



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

**AIR MONITORING SUMMARY REPORT 03 FOR
PARCEL C
RADIOLOGICAL CONFIRMATION SAMPLING AND
SURVEY
HUNTERS POINT NAVAL SHIPYARD, SAN FRANCISCO,
CALIFORNIA**

December 5th through March 23rd, 2023

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CALIFORNIA**

December 5th through March 23rd, 2023

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Acronyms and Abbreviations

AMSR	<i>Air Monitoring Summary Report</i>
ASRC	<i>Artic Slope Regional Corporation</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>
DMAMP	<i>Dust Management and Air Monitoring Plan</i>
EPA	<i>United States Environmental Protection Agency</i>
fibers/cm ³	<i>fibers per cubic centimeter</i>
Gilbane	<i>Gilbane Federal</i>
HPNS	<i>Hunters Point Naval Shipyard</i>
L/min	<i>liters per minute</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>
PM ₁₀	<i>particulate matter less than 10 microns in diameter</i>
TSP	<i>total suspended particulates</i>
TWA	<i>time-weighted average</i>
μCi/mL	<i>microcuries per milliliter</i>
μg/m ³	<i>micrograms per cubic meter</i>
WP	<i>work plan</i>

1.0 Introduction

This Air Monitoring Summary Report (AMSR) was prepared by GES 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) N6247318F5305. GES 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 Work Plan Parcel C Removal Site Evaluation, 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 GES at HPNS Parcel C from December 5th, 2022 to March 23rd, 2023 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 one upwind and downwind location from the work area whenever active soil handling operations were in progress. 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 C 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 HPNS - 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)
3. Total suspended particulates (TSP) and Metals (Lead and Manganese)
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

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 or Eurofins Analytics, Ashland, VA 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.

3.3 TSP, Lead and Manganese

TSP samples were collected with a high-volume (39 to 60 cubic feet per minute [cfm]) air sampler in accordance with EPA's reference sampling method for TSP, described in 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 sample is then shipped to Eurofins, West Sacramento, CA or Eurofins Analytics, Ashland, VA for analysis. 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. Once the TSP concentration was gravimetrically determined, the filter was analyzed for manganese and lead in accordance with EPA Method 6010B (equivalent to IO-3.4 in the Compendium of Methods for the Determination of Inorganic Compounds in Ambient Air [EPA, 1999b]).

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 and Eichrom ACW10
- 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) 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
Cesium-137	4.00E-11 $\mu\text{Ci}/\text{mL}$	
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 $\mu\text{Ci}/\text{mL}$	
Thorium-232	1.20E-15 $\mu\text{Ci}/\text{mL}$	

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).

$\mu\text{Ci}/\text{mL}$ microcuries 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 and 2 were sourced from the Weather Underground (wunderground.com) station APTIM HPNS - 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 and metals had some data estimated due to low-level particulates collected on the field blank media. 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	12/05/22 – 12/22/22
02	12/23/22 – 3/02/23
03	3/03/23 – 3/23/23

5.1 Report 01

Air monitoring analytical results did not exceed project-specific screening criteria during this reporting period's site operations. The delta was taken by switching the upwind and downwind results due to the change in wind direction for sample end dates 12/15/22, 12/21/22, and 12/22/22.

5.2 Report 02

Air monitoring analytical results did not exceed project-specific screening criteria during this reporting period's site operations. The delta was taken by switching the upwind and downwind results due to the change in wind direction for sample end dates 1/18/23, 1/24/23, 2/07/23, 2/08/23, 2/09/23, and 2/09/23 (second set of samples collected after field activities ceased).

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 (DTSC), 2021. Human and Ecological Risk Office (HERO) Memorandum, Dust Action Levels for Parcel C, Hunters Point Naval Shipyard, San Francisco, California, July.

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

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.

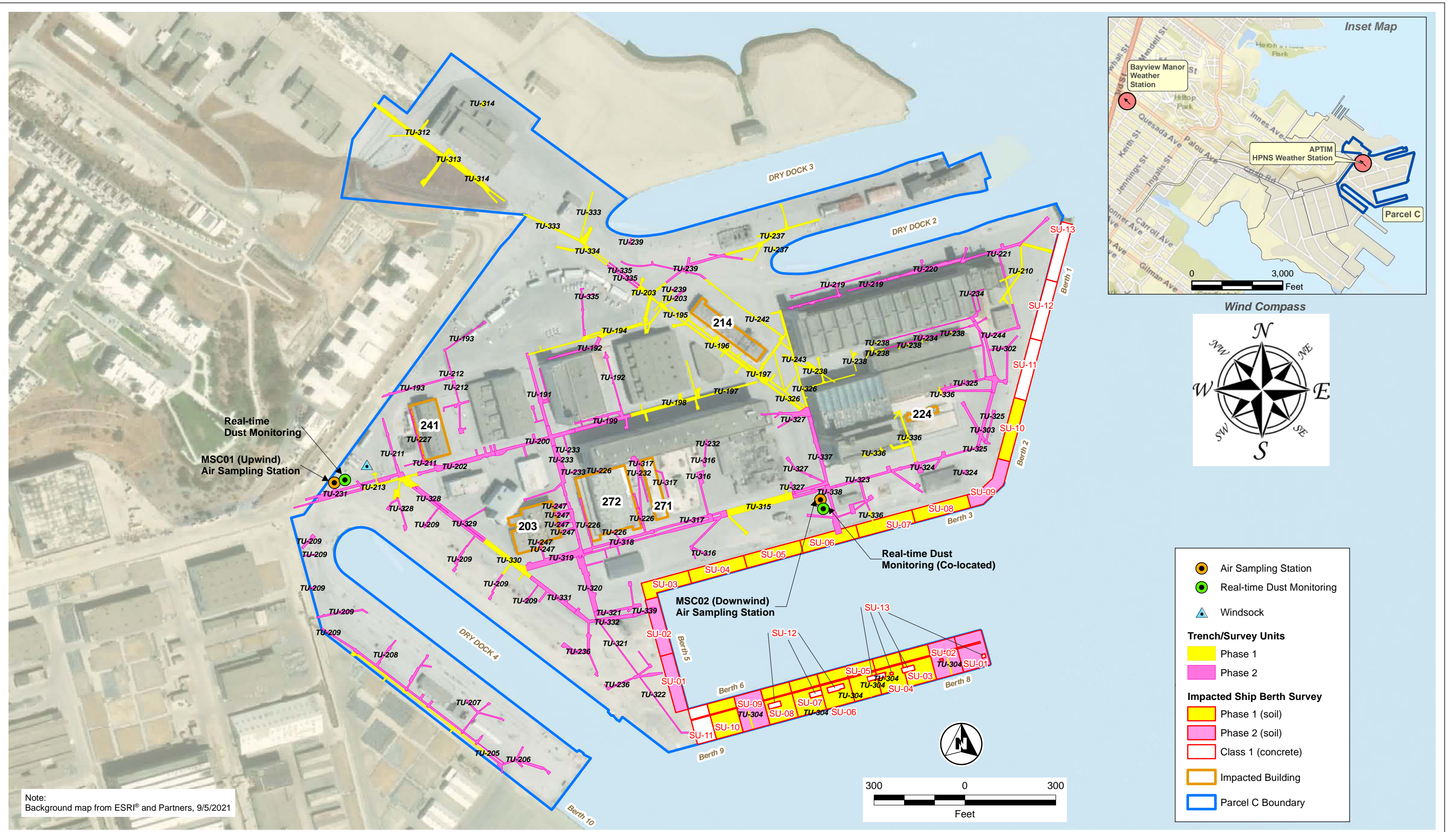
Gilbane, 2022. Final Parcel C Removal Site Evaluation Work Plan, Hunters Point Naval Shipyard, San Francisco, California. July

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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**Removal Site Evaluation Work Plan
Radiological Investigation, Survey, and Reporting at Parcel C
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
12/6/2022 ¹	30.09	49.95	ESE
12/7/2022 ¹	30.25	49.27	S
12/8/2022 ¹	30.25	49.27	SSE
12/12/2022 ¹	30.01	46.32	NNW
12/13/2022 ¹	30.16	46.70	SE
12/14/2022 ¹	30.21	46.47	NNE
12/19/2022 ¹	30.30	44.40	NNW
12/20/2022 ¹	30.31	48.36	E
12/21/2022 ¹	30.20	50.77	N
01/17/2023 ¹	30.07	48.87	NNE
01/18/2023 ¹	30.16	49.90	ESE
01/19/2023 ¹	30.21	48.70	NNW
01/23/2023 ¹	30.20	53.48	ENE
01/24/2023 ¹	30.34	53.29	ESE
02/02/2023 ¹	30.23	50.22	ESE
02/06/2023 ¹	30.35	50.98	E
02/07/2023 ¹	30.34	51.78	E
02/08/2023 ¹	30.31	53.27	E
02/09/2023 ¹	30.27	55.79	ENE
02/13/2023 ¹	29.96	50.55	WNW
02/14/2023 ¹	30.09	47.83	WNW
02/15/2023 ¹	30.25	47.93	NNW
02/16/2023 ¹	30.24	48.58	SE
02/20/2023 ¹	30.05	54.52	WSW
02/21/2023 ¹	29.79	47.61	WNW
02/22/2023 ¹	29.82	43.07	WNW
02/23/2023 ¹	29.85	44.76	SSW
03/01/2023 ¹	30.01	48.32	NNW
03/02/2023 ¹	30.16	51.09	ESE
03/06/2023 ¹	30.16	46.84	SSE
03/07/2023 ¹	30.14	47.89	SSW
03/08/2023 ¹	30.14	47.45	SE
03/09/2023 ¹	29.97	47.73	SE
03/13/2023 ¹	29.96	57.83	SSE
03/15/2023 ¹	30.01	50.52	WSW
03/16/2023 ¹	30.08	52.34	SE
03/20/2023 ¹	29.77	49.75	SW
03/22/2023 ¹	30.00	51.79	NW

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

Start Date	Ambient Pressure (in Hg)	Ambient Temperature (°F)	Prevalent Wind Direction
03/23/2023 ¹	30.25	51.43	NW

Notes:

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

°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)
MSC01-120622	12/07/22	1	3.7	1,334	4935	8.5	0.001	No
MSC02-120622	12/07/22	2	3.7	1,353	5006	9.0	0.001	No
MSC01-120722	12/08/22	1	3.5	1,443	5050	6.0	0.001	No
MSC02-120722	12/08/22	2	3.7	1,442	5335	3.0	< 0.001	No
MSC01-120822	12/08/22 ²	1	3.3	382	1260	5.0	< 0.002	No
MSC02-120822	12/08/22 ²	2	3.4	383	1302	3.0	< 0.002	No
MSC01-121222	12/13/22	1	3.6	1,435	5166	9.5	0.001	No
MSC02-121222	12/13/22	2	3.3	1,433	4728	5.5	0.001	No
MSC01-121322	12/14/22	1	3.5	1,454	5089	5.0	< 0.001	No
MSC02-121322	12/14/22	2	3.3	1,456	4804	5.5	0.001	No
MSC01-121422	12/15/22	1	3.6	1,434	5162	7.5	0.001	No
MSC02-121422	12/15/22	2	3.3	1,432	4725	4.0	< 0.001	No
MSC01-121922	12/20/22	1	3.6	1,439	5180	4.0	< 0.001	No
MSC02-121922	12/20/22	2	3.4	1,430	4862	0.5	< 0.001	No
MSC01-122022	12/21/22	1	3.7	1,430	5291	3.0	< 0.001	No
MSC02-122022	12/21/22	2	3.7	1,443	5339	4.5	< 0.001	No
MSC01-122122	12/22/22	1	3.7	1,446	5350	7.0	0.001	No
MSC02-122122	12/22/22	2	3.7	1,447	5353	8.0	0.001	No
MSC01-011723	01/18/23	1	3.5	1,338	4683	21.0	0.002	No
MSC02-011723	01/18/23	2	3.4	1,383	4702	13.0	0.001	No
MSC01-011823	01/19/23	1	3.7	1,444	5342	16.0	0.001	No
MSC02-011823	01/19/23	2	3.2	1,438	4601	16.5	0.002	No
MSC01-011923	01/19/23 ²	1	3.2	331	1059	6.5	0.003	No
MSC02-011923	01/19/23 ²	2	3.4	323	1098	11.5	0.005	No
MSC01-012323	01/24/23	1	3.6	1,450	5220	12.5	0.001	No
MSC02-012323	01/24/23	2	3.6	1,456	5241	13.0	0.001	No
MSC01-012423	01/25/23	1	3.3	1,446	4771	19.5	0.002	No
MSC02-012423	01/25/23	2	3.3	1,446	4771	13.5	0.001	No
MSC01-020223	02/02/23 ²	1	3.6	438	1576	10.0	0.003	No
MSC02-020223	02/02/23 ²	2	3.3	458	1511	13.0	0.004	No
MSC01-020623	02/07/23	1	3.2	1,428	4569	9.5	0.001	No
MSC02-020623	02/07/23	2	3.3	1,431	4722	9.0	0.001	No
MSC01-020723	02/08/23	1	3.5	1,470	5145	10.0	0.001	No
MSC02-020723	02/08/23	2	3.5	1,464	5124	11.5	0.001	No
MSC01-020823	02/09/23	1	3.3	1,418	4679	14.5	0.002	No
MSC02-020823	02/09/23	2	3.5	1,419	4966	9.5	0.001	No
MSC01-020923	02/09/23 ²	1	3.2	382	1222	9.5	0.004	No
MSC02-020923	02/09/23 ²	2	3.5	384	1344	10.0	0.004	No
MSC01-021323	02/14/23	1	3.6	1,448	5212	10.0	0.001	No
MSC02-021323	02/14/23	2	3.7	1,472	5446	10.0	0.001	No
MSC01-021423	02/15/23	1	3.3	1,429	4715	15.0	0.002	No
MSC02-021423	02/15/23	2	3.7	1,406	5202	12.0	0.001	No
MSC01-021523	02/16/23	1	3.5	1,447	5064	12.0	0.001	No
MSC02-021523	02/16/23	2	3.4	1,446	4916	12.0	0.001	No
MSC01-021623	02/16/23 ²	1	3.8	396	1504	10.5	0.003	No
MSC02-021623	02/16/23 ²	2	3.6	399	1436	11.0	0.001	No
MSC01-022023	02/21/23	1	3.7	1,440	5328	15.5	0.001	No
MSC02-022023	02/21/23	2	3.7	1,424	5268	16.0	0.001	No
MSC01-022123	02/22/23	1	3.3	1,456	4804	14.0	0.001	No
MSC02-022123	02/22/23	2	3.5	1,459	5106	26.0	0.002	No
MSC01-022223	02/23/23	1	3.1	1,424	4414	12.5	0.001	No
MSC02-022223	02/23/23	2	3.2	1,417	4534	12.5	0.001	No
MSC01-022323	02/23/23 ²	1	3.3	489	1613	7.0	0.002	No
MSC02-022323	02/23/23 ²	2	3.2	494	1580	7.0	0.002	No
MSC01-030123	03/02/23	1	3.4	1,427	4851	18.0	0.002	No
MSC02-030123	03/02/23	2	3.2	1,422	4550	13.0	0.001	No
MSC01-030223	03/02/23 ²	1	3.7	423	1565	16.5	0.005	No
MSC02-030223	03/02/23 ²	2	3.4	436	1482	13.0	0.004	No
MSC01-030623	03/07/23	1	3.3	1,428	4712	10.0	0.001	No
MSC02-030623	03/07/23	2	3.3	1,422	4692	9.5	0.001	No
MSC01-030723	03/08/23	1	3.6	1,430	5148	14.5	0.001	No
MSC02-030723	03/08/23	2	3.1	1,433	4442	10.0	0.001	No
MSC01-030823	03/09/23	1	3.1	1,471	4560	15.5	0.002	No
MSC02-030823	03/09/23	2	3.2	1,470	4704	11.5	0.001	No
MSC01-030923	03/09/23 ²	1	3.1	372	1153	12.5	0.005	No
MSC02-030923	03/09/23 ²	2	3.1	387	1199	7.0	0.003	No
MSC01-031323	03/14/23	1	3.6	1,433	5158	12.5	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)
MSC02-031323	03/14/23	2	3.3	1,444	4765	9.0	0.001	No
MSC01-031523	03/16/23	1	3.5	1,455	5092	16.5	0.002	No
MSC02-031523	03/16/23	2	3.6	1,434	5162	9.0	0.001	No
MSC01-031623	03/16/23 ²	1	3.3	423	1395	8.0	0.003	No
MSC02-031623	03/16/23 ²	2	3.6	423	1558	13.5	0.004	No
MSC01-032023	03/21/23	1	3.7	1,450	5365	14.5	0.001	No
MSC02-032023	03/21/23	2	3.7	1,450	5365	22.0	0.002	No
MSC01-032223	03/23/23	1	3.6	1,354	4874	6.5	0.001	No
MSC02-032223	03/23/23	2	3.7	1,390	5143	10.0	0.001	No
MSC01-032323	03/23/23 ²	1	3.6	430	1539	10.0	0.003	No
MSC02-032323	03/23/23 ²	2	3.6	423	1531	8.0	0.003	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)	Cal/OSHA PEL (ug/m ³)	Exceedance (Yes/No)	HERO Action Level ² (ug/m ³)	Exceedance (Yes/No) ²
GESPM101722-640	MSC01	12/7/22	1507.84	0.011	0.0040	4.000	5,000	No	50	No
GESPM101722-641	MSC02	12/7/22	1621.97	0.015						
GESPM101722-642	MSC01	12/8/22	1591.23	0.013	0.0000	0.000	5,000	No	50	No
GESPM101722-643	MSC02	12/8/22	1712.70	0.013						
GESPM101722-644	MSC01	12/8/22 ²	442.87	0.014	0.005	5.000	5,000	No	50	No
GESPM101722-645	MSC02	12/8/22 ²	480.23	0.019						
GESPM101722-647	MSC01	12/13/22	1614.39	0.013	0.0030	3.000	5,000	No	50	No
GESPM101722-648	MSC02	12/13/22	1709.14	0.016						
GESPM101722-649	MSC01	12/14/22	1629.43	0.014	0.002	2.000	5,000	No	50	No
GESPM101722-650	MSC02	12/14/22	1729.85	0.016						
GESPM101722-651	MSC01	12/15/22	1635.44	0.024	0.002	2.000	5,000	No	50	No
GESPM101722-652	MSC02	12/15/22	1716.53	0.022						
PM113022-03	MSC01	12/20/22	1668.08	0.024 J+	0.001	1.000	5,000	No	50	No
PM113022-05	MSC02	12/20/22	1694.70	0.025 J+						
PM113022-07	MSC01	12/21/22	1698.07	0.030 J+	0.001	1.000	5,000	No	50	No
PM113022-09	MSC02	12/21/22	1704.09	0.029 J+						
PM113022-11	MSC01	12/22/22	1525.86	0.102 J+	0.0176	17.648	5,000	No	50	No
PM113022-13	MSC02	12/22/22	1619.58	0.085 J+						
PM113022-17	MSC01	1/18/23	1522.60	0.00985157	-0.0046	-4.588	5,000	No	50	No
PM113022-19	MSC02	1/18/23	1572.10	0.01443929						
PM113022-21	MSC01	1/19/23	1639.48	0.00640447	0.005821	5.821	5,000	No	50	No
PM113022-23	MSC02	1/19/23	1644.10	0.01222553						
PM113022-25	MSC01	1/19/23 ²	400.35	0.37716998 J	-0.3744	-374.429	5,000	No	50	No
PM113022-27	MSC02	1/19/23 ²	364.82	< 0.00274108						
PM113022-29	MSC01	1/24/23	1655.00	0.01111782	-0.002405	-2.405	5,000	No	50	No
PM113022-31	MSC02	1/24/23	1663.87	0.01352269						
PM113022-35	MSC01	1/25/23	1657.99	0.01827514	0.002547	2.547	5,000	No	50	No
PM113022-37	MSC02	1/25/23	1656.86	0.02082252						
PM113022-49	MSC01	2/02/23	499.45	0.02322555	0.001430	1.430	5,000	No	50	No
PM113022-51	MSC02	2/02/23	515.09	0.02465589						
PM113022-55	MSC01	2/07/23	1625.88	0.01260856	-0.005	-4.671	5,000	No	50	No
PM113022-57	MSC02	2/07/23	1631.96	0.01727984						
PM113022-59	MSC01	2/08/23	1671.29	0.01537734	-0.0687	-68.651	5,000	No	50	No
PM113022-61	MSC02	2/08/23	1666.11	0.08402807						
PM113022-63	MSC01	2/09/23	1627.76	0.01947462	-0.001198	-1.198	5,000	No	50	No
PM113022-65	MSC02	2/09/23	1499.60	0.02067218						
PM112922-22	MSC01	2/09/23 ²	447.97	0.01674219	0.0053	5.314	5,000	No	50	No
PM112922-24	MSC02	2/09/23 ²	446.26	0.01142832						
PM011823-01	MSC01	2/14/23	1246.37	0.02302687	0.002	2.063	5,000	No	50	No
PM011823-03	MSC02	2/14/23	1642.07	0.02509028						
PM011823-05	MSC01	2/15/23	1264.50	0.00632661	0.0055	5.531	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)	Cal/OSHA PEL (ug/m ³)	Exceedance (Yes/No)	HERO Action Level ³ (ug/m ³)	Exceedance (Yes/No) ²
PM011823-07	MSC02	2/15/23	1568.66	0.01185725						
PM011823-09	MSC01	2/16/23	1629.47	0.01178297	-3.101E-05	-0.031	5,000	No	50	No
PM011823-11	MSC02	2/16/23	1633.77	0.01175196						
PM011823-13	MSC01	2/16/23 ²	426.46	0.01055199	0.0018	1.767	5,000	No	50	No
PM011823-15	MSC02	2/16/23 ²	446.47	0.01231886						
PM012323-02	MSC01	2/21/23	1637.36	0.02198661	0.005	4.783	5,000	No	50	No
PM012323-04	MSC02	2/21/23	1613.80	0.02676912						
PM012323-06	MSC01	2/22/23	1644.55	0.02389711	0.0188	18.770	5,000	No	50	No
PM012323-08	MSC02	2/22/23	1642.96	0.04266689						
PM012323-10	MSC01	2/23/23	1623.56	0.00856143	0.00271	2.709	5,000	No	50	No
PM012323-12	MSC02	2/23/23	1597.08	0.01127057						
PM011823-18	MSC01	2/23/23 ²	557.83	0.00681211	0.0003	0.272	5,000	No	50	No
PM011823-20	MSC02	2/23/23 ²	550.56	0.0070837						
PM013023-17	MSC01	3/02/23	1634.24	0.01994811	-0.0064	-6.444	5,000	No	50	No
PM013023-19	MSC02	3/02/23	1606.97	0.01350367						
PM013123-51	MSC01	3/02/23 ²	482.00	0.00497925	0.0104	10.425	5,000	No	50	No
PM013123-53	MSC02	3/02/23 ²	480.38	0.01540447						
PM013123-55	MSC01	3/07/23	1633.72	0.0036726	0.003645	3.645	5,000	No	50	No
PM013123-57	MSC02	3/07/23	1612.46	0.00731801 J						
PM020323-11	MSC01	3/08/23	1632.65	0.00526751	0.002376	2.376	5,000	No	50	No
PM020323-13	MSC02	3/08/23	1609.23	0.00764341						
PM020323-15	MSC01	3/09/23	1683.06	0.00659513	0.003744	3.744	5,000	No	50	No
PM020323-17	MSC02	3/09/23	1644.17	0.01033956						
PM020323-19	MSC01	3/09/23 ²	407.20	0.00589391	0.003109	3.109	5,000	No	50	No
PM020323-21	MSC02	3/09/23 ²	433.17	0.00900339						
PM020323-25	MSC01	3/14/23	1643.65	0.00249445	0.004424	4.424	5,000	No	50	No
PM020323-27	MSC02	3/14/23	1633.23	0.00691881						
PM020323-29	MSC01	3/16/23	1699.08	0.00976999	0.005419	5.419	5,000	No	50	No
PM020323-31	MSC02	3/16/23	1626.15	0.01518925						
PM020323-33	MSC01	3/16/23 ²	476.42	0.0182612	-0.008124	-8.124	5,000	No	50	No
PM020623-01	MSC02	3/16/23 ²	493.24	0.01013705						
PM020623-05	MSC01	3/21/23	1658.27	0.00976922	0.003198	3.198	5,000	No	50	No
PM020623-11	MSC02	3/21/23	1634.89	0.01296723						
PM020623-13	MSC01	3/23/23	1545.09	0.00744293	0.003679	3.679	5,000	No	50	No
PM020623-15	MSC02	3/23/23	1564.49	0.01112184						

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)	Cal/OSHA PEL (ug/m ³)	Exceedance (Yes/No)	HERO Action Level ³ (ug/m ³)	Exceedance (Yes/No) ²
PM020623-17	MSC01	3/23/23 ²	490.88	0.0077412	0.005404	5.404	5,000	No	50	No
PM020623-19	MSC02	3/23/23 ²	479.26	0.01314527						

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 = 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

ATTACHMENT 4

LEAD AND MANGANESE MONITORING RESULTS

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Attachment 4: 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)
GESPM101722-640	MSC01	12/7/22	1507.84	0.0000017	No	0.0000032	No
GESPM101722-641	MSC02	12/7/22	1621.97	0.0000014	No	0.0000034	No
GESPM101722-642	MSC01	12/8/22	1591.23	0.0000009	No	0.0000028	No
GESPM101722-643	MSC02	12/8/22	1712.70	0.00000091	No	0.0000026 J	No
GESPM101722-644	MSC01	12/8/22 ²	442.87	0.0000032	No	0.0000079	No
GESPM101722-645	MSC02	12/8/22 ²	480.23	0.0000019 J	No	0.0000046	No
GESPM101722-647	MSC01	12/13/22	1614.39	0.0000012	No	0.0000027	No
GESPM101722-648	MSC02	12/13/22	1709.14	0.0000001	No	0.0000023	No
GESPM101722-649	MSC01	12/14/22	1629.43	0.0000011	No	0.0000036	No
GESPM101722-650	MSC02	12/14/22	1729.85	0.00000095	No	0.0000027	No
GESPM101722-651	MSC01	12/15/22	1635.44	0.0000024	No	0.0000073	No
GESPM101722-652	MSC02	12/15/22	1716.53	0.0000002	No	0.0000041	No
PM113022-03	MSC01	12/20/22	1668.08	< 0.00000839	No	< 0.00005875	No
PM113022-05	MSC02	12/20/22	1694.70	< 0.00000826	No	< 0.00005783	No
PM113022-07	MSC01	12/21/22	1698.07	< 0.00000824	No	< 0.00005771	No
PM113022-09	MSC02	12/21/22	1704.09	< 0.00000822	No	< 0.00005751	No
PM113022-11	MSC01	12/22/22	1525.86	< 0.00000918	No	< 0.00006423	No
PM113022-13	MSC02	12/22/22	1619.58	< 0.00000864	No	< 0.00006051	No
TSP113022-18	MSC01	1/18/23	1552.94	< 0.00000902	No	< 0.00006311	No
TSP113022-20	MSC02	1/18/23	1672.75	< 0.00000837	No	< 0.00005859	No
TSP113022-22	MSC01	1/19/23	1580.94	< 0.00000886	No	< 0.00006199	No
TSP113022-24	MSC02	1/19/23	1744.24	< 0.00000803	No	< 0.00005618	No
TSP113022-26	MSC01	1/19/23 ²	397.82	< 0.00003519	No	< 0.00024634	No
TSP113022-28	MSC02	1/19/23 ²	386.63	< 0.00003621	No	< 0.00025347	No
TSP113022-30	MSC01	1/24/23	1671.60	< 0.00000838	No	< 0.00005863	No
TSP113022-32	MSC02	1/24/23	1766.68	< 0.00000792	No	< 0.00005547	No
TSP113022-36	MSC01	1/25/23	1664.44	< 0.00000841	No	< 0.00005888	No
TSP113022-38	MSC02	1/25/23	1758.33	< 0.00000796	No	< 0.00005573	No
TSP113022-50	MSC01	2/02/23	500.30	< 0.00002798	No	< 0.00019588	No
TSP113022-52	MSC02	2/02/23	545.96	< 0.00002564	No	< 0.0001795	No
TSP113022-56	MSC01	2/07/23	1629.51	< 0.00000859 UJ	No	< 0.00006014	No
TSP113022-58	MSC02	2/07/23	1728.66	< 0.0000081 UJ	No	< 0.00005669	No
TSP113022-60	MSC01	2/08/23	1675.36	< 0.00000836 UJ	No	< 0.00005849	No
TSP113022-62	MSC02	2/08/23	1766.71	< 0.00000792 UJ	No	< 0.00005547	No
TSP113022-64	MSC01	2/09/23	1629.75	< 0.00000859 UJ	No	< 0.00006013	No
TSP113022-66	MSC02	2/09/23	1590.49	< 0.0000088 UJ	No	< 0.00006162	No
TSP112922-23	MSC01	2/09/23 ²	447.38	< 0.00003129 UJ	No	< 0.00021905	No
TSP112922-25	MSC02	2/09/23 ²	474.14	< 0.00002953 UJ	No	< 0.00020669	No
TSP011823-02	MSC01	2/14/23	1663.14	< 0.00000842	No	< 0.00005892	No
TSP011823-04	MSC02	2/14/23	1741.11	< 0.00000804	No	< 0.00005629	No
TSP011823-06	MSC01	2/15/23	1322.67	< 0.00001058	No	< 0.00007409	No
TSP011823-08	MSC02	2/15/23	1523.52	< 0.00000919	No	< 0.00006432	No
TSP011823-10	MSC01	2/16/23	1627.75	< 0.0000086	No	< 0.00006021	No
TSP011823-12	MSC02	2/16/23	1729.90	< 0.00000809	No	< 0.00005665	No

Attachment 4: 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)
TSP011823-14	MSC01	2/16/23 ²	424.73	< 0.00003296	No	< 0.00023073	No
TSP011823-16	MSC02	2/16/23 ²	472.40	< 0.00002964	No	< 0.00020745	No
TSP012323-03	MSC01	2/21/23	1649.30	< 0.00000849	No	< 0.00005942	No
TSP012323-05	MSC02	2/21/23	1715.45	< 0.00000816	No	< 0.00005713	No
TSP012323-07	MSC01	2/22/23	1677.34	< 0.00000835	No	< 0.00005843	No
TSP012323-09	MSC02	2/22/23 ³	732.84	0.00003084	No	< 0.00013373	No
TSP012323-11	MSC01	2/23/23	1631.81	< 0.00000858	No	< 0.00006006	No
TSP011823-17	MSC02	2/23/23	1676.16	< 0.00000835	No	< 0.00005847	No
TSP011823-19	MSC01	2/23/23 ²	557.12	< 0.00002513	No	< 0.0001759	No
TSP011823-21	MSC02	2/23/23 ²	585.02	< 0.00002393	No	< 0.00016752	No
TSP013023-18	MSC01	3/02/23	1630.46	< 0.00000859	No	< 0.00006011	No
TSP013023-20	MSC02	3/02/23	1707.28	< 0.0000082	No	< 0.0000574	No
TSP013123-52	MSC01	3/02/23 ²	480.87	< 0.00002911	No	< 0.0002038	No
TSP013123-54	MSC02	3/02/23 ²	514.50	< 0.00002721	No	< 0.00019048	No
TSP013123-56	MSC01	3/07/23	1643.67	< 0.00000852	No	< 0.00005962	No
TSP013123-58	MSC02	3/07/23 ³	862.14	< 0.00001624	No	< 0.00011367	No
TSP020323-12	MSC01	3/08/23	1634.86	< 0.00000856	No	< 0.00005994	No
TSP020323-14	MSC02	3/08/23	1711.00	< 0.00000818	No	< 0.00005728	No
TSP020323-16	MSC01	3/09/23	1695.55	< 0.00000826	No	< 0.0000578	No
TSP020323-18	MSC02	3/09/23	1747.61	< 0.00000801	No	< 0.00005608	No
TSP020323-20	MSC01	3/09/23 ²	404.96	< 0.00003457	No	< 0.000242	No
TSP020323-22	MSC02	3/09/23 ²	456.94	< 0.00003064	No	< 0.00021447	No
TSP020323-26	MSC01	3/14/23	1655.51	< 0.00000846	No	< 0.0000592	No
TSP020323-28	MSC02	3/14/23	1739.40	< 0.00000805	No	< 0.00005634	No
TSP020323-30	MSC01	3/16/23	1694.68	< 0.00000826	No	< 0.00005783	No
TSP020323-32	MSC02	3/16/23	1728.70	< 0.0000081	No	< 0.00005669	No
TSP020323-34	MSC01	3/16/23 ²	480.10	< 0.00002916	No	< 0.00020412	No
TSP020623-02	MSC02	3/16/23 ²	519.14	< 0.00002697	No	< 0.00018877	No
TSP020623-06	MSC01	3/21/23	1667.66	< 0.00000839	No	< 0.00005876	No
TSP020623-12	MSC02	3/21/23	1735.74	< 0.00000807	No	< 0.00005646	No
TSP020623-14	MSC01	3/23/23	1556.49	< 0.00000899	No	< 0.00006296	No
TSP020623-16	MSC02	3/23/23	1667.06	< 0.0000084	No	< 0.00005879	No
TSP020623-18	MSC01	3/23/23 ²	466.67	< 0.00003	No	< 0.00021	No
TSP020623-20	MSC02	3/23/23 ²	293.01	< 0.00004778	No	< 0.00033446	No

Notes:

¹Air sample was not collected on days with rain.

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

³Generator or sampler malfunction.

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

< = 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)	Cal/OSHA PEL (ug/m ³)	Exceedance (Yes/No)	HERO Action Level (ug/m ³)	Exceedance (Yes/No)
GESTSP101722-640	MSC01	12/7/22	1528.50	0.0154	0.004200	4.200	5,000	No	500	No
GESTSP101722-641	MSC02	12/7/22	1774.67	0.0196						
GESTSP101722-642	MSC01	12/8/22	1612.07	0.0217	0.0000	0.00	5,000	No	500	No
GESTSP101722-643	MSC02	12/8/22	1814.62	0.0217						
GESTSP101722-644	MSC01	12/8/22 ²	450.97	0.0495	-0.0189	-18.90	5,000	No	500	No
GESTSP101722-645	MSC02	12/8/22 ²	506.50	0.0306						
GESTSP101722-647	MSC01	12/13/22	1630.62	0.0248	-0.003500	-3.50	5,000	No	500	No
GESTSP101722-648	MSC02	12/13/22	1809.55	0.0213						
GESTSP101722-649	MSC01	12/14/22	1634.67	0.0304	-0.010	-10.40	5,000	No	500	No
GESTSP101722-650	MSC02	12/14/22	1835.58	0.020						
GESTSP101722-651	MSC01	12/15/22	1615.77	0.0549	0.024	24.00	5,000	No	500	No
GESTSP101722-652	MSC02	12/15/22	1823.15	0.0309						
TSP113022-04	MSC01	12/20/22	1682.18	0.0838	-0.0505	-50.50	5,000	No	500	No
TSP113022-06	MSC02	12/20/22	1798.10	0.0333						
TSP113022-08	MSC01	12/21/22	1720.20	0.0368	-0.0001	-0.10	5,000	No	500	No
TSP113022-10	MSC02	12/21/22	1808.38	0.0369						
TSP113022-12	MSC01	12/22/22	1537.10	0.0485	-0.0675	-67.50	5,000	No	500	No
TSP113022-14	MSC02	12/22/22	1720.94	0.116						
TSP113022-18	MSC01	1/18/23	1552.94	0.0164	-0.080400	-80.40	5,000	No	500	No
TSP113022-20	MSC02	1/18/23	1672.75	0.0968						
TSP113022-22	MSC01	1/19/23	1580.94	0.00816	0.0663	66.34	5,000	No	500	No
TSP113022-24	MSC02	1/19/23	1744.24	0.0745						
TSP113022-26	MSC01	1/19/23 ²	397.82	0.00327 J	-0.00068	-0.68	5,000	No	500	No
TSP113022-28	MSC02	1/19/23 ²	386.63	< 0.00259						
TSP113022-30	MSC01	1/24/23	1671.60	0.0235	-0.080500	-80.50	5,000	No	500	No
TSP113022-32	MSC02	1/24/23	1766.68	0.104						

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)	Cal/OSHA PEL (ug/m ³)	Exceedance (Yes/No)	HERO Action Level (ug/m ³)	Exceedance (Yes/No)
TSP113022-36	MSC01	1/25/23	1664.44	0.035	0.070	70.00	5,000	No	500	No
TSP113022-38	MSC02	1/25/23	1758.33	0.105						
TSP113022-50	MSC01	2/02/23	500.30	0.0372	-0.0053	-5.30	5,000	No	500	No
TSP113022-52	MSC02	2/02/23	545.96	0.0319						
TSP113022-56	MSC01	2/07/23	1629.51	0.0270	0.0018	1.80	5,000	No	500	No
TSP113022-58	MSC02	2/07/23	1728.66	0.0252						
TSP113022-60	MSC01	2/08/23	1675.36	0.0321	0.0067	6.70	5,000	No	500	No
TSP113022-62	MSC02	2/08/23	1766.71	0.0254						
TSP113022-64	MSC01	2/09/23	1629.75	0.0329	0.0035	3.50	5,000	No	500	No
TSP113022-66	MSC02	2/09/23	1590.49	0.0294						
TSP112922-23	MSC01	2/09/23 ²	447.38	0.0329	0.008000	8.00	5,000	No	500	No
TSP112922-25	MSC02	2/09/23 ²	474.14	0.0249						
TSP011823-02	MSC01	2/14/23	1663.14	0.045	-0.0035	-3.50	5,000	No	500	No
TSP011823-04	MSC02	2/14/23	1741.11	0.0415						
TSP011823-06	MSC01	2/15/23	1322.67	0.0213	0.0032	3.20	5,000	No	500	No
TSP011823-08	MSC02	2/15/23	1523.52	0.0245						
TSP011823-10	MSC01	2/16/23	1627.75	0.0286	-0.011500	-11.50	5,000	No	500	No
TSP011823-12	MSC02	2/16/23	1729.90	0.0171						
TSP011823-14	MSC01	2/16/23 ²	424.73	0.0165	0.003	2.60	5,000	No	500	No
TSP011823-16	MSC02	2/16/23 ²	472.40	0.0191						
TSP012323-03	MSC01	2/21/23	1649.30	0.0361	-0.0005	-0.50	5,000	No	500	No
TSP012323-05	MSC02	2/21/23	1715.45	0.0356						
TSP012323-07	MSC01	2/22/23	1677.34	0.0411	0.0799	79.90	5,000	No	500	No
TSP012323-09	MSC02	2/22/23 ³	732.84	0.121						
TSP012323-11	MSC01	2/23/23	1631.81	0.0192	-0.0002	-0.20	5,000	No	500	No
TSP011823-17	MSC02	2/23/23	1676.16	0.019						

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)	Cal/OSHA PEL (ug/m ³)	Exceedance (Yes/No)	HERO Action Level (ug/m ³)	Exceedance (Yes/No)
TSP011823-19	MSC01	2/23/23 ²	557.12	0.0185	-0.0082	-8.20	5,000	No	500	No
TSP011823-21	MSC02	2/23/23 ²	585.02	0.0103						
TSP013023-18	MSC01	3/02/23	1630.46	0.0182	-0.0046	-4.60	5,000	No	500	No
TSP013023-20	MSC02	3/02/23	1707.28	0.0136						
TSP013123-52	MSC01	3/02/23 ²	480.87	0.0206	0.0041	4.10	5,000	No	500	No
TSP013123-54	MSC02	3/02/23 ²	514.50	0.0247						
TSP013123-56	MSC01	3/07/23	1643.67	0.0073	0.0033	3.30	5,000	No	500	No
TSP013123-58	MSC02	3/07/23 ³	862.14	0.0106 J						
TSP020323-12	MSC01	3/08/23	1634.86	0.00924	0.0002	0.17	5,000	No	500	No
TSP020323-14	MSC02	3/08/23	1711.00	0.00941						
TSP020323-16	MSC01	3/09/23	1695.55	0.0117	0.0015	1.50	5,000	No	500	No
TSP020323-18	MSC02	3/09/23	1747.61	0.0132						
TSP020323-20	MSC01	3/09/23 ²	404.96	0.0143	-0.0001	-0.10	5,000	No	500	No
TSP020323-22	MSC02	3/09/23 ²	456.94	0.0142						
TSP020323-26	MSC01	3/14/23	1655.51	0.010	-0.0005	-0.51	5,000	No	500	No
TSP020323-28	MSC02	3/14/23	1739.40	0.00949						
TSP020323-30	MSC01	3/16/23	1694.68	0.0218	0.0001	0.10	5,000	No	500	No
TSP020323-32	MSC02	3/16/23	1728.70	0.0219						
TSP020323-34	MSC01	3/16/23 ²	480.10	0.0344	-0.0020	-2.00	5,000	No	500	No
TSP020623-02	MSC02	3/16/23 ²	519.14	0.0324						
TSP020623-06	MSC01	3/21/23	1667.66	0.0188	0.0010	1.00	5,000	No	500	No
TSP020623-12	MSC02	3/21/23	1735.74	0.0198						
TSP020623-14	MSC01	3/23/23	1556.49	0.0242	-0.0054	-5.40	5,000	No	500	No
TSP020623-16	MSC02	3/23/23	1667.06	0.0188						

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)	Cal/OSHA PEL (ug/m ³)	Exceedance (Yes/No)	HERO Action Level (ug/m ³)	Exceedance (Yes/No)
TSP020623-18	MSC01	3/23/23 ²	466.67	0.0334	-0.0122	-12.20	5,000	No	500	No
TSP020623-20	MSC02	3/23/23 ²	293.01	0.0212						

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.

