2020 Monitoring Report

American Jewish University, Brandeis-Bardin Campus
1101 Peppertree Lane
Brandeis, California

Issued: 5 August 2020

Prepared for: **American Jewish University – Brandeis-Bardin Campus**
1101 Peppertree Lane
Brandeis, CA 93064

GSI ENVIRONMENTAL

GSI Environmental Inc.

155 Grand, Ste 704, Oakland, CA 94612 ■ tel. 510.463.8484

GSI Job No.: 5182

5 August 2020

Adrian Breitfeld, MAJCS, MBA
Vice President
American Jewish University, Brandeis-Bardin Campus
1101 Peppertree Lane
Brandeis, CA 93064

RE: 2020 Monitoring Report
American Jewish University, Brandeis-Bardin Campus
1101 Peppertree Lane
Brandeis, California

Dear Mr. Breitfeld:

GSI Environmental Inc. (GSI) is submitting the enclosed 2020 Monitoring Report to document sampling activities conducted at the American Jewish University, Brandeis-Bardin Campus in Brandeis, California (the Site). The objectives of the work were to continue analyzing whether potential chemical and radiological impacts exist from the nearby Santa Susana Field Laboratory at selected areas at the Site and monitor upgradient locations near the Northern Buffer Zone (NBZ), which separates the Site from the Santa Susana Field Laboratory (SSFL).

Please contact the undersigned should you have any questions regarding the enclosed document.

Sincerely,
GSI Environmental Inc.

Susan Gallardo, PE
Principal Engineer

Kalin Howell, GIT
Staff Geologist

Enclosure: 2020 Monitoring Report

2020 MONITORING REPORT

AMERICAN JEWISH UNIVERSITY, BRANDEIS-BARDIN CAMPUS

1101 PEPPERTREE LANE

BRANDEIS, CALIFORNIA

Prepared for:

American Jewish University, Brandeis-Bardin Campus

1101 Peppertree Lane

Brandeis, CA 93064

Prepared by:

GSI Environmental Inc.
155 Grand Avenue, Suite 704
Oakland, CA 94612
510.463.8484

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This 2020 Monitoring Report was prepared by the staff of GSI Environmental Inc., under the supervision of the individuals whose signatures appear hereon.

The findings, recommendations, specifications, or professional opinions were prepared in accordance with generally accepted professional engineering and geologic practice. No warranty is expressed or implied.

Susan Gallardo

Susan Gallardo, PE #C038154

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1 INTRODUCTION

GSI Environmental Inc. (GSI) has prepared this report to document the surface soil, sediment, spring water, and fruit sampling conducted on behalf of American Jewish University (AJU) at the Brandeis-Bardin Campus of the American Jewish University located at 1101 Peppertree Lane in Brandeis, California (the Site, Figures 1 and 2). The purpose of the sampling was to monitor Site media for potential chemical and radiological impacts from the nearby Santa Susana Field Laboratory (SSFL).

The Site consists of the 2,878-acre Brandeis-Bardin campus of AJU situated along the northern edge of the Simi Hills in Brandeis, California. The Site is accessed through the main valley that runs northwest southeast from the northern portion of the Site. Most development and activities occur within the Main Campus Area, a relatively small portion of the Site that is situated along the floor of this main valley approximately 1 to 2 miles north of the Site's southern border (see Figures 2 and 3). The majority of the Site, including the land between the Main Campus Area and the southern border, is undeveloped hillsides and drainages.

The Site is located to the north of the SSFL, a former nuclear and rocket science research and testing facility currently co-owned by the Department of Energy, Boeing, and the National Aeronautics and Space Administration (NASA). The SSFL has been the subject of multiple environmental investigations and remedial actions related to chemical impacts to surface and subsurface environmental media. Because the Site is located hydrologically downgradient from the SSFL, multiple investigations of the Brandeis-Bardin campus have been conducted for potential runoff of chemicals of concern onto the Site. In addition, periodic sampling of various media at the Site has been conducted since 1991. Analytical results from this sampling have not indicated significant, if any, migration of contaminants of concern (COCs) or other impacts to the Site from the SSFL operations (DTSC 2017).

GSI was retained in 2019 to continue monitoring the Brandeis-Bardin campus for potential migration of COCs from the SSFL. GSI conducted the first sampling events of soils, sediments, water, and fruit from across the campus that same year and found no evidence of chemical impacts from the SSFL (GSI, 2019). The following sections describe the second of GSI's monitoring events, conducted in 2020, involving the collection and analysis of samples from the following sources to evaluate potential migration of COCs from the SSFL:

- Soil from high-use areas within the Main Campus Area;
- Soil and sediment from campsite areas outside the Main Campus Area;
- Sediment from upgradient drainage channels near the Site's southern border;
- Water from springs located near the Site's southern border; and
- Fruit (avocado, apple, grapefruit, orange and lemon) grown on trees within the Main Campus Area.

For the purpose of this program, sediment is defined as the loose material from the bottom of drainages that has been recently transported to its current location by surface water. Soil is defined as material from outside of drainages.

2 SAMPLING PLAN AND FIELD METHODS

Sampling locations included in this monitoring program fall into three categories:

- Areas of high use by campus guests;
- Drainages abutting the NBZ at the southern edge of the Site; and
- Fruit-bearing trees.

Analytical results from the three types of samples were used to provide an assessment of current and future potential exposure experienced by guests to the campus.

A sampling and analysis summary for the 2020 monitoring event is available in Table 1.

2.1 High-Use Areas

One soil or sediment sample was collected on 3 June 2020 from each of the following high-use areas, which are shown on Figures 2, 3, and 4:

- Terry Field
- Kids' Cabins
- Gan Field
- CIT Cabins
- Alpine Tower
- Hidden Valley Camp

All soil samples collected in the high-use areas were analyzed for the following:

- Title 22 Metals by United States Environmental Protection Agency (USEPA) Methods 6010 and 7471
- Perchlorate by USEPA Method 314.0
- Tritium by USEPA Method 906.0
- Strontium-90 by USEPA Method 905.0
- Cesium-137 by DOE HASL 300, 4.5.2.3/Ga-01-R

Samples for metals and perchlorate analysis were submitted to Eurofins Calscience of Irvine, California, while samples for radionuclide analysis were submitted to GEL Laboratories of Charleston, South Carolina. Both laboratories are California Environmental Laboratory Accreditation Program-certified analytical laboratories. Analytical results for radionuclides are reported on a dry weight basis.

2.2 Drainage Area Sampling

Drainage area sample locations are generally the same as those from GSI's 2019 investigations, except as described below, and are shown on Figures 2 and 5 through 10. Samples were collected on 2 and 3 June 2020. One sediment sample also was collected from the drainage channel near Old Well Camp during the June 2020 monitoring event. The Old Well Camp drainage is identified as a background reference location, as its runoff does not originate

from the SSFL (Tetra Tech, 2016). The recent sediment sample, and that collected in 2019, are intended to confirm relative background conditions at the Site.

One sediment sample was collected from the bottom of each drainage channel along with a water sample, if water was present. Water was also sampled during the June monitoring event directly from springs, if present. Samples were collected for the first time from the following locations:

- A water sample was collected from SRE-W due to the presence of surface water in the drainage.
- A water sample was collected from OS8-W due to the presence of surface water in the drainage.
- A water sample was collected from OS357-W to capture the combined outflow of springs OS3, OS5, and OS7.
- A sediment sample was collected from OS1-SED-1 to capture potential runoff from the SSFL and from OS1[1].

All soil, sediment, and water samples were analyzed for the following:

- Title 22 Metals[2] (metals) by United States Environmental Protection Agency (USEPA) Methods 6010 and 7471
- Perchlorate by USEPA Method 314.0
- Tritium by USEPA Method 906.0
- Strontium-90 by USEPA Method 905.0
- Cesium-137 by DOE HASL 300, 4.5.2.3/Ga-01-R (soil and sediment)
- Cesium-137 by USEPA Method 901.1 (water)

All water samples were additionally analyzed for volatile organic compounds (VOCs) by USEPA Method 8260.

Samples for metals, perchlorate, and VOCs analysis were submitted to Eurofins Calscience of Irvine, California, while samples for radionuclide analysis were submitted to GEL Laboratories of Charleston, South Carolina. Analytical results for radionuclides are reported on a dry weight basis.

2.3 Fruit Sampling

Fruit-bearing trees in a small fruit orchard and avocado grove, both located in the Main Campus Area (see Figure 3, 11, and 12), were sampled on 4 June 2020. The fruit samples (apples, avocados, grapefruits, lemons, and oranges) and their store-bought equivalents were analyzed for the following:

- Title 22 Metals[3] (metals) by United States Environmental Protection Agency (USEPA) Methods 6010 and 7471

[1] OS1 consists of artesian wells RD-68A and 68B, which are regularly monitored by NASA as part of SSFL groundwater monitoring activities, so no sample was collected from these wells.
[2] California Code of Regulations (CCR), Title 22, Division 4.5, Chapter 11, Article 3, Section 66261.24.

- Tritium by USEPA Method 906.0
- Strontium-90 by USEPA Method 905.0
- Cesium-137 by DOE HASL 300, 4.5.2.3/Ga-01-R

Ripe fruits were preferentially sampled from the AJU trees, though not all fruits were ripe at the time of sampling. Ripe fruits purchased from a nearby grocery store serve as a point of comparison to the AJU fruits, with California-grown fruits being preferentially selected from the store, if available. All samples were submitted to GEL Laboratories in Charleston, South Carolina.

2.4 Sampling Methods

Soil and sediment samples were collected as grab samples from the top 6 inches of material using a decontaminated metal garden trowel. Leaf litter and other organics on top of the sampling location were excluded from the sample as much as possible. Samples to be analyzed for metals and perchlorate were collected into new, unused glass jars. Additional soil and sediment sample volume was collected into a 500-milliliter plastic jar or food-grade resealable plastic bag for analysis of radionuclides. Between samples, the sampling trowel was decontaminated using a solution of Liquinox and water, followed by rinsing with distilled water. All samples were stored in an ice-chilled cooler before transfer to the analytical laboratory, following standard chain-of-custody procedures.

Surface water samples were collected directly from water in the drainages into laboratory-provided bottles and VOA jars by using a clean, unpreserved bottle from the bottle set to transfer water into the bottles and jars containing preservative. Spring water samples were collected directly from the spout of the spring in the same manner. All samples were stored in an ice-chilled cooler prior to transfer to the analytical laboratory, following standard chain-of-custody procedures.

Each AJU fruit sample consisted of roughly 8 to 20 individual fruits collected from the same tree. Fruit were wiped with an unused paper towel moistened with distilled water before placement into a food-grade resealable plastic bag. All samples, including store-bought equivalents, were stored in an ice-chilled cooler prior to transfer to the analytical laboratory, following standard chain-of-custody procedures. Fruit were processed by the laboratory before analysis such that only the commonly consumed portions of each fruit were included. For grapefruit, oranges, avocado, and lemon samples, only the fruit flesh were included, while both the flesh and skin of the apple samples were included for analysis.

3 RESULTS

Laboratory analytical results for each sample area are presented below and are also summarized in Tables 2 through 6. Laboratory reports are included in Appendices A through C.

3.1 Data Validation

Analytical results were reviewed in accordance with the following documents:

[3] California Code of Regulations (CCR), Title 22, Division 4.5, Chapter 11, Article 3, Section 66261.24.

- 2017 National Functional Guidelines for Inorganic Superfund Methods Data Review published by the USEPA.
- 2004 Multi-Agency Radiological Laboratory Analytical Protocols Manual published by the USEPA et al.

Results between the reporting limit and detection limit for a compound were flagged with a "J". Other flags were assigned as follows:

- The percent recovery of antimony in the laboratory matrix spike/matrix spike duplicate samples was below acceptable limits; as such, the non-detect results for antimony are flagged with a "UJ" designation, indicating the quantitation limit is approximate.
- Barium was detected in the method blank for drainage areas sediment samples above the method detection limit. As such, all drainage areas sediment samples were flagged with a "J".
- Naphthalene was detected in the water sample from location OS8-W and also was present in the trip blank. As such, this result is flagged with a "J".

All sample results are considered usable, and data quality is judged to be adequate for the intended purpose.

3.2 Screening Levels

Analytical results are evaluated by comparison to health-based screening levels and, when available, background values of compounds observed at the nearby SSFL. Screening levels for each medium are described in the following sections.

3.2.1 Soil and Sediment Screening Levels

Risk-based levels for metals and perchlorate in soil/sediment were drawn from Regional Screening Levels (RSLs) for soil under residential land use as published by the USEPA (2019) and modified by the Department of Toxic Substances Control of the California Environmental Protection Agency (DTSC, 2019). Background values for metals are drawn from those published by the DTSC for the SSFL (DTSC, 2013). Notably, naturally occurring background concentrations of certain metals exceed risk-based screening levels.

Health risk-based screening levels for radionuclides were generated using the Preliminary Remediation Goal (PRG) calculator for radionuclides published by the USEPA (2019), as described in the 2019 Monitoring Report (GSI, 2019). Default parameters for residential land-use were assumed for all input variables to provide a conservative risk threshold; for example, the parameters selected for exposure duration (26 years) and frequency (350 days per year) significantly exceed those of a typical camper, employee or other user of the Site. Exposure pathways were assumed to include incidental ingestion, dermal contact, external exposure and inhalation of resuspended soil. Because the Site is primarily used recreationally, the growth of produce for consumption was excluded from these calculations with respect to the soil and sediment but was included for purposes of calculating the PRG with respect to the fruit samples. Input values and further details regarding this calculation are included in the 2019 Monitoring Report (GSI, 2019).

Background levels for radionuclides were drawn from values published by HydroGeoLogic, Inc. in 2012 for the SSFL and generated from background sample datasets from McLaren/Hart Environmental Engineering Corporation (McLaren/Hart) in 1993 and 1995, and Ogden Environmental and Energy Services Co., Inc. (Ogden), in 1998. Background values generated for this monitoring program are the mean plus twice the standard deviation as calculated using the Kaplan Meier Method in ProUCL 5.1 (USEPA, 2015). The same method was previously employed by Tetra Tech to generate background radionuclide concentrations (Tetra Tech, 2016[4]).[5] The background values documentation is included in the 2019 Monitoring Report (GSI 2019).

Additionally, the Old Well Camp drainage does not drain any portion of the SSFL site, and therefore is unlikely to be influenced by potential runoff from the SSFL. Sediment samples collected from this drainage are used as an indication of background conditions in sediment.

3.2.2 Spring Water Screening Levels

Detected concentrations of Title 22 metals and perchlorate in spring water were compared to California maximum contaminant levels (MCLs), as established in Title 22 of the California Code of Regulations (CCR) § 64431. Comparison to MCLs is a conservative approach as drinking water at the Site is municipally sourced. Metals in spring water also were compared to background groundwater concentrations generated for the SSFL (MWH Americas Inc., 2014). Background concentrations generated for SSFL were established to represent unimpacted, naturally occurring conditions in the vicinity of SSFL. Data from hundreds of samples were used to statistically evaluate background concentrations. Detections of metals in groundwater samples ranged over several orders of magnitude due to factors that included the variability and complexity of the regional geology. As such, the derived SSFL comparison concentrations provide conservative threshold values (MWH, 2014).

Radionuclide results in spring water were compared to MCLs as established in Title 22 CCR § 64443, as well as groundwater comparison concentrations for the SFFL based on MCLs or effective dose equivalents of 4 millirems per year (Stantec Consulting Services, 2019).

3.2.3 Fruit Screening Levels

Detected concentrations of Title 22 metals and perchlorate were compared to health risk-based PRGs developed for cancer (where applicable) and non-cancer endpoints using literature-based consumption rates and standard exposure factors for a residential receptor, which assume a 26-year exposure duration (20 years as an adult and 6 years as a child). Exposure frequency (i.e., the number of days per year that fruit is consumed) was derived for each type of fruit based on its local growing season. For citrus, exposure frequency was assumed to be 350 days per year, as citrus trees generally produce fruit year-round in Ventura County.[6] For avocados, exposure frequency was set at 129 days, which is the average fruit-producing season of the 21 different

[4] Available through AJU at https://www.aju.edu/sites/default/files/docs/Tetra_Tech-Technical_Report_April_2016r.pdf

[5] Note that only the higher concentration from duplicate samples was included in the calculation. Additionally, the most recent data was used from locations where multiple samples previously were collected.

[6] http://ceventura.ucdavis.edu/Com_Ag/Subtropical/Fruit_and_Nut_Varieties/

avocado varieties grown in Ventura County.[7] Apples grown in Ventura County typically produce fruit for three months, thus the exposure frequency for apple ingestion was set at 92 days.[8]

In California, the potential for adverse health effects from exposure to lead at residential sites is evaluated by calculating the blood lead level of a child. Blood lead levels were calculated using DTSC's LeadSpread8, which accounts for soil-based exposures at a site, as well as background lead exposure from other sources.[9] Because LeadSpread8 does not include equations that calculate the contribution of homegrown produce to blood lead levels, blood lead levels for residents at the Site were estimated by first using the maximum measured soil lead concentration at the Site (12 mg/kg – Table 2) to account for background blood lead levels from incidental ingestion, inhalation, and dermal exposure to Site soils, and then calculating the additional quantity of lead that would be ingested due to the consumption of homegrown produce by adding the measured lead concentration in samples of produce collected from the Site (Table 6) to the soil lead levels as an approximation of the additional daily lead exposure attributable to ingestion of produce. When lead was not detected in a produce item, the analytical limit of detection was used for the lead concentration. The results of the lead analysis are presented in Section 3.5.

The PRGs for the radionuclides were calculated using the United States Environmental Protection Agency (US EPA) PRG Calculator for radionuclides. Inputs and details regarding the method for calculating these screening levels are included in Appendix A.

3.3 High-Use Area Sample Results

This section summarizes analytical results for soil samples collected in areas of high guest activity.

3.3.1 Metals and Perchlorate Results

Analytical results for metals and perchlorate in soil samples are tabulated on Table 2, and the laboratory data report is included in Appendix B. All compounds were (a) not detected above laboratory reporting limits, (b) detected at concentrations below the risk-based screening levels, or (c) detected above risk-based screening levels, but below regional background levels. These results indicate that on-Site concentrations of metals and perchlorate in soil are consistent with natural conditions and are not the result of migration from the SSFL or other anthropogenic sources.

3.3.2 Radionuclide Results

Analytical results for radionuclides are tabulated on Table 3, and laboratory data report is included in Appendix B. In each of the samples, radionuclides were either not detected above their respective minimal detectable concentrations, or were lower than published background levels and PRGs. These results indicate that on-Site concentrations of radionuclides in soil are consistent with natural conditions and are not the result of migration from the SSFL or other anthropogenic sources.

[7] http://ceventura.ucanr.edu/Com_Ag/Subtropical/Avocado_Handbook/Harvesting/When_to_pick_avocados_/
[8] http://ceventura.ucdavis.edu/Com_Ag/Subtropical/Fruit_and_Nut_Varieties/
[9] https://dtsc.ca.gov/leadspread-8/

3.4 Upgradient Drainage Areas Sample Results

This section summarizes analytical results for the sediment and spring water samples collected from upgradient drainages near the property boundary shared with the SSFL.

3.4.1 Metals, Perchlorate and VOC Results

Analytical results for metals and perchlorate in sediment samples are tabulated on Table 2, and results for radionuclides are on Table 3. Laboratory data reports are included in Appendix D. In sediment, all compounds were either (a) not detected above their respective reporting limits, (b) detected at concentrations below the risk-based screening level, or (c) detected above the risk-based screening level, but below regional background levels. The data in total indicate that on-Site concentrations of metals, perchlorate and VOCs are consistent with natural conditions and are not the result of migration from the SSFL or other anthropogenic sources.

Analytical results for metals, perchlorate, and VOCs in spring and surface water samples are tabulated on Table 4, and results for radionuclides are on Table 5. Laboratory data reports are included in Appendix D. Barium, chromium, copper, lead, nickel, vanadium, and zinc were detected in one or more water samples at concentrations well below their respective MCLs. Chromium and lead were detected in the water sample from location SRE-W at concentrations slightly above the SSFL groundwater comparison concentrations. Chromium was detected at a concentration of 0.015 milligrams per liter (mg/L); the SSFL groundwater comparison concentration is 0.014 mg/L. Lead was detected at a concentration of 0.012 mg/L; the SSFL groundwater comparison concentration is 0.011 mg/L. However, the detected concentration of each of these metals is within the range of background concentrations detected at SSFL. The range of chromium concentrations in the data set for chromium from which the SSFL groundwater comparison concentration was derived was 0.00022 mg/L to 0.088 mg/L (total of 639 samples in the data set); the range in concentrations of lead was 0.00011 mg/L to 0.12 mg/L (total of 647 samples in the data set). Chromium and lead concentrations detected during the 2020 monitoring event, which are slightly higher than the statistically derived background comparison concentrations, are well within the range of each data set and do not indicate an impact from SSFL or other anthropogenic sources.

No perchlorate was detected in the spring and surface water samples. Naphthalene was detected at a concentration of 3 micrograms per liter (µg/L) in the spring sample OS8-W. Napthalene is not a constituent of concern at SSFL, and this VOC was detected in the trip blank, suggesting its detection likely is not related to Site conditions. In any event, the presence of these metals in SRE-W is well below their respective MCLs.

Overall, the analytical results for metals, perchlorate, and VOCs for spring and surface water samples do not indicate the presence of on-Site chemical impacts from the SSFL or other anthropogenic sources.

3.4.2 Radionuclide Results

In sediment, no radionuclides were detected above their respective background levels or PRGs. In spring water, no radionuclides were detected above their respective minimal detectable concentrations. These results indicate the absence of on-Site radionuclide impacts

3.5 Fruit Sample Results

Analytical results for metals and perchlorate in fruit samples are tabulated on Table 6, and results for radionuclides are on Table 7. Laboratory data reports are included in Appendix E.

Arsenic, beryllium, cadmium, chromium, cobalt, copper, mercury, molybdenum, selenium, silver, thallium, vanadium, and perchlorate were not detected in samples of avocado, apples, or citrus grown on the Site (Table 6).[10] Concentrations of other metals detected in fruit samples were well below their respective fruit-specific PRGs.

Of the on-Site produce samples, lead was detected only in the apple sample collected at the Site at a concentration of 397 µg/kg, which is slightly above its detection limit of 330 µg/kg. As discussed in Section 3.2.3, the potential for adverse health effects of lead in fruit samples was calculated by estimating the blood-lead level in a child. The results of the analysis do not suggest a significant adverse health effect for residential exposure. For example, the net 99th percentile blood lead levels based on soil and produce exposure combined were all less than 0.5 micrograms per deciliter (µg/dl). For reference, an incremental increase in blood lead level of 1 µg/dl is the benchmark criterion used in California to assess whether the presence of lead at a site results in unacceptable levels of lead in blood.[11]

Radionuclides were not detected in fruit samples above their respective minimal detectable concentrations. The fruit-specific and all-produce detection limits for strontium-90 and cesium-137 were below their respective PRGs. For tritium, the detection limits for citrus (grapefruit, orange, and lemon) slightly exceeded the fruit specific PRG; detection limits for all fruits slightly exceeded the all-produce tritium PRG. However, given the absence of any radionuclide detection in any fruit, the slightly elevated detection limits are considered to be adequate to conclude that fruit at the Site is not impacted by radionuclides.

4 CONCLUSIONS

Samples taken in high-use areas, in drainage channels located at the border between the Brandeis-Bardin campus and the Northern Buffer Zone, and from fruit grown on-Site indicate that there are no chemical impacts from the SSFL. These results are consistent with analytical testing of media that has occurred since 1991. Additionally, analytical results relative to calculated human health screening criteria indicate that consumption of fruit grown at the Site is not expected to result in adverse health effects.

[10] The derived screening level (PRG) for arsenic in produce is lower than the analytical detection limit. The detection limit, however, is adequate to identify potential impacts to fruit from the SSFL or other anthropogenic sources by accounting for (a) background concentrations of arsenic in soil, and (b) the expected arsenic level in fruit based on soil nutrient uptake rates.
[11] ibid

5 REFERENCES

Department of Toxic Substances Control (DTSC), 2013, Chemical Look-Up Table Technical Memorandum, Santa Susana Field Laboratory, Ventura County, California, June 11.

DTSC, 2017, Review of Radiological and Chemical Data from Investigations Conducted at and Near the Santa Susana Field laboratory and the American Jewish University – Brandeis Bardin Campus, 2 May.

DTSC, 2019, Human and Ecological Risk Office (HERO) Human Health Risk Assessment Note Number 3, April.

GSI Environmental, Inc., 2019, 2019 Monitoring Report, American Jewish University, Brandeis-Bardin Campus, 1101 Peppertree Lane, Brandeis, California, 25 November.

HydroGeoLogic, Inc., 2012, Final Technical Memorandum, Look-Up Table Recommendations, Santa Susana Field Laboratory, Area IV Radiological Study, 27 November.

McLaren/Hart Environmental Engineering Corporation (McLaren/Hart), 1993, Multi-Media Sampling Report for the Brandeis-Bardin Institute and the Santa Monica Mountains Conservancy, Volume I, March 10.

McLaren/Hart, 1995, Additional Soil and Water Sampling, The Brandeis-Bardin Institute and Santa Monica Mountains Conservancy, 19 January.

MWH Americas, Inc., 2014, Final Standardized Risk Assessment Methodology Revision 2 Addendum, Santa Susana Field Laboratory, Ventura County, California, August.

Ogden Environmental and Energy Services Co., Inc., 1998, Bell Canyon Area, Soil Sampling Report, Ventura County, California, Volume I, October.

Stantec Consulting Services, 2019, Boeing Report on Annual Groundwater Monitoring, 2018, Santa Susana Field Laboratory, Ventura County, California, Stantec PN: 185865105, 22 February.

Tetra Tech, Inc., 2016, Environmental and Radiological Data Summary and Health Risk Evaluation for the American Jewish University Brandeis-Bardin Campus at Simi Valley, California, Technical Memorandum, April.

United States Environmental Protection Agency (USEPA), United States Department of Defense, United States Department of Energy, United States Department of Homeland Security, United States Nuclear Regulatory Commission, United States Food and Drug Administration, United States Geological Survey, and National Institute of Standards and Technology, 2004, Multi-Agency Radiological Laboratory Analytical Protocols Manual (MARLAP), NUREG-1576, EPA 402-B-04-001A, NTIS PB2004-105421, July.

USEPA, 2015, Statistical Software ProUCL 5.1.00 for Environmental Applications for Data Sets with and without Nondetect Observations, October.

USEPA, 2017, National Functional Guidelines for Inorganic Superfund Methods Data Review, January.

USEPA, 2019, Preliminary Remediation Goals for Radionuclides (PRG), January.

USEPA, 2019, Regional Screening Levels, May.

2020 Monitoring Report

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1101 Peppertree Lane
Brandeis, California

Tables

TABLE 1
SAMPLING AND ANALYSIS SUMMARY
AJU Brandeis-Bardin Campus
Brandeis, CA

Sampling Location	Campus Area	Sample Type	Analyses[1]					
			Metals[2]	Perchlorate[2]	VOCs[2]	Strontium-90[3]	Tritium[3]	Cesium-137[3]
			6010B and 7471A	314.0	8260	905	906.0	901.1 (water), DOE HASL 300, 4.5.2.3/Ga-01-R (soil and sediment)
High Use Area Samples								
HV-1	Hidden Valley Camp	Soil	X	X	–	X	X	X
HV-2		Soil	X	X	–	X	X	X
HV-SED-1		Sediment	X	X	–	X	X	X
TF-1	Terry Field	Soil	X	X	–	X	X	X
KC-1	Kids' Cabins	Soil	X	X	–	X	X	X
GF-1	Gan Field	Soil	X	X	–	X	X	X
CIT-1	CIT Cabins	Soil	X	X	–	X	X	X
AT-1	Alpine Tower	Soil	X	X	–	X	X	X
Drainage Samples								
OS1-W-2[4]	Downstream from OS1 and SSFL	Water						
OS1-SED-1		Sediment	X	X	–	X	X	X
OS3-W	Spring OS3	Water	X	X	X	X	X	X
OS357-W or OS357-SED-1	Springs OS3, 5, and 7	Water OR Sediment	X	X	X OR –	X	X	X
BP-SED-1	Downstream from the burn pit portion of the SSFL	Sediment	X	X	–	X	X	X
RRMDF-SED-1	Downstream from the reactor and RMDF portions of the SSFL	Sediment	X	X	–	X	X	X
RRMDF-W		Water	X	X	X	X	X	X
SRE-SED-2	Downstream from the sodium reactor portion of the SSFL	Sediment	X	X	–	X	X	X
SRE-W		Water	X	X	X	X	X	X
OS8-SED-1	Downstream of Spring OS8	Sediment	X	X	–	X	X	X
OS8-W		Water	X	X	X	X	X	X
OW-SED-1	Old Well Camp area	Sediment	X	X	–	X	X	X
OW-W		Water	X	X	X	X	X	X
Fruit Samples								
AV-1	Avocado Grove	Avocado	X	X	–	X	X	X
A-1	Fruit Orchard	Apple	X	X	–	X	X	X
G-1		Grapefruit	X	X	–	X	X	X
L-1		Lemon	X	X	–	X	X	X
O-1		Orange	X	X	–	X	X	X
AV-2	Grocery Store	Avocado	X	X	–	X	X	X
A-2		Apple	X	X	–	X	X	X
G-2		Grapefruit	X	X	–	X	X	X
L-2		Lemon	X	X	–	X	X	X
O-1		Orange	X	X	–	X	X	X

Notes:

1. Methods shown are U.S. Envionmental Protection Agency methods, except as noted.
2. Samples analyzed by Eurofins Calscience of Irvine, except for fruit samples, which will be analyzed by GEL Laboratories of Charleston, SC.
3. Samples analyzed by GEL Laboratories of Charleston, SC.
4. Spring OS1 was found to be the same as artesian monitoring wells RD-68A and 68B, which are monitored regularly by NASA. As such, no water sample was collected from the wellhead during the June 2020 sampling event. Instead, a water sample will be collected in the immediate vicinity of the well if ponded water from the well is present on the ground.

Abbreviations:

X = analysis performed on sample indicated
– = analysis not performed on sample indicated
CIT = counselor-in-training
SSFL = Santa Susana Field Laboratory
bold = new sample

TABLE 2
SOIL AND SEDIMENT ANALYTICAL RESULTS - METALS AND PERCHLORATE
AJU Brandeis-Bardin Campus
Brandeis, CA

Sample Location Name	Sample Name	Matrix	Date Collected	Title 22 Metals[1]																Per-chlorate[3]
				Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury[2]	Molyb-denum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	
				mg/kg																	
High Use Area Samples																					
HV-1	HV-1-190422	Soil	4/22/2019	<1.8 UJ	**6.9**	**100**	**0.54**	<0.44	**15**	**5.9**	<5.3	**5**	<0.014	<1.8	**9.4**	<3.5	<0.88	<1.8	**29**	**62**	<0.039
	HV-1-200603		6/3/2020	<10 UJ	**5.4**	**62**	<0.50	<0.50	**11**	**3.5**	**7.4**	**4.0**	<0.020	<2.0	**6.5**	<3.0	<1.5	<10	**20**	**47**	<0.040
HV-2	HV-2-190422	Soil	4/22/2019	<1.9 UJ	**5.5**	**77**	**0.37**	<0.47	**18**	**5.7**	<5.6	**12**	**0.017**	<1.9	**11**	<3.7	**1.8**	<1.9	**30**	**64**	<0.040
	HV-2-200603		6/3/2020	<10 UJ	**3.3**	**48**	**0.56**	<0.51	**13**	**3.8**	**8.1**	**8.4**	<0.020	<2.0	**8.5**	<3.0	<1.5	<10	**21**	**43**	<0.040
HV-SED-1	HV-SED-1-190422	Sediment	4/22/2019	<1.4 UJ	**3.8**	**53**	<0.29	<0.36	**11**	**3.8**	<4.3	**7.5**	<0.016	<1.4	**6.7**	<2.9	<0.71	<1.4	**21**	**42**	<0.040
	HV-SED-1-200603		6/3/2020	<10 UJ	**3.1**	**53**	<0.50	<0.50	**11**	**3.7**	**8.5**	**9.3**	**0.024**	<2.0	**7.1**	<3.0	<1.5	<10	**22**	**44**	<0.040
TF-1	TF-1-190422	Soil	4/22/2019	<1.1 UJ	**4.6**	**110**	**0.34**	<0.27	**16**	**7.1**	**13**	**9.7**	<0.015	<1.1	**10**	<2.1	<0.53	<1.1	**35**	**50**	<0.040
	TF-1-200603		6/3/2020	<10 UJ	**5.3**	**88**	<0.50	<0.50	**16**	**6.3**	**19**	**8.5**	<0.020	<2.0	**11**	<3.0	<1.5	<10	**34**	**52**	<0.040
KC-1	KC-1-190422	Soil	4/22/2019	<1.8 UJ	**5.6**	**75**	**0.44**	<0.45	**18**	**6.8**	**8.6**	**9.6**	<0.016	<1.8	**12**	<3.6	<0.89	<1.8	**36**	**64**	<0.040
	KC-1-200603		6/3/2020	<10 UJ	**5.9**	**60**	<0.50	<0.50	**16**	**4.9**	**10**	**8.8**	<0.020	**2.8**	**9.6**	<3.0	<1.5	<10	**32**	**46**	<0.040
GF-1	GF-1-190422	Soil	4/22/2019	<1.8 UJ	**4.0**	**64**	**0.37**	<0.45	**15**	**5.6**	**6.0**	**8.6**	**0.015**	<1.8	**9.7**	<3.6	<0.91	<1.8	**31**	**80**	<0.040
	GF-1-200603		6/3/2020	<10 UJ	<3.1	**30**	<0.51	<0.51	**6.1**	**1.9**	**4.5**	<2.0	<0.020	<2.0	**3.8**	<3.1	<1.5	<10	**13**	**27**	<0.040
CIT-1	CIT-1-190422	Soil	4/22/2019	<1.7 UJ	<3.3	**38**	<0.33	<0.41	**9.0**	**2.9**	**5.1**	**5.5**	<0.016	<1.7	**5.5**	<3.3	<0.83	<1.7	**15**	**45**	<0.040
	CIT-1-200603		6/2/2020	<10 UJ	<3.0	**32**	<0.51	<0.51	**9.8**	**2.5**	**7.1**	**5.8**	<0.020	<2.0	**5.8**	<3.0	<1.5	<10	**16**	**44**	<0.040
AT-1	AT-1-190422	Soil	4/22/2019	<1.2 UJ	**4.4**	**110**	**0.5**	**0.31**	**19**	**7.8**	**9.8**	**9.0**	<0.016	<1.2	**14**	<2.5	<0.62	<1.2	**38**	**44**	<0.039
	AT-1-200603		6/3/2020	<10 UJ	**15**	**31**	<0.50	<0.50	**36**	**2.5**	**11**	**2.7**	<0.020	<2.0	**4.9**	<3.0	<1.5	<10	**15**	**39**	<0.040
Drainage Sediment Samples																					
BP-SED-1	BP-SED-1-190613	Sediment	6/13/2019	<9.9 UJ	**11**	**52**	<0.50	<0.50	**11**	**2.3**	**4.5**	**5.7**	**0.032**	<2.0	**6.2**	<3.0	<1.5	<9.9	**21**	**42**	<0.040
	BP-SED-1-200602		6/2/2020	<10 UJ	**11**	**43 J**	<0.51	<0.51	**10**	**3.3**	**6.5**	**7.7**	**0.022**	<2.0	**6.8**	<3.0	<1.5	<10	**19**	**37**	<0.040
OS8-SED-1	OS8-SED-1-190613	Sediment	6/13/2019	<9.9 UJ	**3.8**	**34**	<0.49	<0.49	**12**	**1.4**	**4.8**	**5.4**	<0.020	<2.0	**6.1**	<3.0	<1.5	<9.9	**21**	**32**	<0.040
	OS8-SED-1-200603		6/2/2020	<9.9 UJ	<3.0	**32 J**	<0.50	<0.50	**7.5**	**1.9**	**5.5**	**5.3**	<0.020	<2.0	**5.1**	<3.0	<1.5	<9.9	**14**	**25**	<0.040
RRMDF-SED-1	RRMDF-SED-1-190613	Sediment	6/13/2019	<10 UJ	**4.2**	**63**	**0.54**	<0.50	**10**	**2.1**	**5.2**	**6.4**	**0.018 J**	<2.0	**5.7**	<3.0	<1.5	<10	**21**	**53**	<0.040
	RRMDF-SED-1-200602		6/3/2020	<10 UJ	<3.0	**60 J**	<0.50	<0.50	**9.5**	**3.2**	**7.4**	**6.7**	<0.020	<2.0	**6.5**	<3.0	<1.5	<10	**19**	**48**	<0.040
SRE-SED-1	SRE-SED-1-190613	Sediment	6/13/2019	<10 UJ	**4.3**	**51**	**0.51**	<0.50	**7.9**	**2.1**	**3.2**	**6.8**	<0.020	<2.0	**4.1**	<3.0	<1.5	<10	**20**	**47**	<0.040
SRE-SED-2	SRE-SED-2-200603	Sediment	6/3/2020	<10 UJ	<3.1	**42 J**	<0.51	<0.51	**7.9**	**2.9**	**8.8**	**5.9**	<0.020	<2.0	**5.1**	<3.1	<1.5	<10	**18**	**36**	<0.040
OW-SED-1	OW-SED-1-190613	Sediment	6/13/2019	<10 UJ	<3.0	**39**	<0.50	<0.50	**7.3**	**1.2**	**2.0**	**4.0**	<0.020	<2.0	**3.8**	<3.0	<1.5	<10	**15**	**29**	<0.040
	OW-SED-1-200603		6/3/2020	<10 UJ	<3.0	**37 J**	<0.51	<0.51	**9.1**	**2.4**	**4.0**	**4.1**	<0.020	<2.0	**4.9**	<3.0	<1.5	<10	**19**	**29**	<0.040
OS1-SED-1	OS1-SED-1-200603	Sediment	6/3/2020	<10 UJ	<3.0	**32 J**	<0.51	<0.51	**6.2**	**2.5**	**3.5**	**3.0**	<0.020	<2.0	**4.0**	<3.0	<1.5	<10	**14**	**34**	<0.040
Screening Criteria																					
Residential Risk-Based Screening Levels[4]				31	0.11	15,000	16	71	120,000	23	3,100	80	1	390	820	390	390	0.78	390	23,000	55
Regional Background Levels[5]				0.86	39.7	319	1.87	0.58	81	38	102	42	0.13	3.2	113	0.896	0.138	0.991	151	215	0.00163

Notes:

1. Samples analyzed for metals using U.S. Environmental Protection Agency (USEPA) Method 6010B unless otherwise indicated.
2. Samples analyzed for mercury using USEPA Method 7471A.
3. Samples analyzed for perchlorate using USEPA Method 314.0.
4. Regional screening levels for residential soil published by the USEPA (2019), modified by the California Department of Toxic Substances Control (DTSC, 2019).
5. Background threshold values as calculated by the DTSC for the Santa Susana Field Laboratory (2013).
6. Drainage samples collected in June 2020 are qualified for barium because this metal was found in the method blank. Samples were not re-extracted because the results were greater than 10 times the concentration found in the blank (1.6. mg/kg barium).

