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

AIR MONITORING SUMMARY REPORT 08 FOR PARCEL C
RADIOLOGICAL CONFIRMATION SAMPLING AND SURVEY

HUNTERS POINT NAVAL SHIPYARD, SAN FRANCISCO, CALIFORNIA

December 5th, 2022 through August 17th, 2023

Approved for public release; distribution is unlimited

DCN: GESL-0005-5305-0078

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Acronyms and Abbreviations

AMSR ..... *Air Monitoring Summary Report*
ASRC …… Artic Slope Regional Corporation
Cal/OSHA ..... *California Occupational Safety and Health Administration*
Cfm ..... *cubic feet per minute*
CFR ..... *Code of Federal Regulations*
CTO ..... *Contract Task Order*
DMAMP ..... *Dust Management and Air Monitoring Plan*
EPA ..... *United States Environmental Protection Agency*
fibers/cm3 ..... *fibers per cubic centimeter*
Gilbane ..... *Gilbane Federal*
HPNS ..... *Hunters Point Naval Shipyard*
L/min ..... *liters per minute*
mg/m3 ..... *milligrams per cubic meter*
Navy ..... *U.S. Department of the Navy*
NIOSH ..... *National Institute for Occupational Safety and Health*
PEL ..... *permissible exposure limit*
PM10 ..... *particulate matter less than 10 microns in diameter*
TSP ..... *total suspended particulates*
TWA ..... *time-weighted average*
µCi/mL ..... *microcuries per millilter*
µg/m3 ..... *micrograms per cubic meter*
WP ..... *work plan*

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 August 17th, 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 lead and manganese 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 SRW01.

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 (ug/m^3).

Table 4-1: Air Monitoring Threshold Criteria

Test Parameter	Threshold Criteria	Threshold Criteria Reference
Asbestos	0.1 fibers/cm^3	Cal/OSHA PEL (on-site workers)
PM10[a]	50 µg/m^3	DTSC HERO developed action level (residents and public receptors)[a]
	5,000 µg/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-11µCi/mL	
Plutonium-239	4.00E-15 µCi/mL	
Radium-226	1.80E-13 µCi/mL	
Strontium-90	1.20E-12 µCi/mL	
Cobalt-60	1.00E-11 µCi/mL	
Thorium-232	1.20E-15 µCi/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 µg/m3 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).

µCi/mL microcuries per milliliter

µg/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

fibers/cm^3 = fibers per cubic centimeter
HPNS = Hunters Point Naval Shipyard
mg/m^3 = milligrams per cubic meter
PEL = permissible exposure limit
PM10 = particulate matter less than 10 microns in diameter
TSP = total suspended particulates

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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, Bayview Manor - KCASANFR1775, and Bayview – KCASANFR1508. **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
04	3/24/23 – 5/04/23
05	5/05/23 – 6/08/23
06	6/09/23 – 6/22/23
07	6/23/23 – 7/20/23
08	7/21/23 – 8/17/23

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.

5.4 Report 04

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 3/20/23, 4/13/23 (second set of samples collected after field activities ceased).

5.5 Report 05

Air monitoring analytical results did not exceed project-specific screening criteria during this reporting period's site operations. It was discovered during this report generation there was a transcription error in the radiation data report. The data has been corrected accordingly. An exceedance was observed for the radiological data presented in AMR 03. The downwind MSC02 station recorded a Thorium-232 value above project screening criteria for the sampling week of 03/20/23 – 3/23/23. This exceedance is described in Attachment 1-6 respectively.

5.6 Report 06

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 date 6/15/23 (second set of samples collected after field activities ceased).

5.7 Report 07

Air monitoring analytical results did not exceed project-specific screening criteria during this reporting period's site operations with the exception of the PM10 result at the downwind MSC02 station on 7/6/23. The delta between the downwind and upwind stations was recorded at 304.64 ug/m^3. There were no PDR results above the project screening criteria for the corresponding 7/6/23 operations.

As established by the Final Parcel C Removal Site Evaluation Dust Management and Air Monitoring Plan, the action level for PM10 filter samples is the Cal OSHA PEL of 5000 ug/m^3, however for informational purposes the results are also being compared to the DTSC HERO action level of 50 ug/m^3. The delta was taken between the downwind and upwind PM10 filter results on 7/6/23 (304.64 ug/m^3) and was below the Parcel C compliance action level, however exceeded the DTSC HERO action level. Real-time PDR results during operations on 7/6/23 at the upwind, downwind, and trench monitoring locations were all below the HERO action level. Operations on 7/6/23 consisted of TU-196 excavation and transporting to the rad laydown area as well as grading pads. No PM10 filter results have exceeded the HERO action level since the inception of the project. A safety stand down was held on 8/17/23 to address the matter and operations will be re-evaluated to reduce the presence of visible dust. The contractor will continue to maintain persistent dust control measures.

The delta was taken by switching the upwind and downwind results due to the change in wind direction for sample end date 6/29/23 (second set of samples collected after field activities ceased). The site was closed and therefore no air monitoring was conducted 7/3/23-7/4/23 due to the holiday.

5.8 Report 08

Air monitoring analytical results did not exceed project-specific screening criteria during this reporting period's site operations with the exception of the Thorium-232 result at the downwind MSC02 station for the sampling week of 7/5/23 – 7/6/23. The MSC02 station recorded a Thorium-232 value of 2.09E-15 J µCi/mL which is above the Cal/OSHA PEL screening criteria of 1.20E-15 µCi/mL.

The site was shut down for the holiday 7/3/23 - 7/4/23 and no sampling or work was conducted. The radiological sample filter had a short runtime due to the site closure and ran approximately 32 hours compared to a full week which typically runs 76-83 hours. In AMR 07, GES addressed a PM10 sample for the same week in discussion on 7/6/23 at the MSC02 station, where a result was confirmed above the DTSC HERO action level of 50 ug/m^3 (compared for informational purposes) however remained below the Cal OSHA PEL of 5000 ug/m^3. Due to the nature of analyzing radiological air samples the contractor is now presenting these results. The field radiological results analyzed before the filters are shipped to the laboratory indicated no values above action levels. PDR

data collected on both working days also remained below action levels.

The site operations for this week consisted of excavating TU-196 and grading RSY pads with a skid steer. The Pad graded this week was upwind and in close proximity to the downwind MSC02 station. On 7/5/23 the site experienced warm weather during work hours of 72 degrees Fahrenheit with a strong afternoon wind. Dry ground conditions were noted and present during operations this week.

On 8/17/23 a safety stand down was held to communicate the elevated PM10 result at the MSC02 station discussed in AMR 07. This Th-232 exceedance is from the same corresponding sampling event. Another briefing was held with the field crew to convey the exceedance and reiterate the importance of dust control. GES will be conscious of soil activities during windy conditions and or warm weather using good judgment to cease operations or pivot onto another task. The contractor will continue utilizing the water truck to hydrate haul routes and excavation/grading activities. Traffic onsite will be minimized when possible and speed reduced to decrease the probability of dust generation.

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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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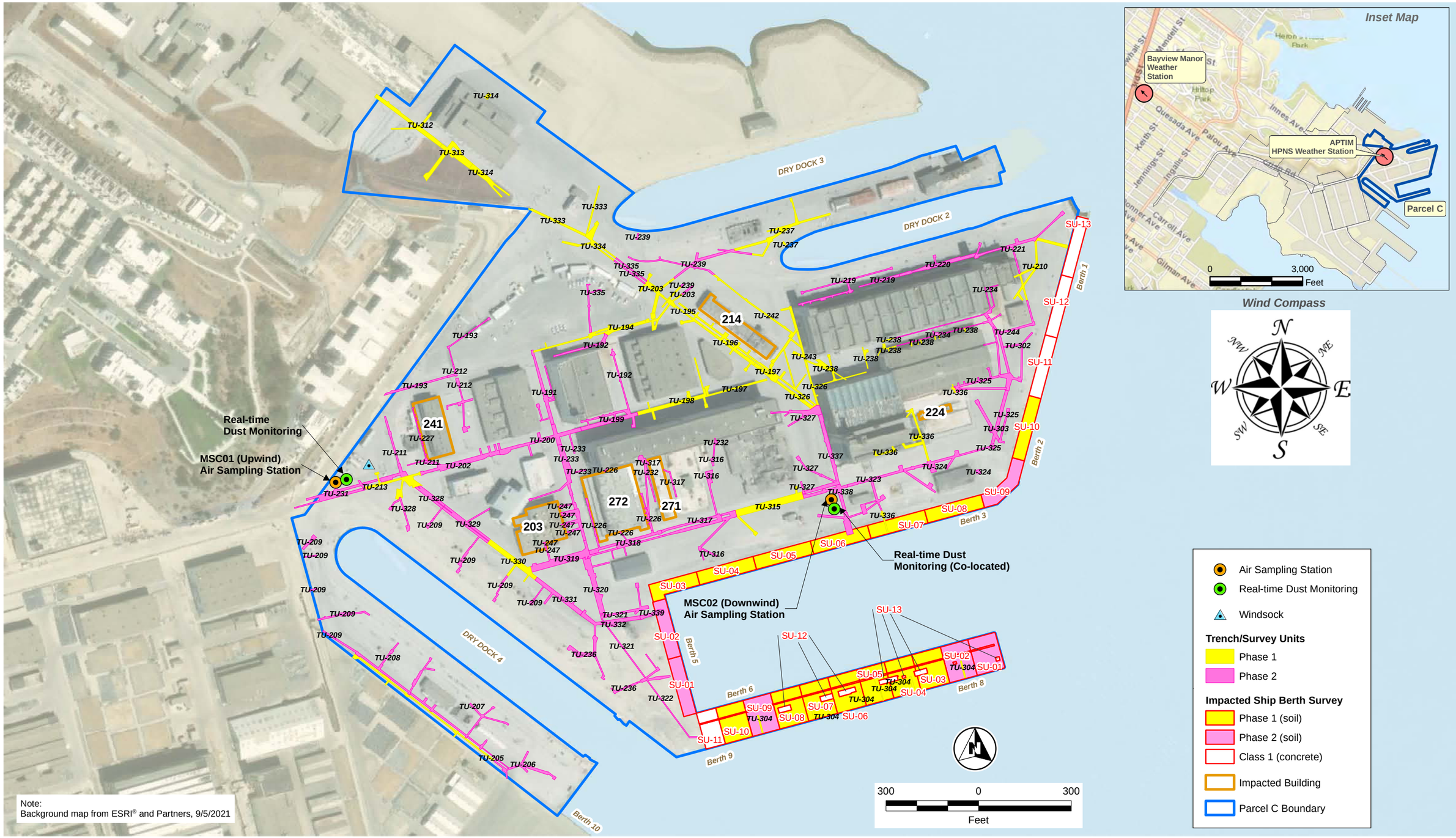

Removal Site Evaluation Work Plan
Radiological Investigation, Survey, and Reporting at Parcel C
Hunters Point Naval Shipyard
San Francisco, California

Figure 2-1
Air Sampling and Dust Monitoring Locations

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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
03/23/2023[1]	30.25	51.43	NW
03/27/2023[1]	30.10	51.34	SSE
03/30/2023[1]	29.99	51.08	E
04/03/2023[1]	30.15	47.46	WNW
04/04/2023[1]	30.21	48.40	W
04/05/2023[1]	30.18	49.79	WSW
04/06/2023[1]	30.13	54.30	ESE

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

Start Date	Ambient Pressure (in Hg)	Ambient Temperature (°F)	Prevalent Wind Direction
04/10/2023[1]	30.15	55.99	WSW
04/11/2023[2]	30.14	53.33	WSW
04/12/2023[2]	30.00	52.13	W
04/13/2023[2]	29.98	55.71	NNE
04/17/2023[1]	30.03	50.96	WNW
04/18/2023[1]	30.12	50.69	WNW
04/19/2023[1]	30.25	52.08	WNW
04/20/2023[1]	30.32	58.36	SW
04/24/2023[1]	29.97	53.17	WSW
04/25/2023[1]	29.95	55.21	WSW
04/26/2023[1]	29.95	55.43	W
04/27/2023[1]	29.94	64.51	NW
05/01/2023[2]	29.88	52.10	WSW
05/02/2023[2]	29.89	52.56	ESE
05/04/2023[2]	29.97	55.34	SW
05/08/2023[2]	30.18	57.51	WSW
05/09/2023[2]	30.09	56.20	W
05/10/2023[2]	30.17	54.81	WSW
05/11/2023[2]	30.17	50.77	SW
05/15/2023[1]	30.07	56.20	W
05/16/2023[1]	29.99	55.57	WSW
05/17/2023[2]	30.01	54.94	WSW
05/18/2023[2]	30.05	54.90	WSW
05/22/2023[1]	29.88	56.00	SW
05/23/2023[1]	29.87	55.59	SW
05/24/2023[1]	29.89	54.76	SW
05/25/2023[1]	29.88	56.02	SW
05/30/2023[1]	30.04	57.05	SW
05/31/2023[1]	29.97	55.47	SW
06/01/2023[1]	29.99	59.03	WSW
06/05/2023[2]	29.89	60.10	WSW
06/06/2023[2]	29.95	60.40	SSW
06/07/2023[2]	30.07	60.30	WSW
06/08/2023[2]	30.12	62.20	W
06/12/2023[2]	30.09	59.73	SW
06/13/2023[2]	30.08	57.89	WSW
06/14/2023[2]	29.96	58.08	WSW
06/15/2023[2]	29.99	60.50	NNE
06/19/2023[2]	30.13	57.99	W
06/20/2023[2]	30.18	58.41	WSW
06/21/2023[2]	30.07	56.49	WSW
06/22/2023[2]	30.03	60.34	SW
06/26/2023[2]	30.06	55.39	SW
06/27/2023[2]	30.00	54.37	SW
06/28/2023[2]	30.02	54.54	SW

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

Start Date	Ambient Pressure (in Hg)	Ambient Temperature (°F)	Prevalent Wind Direction
06/29/2023[2]	30.04	57.98	NE
07/05/2023[2]	30.03	59.48	WSW
07/06/2023[2]	30.03	60.47	WSW
07/10/2023[2]	30.05	55.93	WSW
07/11/2023[2]	30.06	58.63	WSW
07/12/2023[2]	30.09	56.44	WSW
07/13/2023[2]	30.10	60.07	WSW
07/17/2023[2]	29.96	63.50	WSW
07/18/2023[2]	30.05	58.01	WSW
07/19/2023[2]	30.10	58.10	WSW
07/20/2023[2]	30.11	62.90	W
07/24/2023[2]	30.14	59.26	WSW
07/25/2023[2]	30.09	61.32	WSW
07/26/2023[2]	30.06	59.68	WSW
07/27/2023[2]	30.10	59.57	WSW
07/31/2023[2]	30.07	60.22	WSW
08/01/2023[2]	30.11	58.98	WSW
08/02/2023[2]	30.13	58.06	WSW
08/03/2023[2]	30.18	59.31	WSW
08/07/2023[3]	29.96	61.28	W
08/08/2023[3]	29.96	61.41	W
08/09/2023[3]	29.93	60.81	W
08/10/2023[3]	29.95	64.00	W
08/14/2023[3]	30.01	63.89	WSW
08/15/2023[2]	30.04	63.42	WSW
08/16/2023[2]	29.97	63.81	W
08/17/2023[2]	29.94	65.92	WSW

Notes:

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

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

[3] Data collected using wunderground.com from Bayview - KCASANFR1508

°F = degree Fareheit

in Hg = inches of mercury

E = East

S = South

N = North

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)
Action Level							0.100 (fibers/cm^3)	
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

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)
Action Level							0.100 (fibers/cm^3)	
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
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
MSC01-032723	3/28/23	1	3.6	1,437	5173	14.5	0.001	No
MSC02-032723	3/28/23	2	3.7	1,444	5342	12.0	0.001	No
MSC01-033023	3/30/23[2]	1	3.3	447	1564	10.0	0.003	No
MSC02-033023	3/30/23[2]	2	3.6	463	1713	11.0	0.003	No
MSC01-040323	04/04/23	1	3.5	1,458	5103	18.5	0.002	No
MSC02-040323	04/04/23	2	3.6	1,438	5176	12.5	0.001	No
MSC01-040423	04/05/23	1	3.2	1,443	4617	16.0	0.002	No
MSC02-040423	04/05/23	2	3.5	1,447	5064	14.0	0.001	No
MSC01-040523	04/06/23	1	3.5	1,440	5040	21.0	0.002	No
MSC02-040523	04/06/23	2	3.8	1,435	5453	13.0	0.001	No
MSC01-040623	04/06/23[2]	1	3.3	480	1584	10.5	0.003	No
MSC02-040623	04/06/23[2]	2	3.7	489	1809	12.5	0.003	No
MSC01-041023	04/11/23	1	3.4	1,461	4967	15.0	0.001	No
MSC02-041023	04/11/23	2	3.1	1,464	4538	21.5	0.002	No
MSC01-041123	04/12/23	1	3.3	1,415	4669	16.0	0.002	No
MSC02-041123	04/12/23	2	3.2	1,407	4502	16.0	0.002	No
MSC01-041223	04/13/23	1	3.3	1,436	4738	14.0	0.001	No
MSC02-041223	04/13/23	2	3.2	1,442	4614	27.0	0.003	No
MSC01-041323	04/13/23[2]	1	3.2	463	1481	20.0	0.007	No
MSC02-041323	04/13/23[2]	2	3.3	461	1521	19.5	0.006	No
MSC01-041723	04/18/23	1	3.6	1,454	5234	10.5	0.001	No
MSC02-041723	04/18/23	2	3.3	1,445	4768	11.0	0.001	No
MSC01-041823	04/19/23	1	3.0	1,419	4257	14.0	0.002	No
MSC02-041823	04/19/23	2	3.1	1,423	4411	14.0	0.002	No
MSC01-041923	04/20/23	1	3.4	1,449	4926	20.5	0.002	No
MSC02-041923	04/20/23	2	3.5	1,457	5099	11.0	0.001	No
MSC01-042023	04/20/23[2]	1	3.4	459	1560	14.5	0.005	No
MSC02-042023	04/20/23[2]	2	3.1	498	1543	17.5	0.006	No
MSC01-042423	04/25/23	1	3.2	1,435	4592	24.0	0.003	No
MSC02-042423	04/25/23	2	3.2	1,438	4601	17.0	0.002	No
MSC01-042523	04/26/23	1	3.2	1,436	4595	20.5	0.002	No
MSC02-042523	04/26/23	2	3.2	1,435	4592	12.0	0.001	No
MSC01-042623	04/27/23	1	3.6	1,437	5173	24.5	0.002	No
MSC02-042623	04/27/23	2	3.1	1,438	4457	22.0	0.002	No
MSC01-042723	04/27/23[2]	1	3.1	455	1410	19.0	0.007	No
MSC02-042723	04/27/23[2]	2	3.1	431	1336	16.5	0.006	No
MSC01-050123	05/02/23	1	3.6	1,475	5310	20.5	0.002	No
MSC02-050123	05/02/23	2	3.2	1,461	4675	17.5	0.002	No
MSC01-050223	05/03/23	1	3.9	1,456	5678	22.0	0.002	No
MSC02-050223	05/03/23	2	3.3	1,479	4880	19.0	0.002	No
MSC01-050423	05/04/23[2]	1	3.1	507	1571	22.0	0.007	No
MSC02-050423	05/04/23[2]	2	3.2	481	1539	26.0	0.008	No
MSC01-050823	05/09/23	1	3.6	1,428	5140	13.5	0.001	No
MSC02-050823	05/09/23	2	3.3	1,441	4755	10.5	0.001	No
MSC01-050923	05/10/23	1	3.4	1,441	4899	17.0	0.002	No
MSC02-050923	05/10/23	2	3.2	1,439	4604	11.5	0.001	No
MSC01-051023	05/11/23	1	3.0	1,466	4398	22.0	0.002	No
MSC02-051023	05/11/23	2	3.2	1,435	4592	14.0	0.001	No
MSC01-051123	05/11/23[2]	1	3.1	461	1429	23.0	0.008	No
MSC02-051123	05/11/23[2]	2	3.2	487	1558	15.5	0.005	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)
Action Level							0.100 (fibers/cm^3)	
MSC01-051523	05/16/23	1	3.1	1,483	4597	19.5	0.002	No
MSC02-051523	05/16/23	2	3.2	1,459	4668	20.0	0.002	No
MSC01-051623	05/17/23	1	3.3	1,416	4672	15.0	0.002	No
MSC02-051623	05/17/23	2	3.0	1,415	4245	16.0	0.002	No
MSC01-051723	05/18/23	1	3.1	1,455	4510	17.0	0.002	No
MSC02-051723	05/18/23	2	3.0	1,455	4365	21.0	0.002	No
MSC01-051823	05/18/23[2]	1	2.3	430	989	16.5	0.008	No
MSC02-051823	05/18/23[2]	2	3.1	429	1329	20.0	0.007	No
MSC01-052223	05/23/23	1	3.2	1,465	4668	14.5	0.002	No
MSC02-052223	05/23/23	2	3.1	1,449	4491	24.5	0.003	No
MSC01-052323	05/24/23	1	3.2	1,423	4553	26.5	0.003	No
MSC02-052323	05/24/23	2	2.9	1,428	4141	17.5	0.002	No
MSC01-052423	05/25/23	1	3.1	1,423	4411	21.0	0.002	No
MSC02-052423	05/25/23	2	2.9	1,452	4210	16.0	0.002	No
MSC01-052523	05/25/23[2]	1	3.2	458	1465	27.5	0.009	No
MSC02-052523	05/25/23[2]	2	3.1	465	1441	31.5	0.011	No
MSC01-053023	05/31/23	1	3.7	1,427	5279	20.5	0.002	No
MSC02-053023	05/31/23	2	3.2	1,433	4585	29.0	0.003	No
MSC01-053123	06/01/23	1	3.4	1,447	4919	17.0	0.002	No
MSC02-053123	06/01/23	2	3.2	1,444	4620	16.5	0.002	No
MSC01-060123	06/01/23[2]	1	3.4	501	1703	18.0	0.005	No
MSC02-060123	06/01/23[2]	2	3.2	493	1577	17.5	0.005	No
MSC01-060523	06/06/23	1	3.7	1,433	5302	17.0	0.002	No
MSC02-060523	06/06/23	2	3.2	1,431	4579	12.0	0.001	No
MSC01-060623	06/07/23	1	3.6	1,433	5158	17.5	0.002	No
MSC02-060623	06/07/23	2	3.3	1,434	4732	14.0	0.001	No
MSC01-060723	06/08/23	1	3.7	1,457	5390	24.5	0.002	No
MSC02-060723	06/08/23	2	3.4	1,453	4940	16.0	0.002	No
MSC01-060823	06/08/23[2]	1	3.6	423	1522	14.0	0.005	No
MSC02-060823	06/08/23[2]	2	3.5	409	1431	18.5	0.006	No
MSC01-061223	06/13/23	1	3.5	1,439	5036	12.5	0.001	No
MSC02-061223	06/13/23	2	3.7	1,442	5335	19.0	0.002	No
MSC01-061323	06/14/23	1	3.4	1,426	4848	12.5	0.001	No
MSC02-061323	06/14/23	2	3.2	1,426	4563	12.5	0.001	No
MSC01-061423	06/15/23	1	3.5	1,442	5047	13.5	0.001	No
MSC02-061423	06/15/23	2	3.2	1,444	4620	20.0	0.002	No
MSC01-061523	06/15/23[2]	1	3.2	356	1139	19.0	0.002	No
MSC02-061523	06/15/23[2]	2	3.6	370	1332	15.0	0.001	No
MSC01-061923	06/20/23	1	3.4	1,382	4698	17.5	0.002	No
MSC02-061923	06/20/23	2	3.2	1,455	4656	18.0	0.002	No
MSC01-062023	06/21/23	1	3.6	1,441	5187	24.5	0.002	No
MSC02-062023	06/21/23	2	3.2	1,432	4582	13.0	0.001	No
MSC01-062123	06/22/23	1	3.5	1,429	5001	14.0	0.001	No
MSC02-062123	06/22/23	2	3.2	1,430	4576	15.0	0.002	No
MSC01-062223	06/22/23[2]	1	3.4	506	1720	17.5	0.005	No
MSC02-062223	06/22/23[2]	2	3.2	492	1574	18.0	0.006	No
MSC01-062623	06/27/23	1	3.6	1,420	5112	15.0	0.001	No
MSC02-062623	06/27/23	2	3.6	1,417	5101	16.5	0.002	No
MSC01-062723	06/28/23	1	3.4	1,440	4896	16.0	0.002	No
MSC02-062723	06/28/23	2	3.4	1,441	4899	12.0	0.001	No
MSC01-062823	06/29/23	1	3.5	1,432	5012	22.5	0.002	No
MSC02-062823	06/29/23	2	3.2	1,461	4675	12.5	0.001	No
MSC01-062923	06/29/23[2]	1	3.7	342	1265	14.5	0.006	No
MSC02-062923	06/29/23[2]	2	3.3	326	1075	15.5	0.007	No
MSC01-070523	07/06/23	1	3.6	1,431	5151	19.5	0.002	No
MSC02-070523	07/06/23	2	3.4	1,422	4834	18.0	0.002	No
MSC01-070623	07/06/23[2]	1	3.6	513	1846	15.0	0.004	No
MSC02-070623	07/06/23[2]	2	3.3	486	1603	17.5	0.005	No
MSC01-071023	07/11/23	1	3.4	1,403	4770	8.0	0.001	No
MSC02-071023	07/11/23	2	3.6	1,433	5158	16.5	0.002	No
MSC01-071123	07/12/23	1	3.3	1,437	4742	16.0	0.002	No
MSC02-071123	07/12/23	2	3.6	1,435	5166	14.5	0.001	No
MSC01-071223	07/13/23	1	3.6	1,454	5234	19.5	0.002	No
MSC02-071223	07/13/23	2	3.5	1,453	5085	17.0	0.002	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)
Action Level							0.100 (fibers/cm$^{3)}$	
MSC01-071323	07/13/23[2]	1	3.6	480	1728	11.0	0.003	No
MSC02-071323	07/13/23[2]	2	3.4	470	1598	19.5	0.006	No
MSC01-071723	07/18/23	1	3.7	1,430	5291	26.0	0.002	No
MSC02-071723	07/18/23	2	3.6	1,430	5148	10.5	0.001	No
MSC01-071823	07/19/23	1	3.4	1,441	4899	17.5	0.002	No
MSC02-071823	07/19/23	2	3.3	1,441	4755	9.5	0.001	No
MSC01-071923	07/20/23	1	3.5	1,434	5019	5.5	0.001	No
MSC02-071923	07/20/23	2	3.4	1,442	4902	6.5	0.001	No
MSC01-072023	07/20/23[2]	1	3.6	537	1933	7.5	0.002	No
MSC02-072023	07/20/23[2]	2	3.4	515	1751	10.0	0.003	No
MSC01-072423	07/25/23	1	3.6	1,409	5072	18.0	0.002	No
MSC02-072423	07/25/23	2	3.4	1,412	4800	13.5	0.001	No
MSC01-072523	07/26/23	1	3.3	1,442	4758	11.5	0.001	No
MSC02-072523	07/26/23	2	3.2	1,452	4646	11.0	0.001	No
MSC01-072623	07/27/23	1	3.6	1,443	5194	23.0	0.002	No
MSC02-072623	07/27/23	2	3.1	1,436	4451	12.0	0.001	No
MSC01-072723	07/27/23[2]	1	3.6	517	1861	8.5	0.002	No
MSC02-072723	07/27/23[2]	2	3.2	489	1564	9.0	0.003	No
MSC01-073123	08/01/23	1	3.2	1,411	4515	8.0	0.001	No
MSC02-073123	08/01/23	2	3.6	1,418	5104	6.0	0.001	No
MSC01-080123	08/02/23	1	3.2	1,433	4585	14.0	0.001	No
MSC02-080123	08/02/23	2	3.6	1,427	5137	12.0	0.001	No
MSC01-080223	08/03/23	1	3.3	1,446	4771	11.5	0.001	No
MSC02-080223	08/03/23	2	3.6	1,444	5198	7.5	0.001	No
MSC01-080323	08/03/23[2]	1	3.2	534	1708	10.5	0.003	No
MSC02-080323	08/03/23[2]	2	3.6	509	1832	11.0	0.003	No
MSC01-080723	08/08/23	1	3.3	1,429	4715	12.0	0.001	No
MSC02-080723	08/08/23	2	3.6	1,434	5162	15.5	0.001	No
MSC01-080823	08/09/23	1	3.0	1,447	4341	16.0	0.002	No
MSC02-080823	08/09/23	2	3.4	1,446	4916	10.0	0.001	No
MSC01-080923	08/10/23	1	3.2	1,432	4582	13.5	0.001	No
MSC02-080923	08/10/23	2	3.4	1,432	4868	11.5	0.001	No
MSC01-081023	08/10/23[2]	1	3.2	420	1344	13.5	0.005	No
MSC02-081023	08/10/23[2]	2	3.3	399	1316	15.5	0.006	No
MSC01-080223	08/15/23	1	3.4	1,413	4804	8.0	0.001	No
MSC02-080223	08/15/23	2	3.4	1,414	4807	8.0	0.001	No
MSC01-080323	08/16/23	1	3.2	1,415	4528	6.5	0.001	No
MSC02-080323	08/16/23	2	3.4	1,427	4851	5.0	< 0.001	No
MSC01-080123	08/17/23	1	3.5	1,426	4991	6.1	0.001	No
MSC02-080123	08/17/23	2	3.3	1,450	4785	6.0	0.001	No
MSC01-080223	08/17/23[2]	1	3.4	489	1662	5.0	< 0.002	No
MSC02-080223	08/17/23[2]	2	3.4	473	1608	6.0	0.002	No

Notes:

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

[2]Air 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/cm^3 = 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	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[1] (ug/m^3)	Exceedance (Yes/No)
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

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	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[1] (ug/m^3)	Exceedance (Yes/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
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						

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	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[1] (ug/m^3)	Exceedance (Yes/No)
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						
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						
PM020223-22	MSC01	3/28/23	1619.55	0.0089531	0.002030	2.030	5,000	No	50	No
PM020223-24	MSC02	3/28/23	1593.35	0.01098315						
PM020223-26	MSC01	3/30/23[2]	514.11	0.00213962	-0.008530	-8.530	5,000	No	50	No
PM020223-28	MSC02	3/30/23[2]	515.50	0.01066925						
PM020223-38	MSC01	4/04/23	1685.57	0.01595899	-0.003060	-3.060	5,000	No	50	No
PM020223-40	MSC02	4/04/23	1620.26	0.01289916						
PM020323-63	MSC01	4/05/23	1668.68	0.00946856	0.002919	2.919	5,000	No	50	No
PM020323-65	MSC02	4/05/23	1638.71	0.01238779						
PM020323-67	MSC01	4/06/23	1665.86	0.01134549	0.003470	3.470	5,000	No	50	No
PM020323-69	MSC02	4/06/23	1626.72	0.01481509						

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	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[1] (ug/m^3)	Exceedance (Yes/No)
PM020923-01	MSC01	4/06/23[2]	554.30	0.00847916	0.003467	3.467	5,000	No	50	No
PM020923-03	MSC02	4/06/23[2]	544.12	0.01194589						
PM021523-32	MSC01	4/11/23	1689.30	0.00384775	0.004132	4.132	5,000	No	50	No
PM021523-34	MSC02	4/11/23	1641.63	0.00797987						
PM020823-02	MSC01	4/12/23	1640.30	0.01450954	0.004268	4.268	5,000	No	50	No
PM020823-04	MSC02	4/12/23	1592.36	0.01877716						
PM020823-06	MSC01	4/13/23	1658.16	0.01658465	0.005463	5.463	5,000	No	50	No
PM020823-08	MSC02	4/13/23	1628.30	0.02204753						
PM020823-10	MSC01	4/13/23[2]	539.42	0.01149383	-0.002648	-2.648	5,000	No	50	No
PM020823-12	MSC02	4/13/23[2]	523.28	0.01414157						
PM021623-17	MSC01	4/18/23	1668.59	0.01114714	0.003765	3.765	5,000	No	50	No
PM021623-19	MSC02	4/18/23	1616.16	0.01491189						
PM021623-21	MSC01	4/19/23	1628.03	0.01111773	0.002891	2.891	5,000	No	50	No
PM021623-23	MSC02	4/19/23	1591.82	0.01400912						
PM021623-25	MSC01	4/20/23	1636.76	0.01515189	0.002320	2.320	5,000	No	50	No
PM022023-01	MSC02	4/20/23	1602.54	0.01747226						
PM022023-03	MSC01	4/20/23[2]	519.91	0.02038814	0.003263	3.263	5,000	No	50	No
PM022023-05	MSC02	4/20/23[2]	583.49	0.02365079						
PM030323-30	MSC01	4/25/23	1648.32	0.05156766	-0.021976	-21.976	5,000	No	50	No
PM030323-32	MSC02	4/25/23	1615.30	0.02959203						
PM030323-34	MSC01	4/26/23	1657.62	0.02684572	-0.001260	-1.260	5,000	No	50	No
PM030323-36	MSC02	4/26/23	1621.99	0.02558585						
PM030323-38	MSC01	4/27/23	1655.85	0.02306972	-0.008294	-8.294	5,000	No	50	No
PM030323-40	MSC02	4/27/23	1631.01	0.01477612						
PM030923-02	MSC01	4/27/23[2]	520.43	0.02497934	-0.000148	-0.148	5,000	No	50	No
PM030923-04	MSC02	4/27/23[2]	471.18	0.02483127						
PM031223-03	MSC01	5/02/23	1684.21	0.03117188	-0.015939	-15.939	5,000	No	50	No
PM031223-05	MSC02	5/02/23	1634.60	0.01523308						
PM031223-07	MSC01	5/03/23	1647.28	0.00516002	0.001409	1.409	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	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[1] (ug/m^3)	Exceedance (Yes/No)
PM031223-09	MSC02	5/03/23	1644.00	0.00656934						
PM031223-11	MSC01	5/04/23[2]	578.40	0.00639696 J+	0.005374	5.374	5,000	No	50	No
PM031223-13	MSC02	5/04/23[2]	535.20	0.0117713						
PM031223-17	MSC01	5/09/23	1646.24	0.01099475	0.003592	3.592	5,000	No	50	No
PM031423-01	MSC02	5/09/23	1617.91	0.01458672						
PM031423-03	MSC01	5/10/23	1657.77	0.01007377	0.002382	2.382	5,000	No	50	No
PM031423-05	MSC02	5/10/23	1629.73	0.01245605						
PM031423-07	MSC01	5/11/23	1691.54	0.01075943	0.003199	3.199	5,000	No	50	No
PM031423-09	MSC02	5/11/23	1619.07	0.01395863						
PM031423-11	MSC01	5/11/23[2]	507.13	0.01380317	0.003840	3.840	5,000	No	50	No
PM031423-13	MSC02	5/11/23[2]	538.44	0.01764356						
PM031523-20	MSC01	5/16/23	1708.90	0.00544210	0.003596	3.596	5,000	No	50	No
PM031523-22	MSC02	5/16/23	1648.54	0.00903830						
PM031523-24	MSC01	5/17/23	1622.55	0.00751903	0.003741	3.741	5,000	No	50	No
PM031523-26	MSC02	5/17/23	1589.73	0.01125977						
PM031523-28	MSC01	5/18/23	1668.17	0.00791286	0.004036	4.036	5,000	No	50	No
PM031523-30	MSC02	5/18/23	1631.92	0.01194912						
PM031523-32	MSC01	5/18/23[2]	484.26	0.00433651	0.009795	9.795	5,000	No	50	No
PM031523-34	MSC02	5/18/23[2]	474.13	0.01413115						
PM030323-10	MSC01	5/23/23	1704.60	0.00874105	0.028104	28.104	5,000	No	50	No
PM030923-06	MSC02	5/23/23	1623.00	0.03684535						
PM030923-08	MSC01	5/24/23	1581.93	0.02642342	0.007307	7.307	5,000	No	50	No
PM030923-10	MSC02	5/24/23	1612.80	0.03373016						
PM030923-12	MSC01	5/25/23	1568.80	0.01721061	0.007248	7.248	5,000	No	50	No
PM030923-14	MSC02	5/25/23	1631.31	0.02445887						
PM030923-16	MSC01	5/25/23[2]	532.95	0.01200863	0.007579	7.579	5,000	No	50	No
PM030923-18	MSC02	5/25/23[2]	520.74	0.01958751						
PM031223-32	MSC01	5/31/23	1649.15	0.00782221 J+	0.000316	0.316	5,000	No	50	No
PM031223-34	MSC02	5/31/23	1622.04	0.0081379 J+						

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	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[1] (ug/m^3)	Exceedance (Yes/No)
PM031223-36	MSC01	6/01/23	1666.71	0.02225942 J+	0.007277	7.277	5,000	No	50	No
PM031223-38	MSC02	6/01/23	1604.78	0.02953676 J+						
PM031223-40	MSC01	6/01/23[2]	572.70	0.02514405 J+	0.003676	3.676	5,000	No	50	No
PM031223-42	MSC02	6/01/23[2]	551.70	0.02882001 J+						
PM032123-14	MSC01	6/06/23	1644.60	0.01015444	0.003082	3.082	5,000	No	50	No
PM032123-16	MSC02	6/06/23	1631.90	0.01323611						
PM032123-18	MSC01	6/07/23	1645.89	0.00662256	0.002109	2.109	5,000	No	50	No
PM032123-20	MSC02	6/07/23	1614.85	0.00873146						
PM032123-22	MSC01	6/08/23	1672.94	0.00992265	0.000427	0.427	5,000	No	50	No
PM032123-24	MSC02	6/08/23	1642.62	0.01034932						
PM032123-26	MSC01	6/08/23[2]	370.51	0.01268522 J+	0.000646	0.646	5,000	No	50	No
PM032123-28	MSC02	6/08/23[2]	457.56	0.01333158 J+						
PM032223-08	MSC01	6/13/23	1660.73	0.00572038	0.001234	1.234	5,000	No	50	No
PM032223-10	MSC02	6/13/23	1624.88	0.00695436						
PM032223-12	MSC01	6/14/23	1641.30	0.00408213	0.003574	3.574	5,000	No	50	No
PM032223-14	MSC02	6/14/23	1606.50	0.0076564						
PM032223-16	MSC01	6/15/23	1657.98	0.00971061	0.003722	3.722	5,000	No	50	No
PM032223-18	MSC02	6/15/23	1630.41	0.0134322						
PM032223-20	MSC01	6/15/23[2]	416.70	0.01031917 J+	-0.000189	-0.189	5,000	No	50	No
PM032223-22	MSC02	6/15/23[2]	390.16	0.01050851 J+						
PM032423-26	MSC01	6/20/23	1608.77	0.01411016	0.002962	2.962	5,000	No	50	No
PM032423-24	MSC02	6/20/23	1593.25	0.01707202						
PM032423-08	MSC01	6/21/23	1668.87	0.0138417	0.003612	3.612	5,000	No	50	No
PM032423-10	MSC02	6/21/23	1638.58	0.01745414						
PM032423-12	MSC01	6/22/23	1659.03	0.01374297	0.004384	4.384	5,000	No	50	No
PM032423-14	MSC02	6/22/23	1638.40	0.01812744						
PM032423-16	MSC01	6/22/23[2]	577.80	0.01574939	0.002567	2.567	5,000	No	50	No
PM032423-18	MSC02	6/22/23[2]	562.33	0.01831665						
PM031623-20	MSC01	6/27/23	1634.93	0.00868539	0.002608	2.608	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	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[1] (ug/m^3)	Exceedance (Yes/No)
PM031623-22	MSC02	6/27/23	1611.62	0.01129298						
PM031623-24	MSC01	6/28/23	1656.32	0.00652048	0.002111	2.111	5,000	No	50	No
PM031623-26	MSC02	6/28/23	1633.47	0.00863193						
PM031623-28	MSC01	6/29/23	1655.66	0.00567749 J+	0.002041	2.041	5,000	No	50	No
PM031623-30	MSC02	6/29/23	1658.40	0.00771828						
PM031623-32	MSC01	6/29/23[2]	390.12	0.01256024 J+	-0.000042	-0.042	5,000	No	50	No
PM031623-34	MSC02	6/29/23[2]	365.02	0.01260205 J+						
PM032023-06	MSC01	7/06/23	1651.41	0.00932536	0.003760	3.760	5,000	No	50	No
PM032023-08	MSC02	7/06/23	1620.08	0.01308577						
PM032023-10	MSC01	7/06/23[2]	585.42	0.01161559	0.304645	304.645	5,000	No	50	Yes
PM032023-12	MSC02	7/06/23[2]	550.18	0.31626013						
PM041823-52	MSC01	7/11/23	1611.21	0.00645478 J+	0.003492	3.492	5,000	No	50	No
PM041823-54	MSC02	7/11/23	1628.74	0.00994634						
PM041823-56	MSC01	7/12/23	1667.36	0.00779676 J+	0.002231	2.231	5,000	No	50	No
PM041823-58	MSC02	7/12/23	1645.39	0.01002802						
PM041823-60	MSC01	7/13/23	1683.01	0.00594174 J+	0.002578	2.578	5,000	No	50	No
PM041823-62	MSC02	7/13/23	1666.73	0.00851968 J+						
PM041823-64	MSC01	7/13/23[2]	559.46	0.00446859 J+	0.004396	4.396	5,000	No	50	No
PM041823-66	MSC02	7/13/23[2]	541.46	0.00886492 J+						
PM042123-48	MSC01	7/18/23	1669.18	0.02414359	0.003596	3.596	5,000	No	50	No
PM042123-50	MSC02	7/18/23	1636.63	0.02773993						
PM042123-52	MSC01	7/19/23	1645.15	0.01550011	0.002144	2.144	5,000	No	50	No
PM042123-54	MSC02	7/19/23	1643.64	0.01764377						
PM042123-56	MSC01	7/20/23	1662.51	0.0115488	0.002517	2.517	5,000	No	50	No
PM042123-58	MSC02	7/20/23	1649.38	0.01406589						
PM042123-60	MSC01	7/20/23[2]	611.02	0.01603875	0.002500	2.500	5,000	No	50	No
PM042123-62	MSC02	7/20/23[2]	582.55	0.01853918						
PM042123-13	MSC01	7/25/23	1625.56	0.00701297	0.002352	2.352	5,000	No	50	No
PM042123-15	MSC02	7/25/23	1612.31	0.00936544						

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	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[1] (ug/m^3)	Exceedance (Yes/No)
PM042123-17	MSC01	7/26/23	1668.13	0.01097037	0.001665	1.665	5,000	No	50	No
PM042123-19	MSC02	7/26/23	1661.98	0.01263553						
PM042123-21	MSC01	7/27/23	1652.89	0.02184053	0.002423	2.423	5,000	No	50	No
PM042123-23	MSC02	7/27/23	1636.19	0.02426369						
PM042123-25	MSC01	7/27/23[2]	594.65	0.02539309	0.005221	5.221	5,000	No	50	No
PM042123-27	MSC02	7/27/23[2]	561.83	0.03061424						
PM041223-19	MSC01	8/01/23	1623.80	0.01989161	0.001942	1.942	5,000	No	50	No
PM041223-21	MSC02	8/01/23	1603.03	0.02183365						
PM041223-23	MSC01	8/02/23	1637.88	0.00860869	0.000685	0.685	5,000	No	50	No
PM041223-25	MSC02	8/02/23	1624.80	0.00929345						
PM041223-27	MSC01	8/03/23	1653.97	0.00785988	0.003868	3.868	5,000	No	50	No
PM041223-29	MSC02	8/03/23	1637.16	0.01172763						
PM041223-31	MSC01	8/03/23[2]	611.72	0.01193356	0.007462	7.462	5,000	No	50	No
PM041223-33	MSC02	8/03/23[2]	582.60	0.01939581						
PM041623-14	MSC01	8/08/23	1657.57	0.01327244	0.007663	7.663	5,000	No	50	No
PM041623-16	MSC02	8/08/23	1643.16	0.02093527						
PM041623-18	MSC01	8/09/23	1666.12	0.00768252	0.002819	2.819	5,000	No	50	No
PM041623-20	MSC02	8/09/23	1656.95	0.01050122						
PM041623-22	MSC01	8/10/23	1650.22	0.00436305 J+	0.003511	3.511	5,000	No	50	No
PM041623-24	MSC02	8/10/23	1638.33	0.00787387						
PM041623-26	MSC01	8/10/23[2]	485.76	0.0094697 J+	0.000337	0.337	5,000	No	50	No
PM041623-28	MSC02	8/10/23[2]	448.68	0.00980654 J+						
PM042023-01	MSC01	8/15/23	1628.18	0.0063875	0.003284	3.284	5,000	No	50	No
PM042023-03	MSC02	8/15/23	1612.91	0.00967196						
PM042023-05	MSC01	8/16/23	1636.94	0.00665877	0.001825	1.825	5,000	No	50	No
PM042023-07	MSC02	8/16/23	1638.43	0.00848373						
PM042023-09	MSC01	8/17/23	1646.55	0.00455498 J+	0.003520	3.520	5,000	No	50	No
PM042023-11	MSC02	8/17/23	1659.44	0.00807501						

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	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[1] (ug/m^3)	Exceedance (Yes/No)
PM042023-13	MSC01	8/17/23[2]	564.21	0.00833023 J+	0.005658	5.658	5,000	No	50	No
PM042023-15	MSC02	8/17/23[2]	543.30	0.01398859 J+						

Notes:

[1]PM10 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.

