J	No	0.0000073	No
GESPM100322-352	MSB113A	10/27/22 ²	504.08	0.0000017 J	No	0.0000065	No
GESPM100322-356	MSB01	11/01/22	1624.14	0.00000084	No	0.0000029	No
GESPM100322-355	MSB02	11/01/22	1605.49	0.00000075	No	0.0000027	No
GESPM100322-354	MSB113A	11/01/22	1597.24	0.00000097	No	0.0000034	No
GESPM100322-357	MSB01	11/02/22	1628.41	0.00000037 J	No	0.0000018	No
GESPM100322-359	MSB02	11/02/22	1613.51	0.00000028 J	No	0.000001 J	No
GESPM100322-358	MSB113A	11/02/22	1594.35	0.00000037 J	No	0.0000015 J	No
GESPM100322-360	MSB01	11/03/22	1609.52	0.00000071 J	No	0.000003	No
GESPM100322-379	MSB02	11/03/22	1589.4	0.00000034 J	No	0.0000013 J	No
GESPM100322-380	MSB113A	11/03/22	1567.30	0.00000042 J	No	0.0000017	No
GESPM100322-381	MSB01	11/03/22 ²	500.38	0.0000014 J	No	0.0000047	No
GESPM100322-382	MSB02	11/03/22 ²	520.08	0.0000022 J	No	0.0000033	No
GESPM100322-383	MSB113A	11/03/22 ²	495.88	0.0000014 J	No	0.0000039	No

Notes:

¹Air sample was not collected on days with rain.

²Air sample was taken down during the afternoon after field activities ceased.

Sample locations are shown on Figure 2-1

m³ = cubic meters

mg/m³ = milligrams per cubic meter

J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

J+ = estimated concentration biased high. See data review report for details.

< = below detection limit

< = below detection limit

ATTACHMENT 5
TOTAL SUSPENDED PARTICULATES
MONITORING RESULTS

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Attachment 5: Total Suspended Particulates Monitoring Results

Sample, Date and Station Information			Sampler Run Information	TSP								
Sample ID	Monitoring Station	Sample End Date ¹	Total Air Volume Monitored (m ³)	Concentration in Air (mg/m ³)	TSP Perimeter Concentration (Downwind - Upwind) (mg/m ³)	TSP Perimeter Concentration (Downwind - Upwind) (ug/m ³)	TSP MSB113A Concentration (Downwind - Upwind) (mg/m ³)	TSP MSB113A Concentration (Downwind - Upwind) (ug/m ³)	Cal/OSHA PEL (ug/m ³)	Exceedance (Yes/No)	HERO Action Level (ug/m ³)	Exceedance (Yes/No)
GES_TSP061322-38	MSB01	7/8/2022	1752.44	0.0180891	0.002305	2.305	0.0056	5.594	5,000	No	50	No
GES_TSP061322-39	MSB02	7/8/2022	1740.72	0.0203939								
GES_TSP061322-40	MSB113A	7/8/2022	1567.65	0.0236828								
GES_TSP061322-41	MSB01	7/12/2022	1764.96	0.0162610	0.0064	6.373	0.0026	2.590	5,000	No	50	No
GES_TSP061322-42	MSB02	7/12/2022	1745.16	0.0226340								
GES_TSP061322-43	MSB113A	7/12/2022	1554.26	0.0188514								
GES_TSP061322-44	MSB01	7/13/2022	1767.79	0.0098461	-0.000592	-0.592	0.0046	4.600	5,000	No	50	No
GES_TSP061322-45	MSB02	7/13/2022	1739.85	0.0092537								
GES_TSP061322-46	MSB113A	7/13/2022	1578.31	0.0144458								
GES_TSP061322-47	MSB01	7/14/2022	1755.31	0.0225031	-0.0008	-0.843	0.0056	5.631	5,000	No	50	No
GES_TSP061322-48	MSB02	7/14/2022	1675.92	0.0216597								
GES_TSP061322-49	MSB113A	7/14/2022	1567.5	0.0281340								
GES_TSP061322-50	MSB01	7/15/2022	1816.52	0.0218550	0.0084	8.438	0.0199	19.915	5,000	No	50	No
GES_TSP061322-51	MSB02	7/15/2022	1792.47	0.0302934								
GES_TSP061322-52	MSB113A	7/15/2022	1601.64	0.0417697								
GES_TSP061322-53	MSB01	7/19/2022	1735.87	0.0288616	0.0048	4.821	-0.0179	-17.859	5,000	No	50	No
GES_TSP061322-54	MSB02	7/19/2022	1730.85	0.0336829								
GES_TSP070522-73	MSB113A	7/19/2022	1645.04	0.0110028 J								
GES_TSP070522-74	MSB01	7/20/2022	1761.31	0.0118662	0.0009	0.927	-0.0028	-2.797	5,000	No	50	No
GES_TSP070522-75	MSB02	7/20/2022	1750.99	0.0127928								
GES_TSP070522-76	MSB113A	7/20/2022	1742.11	0.0090695 J								
GES_TSP070522-78	MSB01	7/21/2022	1808.34	0.0068018	0.0048	4.765	-0.0011	-1.131	5,000	No	50	No
GES_TSP070522-79	MSB02	7/21/2022	1806.85	0.0115671								
GES_TSP070522-80	MSB113A	7/21/2022	1639.99	0.0056708 J								
GES_TSP070522-81	MSB01	7/22/2022	1747.17	0.0186015	0.0125	12.465	-0.0133	-13.257	5,000	No	50	No
GES_TSP070522-82	MSB02	7/22/2022	1757.52	0.0310665								
GES_TSP070522-83	MSB113A	7/22/2022	1627.68	0.005345 J								

Attachment 5: Total Suspended Particulates Monitoring Results

Sample, Date and Station Information			Sampler Run Information	TSP								
Sample ID	Monitoring Station	Sample End Date ¹	Total Air Volume Monitored (m ³)	Concentration in Air (mg/m ³)	TSP Perimeter Concentration (Downwind - Upwind) (mg/m ³)	TSP Perimeter Concentration (Downwind - Upwind) (ug/m ³)	TSP MSB113A Concentration (Downwind - Upwind) (mg/m ³)	TSP MSB113A Concentration (Downwind - Upwind) (ug/m ³)	Cal/OSHA PEL (ug/m ³)	Exceedance (Yes/No)	HERO Action Level (ug/m ³)	Exceedance (Yes/No)
GES_TSP070522-84	MSB01	7/26/2022	1771.32	0.0108958	-0.0013	-1.322	-0.0035	-3.488	5,000	No	50	No
GES_TSP070522-85	MSB02	7/26/2022	1754.87	0.0095734								
GES_TSP070522-86	MSB113A	7/26/2022	1647.00	0.0074074								
GES_TSP070522-87	MSB01	7/27/2022	1743.98	0.0115254	0.0015	1.493	-0.0034	-3.375	5,000	No	50	No
GES_TSP070522-88	MSB02	7/27/2022	1736.02	0.0130183								
GES_TSP070522-89	MSB113A	7/27/2022	1607.22	0.0081507								
GES_TSP071122-91	MSB01	7/28/2022	1795.60	0.0074070	0.0021	2.120	-0.0035	-3.532	5,000	No	50	No
GES_TSP071122-92	MSB02	7/28/2022	1815.93	0.0095268								
GES_TSP071122-93	MSB113A	7/28/2022	1651.72	0.0038747 J+								
GES_TSP071122-94	MSB01	7/29/2022	1767.63	0.0067322	0.0037	3.659	-0.0039	-3.945	5,000	No	50	No
GES_TSP071122-95	MSB02	7/29/2022	1790.03	0.0103909								
GES_TSP071122-96	MSB113A	7/29/2022	1650.33	0.0027873 J+								
GES_TSP071122-97	MSB01	08/02/22	1786.84	0.0169573	0.001	0.703	-0.0073	-7.250	5,000	No	50	No
GES_TSP071122-98	MSB02	08/02/22	1755.31	0.0176607								
GES_TSP071122-99	MSB113A	08/02/22	1637.99	0.009707								
GES_TSP071122-101	MSB01	08/03/22	1777.20	0.0108598	0.018	17.965	0.00013	0.131	5,000	No	50	No
GES_TSP071122-102	MSB02	08/03/22	1734.64	0.0288244								
GES_TSP071122-103	MSB113A	08/03/22	1610.42	0.0109909								
GES_TSP071122-104	MSB01	08/04/22	1767.28	0.0158436	0.010	9.656	-0.0054	-5.387	5,000	No	50	No
GES_TSP071122-105	MSB02	08/04/22	1745.16	0.0254991								
GES_TSP071122-106	MSB113A	08/04/22	1616.17	0.0104568 J								
GES_TSP071122-107	MSB01	08/05/22	1802.32	0.0221381	0.009	8.920	-0.0085	-8.539	5,000	No	50	No
GES_TSP071122-108	MSB02	08/05/22	1790.20	0.031058								
GESTSP072622-145	MSB113A	08/05/22	1500.13	0.0135988								
GESTSP072622-147	MSB01	08/09/22	1788.65	0.0134179	0.009	8.551	-0.0010	-1.011	5,000	No	50	No
GESTSP072622-148	MSB02	08/09/22	1761.55	0.0219693								
GESTSP072622-149	MSB113A	08/09/22	1636.18	0.0124069								

Attachment 5: Total Suspended Particulates Monitoring Results

Sample, Date and Station Information			Sampler Run Information	TSP								
Sample ID	Monitoring Station	Sample End Date ¹	Total Air Volume Monitored (m ³)	Concentration in Air (mg/m ³)	TSP Perimeter Concentration (Downwind - Upwind) (mg/m ³)	TSP Perimeter Concentration (Downwind - Upwind) (ug/m ³)	TSP MSB113A Concentration (Downwind - Upwind) (mg/m ³)	TSP MSB113A Concentration (Downwind - Upwind) (ug/m ³)	Cal/OSHA PEL (ug/m ³)	Exceedance (Yes/No)	HERO Action Level (ug/m ³)	Exceedance (Yes/No)
GESTSP072622-150	MSB01	08/10/22	1784.74	0.0141757	0.003	3.039	0.0025	2.526	5,000	No	50	No
GESTSP072622-151	MSB02	08/10/22	1777.57	0.0172145								
GESTSP072622-152	MSB113A	08/10/22	1628.55	0.016702								
GESTSP072622-153	MSB01	08/11/22	1781.62	0.0146496	-0.001	-1.096	-0.0029	-2.933	5,000	No	50	No
GESTSP072622-154	MSB02	08/11/22	1785.54	0.0135533								
GESTSP072622-155	MSB113A	08/11/22	1664.35	0.0117163								
GESTSP072622-156	MSB01	08/12/22	1746.69	0.0168891	0.006	6.443	0.0212	21.213	5,000	No	50	No
GESTSP072622-157	MSB02	08/12/22	1735.79	0.0233323								
GESTSP072622-158	MSB113A	08/12/22	1585.22	0.038102								
GESTSP072622-159	MSB01	08/16/22	1812.54	0.0263167	0.010	9.794	0.0185	18.510	5,000	No	50	No
GESTSP072622-160	MSB02	08/16/22	1747.40	0.0361108								
GESTSP072622-161	MSB113A	08/16/22	1621.82	0.0448262								
GESTSP080822-163	MSB01	08/17/22	1755.57	0.0213036	0.002	1.720	0.0022	2.176	5,000	No	50	No
GESTSP080822-164	MSB02	08/17/22	1763.42	0.0230234								
GESTSP080822-165	MSB113A	08/17/22	1605.64	0.0234797								
GESTSP080822-166	MSB01	08/18/22	1747.10	0.0170568	0.003	3.056	-0.0071	-7.127	5,000	No	50	No
GESTSP080822-167	MSB02	08/18/22	1740.22	0.0201124								
GESTSP080822-168	MSB113A	08/18/22	1631.46	0.0099298								
GESTSP080822-169	MSB01	08/19/22	1766.07	0.010362	0.019	19.342	-0.0025	-2.478	5,000	No	50	No
GESTSP080822-170	MSB02	08/19/22	1794.36	0.0297042								
GESTSP080822-171	MSB113A	08/19/22	1648.85	0.0078843								
GESTSP080822-172	MSB01	08/23/22	1781.10	0.0152153	0.016	16.216	-0.0043	-4.263	5,000	No	50	No
GESTSP080822-173	MSB02	08/23/22	1759.39	0.0314313								
GESTSP080822-174	MSB113A	08/23/22	1625.25	0.0109522								
GESTSP080822-176	MSB01	08/24/22	1735.43	0.013138	0.001	0.959	0.0021	2.075	5,000	No	50	No
GESTSP080822-177	MSB02	08/24/22	1745.01	0.0140973								
GESTSP080822-178	MSB113A	08/24/22	1564.48	0.0152127								

Attachment 5: Total Suspended Particulates Monitoring Results

Sample, Date and Station Information			Sampler Run Information	TSP								
Sample ID	Monitoring Station	Sample End Date ¹	Total Air Volume Monitored (m ³)	Concentration in Air (mg/m ³)	TSP Perimeter Concentration (Downwind - Upwind) (mg/m ³)	TSP Perimeter Concentration (Downwind - Upwind) (ug/m ³)	TSP MSB113A Concentration (Downwind - Upwind) (mg/m ³)	TSP MSB113A Concentration (Downwind - Upwind) (ug/m ³)	Cal/OSHA PEL (ug/m ³)	Exceedance (Yes/No)	HERO Action Level (ug/m ³)	Exceedance (Yes/No)
GESTSP080822-179	MSB01	08/25/22	1759.01	0.0128481	-0.001	-0.848	-0.0028	-2.833	5,000	No	50	No
GESTSP080822-180	MSB02	08/25/22	1783.36	0.0119998								
GESTSP080822-181	MSB113A	08/25/22	1607.64	0.0100147								
GESTSP080822-182	MSB01	08/25/22 ²	552.01	0.0217387	-0.009	-8.750	-0.0061	-6.078	5,000	No	50	No
GESTSP080822-183	MSB02	08/25/22 ²	577.41	0.012989								
GESTSP080822-184	MSB113A	08/25/22 ²	510.83	0.0156608								
GESTSP080822-185	MSB01	08/30/22	1755.42	0.0225017	0.008	8.500	0.0082	8.241	5,000	No	50	No
GESTSP080822-186	MSB02	08/30/22	1761.22	0.0310012								
GESTSP080822-187	MSB113A	08/30/22	1567.83	0.0307431								
GESTSP080822-189	MSB01	08/31/22	1716.69	0.0155532	0.015	15.187	0.0082	8.153	5,000	No	50	No
GESTSP080822-190	MSB02	08/31/22	1763.17	0.0307401								
GESTSP080822-191	MSB113A	08/31/22	1590.28	0.0237065								
GESTSP080822-192	MSB01	09/01/22	1799.18	0.0161185	0.004	4.276	0.0052	5.210	5,000	No	50	No
GESTSP080822-193	MSB02	09/01/22	1765.21	0.0203942								
GESTSP080822-194	MSB113A	09/01/22	1580.07	0.0213282								
GESTSP080822-195	MSB01	09/01/22 ²	467.94	0.0170962	0.007	7.326	0.0007	0.689	5,000	No	50	No
GESTSP080822-196	MSB02	09/01/22 ²	483.17	0.024422								
GESTSP080822-197	MSB113A	09/01/22 ²	432.94	0.0177854								
GESTSP080822-198	MSB01	09/07/22	1781.31	0.0407565	0.005	5.394	0.0046	4.573	5,000	No	50	No
GESTSP082222-199	MSB02	09/07/22	1776.78	0.0461509								
GESTSP082222-200	MSB113A	09/07/22	1590.59	0.0453291								
GESTSP082222-202	MSB01	09/08/22	1824.13	0.0323442	0.004	3.854	0.0066	6.556	5,000	No	50	No
GESTSP082222-203	MSB02	09/08/22	1806.72	0.0361982								
GESTSP082222-204	MSB113A	09/08/22	1616.98	0.0388997								
GESTSP082222-205	MSB01	09/08/22 ²	510.35	0.0656412	-0.028	-28.256	-0.0138	-13.755	5,000	No	50	No
GESTSP082222-206	MSB02	09/08/22 ²	553.69	0.0373855								

Attachment 5: Total Suspended Particulates Monitoring Results

Sample, Date and Station Information			Sampler Run Information	TSP								
Sample ID	Monitoring Station	Sample End Date ¹	Total Air Volume Monitored (m ³)	Concentration in Air (mg/m ³)	TSP Perimeter Concentration (Downwind - Upwind) (mg/m ³)	TSP Perimeter Concentration (Downwind - Upwind) (ug/m ³)	TSP MSB113A Concentration (Downwind - Upwind) (mg/m ³)	TSP MSB113A Concentration (Downwind - Upwind) (ug/m ³)	Cal/OSHA PEL (ug/m ³)	Exceedance (Yes/No)	HERO Action Level (ug/m ³)	Exceedance (Yes/No)
GESTSP082222-207	MSB113A	09/08/22 ²	481.82	0.0518866								
GESTSP082222-208	MSB01	09/13/22	1736.06	0.0326602	0.032	31.865	0.0058	5.849	5,000	No	50	No
GESTSP082222-209	MSB02	09/13/22	1729.56	0.0645251								
GESTSP082222-210	MSB113A	09/13/22	1560.66	0.0385093								
GESTSP082222-212	MSB01	09/14/22	1770.83	0.0164894	0.004	4.374	0.0004	0.377	5,000	No	50	No
GESTSP082222-213	MSB02	09/14/22	1783.03	0.0208634								
GESTSP082222-214	MSB113A	09/14/22	1606.74	0.0168665								
GESTSP082222-215	MSB01	09/15/22	1769.49	0.0161628	0.003	3.408	0.0006	0.584	5,000	No	50	No
GESTSP082222-216	MSB02	09/15/22	1773.07	0.0195706								
GESTSP090622-235	MSB113A	09/15/22	1606.32	0.0167464								
GESTSP090622-236	MSB01	09/15/22 ²	493.50	0.0190476	0.004	3.986	0.0035	3.460	5,000	No	50	No
GESTSP090622-237	MSB02	09/15/22 ²	534.01	0.0230333								
GESTSP090622-238	MSB113A	09/15/22 ²	457.62	0.0225078								
GESTSP090622-239	MSB01	09/20/22	1730.63	0.0222462	-0.005280	-5.280	0.000812	0.812	5,000	No	50	No
GESTSP090622-240	MSB02	09/20/22	1750.57	0.0169659								
GESTSP090622-241	MSB113A	09/20/22	1552.58	0.0230584								
GESTSP090622-243	MSB01	09/21/22	1843.57	0.0117706 J	0.00242	2.420	0.006481	6.481	5,000	No	50	No
GESTSP090622-244	MSB02	09/21/22	1796.97	0.0141906								
GESTSP090622-245	MSB113A	09/21/22	1605.33	0.0182517								
GESTSP090622-246	MSB01	09/22/22	1799.65	0.0174478	-0.003225	-3.225	0.001690	1.690	5,000	No	50	No
GESTSP090622-247	MSB02	09/22/22	1771.84	0.0142225								
GESTSP090622-248	MSB113A	09/22/22	1562.37	0.0191376								
GESTSP090622-249	MSB01	09/22/22 ²	397.88	0.0178446	0.001092	1.092	-0.004405	-4.405	5,000	No	50	No
GESTSP090622-250	MSB02	09/22/22 ²	517.52	0.0189365								

Attachment 5: Total Suspended Particulates Monitoring Results

Sample, Date and Station Information			Sampler Run Information	TSP								
Sample ID	Monitoring Station	Sample End Date ¹	Total Air Volume Monitored (m ³)	Concentration in Air (mg/m ³)	TSP Perimeter Concentration (Downwind - Upwind) (mg/m ³)	TSP Perimeter Concentration (Downwind - Upwind) (ug/m ³)	TSP MSB113A Concentration (Downwind - Upwind) (mg/m ³)	TSP MSB113A Concentration (Downwind - Upwind) (ug/m ³)	Cal/OSHA PEL (ug/m ³)	Exceedance (Yes/No)	HERO Action Level (ug/m ³)	Exceedance (Yes/No)
GESTSP090622-251	MSB113A	09/22/22 ²	446.44	0.0134397								
GESTSP091922-289	MSB01	09/27/22	1779.12	0.0147264	0.0000841	0.08410	0.0021317	2.1317	5,000	No	50	No
GESTSP091922-290	MSB02	09/27/22	1769.02	0.0148105								
GESTSP091922-291	MSB113A	09/27/22	1613.47	0.0168581								
GESTSP091922-292	MSB01	09/28/22	1737.44	0.0179577	0.002240	2.240	0.003971	3.971	5,000	No	50	No
GESTSP091922-293	MSB02	09/28/22	1757.61	0.0201981								
GESTSP091922-294	MSB113A	09/28/22	1586.00	0.0219283								
GESTSP091922-295	MSB01	09/29/22	1743.77	0.0192112	-0.0000366	-0.03660	0.002841	2.8410	5,000	No	50	No
GESTSP091922-296	MSB02	09/29/22	1757.53	0.0191746								
GESTSP091922-297	MSB113A	09/29/22	1582.61	0.0220522								
GESTSP091922-298	MSB01	09/29/22 ²	552.30	0.0563100	-0.033822	-33.822	-0.029669	-29.669	5,000	No	50	No
GESTSP091922-299	MSB02	09/29/22 ²	591.43	0.0224879								
GESTSP091922-300	MSB113A	09/29/22 ²	510.49	0.0266411								
GESTSP091922-301	MSB01	10/04/22	1787.57	0.0245585	0.000261	0.261	0.004486	4.486	5,000	No	50	No
GESTSP091922-302	MSB02	10/04/22	1780.89	0.0248191								
GESTSP091922-303	MSB113A	10/04/22	1618.19	0.0290448								
GESTSP091922-305	MSB01	10/05/22	1757.08	0.0310743	-0.0075855	-7.58550	-0.0070168	-7.0168	5,000	No	50	No
GESTSP091922-306	MSB02	10/05/22	1766.8	0.0234888								
GESTSP092122-307	MSB113A	10/05/22	1587.86	0.0240575								
GESTSP092122-308	MSB01	10/06/22	1751.65	0.0225502	-0.007436	-7.436	-0.007153	-7.153	5,000	No	50	No
GESTSP092122-309	MSB02	10/06/22	1759.92	0.0151143								
GESTSP092122-310	MSB113A	10/06/22	1584.68	0.0153974								
GESTSP092122-311	MSB01	10/06/22 ²	513.65	0.0165482	-0.0138466	-13.84660	-0.012808	-12.8076	5,000	No	50	No
GESTSP092122-312	MSB02	10/06/22 ²	555.23	0.0027016 J								

Attachment 5: Total Suspended Particulates Monitoring Results

Sample, Date and Station Information			Sampler Run Information	TSP								
Sample ID	Monitoring Station	Sample End Date ¹	Total Air Volume Monitored (m ³)	Concentration in Air (mg/m ³)	TSP Perimeter Concentration (Downwind - Upwind) (mg/m ³)	TSP Perimeter Concentration (Downwind - Upwind) (ug/m ³)	TSP MSB113A Concentration (Downwind - Upwind) (mg/m ³)	TSP MSB113A Concentration (Downwind - Upwind) (ug/m ³)	Cal/OSHA PEL (ug/m ³)	Exceedance (Yes/No)	HERO Action Level (ug/m ³)	Exceedance (Yes/No)
GESTSP092122-313	MSB113A	10/06/22 ²	481.21	0.0037406								
GESTSP092122-314	MSB01	10/11/22	1802.49	0.0161443	-0.003705	-3.705	-0.001389	-1.389	5,000	No	50	No
GESTSP092122-315	MSB02	10/11/22	1752.47	0.0124396								
GESTSP092122-316	MSB113A	10/11/22	1612.94	0.0147557								
GESTSP092122-318	MSB01	10/12/22	1731.11	0.02819	-0.0068465	-6.84650	-0.0019413	-1.9413	5,000	No	50	No
GESTSP092122-319	MSB02	10/12/22	1780.4	0.0213435								
GESTSP092122-320	MSB113A	10/12/22	1584.84	0.0262487								
GESTSP092122-321	MSB01	10/13/22	1750.7	0.0112526	0.002684	2.684	0.008636	8.636	5,000	No	50	No
GESTSP092122-322	MSB02	10/13/22	1736.43	0.0139366								
GESTSP092122-323	MSB113A	10/13/22	1568.74	0.0198886								
GESTSP092122-324	MSB01	10/13/22 ²	509.23	0.0060876	0.0003870	0.38700	0.0006861	0.6861	5,000	No	50	No
GESTSP092122-325	MSB02	10/13/22 ²	540.57	0.0064746								
GESTSP092122-326	MSB113A	10/13/22 ²	487.18	0.0067737								
GESTSP092122-327	MSB01	10/18/22	1733.23	0.0315	-0.007700	-7.700	-0.002900	-2.900	5,000	No	50	No
GESTSP092122-328	MSB02	10/18/22	1678.02	0.0238								
GESTSP092122-329	MSB113A	10/18/22	1574.69	0.0286								
GESTSP092122-331	MSB01	10/19/22	1787.52	0.0505	-0.00780	-7.800	-0.001700	-1.700	5,000	No	50	No
GESTSP092122-332	MSB02	10/19/22	1784.04	0.0427								
GESTSP092122-333	MSB113A	10/19/22	1615.64	0.0488								
GESTSP092122-334	MSB01	10/20/22	1735.15	0.0274	-0.002200	-2.200	-0.001800	-1.800	5,000	No	50	No
GESTSP092122-335	MSB02	10/20/22	1740.50	0.0252								
GESTSP092122-336	MSB113A	10/20/22	1582.32	0.0256								
GESTSP092122-337	MSB01	10/20/22 ²	389.41	0.018	0.000900	0.900	0.005500	5.500	5,000	No	50	No
GESTSP092122-338	MSB02	10/20/22 ²	401.69	0.0189								
GESTSP092122-339	MSB113A	10/20/22 ²	387.63	0.0235								

Attachment 5: Total Suspended Particulates Monitoring Results

Sample, Date and Station Information			Sampler Run Information	TSP								
Sample ID	Monitoring Station	Sample End Date ¹	Total Air Volume Monitored (m ³)	Concentration in Air (mg/m ³)	TSP Perimeter Concentration (Downwind - Upwind) (mg/m ³)	TSP Perimeter Concentration (Downwind - Upwind) (ug/m ³)	TSP MSB113A Concentration (Downwind - Upwind) (mg/m ³)	TSP MSB113A Concentration (Downwind - Upwind) (ug/m ³)	Cal/OSHA PEL (ug/m ³)	Exceedance (Yes/No)	HERO Action Level (ug/m ³)	Exceedance (Yes/No)
GESTSP092122-340	MSB01	10/25/22	1765.19	0.0269	-0.0071000	-7.10000	-0.0096000	-9.6000	5,000	No	50	No
GESTSP092122-341	MSB02	10/25/22	1760.71	0.0198								
GESTSP092122-342	MSB113A	10/25/22	1607.80	0.0173								
GESTSP100322-344	MSB01	10/26/22	1753.17	0.031	-0.001800	-1.800	-0.000100	-0.100	5,000	No	50	No
GESTSP100322-345	MSB02	10/26/22	1771.46	0.0292								
GESTSP100322-346	MSB113A	10/26/22	1597.10	0.0309								
GESTSP100322-347	MSB01	10/27/22	1743.85	0.0369	-0.0047000	-4.70000	-0.005700	-5.7000	5,000	No	50	No
GESTSP100322-348	MSB02	10/27/22	1738.29	0.0322								
GESTSP100322-349	MSB113A	10/27/22	1582.60	0.0312								
GESTSP100322-350	MSB01	10/27/22 ²	529.97	0.0304	-0.013500	-13.500	-0.020930	-20.930	5,000	No	50	No
GESTSP100322-351	MSB02	10/27/22 ²	574.70	0.0169								
GESTSP100322-352	MSB113A	10/27/22 ²	506.80	0.00947								
GESTSP100322-356	MSB01	11/01/22	1736.22	0.0285	-0.000100	-0.100	-0.001100	-1.100	5,000	No	50	No
GESTSP100322-355	MSB02	11/01/22	1726.65	0.0284								
GESTSP100322-354	MSB113A	11/01/22	1648.44	0.0274								
GESTSP100322-357	MSB01	11/02/22	1763.47	0.0174	-0.0013000	-1.30000	0.0023000	2.3000	5,000	No	50	No
GESTSP100322-359	MSB02	11/02/22	1739.84	0.0161								
GESTSP100322-358	MSB113A	11/02/22	1506.65	0.0197								
GESTSP100322-360	MSB01	11/03/22	1721.92	0.0136	-0.002400	-2.400	-0.003850	-3.850	5,000	No	50	No
GESTSP100322-379	MSB02	11/03/22	1727.34	0.0112								
GESTSP100322-380	MSB113A	11/03/22	1549.35	0.00975								
GESTSP100322-381	MSB01	11/03/22 ²	537.38	0.00707 J	-0.0014100	-1.41000	0.000040	0.0400	5,000	No	50	No

Attachment 5: Total Suspended Particulates Monitoring Results

Sample, Date and Station Information			Sampler Run Information	TSP								
Sample ID	Monitoring Station	Sample End Date ¹	Total Air Volume Monitored (m ³)	Concentration in Air (mg/m ³)	TSP Perimeter Concentration (Downwind - Upwind) (mg/m ³)	TSP Perimeter Concentration (Downwind - Upwind) (ug/m ³)	TSP MSB113A Concentration (Downwind - Upwind) (mg/m ³)	TSP MSB113A Concentration (Downwind - Upwind) (ug/m ³)	Cal/OSHA PEL (ug/m ³)	Exceedance (Yes/No)	HERO Action Level (ug/m ³)	Exceedance (Yes/No)
GESTSP100322-382	MSB02	11/03/22 ²	565.00	0.005660								
GESTSP100322-383	MSB113A	11/03/22 ²	492.35	0.00711 J								

Notes:

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

²Air sample was taken down during the afternoon after field activities ceased.

Sample locations are shown on Figure 2-1

HPNS = Hunters Point Naval Shipyard

J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

J+ = estimated concentration biased high. See data review report for details.

m³ = cubic meters

mg/m³ = milligrams per cubic meter

ATTACHMENT 6

RADIONUCLIDES OF CONCERN AIR SAMPLING RESULTS

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Attachment 6: Radionuclides of Concern Air Sampling Results

Date	Sample Location	Duration of Run (min)	Cesium-137		Plutonium-239/240		Radium-226		Strontium-90		Cobalt-60		Exceedance (Yes/No)
			4.00E-11		4.00E-15		1.80E-13		1.20E-12		1.00E-11		
			µCi/mL		µCi/mL		µCi/mL		µCi/mL		µCi/mL		
7/7/22 -7/8/22	1	1335	9.14E-15	U	1.16E-14	U	3.21E-15	UJ	7.43E-15	J	3.37E-14	U	No
	2	1443	2.17E-14	U	1.58E-14	U	2.93E-15	UJ	1.05E-14	J	2.58E-14	U	No
	113A	1362	8.82E-15	U	1.19E-14	U	3.28E-15	UJ	1.05E-14	UJ	2.41E-14	U	No
7/11/22-7/15/22	1	5803	1.97E-15	U	2.4E-15	U	7.51E-16	UJ	3.9E-15	J	5.81E-15	U	No
	2	5789	2.41E-15	U	3.14E-15	U	7.71E-16	UJ	2.37E-15	J	5.53E-15	U	No
	113A	5791	2.66E-15	U	3.05E-15	U	9.18E-16	UJ	3.35E-15	J	5.44E-15	U	No
7/18/22-7/22/22	1	5966	4.82E-15	U	4.71E-15	U	6.57E-16	UJ	3.03E-15	J	5.59E-15	U	No
	2	5944	2.04E-15	U	2.31E-15	U	7.33E-16	UJ	1.26E-15	U	6.28E-15	U	No
	113A	5954	2.57E-15	U	2.87E-15	U	8.37E-16	UJ	1.15E-15	U	6.02E-15	U	No
7/25/22-7/29/22	1	5988	2.75E-15	U	2.94E-15	U	1.04E-15	UJ	2.47E-15	U	5.95E-15	U	No
	1*	5987	1.94E-15	U	2.8E-15	U	5.65E-16	UJ	2.98E-15	U	7.63E-15	U	No
	2	5945	2.36E-15	U	2.31E-15	U	7.47E-16	UJ	3.46E-15		5.71E-15	UJ	No
	113A	5965	2.49E-15	U	2.47E-15	U	7.49E-16	UJ	3.4E-15	U	5.82E-15	U	No
8/1/22-8/5/22	1	5962	4.8E-15	U	5.16E-15	U	4.6E-16	UJ	1.3E-15		1.32E-14	U	No
	2	5925	2.54E-15	U	2.05E-15	U	6.54E-16	UJ	1.74E-15		5.71E-15	U	No
	113A	5942	2.57E-15	U	3.06E-15	U	7.79E-16	UJ	1.84E-15		6.17E-15	U	No
8/8/22-8/12/22	1	5988	2.05E-15	U	2.58E-15	UJ	5.93E-16	UJ	1.07E-15	UJ	7.65E-15	U	No
	2	5945	2.17E-15	U	2.47E-15	UJ	8.48E-16	UJ	1.03E-15	UJ	5.97E-15	U	No
	113A	5976	2.72E-15	U	3.18E-15	UJ	4.01E-16	UJ	1.15E-15	UJ	5.47E-15	U	No
8/15/22-8/19/22	1	6002	2.16E-15	U	2.87E-15	U	5.92E-16	UJ	1.01E-15	UJ	5.61E-15	U	No
	2	5967	2.6E-15	U	2.34E-15	U	6.19E-16	UJ	9.58E-16	UJ	5.76E-15	U	No
	113A	5971	2.45E-15	U	2.82E-15	U	4.9E-16	UJ	9.74E-16	UJ	5.84E-15	U	No
8/22/22-8/25/22	1	4992	4.68E-15	U	6.06E-15	U	6.54E-16	U	2.49E-15	U	9.06E-15	U	No
	2	4999	3.25E-15	U	3.11E-15	U	5.12E-16	U	9.3E-15	J	1.07E-14	J	No
	2*	4999	2.43E-15	U	2.77E-15	U	7.22E-16	U	2.65E-15	U	1.25E-14	UJ	No
	113A	5002	2.87E-15	U	3.55E-15	U	8.04E-16	U	2.47E-15	U	6.36E-15	U	No
8/29/22-9/1/22	1	4932	2.35E-15	U	3.24E-15	U	4.39E-16	U	2.82E-15	U	5.94E-15	U	No
	2	4944	3.24E-15	U	3.73E-15	U	6.33E-16	U	2.74E-15	U	1.22E-14	U	No
	113A	4949	5.53E-15	U	5.68E-15	U	5.02E-16	U	2.16E-14	J	6.42E-15	U	No

Attachment 6: Radionuclides of Concern Air Sampling Results

Date	Sample Location	Duration of Run (min)	Cesium-137		Plutonium-239/240		Radium-226		Strontium-90		Cobalt-60		Exceedance (Yes/No)
			4.00E-11		4.00E-15		1.80E-13		1.20E-12		1.00E-11		
			μCi/mL		μCi/mL		μCi/mL		μCi/mL		μCi/mL		
9/5/22-9/8/22	1	3535	3.86E-15	U	4.1E-15	U	3.81E-16	U	2.51E-15	J	2.32E-14	U	No
	2	3562	4.23E-15	U	5.01E-15	U	5.16E-16	U	1.67E-15	U	1.86E-14	U	No
	113A	3558	3.4E-15	U	4.74E-15	U	5.87E-16	U	3.86E-15	J	1.94E-14	U	No
9/12/22-9/15/22	1	4967	2.89E-15	U	3.35E-15	U	1.87E-16	U	1.77E-15		1.25E-14	U	No
	2	4995	5.7E-15	U	6.32E-15	U	1.55E-16	U	2.22E-15		1.21E-14	U	No
	113A	4972	5.67E-15	U	4.84E-15	U	3.03E-16	U	1.71E-15		1.3E-14	U	No
8/22/22-8/25/22	1	4992	4.68E-15	U	6.54E-16	U	2.49E-15	U	9.06E-15	U	6.06E-15	U	No
	2	4999	3.25E-15	U	5.12E-16	U	9.3E-15	J	1.07E-14	J	3.11E-15	U	No
	2*	4999	2.43E-15	U	7.22E-16	U	2.65E-15	U	1.25E-14	UJ	2.77E-15	U	No
	113A	5002	2.87E-15	U	8.04E-16	U	2.47E-15	U	6.36E-15	U	3.55E-15	U	No
8/29/22-9/1/22	1	4932	2.35E-15	U	4.39E-16	U	2.82E-15	U	5.94E-15	U	3.24E-15	U	No
	2	4944	3.24E-15	U	6.33E-16	U	2.74E-15	U	1.22E-14	U	3.73E-15	U	No
	113A	4949	5.53E-15	U	5.02E-16	U	2.16E-14	J	6.42E-15	U	5.68E-15	U	No
9/6/22-9/8/22	1	3535	3.86E-15	U	3.81E-16	UJ	2.51E-15	J	2.32E-14	U	4.1E-15	U	No
	2	3562	4.23E-15	U	5.16E-16	UJ	1.67E-15	U	1.86E-14	U	5.01E-15	U	No
	113A	3558	3.4E-15	U	5.87E-16	UJ	3.86E-15	J	1.94E-14	U	4.74E-15	U	No
9/12/22-9/15/22	1	4967	2.89E-15	U	1.87E-16	U	1.77E-15		1.25E-14	U	3.35E-15	U	No
	2	4995	5.7E-15	U	1.55E-16	U	2.22E-15		1.21E-14	U	6.32E-15	U	No
	113A	4972	5.67E-15	U	3.03E-16	UJ	1.71E-15		1.3E-14	U	4.84E-15	U	No
9/19/22-9/22/22	1	4943	2.43E-15	U	3.96E-16	U	3.81E-15		1.64E-14	U	3.68E-15	U	No
	2	4965	5.5E-15	U	3.23E-16	U	2.79E-15		1.37E-14	U	5.89E-15	U	No
	113A	4956	2.75E-15	U	3.46E-16	U	4.13E-15	J	1.28E-14	U	3.16E-15	U	No
	113A*	4955	2.74E-15	U	3.45E-16	U	6.6E-15	J	1.3E-14	U	3.08E-15	U	No
9/26/22-9/29/22	1	4980	2.28E-15	U	3.09E-16	UJ	3.67E-15		1.77E-14	U	2.95E-15	U	No
	2	4998	2.18E-15	U	3.63E-16	UJ	4.07E-15		1.41E-14	U	3.06E-15	U	No
	113A	4985	4.93E-15	U	3.91E-16	UJ	5.53E-15		1.39E-14	U	6.46E-15	U	No
10/03/22-10/06/22	1	4976	4.77E-15	U	3.74E-16	UJ	2.33E-15	U	1.85E-14	U	6.46E-15	U	No
	2	5004	3.18E-15	U	4.92E-16	UJ	5.33E-15	J	1.42E-14	U	3.26E-15	U	No
	113A	4990	2.74E-15	U	2.75E-16	UJ	2.21E-15	U	1.5E-14	U	3.13E-15	U	No
10/10/22-10/13/22	1	4731	3.23E-15	U	2.12E-16	UJ	3.15E-15	U	1.85E-14	UJ	3.78E-15	U	No
	2	4741	2.64E-15	U	3.67E-16	UJ	2.9E-15	U	1.49E-14	U	3.76E-15	U	No
	113A	4736	3.5E-15	U	3.84E-16	UJ	5.44E-15	J	1.49E-14	U	3.56E-15	U	No

Attachment 6: Radionuclides of Concern Air Sampling Results

Date	Sample Location	Duration of Run (min)	Cesium-137		Plutonium-239/240		Radium-226		Strontium-90		Cobalt-60		Exceedance (Yes/No)
			4.00E-11		4.00E-15		1.80E-13		1.20E-12		1.00E-11		
			μCi/mL		μCi/mL		μCi/mL		μCi/mL		μCi/mL		
10/17/22-10/20/22	1	4870	5.18E-15	U	4.4E-16	UJ	2.59E-15	U	1.53E-14	U	4.64E-15	U	No
	1*	4870	2.87E-15	U	2.82E-16	UJ	2.63E-15	U	1.61E-14		3.8E-15	U	No
	2	4861	3.16E-15	U	4.04E-16	UJ	2.64E-15	U	1.41E-14	U	3.37E-15	U	No
	113A	4891	3.15E-15	U	4.64E-16	UJ	2.9E-15	U	1.3E-14	U	3.31E-15	U	No
10/24/22-10/27/22	1	4985	2.39E-15	U	4.33E-16	UJ	2E-15	U	1.2E-14	U	2.7E-15	U	No
	2	5016	2.51E-15	U	2.57E-16	UJ	2.23E-15	U	1.23E-14	U	2.46E-15	U	No
	113A	5006	2.9E-15	U	2.64E-16	UJ	2.32E-15	U	1.33E-14	U	3.05E-15	U	No
10/31/22-11/03/22	1	4991	2.84E-15	U	2.64E-16	UJ	1.8E-15	U	1.79E-14	U	3.87E-15	U	No
	2	5006	3.15E-15	U	5.09E-16	UJ	2.83E-15	U	1.28E-14	U	3.09E-15	U	No
	113A	4991	2.18E-15	U	3.55E-16	UJ	2.9E-15	U	1.43E-14	U	2.38E-15	U	No

Notes:

* = duplicate sample

J = Activity is an approximate value.

min = minutes

U = Activity is less than the MDC.

μCi/mL=microcuries per milliliter

ATTACHMENT 7

LABORATORY REPORTS

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Laboratory Analysis Report

Job ID : 22102519



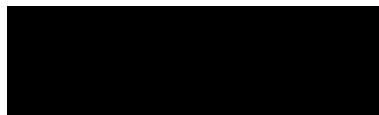
10100 East Freeway, Suite 100, Houston, TX 77029 tel: 713-453-6060, fax: 713-453-6091, <http://www.ablabs.com>

Client Project Name :
J310000900 / Hunters Point Shipyard, Parcel B Removal Site Evaluation

Report To : Client Name: GES - ASRC Industrial Total Number of Pages: 6
Attn: [REDACTED] P.O.#. : J310000900-005
Client Address: 1501 West Fountainhead Parkway, Ste. #550 Date Received : 10/27/2022 15:00
City, State, Zip: Tempe, Arizona, 85282 Sample Collected By :

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

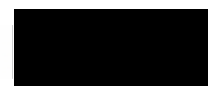
Client Sample ID	Sample Collection Date & Time	Matrix	A&B Job Sample ID
FB-101722	10/17/2022 8:00	Cassette	22102519.01
MSB01-101722	10/18/2022 7:53	Cassette	22102519.02
MSB02-101722	10/18/2022 7:20	Cassette	22102519.03
MSB113A-101722	10/18/2022 7:37	Cassette	22102519.04
MSB01-101822	10/19/2022 8:09	Cassette	22102519.05
MSB02-101822	10/19/2022 7:34	Cassette	22102519.06
MSB113A-101822	10/19/2022 7:55	Cassette	22102519.07
MSB01-101922	10/20/2022 7:52	Cassette	22102519.08
MSB02-101922	10/20/2022 7:18	Cassette	22102519.09
MSB113A-101922	10/20/2022 7:36	Cassette	22102519.10
MSB01-102022	10/20/2022 13:22	Cassette	22102519.11
MSB02-102022	10/20/2022 13:43	Cassette	22102519.12
MSB113A-102022	10/20/2022 13:30	Cassette	22102519.13



Released By:

Title: Vice President Operations

Analyst:



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ab-q210-0321

11/3/2022



**ANALYSIS OF AIRBORNE FIBER SAMPLING
SAMPLING PERFORMED BY CLIENT
ANALYSIS CONDUCTED BY A & B ENVIRONMENTAL SERVICES, INC.
AIHA Lab Accreditation # 101470 TDH PLM/PCM Lab License # 300080**

Date 11/3/2022

Job ID : 22102519
Analytical Method: NIOSH 7400-I2-Aug1994

Client: GES - ASRC Industrial			Project: J310000900 / Hunters Point Shipyard, Parcel B Removal Site Evaluation										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
22102519.01	FB-101722	10/17/2022						0	100	0	0.000			11/02/22	█
22102519.02	MSB01-101722	10/18/2022	Area	3.4			1414	4807.	100	2	2.548	< 0.001		11/02/22	█
22102519.03	MSB02-101722	10/18/2022	Area	3.1			1424	4414.	100	1	1.274	< 0.001		11/02/22	█
22102519.04	MSB113A-101722	10/18/2022	Area	3.3			1414	4666.	100	2.5	3.185	< 0.001		11/02/22	█
22102519.05	MSB01-101822	10/19/2022	Area	3.3			1455	4801.	100	9.0	11.465	0.001		11/02/22	█
22102519.06	MSB02-101822	10/19/2022	Area	3.1			1453	4504.	100	3.0	3.822	< 0.001		11/02/22	█
22102519.07	MSB113A-101822	10/19/2022	Area	3.5			1456	5096	100	4	5.096	< 0.001		11/02/22	█
22102519.08	MSB01-101922	10/20/2022	Area	3.4			1422	4834.	100	4.0	5.096	< 0.001		11/02/22	█
22102519.09	MSB02-101922	10/20/2022	Area	3.1			1421	4405.	100	3.5	4.459	< 0.001		11/02/22	█
22102519.10	MSB113A-101922	10/20/2022	Area	3.4			1421	4831.	100	5.5	7.006	0.001		11/02/22	█
22102519.11	MSB01-102022	10/20/2022	Area	3.5			329	1151.	100	2.5	3.185	< 0.002		11/02/22	█
22102519.12	MSB02-102022	10/20/2022	Area	3.3			384	1267.	100	3	3.822	< 0.002		11/02/22	█
22102519.13	MSB113A-102022	10/20/2022	Area	3.3			354	1168.	100	4	5.096	< 0.002		11/02/22	█

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

Sr Value

(Fiber Range*; Sr Value): (5-20; Sr = 0.06), (20-50; Sr = 0.05), (50-100; Sr = 0.04), (>100; Sr = 0.04)

*Fiber Range = # of Fibers / 100 Counts



Sample Condition Checklist

A&B JobID : 22102519		Date Received : 10/27/2022	Time Received : 3:00PM									
Client Name : GES - ASRC Industrial												
Temperature : 21.9°C		Sample pH : NA										
Thermometer ID : IR4		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
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9.	Samples were received in appropriate container(s)			X								
10.	Sample(s) were received with Proper preservative					X						
11.	All samples were tagged 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 with in 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:

No cooler was received, however samples are received in a box with a custody seal. Black Cassettes. 10/27/22

Received by : [Redacted]

Check in by/date : [Redacted] / 10/27/2022

ab-s005-0321

**CHAIN-OF-CUSTODY
RECORD**

Gilbane Federal [Redacted]
1655 Grant Street, Suite 1200, Concord, CA 94520

COC ID # KT102622ASBB



Project Name: Hunters Point Shipyard, Parcel B Removal Site Evaluation	Laboratory: A&B Labs	Event: Parcel B Asbestos
Project Number: J310000900	POC: [Redacted]	
WBS Code: J310000900	Ship to: 10100 East Fwy Ste. 100 Houston TX 77029	

<p>Comments:</p> <p>Job ID: 22102519</p> <p>10/27/2022 GES - ASRC Industrial ACH</p>	<p>Analytical Test Method</p> <p>Asbestos</p>	Code Matrix	<p>Page 1 of 2</p>
		<p>A Air</p> <p>AQ Air Quality Control Matrix</p>	
<p>Equipment:</p> <p>Event: Parcel B Asbestos</p>		Code Container/Preservative	
		1 Filter/No Preservatives	

01A
02D
03D
04A
05A
06A
07A
08A
09A
10A
11A

Sample ID	Matrix	Date	Time	Samp Init	X	Location ID	Sample Type	Depth (ft bgs)		Cooler	Flow Rate (L/min), Total Time (mins)
								Top	Bottom		
1	FB-101722	10/17/2022	0800	[Redacted]	X	FB	FB1	0.00	0.00	1	
2	MSB01-101722	10/18/2022	0753	[Redacted]	X	MSB01	N1	0.00	0.00	1	3.4; 1414
3	MSB02-101722	10/18/2022	0720	[Redacted]	X	MSB02	N1	0.00	0.00	1	3.1; 1424
4	MSB113A-101722	10/18/2022	0737	[Redacted]	X	MSB113A	N1	0.00	0.00	1	3.3; 1414
5	MSB01-101822	10/19/2022	0809	[Redacted]	X	MSB01	N1	0.00	0.00	1	3.3; 1455
6	MSB02-101822	10/19/2022	0734	[Redacted]	X	MSB02	N1	0.00	0.00	1	3.1; 1453
7	MSB113A-101822	10/19/2022	0755	[Redacted]	X	MSB113A	N1	0.00	0.00	1	3.5; 1456
8	MSB01-101922	10/20/2022	0752	[Redacted]	X	MSB01	N1	0.00	0.00	1	3.4; 1422
9	MSB02-101922	10/20/2022	0718	[Redacted]	X	MSB02	N1	0.00	0.00	1	3.1; 1421
10	MSB113A-101922	10/20/2022	0736	[Redacted]	X	MSB113A	N1	0.00	0.00	1	3.4; 1421
11	MSB01-102022	10/20/2022	1322	[Redacted]	X	MSB01	N1	0.00	0.00	1	3.5; 329

Turnaround Time: 7 days

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[Redacted]	10/26/22	1330	Fedex	10/26/22	1330	Shipping Date: 10/26/22 / FEDEX 7702 5482 6356
Fedex	10/27/22	3:00	[Redacted]	10/27/22	3:00	Laboratory: (Signature, Date, Time) & condition 10-27-22

21.9°C Free [Redacted]