Abbreviations:

Bold = analyte detected above the laboratory reporting limit < = analyte was not detected above the reporting limit shown
mg/kg = milligrams per kilogram
UJ = The sample was analyzed for, but not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise
J = Analyte was detected below the reporting limit and above the detection limit. Value is estimated.
B = Constituent was found in the method blank above the reporting limit.

References:

Department of Toxic Substances Control (DTSC), 2013, Chemical Look-Up Table Technical Memorandum, Santa Susana Field Laboratory, Ventura County, California, June 11.
DTSC, 2019, Human and Ecological Risk Office (HERO) Human Health Risk Assessment Note Number 3, April.
U. S. Environmental Protection Agency USEPA, 2019, Regional Screening Levels, November.

TABLE 3
SOIL AND SEDIMENT ANALYTICAL RESULTS - RADIONUCLIDES
AJU Brandeis-Bardin Campus
Brandeis, CA

Sample Location	Sample Name	Matrix	Date Collected	Tritium[1]	Strontium-90[2]	Cesium-137[3]
				pCi/g[4]		
Main Campus Sampling Locations						
HV-1	HV-1-190422	Soil	4/22/2019	<0.359	<0.273	<0.187
	HV-1-200603		6/3/2020	<2.14	<0.0987	<0.0557
HV-2	HV-2-190422	Soil	4/22/2019	<0.362	<0.242	<0.125
	HV-2-200603		6/3/2020	<2.22	<0.0978	<0.0409
HV-SED-1	HV-SED-1-190422	Sediment	4/22/2019	<0.363	<0.284	<0.161
	HV-SED-1-200603		6/3/2020	<2.09	<0.0929	<0.0618
TF-1	TF-1-190422	Soil	4/22/2019	<0.355	<0.495	<0.158
	TF-1-200603		6/3/2020	<2.23	<0.0954	<0.0551
KC-1	KC-1-190422	Soil	4/22/2019	<0.332	<0.266	<0.192
	KC-1-200603		6/3/2020	<2.15	<0.0981	<0.0458
GF-1	GF-1-190422	Soil	4/22/2019	<0.393	<0.281	<0.165
	GF-1-200603		6/3/2020	<2.08	<0.0981	**0.0662**
CIT-1	CIT-1-190422	Soil	4/22/2019	<0.348	<0.246	<0.162
	CIT-1-200602		6/2/2020	<2.21	<0.0951	**0.0789**
AT-1	AT-1-190422	Soil	4/22/2019	<0.356	<0.267	<0.207
	AT-1-200603		6/3/2020	<2.30	<0.0920	<0.0627
Drainage Sampling Locations						
BP-SED-1	BP-SED-1-190613	Sediment	6/13/2019	<0.061	**0.32**	**0.055**
	BP-SED-1-190829		8/29/2019	–	<0.0506	–
	BP-SED-1-200602		6/2/2020	<3.14	<0.0994	**0.110**
BP-SED-1A	BP-SED-1A-190829	Sediment	8/29/2019	–	<0.0968	–
BP-SED-1B	BP-SED-1B-190829		8/29/2019	–	<0.0474	–
BP-SED-1C	BP-SED-1C-190829		8/29/2019	–	<0.0976	–
RRMDF-SED-1	RRMDF-SED-1-190613	Sediment	6/13/2019	<0.068	**0.48**	**0.111**
	RRMDF-SED-1-190829		8/29/2019	–	<0.0667	–
	RRMDF-SED-1-200602		6/2/2020	<3.45	<0.0948	**0.198**
RRMDF-SED-1A	RRMDF-SED-1A-190829	Sediment	8/29/2019	–	<0.0984	–
RRMDF-SED-1B	RRMDF-SED-1B-190829		8/29/2019	–	<0.0661	–
RRMDF-SED-1C	RRMDF-SED-1C-190829		8/29/2019	–	<0.0582	–
SRE-SED-1	SRE-SED-1-190613	Sediment	6/13/2019	<0.066	**0.232**	<0.037
	SRE-SED-1-190829		8/29/2019	–	<0.0982	–
SRE-SED-1A	SRE-SED-1A-190829	Sediment	8/29/2019	–	<0.053	–
SRE-SED-1B	SRE-SED-1B-190829		8/29/2019	–	<0.0977	–
SRE-SED-1C	SRE-SED-1C-190829		8/29/2019	–	<0.0435	–
SRE-SED-2	SRE-SED-2-190829	Sediment	8/29/2019	–	<0.0443	–
	SRE-SED-2-200603		6/3/2020	<3.11	<0.0931	0.0567
OS1-SED-1-200603	051-SED-1-200603	Sediment	6/3/2020	<3.13	<0.0637	<0.0528
OS8-SED-1	OS8-SED-1-190613	Sediment	6/13/2019	<0.161	**0.36**	**0.036**
	OS8-SED-1-190830		8/30/2019	–	<0.0644	–
	058-SED-1-200603		6/3/2020	<3.21	<0.0962	<0.0989
OS8-SED-1A	OS8-SED-1A-190830	Sediment	8/30/2019	-	<0.0821	–
OS8-SED-1B	OS8-SED-1B-190830		8/30/2019	–	<0.0991	–
OS8-SED-1C	OS8-SED-1C-190830		8/30/2019	–	<0.0462	–
OW-SED-1	OW-SED-1-190613	Sediment	6/13/2019	<0.101	<0.128	**0.03**
	OW-SED-1-200603		6/3/2020	<3.28	<0.0989	**0.072**

TABLE 3
SOIL AND SEDIMENT ANALYTICAL RESULTS - RADIONUCLIDES
AJU Brandeis-Bardin Campus
Brandeis, CA

Background Levels			
McLaren/Hart (1993; 1995)[5]	None	0.130	0.275
Ogden Environmental and Energy Services Co., Inc. (1998)[5]	0.226	None	0.167
HydroGeoLogic, Inc. (2012)[6]	7.38	0.075	0.193
Health-Based Screening Criteria			
Preliminary Remediation Goals[7]	0.237	13.4	25.3

Notes:

1. Samples analyzed for tritium using U.S. Environmental Protection Agency (USEPA) Method 906.0 or equivalent.
2. Samples analyzed for strontium-90 using USEPA Method 905.0 or equivalent.
3. Samples analyzed for cesium-137 using USEPA Method 901.1 or equivalent (analytical method for June 2020 samples cited as DOE HASL 300, 4.5.2.3/Ga-01-R).
4. Where an analyte is reported by the laboratory at an estimated concentration that is less than the minimal detectable concentration (MDC), the result is shown as less than the MDC.
5. Background values were calculated as the mean plus twice the standard deviation of the data in the reports shown. Process further described in Section 3.2.1.
6. Background values are drawn from the look-up tables published by HydroGeoLogic, Inc. (2012) and approved by the
7. Preliminary remediation goals were generated using the 2019 USEPA calculator. Further details regarding methodology are available in the 2019 Monitoring Report dated 25 November 2019 by GSI Environmental Inc.
8. Results reported on a dry weight basis.

Abbreviations:

Bold = analyte detected above the laboratory reporting limit
pCi/g = picocuries per gram
< = Analyte was not detected above the minimal detectable concentration (MDC) shown.
– = Sample not analyzed for analyte indicated.

References:

HydroGeoLogic, Inc., 2012, Final Technical Memorandum, Look-Up Table Recommendations, Santa Susana Field Laboratory, Area IV Radiological Study, 27 November.

McLaren/Hart Environmental Engineering Corporation, 1993, Multi-Media Sampling Report for the Brandeis-Bardin Institute and the Santa Monica Mountains Conservancy, Volume I, 10 March.

McLaren/Hart Environmental Engineering Corporation, 1995, Additional Soil and Water Sampling, The Brandeis-Bardin Institute and Santa Monica Mountains Conservancy, 19 January.

Ogden Environmental and Energy Services Co., Inc., 1998, Bell Canyon Area, Soil Sampling Report, Ventura County, California, Volume I, October.

U.S. Environmental Protection Agency (USEPA), 2019, Preliminary Remediation Goals for Radionuclides (PRG), January.

TABLE 4
SPRING AND SURFACE WATER ANALYTICAL RESULTS - METALS AND PERCHLORATE
AJU Brandeis-Bardin Campus
Brandeis, CA

Sample Location Name	Sample Name	Date Collected	Title 22 Metals[1]																Per-chlorate[3]	VOCs[4]	
			Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury[2]	Molyb-denum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Naphthalene	Other VOCs
			mg/L																	µg/L	
Spring/Seep Samples																					
OS8-W	OS8-W-200603	6/3/2020	<0.010	<0.010	**0.046**	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.00020	<0.020	<0.010	<0.010	<0.010	<0.010	<0.010	<0.020	<0.004	**3.0 J'**	None
OS3-W	OS3-W-190613	6/13/2019	<0.010	<0.010	**0.039**	<0.0020	<0.0050	<0.0050	<0.010	**0.0083 J**	<0.0050	<0.00020	<0.020	**0.0055 J**	<0.010	<0.010	<0.010	<0.010	<0.020	<0.004	NA	NA
	OS3-W-200602	6/2/2020	<0.010	<0.010	**0.038**	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.00020	<0.020	<0.010	<0.010	<0.010	<0.010	<0.010	<0.020	<0.004	<1.0 J	None
OS357-W	OS357-W-200602	6/2/2020	<0.010	<0.010	**0.034**	<0.0020	<0.0050	<0.0050	<0.010	<0.010	<0.0050	<0.00020	<0.020	<0.010	<0.010	<0.010	<0.010	<0.010	**0.048**	<0.004	<1.0 J	None
OS1-W	OS3-W-190613	6/13/2019	<0.010	<0.010	**0.039**	<0.0020	<0.0050	<0.0050	<0.010	**0.0083 J**	<0.0050	<0.00020	<0.020	**0.0055 J**	<0.010	<0.010	<0.010	<0.010	<0.020	<0.004	NA	NA
Surface Water/Runoff Samples																					
SRE-W	SRE-W-200603	6/3/2020	<0.010	<0.010	**0.13**	<0.0020	<0.0050	**0.015**	<0.010	**0.019**	**0.012**	<0.00020	<0.020	<0.010	<0.010	<0.010	<0.010	**0.031**	**0.086**	<0.004	<1.0	None
Screening Criteria																					
Maximum Contaminant Level[5]			0.006	0.010	1	0.004	0.005	0.05	None	1.3	0.015	0.002	None	0.1	0.05	None	0.002	None	None	0.006	None	Various
SSFL Groundwater Comparison Concentrations[6]			0.0025	0.0077	0.15	0.00014	0.0002	0.014	0.0019	0.0047	0.011	0.000063	0.0022	0.017	0.0016	0.00017	0.00013	0.0026	6.3	None	None	Various

Notes:
1. Samples analyzed for metals using U.S. Environmental Protection Agency (USEPA) Method 6010B unless otherwise indicated.
2. Samples analyzed for mercury using USEPA Method 7471A.
3. Samples analyzed for perchlorate using USEPA Method 314.0.
4. Samples analyzed for VOCs using USEPA Method 8260.
5. California maximum contaminant levels as established in Title 22 of the California Code of Regulations.
6. Background concentrations in groundwater determined for the Santa Susana Field Lab (SSFL; MWH Americas, Inc., 2014).
7. J-flag qualifiers were applied to all naphthalene results, as naphthalene was detected in the trip blank (TB-200604 in lab report) at a concentration of 1.2 µg/L.

Abbreviations:
Bold = analyte detected above the laboratory reporting limit
< = analyte was not detected above the reporting limit shown
mg/L = milligrams per liter
VOCs = volatile organic compounds
µg/L = nanograms per liter
J = Analyte was detected below the reporting limit and above the detection limit. Value is estimated.
B = constituent was detected in the trip blank above the reporting limit.
NA = not analyzed

References:
MWH Americas, Inc., 2014, Final Standardized Risk Assessment Methodology Revision 2 Addendum, Santa Susana Field Laboratory, Ventura County, California, August.

TABLE 5
SPRING AND SURFACE WATER ANALYTICAL RESULTS - RADIONUCLIDES
AJU Brandeis-Bardin Campus
Brandeis, CA

Sample Location Name	Sample Name	Date Collected	Tritium[1]	Strontium-90[2]	Cesium-137[3]
			pCi/L		
OS1-W	OS1-W-190613	6/13/2019	<310	<0.66	<7.1
OS3-W	OS3-W-190613	6/13/2019	<310	<0.65	<5.1
	0S3-W-200602	06/02/20	<368	<1.28	<8.15
OS357-W	0S357-W-200602	06/02/20	<362	<1.32	<6.86
OS8-W	0S8-W-200603	06/03/20	<360	<1.37	<8.20
SRE-W	SRE-W-200603	06/03/20	<360	<1.54	<6.76
Screening Criteria					
Maximum Contaminant Level[4]			20,000	8.0	None
SSFL Groundwater Comparison Concentrations[5]			20,000	8.0	200

Notes:

1. Samples analyzed for tritium using U.S. Environmental Protection Agency (USEPA) Method 906.0 or equiva
2. Samples analyzed for strontium-90 using USEPA Method 905.0 or equivalent.
3. Samples analyzed for cesium-137 using USEPA Method 901.1 or equivalent.
4. California maximum contaminant levels as established in Title 22 of the California Code of Regulations.
5. Concentrations are based on the maximum contaminant level or are based on the effective dose equivalent of 4 millirems per year (see Stantec, 2019).

Abbreviations:

pCi/L = picocuries per liter

< = Analyte was not detected above the reporting limit shown. For radionuclides, the mimimum detectable concentration is displayed.

References:

Stantec Consulting Services, 2019, Boeing Report on Annual Groundwater Monitoring, 2018, Santa Susana Field Laboratory, Ventura County, California, Stantec PN: 185865105, 22 February.

TABLE 6
FRUIT ANALYTICAL RESULTS - METALS AND PERCHLORATE
AJU Brandeis-Bardin Campus
Brandeis, CA

Sample Location Name	Sample Name	Matrix	Date Collected	Antimony		Arsenic		Barium		Beryllium		Cadmium		Chromium (III)		Cobalt		Copper		Lead		Mercury[2]	
				PRG[4]	*Conc.*	*PRG*	*Conc.*	*PRG*	*Conc.*	*PRG*	*Conc.*	*PRG*	*Conc.*	*PRG*	*Conc.*	*PRG*	*Conc.*	*PRG*	*Conc.*	*PRG*	*Conc.*	*PRG*	*Conc.*
				µg/kg																			
On-Site Samples																							
AV-1	AV-1-200604	Avocado	6/4/2020	11000	**1450**	0.77	<475	540000	**214**	540	<95.1	2700	<95.1	4100000	<143	810	<143	110000	**4500**	Note 5	<314	430	<6.81
A-1	A-1-200604	Apple	6/4/2020	15000	<330	1.10	<500	740000	**225**	740	<100	3700	<100	5600000	<150	1100	<150	150000	**563**	Note 5	**397**	590	<7.73
G-1	G-1-200604	Grapefruit	6/4/2020	890	**343**	0.06	<453	45000	**602**	44.5	<90.6	220	<90.6	330000	<136	66.8	<136	8900	**435**	Note 5	<299	35.6	<7.20
O-1	0-1-200604	Orange	6/4/2020	890	<303	0.06	<459	45000	**883**	44.5	<91.7	220	<91.7	330000	<138	66.8	<138	8900	**454**	Note 5	<303	35.6	<7.08
L-1	L-1-200604	Lemon	6/4/2020	890	<304	0.06	<461	45000	**437**	44.5	<92.3	220	<92.3	330000	<138	66.8	<138	8900	**367**	Note 5	<304	35.6	<7.67
Off-Site Reference Samples																							
AV-2	AV-2-200604	Avocado	6/4/2020	11000	<315	0.77	<477	540000	<95.4	540	<95.4	2700	<95.4	4100000	<143	810	<143	110000	**3240**	Note 5	**446**	430	<7.50
A-2	A-2-200604	Apple	6/4/2020	15000	**460**	1.10	<480	740000	**343**	740	<96.0	3700	<96.0	5600000	<144	1100	<144	150000	**426**	Note 5	<317	590	<7.31
G-2	G-2-200604	Grapefruit	6/4/2020	890	**516**	0.06	<481	45000	**149**	44.5	<96.2	220	<96.2	330000	<144	66.8	<144	8900	**3360**	Note 5	**431**	35.6	<7.50
O-2	0-2-200604	Orange	6/4/2020	890	<307	0.06	<466	45000	**313**	44.5	<93.1	220	<93.1	330000	<140	66.8	<140	8900	**636**	Note 5	<307	35.6	<8.01
L-2	L-2-200604	Lemon	6/4/2020	890	<326	0.06	<494	45000	<98.8	44.5	<98.8	220	<98.8	330000	<148	66.8	<148	8900	**340**	Note 5	<326	35.6	<7.53

TABLE 6
FRUIT ANALYTICAL RESULTS - METALS AND PERCHLORATE
AJU Brandeis-Bardin Campus
Brandeis, CA

Sample Location Name	Sample Name	Matrix	Date Collected	Molybdenum		Nickel		Selenium		Silver		Thallium		Vanadium		Zinc		Perchlorate	
				PRG	*Conc.*	*PRG*	*Conc.*	*PRG*	*Conc.*	*PRG*	*Conc.*	*PRG*	*Conc.*	*PRG*	*Conc.*	*PRG*	*Conc.*	*PRG*	*Conc.*
				µg/kg															
On-Site Samples																			
AV-1	AV-1-200604	Avocado	6/4/2020	14000	<190	30000	<143	14000	<475	14000	<95.1	27.0	<475	14000	<95.1	810000	**5610**	1900	<0.437
A-1	A-1-200604	Apple	6/4/2020	19000	<200	41000	<150	19000	<500	19000	<100	37.0	<500	19000	<100	1100000	**1480 J**	2600	<0.455
G-1	G-1-200604	Grapefruit	6/4/2020	1100	<181	2400	<136	1100	<453	1100	<90.6	2.23	<453	1100	<90.6	67000	**2400**	160	<4.05
O-1	0-1-200604	Orange	6/4/2020	1100	<183	2400	**315 J**	1100	<459	1100	<91.7	2.23	<459	1100	<91.7	67000	**3230**	160	<10.2
L-1	L-1-200604	Lemon	6/4/2020	1100	<185	2400	<138	1100	<461	1100	<92.3	2.23	<461	1100	<92.3	67000	**3450**	160	<10.6
Off-Site Reference Samples																			
AV-2	AV-2-200604	Avocado	6/4/2020	14000	<191	29713	**245 J**	14000	<477	14000	<95.4	27.0	<477	14000	<95.4	810000	**4970**	1900	<0.840
A-2	A-2-200604	Apple	6/4/2020	19000	<192	10726	**151 J**	19000	<480	19000	<96.0	37.0	<480	19000	<96.0	1100000	**2270**	2600	<0.459
G-2	G-2-200604	Grapefruit	6/4/2020	1100	<192	2450	<144	1100	<481	1100	<96.2	2.23	<481	1100	<96.2	67000	**4370**	160	<4.29
O-2	0-2-200604	Orange	6/4/2020	1100	<186	2450	**143 J**	1100	<466	1100	<93.1	2.23	<466	1100	<93.1	67000	**4050**	160	<10.7
L-2	L-2-200604	Lemon	6/4/2020	1100	<198	2450	<148	1100	<494	1100	<98.8	2.23	<494	1100	<98.8	67000	**1700 J**	160	<10.0

Notes:
1. Samples analyzed for metals using U.S. Environmental Protection Agency (USEPA) Method 6010 unless otherwise indicated.
2. Samples analyzed for mercury using USEPA Method 7471A.
3. Samples collected in June 2020 were analyzed for perchlorate using SW846 6850 Modified (USEPA Method 6850).
4. Preliminary remediation goals assuming a residential exposure scenario for each produce type were calculated using the 2019 USEPA calculator.
5. Adverse health effects from exposure to lead at residential sites is evaluated by calculating the blood lead level of a child. The evaluation was conducted using the DTSC's LeadSpread8. For more information, see Appendix A. The results indicated that the presence of lead at the Site, when detected, does not result in adverse health effects for a residential exposure. 6. Preliminary remediation goals (produce-total) assumes consumption of each fruit concurrently.

Abbreviations:
Bold = analyte detected above the laboratory reporting limit
< = analyte was not detected above the reporting limit shown
µg/kg = micrograms per kilogram
-- = not applicable
J = Analyte was detected below the reporting limit and above the detection limit. Value is estimated.

References:
Department of Toxic Substances Control (DTSC), 2013, Chemical Look-Up Table Technical Memorandum, Santa Susana Field Laboratory, Ventura County, California, June 11. DTSC, 2019, Human and Ecological Risk Office (HERO) Human Health Risk Assessment Note Number 3, April. U. S. Environmental Protection Agency USEPA, 2019, Regional Screening Levels, November.

TABLE 7
FRUIT ANALYTICAL RESULTS - RADIONUCLIDES
AJU Brandeis-Bardin Campus
Brandeis, CA

Sample Location Name	Sample Name	Sample Type	Date Collected	Tritium[1]		Strontium-90[2]		Cesium-137[3]	
				PRG[4]	*Concentration*	*PRG*[4]	*Concentration*	*PRG*[4]	*Concentration*
				pCi/g[5]					
On-Site Samples									
AV-1	AV-1-190830	Avocado	8/30/2019	7.76	–	3.21	<0.227	16.8	–
	AV-1-200604		6/4/2020		<3.28		<0.237		<0.0288
A-1	A-1-190830	Apple	8/30/2019	9.5	–	3.9	<0.187	20.5	–
	A-1-200604		6/4/2020		<4.90		<0.0447		<0.0115
G-1	G-1-190830	Grapefruit	8/30/2019	2.04	–	0.843	<0.212	4.41	–
	G-1-200604		6/4/2020		<4.78		<0.0714		<0.0134
O-1	0-1-200604	Orange	6/4/2020	2.04	<4.98	0.843	<0.0488	4.41	<0.0113
L-1	L-1-190830	Lemon	8/30/2019	2.04	–	0.843	<0.117	4.41	–
	L-1-200604		6/4/2020		<4.57		<0.0419		<0.00739
Off-Site Reference Samples									
AV-2	AV-2-190830	Avocado	8/30/2019	7.76	–	3.21	<0.225	16.8	–
	AV-2-200604		6/4/2020		<4.64		<0.140		<0.0145
A-2	A-2-190830	Apple	8/30/2019	9.5	–	3.9	<0.151	20.5	–
	A-2-200604		6/4/2020		<3.28		<0.0634		<0.0123
G-2	G-2-190830	Grapefruit	8/30/2019	2.04	–	0.843	<0.150	4.41	–
	G-2-200604		6/4/2020		<3.38		<0.0425		<0.00968
O-2	0-2-200604	Orange	6/4/2020	2.04	<4.63	0.843	<0.0467	4.41	<0.0308
L-2	L-2-190830	Lemon	8/30/2019	2.04	–	0.843	<0.126	4.41	–
	L-2-1200604		6/4/2020		<3.25		<0.0440		<0.0114

Notes:

1. Samples analyzed for tritium using U.S. Environmental Protection Agency (USEPA) Method 906.0 or equivalent.
2. Samples analyzed for strontium-90 using USEPA Method 905.0 or equivalent.
3. Samples analyzed for cesium-137 using DOE HASL 300 GA-01-R.
4. Preliminary remediation goals assuming a residential exposure scenario for each produce type were calculated using the 2019 USEPA calculator.
5. Where an analyte is reported by the laboratory at an estimated concentration that is less than the minimal detectable concentration (MDC), the result is shown as less than the MDC.

Abbreviations:

pCi/g = picocuries per gram
PRG = preliminary remediation goal
< = analyte was not detected above the minimal detectable concentration (MDC) shown

References:

U.S. Environmental Protection Agency (USEPA), 2019, Preliminary Remediation Goals for Radionuclides (PRG), January.

2020 Monitoring Report

American Jewish University, Brandeis-Bardin Campus
1101 Peppertree Lane
Brandeis, California

Figures

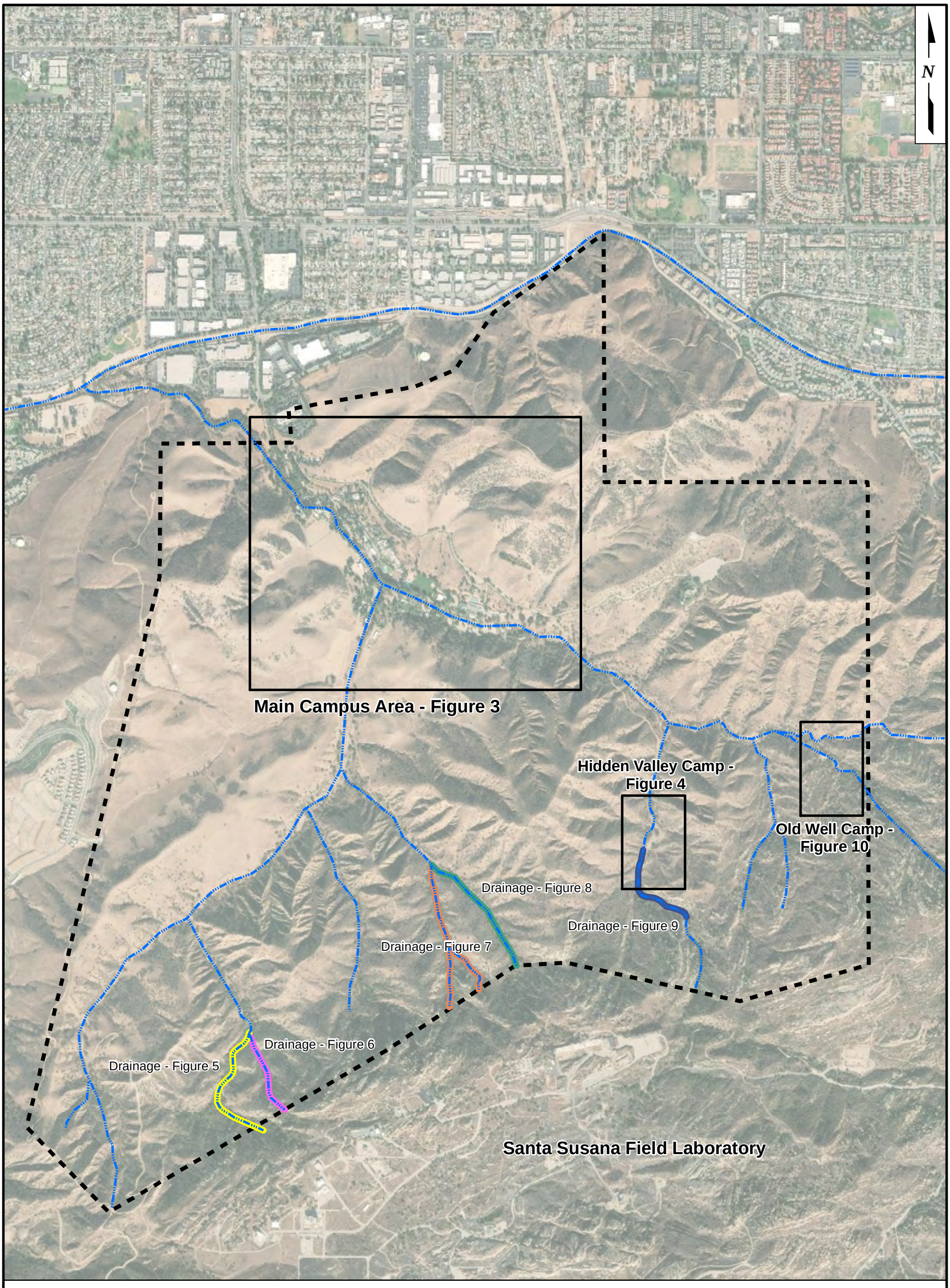
Reference map provided by Esri, 2018.

GSI ENVIRONMENTAL

GSI Job No.	5182	Drawn by:	AV
Issued:	23-May-2019	Chk'd by:	TZW
Revised:		Aprv'd by:	SMG
Map ID:	AJU_SiteLocMap	**FIGURE 1**	

SITE LOCATION MAP

American Jewish University, Brandeis-Bardin Campus
1101 Peppertree Lane, Brandeis, California



Note:

Imagery downloaded from Esri ArcGIS Online, 2017.

LEGEND

Approximate Site Boundary

Intermittent Stream

Feet

0 700 1,400

GSI ENVIRONMENTAL

GSI Job No. 5182		Map ID: AJU_SiteMapDrainages	
Issued: 20-Nov-2019		Drawn By: AV	
		Chk'd By: TZW	Aprv'd By: SMG

SITE MAP AND FEATURES

American Jewish University, Brandeis-Bardin Campus
1101 Peppertree Lane, Brandeis, California

FIGURE 2

N

LEGEND

- Soil Sampling Location
- Approximate Site Boundary
- Site Feature
- Intermittent Stream

Note

Imagery downloaded from Esri ArcGIS Online, 2017.

Scale (Feet)
0 200 400

Projected Coordinate System
Datum: NAD 1983
State Plane California Zone V
Units: Feet

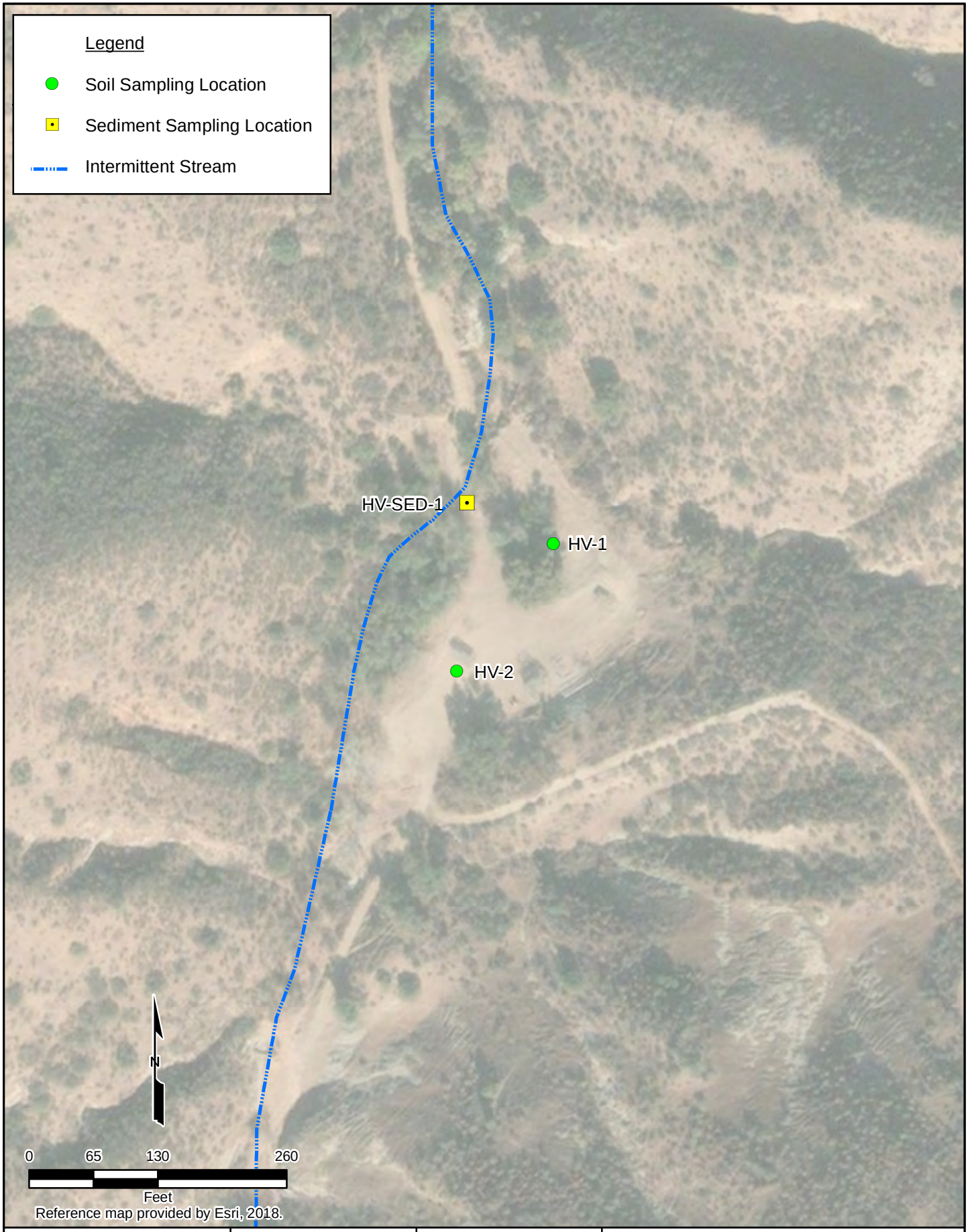
GSI ENVIRONMENTAL

MAIN CAMPUS AREA MAP AND SAMPLING LOCATIONS

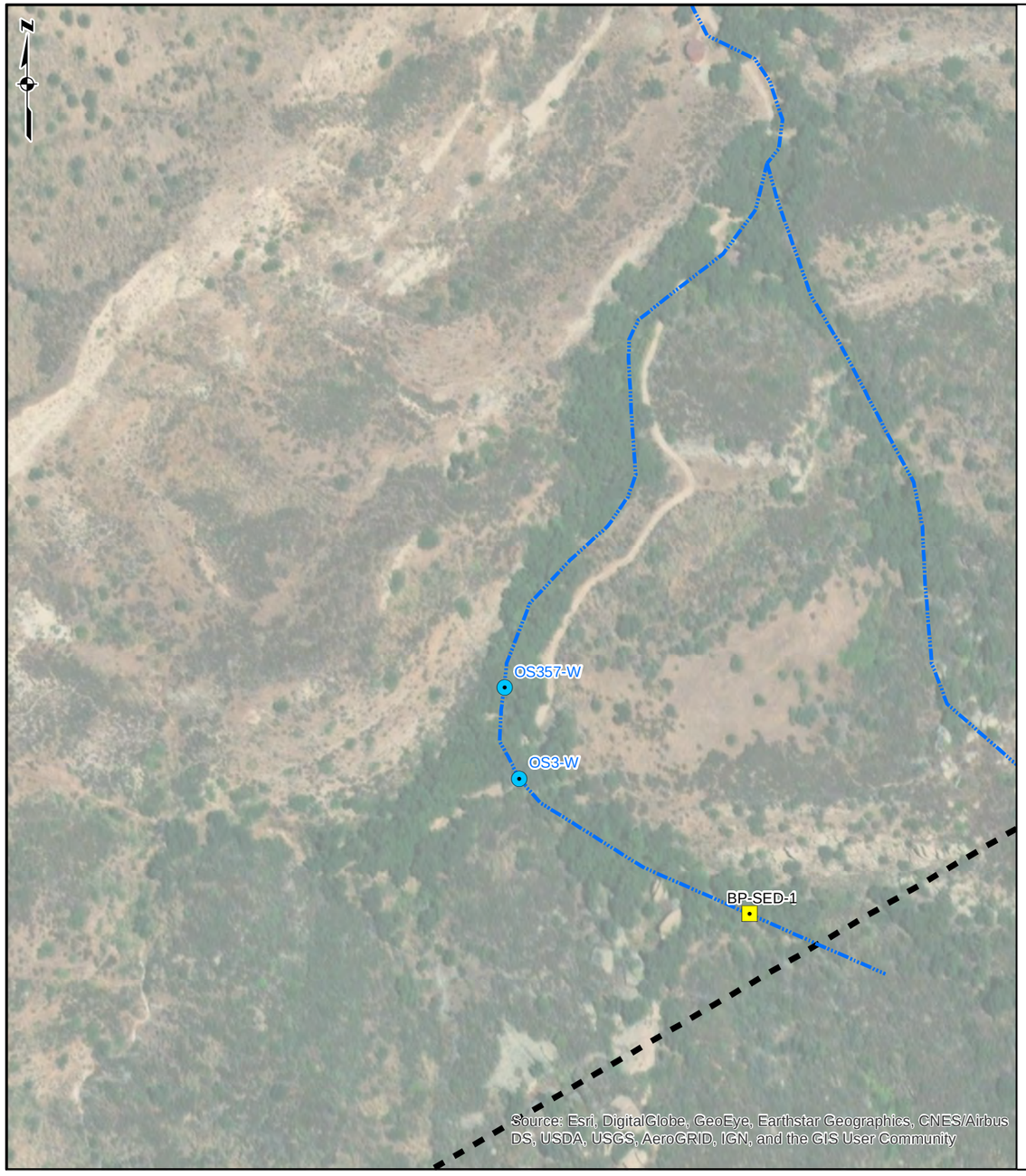
American Jewish University, Brandeis-Bardin Campus
1101 Peppertree Lane, Brandeis, California