³Generator or sampler malfunction

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

m³ = cubic meters

mg/m³ = milligrams per cubic meter

Bold = result above project screening criteria

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	Thorium-232	Exceedance (Yes/No)
			4.00E-11	4.00E-15	1.80E-13	1.20E-12	1.00E-11	1.20E-15	
			μCi/mL	μCi/mL	μCi/mL	μCi/mL	μCi/mL	μCi/mL	
12/6/22 -12/8/22	1	3178	3.91E-15 U	7.24E-16 UJ	4.57E-15 U	2.1E-14 U	5.28E-15 U	3.94E-16 U	No
	2	3189	4.13E-15 U	1.61E-15 UJ	5.73E-15 J	1.9E-14 U	4.91E-15 U	1.24E-16	No
12/12/22-12/15/22	1	4747	2.85E-15 U	6.01E-16 UJ	2.42E-15 U	1.69E-14 U	2.8E-15 U	2.75E-16 U	No
	2	4777	2.91E-15 U	9.2E-16 UJ	4.84E-15 J	1.39E-14 U	2.77E-15 U	2.63E-16	No
12/19/22-12/22/22	1	4342	2.63E-15 U	6.31E-16 UJ	5.32E-15 J	1.9E-14 U	3.6E-15 U	2.64E-16 J	No
	2	4348	7.16E-15 U	6.72E-16 UJ	4.65E-15 J	1.6E-14 U	7.04E-15 U	2.92E-16 UJ	No
01/17/23-01/19/23	1	3089	5.32E-15 U	5.7E-16 U	8.1E-14 U	2.48E-14 UJ	5.08E-15 U	4.01E-16 U	No
	2	3097	3.83E-15 U	7.51E-16 U	4.83E-14 U	2.03E-14 U	4.53E-15 U	3.98E-16 U	No
01/23/23-01/25/23	1	3403	3.58E-15 U	6.37E-16 UJ	4.55E-14 UJ	1.68E-14 U	4.13E-15 UJ	3.87E-16 U	No
	1*	3403	4.41E-15 U	9.47E-16 UJ	4.34E-14 UJ	2E-14 U	5.59E-15 U	4.1E-16 U	No
	2	3233	4.58E-15 UJ	6.03E-16 UJ	8.04E-14 UJ	1.98E-14 U	5.72E-15 U	4.68E-16 U	No
02/01/23-02/02/23	1	1819	1.42E-14 U	9.32E-16 U	2.86E-13 UJ	3.74E-14 U	1.64E-14 U	4.26E-16 U	No
	2	1900	9.03E-15 U	1.47E-15 U	1.37E-13 UJ	3.27E-14 U	9.52E-15 U	7.28E-16 U	No
02/06/23-02/09/23	1	4717	3.23E-15 U	4.56E-16 UJ	7.41E-14	1.21E-14 U	3.42E-15 U	2.18E-16 UJ	No
	2	4751	2.54E-15 U	4.47E-16 UJ	3.07E-14 U	1.33E-14 U	3.23E-15 U	5.65E-16 U	No
02/13/23-02/16/23	1	4684	3.13E-15 U	1.03E-15 J	5.47E-14 UJ	1.5E-14 U	3.8E-15 U	2.69E-16 UJ	No
	2	4716	2.4E-15 U	4.5E-16 UJ	3.45E-14 UJ	1.45E-14 U	3.52E-15 U	3E-16 UJ	No
02/20/23-02/23/23	1	4813	2.68E-15 U	2.54E-16 UJ	3.18E-14 UJ	1.4E-14 U	3.04E-15 U	3.34E-16 UJ	No
	2	4784	2.94E-15 U	4.07E-16 UJ	5.03E-14 UJ	1.39E-14 U	3.52E-15 U	3.48E-16 UJ	No
02/27/23-03/02/23	1	1991	6.38E-15 U	8.56E-16 UJ	7.43E-14 UJ	1.4E-14 U	3.04E-15 U	3.34E-16 UJ	No
	1*	1991	6.2E-15 U	2.7E-15 J	7.64E-14 UJ				
	2	1996	5.97E-15 U	5.84E-16 UJ	7.88E-14 UJ	1.39E-14 U	3.52E-15 U	3.48E-16 UJ	No
03/13/23-03/16/23	1	3319	6.38E-15 U	6.11E-16 UJ	7.92E-14 UJ	3.79E-16 UJ	3.97E-15 U	4.95E-15 U	No
	2	3308	5.97E-15 U	4E-16 UJ	6.44E-14 UJ	4.75E-16 UJ	4.63E-15	5.73E-15 U	No
03/20/23-03/23/23	1	1774	1.2E-15 UJ	8.87E-14 UJ	3.99E-14 U	5.86E-16 UJ	7.83E-15 U	8.62E-15 U	No
	2	1780	6.99E-16 UJ	8.9E-14 UJ	3.8E-14 U	1.49E-15 J	7.25E-15 U	8.15E-15 U	No

Notes:

* = duplicate sample

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

min = minutes

U = activity is less than the MDC

UJ = estimated MDC

μCi/mL= microcuries per milliliter

ATTACHMENT 7 LABORATORY REPORTS

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Laboratory Analysis Report

Job ID : 23031609



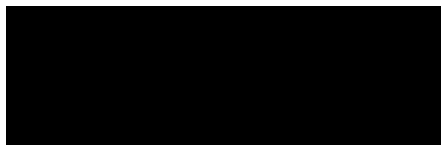
10100 East Freeway, Suite 100, Houston, TX 77029 tel: 713-453-6060, fax: 713-453-6091, <http://www.ablabs.com>

Client Project Name :
Hunters Point Shipyard, Parcel C Removal Site Evaluation / J310000600

Report To : Client Name: GES - ASRC Industrial Total Number of Pages: 9
Attn: [REDACTED] P.O.#. :
Client Address: 1501 West Fountainhead Parkway, Ste. #550 Date Received : 03/15/2023 10:29
City, State, Zip: Tempe, Arizona, 85282 Sample Collected By :

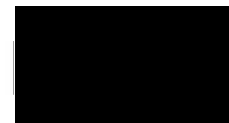
A&B Labs has analyzed the following samples...

Client Sample ID	Sample Collection Date & Time	Matrix	A&B Job Sample ID
FBC-030623	3/6/2023 8:00	Cassette	23031609.01
MSC01-030623	3/7/2023 7:29	Cassette	23031609.02
MSC02-030623	3/7/2023 7:15	Cassette	23031609.03
MSC01-030723	3/8/2023 7:20	Cassette	23031609.04
MSC02-030723	3/8/2023 7:09	Cassette	23031609.05
MSC01-030823	3/9/2023 7:52	Cassette	23031609.06
MSC02-030823	3/9/2023 7:40	Cassette	23031609.07
MSC01-030923	3/9/2023 14:05	Cassette	23031609.08
MSC02-030923	3/9/2023 14:08	Cassette	23031609.09



Title: Vice President Operations

Analyst:



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

3/22/2023



**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 # 30080**

Date 3/22/2023

Job ID : 23031609
Analytical Method: NIOSH 7400-I2-Aug1994

Client: GES - ASRC Industrial			Project: Hunters Point Shipyard, Parcel C Removal Site Evaluation / J310000600										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
23031609.01	FBC-030623	03/06/2023						0	100	1	1.274			03/22/23	[REDACTED]
23031609.02	MSC01-030623	03/07/2023	Area	3.3			1428	4712.	100	10.0	12.739	0.001		03/22/23	[REDACTED]
23031609.03	MSC02-030623	03/07/2023	Area	3.3			1422	4692.	100	9.5	12.102	0.001		03/22/23	[REDACTED]
23031609.04	MSC01-030723	03/08/2023	Area	3.6			1430	5148	100	14.5	18.471	0.001		03/22/23	[REDACTED]
23031609.05	MSC02-030723	03/08/2023	Area	3.1			1433	4442.	100	10.0	12.739	0.001		03/22/23	[REDACTED]
23031609.06	MSC01-030823	03/09/2023	Area	3.1			1471	4560.	100	15.5	19.745	0.002		03/22/23	[REDACTED]
23031609.07	MSC02-030823	03/09/2023	Area	3.2			1470	4704	100	11.5	14.650	0.001		03/22/23	[REDACTED]
23031609.08	MSC01-030923	03/09/2023	Area	3.1			372	1153.	100	12.5	15.924	0.005		03/22/23	[REDACTED]
23031609.09	MSC02-030923	03/09/2023	Area	3.1			387	1199.	100	7.0	8.917	0.003		03/22/23	[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

OUTR = Overload,Unable To Read



Sample Condition Checklist

A&B JobID : 23031609	Date Received : 03/15/2023	Time Received : 10:29AM		
Client Name : GES - ASRC Industrial				
Temperature : 18.5°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. Black Cassettes. ~ 03/15/23

Received by : ██████████

Check in by/date : ██████████ / 03/15/2023

ab-s005-0321

**CHAIN-OF-CUSTODY
RECORD**

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

COC ID # 031423ASBC



Project Name: Hunters Point Shipyard, Parcel C Removal Site Evaluation	Laboratory: A&B Labs	Event: Parcel C Asbestos
Project Number: J31000600	POC	
WBS Code: J31000600	Ship to: 10100 East Fwy Ste. 100 Houston TX 77029	

Comments: **Please consolidate all COC pages that share the same COC ID into one SDG.**

Analytical Test Method: Asbestos

Code Matrix

A	Air
AQ	Air Quality Control Matrix

Code Container/Preservative

1	Filter/No Preservatives
---	-------------------------

Page 1 of 4

Equipment: Event: Parcel C Asbestos

Sample ID	Matrix	Date	Time	Samp Init.	x	Location ID	Sample Type	Depth (ft bgs)		Cooler	Comments
								Top	Bottom		
1	AQ	03/06/2023	0800		x	FBC	FB1	0.00	0.00	1	
2	A	03/07/2023	0729		x	MSC01	N1	0.00	0.00	1	
3	A	03/07/2023	0715		x	MSC02	N1	0.00	0.00	1	
4											
5											
6											
7											
8											
9											
10											
11											

DIA
O2A
O3A

Job ID: 23031609



03/15/2023 GES - ASRC Industrial ACH

Turnaround Time: 7 days

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
	3/14/23	1400	FedEx	3/14/23	1400	Shipping Date: 03/14/23 / FEDEX 7714 6874 8003
	3/15/23					(Signature, Date, Time) & condition 3/15/23 1029

18.500
8/24

**CHAIN-OF-CUSTODY
RECORD**

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

COC ID # [REDACTED] 031423ASBC



Project Name: Hunters Point Shipyard, Parcel C Removal Site Evaluation	Laboratory: A&B Labs	Event: Parcel C Asbestos
Project Number: J31000600	POC: [REDACTED]	
WBS Code: J31000600	Ship to: 10100 East Fwy Ste. 100 Houston TX 77029	

Comments: **Please consolidate all COC pages that share the same COC ID into one SDG.**

Analytical Test Method	Asbestos	[REDACTED]
		3/14/23

Code	Matrix
A	Air
AQ	Air Quality Control Matrix
Code	Container/Preservative
1	Filter/No Preservatives

Page 2 of 4

Equipment: [REDACTED]

Event: Parcel C Asbestos

04A
05A

Sample ID	Matrix	Date	Time	Samp Init.	Location ID	Sample Type	Depth (ft bgs)		Cooler	Comments
							Top	Bottom		
1	A	03/08/2023	0720	[REDACTED] x	MSC01	N1	0.00	0.00	1	
2	A	03/08/2023	0709	[REDACTED] x	MSC02	N1	0.00	0.00	1	
3										
4										
5										
6										
7										
8										
9										
10										
11										

Turnaround Time: 7 days

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[REDACTED]	3/14/23	1400	Fedex	3/14/23	1400	Shipping Date: 03/14/23 / FEDEX 7714 6874 8003
Fedex	3/15/23					Received by Laboratory: (Signature, Date, Time) & condition [REDACTED] 3/15/23 1029

18.5u
[REDACTED]

**CHAIN-OF-CUSTODY
RECORD**

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

COC ID # [REDACTED] 031423ASBC



Project Name: Hunters Point Shipyard, Parcel C Removal Site Evaluation	Laboratory: A&B Labs	Event: Parcel C Asbestos
Project Number: J31000600	POC: [REDACTED]	
WBS Code: J310000600	Ship to: 10100 East Fwy Ste. 100 Houston TX 77029	

Comments: **Please consolidate all COC pages that share the same COC ID into one SDG.**

Analytical Test Method: Asbestos

Code Matrix

A	Air
AQ	Air Quality Control Matrix

Code Container/Preservative

1	Filter/No Preservatives
---	-------------------------

Page 3 of 4

Equipment: Event: Parcel C Asbestos 1

Sample ID	Matrix	Date	Time	Samp Init.	x	Location ID	Sample Type	Depth (ft bgs)		Cooler	Comments
								Top	Bottom		
1	A	03/09/2023	0752	[REDACTED]	x	MSC01	REF	0.00	0.00	1	
2	A	03/09/2023	0740	[REDACTED]	x	MSC02	N1	0.00	0.00	1	
3											
4											
5											
6											
7											
8											
9											
10											
11											

DLA
079

Turnaround Time: 7 days

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[REDACTED]	3/14/23	1400	Fedex	3/14/23	1400	Shipping Date: 03/14/23 / FEDEX 7714 6874 8003
FEDEx	3/15/23					Re: [REDACTED], Date, Time) & condition 3/15/23 1029

18.500
JMM
[REDACTED]

**CHAIN-OF-CUSTODY
RECORD**

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

COC ID # [Redacted] 031423ASBC



Project Name: Hunters Point Shipyard, Parcel C Removal Site Evaluation	Laboratory: A&B Labs	Event: Parcel C Asbestos
Project Number: J31000600	POC: [Redacted]	
WBS Code: J310000600	Ship to: 10100 East Fwy Ste. 100 Houston TX 77029	

Comments: **Please consolidate all COC pages that share the same COC ID into one SDG.**

Analytical Test Method	Asbestos	Code	Matrix
		A	Air
		AQ	Air Quality Control Matrix
		Code	Container/Preservative
		1	Filter/No Preservatives

Page 4 of 4

Equipment:

Event: Parcel C Asbestos

Sample ID	Matrix	Date	Time	Samp Init.	x	Location ID	Sample Type	Depth (ft bgs)		Cooler	Comments
								Top	Bottom		
1	A	03/09/2023	1405	[Redacted]	x	MSC01	N1	0.00	0.00	1	
2	A	03/09/2023	1408	[Redacted]	x	MSC02	N1	0.00	0.00	1	
3											
4											
5											
6											
7											
8											
9											
10											
11											

Turnaround Time: 7 days

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[Redacted]	3/14/23	1400	Fedex	3/14/23	1400	Shipping Date: 03/14/23 / FEDEX 7714 6874 8003
[Redacted]	3/15/23					(Signature, Date, Time) & condition 3/15/23 1029

08A
09A

18.5°C
JMM
[Redacted]

COC ID # 031423ASBC

Flow Rate, Total Time

Sample ID	End Date	End Time	Flow Rate (L/min), Total Time (mins)
FBC-030623	3/6/23	8:00:00 AM	N/A
MSC01-030623	3/7/23	7:29:00 AM	3.3; 1428
MSC02-030623	3/7/23	7:15:00 AM	3.3; 1422
MSC01-030723	3/8/23	7:20:00 AM	3.6; 1430
MSC02-030723	3/8/23	7:09:00 AM	3.1; 1433
MSC01-030823	3/9/23	7:52:00 AM	3.1; 1471
MSC02-030823	3/9/23	7:40:00 AM	3.2; 1470
MSC01-030923	3/9/23	2:05:00 PM	3.1; 372
MSC02-030923	3/9/23	2:08:00 PM	3.1; 387

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

SHIP DATE: 07MAR23
ACTWGT: 1.00 LB
CAD: 254128867/MNET4580

BILL SENDER

TO

A&B LABS
10100 EAST FREEWAY, SUITE 100

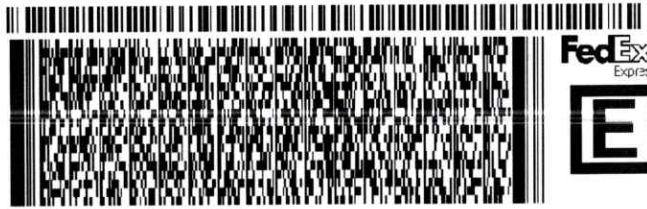
HOUSTON TX 77029

(713) 453-6060

REF: J31000900 02.04.05

INV.
PC:

DEPT:



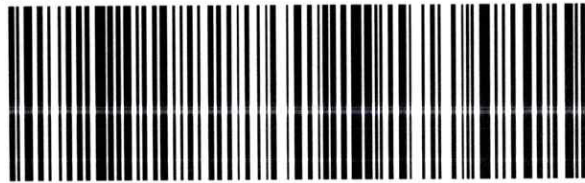
581J7C982FE2C

WED - 08 MAR 4:30P
STANDARD OVERNIGHT

TRK# 7714 6874 8003
0201

AB HBYA

77029
TX-US IAH



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Laboratory Analysis Report

Job ID : 23032325



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

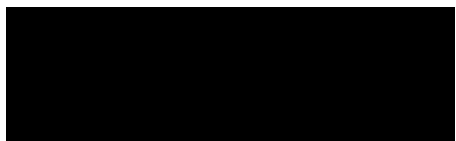
Client Project Name :

J31000600 / Hunters Point Shipyard, Parcel C Removal Site Evaluation

Report To :	Client Name: GES - ASRC Industrial	Total Number of Pages: 8
	Attn: [REDACTED]	P.O.#. :
	Client Address: 1501 West Fountainhead Parkway, Ste. #550	Date Received : 03/22/2023 09:28
	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
FBC-031323	3/13/2023 8:00	Air	23032325.01
MSC01-031323	3/14/2023 7:17	Air	23032325.02
MSC02-031323	3/14/2023 7:20	Air	23032325.03
MSC01-031523	3/16/2023 7:25	Air	23032325.04
MSC02-031523	3/16/2023 7:12	Air	23032325.05
MSC01-031623	3/16/2023 14:30	Air	23032325.06
MSC02-031623	3/16/2023 14:27	Air	23032325.07



Title: Vice President Operations

Analyst:



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ab-q210-0321

3/29/2023



**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 # 30080**

Date 3/29/2023

Job ID : 23032325
Analytical Method: NIOSH 7400-I2-Aug1994

Client: GES - ASRC Industrial			Project: J31000600 / Hunters Point Shipyard, Parcel C 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
23032325.01	FBC-031323	03/13/2023						0	100	2	2.548			03/29/23	[REDACTED]
23032325.02	MSC01-031323	03/14/2023	Area	3.6			1433	5158.	100	12.5	15.924	0.001		03/29/23	[REDACTED]
23032325.03	MSC02-031323	03/14/2023	Area	3.3			1444	4765.	100	9.0	11.465	0.001		03/29/23	[REDACTED]
23032325.04	MSC01-031523	03/16/2023	Area	3.5			1455	5092.	100	16.5	21.019	0.002		03/29/23	[REDACTED]
23032325.05	MSC02-031523	03/16/2023	Area	3.6			1434	5162.	100	9	11.465	0.001		03/29/23	[REDACTED]
23032325.06	MSC01-031623	03/16/2023	Area	3.3			423	1395.	100	8.0	10.191	0.003		03/29/23	[REDACTED]
23032325.07	MSC02-031623	03/16/2023	Area	3.6			433	1558.	100	13.5	17.197	0.004		03/29/23	[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

OUTR = Overload,Unable To Read



Sample Condition Checklist

A&B JobID : 23032325	Date Received : 03/22/2023	Time Received : 9:28AM		
Client Name : GES - ASRC Industrial				
Temperature : 22.3°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. Black Cassettes. ~ 3/22/2023

Received by : ██████████

Check in by/date : ██████████ / 03/22/2023

ab-s005-0321

**CHAIN-OF-CUSTODY
RECORD**

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

COC ID # [REDACTED]032123ASBC



Project Name: Hunters Point Shipyard, Parcel C Removal Site Evaluation	Laboratory: A&B Labs	Event: Parcel C Asbestos
Project Number: J31000600	POC: [REDACTED]	
WBS Code: J310000600	Ship to: 10100 East Fwy Ste. 100 Houston TX 77029	

Comments: **Please consolidate all COC pages that share the same COC ID into one SDG.**

Job ID: 23032325



03/22/2023 GES - A&RC Industrial ACH

Code	Matrix
A	Air
AQ	Air Quality Control Matrix
Code	Container/Preservative
1	Filter/No Preservatives

Sample ID	Matrix	Date	Time	Samp Init.	Asbestos	Location ID	Sample Type	Depth (ft bgs)		Cooler	Comments
								Top	Bottom		
1	AQ	03/13/2023	0800	[REDACTED]	x	FBC	FB1	0.00	0.00	1	
2	A	03/14/2023	0717	[REDACTED]	x	MSC01	N1	0.00	0.00	1	
3	A	03/14/2023	0720	[REDACTED]	x	MSC02	N1	0.00	0.00	1	
4											
5											
6											
7											
8											
9											
10											
11											

01A
02A
03A

[REDACTED] 3/21/23

Turnaround Time: 7 days											
	Date	Time	Received by: (Signature)			Date	Time	Shipping Date / Carrier / Airbill Number			
[REDACTED]	3/21/23	1600	FedEx			3/21/23	1600	Shipping Date: 03/21/23 / FEDEX 7715 4763 2911			
FedEx	3/22/23	9:28						Signature, Date, Time) & condition [REDACTED] 3/22/23 9:28			

22.300
JMM
[REDACTED]

**CHAIN-OF-CUSTODY
RECORD**

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

COC ID # [REDACTED] 032123ASBC



Project Name: Hunters Point Shipyard, Parcel C Removal Site Evaluation	Laboratory: A&B Labs	Event: Parcel C Asbestos
Project Number: J31000600	POC: [REDACTED]	
WBS Code: J31000600	Ship to: 10100 East Fwy Ste. 100 Houston TX 77029	

Comments: **Please consolidate all COC pages that share the same COC ID into one SDG.**

Analytical Test Method	Asbestos	Code	Matrix
		A	Air
		AQ	Air Quality Control Matrix
		Code	Container/Preservative
		1	Filter/No Preservatives

Page 3 of 4
2 of 3

Equipment:
Event: Parcel C Asbestos 1

Sample ID	Matrix	Date	Time	Samp Init.							Location ID	Sample Type	Depth (ft bgs)		Cooler	Comments
													Top	Bottom		
1	A	03/16/2023	0725	[REDACTED]	x						MSC01	#REF!	0.00	0.00	1	
2	A	03/16/2023	0712	[REDACTED]	x						MSC02	NT	0.00	0.00	1	
3																
4																
5																
6																
7																
8																
9																
10																
11																

Turnaround Time: 7 days

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[REDACTED]	3/21/23	1600	FedEx	3/21/23	1600	Shipping Date: 03/21/23 / FEDEX 7715 4763 2911
FedEx	3/22/23	9:28				[REDACTED] Signature, Date, Time) & condition 3/22/23 9:28

22.34
JSM
[REDACTED]

**CHAIN-OF-CUSTODY
RECORD**

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

COC ID # [Redacted] 032123ASBC



Project Name: Hunters Point Shipyard, Parcel C Removal Site Evaluation	Laboratory: A&B Labs	Event: Parcel C Asbestos
Project Number: J31000600	POC: [Redacted]	
WBS Code: J310000600	Ship to: 10100 East Fwy Ste. 100 Houston TX 77029	

Comments: Please consolidate all COC pages that share the same COC ID into one SDG.	Analytical Test Method Asbestos	Code Matrix	Page 4 of 4 3 of 3
		A Air	
		AQ Air Quality Control Matrix	
		Code Container/Preservative	
		1 Filter/No Preservatives	

Equipment: [Redacted]

Event: Parcel C Asbestos 1

dup
078

Sample ID	Matrix	Date	Time	Samp Init.	x	Location ID	Sample Type	Depth (ft bgs)		Cooler	Comments
								Top	Bottom		
1	A	03/16/2023	1430	[Redacted]	x	MSC01	N1	0.00	0.00	1	
2	A	03/16/2023	1427	[Redacted]	x	MSC02	N1	0.00	0.00	1	
3											
4											
5											
6											
7											
8											
9											
10											
11											

3/21/23

Turnaround Time: 7 days											
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number					
[Redacted]	3/21/23	1400	FedEx	3/21/23	1400	Shipping Date: 03/21/23 / FEDEX 7715 4763 2911					
FedEx	3/22/23	9:28				Signature, Date, Time) & condition [Redacted] 3/22/23 9:28					

Dr. 306
JMY
[Redacted]

Flow Rate, Total Time

Sample ID	End Date	End Time	Flow Rate (L/min), Total Time (mins)
FBC-031323	3/13/23	8:00:00 AM	N/A
MSC01-031323	3/14/23	7:17:00 AM	3.6; 1433
MSC02-031323	3/14/23	7:20:00 AM	3.3; 1444
MSC01-031523	3/16/23	7:25:00 AM	3.5; 1455
MSC02-031523	3/16/23	7:12:00 AM	3.6; 1434
MSC01-031623	3/16/23	2:30:00 PM	3.3; 423
MSC02-031623	3/16/23	2:27:00 PM	3.6; 433

ORIGIN ID: JCCA
GES-AIS
200 FISCHER AVE

SAN FRANCISCO, CA 94124
UNITED STATES US

SHIP DATE: 21MAR23
ACTWGT: 1.00 LB
CAD: 254128867/INET4580

BILL SENDER

TO

A&B LABS
10100 EAST FREEWAY, SUITE 100

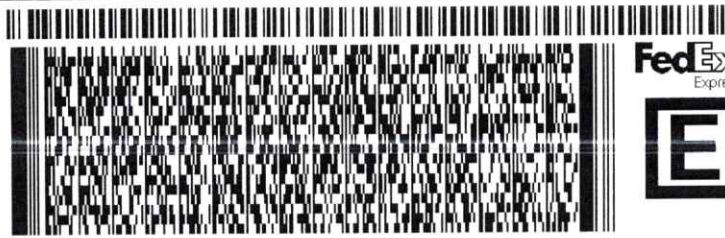
HOUSTON TX 77029

(713) 453-6060

REF J31000900 02 04 05

INV
PO

DEPT



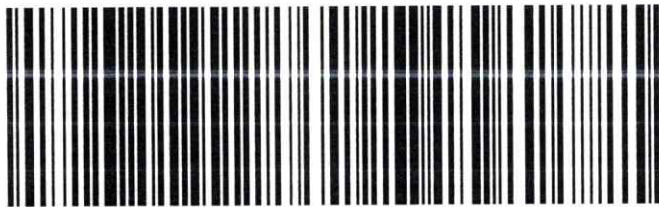
581J76962FE2D

WED - 22 MAR 4:30P
STANDARD OVERNIGHT

TRK# 7715 4763 2911
0201

AB HBYA

77029
TX-US IAH



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Laboratory Analysis Report

Job ID : 23032994



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

Client Project Name :
J31000600 / Hunters Point Shipyard, Parcel C Removal Site Evaluation

Report To : Client Name: GES - ASRC Industrial Total Number of Pages: 8
Attn: [REDACTED] P.O.#. :
Client Address: 1501 West Fountainhead Parkway, Ste. #550 Date Received : 03/29/2023 09:28
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
FBC-032023	3/20/2023 8:00	Cassette	23032994.01
MSC01-032023	3/21/2023 7:48	Cassette	23032994.02
MSC02-032023	3/21/2023 7:38	Cassette	23032994.03
MSC01-032223	3/23/2023 6:24	Cassette	23032994.04
MSC02-032223	3/23/2023 6:36	Cassette	23032994.05
MSC01-032323	3/23/2023 13:40	Cassette	23032994.06
MSC02-032323	3/23/2023 13:34	Cassette	23032994.07

[REDACTED]
Title: Vice President Operations

Analyst: [REDACTED]

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ab-q210-0321

4/5/2023



**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 # 30080**

Date 4/5/2023

Job ID : 23032994
Analytical Method: NIOSH 7400-I2-Aug1994

Client: GES - ASRC Industrial			Project: J310000600 / Hunters Point Shipyard, Parcel C Removal Site Evaluation								Attn: Brett Womack				
A&B Sample ID	Client Sample ID	Collected Date	Area/Person	Flow Rate L/m	Time On	Time Off	Total Time (min)	Volume (Liters)	Total Fields	Total Fibers	F/mm2	Fiber/cc	8 Hour TWA	Analysis Date	Analyzed By
23032994.01	FBC-032023	03/20/2023						0	100	1	1.274			04/05/23	██████
23032994.02	MSC01-032023	03/21/2023	Area	3.7			1450	5365	100	14.5	18.471	0.001		04/05/23	██████
23032994.03	MSC02-032023	03/21/2023	Area	3.7			1450	5365	100	22	28.025	0.002		04/05/23	██████
23032994.04	MSC01-032223	03/23/2023	Area	3.6			1354	4874.	100	6.5	8.280	0.001		04/05/23	██████
23032994.05	MSC02-032223	03/23/2023	Area	3.7			1390	5143	100	10.0	12.739	0.001		04/05/23	██████
23032994.06	MSC01-032323	03/23/2023	Area	3.58			430	1539.	100	10	12.739	0.003		04/05/23	██████
23032994.07	MSC02-032323	03/23/2023	Area	3.62			423	1531.	100	8.0	10.191	0.003		04/05/23	██████

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

OUTR = Overload,Unable To Read



Sample Condition Checklist

A&B JobID : 23032994	Date Received : 03/29/2023	Time Received : 9:28AM		
Client Name : GES - ASRC Industrial				
Temperature : 17.8°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. ~ 3/29/2023

Received by : ██████████

Check in by/date : ██████████ / 03/29/2023

ab-s005-0321



RECORD

Project Name: Hunters Point Shipyard, Parcel C Removal Site Evaluation	Laboratory: A&B Labs	Event: Parcel C Asbestos
Project Number: J31000600	POC: ██████████	
WBS Code: J310000600	Ship to: 10100 East Fwy Ste, 100 Houston TX 77029	

Comments: Please consolidate all COC pages that share the same COC ID into one SDG.	Analytical Test Method Asbestos	Code	Matrix	Page 1 of 4
		A	Air	
AQ	Air Quality Control Matrix			
Equipment:		Code	Container/Preservative	
Event: Parcel C Asbestos		1	Fiber/No Preservatives	

Sample ID	Matrix	Date	Time	Samp Init.	x	Location ID	Sample Type	Depth (ft bgs)		Cooler	Comments
								Top	Bottom		
1	AQ	03/20/2023	0800	████████	x	FBC	FB1	0.00	0.00	1	
2	A	03/21/2023	0748	████████	x	MSC01	N1	0.00	0.00	1	
3	A	03/21/2023	0738	████████	x	MSC02	N1	0.00	0.00	1	
4											
5											
6											
7											
8											
9											
10											
11											

01P
02A
03B

████████ 3/28/23

8

Turnaround Time: 7 days						
Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
████████	3/28/23	1400	Fedex	3/28/23	1400	Shipping Date: 03/28/23 / FEDEX 7715 8840 5669
████████	3/29/23	9:28	████████	3/29/23	9:28	Received by Laboratory: (Signature, Date, Time) & condition

17.8°C
████████

CHAIN-OF-CUSTODY RECORD

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

COC ID # ██████ 032823ASBC



Project Name: Hunters Point Shipyard, Parcel C Removal Site Evaluation	Laboratory: A&B Labs	Event: Parcel C Asbestos
Project Number: J31000600	POC: ██████████	
WBS Code: J31000600	Ship to: 10100 East Fwy Ste. 100 Houston TX 77029	

Comments: **Please consolidate all COC pages that share the same COC ID into one SDG.**

Code	Matrix
	A Air
AQ	Air Quality Control Matrix
Code	Container/Preservative
1	Filter/No Preservatives

Equipment:

Event: Parcel C Asbestos 1

Sample ID	Matrix	Date	Time	Samp Init.	x	Location ID	Sample Type	Depth (ft bgs)		Cooler	Comments
								Top	Bottom		
1 MSC01-032223	A	03/23/2023	0624	██████	x	MSC01	N1	0.00	0.00	1	
2 MSC02-032223	A	03/23/2023	0636	██████	x	MSC02	N1	0.00	0.00	1	
3											
4											
5											
6											
7											
8											
9											
10											
11											

Turnaround Time: 7 days

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
██████████	3/28/23	1400	Fedex	3/28/23	1400	Shipping Date: 03/28/23 / FEDEX 7715 8840 5669
Fedex	3/29/23	9:28				(Signature, Date, Time) & condition 3/29/23 9:28

17.800
 JON

**CHAIN-OF-CUSTODY
RECORD**

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

COC ID # [Redacted] 032823ASBC



Project Name: Hunters Point Shipyard, Parcel C Removal Site Evaluation	Laboratory: A&B Labs	Event: Parcel C Asbestos
Project Number: J31000600	POC: [Redacted]	
WBS Code: J31000600	Ship to: 10100 East Fwy Ste. 100 Houston TX 77029	

Comments: **Please consolidate all COC pages that share the same COC ID into one SDG.**

Code	Matrix
	A Air
AQ	Air Quality Control Matrix
Code	Container/Preservative
1	Filter/No Preservatives

Page 2 of 4

Equipment: Event: Parcel C Asbestos 1

Sample ID	Matrix	Date	Time	Samp Init.	Location ID	Sample Type	Depth (ft bgs)		Cooler	Comments
							Top	Bottom		
1 MSC01-032323	A	03/23/2023	1340	[Redacted]	MSC01	N1	0.00	0.00	1	
2 MSC02-032323	A	03/23/2023	1334	[Redacted]	MSC02	N1	0.00	0.00	1	
3										
4										
5										
6										
7										
8										
9										
10										
11										

old
UTP

3/24/23

Turnaround Time: 7 days

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[Redacted]	3/28/23	1400	Fedex	3/28/23	1400	Shipping Date: 03/28/23 / FEDEX 7715 8840 5669
Fedex	3/29/23	9:28				[Redacted] (Signature, Date, Time) & condition 3/29/23 9:28

17.8°C
JmJ

Flow Rate, Total Time

Sample ID	End Date	End Time	Flow Rate (L/min), Total Time (mins)
FBC-032023	3/20/23	8:00:00 AM	N/A
MSC01-032023	3/21/23	7:48:00 AM	3.7; 1450
MSC02-032023	3/21/23	7:38:00 AM	3.7; 1450
MSC01-032223	3/23/23	6:24:00 AM	3.6; 1354
MSC02-032223	3/23/23	6:36:00 AM	3.7; 1390
MSC01-032323	3/23/23	1:34:00 PM	3.58; 430
MSC02-032323	3/23/23	1:40:00 PM	3.62; 423

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

SHIP DATE: 21MAR23
ACTWGT: 1.00 LB
CAD: 254128867/NET4580

BILL SENDER

TO

A&B LABS
10100 EAST FREEWAY, SUITE 100

HOUSTON TX 77029

(713) 453 6080 REF: J31000900 02/04/25
INV
PC DEPT



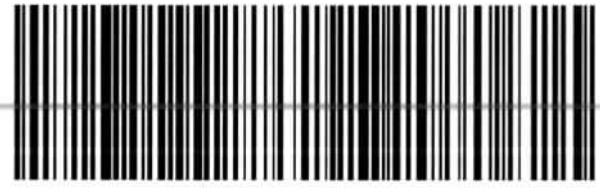
WED - 22 MAR 4:30P

STANDARD OVERNIGHT

TRK# 7715 8840 5669
0201

AB HBYA

77029
TX-US IAH



581.070030FE2C

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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ARS Aleut Analytical, LLC

Laboratory Analytical Report

ARS1-23-00263

GES-AIS, LLC
[Redacted]

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

COC Number: **LS020723RADC**
Job Number: **J310000600**
Job Location: **Hunters Point Shipyard, Parcel C Removal Site Evaluation**
Project Name: **Parcel C 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	T104704447-22-18
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.alautfederal.com for additional information.

ARS Aleut Analytical, LLC Analytical Reports

for

GES-AIS, LLC

Case Narrative



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

Client Sample ID	ARS Aleut Analytical Sample ID
FBC-020123	ARS1-23-00263-001
MSC01-020123	ARS1-23-00263-002
MSC02-020123	ARS1-23-00263-003

Sample	Date Collected	Date Received	Analysis	Basis	Prep Date/Time	Analysis Date/Time
001	02/01/23 08:00	02/08/23	ASP-PU239-AF	As Received	02/24/23 07:47	03/01/23 23:31
001	02/01/23 08:00	02/08/23	ASP-TH-AF	As Received	02/20/23 13:48	02/24/23 02:55
001	02/01/23 08:00	02/08/23	GAM-A-AF	As Received	N/A	02/09/23 14:40
001	02/01/23 08:00	02/08/23	GPC-SR90-AF	As Received	02/20/23 08:45	02/22/23 10:47
002	02/02/23 14:56	02/08/23	ASP-PU239-AF	As Received	02/24/23 07:47	03/01/23 23:31
002	02/02/23 14:56	02/08/23	ASP-TH-AF	As Received	02/20/23 13:48	02/24/23 02:55
002	02/02/23 14:56	02/08/23	GAM-A-AF	As Received	N/A	02/14/23 14:03
002	02/02/23 14:56	02/08/23	GPC-SR90-AF	As Received	02/20/23 08:45	02/22/23 10:47
003	02/02/23 15:02	02/08/23	ASP-PU239-AF	As Received	02/24/23 07:47	03/01/23 23:31
003	02/02/23 15:02	02/08/23	ASP-TH-AF	As Received	02/20/23 13:48	02/24/23 02:55
003	02/02/23 15:02	02/08/23	GAM-A-AF	As Received	N/A	02/10/23 14:39
003	02/02/23 15:02	02/08/23	GPC-SR90-AF	As Received	02/20/23 08:45	02/22/23 10:47

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)"**.

Th-232 analysis was performed using **PALA-RAD-031, "Thorium in Water, Soil and Vegetation Matrices by Eichrom Resin Separation (Eichrom ACW-08 & Eichrom ACW-10)"**.

Ac-228, Am-241, Bi-212, Bi-214, Co-60, Cs-137, Eu-152, Eu-154, K-40, Pa-234, Pb-210, Pb-212, Pb-214, Ra-226, Ra-228, Th-234, Tl-208, U-235, and U-238 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)"**.

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-B23-00291: The Method Blank is greater than the MDA for Th-232; all fractions were non-detects, therefore the activity in the Method Blank did not contribute to the concentration in client samples.

Fraction 001 in batch ARS1-B23-00316 has elevated MDA for Pu-239/240 with ACT of $-4.295E-8$ uCi/filter, MDA of $1.069E-7$ uCi/filter and CRDL of $4.8E-08$ uCi/filter.

Fraction 001 in batch ARS1-B23-00291 has elevated MDA for Th-232 with ACT of $3.471E-8$ uCi/filter, MDA of $8.062E-8$ uCi/filter and CRDL of $1.4E-08$ uCi/filter.

Fraction 001 in batch ARS1-B23-00234 has elevated MDA for Ra-226 with ACT of $-1.064E-5$ uCi/filter, MDA of $2.475E-5$ uCi/filter and CRDL of $4.4E-06$ uCi/filter.

Fraction 002 in batch ARS1-B23-00316 has elevated MDA for Pu-239/240 with ACT of $-3.784E-8$ uCi/filter, MDA of $1.018E-7$ uCi/filter and CRDL of $4.8E-08$ uCi/filter.

Fraction 002 in batch ARS1-B23-00291 has elevated MDA for Th-232 with ACT of $3.792E-8$ uCi/filter, MDA of $4.654E-8$ uCi/filter and CRDL of $1.4E-08$ uCi/filter.

Fraction 002 in batch ARS1-B23-00234 has elevated MDA for Ra-226 with ACT of $-6.712E-5$ uCi/filter, MDA of $3.122E-5$ uCi/filter and CRDL of $4.4E-06$ uCi/filter.