**CHAIN-OF-CUSTODY
RECORD**

Gilbane Federal [redacted]
1655 Grant Street, Suite 1200, Concord, CA 94520
[redacted]

COC ID # KT102622ASBB



Project Name: Hunters Point Shipyard, Parcel B Removal Site Evaluation	Laboratory: A&B Labs	Event: Parcel B Asbestos
Project Number: J310000900	POC: [redacted]	
WBS Code: J310000900	Ship to: 10100 East Fwy Ste. 100 Houston TX 77029	

Comments:										Code Matrix		Page 2 of 2	
Analytical Test Method Asbestos [redacted] 10/26/22										A Air			
										AQ Air Quality Control Matrix			
Equipment:										Code Container/Preservative			
Event: Parcel B Asbestos										1 Fiber/No Preservative			
Sample ID	Matrix	Date	Time	Samp Init.				Location ID	Sample Type	Depth (ft bgs) Top - Bottom		Cooler	Flow Rate (L/min); Total Time (mins)
12 MSB02-102022	A	10/20/2022	1343	[redacted]	X			MSB02	N1	0.00	0.00	1	3.3; 384
13 MSB113A-102022	A	10/20/2022	1330	[redacted]	X			MSB113A	N1	0.00	0.00	1	3.3; 354
14	[redacted]	10/26/22										[redacted]	10/26/22
15													

120
130

Turnaround Time: 7 days						
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[redacted]	10/26/22	1330	FedEx	10/26/22	1330	Shipping Date: 10/26/22 / FEDEX 7702 5482 6356
[redacted]	10/27/22					R [redacted] Laboratory: (Signature, Date, Time) & condition 10/27/22

2).900 JCM [redacted]

ORIGIN ID: JCCA
GES-AIS
200 FISCHER AVE
SAN FRANCISCO, CA 94124
UNITED STATES US

SHIP DATE: 26OCT22
ACTWGT: 1.00 LB
CAD: 254128867/NET4530

BILL SENDER

TO
A&B LABS
10100 EAST FREEWAY, SUITE 100
HOUSTON TX 77029

59111A/5F/FED

(713) 453-6060 REF: 01000500 000014
INV. DEPT
PO

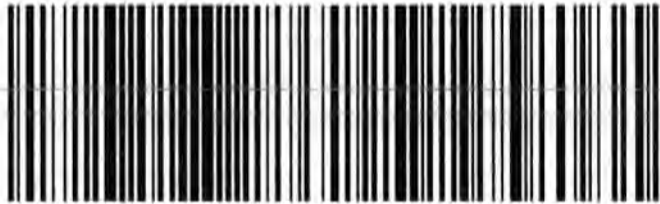


THU - 27 OCT 4:30P
STANDARD OVERNIGHT

TRK# 7702 5482 6356
0201

UL HBYA

TX-US 77029
IAH



After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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Laboratory Analysis Report

Job ID : 22110536



10100 East Freeway, Suite 100, Houston, TX 77029 tel: 713-453-6060, fax: 713-453-6091, <http://www.ablabs.com>

Client Project Name :

J310000900 / Hunters Point Shipyard, Parcel B Removal Site Evaluation

Report To : Client Name: GES - ASRC Industrial Total Number of Pages: 6
Attn: [REDACTED] P.O.#. : J310000900-005
Client Address: 1501 West Fountainhead Parkway, Ste. #550 Date Received : 11/03/2022 15:38
City, State, Zip: Tempe, Arizona, 85282 Sample Collected By :

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

Client Sample ID	Sample Collection Date & Time	Matrix	A&B Job Sample ID
FB-102422	10/24/2022 8:00	Cassette	22110536.01
MSB01-102422	10/25/2022 7:59	Cassette	22110536.02
MSB02-102422	10/25/2022 7:31	Cassette	22110536.03
MSB113A-102422	10/25/2022 7:44	Cassette	22110536.04
MSB01-102522	10/26/2022 8:09	Cassette	22110536.05
MSB02-102522	10/26/2022 7:42	Cassette	22110536.06
MSB113A-102522	10/26/2022 7:56	Cassette	22110536.07
MSB01-102622	10/27/2022 8:00	Cassette	22110536.08
MSB02-102622	10/27/2022 7:32	Cassette	22110536.09
MSB113A-102622	10/27/2022 7:48	Cassette	22110536.10
MSB01-102722	10/27/2022 15:20	Cassette	22110536.11
MSB02-102722	10/27/2022 15:28	Cassette	22110536.12
MSB113A-102722	10/27/2022 15:23	Cassette	22110536.13

[REDACTED]
Released By: [REDACTED]
Title: Vice President Operations

Analyst: [REDACTED]

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ab-q210-0321

11/10/2022



**ANALYSIS OF AIRBORNE FIBER SAMPLING
SAMPLING PERFORMED BY CLIENT
ANALYSIS CONDUCTED BY A & B ENVIRONMENTAL SERVICES, INC.
AIHA Lab Accreditation # 101470 TDH PLM/PCM Lab License # 300080**

Date 11/10/202

Job ID : 22110536
Analytical Method: NIOSH 7400-I2-Aug1994

Client: GES - ASRC Industrial			Project: J310000900 / Hunters Point Shipyard, Parcel B Removal Site Evaluation									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
22110536.01	FB-102422	10/24/2022	Area					0	100	5.5	7.006	0.000		11/10/22	[REDACTED]
22110536.02	MSB01-102422	10/25/2022	Area	3.4			1449	4926.	100	19.0	17.197	0.001		11/10/22	[REDACTED]
22110536.03	MSB02-102422	10/25/2022	Area	3.3			1446	4771.	100	8.5	3.822	0.000		11/10/22	[REDACTED]
22110536.04	MSB113A-102422	10/25/2022	Area	3.5			1447	5064.	100	13.0	9.554	0.001		11/10/22	[REDACTED]
22110536.05	MSB01-102522	10/26/2022	Area	3.3			1446	4771.	100	15.5	12.739	0.001		11/10/22	[REDACTED]
22110536.06	MSB02-102522	10/26/2022	Area	3.2			1449	4636.	100	8.0	3.185	0.000		11/10/22	[REDACTED]
22110536.07	MSB113A-102522	10/26/2022	Area	3.2			1449	4636.	100	17.0	14.650	0.001		11/10/22	[REDACTED]
22110536.08	MSB01-102622	10/27/2022	Area	3.2			1429	4572.	100	15.0	12.102	0.001		11/10/22	[REDACTED]
22110536.09	MSB02-102622	10/27/2022	Area	3.3			1429	4715.	100	8.5	3.822	0.000		11/10/22	[REDACTED]
22110536.10	MSB113A-102622	10/27/2022	Area	3.3			1430	4719	100	6.5	1.274	0.000		11/10/22	[REDACTED]
22110536.11	MSB01-102722	10/27/2022	Area	3.3			437	1442.	100	13.5	10.191	0.003		11/10/22	[REDACTED]
22110536.12	MSB02-102722	10/27/2022	Area	3.2			472	1510.	100	5.5	0.000	0.000		11/10/22	[REDACTED]
22110536.13	MSB113A-102722	10/27/2022	Area	3.4			454	1543.	100	11.5	7.643	0.002		11/10/22	[REDACTED]

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

Sr Value

(Fiber Range*; Sr Value): (5-20; Sr = 0.06), (20-50; Sr = 0.05), (50-100; Sr = 0.04), (>100; Sr = 0.04)

*Fiber Range = # of Fibers / 100 Counts



Sample Condition Checklist

A&B JobID : 22110536	Date Received : 11/03/2022	Time Received : 3:38PM		
Client Name : GES - ASRC Industrial				
Temperature : 22.1°C	Sample pH : NA			
Thermometer ID : IR4	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 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>			
9.	Samples were received in appropriate container(s)	X		
10.	Sample(s) were received with Proper preservative			X
11.	All samples were tagged 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 with in 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:
 No cooler was received, however samples are received in a box with a custody seal. Cassette=Black Cassette. [REDACTED] 11/03/22

Received by : [REDACTED]

Check in by/date : [REDACTED] / 11/03/2022

ab-s005-0321

**CHAIN-OF-CUSTODY
RECORD**

Gilbane Federal [REDACTED]
1655 Grant Street, Suite 1200, Concord, CA 94520
[REDACTED]

COC ID # KT110222ASBB



Project Name: Hunters Point Shipyard, Parcel B Removal Site Evaluation	Laboratory: A&B Labs	Event: Parcel B Asbestos
Project Number: J310000900	PDC: [REDACTED]	
WBS Code: J310000900	Ship to: 10100 East Fwy Ste. 100 Houston TX 77029	

<p>Comments:</p> <p>Job ID: 22110536</p> <p>11/03/2022 GES - ASRC Industrial ACH</p>	<p>Analytical Test Method</p> <p>Asbestos</p> <p>11/2/22</p>	<p>Code Matrix</p> <p>A Air</p> <p>AQ Air Quality Control Matrix</p>	<p>Page 1 of 2</p>
		<p>Code Container/Preservative</p> <p>1 Filter/No Preservatives</p>	

Equipment:

Event: Parcel B Asbestos

Sample ID	Matrix	Date	Time	Samp Init.	X	Location ID	Sample Type	Depth (ft bgs)		Cooler	Flow Rate (L/min), Total Time (mins)
								Top	Bottom		
1 FB-102422	AQ	10/24/2022	0800	[REDACTED]	X	FB	FB1	0.00	0.00	1	
2 MSB01-102422	A	10/25/2022	0759	[REDACTED]	X	MSB01	N1	0.00	0.00	1	3.4; 1449
3 MSB02-102422	A	10/25/2022	0731	[REDACTED]	X	MSB02	N1	0.00	0.00	1	3.3; 1446
4 MSB113A-102422	A	10/25/2022	0744	[REDACTED]	X	MSB113A	N1	0.00	0.00	1	3.5; 1447
5 MSB01-102522	A	10/26/2022	0809	[REDACTED]	X	MSB01	N1	0.00	0.00	1	3.3; 1446
6 MSB02-102522	A	10/26/2022	0742	[REDACTED]	X	MSB02	N1	0.00	0.00	1	3.2; 1449
7 MSB113A-102522	A	10/26/2022	0756	[REDACTED]	X	MSB113A	N1	0.00	0.00	1	3.2; 1449
8 MSB01-102622	A	10/27/2022	0800	[REDACTED]	X	MSB01	N1	0.00	0.00	1	3.2; 1429
9 MSB02-102622	A	10/27/2022	0732	[REDACTED]	X	MSB02	N1	0.00	0.00	1	3.3; 1429
10 MSB113A-102622	A	10/27/2022	0748	[REDACTED]	X	MSB113A	N1	0.00	0.00	1	3.3; 1430
11 MSB01-102722	A	10/27/2022	1520	[REDACTED]	X	MSB01	N1	0.00	0.00	1	3.3; 437

012
022
032
042
052
062
072
082
092
102
112

Turnaround Time: 7 days

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[REDACTED]	11/2/22	1400	Fedex	11/2/22	1400	Shipping Date: 11/02/22 / FEDEX 7703 0622 0867
Fedex	11/3/22	15:38	[REDACTED]	11/3/22	15:38	[REDACTED] (Signature, Date, Time) & condition 11/3/22 15:38

32.1
IR4

**CHAIN-OF-CUSTODY
RECORD**

Gilbane Federal [REDACTED]
1655 Grant Street, Suite 1200, Concord, CA 94520
[REDACTED]

COC ID # KT110222ASBB



Project Name: Hunters Point Shipyard, Parcel B Removal Site Evaluation	Laboratory: A&B Labs	Event: Parcel B Asbestos
Project Number: J310000900	POC: [REDACTED]	
WBS Code: J310000900	Ship to: 10100 East Fwy Ste. 100 Houston TX 77029	

Comments:	Analytical Test Method	Asbestos	[REDACTED]	11/2/22	Code Matrix	Page 2 of 2
					A Air	
					AQ Air Quality Control Matrix	
					Code Container/Preservative	
					1 Filter/No Preservatives	

Equipment:												
Event: Parcel B Asbestos												
1												
Sample ID	Matrix	Date	Time	Samp Init.	X	X	Location ID	Sample Type	Depth (ft bgs)		Cooler	Flow Rate (L/min); Total Time (mins)
									Top	Bottom		
12 MSB02-102722	A	10/27/2022	1528	[REDACTED]	X	X	MSB02	N1	0.00	0.00	1	3.2; 472
13 MSB113A-102722	A	10/27/2022	1523	[REDACTED]	X	X	MSB113A	N1	0.00	0.00	1	3.4; 454
14 [REDACTED]		11/2/22										
15 [REDACTED]												

12A
13A

Turnaround Time: 7 days						
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[REDACTED]	11/2/22	11:00	Fedex	11/2/22	14:00	Shipping Date: 11/02/22 / FEDEX 7703 0622 0867
[REDACTED]	11/3/22	15:38				Laboratory: (Signature, Date, Time) & condition [REDACTED] 11/3/22 15:38

22.1
[REDACTED]

ORIGIN ID: JCCA

GES-AIS
200 FISCHER AVE

SAN FRANCISCO, CA 94124
UNITED STATES US

SHIP DATE: 02NOV22
ACTWGT: 1.00 LB
CAD: 254128867/INET4530

BILL SENDER

TO

A&B LABS
10100 EAST FREEWAY, SUITE 100

HOUSTON TX 77029

(713) 453-6060

REF J31000 900 00.03 14

INV
PO

DEPT



FedEx
Express



J2242210180100

THU - 03 NOV 4:30P
STANDARD OVERNIGHT

TRK# **7703 0622 0867**
0201

UL HBYA

77029

TX-US

IAH



Laboratory Analysis Report

Job ID : 22111332



10100 East Freeway, Suite 100, Houston, TX 77029 tel: 713-453-6060, fax: 713-453-6091, <http://www.ablabs.com>

Client Project Name :

J310000900 / Hunters Point Shipyard, Parcel B Removal Site Evaluation

Report To : Client Name: GES - ASRC Industrial Total Number of Pages: 6
Attn: [REDACTED] P.O.#. : J310000900-005
Client Address: 1501 West Fountainhead Parkway, Ste. #550 Date Received : 11/10/2022 15:21
City, State, Zip: Tempe, Arizona, 85282 Sample Collected By :

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

Client Sample ID	Sample Collection Date & Time	Matrix	A&B Job Sample ID
FB-103122	10/31/2022 8:00	Cassette	22111332.01
MSB01-103122	11/1/2022 7:58	Cassette	22111332.02
MSB02-103122	11/1/2022 7:25	Cassette	22111332.03
MSB113A-103122	11/1/2022 7:40	Cassette	22111332.04
MSB01-110122	11/2/2022 7:57	Cassette	22111332.05
MSB02-110122	11/2/2022 7:31	Cassette	22111332.06
MSB113A-110122	11/2/2022 7:41	Cassette	22111332.07
MSB01-110222	11/3/2022 7:46	Cassette	22111332.08
MSB02-110222	11/3/2022 7:15	Cassette	22111332.09
MSB113A-110222	11/3/2022 7:28	Cassette	22111332.10
MSB01-110322	11/3/2022 15:04	Cassette	22111332.11
MSB02-110322	11/3/2022 14:54	Cassette	22111332.12
MSV113a-110322	11/3/2022 14:56	Cassette	22111332.13

[REDACTED]
Released By: [REDACTED]
Title: Vice President Operations

Analyst: [REDACTED]

This report cannot be reproduced, except in full, without prior written permission of A&B Labs. Results shown relate only to the items tested. Results apply to the sample as received. Samples are assumed to be in acceptable condition unless otherwise noted. Blank correction is not made unless otherwise noted. Air concentrations reported are based on field sampling information provided by client. Any TWA calculations are based on client supplied data not lab observation.

ab-q210-0321

11/17/2022



**ANALYSIS OF AIRBORNE FIBER SAMPLING
SAMPLING PERFORMED BY CLIENT
ANALYSIS CONDUCTED BY A & B ENVIRONMENTAL SERVICES, INC.
AIHA Lab Accreditation # 101470 TDH PLM/PCM Lab License # 300080**

Date 11/17/202

Job ID : 22111332
Analytical Method: NIOSH 7400-I2-Aug1994

Client: GES - ASRC Industrial			Project: J310000900 / Hunters Point Shipyard, Parcel B Removal Site Evaluation									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
22111332.01	FB-103122	10/31/2022						0	100	3.5	4.459			11/17/22	█
22111332.02	MSB01-103122	11/01/2022		3.3			1430	4719	100	3.5	4.459	< 0.001		11/17/22	█
22111332.03	MSB02-103122	11/01/2022		3.2			1424	4556.8	100	2	2.548	< 0.001		11/17/22	█
22111332.04	MSB113A-103122	11/01/2022		3.4			1428	4855.	100	2	2.548	< 0.001		11/17/22	█
22111332.05	MSB01-110122	11/02/2022		3.3			1434	4732.	100	3.0	3.822	< 0.001		11/17/22	█
22111332.06	MSB02-110122	11/02/2022		3.1			1443	4473.	100	3	3.822	< 0.001		11/17/22	█
22111332.07	MSB113A-110122	11/02/2022		3.4			1438	4889.	100	2	2.548	< 0.001		11/17/22	█
22111332.08	MSB01-110222	11/03/2022		3.2			1427	4566.	100	2.0	2.548	< 0.001		11/17/22	█
22111332.09	MSB02-110222	11/03/2022		3.1			1424	4414.	100	5	6.369	< 0.001		11/17/22	█
22111332.10	MSB113A-110222	11/03/2022		3.3			1423	4695.	100	14.0	17.834	0.001		11/17/22	█
22111332.11	MSB01-110322	11/03/2022		3.1			437	1354.	100	1.5	1.911	< 0.002		11/17/22	█
22111332.12	MSB02-110322	11/03/2022		3.2			459	1468.	100	3	3.822	< 0.002		11/17/22	█
22111332.13	MSV113a-110322	11/03/2022		3.2			446	1427.	100	3.5	4.459	< 0.002		11/17/22	█

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

Sr Value

(Fiber Range*; Sr Value): (5-20; Sr = 0.06), (20-50; Sr = 0.05), (50-100; Sr = 0.04), (>100; Sr = 0.04)

*Fiber Range = # of Fibers / 100 Counts



Sample Condition Checklist

A&B JobID : 22111332	Date Received : 11/10/2022	Time Received : 3:21PM		
Client Name : GES - ASRC Industrial				
Temperature : 22.0°C	Sample pH : NA			
Thermometer ID : IR4	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 <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input checked="" type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>			
9.	Samples were received in appropriate container(s)	X		
10.	Sample(s) were received with Proper preservative			X
11.	All samples were tagged 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 with in 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:
 No cooler was received, however samples are received in a box with a custody seal. cassettes= black cassettes. ~ 11/10/22

Received by : ██████████

Check in by/date : ██████████ / 11/10/2022

ab-s005-0321


**CHAIN-OF-CUSTODY
RECORD**

Gilbane Federal [Redacted]
1655 Grant Street, Suite 1200, Concord, CA 94520
[Redacted]

COC ID #MC110922ASBB



Project Name: Hunters Point Shipyard, Parcel B Removal Site Evaluation	Laboratory: A&B Labs	Event: Parcel B Asbestos
Project Number: J310000900	POC: [Redacted]	
WBS Code: J310000900	Ship to: 10100 East Fwy Ste. 100 Houston TX 77029	

Comments: <div style="text-align: center;"> <h2>Job ID: 22111332</h2>  <p>11/10/2022 GES - ASRC Industrial ACH</p> </div>	Analytical Test Method Asbestos	Code Matrix	Page 1 of 2
		A Air AQ Air Quality Control Matrix	
Equipment:		Code Container/Preservative	
Event: Parcel B Asbestos		1 Filter/No Preservatives	

#1A
 OCA
 OSD
 OVA
 OSA
 OUD
 OVA
 OSA
 OUD
 OVA
 OSA
 OUD

Sample ID	Matrix	Date	Time	Samp Int.	X	Location ID	Sample Type	Depth (ft bgs)		Cooler	Flow Rate (L/min), Total Time (mins)
								Top	Bottom		
1 FB-103122	AQ	10/31/2022	0800	[Redacted]	X	FB	FB1	0.00	0.00	1	
2 MSB01-103122	A	11/01/2022	0758	[Redacted]	X	MSB01	N1	0.00	0.00	1	3.3, 1430
3 MSB02-103122	A	11/01/2022	0725	[Redacted]	X	MSB02	N1	0.00	0.00	1	3.2, 1424
4 MSB113A-103122	A	11/01/2022	0740	[Redacted]	X	MSB113A	N1	0.00	0.00	1	3.4, 1428
5 MSB01-110122	A	11/02/2022	0757	[Redacted]	X	MSB01	N1	0.00	0.00	1	3.3, 1434
6 MSB02-110122	A	11/02/2022	0731	[Redacted]	X	MSB02	N1	0.00	0.00	1	3.1, 1443
7 MSB113A-110122	A	11/02/2022	0741	[Redacted]	X	MSB113A	N1	0.00	0.00	1	3.4, 1438
8 MSB01-110222	A	11/03/2022	0746	[Redacted]	X	MSB01	N1	0.00	0.00	1	3.2, 1427
9 MSB02-110222	A	11/03/2022	0715	[Redacted]	X	MSB02	N1	0.00	0.00	1	3.1, 1424
10 MSB113A-110222	A	11/03/2022	0728	[Redacted]	X	MSB113A	N1	0.00	0.00	1	3.3, 1423
11 MSB01-110322	A	11/03/2022	1504	[Redacted]	X	MSB01	N1	0.00	0.00	1	3.1, 437

Turnaround Time: 7 days

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[Redacted]	11/09/22	1600	FedEx	11/09/22	1600	Shipping Date: 11/09/22 / FEDEX 7704 0565 8309
FedEx	11/10/22		[Redacted]	11/10/22		[Redacted]; (Signature, Date, Time) & condition 11/10/22 3:21

BDU
 JMY
 [Redacted]

**CHAIN-OF-CUSTODY
RECORD**

Gilbane Federal [Redacted]
1655 Grant Street, Suite 1200, Concord, CA 94520

COC ID #MC110922ASBB



Project Name: Hunters Point Shipyard, Parcel B Removal Site Evaluation	Laboratory: A&B Labs	Event: Parcel B Asbestos
Project Number: J310000900	POC: [Redacted]	
WBS Code: J310000900	Ship to: 10100 East Fwy Ste. 100 Houston TX 77029	

Comments:	Analytical Test Method	Asbestos	Code Matrix		Page 2 of 2						
			A	Air							
			AQ	Air Quality Control Matrix							
			Code Container/Preservative								
			1	Filter/No Preservatives							
Equipment:											
Event: Parcel B Asbestos			1								
Sample ID	Matrix	Date	Time	Samp Init.	X	Location ID	Sample Type	Depth (ft bgs)		Cooler	Flow Rate (L/min); Total Time (mins)
								Top	Bottom		
12	A	11/03/2022	1454	[Redacted]	X	MSB02	N1	0.00	0.00	1	3.2, 459
13	A	11/03/2022	1456	[Redacted]	X	MSB113A	N1	0.00	0.00	1	3.2, 446
14											
15											

1207
1300

Turnaround Time: 7 days						
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[Redacted]	11/09/22	1600	FedEx	11/09/22	1600	Shipping Date: 11/09/22 / FEDEX 7704 0565 8309
[Signature]	11/10/22					Received by Laboratory: (Signature, Date, Time) & condition [Redacted] 11/10/22

2200
John
[Redacted]

ORIGIN ID: JCCA

GES-AIS
200 FISCHER AVE

SAN FRANCISCO, CA 94124
UNITED STATES US

SHIP DATE: 09NOV22
ACTWGT: 1.00 LB
CAD: 254128867/INET4530

BILL SENDER

TO

A&B LABS
10100 EAST FREEWAY, SUITE 100

HOUSTON TX 77029

(713) 453-6060

INV.
PO:

REF J31000.900 00.03.14

DEPT

581J407F5FE2D



FedEx
Express



024222101801uv

THU - 10 NOV 4:30P
STANDARD OVERNIGHT

TRK#
0201

7704 0565 8309

UL HBYA

77029
TX-US IAH



FedEx Ship Manager - Print Your Label(s)

11/4/22, 10:57 AM

After printing this label:
1. Use the "Print" button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.

<https://www.fedex.com/shipping/shipAction.handle?method=doContinue>



2609 North River Road
Port Allen, Louisiana 70767
(225) 228-1394

ARS Aleut Analytical, LLC

Laboratory Analytical Report

ARS1-22-02191

Gilbane Federal

[REDACTED]
1655 Grant Street
Suite 1200
Concord, CA 94520

[REDACTED]
[REDACTED]
[REDACTED]

COC Number: **KT100522RADB**
Job Number: **J310000900**
Job Location: **Parcel B Air Monitoring RAD**
Project Name: **Parcel B Removal Site Evaluation**

Questions regarding this analytical report should be addressed to ARS project manager, [REDACTED], who can be reached by email at projectmanagers@aaa.aleutfederal.com.

I certify that the test results presented in this report (in either hardcopy or electronic file (EDD)) meet the requirements of the laboratory's certifications and other applicable contract terms and conditions. A full list of the Port Allen, LA laboratory's certifications is provided with this report. Any exceptions to the certification or contract will be noted within the case narratives presented in the report. Any subcontracted sample results will be identified within the case narratives presented in the report. In the event this report is an amendment to a previously released report, the case narrative will clearly identify the original report as well as the reason(s) for reissuance. A statement of uncertainty for each analysis is available upon request. I authorize release and issuance of this report on the date signed below.

[REDACTED]

Laboratory Management, ARS Aleut Analytical

Signature

Date

Title

This report provides analytical results of the requested analysis and does not include any opinions or interpretations. ARS Aleut Analytical, LLC assumes no liability for the use or interpretation of analytical results. Results relate only to items tested. A partial reproduction of this test report is prohibited. Reproduction of this report in full requires the written approval of the laboratory.







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QC Summary	13
Batch QC	30
Sample Management Records	39



Certifications and Accreditations List

State or Accrediting Body (AB)	Certificate Number
AIHA LAP, LLC	209312
Alaska	LA01131
California	3085
ANAB DoD	ADE-1489
ANAB DOE	ADE-1489.01
Louisiana DEQ - NELAC	01949
Louisiana DHH	LA022
Nevada	LA011312023-1
New Jersey	LA009
New York	65039
Pennsylvania	68-04294-011
Texas	T104704447-21-17
Utah	LA011312022-13
Washington	C1010

For additional information related to the specific matrices, methods, and analytes recognized by each accrediting body, contact us at QA@aaa.aleutfederal.com for additional information.



ARS Aleut Analytical, LLC Analytical Reports

for

Gilbane Federal

Case Narrative



**PROJECT SAMPLE IDENTIFICATION
CROSS-REFERENCE
TO ARS SAMPLE LABORATORY IDs**

Client Sample ID	ARS Aleut Analytical Sample ID
FB-092622	ARS1-22-02191-001
MSB01-092622	ARS1-22-02191-002
MSB02-092622	ARS1-22-02191-003
MSB113A-092622	ARS1-22-02191-004

Sample	Date Collected	Date Received	Analysis	Basis	Prep Date/Time	Analysis Date/Time
001	09/26/22 08:00	10/06/22	ASP-PU239-AF	As Received	10/18/22 11:36	10/22/22 02:17
001	09/26/22 08:00	10/06/22	GAM-A-AF	As Received	N/A	10/13/22 14:11
001	09/26/22 08:00	10/06/22	GPC-RA226-AF	As Received	10/18/22 08:29	10/26/22 09:50
001	09/26/22 08:00	10/06/22	GPC-SR90-AF	As Received	10/18/22 11:32	10/21/22 10:19
002	09/29/22 15:05	10/06/22	ASP-PU239-AF	As Received	10/18/22 11:36	10/22/22 02:17
002	09/29/22 15:05	10/06/22	GAM-A-AF	As Received	N/A	10/12/22 14:10
002	09/29/22 15:05	10/06/22	GPC-RA226-AF	As Received	10/18/22 08:29	10/26/22 09:50
002	09/29/22 15:05	10/06/22	GPC-SR90-AF	As Received	10/18/22 11:32	10/21/22 10:19
003	09/29/22 15:05	10/06/22	ASP-PU239-AF	As Received	10/18/22 11:36	10/22/22 02:17
003	09/29/22 15:05	10/06/22	GAM-A-AF	As Received	N/A	10/13/22 14:13
003	09/29/22 15:05	10/06/22	GPC-RA226-AF	As Received	10/18/22 08:29	10/26/22 09:50
003	09/29/22 15:05	10/06/22	GPC-SR90-AF	As Received	10/18/22 11:32	10/21/22 10:19
004	09/29/22 15:03	10/06/22	ASP-PU239-AF	As Received	10/18/22 11:36	10/22/22 02:17
004	09/29/22 15:03	10/06/22	GAM-A-AF	As Received	N/A	10/13/22 14:15



004	09/29/22 15:03	10/06/22	GPC-RA226-AF	As Received	10/18/22 08:29	10/26/22 09:50
004	09/29/22 15:03	10/06/22	GPC-SR90-AF	As Received	10/18/22 11:32	10/21/22 10:19

SAMPLE RECEIPT/PREP

The samples arrived in good condition. The samples were screened for radioactive contamination as per procedure **PALA-SR-001-SOP Sample Receiving**. Sample date(s) and time(s) are listed as provided by the client. In regard to the Air Filters, no flow rate information was provided by the client. Turnaround time was set at 28 calendar days.

ANALYTICAL METHODS

Pu-239/240 analysis was performed using **PALA-RAD-026, "Americium, Plutonium and Uranium in Water, Soil and Vegetation Matrices by Sequential Separation Using Eichrom Stabilized Chemistry Resin (with Vacuum Box System Option) (Eichrom ACW-02 & Eichrom ACW-03)"**.

Co-60, Cs-137, Ra-226 analyses were performed using **PALA-RAD-007, "Modified Gamma Emitting Radionuclides in Soil, Air, and Biota Matrices (EPA 901.1 Mod, SM 7120B, & HASL-300 Ga-01-R)"**.

Ra-226 analysis was performed using **PALA-RAD-008, "Alpha Emitting Radium Isotopes in Water (EPA 903.0, EPA 9315, SM 7500-Ra C, SM 7500-Ra C)"**.

Sr-90 analysis was performed using **PALA-RAD-032, "Strontium 89, 90 and Total Strontium in Water, Soil and Vegetation Matrices by Eichrom Resin Separation (Eichrom SRW01, EPA 905.0, HASL 300 Sr-01-RC)"**.

ANALYTICAL RESULTS

Fraction 001 has elevated MDC for Pu-239/240 with ACT of $-1.713E-8$ uCi/filter, MDC of $7.461E-8$ uCi/filter and CRDL of $4.8E-08$ uCi/filter.

Fraction 001 has elevated MDC for Ra-226 with ACT of 0.000 uCi/filter, MDC of $1.544E-5$ uCi/filter and CRDL of $4.4E-06$ uCi/filter.

Fraction 002 has elevated MDC for Pu-239/240 with ACT of $-4.019E-8$ uCi/filter, MDC of $9.256E-8$ uCi/filter and CRDL of $4.8E-08$ uCi/filter.

Fraction 002 has elevated MDC for Ra-226 with ACT of $-5.646E-7$ uCi/filter, MDC of $9.588E-6$ uCi/filter and CRDL of $4.4E-06$ uCi/filter.

Fraction 003 has elevated MDC for Pu-239/240 with ACT of $-3.918E-8$ uCi/filter, MDC of $1.090E-7$ uCi/filter and CRDL of $4.8E-08$ uCi/filter.

Fraction 003 has elevated MDC for Ra-226 with ACT of $6.323E-7$ uCi/filter, MDC of $9.569E-6$ uCi/filter and CRDL of $4.4E-06$ uCi/filter.

Fraction 004 has elevated MDC for Pu-239/240 with ACT of $-1.636E-8$ uCi/filter, MDC of $1.171E-7$ uCi/filter and CRDL of $4.8E-08$ uCi/filter.

Fraction 004 has elevated MDC for Ra-226 with ACT of $-1.846E-5$ uCi/filter, MDC of $2.632E-5$ uCi/filter and CRDL of $4.4E-06$ uCi/filter.

ARS1-B22-01597: ROI's adjusted to better fit the peaks of interest.

ARS1-B22-01599: The Method Blank for Batch ARS1-B22-01599 had a detect for Sr-90. All fractions were non-detects, therefore the activity in the Method Blank did not contribute to the concentration in client samples.

Notes (Case Narrative)

Definitions:

CRDL	Contract Required Detection Limit
CSU	Combined Standard Uncertainty
DLC	Decision Level Concentration (ANSI N42.23)
DO	Duplicate Original
DUP	Sample Duplicate
LCS/LCSD	Laboratory Control Sample/Laboratory Control Sample Duplicate
LOD	Limit of Detection
LOQ	Limit of Quantitation
MBL	Method Blank
MCL	Maximum Contaminant Level
MDA	Minimum Detectable Activity
MDL	Method Detection Limit
MS/MSD	Matrix Spike/Matrix Spike Duplicate
N/A	Not Applicable
NC	Not Calculated
NP	Not Provided
NR	Not Referenced
PQL	Practical Quantitation Limit

Data Qualifiers:

B	The result of both the method blank and the target sample are above the MDL.
D	Sample analysis accomplished through dilution.
J	The reported result is an estimated value above the LOD but below the LOQ, or above the MDL but below the PQL.
Q	One or more quality control criteria failed.
U	Result is below the MDA, MDL, PQL, LOD, or LOQ
*	LCS/LCSD or Sample DUP fails all Duplicate criteria.
S	Spike
SC	Subcontracted out to another qualified laboratory
H	Holding time exceeded
E	Exceeds MCL
**	Reporting Limit is higher than MCL; Target cannot be detected
‡	Method/Matrix/Analyte not accredited for this certification

Radiochemistry Comments:

- 1.0) All MDA/MDC values are calculated on a sample specific basis.
- 2.0) Data in this report are within the limits of uncertainty specified in the reference method unless otherwise specified.
- 3.0) Total activity is actually total gamma activity and is determined utilizing the prominent gamma emitters from the naturally occurring radioactive decay chains and other prominent radioactive nuclides. Total activity may be lower than the actual total activity due to the extent of secular equilibrium achieved in the various decay chains at the time of analysis. The total activity is not representative of nuclides that emit solely alpha or beta particles.
- 4.0) Ra-228 is determined via secular equilibrium with its daughter, Actinium 228 (Gamma Spectroscopy only).
- 5.0) U-238 is determined via secular equilibrium with its daughter, Thorium 234 (Gamma Spectroscopy only).
- 6.0) All gamma spectroscopy was performed utilizing high purity germanium detectors (**HPGe**).
- 7.0) ARS makes every attempt to match sample density to calibrated density; however, in some cases, it is not practical or possible to do so and data results may be affected (Gamma Spectroscopy only).
- 8.0) Gamma spectroscopy results are calculated values based on the **ORTEC®** GammaVision ENV32 Analysis Engine.
- 9.0) DoD/DOE and ISO 17025 certifications through ANAB apply only to the following methods in **Non-Potable Water**:
Gross Alpha and Gross Beta (EPA 900.0, EPA 9310); Radium 226 (EPA 903.0, EPA 903.1, EPA 9315); Radium 228 (EPA 904.0, EPA 9320); ICP/MS (EPA 6020B); ICP-OES (EPA 6010D); Mercury CVAA (EPA 7470A); Strontium-89 (EPA 905.0, Eichrom SRW01, HASL 300 Sr-01); Strontium-90 (EPA 905.0, Eichrom SRW01, HASL 300 Sr-02-RC); Tritium (EPA 906.0); Enriched Tritium (ARS-040), Carbon-14 (ARS-019), Tritium/Carbon (ARS-151); Gamma Emitters (EPA 901.1, SM 7120B, HASL 300 Ga-01-R); Americium-241 (Eichrom ACW03, HASL 300 Se-03, HASL 300 Am-03); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, HASL 300 Se-03, HASL 300 Pu-10); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235, Uranium-238 (Eichrom ACW03, HASL 300 Se-03); Technetium-99 (Eichrom TCW02)
- 10.0) DoD/DOE and ISO 17025 certifications through ANAB apply only to the following methods in **Solid and Chemical Materials**:
Gross Alpha and Gross Beta (EPA 900.0 Mod, EPA 9310); ICP/MS (EPA 6020B); ICP-OES (EPA 6010D); Mercury CVAA (EPA 7471B); Strontium-89 (EPA 905.0 Mod, Eichrom SRW01, HASL 300 Sr-01); Strontium-90 (EPA 905.0 Mod, Eichrom SRW01, HASL 300 Sr-02); Tritium (EPA 906.0 Mod); Gamma Emitters (EPA 901.1, HASL 300 Ga-01-R); Americium-241 (Eichrom ACW03, HASL 300 Se-03, HASL 300 Am-01-RC); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, HASL 300 Se-03, HASL 300 Pu-02-RC, HASL 300 Pu-03-RC); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235, Uranium-238 (Eichrom ACW03, HASL 300 Se-03, HASL 300 U-02, HASL 300 U-04); Technetium-99 (Eichrom TCS01)
- 11.0) DoD/DOE and ISO 17025 certifications through ANAB apply only to the following methods in **Air and Emissions**:
Gross Alpha and Gross Beta (EPA 900.0 Mod, EPA 9310); Strontium-89 (Eichrom SRW01, HASL 300 Sr-01-RC); Strontium-90 (Eichrom SRW01, HASL 300 Sr-02-RC); Gamma Emitters (EPA 901.1, HASL 300 Ga-01-R); Americium-241 (Eichrom ACW03, HASL 300 Se-03); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, HASL 300 Se-03); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235, Uranium-238 (Eichrom ACW03, HASL 300 Se-03); Technetium-99 (Eichrom TCW02, Eichrom TCS01)

General Comments:

- 1.0) Modified analysis procedures are procedures that are modified to meet the certain specifications. An example may be the use of a water method to analyze a solid matrix due to the lack of an officially recognized procedure for the analysis of the solid matrix. Modified analyses are indicated by the subsequent addition of "M" or "Mod" to the procedure number (i.e. 901.1M, 901.1 Mod).
- 2.0) All NIOSH method results are reported without blank corrections applied.
- 3.0) Basis: "As Received" = analyzed as received from client; "Dry" = dried prior to being analyzed; "Dry Weight Corrected" = analyzed as received; result corrected for percent moisture.



ARS Aleut Analytical, LLC Analytical Reports

for

Gilbane Federal

Analytical Results



ARS Sample Delivery Group: ARS1-22-02191

Client Sample ID: FB-092622

Sample Collection Date: 09/26/22 8:00

Sample Matrix: Air Filter

Percent Solids: N/A

Request or PO Number:

ARS Sample ID: ARS1-22-02191-001

Date Received: 10/06/22

Report Date: 10/28/22

Radiochemistry

Analysis Method: Eichrom ACW03

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-1.713E-8	3.364E-8	7.461E-8	3.150E-8	4.8E-08	U	uCi/filter	10/22/22 2:17		73.2%

Analysis Method: EPA 901.1M

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	-8.428E-8	9.818E-7	1.011E-6	5.055E-7	0.00024	U	uCi/filter	10/13/22 14:11		N/A
Cs-137	-9.134E-8	8.047E-7	9.058E-7	4.529E-7	0.00048	U	uCi/filter	10/13/22 14:11		N/A
Ra-226	0.000	9.600E-6	1.544E-5	7.720E-6	4.4E-06	U	uCi/filter	10/13/22 14:11		N/A

Analysis Method: EPA 9315

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Ra-226	5.327E-7	4.700E-7	6.569E-7	2.418E-7	4.4E-06	U	uCi/filter	10/26/22 9:50		99.0%

Analysis Method: Eichrom SRW01

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	2.190E-6	2.494E-6	4.121E-6	1.902E-6	2.4E-05	U	uCi/filter	10/21/22 10:19		89.5%



ARS Sample Delivery Group: ARS1-22-02191

Client Sample ID: MSB01-092622

Sample Collection Date: 09/29/22 15:05

Sample Matrix: Air Filter

Percent Solids: N/A

Request or PO Number:

ARS Sample ID: ARS1-22-02191-002

Date Received: 10/06/22

Report Date: 10/28/22

Radiochemistry

Analysis Method: Eichrom ACW03

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-4.019E-8	4.040E-8	9.256E-8	4.023E-8	4.8E-08	U	uCi/filter	10/22/22 2:17		71.9%

Analysis Method: EPA 901.1M

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	-2.807E-7	8.631E-7	8.837E-7	4.419E-7	0.00024	U	uCi/filter	10/12/22 14:10		N/A
Cs-137	3.578E-7	6.320E-7	6.815E-7	3.408E-7	0.00048	U	uCi/filter	10/12/22 14:10		N/A
Ra-226	-5.646E-7	7.562E-6	9.588E-6	4.794E-6	4.4E-06	U	uCi/filter	10/12/22 14:10		N/A

Analysis Method: EPA 9315

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Ra-226	1.098E-6	6.137E-7	6.129E-7	2.165E-7	4.4E-06		uCi/filter	10/26/22 9:50		99.5%

Analysis Method: Eichrom SRW01

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	2.235E-6	3.155E-6	5.309E-6	2.499E-6	2.4E-05	U	uCi/filter	10/21/22 10:19		92.8%



ARS Sample Delivery Group: ARS1-22-02191

Client Sample ID: MSB02-092622

Sample Collection Date: 09/29/22 15:05

Sample Matrix: Air Filter

Percent Solids: N/A

Request or PO Number:

ARS Sample ID: ARS1-22-02191-003

Date Received: 10/06/22

Report Date: 10/28/22

Radiochemistry

Analysis Method: Eichrom ACW03

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-3.918E-8	5.212E-8	1.090E-7	4.858E-8	4.8E-08	U	uCi/filter	10/22/22 2:17		68.0%

Analysis Method: EPA 901.1M

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	-8.934E-8	8.925E-7	9.187E-7	4.594E-7	0.00024	U	uCi/filter	10/13/22 14:13		N/A
Cs-137	3.433E-7	6.068E-7	6.548E-7	3.274E-7	0.00048	U	uCi/filter	10/13/22 14:13		N/A
Ra-226	6.323E-7	7.547E-6	9.569E-6	4.785E-6	4.4E-06	U	uCi/filter	10/13/22 14:13		N/A

Analysis Method: EPA 9315

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Ra-226	1.223E-6	6.773E-7	7.687E-7	2.995E-7	4.4E-06		uCi/filter	10/26/22 9:50		101%

Analysis Method: Eichrom SRW01

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	3.479E-6	2.697E-6	4.240E-6	1.964E-6	2.4E-05	U	uCi/filter	10/21/22 10:19		93.6%



ARS Sample Delivery Group: ARS1-22-02191
Client Sample ID: MSB113A-092622
Sample Collection Date: 09/29/22 15:03
Sample Matrix: Air Filter
Percent Solids: N/A

Request or PO Number:
ARS Sample ID: ARS1-22-02191-004
Date Received: 10/06/22
Report Date: 10/28/22

Radiochemistry

Analysis Method: Eichrom ACW03

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-1.636E-8	6.110E-8	1.171E-7	5.299E-8	4.8E-08	U	uCi/filter	10/22/22 2:17		74.0%

Analysis Method: EPA 901.1M

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	-1.024E-6	1.907E-6	1.934E-6	9.670E-7	0.00024	U	uCi/filter	10/13/22 14:15		N/A
Cs-137	7.476E-7	1.321E-6	1.475E-6	7.375E-7	0.00048	U	uCi/filter	10/13/22 14:15		N/A
Ra-226	-1.846E-5	2.672E-5	2.632E-5	1.316E-5	4.4E-06	U	uCi/filter	10/13/22 14:15		N/A

Analysis Method: EPA 9315

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Ra-226	1.656E-6	7.963E-7	7.670E-7	2.881E-7	4.4E-06		uCi/filter	10/26/22 9:50		106%

Analysis Method: Eichrom SRW01

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	1.843E-6	2.488E-6	4.178E-6	1.931E-6	2.4E-05	U	uCi/filter	10/21/22 10:19		95.3%



ARS Aleut Analytical, LLC Analytical Reports

for

Gilbane Federal

QC Summary



QC Sample Results

Analytical Batch: ARS1-B22-01541
Lab Sample ID: ARS1-B22-01541-01
Method: EPA 901.1M

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 10/14/22 12:59

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Am-241	33.065	31.413		uCi/filter	95.0	75 - 125
Co-60	20.928	21.261		uCi/filter	101.6	75 - 125
Cs-137	12.996	13.378		uCi/filter	102.9	75 - 125



QC Sample Results

Analytical Batch: ARS1-B22-01541

Lab Sample ID: ARS1-B22-01541-02

Method: EPA 901.1M

Sample Type: LCSD

Matrix: Air Filter

Analysis Date: 10/14/22 13:14

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Am-241	33.065	31.902		uCi/filter	96.5	75 - 125	1.5	25	0.274	3
Co-60	20.928	20.892		uCi/filter	99.8	75 - 125	1.8	25	0.407	3
Cs-137	12.996	13.257		uCi/filter	102.0	75 - 125	0.9	25	0.223	3



QC Sample Results

Analytical Batch: ARS1-B22-01541
Lab Sample ID: ARS1-B22-01541-03
Method: EPA 901.1M

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 10/15/22 12:32

Analyte	Analysis Result	CSU +/- 2 s	MDC	DLC	Qual	Analysis Units
Co-60	-5.278E-4	8.170E-4	0.001	6.750E-4	U	uCi/filter
Cs-137	3.189E-5	6.974E-4	7.600E-4	3.800E-4	U	uCi/filter
Ra-226	0.004	0.007	0.009	0.005	U	uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-22-02191

Analytical Batch: ARS1-B22-01541

Analysis: Gamma Spec (Short) in (Air Filters, Smears [AF])

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B22-01541-01		Lab Control Sample	Air Filter	EPA 901.1M	N/A
ARS1-B22-01541-02		Lab Control Sample Duplicate	Air Filter	EPA 901.1M	N/A
ARS1-B22-01541-03		Method Blank	Air Filter	EPA 901.1M	N/A
ARS1-B22-01541-04	ARS1-22-02191-001	FB-092622	Air Filter	EPA 901.1M	N/A
ARS1-B22-01541-05	ARS1-22-02191-002	MSB01-092622	Air Filter	EPA 901.1M	N/A
ARS1-B22-01541-06	ARS1-22-02191-003	MSB02-092622	Air Filter	EPA 901.1M	N/A
ARS1-B22-01541-07	ARS1-22-02191-004	MSB113A-092622	Air Filter	EPA 901.1M	N/A



QC Sample Results

Analytical Batch: ARS1-B22-01597

Lab Sample ID: ARS1-B22-01597-01

Method: Eichrom ACW03

Sample Type: LCS

Matrix: Air Filter

Analysis Date: 10/22/22 2:17

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Pu-239/240	7.733E-6	7.845E-6		uCi/filter	101.5	75 - 125



QC Sample Results

Analytical Batch: ARS1-B22-01597

Lab Sample ID: ARS1-B22-01597-02

Method: Eichrom ACW03

Sample Type: LCSD

Matrix: Air Filter

Analysis Date: 10/22/22 2:17

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Pu-239/240	7.817E-6	8.049E-6		uCi/filter	103.0	75 - 125	2.6	25	0.285	3



QC Sample Results

Analytical Batch: ARS1-B22-01597
Lab Sample ID: ARS1-B22-01597-03
Method: Eichrom ACW03

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 10/22/22 2:17

Analyte	Analysis Result	CSU +/- 2 s	MDC	DLC	Qual	Analysis Units
Pu-238	2.563E-8	5.561E-8	9.819E-8	4.331E-8	U	uCi/filter
Pu-239/240	-3.416E-8	5.814E-8	1.167E-7	5.257E-8	U	uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-22-02191

Analytical Batch: ARS1-B22-01597

Analysis: Plutonium (239, 240Pu) in (Air Filters, Smears, Leak Test [AF, SM, LT])

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B22-01597-01		Lab Control Sample	Air Filter	Eichrom ACW03	N/A
ARS1-B22-01597-02		Lab Control Sample Duplicate	Air Filter	Eichrom ACW03	N/A
ARS1-B22-01597-03		Method Blank	Air Filter	Eichrom ACW03	N/A
ARS1-B22-01597-04	ARS1-22-02191-001	FB-092622	Air Filter	Eichrom ACW03	N/A
ARS1-B22-01597-05	ARS1-22-02191-002	MSB01-092622	Air Filter	Eichrom ACW03	N/A
ARS1-B22-01597-06	ARS1-22-02191-003	MSB02-092622	Air Filter	Eichrom ACW03	N/A
ARS1-B22-01597-07	ARS1-22-02191-004	MSB113A-092622	Air Filter	Eichrom ACW03	N/A



QC Sample Results

Analytical Batch: ARS1-B22-01598

Lab Sample ID: ARS1-B22-01598-01

Method: EPA 9315

Sample Type: LCS

Matrix: Air Filter

Analysis Date: 10/26/22 9:50

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Ra-226	2.697E-5	2.381E-5		uCi/filter	88.3	75 - 125



QC Sample Results

Analytical Batch: ARS1-B22-01598

Lab Sample ID: ARS1-B22-01598-02

Method: EPA 9315

Sample Type: LCSD

Matrix: Air Filter

Analysis Date: 10/26/22 9:50

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Ra-226	2.671E-5	2.332E-5		uCi/filter	87.3	75 - 125	2.1	25	0.178	3



QC Sample Results

Analytical Batch: ARS1-B22-01598

Lab Sample ID: ARS1-B22-01598-03

Method: EPA 9315

Sample Type: MBL

Matrix: Air Filter

Analysis Date: 10/26/22 9:50

Analyte	Analysis Result	CSU +/- 2 s	MDC	DLC	Qual	Analysis Units
Ra-226	7.157E-8	5.783E-8	7.906E-8	2.996E-8	U	uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-22-02191