GSI Job No. 5182	Drawn By: AV
Issued: 20-Sep-2019	Chk'd By: TZW
Map ID: **AJU_MainCampusLand**	Appv'd By: SMG

FIGURE 3



GSI ENVIRONMENTAL	GSI Job No. 5182	Drawn by: AV	**HIDDEN VALLEY CAMP SAMPLING LOCATIONS**
	Issued: 20-Sep-2019	Chk'd by: TZW	
	Revised:	Aprv'd by: SMG	American Jewish University, Brandeis-Bardin Campus 1101 Peppertree Lane, Brandeis, California
	Map ID: AJU_HVC_8x11	**FIGURE 4**	



LEGEND

- Sediment Sampling Location
- Water Sampling Location
- Intermittent Stream
- Approximate Site Boundary

SAMPLING LOCATIONS
OS3-W, OS357-W AND BP-SED-1

American Jewish University, Brandeis-Bardin Campus
1101 Peppertree Lane, Brandeis, California

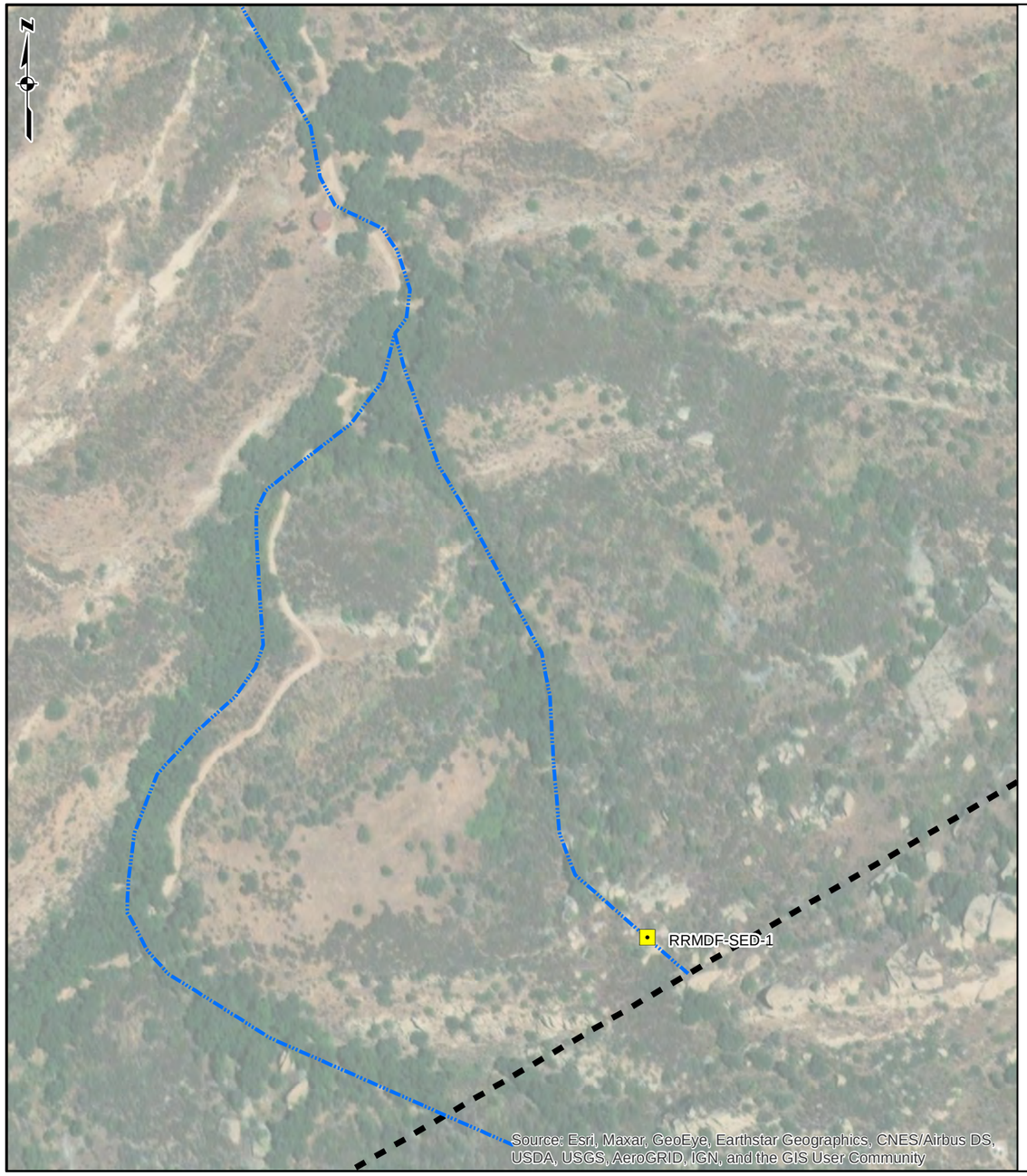
GSI ENVIRONMENTAL

Scale in Feet
0 300 600

State Plane
California Zone V
Datum: NAD 83

GSI Job No. 5182	Drawn By: AV
Issued: 21-Jul-2020	Chk'd By: TZW
Map ID: AJU_BurnPit_0620	Appv'd By: SMG

FIGURE 5



LEGEND

- Sediment Sampling Location
- Approximate Site Boundary
- Intermittent Stream

SAMPLING LOCATION RRMDF-SED-1

American Jewish University, Brandeis-Bardin Campus
1101 Peppertree Lane, Brandeis, California

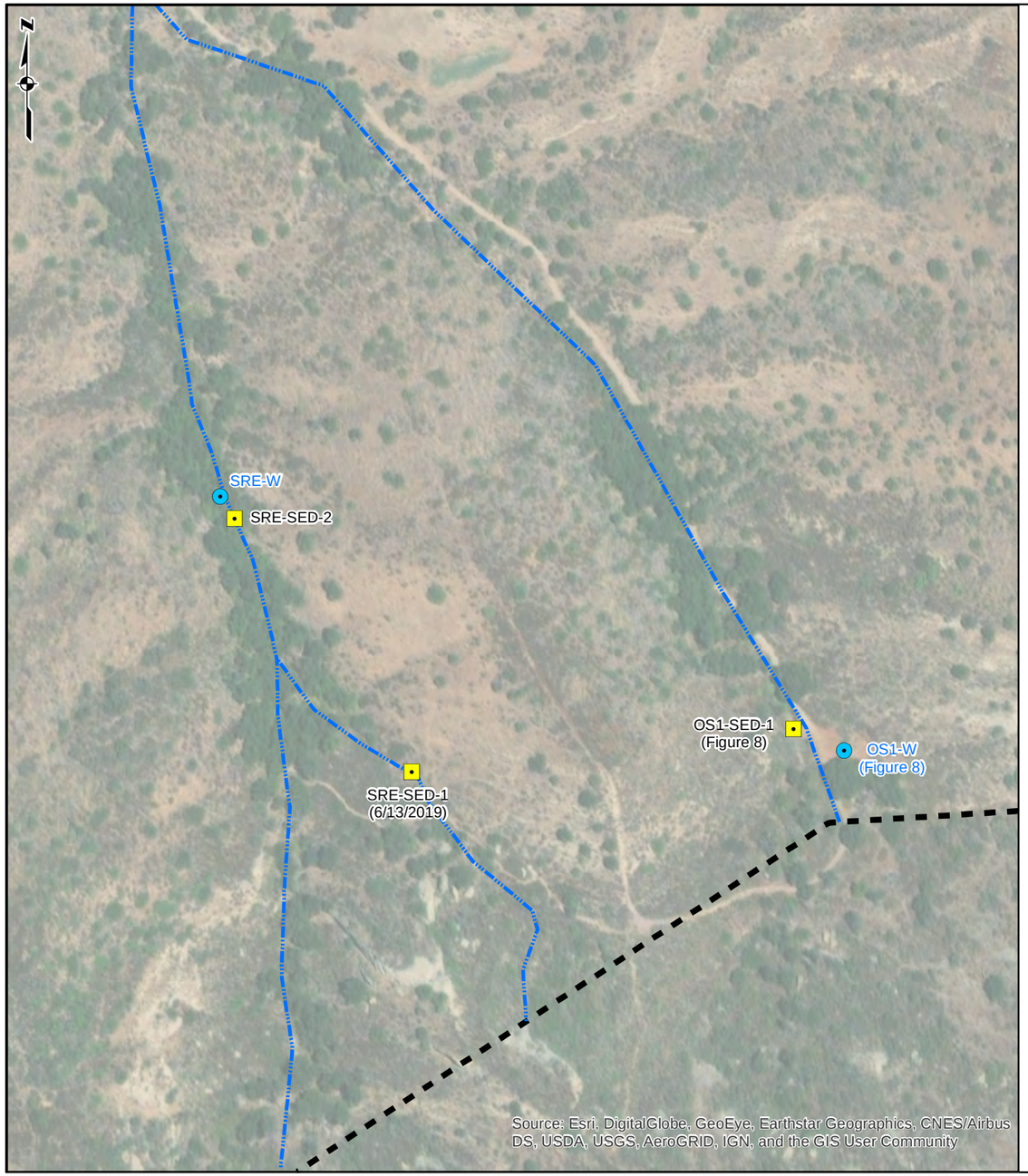
GSI ENVIRONMENTAL

Scale in Feet
0 300 600

State Plane
California Zone V
Datum: NAD 83

GSI Job No. 5182	Drawn By: AV
Issued: 7-Jul-2020	Chk'd By: TZW
Map ID: AJU_ReactorRMDF_0620	Appv'd By: SMG

FIGURE 6



LEGEND

- Water Sampling Location
- Sediment Sampling Location; OS1-SED-1
- Intermittent Stream
- Approximate Site Boundary

Note: SRE-SED-1 sample location was replaced with SRE-SED-2 to represent combined drainages.

SAMPLING LOCATIONS
SRE-SED-1, SRE-SED-2 AND SRE-W

American Jewish University, Brandeis-Bardin Campus
1101 Peppertree Lane, Brandeis, California

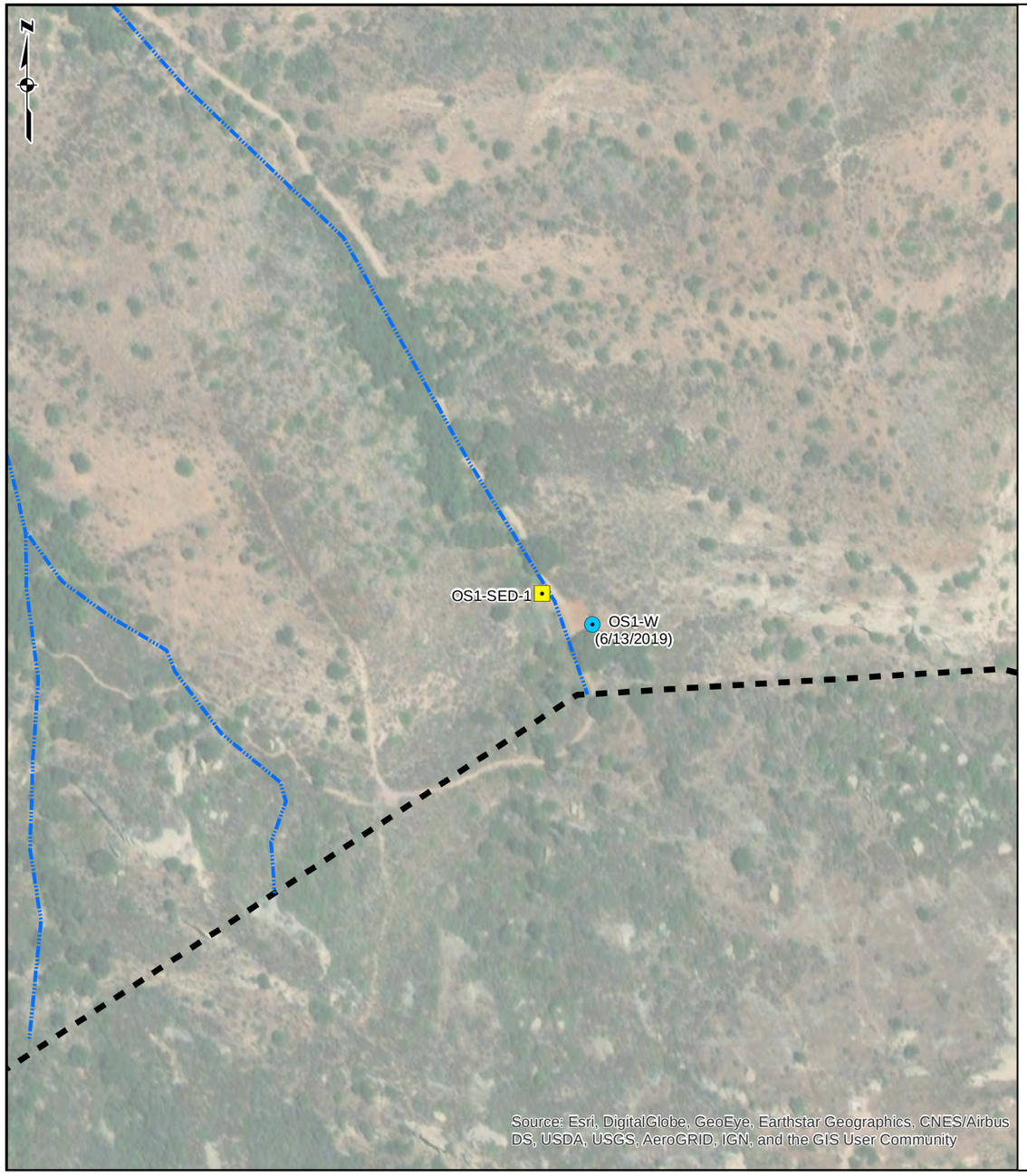
GSI ENVIRONMENTAL

Scale in Feet
0 300 600

State Plane
California Zone V
Datum: NAD 83

GSI Job No. 5182	Drawn By: AV
Issued: 17-Jul-2020	Chk'd By: TZW
Map ID: AJU_SRER_0620	Appv'd By: SMG

FIGURE 7



Note that Spring OS1 was found to be the same as artesian monitoring wells RD-68A and 68B, which are monitored regularly by NASA. As such, no sample was collected during the June 2020 monitoring event.

LEGEND

- Water Sampling Location
- Sediment Sampling Location
- Intermittent Stream
- Approximate Site Boundary

SAMPLING LOCATIONS OS1-W AND OS1-SED-1

American Jewish University, Brandeis-Bardin Campus
1101 Peppertree Lane, Brandeis, California

GSI ENVIRONMENTAL

Scale in Feet
0 300 600

State Plane
California Zone V
Datum: NAD 83

GSI Job No. 5182	Drawn By: AV
Issued: 17-Jul-2020	Chk'd By: TZW
Map ID: AJU_OS1_0620	Appv'd By: SMG

FIGURE 8

LEGEND

- Water Sampling Location
- Sediment Sampling Location
- Intermittent Stream
- Approximate Site Boundary

SAMPLING LOCATIONS OS8-SED-1 AND OS8-W

American Jewish University, Brandeis-Bardin Campus
1101 Peppertree Lane, Brandeis, California

GSI ENVIRONMENTAL

Scale in Feet
0 300 600

State Plane
California Zone V
Datum: NAD 83

GSI Job No. 5182	Drawn By: AV
Issued: 21-Jul-2020	Chk'd By: TZW
Map ID: AJU_OS8_0620	Appv'd By: SMG

FIGURE 9

LEGEND

- Sediment Sampling Location
- Approximate Site Boundary
- Intermittent Stream

SAMPLING LOCATION OW-SED-1

American Jewish University, Brandeis-Bardin Campus
1101 Peppertree Lane, Brandeis, California

GSI ENVIRONMENTAL

Scale in Feet
0 300 600

State Plane
California Zone V
Datum: NAD 83

GSI Job No. 5182	Drawn By: AV
Issued: 17-Jul-2020	Chk'd By: TZW
Map ID: AJU_OWC_0620	Appv'd By: SMG

FIGURE 10

Notes:
1. For general location on the campus, see Figure 3.
2. Reference map provided by Esri, 2018.

GSI ENVIRONMENTAL

GSI Job No.	5182	Drawn by:	AV
Issued:	17-Jul-2020	Chk'd by:	TZW
Revised:		Aprv'd by:	SMG
Map ID:	AJU_FruitOrchard_0620	**FIGURE 11**	

FRUIT ORCHARD SAMPLING LOCATIONS

American Jewish University, Brandeis-Bardin Campus
1101 Peppertree Lane, Brandeis, California

Notes:
1. For general location on the campus, see Figure 3.
2. Reference map provided by Esri, 2018.

GSI ENVIRONMENTAL

GSI Job No.	5182	Drawn by:	AV
Issued:	17-Jul-2020	Chk'd by:	TZW
Revised:		Aprv'd by:	SMG
Map ID:	AJU_AvocadoGrove	**FIGURE 12**	

AVOCADO GROVE SAMPLING LOCATIONS

American Jewish University, Brandeis-Bardin Campus
1101 Peppertree Lane, Brandeis, California

2020 Monitoring Report

American Jewish University, Brandeis-Bardin Campus
1101 Peppertree Lane
Brandeis, California

Appendices

2020 Monitoring Report

American Jewish University, Brandeis-Bardin Campus
1101 Peppertree Lane
Brandeis, California

Appendix A

Preliminary Remediation Goal Calculations – Crop Samples

Appendix A
Preliminary Remediation Goal Calculations – Crop Samples

OVERVIEW

This document describes the methodology used to calculate preliminary remediation goals (PRGs) for radionuclides (cesium-137, tritium, and strontium-90), metals[1], and perchlorate that may be present in crops at the American Jewish University (AJU) Brandeis-Bardin Campus in Brandeis, California, located at 1101 Peppertree Lane in Brandeis, California (the Site).

The PRGs address a single residential exposure scenario in which an individual living on the Site consumes homegrown apples, citrus, and avocados. These specific types of produce were selected for evaluation because they are grown on Site, were present during the June 2020 monitoring event, and may be ingested by the individuals who reside there.

METHODOLOGY

Radionuclides.

The PRGs for the radionuclides were calculated using the United States Environmental Protection Agency (US EPA) PRG Calculator for radionuclides. The calculator is a database tool comprised of standard risk-based equations for radioactive contaminants. The radionuclide PRGs are based on the carcinogenicity of the individual isotopes, and, for isotopes like cesium-137 and strontium-90, also account for the carcinogenicity of daughter radionuclides (progeny). Non-cancer health effects are not considered for most radionuclides (uranium is the exception to this, but is not a concern for the AJU Site). The conceptual framework of the PRG calculator is EPA's *Risk Assessment Guidance for Superfund: Volume I, Human Health Evaluation Manual (Part B, Development of Risk-based Preliminary Remediation Goals) (RAGS Part B)*.[2] The PRG Calculator can be used with default exposure assumptions, or with select site-specific exposure factors, as appropriate. The equations and default assumptions are available online.[3]

Radionuclide PRGs were calculated by selecting a target risk level of one in a million (1×10^{-6}), a region-specific climate zone (Los Angeles), and by specifying that the radionuclides were not in secular equilibrium. The latter selection results in PRGs that account for exposures to, and health effects from, daughter radionuclides. For the AJU Site, the only daughter product that is relevant for produce consumption is Yttrium-90 (Strontium-90 daughter product). Tritium does not have radioactive progeny. Barium-137 (Cesium 137 daughter product) has a half-life of 2.6 minutes and does not contribute significantly to human exposure from the consumption of produce.

[1] Metals evaluated are California "Title 22" metals – see Table 6 of this report
[2] https://www.epa.gov/risk/risk-assessment-guidance-superfund-rags-part-b
[3] https://epa-prgs.ornl.gov/radionuclides/equations.html and https://epa-prgs.ornl.gov/radionuclides/prg_guide.html

Metals and Perchlorate.

The PRGs for metals and perchlorate were calculated for both cancer and noncancer endpoints, as appropriate for the individual substance, and the lowest PRG selected. Lead was addressed separately. For lead, the potential for adverse effects from ingestion is based on the blood lead level, an endpoint which was calculated using the California Department of Toxic Substances Control (DTSC's) LeadSpread-8 model (see below).[4]

Exposure Parameters

Because the AJU property has apple, lemon, grapefruit, and avocado trees, the produce consumption scenario considered exposure via ingestion of these produce items that were grown on Site. Given that site-specific consumption rates of these fruits were not available, intake rates of apples and citrus were obtained from the US EPA Exposure Factors Handbook[5]. and adjusted to account for the body weight of a child (15.0 kilograms [kg]) and an adult (80kg).[6] The fruit intake rates are summarized in Table A1, below. Intake rates for lemon and grapefruit are represented by a generalized citrus ingestion rate, as no specific intake rates for lemon and grapefruit are available. Avocado ingestion rates are from the U.S. Center for Disease Control & Prevention's (CDC) National Health & Nutrition Examination Survey (NHANES) database (NHANES), and are based on a two-day "dietary recall" study of avocado ingested as raw avocado, avocado dressing, avocado sushi roll, and lettuce salad with avocado. Respondents estimated the mass of foods consumed based on their recall (i.e., memory) of what they had eaten on each of two days. Because some foods contained avocado as one of several ingredients (e.g. avocado dressing, sushi roll, and lettuce salad), GSI made the conservative assumption that the reported mass of these foods were comprised entirely of avocado when calculating the average estimate of avocado intake.

The PRGs utilized many standard exposure factors for a residential receptor, including variables such as a 26-year exposure duration (20 years as an adult, 6 years as a child), and a 350-day per year exposure frequency for citrus, which generally produces fruit year around in Ventura County.[7] For avocados, exposure frequency was set at 129 days, which is the average fruit-producing season of the 21 different avocado varieties grown in Ventura County.[8] Apples grown in Ventura County typically produce fruit for three months, thus the exposure frequency for apple ingestion was set at 92 days.[9]

[4] https://dtsc.ca.gov/leadspread-8/
[5] https://cfpub.epa.gov/ncea/risk/recordisplay.cfm?deid=236252
[6] California Department of Toxic Substances Control. Human and Ecological Risk Office,2019. HHRA Note 3.
[7] http://ceventura.ucdavis.edu/Com_Ag/Subtropical/Fruit_and_Nut_Varieties/
[8] http://ceventura.ucanr.edu/Com_Ag/Subtropical/Avocado_Handbook/Harvesting/When_to_pick_avocados_/
[9] http://ceventura.ucdavis.edu/Com_Ag/Subtropical/Fruit_and_Nut_Varieties/

Table A1. Produce Intake Rates

Produce Item	Child Intake Rate (grams/day)	Adult Intake Rate (grams/day)
Apple	21.76	76.41
Citrus	77.52	362.98
Avocado	41.9 (not age-specific)	41.9 (not age-specific)

Radionuclide PRGs

Table A2 lists the PRGs for radionuclides in individual produce items. Note that an "All Produce" PRG was previously reported for radionuclides in the 2019 monitoring report,[10] but is not included here given its overly-conservative assumption regarding fruit consumption by a Site resident. Specifically, the All Produce PRG made the assumption that a Site resident would ingest all produce items on a daily basis – a practice that is highly unlikely and unrealistic. Accordingly, All Produce PRGs will no longer be considered in evaluating Site data.

Table A2. Radionuclide PRGs for Individual Produce Items

Radionuclide	Apple Consumption PRG (pCi/g)	Citrus Consumption PRG (pCi/g)	Avocado Consumption PRG (pCi/g)
Cesium-137	20.5	4.41	16.8
Tritium	9.5	2.04	7.76
Strontium-90	3.9	0.843	3.21
Yttrium-90 (Strontium-90 daughter)	3×10^4	7×10^3	3×10^4

PRGs for Metals and Perchlorate

Table A3 lists PRGs calculated for metals and perchlorate for the consumption of individual produce items.

Table A3. Metal and Perchlorate PRGs for Individual Produce Items (µg/kg)

Chemical	Apple Consumption	Citrus Consumption	Avocado Consumption
Antimony	1.5E+04	8.9E+02	1.1E+04[1]
Arsenic[2]	1.1E+00	6.3E-02	7.7E-01
Barium	7.4E+05	4.5E+04	5.4E+05
Beryllium	7.4E+02	4.5E+01	5.4E+02
Cadmium	3.7E+03	2.2E+02	2.7E+03
Chromium (3+)	5.6E+06	3.3E+05	4.1E+06

[10] GSI Environmental, 2019, 2019 Monitoring Report, American Jewish University, Brandeis-Bardin Campus, 1101 Peppertree Lane, Brandeis, California, 25 November.

Chemical	Apple Consumption	Citrus Consumption	Avocado Consumption
Cobalt	1.1E+03	6.7E+01	8.1E+02
Copper	1.5E+05	8.9E+03	1.1E+05
Lead	See text	See text	See text
Mercury	5.9E+02	3.6E+01	4.3E+02
Molybdenum	1.9E+04	1.1E+03	1.4E+04
Nickel	4.1E+04	2.4E+03	3.0E+04
Selenium	1.9E+04	1.1E+03	1.4E+04
Silver	1.9E+04	1.1E+03	1.4E+04
Thallium	3.7E+01	2.2E+00	2.7E+01
Vanadium	1.9E+04	1.1E+03	1.4E+04
Zinc	1.1E+06	6.7E+04	8.1E+05
Perchlorate	2.6E+03	1.6E+02	1.9E+03

[1] PRG accounts for the limited (10%) gastrointestinal absorption of antimony (ATSDR 2019. Toxicologic Profile for Antimony https://www.atsdr.cdc.gov/toxprofiles/TP.asp?id=332&tid=58)
[2] Arsenic PRG is based on a cancer endpoint. All other PRGs are based on non-cancer effects.

Evaluation of Lead from Ingestion of Produce Grown at the AJU Site

In California, the potential for adverse health effects from exposure to lead at residential sites is evaluated by calculating the blood lead level of a child – the residential age group that is most susceptible to the effects of elevated lead exposure. Blood lead levels are typically calculated using DTSC's LeadSpread8, which accounts for soil-based exposures at a site, as well as background lead exposure from other sources.[11] Because LeadSpread8 does not include equations that calculate the contribution of homegrown produce to blood lead levels, blood lead levels for residents at the AJU Site were estimated by first using the maximum measured soil lead concentration at the Site (12 mg/kg – Table 2) to account for background blood lead levels from incidental ingestion, inhalation, and dermal exposure to Site soils. GSI then calculated the additional quantity of lead that would be ingested due to the consumption of homegrown produce by adding the measured lead concentration in samples of produce collected from the Site (Table 6) to the soil lead levels as an approximation of the additional daily lead exposure attributable to ingestion of produce. When lead was not detected in a produce item (as was the case for avocados and all citrus), the analytical limit of detection was used for the lead concentration. When each of these produce lead concentrations were added to LeadSpread8, they resulted in negligible increases in blood lead levels. For example, the net 99th percentile blood lead levels based on soil and produce exposure combined were all less than 0.5 µg/dl. For reference, an incremental increase in blood lead level of 1 µg/dl is the benchmark criterion used in California to assess whether the presence of lead at a site results in unacceptable levels of lead in blood.[12] As such, the results indicate that the presence of lead at the Site does not result in an adverse health effect for a residential exposure.

[11] https://dtsc.ca.gov/leadspread-8/
[12] ibid

DISCUSSION

The PRGs summarized in Tables A2 and A3 are likely conservative PRGs for individuals that may reside at the AJU Site, as they assume that a residential receptor spends most of their time on Site on an on-going basis over a significant portion of their lifetime. Further, it was assumed that during that time, the resident regularly consumes apples, avocados, grapefruit, lemons, and oranges grown on the Site.

None of the radionuclides were detected in produce collected on Site (Table 7), thus there is no indication that residents of the AJU Site would be exposed to Tritium, Cesium-137, or Strontium-90 from consumption of Site-grown apples, avocados, or citrus.

Arsenic, beryllium, cadmium, trivalent chromium (Cr^{+3}), cobalt, copper, mercury, molybdenum, selenium, silver, thallium, vanadium, and perchlorate were not detected in samples of avocado, apples, or citrus grown on the AJU Site (Table 6). For arsenic, it is important to note that the produce PRGs are below the analytical detection limit for arsenic (453 to 500 µg/kg, depending on the type of produce), and that Site-specific background concentrations of arsenic in produce have not been established. However, given that arsenic detections in Site soils (Table 2) were far below the Site soil background of 39.7 mg/kg (39,700 µg/kg), arsenic concentrations in produce, if any, would not be expected to exceed a background value.[13]

Of the remaining substances that were analyzed for in produce, antimony was detected only in avocado and grapefruit, and at concentrations well below the produce-specific PRGs (Table 6 and Table A3). Barium, copper, and zinc – common elements in Site soils – were detected in all on-Site produce samples, albeit at concentrations far below their respective PRGs (Table 6 and Table A3). Nickel was detected in a Site-grown orange at 315 µg/kg – a concentration substantially below the produce-specific PRG for this metal (Table A3). Of the on-Site produce samples, lead was detected only in apples. As discussed above (see Evaluation of Lead from Ingestion of Produce Grown at the AJU Site), lead exposure via consumption of home-grown produce does not pose a concern for human health.

[13] Note that the presence of arsenic in soil can exceed conservative risk-based screening criteria at naturally-occurring, background concentrations. For this reason, evaluation of arsenic is related to its background concentration. It is logical to assume that fruit grown in the region would contain similar "background" concentrations of arsenic.

GSI ENVIRONMENTAL

2020 Monitoring Report

American Jewish University, Brandeis-Bardin Campus
1101 Peppertree Lane
Brandeis, California

Appendix B

Analytical Laboratory Reports – High-Use Area Samples

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Pleasanton
1220 Quarry Lane
Pleasanton, CA 94566
Tel: (925)484-1919

Laboratory Job ID: 720-98769-1
Client Project/Site: AJU-BB
Revision: 1

For:
GSI Environmental, Inc
155 Grand Avenue
Suite 704
Oakland, California 94612

Attn: Susan Gallardo

Authorized for release by:
6/24/2020 1:15:59 PM

Afsaneh Salimpour, Senior Project Manager
(925)484-1919
afsaneh.salimpour@testamericainc.com

Table of Contents

Definitions/Glossary

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98769-1

Qualifiers

Metals

Qualifier	Qualifier Description
F1	MS and/or MSD recovery exceeds control limits.

Glossary

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

Job ID: 720-98769-1

Laboratory: Eurofins TestAmerica, Pleasanton

Narrative

Job Narrative
720-98769-1

Revised Report on 6/24/20 to report to RL.

Comments

No additional comments.

Receipt

The samples were received on 6/4/2020 4:05 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.8º C.

HPLC/IC

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

Metals

Method 6010B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries of Antimony for preparation batch 440-611455 and analytical batch 440-611815 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 6010B: The method blank for preparation batch 440-611455 and analytical batch 440-611815 contained Barium above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

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

General Chemistry

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

Detection Summary

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98769-1

Client Sample ID: HV-1-200603 — Lab Sample ID: 720-98769-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.4		3.0		mg/Kg	5		6010B	Total/NA
Barium	62		1.5		mg/Kg	5		6010B	Total/NA
Chromium	11		1.0		mg/Kg	5		6010B	Total/NA
Cobalt	3.5		1.0		mg/Kg	5		6010B	Total/NA
Copper	7.4		2.0		mg/Kg	5		6010B	Total/NA
Lead	4.0		2.0		mg/Kg	5		6010B	Total/NA
Nickel	6.5		2.0		mg/Kg	5		6010B	Total/NA
Vanadium	20		1.0		mg/Kg	5		6010B	Total/NA
Zinc	47		5.0		mg/Kg	5		6010B	Total/NA

Client Sample ID: HV-2-200603 — Lab Sample ID: 720-98769-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.3		3.0		mg/Kg	5		6010B	Total/NA
Barium	48		1.5		mg/Kg	5		6010B	Total/NA
Beryllium	0.56		0.51		mg/Kg	5		6010B	Total/NA
Chromium	13		1.0		mg/Kg	5		6010B	Total/NA
Cobalt	3.8		1.0		mg/Kg	5		6010B	Total/NA
Copper	8.1		2.0		mg/Kg	5		6010B	Total/NA
Lead	8.4		2.0		mg/Kg	5		6010B	Total/NA
Nickel	8.5		2.0		mg/Kg	5		6010B	Total/NA
Vanadium	21		1.0		mg/Kg	5		6010B	Total/NA
Zinc	43		5.1		mg/Kg	5		6010B	Total/NA

Client Sample ID: HV-SED-1-200603 — Lab Sample ID: 720-98769-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	3.1		3.0		mg/Kg	5		6010B	Total/NA
Barium	53		1.5		mg/Kg	5		6010B	Total/NA
Chromium	11		1.0		mg/Kg	5		6010B	Total/NA
Cobalt	3.7		1.0		mg/Kg	5		6010B	Total/NA
Copper	8.5		2.0		mg/Kg	5		6010B	Total/NA
Lead	9.3		2.0		mg/Kg	5		6010B	Total/NA
Nickel	7.1		2.0		mg/Kg	5		6010B	Total/NA
Vanadium	22		1.0		mg/Kg	5		6010B	Total/NA
Zinc	44		5.0		mg/Kg	5		6010B	Total/NA
Mercury	0.024		0.020		mg/Kg	1		7471A	Total/NA

Client Sample ID: TF-1-200603 — Lab Sample ID: 720-98769-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.3		3.0		mg/Kg	5		6010B	Total/NA
Barium	88		1.5		mg/Kg	5		6010B	Total/NA
Chromium	16		1.0		mg/Kg	5		6010B	Total/NA
Cobalt	6.3		1.0		mg/Kg	5		6010B	Total/NA
Copper	19		2.0		mg/Kg	5		6010B	Total/NA
Lead	8.5		2.0		mg/Kg	5		6010B	Total/NA
Nickel	11		2.0		mg/Kg	5		6010B	Total/NA
Vanadium	34		1.0		mg/Kg	5		6010B	Total/NA
Zinc	52		5.0		mg/Kg	5		6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98769-1

Client Sample ID: KC-1-200603 — Lab Sample ID: 720-98769-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.9		3.0		mg/Kg	5		6010B	Total/NA
Barium	60		1.5		mg/Kg	5		6010B	Total/NA
Chromium	16		1.0		mg/Kg	5		6010B	Total/NA
Cobalt	4.9		1.0		mg/Kg	5		6010B	Total/NA
Copper	10		2.0		mg/Kg	5		6010B	Total/NA
Lead	8.8		2.0		mg/Kg	5		6010B	Total/NA
Molybdenum	2.8		2.0		mg/Kg	5		6010B	Total/NA
Nickel	9.6		2.0		mg/Kg	5		6010B	Total/NA
Vanadium	32		1.0		mg/Kg	5		6010B	Total/NA
Zinc	46		5.0		mg/Kg	5		6010B	Total/NA

Client Sample ID: GF-1-200603 — Lab Sample ID: 720-98769-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	30		1.5		mg/Kg	5		6010B	Total/NA
Chromium	6.1		1.0		mg/Kg	5		6010B	Total/NA
Cobalt	1.9		1.0		mg/Kg	5		6010B	Total/NA
Copper	4.5		2.0		mg/Kg	5		6010B	Total/NA
Nickel	3.8		2.0		mg/Kg	5		6010B	Total/NA
Vanadium	13		1.0		mg/Kg	5		6010B	Total/NA
Zinc	27		5.1		mg/Kg	5		6010B	Total/NA

Client Sample ID: CIT-1-200603 — Lab Sample ID: 720-98769-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	32		1.5		mg/Kg	5		6010B	Total/NA
Chromium	9.8		1.0		mg/Kg	5		6010B	Total/NA
Cobalt	2.5		1.0		mg/Kg	5		6010B	Total/NA
Copper	7.1		2.0		mg/Kg	5		6010B	Total/NA
Lead	5.8		2.0		mg/Kg	5		6010B	Total/NA
Nickel	5.8		2.0		mg/Kg	5		6010B	Total/NA
Vanadium	16		1.0		mg/Kg	5		6010B	Total/NA
Zinc	44		5.1		mg/Kg	5		6010B	Total/NA

Client Sample ID: AT-1-200603 — Lab Sample ID: 720-98769-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	15		3.0		mg/Kg	5		6010B	Total/NA
Barium	31		1.5		mg/Kg	5		6010B	Total/NA
Chromium	36		1.0		mg/Kg	5		6010B	Total/NA
Cobalt	2.5		1.0		mg/Kg	5		6010B	Total/NA
Copper	11		2.0		mg/Kg	5		6010B	Total/NA
Lead	2.7		2.0		mg/Kg	5		6010B	Total/NA
Nickel	4.9		2.0		mg/Kg	5		6010B	Total/NA
Vanadium	15		1.0		mg/Kg	5		6010B	Total/NA
Zinc	39		5.0		mg/Kg	5		6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98769-1