[2]Air 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	Total Air Volume Monitored (m^3)	Concentration in Air (mg/m^3)	Exceedance (Yes/No)	Concentration in Air (mg/m^3)	Exceedance (Yes/No)
Action Level				0.050 mg/m^3		0.200 mg/m3	
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	0.000001	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	0.000002	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
TSP011823-14	MSC01	2/16/23[2]	424.73	< 0.00003296	No	< 0.00023073	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	Total Air Volume Monitored (m^3)	Concentration in Air (mg/m^3)	Exceedance (Yes/No)	Concentration in Air (mg/m^3)	Exceedance (Yes/No)
Action Level				0.050 mg/m^3		0.200 mg/m3	
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[1,2]	293.01	< 0.00004778	No	< 0.00033446	No
TSP020223-23	MSC01	3/28/23	1624.27	< 0.00000862	No	< 0.00006033	No
TSP020223-25	MSC02	3/28/23	1692.62	< 0.00000827	No	< 0.0000579	No
TSP020223-27	MSC01	3/30/23[2]	514.18	< 0.00002723	No	< 0.00019059	No
TSP020223-29	MSC02	3/30/23[2]	548.95	< 0.0000255	No	< 0.00017852	No
TSP020223-39	MSC01	4/04/23	1693.85	< 0.00000827	No	< 0.00005786	No
TSP020323-62	MSC02	4/04/23	1720.87	< 0.00000814	No	< 0.00005695	No
TSP020323-64	MSC01	4/05/23	1663.88	< 0.00000841	No	< 0.0000589	No
TSP020323-66	MSC02	4/05/23	1735.90	< 0.00000806	No	< 0.00005645	No
TSP020323-68	MSC01	4/06/23	1661.80	< 0.00000842	No	< 0.00005897	No
TSP020323-70	MSC02	4/06/23	1724.78	< 0.00000812	No	< 0.00005682	No
TSP020923-02	MSC01	4/06/23[2]	554.40	< 0.00002525	No	< 0.00017677	No
TSP020923-04	MSC02	4/06/23[2]	581.88	< 0.00002406	No	< 0.00016842	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	Total Air Volume Monitored (m^3)	Concentration in Air (mg/m^3)	Exceedance (Yes/No)	Concentration in Air (mg/m^3)	Exceedance (Yes/No)
Action Level				0.050 mg/m^3		0.200 mg/m3	
TSP021523-33	MSC01	4/11/23	1698.82	< 0.00000824	No	< 0.00005769	No
TSP020823-01	MSC02	4/11/23	1761.73	< 0.00000795	No	< 0.00005563	No
TSP020823-03	MSC01	4/12/23	1629.85	< 0.00000859	No	< 0.00006013	No
TSP020823-05	MSC02	4/12/23	1688.62	< 0.00000829	No	< 0.00005804	No
TSP020823-07	MSC01	4/13/23	1650.61	< 0.00000848	No	< 0.00005937	No
TSP020823-09	MSC02	4/13/23	1387.10	< 0.00001009	No	< 0.00007065	No
TSP020823-11	MSC01	4/13/23[2]	534.94	< 0.00002617	No	< 0.0001832	No
TSP020823-13	MSC02	4/13/23[2]	552.25	< 0.00002535	No	< 0.00017746	No
TSP021623-18	MSC01	4/18/23	1675.38	< 0.00000836	No	< 0.00005849	No
TSP021623-20	MSC02	4/18/23	1714.56	< 0.00000817	No	< 0.00005716	No
TSP021623-22	MSC01	4/19/23	1626.92	< 0.00000861	No	< 0.00006024	No
TSP021623-24	MSC02	4/19/23	1692.11	< 0.00000827	No	< 0.00005792	No
TSP021623-26	MSC01	4/20/23	1616.86	< 0.00000866	No	< 0.00006061	No
TSP022023-02	MSC02	4/20/23	1701.84	< 0.00000823	No	< 0.00005758	No
TSP022023-04	MSC01	4/20/23[2]	522.60	< 0.00002679	No	< 0.00018752	No
TSP022023-06	MSC02	4/20/23[2]	619.33	< 0.00002261	No	< 0.00015824	No
TSP030323-31	MSC01	4/25/23	1659.15	0.00000982	No	0.00008559	No
TSP030323-33	MSC02	4/25/23	1711.83	< 0.00000818	No	< 0.00005725	No
TSP030323-35	MSC01	4/26/23	1654.76	< 0.00000846	No	< 0.00005922	No
TSP030323-37	MSC02	4/26/23	1722.56	< 0.00000813	No	< 0.00005689	No
TSP030323-39	MSC01	4/27/23	1661.46	< 0.00000843	No	< 0.00005898	No
TSP030923-01	MSC02	4/27/23[1]	776.68	< 0.00001803	No	< 0.00012618	No
TSP030923-03	MSC01	4/27/23[2]	525.64	< 0.00002663	No	< 0.00018644	No
TSP030923-05	MSC02	4/27/23[2]	504.07	< 0.00002777	No	< 0.00019442	No
TSP031223-04	MSC01	5/02/23	1701.48	0.00000835	No	< 0.0000576	No
TSP031223-06	MSC02	5/02/23	1737.80	< 0.00000806	No	< 0.00005639	No
TSP031223-08	MSC01	5/03/23	1657.16	< 0.00000845	No	< 0.00005914	No
TSP031223-10	MSC02	5/03/23	1740.99	< 0.00000804	No	< 0.00005629	No
TSP031223-12	MSC01	5/04/23[2]	578.57	< 0.0000242	No	< 0.00016938	No
TSP031223-14	MSC02	5/04/23[2]	566.93	< 0.00002469	No	< 0.00017286	No
TSP031223-18	MSC01	5/09/23	1652.75	< 0.00000847	No	< 0.0000593	No
TSP031423-02	MSC02	5/09/23	1734.22	< 0.00000807	No	< 0.00005651	No
TSP031423-04	MSC01	5/10/23	1658.93	< 0.00000844	No	< 0.00005907	No
TSP031423-06	MSC02	5/10/23	1722.85	< 0.00000813	No	< 0.00005688	No
TSP031423-08	MSC01	5/11/23	1696.93	< 0.00000825	No	< 0.00005775	No
TSP031423-10	MSC02	5/11/23	1724.38	< 0.00000812	No	< 0.00005683	No
TSP031423-12	MSC01	5/11/23[2]	512.83	< 0.0000273	No	< 0.0001911	No
TSP031423-14	MSC02	5/11/23[2]	573.11	< 0.00002443	No	< 0.000171	No
TSP031523-21	MSC01	5/16/23	1718.40	< 0.00000815	No	< 0.00005703	No
TSP031523-23	MSC02	5/16/23	1708.00	< 0.0000082	No	< 0.00005738	No
TSP031523-25	MSC01	5/17/23	1630.39	< 0.00000859	No	< 0.00006011	No
TSP031523-27	MSC02	5/17/23	1688.85	< 0.00000829	No	< 0.00005803	No
TSP031523-29	MSC01	5/18/23	1679.35	< 0.00000834	No	< 0.00005836	No
TSP031523-31	MSC02	5/18/23	1733.33	< 0.00000808	No	< 0.00005654	No
TSP031523-33	MSC01	5/18/23[2]	488.64	< 0.00002865	No	< 0.00020056	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	Total Air Volume Monitored (m^3)	Concentration in Air (mg/m^3)	Exceedance (Yes/No)	Concentration in Air (mg/m^3)	Exceedance (Yes/No)
Action Level				0.050 mg/m^3		0.200 mg/m3	
TSP031523-35	MSC02	5/18/23[2]	505.82	< 0.00002768	No	< 0.00019374	No
TSP030323-11	MSC01	5/23/23	1709.17	< 0.00000819	No	< 0.00005734	No
TSP030923-07	MSC02	5/23/23	1721.41	< 0.00000813	No	< 0.00005693	No
TSP030923-09	MSC01	5/24/23	1580.87	< 0.00000886	No	< 0.00006199	No
TSP030923-11	MSC02	5/24/23	1709.30	< 0.00000819	No	< 0.00005733	No
TSP030923-13	MSC01	5/25/23	1619.49	< 0.00000864	No	< 0.00006051	No
TSP030923-15	MSC02	5/25/23	1737.64	< 0.00000806	No	< 0.0000564	No
TSP030923-17	MSC01	5/25/23[2]	534.21	< 0.00002621	No	< 0.00018345	No
TSP030923-19	MSC02	5/25/23[2]	553.95	< 0.00002527	No	< 0.00017691	No
TSP031223-33	MSC01	5/31/23	1642.06	< 0.00000853	No	< 0.00005968	No
TSP031223-35	MSC02	5/31/23	1716.15	< 0.00000816	No	< 0.0000571	No
TSP031223-37	MSC01	6/01/23	1666.80	< 0.0000084	No	< 0.0000588	No
TSP031223-39	MSC02	6/01/23	1733.27	< 0.00000808	No	< 0.00005654	No
TSP031223-41	MSC01	6/01/23[2]	575.36	< 0.00002433	No	< 0.00017033	No
TSP031223-43	MSC02	6/01/23[2]	585.89	< 0.0000239	No	< 0.00016727	No
TSP032123-15	MSC01	6/06/23	1650.14	< 0.00000848	No	< 0.00005939	No
TSP032123-17	MSC02	6/06/23[1]	913.80	< 0.00001532	No	< 0.00010724	No
TSP032123-19	MSC01	6/07/23	1645.12	< 0.00000851	No	< 0.00005957	No
TSP032123-21	MSC02	6/07/23	1718.75	< 0.00000815	No	< 0.00005702	No
TSP032123-23	MSC01	6/08/23	1669.41	< 0.00000839	No	< 0.0000587	No
TSP032123-25	MSC02	6/08/23	1742.99	< 0.00000803	No	< 0.00005623	No
TSP032123-27	MSC01	6/08/23[2]	368.37	< 0.00003801	No	< 0.00026604	No
TSP032123-29	MSC02	6/08/23[2]	481.50	< 0.00002908	No	< 0.00020353	No
TSP032223-09	MSC01	6/13/23	1666.70	< 0.0000084	No	< 0.0000588	No
TSP032223-11	MSC02	6/13/23	1724.26	< 0.00000812	No	< 0.00005684	No
TSP032223-13	MSC01	6/14/23	1638.49	< 0.00000854	No	< 0.00005981	No
TSP032223-15	MSC02	6/14/23	1699.87	< 0.00000824	No	< 0.00005765	No
TSP032223-17	MSC01	6/15/23	1660.87	< 0.00000843	No	< 0.00005901	No
TSP032223-19	MSC02	6/15/23	1725.22	< 0.00000811	No	< 0.0000568	No
TSP032223-21	MSC01	6/15/23[2]	415.38	< 0.0000337	No	< 0.00023593	No
TSP032223-23	MSC02	6/15/23[2]	409.09	< 0.00003422	No	< 0.00023956	No
TSP031623-01	MSC01	6/20/23	1598.40	< 0.00000876	No	< 0.00006131	No
TSP032423-25	MSC02	6/20/23	1691.60	< 0.00000828	No	< 0.00005793	No
TSP032423-09	MSC01	6/21/23	1670.69	< 0.00000838	No	< 0.00005866	No
TSP032423-11	MSC02	6/21/23	1565.11	< 0.00000895	No	< 0.00006262	No
TSP032423-13	MSC01	6/22/23	1655.41	< 0.00000846	No	< 0.0000592	No
TSP032423-15	MSC02	6/22/23	1733.52	< 0.00000808	No	< 0.00005653	No
TSP032423-17	MSC01	6/22/23[2]	576.12	< 0.0000243	No	< 0.0001701	No
TSP032423-19	MSC02	6/22/23[2]	592.80	< 0.00002362	No	< 0.00016532	No
TSP031623-21	MSC01	6/27/23	1638.68	< 0.00000854	No	< 0.0000598	No
TSP031623-23	MSC02	6/27/23	1709.23	< 0.00000819	No	< 0.00005734	No
TSP031623-25	MSC01	6/28/23	1650.36	< 0.00000848	No	< 0.00005938	No
TSP031623-27	MSC02	6/28/23	1726.32	< 0.00000811	No	< 0.00005677	No
TSP031623-29	MSC01	6/29/23	1644.56	< 0.00000851	No	< 0.00005959	No
TSP031623-31	MSC02	6/29/23	1762.76	< 0.00000794	No	< 0.00005559	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	Total Air Volume Monitored (m^3)	Concentration in Air (mg/m^3)	Exceedance (Yes/No)	Concentration in Air (mg/m^3)	Exceedance (Yes/No)
Action Level				0.050 mg/m^3		0.200 mg/m3	
TSP032223-33	MSC01	6/29/23[2]	388.84	< 0.000036	No	< 0.00025203	No
TSP031623-35	MSC02	6/29/23[2]	385.72	< 0.0000363	No	< 0.00025407	No
TSP032023-07	MSC01	7/06/23	1657.74	< 0.00000845	No	< 0.00005912	No
TSP032023-09	MSC02	7/06/23	1726.90	< 0.00000811	No	< 0.00005675	No
TSP032023-11	MSC01	7/06/23[2]	589.47	< 0.00002375	No	< 0.00016625	No
TSP032023-13	MSC02	7/06/23[2]	590.35	< 0.00002371	No	< 0.000166	No
TSP041823-53	MSC01	7/11/23	1618.35	< 0.00000865	No	< 0.00006056	No
TSP041823-55	MSC02	7/11/23	1731.27	< 0.00000809	No	< 0.00005661	No
TSP041823-57	MSC01	7/12/23	1662.53	< 0.00000842	No	< 0.00005895	No
TSP041823-59	MSC02	7/12/23	1745.64	< 0.00000802	No	< 0.00005614	No
TSP041823-61	MSC01	7/13/23	1681.66	< 0.00000833	No	< 0.00005828	No
TSP041823-63	MSC02	7/13/23	1765.35	< 0.00000793	No	< 0.00005551	No
TSP041823-65	MSC01	7/13/23[2]	556.36	< 0.00002516	No	< 0.00017614	No
TSP041823-67	MSC02	7/13/23[2]	572.30	< 0.00002446	No	< 0.00017124	No
TSP042123-49	MSC01	7/18/23	1659.45	< 0.00000844	No	< 0.00005906	No
TSP042123-51	MSC02	7/18/23	1740.44	< 0.00000804	No	< 0.00005631	No
TSP042123-53	MSC01	7/19/23	1659.42	< 0.00000844	No	< 0.00005906	No
TSP042123-55	MSC02	7/19/23	1755.57	< 0.00000797	No	< 0.00005582	No
TSP042123-57	MSC01	7/20/23	1655.05	< 0.00000846	No	< 0.00005921	No
TSP042123-59	MSC02	7/20/23	1749.27	< 0.000008	No	< 0.00005602	No
TSP042123-61	MSC01	7/20/23[2]	612.22	< 0.00002287	No	< 0.00016007	No
TSP042123-63	MSC02	7/20/23[2]	617.13	< 0.00002269	No	< 0.0001588	No
TSP042123-14	MSC01	7/25/23	1633.53	< 0.00000857	No	< 0.00005999	No
TSP042123-16	MSC02	7/25/23	1711.34	< 0.00000818	No	< 0.00005727	No
TSP042123-18	MSC01	7/26/23	1680.55	< 0.00000833	No	< 0.00005831	No
TSP042123-20	MSC02	7/26/23	1763.35	< 0.00000794	No	< 0.00005558	No
TSP042123-22	MSC01	7/27/23	1589.42	< 0.00000881	No	< 0.00006166	No
TSP042123-24	MSC02	7/27/23	1736.19	< 0.00000806	No	< 0.00005645	No
TSP042123-26	MSC01	7/27/23[2]	586.60	< 0.00002387	No	< 0.00016706	No
TSP042123-28	MSC02	7/27/23[2]	598.13	< 0.00002341	No	< 0.00016384	No
TSP041223-20	MSC01	8/01/23	1646.87	< 0.0000085	No	< 0.00005951	No
TSP041223-22	MSC02	8/01/23	1701.27	< 0.00000823	No	< 0.0000576	No
TSP041223-24	MSC01	8/02/23	1639.56	< 0.00000854	No	< 0.00005977	No
TSP041223-26	MSC02	8/02/23	1720.38	< 0.00000814	No	< 0.00005696	No
TSP041223-28	MSC01	8/03/23	1657.85	< 0.00000844	No	< 0.00005911	No
TSP041223-30	MSC02	8/03/23	1735.31	< 0.00000807	No	< 0.00005647	No
TSP041223-32	MSC01	8/03/23[2]	610.88	< 0.00002292	No	< 0.00016042	No
TSP041223-34	MSC02	8/03/23[2]	621.16	< 0.00002254	No	< 0.00015777	No
TSP041623-15	MSC01	8/08/23	1664.80	< 0.00000841	No	< 0.00005887	No
TSP041623-17	MSC02	8/08/23	1743.15	< 0.00000803	No	< 0.00005622	No
TSP041623-19	MSC01	8/09/23	1680.65	< 0.00000833	No	< 0.00005831	No
TSP041623-21	MSC02	8/09/23	1758.02	< 0.00000796	No	< 0.00005574	No
TSP041623-23	MSC01	8/10/23	1664.64	< 0.00000841	No	< 0.00005887	No
TSP041623-25	MSC02	8/10/23	1738.90	< 0.00000805	No	< 0.00005636	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	Total Air Volume Monitored (m^3)	Concentration in Air (mg/m^3)	Exceedance (Yes/No)	Concentration in Air (mg/m^3)	Exceedance (Yes/No)
Action Level				0.050 mg/m^3		0.200 mg/m3	
TSP041623-27	MSC01	8/10/23[2]	487.23	< 0.00002873	No	< 0.00020114	No
TSP041623-29	MSC02	8/10/23[2]	476.06	< 0.00002941	No	< 0.00020586	No
TSP042023-02	MSC01	8/15/23	1630.48	< 0.00000859	No	< 0.00006011	No
TSP042023-04	MSC02	8/15/23	1714.00	< 0.00000817	No	< 0.00005718	No
TSP042023-06	MSC01	8/16/23	1641.04	< 0.00000853	No	< 0.00005972	No
TSP042023-08	MSC02	8/16/23	1735.26	< 0.00000807	No	< 0.00005648	No
TSP042023-10	MSC01	8/17/23	1645.04	< 0.00000851	No	< 0.00005957	No
TSP042023-12	MSC02	8/17/23	1764.11	< 0.00000794	No	< 0.00005555	No
TSP042023-14	MSC01	8/17/23[2]	558.45	< 0.00002507	No	< 0.00017549	No
TSP042023-16	MSC02	8/17/23[2]	576.77	< 0.00002427	No	< 0.00016991	No

Notes:

[1]Generator or sampler malfunction.

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

Sample locations are shown on Figure 2-1

m^3 = cubic meters

mg/m^3 = 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

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	Total Air Volume Monitored (m^3)	Concen-tration 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						
TSP113022-36	MSC01	1/25/23	1664.44	0.035	0.070	70.00	5,000	No	500	No

Attachment 5: Total Suspended Particulates Monitoring Results

Sample, Date and Station Information			Sampler Run Information	TSP						
Sample ID	Monitoring Station	Sample End Date	Total Air Volume Monitored (m^3)	Concen-tration 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)
TSP113022-38	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						
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						

Attachment 5: Total Suspended Particulates Monitoring Results

Sample, Date and Station Information			Sampler Run Information	TSP						
Sample ID	Monitoring Station	Sample End Date	Total Air Volume Monitored (m^3)	Concen-tration 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)
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						
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[1,2]	293.01	0.0212						
TSP020223-23	MSC01	3/28/23	1624.27	0.0215	0.0002	0.20	5,000	No	500	No
TSP020223-25	MSC02	3/28/23	1692.62	0.0217						
TSP020223-27	MSC01	3/30/23[2]	514.18	0.00778 J+	-0.0066	-6.62	5,000	No	500	No

Attachment 5: Total Suspended Particulates Monitoring Results

Sample, Date and Station Information			Sampler Run Information	TSP						
Sample ID	Monitoring Station	Sample End Date	Total Air Volume Monitored (m^3)	Concen-tration 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)
TSP020223-29	MSC02	3/30/23[2]	548.95	0.0144						
TSP020223-39	MSC01	4/04/23	1693.85	0.0237	-0.0025	-2.50	5,000	No	500	No
TSP020323-62	MSC02	4/04/23	1720.87	0.0212						
TSP020323-64	MSC01	4/05/23	1663.88	0.0211	-0.0036	-3.60	5,000	No	500	No
TSP020323-66	MSC02	4/05/23	1735.90	0.0175						
TSP020323-68	MSC01	4/06/23	1661.80	0.0285	-0.0051	-5.10	5,000	No	500	No
TSP020323-70	MSC02	4/06/23	1724.78	0.0234						
TSP020923-02	MSC01	4/06/23[2]	554.40	0.0162	0.0008	0.80	5,000	No	500	No
TSP020923-04	MSC02	4/06/23[2]	581.88	0.017						
TSP021523-33	MSC01	4/11/23	1698.82	0.024	-0.0085	-8.50	5,000	No	500	No
TSP020823-01	MSC02	4/11/23	1761.73	0.0155						
TSP020823-03	MSC01	4/12/23	1629.85	0.0306	0.0008	0.80	5,000	No	500	No
TSP020823-05	MSC02	4/12/23	1688.62	0.0314						
TSP020823-07	MSC01	4/13/23	1650.61	0.0351	0.0007	0.70	5,000	No	500	No
TSP020823-09	MSC02	4/13/23	1387.10	0.0358						
TSP020823-11	MSC01	4/13/23[2]	534.94	0.0295	-0.0011	-1.10	5,000	No	500	No
TSP020823-13	MSC02	4/13/23[2]	552.25	0.0284						
TSP021623-18	MSC01	4/18/23	1675.38	0.0205	0.0071	7.10	5,000	No	500	No
TSP021623-20	MSC02	4/18/23	1714.56	0.0276						
TSP021623-22	MSC01	4/19/23	1626.92	0.0202	0.00	0.00	5,000	No	500	No
TSP021623-24	MSC02	4/19/23	1692.11	0.0202						
TSP021623-26	MSC01	4/20/23	1616.86	0.0283	-0.0023	-2.30	5,000	No	500	No
TSP022023-02	MSC02	4/20/23	1701.84	0.026						
TSP022023-04	MSC01	4/20/23[2]	522.60	0.0346	0.0051	5.10	5,000	No	500	No
TSP022023-06	MSC02	4/20/23[2]	619.33	0.0397						
TSP030323-31	MSC01	4/25/23	1659.15	0.141	-0.0876	-87.60	5,000	No	500	No
TSP030323-33	MSC02	4/25/23	1711.83	0.0534						

Attachment 5: Total Suspended Particulates Monitoring Results

Sample, Date and Station Information			Sampler Run Information	TSP						
Sample ID	Monitoring Station	Sample End Date	Total Air Volume Monitored (m^3)	Concen-tration 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)
TSP030323-35	MSC01	4/26/23	1654.76	0.0816	-0.0411	-41.10	5,000	No	500	No
TSP030323-37	MSC02	4/26/23	1722.56	0.0405						
TSP030323-39	MSC01	4/27/23	1661.46	0.0716	-0.0296	-29.60	5,000	No	500	No
TSP030923-01	MSC02	4/27/23[1]	776.68	0.042						
TSP030923-03	MSC01	4/27/23[2]	525.64	0.0795	-0.0295	-29.50	5,000	No	500	No
TSP030923-05	MSC02	4/27/23[2]	504.07	0.05						
TSP031223-04	MSC01	5/02/23	1701.48	0.0987	-0.0645	-64.50	5,000	No	500	No
TSP031223-06	MSC02	5/02/23	1737.80	0.0342						
TSP031223-08	MSC01	5/03/23	1657.16	0.0132	-0.0020	-2.00	5,000	No	500	No
TSP031223-10	MSC02	5/03/23	1740.99	0.0112						
TSP031223-12	MSC01	5/04/23[2]	578.57	0.0164	0.0011	1.10	5,000	No	500	No
TSP031223-14	MSC02	5/04/23[2]	566.93	0.0175						
TSP031223-18	MSC01	5/09/23	1652.75	0.0241	-0.0056	-5.60	5,000	No	500	No
TSP031423-02	MSC02	5/09/23	1734.22	0.0185						
TSP031423-04	MSC01	5/10/23	1658.93	0.0307	-0.0075	-7.50	5,000	No	500	No
TSP031423-06	MSC02	5/10/23	1722.85	0.0232						
TSP031423-08	MSC01	5/11/23	1696.93	0.0259	-0.0028	-2.80	5,000	No	500	No
TSP031423-10	MSC02	5/11/23	1724.38	0.0231						
TSP031423-12	MSC01	5/11/23[2]	512.83	0.0228	0.0133	13.30	5,000	No	500	No
TSP031423-14	MSC02	5/11/23[2]	573.11	0.0361						
TSP031523-21	MSC01	5/16/23	1718.40	0.0164	0.0003	0.30	5,000	No	500	No
TSP031523-23	MSC02	5/16/23	1708.00	0.0167						
TSP031523-25	MSC01	5/17/23	1630.39	0.0212	-0.002	-1.60	5,000	No	500	No
TSP031523-27	MSC02	5/17/23	1688.85	0.0196						
TSP031523-29	MSC01	5/18/23	1679.35	0.0176	0.0019	1.90	5,000	No	500	No
TSP031523-31	MSC02	5/18/23	1733.33	0.0195						
TSP031523-33	MSC01	5/18/23[2]	488.64	0.0244	0.0007	0.70	5,000	No	500	No

Attachment 5: Total Suspended Particulates Monitoring Results

Sample, Date and Station Information			Sampler Run Information	TSP						
Sample ID	Monitoring Station	Sample End Date	Total Air Volume Monitored (m^3)	Concen-tration 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)
TSP031523-35	MSC02	5/18/23[2]	505.82	0.0251						
TSP030323-11	MSC01	5/23/23	1709.17	0.0304	0.0294	29.40	5,000	No	500	No
TSP030923-07	MSC02	5/23/23	1721.41	0.0598						
TSP030923-09	MSC01	5/24/23	1580.87	0.0513	0.0007	0.70	5,000	No	500	No
TSP030923-11	MSC02	5/24/23	1709.30	0.052						
TSP030923-13	MSC01	5/25/23	1619.49	0.0373	-0.0032	-3.20	5,000	No	500	No
TSP030923-15	MSC02	5/25/23	1737.64	0.0341						
TSP030923-17	MSC01	5/25/23[2]	534.21	0.0268	0.0086	8.60	5,000	No	500	No
TSP030923-19	MSC02	5/25/23[2]	553.95	0.0354						
TSP031223-33	MSC01	5/31/23	1642.06	0.0245	-0.0078	-7.80	5,000	No	500	No
TSP031223-35	MSC02	5/31/23	1716.15	0.0167						
TSP031223-37	MSC01	6/01/23	1666.80	0.0499	0.0066	6.60	5,000	No	500	No
TSP031223-39	MSC02	6/01/23	1733.27	0.0565						
TSP031223-41	MSC01	6/01/23[2]	575.36	0.0525	0.0008	0.80	5,000	No	500	No
TSP031223-43	MSC02	6/01/23[2]	585.89	0.0533						
TSP032123-15	MSC01	6/06/23	1650.14	0.0233	0.0182	18.20	5,000	No	500	No
TSP032123-17	MSC02	6/06/23[1]	913.80	0.0415						
TSP032123-19	MSC01	6/07/23	1645.12	0.0168	0.0001	0.10	5,000	No	500	No
TSP032123-21	MSC02	6/07/23	1718.75	0.0169						
TSP032123-23	MSC01	6/08/23	1669.41	0.035	-0.0141	-14.10	5,000	No	500	No
TSP032123-25	MSC02	6/08/23	1742.99	0.0209						
TSP032123-27	MSC01	6/08/23[2]	368.37	0.0282	0.0009	0.90	5,000	No	500	No
TSP032123-29	MSC02	6/08/23[2]	481.50	0.0291						
TSP032223-09	MSC01	6/13/23	1666.70	0.0198	-0.0041	-4.10	5,000	No	500	No
TSP032223-11	MSC02	6/13/23	1724.26	0.0157						
TSP032223-13	MSC01	6/14/23	1638.49	0.0177	0.0029	2.90	5,000	No	500	No
TSP032223-15	MSC02	6/14/23	1699.87	0.0206						

Attachment 5: Total Suspended Particulates Monitoring Results

Sample, Date and Station Information			Sampler Run Information	TSP						
Sample ID	Monitoring Station	Sample End Date	Total Air Volume Monitored (m^3)	Concen-tration 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)
TSP032223-17	MSC01	6/15/23	1660.87	0.0247	0.0045	4.50	5,000	No	500	No
TSP032223-19	MSC02	6/15/23	1725.22	0.0292						
TSP032223-21	MSC01	6/15/23[2]	415.38	0.0248	0.0082	8.20	5,000	No	500	No
TSP032223-23	MSC02	6/15/23[2]	409.09	0.0166 J+						
TSP031623-01	MSC01	6/20/23	1598.40	0.0292	0.0062	6.20	5,000	No	500	No
TSP032423-25	MSC02	6/20/23	1691.60	0.0354						
TSP032423-09	MSC01	6/21/23	1670.69	0.0275	0.0014	1.40	5,000	No	500	No
TSP032423-11	MSC02	6/21/23	1565.11	0.0289						
TSP032423-13	MSC01	6/22/23	1655.41	0.0339	0.0026	2.60	5,000	No	500	No
TSP032423-15	MSC02	6/22/23	1733.52	0.0365						
TSP032423-17	MSC01	6/22/23[2]	576.12	0.042	-0.0008	-0.80	5,000	No	500	No
TSP032423-19	MSC02	6/22/23[2]	592.80	0.0412						
TSP031623-21	MSC01	6/27/23	1638.68	0.0295	-0.0056	-5.60	5,000	No	500	No
TSP031623-23	MSC02	6/27/23	1709.23	0.0239						
TSP031623-25	MSC01	6/28/23	1650.36	0.0241	-0.0072	-7.20	5,000	No	500	No
TSP031623-27	MSC02	6/28/23	1726.32	0.0169						
TSP031623-29	MSC01	6/29/23	1644.56	0.0228	-0.0067	-6.70	5,000	No	500	No
TSP031623-31	MSC02	6/29/23	1762.76	0.0161						
TSP032223-33	MSC01	6/29/23[2]	388.84	0.0257	0.0037	3.70	5,000	No	500	No
TSP031623-35	MSC02	6/29/23[2]	385.72	0.022 J+						
TSP032023-07	MSC01	7/06/23	1657.74	0.0275	-0.0003	-0.30	5,000	No	500	No
TSP032023-09	MSC02	7/06/23	1726.90	0.0272						
TSP032023-11	MSC01	7/06/23[2]	589.47	0.0316	0.0028	2.80	5,000	No	500	No
TSP032023-13	MSC02	7/06/23[2]	590.35	0.0344						
TSP041823-53	MSC01	7/11/23	1618.35	0.0185	0.0100	10.00	5,000	No	500	No
TSP041823-55	MSC02	7/11/23	1731.27	0.0285						
TSP041823-57	MSC01	7/12/23	1662.53	0.0183	0.0034	3.40	5,000	No	500	No

Attachment 5: Total Suspended Particulates Monitoring Results

Sample, Date and Station Information			Sampler Run Information	TSP						
Sample ID	Monitoring Station	Sample End Date	Total Air Volume Monitored (m^3)	Concen-tration 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)
TSP041823-59	MSC02	7/12/23	1745.64	0.0217						
TSP041823-61	MSC01	7/13/23	1681.66	0.0221	0.0016	1.60	5,000	No	500	No
TSP041823-63	MSC02	7/13/23	1765.35	0.0237						
TSP041823-65	MSC01	7/13/23[2]	556.36	0.0214	0.0004	0.40	5,000	No	500	No
TSP041823-67	MSC02	7/13/23[2]	572.30	0.0218						
TSP042123-49	MSC01	7/18/23	1659.45	0.0468	-0.0038	-3.80	5,000	No	500	No
TSP042123-51	MSC02	7/18/23	1740.44	0.0430						
TSP042123-53	MSC01	7/19/23	1659.42	0.0466	-0.0141	-14.10	5,000	No	500	No
TSP042123-55	MSC02	7/19/23	1755.57	0.0325						
TSP042123-57	MSC01	7/20/23	1655.05	0.0280	-0.0044	-4.40	5,000	No	500	No
TSP042123-59	MSC02	7/20/23	1749.27	0.0236						
TSP042123-61	MSC01	7/20/23[2]	612.22	0.0381	-0.0059	-5.90	5,000	No	500	No
TSP042123-63	MSC02	7/20/23[2]	617.13	0.0322						
TSP042123-14	MSC01	7/25/23	1633.53	0.0240	-0.0052	-5.20	5,000	No	500	No
TSP042123-16	MSC02	7/25/23	1711.34	0.0188						
TSP042123-18	MSC01	7/26/23	1680.55	0.0219	-0.0007	-0.70	5,000	No	500	No
TSP042123-20	MSC02	7/26/23	1763.35	0.0212						
TSP042123-22	MSC01	7/27/23	1589.42	0.0488	-0.0051	-5.10	5,000	No	500	No
TSP042123-24	MSC02	7/27/23	1736.19	0.0437						
TSP042123-26	MSC01	7/27/23[2]	586.60	0.0753	-0.0183	-18.30	5,000	No	500	No
TSP042123-28	MSC02	7/27/23[2]	598.13	0.0570						
TSP041223-20	MSC01	8/01/23	1646.87	0.0397	-0.0047	-4.70	5,000	No	500	No
TSP041223-22	MSC02	8/01/23	1701.27	0.0350						
TSP041223-24	MSC01	8/02/23	1639.56	0.0279	-0.0097	-9.70	5,000	No	500	No
TSP041223-26	MSC02	8/02/23	1720.38	0.0182						
TSP041223-28	MSC01	8/03/23	1657.85	0.0274	-0.0018	-1.80	5,000	No	500	No
TSP041223-30	MSC02	8/03/23	1735.31	0.0256						

Attachment 5: Total Suspended Particulates Monitoring Results

Sample, Date and Station Information			Sampler Run Information	TSP						
Sample ID	Monitoring Station	Sample End Date	Total Air Volume Monitored (m^3)	Concen-tration 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)
TSP041223-32	MSC01	8/03/23[2]	610.88	0.0321	0.0154	15.40	5,000	No	500	No
TSP041223-34	MSC02	8/03/23[2]	621.16	0.0475						
TSP041623-15	MSC01	8/08/23	1664.80	0.0286	0.0126	12.60	5,000	No	500	No
TSP041623-17	MSC02	8/08/23	1743.15	0.0412						
TSP041623-19	MSC01	8/09/23	1680.65	0.0243	-0.0041	-4.10	5,000	No	500	No
TSP041623-21	MSC02	8/09/23	1758.02	0.0202						
TSP041623-23	MSC01	8/10/23	1664.64	0.0142	-0.0019	-1.90	5,000	No	500	No
TSP041623-25	MSC02	8/10/23	1738.90	0.0123						
TSP041623-27	MSC01	8/10/23[2]	487.23	0.0246	-0.0034	-3.40	5,000	No	500	No
TSP041623-29	MSC02	8/10/23[2]	476.06	0.0212						
TSP042023-02	MSC01	8/15/23	1630.48	0.0178	-0.0019	-1.90	5,000	No	500	No
TSP042023-04	MSC02	8/15/23	1714.00	0.0159						
TSP042023-06	MSC01	8/16/23	1641.04	0.0182	-0.0026	-2.60	5,000	No	500	No
TSP042023-08	MSC02	8/16/23	1735.26	0.0156						
TSP042023-10	MSC01	8/17/23	1645.04	0.0182	-0.0037	-3.70	5,000	No	500	No
TSP042023-12	MSC02	8/17/23	1764.11	0.0145						
TSP042023-14	MSC01	8/17/23[2]	558.45	0.0240	0.0018	1.80	5,000	No	500	No
TSP042023-16	MSC02	8/17/23[2]	576.77	0.0258						

Notes:

[1]Generator or sampler malfunction

Bold = result above project screening criteria

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

Sample locations are shown on Figure 2-1

HPNS = Hunters Point Naval Shipyard

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

J+ = estimated concentration biased high

m^3 = cubic meters

mg/m^3 = milligrams per cubic meter

ATTACHMENT 6
RADIONUCLIDES OF CONCERN AIR SAMPLING RESULTS

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Attachment 6: Radionuclides of Concern Air Sampling Results

Date	Sample Location	Duration of Run (min)	Cesium-137		Plutonium-239/240		Radium-226		Strontium-90		Cobalt-60		Thorium-232		Exceedance (Yes/No)
Action Level			4.00E-11		4.00E-15		1.80E-13		1.20E-12		1.00E-11		1.20E-15		
Units			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[1]
	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	3.39E-14	U	7.8E-15	U	5.59E-16	UJ	No
	1*	1991	6.2E-15	U	2.7E-15	J	7.64E-14	UJ	3.62E-14	U	6.1E-15	U	7.48E-16	UJ	No
	2	1996	5.97E-15	U	5.84E-16	UJ	7.88E-14	UJ	3.26E-14	U	8.09E-15	U	7.33E-16	UJ	No
03/13/23-03/16/23	1	3319	3.97E-15	U	6.11E-16	UJ	7.92E-14	UJ	1.9E-14	U	4.95E-15	U	3.79E-16	UJ	No
	2	3308	4.63E-15		4E-16	UJ	6.44E-14	UJ	2.12E-14	U	5.73E-15	U	4.75E-16	UJ	No
03/20/23-03/23/23	1	1774	7.83E-15	U	1.2E-15	UJ	8.87E-14	UJ	3.99E-14	U	8.62E-15	U	5.86E-16	UJ	No
	2	1780	7.25E-15	U	6.99E-16	UJ	8.9E-14	UJ	3.8E-14	U	8.15E-15	U	1.49E-15	J	Yes[2]
03/27/23-03/30/23	1	1921	6.71E-15	U	1.26E-15	UJ	8.18E-14	UJ	3.72E-14	U	6.55E-15	U	6.98E-16	UJ	No
	2	1935	6.3E-15	U	1.49E-15	UJ	7.75E-14	UJ	3.73E-14	UJ	7.81E-15	U	9.53E-16	UJ	No
04/03/23-04/06/23	1	4851	2.88E-15		3.37E-16	UJ	5.39E-14	UJ	1.21E-14	U	3.51E-15	U	2.58E-16	J	No
	2	4837	2.79E-15	U	4.31E-16	UJ	3.2E-14	UJ	1.43E-14	U	3.2E-15	U	2.13E-16	UJ	No
04/10/23-04/13/23	1	4966	2.61E-15	U	3.89E-16	U	3.21E-14	U	1.31E-14	U	3.05E-15	U	2.59E-16	U	No
	2	4948	3.05E-15	U	3.43E-16	U	5.05E-14	U	1.35E-14	U	3.54E-15	U	3.07E-16	J	No
04/17/23-04/20/23	1	4834	2.73E-15	U	1.6E-16	U	5.24E-14	UJ	1.23E-14	U	3.38E-15	U	3.24E-16	UJ	No
	2	4858	3.2E-15	U	3.55E-16	UJ	5.22E-14	UJ	1.23E-14	U	3.34E-15	U	3.62E-16	UJ	No
04/24/23-04/27/23	1	4886	2.48E-15	U	2.95E-16	UJ	3.31E-14	UJ	1.31E-14	U	2.76E-15	U	2.42E-16	UJ	No
	2	4861	2.31E-15	U	3E-16	UJ	5.24E-14	UJ	1.2E-14	U	3.04E-15	U	2.48E-16	UJ	No
05/01/23-05/04/23	1	3399	3.79E-15	U	4.89E-16	UJ	4.77E-14	UJ	2.16E-14	U	5.08E-15	U	3.56E-16	UJ	No
	2	3376	7.94E-15	U	5.42E-16	UJ	1.49E-13	UJ	1.89E-14	U	9.69E-15	U	4.69E-16	J	No
05/08/23-05/11/23	1	4948	-1.6E-15	U	-9.3E-17	J	5.38E-14	UJ	1.34E-14	U	-2.1E-15	U	1.83E-16	UJ	No
	2	4944	-1.6E-15	U	-6E-17	J	-2E-14	J	-6E-16	U	-1.9E-15	U	2.08E-16	UJ	No
05/15/23-05/18/23	1	4857	5.22E-15	U	4.89E-16	UJ	1.1E-13	UJ	1.36E-14	U	6.46E-15	U	1.64E-16	J	No
	2	4837	3.19E-15	U	4.47E-16	UJ	5.3E-14	UJ	-3.7E-15	U	3.54E-15	U	1.33E-16	J	No

Attachment 6: Radionuclides of Concern Air Sampling Results

Date	Sample Location	Duration of Run (min)	Cesium-137		Plutonium-239/240		Radium-226		Strontium-90		Cobalt-60		Thorium-232		Exceedance (Yes/No)
Action Level			4.00E-11		4.00E-15		1.80E-13		1.20E-12		1.00E-11		1.20E-15		
Units			µCi/mL		µCi/mL		µCi/mL		µCi/mL		µCi/mL		µCi/mL		
05/22/23-05/25/23	1	4870	2.42E-15		3.9E-16	UJ	5.22E-14	UJ	-1.4E-15	U	-1.6E-15	U	3.1E-16	J	No
	2	4895	8.54E-16	J	4.22E-16	UJ	5.95E-14	J	1.18E-14	U	1.98E-15	J	2.58E-16	UJ	No
05/30/23-06/01/23	1	3522	4.70E-15	U	5.18E-16	UJ	8.53E-14	UJ	1.84E-14	U	4.64E-15	UJ	2.60E-16	J	No
	2	3514	4.16E-15	U	4.27E-16	UJ	7.50E-14	UJ	1.82E-14	U	5.78E-15	U	2.79E-16	J	No
06/05/23-06/08/23	1	4859	2.71E-15	U	4.32E-16	UJ	5.31E-14	UJ	1.43E-14	U	4.31E-15	U	2.51E-16	UJ	No
	1*	4858	4.01E-15	U	3.82E-16	UJ	5.27E-14	UJ	1.39E-14	U	3.55E-15	U	2.22E-16	UJ	No
	2	4848	2.46E-15	U	6.05E-16	UJ	3.55E-14	UJ	1.56E-14	U	2.95E-15	U	1.96E-16	UJ	No
06/12/23-06/15/23	1	4809	-7.70E-16	U	4.78E-16	UJ	1.05E-13	UJ	-5.80E-16	U	1.52E-15	J	2.79E-16	UJ	No
	2	4838	1.40E-15	J	3.95E-16	UJ	5.17E-14	UJ	1.26E-14	U	7.94E-16	J	1.25E-16	J	No
	2*	4838	5.39E-16	J	6.58E-16	UJ	5.30E-14	UJ	6.02E-15	J	-1.10E-15	U	2.53E-16	UJ	No
06/19/23-06/22/23	1	4759	1.36E-15	J	5.77E-16	UJ	5.40E-14	UJ	1.25E-14	U	-2.10E-15	U	3.19E-16	UJ	No
	2	4740	-9.90E-16	U	6.25E-16	UJ	6.18E-14	J	-3.30E-15	U	-1.30E-15	U	2.27E-16	UJ	No
06/26/23-06/29/23	1	4676	5.60E-15	U	3.81E-16	UJ	6.47E-14	UJ	1.93E-14	U	7.74E-15	U	2.08E-16	J	No
	2	4661	5.88E-15	U	4.29E-16	UJ	6.53E-14	UJ	1.48E-14	U	5.64E-15	U	2.57E-16	UJ	No
07/05/23-07/06/23	1	2040	1.22E-14	U	1.03E-15	UJ	2.20E-13	UJ	4.45E-14	U	1.31E-14	U	3.20E-16	J	No[1]
	2	1925	6.34E-15	U	7.80E-16	UJ	7.83E-14	UJ	3.48E-14	U	7.87E-15	U	2.09E-15	J	Yes
07/10/23-07/13/23	1	4907	3.05E-15	U	4.08E-16	UJ	5.19E-14	UJ	1.42E-14	U	3.66E-15	U	2.73E-16	UJ	No
	2	4896	5.41E-15	U	6.32E-16	UJ	9.47E-14	UJ	1.32E-14	U	6.59E-15	U	2.21E-16	UJ	No
07/17/23-07/20/23	1	4966	3.11E-15	U	4.35E-16	UJ	5.26E-14	UJ	1.67E-14	UJ	3.40E-15	U	1.58E-16	UJ	No
	2	4954	2.58E-15	U	1.07E-15	UJ	3.28E-14	UJ	1.31E-14	U	2.59E-15	U	1.62E-16	UJ	No
07/24/23-07/27/23	1	4967	2.45E-15	U	4.12E-16	UJ	3.00E-14	UJ	1.46E-14	U	3.35E-15	U	2.64E-16	J	No
	2	4943	5.72E-15	U	4.32E-16	UJ	8.86E-14	UJ	1.32E-14	U	4.98E-15	U	2.33E-16	UJ	No
07/31/23-08/03/23	1	4827	3.49E-15	U	3.39E-16	UJ	5.53E-14	UJ	1.41E-14	U	3.77E-15	U	2.21E-16	UJ	No
	2	4807	5.98E-15	U	3.39E-16	UJ	9.30E-14	UJ	1.26E-14	U	6.32E-15	U	1.34E-16	UJ	No
08/07/23-08/10/23	1	4852	2.97E-15	U	3.03E-16	UJ	5.27E-14	UJ	1.53E-14	U	3.57E-15	U	4.66E-16	J	No
	2	4943	2.54E-15	U	3.66E-16	UJ	3.41E-14	UJ	1.27E-14	U	2.77E-15	U	5.78E-16	J	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

[1] = MDC value used in calculation due to activity reported as less than MDC; therefore, reported concentration is associated with an indeterminate probability and cannot be used reliably to support any quantitative conclusion

[2] = Exceedance changed from "No" to "Yes" as part of AMR #5. The sample has been conusmed and no add'l analysis to confirm result could be performed.

µCi/mL= microcuries per milliliter

NA = Not Applicable

ATTACHMENT 7
LABORATORY REPORTS

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Laboratory Analysis Report

Job ID : 23080181

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

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

Report To :	Client Name:	GES - ASRC Industrial	Total Number of Pages:	9
	Attn:	[redacted]	P.O.#. :	J310000600-006
	Client Address:	1501 West Fountainhead Parkway, Ste. #550	Date Received :	08/02/2023 09:26
	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-072423	7/24/2023 8:00	Cassette	23080181.01
MSC01-072423	7/25/2023 6:37	Cassette	23080181.02
MSC02-072423	7/25/2023 6:50	Cassette	23080181.03
MSC01-072523	7/26/2023 6:40	Cassette	23080181.04
MSC02-072523	7/26/2023 7:03	Cassette	23080181.05
MSC01-072623	7/27/2023 6:47	Cassette	23080181.06
MSC02-072623	7/27/2023 7:01	Cassette	23080181.07
MSC01-072723	7/27/2023 15:29	Cassette	23080181.08
MSC02-072723	7/27/2023 15:12	Cassette	23080181.09

[redacted]

Released By: [redacted]

Title: Vice President Operations

Analyst: [redacted]

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

ab-q210-0321

8/9/2023

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 # 300080

Date 8/9/2023

Job ID : 23080181
Analytical Method: NIOSH 7400-I3-June2019

Client: GES - ASRC Industrial Project: J310000600 / 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
23080181.01	FBC-072423	07/24/2023							100	0				08/07/23	[redacted]
23080181.02	MSC01-072423	07/25/2023	Area	3.6			1409	5072.	100	18.0	22.930	0.002		08/07/23	
23080181.03	MSC02-072423	07/25/2023	Area	3.4			1412	4800.	100	13.5	17.197	0.001		08/07/23	
23080181.04	MSC01-072523	07/26/2023	Area	3.3			1442	4758.	100	11.5	14.650	0.001		08/07/23	
23080181.05	MSC02-072523	07/26/2023	Area	3.2			1452	4646.	100	11	14.013	0.001		08/07/23	
23080181.06	MSC01-072623	07/27/2023	Area	3.6			1443	5194.	100	23.0	29.299	0.002		08/07/23	
23080181.07	MSC02-072623	07/27/2023	Area	3.1			1436	4451.	100	12.0	15.287	0.001		08/07/23	
23080181.08	MSC01-072723	07/27/2023	Area	3.6			517	1861.	100	8.5	10.828	0.002		08/07/23	
23080181.09	MSC02-072723	07/27/2023	Area	3.2			489	1564.	100	9	11.465	0.003		08/07/23	

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

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

Sample Condition Checklist

A&B JobID : **23080181**	Date Received : **08/02/2023**	Time Received : **9:26AM**
Client Name : **GES - ASRC Industrial**		
Temperature : **26.6°C**	Sample pH : **NA**	
Thermometer ID : **IR5**	pH Paper ID : **NA**	
Perservative :		

	Check Points	Yes	No	N/A
1.	**Cooler Seal present and signed.**	X		
2.	**Sample(s) in a cooler.**		X	
3.	**If yes, ice in cooler.**			X
4.	**Sample(s) received with chain-of-custody.**	X		
5.	**C-O-C signed and dated.**	X		
6.	**Sample(s) received with signed sample custody seal.**		X	
7.	**Sample containers arrived intact. (If No comment)**	X		
8.	**Matrix:** Water ☐ Soil ☐ Liquid ☐ Sludge ☐ Solid ☐ Cassette ☑ Tube ☐ Bulk ☐ Badge ☐ Food ☐ Other ☐			
9.	**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. ~[redacted] 8/2/2023

Received by : [redacted]

Check in by/date : [redacted] / 08/02/2023

ab-s005-0321

Job ID:23080181

08/02/2023 GES - ASRC Industrial ACH

COC ID # [redacted]080123ASBC

Gilbane Federal [redacted]
1501 W Fountainhead Parkway, Tempe AZ 85282
[redacted]

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 conslidate all COC pages that share the same COC ID into one SDG.**

Equipment:

Code	Matrix
A	Air
AQ	Air Quality Control Matrix

Code	Container/Preservative
1	Filter/No Preservatives

Event: Parcel C Asbestos

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: Asbestos (1)	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
1	FBC-072423	AQ	07/24/2023	0800	[redacted]	x	FBC	FB1	0.00	0.00	1	
2	MSC01-072423	A	07/25/2023	0637		x	MSC01	N1	0.00	0.00	1	
3	MSC02-072423	A	07/25/2023	0650		x	MSC02	N1	0.00	0.00	1	
4												
5												
6												
7												
8												
9												
10												
11												

01A
02A
03A

[redacted] 8/1/23

Turnaround Time: 7 days

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time	Shipping Date / Carrier / Airbill Number
[redacted]	8/1/23	1300	FedEx	8/1/23	1300	Shipping Date: 08/01/23 / FEDEX 7728 0000 4006
FedEx	8/2/23	9:26	[redacted]			ature, Date, Time) & condition 8/2/23 9:26

266°C
TMS
[redacted]

CHAIN-OF-CUSTODY RECORD

Gilbane Federal [redacted]
1501 W Fountainhead Parkway, Tempe AZ 85282
[redacted]

COC ID # [redacted]080123ASBC

GES

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 conslidate 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

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method	Asbestos	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
1	MSC01-072523	A	07/26/2023	0640	[redacted]		x	MSC01	N1	0.00	0.00	1	
2	MSC02-072523	A	07/26/2023	0703	[redacted]		x	MSC02	N1	0.00	0.00	1	
3													
4													
5													
6													
7													
8													
9													
10													
11													

8/2/23 3A
[redacted] 04A

04A
05A

[redacted]
8/1/23

Turnaround Time: 7 days

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time	Shipping Date / Carrier / Airbill Number
[redacted]	8/1/23	1300	Fedex	8/1/23	1300	Shipping Date: 08/01/23 / FEDEX 7728 0000 4006
Fedex	8/2/23	9:26				[redacted] *Signature, Date, Time)* **& condition** 8/2/23 9:26

26.6°C
JWS
[redacted]

CHAIN-OF-CUSTODY RECORD

COC ID # [redacted]080123ASBC

Gilbane Federal [redacted]
1501 W Fountainhead Parkway, Tempe AZ 85282
[redacted]

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 conslidate 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

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: Asbestos (1)	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
1	MSC01-072623	A	07/27/2023	0647	[redacted]	x	MSC01	N1	0.00	0.00	1	0647
2	MSC02-072623	A	07/27/2023	0701		x	MSC02	N1	0.00	0.00	1	0701
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]	8/1/23	1300	FedEx	8/1/23	1300	Shipping Date: 08/01/23 / FEDEX 7728 0000 4006
FCOA	8/2/23	9:26				Received by Laboratory: *(Signature, Date, Time)* & condition [redacted] 8/2/23 9:26

[redacted]

CHAIN-OF-CUSTODY RECORD

COC ID # [redacted]080123ASBC

GES

Gilbane Federal [redacted]
1501 W Fountainhead Parkway, Tempe AZ 85282
[redacted]

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 conslidate 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

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: Asbestos	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
						1						
1	MSC01-072723	A	07/27/2023	1529	[redacted]	x	MSC01	N1	0.00	0.00	1	
2	MSC02-072723	A	07/27/2023	1512		x	MSC02	N1	0.00	0.00	1	
3												
4												
5												
6												
7												
8												
9												
10												
11												

8/1/23

Turnaround Time: 7 days

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time	Shipping Date / Carrier / Airbill Number
[redacted]	8/1/23	1300	FedEx	8/1/23	1300	Shipping Date: 08/01/23 / FEDEX 7728 0000 4006
FCM	8/2/23	9:26				Rec[redacted]nature, Date, Time) & condition 8/2/23 9:26

24.6°C
Inst
[redacted]

COC ID # [redacted]080123ASBC

Flow Rate, Total Time

Sample ID	End Date	End Time	Flow Rate (L/min), Total Time (mins)
FBC-072423	7/24/23	8:00:00 AM	N/A
MSC01-072423	7/25/23	6:37:00 AM	3.6; 1409
MSC02-072423	7/25/23	6:50:00 AM	3.4; 1412
MSC01-072523	7/26/23	6:40:00 AM	3.3; 1442
MSC02-072523	7/26/23	7:03:00 AM	3.2; 1452
MSC01-072623	7/27/23	6:47:00 AM	3.6; 1443
MSC02-072623	7/27/23	7:01:00 AM	3.1; 1436
MSC01-072723	7/27/23	3:29:00 PM	3.6; 517
MSC02-072723	7/27/23	3:12:00 PM	3.2; 489

ORIGIN ID:JCCA [redacted]
[redacted]
GES-AIS
200 FISHER STREET

SAN FRANCISCO, CA 94124
UNITED STATES US

SHIP DATE: 28JUL23
ACTWGT: 1.00 LB
CAD: 254128867/INET4640

BILL SENDER

TO [redacted]

A&B LABS
10100 EAST FREEWAY, SUITE 100

HOUSTON TX 77029
(713) 453-6060 REF J31000600 02.04.05
INV
PO DEPT

583J4/6AE4/9AE3

FedEx Express

J23323071001uv

MON - 31 JUL 4:30P
STANDARD OVERNIGHT

TRK# 0201 **7728 0000 4006**

XA HBYA

77029
TX-US **IAH**

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

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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.