Fraction 003 in batch ARS1-B23-00316 has elevated MDA for Pu-239/240 with ACT of $-4.043E-8$ uCi/filter, MDA of $1.677E-7$ uCi/filter and CRDL of $4.8E-08$ uCi/filter.

Fraction 003 in batch ARS1-B23-00291 has elevated MDA for Th-232 with ACT of $2.532E-8$ uCi/filter, MDA of $8.300E-8$ uCi/filter and CRDL of $1.4E-08$ uCi/filter.

Fraction 003 in batch ARS1-B23-00234 has elevated MDA for Ra-226 with ACT of $-9.972E-7$ uCi/filter, MDA of $1.567E-5$ uCi/filter and CRDL of $4.4E-06$ uCi/filter.

ARS1-B23-00291: ROI's adjusted to better fit the peaks of interest.

ARS1-B23-00316: 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 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

GES-AIS, LLC

Analytical Results



ARS Sample Delivery Group: ARS1-23-00263

Client Sample ID: FBC-020123

Sample Collection Date: 02/01/23 8:00

Sample Matrix: Air Filter

Percent Solids: N/A

Request or PO Number: J310000600

ARS Sample ID: ARS1-23-00263-001

Date Received: 02/08/23

Report Date: 03/07/23

Radiochemistry

Analysis Method: Eichrom ACW03

ABatch Sample ID: ARS1-B23-00316-08

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-4.295E-8	4.367E-8	1.069E-7	4.514E-8	4.8E-08	U	uCi/filter	03/01/23 23:31		68.2%

Analysis Method: Eichrom ACW10

ABatch Sample ID: ARS1-B23-00291-05

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	3.471E-8	4.829E-8	8.062E-8	2.855E-8	1.4E-08	U	uCi/filter	02/24/23 2:55		49.3%

Analysis Method: EPA 901.1M

ABatch Sample ID: ARS1-B23-00234-04

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	2.434E-7	1.569E-6	1.617E-6	8.085E-7	0.00024	U	uCi/filter	02/09/23 14:40		N/A
Cs-137	1.785E-7	1.376E-6	1.552E-6	7.760E-7	0.00048	U	uCi/filter	02/09/23 14:40		N/A
Ra-226	-1.064E-5	2.408E-5	2.475E-5	1.238E-5	4.4E-06	U	uCi/filter	02/09/23 14:40		N/A

Analysis Method: Eichrom SRW01

ABatch Sample ID: ARS1-B23-00292-08

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	9.950E-7	2.175E-6	3.763E-6	1.746E-6	2.4E-05	U	uCi/filter	02/22/23 10:47		100%



ARS Sample Delivery Group: ARS1-23-00263
Client Sample ID: MSC01-020123
Sample Collection Date: 02/02/23 14:56
Sample Matrix: Air Filter
Percent Solids: N/A

Request or PO Number: J310000600
ARS Sample ID: ARS1-23-00263-002
Date Received: 02/08/23
Report Date: 03/07/23

Radiochemistry

Analysis Method: Eichrom ACW03

ABatch Sample ID: ARS1-B23-00316-09

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-3.784E-8	4.393E-8	1.018E-7	4.357E-8	4.8E-08	U	uCi/filter	03/01/23 23:31		79.2%

Analysis Method: Eichrom ACW10

ABatch Sample ID: ARS1-B23-00291-06

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	3.792E-8	3.534E-8	4.654E-8	1.470E-8	1.4E-08	U	uCi/filter	02/24/23 2:55		62.4%

Analysis Method: EPA 901.1M

ABatch Sample ID: ARS1-B23-00234-05

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	-3.250E-7	1.752E-6	1.797E-6	8.985E-7	0.00024	U	uCi/filter	02/14/23 14:03		N/A
Cs-137	2.790E-7	1.379E-6	1.552E-6	7.760E-7	0.00048	U	uCi/filter	02/14/23 14:03		N/A
Ra-226	-6.712E-5	2.432E-5	3.122E-5	1.561E-5	4.4E-06	U	uCi/filter	02/14/23 14:03		N/A

Analysis Method: Eichrom SRW01

ABatch Sample ID: ARS1-B23-00292-09

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	-6.976E-7	2.191E-6	4.087E-6	1.893E-6	2.4E-05	U	uCi/filter	02/22/23 10:47		98.6%



ARS Sample Delivery Group: ARS1-23-00263
Client Sample ID: MSC02-020123
Sample Collection Date: 02/02/23 15:02
Sample Matrix: Air Filter
Percent Solids: N/A

Request or PO Number: J310000600

ARS Sample ID: ARS1-23-00263-003

Date Received: 02/08/23

Report Date: 03/07/23

Radiochemistry

Analysis Method: Eichrom ACW03

ABatch Sample ID: ARS1-B23-00316-10

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-4.043E-8	8.562E-8	1.677E-7	7.602E-8	4.8E-08	U	uCi/filter	03/01/23 23:31		68.3%

Analysis Method: Eichrom ACW10

ABatch Sample ID: ARS1-B23-00291-07

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	2.532E-8	4.652E-8	8.300E-8	3.292E-8	1.4E-08	U	uCi/filter	02/24/23 2:55		63.8%

Analysis Method: EPA 901.1M

ABatch Sample ID: ARS1-B23-00234-06

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	-5.648E-7	1.004E-6	1.086E-6	5.430E-7	0.00024	U	uCi/filter	02/10/23 14:39		N/A
Cs-137	-4.704E-7	8.899E-7	1.030E-6	5.150E-7	0.00048	U	uCi/filter	02/10/23 14:39		N/A
K-40	2.728E-5	1.526E-5	1.176E-5	5.880E-6	NP		uCi/filter	02/10/23 14:39		N/A
Ra-226	-9.972E-7	1.544E-5	1.567E-5	7.835E-6	4.4E-06	U	uCi/filter	02/10/23 14:39		N/A

Analysis Method: Eichrom SRW01

ABatch Sample ID: ARS1-B23-00292-10

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	-1.572E-6	1.909E-6	3.733E-6	1.725E-6	2.4E-05	U	uCi/filter	02/22/23 10:47		100%



ARS Aleut Analytical, LLC Analytical Reports

for

GES-AIS, LLC

Batch QC



QC Results per Analytical Batch

Analytical Batch	ARS1-B23-00234
SDG	ARS1-23-00263
Analysis	Gamma Spec (Short) in (Air Filters, Smears [AF])
Method	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	Recovery (%):	> 75	< 125
Matrix Spike	Recovery (%):	> 60	< 140
Duplicate	Duplicate Error Ratio (DER):		< 3
	Relative Percent Difference (RPD %):		≤ 25

Laboratory Control Sample			Analysis Date	02/10/23 13:54	Analysis Technician	█	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-00234-01	LCS	AM-241	31.474	2.445	33.065	95.2	0.122
ARS1-B23-00234-01	LCS	CO-60	21.446	1.141	20.928	102.5	0.386
ARS1-B23-00234-01	LCS	CS-137	13.335	0.710	12.996	102.6	0.065

Duplicate RER/DER/RPD			Analysis Date	02/10/23 14:05	Analysis Technician	█	
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD	
AM-241	31.474	2.445	31.377	2.438	0.055	0.3	
CO-60	21.446	1.141	21.325	1.140	0.147	0.6	
CS-137	13.335	0.710	13.093	0.698	0.477	1.8	

Method Blank			Analysis Date	02/13/23 14:12	Analysis Technician	█	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual	
ARS1-B23-00234-03	MBL	AC-228	-0.004	0.003	0.004	U	
ARS1-B23-00234-03	MBL	AM-241	-2.940E-4	6.961E-4	0.001	U	
ARS1-B23-00234-03	MBL	BI-212	0.001	0.006	0.007	U	
ARS1-B23-00234-03	MBL	BI-214	0.002	0.002	0.002	U	
ARS1-B23-00234-03	MBL	CO-60	5.572E-4	9.261E-4	9.410E-4	U	
ARS1-B23-00234-03	MBL	CS-137	7.613E-4	7.478E-4	8.240E-4	U	
ARS1-B23-00234-03	MBL	EU-152	2.131E-4	7.502E-4	9.920E-4	U	
ARS1-B23-00234-03	MBL	K-40	-0.006	0.016	0.017	U	
ARS1-B23-00234-03	MBL	PA-234	1.668E-4	8.503E-4	0.001	U	
ARS1-B23-00234-03	MBL	PB-210	-4.385E-4	0.008	0.009	U	
ARS1-B23-00234-03	MBL	PB-212	-0.001	0.001	0.001	U	
ARS1-B23-00234-03	MBL	PB-214	0.001	9.369E-4	0.002	U	
ARS1-B23-00234-03	MBL	RA-226	9.400E-5	0.008	0.013	U	
ARS1-B23-00234-03	MBL	RA-228	-0.004	0.003	0.004	U	
ARS1-B23-00234-03	MBL	TH-234	0.005	0.007	0.008	U	
ARS1-B23-00234-03	MBL	TL-208	-5.665E-4	8.961E-4	9.090E-4	U	
ARS1-B23-00234-03	MBL	U-235	-4.752E-4	0.003	0.004	U	
ARS1-B23-00234-03	MBL	U-238	0.005	0.007	0.008	U	



QC Results per Analytical Batch

Analytical Batch	ARS1-B23-00291
SDG	ARS1-23-00263
Analysis	Thorium in (Air Filters, Smears, Leak Test [AF, SM, LT])
Method	Eichrom ACW10
Analysis Code	ASP-TH-AF
Report Units	uCi/filter

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	02/24/23 02:55	Analysis Technician	[REDACTED]
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-00291-01	LCS	TH-230	5.886E-6	7.486E-7	5.232E-6	112.5	4.472E-8

Duplicate RER/DER/RPD				Analysis Date	02/24/23 02:55	Analysis Technician	[REDACTED]
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD	
TH-230	5.886E-6	7.486E-7	5.649E-6	7.179E-7	0.448	4.1	

Method Blank				Analysis Date	02/24/23 02:55	Analysis Technician	[REDACTED]
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual	
ARS1-B23-00291-03	MBL	TH-228	-5.561E-8	6.425E-8	1.441E-7	U	
ARS1-B23-00291-03	MBL	TH-230	4.829E-8	7.551E-8	1.299E-7	U	
ARS1-B23-00291-03	MBL	TH-232	9.639E-8	5.842E-8	6.396E-8		



QC Results per Analytical Batch

Analytical Batch	ARS1-B23-00292
SDG	ARS1-23-00263
Analysis	Strontium-90 in (Air Filters, Smears [AF])
Method	Eichrom SRW01
Analysis Code	GPC-SR90-AF
Report Units	uCi/filter

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	02/22/23 10:47	Analysis Technician	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-00292-01	LCS	SR-90	2.198E-5	3.374E-6	1.993E-5	110.3	4.517E-7

Duplicate RER/DER/RPD				Analysis Date	02/22/23 10:47	Analysis Technician	
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD	
SR-90	2.198E-5	3.374E-6	2.197E-5	3.354E-6	0.003	0.0	

Method Blank				Analysis Date	02/22/23 10:47	Analysis Technician	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual	
ARS1-B23-00292-03	MBL	SR-90	-3.047E-7	2.098E-6	3.875E-6	U	



QC Results per Analytical Batch

Analytical Batch	ARS1-B23-00316
SDG	ARS1-23-00263
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

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	03/01/23 23:31	Analysis Technician	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-00316-01	LCS	PU-239/240	7.907E-6	9.838E-7	7.691E-6	102.8	7.436E-8

Duplicate RER/DER/RPD				Analysis Date	03/01/23 23:31	Analysis Technician	
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD	
PU-239/240	7.907E-6	9.838E-7	8.185E-6	1.020E-6	0.384	3.5	

Method Blank				Analysis Date	03/01/23 23:31	Analysis Technician	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual	
ARS1-B23-00316-03	MBL	PU-238	0.000	4.487E-8	8.797E-8	U	
ARS1-B23-00316-03	MBL	PU-239/240	-9.344E-9	3.428E-8	7.414E-8	U	



ARS Aleut Analytical, LLC Analytical Reports

for

GES-AIS, LLC

QC Summary



QC Sample Results

Analytical Batch: ARS1-B23-00234
Lab Sample ID: ARS1-B23-00234-01
Method: EPA 901.1M

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 02/10/23 13:54

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Am-241	33.065	31.474		uCi/filter	95.2	75 - 125
Co-60	20.928	21.446		uCi/filter	102.5	75 - 125
Cs-137	12.996	13.335		uCi/filter	102.6	75 - 125



QC Sample Results

Analytical Batch: ARS1-B23-00234

Lab Sample ID: ARS1-B23-00234-02

Method: EPA 901.1M

Sample Type: LCSD

Matrix: Air Filter

Analysis Date: 02/10/23 14:05

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Am-241	33.065	31.377		uCi/filter	94.9	75 - 125	0.3	25	0.055	3
Co-60	20.928	21.325		uCi/filter	101.9	75 - 125	0.6	25	0.147	3
Cs-137	12.996	13.093		uCi/filter	100.7	75 - 125	1.8	25	0.477	3



QC Sample Results

Analytical Batch: ARS1-B23-00234
Lab Sample ID: ARS1-B23-00234-03
Method: EPA 901.1M

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 02/13/23 14:12

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Ac-228	-0.004	0.003	0.004	0.002	U	uCi/filter
Am-241	-2.940E-4	6.961E-4	0.001	5.750E-4	U	uCi/filter
Bi-212	0.001	0.006	0.007	0.003	U	uCi/filter
Bi-214	0.002	0.002	0.002	9.350E-4	U	uCi/filter
Co-60	5.572E-4	9.261E-4	9.410E-4	4.705E-4	U	uCi/filter
Cs-137	7.613E-4	7.478E-4	8.240E-4	4.120E-4	U	uCi/filter
Eu-152	2.131E-4	7.502E-4	9.920E-4	4.960E-4	U	uCi/filter
K-40	-0.006	0.016	0.017	0.008	U	uCi/filter
Pa-234	1.668E-4	8.503E-4	0.001	5.650E-4	U	uCi/filter
Pb-210	-4.385E-4	0.008	0.009	0.004	U	uCi/filter
Pb-212	-0.001	0.001	0.001	7.350E-4	U	uCi/filter
Pb-214	0.001	9.369E-4	0.002	8.400E-4	U	uCi/filter
Ra-226	9.400E-5	0.008	0.013	0.007	U	uCi/filter
Ra-228	-0.004	0.003	0.004	0.002	U	uCi/filter
Th-234	0.005	0.007	0.008	0.004	U	uCi/filter
Tl-208	-5.665E-4	8.961E-4	9.090E-4	4.545E-4	U	uCi/filter
U-235	-4.752E-4	0.003	0.004	0.002	U	uCi/filter
U-238	0.005	0.007	0.008	0.004	U	uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-23-00263

Analytical Batch: ARS1-B23-00234

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

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B23-00234-01		Lab Control Sample	Air Filter	EPA 901.1M	N/A
ARS1-B23-00234-02		Lab Control Sample Duplicate	Air Filter	EPA 901.1M	N/A
ARS1-B23-00234-03		Method Blank	Air Filter	EPA 901.1M	N/A
ARS1-B23-00234-04	ARS1-23-00263-001	FBC-020123	Air Filter	EPA 901.1M	N/A
ARS1-B23-00234-05	ARS1-23-00263-002	MSC01-020123	Air Filter	EPA 901.1M	N/A
ARS1-B23-00234-06	ARS1-23-00263-003	MSC02-020123	Air Filter	EPA 901.1M	N/A



QC Sample Results

Analytical Batch: ARS1-B23-00291

Lab Sample ID: ARS1-B23-00291-01

Method: Eichrom ACW10

Sample Type: LCS

Matrix: Air Filter

Analysis Date: 02/24/23 2:55

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Th-230	5.232E-6	5.886E-6		uCi/filter	112.5	75 - 125



QC Sample Results

Analytical Batch: ARS1-B23-00291

Lab Sample ID: ARS1-B23-00291-02

Method: Eichrom ACW10

Sample Type: LCSD

Matrix: Air Filter

Analysis Date: 02/24/23 2:55

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Th-230	5.237E-6	5.649E-6		uCi/filter	107.9	75 - 125	4.1	25	0.448	3



QC Sample Results

Analytical Batch: ARS1-B23-00291

Lab Sample ID: ARS1-B23-00291-03

Method: Eichrom ACW10

Sample Type: MBL

Matrix: Air Filter

Analysis Date: 02/24/23 2:55

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Th-228	-5.561E-8	6.425E-8	1.441E-7	6.263E-8	U	uCi/filter
Th-230	4.829E-8	7.551E-8	1.299E-7	5.559E-8	U	uCi/filter
Th-232	9.639E-8	5.842E-8	6.396E-8	2.265E-8		uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-23-00263

Analytical Batch: ARS1-B23-00291

Analysis: Thorium in (Air Filters, Smears, Leak Test [AF, SM, LT])

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B23-00291-01		Lab Control Sample	Air Filter	Eichrom ACW10	N/A
ARS1-B23-00291-02		Lab Control Sample Duplicate	Air Filter	Eichrom ACW10	N/A
ARS1-B23-00291-03		Method Blank	Air Filter	Eichrom ACW10	N/A
ARS1-B23-00291-05	ARS1-23-00263-001	FBC-020123	Air Filter	Eichrom ACW10	N/A
ARS1-B23-00291-06	ARS1-23-00263-002	MSC01-020123	Air Filter	Eichrom ACW10	N/A
ARS1-B23-00291-07	ARS1-23-00263-003	MSC02-020123	Air Filter	Eichrom ACW10	N/A



QC Sample Results

Analytical Batch: ARS1-B23-00292

Lab Sample ID: ARS1-B23-00292-01

Method: Eichrom SRW01

Sample Type: LCS

Matrix: Air Filter

Analysis Date: 02/22/23 10:47

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
SR-90	1.993E-5	2.198E-5		uCi/filter	110.3	75 - 125



QC Sample Results

Analytical Batch: ARS1-B23-00292

Lab Sample ID: ARS1-B23-00292-02

Method: Eichrom SRW01

Sample Type: LCSD

Matrix: Air Filter

Analysis Date: 02/22/23 10:47

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
SR-90	1.999E-5	2.197E-5		uCi/filter	109.9	75 - 125	0.0	25	0.003	3



QC Sample Results

Analytical Batch: ARS1-B23-00292

Lab Sample ID: ARS1-B23-00292-03

Method: Eichrom SRW01

Sample Type: MBL

Matrix: Air Filter

Analysis Date: 02/22/23 10:47

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
SR-90	-3.047E-7	2.098E-6	3.875E-6	1.786E-6	U	uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-23-00263

Analytical Batch: ARS1-B23-00292

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

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B23-00292-01		Lab Control Sample	Air Filter	Eichrom SRW01	N/A
ARS1-B23-00292-02		Lab Control Sample Duplicate	Air Filter	Eichrom SRW01	N/A
ARS1-B23-00292-03		Method Blank	Air Filter	Eichrom SRW01	N/A
ARS1-B23-00292-08	ARS1-23-00263-001	FBC-020123	Air Filter	Eichrom SRW01	N/A
ARS1-B23-00292-09	ARS1-23-00263-002	MSC01-020123	Air Filter	Eichrom SRW01	N/A
ARS1-B23-00292-10	ARS1-23-00263-003	MSC02-020123	Air Filter	Eichrom SRW01	N/A



QC Sample Results

Analytical Batch: ARS1-B23-00316

Lab Sample ID: ARS1-B23-00316-01

Method: Eichrom ACW03

Sample Type: LCS

Matrix: Air Filter

Analysis Date: 03/01/23 23:31

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Pu-239/240	7.691E-6	7.907E-6		uCi/filter	102.8	75 - 125



QC Sample Results

Analytical Batch: ARS1-B23-00316
Lab Sample ID: ARS1-B23-00316-02
Method: Eichrom ACW03

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 03/01/23 23:31

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Pu-239/240	7.698E-6	8.185E-6		uCi/filter	106.3	75 - 125	3.5	25	0.384	3



QC Sample Results

Analytical Batch: ARS1-B23-00316

Lab Sample ID: ARS1-B23-00316-03

Method: Eichrom ACW03

Sample Type: MBL

Matrix: Air Filter

Analysis Date: 03/01/23 23:31

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Pu-238	0.000	4.487E-8	8.797E-8	3.766E-8	U	uCi/filter
Pu-239/240	-9.344E-9	3.428E-8	7.414E-8	3.074E-8	U	uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-23-00263

Analytical Batch: ARS1-B23-00316

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-B23-00316-01		Lab Control Sample	Air Filter	Eichrom ACW03	N/A
ARS1-B23-00316-02		Lab Control Sample Duplicate	Air Filter	Eichrom ACW03	N/A
ARS1-B23-00316-03		Method Blank	Air Filter	Eichrom ACW03	N/A
ARS1-B23-00316-08	ARS1-23-00263-001	FBC-020123	Air Filter	Eichrom ACW03	N/A
ARS1-B23-00316-09	ARS1-23-00263-002	MSC01-020123	Air Filter	Eichrom ACW03	N/A
ARS1-B23-00316-10	ARS1-23-00263-003	MSC02-020123	Air Filter	Eichrom ACW03	N/A

ARS Aleut Analytical, LLC Analytical Reports

for

GES-AIS, LLC

Sample Management Records

**CHAIN-OF-CUSTODY
RECORD**

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

COC # █ 020723RADC



Project Name: Hunters Point Shipyard, Parcel C Removal Site Evaluation	Laboratory: ARS Aleut Analytical (AAA), Port Allen, LA	Event: Parcel C Air Monitoring RAD
Project Number: J310000600	POC: █	
WBS Code: J310000600	Ship to: 2609 North River Road, Port Allen, LA 70767-3469	

Comments:	Analytical Test Method	A01RM - Th232	E901.1 - Gamma Spec Air	RC0240 - Pu and Th Isotopes	SR02PC - Sr90	█	█	█	█	█	█	█	Code	Matrix
													A	Air
Equipment:													AQ	Air Quality Control Matrix
													Code	Container/Preservative
													5	1x 1-L. Plastic, HNO3, pH < 2
													15	1x 250-mL. Plastic, 4 Degrees C

Event: Parcel C Air Monitoring RAD															
						15	15	15	5						
Sample ID	Matrix	Date	Time	Samp Init.							Location ID	Sample Type	Depth (ft bgs) Top - Bottom	Cooler	Comments
1 FBC-020123	AQ	02/01/2023	0800	█	X	X	X	X	X	█	FIELDQC	FB2	0.00 0.00	1	
2 MSC01-020123	A	02/02/2023	1456	█	X	X	X	X	X	█	MSC01	N1	0.00 0.00	1	
3 MSC02-020123	A	02/02/2023	1502	█	X	X	X	X	X	█	MSC02	N1	0.00 0.00	1	

Turnaround Time: 28 days

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
█	2/7/23	1400	Fedex	2/7/23	1400	Shipping Date: 2/7/2023 / FEDEX / 7711 4347 3346
			█	2/8/23	950	
						Received by Laboratory: (Signature, Date, Time) & condition



Procedures: GES-003 / EPA 900.0M

Start Date 2/1/23
Stop Date 2/2/23

File ID Number: MC020723RADG

Field Entry

Station	Sample ID	Date In:	Time In:	Date Out:	Time Out:	Initial Flow Rate (LPM)	Final Flow Rate (LPM)	Flow volume Cu M	Julian Date for Out	Total Run Time (Days)	Total Run Time (Hours)	Total Run Time (Minutes)	Average Flow Rate (LPM)	Initial Flow Rate (CFM)	Final Flow Rate (CFM)	Average Flow Rate (CFM)	Average Flow Rate (Cu M/h)	Flow Rate (Cu M/min)	Total Flow (L)
1	MSC01	2/1/2023	8:00	2/1/2023	8:00	14.86	60	109.1	33	1.26	30.32	1819.0	60	#####	#####	#####	#####	0.06	109,140
2	MSC02	2/01/23	7:22	02/02/23	15:02	14.86	60	114.0	33	1.32	31.67	1900.0	60	#####	#####	#####	#####	0.06	114,000

FORMULAS:

Number of Days = (Date Out - Time Out) minus (Date In + Time In)
 Number of Minutes = # of Days X 24hr X 60min
 Flow Rate (m3/h) = Flow Rate (CFM) x 60min x (12in x 2.54cm/in / 100cm/m)³ :
 Mid Sample Date/Time = [(Date+Time Out) + (Date+Time In)] / 2
 Flow Rate (Cu M/min) = CFM X 0.0283168466 Cu M/CF
 Flow Rate (LPM) = Cu M X 1000
 Total Flow (L) = LPM X Total Minutes

SDG Report - Samples and Containers

SDG Specific Data							
SDG	ARS1-23-00263		TAT Days	28 Calendar Days	Project Type	Environmental	
Sample Count	3	Rpt Level	4	Date Received	02/08/2023	COC Number	LS020723RADC
Client	GES-AIS, LLC		Discrepancy Resol	N/A	PO Number		
Client Code	1138		Client Deadline	03/08/2023	Job Number	J31000600	
Profile Number	PN-01440				Job Location	Hunters Point Shipyard, Parcel C Removal Site Evaluation	
Comment							

Samples and Containers Checked In Thus Far									
FR	Name	Matrix	Start Date	End Date	Disp	Hold	Arch	Storage	Comments
001	FBC-020123	Air Filter	02/01/2023 07:59	02/01/2023 08:00	H	30	10	PrePrep	
	IC_ID	Cnt	Container Type	AF Volume (L)	AF Units		Rate	Mins	Comments
	430745	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	02/01/2023 07:59	AF Volume (CuM):			0.001	
002	MSC01-020123	Air Filter	02/02/2023 14:55	02/02/2023 14:56	H	30	10	PrePrep	
	IC_ID	Cnt	Container Type	AF Volume (L)	AF Units		Rate	Mins	Comments
	430746	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	02/02/2023 14:55	AF Volume (CuM):			0.001	
003	MSC02-020123	Air Filter	02/02/2023 15:01	02/02/2023 15:02	H	30	10	PrePrep	
	IC_ID	Cnt	Container Type	AF Volume (L)	AF Units		Rate	Mins	Comments
	430747	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	02/02/2023 15:01	AF Volume (CuM):			0.001	

SDG Report - Analysis Assignments

SDG	ARS1-23-00263	Sample Count	3
Client	GES-AIS, LLC	Analysis Count	4-12

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	3
ASP-TH-AF	Thorium in (Air Filters, Smears, Leak Test [AF, SM, LT])	I	3
GAM-A-AF	Gamma Spec (Short) in (Air Filters, Smears [AF])	I	3
GPC-SR90-AF	Strontium-90 in (Air Filters, Smears [AF])	I	3

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

DQO Report for SDG
ARS1-23-00263

Client Name: GES-AIS, LLC

Profile Name: Parcel C 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	
ASP-TH-AF	WRAD	uCi	filter	N/A	PALA-RAD-031							
	Analyte			RDL	LCS LL/UL	MS LL/UL	RadY LL/UL	GravY LL/UL	RER	RPD	Surr LL/UL	
Th-232 (7440-29-1)				1.4E-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	
	Ac-228 (14331-83-0)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
	Am-241 (14596-10-2)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
	Bi-212 (14913-49-6)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
	Bi-214 (14733-03-0)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
	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
	Eu-152 (14683-23-9)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
	Eu-154 (15585-10-1)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
	K-40 (13966-00-2)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
	Pb-210 (14255-04-0)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
	Pb-212 (15092-94-1)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
	Pb-214 (15067-28-4)				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
	Ra-228 (15262-20-1)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
Th-234 (15065-10-8)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A	
Tl-208 (14913-50-9)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A	
U-235 (15117-96-1)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A	
U-238 (7440-61-1)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A	

GAM-A-AF	Pa-234 (15100-28-4)			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 C Rad Sampling		Pu-239/240	
ASP-PU239-AF	002	uCi	filter	N/A	1
		Group		Analyte	
		Parcel C Rad Sampling		Pu-239/240	
ASP-PU239-AF	003	uCi	filter	N/A	1
		Group		Analyte	
		Parcel C Rad Sampling		Pu-239/240	
ASP-TH-AF	001	uCi	filter	N/A	1
		Group		Analyte	
		Parcel C Rad Sampling		Th-232	
ASP-TH-AF	002	uCi	filter	N/A	1
		Group		Analyte	
		Parcel C Rad Sampling		Th-232	
ASP-TH-AF	003	uCi	filter	N/A	1
		Group		Analyte	
		Parcel C Rad Sampling		Th-232	
GAM-A-AF	001	uCi	filter	N/A	19
		Group		Analyte	
		Parcel C Rad Sampling		Ac-228	
		Parcel C Rad Sampling		Am-241	
		Parcel C Rad Sampling		Bi-212	
		Parcel C Rad Sampling		Bi-214	
		Parcel C Rad Sampling		Co-60	
		Parcel C Rad Sampling		Cs-137	
Parcel C Rad Sampling		Eu-152			

DQO Report for SDG
ARS1-23-00263

GAM-A-AF	001	Parcel C Rad Sampling		Eu-154	
		Parcel C Rad Sampling		K-40	
		Parcel C Rad Sampling		Pa-234	
		Parcel C Rad Sampling		Pb-210	
		Parcel C Rad Sampling		Pb-212	
		Parcel C Rad Sampling		Pb-214	
		Parcel C Rad Sampling		Ra-226	
		Parcel C Rad Sampling		Ra-228	
		Parcel C Rad Sampling		Th-234	
		Parcel C Rad Sampling		Tl-208	
		Parcel C Rad Sampling		U-235	
		Parcel C Rad Sampling		U-238	
		GAM-A-AF	002	uCi	filter
Group				Analyte	
Parcel C Rad Sampling				Ac-228	
Parcel C Rad Sampling				Am-241	
Parcel C Rad Sampling				Bi-212	
Parcel C Rad Sampling				Bi-214	
Parcel C Rad Sampling				Co-60	
Parcel C Rad Sampling				Cs-137	
Parcel C Rad Sampling				Eu-152	
Parcel C Rad Sampling				Eu-154	
Parcel C Rad Sampling				K-40	
Parcel C Rad Sampling				Pa-234	
Parcel C Rad Sampling				Pb-210	
Parcel C Rad Sampling				Pb-212	
Parcel C Rad Sampling				Pb-214	
Parcel C Rad Sampling				Ra-226	
Parcel C Rad Sampling				Ra-228	
Parcel C Rad Sampling				Th-234	
Parcel C Rad Sampling				Tl-208	
Parcel C Rad Sampling				U-235	
Parcel C Rad Sampling		U-238			

DQO Report for SDG
ARS1-23-00263

GAM-A-AF	003	uCi	filter	N/A	19	
		Group		Analyte		
		Parcel C Rad Sampling		Ac-228		
		Parcel C Rad Sampling		Am-241		
		Parcel C Rad Sampling		Bi-212		
		Parcel C Rad Sampling		Bi-214		
		Parcel C Rad Sampling		Co-60		
		Parcel C Rad Sampling		Cs-137		
		Parcel C Rad Sampling		Eu-152		
		Parcel C Rad Sampling		Eu-154		
		Parcel C Rad Sampling		K-40		
		Parcel C Rad Sampling		Pa-234		
		Parcel C Rad Sampling		Pb-210		
		Parcel C Rad Sampling		Pb-212		
		Parcel C Rad Sampling		Pb-214		
		Parcel C Rad Sampling		Ra-226		
		Parcel C Rad Sampling		Ra-228		
		Parcel C Rad Sampling		Th-234		
		Parcel C Rad Sampling		Tl-208		
Parcel C Rad Sampling		U-235				
Parcel C Rad Sampling		U-238				
GPC-SR90-AF	001	uCi	filter	N/A	1	
		Group		Analyte		
Parcel C Rad Sampling		Sr-90				
GPC-SR90-AF	002	uCi	filter	N/A	1	
		Group		Analyte		
Parcel C Rad Sampling		Sr-90				
GPC-SR90-AF	003	uCi	filter	N/A	1	
		Group		Analyte		
Parcel C Rad Sampling		Sr-90				

PALA Sample Receipt Inspection Form

Client Name: Gilbane
 SDG: ARS1-23-00263

Sample Custodian: [REDACTED] Survey Start Date: 2/8/23 Survey Start Time: 955
 Thermometer ID: E1054012261 Calibration Due Date: 1/12/24 pH Paper Lot# NA
 Exposure Rate Meter + Probe Unit ID: 273629 Calibration Due Date: 9/13/23 Background: 4 $\mu\text{R/hr}$
 Count Rate Meter + Probe Unit ID: 268993 Calibration Due Date: 9/29/23 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>771143473346</u>	<u>5</u>	<u>30</u>	<u>30</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: ARSI-23-00263

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 As Rec'd	pH Adjusted	Acid Lot # or Ind container temp (°C)	Vol. of Acid Used (mL)	cpm
<u>IBC-020123</u>	<u>A</u>	<u>Ziploc</u>	<u>25</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>30</u>
<u>MSC01-020123</u>	↓	↓	↓	↓	↓	↓	↓	↓
<u>MLC02-020123</u>	↓	↓	↓	↓	↓	↓	↓	↓

Sample Custodia [REDACTED] Survey End Date: 2/8/23 Survey/pH End Time: 1000

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: JCCA

200 FISHER STREET

SAN FRANCISCO, CA 94124
UNITED STATES US

SHIP DATE: 31JAN23
ACTWGT: 1.00 LB
CAD: 254128867/INET4580

BILL SENDER

TO

ARS ALEUT ANALYTICAL, LLC
2609 NORTH RIVER ROAD

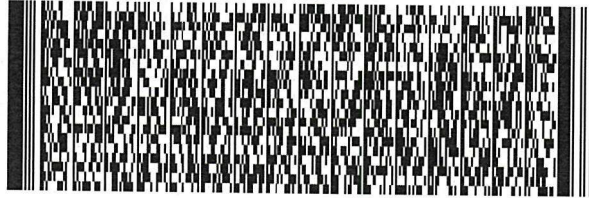
PORT ALLEN LA 70767

(225) 381-2991

REF: J31000.600 02.04.05

INV:
PO:

DEPT:



FedEx
Express



8813178802/FE2D

23162311161uv

WED - 01 FEB 4:30P

STANDARD OVERNIGHT

TRK#
0201

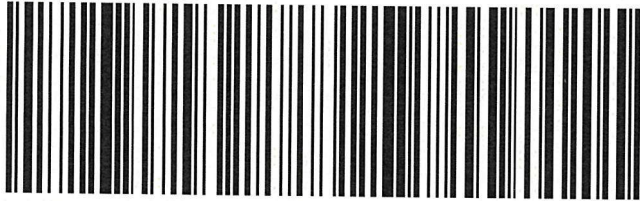
7711 4347 3346

XN OPLA

70767

LA-US

MSY



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Port Allen, Louisiana 70767
(225) 228-1394

ARS Aleut Analytical, LLC

Laboratory Analytical Report

ARS1-23-00325

GES-AIS, LLC



1655 Grant Street
Suite 1200
Concord, CA 94520



COC Number: **LS021423RADC**

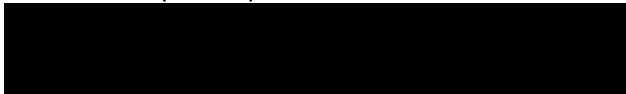
Job Number: **J310000600**

Job Location: **Hunters Point Shipyard, Parcel C Removal Site Evaluation**

Project Name: **Parcel C 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.



Laboratory Management, ARS Aleut Analytical

Signature

Date

Title

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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	T104704447-22-18
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.alseutederal.com for additional information.



ARS Aleut Analytical, LLC Analytical Reports

for

GES-AIS, LLC

Case Narrative



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

Client Sample ID	ARS Aleut Analytical Sample ID
FBC-020623	ARS1-23-00325-001
MSC01-020623	ARS1-23-00325-002
MSC02-020623	ARS1-23-00325-003

Sample	Date Collected	Date Received	Analysis	Basis	Prep Date/Time	Analysis Date/Time
001	02/06/23 08:00	02/15/23	ASP-PU239-AF	As Received	02/24/23 07:47	03/01/23 23:31
001	02/06/23 08:00	02/15/23	ASP-TH-AF	As Received	03/01/23 07:24	03/04/23 03:52
001	02/06/23 08:00	02/15/23	GAM-A-AF	As Received	N/A	02/20/23 14:07
001	02/06/23 08:00	02/15/23	GPC-SR90-AF	As Received	02/24/23 08:08	03/02/23 11:37
002	02/09/23 14:18	02/15/23	ASP-PU239-AF	As Received	02/24/23 07:47	03/01/23 23:31
002	02/09/23 14:18	02/15/23	ASP-TH-AF	As Received	03/01/23 07:24	03/04/23 03:52
002	02/09/23 14:18	02/15/23	GAM-A-AF	As Received	N/A	02/17/23 15:37
002	02/09/23 14:18	02/15/23	GPC-SR90-AF	As Received	02/24/23 08:08	03/02/23 11:37
003	02/09/23 14:07	02/15/23	ASP-PU239-AF	As Received	02/24/23 07:47	03/01/23 23:31
003	02/09/23 14:07	02/15/23	ASP-TH-AF	As Received	03/01/23 07:24	03/04/23 03:52
003	02/09/23 14:07	02/15/23	GAM-A-AF	As Received	N/A	02/20/23 14:08
003	02/09/23 14:07	02/15/23	GPC-SR90-AF	As Received	02/24/23 08:08	03/02/23 11:37

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)"**.

Th-232 analysis was performed using **PALA-RAD-031, "Thorium in Water, Soil and Vegetation Matrices by Eichrom Resin Separation (Eichrom ACW-08 & Eichrom ACW-10)"**.

Ac-228, Am-241, Bi-212, Bi-214, Co-60, Cs-137, Eu-152, Eu-154, K-40, Pa-234, Pb-210, Pb-212, Pb-214, Ra-226, Ra-228, Th-234, Tl-208, U-235, and U-238 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)"**.

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 in batch ARS1-B23-00316 has elevated MDA for Pu-239/240 with ACT of 2.014E-8 uCi/filter, MDA of 7.229E-8 uCi/filter and CRDL of 4.8E-08 uCi/filter.

Fraction 001 in batch ARS1-B23-00341 has elevated MDA for Th-232 with ACT of 3.160E-8 uCi/filter, MDA of 7.593E-8 uCi/filter and CRDL of 1.4E-08 uCi/filter.

Fraction 001 in batch ARS1-B23-00289 has elevated MDA for Ra-226 with ACT of -6.298E-6 uCi/filter, MDA of 1.522E-5 uCi/filter and CRDL of 4.4E-06 uCi/filter.

Fraction 002 in batch ARS1-B23-00316 has elevated MDA for Pu-239/240 with ACT of -7.079E-8 uCi/filter, MDA of 1.292E-7 uCi/filter and CRDL of 4.8E-08 uCi/filter.

Fraction 002 in batch ARS1-B23-00341 has elevated MDA for Th-232 with ACT of 3.998E-8 uCi/filter, MDA of 6.191E-8 uCi/filter and CRDL of 1.4E-08 uCi/filter.

Fraction 003 in batch ARS1-B23-00316 has elevated MDA for Pu-239/240 with ACT of -5.071E-8 uCi/filter, MDA of 1.275E-7 uCi/filter and CRDL of 4.8E-08 uCi/filter.

Fraction 003 in batch ARS1-B23-00341 has elevated MDA for Th-232 with ACT of 0.000 uCi/filter, MDA of 1.611E-7 uCi/filter and CRDL of 1.4E-08 uCi/filter.

Fraction 003 in batch ARS1-B23-00289 has elevated MDA for Ra-226 with ACT of 2.643E-6 uCi/filter, MDA of 8.776E-6 uCi/filter and CRDL of 4.4E-06 uCi/filter.

ARS1-23-00325: The Method Blank for GAM-A-AF had a detect for Bi-212. All fractions were non-detects, therefore the activity in the Method Blank did not contribute to the concentration in client samples.

ARS1-B23-00316: ROI's adjusted to better fit the peaks of interest.