Client Sample ID: HV-1-200603

Date Collected: 06/03/20 10:45
Date Received: 06/04/20 16:05

Lab Sample ID: 720-98769-1

Matrix: Solid

Method: 314.0 - Perchlorate (IC) - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		0.040		mg/Kg			06/11/20 15:35	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	F1	10		mg/Kg		06/05/20 08:35	06/08/20 17:40	5
Arsenic	**5.4**		3.0		mg/Kg		06/05/20 08:35	06/08/20 17:40	5
Barium	**62**		1.5		mg/Kg		06/05/20 08:35	06/08/20 17:40	5
Beryllium	ND		0.50		mg/Kg		06/05/20 08:35	06/08/20 17:40	5
Cadmium	ND		0.50		mg/Kg		06/05/20 08:35	06/08/20 17:40	5
Chromium	**11**		1.0		mg/Kg		06/05/20 08:35	06/08/20 17:40	5
Cobalt	**3.5**		1.0		mg/Kg		06/05/20 08:35	06/08/20 17:40	5
Copper	**7.4**		2.0		mg/Kg		06/05/20 08:35	06/08/20 17:40	5
Lead	**4.0**		2.0		mg/Kg		06/05/20 08:35	06/08/20 17:40	5
Molybdenum	ND		2.0		mg/Kg		06/05/20 08:35	06/08/20 17:40	5
Nickel	**6.5**		2.0		mg/Kg		06/05/20 08:35	06/08/20 17:40	5
Selenium	ND		3.0		mg/Kg		06/05/20 08:35	06/08/20 17:40	5
Thallium	ND		10		mg/Kg		06/05/20 08:35	06/08/20 17:40	5
Vanadium	**20**		1.0		mg/Kg		06/05/20 08:35	06/08/20 17:40	5
Zinc	**47**		5.0		mg/Kg		06/05/20 08:35	06/08/20 17:40	5
Silver	ND		1.5		mg/Kg		06/05/20 08:35	06/08/20 17:40	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		06/05/20 10:09	06/08/20 15:08	1

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98769-1

Client Sample ID: HV-2-200603

Date Collected: 06/03/20 11:00
Date Received: 06/04/20 16:05

Lab Sample ID: 720-98769-2

Matrix: Solid

Method: 314.0 - Perchlorate (IC) - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		0.040		mg/Kg			06/11/20 16:30	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		10		mg/Kg		06/05/20 08:35	06/08/20 17:54	5
Arsenic	**3.3**		3.0		mg/Kg		06/05/20 08:35	06/08/20 17:54	5
Barium	**48**		1.5		mg/Kg		06/05/20 08:35	06/08/20 17:54	5
Beryllium	**0.56**		0.51		mg/Kg		06/05/20 08:35	06/08/20 17:54	5
Cadmium	ND		0.51		mg/Kg		06/05/20 08:35	06/08/20 17:54	5
Chromium	**13**		1.0		mg/Kg		06/05/20 08:35	06/08/20 17:54	5
Cobalt	**3.8**		1.0		mg/Kg		06/05/20 08:35	06/08/20 17:54	5
Copper	**8.1**		2.0		mg/Kg		06/05/20 08:35	06/08/20 17:54	5
Lead	**8.4**		2.0		mg/Kg		06/05/20 08:35	06/08/20 17:54	5
Molybdenum	ND		2.0		mg/Kg		06/05/20 08:35	06/08/20 17:54	5
Nickel	**8.5**		2.0		mg/Kg		06/05/20 08:35	06/08/20 17:54	5
Selenium	ND		3.0		mg/Kg		06/05/20 08:35	06/08/20 17:54	5
Thallium	ND		10		mg/Kg		06/05/20 08:35	06/08/20 17:54	5
Vanadium	**21**		1.0		mg/Kg		06/05/20 08:35	06/08/20 17:54	5
Zinc	**43**		5.1		mg/Kg		06/05/20 08:35	06/08/20 17:54	5
Silver	ND		1.5		mg/Kg		06/05/20 08:35	06/08/20 17:54	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		06/09/20 09:10	06/09/20 13:06	1

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98769-1

Client Sample ID: HV-SED-1-200603

Date Collected: 06/03/20 10:50
Date Received: 06/04/20 16:05

Lab Sample ID: 720-98769-3

Matrix: Solid

Method: 314.0 - Perchlorate (IC) - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		0.040		mg/Kg			06/11/20 16:48	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		10		mg/Kg		06/05/20 08:35	06/08/20 17:57	5
Arsenic	**3.1**		3.0		mg/Kg		06/05/20 08:35	06/08/20 17:57	5
Barium	**53**		1.5		mg/Kg		06/05/20 08:35	06/08/20 17:57	5
Beryllium	ND		0.50		mg/Kg		06/05/20 08:35	06/08/20 17:57	5
Cadmium	ND		0.50		mg/Kg		06/05/20 08:35	06/08/20 17:57	5
Chromium	**11**		1.0		mg/Kg		06/05/20 08:35	06/08/20 17:57	5
Cobalt	**3.7**		1.0		mg/Kg		06/05/20 08:35	06/08/20 17:57	5
Copper	**8.5**		2.0		mg/Kg		06/05/20 08:35	06/08/20 17:57	5
Lead	**9.3**		2.0		mg/Kg		06/05/20 08:35	06/08/20 17:57	5
Molybdenum	ND		2.0		mg/Kg		06/05/20 08:35	06/08/20 17:57	5
Nickel	**7.1**		2.0		mg/Kg		06/05/20 08:35	06/08/20 17:57	5
Selenium	ND		3.0		mg/Kg		06/05/20 08:35	06/08/20 17:57	5
Thallium	ND		10		mg/Kg		06/05/20 08:35	06/08/20 17:57	5
Vanadium	**22**		1.0		mg/Kg		06/05/20 08:35	06/08/20 17:57	5
Zinc	**44**		5.0		mg/Kg		06/05/20 08:35	06/08/20 17:57	5
Silver	ND		1.5		mg/Kg		06/05/20 08:35	06/08/20 17:57	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.024**		0.020		mg/Kg		06/05/20 10:09	06/09/20 10:03	1

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98769-1

Client Sample ID: TF-1-200603

Date Collected: 06/03/20 13:20
Date Received: 06/04/20 16:05

Lab Sample ID: 720-98769-4

Matrix: Solid

Method: 314.0 - Perchlorate (IC) - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		0.040		mg/Kg			06/11/20 17:07	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		10		mg/Kg		06/05/20 08:35	06/08/20 17:59	5
Arsenic	**5.3**		3.0		mg/Kg		06/05/20 08:35	06/08/20 17:59	5
Barium	**88**		1.5		mg/Kg		06/05/20 08:35	06/08/20 17:59	5
Beryllium	ND		0.50		mg/Kg		06/05/20 08:35	06/08/20 17:59	5
Cadmium	ND		0.50		mg/Kg		06/05/20 08:35	06/08/20 17:59	5
Chromium	**16**		1.0		mg/Kg		06/05/20 08:35	06/08/20 17:59	5
Cobalt	**6.3**		1.0		mg/Kg		06/05/20 08:35	06/08/20 17:59	5
Copper	**19**		2.0		mg/Kg		06/05/20 08:35	06/08/20 17:59	5
Lead	**8.5**		2.0		mg/Kg		06/05/20 08:35	06/08/20 17:59	5
Molybdenum	ND		2.0		mg/Kg		06/05/20 08:35	06/08/20 17:59	5
Nickel	**11**		2.0		mg/Kg		06/05/20 08:35	06/08/20 17:59	5
Selenium	ND		3.0		mg/Kg		06/05/20 08:35	06/08/20 17:59	5
Thallium	ND		10		mg/Kg		06/05/20 08:35	06/08/20 17:59	5
Vanadium	**34**		1.0		mg/Kg		06/05/20 08:35	06/08/20 17:59	5
Zinc	**52**		5.0		mg/Kg		06/05/20 08:35	06/08/20 17:59	5
Silver	ND		1.5		mg/Kg		06/05/20 08:35	06/08/20 17:59	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		06/05/20 10:09	06/09/20 10:06	1

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98769-1

Client Sample ID: KC-1-200603

Date Collected: 06/03/20 13:40
Date Received: 06/04/20 16:05

Lab Sample ID: 720-98769-5

Matrix: Solid

Method: 314.0 - Perchlorate (IC) - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		0.040		mg/Kg			06/11/20 17:25	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		10		mg/Kg		06/05/20 08:35	06/08/20 18:01	5
Arsenic	**5.9**		3.0		mg/Kg		06/05/20 08:35	06/08/20 18:01	5
Barium	**60**		1.5		mg/Kg		06/05/20 08:35	06/08/20 18:01	5
Beryllium	ND		0.50		mg/Kg		06/05/20 08:35	06/08/20 18:01	5
Cadmium	ND		0.50		mg/Kg		06/05/20 08:35	06/08/20 18:01	5
Chromium	**16**		1.0		mg/Kg		06/05/20 08:35	06/08/20 18:01	5
Cobalt	**4.9**		1.0		mg/Kg		06/05/20 08:35	06/08/20 18:01	5
Copper	**10**		2.0		mg/Kg		06/05/20 08:35	06/08/20 18:01	5
Lead	**8.8**		2.0		mg/Kg		06/05/20 08:35	06/08/20 18:01	5
Molybdenum	**2.8**		2.0		mg/Kg		06/05/20 08:35	06/08/20 18:01	5
Nickel	**9.6**		2.0		mg/Kg		06/05/20 08:35	06/08/20 18:01	5
Selenium	ND		3.0		mg/Kg		06/05/20 08:35	06/08/20 18:01	5
Thallium	ND		10		mg/Kg		06/05/20 08:35	06/08/20 18:01	5
Vanadium	**32**		1.0		mg/Kg		06/05/20 08:35	06/08/20 18:01	5
Zinc	**46**		5.0		mg/Kg		06/05/20 08:35	06/08/20 18:01	5
Silver	ND		1.5		mg/Kg		06/05/20 08:35	06/08/20 18:01	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		06/05/20 10:09	06/09/20 10:08	1

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98769-1

Client Sample ID: GF-1-200603

Date Collected: 06/03/20 13:55
Date Received: 06/04/20 16:05

Lab Sample ID: 720-98769-6

Matrix: Solid

Method: 314.0 - Perchlorate (IC) - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		0.040		mg/Kg			06/11/20 17:43	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		10		mg/Kg		06/05/20 08:35	06/08/20 18:04	5
Arsenic	ND		3.1		mg/Kg		06/05/20 08:35	06/08/20 18:04	5
Barium	**30**		1.5		mg/Kg		06/05/20 08:35	06/08/20 18:04	5
Beryllium	ND		0.51		mg/Kg		06/05/20 08:35	06/08/20 18:04	5
Cadmium	ND		0.51		mg/Kg		06/05/20 08:35	06/08/20 18:04	5
Chromium	**6.1**		1.0		mg/Kg		06/05/20 08:35	06/08/20 18:04	5
Cobalt	**1.9**		1.0		mg/Kg		06/05/20 08:35	06/08/20 18:04	5
Copper	**4.5**		2.0		mg/Kg		06/05/20 08:35	06/08/20 18:04	5
Lead	ND		2.0		mg/Kg		06/05/20 08:35	06/08/20 18:04	5
Molybdenum	ND		2.0		mg/Kg		06/05/20 08:35	06/08/20 18:04	5
Nickel	**3.8**		2.0		mg/Kg		06/05/20 08:35	06/08/20 18:04	5
Selenium	ND		3.1		mg/Kg		06/05/20 08:35	06/08/20 18:04	5
Thallium	ND		10		mg/Kg		06/05/20 08:35	06/08/20 18:04	5
Vanadium	**13**		1.0		mg/Kg		06/05/20 08:35	06/08/20 18:04	5
Zinc	**27**		5.1		mg/Kg		06/05/20 08:35	06/08/20 18:04	5
Silver	ND		1.5		mg/Kg		06/05/20 08:35	06/08/20 18:04	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		06/05/20 10:09	06/09/20 10:10	1

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98769-1

Client Sample ID: CIT-1-200603

Date Collected: 06/02/20 13:10
Date Received: 06/04/20 16:05

Lab Sample ID: 720-98769-7

Matrix: Solid

Method: 314.0 - Perchlorate (IC) - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		0.040		mg/Kg			06/11/20 13:56	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		10		mg/Kg		06/05/20 08:35	06/08/20 18:06	5
Arsenic	ND		3.0		mg/Kg		06/05/20 08:35	06/08/20 18:06	5
Barium	**32**		1.5		mg/Kg		06/05/20 08:35	06/08/20 18:06	5
Beryllium	ND		0.51		mg/Kg		06/05/20 08:35	06/08/20 18:06	5
Cadmium	ND		0.51		mg/Kg		06/05/20 08:35	06/08/20 18:06	5
Chromium	**9.8**		1.0		mg/Kg		06/05/20 08:35	06/08/20 18:06	5
Cobalt	**2.5**		1.0		mg/Kg		06/05/20 08:35	06/08/20 18:06	5
Copper	**7.1**		2.0		mg/Kg		06/05/20 08:35	06/08/20 18:06	5
Lead	**5.8**		2.0		mg/Kg		06/05/20 08:35	06/08/20 18:06	5
Molybdenum	ND		2.0		mg/Kg		06/05/20 08:35	06/08/20 18:06	5
Nickel	**5.8**		2.0		mg/Kg		06/05/20 08:35	06/08/20 18:06	5
Selenium	ND		3.0		mg/Kg		06/05/20 08:35	06/08/20 18:06	5
Thallium	ND		10		mg/Kg		06/05/20 08:35	06/08/20 18:06	5
Vanadium	**16**		1.0		mg/Kg		06/05/20 08:35	06/08/20 18:06	5
Zinc	**44**		5.1		mg/Kg		06/05/20 08:35	06/08/20 18:06	5
Silver	ND		1.5		mg/Kg		06/05/20 08:35	06/08/20 18:06	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		06/05/20 10:09	06/09/20 10:12	1

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98769-1

Client Sample ID: AT-1-200603

Date Collected: 06/03/20 14:10
Date Received: 06/04/20 16:05

Lab Sample ID: 720-98769-8

Matrix: Solid

Method: 314.0 - Perchlorate (IC) - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		0.040		mg/Kg			06/11/20 14:14	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		10		mg/Kg		06/05/20 08:35	06/08/20 18:08	5
Arsenic	**15**		3.0		mg/Kg		06/05/20 08:35	06/08/20 18:08	5
Barium	**31**		1.5		mg/Kg		06/05/20 08:35	06/08/20 18:08	5
Beryllium	ND		0.50		mg/Kg		06/05/20 08:35	06/08/20 18:08	5
Cadmium	ND		0.50		mg/Kg		06/05/20 08:35	06/08/20 18:08	5
Chromium	**36**		1.0		mg/Kg		06/05/20 08:35	06/08/20 18:08	5
Cobalt	**2.5**		1.0		mg/Kg		06/05/20 08:35	06/08/20 18:08	5
Copper	**11**		2.0		mg/Kg		06/05/20 08:35	06/08/20 18:08	5
Lead	**2.7**		2.0		mg/Kg		06/05/20 08:35	06/08/20 18:08	5
Molybdenum	ND		2.0		mg/Kg		06/05/20 08:35	06/08/20 18:08	5
Nickel	**4.9**		2.0		mg/Kg		06/05/20 08:35	06/08/20 18:08	5
Selenium	ND		3.0		mg/Kg		06/05/20 08:35	06/08/20 18:08	5
Thallium	ND		10		mg/Kg		06/05/20 08:35	06/08/20 18:08	5
Vanadium	**15**		1.0		mg/Kg		06/05/20 08:35	06/08/20 18:08	5
Zinc	**39**		5.0		mg/Kg		06/05/20 08:35	06/08/20 18:08	5
Silver	ND		1.5		mg/Kg		06/05/20 08:35	06/08/20 18:08	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		06/05/20 10:11	06/09/20 11:32	1

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MRL 440-612249/9
Matrix: Solid
Analysis Batch: 612249

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			4.00	ND		ug/L		96	75 - 125		

Lab Sample ID: MRL 440-612254/8
Matrix: Solid
Analysis Batch: 612254

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			4.00	4.05		ug/L		101	75 - 125		

Lab Sample ID: MB 440-612305/1-A
Matrix: Solid
Analysis Batch: 612249

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		0.040		mg/Kg			06/11/20 14:56	1

Lab Sample ID: LCS 440-612305/2-A
Matrix: Solid
Analysis Batch: 612249

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			0.500	0.474		mg/Kg		95	85 - 115		

Lab Sample ID: 720-98769-1 MS
Matrix: Solid
Analysis Batch: 612249

Client Sample ID: HV-1-200603
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate	ND		0.499	0.593		mg/Kg		119	80 - 120		

Lab Sample ID: 720-98769-1 MSD
Matrix: Solid
Analysis Batch: 612249

Client Sample ID: HV-1-200603
Prep Type: Soluble

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	ND		0.498	0.574		mg/Kg		115	80 - 120	3	15

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-611455/1-A ^5
Matrix: Solid
Analysis Batch: 611815

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 611455

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		10		mg/Kg		06/05/20 08:35	06/08/20 17:33	5
Arsenic	ND		3.0		mg/Kg		06/05/20 08:35	06/08/20 17:33	5
Barium	ND		1.5		mg/Kg		06/05/20 08:35	06/08/20 17:33	5
Beryllium	ND		0.50		mg/Kg		06/05/20 08:35	06/08/20 17:33	5
Cadmium	ND		0.50		mg/Kg		06/05/20 08:35	06/08/20 17:33	5
Chromium	ND		1.0		mg/Kg		06/05/20 08:35	06/08/20 17:33	5

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: MB 440-611455/1-A ^5
Matrix: Solid
Analysis Batch: 611815

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 611455

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Cobalt	ND		1.0		mg/Kg		06/05/20 08:35	06/08/20 17:33	5
Copper	ND		2.0		mg/Kg		06/05/20 08:35	06/08/20 17:33	5
Lead	ND		2.0		mg/Kg		06/05/20 08:35	06/08/20 17:33	5
Molybdenum	ND		2.0		mg/Kg		06/05/20 08:35	06/08/20 17:33	5
Nickel	ND		2.0		mg/Kg		06/05/20 08:35	06/08/20 17:33	5
Selenium	ND		3.0		mg/Kg		06/05/20 08:35	06/08/20 17:33	5
Thallium	ND		10		mg/Kg		06/05/20 08:35	06/08/20 17:33	5
Vanadium	ND		1.0		mg/Kg		06/05/20 08:35	06/08/20 17:33	5
Zinc	ND		5.0		mg/Kg		06/05/20 08:35	06/08/20 17:33	5
Silver	ND		1.5		mg/Kg		06/05/20 08:35	06/08/20 17:33	5

Lab Sample ID: LCS 440-611455/2-A ^5
Matrix: Solid
Analysis Batch: 611815

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 611455

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	50.0	49.9		mg/Kg		100	80 - 120
Arsenic	50.0	44.6		mg/Kg		89	80 - 120
Barium	50.0	46.1		mg/Kg		92	80 - 120
Beryllium	50.0	45.9		mg/Kg		92	80 - 120
Cadmium	50.0	45.4		mg/Kg		91	80 - 120
Chromium	50.0	47.6		mg/Kg		95	80 - 120
Cobalt	50.0	46.4		mg/Kg		93	80 - 120
Copper	50.0	47.6		mg/Kg		95	80 - 120
Lead	50.0	46.8		mg/Kg		94	80 - 120
Molybdenum	50.0	49.8		mg/Kg		100	80 - 120
Nickel	50.0	47.1		mg/Kg		94	80 - 120
Selenium	50.0	43.4		mg/Kg		87	80 - 120
Thallium	50.0	46.0		mg/Kg		92	80 - 120
Vanadium	50.0	45.4		mg/Kg		91	80 - 120
Zinc	50.0	45.6		mg/Kg		91	80 - 120
Silver	25.0	23.5		mg/Kg		94	80 - 120

Lab Sample ID: 720-98769-1 MS
Matrix: Solid
Analysis Batch: 611815

Client Sample ID: HV-1-200603
Prep Type: Total/NA
Prep Batch: 611455

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND	F1	49.3	18.7	F1	mg/Kg		38	75 - 125
Arsenic	5.4		49.3	48.4		mg/Kg		87	75 - 125
Barium	62		49.3	106		mg/Kg		91	75 - 125
Beryllium	ND		49.3	45.6		mg/Kg		92	75 - 125
Cadmium	ND		49.3	42.8		mg/Kg		87	75 - 125
Chromium	11		49.3	57.0		mg/Kg		94	75 - 125
Cobalt	3.5		49.3	46.9		mg/Kg		88	75 - 125
Copper	7.4		49.3	54.0		mg/Kg		95	75 - 125
Lead	4.0		49.3	47.6		mg/Kg		89	75 - 125
Molybdenum	ND		49.3	47.8		mg/Kg		95	75 - 125
Nickel	6.5		49.3	50.9		mg/Kg		90	75 - 125

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 720-98769-1 MS
Matrix: Solid
Analysis Batch: 611815

Client Sample ID: HV-1-200603
Prep Type: Total/NA
Prep Batch: 611455

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Selenium	ND		49.3	42.6		mg/Kg		87	75 - 125
Thallium	ND		49.3	41.8		mg/Kg		85	75 - 125
Vanadium	20		49.3	65.0		mg/Kg		92	75 - 125
Zinc	47		49.3	88.9		mg/Kg		85	75 - 125
Silver	ND		24.6	22.8		mg/Kg		92	75 - 125

Lab Sample ID: 720-98769-1 MSD
Matrix: Solid
Analysis Batch: 611815

Client Sample ID: HV-1-200603
Prep Type: Total/NA
Prep Batch: 611455

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND	F1	50.0	20.7	F1	mg/Kg		41	75 - 125	10	20
Arsenic	5.4		50.0	49.1		mg/Kg		87	75 - 125	1	20
Barium	62		50.0	103		mg/Kg		83	75 - 125	3	20
Beryllium	ND		50.0	45.2		mg/Kg		90	75 - 125	1	20
Cadmium	ND		50.0	42.3		mg/Kg		85	75 - 125	1	20
Chromium	11		50.0	56.8		mg/Kg		92	75 - 125	0	20
Cobalt	3.5		50.0	46.8		mg/Kg		87	75 - 125	0	20
Copper	7.4		50.0	53.6		mg/Kg		92	75 - 125	1	20
Lead	4.0		50.0	47.2		mg/Kg		86	75 - 125	1	20
Molybdenum	ND		50.0	47.6		mg/Kg		93	75 - 125	0	20
Nickel	6.5		50.0	50.6		mg/Kg		88	75 - 125	1	20
Selenium	ND		50.0	42.8		mg/Kg		86	75 - 125	0	20
Thallium	ND		50.0	41.6		mg/Kg		83	75 - 125	1	20
Vanadium	20		50.0	65.3		mg/Kg		91	75 - 125	0	20
Zinc	47		50.0	90.2		mg/Kg		86	75 - 125	1	20
Silver	ND		25.0	22.6		mg/Kg		91	75 - 125	1	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 440-611497/1-A
Matrix: Solid
Analysis Batch: 611764

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 611497

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		06/05/20 10:09	06/08/20 15:04	1

Lab Sample ID: LCS 440-611497/2-A
Matrix: Solid
Analysis Batch: 611764

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 611497

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.408	0.434		mg/Kg		106	80 - 120

Lab Sample ID: 720-98769-1 MS
Matrix: Solid
Analysis Batch: 611764

Client Sample ID: HV-1-200603
Prep Type: Total/NA
Prep Batch: 611497

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.392	0.417		mg/Kg		106	75 - 125

Method: 7471A - Mercury (CVAA)

Lab Sample ID: 720-98769-1 MSD
Matrix: Solid
Analysis Batch: 611764

Client Sample ID: HV-1-200603
Prep Type: Total/NA
Prep Batch: 611497

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.408	0.429		mg/Kg		105	75 - 125	3	20

Lab Sample ID: MB 440-611498/1-A
Matrix: Solid
Analysis Batch: 611910

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 611498

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		06/05/20 10:11	06/09/20 11:28	1

Lab Sample ID: LCS 440-611498/2-A
Matrix: Solid
Analysis Batch: 611910

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 611498

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.408	0.369		mg/Kg		90	80 - 120

Lab Sample ID: 720-98769-8 MS
Matrix: Solid
Analysis Batch: 611910

Client Sample ID: AT-1-200603
Prep Type: Total/NA
Prep Batch: 611498

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	ND		0.408	0.368		mg/Kg		90	75 - 125

Lab Sample ID: 720-98769-8 MSD
Matrix: Solid
Analysis Batch: 611910

Client Sample ID: AT-1-200603
Prep Type: Total/NA
Prep Batch: 611498

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	ND		0.400	0.349		mg/Kg		87	75 - 125	5	20

Lab Sample ID: MB 440-611771/1-A
Matrix: Solid
Analysis Batch: 611911

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 611771

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020	0.012	mg/Kg		06/09/20 09:10	06/09/20 12:51	1

Lab Sample ID: LCS 440-611771/2-A
Matrix: Solid
Analysis Batch: 611911

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 611771

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.408	0.415		mg/Kg		102	80 - 120

QC Association Summary

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98769-1

HPLC/IC

Analysis Batch: 612249

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-98769-1	HV-1-200603	Soluble	Solid	314.0	612305
720-98769-2	HV-2-200603	Soluble	Solid	314.0	612305
720-98769-3	HV-SED-1-200603	Soluble	Solid	314.0	612305
720-98769-4	TF-1-200603	Soluble	Solid	314.0	612305
720-98769-5	KC-1-200603	Soluble	Solid	314.0	612305
720-98769-6	GF-1-200603	Soluble	Solid	314.0	612305
MB 440-612305/1-A	Method Blank	Soluble	Solid	314.0	612305
LCS 440-612305/2-A	Lab Control Sample	Soluble	Solid	314.0	612305
MRL 440-612249/9	Lab Control Sample	Total/NA	Solid	314.0	
720-98769-1 MS	HV-1-200603	Soluble	Solid	314.0	612305
720-98769-1 MSD	HV-1-200603	Soluble	Solid	314.0	612305

Analysis Batch: 612254

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-98769-7	CIT-1-200603	Soluble	Solid	314.0	612305
720-98769-8	AT-1-200603	Soluble	Solid	314.0	612305
MRL 440-612254/8	Lab Control Sample	Total/NA	Solid	314.0	

Leach Batch: 612305

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-98769-1	HV-1-200603	Soluble	Solid	DI Leach	
720-98769-2	HV-2-200603	Soluble	Solid	DI Leach	
720-98769-3	HV-SED-1-200603	Soluble	Solid	DI Leach	
720-98769-4	TF-1-200603	Soluble	Solid	DI Leach	
720-98769-5	KC-1-200603	Soluble	Solid	DI Leach	
720-98769-6	GF-1-200603	Soluble	Solid	DI Leach	
720-98769-7	CIT-1-200603	Soluble	Solid	DI Leach	
720-98769-8	AT-1-200603	Soluble	Solid	DI Leach	
MB 440-612305/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 440-612305/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
720-98769-1 MS	HV-1-200603	Soluble	Solid	DI Leach	
720-98769-1 MSD	HV-1-200603	Soluble	Solid	DI Leach	

Metals

Prep Batch: 611455

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-98769-1	HV-1-200603	Total/NA	Solid	3050B	
720-98769-2	HV-2-200603	Total/NA	Solid	3050B	
720-98769-3	HV-SED-1-200603	Total/NA	Solid	3050B	
720-98769-4	TF-1-200603	Total/NA	Solid	3050B	
720-98769-5	KC-1-200603	Total/NA	Solid	3050B	
720-98769-6	GF-1-200603	Total/NA	Solid	3050B	
720-98769-7	CIT-1-200603	Total/NA	Solid	3050B	
720-98769-8	AT-1-200603	Total/NA	Solid	3050B	
MB 440-611455/1-A ^5	Method Blank	Total/NA	Solid	3050B	
LCS 440-611455/2-A ^5	Lab Control Sample	Total/NA	Solid	3050B	
720-98769-1 MS	HV-1-200603	Total/NA	Solid	3050B	
720-98769-1 MSD	HV-1-200603	Total/NA	Solid	3050B	

Metals

Prep Batch: 611497

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-98769-1	HV-1-200603	Total/NA	Solid	7471A	
720-98769-3	HV-SED-1-200603	Total/NA	Solid	7471A	
720-98769-4	TF-1-200603	Total/NA	Solid	7471A	
720-98769-5	KC-1-200603	Total/NA	Solid	7471A	
720-98769-6	GF-1-200603	Total/NA	Solid	7471A	
720-98769-7	CIT-1-200603	Total/NA	Solid	7471A	
MB 440-611497/1-A	Method Blank	Total/NA	Solid	7471A	
LCS 440-611497/2-A	Lab Control Sample	Total/NA	Solid	7471A	
720-98769-1 MS	HV-1-200603	Total/NA	Solid	7471A	
720-98769-1 MSD	HV-1-200603	Total/NA	Solid	7471A	

Prep Batch: 611498

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-98769-8	AT-1-200603	Total/NA	Solid	7471A	
MB 440-611498/1-A	Method Blank	Total/NA	Solid	7471A	
LCS 440-611498/2-A	Lab Control Sample	Total/NA	Solid	7471A	
720-98769-8 MS	AT-1-200603	Total/NA	Solid	7471A	
720-98769-8 MSD	AT-1-200603	Total/NA	Solid	7471A	

Analysis Batch: 611764

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-98769-1	HV-1-200603	Total/NA	Solid	7471A	611497
MB 440-611497/1-A	Method Blank	Total/NA	Solid	7471A	611497
LCS 440-611497/2-A	Lab Control Sample	Total/NA	Solid	7471A	611497
720-98769-1 MS	HV-1-200603	Total/NA	Solid	7471A	611497
720-98769-1 MSD	HV-1-200603	Total/NA	Solid	7471A	611497

Prep Batch: 611771

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-98769-2	HV-2-200603	Total/NA	Solid	7471A	
MB 440-611771/1-A	Method Blank	Total/NA	Solid	7471A	
LCS 440-611771/2-A	Lab Control Sample	Total/NA	Solid	7471A	

Analysis Batch: 611815

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-98769-1	HV-1-200603	Total/NA	Solid	6010B	611455
720-98769-2	HV-2-200603	Total/NA	Solid	6010B	611455
720-98769-3	HV-SED-1-200603	Total/NA	Solid	6010B	611455
720-98769-4	TF-1-200603	Total/NA	Solid	6010B	611455
720-98769-5	KC-1-200603	Total/NA	Solid	6010B	611455
720-98769-6	GF-1-200603	Total/NA	Solid	6010B	611455
720-98769-7	CIT-1-200603	Total/NA	Solid	6010B	611455
720-98769-8	AT-1-200603	Total/NA	Solid	6010B	611455
MB 440-611455/1-A ^5	Method Blank	Total/NA	Solid	6010B	611455
LCS 440-611455/2-A ^5	Lab Control Sample	Total/NA	Solid	6010B	611455
720-98769-1 MS	HV-1-200603	Total/NA	Solid	6010B	611455
720-98769-1 MSD	HV-1-200603	Total/NA	Solid	6010B	611455

Analysis Batch: 611879

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-98769-3	HV-SED-1-200603	Total/NA	Solid	7471A	611497

Metals (Continued)

Analysis Batch: 611879 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-98769-4	TF-1-200603	Total/NA	Solid	7471A	611497
720-98769-5	KC-1-200603	Total/NA	Solid	7471A	611497
720-98769-6	GF-1-200603	Total/NA	Solid	7471A	611497
720-98769-7	CIT-1-200603	Total/NA	Solid	7471A	611497

Analysis Batch: 611910

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-98769-8	AT-1-200603	Total/NA	Solid	7471A	611498
MB 440-611498/1-A	Method Blank	Total/NA	Solid	7471A	611498
LCS 440-611498/2-A	Lab Control Sample	Total/NA	Solid	7471A	611498
720-98769-8 MS	AT-1-200603	Total/NA	Solid	7471A	611498
720-98769-8 MSD	AT-1-200603	Total/NA	Solid	7471A	611498

Analysis Batch: 611911

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-611771/1-A	Method Blank	Total/NA	Solid	7471A	611771
LCS 440-611771/2-A	Lab Control Sample	Total/NA	Solid	7471A	611771

Analysis Batch: 611945

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-98769-2	HV-2-200603	Total/NA	Solid	7471A	611771

Lab Chronicle

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98769-1

Client Sample ID: HV-1-200603
Date Collected: 06/03/20 10:45
Date Received: 06/04/20 16:05

Lab Sample ID: 720-98769-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.02 g	40 mL	612305	06/11/20 11:34	CTH	TAL IRV
Soluble	Analysis	314.0		1			612249	06/11/20 15:35	PS	TAL IRV
Total/NA	Prep	3050B			2.00 g	50 mL	611455	06/05/20 08:35	NE1	TAL IRV
Total/NA	Analysis	6010B		5			611815	06/08/20 17:40	TQN	TAL IRV
Total/NA	Prep	7471A			0.51 g	50 mL	611497	06/05/20 10:09	MEM	TAL IRV
Total/NA	Analysis	7471A		1			611764	06/08/20 15:08	MEM	TAL IRV

Client Sample ID: HV-2-200603
Date Collected: 06/03/20 11:00
Date Received: 06/04/20 16:05

Lab Sample ID: 720-98769-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.01 g	40 mL	612305	06/11/20 11:34	CTH	TAL IRV
Soluble	Analysis	314.0		1			612249	06/11/20 16:30	PS	TAL IRV
Total/NA	Prep	3050B			1.97 g	50 mL	611455	06/05/20 08:35	NE1	TAL IRV
Total/NA	Analysis	6010B		5			611815	06/08/20 17:54	TQN	TAL IRV
Total/NA	Prep	7471A			0.50 g	50 mL	611771	06/09/20 09:10	MEM	TAL IRV
Total/NA	Analysis	7471A		1			611945	06/09/20 13:06	EMS	TAL IRV

Client Sample ID: HV-SED-1-200603
Date Collected: 06/03/20 10:50
Date Received: 06/04/20 16:05

Lab Sample ID: 720-98769-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.02 g	40 mL	612305	06/11/20 11:34	CTH	TAL IRV
Soluble	Analysis	314.0		1			612249	06/11/20 16:48	PS	TAL IRV
Total/NA	Prep	3050B			2.00 g	50 mL	611455	06/05/20 08:35	NE1	TAL IRV
Total/NA	Analysis	6010B		5			611815	06/08/20 17:57	TQN	TAL IRV
Total/NA	Prep	7471A			0.49 g	50 mL	611497	06/05/20 10:09	MEM	TAL IRV
Total/NA	Analysis	7471A		1			611879	06/09/20 10:03	EMS	TAL IRV

Client Sample ID: TF-1-200603
Date Collected: 06/03/20 13:20
Date Received: 06/04/20 16:05

Lab Sample ID: 720-98769-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.00 g	40 mL	612305	06/11/20 11:34	CTH	TAL IRV
Soluble	Analysis	314.0		1			612249	06/11/20 17:07	PS	TAL IRV
Total/NA	Prep	3050B			1.99 g	50 mL	611455	06/05/20 08:35	NE1	TAL IRV
Total/NA	Analysis	6010B		5			611815	06/08/20 17:59	TQN	TAL IRV
Total/NA	Prep	7471A			0.50 g	50 mL	611497	06/05/20 10:09	MEM	TAL IRV
Total/NA	Analysis	7471A		1			611879	06/09/20 10:06	EMS	TAL IRV

Lab Chronicle

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98769-1

Client Sample ID: KC-1-200603

Lab Sample ID: 720-98769-5

Date Collected: 06/03/20 13:40

Matrix: Solid

Date Received: 06/04/20 16:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.01 g	40 mL	612305	06/11/20 11:34	CTH	TAL IRV
Soluble	Analysis	314.0		1			612249	06/11/20 17:25	PS	TAL IRV
Total/NA	Prep	3050B			2.01 g	50 mL	611455	06/05/20 08:35	NE1	TAL IRV
Total/NA	Analysis	6010B		5			611815	06/08/20 18:01	TQN	TAL IRV
Total/NA	Prep	7471A			0.49 g	50 mL	611497	06/05/20 10:09	MEM	TAL IRV
Total/NA	Analysis	7471A		1			611879	06/09/20 10:08	EMS	TAL IRV

Client Sample ID: GF-1-200603

Lab Sample ID: 720-98769-6

Date Collected: 06/03/20 13:55

Matrix: Solid

Date Received: 06/04/20 16:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.02 g	40 mL	612305	06/11/20 11:34	CTH	TAL IRV
Soluble	Analysis	314.0		1			612249	06/11/20 17:43	PS	TAL IRV
Total/NA	Prep	3050B			1.96 g	50 mL	611455	06/05/20 08:35	NE1	TAL IRV
Total/NA	Analysis	6010B		5			611815	06/08/20 18:04	TQN	TAL IRV
Total/NA	Prep	7471A			0.51 g	50 mL	611497	06/05/20 10:09	MEM	TAL IRV
Total/NA	Analysis	7471A		1			611879	06/09/20 10:10	EMS	TAL IRV

Client Sample ID: CIT-1-200603

Lab Sample ID: 720-98769-7

Date Collected: 06/02/20 13:10

Matrix: Solid

Date Received: 06/04/20 16:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.00 g	40 mL	612305	06/11/20 11:34	CTH	TAL IRV
Soluble	Analysis	314.0		1			612254	06/11/20 13:56	PS	TAL IRV
Total/NA	Prep	3050B			1.98 g	50 mL	611455	06/05/20 08:35	NE1	TAL IRV
Total/NA	Analysis	6010B		5			611815	06/08/20 18:06	TQN	TAL IRV
Total/NA	Prep	7471A			0.50 g	50 mL	611497	06/05/20 10:09	MEM	TAL IRV
Total/NA	Analysis	7471A		1			611879	06/09/20 10:12	EMS	TAL IRV

Client Sample ID: AT-1-200603

Lab Sample ID: 720-98769-8

Date Collected: 06/03/20 14:10

Matrix: Solid

Date Received: 06/04/20 16:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.01 g	40 mL	612305	06/11/20 11:34	CTH	TAL IRV
Soluble	Analysis	314.0		1			612254	06/11/20 14:14	PS	TAL IRV
Total/NA	Prep	3050B			2.01 g	50 mL	611455	06/05/20 08:35	NE1	TAL IRV
Total/NA	Analysis	6010B		5			611815	06/08/20 18:08	TQN	TAL IRV
Total/NA	Prep	7471A			0.49 g	50 mL	611498	06/05/20 10:11	MEM	TAL IRV
Total/NA	Analysis	7471A		1			611910	06/09/20 11:32	EMS	TAL IRV

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Accreditation/Certification Summary

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98769-1

Laboratory: Eurofins TestAmerica, Pleasanton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2496	01-31-20 *
USDA	US Federal Programs	P330-18-00328	11-06-21

Laboratory: Eurofins Calscience Irvine

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska	State	CA01531	06-30-20
Arizona	State	AZ0671	10-14-20
California	Los Angeles County Sanitation Districts	10256	06-30-20
California	State	2706	06-30-20
Guam	State	20-004R	01-23-21
Hawaii	State	CA01531	01-29-21
Kansas	NELAP	E-10420	07-31-20
Nevada	State	CA015312020-9	06-16-20
Oregon	NELAP	4028 - 008	01-29-21
USDA	US Federal Programs	P330-18-00214	07-09-21
Washington	State	C900	09-03-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98769-1

Method	Method Description	Protocol	Laboratory
314.0	Perchlorate (IC)	EPA	TAL IRV
6010B	Metals (ICP)	SW846	TAL IRV
7471A	Mercury (CVAA)	SW846	TAL IRV
3050B	Preparation, Metals	SW846	TAL IRV
7471A	Preparation, Mercury	SW846	TAL IRV
DI Leach	Deionized Water Leaching Procedure	ASTM	TAL IRV

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Sample Summary

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98769-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
720-98769-1	HV-1-200603	Solid	06/03/20 10:45	06/04/20 16:05	
720-98769-2	HV-2-200603	Solid	06/03/20 11:00	06/04/20 16:05	
720-98769-3	HV-SED-1-200603	Solid	06/03/20 10:50	06/04/20 16:05	
720-98769-4	TF-1-200603	Solid	06/03/20 13:20	06/04/20 16:05	
720-98769-5	KC-1-200603	Solid	06/03/20 13:40	06/04/20 16:05	
720-98769-6	GF-1-200603	Solid	06/03/20 13:55	06/04/20 16:05	
720-98769-7	CIT-1-200603	Solid	06/02/20 13:10	06/04/20 16:05	
720-98769-8	AT-1-200603	Solid	06/03/20 14:10	06/04/20 16:05	

GSI ENVIRONMENTAL

720-98769

CHAIN-OF-CUSTODY RECORD
Date: 6/4/20
Page 1 of 1

FROM: GSI Environmental Inc. 155 Grand Ave. Suite 704 Oakland, CA 94612 (510) 463-8484	PROJECT NAME: AJU-BB	PROJECT NO.: 5182
	PROJECT CONTACT: Susan Gallardo	LAB CONTACT: Afsaneh Salimpour (Pleasanton)
	GLOBAL ID: -	SAMPLER(S): (PRINT) Kailin Harrell - Josh Voss
TEL: (510) 463-8484	E-MAIL: smgallardo@gsi-net.com; tzwicks@gsi-net.com	
LABORATORY: Eurofins Calscience		

TURNAROUND TIME: ☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ STANDARD

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES
Please check box or fill in blank as needed.