Analytical Batch: ARS1-B22-01598

Analysis: Radium-226 in Air Filter

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B22-01598-01		Lab Control Sample	Air Filter	EPA 9315	N/A
ARS1-B22-01598-02		Lab Control Sample Duplicate	Air Filter	EPA 9315	N/A
ARS1-B22-01598-03		Method Blank	Air Filter	EPA 9315	N/A
ARS1-B22-01598-04	ARS1-22-02191-001	FB-092622	Air Filter	EPA 9315	N/A
ARS1-B22-01598-05	ARS1-22-02191-002	MSB01-092622	Air Filter	EPA 9315	N/A
ARS1-B22-01598-06	ARS1-22-02191-003	MSB02-092622	Air Filter	EPA 9315	N/A
ARS1-B22-01598-07	ARS1-22-02191-004	MSB113A-092622	Air Filter	EPA 9315	N/A



QC Sample Results

Analytical Batch: ARS1-B22-01599

Lab Sample ID: ARS1-B22-01599-01

Method: Eichrom SRW01

Sample Type: LCS

Matrix: Air Filter

Analysis Date: 10/21/22 10:19

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
SR-90	2.017E-5	2.033E-5		uCi/filter	100.8	75 - 125



QC Sample Results

Analytical Batch: ARS1-B22-01599

Lab Sample ID: ARS1-B22-01599-02

Method: Eichrom SRW01

Sample Type: LCSD

Matrix: Air Filter

Analysis Date: 10/21/22 10:19

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
SR-90	2.025E-5	2.015E-5		uCi/filter	99.5	75 - 125	0.9	25	0.080	3



QC Sample Results

Analytical Batch: ARS1-B22-01599
Lab Sample ID: ARS1-B22-01599-03
Method: Eichrom SRW01

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 10/21/22 10:19

Analyte	Analysis Result	CSU +/- 2 s	MDC	DLC	Qual	Analysis Units
SR-90	4.891E-6	3.021E-6	4.523E-6	2.085E-6		uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-22-02191

Analytical Batch: ARS1-B22-01599

Analysis: Strontium-90 in (Air Filters, Smears [AF])

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B22-01599-01		Lab Control Sample	Air Filter	Eichrom SRW01	N/A
ARS1-B22-01599-02		Lab Control Sample Duplicate	Air Filter	Eichrom SRW01	N/A
ARS1-B22-01599-03		Method Blank	Air Filter	Eichrom SRW01	N/A
ARS1-B22-01599-04	ARS1-22-02191-001	FB-092622	Air Filter	Eichrom SRW01	N/A
ARS1-B22-01599-05	ARS1-22-02191-002	MSB01-092622	Air Filter	Eichrom SRW01	N/A
ARS1-B22-01599-06	ARS1-22-02191-003	MSB02-092622	Air Filter	Eichrom SRW01	N/A
ARS1-B22-01599-07	ARS1-22-02191-004	MSB113A-092622	Air Filter	Eichrom SRW01	N/A



ARS Aleut Analytical, LLC Analytical Reports

for

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Batch QC



Analytical Batch	ARS1-B22-01541
SDG	ARS1-22-02191
Analysis	Gamma Spec (Short) in (Air Filters, Smears [AF])
Method	EPA 901.1M
Analysis Code	GAM-A-AF
Report Units	uCi/filter

QC Results per Analytical Batch

Acceptable QC Performance Ranges

QC Sample Type	Performance Items and Ranges		
Laboratory Control Sample	Recovery (%):	> 75	< 125
Matrix Spike	Recovery (%):	> 60	< 140
Duplicate	Duplicate Error Ratio (DER):		< 3
	Relative Percent Difference (RPD %):		≤ 25

Laboratory Control Sample			Analysis Date	10/14/22 12:59	Analysis Technician	█	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDC
ARS1-B22-01541-01	LCS	AM-241	31.413	2.452	33.065	95.0	0.158
ARS1-B22-01541-01	LCS	CO-60	21.261	1.262	20.928	101.6	0.398
ARS1-B22-01541-01	LCS	CS-137	13.378	0.754	12.996	102.9	0.109

Duplicate RER/DER/RPD			Analysis Date	10/14/22 13:14	Analysis Technician	█	
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD	
AM-241	31.413	2.452	31.902	2.490	0.274	1.5	
CO-60	21.261	1.262	20.892	1.251	0.407	1.8	
CS-137	13.378	0.754	13.257	0.747	0.223	0.9	

Method Blank			Analysis Date	10/15/22 12:32	Analysis Technician	█	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDC	Qual	
ARS1-B22-01541-03	MBL	CO-60	-5.278E-4	8.170E-4	0.001	U	
ARS1-B22-01541-03	MBL	CS-137	3.189E-5	6.974E-4	7.600E-4	U	
ARS1-B22-01541-03	MBL	RA-226	0.004	0.007	0.009	U	



Analytical Batch	ARS1-B22-01597
SDG	ARS1-22-02191
Analysis	Plutonium (239, 240Pu) in (Air Filters, Smears, Leak Test [AF, SM, LT])
Method	Eichrom ACW03
Analysis Code	ASP-PU239-AF
Report Units	uCi/filter

QC Results per Analytical Batch

Acceptable QC Performance Ranges

QC Sample Type	Performance Items and Ranges		
Laboratory Control Sample	Recovery (%):	> 75	< 125
Matrix Spike	Recovery (%):	> 60	< 140
Duplicate	Duplicate Error Ratio (DER):		< 3
	Relative Percent Difference (RPD %):		≤ 25

Laboratory Control Sample				Analysis Date	10/22/22 02:17	Analysis Technician	[REDACTED]
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDC
ARS1-B22-01597-01	LCS	PU-239/240	7.845E-6	9.788E-7	7.733E-6	101.5	3.393E-8

Duplicate RER/DER/RPD				Analysis Date	10/22/22 02:17	Analysis Technician	[REDACTED]
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD	
PU-239/240	7.845E-6	9.788E-7	8.049E-6	1.004E-6	0.285	2.6	

Method Blank				Analysis Date	10/22/22 02:17	Analysis Technician	[REDACTED]
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDC	Qual	
ARS1-B22-01597-03	MBL	PU-238	2.563E-8	5.561E-8	9.819E-8	U	
ARS1-B22-01597-03	MBL	PU-239/240	-3.416E-8	5.814E-8	1.167E-7	U	



Analytical Batch	ARS1-B22-01598
SDG	ARS1-22-02191
Analysis	Radium-226 in Air Filter
Method	EPA 9315
Analysis Code	GPC-RA226-AF
Report Units	uCi/filter

QC Results per Analytical Batch

Acceptable QC Performance Ranges

QC Sample Type	Performance Items and Ranges		
Laboratory Control Sample	Recovery (%):	> 75	< 125
Matrix Spike	Recovery (%):	> 60	< 140
Duplicate	Duplicate Error Ratio (DER):		< 3
	Relative Percent Difference (RPD %):		≤ 25

Laboratory Control Sample				Analysis Date	10/26/22 09:50	Analysis Technician	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDC
ARS1-B22-01598-01	LCS	RA-226	2.381E-5	3.849E-6	2.697E-5	88.3	7.739E-8

Duplicate RER/DER/RPD				Analysis Date	10/26/22 09:50	Analysis Technician	
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD	
RA-226	2.381E-5	3.849E-6	2.332E-5	3.771E-6	0.178	2.1	

Method Blank				Analysis Date	10/26/22 09:50	Analysis Technician	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDC	Qual	
ARS1-B22-01598-03	MBL	RA-226	7.157E-8	5.783E-8	7.906E-8	U	



Analytical Batch	ARS1-B22-01599
SDG	ARS1-22-02191
Analysis	Strontium-90 in (Air Filters, Smears [AF])
Method	Eichrom SRW01
Analysis Code	GPC-SR90-AF
Report Units	uCi/filter

QC Results per Analytical Batch

Acceptable QC Performance Ranges

QC Sample Type	Performance Items and Ranges		
Laboratory Control Sample	Recovery (%):	> 75	< 125
Matrix Spike	Recovery (%):	> 60	< 140
Duplicate	Duplicate Error Ratio (DER):		< 3
	Relative Percent Difference (RPD %):		≤ 25

Laboratory Control Sample				Analysis Date	10/21/22 10:19	Analysis Technician	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDC
ARS1-B22-01599-01	LCS	SR-90	2.033E-5	3.113E-6	2.017E-5	100.8	3.665E-7

Duplicate RER/DER/RPD				Analysis Date	10/21/22 10:19	Analysis Technician	
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD	
SR-90	2.033E-5	3.113E-6	2.015E-5	3.096E-6	0.080	0.9	

Method Blank				Analysis Date	10/21/22 10:19	Analysis Technician	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDC	Qual	
ARS1-B22-01599-03	MBL	SR-90	4.891E-6	3.021E-6	4.523E-6		



Z Values per Analytical Batch

Analytical Batch	ARS1-B22-01541
SDG	ARS1-22-02191
Analysis	Gamma Spec (Short) in (Air Filters, Smears
Analysis Test Method	PALA-RAD-007/EPA 901.1M
Analysis Code	GAM-A-AF
Report Units	uCi/filter

Acceptable QC Performance Ranges

QC Sample Type	Performance Items and Ranges
Laboratory Control Sample	ZLCS <= 3
Matrix Spike	ZMS <= 3
Method Blank	ZBLANK <= 3
Duplicate	ZDUP <= 3

Laboratory Control Sample		Analysis Date	10/14/22 12:59	Analysis Technician	█	
QC Type	Analyte	Results	CSU (1s)	Expected Value	CSU (1s)	Z
LCS	AM-241	31.413	1.251	33.065	0.001	1.321
LCSD	AM-241	31.902	1.270	33.065	0.001	0.915
LCS	CO-60	21.261	0.644	20.928	5.860E-4	0.517
LCSD	CO-60	20.892	0.638	20.928	5.860E-4	0.056
LCS	CS-137	13.378	0.385	12.996	3.119E-4	0.993
LCSD	CS-137	13.257	0.381	12.996	3.119E-4	0.685

Method Blank		Analysis Date	10/15/22 12:32	Analysis Technician	█
QC Type	Analyte	Results	CSU (1s)	Z	
MBL	CS-137	3.189E-5	3.558E-4	0.090	
MBL	CO-60	-5.278E-4	4.169E-4	1.266	
MBL	RA-226	0.004	0.004	1.035	

Duplicate Sample		Analysis Date	10/14/22 13:14	Analysis Technician	█	
QC Type	Analyte	Results Dup	CSU (1s)	Results DO	CSU (1s)	Z
LCSD	AM-241	31.902	1.270	31.413	1.251	0.274
LCSD	CO-60	20.892	0.638	21.261	0.644	0.407
LCSD	CS-137	13.257	0.381	13.378	0.385	0.223



Z Values per Analytical Batch

Analytical Batch	ARS1-B22-01597
SDG	ARS1-22-02191
Analysis	Plutonium (239, 240Pu) in (Air Filters,
Analysis Test Method	PALA-RAD-026/Eichrom ACW-03
Analysis Code	ASP-PU239-AF
Report Units	uCi/filter

Acceptable QC Performance Ranges

QC Sample Type	Performance Items and Ranges
Laboratory Control Sample	ZLCS <= 3
Matrix Spike	ZMS <= 3
Method Blank	ZBLANK <= 3
Duplicate	ZDUP <= 3

Laboratory Control Sample		Analysis Date	10/22/22 02:17	Analysis Technician	[REDACTED]	
QC Type	Analyte	Results	CSU (1s)	Expected Value	CSU (1s)	Z
LCS	PU-239/240	7.845E-6	4.994E-7	7.733E-6	1.263E-7	0.218
LCSD	PU-239/240	8.049E-6	5.120E-7	7.817E-6	1.263E-7	0.440

Method Blank		Analysis Date	10/22/22 02:17	Analysis Technician	[REDACTED]
QC Type	Analyte	Results	CSU (1s)	Z	
MBL	PU-238	2.563E-8	2.837E-8	0.903	
MBL	PU-239/240	-3.416E-8	2.966E-8	1.152	

Duplicate Sample		Analysis Date	10/22/22 02:17	Analysis Technician	[REDACTED]	
QC Type	Analyte	Results Dup	CSU (1s)	Results DO	CSU (1s)	Z
LCSD	PU-239/240	8.049E-6	5.120E-7	7.845E-6	4.994E-7	0.285



Z Values per Analytical Batch

Analytical Batch	ARS1-B22-01598
SDG	ARS1-22-02191
Analysis	Radium-226 in Air Filter
Analysis Test Method	PALA-RAD-008/Gas Proportional Counter
Analysis Code	GPC-RA226-AF
Report Units	uCi/filter

Acceptable QC Performance Ranges

QC Sample Type	Performance Items and Ranges
Laboratory Control Sample	ZLCS <= 3
Matrix Spike	ZMS <= 3
Method Blank	ZBLANK <= 3
Duplicate	ZDUP <= 3

Laboratory Control Sample		Analysis Date	10/26/22 09:50	Analysis Technician	[REDACTED]		
QC Type	Analyte	Results	CSU (1s)	Expected Value	CSU (1s)	Z	
LCS	RA-226	2.381E-5	1.964E-6	2.697E-5	3.148E-7	1.587	
LCSD	RA-226	2.332E-5	1.924E-6	2.671E-5	3.148E-7	1.736	

Method Blank		Analysis Date	10/26/22 09:50	Analysis Technician	[REDACTED]		
QC Type	Analyte	Results	CSU (1s)	Z			
MBL	RA-226	7.157E-8	2.950E-8	2.426			

Duplicate Sample		Analysis Date	10/26/22 09:50	Analysis Technician	[REDACTED]		
QC Type	Analyte	Results Dup	CSU (1s)	Results DO	CSU (1s)	Z	
LCSD	RA-226	2.332E-5	1.924E-6	2.381E-5	1.964E-6	0.178	



Z Values per Analytical Batch

Analytical Batch	ARS1-B22-01599
SDG	ARS1-22-02191
Analysis	Strontium-90 in (Air Filters, Smears [AF])
Analysis Test Method	PALA-RAD-032/Eichrom SRW01,HASL 300
Analysis Code	GPC-SR90-AF
Report Units	uCi/filter

Acceptable QC Performance Ranges

QC Sample Type	Performance Items and Ranges
Laboratory Control Sample	ZLCS <= 3
Matrix Spike	ZMS <= 3
Method Blank	ZBLANK <= 3
Duplicate	ZDUP <= 3

Laboratory Control Sample		Analysis Date	10/21/22 10:19	Analysis Technician	[REDACTED]		
QC Type	Analyte	Results	CSU (1s)	Expected Value	CSU (1s)	Z	
LCS	SR-90	2.033E-5	1.588E-6	2.017E-5	3.410E-7	0.098	
LCSD	SR-90	2.015E-5	1.580E-6	2.025E-5	3.410E-7	0.062	

Method Blank		Analysis Date	10/21/22 10:19	Analysis Technician	[REDACTED]	
QC Type	Analyte	Results	CSU (1s)	Z		
MBL	SR-90	4.891E-6	1.541E-6	3.173		

Duplicate Sample		Analysis Date	10/21/22 10:19	Analysis Technician	[REDACTED]		
QC Type	Analyte	Results Dup	CSU (1s)	Results DO	CSU (1s)	Z	
LCSD	SR-90	2.015E-5	1.580E-6	2.033E-5	1.588E-6	0.080	



ARS Aleut Analytical, LLC Analytical Reports

for

Gilbane Federal

Sample Management Records

CHAIN-OF-CUSTODY RECORD

Gilbane Federal
 1655 Grant Street, Suite 1200, Concord, CA 94520

COC # KT100522RADB



Project Name: Hunters Point Shipyard, Parcel B Removal Site Evaluation	Laboratory: ARS Aleut Analytical (AAA), Port Allen, LA	Event: Parcel B Air Monitoring RAD
Project Number: J310000900	POC: [REDACTED]	
WBS Code: J310000900	Ship to: 2609 North River Road, Port Allen, LA 70767-3469	

Comments:	Analytical Test Method	E901.1 - Gamma Spec Air	FC0240 - Pu Isotopes	SR02RC - Sr90	SW9315 - Ra226	Code	Matrix
						A	Air
Equipment:						Code	Container/Preservative
						1	1x Filter, None
						5	1x 1-L. Plastic, HNO3, pH < 2
						15	1x 250-mL. Plastic, 4 Degrees C

Event: Parcel B Air Monitoring RAD						15	15	5	1										
Sample ID	Matrix	Date	Time	Samp Init.						Location ID	Sample Type	Depth (ft bgs)		Cooler	Comments				
												Top	Bottom						
1	FB-092622	AQ	09/26/2022	0800	[REDACTED]	X	X	X	X	FIELDQC	FB1	0.00	0.00	1					
2	MSB01-092622	A	09/29/2022	1505	[REDACTED]	X	X	X	X	MSB01	N1	0.00	0.00	1	TOTAL FLOW: 298,800 (L)				
3	MSB02-092622	A	09/29/2022	1505	[REDACTED]	X	X	X	X	MSB02	N1	0.00	0.00	1	TOTAL FLOW: 299,880 (L)				
4	MSB113A-092622	A	09/29/2022	1503	[REDACTED]	X	X	X	X	MSB113A	N1	0.00	0.00	1	TOTAL FLOW: 299,100 (L)				
5					[REDACTED]														
6					[REDACTED]														

Turnaround Time: 28 days

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[REDACTED]	10/5/22	1400	Fedex	10/5/22	1400	Shipping Date: 10/5/2022/ FEDEX 7700 6469 8470
			[REDACTED]	10/6/22	1000	
						Received by Laboratory: (Signature, Date, Time) & condition

SDG Report - Samples and Containers

SDG Specific Data							
SDG	ARS1-22-02191		TAT Days	28 Calendar Days	Project Type	Environmental	
Sample Count	4	Rpt Level	4	Date Received	10/06/2022	COC Number	KT100522RADB
Client	Gilbane Federal		Discrepancy Resol	N/A	PO Number		
Client Code	1138		Client Deadline	11/03/2022	Job Number	J310000900	
Profile Number	PN-01411				Job Location	Parcel B Air Monitoring RAD	
Comment							

Samples and Containers Checked In Thus Far									
FR	Name	Matrix	Start Date	End Date	Disp	Hold	Arch	Storage	Comments
001	FB-092622	Air Filter	09/26/2022 07:59	09/26/2022 08:00	H	30	10	PrePrep	
	IC_ID	Cnt	Container Type	AF Volume (L)	AF Units		Rate	Mins	Comments
	425054	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	09/26/2022 07:59	AF Volume (CuM):		0.001		
002	MSB01-092622	Air Filter	09/29/2022 15:04	09/29/2022 15:05	H	30	10	PrePrep	
	IC_ID	Cnt	Container Type	AF Volume (L)	AF Units		Rate	Mins	Comments
	425055	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	09/29/2022 15:04	AF Volume (CuM):		0.001		
003	MSB02-092622	Air Filter	09/29/2022 15:04	09/29/2022 15:05	H	30	10	PrePrep	
	IC_ID	Cnt	Container Type	AF Volume (L)	AF Units		Rate	Mins	Comments
	425056	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	09/29/2022 15:04	AF Volume (CuM):		0.001		
004	MSB113A-092622	Air Filter	09/29/2022 15:02	09/29/2022 15:03	H	30	10	PrePrep	
	IC_ID	Cnt	Container Type	AF Volume (L)	AF Units		Rate	Mins	Comments
	425057	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	09/29/2022 15:02	AF Volume (CuM):		0.001		

SDG Report - Analysis Assignments

SDG	ARS1-22-02191	Sample Count	4
Client	Gilbane Federal	Analysis Count	4-16

Sample Count Totals Per Analysis			
Analysis Code	Analysis Description	In/Out	Samples Count
ASP-PU239-AF	Plutonium (239, 240Pu) in (Air Filters, Smears, Leak Test [AF, SM, LT])	I	4
GAM-A-AF	Gamma Spec (Short) in (Air Filters, Smears [AF])	I	4
GPC-RA226-AF	Radium-226 in Air Filter	I	4
GPC-SR90-AF	Strontium-90 in (Air Filters, Smears [AF])	I	4

Analyses Assigned Per Fraction		
Fraction	Analysis Code	X = Assigned
001	ASP-PU239-AF	X
001	GAM-A-AF	X
001	GPC-RA226-AF	X
001	GPC-SR90-AF	X
002	ASP-PU239-AF	X
002	GAM-A-AF	X
002	GPC-RA226-AF	X
002	GPC-SR90-AF	X
003	ASP-PU239-AF	X
003	GAM-A-AF	X
003	GPC-RA226-AF	X
003	GPC-SR90-AF	X
004	ASP-PU239-AF	X
004	GAM-A-AF	X
004	GPC-RA226-AF	X
004	GPC-SR90-AF	X

Client Name: Gilbane Federal

Profile Name: Parcel B Rad Sampling

Report Level: 4

Analysis Code	Prep Type	Units	Aliquot	Prep Code	Procedure	Count Time																	
ASP-PU239-AF	WRAD	uCi	filter	N/A	PALA-RAD-026																		
												Analyte	RDL	LCS LL/UL	MS LL/UL	RadY LL/UL	GravY LL/UL	RER	RPD	Surr LL/UL			
Pu-239/240 (15117-48-3)				4.8E-08 uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A												
GAM-A-AF	WGAM	uCi	filter	N/A	PALA-RAD-007																		
												Analyte	RDL	LCS LL/UL	MS LL/UL	RadY LL/UL	GravY LL/UL	RER	RPD	Surr LL/UL			
												Co-60 (10198-40-0)				0.00024 uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
												Cs-137 (10045-97-3)				0.00048 uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
Ra-226 (13982-63-3)				4.4E-06 uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A												
GPC-RA226-AF	WRAD	uCi	filter		PALA-RAD-008																		
												Analyte	RDL	LCS LL/UL	MS LL/UL	RadY LL/UL	GravY LL/UL	RER	RPD	Surr LL/UL			
Ra-226 (13982-63-3)				4.4E-06 uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A												
GPC-SR90-AF	WRAD	uCi	filter	N/A	PALA-RAD-032																		
												Analyte	RDL	LCS LL/UL	MS LL/UL	RadY LL/UL	GravY LL/UL	RER	RPD	Surr LL/UL			
Sr-90 (10098-97-2)				2.4E-05 uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A												

Analysis Code	Fraction	Units	Aliquot	Conductivity	Analyte Count
ASP-PU239-AF	001	uCi	filter	N/A	1
		Group	Analyte	Parcel B Rad Sampling Pu-239/240	
ASP-PU239-AF	002	uCi	filter	N/A	1
		Group	Analyte	Parcel B Rad Sampling Pu-239/240	

ASP-PU239-AF	003	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Pu-239/240	
ASP-PU239-AF	004	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Pu-239/240	
GAM-A-AF	001	uCi	filter	N/A	3
		Group		Analyte	
		Parcel B Rad Sampling		Cs-137	
		Parcel B Rad Sampling		Co-60	
		Parcel B Rad Sampling		Ra-226	
GAM-A-AF	002	uCi	filter	N/A	3
		Group		Analyte	
		Parcel B Rad Sampling		Cs-137	
		Parcel B Rad Sampling		Co-60	
		Parcel B Rad Sampling		Ra-226	
GAM-A-AF	003	uCi	filter	N/A	3
		Group		Analyte	
		Parcel B Rad Sampling		Cs-137	
		Parcel B Rad Sampling		Co-60	
		Parcel B Rad Sampling		Ra-226	
GAM-A-AF	004	uCi	filter	N/A	3
		Group		Analyte	
		Parcel B Rad Sampling		Cs-137	
		Parcel B Rad Sampling		Co-60	
		Parcel B Rad Sampling		Ra-226	
GPC-RA226-AF	001	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Ra-226	
GPC-RA226-AF	002	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Ra-226	
GPC-RA226-AF	003	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Ra-226	

DQO Report for SDG

ARS1-22-02191

GPC-RA226-AF	004	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Ra-226	
GPC-SR90-AF	001	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Sr-90	
GPC-SR90-AF	002	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Sr-90	
GPC-SR90-AF	003	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Sr-90	
GPC-SR90-AF	004	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Sr-90	



PALA Sample Receipt Inspection Form

Sample Receipt Inspection Form

Client Name: Gilbane

PALA-SR-001-FM-01 r 00.1

SDG: ARS1-22-02191

Effective 08/30/2019

Page 1 of 1

Sample Custodian: [REDACTED] Survey Start Date: 10/6/22 Survey Start Time: 1335
 Thermometer ID: E0064010085 Calibration Due Date: 2/28/23 pH Paper Lot#: NA
 Exposure Rate Meter + Probe Unit ID: 269264 Calibration Due Date: 9/13/23 Background: 4 μ R/hr
 Count Rate Meter + Probe Unit ID: PR287372 Calibration Due Date: 9/13/23 Background: 20 cpm
 Delivery Type (circle one): Direct Lock Box Commercial Carrier: FEDEX Total # of ESCs: 1

*True temperature is recorded which includes any applicable correction factors.

External Shipping Container Tracking:	Exposure Rate (μ R/hr) (limit <500 μ R/hr)	Max External Swipe Counts (cpm)	Max Internal Swipe Counts (cpm)	ESC True Temps* ($^{\circ}$ C)	TRAX Matrix ID (circle all that apply): (See Section 4.3 of SOP)			
A: <u>770064698470</u>	<u>5</u>	<u>30</u>	<u>40</u>	<u>NA</u>	AQ	WD	WG	WO
B: _____	_____	_____	_____	_____	WS	WW	SI	UR
C: _____	_____	_____	_____	_____	SO	OL	BI	VG
D: _____	_____	_____	_____	_____	WP	SM	<u>AF</u>	
E: _____	_____	_____	_____	_____				
F: _____	_____	_____	_____	_____				

Visual Inspection: (Circle response)

External Shipping Container

Good Condition with no Leaks or Tears: Yes No

Marked Radioactive: Yes No

UN2910: Yes No

Security Seals: Yes No

If yes, intact?: Yes No N/A

Internal Shipping Container

COC's Present: Yes No

Well packaged container with no signs of leakage: Yes No

COC/Sample Inspection (Circle response)

Sample Containers in good condition: Yes No

No spills or leaks: Yes No

Marked Radioactive: Yes No

Durable labels w/indelible ink: Yes No

COC relinquished/received correctly: Yes No

Adequate volume/filled correctly: Yes No

Hold Time sufficient for analysis: Yes No

For VOC/Radon, Head space? Yes No N/A

If yes, <6mm? Yes No N/A

of containers received matches # on COC: Yes No

Samples received on ice? Yes No

Type (circle one): Bagged Ice Loose Ice Blue Ice N/A

Comments:



PALA Sample Survey Form
 Client Name: Gilbane
 SDG: ARS1-22-02191

Sample Survey Form
 PALA-SR-001-FM-02 r 0.1
 Effective 08/30/2019

Pipette ID: NA Tip Lot#: NA

Disposable pipette lot#: NA

pH <2 is Acceptable

Acceptance Limits
<100 cpm/cm

Sample ID from Client on COC or Sample	ESC Letter	Sample Container Type	Approx. Fill Level (%)	pH		Acid Lot # or Ind container temp (°C)	Vol. of Acid Used (mL)	cpm
				As Rec'd	Adjusted			
<u>FB-092622</u>	<u>A</u>	<u>ziploc</u>	<u>25</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>40</u>
<u>MSB01-</u>	↓	↓	↓	↓	↓	↓	↓	↓
<u>MSB02-</u>	↓	↓	↓	↓	↓	↓	↓	↓
<u>MSB113A-</u>	↓	↓	↓	↓	↓	↓	↓	↓

Sample Custodian: [redacted] Survey End Date: 10/6/22 Survey/pH End Time: 1340

pH re-check required? YES or NO NOTE: Any metals sample acidified at sample receiving must be re-checked after a 24 hour hold.

If YES: pH re-check date/time: _____ / _____ Analyst: _____ pH strip lot #: _____

Were all re-checked samples' pH < 2? YES or NO*

**If no, complete and send to Project Management:
 1. Section A of PALA-SR-001-FM-05 (24 Hour Hold pH Readjustment)
 2. SR section of PALA-SR-001-FM-03 (Discrepant Sample Receipt Report).*

ORIGIN ID: ICCA [REDACTED] SHIP DATE: 05OCT22
 [REDACTED] ACTWGT: 1.00 LB
 [REDACTED] CAD: 254128867/INET4530

200 FISHER STREET
 SAN FRANCISCO, CA 94124
 UNITED STATES US

BILL SENDER

TO [REDACTED]

ARS ALEUT ANALYTICAL, LLC
2609 NORTH RIVER ROAD

PORT ALLEN LA 70767

(225) 381-2991 REF J31000.900.01.21.06
 INV PO DEPT:

581 J1/AC5F/FE2D



TRK# 7700 6469 8470 THU - 06 OCT 4:30P
 0201 STANDARD OVERNIGHT

XN OPLA 70767
 LA-US MSY

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2609 North River Road
Port Allen, Louisiana 70767
(225) 228-1394

ARS Aleut Analytical, LLC

Laboratory Analytical Report

ARS1-22-02240

Gilbane Federal
[Redacted]
1655 Grant Street
Suite 1200
Concord, CA 94520
[Redacted]
[Redacted]
[Redacted]

COC Number: **KT101222RADB**
PO Number: **Parcel B Air Monitoring RAD**
Job Number: **J310000900**
Project Name: **J310000900**

Questions regarding this analytical report should be addressed to ARS project manager, [Redacted], who can be reached by email at projectmanagers@aaa.aleutfederal.com.

I certify that the test results presented in this report (in either hardcopy or electronic file (EDD)) meet the requirements of the laboratory's certifications and other applicable contract terms and conditions. A full list of the Port Allen, LA laboratory's certifications is provided with this report. Any exceptions to the certification or contract will be noted within the case narratives presented in the report. Any subcontracted sample results will be identified within the case narratives presented in the report. In the event this report is an amendment to a previously released report, the case narrative will clearly identify the original report as well as the reason(s) for reissuance. A statement of uncertainty for each analysis is available upon request. I authorize release and issuance of this report on the date signed below.

[Redacted Signature]

Laboratory Management, ARS Aleut Analytical

Signature

Date

Title

This report provides analytical results of the requested analysis and does not include any opinions or interpretations. ARS Aleut Analytical, LLC assumes no liability for the use or interpretation of analytical results. Results relate only to items tested. A partial reproduction of this test report is prohibited. Reproduction of this report in full requires the written approval of the laboratory.





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Certifications and Accreditations List

State or Accrediting Body (AB)	Certificate Number
AIHA LAP, LLC	209312
Alaska	LA01131
California	3085
ANAB DoD	ADE-1489
ANAB DOE	ADE-1489.01
Louisiana DEQ - NELAC	01949
Louisiana DHH	LA022
Nevada	LA011312023-1
New Jersey	LA009
New York	65039
Pennsylvania	68-04294-011
Texas	T104704447-21-17
Utah	LA011312022-13
Washington	C1010

For additional information related to the specific matrices, methods, and analytes recognized by each accrediting body, contact us at QA@aaa.aleutfederal.com for additional information.



ARS Aleut Analytical, LLC Analytical Reports

for

Gilbane Federal

Case Narrative



**PROJECT SAMPLE IDENTIFICATION
CROSS-REFERENCE
TO ARS SAMPLE LABORATORY IDs**

Client Sample ID	ARS Aleut Analytical Sample ID
FB-100322	ARS1-22-02240-001
MSB01-100322	ARS1-22-02240-002
MSB02-100322	ARS1-22-02240-003
MSB113A-100322	ARS1-22-02240-004

Sample	Date Collected	Date Received	Analysis	Basis	Prep Date/Time	Analysis Date/Time
001	10/03/22 08:00	10/13/22	ASP-PU239-AF	As Received	10/21/22 11:26	11/09/22 02:54
001	10/03/22 08:00	10/13/22	GAM-A-AF	As Received	N/A	10/18/22 14:06
001	10/03/22 08:00	10/13/22	GPC-RA226-AF	As Received	10/24/22 09:07	11/01/22 10:47
001	10/03/22 08:00	10/13/22	GPC-SR90-AF	As Received	10/21/22 08:10	10/28/22 11:23
002	10/06/22 15:01	10/13/22	ASP-PU239-AF	As Received	10/21/22 11:26	11/09/22 02:54
002	10/06/22 15:01	10/13/22	GAM-A-AF	As Received	N/A	10/19/22 13:57
002	10/06/22 15:01	10/13/22	GPC-RA226-AF	As Received	10/24/22 09:07	11/01/22 10:47
002	10/06/22 15:01	10/13/22	GPC-SR90-AF	As Received	10/21/22 08:10	10/28/22 11:23
003	10/06/22 15:04	10/13/22	ASP-PU239-AF	As Received	10/21/22 11:26	11/09/22 02:54
003	10/06/22 15:04	10/13/22	GAM-A-AF	As Received	N/A	10/19/22 13:59
003	10/06/22 15:04	10/13/22	GPC-RA226-AF	As Received	10/24/22 09:07	11/01/22 10:47
003	10/06/22 15:04	10/13/22	GPC-SR90-AF	As Received	10/21/22 08:10	10/28/22 11:23
004	10/06/22 15:00	10/13/22	ASP-PU239-AF	As Received	10/21/22 11:26	11/09/22 02:54
004	10/06/22 15:00	10/13/22	GAM-A-AF	As Received	N/A	10/19/22 14:01



004	10/06/22 15:00	10/13/22	GPC-RA226-AF	As Received	10/24/22 09:07	11/01/22 10:47
004	10/06/22 15:00	10/13/22	GPC-SR90-AF	As Received	10/21/22 08:10	10/28/22 11:23

SAMPLE RECEIPT/PREP

The samples arrived in good condition. The samples were screened for radioactive contamination as per procedure **PALA-SR-001-SOP Sample Receiving**. Sample date(s) and time(s) are listed as provided by the client. In regard to the Air Filters, no flow rate information was provided by the client. Turnaround time was set at 28 calendar days.

ANALYTICAL METHODS

Pu-239/240 analysis was performed using **PALA-RAD-026, "Americium, Plutonium and Uranium in Water, Soil and Vegetation Matrices by Sequential Separation Using Eichrom Stabilized Chemistry Resin (with Vacuum Box System Option) (Eichrom ACW-02 & Eichrom ACW-03)"**.

Co-60, Cs-137, Ra-226 analyses were performed using **PALA-RAD-007, "Modified Gamma Emitting Radionuclides in Soil, Air, and Biota Matrices (EPA 901.1 Mod, SM 7120B, & HASL-300 Ga-01-R)"**.

Ra-226 analysis was performed using **PALA-RAD-008, "Alpha Emitting Radium Isotopes in Water (EPA 903.0, EPA 9315, SM 7500-Ra C, SM 7500-Ra C)"**.

Sr-90 analysis was performed using **PALA-RAD-032, "Strontium 89, 90 and Total Strontium in Water, Soil and Vegetation Matrices by Eichrom Resin Separation (Eichrom SRW01, EPA 905.0, HASL 300 Sr-01-RC)"**.

ANALYTICAL RESULTS

Batch ARS1-B22-01623 LCSD has a Ra-226 chemical recovery of 110.7%, which is outside limits of 30%-110%. The chemical recovery, though biased, is used in the final calculation of the calculated result, which passed QC criteria.

Batch ARS1-B22-01623 MBL has a Ra-226 chemical recovery of 113.8%, which is outside limits of 30%-110%. The chemical recovery, though biased, is used in the final calculation of the calculated result, which passed QC criteria.

Batch ARS1-B22-01623: The Method Blank is greater than the MDC for Ra-226; all positive detects for Ra-226 in this analytical batch are qualified with a 'B'. All fractions had activities over 5x the blank activity, therefore the activity in the Method Blank did not contribute to the concentration in client samples.

Batch ARS1-B22-01623: Fraction 001 has a Ra-226 chemical recovery of 112.7%, which is outside limits of 30%-110%. The sample results have been qualified with a "Q".

Batch ARS1-B22-01623: Fraction 002 has a Ra-226 chemical recovery of 111.7%, which is outside limits of 30%-110%. The sample results have been qualified with a "Q".



Fraction 001 has elevated MDC for Pu-239/240 with ACT of $-8.530E-8$ uCi/filter, MDC of $1.163E-7$ uCi/filter and CRDL of $4.8E-08$ uCi/filter.

Fraction 001 has elevated MDC for Ra-226 with ACT of $8.130E-7$ uCi/filter, MDC of $9.191E-6$ uCi/filter and CRDL of $4.4E-06$ uCi/filter.

Fraction 002 has elevated MDC for Pu-239/240 with ACT of $-6.381E-8$ uCi/filter, MDC of $1.118E-7$ uCi/filter and CRDL of $4.8E-08$ uCi/filter.

Fraction 002 has elevated MDC for Ra-226 with ACT of $-9.159E-5$ uCi/filter, MDC of $3.147E-5$ uCi/filter and CRDL of $4.4E-06$ uCi/filter.

Fraction 003 has elevated MDC for Pu-239/240 with ACT of $4.828E-9$ uCi/filter, MDC of $1.479E-7$ uCi/filter and CRDL of $4.8E-08$ uCi/filter.

Fraction 003 has elevated MDC for Ra-226 with ACT of $-1.718E-5$ uCi/filter, MDC of $1.543E-5$ uCi/filter and CRDL of $4.4E-06$ uCi/filter.

Fraction 004 has elevated MDC for Pu-239/240 with ACT of $-1.364E-8$ uCi/filter, MDC of $8.250E-8$ uCi/filter and CRDL of $4.8E-08$ uCi/filter.

Fraction 004 has elevated MDC for Ra-226 with ACT of $1.558E-6$ uCi/filter, MDC of $9.432E-6$ uCi/filter and CRDL of $4.4E-06$ uCi/filter.

ARS1-B22-01622: ROI's adjusted to better fit the peaks of interest.

ARS1-B22-01623: Batch samples 2, 3, 4, and 5 were not within gravimetric yield acceptable limits.

Notes (Case Narrative)

Definitions:

CRDL	Contract Required Detection Limit
CSU	Combined Standard Uncertainty
DLC	Decision Level Concentration (ANSI N42.23)
DO	Duplicate Original
DUP	Sample Duplicate
LCS/LCSD	Laboratory Control Sample/Laboratory Control Sample Duplicate
LOD	Limit of Detection
LOQ	Limit of Quantitation
MBL	Method Blank
MCL	Maximum Contaminant Level
MDA	Minimum Detectable Activity
MDL	Method Detection Limit
MS/MSD	Matrix Spike/Matrix Spike Duplicate
N/A	Not Applicable
NC	Not Calculated
NP	Not Provided
NR	Not Referenced
PQL	Practical Quantitation Limit

Data Qualifiers:

B	The result of both the method blank and the target sample are above the MDL.
D	Sample analysis accomplished through dilution.
J	The reported result is an estimated value above the LOD but below the LOQ, or above the MDL but below the PQL.
Q	One or more quality control criteria failed.
U	Result is below the MDA, MDL, PQL, LOD, or LOQ
*	LCS/LCSD or Sample DUP fails all Duplicate criteria.
S	Spike
SC	Subcontracted out to another qualified laboratory
H	Holding time exceeded
E	Exceeds MCL
**	Reporting Limit is higher than MCL; Target cannot be detected
‡	Method/Matrix/Analyte not accredited for this certification

Radiochemistry Comments:

- 1.0) All MDA/MDC values are calculated on a sample specific basis.
- 2.0) Data in this report are within the limits of uncertainty specified in the reference method unless otherwise specified.
- 3.0) Total activity is actually total gamma activity and is determined utilizing the prominent gamma emitters from the naturally occurring radioactive decay chains and other prominent radioactive nuclides. Total activity may be lower than the actual total activity due to the extent of secular equilibrium achieved in the various decay chains at the time of analysis. The total activity is not representative of nuclides that emit solely alpha or beta particles.
- 4.0) Ra-228 is determined via secular equilibrium with its daughter, Actinium 228 (Gamma Spectroscopy only).
- 5.0) U-238 is determined via secular equilibrium with its daughter, Thorium 234 (Gamma Spectroscopy only).
- 6.0) All gamma spectroscopy was performed utilizing high purity germanium detectors (**HPGe**).
- 7.0) ARS makes every attempt to match sample density to calibrated density; however, in some cases, it is not practical or possible to do so and data results may be affected (Gamma Spectroscopy only).
- 8.0) Gamma spectroscopy results are calculated values based on the **ORTEC®** GammaVision ENV32 Analysis Engine.
- 9.0) DoD/DOE and ISO 17025 certifications through ANAB apply only to the following methods in **Non-Potable Water**:
Gross Alpha and Gross Beta (EPA 900.0, EPA 9310); Radium 226 (EPA 903.0, EPA 903.1, EPA 9315); Radium 228 (EPA 904.0, EPA 9320); ICP/MS (EPA 6020B); ICP-OES (EPA 6010D); Mercury CVAA (EPA 7470A); Strontium-89 (EPA 905.0, Eichrom SRW01, HASL 300 Sr-01); Strontium-90 (EPA 905.0, Eichrom SRW01, HASL 300 Sr-02-RC); Tritium (EPA 906.0); Enriched Tritium (ARS-040), Carbon-14 (ARS-019), Tritium/Carbon (ARS-151); Gamma Emitters (EPA 901.1, SM 7120B, HASL 300 Ga-01-R); Americium-241 (Eichrom ACW03, HASL 300 Se-03, HASL 300 Am-03); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, HASL 300 Se-03, HASL 300 Pu-10); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235, Uranium-238 (Eichrom ACW03, HASL 300 Se-03); Technetium-99 (Eichrom TCW02)
- 10.0) DoD/DOE and ISO 17025 certifications through ANAB apply only to the following methods in **Solid and Chemical Materials**:
Gross Alpha and Gross Beta (EPA 900.0 Mod, EPA 9310); ICP/MS (EPA 6020B); ICP-OES (EPA 6010D); Mercury CVAA (EPA 7471B); Strontium-89 (EPA 905.0 Mod, Eichrom SRW01, HASL 300 Sr-01); Strontium-90 (EPA 905.0 Mod, Eichrom SRW01, HASL 300 Sr-02); Tritium (EPA 906.0 Mod); Gamma Emitters (EPA 901.1, HASL 300 Ga-01-R); Americium-241 (Eichrom ACW03, HASL 300 Se-03, HASL 300 Am-01-RC); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, HASL 300 Se-03, HASL 300 Pu-02-RC, HASL 300 Pu-03-RC); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235, Uranium-238 (Eichrom ACW03, HASL 300 Se-03, HASL 300 U-02, HASL 300 U-04); Technetium-99 (Eichrom TCS01)
- 11.0) DoD/DOE and ISO 17025 certifications through ANAB apply only to the following methods in **Air and Emissions**:
Gross Alpha and Gross Beta (EPA 900.0 Mod, EPA 9310); Strontium-89 (Eichrom SRW01, HASL 300 Sr-01-RC); Strontium-90 (Eichrom SRW01, HASL 300 Sr-02-RC); Gamma Emitters (EPA 901.1, HASL 300 Ga-01-R); Americium-241 (Eichrom ACW03, HASL 300 Se-03); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, HASL 300 Se-03); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235, Uranium-238 (Eichrom ACW03, HASL 300 Se-03); Technetium-99 (Eichrom TCW02, Eichrom TCS01)

General Comments:

- 1.0) Modified analysis procedures are procedures that are modified to meet the certain specifications. An example may be the use of a water method to analyze a solid matrix due to the lack of an officially recognized procedure for the analysis of the solid matrix. Modified analyses are indicated by the subsequent addition of "M" or "Mod" to the procedure number (i.e. 901.1M, 901.1 Mod).
- 2.0) All NIOSH method results are reported without blank corrections applied.
- 3.0) Basis: "As Received" = analyzed as received from client; "Dry" = dried prior to being analyzed; "Dry Weight Corrected" = analyzed as received; result corrected for percent moisture.