ARS1-B23-00341: 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 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

GES-AIS, LLC

Analytical Results



ARS Sample Delivery Group: ARS1-23-00325

Client Sample ID: FBC-020623

Sample Collection Date: 02/06/23 8:00

Sample Matrix: Air Filter

Percent Solids: N/A

Request or PO Number: J310000600

ARS Sample ID: ARS1-23-00325-001

Date Received: 02/15/23

Report Date: 03/14/23

Radiochemistry

Analysis Method: Eichrom ACW03

ABatch Sample ID: ARS1-B23-00316-15

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	2.014E-8	3.955E-8	7.229E-8	2.705E-8	4.8E-08	U	uCi/filter	03/01/23 23:31		61.2%

Analysis Method: Eichrom ACW10

ABatch Sample ID: ARS1-B23-00341-04

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	3.160E-8	4.482E-8	7.593E-8	2.940E-8	1.4E-08	U	uCi/filter	03/04/23 3:52		67.7%

Analysis Method: EPA 901.1M

ABatch Sample ID: ARS1-B23-00289-04

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	-1.841E-7	9.110E-7	1.000E-6	5.000E-7	0.00024	U	uCi/filter	02/20/23 14:07		N/A
Cs-137	-4.372E-7	8.678E-7	1.006E-6	5.030E-7	0.00048	U	uCi/filter	02/20/23 14:07		N/A
K-40	3.196E-5	1.338E-5	9.803E-6	4.902E-6	NP		uCi/filter	02/20/23 14:07		N/A
Ra-226	-6.298E-6	1.512E-5	1.522E-5	7.610E-6	4.4E-06	U	uCi/filter	02/20/23 14:07		N/A

Analysis Method: Eichrom SRW01

ABatch Sample ID: ARS1-B23-00317-08

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	1.241E-6	2.153E-6	3.685E-6	1.700E-6	2.4E-05	U	uCi/filter	03/02/23 11:37		96.9%



ARS Sample Delivery Group: ARS1-23-00325
Client Sample ID: MSC01-020623
Sample Collection Date: 02/09/23 14:18
Sample Matrix: Air Filter
Percent Solids: N/A

Request or PO Number: J310000600
ARS Sample ID: ARS1-23-00325-002
Date Received: 02/15/23
Report Date: 03/14/23

Radiochemistry

Analysis Method: Eichrom ACW03

ABatch Sample ID: ARS1-B23-00316-16

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-7.079E-8	5.490E-8	1.292E-7	5.658E-8	4.8E-08	U	uCi/filter	03/01/23 23:31		72.6%

Analysis Method: Eichrom ACW10

ABatch Sample ID: ARS1-B23-00341-05

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	3.998E-8	4.158E-8	6.191E-8	2.192E-8	1.4E-08	U	uCi/filter	03/04/23 3:52		59.2%

Analysis Method: EPA 901.1M

ABatch Sample ID: ARS1-B23-00289-05

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	3.640E-7	9.488E-7	9.697E-7	4.849E-7	0.00024	U	uCi/filter	02/17/23 15:37		N/A
Cs-137	-1.340E-7	8.138E-7	9.147E-7	4.574E-7	0.00048	U	uCi/filter	02/17/23 15:37		N/A
Ra-226	2.099E-5	9.398E-6	1.139E-5	5.695E-6	4.4E-06		uCi/filter	02/17/23 15:37		N/A

Analysis Method: Eichrom SRW01

ABatch Sample ID: ARS1-B23-00317-09

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	1.231E-6	2.021E-6	3.445E-6	1.591E-6	2.4E-05	U	uCi/filter	03/02/23 11:37		101%



ARS Sample Delivery Group: ARS1-23-00325
Client Sample ID: MSC02-020623
Sample Collection Date: 02/09/23 14:07
Sample Matrix: Air Filter
Percent Solids: N/A

Request or PO Number: J310000600

ARS Sample ID: ARS1-23-00325-003

Date Received: 02/15/23

Report Date: 03/14/23

Radiochemistry

Analysis Method: Eichrom ACW03

ABatch Sample ID: ARS1-B23-00316-17

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-5.071E-8	5.590E-8	1.275E-7	5.517E-8	4.8E-08	U	uCi/filter	03/01/23 23:31		64.3%

Analysis Method: Eichrom ACW10

ABatch Sample ID: ARS1-B23-00341-06

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	0.000	7.435E-8	1.611E-7	6.240E-8	1.4E-08	U	uCi/filter	03/04/23 3:52		30.1%

Analysis Method: EPA 901.1M

ABatch Sample ID: ARS1-B23-00289-06

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Bi-214	1.738E-6	1.286E-6	1.402E-6	7.010E-7	NP		uCi/filter	02/20/23 14:08		N/A
Co-60	-2.550E-8	5.397E-7	9.218E-7	4.609E-7	0.00024	U	uCi/filter	02/20/23 14:08		N/A
Cs-137	2.686E-7	6.706E-7	7.254E-7	3.627E-7	0.00048	U	uCi/filter	02/20/23 14:08		N/A
Pb-214	1.634E-6	8.573E-7	1.108E-6	5.540E-7	NP		uCi/filter	02/20/23 14:08		N/A
Ra-226	2.643E-6	6.953E-6	8.776E-6	4.388E-6	4.4E-06	U	uCi/filter	02/20/23 14:08		N/A

Analysis Method: Eichrom SRW01

ABatch Sample ID: ARS1-B23-00317-10

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	2.734E-6	2.369E-6	3.793E-6	1.761E-6	2.4E-05	U	uCi/filter	03/02/23 11:37		100%



ARS Aleut Analytical, LLC Analytical Reports

for

GES-AIS, LLC

Batch QC



QC Results per Analytical Batch

Analytical Batch	ARS1-B23-00289
SDG	ARS1-23-00325
Analysis	Gamma Spec (Short) in (Air Filters, Smears [AF])
Method	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	Recovery (%):	> 75	< 125
Matrix Spike	Recovery (%):	> 60	< 140
Duplicate	Duplicate Error Ratio (DER):		< 3
	Relative Percent Difference (RPD %):		≤ 25

Laboratory Control Sample			Analysis Date	02/20/23 10:40	Analysis Technician		
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-00289-01	LCS	AM-241	31.160	2.371	33.065	94.2	0.118
ARS1-B23-00289-01	LCS	CO-60	21.602	1.270	20.928	103.2	0.405
ARS1-B23-00289-01	LCS	CS-137	13.524	0.882	12.996	104.1	0.069

Duplicate RER/DER/RPD			Analysis Date	02/20/23 10:52	Analysis Technician	
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD
AM-241	31.160	2.371	31.662	2.408	0.291	1.6
CO-60	21.602	1.270	22.122	1.289	0.563	2.4
CS-137	13.524	0.882	13.715	0.894	0.298	1.4

Method Blank			Analysis Date	02/20/23 14:05	Analysis Technician	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual
ARS1-B23-00289-03	MBL	AC-228	0.001	0.006	0.006	U
ARS1-B23-00289-03	MBL	AM-241	-1.975E-4	0.001	0.002	U
ARS1-B23-00289-03	MBL	BI-212	0.011	0.007	0.009	U
ARS1-B23-00289-03	MBL	BI-214	-0.003	0.004	0.004	U
ARS1-B23-00289-03	MBL	CO-60	-2.103E-4	0.002	0.002	U
ARS1-B23-00289-03	MBL	CS-137	4.850E-4	0.001	0.001	U
ARS1-B23-00289-03	MBL	EU-152	-6.144E-4	0.001	0.002	U
ARS1-B23-00289-03	MBL	K-40	-0.010	0.023	0.022	U
ARS1-B23-00289-03	MBL	PA-234	7.186E-4	0.001	0.002	U
ARS1-B23-00289-03	MBL	PB-210	-0.006	0.016	0.017	U
ARS1-B23-00289-03	MBL	PB-212	-0.001	0.002	0.003	U
ARS1-B23-00289-03	MBL	PB-214	-0.001	0.003	0.003	U
ARS1-B23-00289-03	MBL	RA-226	-0.083	0.032	0.032	U
ARS1-B23-00289-03	MBL	RA-228	0.001	0.006	0.006	U
ARS1-B23-00289-03	MBL	TH-234	-0.001	0.016	0.020	U
ARS1-B23-00289-03	MBL	TL-208	-7.239E-4	0.002	0.002	U
ARS1-B23-00289-03	MBL	U-235	0.001	0.006	0.006	U
ARS1-B23-00289-03	MBL	U-238	-0.001	0.016	0.020	U



QC Results per Analytical Batch

Analytical Batch	ARS1-B23-00316
SDG	ARS1-23-00325
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

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	03/01/23 23:31	Analysis Technician	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-00316-01	LCS	PU-239/240	7.907E-6	9.838E-7	7.691E-6	102.8	7.436E-8

Duplicate RER/DER/RPD				Analysis Date	03/01/23 23:31	Analysis Technician	
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD	
PU-239/240	7.907E-6	9.838E-7	8.185E-6	1.020E-6	0.384	3.5	

Method Blank				Analysis Date	03/01/23 23:31	Analysis Technician	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual	
ARS1-B23-00316-03	MBL	PU-238	0.000	4.487E-8	8.797E-8	U	
ARS1-B23-00316-03	MBL	PU-239/240	-9.344E-9	3.428E-8	7.414E-8	U	



QC Results per Analytical Batch

Analytical Batch	ARS1-B23-00317
SDG	ARS1-23-00325
Analysis	Strontium-90 in (Air Filters, Smears [AF])
Method	Eichrom SRW01
Analysis Code	GPC-SR90-AF
Report Units	uCi/filter

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	03/02/23 11:37	Analysis Technician	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-00317-01	LCS	SR-90	2.055E-5	3.169E-6	1.974E-5	104.1	6.437E-7

Duplicate RER/DER/RPD				Analysis Date	03/02/23 11:37	Analysis Technician	
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD	
SR-90	2.055E-5	3.169E-6	2.042E-5	3.133E-6	0.058	0.6	

Method Blank				Analysis Date	03/02/23 11:37	Analysis Technician	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual	
ARS1-B23-00317-03	MBL	SR-90	6.507E-7	2.376E-6	4.200E-6	U	



QC Results per Analytical Batch

Analytical Batch	ARS1-B23-00341
SDG	ARS1-23-00325
Analysis	Thorium in (Air Filters, Smears, Leak Test [AF, SM, LT])
Method	Eichrom ACW10
Analysis Code	ASP-TH-AF
Report Units	uCi/filter

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	03/04/23 03:52	Analysis Technician	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-00341-01	LCS	TH-230	5.894E-6	7.484E-7	5.217E-6	113.0	4.182E-8

Duplicate RER/DER/RPD				Analysis Date	03/04/23 03:52	Analysis Technician	
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD	
TH-230	5.894E-6	7.484E-7	6.234E-6	8.140E-7	0.604	5.6	

Method Blank				Analysis Date	03/04/23 03:52	Analysis Technician	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual	
ARS1-B23-00341-03	MBL	TH-228	5.921E-8	2.286E-7	4.110E-7	U	
ARS1-B23-00341-03	MBL	TH-230	1.911E-7	1.671E-7	2.562E-7	U	
ARS1-B23-00341-03	MBL	TH-232	-5.869E-8	9.122E-8	2.204E-7	U	

ARS Aleut Analytical, LLC Analytical Reports

for

GES-AIS, LLC

QC Summary



QC Sample Results

Analytical Batch: ARS1-B23-00289
Lab Sample ID: ARS1-B23-00289-01
Method: EPA 901.1M

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 02/20/23 10:40

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Am-241	33.065	31.160		uCi/filter	94.2	75 - 125
Co-60	20.928	21.602		uCi/filter	103.2	75 - 125
Cs-137	12.996	13.524		uCi/filter	104.1	75 - 125



QC Sample Results

Analytical Batch: ARS1-B23-00289

Lab Sample ID: ARS1-B23-00289-02

Method: EPA 901.1M

Sample Type: LCSD

Matrix: Air Filter

Analysis Date: 02/20/23 10:52

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Am-241	33.065	31.662		uCi/filter	95.8	75 - 125	1.6	25	0.291	3
Co-60	20.928	22.122		uCi/filter	105.7	75 - 125	2.4	25	0.563	3
Cs-137	12.996	13.715		uCi/filter	105.5	75 - 125	1.4	25	0.298	3



QC Sample Results

Analytical Batch: ARS1-B23-00289
Lab Sample ID: ARS1-B23-00289-03
Method: EPA 901.1M

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 02/20/23 14:05

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Ac-228	0.001	0.006	0.006	0.003	U	uCi/filter
Am-241	-1.975E-4	0.001	0.002	0.001	U	uCi/filter
Bi-212	0.011	0.007	0.009	0.004		uCi/filter
Bi-214	-0.003	0.004	0.004	0.002	U	uCi/filter
Co-60	-2.103E-4	0.002	0.002	8.500E-4	U	uCi/filter
Cs-137	4.850E-4	0.001	0.001	7.350E-4	U	uCi/filter
Eu-152	-6.144E-4	0.001	0.002	9.050E-4	U	uCi/filter
K-40	-0.010	0.023	0.022	0.011	U	uCi/filter
Pa-234	7.186E-4	0.001	0.002	9.700E-4	U	uCi/filter
Pb-210	-0.006	0.016	0.017	0.008	U	uCi/filter
Pb-212	-0.001	0.002	0.003	0.001	U	uCi/filter
Pb-214	-0.001	0.003	0.003	0.002	U	uCi/filter
Ra-226	-0.083	0.032	0.032	0.016	U	uCi/filter
Ra-228	0.001	0.006	0.006	0.003	U	uCi/filter
Th-234	-0.001	0.016	0.020	0.010	U	uCi/filter
Tl-208	-7.239E-4	0.002	0.002	8.300E-4	U	uCi/filter
U-235	0.001	0.006	0.006	0.003	U	uCi/filter
U-238	-0.001	0.016	0.020	0.010	U	uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-23-00325

Analytical Batch: ARS1-B23-00289

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

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B23-00289-01		Lab Control Sample	Air Filter	EPA 901.1M	N/A
ARS1-B23-00289-02		Lab Control Sample Duplicate	Air Filter	EPA 901.1M	N/A
ARS1-B23-00289-03		Method Blank	Air Filter	EPA 901.1M	N/A
ARS1-B23-00289-04	ARS1-23-00325-001	FBC-020623	Air Filter	EPA 901.1M	N/A
ARS1-B23-00289-05	ARS1-23-00325-002	MSC01-020623	Air Filter	EPA 901.1M	N/A
ARS1-B23-00289-06	ARS1-23-00325-003	MSC02-020623	Air Filter	EPA 901.1M	N/A



QC Sample Results

Analytical Batch: ARS1-B23-00316

Lab Sample ID: ARS1-B23-00316-01

Method: Eichrom ACW03

Sample Type: LCS

Matrix: Air Filter

Analysis Date: 03/01/23 23:31

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Pu-239/240	7.691E-6	7.907E-6		uCi/filter	102.8	75 - 125



QC Sample Results

Analytical Batch: ARS1-B23-00316

Lab Sample ID: ARS1-B23-00316-02

Method: Eichrom ACW03

Sample Type: LCSD

Matrix: Air Filter

Analysis Date: 03/01/23 23:31

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Pu-239/240	7.698E-6	8.185E-6		uCi/filter	106.3	75 - 125	3.5	25	0.384	3



QC Sample Results

Analytical Batch: ARS1-B23-00316

Lab Sample ID: ARS1-B23-00316-03

Method: Eichrom ACW03

Sample Type: MBL

Matrix: Air Filter

Analysis Date: 03/01/23 23:31

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Pu-238	0.000	4.487E-8	8.797E-8	3.766E-8	U	uCi/filter
Pu-239/240	-9.344E-9	3.428E-8	7.414E-8	3.074E-8	U	uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-23-00325

Analytical Batch: ARS1-B23-00316

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-B23-00316-01		Lab Control Sample	Air Filter	Eichrom ACW03	N/A
ARS1-B23-00316-02		Lab Control Sample Duplicate	Air Filter	Eichrom ACW03	N/A
ARS1-B23-00316-03		Method Blank	Air Filter	Eichrom ACW03	N/A
ARS1-B23-00316-15	ARS1-23-00325-001	FBC-020623	Air Filter	Eichrom ACW03	N/A
ARS1-B23-00316-16	ARS1-23-00325-002	MSC01-020623	Air Filter	Eichrom ACW03	N/A
ARS1-B23-00316-17	ARS1-23-00325-003	MSC02-020623	Air Filter	Eichrom ACW03	N/A



QC Sample Results

Analytical Batch: ARS1-B23-00317

Lab Sample ID: ARS1-B23-00317-01

Method: Eichrom SRW01

Sample Type: LCS

Matrix: Air Filter

Analysis Date: 03/02/23 11:37

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
SR-90	1.974E-5	2.055E-5		uCi/filter	104.1	75 - 125



QC Sample Results

Analytical Batch: ARS1-B23-00317

Lab Sample ID: ARS1-B23-00317-02

Method: Eichrom SRW01

Sample Type: LCSD

Matrix: Air Filter

Analysis Date: 03/02/23 11:37

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
SR-90	1.978E-5	2.042E-5		uCi/filter	103.3	75 - 125	0.6	25	0.058	3



QC Sample Results

Analytical Batch: ARS1-B23-00317

Lab Sample ID: ARS1-B23-00317-03

Method: Eichrom SRW01

Sample Type: MBL

Matrix: Air Filter

Analysis Date: 03/02/23 11:37

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
SR-90	6.507E-7	2.376E-6	4.200E-6	1.939E-6	U	uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-23-00325

Analytical Batch: ARS1-B23-00317

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

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B23-00317-01		Lab Control Sample	Air Filter	Eichrom SRW01	N/A
ARS1-B23-00317-02		Lab Control Sample Duplicate	Air Filter	Eichrom SRW01	N/A
ARS1-B23-00317-03		Method Blank	Air Filter	Eichrom SRW01	N/A
ARS1-B23-00317-08	ARS1-23-00325-001	FBC-020623	Air Filter	Eichrom SRW01	N/A
ARS1-B23-00317-09	ARS1-23-00325-002	MSC01-020623	Air Filter	Eichrom SRW01	N/A
ARS1-B23-00317-10	ARS1-23-00325-003	MSC02-020623	Air Filter	Eichrom SRW01	N/A



QC Sample Results

Analytical Batch: ARS1-B23-00341

Lab Sample ID: ARS1-B23-00341-01

Method: Eichrom ACW10

Sample Type: LCS

Matrix: Air Filter

Analysis Date: 03/04/23 3:52

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Th-230	5.217E-6	5.894E-6		uCi/filter	113.0	75 - 125



QC Sample Results

Analytical Batch: ARS1-B23-00341

Lab Sample ID: ARS1-B23-00341-02

Method: Eichrom ACW10

Sample Type: LCSD

Matrix: Air Filter

Analysis Date: 03/04/23 3:52

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Th-230	5.253E-6	6.234E-6		uCi/filter	118.7	75 - 125	5.6	25	0.604	3



QC Sample Results

Analytical Batch: ARS1-B23-00341

Lab Sample ID: ARS1-B23-00341-03

Method: Eichrom ACW10

Sample Type: MBL

Matrix: Air Filter

Analysis Date: 03/04/23 3:52

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Th-228	5.921E-8	2.286E-7	4.110E-7	1.855E-7	U	uCi/filter
Th-230	1.911E-7	1.671E-7	2.562E-7	1.082E-7	U	uCi/filter
Th-232	-5.869E-8	9.122E-8	2.204E-7	9.031E-8	U	uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-23-00325

Analytical Batch: ARS1-B23-00341

Analysis: Thorium in (Air Filters, Smears, Leak Test [AF, SM, LT])

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B23-00341-01		Lab Control Sample	Air Filter	Eichrom ACW10	N/A
ARS1-B23-00341-02		Lab Control Sample Duplicate	Air Filter	Eichrom ACW10	N/A
ARS1-B23-00341-03		Method Blank	Air Filter	Eichrom ACW10	N/A
ARS1-B23-00341-04	ARS1-23-00325-001	FBC-020623	Air Filter	Eichrom ACW10	N/A
ARS1-B23-00341-05	ARS1-23-00325-002	MSC01-020623	Air Filter	Eichrom ACW10	N/A
ARS1-B23-00341-06	ARS1-23-00325-003	MSC02-020623	Air Filter	Eichrom ACW10	N/A



ARS Aleut Analytical, LLC Analytical Reports

for

GES-AIS, LLC

Sample Management Records

**CHAIN-OF-CUSTODY
RECORD**

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

COC # 021423RADC



Project Name: Hunters Point Shipyard, Parcel C Removal Site Evaluation	Laboratory: ARS Aleut Analytical (AAA), Port Allen, LA	Event: Parcel C Air Monitoring RAD
Project Number: J310000600	POC: [Redacted]	
WBS Code: J310000600	Ship to: 2609 North River Road, Port Allen, LA 70767-3469	

Comments:	Analytical Test Method	A01RM - Th232	E901.1 - Gamma Spec Air	RC0240 - Pu and Th isotopes	SR02RC - S90	Code	Matrix	Page 1 of 1
						A	Air	
Equipment:						Code	Container/Preservative	
						5	1x 1-L. Plastic, HNO3, pH < 2	
						15	1x 250-mL. Plastic, 4 Degrees C	

Event: Parcel C Air Monitoring RAD																	
Sample ID	Matrix	Date	Time	Samp Init.							Location ID	Sample Type	Depth (ft bgs) Top - Bottom	Cooler	Comments		
1	FBC-020623	AQ	02/06/2023	0900	[Redacted]	X	X	X	X	X	[Redacted]	FIELDQC	FB2	0.00	0.00	1	
2	MSC01-020623	A	02/09/2023	1418	[Redacted]	X	X	X	X	X	[Redacted]	MSC01	N1	0.00	0.00	1	
3	MSC02-020623	A	02/09/2023	1407	[Redacted]	X	X	X	X	X	[Redacted]	MSC02	N1	0.00	0.00	1	

Turnaround Time: 28 days

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[Redacted]	2/14/23	1400	Fedex	2/14/23	1400	Shipping Date: 2/14/2023 / FEDEX / 7712 2386 9389
			[Redacted]	2/15/23	1200	Received by Laboratory: (Signature, Date, Time) & condition



Procedures: GES-003 / EPA 900.0M

2/14/23

Start Date 2/6/23
Stop Date 2/9/23

File ID Number: ~~MSC01-020623~~

0214232ADC

Field Entry

Station	Sample ID	Date In:	Time In:	Date Out:	Time Out:	Initial Flow Rate (LPM)	Final Flow Rate (LPM)	Flow volume Cu.M	Julian Date for Out	Total Run Time (Days)	Total Run Time (Hours)	Total Run Time (Minutes)	Average Flow Rate (LPM)	Initial Flow Rate (CFM)	Final Flow Rate (CFM)	Average Flow Rate (CFM)	Average Flow Rate (Cu.M/h)	Flow Rate (Cu.M/min)	Total Flow (L)
1	MSC01	FBC-020623	2/6/2023 8:00	2/9/2023 8:00															
		MSC01-020623	02/06/23 7:41	02/09/23 14:18	60	60	283.0	40	3.28	78.62	4717.0	60	2.11888	2.11888	2.11888	3.6	0.06	283.020	
2	MSC02	MSC02-020623	02/06/23 6:56	02/09/23 14:07	60	60	285.1	40	3.30	79.18	4751.0	60	2.11888	2.11888	2.11888	3.6	0.06	285.060	

FORMULAS:

Number of Days = (Date Out +Time Out) minus (Date In+Time In)
 Number of Minutes = # of Days X 24hr X 60min
 Flow Rate (m3/h) = Flow Rate (CFM) x 60min x (12in x 2.54cm/in / 100cm/m)³ :
 Mid-Sample Date/Time = [(Date+Time Out) + (Date+Time In)] / 2
 Flow Rate (Cu.M/min) = CFM X 0.0283168466 Cu.M/CF
 Flow Rate (LPM) = Cu.M X 1000
 Total Flow (L) = LPM X Total Minutes

SDG Report - Samples and Containers

SDG Specific Data							
SDG	ARS1-23-00325		TAT Days	28 Calendar Days	Project Type	Environmental	
Sample Count	3	Rpt Level	4	Date Received	02/15/2023	COC Number	LS021423RADC
Client	GES-AIS, LLC		Discrepancy Resol	N/A	PO Number		
Client Code	1138		Client Deadline	03/15/2023	Job Number	J31000600	
Profile Number	PN-01440				Job Location	Hunters Point Shipyard, Parcel C Removal Site Evaluation	
Comment							

Samples and Containers Checked In Thus Far									
FR	Name	Matrix	Start Date	End Date	Disp	Hold	Arch	Storage	Comments
001	FBC-020623	Air Filter	02/06/2023 07:59	02/06/2023 08:00	H	30	10	PrePrep	
	IC_ID	Cnt	Container Type	AF Volume (L)	AF Units		Rate	Mins	Comments
	431285	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	02/06/2023 07:59	AF Volume (CuM):			0.001	
002	MSC01-020623	Air Filter	02/09/2023 14:17	02/09/2023 14:18	H	30	10	PrePrep	
	IC_ID	Cnt	Container Type	AF Volume (L)	AF Units		Rate	Mins	Comments
	431286	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	02/09/2023 14:17	AF Volume (CuM):			0.001	
003	MSC02-020623	Air Filter	02/09/2023 02:06	02/09/2023 14:07	H	30	10	PrePrep	
	IC_ID	Cnt	Container Type	AF Volume (L)	AF Units		Rate	Mins	Comments
	431287	1	HDP Container	1	LPM			721	
			Mid-Sample Date:	02/09/2023 08:06	AF Volume (CuM):			0.001	

SDG Report - Analysis Assignments

SDG	ARS1-23-00325	Sample Count	3
Client	GES-AIS, LLC	Analysis Count	4-12

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	3
ASP-TH-AF	Thorium in (Air Filters, Smears, Leak Test [AF, SM, LT])	I	3
GAM-A-AF	Gamma Spec (Short) in (Air Filters, Smears [AF])	I	3
GPC-SR90-AF	Strontium-90 in (Air Filters, Smears [AF])	I	3

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

Client Name: GES-AIS, LLC

Profile Name: Parcel C 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	
ASP-TH-AF	WRAD	uCi	filter	N/A	PALA-RAD-031							
	Analyte			RDL	LCS LL/UL	MS LL/UL	RadY LL/UL	GravY LL/UL	RER	RPD	Surr LL/UL	
Th-232 (7440-29-1)				1.4E-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	
	Ac-228 (14331-83-0)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
	Am-241 (14596-10-2)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
	Bi-212 (14913-49-6)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
	Bi-214 (14733-03-0)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
	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
	Eu-152 (14683-23-9)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
	Eu-154 (15585-10-1)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
	K-40 (13966-00-2)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
	Pb-210 (14255-04-0)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
	Pb-212 (15092-94-1)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
	Pb-214 (15067-28-4)				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
	Ra-228 (15262-20-1)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
Th-234 (15065-10-8)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A	
Tl-208 (14913-50-9)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A	
U-235 (15117-96-1)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A	
U-238 (7440-61-1)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A	

GAM-A-AF	Pa-234 (15100-28-4)			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 C Rad Sampling		Pu-239/240	
ASP-PU239-AF	002	uCi	filter	N/A	1
		Group		Analyte	
		Parcel C Rad Sampling		Pu-239/240	
ASP-PU239-AF	003	uCi	filter	N/A	1
		Group		Analyte	
		Parcel C Rad Sampling		Pu-239/240	
ASP-TH-AF	001	uCi	filter	N/A	1
		Group		Analyte	
		Parcel C Rad Sampling		Th-232	
ASP-TH-AF	002	uCi	filter	N/A	1
		Group		Analyte	
		Parcel C Rad Sampling		Th-232	
ASP-TH-AF	003	uCi	filter	N/A	1
		Group		Analyte	
		Parcel C Rad Sampling		Th-232	
GAM-A-AF	001	uCi	filter	N/A	19
		Group		Analyte	
		Parcel C Rad Sampling		Ac-228	
		Parcel C Rad Sampling		Am-241	
		Parcel C Rad Sampling		Bi-212	
		Parcel C Rad Sampling		Bi-214	
		Parcel C Rad Sampling		Co-60	
		Parcel C Rad Sampling		Cs-137	
Parcel C Rad Sampling		Eu-152			

DQO Report for SDG
ARS1-23-00325

GAM-A-AF	001	Parcel C Rad Sampling		Eu-154	
		Parcel C Rad Sampling		K-40	
		Parcel C Rad Sampling		Pa-234	
		Parcel C Rad Sampling		Pb-210	
		Parcel C Rad Sampling		Pb-212	
		Parcel C Rad Sampling		Pb-214	
		Parcel C Rad Sampling		Ra-226	
		Parcel C Rad Sampling		Ra-228	
		Parcel C Rad Sampling		Th-234	
		Parcel C Rad Sampling		Tl-208	
		Parcel C Rad Sampling		U-235	
		Parcel C Rad Sampling		U-238	
		GAM-A-AF	002	uCi	filter
Group				Analyte	
Parcel C Rad Sampling				Ac-228	
Parcel C Rad Sampling				Am-241	
Parcel C Rad Sampling				Bi-212	
Parcel C Rad Sampling				Bi-214	
Parcel C Rad Sampling				Co-60	
Parcel C Rad Sampling				Cs-137	
Parcel C Rad Sampling				Eu-152	
Parcel C Rad Sampling				Eu-154	
Parcel C Rad Sampling				K-40	
Parcel C Rad Sampling				Pa-234	
Parcel C Rad Sampling				Pb-210	
Parcel C Rad Sampling				Pb-212	
Parcel C Rad Sampling				Pb-214	
Parcel C Rad Sampling				Ra-226	
Parcel C Rad Sampling				Ra-228	
Parcel C Rad Sampling				Th-234	
Parcel C Rad Sampling				Tl-208	
Parcel C Rad Sampling				U-235	
Parcel C Rad Sampling		U-238			

DQO Report for SDG
ARS1-23-00325

GAM-A-AF	003	uCi	filter	N/A	19	
		Group		Analyte		
		Parcel C Rad Sampling		Ac-228		
		Parcel C Rad Sampling		Am-241		
		Parcel C Rad Sampling		Bi-212		
		Parcel C Rad Sampling		Bi-214		
		Parcel C Rad Sampling		Co-60		
		Parcel C Rad Sampling		Cs-137		
		Parcel C Rad Sampling		Eu-152		
		Parcel C Rad Sampling		Eu-154		
		Parcel C Rad Sampling		K-40		
		Parcel C Rad Sampling		Pa-234		
		Parcel C Rad Sampling		Pb-210		
		Parcel C Rad Sampling		Pb-212		
		Parcel C Rad Sampling		Pb-214		
		Parcel C Rad Sampling		Ra-226		
		Parcel C Rad Sampling		Ra-228		
		Parcel C Rad Sampling		Th-234		
Parcel C Rad Sampling		Tl-208				
Parcel C Rad Sampling		U-235				
Parcel C Rad Sampling		U-238				
GPC-SR90-AF	001	uCi	filter	N/A	1	
		Group		Analyte		
Parcel C Rad Sampling		Sr-90				
GPC-SR90-AF	002	uCi	filter	N/A	1	
		Group		Analyte		
Parcel C Rad Sampling		Sr-90				
GPC-SR90-AF	003	uCi	filter	N/A	1	
		Group		Analyte		
Parcel C Rad Sampling		Sr-90				

PALA Sample Receipt Inspection Form

Client Name: Gilbane
 SDG: ARS1-23-00325

Sample Custodian: [REDACTED] Survey Start Date: 2/15/23 Survey Start Time: 1210
 Thermometer ID: E1054012261 Calibration Due Date: 1/12/24 pH Paper Lot#: NA
 Exposure Rate Meter + Probe Unit ID: 273629 Calibration Due Date: 9/13/23 Background: 4 μ R/hr
 Count Rate Meter + Probe Unit ID: 268993 Calibration Due Date: 9/29/23 Background: 25 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>771223869389</u>	<u>5</u>	<u>30</u>	<u>30</u>	<u>NA</u>	AQ WD WG WO WS WW SI UR SO OL BI VG WP SM <u>AF</u>
B: _____	_____	_____	_____	_____	
C: _____	_____	_____	_____	_____	
D: _____	_____	_____	_____	_____	
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: ARS1-23-00325

Pipette ID: NA Tip Lot#: NA

Disposable pipette lot#: NA

Sample ID from Client on COC or Sample	ESC Letter	Sample Container Type	Approx. Fill Level (%)	pH <2 is Acceptable		Acid Lot # or Ind container temp (°C)	Vol. of Acid Used (mL)	cpm	Acceptance Limits
				pH As Rec'd	pH Adjusted				<100 cpm/cm
FBC-020623	A	Ziploc	25	NA	NA	NA	NA	30	
MSC01-020623	↓	↓	↓	↓	↓	↓	↓	↓	
MSC02-020623	↓	↓	↓	↓	↓	↓	↓	↓	

Sample Custodian: [REDACTED] Survey End Date: 2/15/23 Survey/pH End Time: 1215

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

SHIP DATE: 14FEB23
ACTWGT: 1.00 LB
CAD: 254128867/INET4580

200 FISHER STREET

SAN FRANCISCO, CA 94124
UNITED STATES US

BILL SENDER

TO

ARS ALEUT ANALYTICAL, LLC
2609 NORTH RIVER ROAD

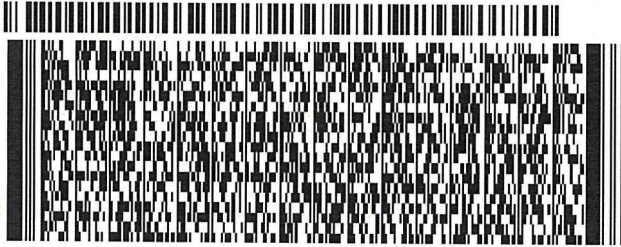
PORT ALLEN LA 70767

(225) 381-2991

REF: J31000.600 02.04.05

INV:
PO:

DEPT:



581416602FE2D

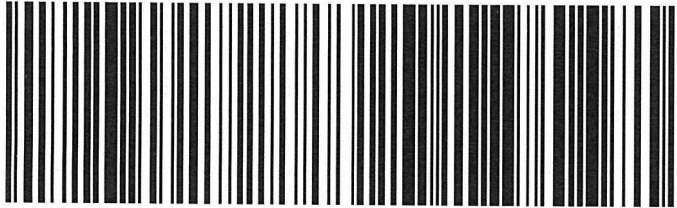
J2310201101101

WED - 15 FEB 4:30P
STANDARD OVERNIGHT

TRK# 7712 2386 9389
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

ARS1-23-00475

GES-AIS, LLC

[Redacted]

1655 Grant Street
Suite 1200
Concord, CA 94520

[Redacted]

[Redacted]

[Redacted]

[Redacted]

COC Number: KT030723RADC

PO Number: KT030723RADC

Job Number: J310000600

Job Location: Hunters Point Shipyard, Parcel C Removal Site Evaluation

Project Name: Parcel C Air Monitoring RAD

Questions regarding this analytical report should be addressed to ARS project manager, Abigail Hoover, 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]

[Redacted Date]

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	66780 (NPW) / 66781 (SHW)
Texas	T104704447-22-18
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.alcutfederal.com for additional information.



ARS Aleut Analytical, LLC Analytical Reports

for

GES-AIS, LLC

Case Narrative



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

Client Sample ID	ARS Aleut Analytical Sample ID
FBC-022723	ARS1-23-00475-001
MSC01-030123	ARS1-23-00475-002
MSC02-030123	ARS1-23-00475-003
MSC01-030123D	ARS1-23-00475-004

Sample	Date Collected	Date Received	Analysis	Basis	Prep Date/Time	Analysis Date/Time
001	02/27/23 08:00	03/08/23	ASP-PU239-AF	As Received	03/27/23 07:31	03/31/23 00:46
001	02/27/23 08:00	03/08/23	ASP-TH-AF	As Received	03/28/23 07:30	04/04/23 01:55
001	02/27/23 08:00	03/08/23	GAM-A-AF	As Received	NA	03/17/23 15:27
001	02/27/23 08:00	03/08/23	GPC-SR90-AF	As Received	03/27/23 09:30	03/29/23 10:35
002	03/02/23 14:21	03/08/23	ASP-PU239-AF	As Received	03/27/23 07:31	03/31/23 00:46
002	03/02/23 14:21	03/08/23	ASP-TH-AF	As Received	03/28/23 07:30	04/04/23 01:55
002	03/02/23 14:21	03/08/23	GAM-A-AF	As Received	NA	03/18/23 13:03
002	03/02/23 14:21	03/08/23	GPC-SR90-AF	As Received	03/27/23 09:30	03/29/23 10:35
003	03/02/23 14:20	03/08/23	ASP-PU239-AF	As Received	03/27/23 07:31	03/31/23 00:46
003	03/02/23 14:20	03/08/23	ASP-TH-AF	As Received	03/28/23 07:30	04/04/23 01:55
003	03/02/23 14:20	03/08/23	GAM-A-AF	As Received	NA	03/21/23 14:27
003	03/02/23 14:20	03/08/23	GPC-SR90-AF	As Received	03/27/23 09:30	03/29/23 10:35
004	03/02/23 14:21	03/08/23	ASP-PU239-AF	As Received	03/27/23 07:31	03/31/23 00:46
004	03/02/23 14:21	03/08/23	ASP-TH-AF	As Received	03/28/23 07:30	04/04/23 01:55



Sample	Date Collected	Date Received	Analysis	Basis	Prep Date/Time	Analysis Date/Time
004	03/02/23 14:21	03/08/23	GAM-A-AF	As Received	NA	03/20/23 14:45
004	03/02/23 14:21	03/08/23	GPC-SR90-AF	As Received	03/27/23 09:30	03/29/23 10:35

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)"**.

Th-232 analysis was performed using **PALA-RAD-031, "Thorium in Water, Soil and Vegetation Matrices by Eichrom Resin Separation (Eichrom ACW-08 & Eichrom ACW-10)"**.

Ac-228, Am-241, Bi-212, Bi-214, Co-60, Cs-137, Eu-152, Eu-154, K-40, Pa-234, Pb-210, Pb-212, Pb-214, Ra-226, Ra-228, Th-234, Tl-208, U-235, and U-238 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)"**.

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 in batch ARS1-B23-00510 has elevated MDA for Pu-239/240 with ACT of $-4.955E-8$ uCi/filter, MDA of $1.378E-7$ uCi/filter and CRDL of $4.8E-08$ uCi/filter.

Fraction 001 in batch ARS1-B23-00461 has elevated MDA for Ra-226 with ACT of $-3.015E-6$ uCi/filter, MDA of $9.456E-6$ uCi/filter and CRDL of $4.4E-06$ uCi/filter.

Fraction 002 in batch ARS1-B23-00510 has elevated MDA for Pu-239/240 with ACT of $-2.718E-8$ uCi/filter, MDA of $1.023E-7$ uCi/filter and CRDL of $4.8E-08$ uCi/filter.

Fraction 002 in batch ARS1-B23-00511 has elevated MDA for Th-232 with ACT of $4.969E-8$ uCi/filter, MDA of $6.689E-8$ uCi/filter and CRDL of $1.4E-08$ uCi/filter.

Fraction 002 in batch ARS1-B23-00461 has elevated MDA for Ra-226 with ACT of $3.644E-6$ uCi/filter, MDA of $8.885E-6$ uCi/filter and CRDL of $4.4E-06$ uCi/filter.

Fraction 003 in batch ARS1-B23-00510 has elevated MDA for Pu-239/240 with ACT of $5.307E-9$ uCi/filter, MDA of $6.960E-8$ uCi/filter and CRDL of $4.8E-08$ uCi/filter.

Fraction 003 in batch ARS1-B23-00511 has elevated MDA for Th-232 with ACT of $1.456E-8$ uCi/filter, MDA of $8.746E-8$ uCi/filter and CRDL of $1.4E-08$ uCi/filter.

Fraction 003 in batch ARS1-B23-00461 has elevated MDA for Ra-226 with ACT of $-1.265E-6$ uCi/filter, MDA of



9.397E-6 uCi/filter and CRDL of 4.4E-06 uCi/filter.

Fraction 004 in batch ARS1-B23-00511 has elevated MDA for Th-232 with ACT of 6.338E-9 uCi/filter, MDA of 8.941E-8 uCi/filter and CRDL of 1.4E-08 uCi/filter.

Fraction 004 in batch ARS1-B23-00461 has elevated MDA for Ra-226 with ACT of 9.485E-7 uCi/filter, MDA of 9.130E-6 uCi/filter and CRDL of 4.4E-06 uCi/filter.

ARS1-B23-00510: ROI's adjusted to better fit the peaks of interest.