720-98769 Chain of Custody

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Title 22 Metals (6010/7470)	Perchlorate (314.0)
	HV-1-200603	6/3/20	1045	Soil	1	X			X	X
	HV-2-200603		1100			X			X	X
	EV-SED 1-200603		1058			X			X	X
	TF-1-200603		1326			X			X	X
	KC-1-200603		1340			X			X	X
	SF-1-200603		1355			X			X	X
	CIT-1-200602	6/2/20	1310			X			X	X
	AT-1-200603	6/3/20	1410			X			X	X

Relinquished by: (Signature)	Received by: (Signature)	Date: 6/4/20	Time: 1420
Relinquished by: (Signature)	Received by: (Signature)	Date: 6/4/20	Time: 1605
Relinquished by: (Signature)	Received by: (Signature) EC-IRV	Date: 6/4/20	Time: 1605

0.6/0.8 IR-93

GSI ENVIRONMENTAL

CHAIN-OF-CUSTODY RECORD

Date: 6/4/20

Page 1 of 1

FROM: GSI Environmental Inc. 155 Grand Ave. Suite 704 Oakland, CA 94612 (510) 463-8484	PROJECT NAME: AJU-BB	PROJECT NO. 5182
	PROJECT CONTACT: Susan Gallardo	LAB CONTACT: Afsaneh Salimpour (Pleasanton)
	GLOBAL ID: --	SAMPLER(S): (PRINT) Kaylin Howell + Josh Voss
TEL. (510) 463-8484	E-MAIL: smgallardo@gsi-net.com; tzwicks@gsi-net.com	
LABORATORY: Eurofins Calscience		

TURNAROUND TIME: ☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ STANDARD

SPECIAL INSTRUCTIONS

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Title 22 Metals (6010/7470)	Perchlorate (314.0)
	HV-1-200603	6/3/20	1045	Soil	1	X			X	X
	HV-2-200603		1100			X			X	X
	HV-SED-1-200603		1050			X			X	X
	TF-1-200603		1320			X			X	X
	KC-1-200603		1340			X			X	X
	GF-1-200603		1355			X			X	X
	LIT-1-200603	6/2/20	1310			X			X	X
	AT-1-200603	6/3/20	1410			X			X	X

720-98769 Chain of Custody

KJH 6/4/20

LO 6/4/20

Relinquished by: (Signature)	Received by: (Signature)	Date: 6/4/20	Time: 1420
Relinquished by: (Signature)	Received by: (Signature)	Date: 6/4/20	Time: 1605
Relinquished by: (Signature)	Received by: (Signature) EC-IRV	Date 6/4/20	Time: 1605

0.6/0.8 IR-93

Login Sample Receipt Checklist

Client: GSI Environmental, Inc

Job Number: 720-98769-1

Login Number: 98769
List Number: 2
Creator: Bonta, Lucia F

List Source: Eurofins Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

GEL Laboratories LLC
a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.556.8171
F 843.766.1178

gel.com

July 02, 2020

Travis Wicks
GSI Environmental Inc.
155 Grand Ave
Suite 704
Oakland, California 94612

Re: Near S SFL
Work Order: 512876

Dear Travis Wicks:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on June 05, 2020. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4487.

Sincerely,

B Luthman

Brielle Luthman
Project Manager

Purchase Order: 5182
Enclosures

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 − (843) 556−8171 − www.gel.com

Certificate of Analysis Report
for

GSIE002 GSI Environmental Inc.

Client SDG: 512876 GEL Work Order: 512876

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a Tracer compound

** Analyte is a surrogate compound

U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

UI Gamma Spectroscopy−−Uncertain identification

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Brielle Luthman.

Reviewed by B Luthman

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: HV-1-200603
Sample ID: 512876001
Matrix: Soil
Collect Date: 03-JUN-20
Receive Date: 05-JUN-20
Collector: Client
Moisture: 2.52%

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Cesium-137	U	-0.00587	+/-0.0301	0.0557	+/-0.0302	0.100	pCi/g			RXF2	06/09/20	1125	2009009	1
Rad Gas Flow Proportional Counting														
GFPC, Sr90, Solid "Dry Weight Corrected"														
Strontium-90	U	0.0454	+/-0.0581	0.0987	+/-0.0586	0.100	pCi/g			MXS2	06/27/20	1242	2008958	2
Rad Liquid Scintillation Analysis														
LSC, Tritium Distillation, Soil "As Received"														
Tritium	U	0.488	+/-1.20	2.14	+/-1.20	0.200	pCi/g			EW3	06/24/20	1244	2013898	3

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LYT1	06/08/20	0929	2008720

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R
2	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
3	EPA 906.0 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Strontium Carrier	GFPC, Sr90, Solid "Dry Weight Corrected"	2008958	96.6	(25%-125%)

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Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: HV-1-200603
Sample ID: 512876001

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer Recovery		**Test**						**Batch ID**		**Recovery%**		**Acceptable Limits**		

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: HV-2-200603
Sample ID: 512876002
Matrix: Soil
Collect Date: 03-JUN-20
Receive Date: 05-JUN-20
Collector: Client
Moisture: .413%

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Cesium-137	U	0.0280	+/-0.0362	0.0409	+/-0.0363	0.100	pCi/g			RXF2	06/09/20	1125	2009009	1
Rad Gas Flow Proportional Counting														
GFPC, Sr90, Solid "Dry Weight Corrected"														
Strontium-90	U	0.0279	+/-0.0551	0.0978	+/-0.0553	0.100	pCi/g			MXS2	06/27/20	1242	2008958	2
Rad Liquid Scintillation Analysis														
LSC, Tritium Distillation, Soil "As Received"														
Tritium	U	-0.180	+/-1.16	2.22	+/-1.16	0.200	pCi/g			EW3	06/24/20	1332	2013898	3

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LYT1	06/08/20	0929	2008720

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R
2	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
3	EPA 906.0 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Strontium Carrier	GFPC, Sr90, Solid "Dry Weight Corrected"	2008958	83.1	(25%-125%)

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Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: HV-2-200603
Sample ID: 512876002

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer Recovery	**Test**							**Batch ID**	**Recovery%**	**Acceptable Limits**				

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
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Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: HV-SED-1-200603
Sample ID: 512876003
Matrix: Soil
Collect Date: 03-JUN-20
Receive Date: 05-JUN-20
Collector: Client
Moisture: 15.9%

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Cesium-137	U	0.0554	+/-0.0475	0.0618	+/-0.0477	0.100	pCi/g			RXF2	06/09/20	1126	2009009	1
Rad Gas Flow Proportional Counting														
GFPC, Sr90, Solid "Dry Weight Corrected"														
Strontium-90	U	0.0395	+/-0.0542	0.0929	+/-0.0547	0.100	pCi/g			MXS2	06/27/20	1242	2008958	2
Rad Liquid Scintillation Analysis														
LSC, Tritium Distillation, Soil "As Received"														
Tritium	U	-0.554	+/-1.03	2.09	+/-1.03	0.200	pCi/g			EW3	06/24/20	1419	2013898	3

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LYT1	06/08/20	0929	2008720

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R
2	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
3	EPA 906.0 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Strontium Carrier	GFPC, Sr90, Solid "Dry Weight Corrected"	2008958	96.6	(25%-125%)

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Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: HV-SED-1-200603
Sample ID: 512876003

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer Recovery		**Test**						**Batch ID**		**Recovery%**	**Acceptable Limits**			

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: TF-1-200603
Sample ID: 512876004
Matrix: Soil
Collect Date: 03-JUN-20
Receive Date: 05-JUN-20
Collector: Client
Moisture: 1.04%

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Cesium-137	U	0.0123	+/-0.0293	0.0551	+/-0.0298	0.100	pCi/g			RXF2	06/09/20	1126	2009009	1
Rad Gas Flow Proportional Counting														
GFPC, Sr90, Solid "Dry Weight Corrected"														
Strontium-90	U	0.0517	+/-0.0570	0.0954	+/-0.0578	0.100	pCi/g			MXS2	06/27/20	1242	2008958	2
Rad Liquid Scintillation Analysis														
LSC, Tritium Distillation, Soil "As Received"														
Tritium	U	0.450	+/-1.24	2.23	+/-1.25	0.200	pCi/g			EW3	06/24/20	1507	2013898	3

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LYT1	06/08/20	0929	2008720

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R
2	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
3	EPA 906.0 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Strontium Carrier	GFPC, Sr90, Solid "Dry Weight Corrected"	2008958	96.6	(25%-125%)

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Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: TF-1-200603
Sample ID: 512876004

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer Recovery	**Test**							**Batch ID**	**Recovery%**	**Acceptable Limits**				

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: KC-1-200603
Sample ID: 512876005
Matrix: Soil
Collect Date: 03-JUN-20
Receive Date: 05-JUN-20
Collector: Client
Moisture: 1.5%

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Cesium-137	UI	0.000	+/-0.0707	0.0458	+/-0.0713	0.100	pCi/g			RXF2	06/09/20	1127	2009009	1
Rad Gas Flow Proportional Counting														
GFPC, Sr90, Solid "Dry Weight Corrected"														
Strontium-90	U	0.0937	+/-0.0643	0.0981	+/-0.0665	0.100	pCi/g			MXS2	06/27/20	1242	2008958	2
Rad Liquid Scintillation Analysis														
LSC, Tritium Distillation, Soil "As Received"														
Tritium	U	0.270	+/-1.18	2.15	+/-1.18	0.200	pCi/g			EW3	06/24/20	1554	2013898	3

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LYT1	06/08/20	0929	2008720

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R
2	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
3	EPA 906.0 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Strontium Carrier	GFPC, Sr90, Solid "Dry Weight Corrected"	2008958	89.9	(25%-125%)

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Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: KC-1-200603
Sample ID: 512876005

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer Recovery	**Test**							**Batch ID**	**Recovery%**	**Acceptable Limits**				

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC

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Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: GF-1-200603
Sample ID: 512876006
Matrix: Soil
Collect Date: 03-JUN-20
Receive Date: 05-JUN-20
Collector: Client
Moisture: 12.4%

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Cesium-137		0.0662	+/-0.0458	0.0381	+/-0.0461	0.100	pCi/g			RXF2	06/09/20	1127	2009009	1
Rad Gas Flow Proportional Counting														
GFPC, Sr90, Solid "Dry Weight Corrected"														
Strontium-90	U	-0.00232	+/-0.0503	0.0981	+/-0.0503	0.100	pCi/g			MXS2	06/27/20	1242	2008958	2
Rad Liquid Scintillation Analysis														
LSC, Tritium Distillation, Soil "As Received"														
Tritium	U	0.378	+/-1.15	2.08	+/-1.16	0.200	pCi/g			EW3	06/24/20	1642	2013898	3

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LYT1	06/08/20	0929	2008720

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R
2	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
3	EPA 906.0 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Strontium Carrier	GFPC, Sr90, Solid "Dry Weight Corrected"	2008958	76.4	(25%-125%)

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Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: GF-1-200603
Sample ID: 512876006

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer Recovery	**Test**							**Batch ID**	**Recovery%**	**Acceptable Limits**				

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: CIT-1-200602
Sample ID: 512876007
Matrix: Soil
Collect Date: 02-JUN-20
Receive Date: 05-JUN-20
Collector: Client
Moisture: .966%

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Cesium-137		0.0789	+/-0.0628	0.0523	+/-0.0632	0.100	pCi/g			RXF2	06/09/20	1127	2009009	1
Rad Gas Flow Proportional Counting														
GFPC, Sr90, Solid "Dry Weight Corrected"														
Strontium-90	U	0.0748	+/-0.0595	0.0951	+/-0.0610	0.100	pCi/g			MXS2	06/27/20	1243	2008958	2
Rad Liquid Scintillation Analysis														
LSC, Tritium Distillation, Soil "As Received"														
Tritium	U	-0.499	+/-1.11	2.21	+/-1.11	0.200	pCi/g			EW3	06/24/20	1729	2013898	3

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LYT1	06/08/20	0929	2008720

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R
2	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
3	EPA 906.0 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Strontium Carrier	GFPC, Sr90, Solid "Dry Weight Corrected"	2008958	94.4	(25%-125%)

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: CIT-1-200602
Sample ID: 512876007

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer Recovery	**Test**							**Batch ID**	**Recovery%**	**Acceptable Limits**				

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: AT-1-200603
Sample ID: 512876008
Matrix: Soil
Collect Date: 03-JUN-20
Receive Date: 05-JUN-20
Collector: Client
Moisture: 27.1%

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Cesium-137	UI	0.000	+/-0.0792	0.0627	+/-0.0800	0.100	pCi/g			RXF2	06/09/20	1128	2009009	1
Rad Gas Flow Proportional Counting														
GFPC, Sr90, Solid "Dry Weight Corrected"														
Strontium-90	U	-0.00495	+/-0.0478	0.0920	+/-0.0478	0.100	pCi/g			MXS2	06/27/20	1243	2008958	2
Rad Liquid Scintillation Analysis														
LSC, Tritium Distillation, Soil "As Received"														
Tritium	U	1.57	+/-1.41	2.30	+/-1.45	0.200	pCi/g			EW3	06/24/20	1817	2013898	3

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LYT1	06/08/20	0929	2008720

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R
2	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
3	EPA 906.0 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Strontium Carrier	GFPC, Sr90, Solid "Dry Weight Corrected"	2008958	96.6	(25%-125%)

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: AT-1-200603
Sample ID: 512876008

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer Recovery	**Test**							**Batch ID**	**Recovery%**	**Acceptable Limits**				

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

QC Summary

Client : **GSI Environmental Inc.**
155 Grand Ave
Suite 704
Oakland, California

Contact: **Travis Wicks**

Workorder: **512876**

Report Date: July 2, 2020

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 2009009										
QC1204574623 512876001 DUP										
Cesium-137	U	-0.00587	U	-0.00420	pCi/g	0		N/A	RXF2	06/09/2014:06
	Uncert:	+/-0.0301		+/-0.0297						
	TPU:	+/-0.0302		+/-0.0298						
QC1204574624 LCS										
Americium-241	486			520	pCi/g		107	(75%-125%)	RXF2	06/09/2011:55
	Uncert:			+/-9.63						
	TPU:			+/-47.4						
Cobalt-60	98.8			95.1	pCi/g		96.2	(75%-125%)		
	Uncert:			+/-3.05						
	TPU:			+/-9.67						
Cesium-137	165			160	pCi/g		97.1	(75%-125%)		
	Uncert:			+/-3.32						
	TPU:			+/-13.5						
QC1204574622 MB										
Cesium-137			U	-0.00290	pCi/g				RXF2	06/09/2011:28
	Uncert:			+/-0.0128						
	TPU:			+/-0.0129						
Rad Gas Flow										
Batch 2008958										
QC1204574468 512876001 DUP										
Strontium-90	U	0.0454	U	0.0431	pCi/g	0		N/A	MXS2	06/27/2012:42
	Uncert:	+/-0.0581		+/-0.0570						
	TPU:	+/-0.0586		+/-0.0575						
QC1204574469 LCS										
Strontium-90	5.50			4.65	pCi/g		84.4	(75%-125%)	MXS2	06/27/2012:42
	Uncert:			+/-0.282						
	TPU:			+/-0.918						
QC1204574467 MB										
Strontium-90			U	-0.0425	pCi/g				MXS2	06/27/2012:42
	Uncert:			+/-0.0429						
	TPU:			+/-0.0429						
Rad Liquid Scintillation										
Batch 2013898										
QC1204583983 512876001 DUP										
Tritium	U	0.488	U	0.474	pCi/g	0		N/A	EW3	06/24/2019:52
	Uncert:	+/-1.20		+/-1.24						
	TPU:	+/-1.20		+/-1.24						
QC1204583985 LCS										
Tritium	67.3			61.0	pCi/g		90.6	(75%-125%)	EW3	06/24/2020:57
	Uncert:			+/-7.64						

QC Summary

Workorder: **512876**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Liquid Scintillation										
Batch 2013898										
	TPU:			+/-15.8						
QC1204583982 MB										
Tritium			U	0.683	pCi/g				EW3	06/24/20 19:04
	Uncert:			+/-1.19						
	TPU:			+/-1.20						
QC1204583984 512876001 MS										
Tritium	144	U		115	pCi/g		80.3	(75%-125%)	EW3	06/24/20 20:40
	Uncert:	+/-1.20		+/-14.8						
	TPU:	+/-1.20		+/-30.1						

Notes:

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

The Qualifiers in this report are defined as follows:

**	Analyte is a Tracer compound
<	Result is less than value reported
>	Result is greater than value reported
BD	Results are either below the MDC or tracer recovery is low
FA	Failed analysis.
H	Analytical holding time was exceeded
J	See case narrative for an explanation
J	Value is estimated
K	Analyte present. Reported value may be biased high. Actual value is expected to be lower.
L	Analyte present. Reported value may be biased low. Actual value is expected to be higher.
M	M if above MDC and less than LLD
M	REMP Result > MDC/CL and < RDL
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
UI	Gamma Spectroscopy--Uncertain identification
UJ	Gamma Spectroscopy--Uncertain identification
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h	Preparation or preservation holding time was exceeded

QC Summary

Workorder: **512876**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
** Indicates analyte is a surrogate/tracer compound.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptence criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

GSI ENVIRONMENTAL

CHAIN-OF-CUSTODY RECORD
Date: 6/4/20
Page 1 of 1

512876

FROM: GSI Environmental Inc. 155 Grand Ave. Suite 704 Oakland, CA 94612 (510) 463-8484	PROJECT NAME: AJU-BB PROJECT CONTACT: Susan Gallardo GLOBAL ID: --	PROJECT NO.: 5182 LAB CONTACT: Brielle Luthman SAMPLER(S): (PRINT) Kalin Howell + Josh Voss
TEL: (510) 463-8484	E-MAIL: smgallardo@gsi-net.com; tzwicks@gsi-net.com	
LABORATORY: GEL Laboratories		

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR
☐ 72 HR ☐ 5 DAYS ☒ STANDARD

SPECIAL INSTRUCTIONS:
- Sr-90 MDC of 0.1 pCi/g
- Cs-137 MDC of 0.1 pCi/g
- H-3 MDC of 0.2 pCi/g

REQUESTED ANALYSES
Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Sr-90 (905.0)	Cs-137 (901.1)	H-3 (906)
	HV-1-200603	6/3/20	1045	soil	1	X			X	X	X
	HV-2-200603		1100			X			X	X	X
	HV-SED-1-200603		1050			X			X	X	X
	TF-1-200603		1320			X			X	X	X
	KC-1-200603		1340			X			X	X	X
	GF-1-200603		1355			X			X	X	X
	CIT-1-200603	6/2/20	1310			X			X	X	X
	AT-1-200603	6/3/20	1410			X			X	X	X

KJH 6/4/20

Relinquished by: (Signature)	Received by: (Signature) FEDEX	Date: 6/4/20	Time: ~1445
Relinquished by: (Signature)	Received by: (Signature) Kay Burns	Date: 6/5/20	Time: 910
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: GSIE	SDG/AR/COC/Work Order: 512876
Received By: STACY BOONE	Date Received: JUNE 5, 2020
Carrier and Tracking Number	Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other 3935 4669 0289-4 3935 4669 0278-21

Suspected Hazard Information	Yes	No	
			*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes___ No___
B) Did the client designate the samples are to be received as radioactive?		✓	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		✓	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 0 CPM / mR/Hr Classified as: Rad 1 Rad 2 Rad 3
D) Did the client designate samples are hazardous?		✓	COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		✓	If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	✓			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	✓			Preservation Method: Wet Ice Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP:___
4	Daily check performed and passed on IR temperature gun?	✓			Temperature Device Serial #: IR1-19 Secondary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?	✓			Sample ID's and Containers Affected: If Preservation added, Lot#:
7	Do any samples require Volatile Analysis?			✓	If Yes, are Encores or Soil Kits present for solids? Yes___ No___ NA___(If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes___ No___ NA___(If unknown, select No) Are liquid VOA vials free of headspace? Yes___ No___ NA___ Sample ID's and containers affected:
8	Samples received within holding time?	✓			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			ID's and containers affected:
10	Date & time on COC match date & time on bottles?			✓	Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11	Number of containers received match number indicated on COC?	✓			Circle Applicable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided?			✓	
13	COC form is properly signed in relinquished/received sections? SB	✓		✓	Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

058-W-206693 COC TIME: 11:30 SAMPLE TIME: 11:40

PM (or PMA) review: Initials CD Date 6/8/20 Page 1 of 1

GL-CHL-SR-001 Rev 6

List of current GEL Certifications as of 02 July 2020

State	Certification
Alabama	42200
Alaska	17−018
Alaska Drinking Water	SC00012
Arkansas	88−0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH−0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330−15−00283, P330−15−00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C−SC−01
Kansas NELAP	E−10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M−SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE−OS−26−13
Nevada	SC000122020−1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R−158
Oklahoma	2019−165
Pennsylvania NELAP	68−00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235−20−17
Utah NELAP	SC000122020−32
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

Radiochemistry
Technical Case Narrative
GSI Environmental Inc.
SDG #: 512876

Product: **Dry Weight**
Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 23
Preparation Batch: 2008720

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512876001	HV-1-200603
512876002	HV-2-200603
512876003	HV-SED-1-200603
512876004	TF-1-200603
512876005	KC-1-200603
512876006	GF-1-200603
512876007	CIT-1-200602
512876008	AT-1-200603

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **Gammaspec, Gamma, Solid (Standard List)**
Analytical Method: DOE HASL 300, 4.5.2.3/Ga-01-R
Analytical Procedure: GL-RAD-A-013 REV# 27
Analytical Batch: 2009009

Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 23
Preparation Batch: 2008720

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512876001	HV-1-200603
512876002	HV-2-200603
512876003	HV-SED-1-200603
512876004	TF-1-200603
512876005	KC-1-200603
512876006	GF-1-200603

512876007	CIT-1-200602
512876008	AT-1-200603
1204574622	Method Blank (MB)
1204574623	512876001(HV-1-200603) Sample Duplicate (DUP)
1204574624	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Qualifier Information

Qualifier	Reason	Analyte	Sample	Client Sample
UI	Results are considered a false positive due to high peak-width.	Cesium-137	512876005	KC-1-200603
			512876008	AT-1-200603

Product: **GFPC, Sr90, Solid**
Analytical Method: EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
Analytical Procedure: GL-RAD-A-004 REV# 21
Analytical Batch: 2008958

Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 23
Preparation Batch: 2008720

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512876001	HV-1-200603
512876002	HV-2-200603
512876003	HV-SED-1-200603
512876004	TF-1-200603
512876005	KC-1-200603
512876006	GF-1-200603
512876007	CIT-1-200602
512876008	AT-1-200603
1204574467	Method Blank (MB)
1204574468	512876001(HV-1-200603) Sample Duplicate (DUP)
1204574469	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **LSC, Tritium Distillation, Soil**
Analytical Method: EPA 906.0 Modified
Analytical Procedure: GL-RAD-A-002 REV# 23
Analytical Batch: 2013898

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512876001	HV-1-200603
512876002	HV-2-200603
512876003	HV-SED-1-200603
512876004	TF-1-200603
512876005	KC-1-200603
512876006	GF-1-200603
512876007	CIT-1-200602
512876008	AT-1-200603
1204583982	Method Blank (MB)
1204583983	512876001(HV-1-200603) Sample Duplicate (DUP)
1204583984	512876001(HV-1-200603) Matrix Spike (MS)
1204583985	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Miscellaneous Information

Additional Comments
The matrix spike, 1204583984 (HV-1-200603MS), aliquot was reduced to conserve sample volume.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

2020 Monitoring Report

American Jewish University, Brandeis-Bardin Campus
1101 Peppertree Lane
Brandeis, California

Appendix C

Analytical Laboratory Reports – Drainage Areas Sediment Samples

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Pleasanton
1220 Quarry Lane
Pleasanton, CA 94566
Tel: (925)484-1919

Laboratory Job ID: 720-98771-1
Client Project/Site: AJU-BB
Revision: 2

For:
GSI Environmental, Inc
155 Grand Avenue
Suite 704
Oakland, California 94612

Attn: Susan Gallardo

Authorized for release by:
6/26/2020 3:37:36 PM

Afsaneh Salimpour, Senior Project Manager
(925)484-1919
afsaneh.salimpour@testamericainc.com

Table of Contents

Definitions/Glossary

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98771-1

Qualifiers

Metals

Qualifier	Qualifier Description
B	Compound was found in the blank and sample.
F1	MS and/or MSD recovery exceeds control limits.

Glossary

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

Case Narrative

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98771-1

Job ID: 720-98771-1

Laboratory: Eurofins TestAmerica, Pleasanton

Narrative

Job Narrative
720-98771-1

Revised Report on 6/24/20 to report to RL. Revised on 6/26/20for sample ID.

Comments
No additional comments.

Receipt .
The samples were received on 6/4/2020 4:05 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.8º C.

Receipt Exceptions
The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): SRE-SED-1-200603 (720-98771-3). On the COC was listed SRE-SED-1 and on the container was listed SRE-SED-2.
Per client request the sample Id should be SRE-SED-2

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

Metals
Method 6010B: The matrix spike / matrix spike duplicate (MS/MSD) recoveries of Antimony for preparation batch 440-611458 and analytical batch 440-611815 were outside control limits. Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method 6010B: The method blank for preparation batch 440-611458 and analytical batch 440-611815 contained Barium above the reporting limit (RL). Associated sample(s) were not re-extracted and/or re-analyzed because results were greater than 10X the value found in the method blank.

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

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

Detection Summary

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98771-1

Client Sample ID: BP-SED-1-200602 — Lab Sample ID: 720-98771-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	11		3.0		mg/Kg	5		6010B	Total/NA
Barium	43	B	1.5		mg/Kg	5		6010B	Total/NA
Chromium	10		1.0		mg/Kg	5		6010B	Total/NA
Cobalt	3.3		1.0		mg/Kg	5		6010B	Total/NA
Copper	6.5		2.0		mg/Kg	5		6010B	Total/NA
Lead	7.7		2.0		mg/Kg	5		6010B	Total/NA
Nickel	6.8		2.0		mg/Kg	5		6010B	Total/NA
Vanadium	19		1.0		mg/Kg	5		6010B	Total/NA
Zinc	37		5.1		mg/Kg	5		6010B	Total/NA
Mercury	0.022		0.020		mg/Kg	1		7471A	Total/NA

Client Sample ID: RRMDF-SED-1-200602 — Lab Sample ID: 720-98771-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	60	B	1.5		mg/Kg	5		6010B	Total/NA
Chromium	9.5		1.0		mg/Kg	5		6010B	Total/NA
Cobalt	3.2		1.0		mg/Kg	5		6010B	Total/NA
Copper	7.4		2.0		mg/Kg	5		6010B	Total/NA
Lead	6.7		2.0		mg/Kg	5		6010B	Total/NA
Nickel	6.5		2.0		mg/Kg	5		6010B	Total/NA
Vanadium	19		1.0		mg/Kg	5		6010B	Total/NA
Zinc	48		5.0		mg/Kg	5		6010B	Total/NA

Client Sample ID: SRE-SED-2-200603 — Lab Sample ID: 720-98771-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	42	B	1.5		mg/Kg	5		6010B	Total/NA
Chromium	7.9		1.0		mg/Kg	5		6010B	Total/NA
Cobalt	2.9		1.0		mg/Kg	5		6010B	Total/NA
Copper	8.8		2.0		mg/Kg	5		6010B	Total/NA
Lead	5.9		2.0		mg/Kg	5		6010B	Total/NA
Nickel	5.1		2.0		mg/Kg	5		6010B	Total/NA
Vanadium	18		1.0		mg/Kg	5		6010B	Total/NA
Zinc	36		5.1		mg/Kg	5		6010B	Total/NA

Client Sample ID: OS1-SED-1-200603 — Lab Sample ID: 720-98771-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	32	B	1.5		mg/Kg	5		6010B	Total/NA
Chromium	6.2		1.0		mg/Kg	5		6010B	Total/NA
Cobalt	2.5		1.0		mg/Kg	5		6010B	Total/NA
Copper	3.5		2.0		mg/Kg	5		6010B	Total/NA
Lead	3.0		2.0		mg/Kg	5		6010B	Total/NA
Nickel	4.0		2.0		mg/Kg	5		6010B	Total/NA
Vanadium	14		1.0		mg/Kg	5		6010B	Total/NA
Zinc	34		5.1		mg/Kg	5		6010B	Total/NA

Client Sample ID: OS8-SED-1-200603 — Lab Sample ID: 720-98771-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	32	B	1.5		mg/Kg	5		6010B	Total/NA
Chromium	7.5		0.99		mg/Kg	5		6010B	Total/NA
Cobalt	1.9		0.99		mg/Kg	5		6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: OS8-SED-1-200603 (Continued)

Lab Sample ID: 720-98771-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Copper	5.5		2.0		mg/Kg	5		6010B	Total/NA
Lead	5.3		2.0		mg/Kg	5		6010B	Total/NA
Nickel	5.1		2.0		mg/Kg	5		6010B	Total/NA
Vanadium	14		0.99		mg/Kg	5		6010B	Total/NA
Zinc	25		5.0		mg/Kg	5		6010B	Total/NA

Client Sample ID: OW-SED-1-200603

Lab Sample ID: 720-98771-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	37	B	1.5		mg/Kg	5		6010B	Total/NA
Chromium	9.1		1.0		mg/Kg	5		6010B	Total/NA
Cobalt	2.4		1.0		mg/Kg	5		6010B	Total/NA
Copper	4.0		2.0		mg/Kg	5		6010B	Total/NA
Lead	4.1		2.0		mg/Kg	5		6010B	Total/NA
Nickel	4.9		2.0		mg/Kg	5		6010B	Total/NA
Vanadium	19		1.0		mg/Kg	5		6010B	Total/NA
Zinc	29		5.1		mg/Kg	5		6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98771-1

Client Sample ID: BP-SED-1-200602

Date Collected: 06/02/20 10:15
Date Received: 06/04/20 16:05

Lab Sample ID: 720-98771-1

Matrix: Solid

Method: 314.0 - Perchlorate (IC) - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		0.040		mg/Kg			06/11/20 14:32	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND	F1	10		mg/Kg		06/05/20 08:45	06/08/20 18:55	5
Arsenic	**11**		3.0		mg/Kg		06/05/20 08:45	06/08/20 18:55	5
Barium	**43**	**B**	1.5		mg/Kg		06/05/20 08:45	06/08/20 18:55	5
Beryllium	ND		0.51		mg/Kg		06/05/20 08:45	06/08/20 18:55	5
Cadmium	ND		0.51		mg/Kg		06/05/20 08:45	06/08/20 18:55	5
Chromium	**10**		1.0		mg/Kg		06/05/20 08:45	06/08/20 18:55	5
Cobalt	**3.3**		1.0		mg/Kg		06/05/20 08:45	06/08/20 18:55	5
Copper	**6.5**		2.0		mg/Kg		06/05/20 08:45	06/08/20 18:55	5
Lead	**7.7**		2.0		mg/Kg		06/05/20 08:45	06/08/20 18:55	5
Molybdenum	ND		2.0		mg/Kg		06/05/20 08:45	06/08/20 18:55	5
Nickel	**6.8**		2.0		mg/Kg		06/05/20 08:45	06/08/20 18:55	5
Selenium	ND		3.0		mg/Kg		06/05/20 08:45	06/08/20 18:55	5
Thallium	ND		10		mg/Kg		06/05/20 08:45	06/08/20 18:55	5
Vanadium	**19**		1.0		mg/Kg		06/05/20 08:45	06/08/20 18:55	5
Zinc	**37**		5.1		mg/Kg		06/05/20 08:45	06/08/20 18:55	5
Silver	ND		1.5		mg/Kg		06/05/20 08:45	06/08/20 18:55	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	**0.022**		0.020		mg/Kg		06/05/20 10:11	06/09/20 11:40	1

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98771-1

Client Sample ID: RRMDF-SED-1-200602

Date Collected: 06/02/20 14:00
Date Received: 06/04/20 16:05

Lab Sample ID: 720-98771-2

Matrix: Solid

Method: 314.0 - Perchlorate (IC) - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		0.040		mg/Kg			06/11/20 14:50	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		10		mg/Kg		06/05/20 08:45	06/08/20 19:04	5
Arsenic	ND		3.0		mg/Kg		06/05/20 08:45	06/08/20 19:04	5
Barium	**60**	**B**	1.5		mg/Kg		06/05/20 08:45	06/08/20 19:04	5
Beryllium	ND		0.50		mg/Kg		06/05/20 08:45	06/08/20 19:04	5
Cadmium	ND		0.50		mg/Kg		06/05/20 08:45	06/08/20 19:04	5
Chromium	**9.5**		1.0		mg/Kg		06/05/20 08:45	06/08/20 19:04	5
Cobalt	**3.2**		1.0		mg/Kg		06/05/20 08:45	06/08/20 19:04	5
Copper	**7.4**		2.0		mg/Kg		06/05/20 08:45	06/08/20 19:04	5
Lead	**6.7**		2.0		mg/Kg		06/05/20 08:45	06/08/20 19:04	5
Molybdenum	ND		2.0		mg/Kg		06/05/20 08:45	06/08/20 19:04	5
Nickel	**6.5**		2.0		mg/Kg		06/05/20 08:45	06/08/20 19:04	5
Selenium	ND		3.0		mg/Kg		06/05/20 08:45	06/08/20 19:04	5
Thallium	ND		10		mg/Kg		06/05/20 08:45	06/08/20 19:04	5
Vanadium	**19**		1.0		mg/Kg		06/05/20 08:45	06/08/20 19:04	5
Zinc	**48**		5.0		mg/Kg		06/05/20 08:45	06/08/20 19:04	5
Silver	ND		1.5		mg/Kg		06/05/20 08:45	06/08/20 19:04	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		06/05/20 10:11	06/09/20 11:44	1