Laboratory Analysis Report

Job ID : 23080986

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

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

Report To :	Client Name:	GES - ASRC Industrial	Total Number of Pages:	9
	Attn:	[redacted]	P.O.#. :	J310000600-006
	Client Address:	1501 West Fountainhead Parkway, Ste. #550	Date Received :	08/09/2023 09:40
	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-073123	7/31/2023 8:00	Cassette	23080986.01
MSC01-073123	8/1/2023 6:40	Cassette	23080986.02
MSC02-073123	8/1/2023 6:57	Cassette	23080986.03
MSC01-080123	8/2/2023 6:34	Cassette	23080986.04
MSC02-080123	8/2/2023 6:46	Cassette	23080986.05
MSC01-080223	8/3/2023 6:41	Cassette	23080986.06
MSC02-080223	8/3/2023 6:52	Cassette	23080986.07
MSC01-080323	8/3/2023 15:37	Cassette	23080986.08
MSC02-080323	8/3/2023 15:23	Cassette	23080986.09

[redacted]

Released By: [redacted]

Title: Vice President Operations

Analyst: [redacted]

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

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

Date 8/16/2023

Job ID : 23080986
Analytical Method: NIOSH 7400-I3-June2019

Client: GES - ASRC Industrial Project: J310000600 / 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
23080986.01	FBC-073123	07/31/2023							100	6.5				08/14/23	[redacted]
23080986.02	MSC01-073123	08/01/2023	Area	3.2			1411	4515.	100	8	10.191	0.001		08/14/23	
23080986.03	MSC02-073123	08/01/2023	Area	3.6			1418	5104.	100	6.0	7.643	0.001		08/14/23	
23080986.04	MSC01-080123	08/02/2023	Area	3.2			1433	4585.	100	14	17.834	0.001		08/14/23	
23080986.05	MSC02-080123	08/02/2023	Area	3.6			1427	5137.	100	12.0	15.287	0.001		08/14/23	
23080986.06	MSC01-080223	08/03/2023	Area	3.3			1446	4771.	100	11.5	14.650	0.001		08/14/23	
23080986.07	MSC02-080223	08/03/2023	Area	3.6			1444	5198.	100	7.5	9.554	0.001		08/14/23	
23080986.08	MSC01-080323	08/03/2023	Area	3.2			534	1708.	100	10.5	13.376	0.003		08/14/23	
23080986.09	MSC02-080323	08/03/2023	Area	3.6			509	1832.	100	11	14.013	0.003		08/14/23	

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

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

Sample Condition Checklist

A&B JobID : **23080986**	Date Received : **08/09/2023**	Time Received : **9:40AM**
Client Name : **GES - ASRC Industrial**		
Temperature : **25.2°C**	Sample pH : **NA**	
Thermometer ID : **IR5**	pH Paper ID : **NA**	
Perservative :		

	Check Points	Yes	No	N/A
1.	**Cooler Seal present and signed.**			X
2.	**Sample(s) in a cooler.**		X	
3.	**If yes, ice in cooler.**			X
4.	**Sample(s) received with chain-of-custody.**	X		
5.	**C-O-C signed and dated.**	X		
6.	**Sample(s) received with signed sample custody seal.**		X	
7.	**Sample containers arrived intact. (If No comment)**	X		
8.	**Matrix:** Water ☐ Soil ☐ Liquid ☐ Sludge ☐ Solid ☐ Cassette ☑ Tube ☐ Bulk ☐ Badge ☐ Food ☐ Other ☐			
9.	**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. Received black cassettes. Sx02 & Sx03 collection date= "7/31/23", Sx04 & Sx05 collection date= "8/1/23", Sx06 & Sx07 collection date= "8/2/23". ~[redacted] 8/9/23

Received by : [redacted]

Check in by/date : [redacted] / 08/09/2023

Job ID:23080986

08/09/2023 GES - ASRC Industrial ACH

CHAIN-OF-CUSTODY RECORD

ID # [redacted]080823ASBC

Gilbane Federal [redacted]
1501 W Fountainhead Parkway, Tempe AZ 85282
[redacted]

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 conslidate all COC pages that share the same COC ID into one SDG.**

Equipment:

Analytical Test Method: Asbestos

Code	Matrix
A	Air
AQ	Air Quality Control Matrix

Code	Container/Preservative
1	Filter/No Preservative

Event: Parcel C Asbestos

	Sample ID	Matrix	Date	Time	Samp Init.	Asbestos	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
1	FBC-073123	AQ	07/31/2023	0800	[redacted]	x	FBC	FB1	0.00	0.00	1	
2	MSC01-073123	A	08/01/2023	0640		x	MSC01	N1	0.00	0.00	1	
3	MSC02-073123	A	08/01/2023	0657		x	MSC02	N1	0.00	0.00	1	
4												
5												
6												
7												
8												
9												
10												
11												

01 B
02 B
03 B

[redacted] 8/8/23

Turnaround Time: 7 days

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[redacted]	8/8/23	1300	FedEx	8/8/23	1300	Shipping Date 08/08/23 / FEDEX 7728 4478 1789
FedEx	8/9/23	09:40				[redacted] (Signature, Date, Time) & condition 8/9/23 09:40

25.2°C
[redacted]

CHAIN-OF-CUSTODY RECORD

Gilbane Federal [redacted]
1501 W Fountainhead Parkway, Tempe AZ 85282
[redacted]

COC ID # [redacted]080823ASBC

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 conslidate all COC pages that share the same COC ID into one SDG.**

Equipment:

Event: Parcel C Asbestos

Analytical Test Method: Asbestos — 1

Code	Matrix
A	Air
AQ	Air Quality Control Matrix

Code	Container/Preservative
1	Filter/No Preservatives

	Sample ID	Matrix	Date	Time	Samp Init.	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
1	MSC01-080123	A	08/02/2023	0634	[redacted]	MSC01	N1	0.00	0.00	1	
2	MSC02-080123	A	08/02/2023	0646		MSC02	N1	0.00	0.00	1	
3											
4											
5											
6											
7											
8											
9											
10											
11											

OHA 058

[redacted] 8/8/23

Turnaround Time: 7 days

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time	Shipping Date / Carrier / Airbill Number
[redacted]	8/8/23	1300	Fedex	8/8/23	1300	Shipping Date: 08/08/23 / FEDEX 7728 4478 1789
Fedex	8/9/23	09:40	[redacted]			: (Signature, Date, Time) & condition 8/9/23 09:40

25.2°C
Fed
[redacted]

CHAIN-OF-CUSTODY RECORD

Gilbane Federal [redacted]
1501 W Fountainhead Parkway, Tempe AZ 85282

COC ID # [redacted]080823ASBC

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 conslidate all COC pages that share the same COC ID into one SDG.**

Equipment:

Code	Matrix
A	Air
AQ	Air Quality Control Matrix

Code	Container/Preservative
1	Filter/No Preservatives

Event: Parcel C Asbestos

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: Asbestos (1)	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
1	MSC01-080223	A	08/03/2023	0641	[redacted]	x	MSC01	N1	0.00	0.00	1	
2	MSC02-080223	A	08/03/2023	0652		x	MSC02	N1	0.00	0.00	1	
3												
4												
5												
6												
7												
8												
9												
10												
11												

0648
0702

[redacted] 8/8/23

Turnaround Time: 7 days

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[redacted]	8/8/23	1300	Fedex	8/8/23	1300	Shipping Date 08/08/23 / FEDEX 7728 4478 1789
FEDEX	8/9/23	09:40				R[redacted] nature, Date, Time) & condition 8/9/23 09:40

25.2°C
[redacted]

CHAIN-OF-CUSTODY RECORD

COC ID # [redacted]080823ASBC

Gilbane Federal [redacted]
1501 W Fountainhead Parkway, Tempe AZ 85282

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 conslidate all COC pages that share the same COC ID into one SDG.**

Equipment:

Code	Matrix
A	Air
AQ	Air Quality Control Matrix

Code	Container/Preservative
1	Filter/No Preservatives

Event: Parcel C Asbestos

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: Asbestos	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
						1						
1	MSC01-080323	A	08/03/2023	1537	[redacted]	x	MSC01	N1	0.00	0.00	1	
2	MSC02-080323	A	08/03/2023	1523		x	MSC02	N1	0.00	0.00	1	
3												
4												
5												
6												
7												
8												
9												
10												
11												

080
090

[redacted] 8/8/23

Turnaround Time: 7 days

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time	Shipping Date / Carrier / Airbill Number
[redacted]	8/8/23	1300	Fedex	8/8/23	1300	Shipping Date: 08/08/23 / FEDEX 7728 4478 1789
Fed	8/9/23	09:40				Rec[redacted]gnature, Date, Time) & condition 8/9/23 09:40

25.2°C
Ens
[redacted]

Flow Rate, Total Time

Sample ID	End Date	End Time	Flow Rate (L/min), Total Time (mins)
FBC-073123	7/31/23	8:00:00 AM	N/A
MSC01-073123	8/1/23	6:40:00 AM	3.2; 1411
MSC02-073123	8/1/23	6:57:00 AM	3.6; 1418
MSC01-080123	8/2/23	6:34:00 AM	3.2; 1433
MSC02-080123	8/2/23	6:46:00 AM	3.6; 1427
MSC01-080223	8/3/23	6:41:00 AM	3.3; 1446
MSC02-080223	8/3/23	6:52:00 AM	3.6; 1444
MSC01-080323	8/3/23	3:37:00 PM	3.2; 534
MSC02-080323	8/3/23	3:23:00 PM	3.6; 509

ORIGIN ID: ICCA [redacted]
200 FISHER STREET

SAN FRANCISCO, CA 94124
UNITED STATES US

SHIP DATE: 31JUL23
ACTWGT: 1.00 LB
CAD: 254128867/INET4640

BILL SENDER

TO [redacted]
A&B LABS
10100 EAST FREEWAY, SUITE 100

HOUSTON TX 77029
(713) 453-6060

REF: J31000 600 02 04 05
INV
PO
DEPT

FedEx Express

TUE - 01 AUG 5:00P
STANDARD OVERNIGHT

TRK# 0201 7728 4478 1789

AB HBYA

77029
IAH
TX-US

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Laboratory Analysis Report

Job ID : 23081693

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

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

Report To :	Client Name:	GES - ASRC Industrial	Total Number of Pages:	9
	Attn:	[redacted]	P.O.#. :	J310000600-006
	Client Address:	1501 West Fountainhead Parkway, Ste. #550	Date Received :	08/16/2023 10:17
	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-080723	8/7/2023 8:00	Cassette	23081693.01
MSC01-080723	8/8/2023 6:40	Cassette	23081693.02
MSC02-080723	8/8/2023 6:51	Cassette	23081693.03
MSC01-080823	8/9/2023 6:48	Cassette	23081693.04
MSC02-080823	8/9/2023 6:59	Cassette	23081693.05
MSC01-080923	8/10/2023 6:41	Cassette	23081693.06
MSC02-080923	8/10/2023 6:52	Cassette	23081693.07
MSC01-081023	8/10/2023 13:43	Cassette	23081693.08
MSC02-081023	8/10/2023 13:33	Cassette	23081693.09

[redacted]

Released By: [redacted]

Title: Vice President Operations

Analyst: [redacted]

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ab-q210-0321

8/23/2023

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 # 300080

Date 8/23/2023

Job ID : 23081693
Analytical Method: NIOSH 7400-I3-June2019

Client: GES - ASRC Industrial Project: J310000600 / 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
23081693.01	FBC-080723	08/07/2023						0	100	6.5	8.280	0.000		08/23/23	[redacted]
23081693.02	MSC01-080723	08/08/2023	Area	3.3			1429	4715.	100	12.0	15.287	0.001		08/23/23	
23081693.03	MSC02-080723	08/08/2023	Area	3.6			1434	5162.	100	15.5	19.745	0.001		08/23/23	
23081693.04	MSC01-080823	08/09/2023	Area	3			1447	4341	100	16.0	20.382	0.002		08/23/23	
23081693.05	MSC02-080823	08/09/2023	Area	3.4			1446	4916.	100	10.0	12.739	0.001		08/23/23	
23081693.06	MSC01-080923	08/10/2023	Area	3.2			1432	4582.	100	13.5	17.197	0.001		08/23/23	
23081693.07	MSC02-080923	08/10/2023	Area	3.4			1432	4868.	100	11.5	14.650	0.001		08/23/23	
23081693.08	MSC01-081023	08/10/2023	Area	3.2			420	1344	100	13.5	17.197	0.005		08/23/23	
23081693.09	MSC02-081023	08/10/2023	Area	3.3			399	1316.	100	15.5	19.745	0.006		08/23/23	

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

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

Sample Condition Checklist

A&B JobID : **23081693**	Date Received : **08/16/2023**	Time Received : **10:17AM**
Client Name : **GES - ASRC Industrial**		
Temperature : **27.5°C**	Sample pH : **NA**	
Thermometer ID : **IR5**	pH Paper ID : **NA**	
Perservative :		

	Check Points	Yes	No	N/A
1.	**Cooler Seal present and signed.**	X		
2.	**Sample(s) in a cooler.**		X	
3.	**If yes, ice in cooler.**			X
4.	**Sample(s) received with chain-of-custody.**	X		
5.	**C-O-C signed and dated.**	X		
6.	**Sample(s) received with signed sample custody seal.**		X	
7.	**Sample containers arrived intact. (If No comment)**	X		
8.	**Matrix:** Water ☐ Soil ☐ Liquid ☐ Sludge ☐ Solid ☐ Cassette ☑ Tube ☐ Bulk ☐ Badge ☐ Food ☐ Other ☐			
9.	**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. ~[redacted] 8/16/2023

Brought by : FedEx

Received by : [redacted]

Check in by/date : [redacted] / 08/16/2023

ab-s005-0321

Job ID:23081693

08/16/2023 GES - ASRC Industrial ACH

COC ID # [redacted]081523ASBC

Gilbane Federal [redacted]
1501 W Fountainhead Parkway, Tempe AZ 85282
[redacted]

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 conslidate all COC pages that share the same COC ID into one SDG.**

Equipment:

Event: Parcel C Asbestos

Code	Matrix
A	Air
AQ	Air Quality Control Matrix

Code	Container/Preservative
1	Filter/No Preservatives

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: Asbestos (1)	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
1	FBC-080723	AQ	08/07/2023	0800	[redacted]	x	FBC	FB1	0.00	0.00	1	
2	MSC01-080723	A	08/08/2023	0640		x	MSC01	N1	0.00	0.00	1	
3	MSC02-080723	A	08/08/2023	0651		x	MSC02	N1	0.00	0.00	1	
4												
5												
6												
7												
8												
9												
10												
11												

01 B
02 A
03 B

[redacted] 8/15/23

Turnaround Time: 7 days

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[redacted]	8/15/23	1300	Fedex	8/15/23	1300	Shipping Date 08/15/23 / FEDEX 7729 1983 7798
FEDEX	8/16/23	10:17				[redacted] (Signature, Date, Time) & condition 8/16/23 10:17 27.5°C [redacted]

CHAIN-OF-CUSTODY RECORD

Gilbane Federal [redacted]
1501 W Fountainhead Parkway, Tempe AZ 85282
[redacted]

COC ID # [redacted]081523ASBC

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 conslidate all COC pages that share the same COC ID into one SDG.**

Equipment:

Event: Parcel C Asbestos

Code	Matrix
A	Air
AQ	Air Quality Control Matrix

Code	Container/Preservative
1	Filter/No Preservatives

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: Asbestos	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
1	MSC01-080823	A	08/09/2023	0648	[redacted]	x	MSC01	N1	0.00	0.00	1	
2	MSC02-080823	A	08/09/2023	0659		x	MSC02	N1	0.00	0.00	1	
3												
4												
5												
6												
7												
8												
9												
10												
11												

04P
05P

[redacted] 8/15/23

Turnaround Time: 7 days

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time	Shipping Date / Carrier / Airbill Number
[redacted]	8/15/23	1300	Fedex	8/15/23	1300	Shipping Date: 08/15/23 / FEDEX 7729 1983 7798
[redacted]	8/16/23	10:17	[redacted]			ory: *(Signature, Date, Time)* **& condition** 8/16/23 10:17 27.5°C Ice

CHAIN-OF-CUSTODY RECORD

Gilbane Federal [redacted]
1501 W Fountainhead Parkway, Tempe AZ 85282
[redacted]

COC ID # [redacted]081523ASBC

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 consildate all COC pages that share the same COC ID into one SDG.**

Equipment:

Event: Parcel C Asbestos

Code	Matrix
A	Air
AQ	Air Quality Control Matrix

Code	Container/Preservative
1	Filter/No Preservatives

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: Asbestos	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
1	MSC01-080923	A	08/10/2023	0641	[redacted]	x	MSC01	N1	0.00	0.00	1	
2	MSC02-080923	A	08/10/2023	0652		x	MSC02	N1	0.00	0.00	1	
3												
4												
5												
6												
7												
8												
9												
10												
11												

0640
0700

[redacted] 8/15/23

Turnaround Time: 7 days

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time	Shipping Date / Carrier / Airbill Number
[redacted]	8/15/23	1300	Fedex	8/15/23	1300	Shipping Date: 08/15/23 / FEDEX 7729 1983 7798
Fedex	8/16/23	10:17				*(Signature, Date, Time)* **& condition** [redacted] 8/16/23 10:17 27.5°C INTS

CHAIN-OF-CUSTODY RECORD

COC ID # [redacted]081523ASBC

Gilbane Federal [redacted]
1501 W Fountainhead Parkway, Tempe AZ 85282

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 conslidate all COC pages that share the same COC ID into one SDG.**

Equipment:

Code	Matrix
A	Air
AQ	Air Quality Control Matrix

Code	Container/Preservative
1	Filter/No Preservatives

Event: Parcel C Asbestos

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: Asbestos 1	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
1	MSC01-081023	A	08/10/2023	1343	[redacted]	x	MSC01	N1	0.00	0.00	1	
2	MSC02-081023	A	08/10/2023	1333		x	MSC02	N1	0.00	0.00	1	
3												
4												
5												
6												
7												
8												
9												
10												
11												

08D
09D

Turnaround Time: 7 days

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time	Shipping Date / Carrier / Airbill Number
[redacted]	8/15/23	1300	Fedex	8/15/23	1300	Shipping Date: 08/15/23 / FEDEX 7729 1983 7798
Fedex	8/16/23	10:17	[redacted]			tory: *(Signature, Date, Time)* & condition 8/16/23 10:17 27.5°C Good

Flow Rate, Total Time

Sample ID	End Date	End Time	Flow Rate (L/min), Total Time (mins)
FBC-080723	8/7/23	8:00:00 AM	N/A
MSC01-080723	8/8/23	6:40:00 AM	3.3; 1429
MSC02-080723	8/8/23	6:51:00 AM	3.6; 1434
MSC01-080823	8/9/23	6:48:00 AM	3; 1447
MSC02-080823	8/9/23	6:59:00 AM	3.4; 1446
MSC01-080923	8/10/23	6:41:00 AM	3.2; 1432
MSC02-080923	8/10/23	6:52:00 AM	3.4; 1432
MSC01-081023	8/10/23	1:43:00 PM	3.2; 420
MSC02-081023	8/10/23	1:33:00 PM	3.3; 399

ORIGIN ID: JCCA [redacted]
GES-AIS
200 FISHER STREET

SAN FRANCISCO, CA 94124
UNITED STATES US

SHIP DATE: 11AUG23
ACTWGT: 1.00 LB
CAD: 254128867/INET4640

BILL SENDER

TO [redacted]

A&B LABS
10100 EAST FREEWAY, SUITE 100

HOUSTON TX 77029
(713) 453-6060 REF J31000.600 02.04.05
INV
PO DEPT

583J3/A140/9AE3

FedEx Express

J2311230/2501/uw

MON - 14 AUG 5:00P
STANDARD OVERNIGHT

TRK# 0201 **7729 1983 7798**

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77029
TX-US **IAH**

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Laboratory Analysis Report

Job ID : 23082399

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

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

Report To :	Client Name:	GES - ASRC Industrial	Total Number of Pages:	9
	Attn:	[redacted]	P.O.#. :	J310000600-006
	Client Address:	1501 West Fountainhead Parkway, Ste. #550	Date Received :	08/23/2023 09:07
	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-081423	8/14/2023 8:00	Cassette	23082399.01
MSC01-081423	8/15/2023 7:48	Cassette	23082399.02
MSC02-081423	8/15/2023 7:24	Cassette	23082399.03
MSC01-081523	8/16/2023 7:24	Cassette	23082399.04
MSC02-081523	8/16/2023 7:12	Cassette	23082399.05
MSC01-081623	8/17/2023 7:11	Cassette	23082399.06
MSC02-081623	8/17/2023 7:23	Cassette	23082399.07
MSC01-081723	8/17/2023 15:23	Cassette	23082399.08
MSC02-081723	8/17/2023 15:19	Cassette	23082399.09

[redacted]

Released By: [redacted]

Title: Vice President Operations

Analyst: [redacted]

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

Date 8/30/2023

Job ID : 23082399
Analytical Method: NIOSH 7400-I3-June2019

Client: GES - ASRC Industrial Project: J310000600 / 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
23082399.01	FBC-081423	08/14/2023						0	100	1.5	1.911			08/24/23	[redacted]
23082399.02	MSC01-081423	08/15/2023	Area	3.4			1413	4804.	100	8.0	10.191	0.001		08/24/23	
23082399.03	MSC02-081423	08/15/2023	Area	3.4			1414	4807.	100	8.0	10.191	0.001		08/24/23	
23082399.04	MSC01-081523	08/16/2023	Area	3.2			1415	4528	100	6.5	8.280	0.001		08/24/23	
23082399.05	MSC02-081523	08/16/2023	Area	3.4			1427	4851.	100	5	6.369	< 0.001		08/24/23	
23082399.06	MSC01-081623	08/17/2023	Area	3.5			1426	4991	100	6.1	7.771	0.001		08/24/23	
23082399.07	MSC02-081623	08/17/2023	Area	3.3			1450	4785	100	6.0	7.643	0.001		08/24/23	
23082399.08	MSC01-081723	08/17/2023	Area	3.4			489	1662.	100	5.0	6.369	< 0.002		08/24/23	
23082399.09	MSC02-081723	08/17/2023	Area	3.4			473	1608.	100	6.0	7.643	0.002		08/24/23	

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

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

Sample Condition Checklist

A&B JobID : **23082399**	Date Received : **08/23/2023**	Time Received : **9:07AM**
Client Name : **GES - ASRC Industrial**		
Temperature : **25.0°C**	Sample pH : **NA**	
Thermometer ID : **IR5**	pH Paper ID : **NA**	
Perservative :		

	Check Points	Yes	No	N/A
1.	**Cooler Seal present and signed.**	X		
2.	**Sample(s) in a cooler.**		X	
3.	**If yes, ice in cooler.**			X
4.	**Sample(s) received with chain-of-custody.**	X		
5.	**C-O-C signed and dated.**	X		
6.	**Sample(s) received with signed sample custody seal.**		X	
7.	**Sample containers arrived intact. (If No comment)**	X		
8.	**Matrix:** Water ☐ Soil ☐ Liquid ☐ Sludge ☐ Solid ☐ Cassette ☑ Tube ☐ Bulk ☐ Badge ☐ Food ☐ Other ☐			
9.	**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. ~[redacted] 8/23/23

Brought by : FedEx

Received by : [redacted]

Check in by/date : [redacted] / 08/23/2023

ab-s005-0321

Job ID:23082399

08/23/2023 GES - ASRC Industrial ACH

COC ID # [redacted]082223ASBC

Gilbane Federa[redacted]
1501 W Fountainhead Parkway, Tempe AZ 85282

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.

Equipment:

Event: Parcel C Asbestos

Code	Matrix
A	Air
AQ	Air Quality Control Matrix

Code	Container/Preservative
1	Filter/No Preservatives

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: Asbestos (1)	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
01A	1 FBC-081423	AQ	08/14/2023	0800	[redacted]	x	FBC	FB1	0.00	0.00	1	
02A	2 MSC01-081423	A	08/15/2023	0748		x	MSC01	N1	0.00	0.00	1	
03A	3 MSC02-081423	A	08/15/2023	0724		x	MSC02	N1	0.00	0.00	1	
	4											
	5											
	6											
	7											
	8											
	9											
	10											
	11											

[redacted] 8/22/23

Turnaround Time: 7 days

Relinquished by: (Signature)	Date	Time	Received by: (Signature)	Date	Time	Shipping Date / Carrier / Airbill Number
[redacted]	8/22/23	1400	Fedex	8/22/23	1400	Shipping Date: 08/22/23 / FEDEX 7729 5571 7828
FED EX	8/23/23	09:07				[redacted] Date, Time) & condition 8/23/23 09:07
						25.0°C IRS

CHAIN-OF-CUSTODY RECORD

Gilbane Federa [redacted]
1501 W Fountainhead Parkway, Tempe AZ 85282
[redacted]

COC ID # [redacted]082223ASBC

GES

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 conslidate 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

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: Asbestos (1)	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
1	MSC01-081523	A	08/16/2023	0724	[redacted]	x	MSC01	N1	0.00	0.00	1	
2	MSC02-081523	A	08/16/2023	0712		x	MSC02	N1	0.00	0.00	1	
3												
4												
5												
6												
7												
8												
9												
10												
11												

04A ~~01A~~
05A ~~02A~~ [redacted] 8/23/23

[redacted] 8/22/23

Turnaround Time: 7 days

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time	Shipping Date / Carrier / Airbill Number
[redacted]	8/22/23	1400	Fedex	8/22/23	1400	Shipping Date: 08/22/23 / FEDEX 7729 5571 7828
FedEx	8/23/23	09:07				[redacted], Time) & condition 8/23/23 09:07
						25.0°C IRS

CHAIN-OF-CUSTODY RECORD

COC ID # [redacted]082223ASBC

Gilbane Federal [redacted]
1501 W Fountainhead Parkway, Tempe AZ 85282
[redacted]

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

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

Equipment:

Event: Parcel C Asbestos

Code	Matrix
A	Air
AQ	Air Quality Control Matrix

Code	Container/Preservative
1	Filter/No Preservatives

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: Asbestos	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
1	MSC01-081623	A	08/17/2023	0711	[redacted]	x	MSC01	N1	0.00	0.00	1	
2	MSC02-081623	A	08/17/2023	0723		x	MSC02	N1	0.00	0.00	1	
3												
4												
5												
6												
7												
8												
9												
10												
11												

06A 03A
07A 04A
[redacted] 8/23/23

[redacted] 8/22/23

Turnaround Time: 7 days

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time	Shipping Date / Carrier / Airbill Number
[redacted]	8/22/23	1400	Fedex	8/22/23	1400	Shipping Date: 08/22/23 / FEDEX 7729 5571 7828
FED EX	8/23/23	09:07	[redacted]			Date, Time), & condition 8/23/23 09:07
						25.0°C IRS

CHAIN-OF-CUSTODY RECORD

Gilbane Federal [redacted]
1501 W Fountainhead Parkway, Tempe AZ 85282
[redacted]

COC ID # [redacted]082223ASBC

GES

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 conslidate all COC pages that share the same COC ID into one SDG.**

Equipment:

Event: Parcel C Asbestos

Analytical Test Method: Asbestos 1

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) Top	Depth (ft bgs) Bottom	Cooler	Comments
1	MSC01-081723	A	08/17/2023	1523	[redacted]	x	MSC01	N1	0.00	0.00	1	
2	MSC02-081723	A	08/17/2023	1519	[redacted]	x	MSC02	N1	0.00	0.00	1	
3												
4												
5												
6												
7												
8												
9												
10												
11												

08A ~~05A~~
09A ~~06A~~
MC 8/23/23

[redacted] 8/22/23

Turnaround Time: 7 days

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time	Shipping Date / Carrier / Airbill Number
[redacted]	8/22/23	1400	Fedex	8/22/23	1400	Shipping Date: 08/22/23 / FEDEX 7729 5571 7828
FED EX	8/23/23	09:07				[redacted] *Time)* & condition 8/23/23 09:07
						25.0 C IRS

COC ID # [redacted]082223ASBC

Flow Rate, Total Time

Sample ID	End Date	End Time	Flow Rate (L/min), Total Time (mins)
FBC-081423	8/14/23	8:00:00 AM	N/A
MSC01-081423	8/15/23	7:48:00 AM	3.4; 1413
MSC02-081423	8/15/23	7:24:00 AM	3.4; 1414
MSC01-081523	8/16/23	7:24:00 AM	3.2; 1415
MSC02-081523	8/16/23	7:12:00 AM	3.4; 1427
MSC01-081623	8/17/23	7:11:00 AM	3.5; 1426
MSC02-081623	8/17/23	7:23:00 AM	3.3; 1450
MSC01-081723	8/17/23	3:23:00 PM	3.4; 489
MSC02-081723	8/17/23	3:19:00 PM	3.4; 473

ORIGIN ID: [redacted]
GES-AIS
200 FISHER STREET

SAN FRANCISCO, CA 94124
UNITED STATES US

SHIP DATE: 14AUG23
ACTWGT: 1.00 LB
CAD: 254128867/INET4640

BILL SENDER

TO [redacted]

A&B LABS
10100 EAST FREEWAY, SUITE 100

HOUSTON TX 77029
(713) 453-6060 REF J31000600 02.04.05
INV
PO DEPT

583J3/A140/9AE3

FedEx Express

J2331230/3901uw

TUE - 15 AUG 5:00P
STANDARD OVERNIGHT

TRK# 0201 **7729 5571 7828**

77029
AB HBYA TX-US **IAH**

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
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ARS Aleut Analytical, LLC

Laboratory Analytical Report

ARS1-23-01495

GES-AIS, LLC
[redacted]
1501 West Fountainhead Parkway
Suite 550
Tempe, AZ 94520
[redacted]

COC Number [redacted]**071123RADC**
PO Number: **Parcel C Air Monitoring RAD**
Job Number: **J310000600**
Job Location: **Hunters Point Shipyard, Parcel C Removal Site Evaluation**

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

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

[redacted] Laboratory Management, ARS Aleut Analytical

Signature **Date** **Title**

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

NELAP ACCREDITED TNI LABORATORY
LELAP Cert # 01949

ANAB ACCREDITED ISO/IEC 17025 DOD ELAP

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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	LA011312024-1
New Jersey	LA009
New York	66780 (NPW) / 66781 (SHW)
Texas	T104704447-22-18
Utah	LA011312023-14
Washington	C1010

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

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ARS Aleut Analytical, LLC
Analytical Reports

for

GES-AIS, LLC

Case Narrative

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PROJECT SAMPLE IDENTIFICATION CROSS-REFERENCE
TO ARS SAMPLE LABORATORY IDs

Client Sample ID	ARS Aleut Analytical Sample ID
FBC-070523	ARS1-23-01495-001
MSC01-070523	ARS1-23-01495-002
MSC02-070523	ARS1-23-01495-003

Sample	Date Collected	Date Received	Analysis	Basis	Prep Date/Time	Analysis Date/Time
001	07/05/23 08:00	07/12/23	ASP-PU239-AF	As Received	08/04/23 07:33	08/10/23 20:31
001	07/05/23 08:00	07/12/23	ASP-TH-AF	As Received	08/08/23 07:16	08/11/23 01:23
001	07/05/23 08:00	07/12/23	GAM-A-AF	As Received	NA	07/28/23 20:35
001	07/05/23 08:00	07/12/23	GPC-SR90-AF	As Received	08/08/23 09:45	08/09/23 10:24
002	07/06/23 15:15	07/12/23	ASP-PU239-AF	As Received	08/04/23 07:33	08/10/23 20:31
002	07/06/23 15:15	07/12/23	ASP-TH-AF	As Received	08/08/23 07:16	08/11/23 01:23
002	07/06/23 15:15	07/12/23	GAM-A-AF	As Received	NA	07/28/23 20:37
002	07/06/23 15:15	07/12/23	GPC-SR90-AF	As Received	08/08/23 09:45	08/09/23 10:24
003	07/06/23 15:05	07/12/23	ASP-PU239-AF	As Received	08/04/23 07:33	08/10/23 20:31
003	07/06/23 15:05	07/12/23	ASP-TH-AF	As Received	08/08/23 07:16	08/11/23 01:23
003	07/06/23 15:05	07/12/23	GAM-A-AF	As Received	NA	07/28/23 20:50
003	07/06/23 15:05	07/12/23	GPC-SR90-AF	As Received	08/08/23 09:45	08/09/23 10:24

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-B23-01326 has elevated MDA for Pu-239/240 with ACT of -1.955E-8 uCi/filter, MDA of 1.532E-7 uCi/filter and CRDL of 4.8E-08 uCi/filter.
Fraction 001 in batch ARS1-B23-01344 has elevated MDA for Th-232 with ACT of 4.983E-8 uCi/filter, MDA of 5.962E-8 uCi/filter and CRDL of 1.4E-08 uCi/filter.
Fraction 001 in batch ARS1-B23-01204 has elevated MDA for Ra-226 with ACT of -1.765E-5 uCi/filter, MDA of 1.592E-5 uCi/filter and CRDL of 4.4E-06 uCi/filter.
Fraction 002 in batch ARS1-B23-01326 has elevated MDA for Pu-239/240 with ACT of -7.121E-8 uCi/filter, MDA of 1.265E-7 uCi/filter and CRDL of 4.8E-08 uCi/filter.
Fraction 002 in batch ARS1-B23-01204 has elevated MDA for Ra-226 with ACT of -8.032E-6 uCi/filter, MDA of 2.703E-5 uCi/filter and CRDL of 4.4E-06 uCi/filter.
Fraction 003 in batch ARS1-B23-01326 has elevated MDA for Pu-239/240 with ACT of -1.279E-8 uCi/filter, MDA of 9.018E-8 uCi/filter and CRDL of 4.8E-08 uCi/filter.
Fraction 003 in batch ARS1-B23-01204 has elevated MDA for Ra-226 with ACT of -2.123E-6 uCi/filter, MDA of 9.048E-6 uCi/filter and CRDL of 4.4E-06 uCi/filter.

ARS1-B23-01326: ROI's adjusted to better fit the peaks of interest.

ARS1-B23-01344: 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
ǂ	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-226 after ingrowth is determined via secular equilibrium with its daughter, Bismuth 214 (Gamma Spectroscopy only).

5.0) Ra-228 is determined via secular equilibrium with its daughter, Actinium 228 (Gamma Spectroscopy only).

6.0) U-238 is determined via secular equilibrium with its daughter, Thorium 234 (Gamma Spectroscopy only).

7.0) All gamma spectroscopy was performed utilizing high purity germanium detectors (**HPGe**).

8.0) 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).

9.0) Gamma spectroscopy results are calculated values based on the **ORTEC®** GammaVision ENV32 Analysis Engine.

10.0) 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, Eichrom ACW16, HASL 300 Se-03, HASL 300 Am-03); Neptunium 237 (Eichrom ACW16); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, Eichrom ACW16, HASL 300 Se-03, HASL 300 Pu-10); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235,

11.0) Uranium-238 (Eichrom ACW03, Eichrom ACW16, HASL 300 Se-03); Technetium-99 (Eichrom TCW02)
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); Neptunium 237 (Eichrom ACW16); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, Eichrom ACW16, HASL 300 Se-03, HASL 300 Pu-

12.0) 02-RC, HASL 300 Pu-03-RC); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235, Uranium-238 (Eichrom ACW03, Eichrom ACW16, HASL 300 Se-03, HASL 300 U-02, HASL 300 U-04); Technetium-99 (Eichrom TCS01)
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); Neptunium 237 (Eichrom ACW16); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, Eichrom ACW16, HASL 300 Se-03); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235, Uranium-238 (Eichrom ACW03, Eichrom ACW16, 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.

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ARS Aleut Analytical, LLC
Analytical Reports

for

GES-AIS, LLC

Analytical Results

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(225) 228-1394

ARS Sample Delivery Group: ARS1-23-01495
Client Sample ID: FBC-070523
Sample Collection Date: 07/05/23 8:00
Sample Matrix: Air Filter
Percent Solids: N/A

Request or PO Number: Parcel C Air Monitoring RAD
ARS Sample ID: ARS1-23-01495-001
Date Received: 07/12/23
Report Date: 08/11/23

Radiochemistry

Analysis Method: Eichrom ACW03 **ABatch Sample ID:** ARS1-B23-01326-04

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-1.955E-8	7.771E-8	1.532E-7	6.779E-8	4.8E-08	U	uCi/filter	08/10/23 20:31	[redacted]	62.0%

Analysis Method: Eichrom ACW10 **ABatch Sample ID:** ARS1-B23-01344-04

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	4.983E-8	4.246E-8	5.962E-8	2.231E-8	1.4E-08	U	uCi/filter	08/11/23 1:23	[redacted]	72.0%

Analysis Method: EPA 901.1M **ABatch Sample ID:** ARS1-B23-01204-07

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Bi-214	5.209E-6	2.058E-6	1.929E-6	9.645E-7	NP		uCi/filter	07/28/23 20:35	[redacted]	N/A
Co-60	4.617E-8	9.094E-7	1.004E-6	5.020E-7	0.00024	U	uCi/filter	07/28/23 20:35		N/A
Cs-137	3.234E-7	7.547E-7	8.784E-7	4.392E-7	0.00048	U	uCi/filter	07/28/23 20:35		N/A
Ra-226	-1.765E-5	1.522E-5	1.592E-5	7.960E-6	4.4E-06	U	uCi/filter	07/28/23 20:35		N/A

Analysis Method: Eichrom SRW01 **ABatch Sample ID:** ARS1-B23-01350-04

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	2.258E-6	2.324E-6	3.797E-6	1.754E-6	2.4E-05	U	uCi/filter	08/09/23 10:24	[redacted]	98.1%

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ARS Sample Delivery Group: ARS1-23-01495
Client Sample ID: MSC01-070523
Sample Collection Date: 07/06/23 15:15
Sample Matrix: Air Filter
Percent Solids: N/A

Request or PO Number: Parcel C Air Monitoring RAD
ARS Sample ID: ARS1-23-01495-002
Date Received: 07/12/23
Report Date: 08/11/23

Radiochemistry

Analysis Method: Eichrom ACW03 **ABatch Sample ID:** ARS1-B23-01326-05

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-7.121E-8	5.272E-8	1.265E-7	5.522E-8	4.8E-08	U	uCi/filter	08/10/23 20:31	[redacted]	68.1%

Analysis Method: Eichrom ACW10 **ABatch Sample ID:** ARS1-B23-01344-05

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	3.924E-8	2.945E-8	1.519E-8	0.000	1.4E-08		uCi/filter	08/11/23 1:23	[redacted]	72.3%

Analysis Method: EPA 901.1M **ABatch Sample ID:** ARS1-B23-01204-08

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	5.301E-7	1.571E-6	1.610E-6	8.050E-7	0.00024	U	uCi/filter	07/28/23 20:37	[redacted]	N/A
Cs-137	3.796E-7	1.330E-6	1.496E-6	7.480E-7	0.00048	U	uCi/filter	07/28/23 20:37	[redacted]	N/A
Ra-226	-8.032E-6	1.632E-5	2.703E-5	1.352E-5	4.4E-06	U	uCi/filter	07/28/23 20:37	[redacted]	N/A

Analysis Method: Eichrom SRW01 **ABatch Sample ID:** ARS1-B23-01350-05

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	-2.059E-6	2.881E-6	5.448E-6	2.550E-6	2.4E-05	U	uCi/filter	08/09/23 10:24	[redacted]	82.9%

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ARS Sample Delivery Group: ARS1-23-01495
Client Sample ID: MSC02-070523
Sample Collection Date: 07/06/23 15:05
Sample Matrix: Air Filter
Percent Solids: N/A

Request or PO Number: Parcel C Air Monitoring RAD
ARS Sample ID: ARS1-23-01495-003
Date Received: 07/12/23
Report Date: 08/11/23

Radiochemistry

Analysis Method: Eichrom ACW03 **ABatch Sample ID:** ARS1-B23-01326-06

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-1.279E-8	3.965E-8	9.018E-8	3.643E-8	4.8E-08	U	uCi/filter	08/10/23 20:31	[redacted]	61.6%

Analysis Method: Eichrom ACW10 **ABatch Sample ID:** ARS1-B23-01344-06

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	2.416E-7	7.843E-8	4.879E-8	1.728E-8	1.4E-08		uCi/filter	08/11/23 1:23	[redacted]	77.8%

Analysis Method: EPA 901.1M **ABatch Sample ID:** ARS1-B23-01204-09

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Bi-214	2.671E-6	1.166E-6	1.389E-6	6.945E-7	NP		uCi/filter	07/28/23 20:50	[redacted]	N/A
Co-60	1.365E-7	8.850E-7	9.100E-7	4.550E-7	0.00024	U	uCi/filter	07/28/23 20:50		N/A
Cs-137	2.235E-7	6.760E-7	7.324E-7	3.662E-7	0.00048	U	uCi/filter	07/28/23 20:50		N/A
Pb-214	2.547E-6	8.956E-7	1.037E-6	5.185E-7	NP		uCi/filter	07/28/23 20:50		N/A
Ra-226	-2.123E-6	7.159E-6	9.048E-6	4.524E-6	4.4E-06	U	uCi/filter	07/28/23 20:50		N/A

Analysis Method: Eichrom SRW01 **ABatch Sample ID:** ARS1-B23-01350-06

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	-6.477E-7	2.159E-6	4.021E-6	1.863E-6	2.4E-05	U	uCi/filter	08/09/23 10:24	[redacted]	99.0%

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QC Summary

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QC Sample Results

Analytical Batch: ARS1-B23-01204
Lab Sample ID: ARS1-B23-01204-01
Method: EPA 901.1M

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 07/22/23 10:56

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Am-241	33.065	31.538		uCi/filter	95.4	75 - 125
Co-60	20.928	22.340		uCi/filter	106.7	75 - 125
Cs-137	12.996	13.410		uCi/filter	103.2	75 - 125

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QC Sample Results

Analytical Batch: ARS1-B23-01204
Lab Sample ID: ARS1-B23-01204-02
Method: EPA 901.1M

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 07/22/23 11:08

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Am-241	33.065	31.721		uCi/filter	95.9	75 - 125	0.6	25	0.103	3
Co-60	20.928	22.153		uCi/filter	105.9	75 - 125	0.8	25	0.218	3
Cs-137	12.996	13.658		uCi/filter	105.1	75 - 125	1.8	25	0.477	3

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QC Sample Results

Analytical Batch: ARS1-B23-01204
Lab Sample ID: ARS1-B23-01204-03
Method: EPA 901.1M

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 07/18/23 14:08

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	4.797E-4	0.001	0.002	0.001	U	uCi/filter
Bi-212	-0.004	0.013	0.014	0.007	U	uCi/filter
Bi-214	-0.004	0.004	0.004	0.002	U	uCi/filter
Co-60	9.623E-4	0.002	0.002	8.050E-4	U	uCi/filter
Cs-137	-6.244E-4	0.001	0.002	8.050E-4	U	uCi/filter
Eu-152	4.350E-4	0.001	0.002	8.600E-4	U	uCi/filter
Eu-154	-1.638E-4	0.001	0.001	6.750E-4	U	uCi/filter
K-40	-0.033	0.026	0.026	0.013	U	uCi/filter
Pa-234	-7.642E-4	0.002	0.002	0.001	U	uCi/filter
Pb-210	0.004	0.016	0.017	0.008	U	uCi/filter
Pb-212	-8.511E-4	0.002	0.002	0.001	U	uCi/filter
Pb-214	-0.002	0.003	0.003	0.002	U	uCi/filter
Ra-226	-0.023	0.025	0.026	0.013	U	uCi/filter
Ra-228	-0.005	0.007	0.006	0.003	U	uCi/filter
Th-234	-0.002	0.016	0.020	0.010	U	uCi/filter
Tl-208	-3.558E-4	0.002	0.002	8.250E-4	U	uCi/filter
U-235	-0.002	0.006	0.008	0.004	U	uCi/filter
U-238	-0.002	0.016	0.020	0.010	U	uCi/filter