ARS1-B23-00511: 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	Sp ke
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 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

GES-AIS, LLC

Analytical Results



ARS Sample Delivery Group: ARS1-23-00475

Client Sample ID: FBC-022723

Sample Collection Date: 02/27/23 8:00

Sample Matrix: Air Filter

Percent Solids: N/A

Request or PO Number: KT030723RADC

ARS Sample ID: ARS1-23-00475-001

Date Received: 03/08/23

Report Date: 04/05/23

Radiochemistry

Analysis Method: E chrom ACW03

ABatch Sample ID: ARS1-B23-00510-08

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-4.955E-8	6.591E-8	1.378E-7	6.143E-8	4.8E-08	U	uCi/filter	03/31/23 0:46		73.3%

Analysis Method: E chrom ACW10

ABatch Sample ID: ARS1-B23-00511-04

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	5.185E-8	3.648E-8	1.757E-8	0.000	1.4E-08		uCi/filter	04/04/23 1:55		60.2%

Analysis Method: EPA 901.1M

ABatch Sample ID: ARS1-B23-00461-04

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Bi-214	1.946E-6	1.109E-6	1.386E-6	6.930E-7	NP		uCi/filter	03/17/23 15:27		N/A
Co-60	-6.407E-7	1.006E-6	1.017E-6	5.085E-7	0.00024	U	uCi/filter	03/17/23 15:27		N/A
Cs-137	5.321E-9	7.145E-7	7.787E-7	3.894E-7	0.00048	U	uCi/filter	03/17/23 15:27		N/A
K-40	1.252E-5	5.442E-6	7.987E-6	3.994E-6	NP		uCi/filter	03/17/23 15:27		N/A
Pb-214	2.208E-6	7.760E-7	1.081E-6	5.405E-7	NP		uCi/filter	03/17/23 15:27		N/A
Ra-226	-3.015E-6	7.502E-6	9.456E-6	4.728E-6	4.4E-06	U	uCi/filter	03/17/23 15:27		N/A

Analysis Method: E chrom SRW01

ABatch Sample ID: ARS1-B23-00509-04

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	1.965E-7	2.429E-6	4.378E-6	2.022E-6	2.4E-05	U	uCi/filter	03/29/23 10:35		87.0%



ARS Sample Delivery Group: ARS1-23-00475
 Client Sample ID: MSC01-030123
 Sample Collection Date: 03/02/23 14:21
 Sample Matrix: Air Filter
 Percent Solids: N/A

Request or PO Number: KT030723RADC
 ARS Sample ID: ARS1-23-00475-002
 Date Received: 03/08/23
 Report Date: 04/05/23

Radiochemistry

Analysis Method: E chrom ACW03

ABatch Sample ID: ARS1-B23-00510-09

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-2.718E-8	4.656E-8	1.023E-7	4.381E-8	4.8E-08	U	uCi/filter	03/31/23 0:46		74.4%

Analysis Method: E chrom ACW10

ABatch Sample ID: ARS1-B23-00511-05

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	4.969E-8	4.595E-8	6.689E-8	2.503E-8	1.4E-08	U	uCi/filter	04/04/23 1:55		66.1%

Analysis Method: EPA 901.1M

ABatch Sample ID: ARS1-B23-00461-05

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Bi-214	2.044E-6	1.058E-6	1.311E-6	6.555E-7	NP		uCi/filter	03/18/23 13:03		N/A
Co-60	-3.682E-7	9.147E-7	9.329E-7	4.665E-7	0.00024	U	uCi/filter	03/18/23 13:03		N/A
Cs-137	-7.980E-8	7.010E-7	7.626E-7	3.813E-7	0.00048	U	uCi/filter	03/18/23 13:03		N/A
K-40	2.018E-5	7.487E-6	7.580E-6	3.790E-6	NP		uCi/filter	03/18/23 13:03		N/A
Pb-212	1.051E-6	5.593E-7	7.539E-7	3.770E-7	NP		uCi/filter	03/18/23 13:03		N/A
Pb-214	1.823E-6	8.477E-7	1.066E-6	5.330E-7	NP		uCi/filter	03/18/23 13:03		N/A
Ra-226	3.644E-6	7.061E-6	8.885E-6	4.443E-6	4.4E-06	U	uCi/filter	03/18/23 13:03		N/A
Tl-208	8.419E-7	3.905E-7	4.951E-7	2.476E-7	NP		uCi/filter	03/18/23 13:03		N/A

Analysis Method: E chrom SRW01

ABatch Sample ID: ARS1-B23-00509-05

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	7.970E-7	2.306E-6	4.053E-6	1.865E-6	2.4E-05	U	uCi/filter	03/29/23 10:35		89.5%



ARS Sample Delivery Group: ARS1-23-00475
 Client Sample ID: MSC02-030123
 Sample Collection Date: 03/02/23 14:20
 Sample Matrix: Air Filter
 Percent Solids: N/A

Request or PO Number: KT030723RADC
 ARS Sample ID: ARS1-23-00475-003
 Date Received: 03/08/23
 Report Date: 04/05/23

Radiochemistry

Analysis Method: E chrom ACW03

ABatch Sample ID: ARS1-B23-00510-10

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	5.307E-9	3.450E-8	6.960E-8	2.761E-8	4.8E-08	U	uCi/filter	03/31/23 0:46		74.2%

Analysis Method: E chrom ACW10

ABatch Sample ID: ARS1-B23-00511-06

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	1.456E-8	4.515E-8	8.746E-8	3.387E-8	1.4E-08	U	uCi/filter	04/04/23 1:55		58.8%

Analysis Method: EPA 901.1M

ABatch Sample ID: ARS1-B23-00461-06

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Bi-214	2.472E-6	1.054E-6	1.266E-6	6.330E-7	NP		uCi/filter	03/21/23 14:27		N/A
Co-60	-6.066E-7	9.529E-7	9.647E-7	4.824E-7	0.00024	U	uCi/filter	03/21/23 14:27		N/A
Cs-137	-1.277E-7	6.550E-7	7.125E-7	3.563E-7	0.00048	U	uCi/filter	03/21/23 14:27		N/A
Pb-212	1.438E-6	5.819E-7	7.679E-7	3.840E-7	NP		uCi/filter	03/21/23 14:27		N/A
Pb-214	1.883E-6	7.126E-7	1.198E-6	5.990E-7	NP		uCi/filter	03/21/23 14:27		N/A
Ra-226	-1.265E-6	7.422E-6	9.397E-6	4.699E-6	4.4E-06	U	uCi/filter	03/21/23 14:27		N/A

Analysis Method: E chrom SRW01

ABatch Sample ID: ARS1-B23-00509-06

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	2.277E-6	2.376E-6	3.889E-6	1.797E-6	2.4E-05	U	uCi/filter	03/29/23 10:35		91.1%



ARS Sample Delivery Group: ARS1-23-00475
 Client Sample ID: MSC01-030123D
 Sample Collection Date: 03/02/23 14:21
 Sample Matrix: Air Filter
 Percent Solids: N/A

Request or PO Number: KT030723RADC
 ARS Sample ID: ARS1-23-00475-004
 Date Received: 03/08/23
 Report Date: 04/05/23

Radiochemistry

Analysis Method: E chrom ACW03

ABatch Sample ID: ARS1-B23-00510-11

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	3.232E-7	1.061E-7	1.006E-7	4.246E-8	4.8E-08		uCi/filter	03/31/23 0:46		76.3%

Analysis Method: E chrom ACW10

ABatch Sample ID: ARS1-B23-00511-07

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	6.338E-9	4.480E-8	8.941E-8	3.612E-8	1.4E-08	U	uCi/filter	04/04/23 1:55		64.3%

Analysis Method: EPA 901.1M

ABatch Sample ID: ARS1-B23-00461-07

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Bi-214	1.664E-6	9.306E-7	1.211E-6	6.055E-7	NP		uCi/filter	03/20/23 14:45		N/A
Co-60	4.530E-7	7.157E-7	7.292E-7	3.646E-7	0.00024	U	uCi/filter	03/20/23 14:45		N/A
Cs-137	-1.756E-7	6.837E-7	7.418E-7	3.709E-7	0.00048	U	uCi/filter	03/20/23 14:45		N/A
K-40	1.897E-5	7.715E-6	7.788E-6	3.894E-6	NP		uCi/filter	03/20/23 14:45		N/A
Ra-226	-9.485E-7	7.202E-6	9.130E-6	4.565E-6	4.4E-06	U	uCi/filter	03/20/23 14:45		N/A

Analysis Method: E chrom SRW01

ABatch Sample ID: ARS1-B23-00509-07

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	-8.708E-7	2.301E-6	4.329E-6	2.000E-6	2.4E-05	U	uCi/filter	03/29/23 10:35		87.8%



ARS Aleut Analytical, LLC Analytical Reports

for

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QC Summary



QC Sample Results

Analytical Batch: ARS1-B23-00461
Lab Sample ID: ARS1-B23-00461-01
Method: EPA 901.1M

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 03/17/23 15:08

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Am-241	33.065	31.087		uCi/filter	94.0	75 - 125
Co-60	20.928	20.900		uCi/filter	99.9	75 - 125
Cs-137	12.996	13.286		uCi/filter	102.2	75 - 125



QC Sample Results

Analytical Batch: ARS1-B23-00461
Lab Sample ID: ARS1-B23-00461-02
Method: EPA 901.1M

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 03/17/23 15:19

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Am-241	33.065	31.114		uCi/filter	94.1	75 - 125	0.1	25	0.016	3
Co-60	20.928	21.076		uCi/filter	100.7	75 - 125	0.8	25	0.197	3
Cs-137	12.996	13.339		uCi/filter	102.6	75 - 125	0.4	25	0.085	3



QC Sample Results

Analytical Batch: ARS1-B23-00461
Lab Sample ID: ARS1-B23-00461-03
Method: EPA 901.1M

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 03/23/23 14:27

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Ac-228	-0.005	0.007	0.006	0.003	U	uCi/filter
Am-241	-5.385E-4	0.001	0.002	0.001	U	uCi/filter
Bi-212	0.006	0.010	0.011	0.006	U	uCi/filter
Bi-214	-0.002	0.004	0.004	0.002	U	uCi/filter
Co-60	-8.171E-4	0.002	0.002	9.150E-4	U	uCi/filter
Cs-137	2.230E-4	0.001	0.002	7.850E-4	U	uCi/filter
Eu-152	-5.920E-4	0.001	0.002	9.000E-4	U	uCi/filter
K-40	-0.013	0.021	0.022	0.011	U	uCi/filter
Pa-234	7.561E-4	0.002	0.002	0.001	U	uCi/filter
Pb-210	0.002	0.015	0.017	0.008	U	uCi/filter
Pb-212	-0.002	0.002	0.002	0.001	U	uCi/filter
Pb-214	-7.760E-6	0.003	0.003	0.002	U	uCi/filter
Ra-226	-0.087	0.024	0.031	0.016	U	uCi/filter
Ra-228	-0.005	0.007	0.006	0.003	U	uCi/filter
Th-234	-0.006	0.016	0.018	0.009	U	uCi/filter
Tl-208	7.658E-5	0.001	0.002	8.050E-4	U	uCi/filter
U-235	-0.003	0.006	0.008	0.004	U	uCi/filter
U-238	-0.006	0.016	0.018	0.009	U	uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-23-00475

Analytical Batch: ARS1-B23-00461

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

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B23-00461-01		Lab Control Sample	Air Filter	EPA 901.1M	N/A
ARS1-B23-00461-02		Lab Control Sample Duplicate	Air Filter	EPA 901.1M	N/A
ARS1-B23-00461-03		Method Blank	Air Filter	EPA 901.1M	N/A
ARS1-B23-00461-04	ARS1-23-00475-001	FBC-022723	Air Filter	EPA 901.1M	N/A
ARS1-B23-00461-05	ARS1-23-00475-002	MSC01-030123	Air Filter	EPA 901.1M	N/A
ARS1-B23-00461-06	ARS1-23-00475-003	MSC02-030123	Air Filter	EPA 901.1M	N/A
ARS1-B23-00461-07	ARS1-23-00475-004	MSC01-030123D	Air Filter	EPA 901.1M	N/A



QC Sample Results

Analytical Batch: ARS1-B23-00509

Lab Sample ID: ARS1-B23-00509-01

Method: E chrom SRW01

Sample Type: LCS

Matrix: Air Filter

Analysis Date: 03/29/23 10:35

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
SR-90	2.008E-5	2.055E-5		uCi/filter	102.4	75 - 125



QC Sample Results

Analytical Batch: ARS1-B23-00509

Lab Sample ID: ARS1-B23-00509-02

Method: E chrom SRW01

Sample Type: LCSD

Matrix: Air Filter

Analysis Date: 03/29/23 10:35

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
SR-90	2.006E-5	2.062E-5		uCi/filter	102.8	75 - 125	0.4	25	0.032	3



QC Sample Results

Analytical Batch: ARS1-B23-00509

Lab Sample ID: ARS1-B23-00509-03

Method: E chrom SRW01

Sample Type: MBL

Matrix: Air Filter

Analysis Date: 03/29/23 10:35

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
SR-90	1.987E-6	2.723E-6	4.578E-6	2.113E-6	U	uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-23-00475

Analytical Batch: ARS1-B23-00509

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

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B23-00509-01		Lab Control Sample	Air Filter	E chrom SRW01	N/A
ARS1-B23-00509-02		Lab Control Sample Duplicate	Air Filter	E chrom SRW01	N/A
ARS1-B23-00509-03		Method Blank	Air Filter	E chrom SRW01	N/A
ARS1-B23-00509-04	ARS1-23-00475-001	FBC-022723	Air Filter	E chrom SRW01	N/A
ARS1-B23-00509-05	ARS1-23-00475-002	MSC01-030123	Air Filter	E chrom SRW01	N/A
ARS1-B23-00509-06	ARS1-23-00475-003	MSC02-030123	Air Filter	E chrom SRW01	N/A
ARS1-B23-00509-07	ARS1-23-00475-004	MSC01-030123D	Air Filter	E chrom SRW01	N/A



QC Sample Results

Analytical Batch: ARS1-B23-00510

Lab Sample ID: ARS1-B23-00510-01

Method: E chrom ACW03

Sample Type: LCS

Matrix: Air Filter

Analysis Date: 03/31/23 0:46

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Pu-239/240	7.789E-6	7.692E-6		uCi/filter	98.8	75 - 125



QC Sample Results

Analytical Batch: ARS1-B23-00510

Lab Sample ID: ARS1-B23-00510-02

Method: E chrom ACW03

Sample Type: LCSD

Matrix: Air Filter

Analysis Date: 03/31/23 0:46

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Pu-239/240	7.810E-6	8.089E-6		uCi/filter	103.6	75 - 125	5.0	25	0.558	3



QC Sample Results

Analytical Batch: ARS1-B23-00510
Lab Sample ID: ARS1-B23-00510-03
Method: E chrom ACW03

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 03/31/23 0:46

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Pu-238	6.187E-8	5.340E-8	7.935E-8	3.205E-8	U	uCi/filter
Pu-239/240	7.312E-8	6.763E-8	1.059E-7	4.533E-8	U	uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-23-00475

Analytical Batch: ARS1-B23-00510

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-B23-00510-01		Lab Control Sample	Air Filter	E chrom ACW03	N/A
ARS1-B23-00510-02		Lab Control Sample Duplicate	Air Filter	E chrom ACW03	N/A
ARS1-B23-00510-03		Method Blank	Air Filter	E chrom ACW03	N/A
ARS1-B23-00510-08	ARS1-23-00475-001	FBC-022723	Air Filter	E chrom ACW03	N/A
ARS1-B23-00510-09	ARS1-23-00475-002	MSC01-030123	Air Filter	E chrom ACW03	N/A
ARS1-B23-00510-10	ARS1-23-00475-003	MSC02-030123	Air Filter	E chrom ACW03	N/A
ARS1-B23-00510-11	ARS1-23-00475-004	MSC01-030123D	Air Filter	E chrom ACW03	N/A



QC Sample Results

Analytical Batch: ARS1-B23-00511

Lab Sample ID: ARS1-B23-00511-01

Method: E chrom ACW10

Sample Type: LCS

Matrix: Air Filter

Analysis Date: 04/04/23 1:55

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Th-230	5.217E-6	5.370E-6		uCi/filter	102.9	75 - 125



QC Sample Results

Analytical Batch: ARS1-B23-00511

Lab Sample ID: ARS1-B23-00511-02

Method: E chrom ACW10

Sample Type: LCSD

Matrix: Air Filter

Analysis Date: 04/04/23 1:55

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Th-230	5.232E-6	5.912E-6		uCi/filter	113.0	75 - 125	9.6	25	1.041	3



QC Sample Results

Analytical Batch: ARS1-B23-00511
Lab Sample ID: ARS1-B23-00511-03
Method: E chrom ACW10

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 04/04/23 1:55

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Th-228	9.340E-8	1.219E-7	2.045E-7	8.958E-8	U	uCi/filter
Th-230	7.392E-8	6.337E-8	8.584E-8	3.040E-8	U	uCi/filter
Th-232	-9.221E-9	4.783E-8	1.108E-7	4.291E-8	U	uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-23-00475

Analytical Batch: ARS1-B23-00511

Analysis: Thorium in (Air Filters, Smears, Leak Test [AF, SM, LT])

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B23-00511-01		Lab Control Sample	Air Filter	E chrom ACW10	N/A
ARS1-B23-00511-02		Lab Control Sample Duplicate	Air Filter	E chrom ACW10	N/A
ARS1-B23-00511-03		Method Blank	Air Filter	E chrom ACW10	N/A
ARS1-B23-00511-04	ARS1-23-00475-001	FBC-022723	Air Filter	E chrom ACW10	N/A
ARS1-B23-00511-05	ARS1-23-00475-002	MSC01-030123	Air Filter	E chrom ACW10	N/A
ARS1-B23-00511-06	ARS1-23-00475-003	MSC02-030123	Air Filter	E chrom ACW10	N/A
ARS1-B23-00511-07	ARS1-23-00475-004	MSC01-030123D	Air Filter	E chrom ACW10	N/A



ARS Aleut Analytical, LLC Analytical Reports

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Batch QC



QC Results per Analytical Batch

Analytical Batch	ARS1-B23-00461
SDG	ARS1-23-00475
Analysis	Gamma Spec (Short) in (Air Filters, Smears [AF])
Method	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	Recovery (%):	> 75	< 125
Matrix Spike	Recovery (%):	> 60	< 140
Duplicate	Duplicate Error Ratio (DER):		< 3
	Relative Percent Difference (RPD %):		≤ 25

Laboratory Control Sample			Analysis Date	03/17/23 15:08	Analysis Technician	█	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-00461-01	LCS	AM-241	31.087	2.366	33.065	94.0	0.119
ARS1-B23-00461-01	LCS	CO-60	20.900	1.237	20.928	99.9	0.398
ARS1-B23-00461-01	LCS	CS-137	13.286	0.868	12.996	102.2	0.075

Duplicate RER/DER/RPD			Analysis Date	03/17/23 15:19	Analysis Technician	█
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD
AM-241	31.087	2.366	31.114	2.368	0.016	0.1
CO-60	20.900	1.237	21.076	1.244	0.197	0.8
CS-137	13.286	0.868	13.339	0.870	0.085	0.4

Method Blank			Analysis Date	03/23/23 14:27	Analysis Technician	█
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual
ARS1-B23-00461-03	MBL	AC-228	-0.005	0.007	0.006	U
ARS1-B23-00461-03	MBL	AM-241	-5.385E-4	0.001	0.002	U
ARS1-B23-00461-03	MBL	BI-212	0.006	0.010	0.011	U
ARS1-B23-00461-03	MBL	BI-214	-0.002	0.004	0.004	U
ARS1-B23-00461-03	MBL	CO-60	-8.171E-4	0.002	0.002	U
ARS1-B23-00461-03	MBL	CS-137	2.230E-4	0.001	0.002	U
ARS1-B23-00461-03	MBL	EU-152	-5.920E-4	0.001	0.002	U
ARS1-B23-00461-03	MBL	K-40	-0.013	0.021	0.022	U
ARS1-B23-00461-03	MBL	PA-234	7.561E-4	0.002	0.002	U
ARS1-B23-00461-03	MBL	PB-210	0.002	0.015	0.017	U
ARS1-B23-00461-03	MBL	PB-212	-0.002	0.002	0.002	U
ARS1-B23-00461-03	MBL	PB-214	-7.760E-6	0.003	0.003	U
ARS1-B23-00461-03	MBL	RA-226	-0.087	0.024	0.031	U
ARS1-B23-00461-03	MBL	RA-228	-0.005	0.007	0.006	U
ARS1-B23-00461-03	MBL	TH-234	-0.006	0.016	0.018	U
ARS1-B23-00461-03	MBL	TL-208	7.658E-5	0.001	0.002	U
ARS1-B23-00461-03	MBL	U-235	-0.003	0.006	0.008	U
ARS1-B23-00461-03	MBL	U-238	-0.006	0.016	0.018	U



QC Results per Analytical Batch

Analytical Batch	ARS1-B23-00509
SDG	ARS1-23-00475
Analysis	Strontium-90 in (Air Filters, Smears [AF])
Method	Eichrom SRW01
Analysis Code	GPC-SR90-AF
Report Units	uCi/filter

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	03/29/23 10:35	Analysis Technician	[REDACTED]
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-00509-01	LCS	SR-90	2.055E-5	3.170E-6	2.008E-5	102.4	5.931E-7

Duplicate RER/DER/RPD				Analysis Date	03/29/23 10:35	Analysis Technician	[REDACTED]
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD	
SR-90	2.055E-5	3.170E-6	2.062E-5	3.190E-6	0.032	0.4	

Method Blank				Analysis Date	03/29/23 10:35	Analysis Technician	[REDACTED]
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual	
ARS1-B23-00509-03	MBL	SR-90	1.987E-6	2.723E-6	4.578E-6	U	



QC Results per Analytical Batch

Analytical Batch	ARS1-B23-00510
SDG	ARS1-23-00475
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

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	03/31/23 00:46	Analysis Technician	[REDACTED]
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-00510-01	LCS	PU-239/240	7.692E-6	9.605E-7	7.789E-6	98.8	6.535E-8

Duplicate RER/DER/RPD				Analysis Date	03/31/23 00:46	Analysis Technician	[REDACTED]
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD	
PU-239/240	7.692E-6	9.605E-7	8.089E-6	1.009E-6	0.558	5.0	

Method Blank				Analysis Date	03/31/23 00:46	Analysis Technician	[REDACTED]
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual	
ARS1-B23-00510-03	MBL	PU-238	6.187E-8	5.340E-8	7.935E-8	U	
ARS1-B23-00510-03	MBL	PU-239/240	7.312E-8	6.763E-8	1.059E-7	U	



QC Results per Analytical Batch

Analytical Batch	ARS1-B23-00511
SDG	ARS1-23-00475
Analysis	Thorium in (Air Filters, Smears, Leak Test [AF, SM, LT])
Method	Eichrom ACW10
Analysis Code	ASP-TH-AF
Report Units	uCi/filter

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	04/04/23 01:55	Analysis Technician	██████████
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-00511-01	LCS	TH-230	5.370E-6	6.857E-7	5.217E-6	102.9	5.474E-8

Duplicate RER/DER/RPD				Analysis Date	04/04/23 01:55	Analysis Technician	██████████
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD	
TH-230	5.370E-6	6.857E-7	5.912E-6	7.538E-7	1.041	9.6	

Method Blank				Analysis Date	04/04/23 01:55	Analysis Technician	██████████
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual	
ARS1-B23-00511-03	MBL	TH-228	9.340E-8	1.219E-7	2.045E-7	U	
ARS1-B23-00511-03	MBL	TH-230	7.392E-8	6.337E-8	8.584E-8	U	
ARS1-B23-00511-03	MBL	TH-232	-9.221E-9	4.783E-8	1.108E-7	U	



ARS Aleut Analytical, LLC Analytical Reports

for

GES-AIS, LLC

Sample Management Records

CHAIN-OF-CUSTODY RECORD

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

COC # KT030723RADC



Project Name: Hunters Point Shipyard, Parcel C Removal Site Evaluation	Laboratory: ARS Aleut Analytical (AAA), Port Allen, LA	Event: Parcel C Air Monitoring RAD
Project Number: J310000600	POC: [Redacted]	
WBS Code: J310000600	Ship to: 2609 North River Road, Port Allen, LA 70767-3469	

Comments: Line 1 should be FBC-022723 [Redacted]	Analytical Test Method E901.1 - Gamma Spec Air RC0240 - Pu and Th Isotopes SR02RC - Sr90	Code Matrix A Air AQ Air Quality Control Matrix
		Code Container/Preservative 5 1x 1-L Plastic, HNO3, pH < 2 15 1x 250-mL Plastic, 4 Degrees C
Equipment:		

Event: Parcel C Air Monitoring RAD						15	15	5										
Sample ID	Matrix	Date	Time	Samp Init.						Location ID	Sample Type	Depth (ft bgs) Top - Bottom		Cooler	Comments			
1 FBC-022723	AQ	02/27/2023	0800	[Redacted]	X	X	X			FIELDQC	FB2	0.00	0.00	1				
2 MSC01-030123	A	03/02/2023	1421	[Redacted]	X	X	X			MSC01	N1	0.00	0.00	1				
3 MSC02-030123	A	03/02/2023	1420	[Redacted]	X	X	X			MSC02	N1	0.00	0.00	1				

Turnaround Time: NA

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[Redacted]	3/7/23	1400	[Redacted]	3/7/23	1400	Shipping Date: 3/7/2023 / FEDEX / 7714 1347 1474
			[Redacted]	3/8/23	1420	
						Received by Laboratory: (Signature, Date, Time) & condition

**CHAIN-OF-CUSTODY
RECORD**

Gilbane Federal
 [Redacted]
 2300 Clayton Road, Suite 1050, Concord, CA 94520
 [Redacted]

COC # KT030723RADC



Project Name: Hunters Point Shipyard, Parcel C Removal Site Evaluation	Laboratory: ARS Aleut Analytical (AAA), Port Allen, LA	Event: Parcel C Air Monitoring RAD
Project Number: J310000600	POC: [Redacted]	
WBS Code: J310000600	Ship to: 2609 North River Road, Port Allen, LA 70767-3469	

Comments:	Analytical Test Method E901.1 - Gamma Spec Air RC0240 - Pu and Th Isotopes SR02RC - Sr90	Code Matrix
		A Air
Equipment:		AQ Air Quality Control Matrix
		Code Container/Preservative
		5 1x 1-L. Plastic, HNO3, pH < 2
		15 1x 250-mL. Plastic, 4 Degrees C

Event: Parcel C Air Monitoring RAD															
Sample ID	Matrix	Date	Time	Samp Init.						Location ID	Sample Type	Depth (ft bgs) Top - Bottom	Cooler	Comments	
1 FBC-0222723	AQ	02/27/2023	0800	[Redacted]	X	X	X	[Redacted]	[Redacted]	FIELDQC	FB2	0.00	0.00	1	[Redacted]
2 MSC01-030123D	A	03/2/2023	1421	[Redacted]	X	X	X	[Redacted]	[Redacted]	MSC01	N1	0.00	0.00	1	[Redacted]
3 MSG02-022723	A	02/27/2023			X	X	X	[Redacted]	[Redacted]	MSC02	N1	0.00	0.00	1	[Redacted]

Turnaround Time: NA

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[Redacted]	3/7/23	1400	[Redacted]	3/7/23	1400	Shipping Date: 3/7/2023 / FEDEX / 7714 1347 1474
			[Redacted]	3/8/23	945	
						Received by Laboratory: (Signature, Date, Time) & condition



Procedures: GES-003 / EPA 900.0M

Start Date 3/1/23
Stop Date 3/2/23

File ID Number: KT030723RADC

Field Entry

Station	Sample ID	Date In:	Time In:	Date Out:	Time Out:	Initial Flow Rate (LPM)	Final Flow Rate (LPM)	Flow volume Cu.M	Julian Date for Date Out	Total Run Time (Days)	Total Run Time (Hours)	Total Run Time (Minutes)	Average Flow Rate (LPM)	Initial Flow Rate (CFM)	Final Flow Rate (CFM)	Average Flow Rate (CFM)	Average Flow		Total Flow (L)
																	Rate (Cu.M/h)	Flow Rate (Cu.M/min)	
	FBC-022723	2/27/2023	8:00	3/2/2023	8:00														
1	MSC01	03/01/23	5:10	03/02/23	14:21	60	60	119.5	61	1.38	33.18	1991.0	60	2.11888	2.11888	2.11888	3.6	0.06	119,460
1	MSC01	03/01/23	5:10	03/02/23	14:21	60	60	119.5	61	1.38	33.18	1991.0	60	2.11888	2.11888	2.11888	3.6	0.06	119,460
2	MSC02	03/01/23	5:14	03/02/23	14:20	60	60	119.2	61	1.38	33.10	1986.0	60	2.11888	2.11888	2.11888	3.6	0.06	119,160

FORMULAS:

Number of Days = (Date Out +Time Out) minus (Date In+Time In)
 Number of Minutes = # of Days X 24hr X 60min
 Flow Rate (m3/h) = Flow Rate (CFM) x 60min x (12in x 2.54cm/in / 100cm/m)³ :
 Mid-Sample Date/Time = [(Date+Time Out) + (Date+Time In)] / 2
 Flow Rate (Cu.M/min) = CFM X 0.0283168466 Cu.M/CF
 Flow Rate (LPM) = Cu.M X 1000
 Total Flow (L) = LPM X Total Minutes

SDG Report - Samples and Containers

SDG Specific Data										
SDG	ARS1-23-00475			TAT Days	28 Calendar Days		Project Type	Environmental		
Sample Count	4	Rpt Level	4	Date Received	03/08/2023		COC Number	KT030723RADC		
Client	GES-AIS, LLC			Discrepancy Resol	N/A		PO Number	KT030723RADC		
Client Code	1138			Client Deadline	04/05/2023		Job Number	J310000600		
Profile Number	PN-01440						Job Location	Hunters Point Shipyard, Parcel C Removal Site Evaluation		
Comment										

Samples and Containers Checked In Thus Far									
FR	Name	Matrix	Start Date	End Date	Disp	Hold	Arch	Storage	Comments
001	FBC-022723	Air Filter	02/27/2023 07:59	02/27/2023 08:00	H	30	10	PrePrep	
	IC_ID	Cnt	Container Type	AF Volume (L)	AF Units	Rate	Mins		Comments
	432702	1	HDP Container	1	LPM		1		
			Mid-Sample Date:	02/27/2023 07:59	AF Volume (CuM):		0.001		
002	MSC01-030123	Air Filter	03/02/2023 14:20	03/02/2023 14:21	H	30	10	PrePrep	
	IC_ID	Cnt	Container Type	AF Volume (L)	AF Units	Rate	Mins		Comments
	432703	1	HDP Container	1	LPM		1		
			Mid-Sample Date:	03/02/2023 14:20	AF Volume (CuM):		0.001		
003	MSC02-030123	Air Filter	03/02/2023 14:19	03/02/2023 14:20	H	30	10	PrePrep	
	IC_ID	Cnt	Container Type	AF Volume (L)	AF Units	Rate	Mins		Comments
	432704	1	HDP Container	1	LPM		1		
			Mid-Sample Date:	03/02/2023 14:19	AF Volume (CuM):		0.001		
004	MSC01-030123D	Air Filter	03/02/2023 14:20	03/02/2023 14:21	H	30	10	PrePrep	
	IC_ID	Cnt	Container Type	AF Volume (L)	AF Units	Rate	Mins		Comments
	432705	1	HDP Container	1	LPM		1		
			Mid-Sample Date:	03/02/2023 14:20	AF Volume (CuM):		0.001		

SDG Report - Analysis Assignments

SDG	ARS1-23-00475	Sample Count	4
Client	GES-AIS, LLC	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
ASP-TH-AF	Thorium 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-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	ASP-TH-AF	X
001	GAM-A-AF	X
001	GPC-SR90-AF	X
002	ASP-PU239-AF	X
002	ASP-TH-AF	X
002	GAM-A-AF	X
002	GPC-SR90-AF	X
003	ASP-PU239-AF	X
003	ASP-TH-AF	X
003	GAM-A-AF	X
003	GPC-SR90-AF	X
004	ASP-PU239-AF	X
004	ASP-TH-AF	X
004	GAM-A-AF	X
004	GPC-SR90-AF	X

Client Name: GES-AIS, LLC

Profile Name: Parcel C 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												
ASP-TH-AF	WRAD	uCi	filter	N/A	PALA-RAD-031																		
												Analyte	RDL	LCS LL/UL	MS LL/UL	RadY LL/UL	GravY LL/UL	RER	RPD	Surr LL/UL			
Th-232 (7440-29-1)				1.4E-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			
												Ac-228 (14331-83-0)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
												Am-241 (14596-10-2)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
												Bi-212 (14913-49-6)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
												Bi-214 (14733-03-0)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
												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
												Eu-152 (14683-23-9)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
												Eu-154 (15585-10-1)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
												K-40 (13966-00-2)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
												Pb-210 (14255-04-0)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
												Pb-212 (15092-94-1)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
												Pb-214 (15067-28-4)				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
												Ra-228 (15262-20-1)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
												Th-234 (15065-10-8)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
												Tl-208 (14913-50-9)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
												U-235 (15117-96-1)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
U-238 (7440-61-1)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A												

DQO Report for SDG

ARS1-23-00475

GAM-A-AF	Pa-234 (15100-28-4)			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 C Rad Sampling		Pu-239/240	
ASP-PU239-AF	002	uCi	filter	N/A	1
		Group		Analyte	
		Parcel C Rad Sampling		Pu-239/240	
ASP-PU239-AF	003	uCi	filter	N/A	1
		Group		Analyte	
		Parcel C Rad Sampling		Pu-239/240	
ASP-PU239-AF	004	uCi	filter	N/A	1
		Group		Analyte	
		Parcel C Rad Sampling		Pu-239/240	
ASP-TH-AF	001	uCi	filter	N/A	1
		Group		Analyte	
		Parcel C Rad Sampling		Th-232	
ASP-TH-AF	002	uCi	filter	N/A	1
		Group		Analyte	
		Parcel C Rad Sampling		Th-232	
ASP-TH-AF	003	uCi	filter	N/A	1
		Group		Analyte	
		Parcel C Rad Sampling		Th-232	
ASP-TH-AF	004	uCi	filter	N/A	1
		Group		Analyte	
		Parcel C Rad Sampling		Th-232	
GAM-A-AF	001	uCi	filter	N/A	19
		Group		Analyte	
		Parcel C Rad Sampling		Ac-228	

DQO Report for SDG

ARS1-23-00475

GAM-A-AF	001	Parcel C Rad Sampling		Am-241	
		Parcel C Rad Sampling		Bi-212	
		Parcel C Rad Sampling		Bi-214	
		Parcel C Rad Sampling		Co-60	
		Parcel C Rad Sampling		Cs-137	
		Parcel C Rad Sampling		Eu-152	
		Parcel C Rad Sampling		Eu-154	
		Parcel C Rad Sampling		K-40	
		Parcel C Rad Sampling		Pa-234	
		Parcel C Rad Sampling		Pb-210	
		Parcel C Rad Sampling		Pb-212	
		Parcel C Rad Sampling		Pb-214	
		Parcel C Rad Sampling		Ra-226	
		Parcel C Rad Sampling		Ra-228	
		Parcel C Rad Sampling		Th-234	
		Parcel C Rad Sampling		Tl-208	
		Parcel C Rad Sampling		U-235	
		Parcel C Rad Sampling		U-238	
GAM-A-AF	002	uCi	filter	N/A	19
		Group		Analyte	
		Parcel C Rad Sampling		Ac-228	
		Parcel C Rad Sampling		Am-241	
		Parcel C Rad Sampling		Bi-212	
		Parcel C Rad Sampling		Bi-214	
		Parcel C Rad Sampling		Co-60	
		Parcel C Rad Sampling		Cs-137	
		Parcel C Rad Sampling		Eu-152	
		Parcel C Rad Sampling		Eu-154	
		Parcel C Rad Sampling		K-40	
		Parcel C Rad Sampling		Pa-234	
		Parcel C Rad Sampling		Pb-210	
		Parcel C Rad Sampling		Pb-212	
		Parcel C Rad Sampling		Pb-214	
Parcel C Rad Sampling		Ra-226			

DQO Report for SDG

ARS1-23-00475

GAM-A-AF	002	Parcel C Rad Sampling		Ra-228	
		Parcel C Rad Sampling		Th-234	
		Parcel C Rad Sampling		Tl-208	
		Parcel C Rad Sampling		U-235	
		Parcel C Rad Sampling		U-238	
GAM-A-AF	003	uCi	filter	N/A	19
		Group		Analyte	
		Parcel C Rad Sampling		Ac-228	
		Parcel C Rad Sampling		Am-241	
		Parcel C Rad Sampling		Bi-212	
		Parcel C Rad Sampling		Bi-214	
		Parcel C Rad Sampling		Co-60	
		Parcel C Rad Sampling		Cs-137	
		Parcel C Rad Sampling		Eu-152	
		Parcel C Rad Sampling		Eu-154	
		Parcel C Rad Sampling		K-40	
		Parcel C Rad Sampling		Pa-234	
		Parcel C Rad Sampling		Pb-210	
		Parcel C Rad Sampling		Pb-212	
		Parcel C Rad Sampling		Pb-214	
		Parcel C Rad Sampling		Ra-226	
		Parcel C Rad Sampling		Ra-228	
		Parcel C Rad Sampling		Th-234	
		Parcel C Rad Sampling		Tl-208	
		Parcel C Rad Sampling		U-235	
Parcel C Rad Sampling		U-238			
GAM-A-AF	004	uCi	filter	N/A	19
		Group		Analyte	
		Parcel C Rad Sampling		Ac-228	
		Parcel C Rad Sampling		Am-241	
		Parcel C Rad Sampling		Bi-212	
		Parcel C Rad Sampling		Bi-214	
		Parcel C Rad Sampling		Co-60	
Parcel C Rad Sampling		Cs-137			

DQO Report for SDG

ARS1-23-00475

GAM-A-AF	004	Parcel C Rad Sampling		Eu-152	
		Parcel C Rad Sampling		Eu-154	
		Parcel C Rad Sampling		K-40	
		Parcel C Rad Sampling		Pa-234	
		Parcel C Rad Sampling		Pb-210	
		Parcel C Rad Sampling		Pb-212	
		Parcel C Rad Sampling		Pb-214	
		Parcel C Rad Sampling		Ra-226	
		Parcel C Rad Sampling		Ra-228	
		Parcel C Rad Sampling		Th-234	
		Parcel C Rad Sampling		Tl-208	
		Parcel C Rad Sampling		U-235	
		Parcel C Rad Sampling		U-238	
GPC-SR90-AF	001	uCi	filter	N/A	1
		Group		Analyte	
		Parcel C Rad Sampling		Sr-90	
GPC-SR90-AF	002	uCi	filter	N/A	1
		Group		Analyte	
		Parcel C Rad Sampling		Sr-90	
GPC-SR90-AF	003	uCi	filter	N/A	1
		Group		Analyte	
		Parcel C Rad Sampling		Sr-90	
GPC-SR90-AF	004	uCi	filter	N/A	1
		Group		Analyte	
		Parcel C Rad Sampling		Sr-90	

PALA Sample Receipt Inspection Form

Client Name: Gillbane
 SDG: ARS1-23-00475

Sample Custodian: [REDACTED] Survey Start Date: 3/8/23 Survey Start Time: 1005
 Thermometer ID: E1054012261 Calibration Due Date: 1/12/24 pH Paper Lot# N/A
 Exposure Rate Meter + Probe Unit ID: 273629 Calibration Due Date: 9/13/23 Background: 4 μ R/hr
 Count Rate Meter + Probe Unit ID: 268993 Calibration Due Date: 9/29/23 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>771413421474</u>	<u>5</u>	<u>30</u>	<u>30</u>	<u>N/A</u>	AQ WD WG WO
B: _____	_____	_____	_____	_____	WS WW SI UR
C: _____	_____	_____	_____	_____	SO OL BI VG
D: _____	_____	_____	_____	_____	WP SM <u>AB</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: ARS1-23-00475

Pipette ID: NA Tip Lot#: NA

Disposable pipette lot#: NA

Sample ID from Client on CDC or Sample	ESC Letter	Sample Container Type	Approx. Fill Level (%)	pH <2 is Acceptable		Acid Lot # or Ind container temp ('C)	Vol. of Acid Used (mL)	Acceptance Limits	
				pH As Rec'd	pH Adjusted			<100 cpm/cm	cpm
<u>6/22/23</u> <u>FBCL-0222723</u>	<u>A</u>	<u>ziploc</u>	<u>25</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>	<u>NA</u>		<u>30</u>
<u>MSC01-030123</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>		<u>↓</u>
<u>MSC02-030123</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>		<u>↓</u>
<u>MSC01-030123D</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>	<u>↓</u>		<u>↓</u>

Sample Custodian: ██████████ Survey End Date: 3/8/23 Survey/pH End Time: 1010

pH re-check required? YES or NO NOTE: Any metals sample added 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: JCCA (925) 250-6097

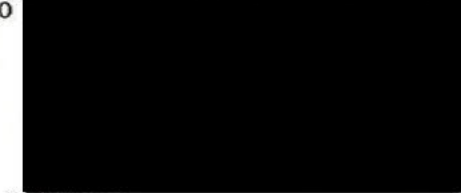
200 FISHER STREET

SAN FRANCISCO, CA 94124
UNITED STATES US

SHIP DATE: 07MAR23
ACTWGT: 1.00 LB
CAD: 254128867/INET4580

BILL SENDER

TO

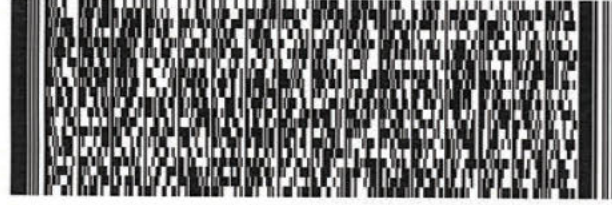


(225) 381-2991

REF: J31000.600 02.04.05

INV.
PO:

DEPT:



FedEx
Express



J3102281181hu

581.J76982/FE20

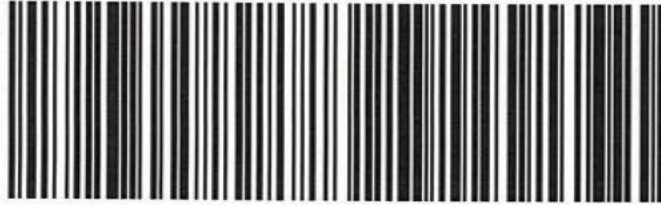
WED - 08 MAR 4:30P

STANDARD OVERNIGHT

TRK# 7714 1347 1474
0201

XN OPLA

LA-US 70767
MSY



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

ARS Aleut Analytical, LLC

Laboratory Analytical Report

ARS1-23-00589

GES-AIS, LLC

[REDACTED]
1501 West Fountainhead Parkway
Suite 550
Tempe, AZ 94520

[REDACTED]
[REDACTED]
[REDACTED]

COC Number: **KT032123RADC**
Job Number: **J310000600**
Job Location: **Hunters Point Shipyard, Parcel C Removal Site Evaluation**
Project Name: **Parcel C Air Monitoring RAD**

Questions regarding this analytical report should be addressed to ARS project manager, Abigail Hoover, 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.