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98771-1

Client Sample ID: SRE-SED-2-200603

Date Collected: 06/03/20 08:25
Date Received: 06/04/20 16:05

Lab Sample ID: 720-98771-3

Matrix: Solid

Method: 314.0 - Perchlorate (IC) - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		0.040		mg/Kg			06/11/20 15:08	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		10		mg/Kg		06/05/20 08:45	06/08/20 19:11	5
Arsenic	ND		3.1		mg/Kg		06/05/20 08:45	06/08/20 19:11	5
Barium	**42**	**B**	1.5		mg/Kg		06/05/20 08:45	06/08/20 19:11	5
Beryllium	ND		0.51		mg/Kg		06/05/20 08:45	06/08/20 19:11	5
Cadmium	ND		0.51		mg/Kg		06/05/20 08:45	06/08/20 19:11	5
Chromium	**7.9**		1.0		mg/Kg		06/05/20 08:45	06/08/20 19:11	5
Cobalt	**2.9**		1.0		mg/Kg		06/05/20 08:45	06/08/20 19:11	5
Copper	**8.8**		2.0		mg/Kg		06/05/20 08:45	06/08/20 19:11	5
Lead	**5.9**		2.0		mg/Kg		06/05/20 08:45	06/08/20 19:11	5
Molybdenum	ND		2.0		mg/Kg		06/05/20 08:45	06/08/20 19:11	5
Nickel	**5.1**		2.0		mg/Kg		06/05/20 08:45	06/08/20 19:11	5
Selenium	ND		3.1		mg/Kg		06/05/20 08:45	06/08/20 19:11	5
Thallium	ND		10		mg/Kg		06/05/20 08:45	06/08/20 19:11	5
Vanadium	**18**		1.0		mg/Kg		06/05/20 08:45	06/08/20 19:11	5
Zinc	**36**		5.1		mg/Kg		06/05/20 08:45	06/08/20 19:11	5
Silver	ND		1.5		mg/Kg		06/05/20 08:45	06/08/20 19:11	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		06/05/20 10:11	06/09/20 11:46	1

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98771-1

Client Sample ID: OS1-SED-1-200603

Date Collected: 06/03/20 09:40
Date Received: 06/04/20 16:05

Lab Sample ID: 720-98771-4

Matrix: Solid

Method: 314.0 - Perchlorate (IC) - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		0.040		mg/Kg			06/11/20 15:25	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		10		mg/Kg		06/05/20 08:45	06/08/20 19:14	5
Arsenic	ND		3.0		mg/Kg		06/05/20 08:45	06/08/20 19:14	5
Barium	**32**	**B**	1.5		mg/Kg		06/05/20 08:45	06/08/20 19:14	5
Beryllium	ND		0.51		mg/Kg		06/05/20 08:45	06/08/20 19:14	5
Cadmium	ND		0.51		mg/Kg		06/05/20 08:45	06/08/20 19:14	5
Chromium	**6.2**		1.0		mg/Kg		06/05/20 08:45	06/08/20 19:14	5
Cobalt	**2.5**		1.0		mg/Kg		06/05/20 08:45	06/08/20 19:14	5
Copper	**3.5**		2.0		mg/Kg		06/05/20 08:45	06/08/20 19:14	5
Lead	**3.0**		2.0		mg/Kg		06/05/20 08:45	06/08/20 19:14	5
Molybdenum	ND		2.0		mg/Kg		06/05/20 08:45	06/08/20 19:14	5
Nickel	**4.0**		2.0		mg/Kg		06/05/20 08:45	06/08/20 19:14	5
Selenium	ND		3.0		mg/Kg		06/05/20 08:45	06/08/20 19:14	5
Thallium	ND		10		mg/Kg		06/05/20 08:45	06/08/20 19:14	5
Vanadium	**14**		1.0		mg/Kg		06/05/20 08:45	06/08/20 19:14	5
Zinc	**34**		5.1		mg/Kg		06/05/20 08:45	06/08/20 19:14	5
Silver	ND		1.5		mg/Kg		06/05/20 08:45	06/08/20 19:14	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		06/05/20 10:11	06/09/20 11:48	1

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98771-1

Client Sample ID: OS8-SED-1-200603

Date Collected: 06/03/20 11:30
Date Received: 06/04/20 16:05

Lab Sample ID: 720-98771-5

Matrix: Solid

Method: 314.0 - Perchlorate (IC) - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		0.040		mg/Kg			06/11/20 15:43	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		9.9		mg/Kg		06/05/20 08:45	06/08/20 19:16	5
Arsenic	ND		3.0		mg/Kg		06/05/20 08:45	06/08/20 19:16	5
Barium	**32**	**B**	1.5		mg/Kg		06/05/20 08:45	06/08/20 19:16	5
Beryllium	ND		0.50		mg/Kg		06/05/20 08:45	06/08/20 19:16	5
Cadmium	ND		0.50		mg/Kg		06/05/20 08:45	06/08/20 19:16	5
Chromium	**7.5**		0.99		mg/Kg		06/05/20 08:45	06/08/20 19:16	5
Cobalt	**1.9**		0.99		mg/Kg		06/05/20 08:45	06/08/20 19:16	5
Copper	**5.5**		2.0		mg/Kg		06/05/20 08:45	06/08/20 19:16	5
Lead	**5.3**		2.0		mg/Kg		06/05/20 08:45	06/08/20 19:16	5
Molybdenum	ND		2.0		mg/Kg		06/05/20 08:45	06/08/20 19:16	5
Nickel	**5.1**		2.0		mg/Kg		06/05/20 08:45	06/08/20 19:16	5
Selenium	ND		3.0		mg/Kg		06/05/20 08:45	06/08/20 19:16	5
Thallium	ND		9.9		mg/Kg		06/05/20 08:45	06/08/20 19:16	5
Vanadium	**14**		0.99		mg/Kg		06/05/20 08:45	06/08/20 19:16	5
Zinc	**25**		5.0		mg/Kg		06/05/20 08:45	06/08/20 19:16	5
Silver	ND		1.5		mg/Kg		06/05/20 08:45	06/08/20 19:16	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		06/05/20 10:11	06/09/20 11:50	1

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98771-1

Client Sample ID: OW-SED-1-200603

Date Collected: 06/03/20 12:30
Date Received: 06/04/20 16:05

Lab Sample ID: 720-98771-6

Matrix: Solid

Method: 314.0 - Perchlorate (IC) - Soluble

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		0.040		mg/Kg			06/11/20 16:01	1

Method: 6010B - Metals (ICP)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		10		mg/Kg		06/05/20 08:45	06/08/20 19:18	5
Arsenic	ND		3.0		mg/Kg		06/05/20 08:45	06/08/20 19:18	5
Barium	**37**	**B**	1.5		mg/Kg		06/05/20 08:45	06/08/20 19:18	5
Beryllium	ND		0.51		mg/Kg		06/05/20 08:45	06/08/20 19:18	5
Cadmium	ND		0.51		mg/Kg		06/05/20 08:45	06/08/20 19:18	5
Chromium	**9.1**		1.0		mg/Kg		06/05/20 08:45	06/08/20 19:18	5
Cobalt	**2.4**		1.0		mg/Kg		06/05/20 08:45	06/08/20 19:18	5
Copper	**4.0**		2.0		mg/Kg		06/05/20 08:45	06/08/20 19:18	5
Lead	**4.1**		2.0		mg/Kg		06/05/20 08:45	06/08/20 19:18	5
Molybdenum	ND		2.0		mg/Kg		06/05/20 08:45	06/08/20 19:18	5
Nickel	**4.9**		2.0		mg/Kg		06/05/20 08:45	06/08/20 19:18	5
Selenium	ND		3.0		mg/Kg		06/05/20 08:45	06/08/20 19:18	5
Thallium	ND		10		mg/Kg		06/05/20 08:45	06/08/20 19:18	5
Vanadium	**19**		1.0		mg/Kg		06/05/20 08:45	06/08/20 19:18	5
Zinc	**29**		5.1		mg/Kg		06/05/20 08:45	06/08/20 19:18	5
Silver	ND		1.5		mg/Kg		06/05/20 08:45	06/08/20 19:18	5

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		06/05/20 10:11	06/09/20 12:01	1

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MRL 440-612249/9
Matrix: Solid
Analysis Batch: 612249

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	ND		ug/L		96	75 - 125

Lab Sample ID: MRL 440-612254/8
Matrix: Solid
Analysis Batch: 612254

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	4.00	4.05		ug/L		101	75 - 125

Lab Sample ID: MB 440-612305/1-A
Matrix: Solid
Analysis Batch: 612249

Client Sample ID: Method Blank
Prep Type: Soluble

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		0.040		mg/Kg			06/11/20 14:56	1

Lab Sample ID: LCS 440-612305/2-A
Matrix: Solid
Analysis Batch: 612249

Client Sample ID: Lab Control Sample
Prep Type: Soluble

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	0.500	0.474		mg/Kg		95	85 - 115

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-611458/1-A ^5
Matrix: Solid
Analysis Batch: 611815

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 611458

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		9.9		mg/Kg		06/05/20 08:45	06/08/20 18:48	5
Arsenic	ND		3.0		mg/Kg		06/05/20 08:45	06/08/20 18:48	5
Barium	1.61		1.5		mg/Kg		06/05/20 08:45	06/08/20 18:48	5
Beryllium	ND		0.49		mg/Kg		06/05/20 08:45	06/08/20 18:48	5
Cadmium	ND		0.49		mg/Kg		06/05/20 08:45	06/08/20 18:48	5
Chromium	ND		0.99		mg/Kg		06/05/20 08:45	06/08/20 18:48	5
Cobalt	ND		0.99		mg/Kg		06/05/20 08:45	06/08/20 18:48	5
Copper	ND		2.0		mg/Kg		06/05/20 08:45	06/08/20 18:48	5
Lead	ND		2.0		mg/Kg		06/05/20 08:45	06/08/20 18:48	5
Molybdenum	ND		2.0		mg/Kg		06/05/20 08:45	06/08/20 18:48	5
Nickel	ND		2.0		mg/Kg		06/05/20 08:45	06/08/20 18:48	5
Selenium	ND		3.0		mg/Kg		06/05/20 08:45	06/08/20 18:48	5
Thallium	ND		9.9		mg/Kg		06/05/20 08:45	06/08/20 18:48	5
Vanadium	ND		0.99		mg/Kg		06/05/20 08:45	06/08/20 18:48	5
Zinc	ND		4.9		mg/Kg		06/05/20 08:45	06/08/20 18:48	5
Silver	ND		1.5		mg/Kg		06/05/20 08:45	06/08/20 18:48	5

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 440-611458/2-A ^5
Matrix: Solid
Analysis Batch: 611815

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 611458

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	49.5	49.7		mg/Kg		100	80 - 120
Arsenic	49.5	45.4		mg/Kg		92	80 - 120
Barium	49.5	46.2		mg/Kg		93	80 - 120
Beryllium	49.5	46.1		mg/Kg		93	80 - 120
Cadmium	49.5	45.6		mg/Kg		92	80 - 120
Chromium	49.5	47.7		mg/Kg		96	80 - 120
Cobalt	49.5	46.6		mg/Kg		94	80 - 120
Copper	49.5	48.0		mg/Kg		97	80 - 120
Lead	49.5	47.0		mg/Kg		95	80 - 120
Molybdenum	49.5	49.9		mg/Kg		101	80 - 120
Nickel	49.5	47.2		mg/Kg		95	80 - 120
Selenium	49.5	43.8		mg/Kg		88	80 - 120
Thallium	49.5	46.3		mg/Kg		94	80 - 120
Vanadium	49.5	45.8		mg/Kg		93	80 - 120
Zinc	49.5	46.0		mg/Kg		93	80 - 120
Silver	24.8	23.6		mg/Kg		96	80 - 120

Lab Sample ID: 720-98771-1 MS
Matrix: Solid
Analysis Batch: 611815

Client Sample ID: BP-SED-1-200602
Prep Type: Total/NA
Prep Batch: 611458

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	ND	F1	50.0	23.9	F1	mg/Kg		48	75 - 125
Arsenic	11		50.0	52.6		mg/Kg		83	75 - 125
Barium	43	B	50.0	84.2		mg/Kg		83	75 - 125
Beryllium	ND		50.0	43.7		mg/Kg		86	75 - 125
Cadmium	ND		50.0	41.1		mg/Kg		82	75 - 125
Chromium	10		50.0	54.2		mg/Kg		88	75 - 125
Cobalt	3.3		50.0	45.0		mg/Kg		83	75 - 125
Copper	6.5		50.0	51.0		mg/Kg		89	75 - 125
Lead	7.7		50.0	49.1		mg/Kg		83	75 - 125
Molybdenum	ND		50.0	45.5		mg/Kg		89	75 - 125
Nickel	6.8		50.0	49.0		mg/Kg		84	75 - 125
Selenium	ND		50.0	40.8		mg/Kg		82	75 - 125
Thallium	ND		50.0	39.7		mg/Kg		79	75 - 125
Vanadium	19		50.0	61.8		mg/Kg		86	75 - 125
Zinc	37		50.0	77.5		mg/Kg		82	75 - 125
Silver	ND		25.0	22.0		mg/Kg		88	75 - 125

Lab Sample ID: 720-98771-1 MSD
Matrix: Solid
Analysis Batch: 611815

Client Sample ID: BP-SED-1-200602
Prep Type: Total/NA
Prep Batch: 611458

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Antimony	ND	F1	49.5	23.6	F1	mg/Kg		48	75 - 125	2	20
Arsenic	11		49.5	51.1		mg/Kg		81	75 - 125	3	20
Barium	43	B	49.5	89.6		mg/Kg		95	75 - 125	6	20
Beryllium	ND		49.5	42.8		mg/Kg		85	75 - 125	2	20
Cadmium	ND		49.5	40.3		mg/Kg		81	75 - 125	2	20

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: 720-98771-1 MSD
Matrix: Solid
Analysis Batch: 611815

Client Sample ID: BP-SED-1-200602
Prep Type: Total/NA
Prep Batch: 611458

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Chromium	10		49.5	53.0		mg/Kg		86	75 - 125	2	20
Cobalt	3.3		49.5	44.0		mg/Kg		82	75 - 125	2	20
Copper	6.5		49.5	49.9		mg/Kg		88	75 - 125	2	20
Lead	7.7		49.5	47.9		mg/Kg		81	75 - 125	2	20
Molybdenum	ND		49.5	44.9		mg/Kg		88	75 - 125	1	20
Nickel	6.8		49.5	47.8		mg/Kg		83	75 - 125	2	20
Selenium	ND		49.5	40.3		mg/Kg		81	75 - 125	1	20
Thallium	ND		49.5	39.4		mg/Kg		80	75 - 125	1	20
Vanadium	19		49.5	60.9		mg/Kg		85	75 - 125	2	20
Zinc	37		49.5	76.5		mg/Kg		80	75 - 125	1	20
Silver	ND		24.8	21.5		mg/Kg		87	75 - 125	2	20

Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 440-611498/1-A
Matrix: Solid
Analysis Batch: 611910

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 611498

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.020		mg/Kg		06/05/20 10:11	06/09/20 11:28	1

Lab Sample ID: LCS 440-611498/2-A
Matrix: Solid
Analysis Batch: 611910

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 611498

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
Mercury			0.408	0.369		mg/Kg		90	80 - 120		

HPLC/IC

Analysis Batch: 612249

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-612305/1-A	Method Blank	Soluble	Solid	314.0	612305
LCS 440-612305/2-A	Lab Control Sample	Soluble	Solid	314.0	612305
MRL 440-612249/9	Lab Control Sample	Total/NA	Solid	314.0	

Analysis Batch: 612254

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-98771-1	BP-SED-1-200602	Soluble	Solid	314.0	612305
720-98771-2	RRMDF-SED-1-200602	Soluble	Solid	314.0	612305
720-98771-3	SRE-SED-2-200603	Soluble	Solid	314.0	612305
720-98771-4	OS1-SED-1-200603	Soluble	Solid	314.0	612305
720-98771-5	OS8-SED-1-200603	Soluble	Solid	314.0	612305
720-98771-6	OW-SED-1-200603	Soluble	Solid	314.0	612305
MRL 440-612254/8	Lab Control Sample	Total/NA	Solid	314.0	

Leach Batch: 612305

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-98771-1	BP-SED-1-200602	Soluble	Solid	DI Leach	
720-98771-2	RRMDF-SED-1-200602	Soluble	Solid	DI Leach	
720-98771-3	SRE-SED-2-200603	Soluble	Solid	DI Leach	
720-98771-4	OS1-SED-1-200603	Soluble	Solid	DI Leach	
720-98771-5	OS8-SED-1-200603	Soluble	Solid	DI Leach	
720-98771-6	OW-SED-1-200603	Soluble	Solid	DI Leach	
MB 440-612305/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 440-612305/2-A	Lab Control Sample	Soluble	Solid	DI Leach	

Metals

Prep Batch: 611458

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-98771-1	BP-SED-1-200602	Total/NA	Solid	3050B	
720-98771-2	RRMDF-SED-1-200602	Total/NA	Solid	3050B	
720-98771-3	SRE-SED-2-200603	Total/NA	Solid	3050B	
720-98771-4	OS1-SED-1-200603	Total/NA	Solid	3050B	
720-98771-5	OS8-SED-1-200603	Total/NA	Solid	3050B	
720-98771-6	OW-SED-1-200603	Total/NA	Solid	3050B	
MB 440-611458/1-A ^5	Method Blank	Total/NA	Solid	3050B	
LCS 440-611458/2-A ^5	Lab Control Sample	Total/NA	Solid	3050B	
720-98771-1 MS	BP-SED-1-200602	Total/NA	Solid	3050B	
720-98771-1 MSD	BP-SED-1-200602	Total/NA	Solid	3050B	

Prep Batch: 611498

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-98771-1	BP-SED-1-200602	Total/NA	Solid	7471A	
720-98771-2	RRMDF-SED-1-200602	Total/NA	Solid	7471A	
720-98771-3	SRE-SED-2-200603	Total/NA	Solid	7471A	
720-98771-4	OS1-SED-1-200603	Total/NA	Solid	7471A	
720-98771-5	OS8-SED-1-200603	Total/NA	Solid	7471A	
720-98771-6	OW-SED-1-200603	Total/NA	Solid	7471A	
MB 440-611498/1-A	Method Blank	Total/NA	Solid	7471A	
LCS 440-611498/2-A	Lab Control Sample	Total/NA	Solid	7471A	

QC Association Summary

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98771-1

Metals

Analysis Batch: 611815

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-98771-1	BP-SED-1-200602	Total/NA	Solid	6010B	611458
720-98771-2	RRMDF-SED-1-200602	Total/NA	Solid	6010B	611458
720-98771-3	SRE-SED-2-200603	Total/NA	Solid	6010B	611458
720-98771-4	OS1-SED-1-200603	Total/NA	Solid	6010B	611458
720-98771-5	OS8-SED-1-200603	Total/NA	Solid	6010B	611458
720-98771-6	OW-SED-1-200603	Total/NA	Solid	6010B	611458
MB 440-611458/1-A ^5	Method Blank	Total/NA	Solid	6010B	611458
LCS 440-611458/2-A ^5	Lab Control Sample	Total/NA	Solid	6010B	611458
720-98771-1 MS	BP-SED-1-200602	Total/NA	Solid	6010B	611458
720-98771-1 MSD	BP-SED-1-200602	Total/NA	Solid	6010B	611458

Analysis Batch: 611910

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-98771-1	BP-SED-1-200602	Total/NA	Solid	7471A	611498
720-98771-2	RRMDF-SED-1-200602	Total/NA	Solid	7471A	611498
720-98771-3	SRE-SED-2-200603	Total/NA	Solid	7471A	611498
720-98771-4	OS1-SED-1-200603	Total/NA	Solid	7471A	611498
720-98771-5	OS8-SED-1-200603	Total/NA	Solid	7471A	611498
720-98771-6	OW-SED-1-200603	Total/NA	Solid	7471A	611498
MB 440-611498/1-A	Method Blank	Total/NA	Solid	7471A	611498
LCS 440-611498/2-A	Lab Control Sample	Total/NA	Solid	7471A	611498

Lab Chronicle

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98771-1

Client Sample ID: BP-SED-1-200602

Lab Sample ID: 720-98771-1

Date Collected: 06/02/20 10:15

Matrix: Solid

Date Received: 06/04/20 16:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.02 g	40 mL	612305	06/11/20 11:34	CTH	TAL IRV
Soluble	Analysis	314.0		1			612254	06/11/20 14:32	PS	TAL IRV
Total/NA	Prep	3050B			1.98 g	50 mL	611458	06/05/20 08:45	NE1	TAL IRV
Total/NA	Analysis	6010B		5			611815	06/08/20 18:55	TQN	TAL IRV
Total/NA	Prep	7471A			0.49 g	50 mL	611498	06/05/20 10:11	MEM	TAL IRV
Total/NA	Analysis	7471A		1			611910	06/09/20 11:40	EMS	TAL IRV

Client Sample ID: RRMDF-SED-1-200602

Lab Sample ID: 720-98771-2

Date Collected: 06/02/20 14:00

Matrix: Solid

Date Received: 06/04/20 16:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.02 g	40 mL	612305	06/11/20 11:34	CTH	TAL IRV
Soluble	Analysis	314.0		1			612254	06/11/20 14:50	PS	TAL IRV
Total/NA	Prep	3050B			1.99 g	50 mL	611458	06/05/20 08:45	NE1	TAL IRV
Total/NA	Analysis	6010B		5			611815	06/08/20 19:04	TQN	TAL IRV
Total/NA	Prep	7471A			0.49 g	50 mL	611498	06/05/20 10:11	MEM	TAL IRV
Total/NA	Analysis	7471A		1			611910	06/09/20 11:44	EMS	TAL IRV

Client Sample ID: SRE-SED-2-200603

Lab Sample ID: 720-98771-3

Date Collected: 06/03/20 08:25

Matrix: Solid

Date Received: 06/04/20 16:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.01 g	40 mL	612305	06/11/20 11:34	CTH	TAL IRV
Soluble	Analysis	314.0		1			612254	06/11/20 15:08	PS	TAL IRV
Total/NA	Prep	3050B			1.96 g	50 mL	611458	06/05/20 08:45	NE1	TAL IRV
Total/NA	Analysis	6010B		5			611815	06/08/20 19:11	TQN	TAL IRV
Total/NA	Prep	7471A			0.49 g	50 mL	611498	06/05/20 10:11	MEM	TAL IRV
Total/NA	Analysis	7471A		1			611910	06/09/20 11:46	EMS	TAL IRV

Client Sample ID: OS1-SED-1-200603

Lab Sample ID: 720-98771-4

Date Collected: 06/03/20 09:40

Matrix: Solid

Date Received: 06/04/20 16:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.00 g	40 mL	612305	06/11/20 11:34	CTH	TAL IRV
Soluble	Analysis	314.0		1			612254	06/11/20 15:25	PS	TAL IRV
Total/NA	Prep	3050B			1.97 g	50 mL	611458	06/05/20 08:45	NE1	TAL IRV
Total/NA	Analysis	6010B		5			611815	06/08/20 19:14	TQN	TAL IRV
Total/NA	Prep	7471A			0.51 g	50 mL	611498	06/05/20 10:11	MEM	TAL IRV
Total/NA	Analysis	7471A		1			611910	06/09/20 11:48	EMS	TAL IRV

Lab Chronicle

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98771-1

Client Sample ID: OS8-SED-1-200603

Lab Sample ID: 720-98771-5

Date Collected: 06/03/20 11:30

Matrix: Solid

Date Received: 06/04/20 16:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			3.99 g	40 mL	612305	06/11/20 11:34	CTH	TAL IRV
Soluble	Analysis	314.0		1			612254	06/11/20 15:43	PS	TAL IRV
Total/NA	Prep	3050B			2.02 g	50 mL	611458	06/05/20 08:45	NE1	TAL IRV
Total/NA	Analysis	6010B		5			611815	06/08/20 19:16	TQN	TAL IRV
Total/NA	Prep	7471A			0.49 g	50 mL	611498	06/05/20 10:11	MEM	TAL IRV
Total/NA	Analysis	7471A		1			611910	06/09/20 11:50	EMS	TAL IRV

Client Sample ID: OW-SED-1-200603

Lab Sample ID: 720-98771-6

Date Collected: 06/03/20 12:30

Matrix: Solid

Date Received: 06/04/20 16:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			4.02 g	40 mL	612305	06/11/20 11:34	CTH	TAL IRV
Soluble	Analysis	314.0		1			612254	06/11/20 16:01	PS	TAL IRV
Total/NA	Prep	3050B			1.97 g	50 mL	611458	06/05/20 08:45	NE1	TAL IRV
Total/NA	Analysis	6010B		5			611815	06/08/20 19:18	TQN	TAL IRV
Total/NA	Prep	7471A			0.50 g	50 mL	611498	06/05/20 10:11	MEM	TAL IRV
Total/NA	Analysis	7471A		1			611910	06/09/20 12:01	EMS	TAL IRV

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Accreditation/Certification Summary

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98771-1

Laboratory: Eurofins TestAmerica, Pleasanton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2496	01-31-20 *
USDA	US Federal Programs	P330-18-00328	11-06-21

Laboratory: Eurofins Calscience Irvine

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska	State	CA01531	06-30-20
Arizona	State	AZ0671	10-14-20
California	Los Angeles County Sanitation Districts	10256	06-30-20
California	State	2706	06-30-20
Guam	State	20-004R	01-23-21
Hawaii	State	CA01531	01-29-21
Kansas	NELAP	E-10420	07-31-20
Nevada	State	CA015312020-9	06-16-20
Oregon	NELAP	4028 - 008	01-29-21
USDA	US Federal Programs	P330-18-00214	07-09-21
Washington	State	C900	09-03-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98771-1

Method	Method Description	Protocol	Laboratory
314.0	Perchlorate (IC)	EPA	TAL IRV
6010B	Metals (ICP)	SW846	TAL IRV
7471A	Mercury (CVAA)	SW846	TAL IRV
3050B	Preparation, Metals	SW846	TAL IRV
7471A	Preparation, Mercury	SW846	TAL IRV
DI Leach	Deionized Water Leaching Procedure	ASTM	TAL IRV

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Sample Summary

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98771-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
720-98771-1	BP-SED-1-200602	Solid	06/02/20 10:15	06/04/20 16:05	
720-98771-2	RRMDF-SED-1-200602	Solid	06/02/20 14:00	06/04/20 16:05	
720-98771-3	SRE-SED-2-200603	Solid	06/03/20 08:25	06/04/20 16:05	
720-98771-4	OS1-SED-1-200603	Solid	06/03/20 09:40	06/04/20 16:05	
720-98771-5	OS8-SED-1-200603	Solid	06/03/20 11:30	06/04/20 16:05	
720-98771-6	OW-SED-1-200603	Solid	06/03/20 12:30	06/04/20 16:05	

720-98771

GSI ENVIRONMENTAL

CHAIN-OF-CUSTODY RECORD
Date: 6/4/20
Page 1 of 1

FROM: GSI Environmental Inc. 155 Grand Ave. Suite 704 Oakland, CA 94612 (510) 463-8484	PROJECT NAME: AJU-BB PROJECT CONTACT: Susan Gallardo GLOBAL ID: -	PROJECT NO.: 5182 LAB CONTACT: Afsaneh Salimpour (Pleasanton) SAMPLER(S): (PRINT) Kalia Howell + Josh Vess
TEL: (510) 463-8484	E-MAIL: smgallardo@gsi-net.com, tzwicks@gsi-net.com	
LABORATORY: Eurofins Calscience		

TURNAROUND TIME: ☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ STANDARD

SPECIAL INSTRUCTIONS:

REQUESTED ANALYSES
Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Title 22 Metals (6010/7470)	Perchlorate (314.0)
	BP-SED-1-200602	6/2/20	1015	Soil	1	X			X	X
	REMDF-SED-1-200602	6/2/20	1400			X			X	X
	SRE-SED-1-200603	6/3/20	0825			X			X	X
	OSI-SED-1-200603	6/3/20	0940			X			X	X
	OSK-SED-1-200603	6/3/20	1130			X			X	X
	OOO-SED-1-200603	6/3/20	1230			X			X	X

720-98771 Chain of Custody

Relinquished by: (Signature)	Received by: (Signature)	Date: 6/4/20	Time: 1420
Relinquished by: (Signature)	Received by: (Signature)	Date: 6/4/20	Time: 1605
Relinquished by: (Signature)	Received by: (Signature) FedEx	Date: 6/4/20	Time: 1605

0.6/0 8 IR-93

GSI ENVIRONMENTAL

CHAIN-OF-CUSTODY RECORD

Date: 6/4/20

Page 1 of 1

FROM: GSI Environmental Inc. 155 Grand Ave. Suite 704 Oakland, CA 94612 (510) 463-8484	PROJECT NAME: AJU-BB	PROJECT NO: 5182
	PROJECT CONTACT: Susan Gallardo	LAB CONTACT: Afsaneh Salimpour (Pleasanton)
	GLOBAL ID: -	SAMPLER(S): (PRINT) Galen Harwell + Josh Voss
TEL: (510) 463-8484	E-MAIL: smgallardo@gsi-net.com, tzwicks@gsi-net.com	
LABORATORY: Eurofins Calscience		

TURNAROUND TIME: ☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ STANDARD

SPECIAL INSTRUCTIONS

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Title 22 Metals (6010/7470)	Perchlorate (314.0)
	BP-SED-1-200602	6/2/20	1015	Soil	1	X			X	X
	BPMP-SED-1-200602	6/2/20	1400			X			X	X
	SRE-SED-1-200603	6/3/20	0825			X			X	X
	OD1-SED-1-200603	6/3/20	0940			X			X	X
	OSR-SED-1-200603	6/3/20	1130			X			X	X
	OUU-SED-1-200603	6/3/20	1230			X			X	X

720-98771 Chain of Custody

Relinquished by: (Signature)	Received by: (Signature)	Date: 6/4/20	Time: 1420
Relinquished by: (Signature)	Received by: (Signature)	Date: 6/4/20	Time: 1605
Relinquished by: (Signature)	Received by: (Signature) FedEx	Date: 6/4/20	Time: 1605

LB 6/4/20

0.6/0.8 IR-93

Login Sample Receipt Checklist

Client: GSI Environmental, Inc

Job Number: 720-98771-1

Login Number: 98771
List Number: 1
Creator: Arauz, Dennis

List Source: Eurofins TestAmerica, Pleasanton

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.		
The cooler's custody seal, if present, is intact.		
Sample custody seals, if present, are intact.		
The cooler or samples do not appear to have been compromised or tampered with.		
Samples were received on ice.		
Cooler Temperature is acceptable.		
Cooler Temperature is recorded.		
COC is present.		
COC is filled out in ink and legible.		
COC is filled out with all pertinent information.		
Is the Field Sampler's name present on COC?		
There are no discrepancies between the containers received and the COC.		
Samples are received within Holding Time (excluding tests with immediate HTs)		
Sample containers have legible labels.		
Containers are not broken or leaking.		
Sample collection date/times are provided.		
Appropriate sample containers are used.		
Sample bottles are completely filled.		
Sample Preservation Verified.		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs		
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").		
Multiphasic samples are not present.		
Samples do not require splitting or compositing.		
Residual Chlorine Checked.		

Login Sample Receipt Checklist

Client: GSI Environmental, Inc

Job Number: 720-98771-1

Login Number: 98771
List Number: 2
Creator: Bonta, Lucia F

List Source: Eurofins Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

GEL Laboratories LLC
a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.556.8171
F 843.766.1178

gel.com

July 08, 2020

Travis Wicks
GSI Environmental Inc.
155 Grand Ave
Suite 704
Oakland, California 94612

Re: Near S SFL
Work Order: 512877

Dear Travis Wicks:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on June 05, 2020. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4487.

Sincerely,

B Luthman

Brielle Luthman
Project Manager

Purchase Order: 5182
Enclosures

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 − (843) 556−8171 − www.gel.com

Certificate of Analysis Report
for

GSIE002 GSI Environmental Inc.

Client SDG: 512877 GEL Work Order: 512877

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a Tracer compound

** Analyte is a surrogate compound

U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Brielle Luthman.

Reviewed by B Luthman

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 8, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: BP-SED-1-200602
Sample ID: 512877001
Matrix: Soil
Collect Date: 02-JUN-20
Receive Date: 05-JUN-20
Collector: Client
Moisture: 29.3%

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
GFPC, Sr90, Solid "Dry Weight Corrected"														
Strontium-90	U	0.0732	+/-0.0609	0.0994	+/-0.0623	0.100	pCi/g			MXS2	06/27/20	1243	2008958	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LYT1	06/08/20	0929	2008720

The following Analytical Methods were performed

Method	Description
1	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Strontium Carrier	GFPC, Sr90, Solid "Dry Weight Corrected"	2008958	101	(25%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 8, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: RRMDF-SED-1-200602
Sample ID: 512877002
Matrix: Soil
Collect Date: 02-JUN-20
Receive Date: 05-JUN-20
Collector: Client
Moisture: 4.75%

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
GFPC, Sr90, Solid "Dry Weight Corrected"														
Strontium-90	U	0.0276	+/-0.0540	0.0948	+/-0.0542	0.100	pCi/g			MXS2	06/30/20	1352	2008958	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LYT1	06/08/20	0929	2008720

The following Analytical Methods were performed

Method	Description
1	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Strontium Carrier	GFPC, Sr90, Solid "Dry Weight Corrected"	2008958	67.4	(25%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC
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Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 8, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: SRE-SED-2-200603
Sample ID: 512877003
Matrix: Soil
Collect Date: 03-JUN-20
Receive Date: 05-JUN-20
Collector: Client
Moisture: 29.8%

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
GFPC, Sr90, Solid "Dry Weight Corrected"														
Strontium-90	U	0.0327	+/-0.0538	0.0931	+/-0.0541	0.100	pCi/g			MXS2	06/27/20	1243	2008958	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LYT1	06/08/20	0929	2008720

The following Analytical Methods were performed

Method	Description
1	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Strontium Carrier	GFPC, Sr90, Solid "Dry Weight Corrected"	2008958	96.6	(25%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 8, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: 051-SED-1-200603
Sample ID: 512877004
Matrix: Soil
Collect Date: 03-JUN-20
Receive Date: 05-JUN-20
Collector: Client
Moisture: 5.21%

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
GFPC, Sr90, Solid "Dry Weight Corrected"														
Strontium-90	U	0.0216	+/-0.0366	0.0637	+/-0.0369	0.100	pCi/g			MXS2	06/30/20	1352	2008958	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LYT1	06/08/20	0929	2008720

The following Analytical Methods were performed

Method	Description
1	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Strontium Carrier	GFPC, Sr90, Solid "Dry Weight Corrected"	2008958	101	(25%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 8, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: 058-SED-1-200603
Sample ID: 512877005
Matrix: Soil
Collect Date: 03-JUN-20
Receive Date: 05-JUN-20
Collector: Client
Moisture: 37.4%

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
GFPC, Sr90, Solid "Dry Weight Corrected"														
Strontium-90	U	0.000589	+/-0.0516	0.0962	+/-0.0516	0.100	pCi/g			MXS2	06/27/20	1243	2008958	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LYT1	06/08/20	0929	2008720

The following Analytical Methods were performed

Method	Description
1	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Strontium Carrier	GFPC, Sr90, Solid "Dry Weight Corrected"	2008958	101	(25%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 8, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: OW-SED-1-200603
Sample ID: 512877006
Matrix: Soil
Collect Date: 03-JUN-20
Receive Date: 05-JUN-20
Collector: Client
Moisture: 12.7%

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gas Flow Proportional Counting														
GFPC, Sr90, Solid "Dry Weight Corrected"														
Strontium-90	U	-0.0198	+/-0.0535	0.0989	+/-0.0536	0.100	pCi/g			MXS2	06/27/20	1244	2008958	1

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LYT1	06/08/20	0929	2008720

The following Analytical Methods were performed

Method	Description
1	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Strontium Carrier	GFPC, Sr90, Solid "Dry Weight Corrected"	2008958	101	(25%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

QC Summary

Report Date: July 8, 2020

Client : **GSI Environmental Inc.**
155 Grand Ave
Suite 704
Oakland, California

Contact: **Travis Wicks**

Workorder: **512877**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gas Flow										
Batch 2008958										
QC1204574468 512876001 DUP										
Strontium-90	U	0.0454	U	0.0431	pCi/g	0		N/A	MXS2	06/27/2012:42
	Uncert:	+/-0.0581		+/-0.0570						
	TPU:	+/-0.0586		+/-0.0575						
QC1204574469 LCS										
Strontium-90	5.50			4.65	pCi/g		84.4	(75%-125%)	MXS2	06/27/2012:42
	Uncert:			+/-0.282						
	TPU:			+/-0.918						
QC1204574467 MB										
Strontium-90			U	-0.0425	pCi/g				MXS2	06/27/2012:42
	Uncert:			+/-0.0429						
	TPU:			+/-0.0429						

Notes:

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

The Qualifiers in this report are defined as follows:

**	Analyte is a Tracer compound
<	Result is less than value reported
>	Result is greater than value reported
BD	Results are either below the MDC or tracer recovery is low
FA	Failed analysis.
H	Analytical holding time was exceeded
J	See case narrative for an explanation
J	Value is estimated
K	Analyte present. Reported value may be biased high. Actual value is expected to be lower.
L	Analyte present. Reported value may be biased low. Actual value is expected to be higher.
M	M if above MDC and less than LLD
M	REMP Result > MDC/CL and < RDL
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
UI	Gamma Spectroscopy--Uncertain identification
UJ	Gamma Spectroscopy--Uncertain identification
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.