ARS Aleut Analytical, LLC Analytical Reports

for

Gilbane Federal

Analytical Results



ARS Sample Delivery Group: ARS1-22-02240
Client Sample ID: FB-100322
Sample Collection Date: 10/03/22 8:00
Sample Matrix: Air Filter
Percent Solids: N/A

Request or PO Number: Parcel B Air Monitoring RAD
ARS Sample ID: ARS1-22-02240-001
Date Received: 10/13/22
Report Date: 11/10/22

Radiochemistry

Analysis Method: Eichrom ACW03

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-8.530E-8	4.847E-8	1.163E-7	5.171E-8	4.8E-08	U	uCi/filter	11/09/22 2:54		67.7%

Analysis Method: EPA 901.1M

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	-4.724E-7	9.691E-7	9.847E-7	4.924E-7	0.00024	U	uCi/filter	10/18/22 14:06		N/A
Cs-137	2.394E-8	6.890E-7	7.513E-7	3.757E-7	0.00048	U	uCi/filter	10/18/22 14:06		N/A
Ra-226	8.130E-7	7.248E-6	9.191E-6	4.596E-6	4.4E-06	U	uCi/filter	10/18/22 14:06		N/A

Analysis Method: EPA 9315

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Ra-226	2.206E-6	8.784E-7	6.983E-7	2.607E-7	4.4E-06	BQ	uCi/filter	11/01/22 10:47		113%

Analysis Method: Eichrom SRW01

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	4.738E-6	2.763E-6	4.057E-6	1.862E-6	2.4E-05		uCi/filter	10/28/22 11:23		85.3%



ARS Sample Delivery Group: ARS1-22-02240

Client Sample ID: MSB01-100322

Sample Collection Date: 10/06/22 15:01

Sample Matrix: Air Filter

Percent Solids: N/A

Request or PO Number: Parcel B Air Monitoring RAD

ARS Sample ID: ARS1-22-02240-002

Date Received: 10/13/22

Report Date: 11/10/22

Radiochemistry

Analysis Method: Eichrom ACW03

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-6.381E-8	4.954E-8	1.118E-7	4.973E-8	4.8E-08	U	uCi/filter	11/09/22 2:54		64.9%

Analysis Method: EPA 901.1M

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	-1.078E-6	1.904E-6	1.930E-6	9.650E-7	0.00024	U	uCi/filter	10/19/22 13:57		N/A
Cs-137	7.211E-7	1.275E-6	1.425E-6	7.125E-7	0.00048	U	uCi/filter	10/19/22 13:57		N/A
Ra-226	-9.159E-5	3.518E-5	3.147E-5	1.574E-5	4.4E-06	U	uCi/filter	10/19/22 13:57		N/A

Analysis Method: EPA 9315

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Ra-226	1.238E-6	6.577E-7	6.986E-7	2.654E-7	4.4E-06	BQ	uCi/filter	11/01/22 10:47		112%

Analysis Method: Eichrom SRW01

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	1.696E-6	3.241E-6	5.546E-6	2.607E-6	2.4E-05	U	uCi/filter	10/28/22 11:23		87.0%



ARS Sample Delivery Group: ARS1-22-02240

Client Sample ID: MSB02-100322

Sample Collection Date: 10/06/22 15:04

Sample Matrix: Air Filter

Percent Solids: N/A

Request or PO Number: Parcel B Air Monitoring RAD

ARS Sample ID: ARS1-22-02240-003

Date Received: 10/13/22

Report Date: 11/10/22

Radiochemistry

Analysis Method: Eichrom ACW03

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	4.828E-9	8.086E-8	1.479E-7	6.739E-8	4.8E-08	U	uCi/filter	11/09/22 2:54		62.7%

Analysis Method: EPA 901.1M

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	3.066E-8	8.877E-7	9.812E-7	4.906E-7	0.00024	U	uCi/filter	10/19/22 13:59		N/A
Cs-137	1.233E-7	8.177E-7	9.570E-7	4.785E-7	0.00048	U	uCi/filter	10/19/22 13:59		N/A
Ra-226	-1.718E-5	1.560E-5	1.543E-5	7.715E-6	4.4E-06	U	uCi/filter	10/19/22 13:59		N/A

Analysis Method: EPA 9315

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Ra-226	1.602E-6	7.433E-7	6.484E-7	2.338E-7	4.4E-06	B	uCi/filter	11/01/22 10:47		108%

Analysis Method: Eichrom SRW01

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	3.065E-6	2.670E-6	4.271E-6	1.975E-6	2.4E-05	U	uCi/filter	10/28/22 11:23		91.1%



ARS Sample Delivery Group: ARS1-22-02240
Client Sample ID: MSB113A-100322
Sample Collection Date: 10/06/22 15:00
Sample Matrix: Air Filter
Percent Solids: N/A

Request or PO Number: Parcel B Air Monitoring RAD
ARS Sample ID: ARS1-22-02240-004
Date Received: 10/13/22
Report Date: 11/10/22

Radiochemistry

Analysis Method: Eichrom ACW03

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-1.364E-8	3.889E-8	8.250E-8	3.509E-8	4.8E-08	U	uCi/filter	11/09/22 2:54		66.7%

Analysis Method: EPA 901.1M

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	-5.690E-7	9.263E-7	9.388E-7	4.694E-7	0.00024	U	uCi/filter	10/19/22 14:01		N/A
Cs-137	-4.106E-7	7.638E-7	8.216E-7	4.108E-7	0.00048	U	uCi/filter	10/19/22 14:01		N/A
Ra-226	1.558E-6	7.454E-6	9.432E-6	4.716E-6	4.4E-06	U	uCi/filter	10/19/22 14:01		N/A

Analysis Method: EPA 9315

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Ra-226	7.921E-7	5.391E-7	6.619E-7	2.471E-7	4.4E-06	B	uCi/filter	11/01/22 10:47		109%

Analysis Method: Eichrom SRW01

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	2.413E-6	2.725E-6	4.497E-6	2.075E-6	2.4E-05	U	uCi/filter	10/28/22 11:23		86.2%



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QC Summary



QC Sample Results

Analytical Batch: ARS1-B22-01623
Lab Sample ID: ARS1-B22-01623-01
Method: EPA 9315

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 11/01/22 10:47

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Ra-226	2.708E-5	2.250E-5		uCi/filter	83.1	75 - 125



QC Sample Results

Analytical Batch: ARS1-B22-01623

Lab Sample ID: ARS1-B22-01623-02

Method: EPA 9315

Sample Type: LCSD

Matrix: Air Filter

Analysis Date: 11/01/22 10:47

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Ra-226	2.708E-5	2.484E-5		uCi/filter	91.7	75 - 125	9.9	25	0.846	3



QC Sample Results

Analytical Batch: ARS1-B22-01623
Lab Sample ID: ARS1-B22-01623-03
Method: EPA 9315

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 11/01/22 10:47

Analyte	Analysis Result	CSU +/- 2 s	MDC	DLC	Qual	Analysis Units
Ra-226	8.459E-8	6.199E-8	7.993E-8	3.003E-8		uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-22-02240

Analytical Batch: ARS1-B22-01623

Analysis: Radium-226 in Air Filter

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B22-01623-01		Lab Control Sample	Air Filter	EPA 9315	N/A
ARS1-B22-01623-02		Lab Control Sample Duplicate	Air Filter	EPA 9315	N/A
ARS1-B22-01623-03		Method Blank	Air Filter	EPA 9315	N/A
ARS1-B22-01623-04	ARS1-22-02240-001	FB-100322	Air Filter	EPA 9315	N/A
ARS1-B22-01623-05	ARS1-22-02240-002	MSB01-100322	Air Filter	EPA 9315	N/A
ARS1-B22-01623-06	ARS1-22-02240-003	MSB02-100322	Air Filter	EPA 9315	N/A
ARS1-B22-01623-07	ARS1-22-02240-004	MSB113A-100322	Air Filter	EPA 9315	N/A



QC Sample Results

Analytical Batch: ARS1-B22-01603
Lab Sample ID: ARS1-B22-01603-01
Method: EPA 901.1M

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 10/18/22 13:00

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Am-241	33.065	32.538		uCi/filter	98.4	75 - 125
Co-60	20.928	21.197		uCi/filter	101.3	75 - 125
Cs-137	12.996	13.275		uCi/filter	102.1	75 - 125



QC Sample Results

Analytical Batch: ARS1-B22-01603

Lab Sample ID: ARS1-B22-01603-02

Method: EPA 901.1M

Sample Type: LCSD

Matrix: Air Filter

Analysis Date: 10/18/22 13:12

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Am-241	33.065	31.505		uCi/filter	95.3	75 - 125	3.2	25	0.576	3
Co-60	20.928	21.422		uCi/filter	102.4	75 - 125	1.1	25	0.277	3
Cs-137	12.996	13.253		uCi/filter	102.0	75 - 125	0.2	25	0.043	3



QC Sample Results

Analytical Batch: ARS1-B22-01603
Lab Sample ID: ARS1-B22-01603-03
Method: EPA 901.1M

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 10/18/22 14:04

Analyte	Analysis Result	CSU +/- 2 s	MDC	DLC	Qual	Analysis Units
Co-60	-6.793E-4	0.001	0.001	5.750E-4	U	uCi/filter
Cs-137	-4.496E-4	9.277E-4	0.001	5.150E-4	U	uCi/filter
Ra-226	0.002	0.012	0.013	0.006	U	uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-22-02240

Analytical Batch: ARS1-B22-01603

Analysis: Gamma Spec (Short) in (Air Filters, Smears [AF])

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B22-01603-01		Lab Control Sample	Air Filter	EPA 901.1M	N/A
ARS1-B22-01603-02		Lab Control Sample Duplicate	Air Filter	EPA 901.1M	N/A
ARS1-B22-01603-03		Method Blank	Air Filter	EPA 901.1M	N/A
ARS1-B22-01603-04	ARS1-22-02240-001	FB-100322	Air Filter	EPA 901.1M	N/A
ARS1-B22-01603-05	ARS1-22-02240-002	MSB01-100322	Air Filter	EPA 901.1M	N/A
ARS1-B22-01603-06	ARS1-22-02240-003	MSB02-100322	Air Filter	EPA 901.1M	N/A
ARS1-B22-01603-07	ARS1-22-02240-004	MSB113A-100322	Air Filter	EPA 901.1M	N/A



QC Sample Results

Analytical Batch: ARS1-B22-01622
Lab Sample ID: ARS1-B22-01622-01
Method: Eichrom ACW03

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 11/09/22 2:54

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Pu-239/240	7.824E-6	8.258E-6		uCi/filter	105.5	75 - 125



QC Sample Results

Analytical Batch: ARS1-B22-01622

Lab Sample ID: ARS1-B22-01622-02

Method: Eichrom ACW03

Sample Type: LCSD

Matrix: Air Filter

Analysis Date: 11/09/22 2:54

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Pu-239/240	7.838E-6	7.943E-6		uCi/filter	101.3	75 - 125	3.9	25	0.430	3



QC Sample Results

Analytical Batch: ARS1-B22-01622
Lab Sample ID: ARS1-B22-01622-03
Method: Eichrom ACW03

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 11/09/22 2:54

Analyte	Analysis Result	CSU +/- 2 s	MDC	DLC	Qual	Analysis Units
Pu-238	-6.053E-8	5.640E-8	1.237E-7	5.504E-8	U	uCi/filter
Pu-239/240	-3.025E-8	5.602E-8	1.159E-7	5.113E-8	U	uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-22-02240

Analytical Batch: ARS1-B22-01622

Analysis: Plutonium (239, 240Pu) in (Air Filters, Smears, Leak Test [AF, SM, LT])

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B22-01622-01		Lab Control Sample	Air Filter	Eichrom ACW03	N/A
ARS1-B22-01622-02		Lab Control Sample Duplicate	Air Filter	Eichrom ACW03	N/A
ARS1-B22-01622-03		Method Blank	Air Filter	Eichrom ACW03	N/A
ARS1-B22-01622-04	ARS1-22-02240-001	FB-100322	Air Filter	Eichrom ACW03	N/A
ARS1-B22-01622-05	ARS1-22-02240-002	MSB01-100322	Air Filter	Eichrom ACW03	N/A
ARS1-B22-01622-06	ARS1-22-02240-003	MSB02-100322	Air Filter	Eichrom ACW03	N/A
ARS1-B22-01622-07	ARS1-22-02240-004	MSB113A-100322	Air Filter	Eichrom ACW03	N/A



QC Sample Results

Analytical Batch: ARS1-B22-01624
Lab Sample ID: ARS1-B22-01624-01
Method: Eichrom SRW01

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 10/28/22 11:23

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
SR-90	2.042E-5	2.361E-5		uCi/filter	115.6	75 - 125



QC Sample Results

Analytical Batch: ARS1-B22-01624
Lab Sample ID: ARS1-B22-01624-02
Method: Eichrom SRW01

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 10/28/22 11:23

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
SR-90	2.030E-5	2.261E-5		uCi/filter	111.4	75 - 125	4.3	25	0.389	3



QC Sample Results

Analytical Batch: ARS1-B22-01624
Lab Sample ID: ARS1-B22-01624-03
Method: Eichrom SRW01

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 10/28/22 11:23

Analyte	Analysis Result	CSU +/- 2 s	MDC	DLC	Qual	Analysis Units
SR-90	3.108E-6	3.003E-6	4.863E-6	2.240E-6	U	uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-22-02240

Analytical Batch: ARS1-B22-01624

Analysis: Strontium-90 in (Air Filters, Smears [AF])

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B22-01624-01		Lab Control Sample	Air Filter	Eichrom SRW01	N/A
ARS1-B22-01624-02		Lab Control Sample Duplicate	Air Filter	Eichrom SRW01	N/A
ARS1-B22-01624-03		Method Blank	Air Filter	Eichrom SRW01	N/A
ARS1-B22-01624-04	ARS1-22-02240-001	FB-100322	Air Filter	Eichrom SRW01	N/A
ARS1-B22-01624-05	ARS1-22-02240-002	MSB01-100322	Air Filter	Eichrom SRW01	N/A
ARS1-B22-01624-06	ARS1-22-02240-003	MSB02-100322	Air Filter	Eichrom SRW01	N/A
ARS1-B22-01624-07	ARS1-22-02240-004	MSB113A-100322	Air Filter	Eichrom SRW01	N/A



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Batch QC



Analytical Batch	ARS1-B22-01623
SDG	ARS1-22-02240
Analysis	Radium-226 in Air Filter
Method	EPA 9315
Analysis Code	GPC-RA226-AF
Report Units	uCi/filter

QC Results per Analytical Batch

Acceptable QC Performance Ranges

QC Sample Type	Performance Items and Ranges		
Laboratory Control Sample	Recovery (%):	> 75	< 125
Matrix Spike	Recovery (%):	> 60	< 140
Duplicate	Duplicate Error Ratio (DER):		< 3
	Relative Percent Difference (RPD %):		≤ 25

Laboratory Control Sample				Analysis Date	11/01/22 10:47	Analysis Technician	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDC
ARS1-B22-01623-01	LCS	RA-226	2.250E-5	3.634E-6	2.708E-5	83.1	7.517E-8

Duplicate RER/DER/RPD				Analysis Date	11/01/22 10:47	Analysis Technician	
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD	
RA-226	2.250E-5	3.634E-6	2.484E-5	4.013E-6	0.846	9.9	

Method Blank				Analysis Date	11/01/22 10:47	Analysis Technician	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDC	Qual	
ARS1-B22-01623-03	MBL	RA-226	8.459E-8	6.199E-8	7.993E-8		



Analytical Batch	ARS1-B22-01603
SDG	ARS1-22-02240
Analysis	Gamma Spec (Short) in (Air Filters, Smears [AF])
Method	EPA 901.1M
Analysis Code	GAM-A-AF
Report Units	uCi/filter

QC Results per Analytical Batch

Acceptable QC Performance Ranges

QC Sample Type	Performance Items and Ranges		
Laboratory Control Sample	Recovery (%):	> 75	< 125
Matrix Spike	Recovery (%):	> 60	< 140
Duplicate	Duplicate Error Ratio (DER):		< 3
	Relative Percent Difference (RPD %):		≤ 25

Laboratory Control Sample			Analysis Date	10/18/22 13:00	Analysis Technician	█	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDC
ARS1-B22-01603-01	LCS	AM-241	32.538	2.526	33.065	98.4	0.082
ARS1-B22-01603-01	LCS	CO-60	21.197	1.117	20.928	101.3	0.366
ARS1-B22-01603-01	LCS	CS-137	13.275	0.707	12.996	102.1	0.074

Duplicate RER/DER/RPD			Analysis Date	10/18/22 13:12	Analysis Technician	█
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD
AM-241	32.538	2.526	31.505	2.447	0.576	3.2
CO-60	21.197	1.117	21.422	1.137	0.277	1.1
CS-137	13.275	0.707	13.253	0.707	0.043	0.2

Method Blank			Analysis Date	10/18/22 14:04	Analysis Technician	█
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDC	Qual
ARS1-B22-01603-03	MBL	CO-60	-6.793E-4	0.001	0.001	U
ARS1-B22-01603-03	MBL	CS-137	-4.496E-4	9.277E-4	0.001	U
ARS1-B22-01603-03	MBL	RA-226	0.002	0.012	0.013	U



Analytical Batch	ARS1-B22-01622
SDG	ARS1-22-02240
Analysis	Plutonium (239, 240Pu) in (Air Filters, Smears, Leak Test [AF, SM, LT])
Method	Eichrom ACW03
Analysis Code	ASP-PU239-AF
Report Units	uCi/filter

QC Results per Analytical Batch

Acceptable QC Performance Ranges

QC Sample Type	Performance Items and Ranges		
Laboratory Control Sample	Recovery (%):	> 75	< 125
Matrix Spike	Recovery (%):	> 60	< 140
Duplicate	Duplicate Error Ratio (DER):		< 3
	Relative Percent Difference (RPD %):		≤ 25

Laboratory Control Sample				Analysis Date	11/09/22 02:54	Analysis Technician	[REDACTED]
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDC
ARS1-B22-01622-01	LCS	PU-239/240	8.258E-6	1.031E-6	7.824E-6	105.5	5.253E-8

Duplicate RER/DER/RPD				Analysis Date	11/09/22 02:54	Analysis Technician	[REDACTED]
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD	
PU-239/240	8.258E-6	1.031E-6	7.943E-6	9.980E-7	0.430	3.9	

Method Blank				Analysis Date	11/09/22 02:54	Analysis Technician	[REDACTED]
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDC	Qual	
ARS1-B22-01622-03	MBL	PU-238	-6.053E-8	5.640E-8	1.237E-7	U	
ARS1-B22-01622-03	MBL	PU-239/240	-3.025E-8	5.602E-8	1.159E-7	U	



Analytical Batch	ARS1-B22-01624
SDG	ARS1-22-02240
Analysis	Strontium-90 in (Air Filters, Smears [AF])
Method	Eichrom SRW01
Analysis Code	GPC-SR90-AF
Report Units	uCi/filter

QC Results per Analytical Batch

Acceptable QC Performance Ranges

QC Sample Type	Performance Items and Ranges		
Laboratory Control Sample	Recovery (%):	> 75	< 125
Matrix Spike	Recovery (%):	> 60	< 140
Duplicate	Duplicate Error Ratio (DER):		< 3
	Relative Percent Difference (RPD %):		≤ 25

Laboratory Control Sample				Analysis Date	10/28/22 11:23	Analysis Technician	[REDACTED]
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDC
ARS1-B22-01624-01	LCS	SR-90	2.361E-5	3.602E-6	2.042E-5	115.6	3.953E-7

Duplicate RER/DER/RPD				Analysis Date	10/28/22 11:23	Analysis Technician	[REDACTED]
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD	
SR-90	2.361E-5	3.602E-6	2.261E-5	3.472E-6	0.389	4.3	

Method Blank				Analysis Date	10/28/22 11:23	Analysis Technician	[REDACTED]
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDC	Qual	
ARS1-B22-01624-03	MBL	SR-90	3.108E-6	3.003E-6	4.863E-6	U	



Z Values per Analytical Batch

Analytical Batch	ARS1-B22-01623
SDG	ARS1-22-02240
Analysis	Radium-226 in Air Filter
Analysis Test Method	PALA-RAD-008/Gas Proportional Counter
Analysis Code	GPC-RA226-AF
Report Units	uCi/filter

Acceptable QC Performance Ranges

QC Sample Type	Performance Items and Ranges
Laboratory Control Sample	ZLCS <= 3
Matrix Spike	ZMS <= 3
Method Blank	ZBLANK <= 3
Duplicate	ZDUP <= 3

Laboratory Control Sample		Analysis Date	11/01/22 10:47	Analysis Technician	[REDACTED]	
QC Type	Analyte	Results	CSU (1s)	Expected Value	CSU (1s)	Z
LCS	RA-226	2.250E-5	1.854E-6	2.708E-5	3.148E-7	2.430
LCSD	RA-226	2.484E-5	2.048E-6	2.708E-5	3.148E-7	1.079

Method Blank		Analysis Date	11/01/22 10:47	Analysis Technician	[REDACTED]
QC Type	Analyte	Results	CSU (1s)	Z	
MBL	RA-226	8.459E-8	3.163E-8	2.675	

Duplicate Sample		Analysis Date	11/01/22 10:47	Analysis Technician	[REDACTED]	
QC Type	Analyte	Results Dup	CSU (1s)	Results DO	CSU (1s)	Z
LCSD	RA-226	2.484E-5	2.048E-6	2.250E-5	1.854E-6	0.846



Z Values per Analytical Batch

Analytical Batch	ARS1-B22-01603
SDG	ARS1-22-02240
Analysis	Gamma Spec (Short) in (Air Filters, Smears
Analysis Test Method	PALA-RAD-007/EPA 901.1M
Analysis Code	GAM-A-AF
Report Units	uCi/filter

Acceptable QC Performance Ranges

QC Sample Type	Performance Items and Ranges
Laboratory Control Sample	ZLCS <= 3
Matrix Spike	ZMS <= 3
Method Blank	ZBLANK <= 3
Duplicate	ZDUP <= 3

Laboratory Control Sample		Analysis Date	10/18/22 13:00	Analysis Technician	█	
QC Type	Analyte	Results	CSU (1s)	Expected Value	CSU (1s)	Z
LCS	AM-241	32.538	1.289	33.065	0.001	0.409
LCSD	AM-241	31.505	1.249	33.065	0.001	1.249
LCS	CO-60	21.197	0.570	20.928	5.860E-4	0.472
LCSD	CO-60	21.422	0.580	20.928	5.860E-4	0.852
LCS	CS-137	13.275	0.361	12.996	3.119E-4	0.774
LCSD	CS-137	13.253	0.360	12.996	3.119E-4	0.713

Method Blank		Analysis Date	10/18/22 14:04	Analysis Technician	█
QC Type	Analyte	Results	CSU (1s)	Z	
MBL	CS-137	-4.496E-4	4.733E-4	0.950	
MBL	CO-60	-6.793E-4	5.821E-4	1.167	
MBL	RA-226	0.002	0.006	0.297	

Duplicate Sample		Analysis Date	10/18/22 13:12	Analysis Technician	█	
QC Type	Analyte	Results Dup	CSU (1s)	Results DO	CSU (1s)	Z
LCSD	AM-241	31.505	1.249	32.538	1.289	0.576
LCSD	CO-60	21.422	0.580	21.197	0.570	0.277
LCSD	CS-137	13.253	0.360	13.275	0.361	0.043



Z Values per Analytical Batch

Analytical Batch	ARS1-B22-01622
SDG	ARS1-22-02240
Analysis	Plutonium (239, 240Pu) in (Air Filters,
Analysis Test Method	PALA-RAD-026/Eichrom ACW-03
Analysis Code	ASP-PU239-AF
Report Units	uCi/filter

Acceptable QC Performance Ranges

QC Sample Type	Performance Items and Ranges
Laboratory Control Sample	ZLCS <= 3
Matrix Spike	ZMS <= 3
Method Blank	ZBLANK <= 3
Duplicate	ZDUP <= 3

Laboratory Control Sample		Analysis Date	11/09/22 02:54	Analysis Technician	[REDACTED]	
QC Type	Analyte	Results	CSU (1s)	Expected Value	CSU (1s)	Z
LCS	PU-239/240	8.258E-6	5.261E-7	7.824E-6	1.263E-7	0.801
LCSD	PU-239/240	7.943E-6	5.092E-7	7.838E-6	1.263E-7	0.200

Method Blank		Analysis Date	11/09/22 02:54	Analysis Technician	[REDACTED]	
QC Type	Analyte	Results	CSU (1s)	Z		
MBL	PU-238	-6.053E-8	2.878E-8	2.103		
MBL	PU-239/240	-3.025E-8	2.858E-8	1.058		

Duplicate Sample		Analysis Date	11/09/22 02:54	Analysis Technician	[REDACTED]	
QC Type	Analyte	Results Dup	CSU (1s)	Results DO	CSU (1s)	Z
LCSD	PU-239/240	7.943E-6	5.092E-7	8.258E-6	5.261E-7	0.430



Z Values per Analytical Batch

Analytical Batch	ARS1-B22-01624
SDG	ARS1-22-02240
Analysis	Strontium-90 in (Air Filters, Smears [AF])
Analysis Test Method	PALA-RAD-032/Eichrom SRW01,HASL 300
Analysis Code	GPC-SR90-AF
Report Units	uCi/filter

Acceptable QC Performance Ranges

QC Sample Type	Performance Items and Ranges
Laboratory Control Sample	ZLCS <= 3
Matrix Spike	ZMS <= 3
Method Blank	ZBLANK <= 3
Duplicate	ZDUP <= 3

Laboratory Control Sample		Analysis Date	10/28/22 11:23	Analysis Technician	[REDACTED]	
QC Type	Analyte	Results	CSU (1s)	Expected Value	CSU (1s)	Z
LCS	SR-90	2.361E-5	1.838E-6	2.042E-5	3.410E-7	1.702
LCSD	SR-90	2.261E-5	1.772E-6	2.030E-5	3.410E-7	1.280

Method Blank		Analysis Date	10/28/22 11:23	Analysis Technician	[REDACTED]	
QC Type	Analyte	Results	CSU (1s)	Z		
MBL	SR-90	3.108E-6	1.532E-6	2.029		

Duplicate Sample		Analysis Date	10/28/22 11:23	Analysis Technician	[REDACTED]	
QC Type	Analyte	Results Dup	CSU (1s)	Results DO	CSU (1s)	Z
LCSD	SR-90	2.261E-5	1.772E-6	2.361E-5	1.838E-6	0.389



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Sample Management Records

**CHAIN-OF-CUSTODY
RECORD**

Gilbane Federal
1655 Grant Street, Suite 1200, Concord, CA 94520

COC # KT101222RADB



Project Name: Hunters Point Shipyard, Parcel B Removal Site Evaluation	Laboratory: ARS Aleut Analytical (AAA), Port Allen, LA	Event: Parcel B Air Monitoring RAD
Project Number: J310000900	POC: [Redacted]	
WBS Code: J310000900	Ship to: 2609 North River Road, Port Allen, LA 70767-3469	

Comments:	Analytical Test Method	E901.1 - Gamma Spec Air	RC0240 - Pu Isotopes	SR02RC - Sr90	SW9315 - Ra226													Code Matrix
																		A Air
Equipment:																		Code Container/Preservative
																		1 1x Filter, None
																		5 1x 1-L. Plastic, HNO3, pH < 2
																		15 1x 250-mL. Plastic, 4 Degrees C

Event: Parcel B Air Monitoring RAD						15	15	5	1														
Sample ID	Matrix	Date	Time	Samp Init.														Location ID	Sample Type	Depth (ft bgs)		Cooler	Comments
1	FB-100322	AQ	10/03/2022	0800	[Redacted]	X	X	X	X									FIELDQC	FB1	0.00	0.00	1	
2	MSB01-100322	A	10/06/2022	1501	[Redacted]	X	X	X	X									MSB01	N1	0.00	0.00	1	TOTAL FLOW: 298,560 (L)
3	MSB02-100322	A	10/06/2022	1504	[Redacted]	X	X	X	X									MSB02	N1	0.00	0.00	1	TOTAL FLOW: 300,240 (L)
4	MSB113A-100322	A	10/06/2022	1500	[Redacted]	X	X	X	X									MSB113A	N1	0.00	0.00	1	TOTAL FLOW: 299,400 (L)
5																							
6																							

Turnaround Time: 28 days

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[Redacted]	10-12-22	1600	FEDEX	10-12-22	1600	Shipping Date: 10/12/2022 / FEDEX 7701 1462 8677
			[Redacted]	10-13-22	950	
						Received by Laboratory: (Signature, Date, Time) & condition

SDG Report - Samples and Containers

SDG Specific Data							
SDG	ARS1-22-02240		TAT Days	28 Calendar Days	Project Type	Environmental	
Sample Count	4	Rpt Level	4	Date Received	10/13/2022	COC Number	KT101222RADB
Client	Gilbane Federal		Discrepancy Resol	N/A	PO Number	Parcel B Air Monitoring RAD	
Client Code	1138		Client Deadline	11/10/2022	Job Number	J310000900	
Profile Number	PN-01411				Job Location		
Comment							

Samples and Containers Checked In Thus Far									
FR	Name	Matrix	Start Date	End Date	Disp	Hold	Arch	Storage	Comments
001	FB-100322	Air Filter	10/03/2022 07:59	10/03/2022 08:00	H	30	10	PrePrep	
	IC_ID	Cnt	Container Type	AF Volume (L)	AF Units		Rate	Mins	Comments
	425272	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	10/03/2022 07:59	AF Volume (CuM):		0.001		
002	MSB01-100322	Air Filter	10/06/2022 15:00	10/06/2022 15:01	H	30	10	PrePrep	
	IC_ID	Cnt	Container Type	AF Volume (L)	AF Units		Rate	Mins	Comments
	425273	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	10/06/2022 15:00	AF Volume (CuM):		0.001		
003	MSB02-100322	Air Filter	10/06/2022 15:03	10/06/2022 15:04	H	30	10	PrePrep	
	IC_ID	Cnt	Container Type	AF Volume (L)	AF Units		Rate	Mins	Comments
	425274	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	10/06/2022 15:03	AF Volume (CuM):		0.001		
004	MSB113A-100322	Air Filter	10/06/2022 14:59	10/06/2022 15:00	H	30	10	PrePrep	
	IC_ID	Cnt	Container Type	AF Volume (L)	AF Units		Rate	Mins	Comments
	425275	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	10/06/2022 14:59	AF Volume (CuM):		0.001		

SDG Report - Analysis Assignments

SDG	ARS1-22-02240	Sample Count	4
Client	Gilbane Federal	Analysis Count	4-16

Sample Count Totals Per Analysis			
Analysis Code	Analysis Description	In/Out	Samples Count
ASP-PU239-AF	Plutonium (239, 240Pu) in (Air Filters, Smears, Leak Test [AF, SM, LT])	I	4
GAM-A-AF	Gamma Spec (Short) in (Air Filters, Smears [AF])	I	4
GPC-RA226-AF	Radium-226 in Air Filter	I	4
GPC-SR90-AF	Strontium-90 in (Air Filters, Smears [AF])	I	4

Analyses Assigned Per Fraction		
Fraction	Analysis Code	X = Assigned
001	ASP-PU239-AF	X
001	GAM-A-AF	X
001	GPC-RA226-AF	X
001	GPC-SR90-AF	X
002	ASP-PU239-AF	X
002	GAM-A-AF	X
002	GPC-RA226-AF	X
002	GPC-SR90-AF	X
003	ASP-PU239-AF	X
003	GAM-A-AF	X
003	GPC-RA226-AF	X
003	GPC-SR90-AF	X
004	ASP-PU239-AF	X
004	GAM-A-AF	X
004	GPC-RA226-AF	X
004	GPC-SR90-AF	X

Client Name: Gilbane Federal

Profile Name: Parcel B Rad Sampling

Report Level: 4

Analysis Code	Prep Type	Units	Aliquot	Prep Code	Procedure	Count Time																	
ASP-PU239-AF	WRAD	uCi	filter	N/A	PALA-RAD-026																		
												Analyte	RDL	LCS LL/UL	MS LL/UL	RadY LL/UL	GravY LL/UL	RER	RPD	Surr LL/UL			
Pu-239/240 (15117-48-3)				4.8E-08 uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A												
GAM-A-AF	WGAM	uCi	filter	N/A	PALA-RAD-007																		
												Analyte	RDL	LCS LL/UL	MS LL/UL	RadY LL/UL	GravY LL/UL	RER	RPD	Surr LL/UL			
												Co-60 (10198-40-0)				0.00024 uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
												Cs-137 (10045-97-3)				0.00048 uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
Ra-226 (13982-63-3)				4.4E-06 uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A												
GPC-RA226-AF	WRAD	uCi	filter		PALA-RAD-008																		
												Analyte	RDL	LCS LL/UL	MS LL/UL	RadY LL/UL	GravY LL/UL	RER	RPD	Surr LL/UL			
Ra-226 (13982-63-3)				4.4E-06 uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A												
GPC-SR90-AF	WRAD	uCi	filter	N/A	PALA-RAD-032																		
												Analyte	RDL	LCS LL/UL	MS LL/UL	RadY LL/UL	GravY LL/UL	RER	RPD	Surr LL/UL			
Sr-90 (10098-97-2)				2.4E-05 uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A												

Analysis Code	Fraction	Units	Aliquot	Conductivity	Analyte Count
ASP-PU239-AF	001	uCi	filter	N/A	1
		Group	Analyte	Parcel B Rad Sampling Pu-239/240	
ASP-PU239-AF	002	uCi	filter	N/A	1
		Group	Analyte	Parcel B Rad Sampling Pu-239/240	

DQO Report for SDG

ARS1-22-02240

ASP-PU239-AF	003	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Pu-239/240	
ASP-PU239-AF	004	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Pu-239/240	
GAM-A-AF	001	uCi	filter	N/A	3
		Group		Analyte	
		Parcel B Rad Sampling		Cs-137	
		Parcel B Rad Sampling		Co-60	
		Parcel B Rad Sampling		Ra-226	
GAM-A-AF	002	uCi	filter	N/A	3
		Group		Analyte	
		Parcel B Rad Sampling		Cs-137	
		Parcel B Rad Sampling		Co-60	
		Parcel B Rad Sampling		Ra-226	
GAM-A-AF	003	uCi	filter	N/A	3
		Group		Analyte	
		Parcel B Rad Sampling		Cs-137	
		Parcel B Rad Sampling		Co-60	
		Parcel B Rad Sampling		Ra-226	
GAM-A-AF	004	uCi	filter	N/A	3
		Group		Analyte	
		Parcel B Rad Sampling		Cs-137	
		Parcel B Rad Sampling		Co-60	
		Parcel B Rad Sampling		Ra-226	
GPC-RA226-AF	001	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Ra-226	
GPC-RA226-AF	002	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Ra-226	
GPC-RA226-AF	003	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Ra-226	

DQO Report for SDG

ARS1-22-02240

GPC-RA226-AF	004	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Ra-226	
GPC-SR90-AF	001	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Sr-90	
GPC-SR90-AF	002	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Sr-90	
GPC-SR90-AF	003	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Sr-90	
GPC-SR90-AF	004	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Sr-90	



Sample Custodian: [REDACTED] Survey Start Date: 10/13/22 Survey Start Time: 958
 Thermometer ID: E0064010085 Calibration Due Date: 2/28/23 pH Paper Lot# NA
 Exposure Rate Meter + Probe Unit ID: 269264 Calibration Due Date: 9/13/23 Background: 4 $\mu\text{R/hr}$
 Count Rate Meter + Probe Unit ID: PR287372 Calibration Due Date: 9/13/23 Background: 20 cpm
 Delivery Type (circle one): Direct Lock Box Commercial Carrier: FEDEX Total # of ESCs: 1

*True temperature is recorded which includes any applicable correction factors.

External Shipping Container Tracking:	Exposure Rate ($\mu\text{R/hr}$) (limit <500 $\mu\text{R/hr}$)	Max External Swipe Counts (cpm)	Max Internal Swipe Counts (cpm)	ESC True Temps* ($^{\circ}\text{C}$)	TRAX Matrix ID (circle all that apply): (See Section 4.3 of SOP)
A: <u>770114628697</u>	<u>6</u>	<u>30</u>	<u>40</u>	<u>NA</u>	AQ WD WG WO
B: _____	_____	_____	_____	_____	WS WW SI UR
C: _____	_____	_____	_____	_____	SO OL BI VG
D: _____	_____	_____	_____	_____	WP SM <u>AF</u>
E: _____	_____	_____	_____	_____	
F: _____	_____	_____	_____	_____	

Visual Inspection: (Circle response)

External Shipping Container

Good Condition with no Leaks or Tears: Yes No

Marked Radioactive: Yes No

UN2910: Yes No

Security Seals: Yes No

If yes, intact?: Yes No N/A

Internal Shipping Container

COC's Present: Yes No

Well packaged container with no signs of leakage: Yes No

COC/Sample Inspection (Circle response)

Sample Containers in good condition: Yes No

No spills or leaks: Yes No

Marked Radioactive: Yes No

Durable labels w/indelible ink: Yes No

COC relinquished/received correctly: Yes No

Adequate volume/filled correctly: Yes No

Hold Time sufficient for analysis: Yes No

For VOC/Radon, Head space? Yes No N/A

If yes, <6mm? Yes No N/A

of containers received matches # on COC: Yes No

Samples received on ice? Yes No

Type (circle one): Bagged Ice Loose Ice Blue Ice N/A

Comments:

ORIGIN ID: ICCA
200 FISHER STREET
SAN FRANCISCO, CA 94124
UNITED STATES US

SHIP DATE: 12OCT22
ACTWGT: 1.00 LB
CAD: 254128867/INET4530

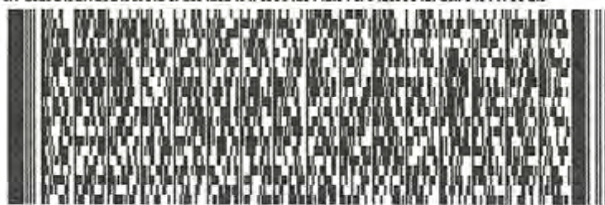
BILL SENDER

TO
ARS ALEUT ANALYTICAL, LLC
2609 NORTH RIVER ROAD

PORT ALLEN LA 70767

(225) 381-2991 REF: J31000.900 01.21.06
INV. PO. DEPT:

581 J1ACSF/FE2D



THU - 13 OCT 4:30P

STANDARD OVERNIGHT

TRK# 7701 1462 8677
0201

XN OPLA

70767
LA-US MSY



After printing this label:

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ARS Aleut Analytical, LLC

Laboratory Analytical Report

ARS1-22-02309

Gilbane Federal

[REDACTED]
1655 Grant Street
Suite 1200
Concord, CA 94520

[REDACTED]
[REDACTED]
[REDACTED]

COC Number: **KT101922RADB**
Job Number: **J310000900**
Job Location: **Hunters Point Shipyard, Parcel B Removal Site Evaluation**
Project Name: **Parcel B Air Monitoring RAD**

Questions regarding this analytical report should be addressed to ARS project manager, [REDACTED], who can be reached by email at projectmanagers@aaa.aleutfederal.com.

I certify that the test results presented in this report (in either hardcopy or electronic file (EDD)) meet the requirements of the laboratory's certifications and other applicable contract terms and conditions. A full list of the Port Allen, LA laboratory's certifications is provided with this report. Any exceptions to the certification or contract will be noted within the case narratives presented in the report. Any subcontracted sample results will be identified within the case narratives presented in the report. In the event this report is an amendment to a previously released report, the case narrative will clearly identify the original report as well as the reason(s) for reissuance. A statement of uncertainty for each analysis is available upon request. I authorize release and issuance of this report on the date signed below.

[REDACTED Signature]

Laboratory Management, ARS Aleut Analytical

Signature **Date** **Title**

This report provides analytical results of the requested analysis and does not include any opinions or interpretations. ARS Aleut Analytical, LLC assumes no liability for the use or interpretation of analytical results. Results relate only to items tested. A partial reproduction of this test report is prohibited. Reproduction of this report in full requires the written approval of the laboratory.







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Certifications and Accreditations List

State or Accrediting Body (AB)	Certificate Number
AIHA LAP, LLC	209312
Alaska	LA01131
California	3085
ANAB DoD	ADE-1489
ANAB DOE	ADE-1489.01
Louisiana DEQ - NELAC	01949
Louisiana DHH	LA022
Nevada	LA011312023-1
New Jersey	LA009
New York	65039
Pennsylvania	68-04294-011
Texas	T104704447-21-17
Utah	LA011312022-13
Washington	C1010

For additional information related to the specific matrices, methods, and analytes recognized by each accrediting body, contact us at QA@aaa.aleutfederal.com for additional information.



ARS Aleut Analytical, LLC Analytical Reports

for

Gilbane Federal

Case Narrative



**PROJECT SAMPLE IDENTIFICATION
CROSS-REFERENCE
TO ARS SAMPLE LABORATORY IDs**

Client Sample ID	ARS Aleut Analytical Sample ID
FB-101022	ARS1-22-02309-001
MSB01-101022	ARS1-22-02309-002
MSB02-101022	ARS1-22-02309-003
MSB113A-101022	ARS1-22-02309-004

Sample	Date Collected	Date Received	Analysis	Basis	Prep Date/Time	Analysis Date/Time
001	10/10/22 08:00	10/21/22	ASP-PU239-AF	As Received	10/26/22 08:20	11/09/22 03:00
001	10/10/22 08:00	10/21/22	GAM-A-AF	As Received	N/A	10/21/22 14:28
001	10/10/22 08:00	10/21/22	GPC-RA226-AF	As Received	11/09/22 08:23	11/17/22 10:08
001	10/10/22 08:00	10/21/22	GPC-SR90-AF	As Received	10/26/22 08:24	11/08/22 13:52
002	10/13/22 14:47	10/21/22	ASP-PU239-AF	As Received	10/26/22 08:20	11/09/22 03:00
002	10/13/22 14:47	10/21/22	GAM-A-AF	As Received	N/A	10/21/22 14:30
002	10/13/22 14:47	10/21/22	GPC-RA226-AF	As Received	11/09/22 08:23	11/17/22 10:08
002	10/13/22 14:47	10/21/22	GPC-SR90-AF	As Received	10/26/22 08:24	11/08/22 13:52
003	10/13/22 14:42	10/21/22	ASP-PU239-AF	As Received	10/26/22 08:20	11/09/22 03:00
003	10/13/22 14:42	10/21/22	GAM-A-AF	As Received	N/A	10/24/22 14:05
003	10/13/22 14:42	10/21/22	GPC-RA226-AF	As Received	11/09/22 08:23	11/17/22 10:08
003	10/13/22 14:42	10/21/22	GPC-SR90-AF	As Received	10/26/22 08:24	11/08/22 13:52
004	10/13/22 14:46	10/21/22	ASP-PU239-AF	As Received	10/26/22 08:20	11/09/22 03:00
004	10/13/22 14:46	10/21/22	GAM-A-AF	As Received	N/A	10/24/22 14:06



004	10/13/22 14:46	10/21/22	GPC-RA226-AF	As Received	11/09/22 08:23	11/17/22 10:08
004	10/13/22 14:46	10/21/22	GPC-SR90-AF	As Received	10/26/22 08:24	11/08/22 13:52

SAMPLE RECEIPT/PREP

The samples arrived in good condition. The samples were screened for radioactive contamination as per procedure **PALA-SR-001-SOP Sample Receiving**. Sample date(s) and time(s) are listed as provided by the client. In regard to the Air Filters, no flow rate information was provided by the client. Turnaround time was set at 28 calendar days.

ANALYTICAL METHODS

Pu-239/240 analysis was performed using **PALA-RAD-026, "Americium, Plutonium and Uranium in Water, Soil and Vegetation Matrices by Sequential Separation Using Eichrom Stabilized Chemistry Resin (with Vacuum Box System Option) (Eichrom ACW-02 & Eichrom ACW-03)"**.

Co-60, Cs-137, Ra-226 analyses were performed using **PALA-RAD-007, "Modified Gamma Emitting Radionuclides in Soil, Air, and Biota Matrices (EPA 901.1 Mod, SM 7120B, & HASL-300 Ga-01-R)"**.

Ra-226 analysis was performed using **PALA-RAD-008, "Alpha Emitting Radium Isotopes in Water (EPA 903.0, EPA 9315, SM 7500-Ra C, SM 7500-Ra C)"**.

Sr-90 analysis was performed using **PALA-RAD-032, "Strontium 89, 90 and Total Strontium in Water, Soil and Vegetation Matrices by Eichrom Resin Separation (Eichrom SRW01, EPA 905.0, HASL 300 Sr-01-RC)"**.

ANALYTICAL RESULTS

Fraction 001 has elevated MDC for Pu-239/240 with ACT of $-4.037E-8$ uCi/filter, MDC of $1.046E-7$ uCi/filter and CRDL of $4.8E-08$ uCi/filter.

Fraction 001 has elevated MDC for Ra-226 with ACT of $3.026E-6$ uCi/filter, MDC of $9.115E-6$ uCi/filter and CRDL of $4.4E-06$ uCi/filter.

Fraction 002 has elevated MDC for Pu-239/240 with ACT of $4.279E-9$ uCi/filter, MDC of $6.037E-8$ uCi/filter and CRDL of $4.8E-08$ uCi/filter.

Fraction 002 has elevated MDC for Ra-226 with ACT of $-3.474E-5$ uCi/filter, MDC of $1.790E-5$ uCi/filter and CRDL of $4.4E-06$ uCi/filter.

Fraction 003 has elevated MDC for Pu-239/240 with ACT of $-6.213E-8$ uCi/filter, MDC of $1.044E-7$ uCi/filter and CRDL of $4.8E-08$ uCi/filter.

Fraction 003 has elevated MDC for Ra-226 with ACT of $1.728E-6$ uCi/filter, MDC of $9.238E-6$ uCi/filter and CRDL of $4.4E-06$ uCi/filter.

Fraction 004 has elevated MDC for Pu-239/240 with ACT of $-5.003E-8$ uCi/filter, MDC of $1.093E-7$ uCi/filter and CRDL of $4.8E-08$ uCi/filter.

Fraction 004 has elevated MDC for Ra-226 with ACT of $-3.887E-6$ uCi/filter, MDC of $1.493E-5$ uCi/filter and CRDL of $4.4E-06$ uCi/filter.

ARS1-B22-01652: ROI's adjusted to better fit the peaks of interest.

Notes (Case Narrative)

Definitions:

CRDL	Contract Required Detection Limit
CSU	Combined Standard Uncertainty
DLC	Decision Level Concentration (ANSI N42.23)
DO	Duplicate Original
DUP	Sample Duplicate
LCS/LCSD	Laboratory Control Sample/Laboratory Control Sample Duplicate
LOD	Limit of Detection
LOQ	Limit of Quantitation
MBL	Method Blank
MCL	Maximum Contaminant Level
MDA	Minimum Detectable Activity
MDL	Method Detection Limit
MS/MSD	Matrix Spike/Matrix Spike Duplicate
N/A	Not Applicable
NC	Not Calculated
NP	Not Provided
NR	Not Referenced
PQL	Practical Quantitation Limit

Data Qualifiers:

B	The result of both the method blank and the target sample are above the MDL.
D	Sample analysis accomplished through dilution.
J	The reported result is an estimated value above the LOD but below the LOQ, or above the MDL but below the PQL.
Q	One or more quality control criteria failed.
U	Result is below the MDA, MDL, PQL, LOD, or LOQ
*	LCS/LCSD or Sample DUP fails all Duplicate criteria.
S	Spike
SC	Subcontracted out to another qualified laboratory
H	Holding time exceeded
E	Exceeds MCL
**	Reporting Limit is higher than MCL; Target cannot be detected
‡	Method/Matrix/Analyte not accredited for this certification

Radiochemistry Comments:

- 1.0) All MDA/MDC values are calculated on a sample specific basis.
- 2.0) Data in this report are within the limits of uncertainty specified in the reference method unless otherwise specified.
- 3.0) Total activity is actually total gamma activity and is determined utilizing the prominent gamma emitters from the naturally occurring radioactive decay chains and other prominent radioactive nuclides. Total activity may be lower than the actual total activity due to the extent of secular equilibrium achieved in the various decay chains at the time of analysis. The total activity is not representative of nuclides that emit solely alpha or beta particles.
- 4.0) Ra-228 is determined via secular equilibrium with its daughter, Actinium 228 (Gamma Spectroscopy only).
- 5.0) U-238 is determined via secular equilibrium with its daughter, Thorium 234 (Gamma Spectroscopy only).
- 6.0) All gamma spectroscopy was performed utilizing high purity germanium detectors (**HPGe**).
- 7.0) ARS makes every attempt to match sample density to calibrated density; however, in some cases, it is not practical or possible to do so and data results may be affected (Gamma Spectroscopy only).
- 8.0) Gamma spectroscopy results are calculated values based on the **ORTEC®** GammaVision ENV32 Analysis Engine.
- 9.0) DoD/DOE and ISO 17025 certifications through ANAB apply only to the following methods in **Non-Potable Water**:
Gross Alpha and Gross Beta (EPA 900.0, EPA 9310); Radium 226 (EPA 903.0, EPA 903.1, EPA 9315); Radium 228 (EPA 904.0, EPA 9320); ICP/MS (EPA 6020B); ICP-OES (EPA 6010D); Mercury CVAA (EPA 7470A); Strontium-89 (EPA 905.0, Eichrom SRW01, HASL 300 Sr-01); Strontium-90 (EPA 905.0, Eichrom SRW01, HASL 300 Sr-02-RC); Tritium (EPA 906.0); Enriched Tritium (ARS-040), Carbon-14 (ARS-019), Tritium/Carbon (ARS-151); Gamma Emitters (EPA 901.1, SM 7120B, HASL 300 Ga-01-R); Americium-241 (Eichrom ACW03, HASL 300 Se-03, HASL 300 Am-03); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, HASL 300 Se-03, HASL 300 Pu-10); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235, Uranium-238 (Eichrom ACW03, HASL 300 Se-03); Technetium-99 (Eichrom TCW02)
- 10.0) DoD/DOE and ISO 17025 certifications through ANAB apply only to the following methods in **Solid and Chemical Materials**:
Gross Alpha and Gross Beta (EPA 900.0 Mod, EPA 9310); ICP/MS (EPA 6020B); ICP-OES (EPA 6010D); Mercury CVAA (EPA 7471B); Strontium-89 (EPA 905.0 Mod, Eichrom SRW01, HASL 300 Sr-01); Strontium-90 (EPA 905.0 Mod, Eichrom SRW01, HASL 300 Sr-02); Tritium (EPA 906.0 Mod); Gamma Emitters (EPA 901.1, HASL 300 Ga-01-R); Americium-241 (Eichrom ACW03, HASL 300 Se-03, HASL 300 Am-01-RC); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, HASL 300 Se-03, HASL 300 Pu-02-RC, HASL 300 Pu-03-RC); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235, Uranium-238 (Eichrom ACW03, HASL 300 Se-03, HASL 300 U-02, HASL 300 U-04); Technetium-99 (Eichrom TCS01)
- 11.0) DoD/DOE and ISO 17025 certifications through ANAB apply only to the following methods in **Air and Emissions**:
Gross Alpha and Gross Beta (EPA 900.0 Mod, EPA 9310); Strontium-89 (Eichrom SRW01, HASL 300 Sr-01-RC); Strontium-90 (Eichrom SRW01, HASL 300 Sr-02-RC); Gamma Emitters (EPA 901.1, HASL 300 Ga-01-R); Americium-241 (Eichrom ACW03, HASL 300 Se-03); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, HASL 300 Se-03); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235, Uranium-238 (Eichrom ACW03, HASL 300 Se-03); Technetium-99 (Eichrom TCW02, Eichrom TCS01)

General Comments:

- 1.0) Modified analysis procedures are procedures that are modified to meet the certain specifications. An example may be the use of a water method to analyze a solid matrix due to the lack of an officially recognized procedure for the analysis of the solid matrix. Modified analyses are indicated by the subsequent addition of "M" or "Mod" to the procedure number (i.e. 901.1M, 901.1 Mod).
- 2.0) All NIOSH method results are reported without blank corrections applied.
- 3.0) Basis: "As Received" = analyzed as received from client; "Dry" = dried prior to being analyzed; "Dry Weight Corrected" = analyzed as received; result corrected for percent moisture.