		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	66780 (NPW) / 66781 (SHW)
Texas	T104704447-22-18
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.alcutfederal.com for additional information.



ARS Aleut Analytical, LLC Analytical Reports

for

GES-AIS, LLC

Case Narrative



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

Client Sample ID	ARS Aleut Analytical Sample ID
FBC-031323	ARS1-23-00589-001
MSC01-031323	ARS1-23-00589-002
MSC02-031323	ARS1-23-00589-003

Sample	Date Collected	Date Received	Analysis	Basis	Prep Date/Time	Analysis Date/Time
001	03/13/23 08:00	03/22/23	ASP-PU239-AF	As Received	04/05/23 10:28	04/12/23 01:30
001	03/13/23 08:00	03/22/23	ASP-TH-AF	As Received	04/05/23 08:51	04/12/23 01:28
001	03/13/23 08:00	03/22/23	GAM-A-AF	As Received	NA	03/29/23 14:04
001	03/13/23 08:00	03/22/23	GPC-SR90-AF	As Received	04/03/23 12:38	04/04/23 10:40
002	03/16/23 14:30	03/22/23	ASP-PU239-AF	As Received	04/05/23 10:28	04/12/23 01:30
002	03/16/23 14:30	03/22/23	ASP-TH-AF	As Received	04/05/23 08:51	04/12/23 01:28
002	03/16/23 14:30	03/22/23	GAM-A-AF	As Received	NA	03/31/23 14:46
002	03/16/23 14:30	03/22/23	GPC-SR90-AF	As Received	04/03/23 12:38	04/04/23 10:40
003	03/16/23 14:28	03/22/23	ASP-PU239-AF	As Received	04/05/23 10:28	04/12/23 01:30
003	03/16/23 14:28	03/22/23	ASP-TH-AF	As Received	04/05/23 08:51	04/12/23 01:28
003	03/16/23 14:28	03/22/23	GAM-A-AF	As Received	NA	03/31/23 14:48
003	03/16/23 14:28	03/22/23	GPC-SR90-AF	As Received	04/03/23 12:38	04/04/23 10:40

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)"**.

Th-232 analysis was performed using **PALA-RAD-031, "Thorium in Water, Soil and Vegetation Matrices by Eichrom Resin Separation (Eichrom ACW-08 & Eichrom ACW-10)"**.

Ac-228, Am-241, Bi-212, Bi-214, Co-60, Cs-137, Eu-152, Eu-154, K-40, Pa-234, Pb-210, Pb-212, Pb-214, Ra-226, Ra-228, Th-234, Tl-208, U-235, and U-238 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)"**.

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 in batch ARS1-B23-00588 has elevated MDA for Pu-239/240 with ACT of 2.619E-8 uCi/filter, MDA of 1.311E-7 uCi/filter and CRDL of 4.8E-08 uCi/filter.

Fraction 001 in batch ARS1-B23-00589 has elevated MDA for Th-232 with ACT of 6.207E-9 uCi/filter, MDA of 9.323E-8 uCi/filter and CRDL of 1.4E-08 uCi/filter.

Fraction 002 in batch ARS1-B23-00588 has elevated MDA for Pu-239/240 with ACT of 3.995E-8 uCi/filter, MDA of 1.217E-7 uCi/filter and CRDL of 4.8E-08 uCi/filter.

Fraction 002 in batch ARS1-B23-00589 has elevated MDA for Th-232 with ACT of 4.406E-8 uCi/filter, MDA of 7.563E-8 uCi/filter and CRDL of 1.4E-08 uCi/filter.

Fraction 002 in batch ARS1-B23-00532 has elevated MDA for Ra-226 with ACT of 1.649E-5 uCi/filter, MDA of 1.578E-5 uCi/filter and CRDL of 4.4E-06 uCi/filter.

Fraction 003 in batch ARS1-B23-00588 has elevated MDA for Pu-239/240 with ACT of 5.640E-9 uCi/filter, MDA of 7.956E-8 uCi/filter and CRDL of 4.8E-08 uCi/filter.

Fraction 003 in batch ARS1-B23-00589 has elevated MDA for Th-232 with ACT of 1.783E-8 uCi/filter, MDA of 9.433E-8 uCi/filter and CRDL of 1.4E-08 uCi/filter.

Fraction 003 in batch ARS1-B23-00532 has elevated MDA for Ra-226 with ACT of 1.287E-5 uCi/filter, MDA of 1.279E-5 uCi/filter and CRDL of 4.4E-06 uCi/filter.

ARS1-B23-00588: ROIs adjusted to better fit the peaks of interest.

ARS1-B23-00589: ROIs 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 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

GES-AIS, LLC

Analytical Results



ARS Sample Delivery Group: ARS1-23-00589

Client Sample ID: FBC-031323

Sample Collection Date: 03/13/23 8:00

Sample Matrix: Air Filter

Percent Solids: N/A

Request or PO Number: J310000600

ARS Sample ID: ARS1-23-00589-001

Date Received: 03/22/23

Report Date: 04/17/23

Radiochemistry

Analysis Method: Eichrom ACW03

ABatch Sample ID: ARS1-B23-00588-04

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	2.619E-8	7.339E-8	1.311E-7	5.844E-8	4.8E-08	U	uCi/filter	04/12/23 1:30		77.1%

Analysis Method: Eichrom ACW10

ABatch Sample ID: ARS1-B23-00589-04

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	6.207E-9	4.713E-8	9.323E-8	3.821E-8	1.4E-08	U	uCi/filter	04/12/23 1:28		65.8%

Analysis Method: EPA 901.1M

ABatch Sample ID: ARS1-B23-00532-04

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Bi-214	3.080E-6	2.011E-6	2.016E-6	1.008E-6	NP		uCi/filter	03/29/23 14:04		N/A
Co-60	-2.855E-7	1.012E-6	1.035E-6	5.175E-7	0.00024	U	uCi/filter	03/29/23 14:04		N/A
Cs-137	2.965E-7	7.588E-7	8.497E-7	4.249E-7	0.00048	U	uCi/filter	03/29/23 14:04		N/A
Pb-214	2.851E-6	1.108E-6	1.606E-6	8.030E-7	NP		uCi/filter	03/29/23 14:04		N/A
Ra-226	2.203E-5	7.029E-6	9.688E-6	4.844E-6	4.4E-06		uCi/filter	03/29/23 14:04		N/A
Tl-208	1.300E-6	5.706E-7	6.955E-7	3.478E-7	NP		uCi/filter	03/29/23 14:04		N/A

Analysis Method: Eichrom SRW01

ABatch Sample ID: ARS1-B23-00562-04

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	5.481E-7	2.468E-6	4.377E-6	2.027E-6	2.4E-05	U	uCi/filter	04/04/23 10:40		86.1%



ARS Sample Delivery Group: ARS1-23-00589

Client Sample ID: MSC01-031323

Sample Collection Date: 03/16/23 14:30

Sample Matrix: Air Filter

Percent Solids: N/A

Request or PO Number: J310000600

ARS Sample ID: ARS1-23-00589-002

Date Received: 03/22/23

Report Date: 04/17/23

Radiochemistry

Analysis Method: Eichrom ACW03

ABatch Sample ID: ARS1-B23-00588-05

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-3.995E-8	5.614E-8	1.217E-7	5.311E-8	4.8E-08	U	uCi/filter	04/12/23 1:30		70.8%

Analysis Method: Eichrom ACW10

ABatch Sample ID: ARS1-B23-00589-05

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	4.406E-8	4.808E-8	7.563E-8	2.929E-8	1.4E-08	U	uCi/filter	04/12/23 1:28		66.2%

Analysis Method: EPA 901.1M

ABatch Sample ID: ARS1-B23-00532-05

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	-3.222E-7	9.035E-7	9.873E-7	4.937E-7	0.00024	U	uCi/filter	03/31/23 14:46		N/A
Cs-137	3.802E-7	6.805E-7	7.906E-7	3.953E-7	0.00048	U	uCi/filter	03/31/23 14:46		N/A
Ra-226	-1.649E-5	1.530E-5	1.578E-5	7.890E-6	4.4E-06	U	uCi/filter	03/31/23 14:46		N/A

Analysis Method: Eichrom SRW01

ABatch Sample ID: ARS1-B23-00562-05

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	2.096E-6	2.308E-6	3.798E-6	1.749E-6	2.4E-05	U	uCi/filter	04/04/23 10:40		88.6%



ARS Sample Delivery Group: ARS1-23-00589
 Client Sample ID: MSC02-031323
 Sample Collection Date: 03/16/23 14:28
 Sample Matrix: Air Filter
 Percent Solids: N/A

Request or PO Number: J310000600

ARS Sample ID: ARS1-23-00589-003

Date Received: 03/22/23

Report Date: 04/17/23

Radiochemistry

Analysis Method: Eichrom ACW03

ABatch Sample ID: ARS1-B23-00588-06

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	5.640E-9	3.986E-8	7.956E-8	3.214E-8	4.8E-08	U	uCi/filter	04/12/23 1:30		69.8%

Analysis Method: Eichrom ACW10

ABatch Sample ID: ARS1-B23-00589-06

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	1.783E-8	5.083E-8	9.433E-8	3.911E-8	1.4E-08	U	uCi/filter	04/12/23 1:28		69.4%

Analysis Method: EPA 901.1M

ABatch Sample ID: ARS1-B23-00532-06

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	-5.754E-7	1.122E-6	1.138E-6	5.690E-7	0.00024	U	uCi/filter	03/31/23 14:48		N/A
Cs-137	9.192E-7	6.930E-7	7.571E-7	3.786E-7	0.00048		uCi/filter	03/31/23 14:48		N/A
Ra-226	-1.287E-5	1.170E-5	1.279E-5	6.395E-6	4.4E-06	U	uCi/filter	03/31/23 14:48		N/A
Tl-208	1.215E-6	5.605E-7	6.861E-7	3.431E-7	NP		uCi/filter	03/31/23 14:48		N/A

Analysis Method: Eichrom SRW01

ABatch Sample ID: ARS1-B23-00562-06

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	1.848E-6	2.506E-6	4.208E-6	1.953E-6	2.4E-05	U	uCi/filter	04/04/23 10:40		90.2%



ARS Aleut Analytical, LLC Analytical Reports

for

GES-AIS, LLC

QC Summary



QC Sample Results

Analytical Batch: ARS1-B23-00532
Lab Sample ID: ARS1-B23-00532-01
Method: EPA 901.1M

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 03/31/23 9:13

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Am-241	33.065	31.176		uCi/filter	94.3	75 - 125
Co-60	20.928	21.517		uCi/filter	102.8	75 - 125
Cs-137	12.996	13.552		uCi/filter	104.3	75 - 125



QC Sample Results

Analytical Batch: ARS1-B23-00532
Lab Sample ID: ARS1-B23-00532-02
Method: EPA 901.1M

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 03/31/23 9:32

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Am-241	33.065	31.447		uCi/filter	95.1	75 - 125	0.9	25	0.151	3
Co-60	20.928	21.448		uCi/filter	102.5	75 - 125	0.3	25	0.080	3
Cs-137	12.996	13.441		uCi/filter	103.4	75 - 125	0.8	25	0.208	3



QC Sample Results

Analytical Batch: ARS1-B23-00532
Lab Sample ID: ARS1-B23-00532-03
Method: EPA 901.1M

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 03/31/23 14:44

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Ac-228	-0.008	0.007	0.007	0.003	U	uCi/filter
Am-241	-9.278E-5	0.001	0.002	0.001	U	uCi/filter
Bi-212	0.006	0.011	0.013	0.006	U	uCi/filter
Bi-214	-6.556E-4	0.004	0.004	0.002	U	uCi/filter
Co-60	0.001	0.001	0.001	7.200E-4	U	uCi/filter
Cs-137	5.073E-4	0.001	0.001	7.400E-4	U	uCi/filter
Eu-152	-4.546E-4	0.001	0.002	9.100E-4	U	uCi/filter
K-40	-0.003	0.021	0.022	0.011	U	uCi/filter
Pa-234	7.129E-4	0.001	0.002	9.500E-4	U	uCi/filter
Pb-210	-0.007	0.016	0.017	0.009	U	uCi/filter
Pb-212	-8.274E-4	0.002	0.002	0.001	U	uCi/filter
Pb-214	-6.053E-4	0.003	0.003	0.002	U	uCi/filter
Ra-226	-0.086	0.032	0.031	0.015	U	uCi/filter
Ra-228	-0.008	0.007	0.007	0.003	U	uCi/filter
Th-234	-0.008	0.016	0.020	0.010	U	uCi/filter
Tl-208	4.793E-4	0.002	0.002	7.850E-4	U	uCi/filter
U-235	-0.003	0.006	0.008	0.004	U	uCi/filter
U-238	-0.008	0.016	0.020	0.010	U	uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-23-00589

Analytical Batch: ARS1-B23-00532

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

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B23-00532-01		Lab Control Sample	Air Filter	EPA 901.1M	N/A
ARS1-B23-00532-02		Lab Control Sample Duplicate	Air Filter	EPA 901.1M	N/A
ARS1-B23-00532-03		Method Blank	Air Filter	EPA 901.1M	N/A
ARS1-B23-00532-04	ARS1-23-00589-001	FBC-031323	Air Filter	EPA 901.1M	N/A
ARS1-B23-00532-05	ARS1-23-00589-002	MSC01-031323	Air Filter	EPA 901.1M	N/A
ARS1-B23-00532-06	ARS1-23-00589-003	MSC02-031323	Air Filter	EPA 901.1M	N/A



QC Sample Results

Analytical Batch: ARS1-B23-00562

Lab Sample ID: ARS1-B23-00562-01

Method: Eichrom SRW01

Sample Type: LCS

Matrix: Air Filter

Analysis Date: 04/04/23 10:40

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
SR-90	2.009E-5	2.053E-5		uCi/filter	102.2	75 - 125



QC Sample Results

Analytical Batch: ARS1-B23-00562

Lab Sample ID: ARS1-B23-00562-02

Method: Eichrom SRW01

Sample Type: LCSD

Matrix: Air Filter

Analysis Date: 04/04/23 10:40

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
SR-90	2.017E-5	1.977E-5		uCi/filter	98.0	75 - 125	3.8	25	0.341	3



QC Sample Results

Analytical Batch: ARS1-B23-00562

Lab Sample ID: ARS1-B23-00562-03

Method: Eichrom SRW01

Sample Type: MBL

Matrix: Air Filter

Analysis Date: 04/04/23 10:40

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
SR-90	-6.492E-8	2.437E-6	4.431E-6	2.051E-6	U	uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-23-00589

Analytical Batch: ARS1-B23-00562

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

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B23-00562-01		Lab Control Sample	Air Filter	Eichrom SRW01	N/A
ARS1-B23-00562-02		Lab Control Sample Duplicate	Air Filter	Eichrom SRW01	N/A
ARS1-B23-00562-03		Method Blank	Air Filter	Eichrom SRW01	N/A
ARS1-B23-00562-04	ARS1-23-00589-001	FBC-031323	Air Filter	Eichrom SRW01	N/A
ARS1-B23-00562-05	ARS1-23-00589-002	MSC01-031323	Air Filter	Eichrom SRW01	N/A
ARS1-B23-00562-06	ARS1-23-00589-003	MSC02-031323	Air Filter	Eichrom SRW01	N/A



QC Sample Results

Analytical Batch: ARS1-B23-00588

Lab Sample ID: ARS1-B23-00588-01

Method: Eichrom ACW03

Sample Type: LCS

Matrix: Air Filter

Analysis Date: 04/12/23 1:30

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Pu-239/240	7.824E-6	8.183E-6		uCi/filter	104.6	75 - 125



QC Sample Results

Analytical Batch: ARS1-B23-00588

Lab Sample ID: ARS1-B23-00588-02

Method: Eichrom ACW03

Sample Type: LCSD

Matrix: Air Filter

Analysis Date: 04/12/23 1:30

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Pu-239/240	7.859E-6	7.954E-6		uCi/filter	101.2	75 - 125	2.8	25	0.316	3



QC Sample Results

Analytical Batch: ARS1-B23-00588
Lab Sample ID: ARS1-B23-00588-03
Method: Eichrom ACW03

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 04/12/23 1:30

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Pu-238	-5.651E-8	8.561E-8	1.767E-7	7.880E-8	U	uCi/filter
Pu-239/240	-7.062E-8	6.835E-8	1.546E-7	6.774E-8	U	uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-23-00589

Analytical Batch: ARS1-B23-00588

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-B23-00588-01		Lab Control Sample	Air Filter	Eichrom ACW03	N/A
ARS1-B23-00588-02		Lab Control Sample Duplicate	Air Filter	Eichrom ACW03	N/A
ARS1-B23-00588-03		Method Blank	Air Filter	Eichrom ACW03	N/A
ARS1-B23-00588-04	ARS1-23-00589-001	FBC-031323	Air Filter	Eichrom ACW03	N/A
ARS1-B23-00588-05	ARS1-23-00589-002	MSC01-031323	Air Filter	Eichrom ACW03	N/A
ARS1-B23-00588-06	ARS1-23-00589-003	MSC02-031323	Air Filter	Eichrom ACW03	N/A



QC Sample Results

Analytical Batch: ARS1-B23-00589

Lab Sample ID: ARS1-B23-00589-01

Method: Eichrom ACW10

Sample Type: LCS

Matrix: Air Filter

Analysis Date: 04/12/23 1:28

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Th-230	5.217E-6	5.485E-6		uCi/filter	105.1	75 - 125



QC Sample Results

Analytical Batch: ARS1-B23-00589

Lab Sample ID: ARS1-B23-00589-02

Method: Eichrom ACW10

Sample Type: LCSD

Matrix: Air Filter

Analysis Date: 04/12/23 1:28

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Th-230	5.248E-6	5.693E-6		uCi/filter	108.5	75 - 125	3.7	25	0.408	3



QC Sample Results

Analytical Batch: ARS1-B23-00589
Lab Sample ID: ARS1-B23-00589-03
Method: Eichrom ACW10

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 04/12/23 1:28

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Th-228	-4.961E-8	1.214E-7	2.366E-7	1.071E-7	U	uCi/filter
Th-230	1.554E-7	9.401E-8	1.229E-7	5.035E-8		uCi/filter
Th-232	0.000	0.000	2.213E-8	0.000	U	uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-23-00589

Analytical Batch: ARS1-B23-00589

Analysis: Thorium in (Air Filters, Smears, Leak Test [AF, SM, LT])

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B23-00589-01		Lab Control Sample	Air Filter	Eichrom ACW10	N/A
ARS1-B23-00589-02		Lab Control Sample Duplicate	Air Filter	Eichrom ACW10	N/A
ARS1-B23-00589-03		Method Blank	Air Filter	Eichrom ACW10	N/A
ARS1-B23-00589-04	ARS1-23-00589-001	FBC-031323	Air Filter	Eichrom ACW10	N/A
ARS1-B23-00589-05	ARS1-23-00589-002	MSC01-031323	Air Filter	Eichrom ACW10	N/A
ARS1-B23-00589-06	ARS1-23-00589-003	MSC02-031323	Air Filter	Eichrom ACW10	N/A



ARS Aleut Analytical, LLC Analytical Reports

for

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Batch QC



QC Results per Analytical Batch

Analytical Batch	ARS1-B23-00532
SDG	ARS1-23-00589
Analysis	Gamma Spec (Short) in (Air Filters, Smears [AF])
Method	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	Recovery (%):	> 75	< 125
Matrix Spike	Recovery (%):	> 60	< 140
Duplicate	Duplicate Error Ratio (DER):		< 3
	Relative Percent Difference (RPD %):		≤ 25

Laboratory Control Sample			Analysis Date	03/31/23 09:13	Analysis Technician	████	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-00532-01	LCS	AM-241	31.176	2.469	33.065	94.3	0.118
ARS1-B23-00532-01	LCS	CO-60	21.517	1.207	20.928	102.8	0.548
ARS1-B23-00532-01	LCS	CS-137	13.552	0.743	12.996	104.3	0.096

Duplicate RER/DER/RPD			Analysis Date	03/31/23 09:32	Analysis Technician	████
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD
AM-241	31.176	2.469	31.447	2.491	0.151	0.9
CO-60	21.517	1.207	21.448	1.195	0.080	0.3
CS-137	13.552	0.743	13.441	0.738	0.208	0.8

Method Blank			Analysis Date	03/31/23 14:44	Analysis Technician	████
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual
ARS1-B23-00532-03	MBL	AC-228	-0.008	0.007	0.007	U
ARS1-B23-00532-03	MBL	AM-241	-9.278E-5	0.001	0.002	U
ARS1-B23-00532-03	MBL	BI-212	0.006	0.011	0.013	U
ARS1-B23-00532-03	MBL	BI-214	-6.556E-4	0.004	0.004	U
ARS1-B23-00532-03	MBL	CO-60	0.001	0.001	0.001	U
ARS1-B23-00532-03	MBL	CS-137	5.073E-4	0.001	0.001	U
ARS1-B23-00532-03	MBL	EU-152	-4.546E-4	0.001	0.002	U
ARS1-B23-00532-03	MBL	K-40	-0.003	0.021	0.022	U
ARS1-B23-00532-03	MBL	PA-234	7.129E-4	0.001	0.002	U
ARS1-B23-00532-03	MBL	PB-210	-0.007	0.016	0.017	U
ARS1-B23-00532-03	MBL	PB-212	-8.274E-4	0.002	0.002	U
ARS1-B23-00532-03	MBL	PB-214	-6.053E-4	0.003	0.003	U
ARS1-B23-00532-03	MBL	RA-226	-0.086	0.032	0.031	U
ARS1-B23-00532-03	MBL	RA-228	-0.008	0.007	0.007	U
ARS1-B23-00532-03	MBL	TH-234	-0.008	0.016	0.020	U
ARS1-B23-00532-03	MBL	TL-208	4.793E-4	0.002	0.002	U
ARS1-B23-00532-03	MBL	U-235	-0.003	0.006	0.008	U
ARS1-B23-00532-03	MBL	U-238	-0.008	0.016	0.020	U



QC Results per Analytical Batch

Analytical Batch	ARS1-B23-00562
SDG	ARS1-23-00589
Analysis	Strontium-90 in (Air Filters, Smears [AF])
Method	Eichrom SRW01
Analysis Code	GPC-SR90-AF
Report Units	uCi/filter

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	04/04/23 10:40	Analysis Technician	[REDACTED]
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-00562-01	LCS	SR-90	2.053E-5	3.140E-6	2.009E-5	102.2	3.880E-7

Duplicate RER/DER/RPD				Analysis Date	04/04/23 10:40	Analysis Technician	[REDACTED]
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD	
SR-90	2.053E-5	3.140E-6	1.977E-5	3.028E-6	0.341	3.8	

Method Blank				Analysis Date	04/04/23 10:40	Analysis Technician	[REDACTED]
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual	
ARS1-B23-00562-03	MBL	SR-90	-6.492E-8	2.437E-6	4.431E-6	U	



QC Results per Analytical Batch

Analytical Batch	ARS1-B23-00588
SDG	ARS1-23-00589
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

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	04/12/23 01:30	Analysis Technician	██████████
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-00588-01	LCS	PU-239/240	8.183E-6	1.020E-6	7.824E-6	104.6	3.839E-8

Duplicate RER/DER/RPD				Analysis Date	04/12/23 01:30	Analysis Technician	██████████
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD	
PU-239/240	8.183E-6	1.020E-6	7.954E-6	9.922E-7	0.316	2.8	

Method Blank				Analysis Date	04/12/23 01:30	Analysis Technician	██████████
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual	
ARS1-B23-00588-03	MBL	PU-238	-5.651E-8	8.561E-8	1.767E-7	U	
ARS1-B23-00588-03	MBL	PU-239/240	-7.062E-8	6.835E-8	1.546E-7	U	



QC Results per Analytical Batch

Analytical Batch	ARS1-B23-00589
SDG	ARS1-23-00589
Analysis	Thorium in (Air Filters, Smears, Leak Test [AF, SM, LT])
Method	Eichrom ACW10
Analysis Code	ASP-TH-AF
Report Units	uCi/filter

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	04/12/23 01:28	Analysis Technician	██████████	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-00589-01	LCS	TH-230	5.485E-6	6.916E-7	5.217E-6	105.1	4.085E-8

Duplicate RER/DER/RPD			Analysis Date	04/12/23 01:28	Analysis Technician	██████████	
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD	
TH-230	5.485E-6	6.916E-7	5.693E-6	7.208E-7	0.408	3.7	

Method Blank			Analysis Date	04/12/23 01:28	Analysis Technician	██████████	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual	
ARS1-B23-00589-03	MBL	TH-228	-4.961E-8	1.214E-7	2.366E-7	U	
ARS1-B23-00589-03	MBL	TH-230	1.554E-7	9.401E-8	1.229E-7		
ARS1-B23-00589-03	MBL	TH-232	0.000	0.000	2.213E-8	U	



ARS Aleut Analytical, LLC Analytical Reports

for

GES-AIS, LLC

Sample Management Records

**CHAIN-OF-CUSTODY
RECORD**

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

COC # KT032123RADC



Project Name: Hunters Point Shipyard, Parcel C Removal Site Evaluation	Laboratory: ARS Aleut Analytical (AAA), Port Allen, LA	Event: Parcel C Air Monitoring RAD
Project Number: J310000600	POC: [REDACTED]	
WBS Code: J310000600	Ship to: 2609 North River Road, Port Allen, LA 70767-3469	

Comments: Please see edits in red [REDACTED] FB should be 3/13/23 0800 [REDACTED]	Analytical Test Method E901.1 - Gamma Spec RC0240 - Pu and Th Isotopes SR02RC - Sr90	Code Matrix
		A Air AQ Air Quality Control Matrix
Equipment:		Code Container/Preservative
		5 1x 1-L Plastic, HNO3, pH < 2 15 1x 250-mL Plastic, 4 Degrees C

Event: Parcel C Air Monitoring RAD										15	15	5							
Sample ID	Matrix	Date	Time	Samp Init.						Location ID	Sample Type	Depth (ft bgs)		Cooler	Comments				
1 FBC-031323	AQ	03/16/2023	0800	MC	X	X	X			FIELDQC	FB2	0.00	0.00	1					
2 MSC01-031623 031323	A	03/16/2023	1430	MC	X	X	X			MSC01	N1	0.00	0.00	1					
3 MSC02-031623 031323	A	03/16/2023	1428	MC	X	X	X			MSC02	N1	0.00	0.00	1					

Turnaround Time: 28 days

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[REDACTED]	3/21/23	1600	[REDACTED]			Shipping Date: 3/21/2023 / FEDEX / 7715 4693 9951
						Received by Laboratory: (Signature, Date, Time) & condition

SDG Report - Samples and Containers

SDG Specific Data										
SDG	ARS1-23-00589			TAT Days	28 Calendar Days		Project Type	Environmental		
Sample Count	3	Rpt Level	4	Date Received	03/22/2023		COC Number	KT032123RADC		
Client	GES-AIS, LLC			Discrepancy Resol	N/A		PO Number			
Client Code	1138			Client Deadline	04/20/2023		Job Number	J310000600		
Profile Number	PN-01440						Job Location	Hunters Point Shipyard, Parcel C Removal Site Evaluation		
Comment										

Samples and Containers Checked In Thus Far									
FR	Name	Matrix	Start Date	End Date	Disp	Hold	Arch	Storage	Comments
001	FBC-031323	Air Filter	03/13/2023 07:59	03/13/2023 08:00	H	30	10	PrePrep	
	IC_ID	Cnt	Container Type	AF Volume (L)	AF Units		Rate	Mins	Comments
	433434	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	03/13/2023 07:59	AF Volume (CuM):		0.001		
002	MSC01-031323	Air Filter	03/16/2023 14:29	03/16/2023 14:30	H	30	10	PrePrep	
	IC_ID	Cnt	Container Type	AF Volume (L)	AF Units		Rate	Mins	Comments
	433435	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	03/16/2023 14:29	AF Volume (CuM):		0.001		
003	MSC02-031323	Air Filter	03/16/2023 14:27	03/16/2023 14:28	H	30	10	PrePrep	
	IC_ID	Cnt	Container Type	AF Volume (L)	AF Units		Rate	Mins	Comments
	433436	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	03/16/2023 14:27	AF Volume (CuM):		0.001		

SDG Report - Analysis Assignments

SDG	ARS1-23-00589	Sample Count	3
Client	GES-AIS, LLC	Analysis Count	4-12

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	3
ASP-TH-AF	Thorium in (Air Filters, Smears, Leak Test [AF, SM, LT])	I	3
GAM-A-AF	Gamma Spec (Short) in (Air Filters, Smears [AF])	I	3
GPC-SR90-AF	Strontium-90 in (Air Filters, Smears [AF])	I	3

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

Client Name: GES-AIS, LLC

Profile Name: Parcel C 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												
ASP-TH-AF	WRAD	uCi	filter	N/A	PALA-RAD-031																		
												Analyte	RDL	LCS LL/UL	MS LL/UL	RadY LL/UL	GravY LL/UL	RER	RPD	Surr LL/UL			
Th-232 (7440-29-1)				1.4E-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			
												Ac-228 (14331-83-0)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
												Am-241 (14596-10-2)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
												Bi-212 (14913-49-6)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
												Bi-214 (14733-03-0)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
												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
												Eu-152 (14683-23-9)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
												Eu-154 (15585-10-1)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
												K-40 (13966-00-2)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
												Pb-210 (14255-04-0)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
												Pb-212 (15092-94-1)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
												Pb-214 (15067-28-4)				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
												Ra-228 (15262-20-1)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
Th-234 (15065-10-8)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A												
Tl-208 (14913-50-9)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A												
U-235 (15117-96-1)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A												
U-238 (7440-61-1)				uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A												

DQO Report for SDG

ARS1-23-00589

GAM-A-AF	Pa-234 (15100-28-4)			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 C Rad Sampling		Pu-239/240	
ASP-PU239-AF	002	uCi	filter	N/A	1
		Group		Analyte	
		Parcel C Rad Sampling		Pu-239/240	
ASP-PU239-AF	003	uCi	filter	N/A	1
		Group		Analyte	
		Parcel C Rad Sampling		Pu-239/240	
ASP-TH-AF	001	uCi	filter	N/A	1
		Group		Analyte	
		Parcel C Rad Sampling		Th-232	
ASP-TH-AF	002	uCi	filter	N/A	1
		Group		Analyte	
		Parcel C Rad Sampling		Th-232	
ASP-TH-AF	003	uCi	filter	N/A	1
		Group		Analyte	
		Parcel C Rad Sampling		Th-232	
GAM-A-AF	001	uCi	filter	N/A	19
		Group		Analyte	
		Parcel C Rad Sampling		Ac-228	
		Parcel C Rad Sampling		Am-241	
		Parcel C Rad Sampling		Bi-212	
		Parcel C Rad Sampling		Bi-214	
		Parcel C Rad Sampling		Co-60	
		Parcel C Rad Sampling		Cs-137	
		Parcel C Rad Sampling		Eu-152	

DQO Report for SDG

ARS1-23-00589

GAM-A-AF	001	Parcel C Rad Sampling		Eu-154	
		Parcel C Rad Sampling		K-40	
		Parcel C Rad Sampling		Pa-234	
		Parcel C Rad Sampling		Pb-210	
		Parcel C Rad Sampling		Pb-212	
		Parcel C Rad Sampling		Pb-214	
		Parcel C Rad Sampling		Ra-226	
		Parcel C Rad Sampling		Ra-228	
		Parcel C Rad Sampling		Th-234	
		Parcel C Rad Sampling		TI-208	
		Parcel C Rad Sampling		U-235	
		Parcel C Rad Sampling		U-238	
		GAM-A-AF	002	uCi	filter
Group				Analyte	
Parcel C Rad Sampling				Ac-228	
Parcel C Rad Sampling				Am-241	
Parcel C Rad Sampling				Bi-212	
Parcel C Rad Sampling				Bi-214	
Parcel C Rad Sampling				Co-60	
Parcel C Rad Sampling				Cs-137	
Parcel C Rad Sampling				Eu-152	
Parcel C Rad Sampling				Eu-154	
Parcel C Rad Sampling				K-40	
Parcel C Rad Sampling				Pa-234	
Parcel C Rad Sampling				Pb-210	
Parcel C Rad Sampling				Pb-212	
Parcel C Rad Sampling				Pb-214	
Parcel C Rad Sampling				Ra-226	
Parcel C Rad Sampling				Ra-228	
Parcel C Rad Sampling				Th-234	
Parcel C Rad Sampling				TI-208	
Parcel C Rad Sampling				U-235	
Parcel C Rad Sampling		U-238			

DQO Report for SDG

ARS1-23-00589

GAM-A-AF	003	uCi	filter	N/A	19	
		Group		Analyte		
		Parcel C Rad Sampling		Ac-228		
		Parcel C Rad Sampling		Am-241		
		Parcel C Rad Sampling		Bi-212		
		Parcel C Rad Sampling		Bi-214		
		Parcel C Rad Sampling		Co-60		
		Parcel C Rad Sampling		Cs-137		
		Parcel C Rad Sampling		Eu-152		
		Parcel C Rad Sampling		Eu-154		
		Parcel C Rad Sampling		K-40		
		Parcel C Rad Sampling		Pa-234		
		Parcel C Rad Sampling		Pb-210		
		Parcel C Rad Sampling		Pb-212		
		Parcel C Rad Sampling		Pb-214		
		Parcel C Rad Sampling		Ra-226		
		Parcel C Rad Sampling		Ra-228		
		Parcel C Rad Sampling		Th-234		
		Parcel C Rad Sampling		Tl-208		
		Parcel C Rad Sampling		U-235		
Parcel C Rad Sampling		U-238				
GPC-SR90-AF	001	uCi	filter	N/A	1	
		Group		Analyte		
Parcel C Rad Sampling		Sr-90				
GPC-SR90-AF	002	uCi	filter	N/A	1	
		Group		Analyte		
Parcel C Rad Sampling		Sr-90				
GPC-SR90-AF	003	uCi	filter	N/A	1	
		Group		Analyte		
Parcel C Rad Sampling		Sr-90				

PALA Sample Receipt Inspection Form

Client Name: GES
 SDG: ARS1-23-00589

Sample Custodian: [REDACTED] Survey Start Date: 3-22-23 Survey Start Time: 12:55
 Thermometer ID: E1054012261 Calibration Due Date: 1/12/24 pH Paper Lot# NA
 Exposure Rate Meter + Probe Unit ID: 273629 Calibration Due Date: 9/13/23 Background: 5 μ R/hr
 Count Rate Meter + Probe Unit ID: 268993 Calibration Due Date: 9/29/23 Background: 10 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>77 15463 9951</u>	<u>5</u>	<u>10</u>	<u>10</u>	<u>—</u>	AQ WD WG WO
B: _____	_____	_____	_____	_____	WS WW SI UR
C: _____	_____	_____	_____	_____	SO OL BI VG
D: _____	_____	_____	_____	_____	WP SM <input checked="" type="radio"/> AF
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 (925) 250-6097

200 FISHER STREET

SAN FRANCISCO, CA 94124
UNITED STATES US

SHIP DATE: 21MAR23
ACTWGT: 1.00 LB
CAD: 254128867/INET4580

BILL SENDER

TO [REDACTED]

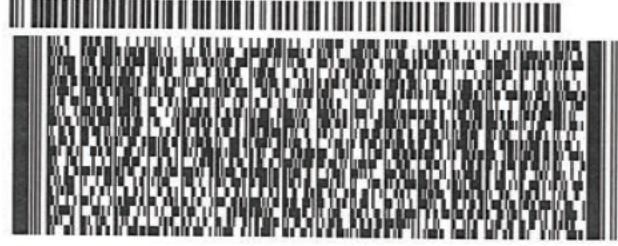
PORT ALLEN LA 70767

(225) 381-2991

REF: J31000.600 02.04.05

INV:
PO:

DEPT:



581479962FE2D

42102081161ur

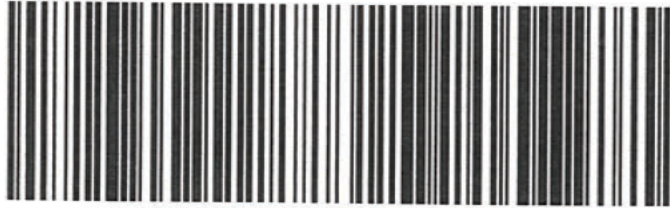
WED - 22 MAR 4:30P

STANDARD OVERNIGHT

TRK# 7715 4693 9951
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

ARS1-23-00645

GES-AIS, LLC



[REDACTED]
1501 West Fountainhead Parkway
Suite 550
Tempe, AZ 94520

[REDACTED]
[REDACTED]
[REDACTED]

COC Number: **KT032823RADC**
Job Number: **J310000600**
Job Location: **Hunters Point Shipyard, Parcel C Removal Site Evaluation**
Project Name: **Parcel C Air Monitoring RAD**

Questions regarding this analytical report should be addressed to ARS project manager, Abigail Hoover, 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.

		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	66780 (NPW) / 66781 (SHW)
Texas	T104704447-22-18
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.alcutfederal.com for additional information.



ARS Aleut Analytical, LLC Analytical Reports

for

GES-AIS, LLC

Case Narrative



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

Client Sample ID	ARS Aleut Analytical Sample ID
FBC-032023	ARS1-23-00645-001
MSC01-032023	ARS1-23-00645-002
MSC02-032023	ARS1-23-00645-003

Sample	Date Collected	Date Received	Analysis	Basis	Prep Date/Time	Analysis Date/Time
001	03/20/23 08:00	03/29/23	ASP-PU239-AF	As Received	04/05/23 10:28	04/12/23 01:30
001	03/20/23 08:00	03/29/23	ASP-TH-AF	As Received	04/05/23 08:51	04/12/23 01:28
001	03/20/23 08:00	03/29/23	GAM-A-AF	As Received	NA	03/31/23 14:49
001	03/20/23 08:00	03/29/23	GPC-SR90-AF	As Received	04/18/23 07:15	04/19/23 12:10
002	03/23/23 13:24	03/29/23	ASP-PU239-AF	As Received	04/05/23 10:28	04/12/23 01:30
002	03/23/23 13:24	03/29/23	ASP-TH-AF	As Received	04/05/23 08:51	04/12/23 01:28
002	03/23/23 13:24	03/29/23	GAM-A-AF	As Received	NA	04/04/23 13:57
002	03/23/23 13:24	03/29/23	GPC-SR90-AF	As Received	04/18/23 07:15	04/19/23 12:10
003	03/23/23 13:21	03/29/23	ASP-PU239-AF	As Received	04/05/23 10:28	04/12/23 01:30
003	03/23/23 13:21	03/29/23	ASP-TH-AF	As Received	04/05/23 08:51	04/12/23 01:28
003	03/23/23 13:21	03/29/23	GAM-A-AF	As Received	NA	04/03/23 14:01
003	03/23/23 13:21	03/29/23	GPC-SR90-AF	As Received	04/18/23 07:15	04/19/23 12:10

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)"**.

Th-232 analysis was performed using **PALA-RAD-031, "Thorium in Water, Soil and Vegetation Matrices by Eichrom Resin Separation (Eichrom ACW-08 & Eichrom ACW-10)"**.

Ac-228, Am-241, Bi-212, Bi-214, Co-60, Cs-137, Eu-152, Eu-154, K-40, Pa-234, Pb-210, Pb-212, Pb-214, Ra-226, Ra-228, Th-234, Tl-208, U-235, and U-238 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)"**.

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 in batch ARS1-B23-00588 has elevated MDA for Pu-239/240 with ACT of $-5.856E-8$ uCi/filter, MDA of $1.425E-7$ uCi/filter and CRDL of $4.8E-08$ uCi/filter.