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QC Association Summary

ARS Sample Delivery Group: ARS1-23-01495 **Analytical Batch:** ARS1-B23-01204

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

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B23-01204-01		Lab Control Sample	Air Filter	EPA 901.1M	N/A
ARS1-B23-01204-02		Lab Control Sample Duplicate	Air Filter	EPA 901.1M	N/A
ARS1-B23-01204-03		Method Blank	Air Filter	EPA 901.1M	N/A
ARS1-B23-01204-07	ARS1-23-01495-001	FBC-070523	Air Filter	EPA 901.1M	N/A
ARS1-B23-01204-08	ARS1-23-01495-002	MSC01-070523	Air Filter	EPA 901.1M	N/A
ARS1-B23-01204-09	ARS1-23-01495-003	MSC02-070523	Air Filter	EPA 901.1M	N/A

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QC Sample Results

Analytical Batch: ARS1-B23-01326
Lab Sample ID: ARS1-B23-01326-01
Method: Eichrom ACW03

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 08/10/23 20:31

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Pu-239/240	7.508E-6	7.229E-6		uCi/filter	96.3	75 - 125

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QC Sample Results

Analytical Batch: ARS1-B23-01326
Lab Sample ID: ARS1-B23-01326-02
Method: Eichrom ACW03

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 08/10/23 20:31

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Pu-239/240	7.621E-6	7.366E-6		uCi/filter	96.7	75 - 125	1.9	25	0.207	3

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QC Sample Results

Analytical Batch: ARS1-B23-01326
Lab Sample ID: ARS1-B23-01326-03
Method: Eichrom ACW03

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 08/10/23 20:31

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Pu-238	-2.014E-8	1.280E-7	2.471E-7	1.099E-7	U	uCi/filter
Pu-239/240	-1.410E-7	8.990E-8	2.205E-7	9.660E-8	U	uCi/filter

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QC Association Summary

ARS Sample Delivery Group: ARS1-23-01495

Analytical Batch: ARS1-B23-01326

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-B23-01326-01		Lab Control Sample	Air Filter	Eichrom ACW03	N/A
ARS1-B23-01326-02		Lab Control Sample Duplicate	Air Filter	Eichrom ACW03	N/A
ARS1-B23-01326-03		Method Blank	Air Filter	Eichrom ACW03	N/A
ARS1-B23-01326-04	ARS1-23-01495-001	FBC-070523	Air Filter	Eichrom ACW03	N/A
ARS1-B23-01326-05	ARS1-23-01495-002	MSC01-070523	Air Filter	Eichrom ACW03	N/A
ARS1-B23-01326-06	ARS1-23-01495-003	MSC02-070523	Air Filter	Eichrom ACW03	N/A

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QC Sample Results

Analytical Batch: ARS1-B23-01344
Lab Sample ID: ARS1-B23-01344-01
Method: Eichrom ACW10

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 08/11/23 1:23

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Th-230	5.202E-6	5.532E-6		uCi/filter	106.4	75 - 125

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QC Sample Results

Analytical Batch: ARS1-B23-01344
Lab Sample ID: ARS1-B23-01344-02
Method: Eichrom ACW10

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 08/11/23 1:23

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Th-230	5.197E-6	5.757E-6		uCi/filter	110.8	75 - 125	4.0	25	0.438	3

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QC Sample Results

Analytical Batch: ARS1-B23-01344
Lab Sample ID: ARS1-B23-01344-03
Method: Eichrom ACW10

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 08/11/23 1:23

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Th-228	0.000	8.094E-8	1.531E-7	6.793E-8	U	uCi/filter
Th-230	1.962E-7	1.407E-7	2.190E-7	1.009E-7	U	uCi/filter
Th-232	-1.263E-8	8.025E-8	1.550E-7	6.892E-8	U	uCi/filter

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QC Association Summary

ARS Sample Delivery Group: ARS1-23-01495

Analytical Batch: ARS1-B23-01344

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-B23-01344-01		Lab Control Sample	Air Filter	Eichrom ACW10	N/A
ARS1-B23-01344-02		Lab Control Sample Duplicate	Air Filter	Eichrom ACW10	N/A
ARS1-B23-01344-03		Method Blank	Air Filter	Eichrom ACW10	N/A
ARS1-B23-01344-04	ARS1-23-01495-001	FBC-070523	Air Filter	Eichrom ACW10	N/A
ARS1-B23-01344-05	ARS1-23-01495-002	MSC01-070523	Air Filter	Eichrom ACW10	N/A
ARS1-B23-01344-06	ARS1-23-01495-003	MSC02-070523	Air Filter	Eichrom ACW10	N/A

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QC Sample Results

Analytical Batch: ARS1-B23-01350
Lab Sample ID: ARS1-B23-01350-01
Method: Eichrom SRW01

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 08/09/23 10:24

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
SR-90	1.988E-5	2.061E-5		uCi/filter	103.6	75 - 125

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QC Sample Results

Analytical Batch: ARS1-B23-01350
Lab Sample ID: ARS1-B23-01350-02
Method: Eichrom SRW01

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 08/09/23 10:24

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
SR-90	1.984E-5	2.184E-5		uCi/filter	110.1	75 - 125	5.8	25	0.527	3

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QC Sample Results

Analytical Batch: ARS1-B23-01350
Lab Sample ID: ARS1-B23-01350-03
Method: Eichrom SRW01

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 08/09/23 10:24

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
SR-90	-4.593E-7	2.162E-6	4.038E-6	1.855E-6	U	uCi/filter

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QC Association Summary

ARS Sample Delivery Group: ARS1-23-01495 **Analytical Batch:** ARS1-B23-01350

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

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B23-01350-01		Lab Control Sample	Air Filter	Eichrom SRW01	N/A
ARS1-B23-01350-02		Lab Control Sample Duplicate	Air Filter	Eichrom SRW01	N/A
ARS1-B23-01350-03		Method Blank	Air Filter	Eichrom SRW01	N/A
ARS1-B23-01350-04	ARS1-23-01495-001	FBC-070523	Air Filter	Eichrom SRW01	N/A
ARS1-B23-01350-05	ARS1-23-01495-002	MSC01-070523	Air Filter	Eichrom SRW01	N/A
ARS1-B23-01350-06	ARS1-23-01495-003	MSC02-070523	Air Filter	Eichrom SRW01	N/A

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Batch QC

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QC Results per Analytical Batch

Analytical Batch	**ARS1-B23-01204**
SDG	**ARS1-23-01495**
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 07/22/23 10:56 **Analysis Technician** [redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-01204-01	**LCS**	AM-241	31.538	2.450	33.065	95.4	0.118
ARS1-B23-01204-01	**LCS**	CO-60	22.340	1.191	20.928	106.7	0.394
ARS1-B23-01204-01	**LCS**	CS-137	13.410	0.715	12.996	103.2	0.077

Duplicate RER/DER/RPD

Analysis Date 07/22/23 11:08 **Analysis Technician** [redacted]

Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD
AM-241	31.538	2.450	31.721	2.464	0.103	0.6
CO-60	22.340	1.191	22.153	1.188	0.218	0.8
CS-137	13.410	0.715	13.658	0.727	0.477	1.8

Method Blank

Analysis Date 07/18/23 14:08 **Analysis Technician** [redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual
ARS1-B23-01204-03	**MBL**	AC-228	-0.005	0.007	0.006	U
ARS1-B23-01204-03	**MBL**	AM-241	4.797E-4	0.001	0.002	U
ARS1-B23-01204-03	**MBL**	BI-212	-0.004	0.013	0.014	U
ARS1-B23-01204-03	**MBL**	BI-214	-0.004	0.004	0.004	U
ARS1-B23-01204-03	**MBL**	CO-60	9.623E-4	0.002	0.002	U
ARS1-B23-01204-03	**MBL**	CS-137	-6.244E-4	0.001	0.002	U
ARS1-B23-01204-03	**MBL**	EU-152	4.350E-4	0.001	0.002	U
ARS1-B23-01204-03	**MBL**	EU-154	-1.638E-4	0.001	0.001	U
ARS1-B23-01204-03	**MBL**	K-40	-0.033	0.026	0.026	U
ARS1-B23-01204-03	**MBL**	PA-234	-7.642E-4	0.002	0.002	U
ARS1-B23-01204-03	**MBL**	PB-210	0.004	0.016	0.017	U
ARS1-B23-01204-03	**MBL**	PB-212	-8.511E-4	0.002	0.002	U
ARS1-B23-01204-03	**MBL**	PB-214	-0.002	0.003	0.003	U
ARS1-B23-01204-03	**MBL**	RA-226	-0.023	0.025	0.026	U
ARS1-B23-01204-03	**MBL**	RA-228	-0.005	0.007	0.006	U
ARS1-B23-01204-03	**MBL**	TH-234	-0.002	0.016	0.020	U
ARS1-B23-01204-03	**MBL**	TL-208	-3.558E-4	0.002	0.002	U
ARS1-B23-01204-03	**MBL**	U-235	-0.002	0.006	0.008	U
ARS1-B23-01204-03	**MBL**	U-238	-0.002	0.016	0.020	U

QC Results per Analytical Batch

Analytical Batch	**ARS1-B23-01326**
SDG	**ARS1-23-01495**
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	08/10/23 20:31	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-01326-01	**LCS**	PU-239/240	7.229E-6	9.078E-7	7.508E-6	96.3	4.965E-8

Duplicate RER/DER/RPD

Analysis Date	08/10/23 20:31	Analysis Technician	[redacted]

Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD
PU-239/240	7.229E-6	9.078E-7	7.366E-6	9.257E-7	0.207	1.9

Method Blank

Analysis Date	08/10/23 20:31	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual
ARS1-B23-01326-03	**MBL**	PU-238	-2.014E-8	1.280E-7	2.471E-7	U
ARS1-B23-01326-03	**MBL**	PU-239/240	-1.410E-7	8.990E-8	2.205E-7	U

QC Results per Analytical Batch

Analytical Batch	**ARS1-B23-01344**
SDG	**ARS1-23-01495**
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	08/11/23 01:23	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-01344-01	**LCS**	TH-230	5.532E-6	6.956E-7	5.202E-6	106.4	4.785E-8

Duplicate RER/DER/RPD

Analysis Date	08/11/23 01:23	Analysis Technician	[redacted]

Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD
TH-230	5.532E-6	6.956E-7	5.757E-6	7.282E-7	0.438	4.0

Method Blank

Analysis Date	08/11/23 01:23	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual
ARS1-B23-01344-03	**MBL**	TH-228	0.000	8.094E-8	1.531E-7	U
ARS1-B23-01344-03	**MBL**	TH-230	1.962E-7	1.407E-7	2.190E-7	U
ARS1-B23-01344-03	**MBL**	TH-232	-1.263E-8	8.025E-8	1.550E-7	U

QC Results per Analytical Batch

Analytical Batch	**ARS1-B23-01350**
SDG	**ARS1-23-01495**
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	08/09/23 10:24	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-01350-01	**LCS**	SR-90	2.061E-5	3.149E-6	1.988E-5	103.6	3.576E-7

Duplicate RER/DER/RPD

Analysis Date	08/09/23 10:24	Analysis Technician	[redacted]

Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD
SR-90	2.061E-5	3.149E-6	2.184E-5	3.341E-6	0.527	5.8

Method Blank

Analysis Date	08/09/23 10:24	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual
ARS1-B23-01350-03	**MBL**	SR-90	-4.593E-7	2.162E-6	4.038E-6	U

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ARS Aleut Analytical, LLC
Analytical Reports

for

GES-AIS, LLC

Sample Management Records

CHAIN-OF-CUSTODY RECORD

Gilbane Federal
[redacted]
1501 W Fountainhead Parkway, Suite 550, Tempe, Arizona 85282

COC # [redacted]071123RADC

GES

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:

Equipment:

Code	Matrix
A	Air
AQ	Air Quality Control Matrix

Code	Container/Preservative
S	1@ 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.	Analytical Test Method: E901.1 - Gamma Spec Ra226 Cs137	RC0240 - Pu and Th Isotopes	SR02RC - Sr90	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
						15	15	5						
1	FBC-070523	AQ	07/05/2023	0800	[redacted]	X	X	X	FIELDQC	AB1	0.00	0.00	1	
2	MSC01-070523	A	07/06/2023	1515		X	X	X	MSC01	N1	0.00	0.00	1	TOTAL FLOW (L):
3	MSC02-070523	A	07/06/2023	1505		X	X	X	MSC02	N1	0.00	0.00	1	TOTAL FLOW (L):

Turnaround Time: NA

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[redacted]	7/11/23	1300	FedEx	7/11/23	1300
			[redacted]	7-12-23	1000

Shipping Date / Carrier / Airbill Number
Shipping Date: 7/11/23 / FEDEX / 7725 8521 8259

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

GES.Navy_COC_Field
June 28, 2023

Procedures: GES-003 / EPA 900.0M

Start Date: 7/5/23
Stop Date: 7/6/23

File ID Number: [redacted]071123RADC

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)
		FBC-070523	7/5/2023	800	7/5/2023	800														
1	MSC01	MSC01-070523	07/05/23	8:15	07/06/23	15:15	60	60	122.4	187	1.42	34.00	2040.0	60	2.11888	2.11888	2.11888	3.6	0.06	122,400
2	MSC02	MSC02-070523	07/05/23	7:00	07/06/23	15:05	60	60	115.5	187	1.34	32.08	1925.0	60	2.11888	2.11888	2.11888	3.6	0.06	115,500

FORMULAS:

Number of Days = (Date Out +Time Out) minus (Date In+Time In)
Number of Minutes = # of Days X 24/hr X 60/min
Flow Rate (m3/h) = Flow Rate (CFM) x 60/min 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	ARS1-23-01495		TAT Days	28 Calendar Days	Project Type	Environmental
Sample Count	3	Rpt Level 2a	Date Received	07/12/2023	COC Number	[redacted]071123RADC
Client	GES-AIS, LLC		Discrepancy Resol	N/A	PO Number	Parcel C Air Monitoring RAD
Client Code	1138		Client Deadline	08/09/2023	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-070523	Air Filter	07/05/2023 07:59	07/05/2023 08:00	H	30	10	PrePrep	
	IC_ID	**Cnt**	**Container Type**	**AF Volume (L)**	**AF Units**		**Rate**	**Mins**	**Comments**
	443445	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	07/05/2023 07:59	AF Volume (CuM):		0.001		
002	MSC01-070523	Air Filter	07/06/2023 15:14	07/06/2023 15:15	H	30	10	PrePrep	
	IC_ID	**Cnt**	**Container Type**	**AF Volume (L)**	**AF Units**		**Rate**	**Mins**	**Comments**
	443446	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	07/06/2023 15:14	AF Volume (CuM):		0.001		
003	MSC02-070523	Air Filter	07/06/2023 15:04	07/06/2023 15:05	H	30	10	PrePrep	
	IC_ID	**Cnt**	**Container Type**	**AF Volume (L)**	**AF Units**		**Rate**	**Mins**	**Comments**
	443447	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	07/06/2023 15:04	AF Volume (CuM):		0.001		

SDG Report - Analysis Assignments

SDG	ARS1-23-01495	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: 2a

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	

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 / 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	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-AIS

SDG: ARS1-23-01495

Sample Custodian: [redacted] Survey Start Date: 7-12-23 Survey Start Time: 1205

Thermometer ID: E10540122661 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 µR/hr

Count Rate Meter + Probe Unit ID: 268993 Calibration Due Date: 9-19-23 Background: 20 cpm

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

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

External Shipping Container Tracking:	Exposure Rate (µR/hr) (limit <500 µR/hr)	Max External Swipe Counts (cpm)	Max Internal Swipe Counts (cpm)	ESC True Temps* (°C)	TRAX Matrix ID (circle all that apply): (See Section 4.3 of SOP)
A: 7725 3521 8255	5	20	30	NA	AQ WD WG WO
B:					WS WW SI UR
C:					SO OL BI VG
D:					WP SM (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 reliquished/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: GES-AIS

SDG: ARS1-23-01495

Pipette ID: NA Tip Lot#: NA

Disposible pipette lot#: NA

Sample ID from Client on COC or Sample	ESC Letter	Sample Container Type	Approx. Fill Level (%)	pH <2 is Acceptable: pH As Rec'd	pH <2 is Acceptable: pH Adjusted	Acid Lot # or Ind container temp (°C)	Vol. of Acid Used (mL)	Acceptance Limits: <100 cpm/cm² cpm
FBL-070523	A	Ziploc	25	NA	NA	NA	NA	30
MSL 01	↓	↓	↓	↓	↓	↓	↓	↓
MSL 02	↓	↓	↓	↓	↓	↓	↓	↓

Sample Custodian [redacted] Survey End Date: 7-12-23 Survey/pH End Time: 1210

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).



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.

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ARS Aleut Analytical, LLC

Laboratory Analytical Report

ARS1-23-01551

GES-AIS, LLC
[redacted]
1501 West Fountainhead Parkway
Suite 550
Tempe, AZ 94520
480-212-3768
[redacted]

COC Number [redacted]**071823RADC**
PO Number: **Parcel C Air Monitoring RAD**
Job Location: **Hunters Point Shipyard, Parcel C Removal Site Evaluation**

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

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

[redacted] Laboratory Management, ARS Aleut Analytical

Signature **Date** **Title**

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

LELAP Cert # 01949

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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	LA011312024-1
New Jersey	LA009
New York	66780 (NPW) / 66781 (SHW)
Texas	T104704447-22-18
Utah	LA011312023-14
Washington	C1010

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

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ARS Aleut Analytical, LLC
Analytical Reports

for

GES-AIS, LLC

Case Narrative

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PROJECT SAMPLE IDENTIFICATION CROSS-REFERENCE
TO ARS SAMPLE LABORATORY IDs

Client Sample ID	ARS Aleut Analytical Sample ID
FBC-071023	ARS1-23-01551-001
MSC01-071023	ARS1-23-01551-002
MSC02-071023	ARS1-23-01551-003

Sample	Date Collected	Date Received	Analysis	Basis	Prep Date/Time	Analysis Date/Time
001	07/10/23 08:00	07/19/23	ASP-PU239-AF	As Received	08/04/23 07:33	08/10/23 20:31
001	07/10/23 08:00	07/19/23	ASP-TH-AF	As Received	08/08/23 07:16	08/11/23 01:23
001	07/10/23 08:00	07/19/23	GAM-A-AF	As Received	NA	07/30/23 12:48
001	07/10/23 08:00	07/19/23	GPC-SR90-AF	As Received	08/08/23 09:45	08/09/23 10:24
002	07/10/23 14:57	07/19/23	ASP-PU239-AF	As Received	08/04/23 07:33	08/10/23 20:31
002	07/10/23 14:57	07/19/23	ASP-TH-AF	As Received	08/08/23 07:16	08/11/23 01:23
002	07/10/23 14:57	07/19/23	GAM-A-AF	As Received	NA	07/30/23 12:50
002	07/10/23 14:57	07/19/23	GPC-SR90-AF	As Received	08/08/23 09:45	08/09/23 10:24
003	07/10/23 14:55	07/19/23	ASP-PU239-AF	As Received	08/04/23 07:33	08/10/23 20:31
003	07/10/23 14:55	07/19/23	ASP-TH-AF	As Received	08/08/23 07:16	08/11/23 01:23
003	07/10/23 14:55	07/19/23	GAM-A-AF	As Received	NA	08/01/23 14:05
003	07/10/23 14:55	07/19/23	GPC-SR90-AF	As Received	08/08/23 09:45	08/09/23 10:24

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-B23-01326 has elevated MDA for Pu-239/240 with ACT of -6.501E-8 uCi/filter, MDA of 1.179E-7 uCi/filter and CRDL of 4.8E-08 uCi/filter.
Fraction 002 in batch ARS1-B23-01326 has elevated MDA for Pu-239/240 with ACT of -2.654E-8 uCi/filter, MDA of 1.204E-7 uCi/filter and CRDL of 4.8E-08 uCi/filter.
Fraction 002 in batch ARS1-B23-01344 has elevated MDA for Th-232 with ACT of 2.854E-8 uCi/filter, MDA of 8.053E-8 uCi/filter and CRDL of 1.4E-08 uCi/filter.
Fraction 002 in batch ARS1-B23-01298 has elevated MDA for Ra-226 with ACT of -1.416E-5 uCi/filter, MDA of 1.529E-5 uCi/filter and CRDL of 4.4E-06 uCi/filter.
Fraction 003 in batch ARS1-B23-01326 has elevated MDA for Pu-239/240 with ACT of -1.075E-7 uCi/filter, MDA of 1.857E-7 uCi/filter and CRDL of 4.8E-08 uCi/filter.
Fraction 003 in batch ARS1-B23-01344 has elevated MDA for Th-232 with ACT of 3.470E-8 uCi/filter, MDA of 6.514E-8 uCi/filter and CRDL of 1.4E-08 uCi/filter.
Fraction 003 in batch ARS1-B23-01298 has elevated MDA for Ra-226 with ACT of -8.523E-6 uCi/filter, MDA of 2.782E-5 uCi/filter and CRDL of 4.4E-06 uCi/filter.

ARS1-B23-01326: ROI's adjusted to better fit the peaks of interest.

ARS1-B23-01344: 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
ǂ	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-226 after ingrowth is determined via secular equilibrium with its daughter, Bismuth 214 (Gamma Spectroscopy only).

5.0) Ra-228 is determined via secular equilibrium with its daughter, Actinium 228 (Gamma Spectroscopy only).

6.0) U-238 is determined via secular equilibrium with its daughter, Thorium 234 (Gamma Spectroscopy only).

7.0) All gamma spectroscopy was performed utilizing high purity germanium detectors (**HPGe**).

8.0) 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).

9.0) Gamma spectroscopy results are calculated values based on the **ORTEC®** GammaVision ENV32 Analysis Engine.

10.0) 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, Eichrom ACW16, HASL 300 Se-03, HASL 300 Am-03); Neptunium 237 (Eichrom ACW16); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, Eichrom ACW16, HASL 300 Se-03, HASL 300 Pu-10); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235,

11.0) Uranium-238 (Eichrom ACW03, Eichrom ACW16, HASL 300 Se-03); Technetium-99 (Eichrom TCW02)
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); Neptunium 237 (Eichrom ACW16); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, Eichrom ACW16, HASL 300 Se-03, HASL 300 Pu-

12.0) 02-RC, HASL 300 Pu-03-RC); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235, Uranium-238 (Eichrom ACW03, Eichrom ACW16, HASL 300 Se-03, HASL 300 U-02, HASL 300 U-04); Technetium-99 (Eichrom TCS01)
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); Neptunium 237 (Eichrom ACW16); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, Eichrom ACW16, HASL 300 Se-03); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235, Uranium-238 (Eichrom ACW03, Eichrom ACW16, 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.

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ARS Aleut Analytical, LLC
Analytical Reports

for

GES-AIS, LLC

Analytical Results

2609 North River Road • Port Allen, Louisiana 70767
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ARS Sample Delivery Group: ARS1-23-01551
Client Sample ID: FBC-071023
Sample Collection Date: 07/10/23 8:00
Sample Matrix: Air Filter
Percent Solids: N/A

Request or PO Number: Parcel C Air Monitoring RAD
ARS Sample ID: ARS1-23-01551-001
Date Received: 07/19/23
Report Date: 08/11/23

Radiochemistry

Analysis Method: Eichrom ACW03 **ABatch Sample ID:** ARS1-B23-01326-07

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-6.501E-8	4.483E-8	1.179E-7	5.016E-8	4.8E-08	U	uCi/filter	08/10/23 20:31	[redacted]	67.7%

Analysis Method: Eichrom ACW10 **ABatch Sample ID:** ARS1-B23-01344-07

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	1.345E-7	6.174E-8	5.433E-8	1.924E-8	1.4E-08		uCi/filter	08/11/23 1:23	[redacted]	71.3%

Analysis Method: EPA 901.1M **ABatch Sample ID:** ARS1-B23-01298-04

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	-1.080E-6	1.869E-6	1.894E-6	9.470E-7	0.00024	U	uCi/filter	07/30/23 12:48	[redacted]	N/A
Cs-137	1.675E-7	1.373E-6	1.548E-6	7.740E-7	0.00048	U	uCi/filter	07/30/23 12:48		N/A
Ra-226	1.719E-5	1.465E-5	1.719E-5	8.595E-6	4.4E-06	U	uCi/filter	07/30/23 12:48		N/A

Analysis Method: Eichrom SRW01 **ABatch Sample ID:** ARS1-B23-01350-07

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	3.017E-6	2.487E-6	3.937E-6	1.814E-6	2.4E-05	U	uCi/filter	08/09/23 10:24	[redacted]	97.3%

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ARS Sample Delivery Group: ARS1-23-01551
Client Sample ID: MSC01-071023
Sample Collection Date: 07/10/23 14:57
Sample Matrix: Air Filter
Percent Solids: N/A

Request or PO Number: Parcel C Air Monitoring RAD
ARS Sample ID: ARS1-23-01551-002
Date Received: 07/19/23
Report Date: 08/11/23

Radiochemistry

Analysis Method: Eichrom ACW03 **ABatch Sample ID:** ARS1-B23-01326-08

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-2.654E-8	5.528E-8	1.204E-7	5.120E-8	4.8E-08	U	uCi/filter	08/10/23 20:31	[redacted]	64.5%

Analysis Method: Eichrom ACW10 **ABatch Sample ID:** ARS1-B23-01344-08

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	2.854E-8	4.626E-8	8.053E-8	3.253E-8	1.4E-08	U	uCi/filter	08/11/23 1:23	[redacted]	79.4%

Analysis Method: EPA 901.1M **ABatch Sample ID:** ARS1-B23-01298-05

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Bi-214	4.768E-6	2.113E-6	2.036E-6	1.018E-6	NP		uCi/filter	07/30/23 12:50	[redacted]	N/A
Co-60	-1.691E-7	9.846E-7	1.079E-6	5.395E-7	0.00024	U	uCi/filter	07/30/23 12:50		N/A
Cs-137	2.400E-7	7.711E-7	9.000E-7	4.500E-7	0.00048	U	uCi/filter	07/30/23 12:50		N/A
K-40	3.742E-5	8.440E-6	8.211E-6	4.106E-6	NP		uCi/filter	07/30/23 12:50		N/A
Ra-226	-1.416E-5	1.477E-5	1.529E-5	7.645E-6	4.4E-06	U	uCi/filter	07/30/23 12:50		N/A

Analysis Method: Eichrom SRW01 **ABatch Sample ID:** ARS1-B23-01350-08

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	6.335E-7	2.378E-6	4.197E-6	1.945E-6	2.4E-05	U	uCi/filter	08/09/23 10:24	[redacted]	94.8%

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ARS Sample Delivery Group: ARS1-23-01551
Client Sample ID: MSC02-071023
Sample Collection Date: 07/10/23 14:55
Sample Matrix: Air Filter
Percent Solids: N/A

Request or PO Number: Parcel C Air Monitoring RAD
ARS Sample ID: ARS1-23-01551-003
Date Received: 07/19/23
Report Date: 08/11/23

Radiochemistry

Analysis Method: Eichrom ACW03 **ABatch Sample ID:** ARS1-B23-01326-09

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-1.075E-7	7.563E-8	1.857E-7	8.073E-8	4.8E-08	U	uCi/filter	08/10/23 20:31	[redacted]	45.5%

Analysis Method: Eichrom ACW10 **ABatch Sample ID:** ARS1-B23-01344-09

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	3.470E-8	4.009E-8	6.514E-8	2.669E-8	1.4E-08	U	uCi/filter	08/11/23 1:23	[redacted]	91.2%

Analysis Method: EPA 901.1M **ABatch Sample ID:** ARS1-B23-01298-06

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	-1.094E-6	1.913E-6	1.938E-6	9.690E-7	0.00024	U	uCi/filter	08/01/23 14:05	[redacted]	N/A
Cs-137	-2.010E-7	1.412E-6	1.591E-6	7.955E-7	0.00048	U	uCi/filter	08/01/23 14:05	[redacted]	N/A
Ra-226	-8.523E-6	1.680E-5	2.782E-5	1.391E-5	4.4E-06	U	uCi/filter	08/01/23 14:05	[redacted]	N/A

Analysis Method: Eichrom SRW01 **ABatch Sample ID:** ARS1-B23-01350-09

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	-1.477E-6	1.998E-6	3.887E-6	1.794E-6	2.4E-05	U	uCi/filter	08/09/23 10:24	[redacted]	97.3%

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ARS Aleut Analytical, LLC
Analytical Reports

for

GES-AIS, LLC

QC Summary

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QC Sample Results

Analytical Batch: ARS1-B23-01298
Lab Sample ID: ARS1-B23-01298-01
Method: EPA 901.1M

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 08/02/23 12:32

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Am-241	33.065	31.760		uCi/filter	96.1	75 - 125
Co-60	20.928	21.862		uCi/filter	104.5	75 - 125
Cs-137	12.996	13.103		uCi/filter	100.8	75 - 125

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QC Sample Results

Analytical Batch: ARS1-B23-01298
Lab Sample ID: ARS1-B23-01298-02
Method: EPA 901.1M

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 08/02/23 12:48

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Am-241	33.065	31.676		uCi/filter	95.8	75 - 125	0.3	25	0.047	3
Co-60	20.928	22.245		uCi/filter	106.3	75 - 125	1.7	25	0.446	3
Cs-137	12.996	13.193		uCi/filter	101.5	75 - 125	0.7	25	0.178	3

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QC Sample Results

Analytical Batch: ARS1-B23-01298
Lab Sample ID: ARS1-B23-01298-03
Method: EPA 901.1M

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 08/02/23 13:53

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Ac-228	-0.006	0.006	0.006	0.003	U	uCi/filter
Am-241	-5.293E-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	0.001	0.004	0.002	U	uCi/filter
Co-60	8.704E-4	0.001	0.001	7.300E-4	U	uCi/filter
Cs-137	1.004E-4	0.001	0.002	7.500E-4	U	uCi/filter
Eu-152	5.250E-4	0.001	0.002	8.750E-4	U	uCi/filter
Eu-154	-9.151E-5	0.001	0.001	6.950E-4	U	uCi/filter
K-40	-0.025	0.024	0.024	0.012	U	uCi/filter
Pa-234	-8.223E-4	0.002	0.004	0.002	U	uCi/filter
Pb-210	0.001	0.015	0.017	0.008	U	uCi/filter
Pb-212	-0.002	0.002	0.002	0.001	U	uCi/filter
Pb-214	-0.003	0.003	0.003	0.002	U	uCi/filter
Ra-226	-0.009	0.016	0.027	0.013	U	uCi/filter
Ra-228	-0.006	0.006	0.006	0.003	U	uCi/filter
Th-234	0.006	0.015	0.017	0.008	U	uCi/filter
Tl-208	-0.001	0.002	0.002	8.850E-4	U	uCi/filter
U-235	-0.004	0.007	0.007	0.003	U	uCi/filter
U-238	0.006	0.015	0.017	0.008	U	uCi/filter

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QC Association Summary

ARS Sample Delivery Group: ARS1-23-01551 **Analytical Batch:** ARS1-B23-01298

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

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B23-01298-01		Lab Control Sample	Air Filter	EPA 901.1M	N/A
ARS1-B23-01298-02		Lab Control Sample Duplicate	Air Filter	EPA 901.1M	N/A
ARS1-B23-01298-03		Method Blank	Air Filter	EPA 901.1M	N/A
ARS1-B23-01298-04	ARS1-23-01551-001	FBC-071023	Air Filter	EPA 901.1M	N/A
ARS1-B23-01298-05	ARS1-23-01551-002	MSC01-071023	Air Filter	EPA 901.1M	N/A
ARS1-B23-01298-06	ARS1-23-01551-003	MSC02-071023	Air Filter	EPA 901.1M	N/A

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QC Sample Results

Analytical Batch: ARS1-B23-01326
Lab Sample ID: ARS1-B23-01326-01
Method: Eichrom ACW03

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 08/10/23 20:31

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Pu-239/240	7.508E-6	7.229E-6		uCi/filter	96.3	75 - 125

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QC Sample Results

Analytical Batch: ARS1-B23-01326
Lab Sample ID: ARS1-B23-01326-02
Method: Eichrom ACW03

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 08/10/23 20:31

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Pu-239/240	7.621E-6	7.366E-6		uCi/filter	96.7	75 - 125	1.9	25	0.207	3

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QC Sample Results

Analytical Batch: ARS1-B23-01326
Lab Sample ID: ARS1-B23-01326-03
Method: Eichrom ACW03

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 08/10/23 20:31

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Pu-238	-2.014E-8	1.280E-7	2.471E-7	1.099E-7	U	uCi/filter
Pu-239/240	-1.410E-7	8.990E-8	2.205E-7	9.660E-8	U	uCi/filter

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QC Association Summary

ARS Sample Delivery Group: ARS1-23-01551

Analytical Batch: ARS1-B23-01326

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-B23-01326-01		Lab Control Sample	Air Filter	Eichrom ACW03	N/A
ARS1-B23-01326-02		Lab Control Sample Duplicate	Air Filter	Eichrom ACW03	N/A
ARS1-B23-01326-03		Method Blank	Air Filter	Eichrom ACW03	N/A
ARS1-B23-01326-07	ARS1-23-01551-001	FBC-071023	Air Filter	Eichrom ACW03	N/A
ARS1-B23-01326-08	ARS1-23-01551-002	MSC01-071023	Air Filter	Eichrom ACW03	N/A
ARS1-B23-01326-09	ARS1-23-01551-003	MSC02-071023	Air Filter	Eichrom ACW03	N/A

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QC Sample Results

Analytical Batch: ARS1-B23-01344
Lab Sample ID: ARS1-B23-01344-01
Method: Eichrom ACW10

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 08/11/23 1:23

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Th-230	5.202E-6	5.532E-6		uCi/filter	106.4	75 - 125

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QC Sample Results

Analytical Batch: ARS1-B23-01344
Lab Sample ID: ARS1-B23-01344-02
Method: Eichrom ACW10

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 08/11/23 1:23

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Th-230	5.197E-6	5.757E-6		uCi/filter	110.8	75 - 125	4.0	25	0.438	3

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QC Sample Results

Analytical Batch: ARS1-B23-01344
Lab Sample ID: ARS1-B23-01344-03
Method: Eichrom ACW10

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 08/11/23 1:23

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Th-228	0.000	8.094E-8	1.531E-7	6.793E-8	U	uCi/filter
Th-230	1.962E-7	1.407E-7	2.190E-7	1.009E-7	U	uCi/filter
Th-232	-1.263E-8	8.025E-8	1.550E-7	6.892E-8	U	uCi/filter

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QC Association Summary

ARS Sample Delivery Group: ARS1-23-01551

Analytical Batch: ARS1-B23-01344

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-B23-01344-01		Lab Control Sample	Air Filter	Eichrom ACW10	N/A
ARS1-B23-01344-02		Lab Control Sample Duplicate	Air Filter	Eichrom ACW10	N/A
ARS1-B23-01344-03		Method Blank	Air Filter	Eichrom ACW10	N/A
ARS1-B23-01344-07	ARS1-23-01551-001	FBC-071023	Air Filter	Eichrom ACW10	N/A
ARS1-B23-01344-08	ARS1-23-01551-002	MSC01-071023	Air Filter	Eichrom ACW10	N/A
ARS1-B23-01344-09	ARS1-23-01551-003	MSC02-071023	Air Filter	Eichrom ACW10	N/A

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QC Sample Results

Analytical Batch: ARS1-B23-01350
Lab Sample ID: ARS1-B23-01350-01
Method: Eichrom SRW01

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 08/09/23 10:24

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
SR-90	1.988E-5	2.061E-5		uCi/filter	103.6	75 - 125

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QC Sample Results

Analytical Batch: ARS1-B23-01350
Lab Sample ID: ARS1-B23-01350-02
Method: Eichrom SRW01

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 08/09/23 10:24

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
SR-90	1.984E-5	2.184E-5		uCi/filter	110.1	75 - 125	5.8	25	0.527	3

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QC Sample Results

Analytical Batch: ARS1-B23-01350
Lab Sample ID: ARS1-B23-01350-03
Method: Eichrom SRW01

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 08/09/23 10:24

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
SR-90	-4.593E-7	2.162E-6	4.038E-6	1.855E-6	U	uCi/filter

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QC Association Summary

ARS Sample Delivery Group: ARS1-23-01551

Analytical Batch: ARS1-B23-01350

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

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B23-01350-01		Lab Control Sample	Air Filter	Eichrom SRW01	N/A
ARS1-B23-01350-02		Lab Control Sample Duplicate	Air Filter	Eichrom SRW01	N/A
ARS1-B23-01350-03		Method Blank	Air Filter	Eichrom SRW01	N/A
ARS1-B23-01350-07	ARS1-23-01551-001	FBC-071023	Air Filter	Eichrom SRW01	N/A
ARS1-B23-01350-08	ARS1-23-01551-002	MSC01-071023	Air Filter	Eichrom SRW01	N/A
ARS1-B23-01350-09	ARS1-23-01551-003	MSC02-071023	Air Filter	Eichrom SRW01	N/A

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ARS Aleut Analytical, LLC
Analytical Reports

for

GES-AIS, LLC

Batch QC

ALEUT

QC Results per Analytical Batch

Analytical Batch	**ARS1-B23-01298**
SDG	**ARS1-23-01551**
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: 08/02/23 12:32 | Analysis Technician: [redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-01298-01	**LCS**	AM-241	31.760	2.467	33.065	96.1	0.120
ARS1-B23-01298-01	**LCS**	CO-60	21.862	1.189	20.928	104.5	0.489
ARS1-B23-01298-01	**LCS**	CS-137	13.103	0.699	12.996	100.8	0.070

Duplicate RER/DER/RPD

Analysis Date: 08/02/23 12:48 | Analysis Technician: [redacted]

Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD
AM-241	31.760	2.467	31.676	2.460	0.047	0.3
CO-60	21.862	1.189	22.245	1.189	0.446	1.7
CS-137	13.103	0.699	13.193	0.704	0.178	0.7

Method Blank

Analysis Date: 08/02/23 13:53 | Analysis Technician: [redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual
ARS1-B23-01298-03	**MBL**	AC-228	-0.006	0.006	0.006	U
ARS1-B23-01298-03	**MBL**	AM-241	-5.293E-4	0.001	0.002	U
ARS1-B23-01298-03	**MBL**	BI-212	0.006	0.010	0.011	U
ARS1-B23-01298-03	**MBL**	BI-214	0.002	0.001	0.004	U
ARS1-B23-01298-03	**MBL**	CO-60	8.704E-4	0.001	0.001	U
ARS1-B23-01298-03	**MBL**	CS-137	1.004E-4	0.001	0.002	U
ARS1-B23-01298-03	**MBL**	EU-152	5.250E-4	0.001	0.002	U
ARS1-B23-01298-03	**MBL**	EU-154	-9.151E-5	0.001	0.001	U
ARS1-B23-01298-03	**MBL**	K-40	-0.025	0.024	0.024	U
ARS1-B23-01298-03	**MBL**	PA-234	-8.223E-4	0.002	0.004	U
ARS1-B23-01298-03	**MBL**	PB-210	0.001	0.015	0.017	U
ARS1-B23-01298-03	**MBL**	PB-212	-0.002	0.002	0.002	U
ARS1-B23-01298-03	**MBL**	PB-214	-0.003	0.003	0.003	U
ARS1-B23-01298-03	**MBL**	RA-226	-0.009	0.016	0.027	U
ARS1-B23-01298-03	**MBL**	RA-228	-0.006	0.006	0.006	U
ARS1-B23-01298-03	**MBL**	TH-234	0.006	0.015	0.017	U
ARS1-B23-01298-03	**MBL**	TL-208	-0.001	0.002	0.002	U
ARS1-B23-01298-03	**MBL**	U-235	-0.004	0.007	0.007	U
ARS1-B23-01298-03	**MBL**	U-238	0.006	0.015	0.017	U



QC Results per Analytical Batch

Analytical Batch	**ARS1-B23-01326**
SDG	**ARS1-23-01551**
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	08/10/23 20:31	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-01326-01	**LCS**	PU-239/240	7.229E-6	9.078E-7	7.508E-6	96.3	4.965E-8

Duplicate RER/DER/RPD

Analysis Date	08/10/23 20:31	Analysis Technician	[redacted]

Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD
PU-239/240	7.229E-6	9.078E-7	7.366E-6	9.257E-7	0.207	1.9

Method Blank

Analysis Date	08/10/23 20:31	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual
ARS1-B23-01326-03	**MBL**	PU-238	-2.014E-8	1.280E-7	2.471E-7	U
ARS1-B23-01326-03	**MBL**	PU-239/240	-1.410E-7	8.990E-8	2.205E-7	U

QC Results per Analytical Batch

Analytical Batch	**ARS1-B23-01344**
SDG	**ARS1-23-01551**
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	08/11/23 01:23	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-01344-01	**LCS**	TH-230	5.532E-6	6.956E-7	5.202E-6	106.4	4.785E-8

Duplicate RER/DER/RPD

Analysis Date	08/11/23 01:23	Analysis Technician	[redacted]

Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD
TH-230	5.532E-6	6.956E-7	5.757E-6	7.282E-7	0.438	4.0

Method Blank

Analysis Date	08/11/23 01:23	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual
ARS1-B23-01344-03	**MBL**	TH-228	0.000	8.094E-8	1.531E-7	U
ARS1-B23-01344-03	**MBL**	TH-230	1.962E-7	1.407E-7	2.190E-7	U
ARS1-B23-01344-03	**MBL**	TH-232	-1.263E-8	8.025E-8	1.550E-7	U

QC Results per Analytical Batch

Analytical Batch	**ARS1-B23-01350**
SDG	**ARS1-23-01551**
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	08/09/23 10:24	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-01350-01	**LCS**	SR-90	2.061E-5	3.149E-6	1.988E-5	103.6	3.576E-7

Duplicate RER/DER/RPD

Analysis Date	08/09/23 10:24	Analysis Technician	[redacted]

Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD
SR-90	2.061E-5	3.149E-6	2.184E-5	3.341E-6	0.527	5.8

Method Blank

Analysis Date	08/09/23 10:24	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual
ARS1-B23-01350-03	**MBL**	SR-90	-4.593E-7	2.162E-6	4.038E-6	U

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ARS Aleut Analytical, LLC
Analytical Reports

for

GES-AIS, LLC

Sample Management Records

CHAIN-OF-CUSTODY RECORD

Gilbane Federal
[redacted]
1501 W Fountainhead Parkway, Suite 550, Tempe, Arizona 85282
[redacted]

COC # [redacted]071823RADC

GES
AN ABS INDUSTRIAL COMPANY

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:

Equipment:

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

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: E901.1 - Gamma Spec Ra226 Cs137	RC0240 - Pu and Th Isotopes	SR02RC - Sr90	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
						15	15	5						
1	FBC-071023	AQ	07/10/2023	0800	[redacted]	X	X	X	FIELDQC	AB1	0.00	0.00	1	
2	MSC01-071023	A	07/10/2023	1457		X	X	X	MSC01	N1	0.00	0.00	1	TOTAL FLOW (L):
3	MSC02-071023	A	07/10/2023	1455		X	X	X	MSC02	N1	0.00	0.00	1	TOTAL FLOW (L):

Turnaround Time: NA

7/18/23 [redacted]

7/18/23 [redacted]

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[redacted]	7/18/23	1200	Fedex	7/18/23	1200
			[redacted]	7-19-23	10:45

Shipping Date / Carrier / Airbill Number

Shipping Date: 7/18/2023 / FEDEX / 7726 2726 9742

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

[redacted]

7-19-23 10:45 GOOD

SDG Report - Samples and Containers

SDG Specific Data							
SDG	ARS1-23-01551		TAT Days	28 Calendar Days	Project Type	Environmental
Sample Count	3	Rpt Level 2b	Date Received	07/19/2023	COC Number	KT071823RADC
Client	GES-AIS, LLC		Discrepancy Resol	N/A	PO Number	Parcel C Air Monitoring RAD
Client Code	1138		Client Deadline	08/16/2023	Job Number	
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-071023	Air Filter	07/10/2023 07:59	07/10/2023 08:00	H	30	10	PrePrep	
	IC_ID	**Cnt**	**Container Type**	**AF Volume (L)**	**AF Units**		**Rate**	**Mins**	**Comments**
	443965	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	07/10/2023 07:59	AF Volume (CuM):		0.001		
002	MSC01-071023	Air Filter	07/10/2023 14:56	07/10/2023 14:57	H	30	10	PrePrep	
	IC_ID	**Cnt**	**Container Type**	**AF Volume (L)**	**AF Units**		**Rate**	**Mins**	**Comments**
	443966	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	07/10/2023 14:56	AF Volume (CuM):		0.001		
003	MSC02-071023	Air Filter	07/10/2023 14:54	07/10/2023 14:55	H	30	10	PrePrep	
	IC_ID	**Cnt**	**Container Type**	**AF Volume (L)**	**AF Units**		**Rate**	**Mins**	**Comments**
	443967	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	07/10/2023 14:54	AF Volume (CuM):		0.001		

SDG Report - Analysis Assignments

SDG	ARS1-23-01551	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

ARS1-23-01551

Client Name: GES-AIS, LLC Profile Name: Parcel C Rad Sampling Report Level: 2b

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	

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 / 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	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 - ARS

SDG: ARS1-23-01551

Sample Custodian [redacted] Survey Start Date: 7-19-23 Survey Start Time: 12:42

Thermometer ID: E10540/22601 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 µR/hr

Count Rate Meter + Probe Unit ID: 268993 Calibration Due Date: 9-19-23 Background: 50 cpm

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

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

External Shipping Container Tracking:	Exposure Rate (µR/hr) (limit <500 µR/hr)	Max External Swipe Counts (cpm)	Max Internal Swipe Counts (cpm)	ESC True Temps* (°C)	TRAX Matrix ID (circle all that apply): (See Section 4.3 of SOP)
A: 7726 2726 9742	5	40	40	NA	AQ WD WG WO
B:					WS WW SI UR
C:					SO OL BI VG
D:					WP SM (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 reliquished/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: GES-AIS

SDG: ARS1-23-01551

Pipette ID: NA Tip Lot#: NA

Disposible pipette lot#: NA

Sample ID from Client on COC or Sample	ESC Letter	Sample Container Type	Approx. Fill Level (%)	pH <2 is Acceptable: pH As Rec'd	pH <2 is Acceptable: pH Adjusted	Acid Lot # or Ind container temp (°C)	Vol. of Acid Used (mL)	Acceptance Limits: <100 cpm/cm² cpm
FBC-071023	A	Air Filter	25%	NA	NA	NA	NA	50
MSC01-071023	A	"	"	"	"	"	"	50
MSC02-071023	A	"	"	"	"	"	"	50

GES
AN ASRC INDUSTRIAL COMPANY

Procedures: GES-003 / EPA 900.0M

File ID Number: [redacted]071823RADC

Start Date 7/10/23
Stop Date 7/13/23

Field Entry

	Station	Sample ID	Date In:	Time In:	Date Out:	Time Out:	Flow Rate (LPM)	Flow Rate (LPM)	Flow volume Cu.M	Julian Date for Date Out	Total Run Time (Days)	Total Run Time (Hours)	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)
		FBC-071023	7/10/2023	800	7/10/2023	800														
1	MSC01	MSC01-071023	07/10/23	5:10	07/13/23	14:57	60	60	294.4	194	3.41	81.78	4907.0	60	2.11888	2.11888	2.11888	3.6	0.06	294,420
2	MSC02	MSC02-071023	07/10/23	5:19	07/13/23	14:55	60	60	293.8	194	3.40	81.60	4896.0	60	2.11888	2.11888	2.11888	3.6	0.06	293,760

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

ORIGIN ID:JCCA [redacted]
[redacted]
200 FISHER STREET

SAN FRANCISCO, CA 94124
UNITED STATES US

SHIP DATE: 13JUL23
ACTWGT: 1.00 LB
CAD: 254128867/INET4610

BILL SENDER

TO [redacted]

ARS ALEUT ANALYTICAL, LLC
2609 NORTH RIVER ROAD

PORT ALLEN LA 70767
(225) 381-2991 REF: J31000.600.02.04.05
INV:
PO: DEPT:

583J46/AE4/FE2D

FedEx Express

J232023040501uv

FRI - 14 JUL 4:30P
STANDARD OVERNIGHT

TRK# 0201 **7726 2726 9742**

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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ARS Aleut Analytical, LLC

Laboratory Analytical Report

ARS1-23-01604

GES-AIS, LLC
[redacted]
1501 West Fountainhead Parkway
Suite 550
Tempe, AZ 94520
[redacted]

COC Number: [redacted]**072523RADC**
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]		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.