ARS Aleut Analytical, LLC Analytical Reports

for

Gilbane Federal

Analytical Results



ARS Sample Delivery Group: ARS1-22-02309

Client Sample ID: FB-101022

Sample Collection Date: 10/10/22 8:00

Sample Matrix: Air Filter

Percent Solids: N/A

Request or PO Number: J310000900

ARS Sample ID: ARS1-22-02309-001

Date Received: 10/21/22

Report Date: 11/18/22

Radiochemistry

Analysis Method: Eichrom ACW03

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-4.037E-8	4.665E-8	1.046E-7	4.547E-8	4.8E-08	U	uCi/filter	11/09/22 3:00		58.0%

Analysis Method: EPA 901.1M

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	-1.891E-7	8.255E-7	8.488E-7	4.244E-7	0.00024	U	uCi/filter	10/21/22 14:28		N/A
Cs-137	-4.006E-7	7.221E-7	7.771E-7	3.886E-7	0.00048	U	uCi/filter	10/21/22 14:28		N/A
Ra-226	3.026E-6	7.231E-6	9.115E-6	4.558E-6	4.4E-06	U	uCi/filter	10/21/22 14:28		N/A

Analysis Method: EPA 9315

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Ra-226	8.998E-7	6.079E-7	7.526E-7	2.844E-7	4.4E-06		uCi/filter	11/17/22 10:08		93.3%

Analysis Method: Eichrom SRW01

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	-1.613E-7	2.029E-6	3.731E-6	1.717E-6	2.4E-05	U	uCi/filter	11/08/22 13:52		94.5%



ARS Sample Delivery Group: ARS1-22-02309

Client Sample ID: MSB01-101022

Sample Collection Date: 10/13/22 14:47

Sample Matrix: Air Filter

Percent Solids: N/A

Request or PO Number: J310000900

ARS Sample ID: ARS1-22-02309-002

Date Received: 10/21/22

Report Date: 11/18/22

Radiochemistry

Analysis Method: Eichrom ACW03

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	4.279E-9	3.025E-8	6.037E-8	2.438E-8	4.8E-08	U	uCi/filter	11/09/22 3:00		72.0%

Analysis Method: EPA 901.1M

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	-3.673E-7	9.867E-7	1.075E-6	5.375E-7	0.00024	U	uCi/filter	10/21/22 14:30		N/A
Cs-137	-5.828E-8	7.816E-7	9.176E-7	4.588E-7	0.00048	U	uCi/filter	10/21/22 14:30		N/A
Ra-226	-3.474E-5	1.553E-5	1.790E-5	8.950E-6	4.4E-06	U	uCi/filter	10/21/22 14:30		N/A

Analysis Method: EPA 9315

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Ra-226	8.897E-7	6.753E-7	8.945E-7	3.390E-7	4.4E-06	U	uCi/filter	11/17/22 10:08		82.7%

Analysis Method: Eichrom SRW01

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	-4.389E-6	2.721E-6	5.259E-6	2.486E-6	2.4E-05	U	uCi/filter	11/08/22 13:52		100%



ARS Sample Delivery Group: ARS1-22-02309

Client Sample ID: MSB02-101022

Sample Collection Date: 10/13/22 14:42

Sample Matrix: Air Filter

Percent Solids: N/A

Request or PO Number: J310000900

ARS Sample ID: ARS1-22-02309-003

Date Received: 10/21/22

Report Date: 11/18/22

Radiochemistry

Analysis Method: Eichrom ACW03

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-6.213E-8	4.498E-8	1.044E-7	4.617E-8	4.8E-08	U	uCi/filter	11/09/22 3:00		72.4%

Analysis Method: EPA 901.1M

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	-6.256E-7	1.059E-6	1.071E-6	5.355E-7	0.00024	U	uCi/filter	10/24/22 14:05		N/A
Cs-137	-4.787E-8	6.912E-7	7.529E-7	3.765E-7	0.00048	U	uCi/filter	10/24/22 14:05		N/A
Ra-226	1.728E-6	7.303E-6	9.238E-6	4.619E-6	4.4E-06	U	uCi/filter	10/24/22 14:05		N/A

Analysis Method: EPA 9315

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Ra-226	8.521E-7	6.255E-7	8.272E-7	3.190E-7	4.4E-06		uCi/filter	11/17/22 10:08		89.7%

Analysis Method: Eichrom SRW01

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	3.198E-7	2.380E-6	4.254E-6	1.972E-6	2.4E-05	U	uCi/filter	11/08/22 13:52		93.6%



ARS Sample Delivery Group: ARS1-22-02309
Client Sample ID: MSB113A-101022
Sample Collection Date: 10/13/22 14:46
Sample Matrix: Air Filter
Percent Solids: N/A

Request or PO Number: J310000900
ARS Sample ID: ARS1-22-02309-004
Date Received: 10/21/22
Report Date: 11/18/22

Radiochemistry

Analysis Method: Eichrom ACW03

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-5.003E-8	5.000E-8	1.093E-7	4.849E-8	4.8E-08	U	uCi/filter	11/09/22 3:00		67.2%

Analysis Method: EPA 901.1M

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	2.911E-7	9.260E-7	1.012E-6	5.060E-7	0.00024	U	uCi/filter	10/24/22 14:06		N/A
Cs-137	-4.655E-7	8.593E-7	9.949E-7	4.975E-7	0.00048	U	uCi/filter	10/24/22 14:06		N/A
Ra-226	-3.887E-6	1.523E-5	1.493E-5	7.465E-6	4.4E-06	U	uCi/filter	10/24/22 14:06		N/A

Analysis Method: EPA 9315

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Ra-226	1.547E-6	8.037E-7	8.089E-7	2.999E-7	4.4E-06		uCi/filter	11/17/22 10:08		91.3%

Analysis Method: Eichrom SRW01

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	9.639E-7	2.429E-6	4.240E-6	1.957E-6	2.4E-05	U	uCi/filter	11/08/22 13:52		91.1%



ARS Aleut Analytical, LLC Analytical Reports

for

Gilbane Federal

QC Summary



QC Sample Results

Analytical Batch: ARS1-B22-01634
Lab Sample ID: ARS1-B22-01634-01
Method: EPA 901.1M

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 10/21/22 13:55

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Am-241	33.065	31.712		uCi/filter	95.9	75 - 125
Co-60	20.928	21.119		uCi/filter	100.9	75 - 125
Cs-137	12.996	13.041		uCi/filter	100.3	75 - 125



QC Sample Results

Analytical Batch: ARS1-B22-01634
Lab Sample ID: ARS1-B22-01634-02
Method: EPA 901.1M

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 10/21/22 14:06

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Am-241	33.065	32.328		uCi/filter	97.8	75 - 125	1.9	25	0.343	3
Co-60	20.928	21.718		uCi/filter	103.8	75 - 125	2.8	25	0.684	3
Cs-137	12.996	13.269		uCi/filter	102.1	75 - 125	1.7	25	0.451	3



QC Sample Results

Analytical Batch: ARS1-B22-01634
Lab Sample ID: ARS1-B22-01634-03
Method: EPA 901.1M

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 10/21/22 14:27

Analyte	Analysis Result	CSU +/- 2 s	MDC	DLC	Qual	Analysis Units
Co-60	4.873E-4	8.119E-4	8.270E-4	4.135E-4	U	uCi/filter
Cs-137	4.043E-4	7.204E-4	8.040E-4	4.020E-4	U	uCi/filter
Ra-226	-0.002	0.012	0.013	0.006	U	uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-22-02309

Analytical Batch: ARS1-B22-01634

Analysis: Gamma Spec (Short) in (Air Filters, Smears [AF])

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B22-01634-01		Lab Control Sample	Air Filter	EPA 901.1M	N/A
ARS1-B22-01634-02		Lab Control Sample Duplicate	Air Filter	EPA 901.1M	N/A
ARS1-B22-01634-03		Method Blank	Air Filter	EPA 901.1M	N/A
ARS1-B22-01634-04	ARS1-22-02309-001	FB-101022	Air Filter	EPA 901.1M	N/A
ARS1-B22-01634-05	ARS1-22-02309-002	MSB01-101022	Air Filter	EPA 901.1M	N/A
ARS1-B22-01634-06	ARS1-22-02309-003	MSB02-101022	Air Filter	EPA 901.1M	N/A
ARS1-B22-01634-07	ARS1-22-02309-004	MSB113A-101022	Air Filter	EPA 901.1M	N/A



QC Sample Results

Analytical Batch: ARS1-B22-01652

Lab Sample ID: ARS1-B22-01652-01

Method: Eichrom ACW03

Sample Type: LCS

Matrix: Air Filter

Analysis Date: 11/09/22 3:00

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Pu-239/240	7.747E-6	8.000E-6		uCi/filter	103.3	75 - 125



QC Sample Results

Analytical Batch: ARS1-B22-01652

Lab Sample ID: ARS1-B22-01652-02

Method: Eichrom ACW03

Sample Type: LCSD

Matrix: Air Filter

Analysis Date: 11/09/22 3:00

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Pu-239/240	7.817E-6	8.332E-6		uCi/filter	106.6	75 - 125	4.1	25	0.450	3



QC Sample Results

Analytical Batch: ARS1-B22-01652

Lab Sample ID: ARS1-B22-01652-03

Method: Eichrom ACW03

Sample Type: MBL

Matrix: Air Filter

Analysis Date: 11/09/22 3:00

Analyte	Analysis Result	CSU +/- 2 s	MDC	DLC	Qual	Analysis Units
Pu-238	-7.123E-9	8.021E-8	1.560E-7	6.832E-8	U	uCi/filter
Pu-239/240	-8.545E-8	8.204E-8	1.782E-7	7.945E-8	U	uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-22-02309

Analytical Batch: ARS1-B22-01652

Analysis: Plutonium (239, 240Pu) in (Air Filters, Smears, Leak Test [AF, SM, LT])

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B22-01652-01		Lab Control Sample	Air Filter	Eichrom ACW03	N/A
ARS1-B22-01652-02		Lab Control Sample Duplicate	Air Filter	Eichrom ACW03	N/A
ARS1-B22-01652-03		Method Blank	Air Filter	Eichrom ACW03	N/A
ARS1-B22-01652-04	ARS1-22-02309-001	FB-101022	Air Filter	Eichrom ACW03	N/A
ARS1-B22-01652-05	ARS1-22-02309-002	MSB01-101022	Air Filter	Eichrom ACW03	N/A
ARS1-B22-01652-06	ARS1-22-02309-003	MSB02-101022	Air Filter	Eichrom ACW03	N/A
ARS1-B22-01652-07	ARS1-22-02309-004	MSB113A-101022	Air Filter	Eichrom ACW03	N/A



QC Sample Results

Analytical Batch: ARS1-B22-01653

Lab Sample ID: ARS1-B22-01653-01

Method: EPA 9315

Sample Type: LCS

Matrix: Air Filter

Analysis Date: 11/17/22 10:08

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Ra-226	2.697E-5	2.439E-5		uCi/filter	90.4	75 - 125



QC Sample Results

Analytical Batch: ARS1-B22-01653

Lab Sample ID: ARS1-B22-01653-02

Method: EPA 9315

Sample Type: LCSD

Matrix: Air Filter

Analysis Date: 11/17/22 10:08

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Ra-226	2.684E-5	2.291E-5		uCi/filter	85.4	75 - 125	6.2	25	0.534	3



QC Sample Results

Analytical Batch: ARS1-B22-01653

Lab Sample ID: ARS1-B22-01653-03

Method: EPA 9315

Sample Type: MBL

Matrix: Air Filter

Analysis Date: 11/17/22 10:08

Analyte	Analysis Result	CSU +/- 2 s	MDC	DLC	Qual	Analysis Units
Ra-226	6.145E-8	5.900E-8	8.844E-8	3.446E-8	U	uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-22-02309

Analytical Batch: ARS1-B22-01653

Analysis: Radium-226 in Air Filter

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B22-01653-01		Lab Control Sample	Air Filter	EPA 9315	N/A
ARS1-B22-01653-02		Lab Control Sample Duplicate	Air Filter	EPA 9315	N/A
ARS1-B22-01653-03		Method Blank	Air Filter	EPA 9315	N/A
ARS1-B22-01653-04	ARS1-22-02309-001	FB-101022	Air Filter	EPA 9315	N/A
ARS1-B22-01653-05	ARS1-22-02309-002	MSB01-101022	Air Filter	EPA 9315	N/A
ARS1-B22-01653-06	ARS1-22-02309-003	MSB02-101022	Air Filter	EPA 9315	N/A
ARS1-B22-01653-07	ARS1-22-02309-004	MSB113A-101022	Air Filter	EPA 9315	N/A



QC Sample Results

Analytical Batch: ARS1-B22-01654
Lab Sample ID: ARS1-B22-01654-01
Method: Eichrom SRW01

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 11/08/22 13:52

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
SR-90	2.001E-5	2.128E-5		uCi/filter	106.4	75 - 125



QC Sample Results

Analytical Batch: ARS1-B22-01654
Lab Sample ID: ARS1-B22-01654-02
Method: Eichrom SRW01

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 11/08/22 13:52

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
SR-90	2.005E-5	2.032E-5		uCi/filter	101.4	75 - 125	4.6	25	0.418	3



QC Sample Results

Analytical Batch: ARS1-B22-01654
Lab Sample ID: ARS1-B22-01654-03
Method: Eichrom SRW01

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 11/08/22 13:52

Analyte	Analysis Result	CSU +/- 2 s	MDC	DLC	Qual	Analysis Units
SR-90	-9.632E-7	2.019E-6	3.860E-6	1.776E-6	U	uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-22-02309

Analytical Batch: ARS1-B22-01654

Analysis: Strontium-90 in (Air Filters, Smears [AF])

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B22-01654-01		Lab Control Sample	Air Filter	Eichrom SRW01	N/A
ARS1-B22-01654-02		Lab Control Sample Duplicate	Air Filter	Eichrom SRW01	N/A
ARS1-B22-01654-03		Method Blank	Air Filter	Eichrom SRW01	N/A
ARS1-B22-01654-04	ARS1-22-02309-001	FB-101022	Air Filter	Eichrom SRW01	N/A
ARS1-B22-01654-05	ARS1-22-02309-002	MSB01-101022	Air Filter	Eichrom SRW01	N/A
ARS1-B22-01654-06	ARS1-22-02309-003	MSB02-101022	Air Filter	Eichrom SRW01	N/A
ARS1-B22-01654-07	ARS1-22-02309-004	MSB113A-101022	Air Filter	Eichrom SRW01	N/A



ARS Aleut Analytical, LLC Analytical Reports

for

Gilbane Federal

Batch QC



Analytical Batch	ARS1-B22-01634
SDG	ARS1-22-02309
Analysis	Gamma Spec (Short) in (Air Filters, Smears [AF])
Method	EPA 901.1M
Analysis Code	GAM-A-AF
Report Units	uCi/filter

QC Results per Analytical Batch

Acceptable QC Performance Ranges

QC Sample Type	Performance Items and Ranges		
Laboratory Control Sample	Recovery (%):	> 75	< 125
Matrix Spike	Recovery (%):	> 60	< 140
Duplicate	Duplicate Error Ratio (DER):		< 3
	Relative Percent Difference (RPD %):		≤ 25

Laboratory Control Sample			Analysis Date	10/21/22 13:55	Analysis Technician	[REDACTED]	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDC
ARS1-B22-01634-01	LCS	AM-241	31.712	2.463	33.065	95.9	0.112
ARS1-B22-01634-01	LCS	CO-60	21.119	1.275	20.928	100.9	0.343
ARS1-B22-01634-01	LCS	CS-137	13.041	0.695	12.996	100.3	0.067

Duplicate RER/DER/RPD			Analysis Date	10/21/22 14:06	Analysis Technician	[REDACTED]	
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD	
AM-241	31.712	2.463	32.328	2.510	0.343	1.9	
CO-60	21.119	1.275	21.718	1.148	0.684	2.8	
CS-137	13.041	0.695	13.269	0.706	0.451	1.7	

Method Blank			Analysis Date	10/21/22 14:27	Analysis Technician	[REDACTED]	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDC	Qual	
ARS1-B22-01634-03	MBL	CO-60	4.873E-4	8.119E-4	8.270E-4	U	
ARS1-B22-01634-03	MBL	CS-137	4.043E-4	7.204E-4	8.040E-4	U	
ARS1-B22-01634-03	MBL	RA-226	-0.002	0.012	0.013	U	



Analytical Batch	ARS1-B22-01652
SDG	ARS1-22-02309
Analysis	Plutonium (239, 240Pu) in (Air Filters, Smears, Leak Test [AF, SM, LT])
Method	Eichrom ACW03
Analysis Code	ASP-PU239-AF
Report Units	uCi/filter

QC Results per Analytical Batch

Acceptable QC Performance Ranges

QC Sample Type	Performance Items and Ranges		
Laboratory Control Sample	Recovery (%):	> 75	< 125
Matrix Spike	Recovery (%):	> 60	< 140
Duplicate	Duplicate Error Ratio (DER):		< 3
	Relative Percent Difference (RPD %):		≤ 25

Laboratory Control Sample				Analysis Date	11/09/22 03:00	Analysis Technician	[REDACTED]
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDC
ARS1-B22-01652-01	LCS	PU-239/240	8.000E-6	1.004E-6	7.747E-6	103.3	3.755E-8

Duplicate RER/DER/RPD				Analysis Date	11/09/22 03:00	Analysis Technician	[REDACTED]
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD	
PU-239/240	8.000E-6	1.004E-6	8.332E-6	1.038E-6	0.450	4.1	

Method Blank				Analysis Date	11/09/22 03:00	Analysis Technician	[REDACTED]
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDC	Qual	
ARS1-B22-01652-03	MBL	PU-238	-7.123E-9	8.021E-8	1.560E-7	U	
ARS1-B22-01652-03	MBL	PU-239/240	-8.545E-8	8.204E-8	1.782E-7	U	



Analytical Batch	ARS1-B22-01653
SDG	ARS1-22-02309
Analysis	Radium-226 in Air Filter
Method	EPA 9315
Analysis Code	GPC-RA226-AF
Report Units	uCi/filter

QC Results per Analytical Batch

Acceptable QC Performance Ranges

QC Sample Type	Performance Items and Ranges		
Laboratory Control Sample	Recovery (%):	> 75	< 125
Matrix Spike	Recovery (%):	> 60	< 140
Duplicate	Duplicate Error Ratio (DER):		< 3
	Relative Percent Difference (RPD %):		≤ 25

Laboratory Control Sample				Analysis Date	11/17/22 10:08	Analysis Technician	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDC
ARS1-B22-01653-01	LCS	RA-226	2.439E-5	3.946E-6	2.697E-5	90.4	9.194E-8

Duplicate RER/DER/RPD				Analysis Date	11/17/22 10:08	Analysis Technician	
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD	
RA-226	2.439E-5	3.946E-6	2.291E-5	3.709E-6	0.534	6.2	

Method Blank				Analysis Date	11/17/22 10:08	Analysis Technician	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDC	Qual	
ARS1-B22-01653-03	MBL	RA-226	6.145E-8	5.900E-8	8.844E-8	U	



Analytical Batch	ARS1-B22-01654
SDG	ARS1-22-02309
Analysis	Strontium-90 in (Air Filters, Smears [AF])
Method	Eichrom SRW01
Analysis Code	GPC-SR90-AF
Report Units	uCi/filter

QC Results per Analytical Batch

Acceptable QC Performance Ranges

QC Sample Type	Performance Items and Ranges		
Laboratory Control Sample	Recovery (%):	> 75	< 125
Matrix Spike	Recovery (%):	> 60	< 140
Duplicate	Duplicate Error Ratio (DER):		< 3
	Relative Percent Difference (RPD %):		≤ 25

Laboratory Control Sample				Analysis Date	11/08/22 13:52	Analysis Technician	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDC
ARS1-B22-01654-01	LCS	SR-90	2.128E-5	3.247E-6	2.001E-5	106.4	3.550E-7

Duplicate RER/DER/RPD				Analysis Date	11/08/22 13:52	Analysis Technician	
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD	
SR-90	2.128E-5	3.247E-6	2.032E-5	3.109E-6	0.418	4.6	

Method Blank				Analysis Date	11/08/22 13:52	Analysis Technician	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDC	Qual	
ARS1-B22-01654-03	MBL	SR-90	-9.632E-7	2.019E-6	3.860E-6	U	



Z Values per Analytical Batch

Analytical Batch	ARS1-B22-01634
SDG	ARS1-22-02309
Analysis	Gamma Spec (Short) in (Air Filters, Smears
Analysis Test Method	PALA-RAD-007/EPA 901.1M
Analysis Code	GAM-A-AF
Report Units	uCi/filter

Acceptable QC Performance Ranges

QC Sample Type	Performance Items and Ranges
Laboratory Control Sample	ZLCS <= 3
Matrix Spike	ZMS <= 3
Method Blank	ZBLANK <= 3
Duplicate	ZDUP <= 3

Laboratory Control Sample		Analysis Date	10/21/22 13:55	Analysis Technician	█	
QC Type	Analyte	Results	CSU (1s)	Expected Value	CSU (1s)	Z
LCS	AM-241	31.712	1.257	33.065	0.001	1.076
LCSD	AM-241	32.328	1.281	33.065	0.001	0.575
LCS	CO-60	21.119	0.650	20.928	5.860E-4	0.294
LCSD	CO-60	21.718	0.586	20.928	5.860E-4	1.349
LCS	CS-137	13.041	0.355	12.996	3.119E-4	0.127
LCSD	CS-137	13.269	0.360	12.996	3.119E-4	0.758

Method Blank		Analysis Date	10/21/22 14:27	Analysis Technician	█
QC Type	Analyte	Results	CSU (1s)	Z	
MBL	CS-137	4.043E-4	3.675E-4	1.100	
MBL	CO-60	4.873E-4	4.143E-4	1.176	
MBL	RA-226	-0.002	0.006	0.294	

Duplicate Sample		Analysis Date	10/21/22 14:06	Analysis Technician	█	
QC Type	Analyte	Results Dup	CSU (1s)	Results DO	CSU (1s)	Z
LCSD	AM-241	32.328	1.281	31.712	1.257	0.343
LCSD	CO-60	21.718	0.586	21.119	0.650	0.684
LCSD	CS-137	13.269	0.360	13.041	0.355	0.451



Z Values per Analytical Batch

Analytical Batch	ARS1-B22-01652
SDG	ARS1-22-02309
Analysis	Plutonium (239, 240Pu) in (Air Filters,
Analysis Test Method	PALA-RAD-026/Eichrom ACW-03
Analysis Code	ASP-PU239-AF
Report Units	uCi/filter

Acceptable QC Performance Ranges

QC Sample Type	Performance Items and Ranges
Laboratory Control Sample	ZLCS <= 3
Matrix Spike	ZMS <= 3
Method Blank	ZBLANK <= 3
Duplicate	ZDUP <= 3

Laboratory Control Sample		Analysis Date	11/09/22 03:00	Analysis Technician	[REDACTED]	
QC Type	Analyte	Results	CSU (1s)	Expected Value	CSU (1s)	Z
LCS	PU-239/240	8.000E-6	5.122E-7	7.747E-6	1.263E-7	0.480
LCSD	PU-239/240	8.332E-6	5.295E-7	7.817E-6	1.263E-7	0.946

Method Blank		Analysis Date	11/09/22 03:00	Analysis Technician	[REDACTED]
QC Type	Analyte	Results	CSU (1s)	Z	
MBL	PU-238	-7.123E-9	4.092E-8	0.174	
MBL	PU-239/240	-8.545E-8	4.185E-8	2.042	

Duplicate Sample		Analysis Date	11/09/22 03:00	Analysis Technician	[REDACTED]	
QC Type	Analyte	Results Dup	CSU (1s)	Results DO	CSU (1s)	Z
LCSD	PU-239/240	8.332E-6	5.295E-7	8.000E-6	5.122E-7	0.450



Z Values per Analytical Batch

Analytical Batch	ARS1-B22-01653
SDG	ARS1-22-02309
Analysis	Radium-226 in Air Filter
Analysis Test Method	PALA-RAD-008/Gas Proportional Counter
Analysis Code	GPC-RA226-AF
Report Units	uCi/filter

Acceptable QC Performance Ranges

QC Sample Type	Performance Items and Ranges
Laboratory Control Sample	ZLCS <= 3
Matrix Spike	ZMS <= 3
Method Blank	ZBLANK <= 3
Duplicate	ZDUP <= 3

Laboratory Control Sample		Analysis Date	11/17/22 10:08	Analysis Technician	[REDACTED]		
QC Type	Analyte	Results	CSU (1s)	Expected Value	CSU (1s)	Z	
LCS	RA-226	2.439E-5	2.013E-6	2.697E-5	3.148E-7	1.268	
LCSD	RA-226	2.291E-5	1.892E-6	2.684E-5	3.148E-7	2.048	

Method Blank		Analysis Date	11/17/22 10:08	Analysis Technician	[REDACTED]		
QC Type	Analyte	Results	CSU (1s)	Z			
MBL	RA-226	6.145E-8	3.010E-8	2.042			

Duplicate Sample		Analysis Date	11/17/22 10:08	Analysis Technician	[REDACTED]		
QC Type	Analyte	Results Dup	CSU (1s)	Results DO	CSU (1s)	Z	
LCSD	RA-226	2.291E-5	1.892E-6	2.439E-5	2.013E-6	0.534	



Z Values per Analytical Batch

Analytical Batch	ARS1-B22-01654
SDG	ARS1-22-02309
Analysis	Strontium-90 in (Air Filters, Smears [AF])
Analysis Test Method	PALA-RAD-032/Eichrom SRW01,HASL 300
Analysis Code	GPC-SR90-AF
Report Units	uCi/filter

Acceptable QC Performance Ranges

QC Sample Type	Performance Items and Ranges
Laboratory Control Sample	ZLCS <= 3
Matrix Spike	ZMS <= 3
Method Blank	ZBLANK <= 3
Duplicate	ZDUP <= 3

Laboratory Control Sample		Analysis Date	11/08/22 13:52	Analysis Technician	[REDACTED]		
QC Type	Analyte	Results	CSU (1s)	Expected Value	CSU (1s)	Z	
LCS	SR-90	2.128E-5	1.656E-6	2.001E-5	3.409E-7	0.753	
LCSD	SR-90	2.032E-5	1.586E-6	2.005E-5	3.409E-7	0.169	

Method Blank		Analysis Date	11/08/22 13:52	Analysis Technician	[REDACTED]		
QC Type	Analyte	Results	CSU (1s)	Z			
MBL	SR-90	-9.632E-7	1.030E-6	0.935			

Duplicate Sample		Analysis Date	11/08/22 13:52	Analysis Technician	[REDACTED]		
QC Type	Analyte	Results Dup	CSU (1s)	Results DO	CSU (1s)	Z	
LCSD	SR-90	2.032E-5	1.586E-6	2.128E-5	1.656E-6	0.418	



ARS Aleut Analytical, LLC Analytical Reports

for

Gilbane Federal

Sample Management Records

**CHAIN-OF-CUSTODY
RECORD**

Gilbane Federal
2300 Clayton Road, Suite 1050, Concord, CA 94520

COC # KT101922RADB



Project Name: Hunters Point Shipyard, Parcel B Removal Site Evaluation	Laboratory: ARS Aleut Analytical (AAA), Port Allen, LA	Event: Parcel B Air Monitoring RAD
Project Number: J310000900	POC: [REDACTED]	
WBS Code: J310000900	Ship to: 2609 North River Road, Port Allen, LA 70767-3469	

Comments:	Analytical Test Method	E901.1 - Gamma Spec Air	RC0240 - Pu Isotopes	SR02RC - Sr90	SW9315 - Ra226													Code	Matrix
																		A	Air
Equipment:															Code	Container/Preservative			
															1	1x Filter, None			
														5	1x 1-L Plastic, HNO3, pH < 2				
														15	1x 250-mL Plastic, 4 Degrees C				

Event: Parcel B Air Monitoring RAD						15	15	5	1											
Sample ID	Matrix	Date	Time	Samp Init.										Location ID	Sample Type	Depth (ft bgs)		Cooler	Comments	
																Top	Bottom			
1	FB-101022	AQ	10/10/2022	0800	[REDACTED]	X	X	X	X					FIELDQC	FB1	0.00	0.00	1		
2	MSB01-101022	A	10/13/2022	1447	[REDACTED]	X	X	X	X					MSB01	N1	0.00	0.00	1	TOTAL FLOW: 283,860 (L)	
3	MSB02-101022	A	10/13/2022	1442	[REDACTED]	X	X	X	X					MSB02	N1	0.00	0.00	1	TOTAL FLOW: 284,460 (L)	
4	MSB113A-101022	A	10/13/2022	1446	[REDACTED]	X	X	X	X					MSB113A	N1	0.00	0.00	1	TOTAL FLOW: 284,160 (L)	
5																				
6																				
7																				

Turnaround Time: 28 days

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[REDACTED]	10-19-22	1600	FEDEX	10-19-22	1600	Shipping Date: 10/19/2022 / FEDEX 7701 7665 4580
			[REDACTED]	10-21-22	940	
						Received by Laboratory: (Signature, Date, Time) & condition

SDG Report - Samples and Containers

SDG Specific Data										
SDG	ARS1-22-02309			TAT Days	28 Calendar Days		Project Type	Environmental		
Sample Count	4	Rpt Level	4	Date Received	10/21/2022		COC Number	KT101922RADB		
Client	Gilbane Federal			Discrepancy Resol	N/A		PO Number			
Client Code	1138			Client Deadline	11/18/2022		Job Number	J310000900		
Profile Number	PN-01411						Job Location	Hunters Point Shipyard, Parcel B Removal Site Evaluation		
Comment										

Samples and Containers Checked In Thus Far									
FR	Name	Matrix	Start Date	End Date	Disp	Hold	Arch	Storage	Comments
001	FB-101022	Air Filter	10/10/2022 07:59	10/10/2022 08:00	H	30	10	PrePrep	
	IC_ID	Cnt	Container Type	AF Volume (L)	AF Units		Rate	Mins	Comments
	425851	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	10/10/2022 07:59	AF Volume (CuM):		0.001		
002	MSB01-101022	Air Filter	10/13/2022 14:46	10/13/2022 14:47	H	30	10	PrePrep	
	IC_ID	Cnt	Container Type	AF Volume (L)	AF Units		Rate	Mins	Comments
	425852	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	10/13/2022 14:46	AF Volume (CuM):		0.001		
003	MSB02-101022	Air Filter	10/13/2022 14:41	10/13/2022 14:42	H	30	10	PrePrep	
	IC_ID	Cnt	Container Type	AF Volume (L)	AF Units		Rate	Mins	Comments
	425853	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	10/13/2022 14:41	AF Volume (CuM):		0.001		
004	MSB113A-101022	Air Filter	10/13/2022 14:45	10/13/2022 14:46	H	30	10	PrePrep	
	IC_ID	Cnt	Container Type	AF Volume (L)	AF Units		Rate	Mins	Comments
	425854	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	10/13/2022 14:45	AF Volume (CuM):		0.001		

SDG Report - Analysis Assignments

SDG	ARS1-22-02309	Sample Count	4
Client	Gilbane Federal	Analysis Count	4-16

Sample Count Totals Per Analysis			
Analysis Code	Analysis Description	In/Out	Samples Count
ASP-PU239-AF	Plutonium (239, 240Pu) in (Air Filters, Smears, Leak Test [AF, SM, LT])	I	4
GAM-A-AF	Gamma Spec (Short) in (Air Filters, Smears [AF])	I	4
GPC-RA226-AF	Radium-226 in Air Filter	I	4
GPC-SR90-AF	Strontium-90 in (Air Filters, Smears [AF])	I	4

Analyses Assigned Per Fraction		
Fraction	Analysis Code	X = Assigned
001	ASP-PU239-AF	X
001	GAM-A-AF	X
001	GPC-RA226-AF	X
001	GPC-SR90-AF	X
002	ASP-PU239-AF	X
002	GAM-A-AF	X
002	GPC-RA226-AF	X
002	GPC-SR90-AF	X
003	ASP-PU239-AF	X
003	GAM-A-AF	X
003	GPC-RA226-AF	X
003	GPC-SR90-AF	X
004	ASP-PU239-AF	X
004	GAM-A-AF	X
004	GPC-RA226-AF	X
004	GPC-SR90-AF	X

Client Name: Gilbane Federal

Profile Name: Parcel B Rad Sampling

Report Level: 4

Analysis Code	Prep Type	Units	Aliquot	Prep Code	Procedure	Count Time																	
ASP-PU239-AF	WRAD	uCi	filter	N/A	PALA-RAD-026																		
												Analyte	RDL	LCS LL/UL	MS LL/UL	RadY LL/UL	GravY LL/UL	RER	RPD	Surr LL/UL			
Pu-239/240 (15117-48-3)				4.8E-08 uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A												
GAM-A-AF	WGAM	uCi	filter	N/A	PALA-RAD-007																		
												Analyte	RDL	LCS LL/UL	MS LL/UL	RadY LL/UL	GravY LL/UL	RER	RPD	Surr LL/UL			
												Co-60 (10198-40-0)				0.00024 uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
												Cs-137 (10045-97-3)				0.00048 uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
Ra-226 (13982-63-3)				4.4E-06 uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A												
GPC-RA226-AF	WRAD	uCi	filter		PALA-RAD-008																		
												Analyte	RDL	LCS LL/UL	MS LL/UL	RadY LL/UL	GravY LL/UL	RER	RPD	Surr LL/UL			
Ra-226 (13982-63-3)				4.4E-06 uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A												
GPC-SR90-AF	WRAD	uCi	filter	N/A	PALA-RAD-032																		
												Analyte	RDL	LCS LL/UL	MS LL/UL	RadY LL/UL	GravY LL/UL	RER	RPD	Surr LL/UL			
Sr-90 (10098-97-2)				2.4E-05 uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A												

Analysis Code	Fraction	Units	Aliquot	Conductivity	Analyte Count
ASP-PU239-AF	001	uCi	filter	N/A	1
		Group	Analyte	Parcel B Rad Sampling Pu-239/240	
ASP-PU239-AF	002	uCi	filter	N/A	1
		Group	Analyte	Parcel B Rad Sampling Pu-239/240	

DQO Report for SDG

ARS1-22-02309

ASP-PU239-AF	003	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Pu-239/240	
ASP-PU239-AF	004	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Pu-239/240	
GAM-A-AF	001	uCi	filter	N/A	3
		Group		Analyte	
		Parcel B Rad Sampling		Cs-137	
		Parcel B Rad Sampling		Co-60	
		Parcel B Rad Sampling		Ra-226	
GAM-A-AF	002	uCi	filter	N/A	3
		Group		Analyte	
		Parcel B Rad Sampling		Cs-137	
		Parcel B Rad Sampling		Co-60	
		Parcel B Rad Sampling		Ra-226	
GAM-A-AF	003	uCi	filter	N/A	3
		Group		Analyte	
		Parcel B Rad Sampling		Cs-137	
		Parcel B Rad Sampling		Co-60	
		Parcel B Rad Sampling		Ra-226	
GAM-A-AF	004	uCi	filter	N/A	3
		Group		Analyte	
		Parcel B Rad Sampling		Cs-137	
		Parcel B Rad Sampling		Co-60	
		Parcel B Rad Sampling		Ra-226	
GPC-RA226-AF	001	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Ra-226	
GPC-RA226-AF	002	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Ra-226	
GPC-RA226-AF	003	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Ra-226	

DQO Report for SDG

ARS1-22-02309

GPC-RA226-AF	004	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Ra-226	
GPC-SR90-AF	001	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Sr-90	
GPC-SR90-AF	002	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Sr-90	
GPC-SR90-AF	003	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Sr-90	
GPC-SR90-AF	004	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Sr-90	



PALA Sample Receipt Inspection Form

Sample Receipt Inspection Form

Client Name: Gilbane

PALA-SR-001-FM-01 r 00.1

SDG: ARSI-22-02309

Effective 08/30/2019

Page 1 of 1

Sample Custodian: [REDACTED] Survey Start Date: 10/21/22 Survey Start Time: 9:45
 Thermometer ID: E0064010085 Calibration Due Date: 2/28/23 pH Paper Lot#: NA
 Exposure Rate Meter + Probe Unit ID: 269264 Calibration Due Date: 9/13/23 Background: 4 µR/hr
 Count Rate Meter + Probe Unit ID: PR287372 Calibration Due Date: 9/13/23 Background: 20 cpm
 Delivery Type (circle one): Direct Lock Box Commercial Carrier: FEDEX Total # of ESCs: 1

*True temperature is recorded which includes any applicable correction factors.

External Shipping Container Tracking:	Exposure Rate (µR/hr) (limit <500 µR/hr)	Max External Swipe Counts (cpm)	Max Internal Swipe Counts (cpm)	ESC True Temps* (°C)	TRAX Matrix ID (circle all that apply): (See Section 4.3 of SOP)
A: <u>770176654580</u>	<u>4</u>	<u>40</u>	<u>40</u>	<u>NA</u>	AQ WD WG WO
B: _____	_____	_____	_____	_____	WS WW SI UR
C: _____	_____	_____	_____	_____	SO OL BI VG
D: _____	_____	_____	_____	_____	WP SM <u>AF</u>
E: _____	_____	_____	_____	_____	
F: _____	_____	_____	_____	_____	

Visual Inspection: (Circle response)

External Shipping Container

Good Condition with no Leaks or Tears: Yes No

Marked Radioactive: Yes No

UN2910: Yes No

Security Seals: Yes No

If yes, intact?: Yes No N/A

Internal Shipping Container

COC's Present: Yes No

Well packaged container with no signs of leakage: Yes No

COC/Sample Inspection (Circle response)

Sample Containers in good condition: Yes No

No spills or leaks: Yes No

Marked Radioactive: Yes No

Durable labels w/indelible ink: Yes No

COC relinquished/received correctly: Yes No

Adequate volume/filled correctly: Yes No

Hold Time sufficient for analysis: Yes No

For VOC/Radon, Head space? Yes No N/A

If yes, <6mm? Yes No N/A

of containers received matches # on COC: Yes No

Samples received on ice? Yes No

Type (circle one): Bagged Ice Loose Ice Blue Ice N/A

Comments:

ORIGIN ID: JCCA
200 FISHER STREET
SAN FRANCISCO, CA 94124
UNITED STATES US

SHIP DATE: 19OCT22
ACTWGT: 1.00 LB
CAD: 254128867/NET4530
BILL SENDER

TO
ARS ALEUT ANALYTICAL, LLC
2609 NORTH RIVER ROAD

PORT ALLEN LA 70767
(225) 381-2991 REF. J31000.900 01.21.06
INV. PO. DEPT.

581J1/AC5F/FE2D

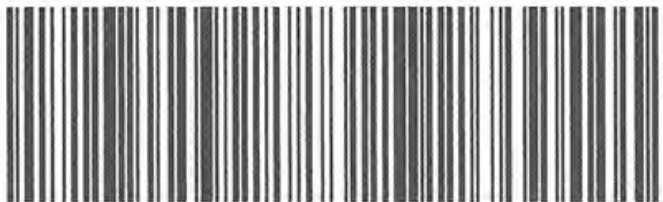


THU - 20 OCT 4:30P
STANDARD OVERNIGHT

TRK# 7701 7665 4580
0201

XN OPLA

70767
LA-US MSY



After printing this label:

1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

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2609 North River Road
Port Allen, Louisiana 70767
(225) 228-1394

ARS Aleut Analytical, LLC

Laboratory Analytical Report

ARS1-22-02411

Gilbane Federal

[REDACTED]
1655 Grant Street
Suite 1200
Concord, CA 94520

[REDACTED]
[REDACTED]
[REDACTED]

COC Number: **BS110222RADB**
Job Number: **J310000900**
Job Location: **Hunters Point Shipyard**
Project Name: **Parcel B Air Monitoring RAD**

Questions regarding this analytical report should be addressed to ARS project manager, [REDACTED], who can be reached by email at projectmanagers@aaa.aleutfederal.com.

I certify that the test results presented in this report (in either hardcopy or electronic file (EDD)) meet the requirements of the laboratory's certifications and other applicable contract terms and conditions. A full list of the Port Allen, LA laboratory's certifications is provided with this report. Any exceptions to the certification or contract will be noted within the case narratives presented in the report. Any subcontracted sample results will be identified within the case narratives presented in the report. In the event this report is an amendment to a previously released report, the case narrative will clearly identify the original report as well as the reason(s) for reissuance. A statement of uncertainty for each analysis is available upon request. I authorize release and issuance of this report on the date signed below.

[REDACTED]

Laboratory Management, ARS Aleut Analytical

Signature

Date

Title

This report provides analytical results of the requested analysis and does not include any opinions or interpretations. ARS Aleut Analytical, LLC assumes no liability for the use or interpretation of analytical results. Results relate only to items tested. A partial reproduction of this test report is prohibited. Reproduction of this report in full requires the written approval of the laboratory.





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Certifications and Accreditations List

State or Accrediting Body (AB)	Certificate Number
AIHA LAP, LLC	209312
Alaska	LA01131
California	3085
ANAB DoD	ADE-1489
ANAB DOE	ADE-1489.01
Louisiana DEQ - NELAC	01949
Louisiana DHH	LA022
Nevada	LA011312023-1
New Jersey	LA009
New York	65039
Pennsylvania	68-04294-011
Texas	T104704447-21-17
Utah	LA011312022-13
Washington	C1010

For additional information related to the specific matrices, methods, and analytes recognized by each accrediting body, contact us at QA@aaa.aleutfederal.com for additional information.



ARS Aleut Analytical, LLC Analytical Reports

for

Gilbane Federal

Case Narrative



**PROJECT SAMPLE IDENTIFICATION
CROSS-REFERENCE
TO ARS SAMPLE LABORATORY IDs**

Client Sample ID	ARS Aleut Analytical Sample ID
FB-102422	ARS1-22-02411-001
MSB01-102422	ARS1-22-02411-002
MSB02-102422	ARS1-22-02411-003
MSB113A-102422	ARS1-22-02411-004

Sample	Date Collected	Date Received	Analysis	Basis	Prep Date/Time	Analysis Date/Time
001	10/24/22 08:00	11/03/22	ASP-PU239-AF	As Received	11/16/22 09:00	11/29/22 02:22
001	10/24/22 08:00	11/03/22	GAM-A-AF	As Received	N/A	11/08/22 14:37
001	10/24/22 08:00	11/03/22	GPC-RA226-AF	As Received	11/15/22 13:56	11/28/22 10:30
001	10/24/22 08:00	11/03/22	GPC-SR90-AF	As Received	11/18/22 06:45	11/22/22 11:51
002	10/27/22 15:20	11/03/22	ASP-PU239-AF	As Received	11/16/22 09:00	11/29/22 02:22
002	10/27/22 15:20	11/03/22	GAM-A-AF	As Received	N/A	11/07/22 14:04
002	10/27/22 15:20	11/03/22	GPC-RA226-AF	As Received	11/15/22 13:56	11/28/22 10:30
002	10/27/22 15:20	11/03/22	GPC-SR90-AF	As Received	11/18/22 06:45	11/22/22 11:51
003	10/27/22 15:26	11/03/22	ASP-PU239-AF	As Received	11/16/22 09:00	11/29/22 02:22
003	10/27/22 15:26	11/03/22	GAM-A-AF	As Received	N/A	11/09/22 14:11
003	10/27/22 15:26	11/03/22	GPC-RA226-AF	As Received	11/15/22 13:56	11/28/22 10:30
003	10/27/22 15:26	11/03/22	GPC-SR90-AF	As Received	11/18/22 06:45	11/22/22 11:51
004	10/27/22 15:24	11/03/22	ASP-PU239-AF	As Received	11/16/22 09:00	11/29/22 02:22



Sample	Date Collected	Date Received	Analysis	Basis	Prep Date/Time	Analysis Date/Time
004	10/27/22 15:24	11/03/22	GAM-A-AF	As Received	N/A	11/09/22 14:13
004	10/27/22 15:24	11/03/22	GPC-RA226-AF	As Received	11/15/22 13:56	11/28/22 10:30
004	10/27/22 15:24	11/03/22	GPC-SR90-AF	As Received	11/18/22 06:45	11/22/22 11:51

SAMPLE RECEIPT/PREP

The samples arrived in good condition. The samples were screened for radioactive contamination as per procedure **PALA-SR-001-SOP Sample Receiving**. Sample date(s) and time(s) are listed as provided by the client. In regard to the Air Filters, no flow rate information was provided by the client. Turnaround time was set at 28 calendar days.

ANALYTICAL METHODS

Pu-239/240 analysis was performed using **PALA-RAD-026, "Americium, Plutonium and Uranium in Water, Soil and Vegetation Matrices by Sequential Separation Using Eichrom Stabilized Chemistry Resin (with Vacuum Box System Option) (Eichrom ACW-02 & Eichrom ACW-03)"**.

Co-60, Cs-137, Ra-226 analyses were performed using **PALA-RAD-007, "Modified Gamma Emitting Radionuclides in Soil, Air, and Biota Matrices (EPA 901.1 Mod, SM 7120B, & HASL-300 Ga-01-R)"**.

Ra-226 analysis was performed using **PALA-RAD-008, "Alpha Emitting Radium Isotopes in Water (EPA 903.0, EPA 9315, SM 7500-Ra C, SM 7500-Ra C)"**.

Sr-90 analysis was performed using **PALA-RAD-032, "Strontium 89, 90 and Total Strontium in Water, Soil and Vegetation Matrices by Eichrom Resin Separation (Eichrom SRW01, EPA 905.0, HASL 300 Sr-01-RC)"**.

ANALYTICAL RESULTS

Fraction 001 has elevated MDC for Pu-239/240 with ACT of $-3.113E-8$ uCi/filter, MDC of $1.431E-7$ uCi/filter and CRDL of $4.8E-08$ uCi/filter.

Fraction 001 has elevated MDC for Ra-226 with ACT of $2.959E-6$ uCi/filter, MDC of $9.412E-6$ uCi/filter and CRDL of $4.4E-06$ uCi/filter.

Fraction 002 has elevated MDC for Pu-239/240 with ACT of $-4.761E-8$ uCi/filter, MDC of $1.298E-7$ uCi/filter and CRDL of $4.8E-08$ uCi/filter.

Fraction 002 has elevated MDC for Ra-226 with ACT of $4.743E-7$ uCi/filter, MDC of $8.944E-6$ uCi/filter and CRDL of $4.4E-06$ uCi/filter.

Fraction 003 has elevated MDC for Pu-239/240 with ACT of $4.265E-9$ uCi/filter, MDC of $7.737E-8$ uCi/filter and CRDL of $4.8E-08$ uCi/filter.

Fraction 003 has elevated MDC for Ra-226 with ACT of $6.538E-6$ uCi/filter, MDC of $7.366E-6$ uCi/filter and CRDL of $4.4E-06$ uCi/filter.

Fraction 004 has elevated MDC for Pu-239/240 with ACT of $-1.500E-8$ uCi/filter, MDC of $7.936E-8$ uCi/filter and CRDL of $4.8E-08$ uCi/filter.



Fraction 004 has elevated MDC for Ra-226 with ACT of $-3.640E-6$ uCi/filter, MDC of $1.301E-5$ uCi/filter and CRDL of $4.4E-06$ uCi/filter.

ARS1-B22-01772: The Method Blank for Ra-226 had a detect. All fractions either had activities over 5x the blank activity or were non-detects, therefore the activity in the Method Blank did not contribute to the concentration in client samples. All positive detects in this analytical batch are qualified with a "B".

ARS1-B22-01775: ROI's adjusted to better fit the peaks of interest.

Notes (Case Narrative)

Definitions:

CRDL	Contract Required Detection Limit
CSU	Combined Standard Uncertainty
DLC	Decision Level Concentration (ANSI N42.23)
DO	Duplicate Original
DUP	Sample Duplicate
LCS/LCSD	Laboratory Control Sample/Laboratory Control Sample Duplicate
LOD	Limit of Detection
LOQ	Limit of Quantitation
MBL	Method Blank
MCL	Maximum Contaminant Level
MDA	Minimum Detectable Activity
MDL	Method Detection Limit
MS/MSD	Matrix Spike/Matrix Spike Duplicate
N/A	Not Applicable
NC	Not Calculated
NP	Not Provided
NR	Not Referenced
PQL	Practical Quantitation Limit

Data Qualifiers:

B	The result of both the method blank and the target sample are above the MDL.
D	Sample analysis accomplished through dilution.
J	The reported result is an estimated value above the LOD but below the LOQ, or above the MDL but below the PQL.
Q	One or more quality control criteria failed.
U	Result is below the MDA, MDL, PQL, LOD, or LOQ
*	LCS/LCSD or Sample DUP fails all Duplicate criteria.
S	Spike
SC	Subcontracted out to another qualified laboratory
H	Holding time exceeded
E	Exceeds MCL
**	Reporting Limit is higher than MCL; Target cannot be detected
‡	Method/Matrix/Analyte not accredited for this certification

Radiochemistry Comments:

- 1.0) All MDA/MDC values are calculated on a sample specific basis.
- 2.0) Data in this report are within the limits of uncertainty specified in the reference method unless otherwise specified.
- 3.0) Total activity is actually total gamma activity and is determined utilizing the prominent gamma emitters from the naturally occurring radioactive decay chains and other prominent radioactive nuclides. Total activity may be lower than the actual total activity due to the extent of secular equilibrium achieved in the various decay chains at the time of analysis. The total activity is not representative of nuclides that emit solely alpha or beta particles.
- 4.0) Ra-228 is determined via secular equilibrium with its daughter, Actinium 228 (Gamma Spectroscopy only).
- 5.0) U-238 is determined via secular equilibrium with its daughter, Thorium 234 (Gamma Spectroscopy only).
- 6.0) All gamma spectroscopy was performed utilizing high purity germanium detectors (**HPGe**).
- 7.0) ARS makes every attempt to match sample density to calibrated density; however, in some cases, it is not practical or possible to do so and data results may be affected (Gamma Spectroscopy only).
- 8.0) Gamma spectroscopy results are calculated values based on the **ORTEC®** GammaVision ENV32 Analysis Engine.
- 9.0) DoD/DOE and ISO 17025 certifications through ANAB apply only to the following methods in **Non-Potable Water**:
Gross Alpha and Gross Beta (EPA 900.0, EPA 9310); Radium 226 (EPA 903.0, EPA 903.1, EPA 9315); Radium 228 (EPA 904.0, EPA 9320); ICP/MS (EPA 6020B); ICP-OES (EPA 6010D); Mercury CVAA (EPA 7470A); Strontium-89 (EPA 905.0, Eichrom SRW01, HASL 300 Sr-01); Strontium-90 (EPA 905.0, Eichrom SRW01, HASL 300 Sr-02-RC); Tritium (EPA 906.0); Enriched Tritium (ARS-040), Carbon-14 (ARS-019), Tritium/Carbon (ARS-151); Gamma Emitters (EPA 901.1, SM 7120B, HASL 300 Ga-01-R); Americium-241 (Eichrom ACW03, HASL 300 Se-03, HASL 300 Am-03); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, HASL 300 Se-03, HASL 300 Pu-10); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235, Uranium-238 (Eichrom ACW03, HASL 300 Se-03); Technetium-99 (Eichrom TCW02)
- 10.0) DoD/DOE and ISO 17025 certifications through ANAB apply only to the following methods in **Solid and Chemical Materials**:
Gross Alpha and Gross Beta (EPA 900.0 Mod, EPA 9310); ICP/MS (EPA 6020B); ICP-OES (EPA 6010D); Mercury CVAA (EPA 7471B); Strontium-89 (EPA 905.0 Mod, Eichrom SRW01, HASL 300 Sr-01); Strontium-90 (EPA 905.0 Mod, Eichrom SRW01, HASL 300 Sr-02); Tritium (EPA 906.0 Mod); Gamma Emitters (EPA 901.1, HASL 300 Ga-01-R); Americium-241 (Eichrom ACW03, HASL 300 Se-03, HASL 300 Am-01-RC); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, HASL 300 Se-03, HASL 300 Pu-02-RC, HASL 300 Pu-03-RC); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235, Uranium-238 (Eichrom ACW03, HASL 300 Se-03, HASL 300 U-02, HASL 300 U-04); Technetium-99 (Eichrom TCS01)
- 11.0) DoD/DOE and ISO 17025 certifications through ANAB apply only to the following methods in **Air and Emissions**:
Gross Alpha and Gross Beta (EPA 900.0 Mod, EPA 9310); Strontium-89 (Eichrom SRW01, HASL 300 Sr-01-RC); Strontium-90 (Eichrom SRW01, HASL 300 Sr-02-RC); Gamma Emitters (EPA 901.1, HASL 300 Ga-01-R); Americium-241 (Eichrom ACW03, HASL 300 Se-03); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, HASL 300 Se-03); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235, Uranium-238 (Eichrom ACW03, HASL 300 Se-03); Technetium-99 (Eichrom TCW02, Eichrom TCS01)

General Comments:

- 1.0) Modified analysis procedures are procedures that are modified to meet the certain specifications. An example may be the use of a water method to analyze a solid matrix due to the lack of an officially recognized procedure for the analysis of the solid matrix. Modified analyses are indicated by the subsequent addition of "M" or "Mod" to the procedure number (i.e. 901.1M, 901.1 Mod).
- 2.0) All NIOSH method results are reported without blank corrections applied.
- 3.0) Basis: "As Received" = analyzed as received from client; "Dry" = dried prior to being analyzed; "Dry Weight Corrected" = analyzed as received; result corrected for percent moisture.