Fraction 001 in batch ARS1-B23-00589 has elevated MDA for Th-232 with ACT of $5.576E-8$ uCi/filter, MDA of $5.755E-8$ uCi/filter and CRDL of $1.4E-08$ uCi/filter.

Fraction 001 in batch ARS1-B23-00532 has elevated MDA for Ra-226 with ACT of $-1.536E-6$ uCi/filter, MDA of $9.392E-6$ uCi/filter and CRDL of $4.4E-06$ uCi/filter.

Fraction 002 in batch ARS1-B23-00588 has elevated MDA for Pu-239/240 with ACT of $-5.420E-8$ uCi/filter, MDA of $1.284E-7$ uCi/filter and CRDL of $4.8E-08$ uCi/filter.

Fraction 002 in batch ARS1-B23-00589 has elevated MDA for Th-232 with ACT of $4.030E-8$ uCi/filter, MDA of $6.239E-8$ uCi/filter and CRDL of $1.4E-08$ uCi/filter.

Fraction 002 in batch ARS1-B23-00532 has elevated MDA for Ra-226 with ACT of $-3.094E-6$ uCi/filter, MDA of $9.451E-6$ uCi/filter and CRDL of $4.4E-06$ uCi/filter.

Fraction 003 in batch ARS1-B23-00588 has elevated MDA for Pu-239/240 with ACT of 0.000 uCi/filter, MDA of $7.475E-8$ uCi/filter and CRDL of $4.8E-08$ uCi/filter.

Fraction 003 in batch ARS1-B23-00532 has elevated MDA for Ra-226 with ACT of $-2.281E-6$ uCi/filter, MDA of $9.510E-6$ uCi/filter and CRDL of $4.4E-06$ uCi/filter.

ARS1-B23-00588: ROIs adjusted to better fit the peaks of interest.

ARS1-B23-00589: ROIs 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	Sp ke
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 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

GES-AIS, LLC

Analytical Results



ARS Sample Delivery Group: ARS1-23-00645

Client Sample ID: FBC-032023

Sample Collection Date: 03/20/23 8:00

Sample Matrix: Air Filter

Percent Solids: N/A

Request or PO Number: J310000600

ARS Sample ID: ARS1-23-00645-001

Date Received: 03/29/23

Report Date: 04/20/23

Radiochemistry

Analysis Method: E chrom ACW03

ABatch Sample ID: ARS1-B23-00588-07

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-5.856E-8	6.416E-8	1.425E-7	6.241E-8	4.8E-08	U	uCi/filter	04/12/23 1:30		67.7%

Analysis Method: E chrom ACW10

ABatch Sample ID: ARS1-B23-00589-07

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	5.576E-8	4.430E-8	5.755E-8	2.038E-8	1.4E-08	U	uCi/filter	04/12/23 1:28		69.7%

Analysis Method: EPA 901.1M

ABatch Sample ID: ARS1-B23-00532-07

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Bi-214	2.262E-6	9.625E-7	1.185E-6	5.925E-7	NP		uCi/filter	03/31/23 14:49		N/A
Co-60	2.338E-7	8.002E-7	8.220E-7	4.110E-7	0.00024	U	uCi/filter	03/31/23 14:49		N/A
Cs-137	-2.712E-7	7.292E-7	7.880E-7	3.940E-7	0.00048	U	uCi/filter	03/31/23 14:49		N/A
K-40	1.599E-5	9.859E-6	9.123E-6	4.562E-6	NP		uCi/filter	03/31/23 14:49		N/A
Pb-212	1.060E-6	4.964E-7	6.975E-7	3.488E-7	NP		uCi/filter	03/31/23 14:49		N/A
Ra-226	-1.536E-6	7.422E-6	9.392E-6	4.696E-6	4.4E-06	U	uCi/filter	03/31/23 14:49		N/A

Analysis Method: E chrom SRW01

ABatch Sample ID: ARS1-B23-00680-06

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	4.010E-7	2.096E-6	3.738E-6	1.726E-6	2.4E-05	U	uCi/filter	04/19/23 12:10		93.5%



ARS Sample Delivery Group: ARS1-23-00645
 Client Sample ID: MSC01-032023
 Sample Collection Date: 03/23/23 13:24
 Sample Matrix: Air Filter
 Percent Solids: N/A

Request or PO Number: J310000600
 ARS Sample ID: ARS1-23-00645-002
 Date Received: 03/29/23
 Report Date: 04/20/23

Radiochemistry

Analysis Method: E chrom ACW03

ABatch Sample ID: ARS1-B23-00588-08

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-5.420E-8	5.699E-8	1.284E-7	5.604E-8	4.8E-08	U	uCi/filter	04/12/23 1:30		64.8%

Analysis Method: E chrom ACW10

ABatch Sample ID: ARS1-B23-00589-08

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	4.030E-8	4.191E-8	6.239E-8	2.210E-8	1.4E-08	U	uCi/filter	04/12/23 1:28		67.5%

Analysis Method: EPA 901.1M

ABatch Sample ID: ARS1-B23-00532-08

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Bi-214	1.338E-6	1.048E-6	1.330E-6	6.650E-7	NP		uCi/filter	04/04/23 13:57		N/A
Co-60	-1.913E-7	8.948E-7	9.181E-7	4.591E-7	0.00024	U	uCi/filter	04/04/23 13:57		N/A
Cs-137	-4.180E-7	7.759E-7	8.344E-7	4.172E-7	0.00048	U	uCi/filter	04/04/23 13:57		N/A
K-40	1.105E-5	8.204E-6	7.679E-6	3.840E-6	NP		uCi/filter	04/04/23 13:57		N/A
Ra-226	-3.094E-6	7.500E-6	9.451E-6	4.726E-6	4.4E-06	U	uCi/filter	04/04/23 13:57		N/A

Analysis Method: E chrom SRW01

ABatch Sample ID: ARS1-B23-00680-07

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	1.184E-7	2.355E-6	4.255E-6	1.967E-6	2.4E-05	U	uCi/filter	04/19/23 12:10		89.4%



ARS Sample Delivery Group: ARS1-23-00645
 Client Sample ID: MSC02-032023
 Sample Collection Date: 03/23/23 13:21
 Sample Matrix: Air Filter
 Percent Solids: N/A

Request or PO Number: J310000600
 ARS Sample ID: ARS1-23-00645-003
 Date Received: 03/29/23
 Report Date: 04/20/23

Radiochemistry

Analysis Method: E chrom ACW03

ABatch Sample ID: ARS1-B23-00588-09

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	0.000	3.449E-8	7.475E-8	2.895E-8	4.8E-08	U	uCi/filter	04/12/23 1:30		66.0%

Analysis Method: E chrom ACW10

ABatch Sample ID: ARS1-B23-00589-09

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	1.592E-7	7.309E-8	6.432E-8	2.278E-8	1.4E-08		uCi/filter	04/12/23 1:28		57.1%

Analysis Method: EPA 901.1M

ABatch Sample ID: ARS1-B23-00532-09

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	1.615E-7	8.470E-7	8.712E-7	4.356E-7	0.00024	U	uCi/filter	04/03/23 14:01		N/A
Cs-137	-2.234E-7	7.154E-7	7.744E-7	3.872E-7	0.00048	U	uCi/filter	04/03/23 14:01		N/A
K-40	1.295E-5	1.012E-5	9.494E-6	4.747E-6	NP		uCi/filter	04/03/23 14:01		N/A
Ra-226	-2.281E-6	7.531E-6	9.510E-6	4.755E-6	4.4E-06	U	uCi/filter	04/03/23 14:01		N/A

Analysis Method: E chrom SRW01

ABatch Sample ID: ARS1-B23-00680-08

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	1.972E-6	2.437E-6	4.061E-6	1.876E-6	2.4E-05	U	uCi/filter	04/19/23 12:10		89.4%



ARS Aleut Analytical, LLC Analytical Reports

for

GES-AIS, LLC

QC Summary



QC Sample Results

Analytical Batch: ARS1-B23-00532
Lab Sample ID: ARS1-B23-00532-01
Method: EPA 901.1M

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 03/31/23 9:13

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Am-241	33.065	31.176		uCi/filter	94.3	75 - 125
Co-60	20.928	21.517		uCi/filter	102.8	75 - 125
Cs-137	12.996	13.552		uCi/filter	104.3	75 - 125



QC Sample Results

Analytical Batch: ARS1-B23-00532
Lab Sample ID: ARS1-B23-00532-02
Method: EPA 901.1M

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 03/31/23 9:32

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Am-241	33.065	31.447		uCi/filter	95.1	75 - 125	0.9	25	0.151	3
Co-60	20.928	21.448		uCi/filter	102.5	75 - 125	0.3	25	0.080	3
Cs-137	12.996	13.441		uCi/filter	103.4	75 - 125	0.8	25	0.208	3



QC Sample Results

Analytical Batch: ARS1-B23-00532
Lab Sample ID: ARS1-B23-00532-03
Method: EPA 901.1M

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 03/31/23 14:44

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Ac-228	-0.008	0.007	0.007	0.003	U	uCi/filter
Am-241	-9.278E-5	0.001	0.002	0.001	U	uCi/filter
Bi-212	0.006	0.011	0.013	0.006	U	uCi/filter
Bi-214	-6.556E-4	0.004	0.004	0.002	U	uCi/filter
Co-60	0.001	0.001	0.001	7.200E-4	U	uCi/filter
Cs-137	5.073E-4	0.001	0.001	7.400E-4	U	uCi/filter
Eu-152	-4.546E-4	0.001	0.002	9.100E-4	U	uCi/filter
K-40	-0.003	0.021	0.022	0.011	U	uCi/filter
Pa-234	7.129E-4	0.001	0.002	9.500E-4	U	uCi/filter
Pb-210	-0.007	0.016	0.017	0.009	U	uCi/filter
Pb-212	-8.274E-4	0.002	0.002	0.001	U	uCi/filter
Pb-214	-6.053E-4	0.003	0.003	0.002	U	uCi/filter
Ra-226	-0.086	0.032	0.031	0.015	U	uCi/filter
Ra-228	-0.008	0.007	0.007	0.003	U	uCi/filter
Th-234	-0.008	0.016	0.020	0.010	U	uCi/filter
Tl-208	4.793E-4	0.002	0.002	7.850E-4	U	uCi/filter
U-235	-0.003	0.006	0.008	0.004	U	uCi/filter
U-238	-0.008	0.016	0.020	0.010	U	uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-23-00645

Analytical Batch: ARS1-B23-00532

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

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B23-00532-01		Lab Control Sample	Air Filter	EPA 901.1M	N/A
ARS1-B23-00532-02		Lab Control Sample Duplicate	Air Filter	EPA 901.1M	N/A
ARS1-B23-00532-03		Method Blank	Air Filter	EPA 901.1M	N/A
ARS1-B23-00532-07	ARS1-23-00645-001	FBC-032023	Air Filter	EPA 901.1M	N/A
ARS1-B23-00532-08	ARS1-23-00645-002	MSC01-032023	Air Filter	EPA 901.1M	N/A
ARS1-B23-00532-09	ARS1-23-00645-003	MSC02-032023	Air Filter	EPA 901.1M	N/A



QC Sample Results

Analytical Batch: ARS1-B23-00588

Lab Sample ID: ARS1-B23-00588-01

Method: E chrom ACW03

Sample Type: LCS

Matrix: Air Filter

Analysis Date: 04/12/23 1:30

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Pu-239/240	7.824E-6	8.183E-6		uCi/filter	104.6	75 - 125



QC Sample Results

Analytical Batch: ARS1-B23-00588

Lab Sample ID: ARS1-B23-00588-02

Method: E chrom ACW03

Sample Type: LCSD

Matrix: Air Filter

Analysis Date: 04/12/23 1:30

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Pu-239/240	7.859E-6	7.954E-6		uCi/filter	101.2	75 - 125	2.8	25	0.316	3



QC Sample Results

Analytical Batch: ARS1-B23-00588
Lab Sample ID: ARS1-B23-00588-03
Method: E chrom ACW03

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 04/12/23 1:30

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Pu-238	-5.651E-8	8.561E-8	1.767E-7	7.880E-8	U	uCi/filter
Pu-239/240	-7.062E-8	6.835E-8	1.546E-7	6.774E-8	U	uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-23-00645

Analytical Batch: ARS1-B23-00588

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-B23-00588-01		Lab Control Sample	Air Filter	E chrom ACW03	N/A
ARS1-B23-00588-02		Lab Control Sample Duplicate	Air Filter	E chrom ACW03	N/A
ARS1-B23-00588-03		Method Blank	Air Filter	E chrom ACW03	N/A
ARS1-B23-00588-07	ARS1-23-00645-001	FBC-032023	Air Filter	E chrom ACW03	N/A
ARS1-B23-00588-08	ARS1-23-00645-002	MSC01-032023	Air Filter	E chrom ACW03	N/A
ARS1-B23-00588-09	ARS1-23-00645-003	MSC02-032023	Air Filter	E chrom ACW03	N/A



QC Sample Results

Analytical Batch: ARS1-B23-00589

Lab Sample ID: ARS1-B23-00589-01

Method: E chrom ACW10

Sample Type: LCS

Matrix: Air Filter

Analysis Date: 04/12/23 1:28

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Th-230	5.217E-6	5.485E-6		uCi/filter	105.1	75 - 125



QC Sample Results

Analytical Batch: ARS1-B23-00589

Lab Sample ID: ARS1-B23-00589-02

Method: E chrom ACW10

Sample Type: LCSD

Matrix: Air Filter

Analysis Date: 04/12/23 1:28

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Th-230	5.248E-6	5.693E-6		uCi/filter	108.5	75 - 125	3.7	25	0.408	3



QC Sample Results

Analytical Batch: ARS1-B23-00589
Lab Sample ID: ARS1-B23-00589-03
Method: E chrom ACW10

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 04/12/23 1:28

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Th-228	-4.961E-8	1.214E-7	2.366E-7	1.071E-7	U	uCi/filter
Th-230	1.554E-7	9.401E-8	1.229E-7	5.035E-8		uCi/filter
Th-232	0.000	0.000	2.213E-8	0.000	U	uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-23-00645

Analytical Batch: ARS1-B23-00589

Analysis: Thorium in (Air Filters, Smears, Leak Test [AF, SM, LT])

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B23-00589-01		Lab Control Sample	Air Filter	E chrom ACW10	N/A
ARS1-B23-00589-02		Lab Control Sample Duplicate	Air Filter	E chrom ACW10	N/A
ARS1-B23-00589-03		Method Blank	Air Filter	E chrom ACW10	N/A
ARS1-B23-00589-07	ARS1-23-00645-001	FBC-032023	Air Filter	E chrom ACW10	N/A
ARS1-B23-00589-08	ARS1-23-00645-002	MSC01-032023	Air Filter	E chrom ACW10	N/A
ARS1-B23-00589-09	ARS1-23-00645-003	MSC02-032023	Air Filter	E chrom ACW10	N/A



QC Sample Results

Analytical Batch: ARS1-B23-00680

Lab Sample ID: ARS1-B23-00680-01

Method: E chrom SRW01

Sample Type: LCS

Matrix: Air Filter

Analysis Date: 04/19/23 12:10

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
SR-90	1.997E-5	2.154E-5		uCi/filter	107.8	75 - 125



QC Sample Results

Analytical Batch: ARS1-B23-00680

Lab Sample ID: ARS1-B23-00680-02

Method: E chrom SRW01

Sample Type: LCSD

Matrix: Air Filter

Analysis Date: 04/19/23 12:10

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
SR-90	1.997E-5	2.162E-5		uCi/filter	108.3	75 - 125	0.4	25	0.037	3



QC Sample Results

Analytical Batch: ARS1-B23-00680

Lab Sample ID: ARS1-B23-00680-03

Method: E chrom SRW01

Sample Type: MBL

Matrix: Air Filter

Analysis Date: 04/19/23 12:10

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
SR-90	7.666E-7	1.316E-6	2.250E-6	1.038E-6	U	uCi/filter



QC Association Summary

ARS Sample Delivery Group: ARS1-23-00645

Analytical Batch: ARS1-B23-00680

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

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B23-00680-01		Lab Control Sample	Air Filter	E chrom SRW01	N/A
ARS1-B23-00680-02		Lab Control Sample Duplicate	Air Filter	E chrom SRW01	N/A
ARS1-B23-00680-03		Method Blank	Air Filter	E chrom SRW01	N/A
ARS1-B23-00680-06	ARS1-23-00645-001	FBC-032023	Air Filter	E chrom SRW01	N/A
ARS1-B23-00680-07	ARS1-23-00645-002	MSC01-032023	Air Filter	E chrom SRW01	N/A
ARS1-B23-00680-08	ARS1-23-00645-003	MSC02-032023	Air Filter	E chrom SRW01	N/A

ARS Aleut Analytical, LLC Analytical Reports

for

GES-AIS, LLC

Batch QC



QC Results per Analytical Batch

Analytical Batch	ARS1-B23-00532
SDG	ARS1-23-00645
Analysis	Gamma Spec (Short) in (Air Filters, Smears [AF])
Method	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	Recovery (%):	> 75	< 125
Matrix Spike	Recovery (%):	> 60	< 140
Duplicate	Duplicate Error Ratio (DER):		< 3
	Relative Percent Difference (RPD %):		≤ 25

Laboratory Control Sample			Analysis Date	03/31/23 09:13	Analysis Technician	████	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-00532-01	LCS	AM-241	31.176	2.469	33.065	94.3	0.118
ARS1-B23-00532-01	LCS	CO-60	21.517	1.207	20.928	102.8	0.548
ARS1-B23-00532-01	LCS	CS-137	13.552	0.743	12.996	104.3	0.096

Duplicate RER/DER/RPD			Analysis Date	03/31/23 09:32	Analysis Technician	████
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD
AM-241	31.176	2.469	31.447	2.491	0.151	0.9
CO-60	21.517	1.207	21.448	1.195	0.080	0.3
CS-137	13.552	0.743	13.441	0.738	0.208	0.8

Method Blank			Analysis Date	03/31/23 14:44	Analysis Technician	████
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual
ARS1-B23-00532-03	MBL	AC-228	-0.008	0.007	0.007	U
ARS1-B23-00532-03	MBL	AM-241	-9.278E-5	0.001	0.002	U
ARS1-B23-00532-03	MBL	BI-212	0.006	0.011	0.013	U
ARS1-B23-00532-03	MBL	BI-214	-6.556E-4	0.004	0.004	U
ARS1-B23-00532-03	MBL	CO-60	0.001	0.001	0.001	U
ARS1-B23-00532-03	MBL	CS-137	5.073E-4	0.001	0.001	U
ARS1-B23-00532-03	MBL	EU-152	-4.546E-4	0.001	0.002	U
ARS1-B23-00532-03	MBL	K-40	-0.003	0.021	0.022	U
ARS1-B23-00532-03	MBL	PA-234	7.129E-4	0.001	0.002	U
ARS1-B23-00532-03	MBL	PB-210	-0.007	0.016	0.017	U
ARS1-B23-00532-03	MBL	PB-212	-8.274E-4	0.002	0.002	U
ARS1-B23-00532-03	MBL	PB-214	-6.053E-4	0.003	0.003	U
ARS1-B23-00532-03	MBL	RA-226	-0.086	0.032	0.031	U
ARS1-B23-00532-03	MBL	RA-228	-0.008	0.007	0.007	U
ARS1-B23-00532-03	MBL	TH-234	-0.008	0.016	0.020	U
ARS1-B23-00532-03	MBL	TL-208	4.793E-4	0.002	0.002	U
ARS1-B23-00532-03	MBL	U-235	-0.003	0.006	0.008	U
ARS1-B23-00532-03	MBL	U-238	-0.008	0.016	0.020	U



QC Results per Analytical Batch

Analytical Batch	ARS1-B23-00588
SDG	ARS1-23-00645
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

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	04/12/23 01:30	Analysis Technician	██████████	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-00588-01	LCS	PU-239/240	8.183E-6	1.020E-6	7.824E-6	104.6	3.839E-8

Duplicate RER/DER/RPD			Analysis Date	04/12/23 01:30	Analysis Technician	██████████	
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD	
PU-239/240	8.183E-6	1.020E-6	7.954E-6	9.922E-7	0.316	2.8	

Method Blank			Analysis Date	04/12/23 01:30	Analysis Technician	██████████	
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual	
ARS1-B23-00588-03	MBL	PU-238	-5.651E-8	8.561E-8	1.767E-7	U	
ARS1-B23-00588-03	MBL	PU-239/240	-7.062E-8	6.835E-8	1.546E-7	U	



QC Results per Analytical Batch

Analytical Batch	ARS1-B23-00589
SDG	ARS1-23-00645
Analysis	Thorium in (Air Filters, Smears, Leak Test [AF, SM, LT])
Method	Eichrom ACW10
Analysis Code	ASP-TH-AF
Report Units	uCi/filter

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	04/12/23 01:28	Analysis Technician	[REDACTED]
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-00589-01	LCS	TH-230	5.485E-6	6.916E-7	5.217E-6	105.1	4.085E-8

Duplicate RER/DER/RPD				Analysis Date	04/12/23 01:28	Analysis Technician	[REDACTED]
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD	
TH-230	5.485E-6	6.916E-7	5.693E-6	7.208E-7	0.408	3.7	

Method Blank				Analysis Date	04/12/23 01:28	Analysis Technician	[REDACTED]
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual	
ARS1-B23-00589-03	MBL	TH-228	-4.961E-8	1.214E-7	2.366E-7	U	
ARS1-B23-00589-03	MBL	TH-230	1.554E-7	9.401E-8	1.229E-7		
ARS1-B23-00589-03	MBL	TH-232	0.000	0.000	2.213E-8	U	



QC Results per Analytical Batch

Analytical Batch	ARS1-B23-00680
SDG	ARS1-23-00645
Analysis	Strontium-90 in (Air Filters, Smears [AF])
Method	Eichrom SRW01
Analysis Code	GPC-SR90-AF
Report Units	uCi/filter

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	04/19/23 12:10	Analysis Technician	[REDACTED]
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-00680-01	LCS	SR-90	2.154E-5	3.317E-6	1.997E-5	107.8	6.240E-7

Duplicate RER/DER/RPD				Analysis Date	04/19/23 12:10	Analysis Technician	[REDACTED]
Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD	
SR-90	2.154E-5	3.317E-6	2.162E-5	3.312E-6	0.037	0.4	

Method Blank				Analysis Date	04/19/23 12:10	Analysis Technician	[REDACTED]
Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual	
ARS1-B23-00680-03	MBL	SR-90	7.666E-7	1.316E-6	2.250E-6	U	



ARS Aleut Analytical, LLC Analytical Reports

for

GES-AIS, LLC

Sample Management Records

CHAIN-OF-CUSTODY RECORD

Gilbane Federal
 2300 Clayton Road, Suite 1050, Concord, CA 94520
 bwomack@ges-ais.com

COC # KT032823RADC



Project Name: Hunters Point Shipyard, Parcel C Removal Site Evaluation		Laboratory: ARS Aleut Analytical (AAA), Port Allen, LA		Event: Parcel C Air Monitoring RAD	
Project Number: J310000600		POC: [Redacted]			
WBS Code: J310000600		Ship to: 2609 North River Road, Port Allen, LA 70767-3469			

Comments: [Redacted]	Analytical Test Method E901.1 - Gamma Spec RC0240 - Pu and Th Isotopes SR02RC - Sr90	Code	Matrix
		A	Air
		AQ	Air Quality Control Matrix
		Code	Container/Preservative
		5	1x 1-L. Plastic, HNO3, pH < 2
		15	1x 250-ml. Plastic, 4 Degrees C

Event: Parcel C Air Monitoring RAD										15	15	5							
Sample ID	Matrix	Date	Time	Samp Init.						Location ID	Sample Type	Depth (ft bgs)		Cooler	Comments				
												Top	Bottom						
1	FBC-032023	AQ	3/23/23	0800	[Redacted]	X	X	X	[Redacted]	FIELDQC	FB2	0.00	0.00	1					
2	MSC01-032023	A	03/20/2023	1324	[Redacted]	X	X	X	[Redacted]	MSC01	N1	0.00	0.00	1					
3	MSC02-032023	A	03/20/2023	1321	[Redacted]	X	X	X	[Redacted]	MSC02	N1	0.00	0.00	1					

Turnaround Time: 28 days

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[Redacted]			[Redacted]			Shipping Date: 3/28/2023 / FEDEX / 7715 8816 3814
						Received by Laboratory: (Signature, Date, Time) & condition

**CHAIN-OF-CUSTODY
RECORD**

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

COC # KT032823RADC



Project Name: Hunters Point Shipyard, Parcel C Removal Site Evaluation	Laboratory: ARS Aleut Analytical (AAA), Port Allen, LA	Event: Parcel C Air Monitoring RAD
Project Number: J31000600	POC: [Redacted]	
WBS Code: J31000600	Ship to: 2609 North River Road, Port Allen, LA 70767-3469	

Comments:	Analytical Test Method E901.1 - Gamma Spec RC0240 - Pu and Th Isotopes SR02RC - Sr90	Code Matrix
		A Air
Equipment:		AQ Air Quality Control Matrix
		Code Container/Preservative
		5 1x 1-L Plastic, HNO3, pH < 2
		15 1x 250-mL Plastic, 4 Degrees C

Sample ID	Matrix	Date	Time	Samp Init.	15			Location ID	Sample Type	Depth (ft bgs)		Cooler	Comments
					15	5				Top	Bottom		
1 FBC-032023	AQ	3/23/23	0800	[Redacted]	X	X	X	FIELDQC	FB2	0.00	0.00	1	
2 MSC01-032023	A	03/20/2023	1324	[Redacted]	X	X	X	MSC01	N1	0.00	0.00	1	
3 MSC02-032023	A	03/20/2023	1321	[Redacted]	X	X	X	MSC02	N1	0.00	0.00	1	

Turnaround Time: 28 days

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[Redacted]	3/28/23	1400	[Redacted]	3/28/23	1400	Shipping Date: 3/28/2023 / FEDEX / 7715 8816 3814
			[Redacted]	3/29/23	1030	
						Received by Laboratory: (Signature, Date, Time) & condition

GES Navy COC Field
March 17, 2023



Procedures: GES-003 / EPA 900.0M

Start Date 3/24/23
Stop Date 3/23/23

File ID Number: KT032823RADC

Field Entry

Station	Sample ID	Date In	Time In	Date Out	Time Out	Initial Flow Rate (LPM)	Final Flow Rate (LPM)	Flow volume Cu.M	Julian Date for Date Out	Total Run Time (Days)	Total Run Time (Hours)	Total Run Time (Minutes)	Average Flow Rate (LPM)	Initial Flow Rate (CFM)	Final Flow Rate (CFM)	Average Flow Rate (CFM)	Average Flow Rate (Cu.M/h)	Flow Rate (Cu.M/min)	Total Flow (L)
1	MSC01	<u>FBC-032023</u>	8:00	<u>03/23/23</u>	13:24	60	60	106.4	82	1.23	29.57	1774.0	60	2.11888	2.11888	2.11888	3.6	0.06	106,440
2	MSC02	<u>FBC-032023</u>	7:41	<u>03/23/23</u>	13:21	60	60	106.8	82	1.24	29.67	1780.0	60	2.11888	2.11888	2.11888	3.6	0.06	106,800

FORMULAS:

Number of Days = (Date Out + Time Out) minus (Date In + Time In)
 Number of Minutes = # of Days X 24hr X 60min
 Flow Rate (m3/h) = Flow Rate (CFM) x 60min x (12in x 2.54cm/in / 100cm/m)*3
 Mid-Sample Date/Time = [(Date+Time Out) + (Date+Time In)] / 2
 Flow Rate (Cu.M/min) = CFM X 0.0283168466 Cu.M/CF
 Flow Rate (LPM) = Cu.M X 1000
 Total Flow (L) = LPM X Total Minutes

SDG Report - Samples and Containers

SDG Specific Data										
SDG	ARS1-23-00645			TAT Days	28 Calendar Days		Project Type	Environmental		
Sample Count	3	Rpt Level	4	Date Received	03/29/2023		COC Number	KT032823RADC		
Client	GES-AIS, LLC			Discrepancy Resol	N/A		PO Number			
Client Code	1138			Client Deadline	04/27/2023		Job Number	J310000600		
Profile Number	PN-01440						Job Location	Hunters Point Shipyard, Parcel C Removal Site Evaluation		
Comment										

Samples and Containers Checked In Thus Far									
FR	Name	Matrix	Start Date	End Date	Disp	Hold	Arch	Storage	Comments
001	FBC-032023	Air Filter	03/20/2023 07:59	03/20/2023 08:00	H	30	10	PrePrep	
	IC_ID	Cnt	Container Type	AF Volume (L)	AF Units		Rate	Mins	Comments
	433859	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	03/20/2023 07:59	AF Volume (CuM):		0.001		
002	MSC01-032023	Air Filter	03/23/2023 13:23	03/23/2023 13:24	H	30	10	PrePrep	
	IC_ID	Cnt	Container Type	AF Volume (L)	AF Units		Rate	Mins	Comments
	433860	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	03/23/2023 13:23	AF Volume (CuM):		0.001		
003	MSC02-032023	Air Filter	03/23/2023 13:20	03/23/2023 13:21	H	30	10	PrePrep	
	IC_ID	Cnt	Container Type	AF Volume (L)	AF Units		Rate	Mins	Comments
	433861	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	03/23/2023 13:20	AF Volume (CuM):		0.001		

SDG Report - Analysis Assignments

SDG	ARS1-23-00645	Sample Count	3
Client	GES-AIS, LLC	Analysis Count	4-12

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	3
ASP-TH-AF	Thorium in (Air Filters, Smears, Leak Test [AF, SM, LT])	I	3
GAM-A-AF	Gamma Spec (Short) in (Air Filters, Smears [AF])	I	3
GPC-SR90-AF	Strontium-90 in (Air Filters, Smears [AF])	I	3

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

Client Name: GES-AIS, LLC

Profile Name: Parcel C 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
ASP-TH-AF	WRAD	uCi	filter	N/A	PALA-RAD-031						
	Analyte			RDL	LCS LL/UL	MS LL/UL	RadY LL/UL	GravY LL/UL	RER	RPD	Surr LL/UL
	Th-232 (7440-29-1)			1.4E-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
	Ac-228 (14331-83-0)			uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
	Am-241 (14596-10-2)			uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
	Bi-212 (14913-49-6)			uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
	Bi-214 (14733-03-0)			uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
	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
	Eu-152 (14683-23-9)			uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
	Eu-154 (15585-10-1)			uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
	K-40 (13966-00-2)			uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
	Pb-210 (14255-04-0)			uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
	Pb-212 (15092-94-1)			uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
	Pb-214 (15067-28-4)			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
	Ra-228 (15262-20-1)			uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
	Th-234 (15065-10-8)			uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A
Tl-208 (14913-50-9)			uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A	
U-235 (15117-96-1)			uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A	
U-238 (7440-61-1)			uCi/filter	75/125	60/140	30/110	30/110	1	25	N/A	

DQO Report for SDG

ARS1-23-00645

GAM-A-AF	Pa-234 (15100-28-4)			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 C Rad Sampling		Pu-239/240	
ASP-PU239-AF	002	uCi	filter	N/A	1
		Group		Analyte	
		Parcel C Rad Sampling		Pu-239/240	
ASP-PU239-AF	003	uCi	filter	N/A	1
		Group		Analyte	
		Parcel C Rad Sampling		Pu-239/240	
ASP-TH-AF	001	uCi	filter	N/A	1
		Group		Analyte	
		Parcel C Rad Sampling		Th-232	
ASP-TH-AF	002	uCi	filter	N/A	1
		Group		Analyte	
		Parcel C Rad Sampling		Th-232	
ASP-TH-AF	003	uCi	filter	N/A	1
		Group		Analyte	
		Parcel C Rad Sampling		Th-232	
GAM-A-AF	001	uCi	filter	N/A	19
		Group		Analyte	
		Parcel C Rad Sampling		Ac-228	
		Parcel C Rad Sampling		Am-241	
		Parcel C Rad Sampling		Bi-212	
		Parcel C Rad Sampling		Bi-214	
		Parcel C Rad Sampling		Co-60	
		Parcel C Rad Sampling		Cs-137	
		Parcel C Rad Sampling		Eu-152	

DQO Report for SDG

ARS1-23-00645

GAM-A-AF	001	Parcel C Rad Sampling		Eu-154	
		Parcel C Rad Sampling		K-40	
		Parcel C Rad Sampling		Pa-234	
		Parcel C Rad Sampling		Pb-210	
		Parcel C Rad Sampling		Pb-212	
		Parcel C Rad Sampling		Pb-214	
		Parcel C Rad Sampling		Ra-226	
		Parcel C Rad Sampling		Ra-228	
		Parcel C Rad Sampling		Th-234	
		Parcel C Rad Sampling		TI-208	
		Parcel C Rad Sampling		U-235	
		Parcel C Rad Sampling		U-238	
		GAM-A-AF	002	uCi	filter
Group				Analyte	
Parcel C Rad Sampling				Ac-228	
Parcel C Rad Sampling				Am-241	
Parcel C Rad Sampling				Bi-212	
Parcel C Rad Sampling				Bi-214	
Parcel C Rad Sampling				Co-60	
Parcel C Rad Sampling				Cs-137	
Parcel C Rad Sampling				Eu-152	
Parcel C Rad Sampling				Eu-154	
Parcel C Rad Sampling				K-40	
Parcel C Rad Sampling				Pa-234	
Parcel C Rad Sampling				Pb-210	
Parcel C Rad Sampling				Pb-212	
Parcel C Rad Sampling				Pb-214	
Parcel C Rad Sampling				Ra-226	
Parcel C Rad Sampling				Ra-228	
Parcel C Rad Sampling				Th-234	
Parcel C Rad Sampling				TI-208	
Parcel C Rad Sampling				U-235	
Parcel C Rad Sampling		U-238			

DQO Report for SDG

ARS1-23-00645

GAM-A-AF	003	uCi	filter	N/A	19
		Group		Analyte	
		Parcel C Rad Sampling		Ac-228	
		Parcel C Rad Sampling		Am-241	
		Parcel C Rad Sampling		Bi-212	
		Parcel C Rad Sampling		Bi-214	
		Parcel C Rad Sampling		Co-60	
		Parcel C Rad Sampling		Cs-137	
		Parcel C Rad Sampling		Eu-152	
		Parcel C Rad Sampling		Eu-154	
		Parcel C Rad Sampling		K-40	
		Parcel C Rad Sampling		Pa-234	
		Parcel C Rad Sampling		Pb-210	
		Parcel C Rad Sampling		Pb-212	
		Parcel C Rad Sampling		Pb-214	
		Parcel C Rad Sampling		Ra-226	
		Parcel C Rad Sampling		Ra-228	
		Parcel C Rad Sampling		Th-234	
		Parcel C Rad Sampling		Tl-208	
		Parcel C Rad Sampling		U-235	
Parcel C Rad Sampling		U-238			
GPC-SR90-AF	001	uCi	filter	N/A	1
		Group		Analyte	
Parcel C Rad Sampling		Sr-90			
GPC-SR90-AF	002	uCi	filter	N/A	1
		Group		Analyte	
Parcel C Rad Sampling		Sr-90			
GPC-SR90-AF	003	uCi	filter	N/A	1
		Group		Analyte	
Parcel C Rad Sampling		Sr-90			

PALA Sample Receipt Inspection Form

Client Name: GES-ADS
 SDG: ARS1-23-00645

Sample Custodian: [REDACTED] Survey Start Date: 3/29/23 Survey Start Time: 1035
 Thermometer ID: E1054012261 Calibration Due Date: 1/12/24 pH Paper Lot#: N/A
 Exposure Rate Meter + Probe Unit ID: 273629 Calibration Due Date: 9/13/23 Background: 4 $\mu\text{R/hr}$
 Count Rate Meter + Probe Unit ID: 268993 Calibration Due Date: 9/29/23 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>771588163814</u>	<u>5</u>	<u>30</u>	<u>30</u>	<u>N/A</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 (925) 250-6097

SHIP DATE: 21MAR23
ACTWGT: 1.00 LB
CAD: 254128867/ANET4580

200 FISHER STREET
SAN FRANCISCO, CA 94124
UNITED STATES US

BILL SENDER

TO
ARS ALEUT ANALYTICAL, LLC
2609 NORTH RIVER ROAD

PORT ALLEN LA 70767

(225) 381-2991 RE: J31000600 02:04:05
INV. PC: DEPT:



591.7C380/FE2C

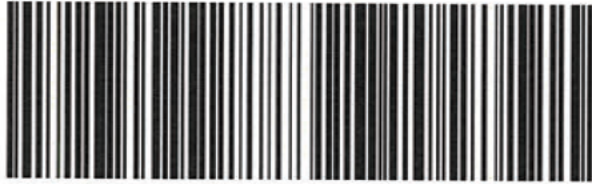
22182201104W

WED - 22 MAR 4:30P
STANDARD OVERNIGHT

TRK# 7715 8816 3814
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.

Warning: Use only the printed original label for shipping. Using a photocopy of this label for shipping purposes is fraudulent and could result in additional billing charges, along with the cancellation of your FedEx account number.

Use of this system constitutes your agreement to the service conditions in the current FedEx Service Guide, available on fedex.com. FedEx will not be responsible for any claim in excess of \$100 per package, whether the result of loss, damage, delay, non-delivery, misdelivery or misinformation, unless you declare a higher value, pay an additional charge, document your actual loss and file a timely claim. Limitations found in the current FedEx Service Guide apply. Your right to recover from FedEx for any loss, including intrinsic value of the package, loss of sales, income interest, profit, attorney's fees, costs, and other forms of damage whether direct, incidental, consequential, or special is limited to the greater of \$100 or the authorized declared value. Recovery cannot exceed actual documented loss. Maximum for items of extraordinary value is \$1,000, e.g. jewelry, precious metals, negotiable instruments and other items listed in our ServiceGuide. Written claims must be filed within strict time limits, see current FedEx Service Guide.

March 21, 2023


AIS-GES, LLC
1501 W. FOUNTAINHEAD PKWY,
#550
TEMPE, AZ 85282

Laboratory Workorder ID: B074038

Client Project ID: J310000600 PARCEL C HUNTERS PT

Received: March 15, 2023

Reported: March 21, 2023

Attached are the results we obtained on the analysis of your samples submitted to Analytics. Any Chains-of-Custody associated by this sample group are enclosed. Air concentrations are calculated as a convenience to the client and the overall accuracy of this result depends on both the accuracy of the air volume and the amount found by analysis. Theoretical air volumes for passive monitors are calculated using the sampling time submitted and the manufacture's listed sampling rate for each compound. Results provided in this report relate only to the items tested.

For blanks and non-detects the results indicated with a '<' value represents the reporting limit for the analysis. Unless otherwise noted results are not corrected for blank values.

Unless the signature of the appropriate manager(s) appears on this report, this report should be considered PRELIMINARY and is subject to change.

We appreciate your confidence in allowing Analytics to be your testing laboratory. Any questions regarding this report can be addressed by calling our customer services department at (800) 888-8061.