NELAP ACCREDITED TNI LABORATORY
LELAP Cert # 01949

ANAB ACCREDITED ISO/IEC 17025 DOD ELAP

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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	LA011312024-1
New Jersey	LA009
New York	66780 (NPW) / 66781 (SHW)
Texas	T104704447-22-18
Utah	LA011312023-14
Washington	C1010

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

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ARS Aleut Analytical, LLC
Analytical Reports

for

GES-AIS, LLC

Case Narrative

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PROJECT SAMPLE IDENTIFICATION CROSS-REFERENCE
TO ARS SAMPLE LABORATORY IDs

Client Sample ID	ARS Aleut Analytical Sample ID
FBC-071723	ARS1-23-01604-001
MSC01-071723	ARS1-23-01604-002
MSC02-071723	ARS1-23-01604-003

Sample	Date Collected	Date Received	Analysis	Basis	Prep Date/Time	Analysis Date/Time
001	07/17/23 08:00	07/26/23	ASP-PU239-AF	As Received	08/16/23 09:00	08/19/23 03:44
001	07/17/23 08:00	07/26/23	ASP-TH-AF	As Received	08/18/23 08:15	08/23/23 00:13
001	07/17/23 08:00	07/26/23	GAM-A-AF	As Received	NA	08/04/23 20:59
001	07/17/23 08:00	07/26/23	GPC-SR90-AF	As Received	08/22/23 09:40	08/23/23 11:00
002	07/20/23 15:36	07/26/23	ASP-PU239-AF	As Received	08/16/23 09:00	08/19/23 03:44
002	07/20/23 15:36	07/26/23	ASP-TH-AF	As Received	08/18/23 08:15	08/23/23 00:13
002	07/20/23 15:36	07/26/23	GAM-A-AF	As Received	NA	08/04/23 21:18
002	07/20/23 15:36	07/26/23	GPC-SR90-AF	As Received	08/22/23 09:40	08/23/23 11:00
003	07/20/23 15:34	07/26/23	ASP-PU239-AF	As Received	08/16/23 09:00	08/19/23 03:44
003	07/20/23 15:34	07/26/23	ASP-TH-AF	As Received	08/18/23 08:15	08/23/23 00:13
003	07/20/23 15:34	07/26/23	GAM-A-AF	As Received	NA	08/10/23 15:23
003	07/20/23 15:34	07/26/23	GPC-SR90-AF	As Received	08/22/23 09:40	08/23/23 11:00

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-B23-01421: Fraction 003 has tracer recovery of 25.4%, which is outside limits of 30%-110%. The sample results have been qualified with a "Q".

Fraction 001 in batch ARS1-B23-01421 has elevated MDA for Pu-239/240 with ACT of -5.407E-8 uCi/filter, MDA of 1.245E-7 uCi/filter and CRDL of 4.8E-08 uCi/filter.
Fraction 001 in batch ARS1-B23-01298 has elevated MDA for Ra-226 with ACT of 2.061E-6 uCi/filter, MDA of 2.696E-5 uCi/filter and CRDL of 4.4E-06 uCi/filter.
Fraction 002 in batch ARS1-B23-01421 has elevated MDA for Pu-239/240 with ACT of -6.519E-8 uCi/filter, MDA of 1.298E-7 uCi/filter and CRDL of 4.8E-08 uCi/filter.
Fraction 002 in batch ARS1-B23-01298 has elevated MDA for Ra-226 with ACT of -4.015E-6 uCi/filter, MDA of 1.568E-5 uCi/filter and CRDL of 4.4E-06 uCi/filter.
Fraction 003 in batch ARS1-B23-01421 has elevated MDA for Pu-239/240 with ACT of -4.929E-8 uCi/filter, MDA of 3.202E-7 uCi/filter and CRDL of 4.8E-08 uCi/filter.
Fraction 003 in batch ARS1-B23-01298 has elevated MDA for Ra-226 with ACT of -2.010E-6 uCi/filter, MDA of 9.779E-6 uCi/filter and CRDL of 4.4E-06 uCi/filter.

ARS1-B23-01421: ROI's adjusted to better fit the peaks of interest.

ARS1-B23-01445: ROI's adjusted to better fit the peaks of interest.

ARS1-B23-01445: The FWHM is greater than 100 keV for Th-230 on batch sample -05 at 113.3 keV.

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
ǂ	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-226 after ingrowth is determined via secular equilibrium with its daughter, Bismuth 214 (Gamma Spectroscopy only).

5.0) Ra-228 is determined via secular equilibrium with its daughter, Actinium 228 (Gamma Spectroscopy only).

6.0) U-238 is determined via secular equilibrium with its daughter, Thorium 234 (Gamma Spectroscopy only).

7.0) All gamma spectroscopy was performed utilizing high purity germanium detectors (**HPGe**).

8.0) 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).

9.0) Gamma spectroscopy results are calculated values based on the **ORTEC®** GammaVision ENV32 Analysis Engine.

10.0) 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, Eichrom ACW16, HASL 300 Se-03, HASL 300 Am-03); Neptunium 237 (Eichrom ACW16); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, Eichrom ACW16, HASL 300 Se-03, HASL 300 Pu-10); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235,

11.0) Uranium-238 (Eichrom ACW03, Eichrom ACW16, HASL 300 Se-03); Technetium-99 (Eichrom TCW02)
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); Neptunium 237 (Eichrom ACW16); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, Eichrom ACW16, HASL 300 Se-03, HASL 300 Pu-

12.0) 02-RC, HASL 300 Pu-03-RC); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235, Uranium-238 (Eichrom ACW03, Eichrom ACW16, HASL 300 Se-03, HASL 300 U-02, HASL 300 U-04); Technetium-99 (Eichrom TCS01)
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); Neptunium 237 (Eichrom ACW16); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, Eichrom ACW16, HASL 300 Se-03); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235, Uranium-238 (Eichrom ACW03, Eichrom ACW16, 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.

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ARS Aleut Analytical, LLC
Analytical Reports

for

GES-AIS, LLC

Analytical Results

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

ARS Sample Delivery Group: ARS1-23-01604
Client Sample ID: FBC-071723
Sample Collection Date: 07/17/23 8:00
Sample Matrix: Air Filter
Percent Solids: N/A

Request or PO Number: J310000600
ARS Sample ID: ARS1-23-01604-001
Date Received: 07/26/23
Report Date: 08/23/23

Radiochemistry

Analysis Method: Eichrom ACW03 **ABatch Sample ID:** ARS1-B23-01421-04

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-5.407E-8	5.436E-8	1.245E-7	5.413E-8	4.8E-08	U	uCi/filter	08/19/23 3:44	[redacted]	67.4%

Analysis Method: Eichrom ACW10 **ABatch Sample ID:** ARS1-B23-01445-04

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	4.336E-8	2.834E-8	2.902E-8	9.170E-9	1.4E-08		uCi/filter	08/23/23 0:13	[redacted]	103%

Analysis Method: EPA 901.1M **ABatch Sample ID:** ARS1-B23-01298-07

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	6.027E-7	1.528E-6	1.565E-6	7.825E-7	0.00024	U	uCi/filter	08/04/23 20:59	[redacted]	N/A
Cs-137	7.160E-7	1.266E-6	1.415E-6	7.075E-7	0.00048	U	uCi/filter	08/04/23 20:59	[redacted]	N/A
Ra-226	2.061E-6	1.617E-5	2.696E-5	1.348E-5	4.4E-06	U	uCi/filter	08/04/23 20:59	[redacted]	N/A

Analysis Method: Eichrom SRW01 **ABatch Sample ID:** ARS1-B23-01472-04

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	3.373E-6	2.280E-6	3.470E-6	1.593E-6	2.4E-05	U	uCi/filter	08/23/23 11:00	[redacted]	99.8%

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ARS Sample Delivery Group: ARS1-23-01604
Client Sample ID: MSC01-071723
Sample Collection Date: 07/20/23 15:36
Sample Matrix: Air Filter
Percent Solids: N/A

Request or PO Number: J310000600
ARS Sample ID: ARS1-23-01604-002
Date Received: 07/26/23
Report Date: 08/23/23

Radiochemistry

Analysis Method: Eichrom ACW03 **ABatch Sample ID:** ARS1-B23-01421-05

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-6.519E-8	5.626E-8	1.298E-7	5.685E-8	4.8E-08	U	uCi/filter	08/19/23 3:44	[redacted]	68.9%

Analysis Method: Eichrom ACW10 **ABatch Sample ID:** ARS1-B23-01445-05

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	1.525E-7	6.096E-8	4.723E-8	1.673E-8	1.4E-08		uCi/filter	08/23/23 0:13	[redacted]	80.3%

Analysis Method: EPA 901.1M **ABatch Sample ID:** ARS1-B23-01298-08

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Bi-214	4.437E-6	1.722E-6	1.716E-6	8.580E-7	NP		uCi/filter	08/04/23 21:18	[redacted]	N/A
Co-60	3.685E-7	9.307E-7	1.015E-6	5.075E-7	0.00024	U	uCi/filter	08/04/23 21:18	[redacted]	N/A
Cs-137	-1.313E-7	7.928E-7	9.282E-7	4.641E-7	0.00048	U	uCi/filter	08/04/23 21:18	[redacted]	N/A
Ra-226	-4.015E-6	1.500E-5	1.568E-5	7.840E-6	4.4E-06	U	uCi/filter	08/04/23 21:18	[redacted]	N/A

Analysis Method: Eichrom SRW01 **ABatch Sample ID:** ARS1-B23-01472-05

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	-3.326E-6	2.585E-6	4.985E-6	2.347E-6	2.4E-05	U	uCi/filter	08/23/23 11:00	[redacted]	99.0%

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ARS Sample Delivery Group: ARS1-23-01604
Client Sample ID: MSC02-071723
Sample Collection Date: 07/20/23 15:34
Sample Matrix: Air Filter
Percent Solids: N/A

Request or PO Number: J310000600
ARS Sample ID: ARS1-23-01604-003
Date Received: 07/26/23
Report Date: 08/23/23

Radiochemistry

Analysis Method: Eichrom ACW03 **ABatch Sample ID:** ARS1-B23-01421-06

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-4.929E-8	1.546E-7	3.202E-7	1.378E-7	4.8E-08	UQ	uCi/filter	08/19/23 3:44	[redacted]	25.4%

Analysis Method: Eichrom ACW10 **ABatch Sample ID:** ARS1-B23-01445-06

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	1.403E-7	5.918E-8	4.827E-8	1.709E-8	1.4E-08		uCi/filter	08/23/23 0:13	[redacted]	80.2%

Analysis Method: EPA 901.1M **ABatch Sample ID:** ARS1-B23-01298-09

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Bi-214	1.967E-6	1.373E-6	1.494E-6	7.470E-7	NP		uCi/filter	08/10/23 15:23	[redacted]	N/A
Co-60	4.353E-7	7.579E-7	7.727E-7	3.864E-7	0.00024	U	uCi/filter	08/10/23 15:23		N/A
Cs-137	-2.100E-7	7.089E-7	7.678E-7	3.839E-7	0.00048	U	uCi/filter	08/10/23 15:23		N/A
K-40	1.996E-5	8.244E-6	8.051E-6	4.026E-6	NP		uCi/filter	08/10/23 15:23		N/A
Pb-210	1.029E-5	5.058E-6	7.445E-6	3.723E-6	NP		uCi/filter	08/10/23 15:23		N/A
Pb-214	2.161E-6	1.032E-6	1.180E-6	5.900E-7	NP		uCi/filter	08/10/23 15:23		N/A
Ra-226	-2.010E-6	7.741E-6	9.779E-6	4.890E-6	4.4E-06	U	uCi/filter	08/10/23 15:23		N/A

Analysis Method: Eichrom SRW01 **ABatch Sample ID:** ARS1-B23-01472-06

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	3.715E-6	2.542E-6	3.894E-6	1.796E-6	2.4E-05	U	uCi/filter	08/23/23 11:00	[redacted]	96.5%

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QC Summary

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QC Sample Results

Analytical Batch: ARS1-B23-01298
Lab Sample ID: ARS1-B23-01298-01
Method: EPA 901.1M

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 08/02/23 12:32

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Am-241	33.065	31.760		uCi/filter	96.1	75 - 125
Co-60	20.928	21.862		uCi/filter	104.5	75 - 125
Cs-137	12.996	13.103		uCi/filter	100.8	75 - 125

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QC Sample Results

Analytical Batch: ARS1-B23-01298
Lab Sample ID: ARS1-B23-01298-02
Method: EPA 901.1M

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 08/02/23 12:48

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Am-241	33.065	31.676		uCi/filter	95.8	75 - 125	0.3	25	0.047	3
Co-60	20.928	22.245		uCi/filter	106.3	75 - 125	1.7	25	0.446	3
Cs-137	12.996	13.193		uCi/filter	101.5	75 - 125	0.7	25	0.178	3

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QC Sample Results

Analytical Batch: ARS1-B23-01298
Lab Sample ID: ARS1-B23-01298-03
Method: EPA 901.1M

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 08/02/23 13:53

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Ac-228	-0.006	0.006	0.006	0.003	U	uCi/filter
Am-241	-5.293E-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	0.001	0.004	0.002	U	uCi/filter
Co-60	8.704E-4	0.001	0.001	7.300E-4	U	uCi/filter
Cs-137	1.004E-4	0.001	0.002	7.500E-4	U	uCi/filter
Eu-152	5.250E-4	0.001	0.002	8.750E-4	U	uCi/filter
Eu-154	-9.151E-5	0.001	0.001	6.950E-4	U	uCi/filter
K-40	-0.025	0.024	0.024	0.012	U	uCi/filter
Pa-234	-8.223E-4	0.002	0.004	0.002	U	uCi/filter
Pb-210	0.001	0.015	0.017	0.008	U	uCi/filter
Pb-212	-0.002	0.002	0.002	0.001	U	uCi/filter
Pb-214	-0.003	0.003	0.003	0.002	U	uCi/filter
Ra-226	-0.009	0.016	0.027	0.013	U	uCi/filter
Ra-228	-0.006	0.006	0.006	0.003	U	uCi/filter
Th-234	0.006	0.015	0.017	0.008	U	uCi/filter
Tl-208	-0.001	0.002	0.002	8.850E-4	U	uCi/filter
U-235	-0.004	0.007	0.007	0.003	U	uCi/filter
U-238	0.006	0.015	0.017	0.008	U	uCi/filter

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QC Association Summary

ARS Sample Delivery Group: ARS1-23-01604 **Analytical Batch:** ARS1-B23-01298

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

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B23-01298-01		Lab Control Sample	Air Filter	EPA 901.1M	N/A
ARS1-B23-01298-02		Lab Control Sample Duplicate	Air Filter	EPA 901.1M	N/A
ARS1-B23-01298-03		Method Blank	Air Filter	EPA 901.1M	N/A
ARS1-B23-01298-07	ARS1-23-01604-001	FBC-071723	Air Filter	EPA 901.1M	N/A
ARS1-B23-01298-08	ARS1-23-01604-002	MSC01-071723	Air Filter	EPA 901.1M	N/A
ARS1-B23-01298-09	ARS1-23-01604-003	MSC02-071723	Air Filter	EPA 901.1M	N/A

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QC Sample Results

Analytical Batch: ARS1-B23-01421
Lab Sample ID: ARS1-B23-01421-01
Method: Eichrom ACW03

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 08/19/23 3:44

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Pu-239/240	7.656E-6	7.266E-6		uCi/filter	94.9	75 - 125

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QC Sample Results

Analytical Batch: ARS1-B23-01421
Lab Sample ID: ARS1-B23-01421-02
Method: Eichrom ACW03

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 08/19/23 3:44

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Pu-239/240	7.649E-6	7.614E-6		uCi/filter	99.5	75 - 125	4.7	25	0.518	3

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QC Sample Results

Analytical Batch: ARS1-B23-01421
Lab Sample ID: ARS1-B23-01421-03
Method: Eichrom ACW03

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 08/19/23 3:44

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Pu-238	6.526E-9	4.612E-8	9.206E-8	3.719E-8	U	uCi/filter
Pu-239/240	-7.831E-8	7.732E-8	1.664E-7	7.437E-8	U	uCi/filter

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QC Association Summary

ARS Sample Delivery Group: ARS1-23-01604

Analytical Batch: ARS1-B23-01421

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-B23-01421-01		Lab Control Sample	Air Filter	Eichrom ACW03	N/A
ARS1-B23-01421-02		Lab Control Sample Duplicate	Air Filter	Eichrom ACW03	N/A
ARS1-B23-01421-03		Method Blank	Air Filter	Eichrom ACW03	N/A
ARS1-B23-01421-04	ARS1-23-01604-001	FBC-071723	Air Filter	Eichrom ACW03	N/A
ARS1-B23-01421-05	ARS1-23-01604-002	MSC01-071723	Air Filter	Eichrom ACW03	N/A
ARS1-B23-01421-06	ARS1-23-01604-003	MSC02-071723	Air Filter	Eichrom ACW03	N/A

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QC Sample Results

Analytical Batch: ARS1-B23-01445
Lab Sample ID: ARS1-B23-01445-01
Method: Eichrom ACW10

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 08/23/23 0:13

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Th-230	5.222E-6	6.383E-6		uCi/filter	122.2	75 - 125

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QC Sample Results

Analytical Batch: ARS1-B23-01445
Lab Sample ID: ARS1-B23-01445-02
Method: Eichrom ACW10

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 08/23/23 0:13

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Th-230	5.212E-6	5.795E-6		uCi/filter	111.2	75 - 125	9.7	25	1.060	3

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QC Sample Results

Analytical Batch: ARS1-B23-01445
Lab Sample ID: ARS1-B23-01445-03
Method: Eichrom ACW10

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 08/23/23 0:13

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Th-228	1.781E-8	8.148E-8	1.486E-7	6.624E-8	U	uCi/filter
Th-230	1.059E-7	7.928E-8	1.184E-7	5.123E-8	U	uCi/filter
Th-232	-1.175E-8	2.307E-8	6.326E-8	2.367E-8	U	uCi/filter

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QC Association Summary

ARS Sample Delivery Group: ARS1-23-01604

Analytical Batch: ARS1-B23-01445

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-B23-01445-01		Lab Control Sample	Air Filter	Eichrom ACW10	N/A
ARS1-B23-01445-02		Lab Control Sample Duplicate	Air Filter	Eichrom ACW10	N/A
ARS1-B23-01445-03		Method Blank	Air Filter	Eichrom ACW10	N/A
ARS1-B23-01445-04	ARS1-23-01604-001	FBC-071723	Air Filter	Eichrom ACW10	N/A
ARS1-B23-01445-05	ARS1-23-01604-002	MSC01-071723	Air Filter	Eichrom ACW10	N/A
ARS1-B23-01445-06	ARS1-23-01604-003	MSC02-071723	Air Filter	Eichrom ACW10	N/A

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QC Sample Results

Analytical Batch: ARS1-B23-01472
Lab Sample ID: ARS1-B23-01472-01
Method: Eichrom SRW01

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 08/23/23 11:00

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
SR-90	2.034E-5	2.168E-5		uCi/filter	106.6	75 - 125

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QC Sample Results

Analytical Batch: ARS1-B23-01472
Lab Sample ID: ARS1-B23-01472-02
Method: Eichrom SRW01

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 08/23/23 11:00

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
SR-90	2.038E-5	2.105E-5		uCi/filter	103.3	75 - 125	2.9	25	0.266	3

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QC Sample Results

Analytical Batch: ARS1-B23-01472
Lab Sample ID: ARS1-B23-01472-03
Method: Eichrom SRW01

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 08/23/23 11:00

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
SR-90	1.331E-7	2.328E-6	4.222E-6	1.942E-6	U	uCi/filter

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QC Association Summary

ARS Sample Delivery Group: ARS1-23-01604

Analytical Batch: ARS1-B23-01472

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

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B23-01472-01		Lab Control Sample	Air Filter	Eichrom SRW01	N/A
ARS1-B23-01472-02		Lab Control Sample Duplicate	Air Filter	Eichrom SRW01	N/A
ARS1-B23-01472-03		Method Blank	Air Filter	Eichrom SRW01	N/A
ARS1-B23-01472-04	ARS1-23-01604-001	FBC-071723	Air Filter	Eichrom SRW01	N/A
ARS1-B23-01472-05	ARS1-23-01604-002	MSC01-071723	Air Filter	Eichrom SRW01	N/A
ARS1-B23-01472-06	ARS1-23-01604-003	MSC02-071723	Air Filter	Eichrom SRW01	N/A

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Batch QC

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QC Results per Analytical Batch

Analytical Batch	**ARS1-B23-01298**
SDG	**ARS1-23-01604**
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: 08/02/23 12:32 | Analysis Technician: [redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-01298-01	**LCS**	AM-241	31.760	2.467	33.065	96.1	0.120
ARS1-B23-01298-01	**LCS**	CO-60	21.862	1.189	20.928	104.5	0.489
ARS1-B23-01298-01	**LCS**	CS-137	13.103	0.699	12.996	100.8	0.070

Duplicate RER/DER/RPD

Analysis Date: 08/02/23 12:48 | Analysis Technician: [redacted]

Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD
AM-241	31.760	2.467	31.676	2.460	0.047	0.3
CO-60	21.862	1.189	22.245	1.189	0.446	1.7
CS-137	13.103	0.699	13.193	0.704	0.178	0.7

Method Blank

Analysis Date: 08/02/23 13:53 | Analysis Technician: [redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual
ARS1-B23-01298-03	**MBL**	AC-228	-0.006	0.006	0.006	U
ARS1-B23-01298-03	**MBL**	AM-241	-5.293E-4	0.001	0.002	U
ARS1-B23-01298-03	**MBL**	BI-212	0.006	0.010	0.011	U
ARS1-B23-01298-03	**MBL**	BI-214	0.002	0.001	0.004	U
ARS1-B23-01298-03	**MBL**	CO-60	8.704E-4	0.001	0.001	U
ARS1-B23-01298-03	**MBL**	CS-137	1.004E-4	0.001	0.002	U
ARS1-B23-01298-03	**MBL**	EU-152	5.250E-4	0.001	0.002	U
ARS1-B23-01298-03	**MBL**	EU-154	-9.151E-5	0.001	0.001	U
ARS1-B23-01298-03	**MBL**	K-40	-0.025	0.024	0.024	U
ARS1-B23-01298-03	**MBL**	PA-234	-8.223E-4	0.002	0.004	U
ARS1-B23-01298-03	**MBL**	PB-210	0.001	0.015	0.017	U
ARS1-B23-01298-03	**MBL**	PB-212	-0.002	0.002	0.002	U
ARS1-B23-01298-03	**MBL**	PB-214	-0.003	0.003	0.003	U
ARS1-B23-01298-03	**MBL**	RA-226	-0.009	0.016	0.027	U
ARS1-B23-01298-03	**MBL**	RA-228	-0.006	0.006	0.006	U
ARS1-B23-01298-03	**MBL**	TH-234	0.006	0.015	0.017	U
ARS1-B23-01298-03	**MBL**	TL-208	-0.001	0.002	0.002	U
ARS1-B23-01298-03	**MBL**	U-235	-0.004	0.007	0.007	U
ARS1-B23-01298-03	**MBL**	U-238	0.006	0.015	0.017	U

QC Results per Analytical Batch

Analytical Batch	**ARS1-B23-01421**
SDG	**ARS1-23-01604**
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	08/19/23 03:44	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-01421-01	**LCS**	PU-239/240	7.266E-6	9.079E-7	7.656E-6	94.9	3.433E-8

Duplicate RER/DER/RPD

Analysis Date	08/19/23 03:44	Analysis Technician	[redacted]

Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD
PU-239/240	7.266E-6	9.079E-7	7.614E-6	9.530E-7	0.518	4.7

Method Blank

Analysis Date	08/19/23 03:44	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual
ARS1-B23-01421-03	**MBL**	PU-238	6.526E-9	4.612E-8	9.206E-8	U
ARS1-B23-01421-03	**MBL**	PU-239/240	-7.831E-8	7.732E-8	1.664E-7	U

QC Results per Analytical Batch

Analytical Batch	**ARS1-B23-01445**
SDG	**ARS1-23-01604**
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	08/23/23 00:13	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-01445-01	**LCS**	TH-230	6.383E-6	8.048E-7	5.222E-6	122.2	4.132E-8

Duplicate RER/DER/RPD

Analysis Date	08/23/23 00:13	Analysis Technician	[redacted]

Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD
TH-230	6.383E-6	8.048E-7	5.795E-6	7.311E-7	1.060	9.7

Method Blank

Analysis Date	08/23/23 00:13	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual
ARS1-B23-01445-03	**MBL**	TH-228	1.781E-8	8.148E-8	1.486E-7	U
ARS1-B23-01445-03	**MBL**	TH-230	1.059E-7	7.928E-8	1.184E-7	U
ARS1-B23-01445-03	**MBL**	TH-232	-1.175E-8	2.307E-8	6.326E-8	U

QC Results per Analytical Batch

Analytical Batch	**ARS1-B23-01472**
SDG	**ARS1-23-01604**
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	08/23/23 11:00	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-01472-01	**LCS**	SR-90	2.168E-5	3.310E-6	2.034E-5	106.6	3.610E-7

Duplicate RER/DER/RPD

Analysis Date	08/23/23 11:00	Analysis Technician	[redacted]

Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD
SR-90	2.168E-5	3.310E-6	2.105E-5	3.233E-6	0.266	2.9

Method Blank

Analysis Date	08/23/23 11:00	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual
ARS1-B23-01472-03	**MBL**	SR-90	1.331E-7	2.328E-6	4.222E-6	U

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

ARS Aleut Analytical, LLC
Analytical Reports

for

GES-AIS, LLC

Sample Management Records

CHAIN-OF-CUSTODY RECORD

Gilbane Federal
[redacted]
1501 W Fountainhead Parkway, Suite 550, Tempe, Arizona 85282
[redacted]

COC # [redacted]072523RADC

GES

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 change below crossed out dates from 07/18/23 to 07/20/23. Thank you. [redacted] 8/21/23

Equipment:

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

						Analytical Test Method	E901.1 - Gamma Spec Ra226 Cs137	RC0240 - Pu and Th Isotopes	SR02RC - Sr90										
Event: Parcel C Air Monitoring RAD							15	15	5										
	Sample ID	Matrix	Date	Time	Samp Init.											Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
1	FBC-071723	AQ	07/17/2023	0800	[redacted]		X	X	X							FIELDQC	FB2	0.00	0.00	1	
2	MSC01-071723	A	~~07/18/2023~~	1536			X	X	X							MSC01	N1	0.00	0.00	1	
3	MSC02-071723	A	~~07/18/2023~~	1534			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]	7/25/23	1600	[redacted]	7/25/23	1600	Shipping Date: 7/25/2023 / FEDEX / 7728 3214 3608
				7-26-23	1355	Received by Laboratory: *(Signature, Date, Time)* & condition

GES.Navy_COC_Field
July 10, 2023

Procedures: GES-003 / EPA 900.0M

File ID Number: [redacted]072523RADC

Start Date 7/17/23
Stop Date 7/20/23

Field Entry

	Station	Sample ID	Date In:	Time In:	Date Out:	Time Out:	Flow Rate (LPM)	Flow Rate (LPM)	Flow volume Cu.M	Julian Date for Date Out	Total Run Time (Days)	Total Run Time (Hours)	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)
		FBC-071723	7/17/2023	800	7/17/2023	800														
1	MSC01	MSC01-071723	07/17/23	4:50	07/20/23	15:36	60	60	298.0	201	3.45	82.77	4966.0	60	2.11888	2.11888	2.11888	3.6	0.06	297.960
2	MSC02	MSC02-071723	07/17/23	5:00	07/20/23	15:34	60	60	297.2	201	3.44	82.57	4954.0	60	2.11888	2.11888	2.11888	3.6	0.06	297.240

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	ARS1-23-01604		TAT Days	28 Calendar Days	Project Type	Environmental
Sample Count	3	Rpt Level 2b	Date Received	07/26/2023	COC Number	[redacted]072523RADC
Client	GES-AIS, LLC		Discrepancy Resol	N/A	PO Number	
Client Code	1138		Client Deadline	08/23/2023	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-071723	Air Filter	07/17/2023 07:59	07/17/2023 08:00	H	30	10	PrePrep	
	IC_ID	**Cnt**	**Container Type**	**AF Volume (L)**	**AF Units**		**Rate**	**Mins**	**Comments**
	444841	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	07/17/2023 07:59	AF Volume (CuM):		0.001		
002	MSC01-071723	Air Filter	07/20/2023 15:35	07/20/2023 15:36	H	30	10	PrePrep	
	IC_ID	**Cnt**	**Container Type**	**AF Volume (L)**	**AF Units**		**Rate**	**Mins**	**Comments**
	444842	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	07/20/2023 15:35	AF Volume (CuM):		0.001		
003	MSC02-071723	Air Filter	07/20/2023 15:33	07/20/2023 15:34	H	30	10	PrePrep	
	IC_ID	**Cnt**	**Container Type**	**AF Volume (L)**	**AF Units**		**Rate**	**Mins**	**Comments**
	444843	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	07/20/2023 15:33	AF Volume (CuM):		0.001		

SDG Report - Analysis Assignments

SDG	**ARS1-23-01604**	**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: 2b

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	

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 / 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	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: ARS1-23-01604

Sample Custodian: [redacted] Survey Start Date: 7-26-23 Survey Start Time: 2:01

Thermometer ID: E10540122661 Calibration Due Date: 1-12-24 pH Paper Lot# NA

Exposure Rate Meter + Probe Unit ID: 273629 Calibration Due Date: 9-13-23 Background: 6 µR/hr

Count Rate Meter + Probe Unit ID: 268993 Calibration Due Date: 9-19-23 Background: 20 cpm

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

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

External Shipping Container Tracking:	Exposure Rate (µR/hr) (limit <500 µR/hr)	Max External Swipe Counts (cpm)	Max Internal Swipe Counts (cpm)	ESC True Temps* (°C)	TRAX Matrix ID (circle all that apply): (See Section 4.3 of SOP)
A: 7728 3214 3608	6	20	20	—	AQ WD WG WO
B:					WS WW SI UR
C:					SO OL BI VG
D:					WP SM (AF)
E:					
F:					

Visual Inspection: External Shipping Container (Circle response)

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 reliquished/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: GES

SDG: ARS1-23-01604

Pipette ID: NA Tip Lot#: NA

Disposible pipette lot#: NA

Sample ID from Client on COC or Sample	ESC Letter	Sample Container Type	Approx. Fill Level (%)	pH <2 is Acceptable: pH As Rec'd	pH <2 is Acceptable: pH Adjusted	Acid Lot # or Ind container temp (°C)	Vol. of Acid Used (mL)	Acceptance Limits: <100 cpm/cm² cpm
FBC-071723	A	AF	N/A	NA	NA	NA	NA	20
MSC01-071723	↓	↓	↓	↓	↓	↓	↓	↓
MSC02-071723	↓	↓	↓	↓	↓	↓	↓	↓

Sample Custodian [redacted] Survey End Date: 7-26-23 Survey/pH End Time: 14:06

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

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

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

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

ORIGIN ID: ICCA [redacted]

200 FISHER STREET

SAN FRANCISCO, CA 94124
UNITED STATES US

SHIP DATE: 25JUL23
ACTWGT: 1.00 LB
CAD: 254128867/INET4640

BILL SENDER

TO [redacted]

ARS ALEUT ANALYTICAL, LLC
2609 NORTH RIVER ROAD

PORT ALLEN LA 70767
(225) 381-2991
INV:
PO:
REF: J31000.600.02.04.05
DEPT:

583J/#6AE4/9AE3

FedEx Express

J23302307100uv

WED - 26 JUL 4:30P
STANDARD OVERNIGHT

TRK# 0201 **7728 3214 3608**

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.
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ARS Aleut Analytical, LLC

Laboratory Analytical Report

ARS1-23-01651

GES-AIS, LLC
[redacted]
1501 West Fountainhead Parkway
Suite 550
Tempe, AZ 94520
[redacted]

COC Number: [redacted]**080123RADC**
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] 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.

NELAP ACCREDITED TNI LABORATORY LELAP Cert # 01949

ANAB ACCREDITED ISO/IEC 17025 DOD ELAP

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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	LA011312024-1
New Jersey	LA009
New York	66780 (NPW) / 66781 (SHW)
Texas	T104704447-22-18
Utah	LA011312023-14
Washington	C1010

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

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ARS Aleut Analytical, LLC
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for

GES-AIS, LLC

Case Narrative

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PROJECT SAMPLE IDENTIFICATION CROSS-REFERENCE
TO ARS SAMPLE LABORATORY IDs

Client Sample ID	ARS Aleut Analytical Sample ID
FBC-072423	ARS1-23-01651-001
MSC01-072423	ARS1-23-01651-002
MSC02-072423	ARS1-23-01651-003

Sample	Date Collected	Date Received	Analysis	Basis	Prep Date/Time	Analysis Date/Time
001	07/24/23 08:00	08/02/23	ASP-PU239-AF	As Received	08/29/23 13:56	09/02/23 03:01
001	07/24/23 08:00	08/02/23	ASP-TH-AF	As Received	08/31/23 07:30	09/06/23 03:17
001	07/24/23 08:00	08/02/23	GAM-A-AF	As Received	NA	08/23/23 14:03
001	07/24/23 08:00	08/02/23	GPC-SR90-AF	As Received	08/29/23 14:10	08/30/23 10:51
002	07/27/23 15:25	08/02/23	ASP-PU239-AF	As Received	08/29/23 13:56	09/02/23 03:01
002	07/27/23 15:25	08/02/23	ASP-TH-AF	As Received	08/29/23 07:30	08/31/23 01:50
002	07/27/23 15:25	08/02/23	GAM-A-AF	As Received	NA	08/19/23 15:12
002	07/27/23 15:25	08/02/23	GPC-SR90-AF	As Received	08/29/23 14:10	08/30/23 10:51
003	07/27/23 15:10	08/02/23	ASP-PU239-AF	As Received	08/29/23 13:56	09/02/23 03:01
003	07/27/23 15:10	08/02/23	ASP-TH-AF	As Received	08/29/23 07:30	08/31/23 01:50
003	07/27/23 15:10	08/02/23	GAM-A-AF	As Received	NA	08/21/23 14:13
003	07/27/23 15:10	08/02/23	GPC-SR90-AF	As Received	08/29/23 14:10	08/30/23 10:51

SAMPLE RECEIPT/PREP

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

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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-B23-01529 has elevated MDA for Pu-239/240 with ACT of 4.621E-8 uCi/filter, MDA of 1.328E-7 uCi/filter and CRDL of 4.8E-08 uCi/filter.
Fraction 001 in batch ARS1-B23-01540 has elevated MDA for Th-232 with ACT of 2.575E-8 uCi/filter, MDA of 9.697E-8 uCi/filter and CRDL of 1.4E-08 uCi/filter.
Fraction 001 in batch ARS1-B23-01453 has elevated MDA for Ra-226 with ACT of 7.729E-7 uCi/filter, MDA of 2.641E-5 uCi/filter and CRDL of 4.4E-06 uCi/filter.
Fraction 002 in batch ARS1-B23-01529 has elevated MDA for Pu-239/240 with ACT of -5.046E-8 uCi/filter, MDA of 1.228E-7 uCi/filter and CRDL of 4.8E-08 uCi/filter.
Fraction 002 in batch ARS1-B23-01453 has elevated MDA for Ra-226 with ACT of 3.753E-6 uCi/filter, MDA of 8.945E-6 uCi/filter and CRDL of 4.4E-06 uCi/filter.
Fraction 003 in batch ARS1-B23-01529 has elevated MDA for Pu-239/240 with ACT of -8.569E-8 uCi/filter, MDA of 1.282E-7 uCi/filter and CRDL of 4.8E-08 uCi/filter.
Fraction 003 in batch ARS1-B23-01519 has elevated MDA for Th-232 with ACT of 6.908E-8 uCi/filter, MDA of 6.917E-8 uCi/filter and CRDL of 1.4E-08 uCi/filter.
Fraction 003 in batch ARS1-B23-01453 has elevated MDA for Ra-226 with ACT of 4.216E-6 uCi/filter, MDA of 2.628E-5 uCi/filter and CRDL of 4.4E-06 uCi/filter.

ARS1-B23-01519: ROI's adjusted to better fit the peaks of interest.

ARS1-B23-01529: ROI's adjusted to better fit the peaks of interest.

ARS1-B23-01540: 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
ǂ	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-226 after ingrowth is determined via secular equilibrium with its daughter, Bismuth 214 (Gamma Spectroscopy only).

5.0) Ra-228 is determined via secular equilibrium with its daughter, Actinium 228 (Gamma Spectroscopy only).

6.0) U-238 is determined via secular equilibrium with its daughter, Thorium 234 (Gamma Spectroscopy only).

7.0) All gamma spectroscopy was performed utilizing high purity germanium detectors (**HPGe**).

8.0) 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).

9.0) Gamma spectroscopy results are calculated values based on the **ORTEC®** GammaVision ENV32 Analysis Engine.

10.0) 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, Eichrom ACW16, HASL 300 Se-03, HASL 300 Am-03); Neptunium 237 (Eichrom ACW16); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, Eichrom ACW16, HASL 300 Se-03, HASL 300 Pu-10); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235,

11.0) Uranium-238 (Eichrom ACW03, Eichrom ACW16, HASL 300 Se-03); Technetium-99 (Eichrom TCW02)
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); Neptunium 237 (Eichrom ACW16); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, Eichrom ACW16, HASL 300 Se-03, HASL 300 Pu-

12.0) 02-RC, HASL 300 Pu-03-RC); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235, Uranium-238 (Eichrom ACW03, Eichrom ACW16, HASL 300 Se-03, HASL 300 U-02, HASL 300 U-04); Technetium-99 (Eichrom TCS01)
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); Neptunium 237 (Eichrom ACW16); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, Eichrom ACW16, HASL 300 Se-03); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235, Uranium-238 (Eichrom ACW03, Eichrom ACW16, 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.

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ARS Aleut Analytical, LLC
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for

GES-AIS, LLC

Analytical Results

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ARS Sample Delivery Group: ARS1-23-01651
Client Sample ID: FBC-072423
Sample Collection Date: 07/24/23 8:00
Sample Matrix: Air Filter
Percent Solids: N/A

Request or PO Number: J310000600
ARS Sample ID: ARS1-23-01651-001
Date Received: 08/02/23
Report Date: 09/11/23

Radiochemistry

Analysis Method: Eichrom ACW03 **ABatch Sample ID:** ARS1-B23-01529-04

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	4.621E-8	7.699E-8	1.328E-7	5.857E-8	4.8E-08	U	uCi/filter	09/02/23 3:01	[redacted]	69.0%

Analysis Method: Eichrom ACW10 **ABatch Sample ID:** ARS1-B23-01540-04

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	2.575E-8	5.445E-8	9.697E-8	4.150E-8	1.4E-08	U	uCi/filter	09/06/23 3:17	[redacted]	76.8%

Analysis Method: EPA 901.1M **ABatch Sample ID:** ARS1-B23-01453-04

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	-4.171E-7	1.636E-6	1.679E-6	8.395E-7	0.00024	U	uCi/filter	08/23/23 14:03	[redacted]	N/A
Cs-137	-3.631E-7	1.425E-6	1.601E-6	8.005E-7	0.00048	U	uCi/filter	08/23/23 14:03	[redacted]	N/A
Ra-226	7.729E-7	1.582E-5	2.641E-5	1.321E-5	4.4E-06	U	uCi/filter	08/23/23 14:03	[redacted]	N/A

Analysis Method: Eichrom SRW01 **ABatch Sample ID:** ARS1-B23-01530-04

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	7.626E-7	2.282E-6	4.011E-6	1.851E-6	2.4E-05	U	uCi/filter	08/30/23 10:51	[redacted]	91.4%

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ARS Sample Delivery Group: ARS1-23-01651
Client Sample ID: MSC01-072423
Sample Collection Date: 07/27/23 15:25
Sample Matrix: Air Filter
Percent Solids: N/A

Request or PO Number: J310000600
ARS Sample ID: ARS1-23-01651-002
Date Received: 08/02/23
Report Date: 09/11/23

Radiochemistry

Analysis Method: Eichrom ACW03 **ABatch Sample ID:** ARS1-B23-01529-05

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-5.046E-8	5.529E-8	1.228E-7	5.378E-8	4.8E-08	U	uCi/filter	09/02/23 3:01	[redacted]	72.3%

Analysis Method: Eichrom ACW10 **ABatch Sample ID:** ARS1-B23-01519-05

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	7.889E-8	5.267E-8	6.771E-8	2.622E-8	1.4E-08		uCi/filter	08/31/23 1:50	[redacted]	76.0%

Analysis Method: EPA 901.1M **ABatch Sample ID:** ARS1-B23-01453-05

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Bi-214	2.053E-6	1.084E-6	1.327E-6	6.635E-7	NP		uCi/filter	08/19/23 15:12	[redacted]	N/A
Co-60	-6.074E-7	9.874E-7	9.995E-7	4.998E-7	0.00024	U	uCi/filter	08/19/23 15:12		N/A
Cs-137	1.597E-8	6.710E-7	7.324E-7	3.662E-7	0.00048	U	uCi/filter	08/19/23 15:12		N/A
K-40	1.780E-5	7.187E-6	7.703E-6	3.852E-6	NP		uCi/filter	08/19/23 15:12		N/A
Pb-212	9.928E-7	4.922E-7	6.948E-7	3.474E-7	NP		uCi/filter	08/19/23 15:12		N/A
Pb-214	2.213E-6	7.658E-7	1.084E-6	5.420E-7	NP		uCi/filter	08/19/23 15:12		N/A
Ra-226	3.753E-6	7.110E-6	8.945E-6	4.473E-6	4.4E-06	U	uCi/filter	08/19/23 15:12		N/A

Analysis Method: Eichrom SRW01 **ABatch Sample ID:** ARS1-B23-01530-05

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	2.009E-6	2.605E-6	4.359E-6	2.026E-6	2.4E-05	U	uCi/filter	08/30/23 10:51	[redacted]	93.9%

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ARS Sample Delivery Group: ARS1-23-01651
Client Sample ID: MSC02-072423
Sample Collection Date: 07/27/23 15:10
Sample Matrix: Air Filter
Percent Solids: N/A

Request or PO Number: J310000600
ARS Sample ID: ARS1-23-01651-003
Date Received: 08/02/23
Report Date: 09/11/23

Radiochemistry

Analysis Method: Eichrom ACW03 **ABatch Sample ID:** ARS1-B23-01529-06

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-8.569E-8	5.234E-8	1.282E-7	5.638E-8	4.8E-08	U	uCi/filter	09/02/23 3:01	[redacted]	71.5%

Analysis Method: Eichrom ACW10 **ABatch Sample ID:** ARS1-B23-01519-06

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	6.908E-8	5.115E-8	6.917E-8	2.679E-8	1.4E-08	U	uCi/filter	08/31/23 1:50	[redacted]	70.8%

Analysis Method: EPA 901.1M **ABatch Sample ID:** ARS1-B23-01453-06

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	4.408E-7	1.436E-6	1.478E-6	7.390E-7	0.00024	U	uCi/filter	08/21/23 14:13	[redacted]	N/A
Cs-137	-8.128E-7	1.523E-6	1.698E-6	8.490E-7	0.00048	U	uCi/filter	08/21/23 14:13		N/A
Ra-226	4.216E-6	1.580E-5	2.628E-5	1.314E-5	4.4E-06	U	uCi/filter	08/21/23 14:13		N/A

Analysis Method: Eichrom SRW01 **ABatch Sample ID:** ARS1-B23-01530-06

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	8.340E-7	2.251E-6	3.936E-6	1.821E-6	2.4E-05	U	uCi/filter	08/30/23 10:51	[redacted]	99.0%

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QC Summary

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QC Sample Results

Analytical Batch: ARS1-B23-01453
Lab Sample ID: ARS1-B23-01453-01
Method: EPA 901.1M

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 08/23/23 7:19

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Am-241	33.065	31.314		uCi/filter	94.7	75 - 125
Co-60	20.928	20.551		uCi/filter	98.2	75 - 125
Cs-137	12.996	13.391		uCi/filter	103.0	75 - 125

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QC Sample Results

Analytical Batch: ARS1-B23-01453
Lab Sample ID: ARS1-B23-01453-02
Method: EPA 901.1M

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 08/23/23 7:32

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Am-241	33.065	31.413		uCi/filter	95.0	75 - 125	0.3	25	0.057	3
Co-60	20.928	21.076		uCi/filter	100.7	75 - 125	2.5	25	0.543	3
Cs-137	12.996	12.947		uCi/filter	99.6	75 - 125	3.4	25	0.716	3

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QC Sample Results

Analytical Batch: ARS1-B23-01453
Lab Sample ID: ARS1-B23-01453-03
Method: EPA 901.1M

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 08/22/23 14:02

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Ac-228	-2.761E-6	5.647E-6	6.099E-6	3.050E-6	U	uCi/filter
Am-241	4.984E-7	1.286E-6	2.131E-6	1.066E-6	U	uCi/filter
Bi-212	3.093E-7	1.196E-5	1.349E-5	6.745E-6	U	uCi/filter
Bi-214	-2.672E-6	4.228E-6	3.926E-6	1.963E-6	U	uCi/filter
Co-60	-6.084E-7	1.698E-6	1.736E-6	8.680E-7	U	uCi/filter
Cs-137	-5.696E-7	1.421E-6	1.591E-6	7.955E-7	U	uCi/filter
Eu-152	-4.818E-7	1.399E-6	1.848E-6	9.240E-7	U	uCi/filter
Eu-154	4.863E-7	2.801E-6	1.304E-6	6.520E-7	U	uCi/filter
K-40	-1.128E-5	2.302E-5	2.215E-5	1.108E-5	U	uCi/filter
Pa-234	-3.772E-6	3.467E-6	2.325E-6	1.163E-6	U	uCi/filter
Pb-210	-1.044E-5	1.449E-5	1.711E-5	8.555E-6	U	uCi/filter
Pb-212	-9.735E-7	2.360E-6	3.012E-6	1.506E-6	U	uCi/filter
Pb-214	4.117E-7	2.984E-7	3.153E-6	1.577E-6	U	uCi/filter
Ra-226	1.736E-5	1.407E-5	1.736E-5	8.680E-6	U	uCi/filter
Ra-228	-2.761E-6	5.647E-6	6.099E-6	3.050E-6	U	uCi/filter
Th-234	-1.369E-5	1.636E-5	1.729E-5	8.645E-6	U	uCi/filter
Tl-208	-7.326E-7	1.838E-6	1.662E-6	8.310E-7	U	uCi/filter
U-235	-4.393E-6	6.023E-6	6.538E-6	3.269E-6	U	uCi/filter
U-238	-1.369E-5	1.636E-5	1.729E-5	8.645E-6	U	uCi/filter

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QC Association Summary

ARS Sample Delivery Group: ARS1-23-01651 **Analytical Batch:** ARS1-B23-01453

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

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B23-01453-01		Lab Control Sample	Air Filter	EPA 901.1M	N/A
ARS1-B23-01453-02		Lab Control Sample Duplicate	Air Filter	EPA 901.1M	N/A
ARS1-B23-01453-03		Method Blank	Air Filter	EPA 901.1M	N/A
ARS1-B23-01453-04	ARS1-23-01651-001	FBC-072423	Air Filter	EPA 901.1M	N/A
ARS1-B23-01453-05	ARS1-23-01651-002	MSC01-072423	Air Filter	EPA 901.1M	N/A
ARS1-B23-01453-06	ARS1-23-01651-003	MSC02-072423	Air Filter	EPA 901.1M	N/A

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QC Sample Results

Analytical Batch: ARS1-B23-01519
Lab Sample ID: ARS1-B23-01519-01
Method: Eichrom ACW10

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 08/31/23 1:50

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Th-230	5.217E-6	5.369E-6		uCi/filter	102.9	75 - 125

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QC Sample Results

Analytical Batch: ARS1-B23-01519
Lab Sample ID: ARS1-B23-01519-02
Method: Eichrom ACW10

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 08/31/23 1:50

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Th-230	5.212E-6	5.344E-6		uCi/filter	102.5	75 - 125	0.5	25	0.051	3

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QC Sample Results

Analytical Batch: ARS1-B23-01519
Lab Sample ID: ARS1-B23-01519-03
Method: Eichrom ACW10