QC Summary

Workorder: **512877**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y Other specific qualifiers were required to properly define the results. Consult case narrative.

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.

h Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
** Indicates analyte is a surrogate/tracer compound.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptence criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

GSI ENVIRONMENTAL

CHAIN-OF-CUSTODY RECORD
Date: 6/4/20
Page 1 of 1

512877

FROM: GSI Environmental Inc. 155 Grand Ave. Suite 704 Oakland, CA 94612 (510) 463-8484	PROJECT NAME: AJU-BB	PROJECT NO.: 5182
	PROJECT CONTACT: Susan Gallardo	LAB CONTACT: Brielle Luthman
	GLOBAL ID: -	SAMPLER(S): (PRINT) Eylin Howell + Josh Voss
TEL: (510) 463-8484	E-MAIL: smgallardo@gsi-net.com; tzwicks@gsi-net.com	
LABORATORY: GEL Laboratories		

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR
☐ 72 HR ☐ 5 DAYS ☒ STANDARD

SPECIAL INSTRUCTIONS:
- Sr-90 MDC of ~~8 pCi/L~~ 0.1 pCi/g - Cs-137 MDC of ~~200 pCi/L~~ 0.1 pCi/g
- H-3 MDC of ~~20,000 pCi/L~~ 0.2 pCi/g (EJH 6/4/20)

REQUESTED ANALYSES
Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME (EJH 6/4/20)	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Sr-90 (905.0)	Cs-137 (901.1)	H-3 (906)
	BP-SED-1-200602	6/2/20	~~6/2/20~~ 1015	Soil	1	X			X		
	RRMDF-SED-1-200602	6/2/20	~~6~~ 1406			X			X		
	SRE-SED-1-200603	6/3/20	0825			X			X		
	OS1-SED-1-200603		0940			X			X		
	OS8-SED-1-200603		1130			X			X		
	OW-SED-1-200603		1230			X			X		

(EJH 6/4/20)

Relinquished by: (Signature)	Received by: (Signature) FEDEX	Date: 6/4/20	Time: ~1445
Relinquished by: (Signature)	Received by: (Signature) Ltg Bo	Date: 6/5/20	Time: 910
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: GSIE	SDG/AR/COC/Work Order: 512877
Received By: STACY BOONE	Date Received: JUNE 5, 2020
Carrier and Tracking Number	Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other 3935 4669 0289-4 3935 4669 0278-21

Suspected Hazard Information	Yes	No	
			*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes___ No___
B) Did the client designate the samples are to be received as radioactive?		✓	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		✓	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): Ø CPM / mR/Hr Classified as: Rad 1 Rad 2 Rad 3
D) Did the client designate samples are hazardous?		✓	COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		✓	If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	✓			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	✓			Preservation Method: Wet Ice Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP:___
4	Daily check performed and passed on IR temperature gun?	✓			Temperature Device Serial #: IR1-19 Secondary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?	✓			Sample ID's and Containers Affected: If Preservation added, Lot#:
7	Do any samples require Volatile Analysis?				If Yes, are Encores or Soil Kits present for solids? Yes___ No___ NA___(If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes___ No___ NA___(If unknown, select No) Are liquid VOA vials free of headspace? Yes___ No___ NA___ Sample ID's and containers affected:
8	Samples received within holding time?	✓			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			ID's and containers affected:
10	Date & time on COC match date & time on bottles?			✓	Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11	Number of containers received match number indicated on COC?	✓			Circle Applicable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided?	✓			
13	COC form is properly signed in relinquished/received sections? SB	✓			Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

058-W-200603 COC TIME: 11:30 SAMPLE TIME: 11:40

PM (or PMA) review: Initials CD Date 6/8/20 Page 1 of 1

GL-CHL-SR-001 Rev 6

List of current GEL Certifications as of 08 July 2020

State	Certification
Alabama	42200
Alaska	17−018
Alaska Drinking Water	SC00012
Arkansas	88−0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH−0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330−15−00283, P330−15−00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C−SC−01
Kansas NELAP	E−10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M−SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE−OS−26−13
Nevada	SC000122020−1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R−158
Oklahoma	2019−165
Pennsylvania NELAP	68−00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235−20−17
Utah NELAP	SC000122020−32
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

Radiochemistry
Technical Case Narrative
GSI Environmental Inc.
SDG #: 512877

Product: **Dry Weight**
Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 23
Preparation Batch: 2008720

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512877001	BP-SED-1-200602
512877002	RRMDF-SED-1-200602
512877003	SRE-SED-2-200603
512877004	051-SED-1-200603
512877005	058-SED-1-200603
512877006	OW-SED-1-200603

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **GFPC, Sr90, Solid**
Analytical Method: EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
Analytical Procedure: GL-RAD-A-004 REV# 21
Analytical Batch: 2008958

Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 23
Preparation Batch: 2008720

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512877001	BP-SED-1-200602
512877002	RRMDF-SED-1-200602
512877003	SRE-SED-2-200603
512877004	051-SED-1-200603
512877005	058-SED-1-200603
512877006	OW-SED-1-200603
1204574467	Method Blank (MB)
1204574468	512876001(HV-1-200603) Sample Duplicate (DUP)

1204574469 Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Recounts
Samples 512877002 (RRMDF-SED-1-200602) and 512877004 (051-SED-1-200603) were recounted due to a suspected false positive. The recounts are reported.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

From: Kalin Howell
To: brielle.luthman@gel.com
Cc: Susan Gallardo
Subject: Re: GEL Analytical Report- SDG 512877
Date: Wednesday, July 8, 2020 11:58:12 AM
Attachments: 512877_070620_1052.pdf

email added to lab report by S.Gallardo on 14 July 2020 to document sample name record

Hi Brielle,

We just talked on the phone about possibly having these samples also analyzed for Cesium and Tritium. Thanks for holding onto them for us. If we go forth with these analyzes, you mentioned that the Cesium and Tritium would be on a new work order and arrive in a separate report, which is fine. We'll get back to you ASAP with a decision...

Meanwhile, can you please reissue the attached report to reflect the following modification:

- Change the name of sample SRE-SED-1-200603 to SRE-SED-**2**-200603
    - This sample was mislabeled on the COC, and we need the "1" changed to a "2"

Thanks!

-Kalin

From: GEL Data <data@gellaboratories.com>
Sent: Monday, July 6, 2020 7:53 AM
To: Travis Wicks <TZWicks@gsi-net.com>
Cc: brielle.luthman@gel.com <brielle.luthman@gel.com>; Brielle.Luthman@gel.com <Brielle.Luthman@gel.com>; Susan Gallardo <SMGallardo@gsi-net.com>; Kalin Howell <kjhowell@gsi-net.com>
Subject: GEL Analytical Report- SDG 512877

Attached are the results for the samples received on June 05, 2020. Please contact us if there are any questions.

Sincerely,
Brielle Luthman

Do not reply to data@gellaboratories.com as this email address is not monitored. Please contact your project manager, Brielle Luthman, at Team.Luthman@gel.com regarding this message or its attachments.

GEL Laboratories LLC
a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.556.8171
F 843.766.1178

gel.com

August 03, 2020

Travis Wicks
GSI Environmental Inc.
155 Grand Ave
Suite 704
Oakland, California 94612

Re: Near S SFL
Work Order: 515328

Dear Travis Wicks:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on June 05, 2020. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4487.

Sincerely,

B Luthman

Brielle Luthman
Project Manager

Purchase Order: 5182
Enclosures

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 − (843) 556−8171 − www.gel.com

Certificate of Analysis Report
for

GSIE002 GSI Environmental Inc.

Client SDG: 515328 GEL Work Order: 515328

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a Tracer compound

** Analyte is a surrogate compound

U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Brielle Luthman.

Reviewed by B Luthman

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: August 3, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: BP-SED-1-200602
Sample ID: 515328001
Matrix: Soil
Collect Date: 02-JUN-20
Receive Date: 05-JUN-20
Collector: Client
Moisture: 29.3%

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Cesium-137		0.110	+/-0.0803	0.0747	+/-0.0808	0.100	pCi/g			MXR1	07/17/20	0722	2020210	1
Rad Liquid Scintillation Analysis														
LSC, Tritium Distillation, Soil "As Received"														
Tritium	U	-0.726	+/-1.79	3.14	+/-1.79	0.200	pCi/g			EW3	08/01/20	1243	2021227	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	06/08/20	0929	2020164

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R
2	EPA 906.0 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: August 3, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: RRMDF-SED-1-200602
Sample ID: 515328002
Matrix: Soil
Collect Date: 02-JUN-20
Receive Date: 05-JUN-20
Collector: Client
Moisture: 4.75%

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Cesium-137		0.198	+/-0.0892	0.0601	+/-0.0906	0.100	pCi/g			MXR1	07/17/20	0723	2020210	1
Rad Liquid Scintillation Analysis														
LSC, Tritium Distillation, Soil "As Received"														
Tritium	U	-0.151	+/-1.99	3.45	+/-1.99	0.200	pCi/g			EW3	08/01/20	1548	2021227	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	06/08/20	0929	2020164

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R
2	EPA 906.0 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: August 3, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: SRE-SED-2-200603
Sample ID: 515328003
Matrix: Soil
Collect Date: 03-JUN-20
Receive Date: 05-JUN-20
Collector: Client
Moisture: 29.8%

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Cesium-137		0.0567	+/-0.0402	0.0480	+/-0.0405	0.100	pCi/g			MXR1	07/21/20	0944	2020210	1
Rad Liquid Scintillation Analysis														
LSC, Tritium Distillation, Soil "As Received"														
Tritium	U	-1.20	+/-1.76	3.11	+/-1.76	0.200	pCi/g			EW3	08/01/20	1853	2021227	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	06/08/20	0929	2020164

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R
2	EPA 906.0 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: August 3, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: 051-SED-1-200603
Sample ID: 515328004
Matrix: Soil
Collect Date: 03-JUN-20
Receive Date: 05-JUN-20
Collector: Client
Moisture: 5.21%

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Cesium-137	U	-0.00536	+/-0.0296	0.0528	+/-0.0297	0.100	pCi/g			MXR1	07/21/20	0945	2020210	1
Rad Liquid Scintillation Analysis														
LSC, Tritium Distillation, Soil "As Received"														
Tritium	U	0.627	+/-1.83	3.13	+/-1.84	0.200	pCi/g			EW3	08/01/20	2158	2021227	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	06/08/20	0929	2020164

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R
2	EPA 906.0 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: August 3, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: 058-SED-1-200603
Sample ID: 515328005
Matrix: Soil
Collect Date: 03-JUN-20
Receive Date: 05-JUN-20
Collector: Client
Moisture: 37.4%

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Cesium-137	U	0.0638	+/-0.0475	0.0989	+/-0.0558	0.100	pCi/g			MXR1	07/21/20	0945	2020210	1
Rad Liquid Scintillation Analysis														
LSC, Tritium Distillation, Soil "As Received"														
Tritium	U	-1.13	+/-1.82	3.21	+/-1.82	0.200	pCi/g			EW3	08/02/20	0103	2021227	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	06/08/20	0929	2020164

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R
2	EPA 906.0 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: August 3, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: OW-SED-1-200603
Sample ID: 515328006
Matrix: Soil
Collect Date: 03-JUN-20
Receive Date: 05-JUN-20
Collector: Client
Moisture: 12.7%

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "Dry Weight Corrected"														
Cesium-137		0.0720	+/-0.0331	0.0393	+/-0.0337	0.100	pCi/g			MXR1	07/21/20	1003	2020210	1
Rad Liquid Scintillation Analysis														
LSC, Tritium Distillation, Soil "As Received"														
Tritium	U	-1.52	+/-1.85	3.28	+/-1.85	0.200	pCi/g			EW3	08/02/20	0647	2021227	2

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	CXC1	06/08/20	0929	2020164

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R
2	EPA 906.0 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

QC Summary

Client : **GSI Environmental Inc.**
155 Grand Ave
Suite 704
Oakland, California

Contact: **Travis Wicks**

Workorder: **515328**

Report Date: August 3, 2020

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 2020210										
QC1204597829 515328003 DUP										
Cesium-137		0.0567	U	0.0592	pCi/g	38.7		(0% - 100%)	MXR1	07/21/2016:36
Uncert:		+/-0.0402		+/-0.0751						
TPU:		+/-0.0405		+/-0.0753						
QC1204597830 LCS										
Americium-241	486			515	pCi/g		106	(75%-125%)	MXR1	07/21/2014:09
Uncert:				+/-5.13						
TPU:				+/-48.9						
Cobalt-60	98.8			95.9	pCi/g		97	(75%-125%)		
Uncert:				+/-3.48						
TPU:				+/-8.57						
Cesium-137	165			165	pCi/g		100	(75%-125%)		
Uncert:				+/-3.54						
TPU:				+/-14.1						
QC1204597828 MB										
Cesium-137			U	0.0129	pCi/g				MXR1	07/17/2012:06
Uncert:				+/-0.0189						
TPU:				+/-0.0198						
Rad Liquid Scintillation										
Batch 2021227										
QC1204600120 515328005 DUP										
Tritium	U	-1.13	U	0.245	pCi/g	0		N/A	EW3	08/02/2012:57
Uncert:		+/-1.82		+/-1.85						
TPU:		+/-1.82		+/-1.85						
QC1204600122 LCS										
Tritium	77.4			68.2	pCi/g		88.1	(75%-125%)	EW3	08/02/2016:15
Uncert:				+/-10.9						
TPU:				+/-18.9						
QC1204600119 MB										
Tritium			U	-0.296	pCi/g				EW3	08/02/2009:52
Uncert:				+/-1.79						
TPU:				+/-1.79						
QC1204600121 515328005 MS										
Tritium	79.7 U	-1.13		70.2	pCi/g		88.1	(75%-125%)	EW3	08/02/2015:59
Uncert:		+/-1.82		+/-11.0						
TPU:		+/-1.82		+/-19.4						

Notes:

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

The Qualifiers in this report are defined as follows:

** Analyte is a Tracer compound

QC Summary

Workorder: **515328**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time

<	Result is less than value reported
>	Result is greater than value reported
BD	Results are either below the MDC or tracer recovery is low
FA	Failed analysis.
H	Analytical holding time was exceeded
J	See case narrative for an explanation
J	Value is estimated
K	Analyte present. Reported value may be biased high. Actual value is expected to be lower.
L	Analyte present. Reported value may be biased low. Actual value is expected to be higher.
M	M if above MDC and less than LLD
M	REMP Result > MDC/CL and < RDL
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
UI	Gamma Spectroscopy--Uncertain identification
UJ	Gamma Spectroscopy--Uncertain identification
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h	Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
** Indicates analyte is a surrogate/tracer compound.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptence criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

GSI ENVIRONMENTAL

CHAIN-OF-CUSTODY RECORD
Date: 6/4/20
Page 1 of 1

512877

FROM: GSI Environmental Inc. 155 Grand Ave. Suite 704 Oakland, CA 94612 (510) 463-8484	PROJECT NAME: AJU-BB	PROJECT NO.: 5182
	PROJECT CONTACT: Susan Gallardo	LAB CONTACT: Brielle Luthman
	GLOBAL ID: -	SAMPLER(S): (PRINT) Eglin Howell + Josh Voss
TEL: (510) 463-8484	E-MAIL: smgallardo@gsi-net.com; tzwicks@gsi-net.com	
LABORATORY: GEL Laboratories		

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR
☐ 72 HR ☐ 5 DAYS ☒ STANDARD

SPECIAL INSTRUCTIONS:
- Sr-90 MDC of ~~8 pCi/L~~ 0.1 pCi/g - Cs-137 MDC of ~~200 pCi/L~~ 0.1 pCi/g
- H-3 MDC of ~~20,000 pCi/L~~ 0.2 pCi/g (EJH 6/4/20)

REQUESTED ANALYSES
Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME (EJH 6/4/20)	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Sr-90 (905.0)	Cs-137 (901.1)	H-3 (906)
	BP-SED-1-200602	6/2/20	~~6/2/20~~ 1015	Soil	1	X			X		
	RRMDF-SED-1-200602	6/2/20	~~6~~ 1406			X			X		
	SRE-SED-1-200603	6/3/20	0825			X			X		
	OS1-SED-1-200603		0940			X			X		
	OS8-SED-1-200603		1130			X			X		
	OW-SED-1-200603		1230			X			X		

EJH 6/4/20

Relinquished by: (Signature)	Received by: (Signature) FEDEX	Date: 6/4/20	Time: ~1445
Relinquished by: (Signature)	Received by: (Signature) Itty Bo	Date: 6/5/20	Time: 910
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: GSIE	SDG/AR/COC/Work Order: 512877
Received By: STACY BOONE	Date Received: JUNE 5, 2020
Carrier and Tracking Number	Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other 3935 4669 0289-4 3935 4669 0278-21

Suspected Hazard Information	Yes	No	
			*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes___ No___
B) Did the client designate the samples are to be received as radioactive?		✓	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		✓	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): Ø CPM / mR/Hr Classified as: Rad 1 Rad 2 Rad 3
D) Did the client designate samples are hazardous?		✓	COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		✓	If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	✓			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	✓			Preservation Method: Wet Ice Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP:_____
4	Daily check performed and passed on IR temperature gun?	✓			Temperature Device Serial #: IR1-19 Secondary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?	✓			Sample ID's and Containers Affected: If Preservation added, Lot#:
7	Do any samples require Volatile Analysis?				If Yes, are Encores or Soil Kits present for solids? Yes___ No___ NA___(If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes___ No___ NA___(If unknown, select No) Are liquid VOA vials free of headspace? Yes___ No___ NA___ Sample ID's and containers affected:
8	Samples received within holding time?	✓			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			ID's and containers affected:
10	Date & time on COC match date & time on bottles?			✓	Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11	Number of containers received match number indicated on COC?	✓			Circle Applicable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided?	✓			
13	COC form is properly signed in relinquished/received sections? SB	✓			Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

058-W-200603 COC TIME: 11:30 SAMPLE TIME: 11:40

PM (or PMA) review: Initials CD Date 6/8/20 Page 1 of 1

GL-CHL-SR-001 Rev 6

List of current GEL Certifications as of 03 August 2020

State	Certification
Alabama	42200
Alaska	17−018
Alaska Drinking Water	SC00012
Arkansas	88−0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH−0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330−15−00283, P330−15−00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C−SC−01
Kansas NELAP	E−10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M−SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE−OS−26−13
Nevada	SC000122020−1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R−158
Oklahoma	2019−165
Pennsylvania NELAP	68−00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235−20−17
Utah NELAP	SC000122020−32
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

Radiochemistry
Technical Case Narrative
GSI Environmental Inc.
SDG #: 515328

Product: **Dry Weight**
Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 23
Preparation Batch: 2020164

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
515328001	BP-SED-1-200602
515328002	RRMDF-SED-1-200602
515328003	SRE-SED-2-200603
515328004	051-SED-1-200603
515328005	058-SED-1-200603
515328006	OW-SED-1-200603

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Miscellaneous Information

Additional Comments
These samples are relogs. The data for this batch was transferred from batch 2008720.

Product: **Gammaspec, Gamma, Solid (Standard List)**
Analytical Method: DOE HASL 300, 4.5.2.3/Ga-01-R
Analytical Procedure: GL-RAD-A-013 REV# 27
Analytical Batch: 2020210

Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 23
Preparation Batch: 2020164

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
515328001	BP-SED-1-200602
515328002	RRMDF-SED-1-200602
515328003	SRE-SED-2-200603

515328004	051-SED-1-200603
515328005	058-SED-1-200603
515328006	OW-SED-1-200603
1204597828	Method Blank (MB)
1204597829	515328003(SRE-SED-2-200603) Sample Duplicate (DUP)
1204597830	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on a "dry weight" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **LSC, Tritium Distillation, Soil**
Analytical Method: EPA 906.0 Modified
Analytical Procedure: GL-RAD-A-002 REV# 23
Analytical Batch: 2021227

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
515328001	BP-SED-1-200602
515328002	RRMDF-SED-1-200602
515328003	SRE-SED-2-200603
515328004	051-SED-1-200603
515328005	058-SED-1-200603
515328006	OW-SED-1-200603
1204600119	Method Blank (MB)
1204600120	515328005(058-SED-1-200603) Sample Duplicate (DUP)
1204600121	515328005(058-SED-1-200603) Matrix Spike (MS)
1204600122	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Quality Control (QC) Information

RDL Met
Samples (See Below) did not meet the detection limits. Samples were counted the maximum count time in order to achieve the lowest MDAs possible.

Sample	Analyte	Value
1204600119 (MB)	Tritium	Result -0.296 < MDA 3.11 > RDL 0.2 pCi/g
1204600120 (058-SED-1-200603DUP)	Tritium	Result 0.245 < MDA 3.18 > RDL 0.2 pCi/g

515328001 (BP-SED-1-200602)	Tritium	Result -0.726 < MDA 3.14 > RDL 0.2 pCi/g
515328002 (RRMDF-SED-1-200602)	Tritium	Result -0.151 < MDA 3.45 > RDL 0.2 pCi/g
515328003 (SRE-SED-2-200603)	Tritium	Result -1.2 < MDA 3.11 > RDL 0.2 pCi/g
515328004 (051-SED-1-200603)	Tritium	Result 0.627 < MDA 3.13 > RDL 0.2 pCi/g
515328005 (058-SED-1-200603)	Tritium	Result -1.13 < MDA 3.21 > RDL 0.2 pCi/g
515328006 (OW-SED-1-200603)	Tritium	Result -1.52 < MDA 3.28 > RDL 0.2 pCi/g

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

From: Susan Gallardo
To: Brielle Luthman
Cc: Kalin Howell
Subject: RE: GEL Analytical Report- SDG 512877
Date: Tuesday, July 14, 2020 5:46:00 PM
Attachments: 2788_001.pdf

Hi Brielle –

I have attached a revised chain of custody form requesting additional analyses for sediment samples GSI collected on June 2nd and 3rd. To summarize, please add the following on a standard turnaround time:

Sample Designation	Sample Collection Date	Requested Analyses	
		Tritium	Cesium 137
BP-SED-1-200602	2 June 2020	X	X
RRMDF-SED-1-200602	2 June 2020	X	X
SRE-SED-2-200603	3 June 2020	X	X
OS1-SED-1-200603	3 June 2020	X	X
OS8-SED-1-200603	3 June 2020	X	X
OW-SED-1-200603	3 June 2020	X	X

Thank you,

Susan

Susan Gallardo, PE | Principal Engineer | GSI Environmental Inc.
phone 510.463.8483 | cell 510.520.2363
smgallardo@gsi-net.com

From: Brielle Luthman <Brielle.Luthman@gel.com>
Sent: Tuesday, July 14, 2020 8:37 AM
To: Kalin Howell <kjhowell@gsi-net.com>
Cc: Susan Gallardo <SMGallardo@gsi-net.com>
Subject: RE: GEL Analytical Report- SDG 512877

Kalin,
Any update on the samples you may want us to run for additional analysis?
Brielle

From: Kalin Howell <kjhowell@gsi-net.com>
Sent: Wednesday, July 8, 2020 2:58 PM
To: Brielle Luthman <Brielle.Luthman@gel.com>
Cc: Susan Gallardo <SMGallardo@gsi-net.com>
Subject: Re: GEL Analytical Report- SDG 512877

Hi Brielle,

We just talked on the phone about possibly having these samples also analyzed for Cesium and Tritium. Thanks for holding onto them for us. If we go forth with these analyzes, you mentioned that the Cesium and Tritium would be on a new work order and arrive in a separate report, which is fine. We'll get back to you ASAP with a decision...

Meanwhile, can you please reissue the attached report to reflect the following modification:

- Change the name of sample SRE-SED-1-200603 to SRE-SED-**2**-200603
    - This sample was mislabeled on the COC, and we need the "1" changed to a "2"

Thanks!

-Kalin

From: GEL Data <data@gellaboratories.com>
Sent: Monday, July 6, 2020 7:53 AM
To: Travis Wicks <TZWicks@gsi-net.com>
Cc: brielle.luthman@gel.com <brielle.luthman@gel.com>; Brielle.Luthman@gel.com <Brielle.Luthman@gel.com>; Susan Gallardo <SMGallardo@gsi-net.com>; Kalin Howell <kjhowell@gsi-net.com>
Subject: GEL Analytical Report- SDG 512877

Attached are the results for the samples received on June 05, 2020. Please contact us if there are any questions.

Sincerely,
Brielle Luthman

Do not reply to data@gellaboratories.com as this email address is not monitored. Please contact your project manager, Brielle Luthman, at Team.Luthman@gel.com regarding this message or its attachments.

GSI ENVIRONMENTAL

CHAIN-OF-CUSTODY RECORD

Date: 6/4/20

Page 1 of 1

512877

Please analyze each of these samples for the analyses shown. S. Gallardo, 7/14/2020 f. Gallardo

FROM: GSI Environmental Inc. 155 Grand Ave. Suite 704 Oakland, CA 94612 (510) 463-8484	PROJECT NAME: AJU-BB PROJECT CONTACT: Susan Gallardo GLOBAL ID: -	PROJECT NO.: 5182 LAB CONTACT: Brielle Luthman SAMPLER(S): (PRINT) Eylin Howell + Josh Voss
TEL: (510) 463-8484	E-MAIL: smgallardo@gsi-net.com; tzwicks@gsi-net.com	
LABORATORY: GEL Laboratories		

TURNAROUND TIME: ☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ STANDARD

SPECIAL INSTRUCTIONS:
- Sr-90 MDC of ~~8 pCi/L~~ 0.1 pCi/g - Cs-137 MDC of ~~200 pCi/L~~ 0.1 pCi/g
- H-3 MDC of ~~20,000 pCi/L~~ 0.2 pCi/g (EJH 6/4/20)

REQUESTED ANALYSES
Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME (EJH 6/4/20)	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Sr-90 (905.0)	Cs-137 (901.1)	H-3 (906)
	BP-SED-1-200602	6/2/20	~~6/2/20~~ 1015	Soil	1	X			X	X	X
	ERMDE-SED-1-200602	6/2/20	~~6~~ 1406			X			X	X	X
	SRE-SED-1-200603	6/3/20	0825			X			X	X	X
	OSI-SED-1-200603		0940			X			X	X	X
	OSS-SED-1-200603		1130			X			X	X	X
	OW-SED-1-200603		1330			X			X	X	X

incorrect Sample Name - revised to {SRE-SED-2-200603 via 7/8 email from K. Howell to GEL (B. Luthman)

Relinquished by: (Signature)	Received by: (Signature) FEDEX	Date: 6/4/20	Time: ~1445
Relinquished by: (Signature)	Received by: (Signature) [illegible]	Date: 6/5/20	Time: 910
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

GSI ENVIRONMENTAL

2020 Monitoring Report

American Jewish University, Brandeis-Bardin Campus
1101 Peppertree Lane
Brandeis, California

Appendix D

Analytical Laboratory Reports – Drainage Areas Water Samples

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Pleasanton
1220 Quarry Lane
Pleasanton, CA 94566
Tel: (925)484-1919

Laboratory Job ID: 720-98770-1
Client Project/Site: AJU-BB
Revision: 1

For:
GSI Environmental, Inc
155 Grand Avenue
Suite 704
Oakland, California 94612

Attn: Susan Gallardo

Authorized for release by:
6/24/2020 1:50:57 PM

Afsaneh Salimpour, Senior Project Manager
(925)484-1919
afsaneh.salimpour@testamericainc.com

Table of Contents

Definitions/Glossary

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98770-1

Glossary

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

Case Narrative

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98770-1

Job ID: 720-98770-1

Laboratory: Eurofins TestAmerica, Pleasanton

Narrative

Job Narrative
720-98770-1

Revised Report on 6/24/20 to report to RL.

Comments
No additional comments.

Receipt
The samples were received on 6/4/2020 4:05 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.8º C.

Receipt Exceptions
The container label for the following sample did not match the information listed on the Chain-of-Custody (COC): OS8-W-200603 (720-98770-1). The time listed on the COC for sample # 1 was 11:30 and on the containers was listed 11:40

GC/MS VOA

Method 8260B: The continuing calibration verification (CCV) associated with batch 440-612382 recovered above the upper control limit for Vinyl chloride. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: TB-200604 (720-98770-5) and (CCVIS 440-612382/2).

Method 8260B: Internal standard (ISTD) response for TBA-d9 for the following sample was outside acceptance criteria: (CCVIS 440-612382/2). This ISTD does not correspond to any of the requested target compounds; therefore, the data have been reported.

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

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

Metals
Method 6010B: The method blank for preparation batch 440-611699 and analytical batch 440-611848 contained Zinc above the method detection limit. This target analyte concentration was less than the reporting limit (RL); therefore, re-extraction and/or re-analysis of samples was not performed.

Method 6010B: The continuing calibration blank (CCB) for analytical batch 440-612023 contained <AffectedAnalytes> above the reporting limit (RL). All reported samples associated with this CCB were either ND for this analyte or contained this analyte at a concentration greater than 10X the value found in the CCB; therefore, re-analysis of samples was not performed.

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

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

Detection Summary

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98770-1

Client Sample ID: OS8-W-200603 — Lab Sample ID: 720-98770-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	3.0		1.0		ug/L	1		8260B	Total/NA
Barium	0.046		0.010		mg/L	1		6010B	Total Recoverable

Client Sample ID: OS3-W-200602 — Lab Sample ID: 720-98770-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.038		0.010		mg/L	1		6010B	Total Recoverable

Client Sample ID: OS357-W-200602 — Lab Sample ID: 720-98770-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.034		0.010		mg/L	1		6010B	Total Recoverable
Zinc	0.048		0.020		mg/L	1		6010B	Total Recoverable

Client Sample ID: SRE-W-200603 — Lab Sample ID: 720-98770-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	0.13		0.010		mg/L	1		6010B	Total Recoverable
Chromium	0.015		0.0050		mg/L	1		6010B	Total Recoverable
Copper	0.019		0.010		mg/L	1		6010B	Total Recoverable
Lead	0.012		0.0050		mg/L	1		6010B	Total Recoverable
Vanadium	0.031		0.010		mg/L	1		6010B	Total Recoverable
Zinc	0.086		0.020		mg/L	1		6010B	Total Recoverable

Client Sample ID: TB-200604 — Lab Sample ID: 720-98770-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Naphthalene	1.2		1.0		ug/L	1		8260B	Total/NA

This Detection Summary does not include radiochemical test results.

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98770-1

Client Sample ID: OS8-W-200603
Date Collected: 06/03/20 11:30
Date Received: 06/04/20 16:05

Lab Sample ID: 720-98770-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50		ug/L			06/09/20 18:19	1
1,1,1-Trichloroethane	ND		0.50		ug/L			06/09/20 18:19	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			06/09/20 18:19	1
1,1,2-Trichloroethane	ND		0.50		ug/L			06/09/20 18:19	1
1,1-Dichloroethane	ND		0.50		ug/L			06/09/20 18:19	1
1,1-Dichloroethene	ND		0.50		ug/L			06/09/20 18:19	1
1,1-Dichloropropene	ND		0.50		ug/L			06/09/20 18:19	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			06/09/20 18:19	1
1,2,3-Trichloropropane	ND		1.0		ug/L			06/09/20 18:19	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			06/09/20 18:19	1
1,2,4-Trimethylbenzene	ND		0.50		ug/L			06/09/20 18:19	1
1,2-Dibromo-3-Chloropropane	ND		1.0		ug/L			06/09/20 18:19	1
1,2-Dibromoethane (EDB)	ND		0.50		ug/L			06/09/20 18:19	1
1,2-Dichlorobenzene	ND		0.50		ug/L			06/09/20 18:19	1
1,2-Dichloroethane	ND		0.50		ug/L			06/09/20 18:19	1
1,2-Dichloropropane	ND		0.50		ug/L			06/09/20 18:19	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			06/09/20 18:19	1
1,3-Dichlorobenzene	ND		0.50		ug/L			06/09/20 18:19	1
1,3-Dichloropropane	ND		0.50		ug/L			06/09/20 18:19	1
1,4-Dichlorobenzene	ND		0.50		ug/L			06/09/20 18:19	1
2,2-Dichloropropane	ND		1.0		ug/L			06/09/20 18:19	1
2-Chlorotoluene	ND		0.50		ug/L			06/09/20 18:19	1
4-Chlorotoluene	ND		0.50		ug/L			06/09/20 18:19	1
Benzene	ND		0.50		ug/L			06/09/20 18:19	1
Bromobenzene	ND		0.50		ug/L			06/09/20 18:19	1
Bromochloromethane	ND		0.50		ug/L			06/09/20 18:19	1
Bromodichloromethane	ND		0.50		ug/L			06/09/20 18:19	1
Bromoform	ND		1.0		ug/L			06/09/20 18:19	1
Bromomethane	ND		0.50		ug/L			06/09/20 18:19	1
Carbon tetrachloride	ND		0.50		ug/L			06/09/20 18:19	1
Chlorobenzene	ND		0.50		ug/L			06/09/20 18:19	1
Chloroethane	ND		1.0		ug/L			06/09/20 18:19	1
Chloroform	ND		0.50		ug/L			06/09/20 18:19	1
Chloromethane	ND		0.50		ug/L			06/09/20 18:19	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			06/09/20 18:19	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			06/09/20 18:19	1
Dibromochloromethane	ND		0.50		ug/L			06/09/20 18:19	1
Dibromomethane	ND		0.50		ug/L			06/09/20 18:19	1
Dichlorodifluoromethane	ND		1.0		ug/L			06/09/20 18:19	1
Ethylbenzene	ND		0.50		ug/L			06/09/20 18:19	1
Hexachlorobutadiene	ND		0.50		ug/L			06/09/20 18:19	1
Isopropylbenzene	ND		0.50		ug/L			06/09/20 18:19	1
m,p-Xylene	ND		1.0		ug/L			06/09/20 18:19	1
Methylene Chloride	ND		2.0		ug/L			06/09/20 18:19	1
Naphthalene	**3.0**		1.0		ug/L			06/09/20 18:19	1
n-Butylbenzene	ND		1.0		ug/L			06/09/20 18:19	1
N-Propylbenzene	ND		0.50		ug/L			06/09/20 18:19	1
o-Xylene	ND		0.50		ug/L			06/09/20 18:19	1
p-Isopropyltoluene	ND		0.50		ug/L			06/09/20 18:19	1

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98770-1

Client Sample ID: OS8-W-200603
Date Collected: 06/03/20 11:30
Date Received: 06/04/20 16:05

Lab Sample ID: 720-98770-1
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		0.50		ug/L			06/09/20 18:19	1
sec-Butylbenzene	ND		0.50		ug/L			06/09/20 18:19	1
tert-Butylbenzene	ND		0.50		ug/L			06/09/20 18:19	1
Tetrachloroethene	ND		0.50		ug/L			06/09/20 18:19	1
Toluene	ND		0.50		ug/L			06/09/20 18:19	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			06/09/20 18:19	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			06/09/20 18:19	1
Trichloroethene	ND		0.50		ug/L			06/09/20 18:19	1
Trichlorofluoromethane	ND		0.50		ug/L			06/09/20 18:19	1
Vinyl chloride	ND		0.50		ug/L			06/09/20 18:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*06/09/20 18:19*	*1*
Dibromofluoromethane (Surr)	*93*		*76 - 132*		*06/09/20 18:19*	*1*
Toluene-d8 (Surr)	*103*		*80 - 128*		*06/09/20 18:19*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0		ug/L			06/11/20 11:28	1

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010		mg/L		06/08/20 11:16	06/09/20 19:51	1
Arsenic	ND		0.010		mg/L		06/08/20 11:16	06/08/20 19:00	1
Barium	**0.046**		0.010		mg/L		06/08/20 11:16	06/08/20 19:00	1
Beryllium	ND		0.0020		mg/L		06/08/20 11:16	06/08/20 19:00	1
Cadmium	ND		0.0050		mg/L		06/08/20 11:16	06/08/20 19:00	1
Chromium	ND		0.0050		mg/L		06/08/20 11:16	06/08/20 19:00	1
Cobalt	ND		0.010		mg/L		06/08/20 11:16	06/08/20 19:00	1
Copper	ND		0.010		mg/L		06/08/20 11:16	06/08/20 19:00	1
Lead	ND		0.0050		mg/L		06/08/20 11:16	06/08/20 19:00	1
Molybdenum	ND		0.020		mg/L		06/08/20 11:16	06/08/20 19:00	1
Nickel	ND		0.010		mg/L		06/08/20 11:16	06/08/20 19:00	1
Selenium	ND		0.010		mg/L		06/08/20 11:16	06/08/20 19:00	1
Thallium	ND		0.010		mg/L		06/08/20 11:16	06/08/20 19:00	1
Vanadium	ND		0.010		mg/L		06/08/20 11:16	06/08/20 19:00	1
Zinc	ND		0.020		mg/L		06/08/20 11:16	06/08/20 19:00	1
Silver	ND		0.010		mg/L		06/08/20 11:16	06/09/20 19:51	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/05/20 08:57	06/08/20 12:13	1