Technical Director

Enclosures



Final Report

AIS-GES, LLC
1501 W. FOUNTAINHEAD PKWY,
#550
TEMPE, AZ 85282

Customer: PARCELC1
Attention: XXXXXXXXXX
PO Number J310000600

Date Received: 03/15/23
Client Project ID J310000600 PARCEL C
HUNTERS PT

Lab ID: B074038001	Sample ID: PM012923-65	FIELDQC	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/6/2023 8:00:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	03/16/23	0 L	1000 ug			< 1000 ug	--

Lab ID: B074038002	Sample ID: TSP012923-66	FIELDQC	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/6/2023 8:00:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	03/16/23	0 L	1000 ug			< 1000 ug	--
Lead	40CFR50App.G Mod./EPA 6010B	03/20/23	0 L	14.0 ug			< 14 ug	--
Manganese	40CFR50App.G Mod./EPA 6010B	03/20/23	0 L	98.0 ug			< 98 ug	--

Lab ID: B074038003	Sample ID: PM013123-55	MSC01	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/7/2023 7:32:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	03/16/23	1633720 L	1000 ug			6000 ug	4 ug/M3



Final Report

Lab ID: B074038004	Sample ID: TSP013123-56	MSC01	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/7/2023 7:32:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	03/16/23	1643670 L	1000 ug			12000 ug	7 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	03/20/23	1643670 L	14.0 ug			< 14 ug	< 0.0085 ug/M3
Manganese	40CFR50App.G Mod./EPA 6010B	03/20/23	1643670 L	98.0 ug			< 98 ug	< 0.0596 ug/M3

Lab ID: B074038005	Sample ID: PM013123-57	MSC02	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/7/2023 7:17:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	03/16/23	1612460 L	1000 ug			11800 ug	7 ug/M3

Lab ID: B074038006	Sample ID: TSP013123-58	MSC02	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/7/2023 7:17:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	03/16/23	862140 L	1000 ug			9100 ug	11 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	03/20/23	862140 L	14.0 ug			< 14 ug	< 0.0162 ug/M3
Manganese	40CFR50App.G Mod./EPA 6010B	03/20/23	862140 L	98.0 ug			< 98 ug	< 0.1137 ug/M3

Lab ID: B074038007	Sample ID: PM020323-11	MSC01	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/8/2023 7:23:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
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Final Report

Lab ID: B074038007	Sample ID: PM020323-11	MSC01	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/8/2023 7:23:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	03/16/23	1632650 L	1000 ug			8600 ug	5 ug/M3

Lab ID: B074038008	Sample ID: TSP020323-12	MSC01	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/8/2023 7:23:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	03/16/23	1634860 L	1000 ug			15100 ug	9 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	03/20/23	1634860 L	14.0 ug			< 14 ug	< 0.0086 ug/M3
Manganese	40CFR50App.G Mod./EPA 6010B	03/20/23	1634860 L	98.0 ug			< 98 ug	< 0.0599 ug/M3

Lab ID: B074038009	Sample ID: PM020323-13	MSC02	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/8/2023 7:13:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	03/16/23	1609230 L	1000 ug			12300 ug	8 ug/M3

Lab ID: B074038010	Sample ID: TSP020323-14	MSC02	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/8/2023 7:13:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	03/16/23	1711000 L	1000 ug			16100 ug	9 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	03/20/23	1711000 L	14.0 ug			< 14 ug	< 0.0082 ug/M3



Final Report

Lab ID: B074038010	Sample ID: TSP020323-14	MSC02	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/8/2023 7:13:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Manganese	40CFR50App.G Mod./EPA 6010B	03/20/23	1711000 L	98.0 ug			< 98 ug	< 0.0573 ug/M3

Lab ID: B074038011	Sample ID: PM020323-15	MSC01	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/9/2023 7:55:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	03/16/23	1683060 L	1000 ug			11100 ug	7 ug/M3

Lab ID: B074038012	Sample ID: TSP020323-16	MSC01	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/9/2023 7:55:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	03/16/23	1695550 L	1000 ug			19800 ug	12 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	03/20/23	1695550 L	14.0 ug			< 14 ug	< 0.0083 ug/M3
Manganese	40CFR50App.G Mod./EPA 6010B	03/20/23	1695550 L	98.0 ug			< 98 ug	< 0.0578 ug/M3

Lab ID: B074038013	Sample ID: PM020323-17	MSC02	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/9/2023 7:34:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	03/16/23	1644170 L	1000 ug			17000 ug	10 ug/M3



Final Report

Lab ID: B074038014	Sample ID: TSP020323-18	MSC02	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/9/2023 7:34:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	03/16/23	1747610 L	1000 ug			23100 ug	13 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	03/21/23	1747610 L	14.0 ug			< 14 ug	< 0.008 ug/M3
Manganese	40CFR50App.G Mod./EPA 6010B	03/21/23	1747610 L	98.0 ug			< 98.0 ug	< 0.0561 ug/M3

Lab ID: B074038015	Sample ID: PM020323-19	MSC01	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/9/2023 2:00:00 PM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	03/16/23	407200 L	1000 ug			2400 ug	6 ug/M3

Lab ID: B074038016	Sample ID: TSP020323-20	MSC01	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/9/2023 2:00:00 PM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	03/16/23	404960 L	1000 ug			5800 ug	14 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	03/20/23	404960 L	14.0 ug			< 14 ug	< 0.0346 ug/M3
Manganese	40CFR50App.G Mod./EPA 6010B	03/20/23	404960 L	98.0 ug			< 98 ug	< 0.242 ug/M3

Lab ID: B074038017	Sample ID: PM020323-21	MSC02	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/9/2023 2:04:00 PM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
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Final Report

Lab ID: B074038017	Sample ID: PM020323-21	MSC02	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/9/2023 2:04:00 PM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	03/16/23	433170 L	1000 ug			3900 ug	9 ug/M3

Lab ID: B074038018	Sample ID: TSP020323-22	MSC02	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/9/2023 2:04:00 PM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	03/16/23	456940 L	1000 ug			6500 ug	14 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	03/20/23	456940 L	14.0 ug			< 14 ug	< 0.0306 ug/M3
Manganese	40CFR50App.G Mod./EPA 6010B	03/20/23	456940 L	98.0 ug			< 98 ug	< 0.2145 ug/M3



Built Environment Testing
Analytics

Eurofins Analytics, LLC
10329 Stony Run Lane
Ashland, Va 23005
Phone: (804) 365-3000 Fax: (804) 365-3002
AIHA LAP, LLC Accreditation ID 100531

Final Report

General Laboratory Comments

Abbreviations:

ug = micrograms; mg=milligrams; g = grams, ppm=parts per million (volume), ppb = parts per billion (volume), mg/M3=milligrams per cubic meter of air, ug/M3=micrograms per cubic meter of air; Min=minutes, Qual=Qualifiers

**CHAIN-OF-CUSTODY
RECORD**

Gilbane Federal
2300 Clayton Road, Suite 1050, Concord, C



COC # 031423AIRC



Project Name: Hunters Point Shipyard, Parcel C Removal Site Evaluation	Laboratory: EUROFINS BUILT ENVIRONMENT TESTING ANALYTICS, ASHLAND, VA	Event: Parcel C Air Monitoring
Project Number: J310000600	POC: [Redacted]	
WBS Code: J310000600	Ship to: 10329 Stony Run Lane, Ashland, VA 23005	

Comments:	Analytical Test Method	Code	Matrix	Page 1 of 4
		A	Air	
Equipment:	CAAIR - Air PM10 N0500 - Air TSP SW6010B - Air Pb Mn	Code	Container/Preservative	
		1	1x 250-mL Plastic, 4 Degrees C	
		1	1x Envelope, None	

Event: Parcel C Air Monitoring															
Sample ID	Matrix	Date	Time	Samp Init.						Location ID	Sample Type	Depth (ft bgs) Top - Bottom	Cooler	Comments	
1	PM012923-65	AQ	03/06/2023	0800	[Redacted]	X				FIELDQC	FB2	0.00	0.00	1	
2	TSP012923-66	AQ	03/06/2023	0800	[Redacted]		X	X		FIELDQC	FB2	0.00	0.00	1	
3	PM013123-55	A	03/07/2023	0732	[Redacted]	X				MSC01	N1	0.00	0.00	1	
4	TSP013123-56	A	03/07/2023	0732	[Redacted]		X	X		MSC01	N1	0.00	0.00	1	
5	PM013123-57	A	03/07/2023	0717	[Redacted]	X				MSC02	N1	0.00	0.00	1	
6	TSP013123-58	A	03/07/2023	0717	[Redacted]		X	X		MSC02	N1	0.00	0.00	1	

Turnaround Time: 5 days

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[Redacted]	3/14/23	5400	Fedex	3/14/23	1400	Shipping Date: 3/14/2023 / FEDEX / 7714 7017 5743
						Received by Laboratory: (Signature, Date, Time) & condition
						[Redacted] 3/15/23 11:21am

**CHAIN-OF-CUSTODY
RECORD**

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

COC # 031423AIRC



Project Name: Hunters Point Shipyard, Parcel C Removal Site Evaluation	Laboratory: EUROFINS BUILT ENVIRONMENT TESTING ANALYTICS, ASHLAND, VA	Event: Parcel C Air Monitoring
Project Number: J310000600	POC: [Redacted]	
WBS Code: J310000600	Ship to: 10329 Stony Run Lane, Ashland, VA 23005	

Comments:	Analytical Test Method	CAAIR - Air PM10	N0500 - Air TSP	SW6010B - Air Pb Mn	[Redacted]	Code	Matrix	Page 3 of 4
						A	Air	
Equipment:	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	Code	Container/Preservative	
						1	1x 250-mL Plastic, 4 Degrees C	
						1	1x Envelope, None	

Event: Parcel C Air Monitoring					1	1	1												
Sample ID	Matrix	Date	Time	Samp Init.						Location ID	Sample Type	Depth (ft bgs)		Cooler	Comments				
1	PM020323-15	A	03/09/2023	0755	[Redacted]	X				MSC01	N1	0.00	0.00	1					
2	TSP020323-16	A	03/09/2023	0755	[Redacted]		X	X		MSC01	N1	0.00	0.00	1					
3	PM020323-17	A	03/09/2023	0734	[Redacted]	X				MSC02	N1	0.00	0.00	1					
4	TSP020323-18	A	03/09/2023	0734	[Redacted]		X	X		MSC02	N1	0.00	0.00	1					

Turnaround Time: 5 days

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[Redacted]	3/14/23	1400	Fedex	3/14/23	1400	Shipping Date: 3/14/2023 / FEDEX / 7714 7017 5743
						Received by Laboratory: (Signature, Date, Time) & condition
						[Redacted] 3/15/23 11:22am

**CHAIN-OF-CUSTODY
RECORD**

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

COC # 031423AIRC



Project Name: Hunters Point Shipyard, Parcel C Removal Site Evaluation	Laboratory: EUROFINS BUILT ENVIRONMENT TESTING ANALYTICS, ASHLAND, VA	Event: Parcel C Air Monitoring
Project Number: J310000600	POC: [Redacted]	
WBS Code: J310000600	Ship to: 10329 Stony Run Lane, Ashland, VA 23005	

Comments:	Analytical Test Method	CAAIR - Air PM10	N0500 - Air TSP	SW6010B - Air Pb Mn	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	Code	Matrix	Page 4 of 4
											A	Air	
Equipment:	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	[Redacted]	Code	Container/Preservative	
											1	1x 250-mL Plastic, 4 Degrees C	
											1	1x Envelope, None	

Event: Parcel C Air Monitoring											1	1	1							
Sample ID	Matrix	Date	Time	Samp Init.							Location ID	Sample Type	Depth (ft bgs)		Cooler	Comments				
1	PM020323-19	A	03/09/2023	1400	[Redacted]	X					MSC01	N1	0.00	0.00	1					
2	TSP020323-20	A	03/09/2023	1400	[Redacted]		X	X			MSC01	N1	0.00	0.00	1					
3	PM020323-21	A	03/09/2023	1404	[Redacted]	X					MSC02	N1	0.00	0.00	1					
4	TSP020323-22	A	03/09/2023	1404	[Redacted]		X	X			MSC02	N1	0.00	0.00	1					

Turnaround Time: 5 days

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[Redacted]	3/14/23	1400	Fedex	3/14/23	1400	Shipping Date: 3/14/2023 / FEDEX / 7714 7017 5743
						Received by Laboratory: (Signature, Date, Time) & condition
						[Redacted]

3/15/23 11:22am

COC # 031423AIRC

Project Name: Hunters Point Shipyard, Parcel C Removal Site Evaluation	Event: Parcel C Air Monitoring
Project Number: J310000600	
WBS Code: J310000600	
Event: Parcel C Air Monitoring	

	Sample ID	Date	Time	Comments
1	PM012923-65	03/06/2023	0800	
2	TSP012923-66	03/06/2023	0800	
3	PM013123-55	03/07/2023	0732	VOLUME (M3): 1633.72
4	TSP013123-56	03/07/2023	0732	VOLUME (M3): 1643.67
5	PM013123-57	03/07/2023	0717	VOLUME (M3): 1612.46
6	TSP013123-58	03/07/2023	0717	VOLUME (M3): 862.14
7	PM020323-11	03/08/2023	0723	VOLUME (M3): 1632.65
8	TSP020323-12	03/08/2023	0723	VOLUME (M3): 1634.86
9	PM020323-13	03/08/2023	0713	VOLUME (M3): 1609.23
10	TSP020323-14	03/08/2023	0713	VOLUME (M3): 1711.00
11	PM020323-15	03/09/2023	0755	VOLUME (M3): 1683.06
12	TSP020323-16	03/09/2023	0755	VOLUME (M3): 1695.55
13	PM020323-17	03/09/2023	0734	VOLUME (M3): 1644.17
14	TSP020323-18	03/09/2023	0734	VOLUME (M3): 1747.61
15	PM020323-19	03/09/2023	1400	VOLUME (M3): 407.20
16	TSP020323-20	03/09/2023	1400	VOLUME (M3): 404.96
17	PM020323-21	03/09/2023	1404	VOLUME (M3): 433.17
18	TSP020323-22	03/09/2023	1404	VOLUME (M3): 456.94

Relinquished by: (Signature)

Date

Time

Received by: (Signature)

AIR_VOLUME_KT031423AIRC

Date

Time

Shipping Date: / /

Received by Laboratory: (Signature, Date, Time) & co

Sample ID	Cubic Meter	Volume (L)
PM013123-55	1633.72	1633720
TSP013123-56	1643.67	1643670
PM013123-57	1612.46	1612460
TSP013123-58	862.14	862140
PM020323-11	1632.65	1632650
TSP020323-12	1634.86	1634860
PM020323-13	1609.23	1609230
TSP020323-14	1711	1711000
PM020323-15	1683.06	1683060
TSP020323-16	1695.55	1695550
PM020323-17	1644.17	1644170
TSP020323-18	1747.61	1747610
PM020323-19	407.2	407200
TSP020323-20	404.96	404960
PM020323-21	433.17	433170
TSP020323-22	456.94	456940
		0
		0
		0



Level 2 QA/QC Summary Report

Work Order #: B074038

Report Date: 3/21/2023

Batch ID: ICP230315B

Blank Spike Results

QC ID	QC Type	Parameter	Percent Recovery			RPD	Limit
			LCS	LCSD	Acceptance		
LCS ICP2	BLKSPK	Copper	90.0	90.0	75-125	0.0	25
LCS ICP2	BLKSPK	Lead	95.0	95.0	75-125	0.0	25
LCS ICP2	BLKSPK	Manganese	90.0	90.0	75-125	0.0	25

Method Blank Results


QC ID	QC Type	Parameter	Result	LOD	Units
LMB ICP2	LMB	Copper	1.39687		
LMB ICP2	LMB	Lead	.331699		
LMB ICP2	LMB	Manganese	1.26698		



Built Environment Testing
Analytics

Eurofins Analytics, LLC
10329 Stony Run Lane
Ashland, Va 23005
Phone: (804) 365-3000 Fax: (804) 365-3002
AIHA LAP, LLC Accreditation ID 100531

April 3, 2023


AIS-GES, LLC
1501 W. FOUNTAINHEAD PKWY,
#550
TEMPE, AZ 85282

Laboratory Workorder ID: B081013

Client Project ID: J310000600 PARCEL C HUNTERS PT

Received: March 22, 2023

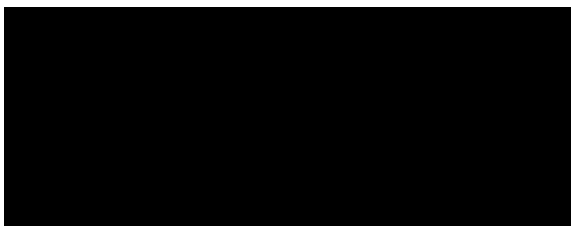
Reported: March 30, 2023

Attached are the results we obtained on the analysis of your samples submitted to Analytics. Any Chains-of-Custody associated by this sample group are enclosed. Air concentrations are calculated as a convenience to the client and the overall accuracy of this result depends on both the accuracy of the air volume and the amount found by analysis. Theoretical air volumes for passive monitors are calculated using the sampling time submitted and the manufacture's listed sampling rate for each compound. Results provided in this report relate only to the items tested.

For blanks and non-detects the results indicated with a '<' value represents the reporting limit for the analysis. Unless otherwise noted results are not corrected for blank values.

Unless the signature of the appropriate manager(s) appears on this report, this report should be considered PRELIMINARY and is subject to change.

We appreciate your confidence in allowing Analytics to be your testing laboratory. Any questions regarding this report can be addressed by calling our customer services department at (800) 888-8061.



Technical Director

Enclosures



Final Report

AIS-GES, LLC
1501 W. FOUNTAINHEAD PKWY,
#550
TEMPE, AZ 85282

Customer: PARCELC1
Attention: XXXXXXXXXX
PO Number J310000600

Date Received: 03/22/23
Client Project ID J310000600 PARCEL C
HUNTERS PT

Lab ID: B081013001	Sample ID: PM020323-23	FIELDQC	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/13/2023 8:00:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	03/23/23	0 L	1000 ug			< 1000 ug	--

Lab ID: B081013002	Sample ID: TSP020323-24	FIELDQC	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/13/2023 8:00:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	03/23/23	0 L	1000 ug			< 1000 ug	--
Lead	40CFR50App.G Mod./EPA 6010B	03/28/23	0 L	14.0 ug			< 14 ug	--
Manganese	40CFR50App.G Mod./EPA 6010B	03/28/23	0 L	98.0 ug			< 98 ug	--

Lab ID: B081013003	Sample ID: PM020323-25	MSC01	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/14/2023 7:18:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	03/23/23	1643650 L	1000 ug			4100 ug	2 ug/M3



Final Report

Lab ID: B081013004	Sample ID: TSP020323-26	MSC01	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/14/2023 7:18:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	03/23/23	1655510 L	1000 ug			16600 ug	10 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	03/28/23	1655510 L	14.0 ug			< 14 ug	< 0.0085 ug/M3
Manganese	40CFR50App.G Mod./EPA 6010B	03/28/23	1655510 L	98.0 ug			< 98 ug	< 0.0592 ug/M3

Lab ID: B081013005	Sample ID: PM020323-27	MSC02	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/14/2023 7:14:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	03/23/23	1633230 L	1000 ug			11300 ug	7 ug/M3

Lab ID: B081013006	Sample ID: TSP020323-28	MSC02	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/14/2023 7:14:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	03/23/23	1739400 L	1000 ug			16500 ug	9 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	03/28/23	1739400 L	14.0 ug			< 14 ug	< 0.008 ug/M3
Manganese	40CFR50App.G Mod./EPA 6010B	03/28/23	1739400 L	98.0 ug			< 98 ug	< 0.0563 ug/M3

Lab ID: B081013007	Sample ID: PM020323-29	MSC01	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/16/2023 7:28:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
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Final Report

Lab ID: B081013007	Sample ID: PM020323-29	MSC01	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/16/2023 7:28:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	03/23/23	1699080 L	1000 ug			16600 ug	10 ug/M3

Lab ID: B081013008	Sample ID: TSP020323-30	MSC01	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/16/2023 7:28:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	03/23/23	1694680 L	1000 ug			37000 ug	22 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	03/28/23	1694680 L	14.0 ug			< 14 ug	< 0.0083 ug/M3
Manganese	40CFR50App.G Mod./EPA 6010B	03/28/23	1694680 L	98.0 ug			< 98 ug	< 0.0578 ug/M3

Lab ID: B081013009	Sample ID: PM020323-31	MSC02	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/16/2023 7:15:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	03/23/23	1626150 L	1000 ug			24700 ug	15 ug/M3

Lab ID: B081013010	Sample ID: TSP020323-32	MSC02	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/16/2023 7:15:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	03/23/23	1728700 L	1000 ug			37900 ug	22 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	03/28/23	1728700 L	14.0 ug			< 14 ug	< 0.0081 ug/M3



Final Report

Lab ID: B081013010	Sample ID: TSP020323-32	MSC02	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/16/2023 7:15:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Manganese	40CFR50App.G Mod./EPA 6010B	03/28/23	1728700 L	98.0 ug			< 98 ug	< 0.0567 ug/M3

Lab ID: B081013011	Sample ID: PM020323-33	MSC01	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/16/2023 2:28:00 PM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	03/23/23	476420 L	1000 ug			8700 ug	18 ug/M3

Lab ID: B081013012	Sample ID: TSP020323-34	MSC01	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/16/2023 2:28:00 PM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	03/23/23	480100 L	1000 ug			16500 ug	34 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	03/28/23	480100 L	14.0 ug			< 14 ug	< 0.0292 ug/M3
Manganese	40CFR50App.G Mod./EPA 6010B	03/28/23	480100 L	98.0 ug			< 98 ug	< 0.2041 ug/M3

Lab ID: B081013013	Sample ID: PM020623-01	MSC02	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/16/2023 2:25:00 PM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	03/23/23	493240 L	1000 ug			5000 ug	10 ug/M3



Final Report

Lab ID:	B081013014	Sample ID:	TSP020623-02	MSC02	Media:	8X10 PREWEIGHED GLASS	Sample Date:	3/16/2023 2:25:00 PM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	03/23/23	519140 L	1000 ug			16800 ug	32 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	03/28/23	519140 L	14.0 ug			< 14 ug	< 0.027 ug/M3
Manganese	40CFR50App.G Mod./EPA 6010B	03/28/23	519140 L	98.0 ug			< 98 ug	< 0.1888 ug/M3



Built Environment Testing
Analytics

Eurofins Analytics, LLC
10329 Stony Run Lane
Ashland, Va 23005
Phone: (804) 365-3000 Fax: (804) 365-3002
AIHA LAP, LLC Accreditation ID 100531

Final Report

General Laboratory Comments

Abbreviations:

ug = micrograms; mg=milligrams; g = grams, ppm=parts per million (volume), ppb = parts per billion (volume), mg/M3=milligrams per cubic meter of air, ug/M3=micrograms per cubic meter of air; Min=minutes, Qual=Qualifiers

**CHAIN-OF-CUSTODY
RECORD**

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

COC # 032123AIRC



Project Name: Hunters Point Shipyard, Parcel C Removal Site Evaluation	Laboratory: EUROFINS BUILT ENVIRONMENT TESTING ANALYTICS, ASHLAND, VA	Event: Parcel C Air Monitoring
Project Number: J310000600	POC: [REDACTED]	
WBS Code: J310000600	Ship to: 10329 Stony Run Lane, Ashland, VA 23005	

Comments:	Analytical Test Method	CAAIR - Air PM10	N0500 - Air TSP	SW6010B - 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 C Air Monitoring													1	1	1									
Sample ID	Matrix	Date	Time	Samp Init.									Location ID	Sample Type	Depth (ft bgs)		Cooler	Comments						
1	PM020323-29	A	03/16/23	0728	[REDACTED]	X							MSC01	N1	0.00	0.00	1							
2	TSP020323-30	A	03/16/23	0728	[REDACTED]		X	X					MSC01	N1	0.00	0.00	1							
3	PM020323-31	A	03/16/23	0715	[REDACTED]	X							MSC02	N1	0.00	0.00	1							
4	TSP020323-32	A	03/16/23	0715	[REDACTED]		X	X					MSC02	N1	0.00	0.00	1							
Turnaround Time: 5 days																								

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[REDACTED]	3/21/23	1610	Fed Ex	3/21/23	1600	Shipping Date: 3/21/2023 / FEDEX / 7715 4725 7064
			[REDACTED]	3/22/23	1232	
						ature, Date, Time) & condition
						3/22/23 1232 intact

**CHAIN-OF-CUSTODY
RECORD**

Gilbane Federal

2300 Clayton Road, Suite 1050, Concord, CA 94520

COC # 032123AIRC



Project Name: Hunters Point Shipyard, Parcel C Removal Site Evaluation	Laboratory: EUROFINS BUILT ENVIRONMENT TESTING ANALYTICS, ASHLAND, VA	Event: Parcel C Air Monitoring
Project Number: J310000600	POC: [REDACTED]	
WBS Code: J310000600	Ship to: 10329 Stony Run Lane, Ashland, VA 23005	

Comments:	Analytical Test Method	CAAIR - Air PM10	N0500 - Air TSP	SW6010B - 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 C Air Monitoring																			
	Sample ID	Matrix	Date	Time	Samp Init.								Location ID	Sample Type	Depth (ft bgs) Top - Bottom		Cooler	Comments	
1	PM020323-33	A	3/16/23	1428	[REDACTED]	X							MSC01	N1	0.00	0.00	1		
2	TSP020323-34	A	3/16/23	1428	[REDACTED]		X	X					MSC01	N1	0.00	0.00	1		
3	PM020623-01	A	3/16/23	1425	[REDACTED]	X							MSC02	N1	0.00	0.00	1		
4	TSP020623-02	A	3/16/23	1425	[REDACTED]		X	X					MSC02	N1	0.00	0.00	1		
Turnaround Time: 5 days																			

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[REDACTED]	3/21/23	1100	[REDACTED]	3/21/23	1600	Shipping Date: 3/21/2023 / FEDEX / 7715 4725 7064
			[REDACTED]	3/22/23	1232	Received by Laboratory: (Signature, Date, Time) & condition
						[REDACTED] 3/22/23 [REDACTED] 1232 INTACT

CHAIN-OF-CUSTODY RECORD

COC # [REDACTED] **032123AIRC**



Project Name: Hunters Point Shipyard, Parcel C Removal Site Evaluation	Event: Parcel C Air Monitoring
Project Number: J310000600	
WBS Code: J310000600	

	Sample ID	Matrix	Date	Time	Comments
1	PM020323-23	AQ	03/13/2023	0800	
2	TSP020323-24	AQ	03/1/2023	0800	
3	PM020323-25	A	03/14/2023	0718	VOLUME (M3): 1643.65
4	TSP020323-26	A	03/14/2023	0718	VOLUME (M3): 1655.51
5	PM020323-27	A	03/14/2023	0714	VOLUME (M3): 1633.23
6	TSP020323-28	A	03/14/2023	0714	VOLUME (M3): 1739.40
7	PM020323-29	A	03/16/2023	0728	VOLUME (M3): 1699.08
8	TSP020323-30	A	03/16/2023	0728	VOLUME (M3): 1694.68
9	PM020323-31	A	03/16/2023	0715	VOLUME (M3): 1626.15
10	TSP020323-32	A	03/16/2023	0715	VOLUME (M3): 1728.70
11	PM020323-33	A	03/16/2023	1428	VOLUME (M3): 476.42
12	TSP020323-34	A	03/16/2023	1428	VOLUME (M3): 480.10
13	PM020623-01	A	03/16/2023	1425	VOLUME (M3): 493.24
14	TSP020623-02	A	03/16/2023	1425	VOLUME (M3): 519.14

Relinquished by: *(Signature)*

Date

Time

Received by: *(Signature)*

AIR_VOLUME_KT032123AIRC

Date

Time

Shipping Date: / /

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



Level 2 QA/QC Summary Report

Work Order #: B081013

Report Date: 4/3/2023

Batch ID: ICP230322B

Blank Spike Results

QC ID	QC Type	Parameter	Percent Recovery			RPD	Limit
			LCS	LCSD	Acceptance		
LCS ICP2	BLKSPK	Lead	99.0	98.0	75-125	1.0	25
LCS ICP2	BLKSPK	Manganese	88.0	87.0	75-125	2.0	25

Method Blank Results


QC ID	QC Type	Parameter	Result	LOD	Units
LMB ICP2	LMB	Lead	< 14	14	ug
LMB ICP2	LMB	Manganese	< 98	98	ug



Built Environment Testing
Analytics

Eurofins Analytics, LLC
10329 Stony Run Lane
Ashland, Va 23005
Phone: (804) 365-3000 Fax: (804) 365-3002
AIHA LAP, LLC Accreditation ID 100531

April 3, 2023


AIS-GES, LLC
1501 W. FOUNTAINHEAD PKWY,
#550
TEMPE, AZ 85282

Laboratory Workorder ID: B088010

Client Project ID: J310000600 PARCEL C HUNTERS PT

Received: March 29, 2023

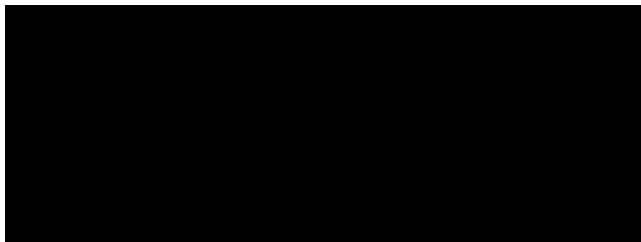
Reported: April 3, 2023

Attached are the results we obtained on the analysis of your samples submitted to Analytics. Any Chains-of-Custody associated by this sample group are enclosed. Air concentrations are calculated as a convenience to the client and the overall accuracy of this result depends on both the accuracy of the air volume and the amount found by analysis. Theoretical air volumes for passive monitors are calculated using the sampling time submitted and the manufacture's listed sampling rate for each compound. Results provided in this report relate only to the items tested.

For blanks and non-detects the results indicated with a '<' value represents the reporting limit for the analysis. Unless otherwise noted results are not corrected for blank values.

Unless the signature of the appropriate manager(s) appears on this report, this report should be considered PRELIMINARY and is subject to change.

We appreciate your confidence in allowing Analytics to be your testing laboratory. Any questions regarding this report can be addressed by calling our customer services department at (800) 888-8061.



Enclosures



Final Report

AIS-GES, LLC
1501 W. FOUNTAINHEAD PKWY,
#550
TEMPE, AZ 85282

Customer: PARCELC1
Attention: BRETT WOMACK
PO Number J310000600

Date Received: 03/29/23
Client Project ID J310000600 PARCEL C
HUNTERS PT

Lab ID: B088010001	Sample ID: PM020623-03	FIELDQC	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/20/2023 8:00:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	03/30/23	0 L	1000 ug			< 1000 ug	--

Lab ID: B088010002	Sample ID: TSP020623-04	FIELDQC	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/20/2023 8:00:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	03/30/23	0 L	1000 ug			< 1000 ug	--
Lead	40CFR50App.G Mod./EPA 6010B	04/03/23	0 L	14 ug			< 14 ug	--
Manganese	40CFR50App.G Mod./EPA 6010B	04/03/23	0 L	98 ug			< 98 ug	--

Lab ID: B088010003	Sample ID: PM020623-05	MSC01	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/21/2023 7:49:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	03/30/23	1658270 L	1000 ug			16200 ug	10 ug/M3



Final Report

Lab ID: B088010004	Sample ID: TSP020623-06	MSC01	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/21/2023 7:49:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	03/30/23	1667660 L	1000 ug			31400 ug	19 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	04/03/23	1667660 L	14 ug			< 14 ug	< 0.0084 ug/M3
Manganese	40CFR50App.G Mod./EPA 6010B	04/03/23	1667660 L	98 ug			< 98 ug	< 0.0588 ug/M3

Lab ID: B088010005	Sample ID: PM020623-11	MSC02	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/21/2023 7:35:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	03/30/23	1643890 L	1000 ug			21200 ug	13 ug/M3

Lab ID: B088010006	Sample ID: TSP020623-12	MSC02	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/21/2023 7:35:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	03/30/23	1735740 L	1000 ug			34400 ug	20 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	04/03/23	1735740 L	14 ug			< 14 ug	< 0.0081 ug/M3
Manganese	40CFR50App.G Mod./EPA 6010B	04/03/23	1735740 L	98 ug			< 98 ug	< 0.0565 ug/M3

Lab ID: B088010007	Sample ID: PM020623-13	MSC01	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/23/2023 6:22:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
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Final Report

Lab ID: B088010007	Sample ID: PM020623-13	MSC01	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/23/2023 6:22:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	03/30/23	1545090 L	1000 ug			11500 ug	7 ug/M3

Lab ID: B088010008	Sample ID: TSP020623-14	MSC01	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/23/2023 6:22:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	03/30/23	1556490 L	1000 ug			37700 ug	24 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	04/03/23	1556490 L	14 ug			< 14 ug	< 0.009 ug/M3
Manganese	40CFR50App.G Mod./EPA 6010B	04/03/23	1556490 L	98 ug			< 98 ug	< 0.063 ug/M3

Lab ID: B088010009	Sample ID: PM020623-15	MSC02	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/23/2023 6:33:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	03/30/23	1564490 L	1000 ug			17400 ug	11 ug/M3

Lab ID: B088010010	Sample ID: TSP020623-16	MSC02	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/23/2023 6:33:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	03/30/23	1667060 L	1000 ug			31300 ug	19 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	04/03/23	1667060 L	14 ug			< 14 ug	< 0.0084 ug/M3



Final Report

Lab ID: B088010010	Sample ID: TSP020623-16	MSC02	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/23/2023 6:33:00 AM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Manganese	40CFR50App.G Mod./EPA 6010B	04/03/23	1667060 L	98 ug			< 98 ug	< 0.0588 ug/M3

Lab ID: B088010011	Sample ID: PM020623-17	MSC01	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/23/2023 1:30:00 PM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	03/30/23	490880 L	1000 ug			3800 ug	8 ug/M3

Lab ID: B088010012	Sample ID: TSP020623-18	MSC01	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/23/2023 1:30:00 PM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	03/30/23	466670 L	1000 ug			15600 ug	33 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	04/03/23	466670 L	14 ug			< 14 ug	< 0.03 ug/M3
Manganese	40CFR50App.G Mod./EPA 6010B	04/03/23	466670 L	98 ug			< 98 ug	< 0.21 ug/M3

Lab ID: B088010013	Sample ID: PM020623-19	MSC02	Media: 8X10 PREWEIGHED GLASS	Sample Date: 3/23/2023 1:39:00 PM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	03/30/23	479260 L	1000 ug			6300 ug	13 ug/M3



Final Report

Lab ID:	B088010014	Sample ID:	TSP020623-20	MSC02	Media:	8X10 PREWEIGHED GLASS	Sample Date:	3/23/2023 1:39:00 PM
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Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	03/30/23	293010 L	1000 ug			6200 ug	21 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	04/03/23	293010 L	14 ug			< 14 ug	< 0.0478 ug/M3
Manganese	40CFR50App.G Mod./EPA 6010B	04/03/23	293010 L	98 ug			< 98 ug	< 0.3345 ug/M3



Built Environment Testing
Analytics

Eurofins Analytics, LLC
10329 Stony Run Lane
Ashland, Va 23005
Phone: (804) 365-3000 Fax: (804) 365-3002
AIHA LAP, LLC Accreditation ID 100531

Final Report

General Laboratory Comments

Abbreviations:

ug = micrograms; mg=milligrams; g = grams, ppm=parts per million (volume), ppb = parts per billion (volume), mg/M3=milligrams per cubic meter of air, ug/M3=micrograms per cubic meter of air; Min=minutes, Qual=Qualifiers

**CHAIN-OF-CUSTODY
RECORD**

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

COC # 032823AIRC



Project Name: Hunters Point Shipyard, Parcel C Removal Site Evaluation	Laboratory: EUROFINS BUILT ENVIRONMENT TESTING ANALYTICS, ASHLAND, VA	Event: Parcel C Air Monitoring
Project Number: J310000600	POC:	
WBS Code: J310000600	Ship to: 10329 Stony Run Lane, Ashland, VA 23005	

Comments:	Analytical Test Method	CAAIR - Air PM10	N0500 - Air TSP	SW6010B - 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

Page 1 of 4
3/22/23

Event: Parcel C Air Monitoring	1	1	1
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Sample ID	Matrix	Date	Time	Samp Init.				Location ID	Sample Type	Depth (ft bgs)		Cooler	Comments
										Top	Bottom		
1	AQ	03/20/2023	0800		X			FIELDQC	FB1	0.00	0.00	1	
2	AQ	03/20/2023	0800			X	X	FIELDQC	FB1	0.00	0.00	1	
3	A	03/21/2023	0749		X			MSC01	N1	0.00	0.00	1	
4	A	03/21/2023	0749			X	X	MSC01	N1	0.00	0.00	1	
5	A	03/21/2023	0735		X			MSC02	N1	0.00	0.00	1	
6	A	03/21/2023	0735			X	X	MSC02	N1	0.00	0.00	1	

Turnaround Time: 5 days

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
	3/28/23	1400	Fedex	3/28/23	1400	Shipping Date: 3/28/2023 / FEDEX / 7715 8957 9328
						Received by Laboratory: (Signature, Date, Time) & condition
						3/29/23 11:09am

**CHAIN-OF-CUSTODY
RECORD**

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

COC # 032823AIRC



Project Name: Hunters Point Shipyard, Parcel C Removal Site Evaluation	Laboratory: EUROFINS BUILT ENVIRONMENT TESTING ANALYTICS, ASHLAND, VA	Event: Parcel C Air Monitoring
Project Number: J310000600	POC: [Redacted]	
WBS Code: J310000600	Ship to: 10329 Stony Run Lane, Ashland, VA 23005	

Comments:	Analytical Test Method	CAAIR - Air PM10	N0500 - Air TSP	SW6010B - Air Pb Mn	Code	Matrix
					A	Air
Equipment:					Code	Container/Preservative
					1	1x 250-mL Plastic, 4 Degrees C
					1	1x Envelope, None

Page 2 of 4
3
3/22/23

Event: Parcel C Air Monitoring														
Sample ID	Matrix	Date	Time	Samp Init.						Location ID	Sample Type	Depth (ft bgs) Top - Bottom	Cooler	Comments
1	A	03/23/2023	0622	[Redacted]	X					MSC01	N1	0.00 0.00	1	
2	A	03/23/2023	0622	[Redacted]		X	X			MSC01	N1	0.00 0.00	1	
3	A	03/23/2023	0633	[Redacted]	X					MSC02	N1	0.00 0.00	1	
4	A	03/23/2023	0633	[Redacted]		X	X			MSC02	N1	0.00 0.00	1	
Turnaround Time: 5 days														

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[Redacted]	3/28/23	1400	FedEx	3/28/23	1400	Shipping Date: 3/28/2023 / FEDEX / 7715 8957 9328
						Received by Laboratory: (Signature, Date, Time) & condition
						[Redacted]

3/29/23 11:09am

**CHAIN-OF-CUSTODY
RECORD**

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

COC # 032823AIRC



Project Name: Hunters Point Shipyard, Parcel C Removal Site Evaluation	Laboratory: EUROFINS BUILT ENVIRONMENT TESTING ANALYTICS, ASHLAND, VA	Event: Parcel C Air Monitoring
Project Number: J310000600	POC:	
WBS Code: J310000600	Ship to: 10329 Stony Run Lane, Ashland, VA 23005	

Comments:	Analytical Test Method CAAIR - Air PM10 N0500 - Air TSP SW6010B - Air Pb Mn	Code	Matrix	Page 3 of 4 3 3/22/23
		A	Air	
Equipment:		Code	Container/Preservative	
		1	1x 250-mL Plastic, 4 Degrees C	
		1	1x Envelope, None	

Event: Parcel C Air Monitoring														
Sample ID	Matrix	Date	Time	Samp Init.						Location ID	Sample Type	Depth (ft bgs) Top - Bottom	Cooler	Comments
1	PM020623-17	A	03/23/2023	1330		X				MSC01	N1	0.00 0.00	1	
2	TSP020623-18	A	03/23/2023	1330		X	X			MSC01	N1	0.00 0.00	1	
3	PM020623-19	A	03/23/2023	1339		X				MSC02	N1	0.00 0.00	1	
4	TSP020623-20	A	03/23/2023	1339		X	X			MSC02	N1	0.00 0.00	1	

Turnaround Time: 5 days

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
	3/28/23	1400	Fedex	3/28/23	1400	Shipping Date: 3/28/2023 / FEDEX / 7715 8957 9328
						Received by Laboratory: (Signature, Date, Time) & condition
						3/29/23 11:09 am

COC # 032823AIRC



Project Name: Hunters Point Shipyard, Parcel C Removal Site Evaluation
Project Number: J310000600
WBS Code: J310000600

Event: Parcel C Air Monitoring

					Comments
1	PM020623-03	AQ	03/20/2023	0800	VOLUME (M3):
2	TSP020623-04	AQ	03/20/2023	0800	VOLUME (M3):
3	PM020623-05	A	03/21/2023	0749	VOLUME (M3): 1658.27
4	TSP020623-06	A	03/21/2023	0749	VOLUME (M3): 1667.66
5	PM020623-11	A	03/21/2023	0735	VOLUME (M3): 1634.89
6	TSP020623-12	A	03/21/2023	0735	VOLUME (M3): 1735.74
7	PM020623-13	A	03/23/2023	0622	VOLUME (M3): 1545.09
8	TSP020623-14	A	03/23/2023	0622	VOLUME (M3): 1556.49
9	PM020623-15	A	03/23/2023	0633	VOLUME (M3): 1564.49
10	TSP020623-16	A	03/23/2023	0633	VOLUME (M3): 1667.06
11	PM020623-17	A	03/23/2023	1330	VOLUME (M3): 490.88
12	TSP020623-18	A	03/23/2023	1330	VOLUME (M3): 466.67
13	PM020623-19	A	03/23/2023	1339	VOLUME (M3): 479.26
14	TSP020623-20	A	03/23/2023	1339	VOLUME (M3): 293.01



Level 2 QA/QC Summary Report

Work Order #: B088010

Report Date: 4/3/2023

Batch ID: ICP230329B

Blank Spike Results

QC ID	QC Type	Parameter	Percent Recovery			RPD	Limit
			LCS	LCSD	Acceptance		
LCS ICP2	BLKSPK	Lead	90.0	91.0	75-125	1.0	25
LCS ICP2	BLKSPK	Manganese	86.0	87.0	75-125	1.0	25

Method Blank Results

QC ID	QC Type	Parameter	Result	LOD	Units
LMB ICP2	LMB	Lead	< 14	14	ug
LMB ICP2	LMB	Manganese	< 98	98	ug