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 08/31/23 1:50

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Th-228	3.898E-8	6.510E-8	1.132E-7	4.779E-8	U	uCi/filter
Th-230	6.459E-9	4.904E-8	9.701E-8	3.976E-8	U	uCi/filter
Th-232	2.578E-8	4.007E-8	6.942E-8	2.597E-8	U	uCi/filter

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QC Association Summary

ARS Sample Delivery Group: ARS1-23-01651

Analytical Batch: ARS1-B23-01519

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-B23-01519-01		Lab Control Sample	Air Filter	Eichrom ACW10	N/A
ARS1-B23-01519-02		Lab Control Sample Duplicate	Air Filter	Eichrom ACW10	N/A
ARS1-B23-01519-03		Method Blank	Air Filter	Eichrom ACW10	N/A
ARS1-B23-01519-05	ARS1-23-01651-002	MSC01-072423	Air Filter	Eichrom ACW10	N/A
ARS1-B23-01519-06	ARS1-23-01651-003	MSC02-072423	Air Filter	Eichrom ACW10	N/A

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QC Sample Results

Analytical Batch: ARS1-B23-01529
Lab Sample ID: ARS1-B23-01529-01
Method: Eichrom ACW03

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 09/02/23 3:01

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Pu-239/240	7.571E-6	7.535E-6		uCi/filter	99.5	75 - 125

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QC Sample Results

Analytical Batch: ARS1-B23-01529
Lab Sample ID: ARS1-B23-01529-02
Method: Eichrom ACW03

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 09/02/23 3:01

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Pu-239/240	7.705E-6	7.339E-6		uCi/filter	95.3	75 - 125	2.6	25	0.292	3

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QC Sample Results

Analytical Batch: ARS1-B23-01529
Lab Sample ID: ARS1-B23-01529-03
Method: Eichrom ACW03

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 09/02/23 3:01

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Pu-238	3.430E-8	6.547E-8	1.150E-7	4.976E-8	U	uCi/filter
Pu-239/240	-5.716E-9	8.002E-8	1.511E-7	6.781E-8	U	uCi/filter

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QC Association Summary

ARS Sample Delivery Group: ARS1-23-01651

Analytical Batch: ARS1-B23-01529

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-B23-01529-01		Lab Control Sample	Air Filter	Eichrom ACW03	N/A
ARS1-B23-01529-02		Lab Control Sample Duplicate	Air Filter	Eichrom ACW03	N/A
ARS1-B23-01529-03		Method Blank	Air Filter	Eichrom ACW03	N/A
ARS1-B23-01529-04	ARS1-23-01651-001	FBC-072423	Air Filter	Eichrom ACW03	N/A
ARS1-B23-01529-05	ARS1-23-01651-002	MSC01-072423	Air Filter	Eichrom ACW03	N/A
ARS1-B23-01529-06	ARS1-23-01651-003	MSC02-072423	Air Filter	Eichrom ACW03	N/A

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QC Sample Results

Analytical Batch: ARS1-B23-01530
Lab Sample ID: ARS1-B23-01530-01
Method: Eichrom SRW01

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 08/30/23 10:51

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
SR-90	2.001E-5	2.221E-5		uCi/filter	111.0	75 - 125

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QC Sample Results

Analytical Batch: ARS1-B23-01530
Lab Sample ID: ARS1-B23-01530-02
Method: Eichrom SRW01

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 08/30/23 10:51

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
SR-90	1.999E-5	2.105E-5		uCi/filter	105.3	75 - 125	5.4	25	0.486	3

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QC Sample Results

Analytical Batch: ARS1-B23-01530
Lab Sample ID: ARS1-B23-01530-03
Method: Eichrom SRW01

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 08/30/23 10:51

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
SR-90	1.038E-6	2.496E-6	4.354E-6	2.003E-6	U	uCi/filter

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QC Association Summary

ARS Sample Delivery Group: ARS1-23-01651

Analytical Batch: ARS1-B23-01530

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

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B23-01530-01		Lab Control Sample	Air Filter	Eichrom SRW01	N/A
ARS1-B23-01530-02		Lab Control Sample Duplicate	Air Filter	Eichrom SRW01	N/A
ARS1-B23-01530-03		Method Blank	Air Filter	Eichrom SRW01	N/A
ARS1-B23-01530-04	ARS1-23-01651-001	FBC-072423	Air Filter	Eichrom SRW01	N/A
ARS1-B23-01530-05	ARS1-23-01651-002	MSC01-072423	Air Filter	Eichrom SRW01	N/A
ARS1-B23-01530-06	ARS1-23-01651-003	MSC02-072423	Air Filter	Eichrom SRW01	N/A

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QC Sample Results

Analytical Batch: ARS1-B23-01540
Lab Sample ID: ARS1-B23-01540-01
Method: Eichrom ACW10

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 09/06/23 3:17

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Th-230	5.222E-6	5.742E-6		uCi/filter	110.0	75 - 125

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QC Sample Results

Analytical Batch: ARS1-B23-01540
Lab Sample ID: ARS1-B23-01540-02
Method: Eichrom ACW10

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 09/06/23 3:17

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Th-230	5.212E-6	5.852E-6		uCi/filter	112.3	75 - 125	1.9	25	0.207	3

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QC Sample Results

Analytical Batch: ARS1-B23-01540
Lab Sample ID: ARS1-B23-01540-03
Method: Eichrom ACW10

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 09/06/23 3:17

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Th-228	9.450E-8	9.740E-8	1.558E-7	6.628E-8	U	uCi/filter
Th-230	8.507E-8	9.190E-8	1.482E-7	6.258E-8	U	uCi/filter
Th-232	-1.698E-8	4.081E-8	1.020E-7	3.950E-8	U	uCi/filter

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QC Association Summary

ARS Sample Delivery Group: ARS1-23-01651

Analytical Batch: ARS1-B23-01540

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-B23-01540-01		Lab Control Sample	Air Filter	Eichrom ACW10	N/A
ARS1-B23-01540-02		Lab Control Sample Duplicate	Air Filter	Eichrom ACW10	N/A
ARS1-B23-01540-03		Method Blank	Air Filter	Eichrom ACW10	N/A
ARS1-B23-01540-04	ARS1-23-01651-001	FBC-072423	Air Filter	Eichrom ACW10	N/A

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QC Results per Analytical Batch

Analytical Batch	**ARS1-B23-01453**
SDG	**ARS1-23-01651**
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	08/23/23 07:19	Analysis Technician	[redacted]	
Analysis Batch Sample ID	**QC Type**	**Analyte**	**Results**	**CSU (2s)**	**Expected Value**	**LCS Rec (%)**	**MDA**
ARS1-B23-01453-01	**LCS**	AM-241	31.314	2.383	33.065	94.7	0.117
ARS1-B23-01453-01	**LCS**	CO-60	20.551	1.423	20.928	98.2	0.430
ARS1-B23-01453-01	**LCS**	CS-137	13.391	0.873	12.996	103.0	0.071

Duplicate RER/DER/RPD

		Analysis Date	08/23/23 07:32	Analysis Technician	[redacted]	
Analyte	**Results LCS**	**CSU LCS (2s)**	**Results LCSD**	**CSU LCSD (2s)**	**DER**	**RPD**
AM-241	31.314	2.383	31.413	2.391	0.057	0.3
CO-60	20.551	1.423	21.076	1.253	0.543	2.5
CS-137	13.391	0.873	12.947	0.846	0.716	3.4

Method Blank

			Analysis Date	08/22/23 14:02	Analysis Technician	[redacted]	
Analysis Batch Sample ID	**QC Type**	**Analyte**	**Results**	**CSU (2s)**	**MDA**	**Qual**	
ARS1-B23-01453-03	**MBL**	AC-228	-2.761E-6	5.647E-6	6.099E-6	U	
ARS1-B23-01453-03	**MBL**	AM-241	4.984E-7	1.286E-6	2.131E-6	U	
ARS1-B23-01453-03	**MBL**	BI-212	3.093E-7	1.196E-5	1.349E-5	U	
ARS1-B23-01453-03	**MBL**	BI-214	-2.672E-6	4.228E-6	3.926E-6	U	
ARS1-B23-01453-03	**MBL**	CO-60	-6.084E-7	1.698E-6	1.736E-6	U	
ARS1-B23-01453-03	**MBL**	CS-137	-5.696E-7	1.421E-6	1.591E-6	U	
ARS1-B23-01453-03	**MBL**	EU-152	-4.818E-7	1.399E-6	1.848E-6	U	
ARS1-B23-01453-03	**MBL**	EU-154	4.863E-7	2.801E-6	1.304E-6	U	
ARS1-B23-01453-03	**MBL**	K-40	-1.128E-5	2.302E-5	2.215E-5	U	
ARS1-B23-01453-03	**MBL**	PA-234	-3.772E-6	3.467E-6	2.325E-6	U	
ARS1-B23-01453-03	**MBL**	PB-210	-1.044E-5	1.449E-5	1.711E-5	U	
ARS1-B23-01453-03	**MBL**	PB-212	-9.735E-7	2.360E-6	3.012E-6	U	
ARS1-B23-01453-03	**MBL**	PB-214	4.117E-7	2.984E-7	3.153E-6	U	
ARS1-B23-01453-03	**MBL**	RA-226	1.736E-5	1.407E-5	1.736E-5	U	
ARS1-B23-01453-03	**MBL**	RA-228	-2.761E-6	5.647E-6	6.099E-6	U	
ARS1-B23-01453-03	**MBL**	TH-234	-1.369E-5	1.636E-5	1.729E-5	U	
ARS1-B23-01453-03	**MBL**	TL-208	-7.326E-7	1.838E-6	1.662E-6	U	
ARS1-B23-01453-03	**MBL**	U-235	-4.393E-6	6.023E-6	6.538E-6	U	
ARS1-B23-01453-03	**MBL**	U-238	-1.369E-5	1.636E-5	1.729E-5	U	

QC Results per Analytical Batch

Analytical Batch	**ARS1-B23-01519**
SDG	**ARS1-23-01651**
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	08/31/23 01:50	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-01519-01	**LCS**	TH-230	5.369E-6	6.758E-7	5.217E-6	102.9	4.180E-8

Duplicate RER/DER/RPD

Analysis Date	08/31/23 01:50	Analysis Technician	[redacted]

Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD
TH-230	5.369E-6	6.758E-7	5.344E-6	6.725E-7	0.051	0.5

Method Blank

Analysis Date	08/31/23 01:50	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual
ARS1-B23-01519-03	**MBL**	TH-228	3.898E-8	6.510E-8	1.132E-7	U
ARS1-B23-01519-03	**MBL**	TH-230	6.459E-9	4.904E-8	9.701E-8	U
ARS1-B23-01519-03	**MBL**	TH-232	2.578E-8	4.007E-8	6.942E-8	U

QC Results per Analytical Batch

Analytical Batch	**ARS1-B23-01529**
SDG	**ARS1-23-01651**
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	09/02/23 03:01	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-01529-01	**LCS**	PU-239/240	7.535E-6	9.409E-7	7.571E-6	99.5	4.190E-8

Duplicate RER/DER/RPD

Analysis Date	09/02/23 03:01	Analysis Technician	[redacted]

Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD
PU-239/240	7.535E-6	9.409E-7	7.339E-6	9.158E-7	0.292	2.6

Method Blank

Analysis Date	09/02/23 03:01	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual
ARS1-B23-01529-03	**MBL**	PU-238	3.430E-8	6.547E-8	1.150E-7	U
ARS1-B23-01529-03	**MBL**	PU-239/240	-5.716E-9	8.002E-8	1.511E-7	U

QC Results per Analytical Batch

Analytical Batch	**ARS1-B23-01530**
SDG	**ARS1-23-01651**
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	08/30/23 10:51	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-01530-01	**LCS**	SR-90	2.221E-5	3.384E-6	2.001E-5	111.0	3.547E-7

Duplicate RER/DER/RPD

Analysis Date	08/30/23 10:51	Analysis Technician	[redacted]

Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD
SR-90	2.221E-5	3.384E-6	2.105E-5	3.217E-6	0.486	5.4

Method Blank

Analysis Date	08/30/23 10:51	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual
ARS1-B23-01530-03	**MBL**	SR-90	1.038E-6	2.496E-6	4.354E-6	U

QC Results per Analytical Batch

Analytical Batch	**ARS1-B23-01540**
SDG	**ARS1-23-01651**
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	09/06/23 03:17	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-01540-01	**LCS**	TH-230	5.742E-6	7.291E-7	5.222E-6	110.0	5.776E-8

Duplicate RER/DER/RPD

Analysis Date	09/06/23 03:17	Analysis Technician	[redacted]

Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD
TH-230	5.742E-6	7.291E-7	5.852E-6	7.450E-7	0.207	1.9

Method Blank

Analysis Date	09/06/23 03:17	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual
ARS1-B23-01540-03	**MBL**	TH-228	9.450E-8	9.740E-8	1.558E-7	U
ARS1-B23-01540-03	**MBL**	TH-230	8.507E-8	9.190E-8	1.482E-7	U
ARS1-B23-01540-03	**MBL**	TH-232	-1.698E-8	4.081E-8	1.020E-7	U

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(225) 228-1394

ARS Aleut Analytical, LLC
Analytical Reports

for

GES-AIS, LLC

Sample Management Records

CHAIN-OF-CUSTODY RECORD

Gilbane Federal
[redacted]
1501 W Fountainhead Parkway, Suite 550, Tempe, Arizona 85282
[redacted]

COC # [redacted]080123RADC

GES

Project Name: Hunters Point Shipyard, Parcel C Removal Site Evaluation	Laboratory: ARS Alcut 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:

Equipment:

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

						Analytical Test Method	E901.1 - Gamma Spec Ra226 Cs137	RC0240 - Pu and Th Isotopes	SR02RC - Sr90										
	Event: Parcel C Air Monitoring RAD						15	15	5										
	Sample ID	Matrix	Date	Time	Samp Init.										Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
1	FBC-072423	AQ	07/24/2023	0900	[redacted]		X	X	X						FIELDQC	FB1	0.00	0.00	1	
2	MSC01-072423	A	07/27/2023	1525			X	X	X						MSC01	N1	0.00	0.00	1	TOTAL FLOW (L):
3	MSC02-072423	A	07/27/2023	1510			X	X	X						MSC02	N1	0.00	0.00	1	TOTAL FLOW (L):

Turnaround Time: NA

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[redacted]	8/1/23	1300	FedEx	8/1/23	1300
			[redacted]	8-2-23	13:00

Shipping Date / Carrier / Airbill Number
Shipping Date: 8/1/2023 / FEDEX / 7727 9993 7406

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

GES.Navy_COC_Field
July 27, 2023

Procedures: GES-003 / EPA 900.0M

File ID Number: [redacted]80123RADC

Start Date: 7/24/23
Stop Date: 7/27/23

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)	Finial Flow Rate (CFM)	Average Flow Rate (CFM)	Average Flow Rate (Cu.M/min)	Flow Rate (Cu.M/min)	Total Flow (L)
		FBC-072423	7/24/2023	800	7/24/2023	800														
1	MSC01	MSC01-072423	07/24/23	4:38	07/27/23	15:25	60	60	298.0	208	3.45	82.76	4967.0	60	2.11888	2.11888	2.11888	3.6	0.00	298,020
2	MSC02	MSC02-072423	07/24/23	4:47	07/27/23	15:10	60	60	296.6	208	3.43	82.35	4943.0	60	2.11888	2.11888	2.11888	3.6	0.00	296,580

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	ARS1-23-01651		TAT Days	28 Calendar Days	Project Type	Environmental
Sample Count	3	Rpt Level 2b	Date Received	08/02/2023	COC Number	[redacted]080123RADC
Client	GES-AIS, LLC		Discrepancy Resol	N/A	PO Number	
Client Code	1138		Client Deadline	08/30/2023	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-072423	Air Filter	07/24/2023 07:59	07/24/2023 08:00	H	30	10	PrePrep	
	IC_ID	**Cnt**	**Container Type**	**AF Volume (L)**	**AF Units**		**Rate**	**Mins**	**Comments**
	445291	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	07/24/2023 07:59	AF Volume (CuM):		0.001		
002	MSC01-072423	Air Filter	07/27/2023 15:24	07/27/2023 15:25	H	30	10	PrePrep	
	IC_ID	**Cnt**	**Container Type**	**AF Volume (L)**	**AF Units**		**Rate**	**Mins**	**Comments**
	445292	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	07/27/2023 15:24	AF Volume (CuM):		0.001		
003	MSC02-072423	Air Filter	07/27/2023 15:09	07/27/2023 15:10	H	30	10	PrePrep	
	IC_ID	**Cnt**	**Container Type**	**AF Volume (L)**	**AF Units**		**Rate**	**Mins**	**Comments**
	445293	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	07/27/2023 15:09	AF Volume (CuM):		0.001		

SDG Report - Analysis Assignments

SDG	**ARS1-23-01651**	**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: 2b

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	

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 / 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	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: ARS1-23-01651

Sample Custodia [redacted]

Survey Start Date: 8-2-23 Survey Start Time: 13:10

Thermometer ID: E10540122661 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: 5 µR/hr

Count Rate Meter + Probe Unit ID: 268993 Calibration Due Date: 9-19-23 Background: 20 cpm

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

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

External Shipping Container Tracking:	Exposure Rate (µR/hr) (limit <500 µR/hr)	Max External Swipe Counts (cpm)	Max Internal Swipe Counts (cpm)	ESC True Temps* (°C)	TRAX Matrix ID (circle all that apply): (See Section 4.3 of SOP)
A: 772799937406	5	20	20	—	AQ WD WG WO
B:					WS WW SI UR
C:					SO OL BI VG
D:					WP SM (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 reliquished/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: GES

SDG: ARS1-23-01651

Pipette ID: NA Tip Lot#: NA

Disposible pipette lot#: NA

Sample ID from Client on COC or Sample	ESC Letter	Sample Container Type	Approx. Fill Level (%)	pH <2 is Acceptable: pH As Rec'd	pH <2 is Acceptable: pH Adjusted	Acid Lot # or Ind container temp (°C)	Vol. of Acid Used (mL)	Acceptance Limits <100 cpm/cm² cpm
FBC-072423	A	N/A	N/A	NA	NA	NA	NA	20
MSC01-072423	↓	↓	↓	↓	↓	↓	↓	20
MSC02-072423	↓	↓	↓	↓	↓	↓	↓	20

ORIGIN ID:JCCA [redacted]

200 FISHER STREET

SAN FRANCISCO, CA 94124
UNITED STATES US

SHIP DATE: 28JUL23
ACTWGT: 1.00 LB
CAD: 254128867/INET4640

BILL SENDER

TO [redacted]

ARS ALEUT ANALYTICAL, LLC
2609 NORTH RIVER ROAD

PORT ALLEN LA 70767
(225) 381-2991 REF: J31000.600.02.04.05
INV:
PO: DEPT:

583J4/63AE4/9AE3

FedEx Express

J2230230710010uv

MON - 31 JUL 4:30P
STANDARD OVERNIGHT

TRK# 0201 **7727 9993 7406**

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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ARS Aleut Analytical, LLC

Laboratory Analytical Report

ARS1-23-01728

GES-AIS, LLC
[redacted]
1501 West Fountainhead Parkway
Suite 550
Tempe, AZ 94520
[redacted]

COC Number: [redacted]**080823RADC**
PO Number: **Parcel C Air Monitoring RAD**
Job Number: **J310000600**
Job Location: **Hunters Point Shipyard, Parcel C Removal Site Evaluation**

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

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

[redacted] Laboratory Management, ARS Aleut Analytical

Signature **Date** **Title**

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

NELAP ACCREDITED TNI LABORATORY
LELAP Cert # 01949

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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	LA011312024-1
New Jersey	LA009
New York	66780 (NPW) / 66781 (SHW)
Texas	T104704447-22-18
Utah	LA011312023-14
Washington	C1010

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

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ARS Aleut Analytical, LLC
Analytical Reports

for

GES-AIS, LLC

Case Narrative

2609 North River Road • Port Allen, Louisiana 70767
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PROJECT SAMPLE IDENTIFICATION CROSS-REFERENCE
TO ARS SAMPLE LABORATORY IDs

Client Sample ID	ARS Aleut Analytical Sample ID
FBC-073123	ARS1-23-01728-001
MSC01-073123	ARS1-23-01728-002
MSC02-073123	ARS1-23-01728-003

Sample	Date Collected	Date Received	Analysis	Basis	Prep Date/Time	Analysis Date/Time
001	07/31/23 08:00	08/09/23	ASP-PU239-AF	As Received	08/29/23 13:56	09/02/23 03:01
001	07/31/23 08:00	08/09/23	ASP-TH-AF	As Received	08/31/23 07:30	09/06/23 03:17
001	07/31/23 08:00	08/09/23	GAM-A-AF	As Received	NA	08/22/23 14:14
001	07/31/23 08:00	08/09/23	GPC-SR90-AF	As Received	08/29/23 14:10	08/30/23 10:51
002	08/03/23 15:27	08/09/23	ASP-PU239-AF	As Received	08/29/23 13:56	09/02/23 03:01
002	08/03/23 15:27	08/09/23	ASP-TH-AF	As Received	08/31/23 07:30	09/06/23 03:17
002	08/03/23 15:27	08/09/23	GAM-A-AF	As Received	NA	08/23/23 14:05
002	08/03/23 15:27	08/09/23	GPC-SR90-AF	As Received	08/29/23 14:10	08/30/23 10:51
003	08/03/23 15:22	08/09/23	ASP-PU239-AF	As Received	08/29/23 13:56	09/02/23 03:01
003	08/03/23 15:22	08/09/23	ASP-TH-AF	As Received	08/31/23 07:30	09/06/23 03:17
003	08/03/23 15:22	08/09/23	GAM-A-AF	As Received	NA	08/24/23 14:19
003	08/03/23 15:22	08/09/23	GPC-SR90-AF	As Received	08/29/23 14:10	08/30/23 10:51

SAMPLE RECEIPT/PREP

The samples arrived in good condition. The samples were screened for radioactive contamination as per procedure **PALA-SR-001-SOP Sample Receiving**. Sample date(s) and time(s) are listed as provided by the client. The results related to Air Filters are based upon the beginning/ending collection time(s) and the sample flow rate(s) 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-B23-01529 has elevated MDA for Pu-239/240 with ACT of -1.691E-8 uCi/filter, MDA of 1.022E-7 uCi/filter and CRDL of 4.8E-08 uCi/filter.
Fraction 001 in batch ARS1-B23-01453 has elevated MDA for Ra-226 with ACT of -1.726E-5 uCi/filter, MDA of 1.485E-5 uCi/filter and CRDL of 4.4E-06 uCi/filter.
Fraction 002 in batch ARS1-B23-01529 has elevated MDA for Pu-239/240 with ACT of -3.384E-8 uCi/filter, MDA of 9.826E-8 uCi/filter and CRDL of 4.8E-08 uCi/filter.
Fraction 002 in batch ARS1-B23-01453 has elevated MDA for Ra-226 with ACT of -1.302E-5 uCi/filter, MDA of 1.604E-5 uCi/filter and CRDL of 4.4E-06 uCi/filter.
Fraction 003 in batch ARS1-B23-01529 has elevated MDA for Pu-239/240 with ACT of -5.063E-8 uCi/filter, MDA of 9.801E-8 uCi/filter and CRDL of 4.8E-08 uCi/filter.
Fraction 003 in batch ARS1-B23-01453 has elevated MDA for Ra-226 with ACT of -2.033E-6 uCi/filter, MDA of 2.685E-5 uCi/filter and CRDL of 4.4E-06 uCi/filter.

ARS1-B23-01529: ROI's adjusted to better fit the peaks of interest.

ARS1-B23-01540: 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
ǂ	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-226 after ingrowth is determined via secular equilibrium with its daughter, Bismuth 214 (Gamma Spectroscopy only).

5.0) Ra-228 is determined via secular equilibrium with its daughter, Actinium 228 (Gamma Spectroscopy only).

6.0) U-238 is determined via secular equilibrium with its daughter, Thorium 234 (Gamma Spectroscopy only).

7.0) All gamma spectroscopy was performed utilizing high purity germanium detectors (**HPGe**).

8.0) 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).

9.0) Gamma spectroscopy results are calculated values based on the **ORTEC®** GammaVision ENV32 Analysis Engine.

10.0) 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, Eichrom ACW16, HASL 300 Se-03, HASL 300 Am-03); Neptunium 237 (Eichrom ACW16); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, Eichrom ACW16, HASL 300 Se-03, HASL 300 Pu-10); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235,

11.0) Uranium-238 (Eichrom ACW03, Eichrom ACW16, HASL 300 Se-03); Technetium-99 (Eichrom TCW02)
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); Neptunium 237 (Eichrom ACW16); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, Eichrom ACW16, HASL 300 Se-03, HASL 300 Pu-

12.0) 02-RC, HASL 300 Pu-03-RC); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235, Uranium-238 (Eichrom ACW03, Eichrom ACW16, HASL 300 Se-03, HASL 300 U-02, HASL 300 U-04); Technetium-99 (Eichrom TCS01)
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); Neptunium 237 (Eichrom ACW16); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, Eichrom ACW16, HASL 300 Se-03); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235, Uranium-238 (Eichrom ACW03, Eichrom ACW16, 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.

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ARS Aleut Analytical, LLC
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for

GES-AIS, LLC

Analytical Results

2609 North River Road • Port Allen, Louisiana 70767
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ARS Sample Delivery Group: ARS1-23-01728
Client Sample ID: FBC-073123
Sample Collection Date: 07/31/23 8:00
Sample Matrix: Air Filter
Percent Solids: N/A

Request or PO Number: Parcel C Air Monitoring RAD
ARS Sample ID: ARS1-23-01728-001
Date Received: 08/09/23
Report Date: 09/11/23

Radiochemistry

Analysis Method: Eichrom ACW03 **ABatch Sample ID:** ARS1-B23-01529-07

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-1.691E-8	4.819E-8	1.022E-7	4.348E-8	4.8E-08	U	uCi/filter	09/02/23 3:01	[redacted]	71.7%

Analysis Method: Eichrom ACW10 **ABatch Sample ID:** ARS1-B23-01540-05

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	3.888E-8	2.918E-8	1.505E-8	0.000	1.4E-08		uCi/filter	09/06/23 3:17	[redacted]	75.3%

Analysis Method: EPA 901.1M **ABatch Sample ID:** ARS1-B23-01453-07

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	-1.384E-7	9.914E-7	1.088E-6	5.440E-7	0.00024	U	uCi/filter	08/22/23 14:14	[redacted]	N/A
Cs-137	2.500E-7	7.282E-7	8.502E-7	4.251E-7	0.00048	U	uCi/filter	08/22/23 14:14	[redacted]	N/A
Ra-226	-1.726E-5	1.475E-5	1.485E-5	7.425E-6	4.4E-06	U	uCi/filter	08/22/23 14:14	[redacted]	N/A

Analysis Method: Eichrom SRW01 **ABatch Sample ID:** ARS1-B23-01530-07

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	7.134E-7	2.284E-6	4.020E-6	1.857E-6	2.4E-05	U	uCi/filter	08/30/23 10:51	[redacted]	98.1%

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ARS Sample Delivery Group: ARS1-23-01728
Client Sample ID: MSC01-073123
Sample Collection Date: 08/03/23 15:27
Sample Matrix: Air Filter
Percent Solids: N/A

Request or PO Number: Parcel C Air Monitoring RAD
ARS Sample ID: ARS1-23-01728-002
Date Received: 08/09/23
Report Date: 09/11/23

Radiochemistry

Analysis Method: Eichrom ACW03 **ABatch Sample ID:** ARS1-B23-01529-08

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-3.384E-8	4.156E-8	9.826E-8	4.149E-8	4.8E-08	U	uCi/filter	09/02/23 3:01	[redacted]	69.8%

Analysis Method: Eichrom ACW10 **ABatch Sample ID:** ARS1-B23-01540-06

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	2.083E-7	7.606E-8	6.418E-8	2.485E-8	1.4E-08		uCi/filter	09/06/23 3:17	[redacted]	80.1%

Analysis Method: EPA 901.1M **ABatch Sample ID:** ARS1-B23-01453-08

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Bi-214	3.326E-6	1.941E-6	2.183E-6	1.092E-6	NP		uCi/filter	08/23/23 14:05	[redacted]	N/A
Co-60	-5.751E-7	1.011E-6	1.093E-6	5.465E-7	0.00024	U	uCi/filter	08/23/23 14:05	[redacted]	N/A
Cs-137	-4.556E-7	8.727E-7	1.011E-6	5.055E-7	0.00048	U	uCi/filter	08/23/23 14:05	[redacted]	N/A
Pb-214	3.739E-6	1.460E-6	1.852E-6	9.260E-7	NP		uCi/filter	08/23/23 14:05	[redacted]	N/A
Ra-226	-1.302E-5	1.548E-5	1.604E-5	8.020E-6	4.4E-06	U	uCi/filter	08/23/23 14:05	[redacted]	N/A

Analysis Method: Eichrom SRW01 **ABatch Sample ID:** ARS1-B23-01530-08

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	4.358E-7	2.299E-6	4.094E-6	1.894E-6	2.4E-05	U	uCi/filter	08/30/23 10:51	[redacted]	94.8%

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ARS Sample Delivery Group: ARS1-23-01728
Client Sample ID: MSC02-073123
Sample Collection Date: 08/03/23 15:22
Sample Matrix: Air Filter
Percent Solids: N/A

Request or PO Number: Parcel C Air Monitoring RAD
ARS Sample ID: ARS1-23-01728-003
Date Received: 08/09/23
Report Date: 09/11/23

Radiochemistry

Analysis Method: Eichrom ACW03 **ABatch Sample ID:** ARS1-B23-01529-09

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-5.063E-8	3.708E-8	9.801E-8	4.138E-8	4.8E-08	U	uCi/filter	09/02/23 3:01	[redacted]	78.3%

Analysis Method: Eichrom ACW10 **ABatch Sample ID:** ARS1-B23-01540-07

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	2.056E-7	7.067E-8	3.881E-8	1.226E-8	1.4E-08		uCi/filter	09/06/23 3:17	[redacted]	75.6%

Analysis Method: EPA 901.1M **ABatch Sample ID:** ARS1-B23-01453-09

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	-8.070E-7	1.792E-6	1.824E-6	9.120E-7	0.00024	U	uCi/filter	08/24/23 14:19	[redacted]	N/A
Cs-137	-8.221E-7	1.548E-6	1.725E-6	8.625E-7	0.00048	U	uCi/filter	08/24/23 14:19	[redacted]	N/A
Ra-226	-2.033E-6	1.610E-5	2.685E-5	1.343E-5	4.4E-06	U	uCi/filter	08/24/23 14:19	[redacted]	N/A

Analysis Method: Eichrom SRW01 **ABatch Sample ID:** ARS1-B23-01530-09

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	2.030E-6	2.225E-6	3.658E-6	1.683E-6	2.4E-05	U	uCi/filter	08/30/23 10:51	[redacted]	99.0%

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ARS Aleut Analytical, LLC
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QC Summary

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QC Sample Results

Analytical Batch: ARS1-B23-01453
Lab Sample ID: ARS1-B23-01453-01
Method: EPA 901.1M

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 08/23/23 7:19

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Am-241	33.065	31.314		uCi/filter	94.7	75 - 125
Co-60	20.928	20.551		uCi/filter	98.2	75 - 125
Cs-137	12.996	13.391		uCi/filter	103.0	75 - 125

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QC Sample Results

Analytical Batch: ARS1-B23-01453
Lab Sample ID: ARS1-B23-01453-02
Method: EPA 901.1M

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 08/23/23 7:32

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Am-241	33.065	31.413		uCi/filter	95.0	75 - 125	0.3	25	0.057	3
Co-60	20.928	21.076		uCi/filter	100.7	75 - 125	2.5	25	0.543	3
Cs-137	12.996	12.947		uCi/filter	99.6	75 - 125	3.4	25	0.716	3

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QC Sample Results

Analytical Batch: ARS1-B23-01453
Lab Sample ID: ARS1-B23-01453-03
Method: EPA 901.1M

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 08/22/23 14:02

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Ac-228	-2.761E-6	5.647E-6	6.099E-6	3.050E-6	U	uCi/filter
Am-241	4.984E-7	1.286E-6	2.131E-6	1.066E-6	U	uCi/filter
Bi-212	3.093E-7	1.196E-5	1.349E-5	6.745E-6	U	uCi/filter
Bi-214	-2.672E-6	4.228E-6	3.926E-6	1.963E-6	U	uCi/filter
Co-60	-6.084E-7	1.698E-6	1.736E-6	8.680E-7	U	uCi/filter
Cs-137	-5.696E-7	1.421E-6	1.591E-6	7.955E-7	U	uCi/filter
Eu-152	-4.818E-7	1.399E-6	1.848E-6	9.240E-7	U	uCi/filter
Eu-154	4.863E-7	2.801E-6	1.304E-6	6.520E-7	U	uCi/filter
K-40	-1.128E-5	2.302E-5	2.215E-5	1.108E-5	U	uCi/filter
Pa-234	-3.772E-6	3.467E-6	2.325E-6	1.163E-6	U	uCi/filter
Pb-210	-1.044E-5	1.449E-5	1.711E-5	8.555E-6	U	uCi/filter
Pb-212	-9.735E-7	2.360E-6	3.012E-6	1.506E-6	U	uCi/filter
Pb-214	4.117E-7	2.984E-7	3.153E-6	1.577E-6	U	uCi/filter
Ra-226	1.736E-5	1.407E-5	1.736E-5	8.680E-6	U	uCi/filter
Ra-228	-2.761E-6	5.647E-6	6.099E-6	3.050E-6	U	uCi/filter
Th-234	-1.369E-5	1.636E-5	1.729E-5	8.645E-6	U	uCi/filter
Tl-208	-7.326E-7	1.838E-6	1.662E-6	8.310E-7	U	uCi/filter
U-235	-4.393E-6	6.023E-6	6.538E-6	3.269E-6	U	uCi/filter
U-238	-1.369E-5	1.636E-5	1.729E-5	8.645E-6	U	uCi/filter

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QC Association Summary

ARS Sample Delivery Group: ARS1-23-01728 **Analytical Batch:** ARS1-B23-01453

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

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B23-01453-01		Lab Control Sample	Air Filter	EPA 901.1M	N/A
ARS1-B23-01453-02		Lab Control Sample Duplicate	Air Filter	EPA 901.1M	N/A
ARS1-B23-01453-03		Method Blank	Air Filter	EPA 901.1M	N/A
ARS1-B23-01453-07	ARS1-23-01728-001	FBC-073123	Air Filter	EPA 901.1M	N/A
ARS1-B23-01453-08	ARS1-23-01728-002	MSC01-073123	Air Filter	EPA 901.1M	N/A
ARS1-B23-01453-09	ARS1-23-01728-003	MSC02-073123	Air Filter	EPA 901.1M	N/A

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QC Sample Results

Analytical Batch: ARS1-B23-01529
Lab Sample ID: ARS1-B23-01529-01
Method: Eichrom ACW03

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 09/02/23 3:01

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Pu-239/240	7.571E-6	7.535E-6		uCi/filter	99.5	75 - 125

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QC Sample Results

Analytical Batch: ARS1-B23-01529
Lab Sample ID: ARS1-B23-01529-02
Method: Eichrom ACW03

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 09/02/23 3:01

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Pu-239/240	7.705E-6	7.339E-6		uCi/filter	95.3	75 - 125	2.6	25	0.292	3

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QC Sample Results

Analytical Batch: ARS1-B23-01529
Lab Sample ID: ARS1-B23-01529-03
Method: Eichrom ACW03

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 09/02/23 3:01

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Pu-238	3.430E-8	6.547E-8	1.150E-7	4.976E-8	U	uCi/filter
Pu-239/240	-5.716E-9	8.002E-8	1.511E-7	6.781E-8	U	uCi/filter

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QC Association Summary

ARS Sample Delivery Group: ARS1-23-01728

Analytical Batch: ARS1-B23-01529

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-B23-01529-01		Lab Control Sample	Air Filter	Eichrom ACW03	N/A
ARS1-B23-01529-02		Lab Control Sample Duplicate	Air Filter	Eichrom ACW03	N/A
ARS1-B23-01529-03		Method Blank	Air Filter	Eichrom ACW03	N/A
ARS1-B23-01529-07	ARS1-23-01728-001	FBC-073123	Air Filter	Eichrom ACW03	N/A
ARS1-B23-01529-08	ARS1-23-01728-002	MSC01-073123	Air Filter	Eichrom ACW03	N/A
ARS1-B23-01529-09	ARS1-23-01728-003	MSC02-073123	Air Filter	Eichrom ACW03	N/A

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QC Sample Results

Analytical Batch: ARS1-B23-01530
Lab Sample ID: ARS1-B23-01530-01
Method: Eichrom SRW01

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 08/30/23 10:51

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
SR-90	2.001E-5	2.221E-5		uCi/filter	111.0	75 - 125

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QC Sample Results

Analytical Batch: ARS1-B23-01530
Lab Sample ID: ARS1-B23-01530-02
Method: Eichrom SRW01

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 08/30/23 10:51

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
SR-90	1.999E-5	2.105E-5		uCi/filter	105.3	75 - 125	5.4	25	0.486	3

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QC Sample Results

Analytical Batch: ARS1-B23-01530
Lab Sample ID: ARS1-B23-01530-03
Method: Eichrom SRW01

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 08/30/23 10:51

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
SR-90	1.038E-6	2.496E-6	4.354E-6	2.003E-6	U	uCi/filter

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QC Association Summary

ARS Sample Delivery Group: ARS1-23-01728

Analytical Batch: ARS1-B23-01530

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

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B23-01530-01		Lab Control Sample	Air Filter	Eichrom SRW01	N/A
ARS1-B23-01530-02		Lab Control Sample Duplicate	Air Filter	Eichrom SRW01	N/A
ARS1-B23-01530-03		Method Blank	Air Filter	Eichrom SRW01	N/A
ARS1-B23-01530-07	ARS1-23-01728-001	FBC-073123	Air Filter	Eichrom SRW01	N/A
ARS1-B23-01530-08	ARS1-23-01728-002	MSC01-073123	Air Filter	Eichrom SRW01	N/A
ARS1-B23-01530-09	ARS1-23-01728-003	MSC02-073123	Air Filter	Eichrom SRW01	N/A

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QC Sample Results

Analytical Batch: ARS1-B23-01540
Lab Sample ID: ARS1-B23-01540-01
Method: Eichrom ACW10

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 09/06/23 3:17

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Th-230	5.222E-6	5.742E-6		uCi/filter	110.0	75 - 125

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QC Sample Results

Analytical Batch: ARS1-B23-01540
Lab Sample ID: ARS1-B23-01540-02
Method: Eichrom ACW10

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 09/06/23 3:17

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Th-230	5.212E-6	5.852E-6		uCi/filter	112.3	75 - 125	1.9	25	0.207	3

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QC Sample Results

Analytical Batch: ARS1-B23-01540
Lab Sample ID: ARS1-B23-01540-03
Method: Eichrom ACW10

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 09/06/23 3:17

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Th-228	9.450E-8	9.740E-8	1.558E-7	6.628E-8	U	uCi/filter
Th-230	8.507E-8	9.190E-8	1.482E-7	6.258E-8	U	uCi/filter
Th-232	-1.698E-8	4.081E-8	1.020E-7	3.950E-8	U	uCi/filter

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QC Association Summary

ARS Sample Delivery Group: ARS1-23-01728

Analytical Batch: ARS1-B23-01540

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-B23-01540-01		Lab Control Sample	Air Filter	Eichrom ACW10	N/A
ARS1-B23-01540-02		Lab Control Sample Duplicate	Air Filter	Eichrom ACW10	N/A
ARS1-B23-01540-03		Method Blank	Air Filter	Eichrom ACW10	N/A
ARS1-B23-01540-05	ARS1-23-01728-001	FBC-073123	Air Filter	Eichrom ACW10	N/A
ARS1-B23-01540-06	ARS1-23-01728-002	MSC01-073123	Air Filter	Eichrom ACW10	N/A
ARS1-B23-01540-07	ARS1-23-01728-003	MSC02-073123	Air Filter	Eichrom ACW10	N/A

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ARS Aleut Analytical, LLC
Analytical Reports

for

GES-AIS, LLC

Batch QC

ALEUT

QC Results per Analytical Batch

Analytical Batch	**ARS1-B23-01453**
SDG	**ARS1-23-01728**
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 08/23/23 07:19 **Analysis Technician** [redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-01453-01	**LCS**	AM-241	31.314	2.383	33.065	94.7	0.117
ARS1-B23-01453-01	**LCS**	CO-60	20.551	1.423	20.928	98.2	0.430
ARS1-B23-01453-01	**LCS**	CS-137	13.391	0.873	12.996	103.0	0.071

Duplicate RER/DER/RPD

Analysis Date 08/23/23 07:32 **Analysis Technician** [redacted]

Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD
AM-241	31.314	2.383	31.413	2.391	0.057	0.3
CO-60	20.551	1.423	21.076	1.253	0.543	2.5
CS-137	13.391	0.873	12.947	0.846	0.716	3.4

Method Blank

Analysis Date 08/22/23 14:02 **Analysis Technician** [redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual
ARS1-B23-01453-03	**MBL**	AC-228	-2.761E-6	5.647E-6	6.099E-6	U
ARS1-B23-01453-03	**MBL**	AM-241	4.984E-7	1.286E-6	2.131E-6	U
ARS1-B23-01453-03	**MBL**	BI-212	3.093E-7	1.196E-5	1.349E-5	U
ARS1-B23-01453-03	**MBL**	BI-214	-2.672E-6	4.228E-6	3.926E-6	U
ARS1-B23-01453-03	**MBL**	CO-60	-6.084E-7	1.698E-6	1.736E-6	U
ARS1-B23-01453-03	**MBL**	CS-137	-5.696E-7	1.421E-6	1.591E-6	U
ARS1-B23-01453-03	**MBL**	EU-152	-4.818E-7	1.399E-6	1.848E-6	U
ARS1-B23-01453-03	**MBL**	EU-154	4.863E-7	2.801E-6	1.304E-6	U
ARS1-B23-01453-03	**MBL**	K-40	-1.128E-5	2.302E-5	2.215E-5	U
ARS1-B23-01453-03	**MBL**	PA-234	-3.772E-6	3.467E-6	2.325E-6	U
ARS1-B23-01453-03	**MBL**	PB-210	-1.044E-5	1.449E-5	1.711E-5	U
ARS1-B23-01453-03	**MBL**	PB-212	-9.735E-7	2.360E-6	3.012E-6	U
ARS1-B23-01453-03	**MBL**	PB-214	4.117E-7	2.984E-7	3.153E-6	U
ARS1-B23-01453-03	**MBL**	RA-226	1.736E-5	1.407E-5	1.736E-5	U
ARS1-B23-01453-03	**MBL**	RA-228	-2.761E-6	5.647E-6	6.099E-6	U
ARS1-B23-01453-03	**MBL**	TH-234	-1.369E-5	1.636E-5	1.729E-5	U
ARS1-B23-01453-03	**MBL**	TL-208	-7.326E-7	1.838E-6	1.662E-6	U
ARS1-B23-01453-03	**MBL**	U-235	-4.393E-6	6.023E-6	6.538E-6	U
ARS1-B23-01453-03	**MBL**	U-238	-1.369E-5	1.636E-5	1.729E-5	U

QC Results per Analytical Batch

Analytical Batch	**ARS1-B23-01529**
SDG	**ARS1-23-01728**
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	09/02/23 03:01	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-01529-01	**LCS**	PU-239/240	7.535E-6	9.409E-7	7.571E-6	99.5	4.190E-8

Duplicate RER/DER/RPD

Analysis Date	09/02/23 03:01	Analysis Technician	[redacted]

Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD
PU-239/240	7.535E-6	9.409E-7	7.339E-6	9.158E-7	0.292	2.6

Method Blank

Analysis Date	09/02/23 03:01	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual
ARS1-B23-01529-03	**MBL**	PU-238	3.430E-8	6.547E-8	1.150E-7	U
ARS1-B23-01529-03	**MBL**	PU-239/240	-5.716E-9	8.002E-8	1.511E-7	U

QC Results per Analytical Batch

Analytical Batch	**ARS1-B23-01530**
SDG	**ARS1-23-01728**
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	08/30/23 10:51	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-01530-01	**LCS**	SR-90	2.221E-5	3.384E-6	2.001E-5	111.0	3.547E-7

Duplicate RER/DER/RPD

Analysis Date	08/30/23 10:51	Analysis Technician	[redacted]

Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD
SR-90	2.221E-5	3.384E-6	2.105E-5	3.217E-6	0.486	5.4

Method Blank

Analysis Date	08/30/23 10:51	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual
ARS1-B23-01530-03	**MBL**	SR-90	1.038E-6	2.496E-6	4.354E-6	U

QC Results per Analytical Batch

Analytical Batch	**ARS1-B23-01540**
SDG	**ARS1-23-01728**
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	09/06/23 03:17	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-01540-01	**LCS**	TH-230	5.742E-6	7.291E-7	5.222E-6	110.0	5.776E-8

Duplicate RER/DER/RPD

Analysis Date	09/06/23 03:17	Analysis Technician	[redacted]

Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD
TH-230	5.742E-6	7.291E-7	5.852E-6	7.450E-7	0.207	1.9

Method Blank

Analysis Date	09/06/23 03:17	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual
ARS1-B23-01540-03	**MBL**	TH-228	9.450E-8	9.740E-8	1.558E-7	U
ARS1-B23-01540-03	**MBL**	TH-230	8.507E-8	9.190E-8	1.482E-7	U
ARS1-B23-01540-03	**MBL**	TH-232	-1.698E-8	4.081E-8	1.020E-7	U

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ARS Aleut Analytical, LLC
Analytical Reports

for

GES-AIS, LLC

Sample Management Records

CHAIN-OF-CUSTODY RECORD

Gilbane Federal
[redacted]
1501 W Fountainhead Parkway, Suite 550, Tempe, Arizona 85282
[redacted]

COC # [redacted]080823RADC

GES

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:

Equipment:

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

	Analytical Test Method	E901.1 - Gamma Spec Ra226 Cs137	RC0240 - Pu and Th Isotopes	SR02RC - Sr90
Event: Parcel C Air Monitoring RAD		15	15	5

	Sample ID	Matrix	Date	Time	Samp Init.	E901.1 - Gamma Spec Ra226 Cs137	RC0240 - Pu and Th Isotopes	SR02RC - Sr90								Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
1	FBC-073123	AQ	07/31/2023	0800	[redacted]	X	X	X	[redacted]	8/8/23						FIELDQC	AB1	0.00	0.00	1	
2	MSC01-073123	A	08/03/2023	1527	[redacted]	X	X	X								MSC01	N1	0.00	0.00	1	TOTAL FLOW (L):
3	MSC02-073123	A	08/03/2023	1522	[redacted]	X	X	X								MSC02	N1	0.00	0.00	1	TOTAL FLOW (L):

Turnaround Time: NA

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[redacted]	8/8/23	1300	Fedex	8/8/23	1300
			[redacted]	8-9-23	11:30

Shipping Date / Carrier / Airbill Number

Shipping Date: 8/8/2023 / FEDEX / 7728 4482 5623

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

GES.Navy_COC_Field
August 04, 2023

SDG Report - Samples and Containers

SDG Specific Data							
SDG	ARS1-23-01728		TAT Days	28 Calendar Days	Project Type	Environmental
Sample Count	3	Rpt Level 2b	Date Received	08/09/2023	COC Number	[redacted]080823RADC
Client	GES-AIS, LLC		Discrepancy Resol	N/A	PO Number	Parcel C Air Monitoring RAD
Client Code	1138		Client Deadline	09/06/2023	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-073123	Air Filter	07/31/2023 07:59	07/31/2023 08:00	H	30	10	PrePrep	
	IC_ID	**Cnt**	**Container Type**	**AF Volume (L)**	**AF Units**		**Rate**	**Mins**	**Comments**
	445785	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	07/31/2023 07:59	AF Volume (CuM):		0.001		
002	MSC01-073123	Air Filter	08/03/2023 15:26	08/03/2023 15:27	H	30	10	PrePrep	
	IC_ID	**Cnt**	**Container Type**	**AF Volume (L)**	**AF Units**		**Rate**	**Mins**	**Comments**
	445786	1	HDP Container	1	LPM		1	1	
			Mid-Sample Date:	08/03/2023 15:26	AF Volume (CuM):		0.001		
003	MSC02-073123	Air Filter	08/03/2023 15:21	08/03/2023 15:22	H	30	10	PrePrep	
	IC_ID	**Cnt**	**Container Type**	**AF Volume (L)**	**AF Units**		**Rate**	**Mins**	**Comments**
	445787	1	HDP Container	1	LPM		1	1	
			Mid-Sample Date:	08/03/2023 15:21	AF Volume (CuM):		0.001		

SDG Report - Analysis Assignments

SDG	**ARS1-23-01728**	**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: 2b

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	

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	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	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: ARS1-23-01728

Sample Custodian: [redacted]

Survey Start Date: 8-9-23 Survey Start Time: 1205

Thermometer ID: E10540/22661 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 µR/hr

Count Rate Meter + Probe Unit ID: 268993 Calibration Due Date: 9-9-23 Background: 20 cpm

Delivery Type (circle one): Direct Lock Box Commercial Carrier: FedEx 7728 Total # of ESCs: 1

LRH 8-9-23

External Shipping Container Tracking:	Exposure Rate (µR/hr) (limit <500 µR/hr)	Max External Swipe Counts (cpm)	Max Internal Swipe Counts (cpm)	ESC True Temps* (°C)	TRAX Matrix ID (circle all that apply): (See Section 4.3 of SOP)
A: 772844825623	5	20	20	—	AQ WD WG WO
B:					WS WW SI UR
C:					SO OL BI VG
D:					WP SM AF
E:					
F:					

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

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: GES

SDG: ARS1-23-01728

Pipette ID: NA Tip Lot#: NA

Disposible pipette lot#: NA

Sample ID from Client on COC or Sample	ESC Letter	Sample Container Type	Approx. Fill Level (%)	pH <2 is Acceptable: pH As Rec'd	pH <2 is Acceptable: pH Adjusted	Acid Lot # or Ind container temp (°C)	Vol. of Acid Used (mL)	Acceptance Limits <100 cpm/cm² cpm
FBC-073123	A	AF	NA	NA	NA	NA	NA	20
MSC01-073123	↓	↓	↓	↓	↓	↓	↓	↓
MSC02-073123	↓	↓	↓	↓	↓	↓	↓	↓

Sample Custodia [redacted] Survey End Date: 8-9-23 Survey/pH End Time: 12:06

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).