ARS Aleut Analytical, LLC Analytical Reports

for

Gilbane Federal

Analytical Results



ARS Sample Delivery Group: ARS1-22-02411

Client Sample ID: FB-102422

Sample Collection Date: 10/24/22 8:00

Sample Matrix: Air Filter

Percent Solids: N/A

Request or PO Number: J310000900

ARS Sample ID: ARS1-22-02411-001

Date Received: 11/03/22

Report Date: 11/30/22

Radiochemistry

Analysis Method: Eichrom ACW03

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-3.113E-8	7.019E-8	1.431E-7	6.313E-8	4.8E-08	U	uCi/filter	11/29/22 2:22		50.4%

Analysis Method: EPA 901.1M

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	-5.386E-7	9.425E-7	9.561E-7	4.781E-7	0.00024	U	uCi/filter	11/08/22 14:37		N/A
Cs-137	9.576E-8	6.484E-7	7.063E-7	3.532E-7	0.00048	U	uCi/filter	11/08/22 14:37		N/A
Ra-226	2.959E-6	7.466E-6	9.412E-6	4.706E-6	4.4E-06	U	uCi/filter	11/08/22 14:37		N/A

Analysis Method: EPA 9315

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Ra-226	9.609E-7	5.884E-7	7.025E-7	2.709E-7	4.4E-06	B	uCi/filter	11/28/22 10:30		93.7%

Analysis Method: Eichrom SRW01

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	3.472E-6	2.739E-6	4.304E-6	1.984E-6	2.4E-05	U	uCi/filter	11/22/22 11:51		86.2%



ARS Sample Delivery Group: ARS1-22-02411

Client Sample ID: MSB01-102422

Sample Collection Date: 10/27/22 15:20

Sample Matrix: Air Filter

Percent Solids: N/A

Request or PO Number: J310000900

ARS Sample ID: ARS1-22-02411-002

Date Received: 11/03/22

Report Date: 11/30/22

Radiochemistry

Analysis Method: Eichrom ACW03

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-4.761E-8	6.161E-8	1.298E-7	5.772E-8	4.8E-08	U	uCi/filter	11/29/22 2:22		60.7%

Analysis Method: EPA 901.1M

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	2.550E-8	7.805E-7	8.091E-7	4.046E-7	0.00024	U	uCi/filter	11/07/22 14:04		N/A
Cs-137	-1.436E-7	6.598E-7	7.171E-7	3.586E-7	0.00048	U	uCi/filter	11/07/22 14:04		N/A
Ra-226	4.743E-7	7.044E-6	8.944E-6	4.472E-6	4.4E-06	U	uCi/filter	11/07/22 14:04		N/A

Analysis Method: EPA 9315

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Ra-226	1.092E-6	5.945E-7	6.008E-7	2.176E-7	4.4E-06	B	uCi/filter	11/28/22 10:30		95.0%

Analysis Method: Eichrom SRW01

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	6.139E-8	1.990E-6	3.608E-6	1.665E-6	2.4E-05	U	uCi/filter	11/22/22 11:51		96.9%



ARS Sample Delivery Group: ARS1-22-02411

Client Sample ID: MSB02-102422

Sample Collection Date: 10/27/22 15:26

Sample Matrix: Air Filter

Percent Solids: N/A

Request or PO Number: J310000900

ARS Sample ID: ARS1-22-02411-003

Date Received: 11/03/22

Report Date: 11/30/22

Radiochemistry

Analysis Method: Eichrom ACW03

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	4.265E-9	4.009E-8	7.737E-8	3.291E-8	4.8E-08	U	uCi/filter	11/29/22 2:22		71.1%

Analysis Method: EPA 901.1M

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	3.615E-7	7.252E-7	7.422E-7	3.711E-7	0.00024	U	uCi/filter	11/09/22 14:11		N/A
Cs-137	-1.516E-7	6.963E-7	7.559E-7	3.780E-7	0.00048	U	uCi/filter	11/09/22 14:11		N/A
Ra-226	6.538E-6	5.067E-6	7.366E-6	3.683E-6	4.4E-06	U	uCi/filter	11/09/22 14:11		N/A

Analysis Method: EPA 9315

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Ra-226	5.614E-7	4.797E-7	6.722E-7	2.540E-7	4.4E-06	U	uCi/filter	11/28/22 10:30		90.8%

Analysis Method: Eichrom SRW01

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	1.694E-6	2.223E-6	3.723E-6	1.718E-6	2.4E-05	U	uCi/filter	11/22/22 11:51		101%



ARS Sample Delivery Group: ARS1-22-02411
Client Sample ID: MSB113A-102422
Sample Collection Date: 10/27/22 15:24
Sample Matrix: Air Filter
Percent Solids: N/A

Request or PO Number: J310000900
ARS Sample ID: ARS1-22-02411-004
Date Received: 11/03/22
Report Date: 11/30/22

Radiochemistry

Analysis Method: Eichrom ACW03

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-1.500E-8	3.538E-8	7.936E-8	3.290E-8	4.8E-08	U	uCi/filter	11/29/22 2:22		59.1%

Analysis Method: EPA 901.1M

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	4.161E-7	8.991E-7	9.180E-7	4.590E-7	0.00024	U	uCi/filter	11/09/22 14:13		N/A
Cs-137	1.779E-7	7.775E-7	8.735E-7	4.368E-7	0.00048	U	uCi/filter	11/09/22 14:13		N/A
Ra-226	-3.640E-6	1.222E-5	1.301E-5	6.505E-6	4.4E-06	U	uCi/filter	11/09/22 14:13		N/A

Analysis Method: EPA 9315

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Ra-226	7.010E-7	5.371E-7	6.971E-7	2.566E-7	4.4E-06	B	uCi/filter	11/28/22 10:30		91.1%

Analysis Method: Eichrom SRW01

Analysis Description	Analysis Results	CSU +/- 2 s	MDC	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	2.887E-6	2.507E-6	4.011E-6	1.857E-6	2.4E-05	U	uCi/filter	11/22/22 11:51		93.6%



ARS Aleut Analytical, LLC Analytical Reports

for

Gilbane Federal

QC Summary



QC Sample Results

Analytical Batch: ARS1-B22-01721
Lab Sample ID: ARS1-B22-01721-01
Method: EPA 901.1M

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 11/09/22 8:06

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Am-241	33.065	31.751		uCi/filter	96.0	75 - 125
Co-60	20.928	21.895		uCi/filter	104.6	75 - 125
Cs-137	12.996	13.186		uCi/filter	101.5	75 - 125



QC Sample Results

Analytical Batch: ARS1-B22-01721

Lab Sample ID: ARS1-B22-01721-02

Method: EPA 901.1M

Sample Type: LCSD

Matrix: Air Filter

Analysis Date: 11/09/22 8:18

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Am-241	33.065	32.584		uCi/filter	98.5	75 - 125	2.6	25	0.462	3
Co-60	20.928	21.461		uCi/filter	102.5	75 - 125	2.0	25	0.524	3
Cs-137	12.996	13.128		uCi/filter	101.0	75 - 125	0.4	25	0.115	3



QC Sample Results

Analytical Batch: ARS1-B22-01721

Lab Sample ID: ARS1-B22-01721-03

Method: EPA 901.1M

Sample Type: MBL

Matrix: Air Filter

Analysis Date: 11/08/22 14:39

Analyte	Analysis Result	CSU +/- 2 s	MDC	DLC	Qual	Analysis Units
Co-60	-5.178E-4	0.002	0.002	8.950E-4	U	uCi/filter
Cs-137	-8.625E-4	0.002	0.002	9.150E-4	U	uCi/filter
Ra-226	0.007	0.015	0.025	0.013	U	uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-22-02411

Analytical Batch: ARS1-B22-01721

Analysis: Gamma Spec (Short) in (Air Filters, Smears [AF])

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B22-01721-01		Lab Control Sample	Air Filter	EPA 901.1M	N/A
ARS1-B22-01721-02		Lab Control Sample Duplicate	Air Filter	EPA 901.1M	N/A
ARS1-B22-01721-03		Method Blank	Air Filter	EPA 901.1M	N/A
ARS1-B22-01721-04	ARS1-22-02411-001	FB-102422	Air Filter	EPA 901.1M	N/A
ARS1-B22-01721-05	ARS1-22-02411-002	MSB01-102422	Air Filter	EPA 901.1M	N/A
ARS1-B22-01721-06	ARS1-22-02411-003	MSB02-102422	Air Filter	EPA 901.1M	N/A
ARS1-B22-01721-07	ARS1-22-02411-004	MSB113A-102422	Air Filter	EPA 901.1M	N/A



QC Sample Results

Analytical Batch: ARS1-B22-01772

Lab Sample ID: ARS1-B22-01772-01

Method: EPA 9315

Sample Type: LCS

Matrix: Air Filter

Analysis Date: 11/28/22 10:30

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Ra-226	2.687E-5	2.443E-5		uCi/filter	90.9	75 - 125



QC Sample Results

Analytical Batch: ARS1-B22-01772
Lab Sample ID: ARS1-B22-01772-02
Method: EPA 9315

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 11/28/22 10:30

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Ra-226	2.681E-5	2.526E-5		uCi/filter	94.2	75 - 125	3.4	25	0.289	3



QC Sample Results

Analytical Batch: ARS1-B22-01772

Lab Sample ID: ARS1-B22-01772-03

Method: EPA 9315

Sample Type: MBL

Matrix: Air Filter

Analysis Date: 11/28/22 10:30

Analyte	Analysis Result	CSU +/- 2 s	MDC	DLC	Qual	Analysis Units
Ra-226	1.577E-7	7.189E-8	6.537E-8	2.440E-8		uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-22-02411

Analytical Batch: ARS1-B22-01772

Analysis: Radium-226 in Air Filter

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B22-01772-01		Lab Control Sample	Air Filter	EPA 9315	N/A
ARS1-B22-01772-02		Lab Control Sample Duplicate	Air Filter	EPA 9315	N/A
ARS1-B22-01772-03		Method Blank	Air Filter	EPA 9315	N/A
ARS1-B22-01772-04	ARS1-22-02411-001	FB-102422	Air Filter	EPA 9315	N/A
ARS1-B22-01772-05	ARS1-22-02411-002	MSB01-102422	Air Filter	EPA 9315	N/A
ARS1-B22-01772-06	ARS1-22-02411-003	MSB02-102422	Air Filter	EPA 9315	N/A
ARS1-B22-01772-07	ARS1-22-02411-004	MSB113A-102422	Air Filter	EPA 9315	N/A



QC Sample Results

Analytical Batch: ARS1-B22-01775
Lab Sample ID: ARS1-B22-01775-01
Method: Eichrom ACW03

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 11/29/22 2:22

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Pu-239/240	7.691E-6	7.988E-6		uCi/filter	103.9	75 - 125



QC Sample Results

Analytical Batch: ARS1-B22-01775

Lab Sample ID: ARS1-B22-01775-02

Method: Eichrom ACW03

Sample Type: LCSD

Matrix: Air Filter

Analysis Date: 11/29/22 2:22

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Pu-239/240	7.649E-6	7.844E-6		uCi/filter	102.5	75 - 125	1.8	25	0.202	3



QC Sample Results

Analytical Batch: ARS1-B22-01775
Lab Sample ID: ARS1-B22-01775-03
Method: Eichrom ACW03

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 11/29/22 2:22

Analyte	Analysis Result	CSU +/- 2 s	MDC	DLC	Qual	Analysis Units
Pu-238	-1.200E-8	6.861E-8	1.347E-7	5.924E-8	U	uCi/filter
Pu-239/240	2.400E-8	4.410E-8	7.868E-8	3.121E-8	U	uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-22-02411

Analytical Batch: ARS1-B22-01775

Analysis: Plutonium (239, 240Pu) in (Air Filters, Smears, Leak Test [AF, SM, LT])

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B22-01775-01		Lab Control Sample	Air Filter	Eichrom ACW03	N/A
ARS1-B22-01775-02		Lab Control Sample Duplicate	Air Filter	Eichrom ACW03	N/A
ARS1-B22-01775-03		Method Blank	Air Filter	Eichrom ACW03	N/A
ARS1-B22-01775-09	ARS1-22-02411-001	FB-102422	Air Filter	Eichrom ACW03	N/A
ARS1-B22-01775-10	ARS1-22-02411-002	MSB01-102422	Air Filter	Eichrom ACW03	N/A
ARS1-B22-01775-11	ARS1-22-02411-003	MSB02-102422	Air Filter	Eichrom ACW03	N/A
ARS1-B22-01775-12	ARS1-22-02411-004	MSB113A-102422	Air Filter	Eichrom ACW03	N/A



QC Sample Results

Analytical Batch: ARS1-B22-01776
Lab Sample ID: ARS1-B22-01776-01
Method: Eichrom SRW01

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 11/22/22 11:51

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
SR-90	2.011E-5	2.093E-5		uCi/filter	104.1	75 - 125



QC Sample Results

Analytical Batch: ARS1-B22-01776

Lab Sample ID: ARS1-B22-01776-02

Method: Eichrom SRW01

Sample Type: LCSD

Matrix: Air Filter

Analysis Date: 11/22/22 11:51

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
SR-90	2.001E-5	2.063E-5		uCi/filter	103.1	75 - 125	1.5	25	0.132	3



QC Sample Results

Analytical Batch: ARS1-B22-01776
Lab Sample ID: ARS1-B22-01776-03
Method: Eichrom SRW01

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 11/22/22 11:51

Analyte	Analysis Result	CSU +/- 2 s	MDC	DLC	Qual	Analysis Units
SR-90	3.738E-6	2.474E-6	3.747E-6	1.721E-6	U	uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-22-02411

Analytical Batch: ARS1-B22-01776

Analysis: Strontium-90 in (Air Filters, Smears [AF])

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B22-01776-01		Lab Control Sample	Air Filter	Eichrom SRW01	N/A
ARS1-B22-01776-02		Lab Control Sample Duplicate	Air Filter	Eichrom SRW01	N/A
ARS1-B22-01776-03		Method Blank	Air Filter	Eichrom SRW01	N/A
ARS1-B22-01776-09	ARS1-22-02411-001	FB-102422	Air Filter	Eichrom SRW01	N/A
ARS1-B22-01776-10	ARS1-22-02411-002	MSB01-102422	Air Filter	Eichrom SRW01	N/A
ARS1-B22-01776-11	ARS1-22-02411-003	MSB02-102422	Air Filter	Eichrom SRW01	N/A
ARS1-B22-01776-12	ARS1-22-02411-004	MSB113A-102422	Air Filter	Eichrom SRW01	N/A



ARS Aleut Analytical, LLC Analytical Reports

for

Gilbane Federal

Batch QC



Analytical Batch	ARS1-B22-01721
SDG	ARS1-22-02411
Analysis	Gamma Spec (Short) in (Air Filters, Smears [AF])
Method	EPA 901.1M
Analysis Code	GAM-A-AF
Report Units	uCi/filter

QC Results per Analytical Batch

Acceptable QC Performance Ranges

QC Sample Type	Performance Items and Ranges		
Laboratory Control Sample	Recovery (%):	> 75	< 125
Matrix Spike	Recovery (%):	> 60	< 140
Duplicate	Duplicate Error Ratio (DER):		< 3
	Relative Percent Difference (RPD %):		≤ 25

Laboratory Control Sample			Analysis Date	11/09/22 08:06	Analysis Technician	█	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDC
ARS1-B22-01721-01	LCS	AM-241	31.751	2.466	33.065	96.0	0.122
ARS1-B22-01721-01	LCS	CO-60	21.895	1.153	20.928	104.6	0.397
ARS1-B22-01721-01	LCS	CS-137	13.186	0.702	12.996	101.5	0.071

Duplicate RER/DER/RPD			Analysis Date	11/09/22 08:18	Analysis Technician	█
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD
AM-241	31.751	2.466	32.584	2.530	0.462	2.6
CO-60	21.895	1.153	21.461	1.144	0.524	2.0
CS-137	13.186	0.702	13.128	0.700	0.115	0.4

Method Blank			Analysis Date	11/08/22 14:39	Analysis Technician	█
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDC	Qual
ARS1-B22-01721-03	MBL	CO-60	-5.178E-4	0.002	0.002	U
ARS1-B22-01721-03	MBL	CS-137	-8.625E-4	0.002	0.002	U
ARS1-B22-01721-03	MBL	RA-226	0.007	0.015	0.025	U



Analytical Batch	ARS1-B22-01772
SDG	ARS1-22-02411
Analysis	Radium-226 in Air Filter
Method	EPA 9315
Analysis Code	GPC-RA226-AF
Report Units	uCi/filter

QC Results per Analytical Batch

Acceptable QC Performance Ranges

QC Sample Type	Performance Items and Ranges		
Laboratory Control Sample	Recovery (%):	> 75	< 125
Matrix Spike	Recovery (%):	> 60	< 140
Duplicate	Duplicate Error Ratio (DER):		< 3
	Relative Percent Difference (RPD %):		≤ 25

Laboratory Control Sample				Analysis Date	11/28/22 10:30	Analysis Technician	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDC
ARS1-B22-01772-01	LCS	RA-226	2.443E-5	3.938E-6	2.687E-5	90.9	8.228E-8

Duplicate RER/DER/RPD				Analysis Date	11/28/22 10:30	Analysis Technician	
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD	
RA-226	2.443E-5	3.938E-6	2.526E-5	4.069E-6	0.289	3.4	

Method Blank				Analysis Date	11/28/22 10:30	Analysis Technician	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDC	Qual	
ARS1-B22-01772-03	MBL	RA-226	1.577E-7	7.189E-8	6.537E-8		



Analytical Batch	ARS1-B22-01775
SDG	ARS1-22-02411
Analysis	Plutonium (239, 240Pu) in (Air Filters, Smears, Leak Test [AF, SM, LT])
Method	Eichrom ACW03
Analysis Code	ASP-PU239-AF
Report Units	uCi/filter

QC Results per Analytical Batch

Acceptable QC Performance Ranges

QC Sample Type	Performance Items and Ranges		
Laboratory Control Sample	Recovery (%):	> 75	< 125
Matrix Spike	Recovery (%):	> 60	< 140
Duplicate	Duplicate Error Ratio (DER):		< 3
	Relative Percent Difference (RPD %):		≤ 25

Laboratory Control Sample				Analysis Date	11/29/22 02:22	Analysis Technician	[REDACTED]
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDC
ARS1-B22-01775-01	LCS	PU-239/240	7.988E-6	1.001E-6	7.691E-6	103.9	5.454E-8

Duplicate RER/DER/RPD				Analysis Date	11/29/22 02:22	Analysis Technician	[REDACTED]
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD	
PU-239/240	7.988E-6	1.001E-6	7.844E-6	9.827E-7	0.202	1.8	

Method Blank				Analysis Date	11/29/22 02:22	Analysis Technician	[REDACTED]
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDC	Qual	
ARS1-B22-01775-03	MBL	PU-238	-1.200E-8	6.861E-8	1.347E-7	U	
ARS1-B22-01775-03	MBL	PU-239/240	2.400E-8	4.410E-8	7.868E-8	U	



Analytical Batch	ARS1-B22-01776
SDG	ARS1-22-02411
Analysis	Strontium-90 in (Air Filters, Smears [AF])
Method	Eichrom SRW01
Analysis Code	GPC-SR90-AF
Report Units	uCi/filter

QC Results per Analytical Batch

Acceptable QC Performance Ranges

QC Sample Type	Performance Items and Ranges		
Laboratory Control Sample	Recovery (%):	> 75	< 125
Matrix Spike	Recovery (%):	> 60	< 140
Duplicate	Duplicate Error Ratio (DER):		< 3
	Relative Percent Difference (RPD %):		≤ 25

Laboratory Control Sample				Analysis Date	11/22/22 11:51	Analysis Technician	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDC
ARS1-B22-01776-01	LCS	SR-90	2.093E-5	3.195E-6	2.011E-5	104.1	3.438E-7

Duplicate RER/DER/RPD				Analysis Date	11/22/22 11:51	Analysis Technician	
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD	
SR-90	2.093E-5	3.195E-6	2.063E-5	3.150E-6	0.132	1.5	

Method Blank				Analysis Date	11/22/22 11:51	Analysis Technician	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDC	Qual	
ARS1-B22-01776-03	MBL	SR-90	3.738E-6	2.474E-6	3.747E-6	U	



ARS Aleut Analytical, LLC Analytical Reports

for

Gilbane Federal

Sample Management Records

**CHAIN-OF-CUSTODY
RECORD**

Gilbane Federal
2300 Clayton Road, Suite 1050, Concord, CA 94520

COC # BS110222RADB



Project Name: Hunters Point Shipyard, Parcel B Removal Site Evaluation	Laboratory: ARS Aleut Analytical (AAA), Port Allen, LA	Event: Parcel B Air Monitoring RAD
Project Number: J310000900	POC: [Redacted]	
WBS Code: J310000900	Ship to: 2609 North River Road, Port Allen, LA 70767-3469	

Comments:	Analytical Test Method	E901.1 - Gamma Spec Air	RC0240 - Pu Isotopes	SR02RC - Sr90	SW9315 - Ra226	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	Code	Matrix
																			A	Air
Equipment:																			AQ	Air Quality Control Matrix
																			Code	Container/Preservative
																		1	1x Filter, None	
																		5	1x 1-L Plastic, HNO3, pH < 2	
																		15	1x 250-mL Plastic, 4 Degrees C	

Event: Parcel B Air Monitoring RAD															15	15	5	1										
Sample ID	Matrix	Date	Time	Samp Init.											Location ID	Sample Type	Depth (ft bgs)		Top - Bottom	Cooler	Comments							
1	FB-102422	AQ	10/24/2022	0800	[Redacted]	X	X	X	X						FIELDQC	FB1	0.00	0.00		1								
2	MSB01-102422	A	10/27/2022	1520	[Redacted]	X	X	X	X						MSB01	N1	0.00	0.00		1	TOTAL FLOW: 299,100 (L)							
3	MSB02-102422	A	10/27/2022	1526	[Redacted]	X	X	X	X						MSB02	N1	0.00	0.00		1	TOTAL FLOW: 300,960 (L)							
4	MSB113A-102422	A	10/27/2022	1524	[Redacted]	X	X	X	X						MSB113A	N1	0.00	0.00		1	TOTAL FLOW: 300,360 (L)							
5																												
6																												

Turnaround Time: 28 days

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[Redacted]	11/2/22	1400	Fedex	11/2/22	1400	Shipping Date: 11/2/2022 / FEDEX 7703 0618 2325
			[Redacted]	11/3/22	945	
						Received by Laboratory: (Signature, Date, Time) & condition

SDG Report - Samples and Containers

SDG Specific Data							
SDG	ARS1-22-02411		TAT Days	28 Calendar Days	Project Type	Environmental	
Sample Count	4	Rpt Level	4	Date Received	11/03/2022	COC Number	BS110222RADB
Client	Gilbane Federal		Discrepancy Resol	N/A	PO Number		
Client Code	1138		Client Deadline	12/01/2022	Job Number	J310000900	
Profile Number	PN-01411				Job Location	Hunters Point Shipyard	
Comment							

Samples and Containers Checked In Thus Far									
FR	Name	Matrix	Start Date	End Date	Disp	Hold	Arch	Storage	Comments
001	FB-102422	Air Filter	10/24/2022 07:59	10/24/2022 08:00	H	30	10	PrePrep	
	IC_ID	Cnt	Container Type	AF Volume (L)	AF Units		Rate	Mins	Comments
	426466	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	10/24/2022 07:59	AF Volume (CuM):		0.001		
002	MSB01-102422	Air Filter	10/27/2022 15:19	10/27/2022 15:20	H	30	10	PrePrep	
	IC_ID	Cnt	Container Type	AF Volume (L)	AF Units		Rate	Mins	Comments
	426467	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	10/27/2022 15:19	AF Volume (CuM):		0.001		
003	MSB02-102422	Air Filter	10/27/2022 15:25	10/27/2022 15:26	H	30	10	PrePrep	
	IC_ID	Cnt	Container Type	AF Volume (L)	AF Units		Rate	Mins	Comments
	426468	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	10/27/2022 15:25	AF Volume (CuM):		0.001		
004	MSB113A-102422	Air Filter	10/27/2022 15:23	10/27/2022 15:24	H	30	10	PrePrep	
	IC_ID	Cnt	Container Type	AF Volume (L)	AF Units		Rate	Mins	Comments
	426469	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	10/27/2022 15:23	AF Volume (CuM):		0.001		

SDG Report - Analysis Assignments

SDG	ARS1-22-02411	Sample Count	4
Client	Gilbane Federal	Analysis Count	4-16

Sample Count Totals Per Analysis			
Analysis Code	Analysis Description	In/Out	Samples Count
ASP-PU239-AF	Plutonium (239, 240Pu) in (Air Filters, Smears, Leak Test [AF, SM, LT])	I	4
GAM-A-AF	Gamma Spec (Short) in (Air Filters, Smears [AF])	I	4
GPC-RA226-AF	Radium-226 in Air Filter	I	4
GPC-SR90-AF	Strontium-90 in (Air Filters, Smears [AF])	I	4

Analyses Assigned Per Fraction		
Fraction	Analysis Code	X = Assigned
001	ASP-PU239-AF	X
001	GAM-A-AF	X
001	GPC-RA226-AF	X
001	GPC-SR90-AF	X
002	ASP-PU239-AF	X
002	GAM-A-AF	X
002	GPC-RA226-AF	X
002	GPC-SR90-AF	X
003	ASP-PU239-AF	X
003	GAM-A-AF	X
003	GPC-RA226-AF	X
003	GPC-SR90-AF	X
004	ASP-PU239-AF	X
004	GAM-A-AF	X
004	GPC-RA226-AF	X
004	GPC-SR90-AF	X

Client Name: Gilbane Federal

Profile Name: Parcel B Rad Sampling

Report Level: 4

Analysis Code	Prep Type	Units	Aliquot	Prep Code	Procedure	Count Time																	
ASP-PU239-AF	WRAD	uCi	filter	N/A	PALA-RAD-026																		
												Analyte	RDL	LCS LL/UL	MS LL/UL	RadY LL/UL	GravY LL/UL	RER	RPD	Surr LL/UL			
Pu-239/240 (15117-48-3)				4.8E-08 uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A												
GAM-A-AF	WGAM	uCi	filter	N/A	PALA-RAD-007																		
												Analyte	RDL	LCS LL/UL	MS LL/UL	RadY LL/UL	GravY LL/UL	RER	RPD	Surr LL/UL			
												Co-60 (10198-40-0)				0.00024 uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
												Cs-137 (10045-97-3)				0.00048 uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
Ra-226 (13982-63-3)				4.4E-06 uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A												
GPC-RA226-AF	WRAD	uCi	filter		PALA-RAD-008																		
												Analyte	RDL	LCS LL/UL	MS LL/UL	RadY LL/UL	GravY LL/UL	RER	RPD	Surr LL/UL			
Ra-226 (13982-63-3)				4.4E-06 uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A												
GPC-SR90-AF	WRAD	uCi	filter	N/A	PALA-RAD-032																		
												Analyte	RDL	LCS LL/UL	MS LL/UL	RadY LL/UL	GravY LL/UL	RER	RPD	Surr LL/UL			
Sr-90 (10098-97-2)				2.4E-05 uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A												

Analysis Code	Fraction	Units	Aliquot	Conductivity	Analyte Count
ASP-PU239-AF	001	uCi	filter	N/A	1
		Group	Analyte	Parcel B Rad Sampling Pu-239/240	
ASP-PU239-AF	002	uCi	filter	N/A	1
		Group	Analyte	Parcel B Rad Sampling Pu-239/240	

ASP-PU239-AF	003	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Pu-239/240	
ASP-PU239-AF	004	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Pu-239/240	
GAM-A-AF	001	uCi	filter	N/A	3
		Group		Analyte	
		Parcel B Rad Sampling		Cs-137	
		Parcel B Rad Sampling		Co-60	
		Parcel B Rad Sampling		Ra-226	
GAM-A-AF	002	uCi	filter	N/A	3
		Group		Analyte	
		Parcel B Rad Sampling		Cs-137	
		Parcel B Rad Sampling		Co-60	
		Parcel B Rad Sampling		Ra-226	
GAM-A-AF	003	uCi	filter	N/A	3
		Group		Analyte	
		Parcel B Rad Sampling		Cs-137	
		Parcel B Rad Sampling		Co-60	
		Parcel B Rad Sampling		Ra-226	
GAM-A-AF	004	uCi	filter	N/A	3
		Group		Analyte	
		Parcel B Rad Sampling		Cs-137	
		Parcel B Rad Sampling		Co-60	
		Parcel B Rad Sampling		Ra-226	
GPC-RA226-AF	001	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Ra-226	
GPC-RA226-AF	002	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Ra-226	
GPC-RA226-AF	003	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Ra-226	

DQO Report for SDG

ARS1-22-02411

GPC-RA226-AF	004	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Ra-226	
GPC-SR90-AF	001	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Sr-90	
GPC-SR90-AF	002	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Sr-90	
GPC-SR90-AF	003	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Sr-90	
GPC-SR90-AF	004	uCi	filter	N/A	1
		Group		Analyte	
		Parcel B Rad Sampling		Sr-90	



PALA Sample Receipt Inspection Form

Client Name: Gilbane

SDG: ARS1-22-02411

Sample Receipt Inspection Form

PALA-SR-001-FM-01 r 00.1

Effective 08/30/2019

Page 1 of 1

Sample Custodian: [REDACTED] Survey Start Date: 11/3/22 Survey Start Time: 9:47

Thermometer ID: E0064010085 Calibration Due Date: 2/28/23 pH Paper Lot#: NA

Exposure Rate Meter + Probe Unit ID: 269264 Calibration Due Date: 9/13/23 Background: 4 $\mu\text{R/hr}$

Count Rate Meter + Probe Unit ID: PR287372 Calibration Due Date: 9/13/23 Background: 20 cpm

Delivery Type (circle one): Direct Lock Box Commercial Carrier FEDEX Total # of ESCs: 1

*True temperature is recorded which includes any applicable correction factors.

External Shipping Container Tracking:	Exposure Rate ($\mu\text{R/hr}$) (limit <500 $\mu\text{R/hr}$)	Max External Swipe Counts (cpm)	Max Internal Swipe Counts (cpm)	ESC True Temps* ($^{\circ}\text{C}$)	TRAX Matrix ID (circle all that apply): (See Section 4.3 of SOP)			
A: <u>770306182325</u>	<u>6</u>	<u>50</u>	<u>50</u>	<u>NA</u>	AQ	WD	WG	WO
B: _____	_____	_____	_____	_____	WS	WW	SI	UR
C: _____	_____	_____	_____	_____	SO	OL	BI	VG
D: _____	_____	_____	_____	_____	WP	SM	<u>AF</u>	
E: _____	_____	_____	_____	_____				
F: _____	_____	_____	_____	_____				

Visual Inspection: (Circle response)

External Shipping Container

Good Condition with no Leaks or Tears: Yes No

Marked Radioactive: Yes No

UN2910: Yes No

Security Seals: Yes No

If yes, intact?: Yes No N/A

Internal Shipping Container

COC's Present: Yes No

Well packaged container with no signs of leakage: Yes No

COC/Sample Inspection (Circle response)

Sample Containers in good condition: Yes No

No spills or leaks: Yes No

Marked Radioactive: Yes No

Durable labels w/indelible ink: Yes No

COC relinquished/received correctly: Yes No

Adequate volume/filled correctly: Yes No

Hold Time sufficient for analysis: Yes No

For VOC/Radon, Head space? Yes No N/A

If yes, <6mm? Yes No N/A

of containers received matches # on COC: Yes No

Samples received on ice? Yes No

Type (circle one): Bagged Ice Loose Ice Blue Ice N/A

Comments:

ORIGIN ID: ICCA

200 FISHER STREET

SAN FRANCISCO, CA 94124
UNITED STATES US

SHIP DATE: 02NOV22
ACTWGT: 1.00 LB
CAD: 254128867/INET4530

BTCL SENDER

TO

ARS ALEUT ANALYTICAL, LLC
2609 NORTH RIVER ROAD

PORT ALLEN LA 70767

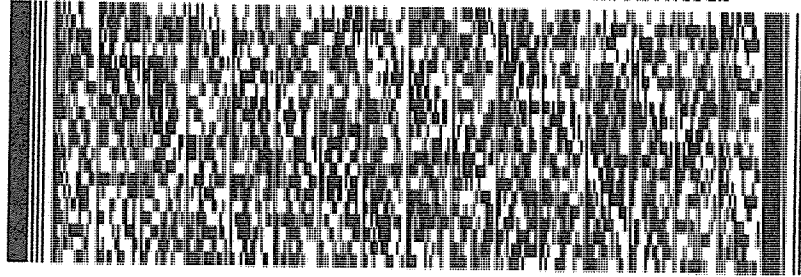
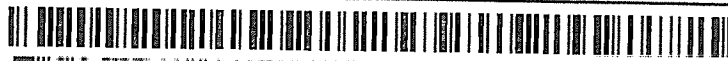
(225) 381-2991

REF: J31000.900.01.21.06

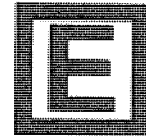
INV:
PO:

DEPT:

581 J2/454B/E2D



FedEx
Express



J224222101801uv

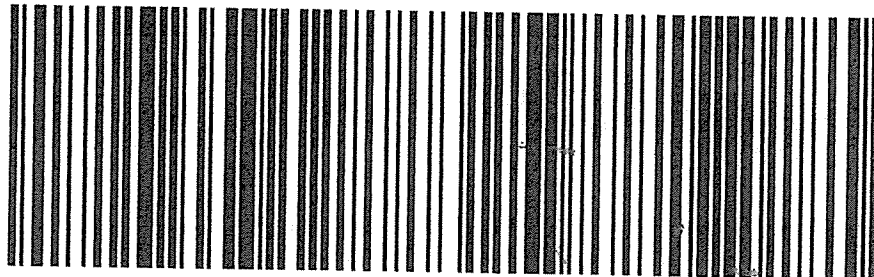
THU - 03 NOV 4:30P

STANDARD OVERNIGHT

TRK# 7703 0618 2325
0201

XN OPLA

70767
LA-US MSY



ANALYTICAL REPORT

Eurofins Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Tel: (916)373-5600

Laboratory Job ID: 320-93931-1
Client Project/Site: Hunters Point, Parcel B, Phase 2

For:
GES-AIS LLC
1501 W Fountainhead Parkway
Ste 550
Tempe, Arizona 85282

Attn: [REDACTED]

[REDACTED]

Authorized for release by:
11/9/2022 10:59:43 AM

[REDACTED], Project Manager I

[REDACTED]

[REDACTED]

LINKS

Review your project
results through



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The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the {0} Project Manager.



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Definitions/Glossary

Client: GES-AIS LLC
Project/Site: Hunters Point, Parcel B, Phase 2

Job ID: 320-93931-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: GES-AIS LLC
Project/Site: Hunters Point, Parcel B, Phase 2

Job ID: 320-93931-1

Job ID: 320-93931-1

Laboratory: Eurofins Sacramento

Narrative

Job Narrative 320-93931-1

Comments

No additional comments.

Receipt

The samples were received on 11/3/2022 9:10 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 15.5° C.

Receipt Exceptions

The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): GESPM100322-343 (320-93931-7). The folder has the ID as GESPM10100322-343 but the COC has the ID as GESPM100322-343. The sample was logged in according to the COC.

Metals

Method PM10: The following sample in analytical batch 320-631025 was recorded with a negative net weight: GESPM100322-343 (320-93931-7) . No particulate loading on the filter or damage to the filter could be observed.

Method 40CFR50 App B: The following sample in preparation batch 320-631017 and analytical batch 320-631110 was recorded with a negative net weight: GESTSP100322-343 (320-93931-8) . No particulate loading on the filter or damage to the filter could be observed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



Detection Summary

Client: GES-AIS LLC
Project/Site: Hunters Point, Parcel B, Phase 2

Job ID: 320-93931-1

Client Sample ID: GESPM092122-340

Lab Sample ID: 320-93931-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.00072	J	0.00073	0.00011	ug/m3 (Air)	1		6020	Total/NA
Manganese	0.0053		0.00073	0.00010	ug/m3 (Air)	1		6020	Total/NA
Particulate Matter as PM 10	13		0.30	0.30	ug/m3	1		PM10	Total/NA

Client Sample ID: GESTSP092122-340

Lab Sample ID: 320-93931-2

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Particulates	26.8526		0.2833	0.2833	ug/m3 (Air)	1		40CFR50 App B	Total/NA

Client Sample ID: GESPM092122-341

Lab Sample ID: 320-93931-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.00055	J	0.00073	0.00011	ug/m3 (Air)	1		6020	Total/NA
Manganese	0.0027		0.00073	0.00010	ug/m3 (Air)	1		6020	Total/NA
Particulate Matter as PM 10	11		0.31	0.31	ug/m3	1		PM10	Total/NA

Client Sample ID: GESTSP092122-341

Lab Sample ID: 320-93931-4

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Particulates	19.8215		0.2840	0.2840	ug/m3 (Air)	1		40CFR50 App B	Total/NA

Client Sample ID: GESPM092122-342

Lab Sample ID: 320-93931-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.00067	J	0.00083	0.00012	ug/m3 (Air)	1		6020	Total/NA
Manganese	0.0031		0.00083	0.00012	ug/m3 (Air)	1		6020	Total/NA
Particulate Matter as PM 10	9.6		0.32	0.32	ug/m3	1		PM10	Total/NA

Client Sample ID: GESTSP092122-342

Lab Sample ID: 320-93931-6

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Particulates	17.2907		0.3110	0.3110	ug/m3 (Air)	1		40CFR50 App B	Total/NA

Client Sample ID: GESPM100322-343

Lab Sample ID: 320-93931-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.00027	J	0.0012	0.00017	ug/m3 (Air)	1		6020	Total/NA

Client Sample ID: GESTSP100322-343

Lab Sample ID: 320-93931-8

No Detections.

Client Sample ID: GESPM100322-344

Lab Sample ID: 320-93931-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.00071	J	0.00073	0.00011	ug/m3 (Air)	1		6020	Total/NA
Manganese	0.0026		0.00073	0.00010	ug/m3 (Air)	1		6020	Total/NA
Particulate Matter as PM 10	18		0.30	0.30	ug/m3	1		PM10	Total/NA

Client Sample ID: GESTSP100322-344

Lab Sample ID: 320-93931-10

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Particulates	31.0295		0.2852	0.2852	ug/m3 (Air)	1		40CFR50 App B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Detection Summary

Client: GES-AIS LLC
Project/Site: Hunters Point, Parcel B, Phase 2

Job ID: 320-93931-1

Client Sample ID: GESPM100322-345

Lab Sample ID: 320-93931-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.0019		0.00075	0.00011	ug/m3 (Air)	1		6020	Total/NA
Manganese	0.017		0.00075	0.00011	ug/m3 (Air)	1		6020	Total/NA
Particulate Matter as PM 10	32		0.31	0.31	ug/m3	1		PM10	Total/NA

Client Sample ID: GESTSP100322-345

Lab Sample ID: 320-93931-12

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Particulates	29.2414		0.2823	0.2823	ug/m3 (Air)	1		40CFR50 App B	Total/NA

Client Sample ID: GESPM100322-346

Lab Sample ID: 320-93931-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.00085		0.00075	0.00011	ug/m3 (Air)	1		6020	Total/NA
Manganese	0.0032		0.00075	0.00010	ug/m3 (Air)	1		6020	Total/NA
Particulate Matter as PM 10	20		0.31	0.31	ug/m3	1		PM10	Total/NA

Client Sample ID: GESTSP100322-346

Lab Sample ID: 320-93931-14

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Particulates	30.8684		0.3131	0.3131	ug/m3 (Air)	1		40CFR50 App B	Total/NA

Client Sample ID: GESPM100322-347

Lab Sample ID: 320-93931-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.00051	J	0.00072	0.00011	ug/m3 (Air)	1		6020	Total/NA
Manganese	0.0027		0.00072	0.00010	ug/m3 (Air)	1		6020	Total/NA
Particulate Matter as PM 10	12		0.30	0.30	ug/m3	1		PM10	Total/NA

Client Sample ID: GESTSP100322-347

Lab Sample ID: 320-93931-16

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Particulates	36.8724		0.2867	0.2867	ug/m3 (Air)	1		40CFR50 App B	Total/NA

Client Sample ID: GESPM100322-348

Lab Sample ID: 320-93931-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.00093		0.00075	0.00011	ug/m3 (Air)	1		6020	Total/NA
Manganese	0.0036		0.00075	0.00010	ug/m3 (Air)	1		6020	Total/NA
Particulate Matter as PM 10	17		0.31	0.31	ug/m3	1		PM10	Total/NA

Client Sample ID: GESTSP100322-348

Lab Sample ID: 320-93931-18

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Particulates	32.1580		0.2876	0.2876	ug/m3 (Air)	1		40CFR50 App B	Total/NA

Client Sample ID: GESPM100322-349

Lab Sample ID: 320-93931-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.0012		0.00075	0.00011	ug/m3 (Air)	1		6020	Total/NA
Manganese	0.0048		0.00075	0.00011	ug/m3 (Air)	1		6020	Total/NA
Particulate Matter as PM 10	19		0.31	0.31	ug/m3	1		PM10	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Detection Summary

Client: GES-AIS LLC
Project/Site: Hunters Point, Parcel B, Phase 2

Job ID: 320-93931-1

Client Sample ID: GESTSP100322-349

Lab Sample ID: 320-93931-20

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Particulates	31.2145		0.3159	0.3159	ug/m3 (Air)	1		40CFR50 App B	Total/NA

Client Sample ID: GESPM100322-350

Lab Sample ID: 320-93931-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.0017	J	0.0024	0.00036	ug/m3 (Air)	1		6020	Total/NA
Manganese	0.0069		0.0024	0.00034	ug/m3 (Air)	1		6020	Total/NA
Particulate Matter as PM 10	3.2		1.0	1.0	ug/m3	1		PM10	Total/NA

Client Sample ID: GESTSP100322-350

Lab Sample ID: 320-93931-22

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Particulates	30.3791		0.9434	0.9434	ug/m3 (Air)	1		40CFR50 App B	Total/NA

Client Sample ID: GESPM100322-351

Lab Sample ID: 320-93931-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.0024	J	0.0034	0.00051	ug/m3 (Air)	1		6020	Total/NA
Manganese	0.0073		0.0034	0.00047	ug/m3 (Air)	1		6020	Total/NA
Particulate Matter as PM 10	7.1		1.4	1.4	ug/m3	1		PM10	Total/NA

Client Sample ID: GESTSP100322-351

Lab Sample ID: 320-93931-24

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Particulates	16.8784		0.8700	0.8700	ug/m3 (Air)	1		40CFR50 App B	Total/NA

Client Sample ID: GESPM100322-352

Lab Sample ID: 320-93931-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.0017	J	0.0024	0.00036	ug/m3 (Air)	1		6020	Total/NA
Manganese	0.0065		0.0024	0.00033	ug/m3 (Air)	1		6020	Total/NA
Particulate Matter as PM 10	4.2		0.99	0.99	ug/m3	1		PM10	Total/NA

Client Sample ID: GESTSP100322-352

Lab Sample ID: 320-93931-26

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Particulates	9.4712		0.9866	0.9866	ug/m3 (Air)	1		40CFR50 App B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Client Sample Results

Client: GES-AIS LLC
Project/Site: Hunters Point, Parcel B, Phase 2

Job ID: 320-93931-1

Client Sample ID: GESPM092122-340

Lab Sample ID: 320-93931-1

Date Collected: 10/25/22 07:58

Matrix: Air

Date Received: 11/03/22 09:10

Sample Container: Folder/Filter

Method: SW846 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00072	J	0.00073	0.00011	ug/m3 (Air)		11/08/22 07:22	11/08/22 10:48	1
Manganese	0.0053		0.00073	0.00010	ug/m3 (Air)		11/08/22 07:22	11/08/22 10:48	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Particulate Matter as PM 10 (40CFR50J PM10)	13		0.30	0.30	ug/m3			11/04/22 07:30	1

Client Sample ID: GESTSP092122-340

Lab Sample ID: 320-93931-2

Date Collected: 10/25/22 07:58

Matrix: Air

Date Received: 11/03/22 09:10

Sample Container: Folder/Filter

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Particulates (EPA 40CFR50 App B)	26.8526		0.2833	0.2833	ug/m3 (Air)			11/04/22 07:30	1

Client Sample ID: GESPM092122-341

Lab Sample ID: 320-93931-3

Date Collected: 10/25/22 07:26

Matrix: Air

Date Received: 11/03/22 09:10

Sample Container: Folder/Filter

Method: SW846 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00055	J	0.00073	0.00011	ug/m3 (Air)		11/08/22 07:22	11/08/22 10:58	1
Manganese	0.0027		0.00073	0.00010	ug/m3 (Air)		11/08/22 07:22	11/08/22 10:58	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Particulate Matter as PM 10 (40CFR50J PM10)	11		0.31	0.31	ug/m3			11/04/22 07:30	1

Client Sample ID: GESTSP092122-341

Lab Sample ID: 320-93931-4

Date Collected: 10/25/22 07:26

Matrix: Air

Date Received: 11/03/22 09:10

Sample Container: Folder/Filter

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Particulates (EPA 40CFR50 App B)	19.8215		0.2840	0.2840	ug/m3 (Air)			11/04/22 07:30	1

Client Sample ID: GESPM092122-342

Lab Sample ID: 320-93931-5

Date Collected: 10/25/22 07:44

Matrix: Air

Date Received: 11/03/22 09:10

Sample Container: Folder/Filter

Method: SW846 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00067	J	0.00083	0.00012	ug/m3 (Air)		11/08/22 07:22	11/08/22 11:01	1
Manganese	0.0031		0.00083	0.00012	ug/m3 (Air)		11/08/22 07:22	11/08/22 11:01	1

Eurofins Sacramento

Client Sample Results

Client: GES-AIS LLC
 Project/Site: Hunters Point, Parcel B, Phase 2

Job ID: 320-93931-1

Client Sample ID: GESPM092122-342

Lab Sample ID: 320-93931-5

Date Collected: 10/25/22 07:44

Matrix: Air

Date Received: 11/03/22 09:10

Sample Container: Folder/Filter

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Particulate Matter as PM 10 (40CFR50J PM10)	9.6		0.32	0.32	ug/m3			11/04/22 07:30	1

Client Sample ID: GESTSP092122-342

Lab Sample ID: 320-93931-6

Date Collected: 10/25/22 07:44

Matrix: Air

Date Received: 11/03/22 09:10

Sample Container: Folder/Filter

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Particulates (EPA 40CFR50 App B)	17.2907		0.3110	0.3110	ug/m3 (Air)			11/04/22 07:30	1

Client Sample ID: GESPM100322-343

Lab Sample ID: 320-93931-7

Date Collected: 10/24/22 08:00

Matrix: Air

Date Received: 11/03/22 09:10

Sample Container: Folder/Filter

Method: SW846 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0012	0.00018	ug/m3 (Air)		11/08/22 07:22	11/08/22 11:04	1
Manganese	0.00027	J	0.0012	0.00017	ug/m3 (Air)		11/08/22 07:22	11/08/22 11:04	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Particulate Matter as PM 10 (40CFR50J PM10)	ND		0.50	0.50	ug/m3			11/04/22 07:30	1

Client Sample ID: GESTSP100322-343

Lab Sample ID: 320-93931-8

Date Collected: 10/24/22 08:00

Matrix: Air

Date Received: 11/03/22 09:10

Sample Container: Folder/Filter

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Particulates (EPA 40CFR50 App B)	ND		0.5000	0.5000	ug/m3 (Air)			11/04/22 07:30	1

Client Sample ID: GESPM100322-344

Lab Sample ID: 320-93931-9

Date Collected: 10/26/22 08:07

Matrix: Air

Date Received: 11/03/22 09:10

Sample Container: Folder/Filter

Method: SW846 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00071	J	0.00073	0.00011	ug/m3 (Air)		11/08/22 07:22	11/08/22 11:14	1
Manganese	0.0026		0.00073	0.00010	ug/m3 (Air)		11/08/22 07:22	11/08/22 11:14	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Particulate Matter as PM 10 (40CFR50J PM10)	18		0.30	0.30	ug/m3			11/04/22 07:30	1

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Client Sample Results

Client: GES-AIS LLC
Project/Site: Hunters Point, Parcel B, Phase 2

Job ID: 320-93931-1

Client Sample ID: GESTSP100322-344

Lab Sample ID: 320-93931-10

Date Collected: 10/26/22 08:07

Matrix: Air

Date Received: 11/03/22 09:10

Sample Container: Folder/Filter

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Particulates (EPA 40CFR50 App B)	31.0295		0.2852	0.2852	ug/m3 (Air)			11/04/22 07:30	1

Client Sample ID: GESPM100322-345

Lab Sample ID: 320-93931-11

Date Collected: 10/26/22 07:41

Matrix: Air

Date Received: 11/03/22 09:10

Sample Container: Folder/Filter

Method: SW846 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.0019		0.00075	0.00011	ug/m3 (Air)		11/08/22 07:22	11/08/22 11:17	1
Manganese	0.017		0.00075	0.00011	ug/m3 (Air)		11/08/22 07:22	11/08/22 11:17	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Particulate Matter as PM 10 (40CFR50J PM10)	32		0.31	0.31	ug/m3			11/04/22 07:30	1

Client Sample ID: GESTSP100322-345

Lab Sample ID: 320-93931-12

Date Collected: 10/26/22 07:41

Matrix: Air

Date Received: 11/03/22 09:10

Sample Container: Folder/Filter

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Particulates (EPA 40CFR50 App B)	29.2414		0.2823	0.2823	ug/m3 (Air)			11/04/22 07:30	1