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.

GES
AN ASRC INDUSTRIAL COMPANY

Procedures: GES-003 / EPA 900.0M

File ID Number: [redacted]080823RADC

Start Date 7/31/23
Stop Date 8/3/23

Field Entry

	Station	Sample ID	Date In:	Time In:	Date Out:	Time Out:	Flow Rate (LPM)	Flow Rate (LPM)	Flow volume Cu.M	Julian Date for Date Out	Total Run Time (Days)	Total Run Tme (Hours)	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)
		FBC-073123	7/31/2023	800	7/31/2023	800														
1	MSC01	MSC01-073123	07/31/23	7:00	08/03/23	15:27	60	60	289.6	215	3.35	80.45	4827.0	60	2.11888	2.11888	2.11888	3.6	0.06	289,620
2	MSC02	MSC02-073123	07/31/23	7:15	08/03/23	15:22	60	60	288.4	215	3.34	80.12	4807.0	60	2.11888	2.11888	2.11888	3.6	0.06	288,420

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

AS-0161

MSC-02 PARCEL C
SAMPLER#: 4300 DOWNWIND
DATE: 7/31/23 DATE: 8/03/23
START: 0715 FINISH: 1522
FLOW:60 MSC02-073123

AS-0160

MSC-01 PARCEL C
SAMPLER #:4354 UPWIND
DATE: 7/31/23 DATE: 08/03/23
START: 0700 FINISH: 1527
FLOW:60 MSC01-073123

FIELD BLANK : PARCEL C

FBC-073123
DATE: 07/31/23
TIME: 0800

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ARS Aleut Analytical, LLC

Laboratory Analytical Report

ARS1-23-01780

GES-AIS, LLC
[redacted]
1501 West Fountainhead Parkway
Suite 550
Tempe, AZ 94520
[redacted]

COC Number: [redacted]**081523RADC**
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] 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.

LELAP Cert # 01949

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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	LA011312024-1
New Jersey	LA009
New York	66780 (NPW) / 66781 (SHW)
Texas	T104704447-22-18
Utah	LA011312023-14
Washington	C1010

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

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ARS Aleut Analytical, LLC
Analytical Reports

for

GES-AIS, LLC

Case Narrative

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PROJECT SAMPLE IDENTIFICATION CROSS-REFERENCE
TO ARS SAMPLE LABORATORY IDs

Client Sample ID	ARS Aleut Analytical Sample ID
FBC-080723	ARS1-23-01780-001
MSC01-080723	ARS1-23-01780-002
MSC02-080723	ARS1-23-01780-003

Sample	Date Collected	Date Received	Analysis	Basis	Prep Date/Time	Analysis Date/Time
001	08/07/23 08:00	08/16/23	ASP-PU239-AF	As Received	08/29/23 13:56	09/02/23 03:01
001	08/07/23 08:00	08/16/23	ASP-TH-AF	As Received	08/31/23 07:30	09/06/23 03:17
001	08/07/23 08:00	08/16/23	GAM-A-AF	As Received	NA	08/25/23 20:29
001	08/07/23 08:00	08/16/23	GPC-SR90-AF	As Received	09/06/23 09:26	09/07/23 10:48
002	08/10/23 13:45	08/16/23	ASP-PU239-AF	As Received	08/29/23 13:56	09/02/23 03:01
002	08/10/23 13:45	08/16/23	ASP-TH-AF	As Received	08/31/23 07:30	09/06/23 03:17
002	08/10/23 13:45	08/16/23	GAM-A-AF	As Received	NA	08/25/23 20:34
002	08/10/23 13:45	08/16/23	GPC-SR90-AF	As Received	09/06/23 09:26	09/07/23 10:48
003	08/10/23 13:31	08/16/23	ASP-PU239-AF	As Received	08/29/23 13:56	09/02/23 03:01
003	08/10/23 13:31	08/16/23	ASP-TH-AF	As Received	08/31/23 07:30	09/06/23 03:17
003	08/10/23 13:31	08/16/23	GAM-A-AF	As Received	NA	08/25/23 20:52
003	08/10/23 13:31	08/16/23	GPC-SR90-AF	As Received	09/06/23 09:26	09/07/23 10:48

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-B23-01585: The Method Blank is greater than the MDA for SR-90; all positive detects for SR-90 in this analytical batch are qualified with a 'B'.

Fraction 001 in batch ARS1-B23-01529 has elevated MDA for Pu-239/240 with ACT of 7.771E-9 uCi/filter, MDA of 1.233E-7 uCi/filter and CRDL of 4.8E-08 uCi/filter.
Fraction 001 in batch ARS1-B23-01453 has elevated MDA for Ra-226 with ACT of 4.590E-6 uCi/filter, MDA of 2.703E-5 uCi/filter and CRDL of 4.4E-06 uCi/filter.
Fraction 002 in batch ARS1-B23-01529 has elevated MDA for Pu-239/240 with ACT of -3.544E-8 uCi/filter, MDA of 8.821E-8 uCi/filter and CRDL of 4.8E-08 uCi/filter.
Fraction 002 in batch ARS1-B23-01453 has elevated MDA for Ra-226 with ACT of -1.333E-5 uCi/filter, MDA of 1.537E-5 uCi/filter and CRDL of 4.4E-06 uCi/filter.
Fraction 003 in batch ARS1-B23-01529 has elevated MDA for Pu-239/240 with ACT of -2.498E-8 uCi/filter, MDA of 1.088E-7 uCi/filter and CRDL of 4.8E-08 uCi/filter.
Fraction 003 in batch ARS1-B23-01453 has elevated MDA for Ra-226 with ACT of -3.987E-6 uCi/filter, MDA of 1.013E-5 uCi/filter and CRDL of 4.4E-06 uCi/filter.

ARS1-B23-01529: ROI's adjusted to better fit the peaks of interest.

ARS1-B23-01540: 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
ǂ	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-226 after ingrowth is determined via secular equilibrium with its daughter, Bismuth 214 (Gamma Spectroscopy only).

5.0) Ra-228 is determined via secular equilibrium with its daughter, Actinium 228 (Gamma Spectroscopy only).

6.0) U-238 is determined via secular equilibrium with its daughter, Thorium 234 (Gamma Spectroscopy only).

7.0) All gamma spectroscopy was performed utilizing high purity germanium detectors (**HPGe**).

8.0) 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).

9.0) Gamma spectroscopy results are calculated values based on the **ORTEC®** GammaVision ENV32 Analysis Engine.

10.0) 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, Eichrom ACW16, HASL 300 Se-03, HASL 300 Am-03); Neptunium 237 (Eichrom ACW16); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, Eichrom ACW16, HASL 300 Se-03, HASL 300 Pu-10); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235,

11.0) Uranium-238 (Eichrom ACW03, Eichrom ACW16, HASL 300 Se-03); Technetium-99 (Eichrom TCW02)
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); Neptunium 237 (Eichrom ACW16); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, Eichrom ACW16, HASL 300 Se-03, HASL 300 Pu-

12.0) 02-RC, HASL 300 Pu-03-RC); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235, Uranium-238 (Eichrom ACW03, Eichrom ACW16, HASL 300 Se-03, HASL 300 U-02, HASL 300 U-04); Technetium-99 (Eichrom TCS01)
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); Neptunium 237 (Eichrom ACW16); Plutonium 238, Plutonium 239/240, Plutonium-241 (Eichrom ACW03, Eichrom ACW16, HASL 300 Se-03); Thorium-228, Thorium 230, Thorium-232 (Eichrom ACW10); Uranium-234, Uranium-235, Uranium-238 (Eichrom ACW03, Eichrom ACW16, 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.

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for

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Analytical Results

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ARS Sample Delivery Group: ARS1-23-01780
Client Sample ID: FBC-080723
Sample Collection Date: 08/07/23 8:00
Sample Matrix: Air Filter
Percent Solids: N/A

Request or PO Number: J310000600
ARS Sample ID: ARS1-23-01780-001
Date Received: 08/16/23
Report Date: 09/11/23

Radiochemistry

Analysis Method: Eichrom ACW03 **ABatch Sample ID:** ARS1-B23-01529-10

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	7.771E-9	6.281E-8	1.233E-7	5.113E-8	4.8E-08	U	uCi/filter	09/02/23 3:01	[redacted]	50.3%

Analysis Method: Eichrom ACW10 **ABatch Sample ID:** ARS1-B23-01540-08

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	6.474E-8	3.746E-8	1.462E-8	0.000	1.4E-08		uCi/filter	09/06/23 3:17	[redacted]	75.1%

Analysis Method: EPA 901.1M **ABatch Sample ID:** ARS1-B23-01453-10

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	-7.981E-7	1.811E-6	1.844E-6	9.220E-7	0.00024	U	uCi/filter	08/25/23 20:29	[redacted]	N/A
Cs-137	-2.009E-7	1.386E-6	1.562E-6	7.810E-7	0.00048	U	uCi/filter	08/25/23 20:29	[redacted]	N/A
Ra-226	4.590E-6	1.626E-5	2.703E-5	1.352E-5	4.4E-06	U	uCi/filter	08/25/23 20:29	[redacted]	N/A

Analysis Method: Eichrom SRW01 **ABatch Sample ID:** ARS1-B23-01585-04

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	5.606E-6	3.059E-6	4.436E-6	2.044E-6	2.4E-05	B	uCi/filter	09/07/23 10:48	[redacted]	83.8%

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ARS Sample Delivery Group: ARS1-23-01780
Client Sample ID: MSC01-080723
Sample Collection Date: 08/10/23 13:45
Sample Matrix: Air Filter
Percent Solids: N/A

Request or PO Number: J310000600
ARS Sample ID: ARS1-23-01780-002
Date Received: 08/16/23
Report Date: 09/11/23

Radiochemistry

Analysis Method: Eichrom ACW03 **ABatch Sample ID:** ARS1-B23-01529-11

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-3.544E-8	3.603E-8	8.821E-8	3.724E-8	4.8E-08	U	uCi/filter	09/02/23 3:01	[redacted]	84.6%

Analysis Method: Eichrom ACW10 **ABatch Sample ID:** ARS1-B23-01540-09

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	1.359E-7	5.477E-8	1.417E-8	0.000	1.4E-08		uCi/filter	09/06/23 3:17	[redacted]	78.1%

Analysis Method: EPA 901.1M **ABatch Sample ID:** ARS1-B23-01453-11

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Bi-214	2.332E-6	1.645E-6	2.028E-6	1.014E-6	NP		uCi/filter	08/25/23 20:34	[redacted]	N/A
Co-60	-1.074E-7	9.456E-7	1.040E-6	5.200E-7	0.00024	U	uCi/filter	08/25/23 20:34		N/A
Cs-137	4.097E-7	7.472E-7	8.668E-7	4.334E-7	0.00048	U	uCi/filter	08/25/23 20:34		N/A
Pb-214	2.656E-6	1.665E-6	1.837E-6	9.185E-7	NP		uCi/filter	08/25/23 20:34		N/A
Ra-226	-1.333E-5	1.504E-5	1.537E-5	7.685E-6	4.4E-06	U	uCi/filter	08/25/23 20:34		N/A

Analysis Method: Eichrom SRW01 **ABatch Sample ID:** ARS1-B23-01585-05

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	1.562E-6	2.621E-6	4.476E-6	2.064E-6	2.4E-05	U	uCi/filter	09/07/23 10:48	[redacted]	83.8%

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ARS Sample Delivery Group: ARS1-23-01780
Client Sample ID: MSC02-080723
Sample Collection Date: 08/10/23 13:31
Sample Matrix: Air Filter
Percent Solids: N/A

Request or PO Number: J310000600
ARS Sample ID: ARS1-23-01780-003
Date Received: 08/16/23
Report Date: 09/11/23

Radiochemistry

Analysis Method: Eichrom ACW03 **ABatch Sample ID:** ARS1-B23-01529-12

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Pu-239/240	-2.498E-8	4.904E-8	1.088E-7	4.593E-8	4.8E-08	U	uCi/filter	09/02/23 3:01	[redacted]	65.3%

Analysis Method: Eichrom ACW10 **ABatch Sample ID:** ARS1-B23-01540-10

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Th-232	1.715E-7	6.852E-8	5.309E-8	1.880E-8	1.4E-08		uCi/filter	09/06/23 3:17	[redacted]	72.9%

Analysis Method: EPA 901.1M **ABatch Sample ID:** ARS1-B23-01453-12

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
Co-60	3.490E-7	8.051E-7	8.232E-7	4.116E-7	0.00024	U	uCi/filter	08/25/23 20:52	[redacted]	N/A
Cs-137	-2.394E-7	6.985E-7	7.560E-7	3.780E-7	0.00048	U	uCi/filter	08/25/23 20:52		N/A
Pb-214	2.850E-6	8.317E-7	1.106E-6	5.530E-7	NP		uCi/filter	08/25/23 20:52		N/A
Ra-226	-3.987E-6	8.059E-6	1.013E-5	5.065E-6	4.4E-06	U	uCi/filter	08/25/23 20:52		N/A
Tl-208	7.903E-7	5.306E-7	5.750E-7	2.875E-7	NP		uCi/filter	08/25/23 20:52		N/A

Analysis Method: Eichrom SRW01 **ABatch Sample ID:** ARS1-B23-01585-06

Analysis Description	Analysis Results	CSU +/- 2 s	MDA	DLC	CRDL	Qual	Analysis Units	Analysis Date/Time	Analysis Technician	Tracer/Chem Recovery
SR-90	1.641E-6	2.256E-6	3.795E-6	1.746E-6	2.4E-05	U	uCi/filter	09/07/23 10:48	[redacted]	88.8%

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QC Summary

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QC Sample Results

Analytical Batch: ARS1-B23-01453
Lab Sample ID: ARS1-B23-01453-01
Method: EPA 901.1M

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 08/23/23 7:19

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Am-241	33.065	31.314		uCi/filter	94.7	75 - 125
Co-60	20.928	20.551		uCi/filter	98.2	75 - 125
Cs-137	12.996	13.391		uCi/filter	103.0	75 - 125

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QC Sample Results

Analytical Batch: ARS1-B23-01453
Lab Sample ID: ARS1-B23-01453-02
Method: EPA 901.1M

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 08/23/23 7:32

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Am-241	33.065	31.413		uCi/filter	95.0	75 - 125	0.3	25	0.057	3
Co-60	20.928	21.076		uCi/filter	100.7	75 - 125	2.5	25	0.543	3
Cs-137	12.996	12.947		uCi/filter	99.6	75 - 125	3.4	25	0.716	3

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QC Sample Results

Analytical Batch: ARS1-B23-01453
Lab Sample ID: ARS1-B23-01453-03
Method: EPA 901.1M

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 08/22/23 14:02

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Ac-228	-2.761E-6	5.647E-6	6.099E-6	3.050E-6	U	uCi/filter
Am-241	4.984E-7	1.286E-6	2.131E-6	1.066E-6	U	uCi/filter
Bi-212	3.093E-7	1.196E-5	1.349E-5	6.745E-6	U	uCi/filter
Bi-214	-2.672E-6	4.228E-6	3.926E-6	1.963E-6	U	uCi/filter
Co-60	-6.084E-7	1.698E-6	1.736E-6	8.680E-7	U	uCi/filter
Cs-137	-5.696E-7	1.421E-6	1.591E-6	7.955E-7	U	uCi/filter
Eu-152	-4.818E-7	1.399E-6	1.848E-6	9.240E-7	U	uCi/filter
Eu-154	4.863E-7	2.801E-6	1.304E-6	6.520E-7	U	uCi/filter
K-40	-1.128E-5	2.302E-5	2.215E-5	1.108E-5	U	uCi/filter
Pa-234	-3.772E-6	3.467E-6	2.325E-6	1.163E-6	U	uCi/filter
Pb-210	-1.044E-5	1.449E-5	1.711E-5	8.555E-6	U	uCi/filter
Pb-212	-9.735E-7	2.360E-6	3.012E-6	1.506E-6	U	uCi/filter
Pb-214	4.117E-7	2.984E-7	3.153E-6	1.577E-6	U	uCi/filter
Ra-226	1.736E-5	1.407E-5	1.736E-5	8.680E-6	U	uCi/filter
Ra-228	-2.761E-6	5.647E-6	6.099E-6	3.050E-6	U	uCi/filter
Th-234	-1.369E-5	1.636E-5	1.729E-5	8.645E-6	U	uCi/filter
Tl-208	-7.326E-7	1.838E-6	1.662E-6	8.310E-7	U	uCi/filter
U-235	-4.393E-6	6.023E-6	6.538E-6	3.269E-6	U	uCi/filter
U-238	-1.369E-5	1.636E-5	1.729E-5	8.645E-6	U	uCi/filter

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QC Association Summary

ARS Sample Delivery Group: ARS1-23-01780 **Analytical Batch:** ARS1-B23-01453

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

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B23-01453-01		Lab Control Sample	Air Filter	EPA 901.1M	N/A
ARS1-B23-01453-02		Lab Control Sample Duplicate	Air Filter	EPA 901.1M	N/A
ARS1-B23-01453-03		Method Blank	Air Filter	EPA 901.1M	N/A
ARS1-B23-01453-10	ARS1-23-01780-001	FBC-080723	Air Filter	EPA 901.1M	N/A
ARS1-B23-01453-11	ARS1-23-01780-002	MSC01-080723	Air Filter	EPA 901.1M	N/A
ARS1-B23-01453-12	ARS1-23-01780-003	MSC02-080723	Air Filter	EPA 901.1M	N/A

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QC Sample Results

Analytical Batch: ARS1-B23-01529
Lab Sample ID: ARS1-B23-01529-01
Method: Eichrom ACW03

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 09/02/23 3:01

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Pu-239/240	7.571E-6	7.535E-6		uCi/filter	99.5	75 - 125

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QC Sample Results

Analytical Batch: ARS1-B23-01529
Lab Sample ID: ARS1-B23-01529-02
Method: Eichrom ACW03

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 09/02/23 3:01

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Pu-239/240	7.705E-6	7.339E-6		uCi/filter	95.3	75 - 125	2.6	25	0.292	3

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QC Sample Results

Analytical Batch: ARS1-B23-01529
Lab Sample ID: ARS1-B23-01529-03
Method: Eichrom ACW03

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 09/02/23 3:01

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Pu-238	3.430E-8	6.547E-8	1.150E-7	4.976E-8	U	uCi/filter
Pu-239/240	-5.716E-9	8.002E-8	1.511E-7	6.781E-8	U	uCi/filter

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QC Association Summary

ARS Sample Delivery Group: ARS1-23-01780

Analytical Batch: ARS1-B23-01529

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-B23-01529-01		Lab Control Sample	Air Filter	Eichrom ACW03	N/A
ARS1-B23-01529-02		Lab Control Sample Duplicate	Air Filter	Eichrom ACW03	N/A
ARS1-B23-01529-03		Method Blank	Air Filter	Eichrom ACW03	N/A
ARS1-B23-01529-10	ARS1-23-01780-001	FBC-080723	Air Filter	Eichrom ACW03	N/A
ARS1-B23-01529-11	ARS1-23-01780-002	MSC01-080723	Air Filter	Eichrom ACW03	N/A
ARS1-B23-01529-12	ARS1-23-01780-003	MSC02-080723	Air Filter	Eichrom ACW03	N/A

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QC Sample Results

Analytical Batch: ARS1-B23-01540
Lab Sample ID: ARS1-B23-01540-01
Method: Eichrom ACW10

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 09/06/23 3:17

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
Th-230	5.222E-6	5.742E-6		uCi/filter	110.0	75 - 125

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QC Sample Results

Analytical Batch: ARS1-B23-01540
Lab Sample ID: ARS1-B23-01540-02
Method: Eichrom ACW10

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 09/06/23 3:17

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
Th-230	5.212E-6	5.852E-6		uCi/filter	112.3	75 - 125	1.9	25	0.207	3

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QC Sample Results

Analytical Batch: ARS1-B23-01540
Lab Sample ID: ARS1-B23-01540-03
Method: Eichrom ACW10

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 09/06/23 3:17

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
Th-228	9.450E-8	9.740E-8	1.558E-7	6.628E-8	U	uCi/filter
Th-230	8.507E-8	9.190E-8	1.482E-7	6.258E-8	U	uCi/filter
Th-232	-1.698E-8	4.081E-8	1.020E-7	3.950E-8	U	uCi/filter

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QC Association Summary

ARS Sample Delivery Group: ARS1-23-01780

Analytical Batch: ARS1-B23-01540

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-B23-01540-01		Lab Control Sample	Air Filter	Eichrom ACW10	N/A
ARS1-B23-01540-02		Lab Control Sample Duplicate	Air Filter	Eichrom ACW10	N/A
ARS1-B23-01540-03		Method Blank	Air Filter	Eichrom ACW10	N/A
ARS1-B23-01540-08	ARS1-23-01780-001	FBC-080723	Air Filter	Eichrom ACW10	N/A
ARS1-B23-01540-09	ARS1-23-01780-002	MSC01-080723	Air Filter	Eichrom ACW10	N/A
ARS1-B23-01540-10	ARS1-23-01780-003	MSC02-080723	Air Filter	Eichrom ACW10	N/A

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QC Sample Results

Analytical Batch: ARS1-B23-01585
Lab Sample ID: ARS1-B23-01585-01
Method: Eichrom SRW01

Sample Type: LCS
Matrix: Air Filter
Analysis Date: 09/07/23 10:48

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits
SR-90	1.971E-5	2.245E-5		uCi/filter	113.9	75 - 125

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QC Sample Results

Analytical Batch: ARS1-B23-01585
Lab Sample ID: ARS1-B23-01585-02
Method: Eichrom SRW01

Sample Type: LCSD
Matrix: Air Filter
Analysis Date: 09/07/23 10:48

Analyte	Spike Added	Analysis Result	Qual	Analysis Units	% Rec	% Rec Limits	RPD	RPD Limit	DER	DER Limit
SR-90	1.975E-5	2.410E-5		uCi/filter	122.0	75 - 125	7.1	25	0.643	3

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QC Sample Results

Analytical Batch: ARS1-B23-01585
Lab Sample ID: ARS1-B23-01585-03
Method: Eichrom SRW01

Sample Type: MBL
Matrix: Air Filter
Analysis Date: 09/07/23 10:48

Analyte	Analysis Result	CSU +/- 2 s	MDA	DLC	Qual	Analysis Units
SR-90	6.327E-6	3.111E-6	4.378E-6	2.020E-6		uCi/filter

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QC Association Summary

ARS Sample Delivery Group: ARS1-23-01780

Analytical Batch: ARS1-B23-01585

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

Batch Sample ID	Lab Sample ID	Client Sample ID	Matrix	Method	Prep Method
ARS1-B23-01585-01		Lab Control Sample	Air Filter	Eichrom SRW01	N/A
ARS1-B23-01585-02		Lab Control Sample Duplicate	Air Filter	Eichrom SRW01	N/A
ARS1-B23-01585-03		Method Blank	Air Filter	Eichrom SRW01	N/A
ARS1-B23-01585-04	ARS1-23-01780-001	FBC-080723	Air Filter	Eichrom SRW01	N/A
ARS1-B23-01585-05	ARS1-23-01780-002	MSC01-080723	Air Filter	Eichrom SRW01	N/A
ARS1-B23-01585-06	ARS1-23-01780-003	MSC02-080723	Air Filter	Eichrom SRW01	N/A

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Analytical Reports

for

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Batch QC

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QC Results per Analytical Batch

Analytical Batch	**ARS1-B23-01453**
SDG	**ARS1-23-01780**
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	08/23/23 07:19	Analysis Technician	[redacted]	
Analysis Batch Sample ID	**QC Type**	**Analyte**	**Results**	**CSU (2s)**	**Expected Value**	**LCS Rec (%)**	**MDA**
ARS1-B23-01453-01	**LCS**	AM-241	31.314	2.383	33.065	94.7	0.117
ARS1-B23-01453-01	**LCS**	CO-60	20.551	1.423	20.928	98.2	0.430
ARS1-B23-01453-01	**LCS**	CS-137	13.391	0.873	12.996	103.0	0.071

Duplicate RER/DER/RPD

		Analysis Date	08/23/23 07:32	Analysis Technician	[redacted]	
Analyte	**Results LCS**	**CSU LCS (2s)**	**Results LCSD**	**CSU LCSD (2s)**	**DER**	**RPD**
AM-241	31.314	2.383	31.413	2.391	0.057	0.3
CO-60	20.551	1.423	21.076	1.253	0.543	2.5
CS-137	13.391	0.873	12.947	0.846	0.716	3.4

Method Blank

			Analysis Date	08/22/23 14:02	Analysis Technician	[redacted]	
Analysis Batch Sample ID	**QC Type**	**Analyte**	**Results**	**CSU (2s)**	**MDA**	**Qual**	
ARS1-B23-01453-03	**MBL**	AC-228	-2.761E-6	5.647E-6	6.099E-6	U	
ARS1-B23-01453-03	**MBL**	AM-241	4.984E-7	1.286E-6	2.131E-6	U	
ARS1-B23-01453-03	**MBL**	BI-212	3.093E-7	1.196E-5	1.349E-5	U	
ARS1-B23-01453-03	**MBL**	BI-214	-2.672E-6	4.228E-6	3.926E-6	U	
ARS1-B23-01453-03	**MBL**	CO-60	-6.084E-7	1.698E-6	1.736E-6	U	
ARS1-B23-01453-03	**MBL**	CS-137	-5.696E-7	1.421E-6	1.591E-6	U	
ARS1-B23-01453-03	**MBL**	EU-152	-4.818E-7	1.399E-6	1.848E-6	U	
ARS1-B23-01453-03	**MBL**	EU-154	4.863E-7	2.801E-6	1.304E-6	U	
ARS1-B23-01453-03	**MBL**	K-40	-1.128E-5	2.302E-5	2.215E-5	U	
ARS1-B23-01453-03	**MBL**	PA-234	-3.772E-6	3.467E-6	2.325E-6	U	
ARS1-B23-01453-03	**MBL**	PB-210	-1.044E-5	1.449E-5	1.711E-5	U	
ARS1-B23-01453-03	**MBL**	PB-212	-9.735E-7	2.360E-6	3.012E-6	U	
ARS1-B23-01453-03	**MBL**	PB-214	4.117E-7	2.984E-7	3.153E-6	U	
ARS1-B23-01453-03	**MBL**	RA-226	1.736E-5	1.407E-5	1.736E-5	U	
ARS1-B23-01453-03	**MBL**	RA-228	-2.761E-6	5.647E-6	6.099E-6	U	
ARS1-B23-01453-03	**MBL**	TH-234	-1.369E-5	1.636E-5	1.729E-5	U	
ARS1-B23-01453-03	**MBL**	TL-208	-7.326E-7	1.838E-6	1.662E-6	U	
ARS1-B23-01453-03	**MBL**	U-235	-4.393E-6	6.023E-6	6.538E-6	U	
ARS1-B23-01453-03	**MBL**	U-238	-1.369E-5	1.636E-5	1.729E-5	U	

QC Results per Analytical Batch

Analytical Batch	**ARS1-B23-01529**
SDG	**ARS1-23-01780**
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	09/02/23 03:01	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-01529-01	**LCS**	PU-239/240	7.535E-6	9.409E-7	7.571E-6	99.5	4.190E-8

Duplicate RER/DER/RPD

Analysis Date	09/02/23 03:01	Analysis Technician	[redacted]

Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD
PU-239/240	7.535E-6	9.409E-7	7.339E-6	9.158E-7	0.292	2.6

Method Blank

Analysis Date	09/02/23 03:01	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual
ARS1-B23-01529-03	**MBL**	PU-238	3.430E-8	6.547E-8	1.150E-7	U
ARS1-B23-01529-03	**MBL**	PU-239/240	-5.716E-9	8.002E-8	1.511E-7	U

QC Results per Analytical Batch

Analytical Batch	**ARS1-B23-01540**
SDG	**ARS1-23-01780**
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	09/06/23 03:17	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-01540-01	**LCS**	TH-230	5.742E-6	7.291E-7	5.222E-6	110.0	5.776E-8

Duplicate RER/DER/RPD

Analysis Date	09/06/23 03:17	Analysis Technician	[redacted]

Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD
TH-230	5.742E-6	7.291E-7	5.852E-6	7.450E-7	0.207	1.9

Method Blank

Analysis Date	09/06/23 03:17	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual
ARS1-B23-01540-03	**MBL**	TH-228	9.450E-8	9.740E-8	1.558E-7	U
ARS1-B23-01540-03	**MBL**	TH-230	8.507E-8	9.190E-8	1.482E-7	U
ARS1-B23-01540-03	**MBL**	TH-232	-1.698E-8	4.081E-8	1.020E-7	U

QC Results per Analytical Batch

Analytical Batch	**ARS1-B23-01585**
SDG	**ARS1-23-01780**
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	09/07/23 10:48	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	Expected Value	LCS Rec (%)	MDA
ARS1-B23-01585-01	**LCS**	SR-90	2.245E-5	3.438E-6	1.971E-5	113.9	5.129E-7

Duplicate RER/DER/RPD

Analysis Date	09/07/23 10:48	Analysis Technician	[redacted]

Analyte	Results LCS	CSU LCS (2s)	Results LCSD	CSU LCSD (2s)	DER	RPD
SR-90	2.245E-5	3.438E-6	2.410E-5	3.681E-6	0.643	7.1

Method Blank

Analysis Date	09/07/23 10:48	Analysis Technician	[redacted]

Analysis Batch Sample ID	QC Type	Analyte	Results	CSU (2s)	MDA	Qual
ARS1-B23-01585-03	**MBL**	SR-90	6.327E-6	3.111E-6	4.378E-6	

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

ARS Aleut Analytical, LLC
Analytical Reports

for

GES-AIS, LLC

Sample Management Records

CHAIN-OF-CUSTODY RECORD

Gilbane Federal
[redacted]
1501 W Fountainhead Parkway, Suite 550, Tempe, Arizona 85282
[redacted]

COC # [redacted]081523RADC

GES
AN ABS INDUSTRIAL COMPANY

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:

Equipment:

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

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: E901.1 - Gamma Spec Ra226 Cs137	RC0240 - Pu and Th Isotopes	SR02RC - Sr90						Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
						15	15	5											
1	FBC-080723	AQ	08/07/2023	0800	[redacted]	X	X	X		[redacted]				FIELDQC	AB1	0.00	0.00	1	
2	MSC01-080723	A	08/10/2023	1345		X	X	X						MSC01	N1	0.00	0.00	1	TOTAL FLOW (L):
3	MSC02-080723	A	08/10/2023	1331		X	X	X						MSC02	N1	0.00	0.00	1	TOTAL FLOW (L):

Turnaround Time: NA

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[redacted]	8/15/23	1300	Fedex	8/15/23	1300
			[redacted]	8/16/23	1015

Shipping Date / Carrier / Airbill Number

Shipping Date: 8/15/2023 / FEDEX / 7729 1988 4430

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

Procedures: GES-003 / EPA 900.0M

Start Date 8/7/23
Stop Date 8/10/23

File ID Number: [redacted]81523RADC

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)	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)
		FBC-080723	8/7/2023	800	8/7/2023	800														
1	MSC01	MSC01-080723	08/07/23	4:53	08/10/23	13:45	60	60	291.1	222	3.37	80.87	4852.0	60	2.11888	2.11888	2.11888	3.6	0.06	291,120
2	MSC02	MSC02-080723	08/07/23	5:00	08/10/23	13:31	60	60	289.9	222	3.35	80.52	4831.0	60	2.11888	2.11888	2.11888	3.6	0.06	289,860

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	ARS1-23-01780		TAT Days	28 Calendar Days	Project Type	Environmental
Sample Count	3	Rpt Level 2b	Date Received	08/16/2023	COC Number	[redacted]081523RADC
Client	GES-AIS, LLC		Discrepancy Resol	N/A	PO Number	
Client Code	1138		Client Deadline	09/13/2023	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-080723	Air Filter	08/07/2023 07:59	08/07/2023 08:00	H	30	10	PrePrep	
	IC_ID	**Cnt**	**Container Type**	**AF Volume (L)**	**AF Units**		**Rate**	**Mins**	**Comments**
	446264	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	08/07/2023 07:59	AF Volume (CuM):		0.001		
002	MSC01-080723	Air Filter	08/10/2023 13:44	08/10/2023 13:45	H	30	10	PrePrep	
	IC_ID	**Cnt**	**Container Type**	**AF Volume (L)**	**AF Units**		**Rate**	**Mins**	**Comments**
	446265	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	08/10/2023 13:44	AF Volume (CuM):		0.001		
003	MSC02-080723	Air Filter	08/10/2023 13:30	08/10/2023 13:31	H	30	10	PrePrep	
	IC_ID	**Cnt**	**Container Type**	**AF Volume (L)**	**AF Units**		**Rate**	**Mins**	**Comments**
	446266	1	HDP Container	1	LPM			1	
			Mid-Sample Date:	08/10/2023 13:30	AF Volume (CuM):		0.001		

SDG Report - Analysis Assignments

SDG	**ARS1-23-01780**	**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: 2b

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	

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 / 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	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: ARS1-23-01780

Sample Custodian: [redacted]

Survey Start Date: 8-16-23 Survey Start Time: 11:26

Thermometer ID: E10540122661 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 µR/hr

Count Rate Meter + Probe Unit ID: 268993 Calibration Due Date: 9-19-23 Background: 20 cpm

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

External Shipping Container Tracking:	Exposure Rate (µR/hr) (limit <500 µR/hr)	Max External Swipe Counts (cpm)	Max Internal Swipe Counts (cpm)	ESC True Temps* (°C)	TRAX Matrix ID (circle all that apply): (See Section 4.3 of SOP)
A: 7729 1938 1430	4	20	20	—	AQ WD WG WO WS WW SI UR SO OL BI VG WP SM (AF)
B:					
C:					
D:					
E:					
F:					

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

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: ARS1-23-01780

Pipette ID:_____ Tip Lot#:_____

Disposible pipette lot#:_____

Sample ID from Client on COC or Sample	ESC Letter	Sample Container Type	Approx. Fill Level (%)	pH *Acceptable* pH As Rec'd	pH *Acceptable* pH Adjusted	Acid Lot # or Ind container temp (°C)	Vol. of Acid Used (mL)	Acceptance Limits <100 cpm/cm² cpm
FBC-080723	A	AF	NA	NA	NA	NA	NA	20
MSC-01-080723	↓	↓	↓	↓	↓	↓	↓	↓
MSC02-080723	↓	↓	↓	↓	↓	↓	↓	↓

Sample Custodia[redacted] Survey End Date: 8-16-23 Survey/pH End Time: 11:27

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).



After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
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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.

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

August 9, 2023

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

Laboratory Workorder ID: B214054

Client Project ID: J310000600
Received: August 2, 2023
Reported: August 9, 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.

[redacted], CIH
Technical Director

Enclosures

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

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

Customer: PARCELC1
Attention: [redacted]
PO Number J310000600

Date Received: 08/02/23
Client Project ID J310000600

Lab ID: B214054001 Sample ID: PM021423-01 FIELDQC Media: 8X10 PREWEIGHED GLASS Sample Date: 07/24/2023 8:00 AM

Analyte	Method	Analysis Date	Volume		Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/03/23	0	L	1000 ug			1000 ug	--

Lab ID: B214054002 Sample ID: TSP041823-68 FIELDQC Media: 8X10 PREWEIGHED GLASS Sample Date: 07/24/2023 8:00 AM

Analyte	Method	Analysis Date	Volume		Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/03/23	0	L	1000 ug			< 1000 ug	--
Lead	40CFR50App.G Mod./EPA 6010B	08/07/23	0	L	14 ug			< 14 ug	--
Manganese	40CFR50App.G Mod./EPA 6010B	08/07/23	0	L	98 ug			< 98 ug	--

Lab ID: B214054003 Sample ID: PM042123-13 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 07/25/2023 6:41 AM

Analyte	Method	Analysis Date	Volume		Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/03/23	1625560	L	1000 ug			11400 ug	7 ug/M3

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Lab ID: B214054004 Sample ID: TSP042123-14 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 07/25/2023 6:41 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/03/23	1633530 L	1000 ug			39200 ug	24 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	08/07/23	1633530 L	14 ug			< 14 ug	< 0.0086 ug/M3
Manganese	40CFR50App.G Mod./EPA 6010B	08/07/23	1633530 L	98 ug			< 98 ug	< 0.06 ug/M3

Lab ID: B214054005 Sample ID: PM042123-15 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 07/25/2023 6:54 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/03/23	1612310 L	1000 ug			15100 ug	9 ug/M3

Lab ID: B214054006 Sample ID: TSP042123-16 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 07/25/2023 6:54 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/03/23	1711340 L	1000 ug			32100 ug	19 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	08/07/23	1711340 L	14 ug			< 14 ug	< 0.0082 ug/M3
Manganese	40CFR50App.G Mod./EPA 6010B	08/07/23	1711340 L	98 ug			< 98 ug	< 0.0573 ug/M3

Lab ID: B214054007 Sample ID: PM042123-17 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 07/26/2023 6:45 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration

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Lab ID: B214054007 Sample ID: PM042123-17 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 07/26/2023 6:45 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/03/23	1668130 L	1000 ug			18300 ug	11 ug/M3

Lab ID: B214054008 Sample ID: TSP042123-18 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 07/26/2023 6:45 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/03/23	1680550 L	1000 ug			36800 ug	22 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	08/07/23	1680550 L	14 ug			< 14 ug	< 0.0083 ug/M3
Manganese	40CFR50App.G Mod./EPA 6010B	08/07/23	1680550 L	98 ug			< 98 ug	< 0.0583 ug/M3

Lab ID: B214054009 Sample ID: PM042123-19 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 07/26/2023 7:07 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/03/23	1661980 L	1000 ug			21000 ug	13 ug/M3

Lab ID: B214054010 Sample ID: TSP042123-20 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 07/26/2023 7:07 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/03/23	1763350 L	1000 ug			37400 ug	21 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	08/07/23	1763350 L	14 ug			< 14 ug	< 0.0079 ug/M3

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Lab ID: B214054010 Sample ID: TSP042123-20 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 07/26/2023 7:07 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Manganese	40CFR50App.G Mod./EPA 6010B	08/07/23	1763350 L	98 ug			< 98 ug	< 0.0556 ug/M3

Lab ID: B214054011 Sample ID: PM042123-21 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 07/27/2023 6:48 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/03/23	1652890 L	1000 ug			36100 ug	22 ug/M3

Lab ID: B214054012 Sample ID: TSP042123-22 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 07/27/2023 6:48 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/03/23	1589420 L	1000 ug			77500 ug	49 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	08/07/23	1589420 L	14 ug			< 14 ug	< 0.0088 ug/M3
Manganese	40CFR50App.G Mod./EPA 6010B	08/07/23	1589420 L	98 ug			< 98 ug	< 0.0617 ug/M3

Lab ID: B214054013 Sample ID: PM042123-23 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 07/27/2023 7:03 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/03/23	1636190 L	1000 ug			39700 ug	24 ug/M3

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Lab ID: B214054014 Sample ID: TSP042123-24 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 07/27/2023 7:03 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/03/23	1736190 L	1000 ug			75900 ug	44 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	08/07/23	1736190 L	14 ug			< 14 ug	< 0.0081 ug/M3
Manganese	40CFR50App.G Mod./EPA 6010B	08/07/23	1736190 L	98 ug			< 98 ug	< 0.0564 ug/M3

Lab ID: B214054015 Sample ID: PM042123-25 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 07/27/2023 3:26 PM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/03/23	594650 L	1000 ug			15100 ug	25 ug/M3

Lab ID: B214054016 Sample ID: TSP042123-26 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 07/27/2023 3:26 PM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/03/23	586600 L	1000 ug			44200 ug	75 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	08/07/23	586600 L	14 ug			< 14 ug	< 0.0239 ug/M3
Manganese	40CFR50App.G Mod./EPA 6010B	08/07/23	586600 L	98 ug			< 98 ug	< 0.1671 ug/M3

Lab ID: B214054017 Sample ID: PM042123-27 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 07/27/2023 3:15 PM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration

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Lab ID: B214054017 Sample ID: PM042123-27 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 07/27/2023 3:15 PM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/03/23	561830 L	1000 ug			17200 ug	31 ug/M3

Lab ID: B214054018 Sample ID: TSP042123-28 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 07/27/2023 3:15 PM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/03/23	598130 L	1000 ug			34100 ug	57 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	08/07/23	598130 L	14 ug			< 14 ug	< 0.0234 ug/M3
Manganese	40CFR50App.G Mod./EPA 6010B	08/07/23	598130 L	98 ug			< 98 ug	< 0.1638 ug/M3

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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
[redacted]
1501 W Fountainhead Parkway, Suite 550, Tempe, Arizona 85282
[redacted]

COC # [redacted]080123AIRC

GES

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	

B214054

Comments:

Equipment:

Code	Matrix
A	Air
AQ	Air Quality Control Matrix

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.	Analytical Test Method: CAAIR - Air PM10	N0500 - Air TSP	SW6010B - Air Pb Mn	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
						1	1	1						
1	PM021423-01	AQ	07/24/2023	0800	[redacted]	X			FIELDQC [redacted]	FAB1	0.00	0.00	1	
2	TSP041823-68	AQ	07/24/2023	0800			X	X	FIELDQC 8/1/23	FAB2	0.00	0.00	1	
3	PM042123-13	A	07/25/2023	0641		X			MSC01	N1	0.00	0.00	1	VOLUME (M3):
4	TSP042123-14	A	07/25/2023	0641			X	X	MSC01	N1	0.00	0.00	1	VOLUME (M3):
5	PM042123-15	A	07/25/2023	0654		X			MSC02	N1	0.00	0.00	1	VOLUME (M3):
6	TSP042123-16	A	07/25/2023	0654			X	X	MSC02	N1	0.00	0.00	1	VOLUME (M3):

Turnaround Time: NA

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[redacted]	8/1/23	1300	Fedex	8/1/23	1300

Shipping Date / Carrier / Airbill Number

Shipping Date: 8/1/2023 / FEDEX / 7727 9997 8770

Custody Seal Intact- [redacted]

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

[redacted]
8/2/23
12:13pm

CHAIN-OF-CUSTODY RECORD

Gilbane Federal
[redacted]
1501 W Fountainhead Parkway, Suite 550, Tempe, Arizona 85282
[redacted]

COC # [redacted]080123AIRC

GES

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:

Equipment:

Code	Matrix
A	Air

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

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: CAAIR - Air PM10	N0500 - Air TSP	SW6010B - Air Pb Mn	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
	Event: Parcel C Air Monitoring					1	1	1						
1	PM042123-17	A	07/26/2023	0645	[redacted]	X			MSC01	N1	0.00	0.00	1	VOLUME (M3):
2	TSP042123-18	A	07/26/2023	0645			X	X	MSC01	N1	0.00	0.00	1	VOLUME (M3):
3	PM042123-19	A	07/26/2023	0707		X			MSC02	N1	0.00	0.00	1	VOLUME (M3):
4	TSP042123-20	A	07/26/2023	0707			X	X	MSC02	N1	0.00	0.00	1	VOLUME (M3):

8/1/23

Turnaround Time: 5 days

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[redacted]	8/1/23	1300	Fedex	8/1/23	1300

Shipping Date / Carrier / Airbill Number

Shipping Date: 8/1/2023 / FEDEX / 7727 9997 8770

Custody Seal Intact - [redacted]

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

[redacted]

8/2/23
12:13pm

CHAIN-OF-CUSTODY RECORD

[redacted]
1501 W Fountainhead Parkway, Suite 550, Tempe, Arizona 85282
[redacted]

COC # [redacted]080123AIRC

GES

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:

Equipment:

Code	Matrix
A	Air

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

	Sample ID	Matrix	Date	Time	Samp Init.	Analytical Test Method: CAAIR - Air PM10	N0500 - Air TSP	SW6010B - Air Pb Mn	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
	Event: Parcel C Air Monitoring					1	1	1						
1	PM042123-21	A	07/27/2023	0648	[redacted]	X			MSC01	N1	0.00	0.00	1	VOLUME (M3):
2	TSP042123-22	A	07/27/2023	0648			X	X	MSC01	N1	0.00	0.00	1	VOLUME (M3):
3	PM042123-23	A	07/27/2023	0703		X			MSC02	N1	0.00	0.00	1	VOLUME (M3):
4	TSP042123-24	A	07/27/2023	0703			X	X	MSC02	N1	0.00	0.00	1	VOLUME (M3):

Turnaround Time: 5 days

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[redacted]	8/1/23	1300	Fedex	8/1/23	1300

Shipping Date / Carrier / Airbill Number

Shipping Date: 8/1/2023 / FEDEX / 7727 9997 8770

Custody Seal Intact – [redacted]

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

[redacted]
8/2/23
1213pm

CHAIN-OF-CUSTODY RECORD

Gilbane Federal
[redacted]
1501 W Fountainhead Parkway, Suite 550, Tempe, Arizona 85282
[redacted]

COC # [redacted]080123AIRC

GES

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:

Equipment:

Code	Matrix
A	Air

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.	Analytical Test Method: CAAIR - Air PM10	N0500 - Air TSP	SW6010B - Air Pb Mn	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
						1	1	1						
1	PM042123-25	A	07/27/2023	1526	[redacted]	X			MSC01	N1	0.00	0.00	1	VOLUME (M3):
2	TSP042123-26	A	07/27/2023	1526			X	X	MSC01	N1	0.00	0.00	1	VOLUME (M3):
3	PM042123-27	A	07/27/2023	1515		X			MSC02	N1	0.00	0.00	1	VOLUME (M3):
4	TSP042123-28	A	07/27/2023	1515			X	X	MSC02	N1	0.00	0.00	1	VOLUME (M3):

Turnaround Time: 5 days

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[redacted]	8/1/23	1300	FedEx	8/1/23	1300

Shipping Date / Carrier / Airbill Number

Shipping Date: 8/1/2023 / FEDEX / 7727 9997 8770

Custody Seal Intact – [redacted]

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

[redacted]

8/2/23
12:13pm

COC # [redacted]080123AIRC

GES

Project Name: Hunters Point Shipyard, Parcel C Removal Site Evaluation			
Project Number: J310000600			
WBS Code: J310000600			
	Sample ID	Date	Time	Comments
1	PM021423-01	07/24/2023	0800	
2	TSP041823-68	07/24/2023	0800	
3	PM042123-13	07/25/2023	0641	VOLUME (M3): 1625.56
4	TSP042123-14	07/25/2023	0641	VOLUME (M3): 1633.53
5	PM042123-15	07/25/2023	0654	VOLUME (M3): 1612.31
6	TSP042123-16	07/25/2023	0654	VOLUME (M3): 1711.34
7	PM042123-17	07/26/2023	0645	VOLUME (M3): 1668.13
8	TSP042123-18	07/26/2023	0645	VOLUME (M3): 1680.55
9	PM042123-19	07/26/2023	0707	VOLUME (M3): 1661.98
10	TSP042123-20	07/26/2023	0707	VOLUME (M3): 1763.35
11	PM042123-21	07/27/2023	0648	VOLUME (M3): 1652.89
12	TSP042123-22	07/27/2023	0648	VOLUME (M3): 1589.42
13	PM042123-23	07/27/2023	0703	VOLUME (M3): 1636.19
14	TSP042123-24	07/27/2023	0703	VOLUME (M3): 1736.19
15	PM042123-25	07/27/2023	1526	VOLUME (M3): 594.65
16	TSP042123-26	07/27/2023	1526	VOLUME (M3): 586.60
17	PM042123-27	07/27/2023	1515	VOLUME (M3): 561.83
18	TSP042123-28	07/27/2023	1515	VOLUME (M3): 598.13

Sample ID	Cubic Meter	Volume
PM042123-13	1625.56	1625560
TSP042123-14	1633.53	1633530
PM042123-15	1612.31	1612310
TSP042123-16	1711.34	1711340
PM042123-17	1668.13	1668130
TSP042123-18	1680.55	1680550
PM042123-19	1661.98	1661980
TSP042123-20	1763.35	1763350
PM042123-21	1652.89	1652890
TSP042123-22	1589.42	1589420
PM042123-23	1636.19	1636190
TSP042123-24	1736.19	1736190
PM042123-25	594.65	594650
TSP042123-26	586.6	586600
PM042123-27	561.83	561830
TSP042123-28	598.13	598130
		0
		0
		0

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

Built Environment Testing
Analytics

Level 2 QA/QC Summary Report

Work Order #: B214054

Report Date: 8/9/2023

Batch ID:	**ICP230804A**	Analysis Date:	8/7/2023
Media::	**8X10PW GFF**	Preparation Date	8/4/2023

Blank Spike Results

			Percent Recovery				
QC ID	QC Type	Parameter	LCS	LCSD	Acceptance	RPD	Limit
LCS ICP23	BLKSPK	Lead	96	96	75-125	0.2	20
LCS ICP23	BLKSPK	Manganese	85	85	75-125	0.1	20

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AIHA LAP, LLC Accreditation ID 100531

August 17, 2023

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

Laboratory Workorder ID: B221005

Client Project ID: J310000600 PARCEL C HUNTERS PT
Received: August 9, 2023
Reported: August 17, 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.