Client Sample ID: GESPM100322-346

Lab Sample ID: 320-93931-13

Date Collected: 10/26/22 07:55

Matrix: Air

Date Received: 11/03/22 09:10

Sample Container: Folder/Filter

Method: SW846 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00085		0.00075	0.00011	ug/m3 (Air)		11/08/22 07:22	11/08/22 11:21	1
Manganese	0.0032		0.00075	0.00010	ug/m3 (Air)		11/08/22 07:22	11/08/22 11:21	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Particulate Matter as PM 10 (40CFR50J PM10)	20		0.31	0.31	ug/m3			11/04/22 07:30	1

Client Sample ID: GESTSP100322-346

Lab Sample ID: 320-93931-14

Date Collected: 10/26/22 07:55

Matrix: Air

Date Received: 11/03/22 09:10

Sample Container: Folder/Filter

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Particulates (EPA 40CFR50 App B)	30.8684		0.3131	0.3131	ug/m3 (Air)			11/04/22 07:30	1

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Client Sample Results

Client: GES-AIS LLC
 Project/Site: Hunters Point, Parcel B, Phase 2

Job ID: 320-93931-1

Client Sample ID: GESPM100322-347

Lab Sample ID: 320-93931-15

Date Collected: 10/27/22 08:01

Matrix: Air

Date Received: 11/03/22 09:10

Sample Container: Folder/Filter

Method: SW846 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00051	J	0.00072	0.00011	ug/m3 (Air)		11/08/22 07:22	11/08/22 11:24	1
Manganese	0.0027		0.00072	0.00010	ug/m3 (Air)		11/08/22 07:22	11/08/22 11:24	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Particulate Matter as PM 10 (40CFR50J PM10)	12		0.30	0.30	ug/m3			11/04/22 07:30	1

Client Sample ID: GESTSP100322-347

Lab Sample ID: 320-93931-16

Date Collected: 10/27/22 08:01

Matrix: Air

Date Received: 11/03/22 09:10

Sample Container: Folder/Filter

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Particulates (EPA 40CFR50 App B)	36.8724		0.2867	0.2867	ug/m3 (Air)			11/04/22 07:30	1

Client Sample ID: GESPM100322-348

Lab Sample ID: 320-93931-17

Date Collected: 10/27/22 07:32

Matrix: Air

Date Received: 11/03/22 09:10

Sample Container: Folder/Filter

Method: SW846 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00093		0.00075	0.00011	ug/m3 (Air)		11/08/22 07:22	11/08/22 11:27	1
Manganese	0.0036		0.00075	0.00010	ug/m3 (Air)		11/08/22 07:22	11/08/22 11:27	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Particulate Matter as PM 10 (40CFR50J PM10)	17		0.31	0.31	ug/m3			11/04/22 07:30	1

Client Sample ID: GESTSP100322-348

Lab Sample ID: 320-93931-18

Date Collected: 10/27/22 07:32

Matrix: Air

Date Received: 11/03/22 09:10

Sample Container: Folder/Filter

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Particulates (EPA 40CFR50 App B)	32.1580		0.2876	0.2876	ug/m3 (Air)			11/04/22 07:30	1

Client Sample ID: GESPM100322-349

Lab Sample ID: 320-93931-19

Date Collected: 10/27/22 07:50

Matrix: Air

Date Received: 11/03/22 09:10

Sample Container: Folder/Filter

Method: SW846 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.0012		0.00075	0.00011	ug/m3 (Air)		11/08/22 07:22	11/08/22 11:30	1
Manganese	0.0048		0.00075	0.00011	ug/m3 (Air)		11/08/22 07:22	11/08/22 11:30	1

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Client Sample Results

Client: GES-AIS LLC
 Project/Site: Hunters Point, Parcel B, Phase 2

Job ID: 320-93931-1

Client Sample ID: GESPM100322-349

Lab Sample ID: 320-93931-19

Date Collected: 10/27/22 07:50

Matrix: Air

Date Received: 11/03/22 09:10

Sample Container: Folder/Filter

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Particulate Matter as PM 10 (40CFR50J PM10)	19		0.31	0.31	ug/m3			11/04/22 07:30	1

Client Sample ID: GESTSP100322-349

Lab Sample ID: 320-93931-20

Date Collected: 10/27/22 07:50

Matrix: Air

Date Received: 11/03/22 09:10

Sample Container: Folder/Filter

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Particulates (EPA 40CFR50 App B)	31.2145		0.3159	0.3159	ug/m3 (Air)			11/04/22 07:30	1

Client Sample ID: GESPM100322-350

Lab Sample ID: 320-93931-21

Date Collected: 10/27/22 15:23

Matrix: Air

Date Received: 11/03/22 09:10

Sample Container: Folder/Filter

Method: SW846 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.0017	J	0.0024	0.00036	ug/m3 (Air)		11/08/22 07:22	11/08/22 11:34	1
Manganese	0.0069		0.0024	0.00034	ug/m3 (Air)		11/08/22 07:22	11/08/22 11:34	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Particulate Matter as PM 10 (40CFR50J PM10)	3.2		1.0	1.0	ug/m3			11/04/22 07:30	1

Client Sample ID: GESTSP100322-350

Lab Sample ID: 320-93931-22

Date Collected: 10/27/22 15:23

Matrix: Air

Date Received: 11/03/22 09:10

Sample Container: Folder/Filter

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Particulates (EPA 40CFR50 App B)	30.3791		0.9434	0.9434	ug/m3 (Air)			11/04/22 07:30	1

Client Sample ID: GESPM100322-351

Lab Sample ID: 320-93931-23

Date Collected: 10/27/22 15:31

Matrix: Air

Date Received: 11/03/22 09:10

Sample Container: Folder/Filter

Method: SW846 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.0024	J	0.0034	0.00051	ug/m3 (Air)		11/08/22 07:22	11/08/22 11:37	1
Manganese	0.0073		0.0034	0.00047	ug/m3 (Air)		11/08/22 07:22	11/08/22 11:37	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Particulate Matter as PM 10 (40CFR50J PM10)	7.1		1.4	1.4	ug/m3			11/04/22 07:30	1

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Client Sample Results

Client: GES-AIS LLC
 Project/Site: Hunters Point, Parcel B, Phase 2

Job ID: 320-93931-1

Client Sample ID: GESTSP100322-351

Lab Sample ID: 320-93931-24

Date Collected: 10/27/22 15:31

Matrix: Air

Date Received: 11/03/22 09:10

Sample Container: Folder/Filter

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Particulates (EPA 40CFR50 App B)	16.8784		0.8700	0.8700	ug/m3 (Air)			11/04/22 07:30	1

Client Sample ID: GESPM100322-352

Lab Sample ID: 320-93931-25

Date Collected: 10/27/22 15:20

Matrix: Air

Date Received: 11/03/22 09:10

Sample Container: Folder/Filter

Method: SW846 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.0017	J	0.0024	0.00036	ug/m3 (Air)		11/08/22 07:22	11/08/22 11:40	1
Manganese	0.0065		0.0024	0.00033	ug/m3 (Air)		11/08/22 07:22	11/08/22 11:40	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Particulate Matter as PM 10 (40CFR50J PM10)	4.2		0.99	0.99	ug/m3			11/04/22 07:30	1

Client Sample ID: GESTSP100322-352

Lab Sample ID: 320-93931-26

Date Collected: 10/27/22 15:20

Matrix: Air

Date Received: 11/03/22 09:10

Sample Container: Folder/Filter

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Particulates (EPA 40CFR50 App B)	9.4712		0.9866	0.9866	ug/m3 (Air)			11/04/22 07:30	1

QC Sample Results

Client: GES-AIS LLC
 Project/Site: Hunters Point, Parcel B, Phase 2

Job ID: 320-93931-1

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 320-631057/1-B
Matrix: Air
Analysis Batch: 631194

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 631077

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0012	0.00018	ug/m3 (Air)		11/08/22 07:22	11/08/22 10:39	1
Manganese	ND		0.0012	0.00017	ug/m3 (Air)		11/08/22 07:22	11/08/22 10:39	1

Lab Sample ID: LCS 320-631057/2-B
Matrix: Air
Analysis Batch: 631194

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 631077

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lead	0.240	0.242		ug/m3 (Air)		101	86 - 111
Manganese	0.240	0.240		ug/m3 (Air)		100	88 - 110

Lab Sample ID: LCSD 320-631057/3-B
Matrix: Air
Analysis Batch: 631194

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 631077

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lead	0.240	0.235		ug/m3 (Air)		98	86 - 111	3	15
Manganese	0.240	0.244		ug/m3 (Air)		101	88 - 110	1	15

QC Association Summary

Client: GES-AIS LLC
 Project/Site: Hunters Point, Parcel B, Phase 2

Job ID: 320-93931-1

Metals

Pre Prep Batch: 631057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-93931-1	GESPM092122-340	Total/NA	Air	Filter to Air	
320-93931-3	GESPM092122-341	Total/NA	Air	Filter to Air	
320-93931-5	GESPM092122-342	Total/NA	Air	Filter to Air	
320-93931-7	GESPM100322-343	Total/NA	Air	Filter to Air	
320-93931-9	GESPM100322-344	Total/NA	Air	Filter to Air	
320-93931-11	GESPM100322-345	Total/NA	Air	Filter to Air	
320-93931-13	GESPM100322-346	Total/NA	Air	Filter to Air	
320-93931-15	GESPM100322-347	Total/NA	Air	Filter to Air	
320-93931-17	GESPM100322-348	Total/NA	Air	Filter to Air	
320-93931-19	GESPM100322-349	Total/NA	Air	Filter to Air	
320-93931-21	GESPM100322-350	Total/NA	Air	Filter to Air	
320-93931-23	GESPM100322-351	Total/NA	Air	Filter to Air	
320-93931-25	GESPM100322-352	Total/NA	Air	Filter to Air	
MB 320-631057/1-B	Method Blank	Total/NA	Air	Filter to Air	
LCS 320-631057/2-B	Lab Control Sample	Total/NA	Air	Filter to Air	
LCSD 320-631057/3-B	Lab Control Sample Dup	Total/NA	Air	Filter to Air	

Prep Batch: 631077

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-93931-1	GESPM092122-340	Total/NA	Air	3050B	631057
320-93931-3	GESPM092122-341	Total/NA	Air	3050B	631057
320-93931-5	GESPM092122-342	Total/NA	Air	3050B	631057
320-93931-7	GESPM100322-343	Total/NA	Air	3050B	631057
320-93931-9	GESPM100322-344	Total/NA	Air	3050B	631057
320-93931-11	GESPM100322-345	Total/NA	Air	3050B	631057
320-93931-13	GESPM100322-346	Total/NA	Air	3050B	631057
320-93931-15	GESPM100322-347	Total/NA	Air	3050B	631057
320-93931-17	GESPM100322-348	Total/NA	Air	3050B	631057
320-93931-19	GESPM100322-349	Total/NA	Air	3050B	631057
320-93931-21	GESPM100322-350	Total/NA	Air	3050B	631057
320-93931-23	GESPM100322-351	Total/NA	Air	3050B	631057
320-93931-25	GESPM100322-352	Total/NA	Air	3050B	631057
MB 320-631057/1-B	Method Blank	Total/NA	Air	3050B	631057
LCS 320-631057/2-B	Lab Control Sample	Total/NA	Air	3050B	631057
LCSD 320-631057/3-B	Lab Control Sample Dup	Total/NA	Air	3050B	631057

Analysis Batch: 631194

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-93931-1	GESPM092122-340	Total/NA	Air	6020	631077
320-93931-3	GESPM092122-341	Total/NA	Air	6020	631077
320-93931-5	GESPM092122-342	Total/NA	Air	6020	631077
320-93931-7	GESPM100322-343	Total/NA	Air	6020	631077
320-93931-9	GESPM100322-344	Total/NA	Air	6020	631077
320-93931-11	GESPM100322-345	Total/NA	Air	6020	631077
320-93931-13	GESPM100322-346	Total/NA	Air	6020	631077
320-93931-15	GESPM100322-347	Total/NA	Air	6020	631077
320-93931-17	GESPM100322-348	Total/NA	Air	6020	631077
320-93931-19	GESPM100322-349	Total/NA	Air	6020	631077
320-93931-21	GESPM100322-350	Total/NA	Air	6020	631077
320-93931-23	GESPM100322-351	Total/NA	Air	6020	631077
320-93931-25	GESPM100322-352	Total/NA	Air	6020	631077

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QC Association Summary

Client: GES-AIS LLC
 Project/Site: Hunters Point, Parcel B, Phase 2

Job ID: 320-93931-1

Metals (Continued)

Analysis Batch: 631194 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-631057/1-B	Method Blank	Total/NA	Air	6020	631077
LCS 320-631057/2-B	Lab Control Sample	Total/NA	Air	6020	631077
LCSD 320-631057/3-B	Lab Control Sample Dup	Total/NA	Air	6020	631077

General Chemistry

Pre Prep Batch: 631017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-93931-2	GESTSP092122-340	Total/NA	Air	Filter to Air	
320-93931-4	GESTSP092122-341	Total/NA	Air	Filter to Air	
320-93931-6	GESTSP092122-342	Total/NA	Air	Filter to Air	
320-93931-8	GESTSP100322-343	Total/NA	Air	Filter to Air	
320-93931-10	GESTSP100322-344	Total/NA	Air	Filter to Air	
320-93931-12	GESTSP100322-345	Total/NA	Air	Filter to Air	
320-93931-14	GESTSP100322-346	Total/NA	Air	Filter to Air	
320-93931-16	GESTSP100322-347	Total/NA	Air	Filter to Air	
320-93931-18	GESTSP100322-348	Total/NA	Air	Filter to Air	
320-93931-20	GESTSP100322-349	Total/NA	Air	Filter to Air	
320-93931-22	GESTSP100322-350	Total/NA	Air	Filter to Air	
320-93931-24	GESTSP100322-351	Total/NA	Air	Filter to Air	
320-93931-26	GESTSP100322-352	Total/NA	Air	Filter to Air	

Analysis Batch: 631025

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-93931-1	GESPM092122-340	Total/NA	Air	PM10	
320-93931-3	GESPM092122-341	Total/NA	Air	PM10	
320-93931-5	GESPM092122-342	Total/NA	Air	PM10	
320-93931-7	GESPM100322-343	Total/NA	Air	PM10	
320-93931-9	GESPM100322-344	Total/NA	Air	PM10	
320-93931-11	GESPM100322-345	Total/NA	Air	PM10	
320-93931-13	GESPM100322-346	Total/NA	Air	PM10	
320-93931-15	GESPM100322-347	Total/NA	Air	PM10	
320-93931-17	GESPM100322-348	Total/NA	Air	PM10	
320-93931-19	GESPM100322-349	Total/NA	Air	PM10	
320-93931-21	GESPM100322-350	Total/NA	Air	PM10	
320-93931-23	GESPM100322-351	Total/NA	Air	PM10	
320-93931-25	GESPM100322-352	Total/NA	Air	PM10	

Analysis Batch: 631110

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-93931-2	GESTSP092122-340	Total/NA	Air	40CFR50 App B	631017
320-93931-4	GESTSP092122-341	Total/NA	Air	40CFR50 App B	631017
320-93931-6	GESTSP092122-342	Total/NA	Air	40CFR50 App B	631017
320-93931-8	GESTSP100322-343	Total/NA	Air	40CFR50 App B	631017
320-93931-10	GESTSP100322-344	Total/NA	Air	40CFR50 App B	631017
320-93931-12	GESTSP100322-345	Total/NA	Air	40CFR50 App B	631017
320-93931-14	GESTSP100322-346	Total/NA	Air	40CFR50 App B	631017
320-93931-16	GESTSP100322-347	Total/NA	Air	40CFR50 App B	631017
320-93931-18	GESTSP100322-348	Total/NA	Air	40CFR50 App B	631017
320-93931-20	GESTSP100322-349	Total/NA	Air	40CFR50 App B	631017
320-93931-22	GESTSP100322-350	Total/NA	Air	40CFR50 App B	631017

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QC Association Summary

Client: GES-AIS LLC
Project/Site: Hunters Point, Parcel B, Phase 2

Job ID: 320-93931-1

General Chemistry (Continued)

Analysis Batch: 631110 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-93931-24	GESTSP100322-351	Total/NA	Air	40CFR50 App B	631017
320-93931-26	GESTSP100322-352	Total/NA	Air	40CFR50 App B	631017

- 1
- 2
- 3
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- 7
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- 9
- 10
- 11
- 12
- 13
- 14

Lab Chronicle

Client: GES-AIS LLC
 Project/Site: Hunters Point, Parcel B, Phase 2

Job ID: 320-93931-1

Client Sample ID: GESPM092122-340

Lab Sample ID: 320-93931-1

Date Collected: 10/25/22 07:58

Matrix: Air

Date Received: 11/03/22 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Pre Prep	Filter to Air					631057	11/08/22 04:30	█	EET SAC
Total/NA	Prep	3050B			0.08333 Sample	100 mL	631077	11/08/22 07:22	█	EET SAC
Total/NA	Analysis	6020		1			631194	11/08/22 10:48	█	EET SAC
Total/NA	Analysis	PM10		1	0 g	0.0222 g	631025	11/04/22 07:30	█	EET SAC

Client Sample ID: GESTSP092122-340

Lab Sample ID: 320-93931-2

Date Collected: 10/25/22 07:58

Matrix: Air

Date Received: 11/03/22 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	40CFR50 App B		1			631110	11/04/22 07:30	█	EET SAC
Total/NA	Pre Prep	Filter to Air					631017	11/07/22 15:51	█	EET SAC

Client Sample ID: GESPM092122-341

Lab Sample ID: 320-93931-3

Date Collected: 10/25/22 07:26

Matrix: Air

Date Received: 11/03/22 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Pre Prep	Filter to Air					631057	11/08/22 04:30	█	EET SAC
Total/NA	Prep	3050B			0.08333 Sample	100 mL	631077	11/08/22 07:22	█	EET SAC
Total/NA	Analysis	6020		1			631194	11/08/22 10:58	█	EET SAC
Total/NA	Analysis	PM10		1	0 g	0.0180 g	631025	11/04/22 07:30	█	EET SAC

Client Sample ID: GESTSP092122-341

Lab Sample ID: 320-93931-4

Date Collected: 10/25/22 07:26

Matrix: Air

Date Received: 11/03/22 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	40CFR50 App B		1			631110	11/04/22 07:30	█	EET SAC
Total/NA	Pre Prep	Filter to Air					631017	11/07/22 15:51	█	EET SAC

Client Sample ID: GESPM092122-342

Lab Sample ID: 320-93931-5

Date Collected: 10/25/22 07:44

Matrix: Air

Date Received: 11/03/22 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Pre Prep	Filter to Air					631057	11/08/22 04:30	█	EET SAC
Total/NA	Prep	3050B			0.08333 Sample	100 mL	631077	11/08/22 07:22	█	EET SAC
Total/NA	Analysis	6020		1			631194	11/08/22 11:01	█	EET SAC
Total/NA	Analysis	PM10		1	0 g	0.0149 g	631025	11/04/22 07:30	█	EET SAC

Lab Chronicle

Client: GES-AIS LLC
 Project/Site: Hunters Point, Parcel B, Phase 2

Job ID: 320-93931-1

Client Sample ID: GESTSP092122-342

Lab Sample ID: 320-93931-6

Date Collected: 10/25/22 07:44

Matrix: Air

Date Received: 11/03/22 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	40CFR50 App B		1			631110	11/04/22 07:30	█	EET SAC
Total/NA	Pre Prep	Filter to Air					631017	11/07/22 15:51	█	EET SAC

Client Sample ID: GESPM100322-343

Lab Sample ID: 320-93931-7

Date Collected: 10/24/22 08:00

Matrix: Air

Date Received: 11/03/22 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Pre Prep	Filter to Air					631057	11/08/22 04:30	█	EET SAC
Total/NA	Prep	3050B			0.08333 Sample	100 mL	631077	11/08/22 07:22	█	EET SAC
Total/NA	Analysis	6020		1			631194	11/08/22 11:04	█	EET SAC
Total/NA	Analysis	PM10		1	0 g	-0.0001 g	631025	11/04/22 07:30	█	EET SAC

Client Sample ID: GESTSP100322-343

Lab Sample ID: 320-93931-8

Date Collected: 10/24/22 08:00

Matrix: Air

Date Received: 11/03/22 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	40CFR50 App B		1			631110	11/04/22 07:30	█	EET SAC
Total/NA	Pre Prep	Filter to Air					631017	11/07/22 15:51	█	EET SAC

Client Sample ID: GESPM100322-344

Lab Sample ID: 320-93931-9

Date Collected: 10/26/22 08:07

Matrix: Air

Date Received: 11/03/22 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Pre Prep	Filter to Air					631057	11/08/22 04:30	█	EET SAC
Total/NA	Prep	3050B			0.08333 Sample	100 mL	631077	11/08/22 07:22	█	EET SAC
Total/NA	Analysis	6020		1			631194	11/08/22 11:14	█	EET SAC
Total/NA	Analysis	PM10		1	0 g	0.0292 g	631025	11/04/22 07:30	█	EET SAC

Client Sample ID: GESTSP100322-344

Lab Sample ID: 320-93931-10

Date Collected: 10/26/22 08:07

Matrix: Air

Date Received: 11/03/22 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	40CFR50 App B		1			631110	11/04/22 07:30	█	EET SAC
Total/NA	Pre Prep	Filter to Air					631017	11/07/22 15:51	█	EET SAC

Lab Chronicle

Client: GES-AIS LLC
 Project/Site: Hunters Point, Parcel B, Phase 2

Job ID: 320-93931-1

Client Sample ID: GESPM100322-345

Lab Sample ID: 320-93931-11

Date Collected: 10/26/22 07:41

Matrix: Air

Date Received: 11/03/22 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Pre Prep	Filter to Air					631057	11/08/22 04:30	█	EET SAC
Total/NA	Prep	3050B			0.08333 Sample	100 mL	631077	11/08/22 07:22	█	EET SAC
Total/NA	Analysis	6020		1			631194	11/08/22 11:17	█	EET SAC
Total/NA	Analysis	PM10		1	0 g	0.0514 g	631025	11/04/22 07:30	█	EET SAC

Client Sample ID: GESTSP100322-345

Lab Sample ID: 320-93931-12

Date Collected: 10/26/22 07:41

Matrix: Air

Date Received: 11/03/22 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	40CFR50 App B		1			631110	11/04/22 07:30	█	EET SAC
Total/NA	Pre Prep	Filter to Air					631017	11/07/22 15:51	█	EET SAC

Client Sample ID: GESPM100322-346

Lab Sample ID: 320-93931-13

Date Collected: 10/26/22 07:55

Matrix: Air

Date Received: 11/03/22 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Pre Prep	Filter to Air					631057	11/08/22 04:30	█	EET SAC
Total/NA	Prep	3050B			0.08333 Sample	100 mL	631077	11/08/22 07:22	█	EET SAC
Total/NA	Analysis	6020		1			631194	11/08/22 11:21	█	EET SAC
Total/NA	Analysis	PM10		1	0 g	0.0318 g	631025	11/04/22 07:30	█	EET SAC

Client Sample ID: GESTSP100322-346

Lab Sample ID: 320-93931-14

Date Collected: 10/26/22 07:55

Matrix: Air

Date Received: 11/03/22 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	40CFR50 App B		1			631110	11/04/22 07:30	█	EET SAC
Total/NA	Pre Prep	Filter to Air					631017	11/07/22 15:51	█	EET SAC

Client Sample ID: GESPM100322-347

Lab Sample ID: 320-93931-15

Date Collected: 10/27/22 08:01

Matrix: Air

Date Received: 11/03/22 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Pre Prep	Filter to Air					631057	11/08/22 04:30	█	EET SAC
Total/NA	Prep	3050B			0.08333 Sample	100 mL	631077	11/08/22 07:22	█	EET SAC
Total/NA	Analysis	6020		1			631194	11/08/22 11:24	█	EET SAC
Total/NA	Analysis	PM10		1	0 g	0.0205 g	631025	11/04/22 07:30	█	EET SAC

Lab Chronicle

Client: GES-AIS LLC
 Project/Site: Hunters Point, Parcel B, Phase 2

Job ID: 320-93931-1

Client Sample ID: GESTSP100322-347

Lab Sample ID: 320-93931-16

Date Collected: 10/27/22 08:01

Matrix: Air

Date Received: 11/03/22 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	40CFR50 App B		1			631110	11/04/22 07:30	█	EET SAC
Total/NA	Pre Prep	Filter to Air					631017	11/07/22 15:51	█	EET SAC

Client Sample ID: GESPM100322-348

Lab Sample ID: 320-93931-17

Date Collected: 10/27/22 07:32

Matrix: Air

Date Received: 11/03/22 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Pre Prep	Filter to Air					631057	11/08/22 04:30	█	EET SAC
Total/NA	Prep	3050B			0.08333 Sample	100 mL	631077	11/08/22 07:22	█	EET SAC
Total/NA	Analysis	6020		1			631194	11/08/22 11:27	█	EET SAC
Total/NA	Analysis	PM10		1	0 g	0.0277 g	631025	11/04/22 07:30	█	EET SAC

Client Sample ID: GESTSP100322-348

Lab Sample ID: 320-93931-18

Date Collected: 10/27/22 07:32

Matrix: Air

Date Received: 11/03/22 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	40CFR50 App B		1			631110	11/04/22 07:30	█	EET SAC
Total/NA	Pre Prep	Filter to Air					631017	11/07/22 15:51	█	EET SAC

Client Sample ID: GESPM100322-349

Lab Sample ID: 320-93931-19

Date Collected: 10/27/22 07:50

Matrix: Air

Date Received: 11/03/22 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Pre Prep	Filter to Air					631057	11/08/22 04:30	█	EET SAC
Total/NA	Prep	3050B			0.08333 Sample	100 mL	631077	11/08/22 07:22	█	EET SAC
Total/NA	Analysis	6020		1			631194	11/08/22 11:30	█	EET SAC
Total/NA	Analysis	PM10		1	0 g	0.0297 g	631025	11/04/22 07:30	█	EET SAC

Client Sample ID: GESTSP100322-349

Lab Sample ID: 320-93931-20

Date Collected: 10/27/22 07:50

Matrix: Air

Date Received: 11/03/22 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	40CFR50 App B		1			631110	11/04/22 07:30	█	EET SAC
Total/NA	Pre Prep	Filter to Air					631017	11/07/22 15:51	█	EET SAC

Lab Chronicle

Client: GES-AIS LLC
 Project/Site: Hunters Point, Parcel B, Phase 2

Job ID: 320-93931-1

Client Sample ID: GESPM100322-350

Lab Sample ID: 320-93931-21

Date Collected: 10/27/22 15:23

Matrix: Air

Date Received: 11/03/22 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Pre Prep	Filter to Air					631057	11/08/22 04:30	█	EET SAC
Total/NA	Prep	3050B			0.08333 Sample	100 mL	631077	11/08/22 07:22	█	EET SAC
Total/NA	Analysis	6020		1			631194	11/08/22 11:34	█	EET SAC
Total/NA	Analysis	PM10		1	0 g	0.0016 g	631025	11/04/22 07:30	█	EET SAC

Client Sample ID: GESTSP100322-350

Lab Sample ID: 320-93931-22

Date Collected: 10/27/22 15:23

Matrix: Air

Date Received: 11/03/22 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	40CFR50 App B		1			631110	11/04/22 07:30	█	EET SAC
Total/NA	Pre Prep	Filter to Air					631017	11/07/22 15:51	█	EET SAC

Client Sample ID: GESPM100322-351

Lab Sample ID: 320-93931-23

Date Collected: 10/27/22 15:31

Matrix: Air

Date Received: 11/03/22 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Pre Prep	Filter to Air					631057	11/08/22 04:30	█	EET SAC
Total/NA	Prep	3050B			0.08333 Sample	100 mL	631077	11/08/22 07:22	█	EET SAC
Total/NA	Analysis	6020		1			631194	11/08/22 11:37	█	EET SAC
Total/NA	Analysis	PM10		1	0 g	0.0025 g	631025	11/04/22 07:30	█	EET SAC

Client Sample ID: GESTSP100322-351

Lab Sample ID: 320-93931-24

Date Collected: 10/27/22 15:31

Matrix: Air

Date Received: 11/03/22 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	40CFR50 App B		1			631110	11/04/22 07:30	█	EET SAC
Total/NA	Pre Prep	Filter to Air					631017	11/07/22 15:51	█	EET SAC

Client Sample ID: GESPM100322-352

Lab Sample ID: 320-93931-25

Date Collected: 10/27/22 15:20

Matrix: Air

Date Received: 11/03/22 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Pre Prep	Filter to Air					631057	11/08/22 04:30	█	EET SAC
Total/NA	Prep	3050B			0.08333 Sample	100 mL	631077	11/08/22 07:22	█	EET SAC
Total/NA	Analysis	6020		1			631194	11/08/22 11:40	█	EET SAC
Total/NA	Analysis	PM10		1	0 g	0.0021 g	631025	11/04/22 07:30	█	EET SAC

Lab Chronicle

Client: GES-AIS LLC
Project/Site: Hunters Point, Parcel B, Phase 2

Job ID: 320-93931-1

Client Sample ID: GESTSP100322-352

Lab Sample ID: 320-93931-26

Date Collected: 10/27/22 15:20

Matrix: Air

Date Received: 11/03/22 09:10

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	40CFR50 App B		1			631110	11/04/22 07:30		EET SAC
Total/NA	Pre Prep	Filter to Air					631017	11/07/22 15:51		EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Accreditation/Certification Summary

Client: GES-AIS LLC
Project/Site: Hunters Point, Parcel B, Phase 2

Job ID: 320-93931-1

Laboratory: Eurofins Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
ANAB	Dept. of Defense ELAP	L2468	01-20-24
Oregon	NELAP	4040	01-29-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
40CFR50 App B		Air	Total Suspended Particulates
PM10		Air	Particulate Matter as PM 10

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Method Summary

Client: GES-AIS LLC
Project/Site: Hunters Point, Parcel B, Phase 2

Job ID: 320-93931-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	EET SAC
40CFR50 App B	Suspended Particulate Matter in Ambient Air	EPA	EET SAC
PM10	Particulate Matter	40CFR50J	EET SAC
3050B	Preparation, Metals	SW846	EET SAC
Filter to Air	Filter to Air volume ratio	None	EET SAC

Protocol References:

40CFR50J = 40 CFR Part 50 Appendix J

EPA = US Environmental Protection Agency

None = None

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600



Sample Summary

Client: GES-AIS LLC
Project/Site: Hunters Point, Parcel B, Phase 2

Job ID: 320-93931-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-93931-1	GESPM092122-340	Air	10/25/22 07:58	11/03/22 09:10
320-93931-2	GESTSP092122-340	Air	10/25/22 07:58	11/03/22 09:10
320-93931-3	GESPM092122-341	Air	10/25/22 07:26	11/03/22 09:10
320-93931-4	GESTSP092122-341	Air	10/25/22 07:26	11/03/22 09:10
320-93931-5	GESPM092122-342	Air	10/25/22 07:44	11/03/22 09:10
320-93931-6	GESTSP092122-342	Air	10/25/22 07:44	11/03/22 09:10
320-93931-7	GESPM100322-343	Air	10/24/22 08:00	11/03/22 09:10
320-93931-8	GESTSP100322-343	Air	10/24/22 08:00	11/03/22 09:10
320-93931-9	GESPM100322-344	Air	10/26/22 08:07	11/03/22 09:10
320-93931-10	GESTSP100322-344	Air	10/26/22 08:07	11/03/22 09:10
320-93931-11	GESPM100322-345	Air	10/26/22 07:41	11/03/22 09:10
320-93931-12	GESTSP100322-345	Air	10/26/22 07:41	11/03/22 09:10
320-93931-13	GESPM100322-346	Air	10/26/22 07:55	11/03/22 09:10
320-93931-14	GESTSP100322-346	Air	10/26/22 07:55	11/03/22 09:10
320-93931-15	GESPM100322-347	Air	10/27/22 08:01	11/03/22 09:10
320-93931-16	GESTSP100322-347	Air	10/27/22 08:01	11/03/22 09:10
320-93931-17	GESPM100322-348	Air	10/27/22 07:32	11/03/22 09:10
320-93931-18	GESTSP100322-348	Air	10/27/22 07:32	11/03/22 09:10
320-93931-19	GESPM100322-349	Air	10/27/22 07:50	11/03/22 09:10
320-93931-20	GESTSP100322-349	Air	10/27/22 07:50	11/03/22 09:10
320-93931-21	GESPM100322-350	Air	10/27/22 15:23	11/03/22 09:10
320-93931-22	GESTSP100322-350	Air	10/27/22 15:23	11/03/22 09:10
320-93931-23	GESPM100322-351	Air	10/27/22 15:31	11/03/22 09:10
320-93931-24	GESTSP100322-351	Air	10/27/22 15:31	11/03/22 09:10
320-93931-25	GESPM100322-352	Air	10/27/22 15:20	11/03/22 09:10
320-93931-26	GESTSP100322-352	Air	10/27/22 15:20	11/03/22 09:10



**CHAIN-OF-CUSTODY
RECORD**

Gilbane Federal
2300 Clayton Road, Suite 1050, Concord, CA 94520

COC # MC110222AIRB



Project Name: Hunters Point Shipyard, Parcel B Removal Site Evaluation	Laboratory: EUROFINS ENVIRONMENT TESTING NORTHERN CALIFORNIA, LLC (EETN)	Event: Parcel B Air Monitoring
Project Number: J310000900	POC: Laura [Redacted]	
WBS Code: J310000900	Ship to: 880 Riverside Parkway, West Sacramento, CA 95605	

Comments:	Analytical Test Method CAAIR - Air PM10 N0500 - Air TSP SW6020 - Air Pb Mn	Code Matrix
		A Air
Equipment:		AQ Air Quality Control Matrix
		Code Container/Preservative
		1 1x 250-mL Plastic, 4 Degrees C
		1 1x Envelope, None



Event: Parcel B Air Monitoring															
Sample ID	Matrix	Date	Time	Samp Init.							Location ID	Sample Type	Depth (ft bgs) Top - Bottom	Cooler	Comments
1	GESPM092122-340	A	10/25/2022	0758	[Redacted]	X	X				MSB01	N1	0.00 0.00	1	VOLUME: 1646.41 (M3)
2	GESTSP092122-340	A	10/25/2022	0758	[Redacted]		X				MSB01	N1	0.00 0.00	1	VOLUME: 1765.19 (M3)
3	GESPM092122-341	A	10/25/2022	0726	[Redacted]	X	X				MSB02	N1	0.00 0.00	1	VOLUME: 1633.73 (M3)
4	GESTSP092122-341	A	10/25/2022	0726	[Redacted]		X				MSB02	N1	0.00 0.00	1	VOLUME: 1760.71 (M3)
5	GESPM092122-342	A	10/25/2022	0744	[Redacted]	X	X				MSB113A	N1	0.00 0.00	1	VOLUME: 1548.34 (M3)
6	GESTSP092122-342	A	10/25/2022	0744	[Redacted]		X				MSB113A	N1	0.00 0.00	1	VOLUME: 1607.80 (M3)
7	GESPM100322-343	AQ	10/24/2022	0800	[Redacted]	X	X				FIELDQC	FB1	0.00 0.00	1	
8	GESTSP100322-343	AQ	10/24/2022	0800	[Redacted]		X				FIELDQC	FB1	0.00 0.00	1	
9	GESPM100322-344	A	10/26/2022	0807	[Redacted]	X	X				MSB01	N1	0.00 0.00	1	VOLUME: 1645.67 (M3)
10	GESTSP100322-344	A	10/26/2022	0807	[Redacted]		X				MSB01	N1	0.00 0.00	1	VOLUME: 1753.17 (M3)
11	GESPM100322-345	A	10/26/2022	0741	[Redacted]	X	X				MSB02	N1	0.00 0.00	1	VOLUME: 1592.33 (M3)

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[Redacted]	11/2/22	1400	Fedex	11/2/22	1400	Shipping Date: 11/2/2022 / FEDEX 7703 0609 9979
						Received by Laboratory: (Signature, Date, Time) & condition
						[Redacted] 11-3-22 9:10am EETSAC

GES.Navy.COC.Field
November 02, 2022

⑦ GESPM 101 00322-343 Soil 3m

15.5



**CHAIN-OF-CUSTODY
RECORD**

Gilbane Federal
2300 Clayton Road, Suite 1050, Concord, CA 94520

COC # MC110222AIRB



Project Name: Hunters Point Shipyard, Parcel B Removal Site Evaluation	Laboratory: EUROFINS ENVIRONMENT TESTING NORTHERN CALIFORNIA, LLC (EETN)	Event: Parcel B Air Monitoring
Project Number: J310000900	POC: [Redacted]	
WBS Code: J310000900	Ship to: 880 Riverside Parkway, West Sacramento, CA 95605	

Comments:	Analytical Test Method	CAAIR - Air PM10 N0500 - Air TSP SW6020 - Air Pb Mn	Code	Matrix
			A	Air
Equipment:			AQ	Air Quality Control Matrix
			Code	Container/Preservative
			1	1x 250-mL Plastic, 4 Degrees C
			1	1x Envelope, None

Event: Parcel B Air Monitoring														
Sample ID	Matrix	Date	Time	Samp Init.						Location ID	Sample Type	Depth (ft bgs) Top - Bottom	Cooler	Comments
12	GESTSP100322-345	A	10/26/2022	0741	[Redacted]	X				MSB02	N1	0.00 0.00	1	VOLUME: 1771.46 (M3)
13	GESPM100322-346	A	10/26/2022	0755	[Redacted]	X	X			MSB113A	N1	0.00 0.00	1	VOLUME: 1610.55 (M3)
14	GESTSP100322-346	A	10/26/2022	0755	[Redacted]	X				MSB113A	N1	0.00 0.00	1	VOLUME: 1597.10 (M3)
15	GESPM100322-347	A	10/27/2022	0801	[Redacted]	X	X			MSB01	N1	0.00 0.00	1	VOLUME: 1665.33 (M3)
16	GESTSP100322-347	A	10/27/2022	0801	[Redacted]	X				MSB01	N1	0.00 0.00	1	VOLUME: 1743.85 (M3)
17	GESPM100322-348	A	10/27/2022	0732	[Redacted]	X	X			MSB02	N1	0.00 0.00	1	VOLUME: 1609.51 (M3)
18	GESTSP100322-348	A	10/27/2022	0732	[Redacted]	X				MSB02	N1	0.00 0.00	1	VOLUME: 1738.29 (M3)
19	GESPM100322-349	A	10/27/2022	0750	[Redacted]	X	X			MSB113A	N1	0.00 0.00	1	VOLUME: 1592.94 (M3)
20	GESTSP100322-349	A	10/27/2022	0750	[Redacted]	X				MSB113A	N1	0.00 0.00	1	VOLUME: 1582.60 (M3)
21	GESPM100322-350	A	10/27/2022	1523	[Redacted]	X	X			MSB01	N1	0.00 0.00	1	VOLUME: 496.95 (M3)
22	GESTSP100322-350	A	10/27/2022	1523	[Redacted]	X				MSB01	N1	0.00 0.00	1	VOLUME: 529.97 (M3)

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[Redacted]	11/2/22	1400	Fedex	11/2/22	1400	Shipping Date: 11/2/2022 / FEDEX 7703 0609 9979
			[Redacted]	11/3/22	0900	
						Received by Laboratory: (Signature, Date, Time) & condition



15.5

**CHAIN-OF-CUSTODY
RECORD**

Gilbane Federal
2300 Clayton Road, Suite 1050, Concord, CA 94520

COC # MC110222AIRB



Project Name: Hunters Point Shipyard, Parcel B Removal Site Evaluation	Laboratory: EUROFINS ENVIRONMENT TESTING NORTHERN CALIFORNIA, LLC (EETN)	Event: Parcel B Air Monitoring
Project Number: J310000900	POC: [Redacted]	
WBS Code: J310000900	Ship to: 880 Riverside Parkway, West Sacramento, CA 95605	

Comments:	Analytical Test Method	Code	Matrix
		A	Air
Equipment:	CAAIR - Air PM10 N0500 - Air TSP SW6020 - Air Pb Mn	AQ	Air Quality Control Matrix
		Code	Container/Preservative
		1	1x 250-mL Plastic, 4 Degrees C
		1	1x Envelope, None

Event: Parcel B Air Monitoring													
Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method			Location ID	Sample Type	Depth (ft bgs)		Cooler	Comments
					CAAIR - Air PM10	N0500 - Air TSP	SW6020 - Air Pb Mn			Top	Bottom		
23	GESPM100322-351	A	10/27/2022	1531	[Redacted]	X	X	MSB02	N1	0.00	0.00	1	VOLUME: 534.53 (M3)
24	GESTSP100322-351	A	10/27/2022	1531	[Redacted]		X	MSB02	N1	0.00	0.00	1	VOLUME: 574.70 (M3)
25	GESPM100322-352	A	10/27/2022	1520	[Redacted]	X	X	MSB113A	N1	0.00	0.00	1	VOLUME: 504.08 (M3)
26	GESTSP100322-352	A	10/27/2022	1520	[Redacted]		X	MSB113A	N1	0.00	0.00	1	VOLUME: 506.80 (M3)
27													
28													

Turnaround Time: 5 days

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[Redacted]	11/2/22	1400	Fedex	11/2/22	1400	Shipping Date: 11/2/2022 / FEDEX 7703 0609 9979
			[Redacted]	11/3/22	0900	
						Received by Laboratory: (Signature, Date, Time) & condition

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Login Sample Receipt Checklist

Client: GES-AIS LLC

Job Number: 320-93931-1

Login Number: 93931

List Source: Eurofins Sacramento

List Number: 1

Creator: [REDACTED]

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	SEAL
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	Thermal preservation not required.
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	Refer to Job Narrative for details.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	





ANALYTICAL REPORT

PREPARED FOR

Attn: 

GES-AIS LLC

1501 W Fountainhead Parkway

Ste 550

Tempe Arizona 85282

Generated 11/16/2022 3:12:29 PM

JOB DESCRIPTION

Hunters Point, Parcel B, Removal Site Evaluation

JOB NUMBER

320-94221-1



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Definitions/Glossary

Client: GES-AIS LLC
Project/Site: Hunters Point, Parcel B, Removal Site Evaluation

Job ID: 320-94221-1

Qualifiers

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
α	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: GES-AIS LLC
Project/Site: Hunters Point, Parcel B, Removal Site Evaluation

Job ID: 320-94221-1

Job ID: 320-94221-1

Laboratory: Eurofins Sacramento

Narrative

Job Narrative
320-94221-1

Comments

No additional comments.

Receipt

The samples were received on 11/10/2022 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 17.1° C.

Metals

Method 40CFR50 App B: The following sample in analytical batch 320-633403 was recorded with a negative net weight: GESTSP100322-353 (320-94221-8). No particulate loading on the filter or damage to the filter could be observed.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.



Detection Summary

Client: GES-AIS LLC
Project/Site: Hunters Point, Parcel B, Removal Site Evaluation

Job ID: 320-94221-1

Client Sample ID: GESPM100322-356

Lab Sample ID: 320-94221-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.00084		0.00074	0.00011	ug/m3 (Air)	1		6020	Total/NA
Manganese	0.0029		0.00074	0.00010	ug/m3 (Air)	1		6020	Total/NA
Particulate Matter as PM 10	19		0.31	0.31	ug/m3	1		PM10	Total/NA

Client Sample ID: GESTSP100322-356

Lab Sample ID: 320-94221-2

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Particulates	28.5102		0.2880	0.2880	ug/m3 (Air)	1		40CFR50 App B	Total/NA

Client Sample ID: GESPM100322-355

Lab Sample ID: 320-94221-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.00075		0.00075	0.00011	ug/m3 (Air)	1		6020	Total/NA
Manganese	0.0027		0.00075	0.00010	ug/m3 (Air)	1		6020	Total/NA
Particulate Matter as PM 10	18		0.31	0.31	ug/m3	1		PM10	Total/NA

Client Sample ID: GESTSP100322-355

Lab Sample ID: 320-94221-4

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Particulates	28.3787		0.2896	0.2896	ug/m3 (Air)	1		40CFR50 App B	Total/NA

Client Sample ID: GESPM100322-354

Lab Sample ID: 320-94221-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.00097		0.00075	0.00011	ug/m3 (Air)	1		6020	Total/NA
Manganese	0.0034		0.00075	0.00011	ug/m3 (Air)	1		6020	Total/NA
Particulate Matter as PM 10	20		0.31	0.31	ug/m3	1		PM10	Total/NA

Client Sample ID: GESTSP100322-354

Lab Sample ID: 320-94221-6

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Particulates	27.3592		0.3033	0.3033	ug/m3 (Air)	1		40CFR50 App B	Total/NA

Client Sample ID: GESPM100322-353

Lab Sample ID: 320-94221-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Manganese	0.00031	J	0.0012	0.00017	ug/m3 (Air)	1		6020	Total/NA

Client Sample ID: GESTSP100322-353

Lab Sample ID: 320-94221-8

No Detections.