[redacted]

[redacted], CIH
Technical Director

Enclosures

Eurofins Analytics, LLC
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Ashland, Va 23005
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AIHA LAP, LLC Accreditation ID 100531

Final Report

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

Customer: PARCELC1
Attention: [redacted]
PO Number J310000600

Date Received: 08/09/23
Client Project ID J310000600 PARCEL C HUNTERS PT

Lab ID: B221005001 Sample ID: PM041223-17 FIELDQC Media: 8X10 PREWEIGHED GLASS Sample Date: 07/31/2023 8:00 AM

Analyte	Method	Analysis Date	Volume		Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/10/23	0	L	1000 ug			1400 ug	--

Lab ID: B221005002 Sample ID: TSP041223-18 FIELDQC Media: 8X10 PREWEIGHED GLASS Sample Date: 07/31/2023 8:00 AM

Analyte	Method	Analysis Date	Volume		Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/10/23	0	L	1000 ug			1000 ug	--
Lead	40 CFR Part 50 Appendix G	08/14/23	0	L	14 ug			< 14 ug	--
Manganese	40 CFR Part 50 Appendix G	08/14/23	0	L	98 ug			< 98 ug	--

Lab ID: B221005003 Sample ID: PM041223-19 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/01/2023 6:45 AM

Analyte	Method	Analysis Date	Volume		Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/10/23	1623800	L	1000 ug			32300 ug	20 ug/M3

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Lab ID: B221005004 Sample ID: TSP041223-20 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/01/2023 6:45 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/10/23	1646870 L	1000 ug			65300 ug	40 ug/M3
Lead	40 CFR Part 50 Appendix G	08/14/23	1646870 L	14 ug			< 14 ug	< 0.009 ug/M3
Manganese	40 CFR Part 50 Appendix G	08/14/23	1646870 L	98 ug			< 98 ug	< 0.06 ug/M3

Lab ID: B221005005 Sample ID: PM041223-21 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/01/2023 7:01 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/10/23	1603030 L	1000 ug			35000 ug	22 ug/M3

Lab ID: B221005006 Sample ID: TSP041223-22 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/01/2023 7:01 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/10/23	1701270 L	1000 ug			59500 ug	35 ug/M3
Lead	40 CFR Part 50 Appendix G	08/14/23	1701270 L	14 ug			< 14 ug	< 0.008 ug/M3
Manganese	40 CFR Part 50 Appendix G	08/14/23	1701270 L	98 ug			< 98 ug	< 0.058 ug/M3

Lab ID: B221005007 Sample ID: PM041223-23 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/02/2023 6:38 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/10/23	1637880 L	1000 ug			14100 ug	9 ug/M3

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Lab ID: B221005008 Sample ID: TSP041223-24 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/02/2023 6:38 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/10/23	1639560 L	1000 ug			45800 ug	28 ug/M3
Lead	40 CFR Part 50 Appendix G	08/14/23	1639560 L	14 ug			< 14 ug	< 0.009 ug/M3
Manganese	40 CFR Part 50 Appendix G	08/14/23	1639560 L	98 ug			< 98 ug	< 0.06 ug/M3

Lab ID: B221005009 Sample ID: PM041223-25 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/02/2023 6:50 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/10/23	1624800 L	1000 ug			15100 ug	9 ug/M3

Lab ID: B221005010 Sample ID: TSP041223-26 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/02/2023 6:50 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/10/23	1720380 L	1000 ug			31300 ug	18 ug/M3
Lead	40 CFR Part 50 Appendix G	08/14/23	1720380 L	14 ug			< 14 ug	< 0.008 ug/M3
Manganese	40 CFR Part 50 Appendix G	08/14/23	1720380 L	98 ug			< 98 ug	< 0.057 ug/M3

Lab ID: B221005011 Sample ID: PM041223-27 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/03/2023 6:44 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/10/23	1653970 L	1000 ug			13000 ug	8 ug/M3

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Final Report

Lab ID: B221005012 Sample ID: TSP041223-28 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/03/2023 6:44 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/10/23	1657850 L	1000 ug			45500 ug	27 ug/M3
Lead	40 CFR Part 50 Appendix G	08/14/23	1657850 L	14 ug			< 14 ug	< 0.008 ug/M3
Manganese	40 CFR Part 50 Appendix G	08/14/23	1657850 L	98 ug			< 98 ug	< 0.059 ug/M3

Lab ID: B221005013 Sample ID: PM041223-29 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/03/2023 6:53 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/10/23	1637160 L	1000 ug			19200 ug	12 ug/M3

Lab ID: B221005014 Sample ID: TSP041223-30 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/03/2023 6:53 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/10/23	1735310 L	1000 ug			44500 ug	26 ug/M3
Lead	40 CFR Part 50 Appendix G	08/14/23	1735310 L	14 ug			< 14 ug	< 0.008 ug/M3
Manganese	40 CFR Part 50 Appendix G	08/14/23	1735310 L	98 ug			< 98 ug	< 0.056 ug/M3

Lab ID: B221005015 Sample ID: PM041223-31 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/03/2023 3:41 PM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/10/23	611720 L	1000 ug			7300 ug	12 ug/M3

Filter 041223-31 and filter 041223-32 were both received in the envelope for TSP041223-32(B221-005-016). Each filter will be tested and reportedly separately.

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AIHA LAP, LLC Accreditation ID 100531

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Lab ID: B221005016 Sample ID: TSP041223-32 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/03/2023 3:41 PM

Analyte	Method	Analysis Date	Volume		Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/10/23	610880	L	1000 ug			19600 ug	32 ug/M3
Filter 041223-31 and filter 041223-32 were both received in the envelope for TSP041223-32(B221-005-016). Each filter will be tested and reported separately.									
Lead	40 CFR Part 50 Appendix G	08/14/23	610880	L	14 ug			< 14 ug	< 0.023 ug/M3
Manganese	40 CFR Part 50 Appendix G	08/14/23	610880	L	98 ug			< 98 ug	< 0.16 ug/M3

Lab ID: B221005017 Sample ID: PM041223-33 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/03/2023 3:28 PM

Analyte	Method	Analysis Date	Volume		Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/10/23	582600	L	1000 ug			11300 ug	19 ug/M3

Lab ID: B221005018 Sample ID: TSP041223-34 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/03/2023 3:28 PM

Analyte	Method	Analysis Date	Volume		Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/10/23	621160	L	1000 ug			29500 ug	47 ug/M3
Lead	40 CFR Part 50 Appendix G	08/14/23	621160	L	14 ug			< 14 ug	< 0.023 ug/M3
Manganese	40 CFR Part 50 Appendix G	08/14/23	621160	L	98 ug			< 98 ug	< 0.158 ug/M3

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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
[redacted]
1501 W Fountainhead Parkway, Suite 550, Tempe, Arizona 85282
[redacted]

COC # [redacted]080823AIRC

B221005

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:

Equipment:

Code	Matrix
A	Air
AQ	Air Quality Control Matrix

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.	CAAIR - Air PM10	N0500 - Air TSP	SW6010B - Air Pb Mn							Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
1	PM041223-17	AQ	07/31/2023	0800	[redacted]	X									FIELDQC	FB2	0.00	0.00	1	
2	TSP041223-18	AQ	07/31/2023	0800			X	X							FIELDQC	FB2	0.00	0.00	1	
3	PM041223-19	A	08/01/2023	0645		X									MSC01	N1	0.00	0.00	1	VOLUME (M3):
4	TSP041223-20	A	08/01/2023	0645			X	X							MSC01	N1	0.00	0.00	1	VOLUME (M3):
5	PM041223-21	A	08/01/2023	0701		X									MSC02	N1	0.00	0.00	1	VOLUME (M3):
6	TSP041223-22	A	08/01/2023	0701			X	X							MSC02	N1	0.00	0.00	1	VOLUME (M3):

Turnaround Time: 5 days

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[redacted]	8/8/23	1300	Fedex	8/8/23	1300
			[redacted]	8/9/23	0947

Shipping Date / Carrier / Airbill Number

Shipping Date: 8/8/2023 / FEDEX / 7728 4472 0560

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

[redacted] 8/9/23 0947 Custody Seal Intact [redacted]

CHAIN-OF-CUSTODY RECORD

Gilbane Federal
[redacted]
1501 W Fountainhead Parkway, Suite 550, Tempe, Arizona 85282
[redacted]

COC # [redacted]080823AIRC

GES

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:

Equipment:

Code	Matrix
A	Air

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.	Analytical Test Method: CAAIR - Air PM10	N0500 - Air TSP	SW6010B - Air Pb Mn	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
						1	1	1						
1	PM041223-23	A	08/02/2023	0638	[redacted]	X			MSC01	N1	0.00	0.00	1	VOLUME (M3):
2	TSP041223-24	A	08/02/2023	0639			X	X	MSC01	N1	0.00	0.00	1	VOLUME (M3):
3	PM041223-25	A	08/02/2023	0650		X			MSC02	N1	0.00	0.00	1	VOLUME (M3):
4	TSP041223-26	A	08/02/2023	0650			X	X	MSC02	N1	0.00	0.00	1	VOLUME (M3):

Turnaround Time: 5 days

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[redacted]	8/8/23	1300	FedEx	8/8/23	1300
			[redacted]	8/9/23	0947

Shipping Date / Carrier / Airbill Number

Shipping Date: 8/8/2023 / FEDEX / 7728 4472 0560

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

[redacted] 8/9/23 0947 Custody Seal Intact [redacted]

CHAIN-OF-CUSTODY RECORD

[redacted]
1501 W Fountainhead Parkway, Suite 550, Tempe, Arizona 85282
[redacted]

COC # [redacted]080823AIRC

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:

Equipment:

Code	Matrix
A	Air

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

Analytical Test Method

						CAAIR - Air PM10	N0500 - Air TSP	SW6010B - Air Pb Mn										
	Event: Parcel C Air Monitoring					1	1	1										
	Sample ID	Matrix	Date	Time	Samp Init.										Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
1	PM041223-27	A	08/03/2023	0644	[redacted]	X									MSC01	N1	0.00	0.00	1	VOLUME (M3):
2	TSP041223-28	A	08/03/2023	0644			X	X							MSC01	N1	0.00	0.00	1	VOLUME (M3):
3	PM041223-29	A	08/03/2023	0653		X									MSC02	N1	0.00	0.00	1	VOLUME (M3):
4	TSP041223-30	A	08/03/2023	0653			X	X							MSC02	N1	0.00	0.00	1	VOLUME (M3):

Turnaround Time: 5 days

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[redacted]	8/8/23	1300	Fedex	8/8/23	1300
			[redacted]	8/9/23	0947

Shipping Date / Carrier / Airbill Number

Shipping Date: 8/8/2023 / FEDEX / 7728 4472 0560

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

[redacted] 8/9/23 0947 Custody Seal Intact [redacted]

CHAIN-OF-CUSTODY RECORD

Gilbane Federal
[redacted]
1501 W Fountainhead Parkway, Suite 550, Tempe, Arizona 85282
[redacted]

COC # [redacted]080823AIRC

GES

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:

Equipment:

Code	Matrix
A	Air

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.	Analytical Test Method: CAAIR - Air PM10	N0500 - Air TSP	SW6010B - Air Pb Mn	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
						1	1	1						
1	PM041223-31	A	08/03/2023	1541	[redacted]	X			MSC01	N1	0.00	0.00	1	VOLUME (M3):
2	TSP041223-32	A	08/03/2023	1541			X	X	MSC01	N1	0.00	0.00	1	VOLUME (M3):
3	PM041223-33	A	08/03/2023	1528		X			MSC02	N1	0.00	0.00	1	VOLUME (M3):
4	TSP041223-34	A	08/03/2023	1528			X	X	MSC02	N1	0.00	0.00	1	VOLUME (M3):

Turnaround Time: 5 days

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[redacted]	8/8/23	1300	FedEx	8/8/23	1300
			[redacted]	8/9/23	0947

Shipping Date / Carrier / Airbill Number

Shipping Date: 8/8/2023 / FEDEX / 7728 4472 0560

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

[redacted] 8/9/23 0947 Custody Seals [redacted] Intact

COC # [redacted]080823AIRC

Project Name: Hunters Point Shipyard, Parcel C Removal Site					
Project Number: J310000600					
WBS Code: J310000600					
	Event: Parcel C Air Monitoring				
	Sample ID	Matrix	Date	Time	Comments
1	PM041223-17	AQ	07/31/2023	0800	
2	TSP041223-18	AQ	07/31/2023	0800	
3	PM041223-19	A	08/01/2023	0645	VOLUME (M3): 1623.80
4	TSP041223-20	A	08/01/2023	0645	VOLUME (M3): 1646.87
5	PM041223-21	A	08/01/2023	0701	VOLUME (M3): 1603.03
6	TSP041223-22	A	08/01/2023	0701	VOLUME (M3): 1701.27
7	PM041223-23	A	08/02/2023	0638	VOLUME (M3): 1637.88
8	TSP041223-24	A	08/02/2023	0638	VOLUME (M3): 1639.56
9	PM041223-25	A	08/02/2023	0650	VOLUME (M3): 1624.80
10	TSP041223-26	A	08/02/2023	0650	VOLUME (M3): 1720.38
11	PM041223-27	A	08/03/2023	0644	VOLUME (M3): 1653.97
12	TSP041223-28	A	08/03/2023	0644	VOLUME (M3): 1657.85
13	PM041223-29	A	08/03/2023	0653	VOLUME (M3): 1637.16
14	TSP041223-30	A	08/03/2023	0653	VOLUME (M3): 1735.31
15	PM041223-31	A	08/03/2023	1541	VOLUME (M3): 611.72
16	TSP041223-32	A	08/03/2023	1541	VOLUME (M3): 610.88
17	PM041223-33	A	08/03/2023	1528	VOLUME (M3): 582.60
18	TSP041223-34	A	08/03/2023	1528	VOLUME (M3): 621.16

Sample ID	Cubic Meter	Volume (L)
PM041223-19	1623.8	1623800
TSP041223-20	1646.87	1646870
PM041223-21	1603.03	1603030
TSP041223-22	1701.27	1701270
PM041223-23	1637.88	1637880
TSP041223-24	1639.56	1639560
PM041223-25	1624.8	1624800
TSP041223-26	1720.38	1720380
PM041223-27	1653.97	1653970
TSP041223-28	1657.85	1657850
PM041223-29	1637.16	1637160
TSP041223-30	1735.31	1735310
PM041223-31	611.72	611720
TSP041223-32	610.88	610880
PM041223-33	582.6	582600
TSP041223-34	621.16	621160
		0
		0
		0
		0
		0
		0
		0
		0

Eurofins Analytics, LLC
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AIHA-LAP, LLC Accreditation ID 100531

Built Environment Testing Analytics

Level 2 QA/QC Summary Report

Work Order #: B221005

Report Date: 8/17/2023

Batch ID: **ICP230810B** Analysis Date: 8/14/2023

Media:: **8X10PW GFF** Preparation Date 8/10/2023

Blank Spike Results

			Percent Recovery				
QC ID	QC Type	Parameter	LCS	LCSD	Acceptance	RPD	Limit
LCS ICP23	BLKSPK	Lead	80	80	75-125	0.5	20
LCS ICP23	BLKSPK	Manganese	86	85	75-125	0.9	20

Method Blank Results

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

Eurofins Analytics, LLC
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Phone: (804) 365-3000 Fax: (804) 365-3002
AIHA LAP, LLC Accreditation ID 100531

August 22, 2023

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

Laboratory Workorder ID: B228014

Client Project ID: J310000600 PARCEL C HUNTERS PT
Received: August 16, 2023
Reported: August 22, 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.

[redacted], CIH
Technical Director

Enclosures

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

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

Customer: PARCELC1
Attention: [redacted]
PO Number J310000600

Date Received: 08/16/23
Client Project ID J310000600 PARCEL C HUNTERS PT

Lab ID: B228014001 Sample ID: PM041223-39 FIELDQC Media: 8X10 PREWEIGHED GLASS Sample Date: 08/07/2023 8:00 AM

Analyte	Method	Analysis Date	Volume		Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/17/23	0	L	1000 ug			2500 ug	--

Lab ID: B228014002 Sample ID: TSP041623-13 FIELDQC Media: 8X10 PREWEIGHED GLASS Sample Date: 08/07/2023 8:00 AM

Analyte	Method	Analysis Date	Volume		Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/17/23	0	L	1000 ug			1400 ug	--
Lead	40CFR50App.G Mod./EPA 6010B	08/21/23	0	L	14 ug			< 14 ug	--
Manganese	40CFR50App.G Mod./EPA 6010B	08/21/23	0	L	98 ug			< 98 ug	--

Lab ID: B228014003 Sample ID: PM041623-14 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/08/2023 6:44 AM

Analyte	Method	Analysis Date	Volume		Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/17/23	1657570	L	1000 ug			22000 ug	13 ug/M3

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Lab ID: B228014004 Sample ID: TSP041623-15 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/08/2023 6:44 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/17/23	1664800 L	1000 ug			47600 ug	29 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	08/21/23	1664800 L	14 ug			< 14 ug	< 0.0084 ug/M3
Manganese	40CFR50App.G Mod./EPA 6010B	08/21/23	1664800 L	98 ug			< 98 ug	< 0.0589 ug/M3

Lab ID: B228014005 Sample ID: PM041623-16 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/08/2023 6:55 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/17/23	1643160 L	1000 ug			34400 ug	21 ug/M3

Lab ID: B228014006 Sample ID: TSP041623-17 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/08/2023 6:55 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/17/23	1743150 L	1000 ug			71800 ug	41 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	08/21/23	1743150 L	14 ug			< 14 ug	< 0.008 ug/M3
Manganese	40CFR50App.G Mod./EPA 6010B	08/21/23	1743150 L	98 ug			< 98 ug	< 0.0562 ug/M3

Lab ID: B228014007 Sample ID: PM041623-18 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/09/2023 6:51 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration

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Lab ID: B228014007 Sample ID: PM041623-18 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/09/2023 6:51 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/17/23	1666120 L	1000 ug			12800 ug	8 ug/M3

Lab ID: B228014008 Sample ID: TSP041623-19 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/09/2023 6:51 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/17/23	1680650 L	1000 ug			40800 ug	24 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	08/21/23	1680650 L	14 ug			< 14 ug	< 0.0083 ug/M3
Manganese	40CFR50App.G Mod./EPA 6010B	08/21/23	1680650 L	98 ug			< 98 ug	< 0.0583 ug/M3

Lab ID: B228014009 Sample ID: PM041623-20 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/09/2023 7:01 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/17/23	1656950 L	1000 ug			17400 ug	11 ug/M3

Lab ID: B228014010 Sample ID: TSP041623-21 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/09/2023 7:01 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/17/23	1758020 L	1000 ug			35500 ug	20 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	08/21/23	1758020 L	14 ug			< 14 ug	< 0.008 ug/M3

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Lab ID: B228014010 Sample ID: TSP041623-21 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/09/2023 7:01 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Manganese	40CFR50App.G Mod./EPA 6010B	08/21/23	1758020 L	98 ug			< 98 ug	< 0.0557 ug/M3

Lab ID: B228014011 Sample ID: PM041623-22 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/10/2023 6:45 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/17/23	1650220 L	1000 ug			7200 ug	4 ug/M3

Lab ID: B228014012 Sample ID: TSP041623-23 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/10/2023 6:45 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/17/23	1664640 L	1000 ug			23700 ug	14 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	08/21/23	1664640 L	14 ug			< 14 ug	< 0.0084 ug/M3
Manganese	40CFR50App.G Mod./EPA 6010B	08/21/23	1664640 L	98 ug			< 98 ug	< 0.0589 ug/M3

Lab ID: B228014013 Sample ID: PM041623-24 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/10/2023 6:55 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/17/23	1638330 L	1000 ug			12900 ug	8 ug/M3

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Lab ID: B228014014 Sample ID: TSP041623-25 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/10/2023 6:55 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/17/23	1738900 L	1000 ug			21400 ug	12 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	08/21/23	1738900 L	14 ug			< 14 ug	< 0.0081 ug/M3
Manganese	40CFR50App.G Mod./EPA 6010B	08/21/23	1738900 L	98 ug			< 98 ug	< 0.0564 ug/M3

Lab ID: B228014015 Sample ID: PM041623-26 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/10/2023 1:47 PM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/17/23	485760 L	1000 ug			4600 ug	9 ug/M3

Lab ID: B228014016 Sample ID: TSP041623-27 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/10/2023 1:47 PM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/17/23	487230 L	1000 ug			12000 ug	25 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	08/21/23	487230 L	14 ug			< 14 ug	< 0.0287 ug/M3
Manganese	40CFR50App.G Mod./EPA 6010B	08/21/23	487230 L	98 ug			< 98 ug	< 0.2011 ug/M3

Lab ID: B228014017 Sample ID: PM041623-28 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/10/2023 1:27 PM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration

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Lab ID: B228014017 Sample ID: PM041623-28 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/10/2023 1:27 PM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/17/23	448680 L	1000 ug			4400 ug	10 ug/M3

Lab ID: B228014018 Sample ID: TSP041623-29 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/10/2023 1:27 PM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/17/23	476060 L	1000 ug			10100 ug	21 ug/M3
Lead	40CFR50App.G Mod./EPA 6010B	08/21/23	476060 L	14 ug			< 14 ug	< 0.0294 ug/M3
Manganese	40CFR50App.G Mod./EPA 6010B	08/21/23	476060 L	98 ug			< 98 ug	< 0.2059 ug/M3

Eurofins Analytics, LLC
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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
[redacted]
1501 W Fountainhead Parkway, Suite 550, Tempe, Arizona 85282
[redacted]

COC # [redacted]081523AIRC

B228014

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:

Equipment:

Code	Matrix
A	Air
AQ	Air Quality Control Matrix

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.	Analytical Test Method: CAAIR - Air PM10	N0500 - Air TSP	SW6010B - Air Pb Mn	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
						1	1	1						
1	PM041223-39	AQ	08/07/2023	0800	[redacted]	X			FIELDQC	FB1	0.00	0.00	1	
2	TSP041623-13	AQ	08/07/2023	0800			X	X	FIELDQC	FB2	0.00	0.00	1	
3	PM041623-14	A	08/08/2023	0644		X			MSC01	N1	0.00	0.00	1	VOLUME: (M3)
4	TSP041623-15	A	08/08/2023	0644			X	X	MSC01	N1	0.00	0.00	1	VOLUME: (M3)
5	PM041623-16	A	08/08/2023	0655		X			MSC02	N1	0.00	0.00	1	VOLUME: (M3)
6	TSP041623-17	A	08/08/2023	0655			X	X	MSC02	N1	0.00	0.00	1	VOLUME: (M3)

Turnaround Time: 5 days

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[redacted]	8/15/23	1300	Fedex	8/15/23	1300
			[redacted]	8/16/23	1047

Shipping Date / Carrier / Airbill Number

Shipping Date: 8/15/2023 / FEDEX / 7729 1942 3080

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

[redacted] 8/16/23 1047 custody seals intact [redacted]

CHAIN-OF-CUSTODY RECORD

Gilbane Federal
[redacted]
1501 W Fountainhead Parkway, Suite 550, Tempe, Arizona 85282
[redacted]

COC # [redacted]081523AIRC

GES

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:

Equipment:

Code	Matrix
A	Air

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.	Analytical Test Method: CAAIR - Air PM10	N0500 - Air TSP	SW6010B - Air Pb Mn	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
						1	1	1						
1	PM041623-18	A	08/09/2023	0651	[redacted]	X			MSC01	N1	0.00	0.00	1	VOLUME: (M3)
2	TSP041623-19	A	08/09/2023	0651			X	X	MSC01	N1	0.00	0.00	1	VOLUME: (M3)
3	PM041623-20	A	08/09/2023	0701		X			MSC02	N1	0.00	0.00	1	VOLUME: (M3)
4	TSP041623-21	A	08/09/2023	0701			X	X	MSC02	N1	0.00	0.00	1	VOLUME: (M3)

Turnaround Time: 5 days

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[redacted]	8/15/23	1300	Fedex	8/15/23	1300
			[redacted]	8/16/23	1047

Shipping Date / Carrier / Airbill Number

Shipping Date: 8/15/2023 / FEDEX / 7729 1942 3080

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

[redacted] 8/16/23 1047 Custody Seals intact [redacted]

CHAIN-OF-CUSTODY RECORD

Gilbane Federal
[redacted]
1501 W Fountainhead Parkway, Suite 550, Tempe, Arizona 85282
[redacted]

COC # [redacted]081523AIRC

GES

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:

Equipment:

Code	Matrix
A	Air

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.	Analytical Test Method: CAAIR - Air PM10	N0500 - Air TSP	SW6010B - Air Pb Mn	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
						1	1	1						
1	PM041623-22	A	08/10/2023	0645	[redacted]	X			MSC01	N1	0.00	0.00	1	VOLUME: (M3)
2	TSP041623-23	A	08/10/2023	0645			X	X	MSC01	N1	0.00	0.00	1	VOLUME: (M3)
3	PM041623-24	A	08/10/2023	0655		X			MSC02	N1	0.00	0.00	1	VOLUME: (M3)
4	TSP041623-25	A	08/10/2023	0655			X	X	MSC02	N1	0.00	0.00	1	VOLUME: (M3)

Turnaround Time: 5 days

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[redacted]	8/15/23	1300	FedEx	8/15/23	1300
			[redacted]	8/16/23	1047

Shipping Date / Carrier / Airbill Number

Shipping Date: 8/15/2023 / FEDEX / 7729 1942 3080

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

[redacted] 8/16/23 1047 CUSTODY SEALS INTACT

CHAIN-OF-CUSTODY RECORD

Gilbane Federal
[redacted]
1501 W Fountainhead Parkway, Suite 550, Tempe, Arizona 85282
[redacted]

COC # [redacted]081523AIRC

GES

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:

Equipment:

Code	Matrix
A	Air

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.	Analytical Test Method: CAAIR - Air PM10	N0500 - Air TSP	SW6010B - Air Pb Mn	SW6020 - Air Pb Mn	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
						1	1	1	1						
1	PM041623-26	A	08/10/2023	1347	[redacted]	X				MSC01	N1	0.00	0.00	1	VOLUME: (M3)
2	TSP041623-27	A	08/10/2023	1347			X	X		MSC01	N1	0.00	0.00	1	VOLUME: (M3)
3	PM041623-28	A	08/10/2023	1327		X				MSC02	N1	0.00	0.00	1	VOLUME: (M3)
4	TSP041623-29	A	08/10/2023	1327			X	X		MSC02	N1	0.00	0.00	1	VOLUME: (M3)

Turnaround Time: 5 days

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[redacted]	8/15/23	1300	FedEx	8/15/23	1300
			[redacted]	8/16/23	1047

Shipping Date / Carrier / Airbill Number

Shipping Date: 8/15/2023 / FEDEX / 7729 1942 3080

atory: *(Signature, Date, Time)* **& condition**

[redacted] 8/16/23 Custody Seals Intact [redacted]

COC # [redacted]081523AIRC

Project Name: Hunters Point Shipyard, Parcel C Removal Site					
Project Number: J310000600					
WBS Code: J310000600					
	Event: Parcel C Air Monitoring				
	Sample ID	Matrix	Date	Time	Comments
1	PM041223-39	AQ	08/07/2023	0800	
2	TSP041623-13	AQ	08/07/2023	0800	
3	PM041623-14	A	08/08/2023	0644	VOLUME (M3): 1657.57
4	TSP041623-15	A	08/08/2023	0644	VOLUME (M3): 1664.80
5	PM041623-16	A	08/08/2023	0655	VOLUME (M3): 1643.16
6	TSP041623-17	A	08/08/2023	0655	VOLUME (M3): 1743.15
7	PM041623-18	A	08/09/2023	0651	VOLUME (M3): 1666.12
8	TSP041623-19	A	08/09/2023	0651	VOLUME (M3): 1680.65
9	PM041623-20	A	08/09/2023	0701	VOLUME (M3): 1656.95
10	TSP041623-21	A	08/09/2023	0701	VOLUME (M3): 1758.02
11	PM041623-22	A	08/10/2023	0645	VOLUME (M3): 1650.22
12	TSP041623-23	A	08/10/2023	0645	VOLUME (M3): 1664.64
13	PM041623-24	A	08/10/2023	0655	VOLUME (M3): 1638.33
14	TSP041623-25	A	08/10/2023	0655	VOLUME (M3): 1738.90
15	PM041623-26	A	08/10/2023	1347	VOLUME (M3): 485.76
16	TSP041623-27	A	08/10/2023	1347	VOLUME (M3): 487.23
17	PM041623-28	A	08/10/2023	1327	VOLUME (M3): 448.68
18	TSP041623-29	A	08/10/2023	1327	VOLUME (M3): 476.06

Sample ID	Cubic Meter	Volume (L)
PM041623-14	1657.57	1657570
TSP041623-15	1664.8	1664800
PM041623-16	1643.16	1643160
TSP041623-17	1743.15	1743150
PM041623-18	1666.12	1666120
TSP041623-19	1680.65	1680650
PM041623-20	1656.95	1656950
TSP041623-21	1758.02	1758020
PM041623-22	1650.22	1650220
TSP041623-23	1664.64	1664640
PM041623-24	1638.33	1638330
TSP041623-25	1738.9	1738900
PM041623-26	485.76	485760
TSP041623-27	487.23	487230
PM041623-28	448.68	448680
TSP041623-29	476.06	476060
		0
		0
		0
		0
		0
		0
		0
		0

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

Built Environment Testing
Analytics

Level 2 QA/QC Summary Report

Work Order #: B228014

Report Date: 8/22/2023

Batch ID:	**ICP230817C**	Analysis Date:	8/21/2023
Media::	**8X10PW GFF**	Preparation Date	8/17/2023

Blank Spike Results

		Percent Recovery				
QC ID	Parameter	LCS	LCSD	Acceptance	RPD	Limit
LCS ICP230817C	Lead	96	96	75-125	0.3	20
LCS ICP230817C	Manganese	99	100	75-125	0.4	20

Method Blank Results

QC ID	Parameter	Result	RL	Units
LMB ICP230817C	Lead	< 14	14	ug
LMB ICP230817C	Manganese	< 98	98	ug

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

August 31, 2023

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

Laboratory Workorder ID: B235035

Client Project ID: J310000600 PARCEL C HUNTERS PT
Received: August 23, 2023
Reported: August 31, 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.

[redacted]
[redacted], CIH
Technical Director

Enclosures

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

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

Customer: PARCELC1
Attention: [redacted]
PO Number J310000600

Date Received: 08/23/23
Client Project ID J310000600 PARCEL C HUNTERS PT

Lab ID: B235035001 Sample ID: PM122022-01 FIELDQC Media: 8X10 PREWEIGHED GLASS Sample Date: 08/14/2023 8:00 AM

Analyte	Method	Analysis Date	Volume		Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/24/23	0	L	1000 ug			1600 ug	--

Lab ID: B235035002 Sample ID: TSP122022-02 FIELDQC Media: 8X10 PREWEIGHED GLASS Sample Date: 08/14/2023 8:00 AM

Analyte	Method	Analysis Date	Volume		Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/24/23	0	L	1000 ug			2100 ug	--
Lead	40 CFR Part 50 Appendix G	08/31/23	0	L	14 ug			< 14 ug	--
Manganese	40 CFR Part 50 Appendix G	08/31/23	0	L	98 ug			< 98 ug	--

Lab ID: B235035003 Sample ID: PM042023-01 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/15/2023 7:51 AM

Analyte	Method	Analysis Date	Volume		Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/24/23	1628180	L	1000 ug			10400 ug	6 ug/M3

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Lab ID: B235035004 Sample ID: TSP042023-02 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/15/2023 7:51 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/24/23	1630480 L	1000 ug			29100 ug	18 ug/M3
Lead	40 CFR Part 50 Appendix G	08/31/23	1630480 L	14 ug			< 14 ug	< 0.009 ug/M3
Manganese	40 CFR Part 50 Appendix G	08/31/23	1630480 L	98 ug			< 98 ug	< 0.06 ug/M3

Lab ID: B235035005 Sample ID: PM042023-03 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/15/2023 7:30 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/24/23	1612910 L	1000 ug			15600 ug	10 ug/M3

Lab ID: B235035006 Sample ID: TSP042023-04 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/15/2023 7:30 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/24/23	1714000 L	1000 ug			27300 ug	16 ug/M3
Lead	40 CFR Part 50 Appendix G	08/31/23	1714000 L	14 ug			< 14 ug	< 0.008 ug/M3
Manganese	40 CFR Part 50 Appendix G	08/31/23	1714000 L	98 ug			< 98 ug	< 0.057 ug/M3

Lab ID: B235035007 Sample ID: PM042023-05 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/16/2023 7:28 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/24/23	1636940 L	1000 ug			10900 ug	7 ug/M3

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Lab ID: B235035008 Sample ID: TSP042023-06 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/16/2023 7:28 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/24/23	1641040 L	1000 ug			29900 ug	18 ug/M3
Lead	40 CFR Part 50 Appendix G	08/31/23	1641040 L	14 ug			< 14 ug	< 0.009 ug/M3
Manganese	40 CFR Part 50 Appendix G	08/31/23	1641040 L	98 ug			< 98 ug	< 0.06 ug/M3

Lab ID: B235035009 Sample ID: PM042023-07 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/16/2023 7:17 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/24/23	1638430 L	1000 ug			13900 ug	8 ug/M3

Lab ID: B235035010 Sample ID: TSP042023-08 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/16/2023 7:17 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/24/23	1735260 L	1000 ug			27000 ug	16 ug/M3
Lead	40 CFR Part 50 Appendix G	08/31/23	1735260 L	14 ug			< 14 ug	< 0.008 ug/M3
Manganese	40 CFR Part 50 Appendix G	08/31/23	1735260 L	98 ug			< 98 ug	< 0.056 ug/M3

Lab ID: B235035011 Sample ID: PM042023-09 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/17/2023 7:16 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/24/23	1646550 L	1000 ug			7500 ug	5 ug/M3

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Lab ID: B235035012 Sample ID: TSP042023-10 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/17/2023 7:16 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/24/23	1645040 L	1000 ug			30000 ug	18 ug/M3
Lead	40 CFR Part 50 Appendix G	08/31/23	1645040 L	14 ug			< 14 ug	< 0.009 ug/M3
Manganese	40 CFR Part 50 Appendix G	08/31/23	1645040 L	98 ug			< 98 ug	< 0.06 ug/M3

Lab ID: B235035013 Sample ID: PM042023-11 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/17/2023 7:27 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/24/23	1659440 L	1000 ug			13400 ug	8 ug/M3

Lab ID: B235035014 Sample ID: TSP042023-12 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/17/2023 7:27 AM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/24/23	1764110 L	1000 ug			25500 ug	14 ug/M3
Lead	40 CFR Part 50 Appendix G	08/31/23	1764110 L	14 ug			< 14 ug	< 0.008 ug/M3
Manganese	40 CFR Part 50 Appendix G	08/31/23	1764110 L	98 ug			< 98 ug	< 0.056 ug/M3

Lab ID: B235035015 Sample ID: PM042023-13 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/17/2023 3:25 PM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/24/23	564210 L	1000 ug			4700 ug	8 ug/M3

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AIHA LAP, LLC Accreditation ID 100531

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Lab ID: B235035016 Sample ID: TSP042023-14 MSC01 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/17/2023 3:25 PM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/24/23	558450 L	1000 ug			13400 ug	24 ug/M3
Lead	40 CFR Part 50 Appendix G	08/31/23	558450 L	14 ug			< 14 ug	< 0.025 ug/M3
Manganese	40 CFR Part 50 Appendix G	08/31/23	558450 L	98 ug			< 98 ug	< 0.175 ug/M3

Lab ID: B235035017 Sample ID: PM042023-15 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/17/2023 3:20 PM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
PM10 Particulates	40CFR50 App.J	08/24/23	543300 L	1000 ug			7600 ug	14 ug/M3

Lab ID: B235035018 Sample ID: TSP042023-16 MSC02 Media: 8X10 PREWEIGHED GLASS Sample Date: 08/17/2023 3:20 PM

Analyte	Method	Analysis Date	Volume	Reporting Limit	Front	Rear	Total	Concentration
Total Suspended Particulates	40CFR50 App.B	08/24/23	576770 L	1000 ug			14900 ug	26 ug/M3
Lead	40 CFR Part 50 Appendix G	08/31/23	576770 L	14 ug			< 14 ug	< 0.024 ug/M3
Manganese	40 CFR Part 50 Appendix G	08/31/23	576770 L	98 ug			< 98 ug	< 0.17 ug/M3

Eurofins Analytics, LLC
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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
[redacted]
1501 W Fountainhead Parkway, Suite 550, Tempe, Arizona 85282
[redacted]

COC # [redacted]082223AIRC

GES

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	

B235035

Comments:

Equipment:

Code	Matrix
A	Air
AQ	Air Quality Control Matrix

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.	Analytical Test Method: CAAIR - Air PM10	N0500 - Air TSP	SW6010B - Air Pb Mn	Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
						1	1	1						
1	PM122022-01	AQ	08/14/2023	0800	[redacted]	X			FIELDQC	AB1	0.00	0.00	1	
2	TSP122022-02	AQ	08/14/2023	0800			X	X	FIELDQC	AB2	0.00	0.00	1	
3	PM042023-01	A	08/15/2023	0751		X			MSC01	N1	0.00	0.00	1	VOLUME: (M3)
4	TSP042023-02	A	08/15/2023	0751			X	X	MSC01	N1	0.00	0.00	1	VOLUME: (M3)
5	PM042023-03	A	08/15/2023	0730		X			MSC02	N1	0.00	0.00	1	VOLUME: (M3)
6	TSP042023-04	A	08/15/2023	0730			X	X	MSC02	N1	0.00	0.00	1	VOLUME: (M3)

Turnaround Time: NA

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[redacted]	8/22/23	1400	Fedex	8/22/23	1400
			[redacted]	8123123	1705

Shipping Date / Carrier / Airbill Number

Shipping Date: 8/22/2023 / FEDEX / 7729 5568 6067

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

[redacted] 123123 1205 Custody Seal Intact [redacted]

CHAIN-OF-CUSTODY RECORD

Gilbane Federal
[redacted]
[redacted]Parkway, Suite 550, Tempe, Arizona 85282

COC # [redacted]082223AIRC

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:

Equipment:

Code	Matrix
A	Air

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

						Analytical Test Method	CAAIR - Air PM10	N0500 - Air TSP	SW6010B - Air Pb Mn										
	Event: Parcel C Air Monitoring						1	1	1										
	Sample ID	Matrix	Date	Time	Samp Init.											Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
1	PM042023-05	A	08/16/2023	0728	[redacted]		X									MSC01	N1	0.00	0.00	1	VOLUME: (M3)
2	TSP042023-06	A	08/16/2023	0728				X	X							MSC01	N1	0.00	0.00	1	VOLUME: (M3)
3	PM042023-07	A	08/16/2023	0717			X									MSC02	N1	0.00	0.00	1	VOLUME: (M3)
4	TSP042023-08	A	08/16/2023	0717				X	X							MSC02	N1	0.00	0.00	1	VOLUME: (M3)

Turnaround Time: 5 days

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[redacted]	8/22/23	1400	FEdex	8/22/23	1400
			[redacted]	8/23/23	1205

Shipping Date / Carrier / Airbill Number

Shipping Date: 8/22/2023 / FEDEX / 7729 5568 6067

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

8/23/23 1205 custody seal intact [redacted]

CHAIN-OF-CUSTODY RECORD

Gilbane Federal
[redacted]
[redacted]ead Parkway, Suite 550, Tempe, Arizona 85282

COC # [redacted]**082223AIRC**

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:

Equipment:

Code	Matrix
A	Air

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

	Sample ID	Matrix	Date	Time	Samp Init.	CAAIR - Air PM10	N0500 - Air TSP	SW6010B - Air Pb Mn								Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
	Event: Parcel C Air Monitoring					1	1	1													
1	PM042023-09	A	08/17/2023	0716	[redacted]	X										MSC01	N1	0.00	0.00	1	VOLUME: (M3)
2	TSP042023-10	A	08/17/2023	0716			X	X								MSC01	N1	0.00	0.00	1	VOLUME: (M3)
3	PM042023-11	A	08/17/2023	0727		X										MSC02	N1	0.00	0.00	1	VOLUME: (M3)
4	TSP042023-12	A	08/17/2023	0727			X	X								MSC02	N1	0.00	0.00	1	VOLUME: (M3)

[redacted] 8/22/23

Turnaround Time: 5 days

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[redacted]	8/22/23	1400	Fedex	8/22/23	1400
			[redacted]	8/23/23	1205

Shipping Date / Carrier / Airbill Number

Shipping Date: 8/22/2023 / FEDEX / 7729 5568 6067

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

[redacted] 8/23/23 1205 Custody Seal Intact [redacted]

GES.Navy_COC_Field
August 04, 2023

CHAIN-OF-CUSTODY RECORD

[redacted] Gilbane Federal
[redacted] 1501 W Fountainhead Parkway, Suite 550, Tempe, Arizona 85282

COC # [redacted]082223AIRC

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:

Equipment:

Code	Matrix
A	Air

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.	Analytical Test Method: CAAIR - Air PM10	N0500 - Air TSP	SW6010B - Air Pb Mn	SW6020 - Air Pb Mn						Location ID	Sample Type	Depth (ft bgs) Top	Depth (ft bgs) Bottom	Cooler	Comments
						1	1	1	1											
1	PM042023-13	A	08/17/2023	1525	[redacted]	X									MSC01	N1	0.00	0.00	1	VOLUME: (M3)
2	TSP042023-14	A	08/17/2023	1525			X	X							MSC01	N1	0.00	0.00	1	VOLUME: (M3)
3	PM042023-15	A	08/17/2023	1520		X									MSC02	N1	0.00	0.00	1	VOLUME: (M3)
4	TSP042023-16	A	08/17/2023	1520			X	X							MSC02	N1	0.00	0.00	1	VOLUME: (M3)

Turnaround Time: 5 days

Relinquished by: *(Signature)*	Date	Time	Received by: *(Signature)*	Date	Time
[redacted]	8/22/23	1400	Fedex	8/22/23	1400
			[redacted]	8/23/23	1205

Shipping Date / Carrier / Airbill Number

Shipping Date: 8/22/2023 / FEDEX / 7729 5568 6067

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

[redacted] 8/23/23 1205 custody seal intact [redacted]

COC # [redacted]082223AIRC

GES

Project Name: Hunters Point Shipyard, Parcel C Removal Site					
Project Number: J310000600					
Event: Parcel C Air Monitoring					
	Sample ID	Matrix	Date	Time	Comments
1	PM122022-01	AQ	08/14/2023	0800	
2	TSP122022-02	AQ	08/14/2023	0800	
3	PM042023-01	A	08/15/2023	0751	VOLUME (M3): 1628.18
4	TSP042023-02	A	08/15/2023	0751	VOLUME (M3): 1630.48
5	PM042023-03	A	08/15/2023	0730	VOLUME (M3): 1612.91
6	TSP042023-04	A	08/15/2023	0730	VOLUME (M3): 1714.00
7	PM042023-05	A	08/16/2023	0728	VOLUME (M3): 1636.94
8	TSP042023-06	A	08/16/2023	0728	VOLUME (M3): 1641.04
9	PM042023-07	A	08/16/2023	0717	VOLUME (M3): 1638.43
10	TSP042023-08	A	08/16/2023	0717	VOLUME (M3): 1735.26
11	PM042023-09	A	08/17/2023	0716	VOLUME (M3): 1646.55
12	TSP042023-10	A	08/17/2023	0716	VOLUME (M3): 1645.04
13	PM042023-11	A	08/17/2023	0727	VOLUME (M3): 1659.44
14	TSP042023-12	A	08/17/2023	0727	VOLUME (M3): 1764.11
15	PM042023-13	A	08/17/2023	1525	VOLUME (M3): 564.21
16	TSP042023-14	A	08/17/2023	1525	VOLUME (M3): 558.45
17	PM042023-15	A	08/17/2023	1520	VOLUME (M3): 543.30
18	TSP042023-16	A	08/17/2023	1520	VOLUME (M3): 576.77

Sample ID	Cubic Meter	Volume (L)
PM042023-01	1628.18	1628180
TSP042023-02	1630.48	1630480
PM042023-03	1612.91	1612910
TSP042023-04	1714	1714000
PM042023-05	1636.94	1636940
TSP042023-06	1641.04	1641040
PM042023-07	1638.43	1638430
TSP042023-08	1735.26	1735260
PM042023-09	1646.55	1646550
TSP042023-10	1645.04	1645040
PM042023-11	1659.44	1659440
TSP042023-12	1764.11	1764110
PM042023-13	564.21	564210
TSP042023-14	558.45	558450
PM042023-15	543.3	543300
TSP042023-16	576.77	576770
		0
		0
		0
		0
		0
		0
		0
		0

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

Built Environment Testing
Analytics

Level 2 QA/QC Summary Report

Work Order #: B235035

Report Date: 8/31/2023

Batch ID:	**ICP230823E**	Analysis Date:	8/31/2023
Media::	**8X10PW GFF**	Preparation Date	8/23/2023

Blank Spike Results

		Percent Recovery				
QC ID	Parameter	LCS	LCSD	Acceptance	RPD	Limit
LCS ICP230823E	Lead	92	94	75-125	1.8	20
LCS ICP230823E	Manganese	97	98	75-125	0.7	20

Method Blank Results

QC ID	Parameter	Result	RL	Units
LMB ICP230823E	Lead	< 14	14	ug
LMB ICP230823E	Manganese	< 98	98	ug