Client Sample ID: GESPM100322-357

Lab Sample ID: 320-94221-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.00037	J	0.00074	0.00011	ug/m3 (Air)	1		6020	Total/NA
Manganese	0.0018		0.00074	0.00010	ug/m3 (Air)	1		6020	Total/NA
Particulate Matter as PM 10	9.2		0.31	0.31	ug/m3	1		PM10	Total/NA

Client Sample ID: GESTSP100322-357

Lab Sample ID: 320-94221-10

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Particulates	17.3522		0.2835	0.2835	ug/m3 (Air)	1		40CFR50 App B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Detection Summary

Client: GES-AIS LLC
Project/Site: Hunters Point, Parcel B, Removal Site Evaluation

Job ID: 320-94221-1

Client Sample ID: GESPM100322-359

Lab Sample ID: 320-94221-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.00028	J	0.00074	0.00011	ug/m3 (Air)	1		6020	Total/NA
Manganese	0.0010		0.00074	0.00010	ug/m3 (Air)	1		6020	Total/NA
Particulate Matter as PM 10	7.5		0.31	0.31	ug/m3	1		PM10	Total/NA

Client Sample ID: GESTSP100322-359

Lab Sample ID: 320-94221-12

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Particulates	16.0934		0.2874	0.2874	ug/m3 (Air)	1		40CFR50 App B	Total/NA

Client Sample ID: GESPM100322-358

Lab Sample ID: 320-94221-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.00037	J	0.00075	0.00011	ug/m3 (Air)	1		6020	Total/NA
Manganese	0.0015		0.00075	0.00011	ug/m3 (Air)	1		6020	Total/NA
Particulate Matter as PM 10	8.7		0.31	0.31	ug/m3	1		PM10	Total/NA

Client Sample ID: GESTSP100322-358

Lab Sample ID: 320-94221-14

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Particulates	19.7126		0.3319	0.3319	ug/m3 (Air)	1		40CFR50 App B	Total/NA

Client Sample ID: GESPM100322-360

Lab Sample ID: 320-94221-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.00071	J	0.00075	0.00011	ug/m3 (Air)	1		6020	Total/NA
Manganese	0.0030		0.00075	0.00010	ug/m3 (Air)	1		6020	Total/NA
Particulate Matter as PM 10	7.0		0.31	0.31	ug/m3	1		PM10	Total/NA

Client Sample ID: GESTSP100322-360

Lab Sample ID: 320-94221-16

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Particulates	13.6476		0.2904	0.2904	ug/m3 (Air)	1		40CFR50 App B	Total/NA

Client Sample ID: GESPM100322-379

Lab Sample ID: 320-94221-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.00034	J	0.00076	0.00011	ug/m3 (Air)	1		6020	Total/NA
Manganese	0.0013		0.00076	0.00011	ug/m3 (Air)	1		6020	Total/NA
Particulate Matter as PM 10	4.5		0.31	0.31	ug/m3	1		PM10	Total/NA

Client Sample ID: GESTSP100322-379

Lab Sample ID: 320-94221-18

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Particulates	11.2311		0.2895	0.2895	ug/m3 (Air)	1		40CFR50 App B	Total/NA

Client Sample ID: GESPM100322-380

Lab Sample ID: 320-94221-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.00042	J	0.00077	0.00011	ug/m3 (Air)	1		6020	Total/NA
Manganese	0.0017		0.00077	0.00011	ug/m3 (Air)	1		6020	Total/NA
Particulate Matter as PM 10	1.9		0.32	0.32	ug/m3	1		PM10	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Detection Summary

Client: GES-AIS LLC
Project/Site: Hunters Point, Parcel B, Removal Site Evaluation

Job ID: 320-94221-1

Client Sample ID: GESTSP100322-380

Lab Sample ID: 320-94221-20

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Particulates	9.7460		0.3227	0.3227	ug/m3 (Air)	1		40CFR50 App B	Total/NA

Client Sample ID: GESPM100322-381

Lab Sample ID: 320-94221-21

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.0014	J	0.0024	0.00036	ug/m3 (Air)	1		6020	Total/NA
Manganese	0.0047		0.0024	0.00034	ug/m3 (Air)	1		6020	Total/NA
Particulate Matter as PM 10	9.6		1.0	1.0	ug/m3	1		PM10	Total/NA

Client Sample ID: GESTSP100322-381

Lab Sample ID: 320-94221-22

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Particulates	7.0713		0.9304	0.9304	ug/m3 (Air)	1		40CFR50 App B	Total/NA

Client Sample ID: GESPM100322-382

Lab Sample ID: 320-94221-23

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.0022	J	0.0023	0.00034	ug/m3 (Air)	1		6020	Total/NA
Manganese	0.0033		0.0023	0.00032	ug/m3 (Air)	1		6020	Total/NA
Particulate Matter as PM 10	3.6		0.96	0.96	ug/m3	1		PM10	Total/NA

Client Sample ID: GESTSP100322-382

Lab Sample ID: 320-94221-24

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Particulates	5.6637		0.8850	0.8850	ug/m3 (Air)	1		40CFR50 App B	Total/NA

Client Sample ID: GESPM100322-383

Lab Sample ID: 320-94221-25

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Lead	0.0014	J	0.0024	0.00036	ug/m3 (Air)	1		6020	Total/NA
Manganese	0.0039		0.0024	0.00034	ug/m3 (Air)	1		6020	Total/NA
Particulate Matter as PM 10	16		1.0	1.0	ug/m3	1		PM10	Total/NA

Client Sample ID: GESTSP100322-383

Lab Sample ID: 320-94221-26

Analyte	Result	Qualifier	RL	RL	Unit	Dil Fac	D	Method	Prep Type
Total Suspended Particulates	7.1088		1.0155	1.0155	ug/m3 (Air)	1		40CFR50 App B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Sacramento

Client Sample Results

Client: GES-AIS LLC
 Project/Site: Hunters Point, Parcel B, Removal Site Evaluation

Job ID: 320-94221-1

Client Sample ID: GESPM100322-356

Lab Sample ID: 320-94221-1

Date Collected: 11/01/22 07:57

Matrix: Air

Date Received: 11/10/22 09:30

Sample Container: Folder/Filter

Method: SW846 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00084		0.00074	0.00011	ug/m3 (Air)		11/15/22 09:00	11/15/22 14:13	1
Manganese	0.0029		0.00074	0.00010	ug/m3 (Air)		11/15/22 09:00	11/15/22 14:13	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Particulate Matter as PM 10 (40CFR50J PM10)	19		0.31	0.31	ug/m3			11/11/22 10:30	1

Client Sample ID: GESTSP100322-356

Lab Sample ID: 320-94221-2

Date Collected: 11/01/22 07:57

Matrix: Air

Date Received: 11/10/22 09:30

Sample Container: Folder/Filter

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Particulates (EPA 40CFR50 App B)	28.5102		0.2880	0.2880	ug/m3 (Air)			11/11/22 10:30	1

Client Sample ID: GESPM100322-355

Lab Sample ID: 320-94221-3

Date Collected: 11/01/22 07:24

Matrix: Air

Date Received: 11/10/22 09:30

Sample Container: Folder/Filter

Method: SW846 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00075		0.00075	0.00011	ug/m3 (Air)		11/15/22 09:00	11/15/22 14:17	1
Manganese	0.0027		0.00075	0.00010	ug/m3 (Air)		11/15/22 09:00	11/15/22 14:17	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Particulate Matter as PM 10 (40CFR50J PM10)	18		0.31	0.31	ug/m3			11/11/22 10:30	1

Client Sample ID: GESTSP100322-355

Lab Sample ID: 320-94221-4

Date Collected: 11/01/22 07:24

Matrix: Air

Date Received: 11/10/22 09:30

Sample Container: Folder/Filter

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Particulates (EPA 40CFR50 App B)	28.3787		0.2896	0.2896	ug/m3 (Air)			11/11/22 10:30	1

Client Sample ID: GESPM100322-354

Lab Sample ID: 320-94221-5

Date Collected: 11/01/22 07:41

Matrix: Air

Date Received: 11/10/22 09:30

Sample Container: Folder/Filter

Method: SW846 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00097		0.00075	0.00011	ug/m3 (Air)		11/15/22 09:00	11/15/22 14:20	1
Manganese	0.0034		0.00075	0.00011	ug/m3 (Air)		11/15/22 09:00	11/15/22 14:20	1

Eurofins Sacramento

Client Sample Results

Client: GES-AIS LLC
 Project/Site: Hunters Point, Parcel B, Removal Site Evaluation

Job ID: 320-94221-1

Client Sample ID: GESPM100322-354

Lab Sample ID: 320-94221-5

Date Collected: 11/01/22 07:41

Matrix: Air

Date Received: 11/10/22 09:30

Sample Container: Folder/Filter

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Particulate Matter as PM 10 (40CFR50J PM10)	20		0.31	0.31	ug/m3			11/11/22 10:30	1

Client Sample ID: GESTSP100322-354

Lab Sample ID: 320-94221-6

Date Collected: 11/01/22 07:41

Matrix: Air

Date Received: 11/10/22 09:30

Sample Container: Folder/Filter

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Particulates (EPA 40CFR50 App B)	27.3592		0.3033	0.3033	ug/m3 (Air)			11/11/22 10:30	1

Client Sample ID: GESPM100322-353

Lab Sample ID: 320-94221-7

Date Collected: 10/31/22 08:00

Matrix: Air

Date Received: 11/10/22 09:30

Sample Container: Folder/Filter

Method: SW846 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0012	0.00018	ug/m3 (Air)		11/15/22 09:00	11/15/22 14:23	1
Manganese	0.00031	J	0.0012	0.00017	ug/m3 (Air)		11/15/22 09:00	11/15/22 14:23	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Particulate Matter as PM 10 (40CFR50J PM10)	ND		0.50	0.50	ug/m3			11/11/22 10:30	1

Client Sample ID: GESTSP100322-353

Lab Sample ID: 320-94221-8

Date Collected: 10/31/22 08:00

Matrix: Air

Date Received: 11/10/22 09:30

Sample Container: Folder/Filter

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Particulates (EPA 40CFR50 App B)	ND		0.5000	0.5000	ug/m3 (Air)			11/11/22 10:30	1

Client Sample ID: GESPM100322-357

Lab Sample ID: 320-94221-9

Date Collected: 11/02/22 07:55

Matrix: Air

Date Received: 11/10/22 09:30

Sample Container: Folder/Filter

Method: SW846 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00037	J	0.00074	0.00011	ug/m3 (Air)		11/15/22 09:00	11/15/22 14:26	1
Manganese	0.0018		0.00074	0.00010	ug/m3 (Air)		11/15/22 09:00	11/15/22 14:26	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Particulate Matter as PM 10 (40CFR50J PM10)	9.2		0.31	0.31	ug/m3			11/11/22 10:30	1

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Client Sample Results

Client: GES-AIS LLC
 Project/Site: Hunters Point, Parcel B, Removal Site Evaluation

Job ID: 320-94221-1

Client Sample ID: GESTSP100322-357

Lab Sample ID: 320-94221-10

Date Collected: 11/02/22 07:55

Matrix: Air

Date Received: 11/10/22 09:30

Sample Container: Folder/Filter

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Particulates (EPA 40CFR50 App B)	17.3522		0.2835	0.2835	ug/m3 (Air)			11/11/22 10:30	1

Client Sample ID: GESPM100322-359

Lab Sample ID: 320-94221-11

Date Collected: 11/02/22 07:23

Matrix: Air

Date Received: 11/10/22 09:30

Sample Container: Folder/Filter

Method: SW846 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00028	J	0.00074	0.00011	ug/m3 (Air)		11/15/22 09:00	11/15/22 14:30	1
Manganese	0.0010		0.00074	0.00010	ug/m3 (Air)		11/15/22 09:00	11/15/22 14:30	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Particulate Matter as PM 10 (40CFR50J PM10)	7.5		0.31	0.31	ug/m3			11/11/22 10:30	1

Client Sample ID: GESTSP100322-359

Lab Sample ID: 320-94221-12

Date Collected: 11/02/22 07:23

Matrix: Air

Date Received: 11/10/22 09:30

Sample Container: Folder/Filter

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Particulates (EPA 40CFR50 App B)	16.0934		0.2874	0.2874	ug/m3 (Air)			11/11/22 10:30	1

Client Sample ID: GESPM100322-358

Lab Sample ID: 320-94221-13

Date Collected: 11/02/22 07:39

Matrix: Air

Date Received: 11/10/22 09:30

Sample Container: Folder/Filter

Method: SW846 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00037	J	0.00075	0.00011	ug/m3 (Air)		11/15/22 09:00	11/15/22 14:33	1
Manganese	0.0015		0.00075	0.00011	ug/m3 (Air)		11/15/22 09:00	11/15/22 14:33	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Particulate Matter as PM 10 (40CFR50J PM10)	8.7		0.31	0.31	ug/m3			11/11/22 10:30	1

Client Sample ID: GESTSP100322-358

Lab Sample ID: 320-94221-14

Date Collected: 11/02/22 07:39

Matrix: Air

Date Received: 11/10/22 09:30

Sample Container: Folder/Filter

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Particulates (EPA 40CFR50 App B)	19.7126		0.3319	0.3319	ug/m3 (Air)			11/11/22 10:30	1

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Client Sample Results

Client: GES-AIS LLC
 Project/Site: Hunters Point, Parcel B, Removal Site Evaluation

Job ID: 320-94221-1

Client Sample ID: GESPM100322-360

Lab Sample ID: 320-94221-15

Date Collected: 11/03/22 07:40

Matrix: Air

Date Received: 11/10/22 09:30

Sample Container: Folder/Filter

Method: SW846 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00071	J	0.00075	0.00011	ug/m3 (Air)		11/15/22 09:00	11/15/22 14:36	1
Manganese	0.0030		0.00075	0.00010	ug/m3 (Air)		11/15/22 09:00	11/15/22 14:36	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Particulate Matter as PM 10 (40CFR50J PM10)	7.0		0.31	0.31	ug/m3			11/11/22 10:30	1

Client Sample ID: GESTSP100322-360

Lab Sample ID: 320-94221-16

Date Collected: 11/03/22 07:40

Matrix: Air

Date Received: 11/10/22 09:30

Sample Container: Folder/Filter

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Particulates (EPA 40CFR50 App B)	13.6476		0.2904	0.2904	ug/m3 (Air)			11/11/22 10:30	1

Client Sample ID: GESPM100322-379

Lab Sample ID: 320-94221-17

Date Collected: 11/03/22 07:05

Matrix: Air

Date Received: 11/10/22 09:30

Sample Container: Folder/Filter

Method: SW846 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00034	J	0.00076	0.00011	ug/m3 (Air)		11/15/22 09:00	11/15/22 14:46	1
Manganese	0.0013		0.00076	0.00011	ug/m3 (Air)		11/15/22 09:00	11/15/22 14:46	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Particulate Matter as PM 10 (40CFR50J PM10)	4.5		0.31	0.31	ug/m3			11/11/22 10:30	1

Client Sample ID: GESTSP100322-379

Lab Sample ID: 320-94221-18

Date Collected: 11/03/22 07:05

Matrix: Air

Date Received: 11/10/22 09:30

Sample Container: Folder/Filter

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Particulates (EPA 40CFR50 App B)	11.2311		0.2895	0.2895	ug/m3 (Air)			11/11/22 10:30	1

Client Sample ID: GESPM100322-380

Lab Sample ID: 320-94221-19

Date Collected: 11/03/22 07:21

Matrix: Air

Date Received: 11/10/22 09:30

Sample Container: Folder/Filter

Method: SW846 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.00042	J	0.00077	0.00011	ug/m3 (Air)		11/15/22 09:00	11/15/22 14:49	1
Manganese	0.0017		0.00077	0.00011	ug/m3 (Air)		11/15/22 09:00	11/15/22 14:49	1

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Client Sample Results

Client: GES-AIS LLC
 Project/Site: Hunters Point, Parcel B, Removal Site Evaluation

Job ID: 320-94221-1

Client Sample ID: GESPM100322-380

Lab Sample ID: 320-94221-19

Date Collected: 11/03/22 07:21

Matrix: Air

Date Received: 11/10/22 09:30

Sample Container: Folder/Filter

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Particulate Matter as PM 10 (40CFR50J PM10)	1.9		0.32	0.32	ug/m3			11/11/22 10:30	1

Client Sample ID: GESTSP100322-380

Lab Sample ID: 320-94221-20

Date Collected: 11/03/22 07:21

Matrix: Air

Date Received: 11/10/22 09:30

Sample Container: Folder/Filter

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Particulates (EPA 40CFR50 App B)	9.7460		0.3227	0.3227	ug/m3 (Air)			11/11/22 10:30	1

Client Sample ID: GESPM100322-381

Lab Sample ID: 320-94221-21

Date Collected: 11/03/22 15:04

Matrix: Air

Date Received: 11/10/22 09:30

Sample Container: Folder/Filter

Method: SW846 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.0014	J	0.0024	0.00036	ug/m3 (Air)		11/15/22 09:00	11/15/22 14:52	1
Manganese	0.0047		0.0024	0.00034	ug/m3 (Air)		11/15/22 09:00	11/15/22 14:52	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Particulate Matter as PM 10 (40CFR50J PM10)	9.6		1.0	1.0	ug/m3			11/11/22 10:30	1

Client Sample ID: GESTSP100322-381

Lab Sample ID: 320-94221-22

Date Collected: 11/03/22 15:04

Matrix: Air

Date Received: 11/10/22 09:30

Sample Container: Folder/Filter

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Particulates (EPA 40CFR50 App B)	7.0713		0.9304	0.9304	ug/m3 (Air)			11/11/22 10:30	1

Client Sample ID: GESPM100322-382

Lab Sample ID: 320-94221-23

Date Collected: 11/03/22 14:50

Matrix: Air

Date Received: 11/10/22 09:30

Sample Container: Folder/Filter

Method: SW846 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.0022	J	0.0023	0.00034	ug/m3 (Air)		11/15/22 09:00	11/15/22 14:56	1
Manganese	0.0033		0.0023	0.00032	ug/m3 (Air)		11/15/22 09:00	11/15/22 14:56	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Particulate Matter as PM 10 (40CFR50J PM10)	3.6		0.96	0.96	ug/m3			11/11/22 10:30	1

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Client Sample Results

Client: GES-AIS LLC
 Project/Site: Hunters Point, Parcel B, Removal Site Evaluation

Job ID: 320-94221-1

Client Sample ID: GESTSP100322-382

Lab Sample ID: 320-94221-24

Date Collected: 11/03/22 14:50

Matrix: Air

Date Received: 11/10/22 09:30

Sample Container: Folder/Filter

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Particulates (EPA 40CFR50 App B)	5.6637		0.8850	0.8850	ug/m3 (Air)			11/11/22 10:30	1

Client Sample ID: GESPM100322-383

Lab Sample ID: 320-94221-25

Date Collected: 11/03/22 14:53

Matrix: Air

Date Received: 11/10/22 09:30

Sample Container: Folder/Filter

Method: SW846 6020 - Metals (ICP/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	0.0014	J	0.0024	0.00036	ug/m3 (Air)		11/15/22 09:00	11/15/22 14:59	1
Manganese	0.0039		0.0024	0.00034	ug/m3 (Air)		11/15/22 09:00	11/15/22 14:59	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Particulate Matter as PM 10 (40CFR50J PM10)	16		1.0	1.0	ug/m3			11/11/22 10:30	1

Client Sample ID: GESTSP100322-383

Lab Sample ID: 320-94221-26

Date Collected: 11/03/22 14:53

Matrix: Air

Date Received: 11/10/22 09:30

Sample Container: Folder/Filter

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Total Suspended Particulates (EPA 40CFR50 App B)	7.1088		1.0155	1.0155	ug/m3 (Air)			11/11/22 10:30	1

QC Sample Results

Client: GES-AIS LLC
 Project/Site: Hunters Point, Parcel B, Removal Site Evaluation

Job ID: 320-94221-1

Method: 6020 - Metals (ICP/MS)

Lab Sample ID: MB 320-633057/1-B
Matrix: Air
Analysis Batch: 633265

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 633091

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Lead	ND		0.0012	0.00018	ug/m3 (Air)		11/15/22 09:00	11/15/22 13:38	1
Manganese	ND		0.0012	0.00017	ug/m3 (Air)		11/15/22 09:00	11/15/22 13:38	1

Lab Sample ID: LCS 320-633057/2-B
Matrix: Air
Analysis Batch: 633265

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 633091

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Lead	0.240	0.231		ug/m3 (Air)		96	86 - 111
Manganese	0.240	0.243		ug/m3 (Air)		101	88 - 110

Lab Sample ID: LCSD 320-633057/3-B
Matrix: Air
Analysis Batch: 633265

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 633091

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Lead	0.240	0.234		ug/m3 (Air)		98	86 - 111	1	15
Manganese	0.240	0.249		ug/m3 (Air)		104	88 - 110	2	15

QC Association Summary

Client: GES-AIS LLC
 Project/Site: Hunters Point, Parcel B, Removal Site Evaluation

Job ID: 320-94221-1

Metals

Pre Prep Batch: 633057

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-94221-1	GESPM100322-356	Total/NA	Air	Filter to Air	
320-94221-3	GESPM100322-355	Total/NA	Air	Filter to Air	
320-94221-5	GESPM100322-354	Total/NA	Air	Filter to Air	
320-94221-7	GESPM100322-353	Total/NA	Air	Filter to Air	
320-94221-9	GESPM100322-357	Total/NA	Air	Filter to Air	
320-94221-11	GESPM100322-359	Total/NA	Air	Filter to Air	
320-94221-13	GESPM100322-358	Total/NA	Air	Filter to Air	
320-94221-15	GESPM100322-360	Total/NA	Air	Filter to Air	
320-94221-17	GESPM100322-379	Total/NA	Air	Filter to Air	
320-94221-19	GESPM100322-380	Total/NA	Air	Filter to Air	
320-94221-21	GESPM100322-381	Total/NA	Air	Filter to Air	
320-94221-23	GESPM100322-382	Total/NA	Air	Filter to Air	
320-94221-25	GESPM100322-383	Total/NA	Air	Filter to Air	
MB 320-633057/1-B	Method Blank	Total/NA	Air	Filter to Air	
LCS 320-633057/2-B	Lab Control Sample	Total/NA	Air	Filter to Air	
LCSD 320-633057/3-B	Lab Control Sample Dup	Total/NA	Air	Filter to Air	

Prep Batch: 633091

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-94221-1	GESPM100322-356	Total/NA	Air	3050B	633057
320-94221-3	GESPM100322-355	Total/NA	Air	3050B	633057
320-94221-5	GESPM100322-354	Total/NA	Air	3050B	633057
320-94221-7	GESPM100322-353	Total/NA	Air	3050B	633057
320-94221-9	GESPM100322-357	Total/NA	Air	3050B	633057
320-94221-11	GESPM100322-359	Total/NA	Air	3050B	633057
320-94221-13	GESPM100322-358	Total/NA	Air	3050B	633057
320-94221-15	GESPM100322-360	Total/NA	Air	3050B	633057
320-94221-17	GESPM100322-379	Total/NA	Air	3050B	633057
320-94221-19	GESPM100322-380	Total/NA	Air	3050B	633057
320-94221-21	GESPM100322-381	Total/NA	Air	3050B	633057
320-94221-23	GESPM100322-382	Total/NA	Air	3050B	633057
320-94221-25	GESPM100322-383	Total/NA	Air	3050B	633057
MB 320-633057/1-B	Method Blank	Total/NA	Air	3050B	633057
LCS 320-633057/2-B	Lab Control Sample	Total/NA	Air	3050B	633057
LCSD 320-633057/3-B	Lab Control Sample Dup	Total/NA	Air	3050B	633057

Analysis Batch: 633265

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-94221-1	GESPM100322-356	Total/NA	Air	6020	633091
320-94221-3	GESPM100322-355	Total/NA	Air	6020	633091
320-94221-5	GESPM100322-354	Total/NA	Air	6020	633091
320-94221-7	GESPM100322-353	Total/NA	Air	6020	633091
320-94221-9	GESPM100322-357	Total/NA	Air	6020	633091
320-94221-11	GESPM100322-359	Total/NA	Air	6020	633091
320-94221-13	GESPM100322-358	Total/NA	Air	6020	633091
320-94221-15	GESPM100322-360	Total/NA	Air	6020	633091
320-94221-17	GESPM100322-379	Total/NA	Air	6020	633091
320-94221-19	GESPM100322-380	Total/NA	Air	6020	633091
320-94221-21	GESPM100322-381	Total/NA	Air	6020	633091
320-94221-23	GESPM100322-382	Total/NA	Air	6020	633091
320-94221-25	GESPM100322-383	Total/NA	Air	6020	633091

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QC Association Summary

Client: GES-AIS LLC
 Project/Site: Hunters Point, Parcel B, Removal Site Evaluation

Job ID: 320-94221-1

Metals (Continued)

Analysis Batch: 633265 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 320-633057/1-B	Method Blank	Total/NA	Air	6020	633091
LCS 320-633057/2-B	Lab Control Sample	Total/NA	Air	6020	633091
LCSD 320-633057/3-B	Lab Control Sample Dup	Total/NA	Air	6020	633091

General Chemistry

Pre Prep Batch: 633173

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-94221-2	GESTSP100322-356	Total/NA	Air	Filter to Air	
320-94221-4	GESTSP100322-355	Total/NA	Air	Filter to Air	
320-94221-6	GESTSP100322-354	Total/NA	Air	Filter to Air	
320-94221-8	GESTSP100322-353	Total/NA	Air	Filter to Air	
320-94221-10	GESTSP100322-357	Total/NA	Air	Filter to Air	
320-94221-12	GESTSP100322-359	Total/NA	Air	Filter to Air	
320-94221-14	GESTSP100322-358	Total/NA	Air	Filter to Air	
320-94221-16	GESTSP100322-360	Total/NA	Air	Filter to Air	
320-94221-18	GESTSP100322-379	Total/NA	Air	Filter to Air	
320-94221-20	GESTSP100322-380	Total/NA	Air	Filter to Air	
320-94221-22	GESTSP100322-381	Total/NA	Air	Filter to Air	
320-94221-24	GESTSP100322-382	Total/NA	Air	Filter to Air	
320-94221-26	GESTSP100322-383	Total/NA	Air	Filter to Air	

Analysis Batch: 633184

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-94221-1	GESPM100322-356	Total/NA	Air	PM10	
320-94221-3	GESPM100322-355	Total/NA	Air	PM10	
320-94221-5	GESPM100322-354	Total/NA	Air	PM10	
320-94221-7	GESPM100322-353	Total/NA	Air	PM10	
320-94221-9	GESPM100322-357	Total/NA	Air	PM10	
320-94221-11	GESPM100322-359	Total/NA	Air	PM10	
320-94221-13	GESPM100322-358	Total/NA	Air	PM10	
320-94221-15	GESPM100322-360	Total/NA	Air	PM10	
320-94221-17	GESPM100322-379	Total/NA	Air	PM10	
320-94221-19	GESPM100322-380	Total/NA	Air	PM10	
320-94221-21	GESPM100322-381	Total/NA	Air	PM10	
320-94221-23	GESPM100322-382	Total/NA	Air	PM10	
320-94221-25	GESPM100322-383	Total/NA	Air	PM10	

Analysis Batch: 633403

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-94221-2	GESTSP100322-356	Total/NA	Air	40CFR50 App B	633173
320-94221-4	GESTSP100322-355	Total/NA	Air	40CFR50 App B	633173
320-94221-6	GESTSP100322-354	Total/NA	Air	40CFR50 App B	633173
320-94221-8	GESTSP100322-353	Total/NA	Air	40CFR50 App B	633173
320-94221-10	GESTSP100322-357	Total/NA	Air	40CFR50 App B	633173
320-94221-12	GESTSP100322-359	Total/NA	Air	40CFR50 App B	633173
320-94221-14	GESTSP100322-358	Total/NA	Air	40CFR50 App B	633173
320-94221-16	GESTSP100322-360	Total/NA	Air	40CFR50 App B	633173
320-94221-18	GESTSP100322-379	Total/NA	Air	40CFR50 App B	633173
320-94221-20	GESTSP100322-380	Total/NA	Air	40CFR50 App B	633173
320-94221-22	GESTSP100322-381	Total/NA	Air	40CFR50 App B	633173

Eurolins Sacramento

QC Association Summary

Client: GES-AIS LLC
Project/Site: Hunters Point, Parcel B, Removal Site Evaluation

Job ID: 320-94221-1

General Chemistry (Continued)

Analysis Batch: 633403 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-94221-24	GESTSP100322-382	Total/NA	Air	40CFR50 App B	633173
320-94221-26	GESTSP100322-383	Total/NA	Air	40CFR50 App B	633173

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Lab Chronicle

Client: GES-AIS LLC
 Project/Site: Hunters Point, Parcel B, Removal Site Evaluation

Job ID: 320-94221-1

Client Sample ID: GESPM100322-356

Lab Sample ID: 320-94221-1

Date Collected: 11/01/22 07:57

Matrix: Air

Date Received: 11/10/22 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Pre Prep	Filter to Air					633057	11/15/22 08:22	█	EET SAC
Total/NA	Prep	3050B			0.08333 Sample	100 mL	633091	11/15/22 09:00	█	EET SAC
Total/NA	Analysis	6020		1			633265	11/15/22 14:13	█	EET SAC
Total/NA	Analysis	PM10		1	0 g	0.0308 g	633184	11/11/22 10:30	█	EET SAC

Client Sample ID: GESTSP100322-356

Lab Sample ID: 320-94221-2

Date Collected: 11/01/22 07:57

Matrix: Air

Date Received: 11/10/22 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	40CFR50 App B		1			633403	11/11/22 10:30	█	EET SAC
Total/NA	Pre Prep	Filter to Air					633173	11/15/22 13:33	█	EET SAC

Client Sample ID: GESPM100322-355

Lab Sample ID: 320-94221-3

Date Collected: 11/01/22 07:24

Matrix: Air

Date Received: 11/10/22 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Pre Prep	Filter to Air					633057	11/15/22 08:22	█	EET SAC
Total/NA	Prep	3050B			0.08333 Sample	100 mL	633091	11/15/22 09:00	█	EET SAC
Total/NA	Analysis	6020		1			633265	11/15/22 14:17	█	EET SAC
Total/NA	Analysis	PM10		1	0 g	0.0283 g	633184	11/11/22 10:30	█	EET SAC

Client Sample ID: GESTSP100322-355

Lab Sample ID: 320-94221-4

Date Collected: 11/01/22 07:24

Matrix: Air

Date Received: 11/10/22 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	40CFR50 App B		1			633403	11/11/22 10:30	█	EET SAC
Total/NA	Pre Prep	Filter to Air					633173	11/15/22 13:33	█	EET SAC

Client Sample ID: GESPM100322-354

Lab Sample ID: 320-94221-5

Date Collected: 11/01/22 07:41

Matrix: Air

Date Received: 11/10/22 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Pre Prep	Filter to Air					633057	11/15/22 08:22	█	EET SAC
Total/NA	Prep	3050B			0.08333 Sample	100 mL	633091	11/15/22 09:00	█	EET SAC
Total/NA	Analysis	6020		1			633265	11/15/22 14:20	█	EET SAC
Total/NA	Analysis	PM10		1	0 g	0.0312 g	633184	11/11/22 10:30	█	EET SAC

Lab Chronicle

Client: GES-AIS LLC
Project/Site: Hunters Point, Parcel B, Removal Site Evaluation

Job ID: 320-94221-1

Client Sample ID: GESTSP100322-354

Lab Sample ID: 320-94221-6

Date Collected: 11/01/22 07:41

Matrix: Air

Date Received: 11/10/22 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	40CFR50 App B		1			633403	11/11/22 10:30		EET SAC
Total/NA	Pre Prep	Filter to Air					633173	11/15/22 13:33		EET SAC

Client Sample ID: GESPM100322-353

Lab Sample ID: 320-94221-7

Date Collected: 10/31/22 08:00

Matrix: Air

Date Received: 11/10/22 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Pre Prep	Filter to Air					633057	11/15/22 08:22		EET SAC
Total/NA	Prep	3050B			0.08333 Sample	100 mL	633091	11/15/22 09:00		EET SAC
Total/NA	Analysis	6020		1			633265	11/15/22 14:23		EET SAC
Total/NA	Analysis	PM10		1	0 g	0.0001 g	633184	11/11/22 10:30		EET SAC

Client Sample ID: GESTSP100322-353

Lab Sample ID: 320-94221-8

Date Collected: 10/31/22 08:00

Matrix: Air

Date Received: 11/10/22 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	40CFR50 App B		1			633403	11/11/22 10:30		EET SAC
Total/NA	Pre Prep	Filter to Air					633173	11/15/22 13:33		EET SAC

Client Sample ID: GESPM100322-357

Lab Sample ID: 320-94221-9

Date Collected: 11/02/22 07:55

Matrix: Air

Date Received: 11/10/22 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Pre Prep	Filter to Air					633057	11/15/22 08:22		EET SAC
Total/NA	Prep	3050B			0.08333 Sample	100 mL	633091	11/15/22 09:00		EET SAC
Total/NA	Analysis	6020		1			633265	11/15/22 14:26		EET SAC
Total/NA	Analysis	PM10		1	0 g	0.0150 g	633184	11/11/22 10:30		EET SAC

Client Sample ID: GESTSP100322-357

Lab Sample ID: 320-94221-10

Date Collected: 11/02/22 07:55

Matrix: Air

Date Received: 11/10/22 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	40CFR50 App B		1			633403	11/11/22 10:30		EET SAC
Total/NA	Pre Prep	Filter to Air					633173	11/15/22 13:33		EET SAC

Lab Chronicle

Client: GES-AIS LLC
 Project/Site: Hunters Point, Parcel B, Removal Site Evaluation

Job ID: 320-94221-1

Client Sample ID: GESPM100322-359

Lab Sample ID: 320-94221-11

Date Collected: 11/02/22 07:23

Matrix: Air

Date Received: 11/10/22 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Pre Prep	Filter to Air					633057	11/15/22 08:22	█	EET SAC
Total/NA	Prep	3050B			0.08333 Sample	100 mL	633091	11/15/22 09:00	█	EET SAC
Total/NA	Analysis	6020		1			633265	11/15/22 14:30	█	EET SAC
Total/NA	Analysis	PM10		1	0 g	0.0121 g	633184	11/11/22 10:30	█	EET SAC

Client Sample ID: GESTSP100322-359

Lab Sample ID: 320-94221-12

Date Collected: 11/02/22 07:23

Matrix: Air

Date Received: 11/10/22 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	40CFR50 App B		1			633403	11/11/22 10:30	█	EET SAC
Total/NA	Pre Prep	Filter to Air					633173	11/15/22 13:33	█	EET SAC

Client Sample ID: GESPM100322-358

Lab Sample ID: 320-94221-13

Date Collected: 11/02/22 07:39

Matrix: Air

Date Received: 11/10/22 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Pre Prep	Filter to Air					633057	11/15/22 08:22	█	EET SAC
Total/NA	Prep	3050B			0.08333 Sample	100 mL	633091	11/15/22 09:00	█	EET SAC
Total/NA	Analysis	6020		1			633265	11/15/22 14:33	█	EET SAC
Total/NA	Analysis	PM10		1	0 g	0.0138 g	633184	11/11/22 10:30	█	EET SAC

Client Sample ID: GESTSP100322-358

Lab Sample ID: 320-94221-14

Date Collected: 11/02/22 07:39

Matrix: Air

Date Received: 11/10/22 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	40CFR50 App B		1			633403	11/11/22 10:30	█	EET SAC
Total/NA	Pre Prep	Filter to Air					633173	11/15/22 13:33	█	EET SAC

Client Sample ID: GESPM100322-360

Lab Sample ID: 320-94221-15

Date Collected: 11/03/22 07:40

Matrix: Air

Date Received: 11/10/22 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Pre Prep	Filter to Air					633057	11/15/22 08:22	█	EET SAC
Total/NA	Prep	3050B			0.08333 Sample	100 mL	633091	11/15/22 09:00	█	EET SAC
Total/NA	Analysis	6020		1			633265	11/15/22 14:36	█	EET SAC
Total/NA	Analysis	PM10		1	0 g	0.0112 g	633184	11/11/22 10:30	█	EET SAC

Lab Chronicle

Client: GES-AIS LLC
 Project/Site: Hunters Point, Parcel B, Removal Site Evaluation

Job ID: 320-94221-1

Client Sample ID: GESTSP100322-360

Lab Sample ID: 320-94221-16

Date Collected: 11/03/22 07:40

Matrix: Air

Date Received: 11/10/22 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	40CFR50 App B		1			633403	11/11/22 10:30	█	EET SAC
Total/NA	Pre Prep	Filter to Air					633173	11/15/22 13:33	█	EET SAC

Client Sample ID: GESPM100322-379

Lab Sample ID: 320-94221-17

Date Collected: 11/03/22 07:05

Matrix: Air

Date Received: 11/10/22 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Pre Prep	Filter to Air					633057	11/15/22 08:22	█	EET SAC
Total/NA	Prep	3050B			0.08333 Sample	100 mL	633091	11/15/22 09:00	█	EET SAC
Total/NA	Analysis	6020		1			633265	11/15/22 14:46	█	EET SAC
Total/NA	Analysis	PM10		1	0 g	0.0072 g	633184	11/11/22 10:30	█	EET SAC

Client Sample ID: GESTSP100322-379

Lab Sample ID: 320-94221-18

Date Collected: 11/03/22 07:05

Matrix: Air

Date Received: 11/10/22 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	40CFR50 App B		1			633403	11/11/22 10:30	█	EET SAC
Total/NA	Pre Prep	Filter to Air					633173	11/15/22 13:33	█	EET SAC

Client Sample ID: GESPM100322-380

Lab Sample ID: 320-94221-19

Date Collected: 11/03/22 07:21

Matrix: Air

Date Received: 11/10/22 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Pre Prep	Filter to Air					633057	11/15/22 08:22	█	EET SAC
Total/NA	Prep	3050B			0.08333 Sample	100 mL	633091	11/15/22 09:00	█	EET SAC
Total/NA	Analysis	6020		1			633265	11/15/22 14:49	█	EET SAC
Total/NA	Analysis	PM10		1	0 g	0.0029 g	633184	11/11/22 10:30	█	EET SAC

Client Sample ID: GESTSP100322-380

Lab Sample ID: 320-94221-20

Date Collected: 11/03/22 07:21

Matrix: Air

Date Received: 11/10/22 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	40CFR50 App B		1			633403	11/11/22 10:30	█	EET SAC
Total/NA	Pre Prep	Filter to Air					633173	11/15/22 13:33	█	EET SAC

Lab Chronicle

Client: GES-AIS LLC
 Project/Site: Hunters Point, Parcel B, Removal Site Evaluation

Job ID: 320-94221-1

Client Sample ID: GESPM100322-381

Lab Sample ID: 320-94221-21

Date Collected: 11/03/22 15:04

Matrix: Air

Date Received: 11/10/22 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Pre Prep	Filter to Air					633057	11/15/22 08:22	█	EET SAC
Total/NA	Prep	3050B			0.08333 Sample	100 mL	633091	11/15/22 09:00	█	EET SAC
Total/NA	Analysis	6020		1			633265	11/15/22 14:52	█	EET SAC
Total/NA	Analysis	PM10		1	0 g	0.0048 g	633184	11/11/22 10:30	█	EET SAC

Client Sample ID: GESTSP100322-381

Lab Sample ID: 320-94221-22

Date Collected: 11/03/22 15:04

Matrix: Air

Date Received: 11/10/22 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	40CFR50 App B		1			633403	11/11/22 10:30	█	EET SAC
Total/NA	Pre Prep	Filter to Air					633173	11/15/22 13:33	█	EET SAC

Client Sample ID: GESPM100322-382

Lab Sample ID: 320-94221-23

Date Collected: 11/03/22 14:50

Matrix: Air

Date Received: 11/10/22 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Pre Prep	Filter to Air					633057	11/15/22 08:22	█	EET SAC
Total/NA	Prep	3050B			0.08333 Sample	100 mL	633091	11/15/22 09:00	█	EET SAC
Total/NA	Analysis	6020		1			633265	11/15/22 14:56	█	EET SAC
Total/NA	Analysis	PM10		1	0 g	0.0019 g	633184	11/11/22 10:30	█	EET SAC

Client Sample ID: GESTSP100322-382

Lab Sample ID: 320-94221-24

Date Collected: 11/03/22 14:50

Matrix: Air

Date Received: 11/10/22 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	40CFR50 App B		1			633403	11/11/22 10:30	█	EET SAC
Total/NA	Pre Prep	Filter to Air					633173	11/15/22 13:33	█	EET SAC

Client Sample ID: GESPM100322-383

Lab Sample ID: 320-94221-25

Date Collected: 11/03/22 14:53

Matrix: Air

Date Received: 11/10/22 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Pre Prep	Filter to Air					633057	11/15/22 08:22	█	EET SAC
Total/NA	Prep	3050B			0.08333 Sample	100 mL	633091	11/15/22 09:00	█	EET SAC
Total/NA	Analysis	6020		1			633265	11/15/22 14:59	█	EET SAC
Total/NA	Analysis	PM10		1	0 g	0.0077 g	633184	11/11/22 10:30	█	EET SAC

Lab Chronicle

Client: GES-AIS LLC
Project/Site: Hunters Point, Parcel B, Removal Site Evaluation

Job ID: 320-94221-1

Client Sample ID: GESTSP100322-383

Lab Sample ID: 320-94221-26

Date Collected: 11/03/22 14:53

Matrix: Air

Date Received: 11/10/22 09:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	40CFR50 App B		1			633403	11/11/22 10:30		EET SAC
Total/NA	Pre Prep	Filter to Air					633173	11/15/22 13:33		EET SAC

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

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Accreditation/Certification Summary

Client: GES-AIS LLC
Project/Site: Hunters Point, Parcel B, Removal Site Evaluation

Job ID: 320-94221-1

Laboratory: Eurofins Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
ANAB	Dept. of Defense ELAP	L2468	01-20-24
Oregon	NELAP	4040	01-29-23

The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification.

Analysis Method	Prep Method	Matrix	Analyte
40CFR50 App B		Air	Total Suspended Particulates
PM10		Air	Particulate Matter as PM 10

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- 14
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Method Summary

Client: GES-AIS LLC
Project/Site: Hunters Point, Parcel B, Removal Site Evaluation

Job ID: 320-94221-1

Method	Method Description	Protocol	Laboratory
6020	Metals (ICP/MS)	SW846	EET SAC
40CFR50 App B	Suspended Particulate Matter in Ambient Air	EPA	EET SAC
PM10	Particulate Matter	40CFR50J	EET SAC
3050B	Preparation, Metals	SW846	EET SAC
Filter to Air	Filter to Air volume ratio	None	EET SAC

Protocol References:

- 40CFR50J = 40 CFR Part 50 Appendix J
- EPA = US Environmental Protection Agency
- None = None
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

- EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600



Sample Summary

Client: GES-AIS LLC
Project/Site: Hunters Point, Parcel B, Removal Site Evaluation

Job ID: 320-94221-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-94221-1	GESPM100322-356	Air	11/01/22 07:57	11/10/22 09:30
320-94221-2	GESTSP100322-356	Air	11/01/22 07:57	11/10/22 09:30
320-94221-3	GESPM100322-355	Air	11/01/22 07:24	11/10/22 09:30
320-94221-4	GESTSP100322-355	Air	11/01/22 07:24	11/10/22 09:30
320-94221-5	GESPM100322-354	Air	11/01/22 07:41	11/10/22 09:30
320-94221-6	GESTSP100322-354	Air	11/01/22 07:41	11/10/22 09:30
320-94221-7	GESPM100322-353	Air	10/31/22 08:00	11/10/22 09:30
320-94221-8	GESTSP100322-353	Air	10/31/22 08:00	11/10/22 09:30
320-94221-9	GESPM100322-357	Air	11/02/22 07:55	11/10/22 09:30
320-94221-10	GESTSP100322-357	Air	11/02/22 07:55	11/10/22 09:30
320-94221-11	GESPM100322-359	Air	11/02/22 07:23	11/10/22 09:30
320-94221-12	GESTSP100322-359	Air	11/02/22 07:23	11/10/22 09:30
320-94221-13	GESPM100322-358	Air	11/02/22 07:39	11/10/22 09:30
320-94221-14	GESTSP100322-358	Air	11/02/22 07:39	11/10/22 09:30
320-94221-15	GESPM100322-360	Air	11/03/22 07:40	11/10/22 09:30
320-94221-16	GESTSP100322-360	Air	11/03/22 07:40	11/10/22 09:30
320-94221-17	GESPM100322-379	Air	11/03/22 07:05	11/10/22 09:30
320-94221-18	GESTSP100322-379	Air	11/03/22 07:05	11/10/22 09:30
320-94221-19	GESPM100322-380	Air	11/03/22 07:21	11/10/22 09:30
320-94221-20	GESTSP100322-380	Air	11/03/22 07:21	11/10/22 09:30
320-94221-21	GESPM100322-381	Air	11/03/22 15:04	11/10/22 09:30
320-94221-22	GESTSP100322-381	Air	11/03/22 15:04	11/10/22 09:30
320-94221-23	GESPM100322-382	Air	11/03/22 14:50	11/10/22 09:30
320-94221-24	GESTSP100322-382	Air	11/03/22 14:50	11/10/22 09:30
320-94221-25	GESPM100322-383	Air	11/03/22 14:53	11/10/22 09:30
320-94221-26	GESTSP100322-383	Air	11/03/22 14:53	11/10/22 09:30




**CHAIN-OF-CUSTODY
RECORD**

Gilbane Federal
2300 Clayton Road, Suite 1050, Concord, CA 94520

COC # MC110922AIRB



Project Name: Hunters Point Shipyard, Parcel B Removal Site Evaluation	Laboratory: EUROFINS ENVIRONMENT TESTING NORTHERN CALIFORNIA, LLC (EETN)	Event: Parcel B Air Monitoring
Project Number: J310000900	POC: [Redacted]	
WBS Code: J310000900	Ship to: 880 Riverside Parkway, West Sacramento, CA 95605	

Comments:  Equipment: 320-94221 Chain of Custody	Analytical Test Method CAAIR - Air PM10 N0500 - Air TSP SW6020 - Air Pb Mn	Code Matrix				
		<table border="1"> <tr><td>A</td><td>Air</td></tr> <tr><td>AQ</td><td>Air Quality Control Matrix</td></tr> </table>	A	Air	AQ	Air Quality Control Matrix
A	Air					
AQ	Air Quality Control Matrix					
		Code Container/Preservative				
		<table border="1"> <tr><td>1</td><td>1x 250-mL Plastic, 4 Degrees C</td></tr> <tr><td>1</td><td>1x Envelope, None</td></tr> </table>	1	1x 250-mL Plastic, 4 Degrees C	1	1x Envelope, None
1	1x 250-mL Plastic, 4 Degrees C					
1	1x Envelope, None					

Event: Parcel B Air Monitoring															
Sample ID	Matrix	Date	Time	Samp Init.						Location ID	Sample Type	Depth (ft bgs) Top - Bottom	Cooler	Comments	
1	GESPM100322-356	A	11/01/2022	0757	[Redacted]	X	X			MSB01	N1	0.00	0.00	1	VOLUME: 1624.14 (M3)
2	GESTSP100322-356	A	11/01/2022	0757	[Redacted]		X			MSB01	N1	0.00	0.00	1	VOLUME: 1736.22 (M3)
3	GESPM100322-355	A	11/01/2022	0724	[Redacted]	X	X			MSB02	N1	0.00	0.00	1	VOLUME: 1605.49 (M3)
4	GESTSP100322-355	A	11/01/2022	0724	[Redacted]		X			MSB02	N1	0.00	0.00	1	VOLUME: 1726.65 (M3)
5	GESPM100322-354	A	11/01/2022	0741	[Redacted]	X	X			MSB113A	N1	0.00	0.00	1	VOLUME: 1597.24 (M3)
6	GESTSP100322-354	A	11/01/2022	0741	[Redacted]		X			MSB113A	N1	0.00	0.00	1	VOLUME: 1648.44 (M3)
7	GESPM100322-353	AQ	10/31/2022	0800	[Redacted]	X	X			FIELDQC	FB1	0.00	0.00	1	
8	GESTSP100322-353	AQ	10/31/2022	0800	[Redacted]		X			FIELDQC	FB1	0.00	0.00	1	
9	GESPM100322-357	A	11/02/2022	0755	[Redacted]	X	X			MSB01	N1	0.00	0.00	1	VOLUME: 1628.41 (M3)
10	GESTSP100322-357	A	11/02/2022	0755	[Redacted]		X			MSB01	N1	0.00	0.00	1	VOLUME: 1763.47 (M3)
11	GESPM100322-359	A	11/02/2022	0723	[Redacted]	X	X			MSB02	N1	0.00	0.00	1	VOLUME: 1613.51 (M3)

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[Redacted]	11/09/22	1600	FedEx	11/09/22	1600	Shipping Date: 11/9/2022 / FEDEX 7704 0573 6134
			[Redacted]	11/16/22	930	
						Received by Laboratory: (Signature, Date, Time) & condition

17.1

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11/16/2022



**CHAIN-OF-CUSTODY
RECORD**

Gilbane Federal
2300 Clayton Road, Suite 1050, Concord, CA 94520

COC # MC110922AIRB



Project Name: Hunters Point Shipyard, Parcel B Removal Site Evaluation	Laboratory: EUROFINS ENVIRONMENT TESTING NORTHERN CALIFORNIA, LLC (EETN)	Event: Parcel B Air Monitoring
Project Number: J310000900	POC: [Redacted]	
WBS Code: J310000900	Ship to: 880 Riverside Parkway, West Sacramento, CA 95605	

Comments:	Analytical Test Method	CAAIR - Air PM10	NO500 - Air TSP	SW6020 - Air Pb Mn														Code Matrix
																		A Air
Equipment:																		Code Container/Preservative
																		1 1x 250-mL Plastic, 4 Degrees C
																		1 1x Envelope, None

Event: Parcel B Air Monitoring																	
Sample ID	Matrix	Date	Time	Samp Init.								Location ID	Sample Type	Depth (ft bgs) Top - Bottom	Cooler	Comments	
12	GESTSP100322-359	A	11/02/2022	0723	[Redacted]		X					MSB02	N1	0.00	0.00	1	VOLUME: 1739.84 (M3)
13	GESPM100322-358	A	11/02/2022	0739	[Redacted]	X		X				MSB113A	N1	0.00	0.00	1	VOLUME: 1594.35 (M3)
14	GESTSP100322-358	A	11/02/2022	0739	[Redacted]		X					MSB113A	N1	0.00	0.00	1	VOLUME: 1506.65 (M3)
15	GESPM100322-360	A	11/03/2022	0740	[Redacted]	X		X				MSB01	N1	0.00	0.00	1	VOLUME: 1609.52 (M3)
16	GESTSP100322-360	A	11/03/2022	0740	[Redacted]		X					MSB01	N1	0.00	0.00	1	VOLUME: 1721.92 (M3)
17	GESPM100322-379	A	11/03/2022	0705	[Redacted]	X		X				MSB02	N1	0.00	0.00	1	VOLUME: 1589.40 (M3)
18	GESTSP100322-379	A	11/03/2022	0705	[Redacted]		X					MSB02	N1	0.00	0.00	1	VOLUME: 1727.34 (M3)
19	GESPM100322-380	A	11/03/2022	0721	[Redacted]	X		X				MSB113A	N1	0.00	0.00	1	VOLUME: 1567.30 (M3)
20	GESTSP100322-380	A	11/03/2022	0721	[Redacted]		X					MSB113A	N1	0.00	0.00	1	VOLUME: 1549.35 (M3)
21	GESPM100322-381	A	11/03/2022	1504	[Redacted]	X		X				MSB01	N1	0.00	0.00	1	VOLUME: 500.38 (M3)
22	GESTSP100322-381	A	11/03/2022	1504	[Redacted]		X					MSB01	N1	0.00	0.00	1	VOLUME: 537.38 (M3)

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[Redacted]	11/09/22	1600	FedEx	11/09/22	1600	Shipping Date: 11/9/2022 / FEDEX 7704 0573 6134
			[Redacted]	11/10/22	0730	
						Received by Laboratory: (Signature, Date, Time) & condition

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CHAIN-OF-CUSTODY RECORD

Gilbane Federal
 2300 Clayton Road, Suite 1050, Concord, CA 94520

COC # MC110922AIRB



Project Name: Hunters Point Shipyard, Parcel B Removal Site Evaluation	Laboratory: EUROFINs ENVIRONMENT TESTING NORTHERN CALIFORNIA, LLC (EETN)	Event: Parcel B Air Monitoring
Project Number: J310000900	POC: [Redacted]	
WBS Code: J310000900	Ship to: 880 Riverside Parkway, West Sacramento, CA 95605	

Comments:	Analytical Test Method	CAAIR - Air PM10	N0500 - Air TSP	SW6020 - Air Pb Mn	Code Matrix	
					A	Air
Equipment:					Code Container/Preservative	
					1	1x 250-mL Plastic, 4 Degrees C
					1	1x Envelope, None

Event: Parcel B Air Monitoring																
Sample ID	Matrix	Date	Time	Samp Init.							Location ID	Sample Type	Depth (ft bgs)		Cooler	Comments
													Top	Bottom		
23	GESPM100322-382	A	11/03/2022	1450	[Redacted]	X	X				MSB02	N1	0.00	0.00	1	VOLUME: 520.08 (M3)
24	GESTSP100322-382	A	11/03/2022	1450	[Redacted]		X				MSB02	N1	0.00	0.00	1	VOLUME: 565.00 (M3)
25	GESPM100322-383	A	11/03/2022	1453	[Redacted]	X	X				MSB113A	N1	0.00	0.00	1	VOLUME: 495.88 (M3)
26	GESTSP100322-383	A	11/03/2022	1453	[Redacted]		X				MSB113A	N1	0.00	0.00	1	VOLUME: 492.35 (M3)
27																
28																

Turnaround Time: 5 days

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[Redacted]	11/09/22	1600	FedEx	11/09/22	1600	Shipping Date: 11/9/2022 / FEDEX 7704 0573 6134
			[Redacted]	11/10/22	930	
						Received by Laboratory: (Signature, Date, Time) & condition

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Login Sample Receipt Checklist

Client: GES-AIS LLC

Job Number: 320-94221-1

Login Number: 94221

List Source: Eurofins Sacramento

List Number: 1

Creator: [REDACTED]

Question	Answer	Comment
Radioactivity wasn't checked or is \leq background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	SEAL
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	False	Thermal preservation not required.
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <math><6\text{mm}</math> (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	



Eurofins Sacramento

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing Northern California, LLC Project Manager.

Authorization

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Authorized for release by
[Redacted] Project Manager I