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98770-1

Client Sample ID: OS3-W-200602
Date Collected: 06/02/20 10:25
Date Received: 06/04/20 16:05

Lab Sample ID: 720-98770-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50		ug/L			06/09/20 18:47	1
1,1,1-Trichloroethane	ND		0.50		ug/L			06/09/20 18:47	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			06/09/20 18:47	1
1,1,2-Trichloroethane	ND		0.50		ug/L			06/09/20 18:47	1
1,1-Dichloroethane	ND		0.50		ug/L			06/09/20 18:47	1
1,1-Dichloroethene	ND		0.50		ug/L			06/09/20 18:47	1
1,1-Dichloropropene	ND		0.50		ug/L			06/09/20 18:47	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			06/09/20 18:47	1
1,2,3-Trichloropropane	ND		1.0		ug/L			06/09/20 18:47	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			06/09/20 18:47	1
1,2,4-Trimethylbenzene	ND		0.50		ug/L			06/09/20 18:47	1
1,2-Dibromo-3-Chloropropane	ND		1.0		ug/L			06/09/20 18:47	1
1,2-Dibromoethane (EDB)	ND		0.50		ug/L			06/09/20 18:47	1
1,2-Dichlorobenzene	ND		0.50		ug/L			06/09/20 18:47	1
1,2-Dichloroethane	ND		0.50		ug/L			06/09/20 18:47	1
1,2-Dichloropropane	ND		0.50		ug/L			06/09/20 18:47	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			06/09/20 18:47	1
1,3-Dichlorobenzene	ND		0.50		ug/L			06/09/20 18:47	1
1,3-Dichloropropane	ND		0.50		ug/L			06/09/20 18:47	1
1,4-Dichlorobenzene	ND		0.50		ug/L			06/09/20 18:47	1
2,2-Dichloropropane	ND		1.0		ug/L			06/09/20 18:47	1
2-Chlorotoluene	ND		0.50		ug/L			06/09/20 18:47	1
4-Chlorotoluene	ND		0.50		ug/L			06/09/20 18:47	1
Benzene	ND		0.50		ug/L			06/09/20 18:47	1
Bromobenzene	ND		0.50		ug/L			06/09/20 18:47	1
Bromochloromethane	ND		0.50		ug/L			06/09/20 18:47	1
Bromodichloromethane	ND		0.50		ug/L			06/09/20 18:47	1
Bromoform	ND		1.0		ug/L			06/09/20 18:47	1
Bromomethane	ND		0.50		ug/L			06/09/20 18:47	1
Carbon tetrachloride	ND		0.50		ug/L			06/09/20 18:47	1
Chlorobenzene	ND		0.50		ug/L			06/09/20 18:47	1
Chloroethane	ND		1.0		ug/L			06/09/20 18:47	1
Chloroform	ND		0.50		ug/L			06/09/20 18:47	1
Chloromethane	ND		0.50		ug/L			06/09/20 18:47	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			06/09/20 18:47	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			06/09/20 18:47	1
Dibromochloromethane	ND		0.50		ug/L			06/09/20 18:47	1
Dibromomethane	ND		0.50		ug/L			06/09/20 18:47	1
Dichlorodifluoromethane	ND		1.0		ug/L			06/09/20 18:47	1
Ethylbenzene	ND		0.50		ug/L			06/09/20 18:47	1
Hexachlorobutadiene	ND		0.50		ug/L			06/09/20 18:47	1
Isopropylbenzene	ND		0.50		ug/L			06/09/20 18:47	1
m,p-Xylene	ND		1.0		ug/L			06/09/20 18:47	1
Methylene Chloride	ND		2.0		ug/L			06/09/20 18:47	1
Naphthalene	ND		1.0		ug/L			06/09/20 18:47	1
n-Butylbenzene	ND		1.0		ug/L			06/09/20 18:47	1
N-Propylbenzene	ND		0.50		ug/L			06/09/20 18:47	1
o-Xylene	ND		0.50		ug/L			06/09/20 18:47	1
p-Isopropyltoluene	ND		0.50		ug/L			06/09/20 18:47	1

Client Sample ID: OS3-W-200602
Date Collected: 06/02/20 10:25
Date Received: 06/04/20 16:05

Lab Sample ID: 720-98770-2
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		0.50		ug/L			06/09/20 18:47	1
sec-Butylbenzene	ND		0.50		ug/L			06/09/20 18:47	1
tert-Butylbenzene	ND		0.50		ug/L			06/09/20 18:47	1
Tetrachloroethene	ND		0.50		ug/L			06/09/20 18:47	1
Toluene	ND		0.50		ug/L			06/09/20 18:47	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			06/09/20 18:47	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			06/09/20 18:47	1
Trichloroethene	ND		0.50		ug/L			06/09/20 18:47	1
Trichlorofluoromethane	ND		0.50		ug/L			06/09/20 18:47	1
Vinyl chloride	ND		0.50		ug/L			06/09/20 18:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*06/09/20 18:47*	*1*
Dibromofluoromethane (Surr)	*92*		*76 - 132*		*06/09/20 18:47*	*1*
Toluene-d8 (Surr)	*103*		*80 - 128*		*06/09/20 18:47*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0		ug/L			06/11/20 11:45	1

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010		mg/L		06/08/20 11:16	06/11/20 14:31	1
Arsenic	ND		0.010		mg/L		06/08/20 11:16	06/08/20 19:02	1
Barium	**0.038**		0.010		mg/L		06/08/20 11:16	06/08/20 19:02	1
Beryllium	ND		0.0020		mg/L		06/08/20 11:16	06/08/20 19:02	1
Cadmium	ND		0.0050		mg/L		06/08/20 11:16	06/08/20 19:02	1
Chromium	ND		0.0050		mg/L		06/08/20 11:16	06/08/20 19:02	1
Cobalt	ND		0.010		mg/L		06/08/20 11:16	06/08/20 19:02	1
Copper	ND		0.010		mg/L		06/08/20 11:16	06/08/20 19:02	1
Lead	ND		0.0050		mg/L		06/08/20 11:16	06/08/20 19:02	1
Molybdenum	ND		0.020		mg/L		06/08/20 11:16	06/08/20 19:02	1
Nickel	ND		0.010		mg/L		06/08/20 11:16	06/08/20 19:02	1
Selenium	ND		0.010		mg/L		06/08/20 11:16	06/08/20 19:02	1
Thallium	ND		0.010		mg/L		06/08/20 11:16	06/08/20 19:02	1
Vanadium	ND		0.010		mg/L		06/08/20 11:16	06/08/20 19:02	1
Zinc	ND		0.020		mg/L		06/08/20 11:16	06/08/20 19:02	1
Silver	ND		0.010		mg/L		06/08/20 11:16	06/09/20 19:53	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/05/20 08:57	06/08/20 12:15	1

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98770-1

Client Sample ID: OS357-W-200602
Date Collected: 06/02/20 11:05
Date Received: 06/04/20 16:05

Lab Sample ID: 720-98770-3
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50		ug/L			06/10/20 06:19	1
1,1,1-Trichloroethane	ND		0.50		ug/L			06/10/20 06:19	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			06/10/20 06:19	1
1,1,2-Trichloroethane	ND		0.50		ug/L			06/10/20 06:19	1
1,1-Dichloroethane	ND		0.50		ug/L			06/10/20 06:19	1
1,1-Dichloroethene	ND		0.50		ug/L			06/10/20 06:19	1
1,1-Dichloropropene	ND		0.50		ug/L			06/10/20 06:19	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			06/10/20 06:19	1
1,2,3-Trichloropropane	ND		1.0		ug/L			06/10/20 06:19	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			06/10/20 06:19	1
1,2,4-Trimethylbenzene	ND		0.50		ug/L			06/10/20 06:19	1
1,2-Dibromo-3-Chloropropane	ND		1.0		ug/L			06/10/20 06:19	1
1,2-Dibromoethane (EDB)	ND		0.50		ug/L			06/10/20 06:19	1
1,2-Dichlorobenzene	ND		0.50		ug/L			06/10/20 06:19	1
1,2-Dichloroethane	ND		0.50		ug/L			06/10/20 06:19	1
1,2-Dichloropropane	ND		0.50		ug/L			06/10/20 06:19	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			06/10/20 06:19	1
1,3-Dichlorobenzene	ND		0.50		ug/L			06/10/20 06:19	1
1,3-Dichloropropane	ND		0.50		ug/L			06/10/20 06:19	1
1,4-Dichlorobenzene	ND		0.50		ug/L			06/10/20 06:19	1
2,2-Dichloropropane	ND		1.0		ug/L			06/10/20 06:19	1
2-Chlorotoluene	ND		0.50		ug/L			06/10/20 06:19	1
4-Chlorotoluene	ND		0.50		ug/L			06/10/20 06:19	1
Benzene	ND		0.50		ug/L			06/10/20 06:19	1
Bromobenzene	ND		0.50		ug/L			06/10/20 06:19	1
Bromochloromethane	ND		0.50		ug/L			06/10/20 06:19	1
Bromodichloromethane	ND		0.50		ug/L			06/10/20 06:19	1
Bromoform	ND		1.0		ug/L			06/10/20 06:19	1
Bromomethane	ND		0.50		ug/L			06/10/20 06:19	1
Carbon tetrachloride	ND		0.50		ug/L			06/10/20 06:19	1
Chlorobenzene	ND		0.50		ug/L			06/10/20 06:19	1
Chloroethane	ND		1.0		ug/L			06/10/20 06:19	1
Chloroform	ND		0.50		ug/L			06/10/20 06:19	1
Chloromethane	ND		0.50		ug/L			06/10/20 06:19	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			06/10/20 06:19	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			06/10/20 06:19	1
Dibromochloromethane	ND		0.50		ug/L			06/10/20 06:19	1
Dibromomethane	ND		0.50		ug/L			06/10/20 06:19	1
Dichlorodifluoromethane	ND		1.0		ug/L			06/10/20 06:19	1
Ethylbenzene	ND		0.50		ug/L			06/10/20 06:19	1
Hexachlorobutadiene	ND		0.50		ug/L			06/10/20 06:19	1
Isopropylbenzene	ND		0.50		ug/L			06/10/20 06:19	1
m,p-Xylene	ND		1.0		ug/L			06/10/20 06:19	1
Methylene Chloride	ND		2.0		ug/L			06/10/20 06:19	1
Naphthalene	ND		1.0		ug/L			06/10/20 06:19	1
n-Butylbenzene	ND		1.0		ug/L			06/10/20 06:19	1
N-Propylbenzene	ND		0.50		ug/L			06/10/20 06:19	1
o-Xylene	ND		0.50		ug/L			06/10/20 06:19	1
p-Isopropyltoluene	ND		0.50		ug/L			06/10/20 06:19	1

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98770-1

Client Sample ID: OS357-W-200602

Date Collected: 06/02/20 11:05
Date Received: 06/04/20 16:05

Lab Sample ID: 720-98770-3

Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		0.50		ug/L			06/10/20 06:19	1
sec-Butylbenzene	ND		0.50		ug/L			06/10/20 06:19	1
tert-Butylbenzene	ND		0.50		ug/L			06/10/20 06:19	1
Tetrachloroethene	ND		0.50		ug/L			06/10/20 06:19	1
Toluene	ND		0.50		ug/L			06/10/20 06:19	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			06/10/20 06:19	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			06/10/20 06:19	1
Trichloroethene	ND		0.50		ug/L			06/10/20 06:19	1
Trichlorofluoromethane	ND		0.50		ug/L			06/10/20 06:19	1
Vinyl chloride	ND		0.50		ug/L			06/10/20 06:19	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*		*06/10/20 06:19*	*1*
Dibromofluoromethane (Surr)	*90*		*76 - 132*		*06/10/20 06:19*	*1*
Toluene-d8 (Surr)	*103*		*80 - 128*		*06/10/20 06:19*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0		ug/L			06/11/20 12:03	1

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010		mg/L		06/08/20 11:16	06/09/20 19:56	1
Arsenic	ND		0.010		mg/L		06/08/20 11:16	06/08/20 19:05	1
Barium	**0.034**		0.010		mg/L		06/08/20 11:16	06/08/20 19:05	1
Beryllium	ND		0.0020		mg/L		06/08/20 11:16	06/08/20 19:05	1
Cadmium	ND		0.0050		mg/L		06/08/20 11:16	06/08/20 19:05	1
Chromium	ND		0.0050		mg/L		06/08/20 11:16	06/08/20 19:05	1
Cobalt	ND		0.010		mg/L		06/08/20 11:16	06/08/20 19:05	1
Copper	ND		0.010		mg/L		06/08/20 11:16	06/08/20 19:05	1
Lead	ND		0.0050		mg/L		06/08/20 11:16	06/08/20 19:05	1
Molybdenum	ND		0.020		mg/L		06/08/20 11:16	06/08/20 19:05	1
Nickel	ND		0.010		mg/L		06/08/20 11:16	06/08/20 19:05	1
Selenium	ND		0.010		mg/L		06/08/20 11:16	06/08/20 19:05	1
Thallium	ND		0.010		mg/L		06/08/20 11:16	06/08/20 19:05	1
Vanadium	ND		0.010		mg/L		06/08/20 11:16	06/08/20 19:05	1
Zinc	**0.048**		0.020		mg/L		06/08/20 11:16	06/08/20 19:05	1
Silver	ND		0.010		mg/L		06/08/20 11:16	06/09/20 19:56	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/05/20 08:57	06/08/20 12:17	1

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98770-1

Client Sample ID: SRE-W-200603
Date Collected: 06/03/20 08:20
Date Received: 06/04/20 16:05

Lab Sample ID: 720-98770-4
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50		ug/L			06/10/20 06:47	1
1,1,1-Trichloroethane	ND		0.50		ug/L			06/10/20 06:47	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			06/10/20 06:47	1
1,1,2-Trichloroethane	ND		0.50		ug/L			06/10/20 06:47	1
1,1-Dichloroethane	ND		0.50		ug/L			06/10/20 06:47	1
1,1-Dichloroethene	ND		0.50		ug/L			06/10/20 06:47	1
1,1-Dichloropropene	ND		0.50		ug/L			06/10/20 06:47	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			06/10/20 06:47	1
1,2,3-Trichloropropane	ND		1.0		ug/L			06/10/20 06:47	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			06/10/20 06:47	1
1,2,4-Trimethylbenzene	ND		0.50		ug/L			06/10/20 06:47	1
1,2-Dibromo-3-Chloropropane	ND		1.0		ug/L			06/10/20 06:47	1
1,2-Dibromoethane (EDB)	ND		0.50		ug/L			06/10/20 06:47	1
1,2-Dichlorobenzene	ND		0.50		ug/L			06/10/20 06:47	1
1,2-Dichloroethane	ND		0.50		ug/L			06/10/20 06:47	1
1,2-Dichloropropane	ND		0.50		ug/L			06/10/20 06:47	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			06/10/20 06:47	1
1,3-Dichlorobenzene	ND		0.50		ug/L			06/10/20 06:47	1
1,3-Dichloropropane	ND		0.50		ug/L			06/10/20 06:47	1
1,4-Dichlorobenzene	ND		0.50		ug/L			06/10/20 06:47	1
2,2-Dichloropropane	ND		1.0		ug/L			06/10/20 06:47	1
2-Chlorotoluene	ND		0.50		ug/L			06/10/20 06:47	1
4-Chlorotoluene	ND		0.50		ug/L			06/10/20 06:47	1
Benzene	ND		0.50		ug/L			06/10/20 06:47	1
Bromobenzene	ND		0.50		ug/L			06/10/20 06:47	1
Bromochloromethane	ND		0.50		ug/L			06/10/20 06:47	1
Bromodichloromethane	ND		0.50		ug/L			06/10/20 06:47	1
Bromoform	ND		1.0		ug/L			06/10/20 06:47	1
Bromomethane	ND		0.50		ug/L			06/10/20 06:47	1
Carbon tetrachloride	ND		0.50		ug/L			06/10/20 06:47	1
Chlorobenzene	ND		0.50		ug/L			06/10/20 06:47	1
Chloroethane	ND		1.0		ug/L			06/10/20 06:47	1
Chloroform	ND		0.50		ug/L			06/10/20 06:47	1
Chloromethane	ND		0.50		ug/L			06/10/20 06:47	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			06/10/20 06:47	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			06/10/20 06:47	1
Dibromochloromethane	ND		0.50		ug/L			06/10/20 06:47	1
Dibromomethane	ND		0.50		ug/L			06/10/20 06:47	1
Dichlorodifluoromethane	ND		1.0		ug/L			06/10/20 06:47	1
Ethylbenzene	ND		0.50		ug/L			06/10/20 06:47	1
Hexachlorobutadiene	ND		0.50		ug/L			06/10/20 06:47	1
Isopropylbenzene	ND		0.50		ug/L			06/10/20 06:47	1
m,p-Xylene	ND		1.0		ug/L			06/10/20 06:47	1
Methylene Chloride	ND		2.0		ug/L			06/10/20 06:47	1
Naphthalene	ND		1.0		ug/L			06/10/20 06:47	1
n-Butylbenzene	ND		1.0		ug/L			06/10/20 06:47	1
N-Propylbenzene	ND		0.50		ug/L			06/10/20 06:47	1
o-Xylene	ND		0.50		ug/L			06/10/20 06:47	1
p-Isopropyltoluene	ND		0.50		ug/L			06/10/20 06:47	1

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98770-1

Client Sample ID: SRE-W-200603
Date Collected: 06/03/20 08:20
Date Received: 06/04/20 16:05

Lab Sample ID: 720-98770-4
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		0.50		ug/L			06/10/20 06:47	1
sec-Butylbenzene	ND		0.50		ug/L			06/10/20 06:47	1
tert-Butylbenzene	ND		0.50		ug/L			06/10/20 06:47	1
Tetrachloroethene	ND		0.50		ug/L			06/10/20 06:47	1
Toluene	ND		0.50		ug/L			06/10/20 06:47	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			06/10/20 06:47	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			06/10/20 06:47	1
Trichloroethene	ND		0.50		ug/L			06/10/20 06:47	1
Trichlorofluoromethane	ND		0.50		ug/L			06/10/20 06:47	1
Vinyl chloride	ND		0.50		ug/L			06/10/20 06:47	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*06/10/20 06:47*	*1*
Dibromofluoromethane (Surr)	*93*		*76 - 132*		*06/10/20 06:47*	*1*
Toluene-d8 (Surr)	*102*		*80 - 128*		*06/10/20 06:47*	*1*

Method: 314.0 - Perchlorate (IC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0		ug/L			06/11/20 12:21	1

Method: 6010B - Metals (ICP) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010		mg/L		06/08/20 11:16	06/11/20 14:33	1
Arsenic	ND		0.010		mg/L		06/08/20 11:16	06/08/20 19:07	1
Barium	**0.13**		0.010		mg/L		06/08/20 11:16	06/08/20 19:07	1
Beryllium	ND		0.0020		mg/L		06/08/20 11:16	06/08/20 19:07	1
Cadmium	ND		0.0050		mg/L		06/08/20 11:16	06/08/20 19:07	1
Chromium	**0.015**		0.0050		mg/L		06/08/20 11:16	06/08/20 19:07	1
Cobalt	ND		0.010		mg/L		06/08/20 11:16	06/08/20 19:07	1
Copper	**0.019**		0.010		mg/L		06/08/20 11:16	06/08/20 19:07	1
Lead	**0.012**		0.0050		mg/L		06/08/20 11:16	06/08/20 19:07	1
Molybdenum	ND		0.020		mg/L		06/08/20 11:16	06/08/20 19:07	1
Nickel	ND		0.010		mg/L		06/08/20 11:16	06/08/20 19:07	1
Selenium	ND		0.010		mg/L		06/08/20 11:16	06/08/20 19:07	1
Thallium	ND		0.010		mg/L		06/08/20 11:16	06/08/20 19:07	1
Vanadium	**0.031**		0.010		mg/L		06/08/20 11:16	06/08/20 19:07	1
Zinc	**0.086**		0.020		mg/L		06/08/20 11:16	06/08/20 19:07	1
Silver	ND		0.010		mg/L		06/08/20 11:16	06/09/20 19:58	1

Method: 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/05/20 08:57	06/08/20 12:19	1

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98770-1

Client Sample ID: TB-200604
Date Collected: 06/04/20 13:40
Date Received: 06/04/20 16:05

Lab Sample ID: 720-98770-5
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50		ug/L			06/12/20 03:45	1
1,1,1-Trichloroethane	ND		0.50		ug/L			06/12/20 03:45	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			06/12/20 03:45	1
1,1,2-Trichloroethane	ND		0.50		ug/L			06/12/20 03:45	1
1,1-Dichloroethane	ND		0.50		ug/L			06/12/20 03:45	1
1,1-Dichloroethene	ND		0.50		ug/L			06/12/20 03:45	1
1,1-Dichloropropene	ND		0.50		ug/L			06/12/20 03:45	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			06/12/20 03:45	1
1,2,3-Trichloropropane	ND		1.0		ug/L			06/12/20 03:45	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			06/12/20 03:45	1
1,2,4-Trimethylbenzene	ND		0.50		ug/L			06/12/20 03:45	1
1,2-Dibromo-3-Chloropropane	ND		1.0		ug/L			06/12/20 03:45	1
1,2-Dibromoethane (EDB)	ND		0.50		ug/L			06/12/20 03:45	1
1,2-Dichlorobenzene	ND		0.50		ug/L			06/12/20 03:45	1
1,2-Dichloroethane	ND		0.50		ug/L			06/12/20 03:45	1
1,2-Dichloropropane	ND		0.50		ug/L			06/12/20 03:45	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			06/12/20 03:45	1
1,3-Dichlorobenzene	ND		0.50		ug/L			06/12/20 03:45	1
1,3-Dichloropropane	ND		0.50		ug/L			06/12/20 03:45	1
1,4-Dichlorobenzene	ND		0.50		ug/L			06/12/20 03:45	1
2,2-Dichloropropane	ND		1.0		ug/L			06/12/20 03:45	1
2-Chlorotoluene	ND		0.50		ug/L			06/12/20 03:45	1
4-Chlorotoluene	ND		0.50		ug/L			06/12/20 03:45	1
Benzene	ND		0.50		ug/L			06/12/20 03:45	1
Bromobenzene	ND		0.50		ug/L			06/12/20 03:45	1
Bromochloromethane	ND		0.50		ug/L			06/12/20 03:45	1
Bromodichloromethane	ND		0.50		ug/L			06/12/20 03:45	1
Bromoform	ND		1.0		ug/L			06/12/20 03:45	1
Bromomethane	ND		0.50		ug/L			06/12/20 03:45	1
Carbon tetrachloride	ND		0.50		ug/L			06/12/20 03:45	1
Chlorobenzene	ND		0.50		ug/L			06/12/20 03:45	1
Chloroethane	ND		1.0		ug/L			06/12/20 03:45	1
Chloroform	ND		0.50		ug/L			06/12/20 03:45	1
Chloromethane	ND		0.50		ug/L			06/12/20 03:45	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			06/12/20 03:45	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			06/12/20 03:45	1
Dibromochloromethane	ND		0.50		ug/L			06/12/20 03:45	1
Dibromomethane	ND		0.50		ug/L			06/12/20 03:45	1
Dichlorodifluoromethane	ND		1.0		ug/L			06/12/20 03:45	1
Ethylbenzene	ND		0.50		ug/L			06/12/20 03:45	1
Hexachlorobutadiene	ND		0.50		ug/L			06/12/20 03:45	1
Isopropylbenzene	ND		0.50		ug/L			06/12/20 03:45	1
m,p-Xylene	ND		1.0		ug/L			06/12/20 03:45	1
Methylene Chloride	ND		2.0		ug/L			06/12/20 03:45	1
Naphthalene	**1.2**		1.0		ug/L			06/12/20 03:45	1
n-Butylbenzene	ND		1.0		ug/L			06/12/20 03:45	1
N-Propylbenzene	ND		0.50		ug/L			06/12/20 03:45	1
o-Xylene	ND		0.50		ug/L			06/12/20 03:45	1
p-Isopropyltoluene	ND		0.50		ug/L			06/12/20 03:45	1

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98770-1

Client Sample ID: TB-200604
Date Collected: 06/04/20 13:40
Date Received: 06/04/20 16:05

Lab Sample ID: 720-98770-5
Matrix: Water

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		0.50		ug/L			06/12/20 03:45	1
sec-Butylbenzene	ND		0.50		ug/L			06/12/20 03:45	1
tert-Butylbenzene	ND		0.50		ug/L			06/12/20 03:45	1
Tetrachloroethene	ND		0.50		ug/L			06/12/20 03:45	1
Toluene	ND		0.50		ug/L			06/12/20 03:45	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			06/12/20 03:45	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			06/12/20 03:45	1
Trichloroethene	ND		0.50		ug/L			06/12/20 03:45	1
Trichlorofluoromethane	ND		0.50		ug/L			06/12/20 03:45	1
Vinyl chloride	ND		0.50		ug/L			06/12/20 03:45	1

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*		*06/12/20 03:45*	*1*
Dibromofluoromethane (Surr)	*90*		*76 - 132*		*06/12/20 03:45*	*1*
Toluene-d8 (Surr)	*106*		*80 - 128*		*06/12/20 03:45*	*1*

Surrogate Summary

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98770-1

Method: 8260B - Volatile Organic Compounds (GC/MS)

Matrix: Water

Prep Type: Total/NA

		Percent Surrogate Recovery (Acceptance Limits)		
Lab Sample ID	Client Sample ID	BFB (80-120)	DBFM (76-132)	TOL (80-128)
720-98770-1	OS8-W-200603	105	93	103
720-98770-2	OS3-W-200602	104	92	103
720-98770-3	OS357-W-200602	106	90	103
720-98770-4	SRE-W-200603	105	93	102
720-98770-5	TB-200604	106	90	106
LCS 440-611577/2-A	Lab Control Sample	107	95	102
LCS 440-611806/1002	Lab Control Sample	103	92	101
LCS 440-611968/1002	Lab Control Sample	105	94	101
LCS 440-612382/1002	Lab Control Sample	106	93	105
MB 440-611577/1-A	Method Blank	104	97	104
MB 440-611806/4	Method Blank	105	95	105
MB 440-611968/4	Method Blank	108	92	106
MB 440-612382/4	Method Blank	105	95	109

Surrogate Legend

BFB = 4-Bromofluorobenzene (Surr)
DBFM = Dibromofluoromethane (Surr)
TOL = Toluene-d8 (Surr)

Method: 8260B - Volatile Organic Compounds (GC/MS)

Lab Sample ID: MB 440-611577/1-A
Matrix: Water
Analysis Batch: 611806

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		5.0		ug/L			06/09/20 09:04	1
1,1,1-Trichloroethane	ND		5.0		ug/L			06/09/20 09:04	1
1,1,2,2-Tetrachloroethane	ND		5.0		ug/L			06/09/20 09:04	1
1,1,2-Trichloroethane	ND		5.0		ug/L			06/09/20 09:04	1
1,1-Dichloroethane	ND		5.0		ug/L			06/09/20 09:04	1
1,1-Dichloroethene	ND		5.0		ug/L			06/09/20 09:04	1
1,1-Dichloropropene	ND		5.0		ug/L			06/09/20 09:04	1
1,2,3-Trichlorobenzene	ND		10		ug/L			06/09/20 09:04	1
1,2,3-Trichloropropane	ND		10		ug/L			06/09/20 09:04	1
1,2,4-Trichlorobenzene	ND		10		ug/L			06/09/20 09:04	1
1,2,4-Trimethylbenzene	ND		5.0		ug/L			06/09/20 09:04	1
1,2-Dibromo-3-Chloropropane	ND		10		ug/L			06/09/20 09:04	1
1,2-Dibromoethane (EDB)	ND		5.0		ug/L			06/09/20 09:04	1
1,2-Dichlorobenzene	ND		5.0		ug/L			06/09/20 09:04	1
1,2-Dichloroethane	ND		5.0		ug/L			06/09/20 09:04	1
1,2-Dichloropropane	ND		5.0		ug/L			06/09/20 09:04	1
1,3,5-Trimethylbenzene	ND		5.0		ug/L			06/09/20 09:04	1
1,3-Dichlorobenzene	ND		5.0		ug/L			06/09/20 09:04	1
1,3-Dichloropropane	ND		5.0		ug/L			06/09/20 09:04	1
1,4-Dichlorobenzene	ND		5.0		ug/L			06/09/20 09:04	1
2,2-Dichloropropane	ND		10		ug/L			06/09/20 09:04	1
2-Chlorotoluene	ND		5.0		ug/L			06/09/20 09:04	1
4-Chlorotoluene	ND		5.0		ug/L			06/09/20 09:04	1
Benzene	ND		5.0		ug/L			06/09/20 09:04	1
Bromobenzene	ND		5.0		ug/L			06/09/20 09:04	1
Bromochloromethane	ND		5.0		ug/L			06/09/20 09:04	1
Bromodichloromethane	ND		5.0		ug/L			06/09/20 09:04	1
Bromoform	ND		10		ug/L			06/09/20 09:04	1
Bromomethane	ND		5.0		ug/L			06/09/20 09:04	1
Carbon tetrachloride	ND		5.0		ug/L			06/09/20 09:04	1
Chlorobenzene	ND		5.0		ug/L			06/09/20 09:04	1
Chloroethane	ND		10		ug/L			06/09/20 09:04	1
Chloroform	ND		5.0		ug/L			06/09/20 09:04	1
Chloromethane	ND		5.0		ug/L			06/09/20 09:04	1
cis-1,2-Dichloroethene	ND		5.0		ug/L			06/09/20 09:04	1
cis-1,3-Dichloropropene	ND		5.0		ug/L			06/09/20 09:04	1
Dibromochloromethane	ND		5.0		ug/L			06/09/20 09:04	1
Dibromomethane	ND		5.0		ug/L			06/09/20 09:04	1
Dichlorodifluoromethane	ND		10		ug/L			06/09/20 09:04	1
Ethylbenzene	ND		5.0		ug/L			06/09/20 09:04	1
Hexachlorobutadiene	ND		5.0		ug/L			06/09/20 09:04	1
Isopropylbenzene	ND		5.0		ug/L			06/09/20 09:04	1
m,p-Xylene	ND		10		ug/L			06/09/20 09:04	1
Methylene Chloride	ND		20		ug/L			06/09/20 09:04	1
Naphthalene	ND		10		ug/L			06/09/20 09:04	1
n-Butylbenzene	ND		10		ug/L			06/09/20 09:04	1
N-Propylbenzene	ND		5.0		ug/L			06/09/20 09:04	1
o-Xylene	ND		5.0		ug/L			06/09/20 09:04	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-611577/1-A
Matrix: Water
Analysis Batch: 611806

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
p-Isopropyltoluene	ND		5.0		ug/L			06/09/20 09:04	1
Styrene	ND		5.0		ug/L			06/09/20 09:04	1
sec-Butylbenzene	ND		5.0		ug/L			06/09/20 09:04	1
tert-Butylbenzene	ND		5.0		ug/L			06/09/20 09:04	1
Tetrachloroethene	ND		5.0		ug/L			06/09/20 09:04	1
Toluene	ND		5.0		ug/L			06/09/20 09:04	1
trans-1,2-Dichloroethene	ND		5.0		ug/L			06/09/20 09:04	1
trans-1,3-Dichloropropene	ND		5.0		ug/L			06/09/20 09:04	1
Trichloroethene	ND		5.0		ug/L			06/09/20 09:04	1
Trichlorofluoromethane	ND		5.0		ug/L			06/09/20 09:04	1
Vinyl chloride	ND		5.0		ug/L			06/09/20 09:04	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*104*		*80 - 120*		*06/09/20 09:04*	*1*
Dibromofluoromethane (Surr)	*97*		*76 - 132*		*06/09/20 09:04*	*1*
Toluene-d8 (Surr)	*104*		*80 - 128*		*06/09/20 09:04*	*1*

Lab Sample ID: MB 440-611806/4
Matrix: Water
Analysis Batch: 611806

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50		ug/L			06/09/20 08:37	1
1,1,1-Trichloroethane	ND		0.50		ug/L			06/09/20 08:37	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			06/09/20 08:37	1
1,1,2-Trichloroethane	ND		0.50		ug/L			06/09/20 08:37	1
1,1-Dichloroethane	ND		0.50		ug/L			06/09/20 08:37	1
1,1-Dichloroethene	ND		0.50		ug/L			06/09/20 08:37	1
1,1-Dichloropropene	ND		0.50		ug/L			06/09/20 08:37	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			06/09/20 08:37	1
1,2,3-Trichloropropane	ND		1.0		ug/L			06/09/20 08:37	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			06/09/20 08:37	1
1,2,4-Trimethylbenzene	ND		0.50		ug/L			06/09/20 08:37	1
1,2-Dibromo-3-Chloropropane	ND		1.0		ug/L			06/09/20 08:37	1
1,2-Dibromoethane (EDB)	ND		0.50		ug/L			06/09/20 08:37	1
1,2-Dichlorobenzene	ND		0.50		ug/L			06/09/20 08:37	1
1,2-Dichloroethane	ND		0.50		ug/L			06/09/20 08:37	1
1,2-Dichloropropane	ND		0.50		ug/L			06/09/20 08:37	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			06/09/20 08:37	1
1,3-Dichlorobenzene	ND		0.50		ug/L			06/09/20 08:37	1
1,3-Dichloropropane	ND		0.50		ug/L			06/09/20 08:37	1
1,4-Dichlorobenzene	ND		0.50		ug/L			06/09/20 08:37	1
2,2-Dichloropropane	ND		1.0		ug/L			06/09/20 08:37	1
2-Chlorotoluene	ND		0.50		ug/L			06/09/20 08:37	1
4-Chlorotoluene	ND		0.50		ug/L			06/09/20 08:37	1
Benzene	ND		0.50		ug/L			06/09/20 08:37	1
Bromobenzene	ND		0.50		ug/L			06/09/20 08:37	1
Bromochloromethane	ND		0.50		ug/L			06/09/20 08:37	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-611806/4
Matrix: Water
Analysis Batch: 611806

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Bromodichloromethane	ND		0.50		ug/L			06/09/20 08:37	1
Bromoform	ND		1.0		ug/L			06/09/20 08:37	1
Bromomethane	ND		0.50		ug/L			06/09/20 08:37	1
Carbon tetrachloride	ND		0.50		ug/L			06/09/20 08:37	1
Chlorobenzene	ND		0.50		ug/L			06/09/20 08:37	1
Chloroethane	ND		1.0		ug/L			06/09/20 08:37	1
Chloroform	ND		0.50		ug/L			06/09/20 08:37	1
Chloromethane	ND		0.50		ug/L			06/09/20 08:37	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			06/09/20 08:37	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			06/09/20 08:37	1
Dibromochloromethane	ND		0.50		ug/L			06/09/20 08:37	1
Dibromomethane	ND		0.50		ug/L			06/09/20 08:37	1
Dichlorodifluoromethane	ND		1.0		ug/L			06/09/20 08:37	1
Ethylbenzene	ND		0.50		ug/L			06/09/20 08:37	1
Hexachlorobutadiene	ND		0.50		ug/L			06/09/20 08:37	1
Isopropylbenzene	ND		0.50		ug/L			06/09/20 08:37	1
m,p-Xylene	ND		1.0		ug/L			06/09/20 08:37	1
Methylene Chloride	ND		2.0		ug/L			06/09/20 08:37	1
Naphthalene	ND		1.0		ug/L			06/09/20 08:37	1
n-Butylbenzene	ND		1.0		ug/L			06/09/20 08:37	1
N-Propylbenzene	ND		0.50		ug/L			06/09/20 08:37	1
o-Xylene	ND		0.50		ug/L			06/09/20 08:37	1
p-Isopropyltoluene	ND		0.50		ug/L			06/09/20 08:37	1
Styrene	ND		0.50		ug/L			06/09/20 08:37	1
sec-Butylbenzene	ND		0.50		ug/L			06/09/20 08:37	1
tert-Butylbenzene	ND		0.50		ug/L			06/09/20 08:37	1
Tetrachloroethene	ND		0.50		ug/L			06/09/20 08:37	1
Toluene	ND		0.50		ug/L			06/09/20 08:37	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			06/09/20 08:37	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			06/09/20 08:37	1
Trichloroethene	ND		0.50		ug/L			06/09/20 08:37	1
Trichlorofluoromethane	ND		0.50		ug/L			06/09/20 08:37	1
Vinyl chloride	ND		0.50		ug/L			06/09/20 08:37	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*06/09/20 08:37*	*1*
Dibromofluoromethane (Surr)	*95*		*76 - 132*		*06/09/20 08:37*	*1*
Toluene-d8 (Surr)	*105*		*80 - 128*		*06/09/20 08:37*	*1*

Lab Sample ID: LCS 440-611577/2-A
Matrix: Water
Analysis Batch: 611806

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	100	93.5		ug/L		94	60 - 141
1,1,1-Trichloroethane	100	74.1		ug/L		74	70 - 130
1,1,2,2-Tetrachloroethane	100	110		ug/L		110	63 - 130
1,1,2-Trichloroethane	100	114		ug/L		114	70 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-611577/2-A
Matrix: Water
Analysis Batch: 611806

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1-Dichloroethane	100	98.5		ug/L		98	64 - 130
1,1-Dichloroethene	100	85.0		ug/L		85	70 - 130
1,1-Dichloropropene	100	96.7		ug/L		97	70 - 130
1,2,3-Trichlorobenzene	100	89.3		ug/L		89	60 - 140
1,2,3-Trichloropropane	100	94.3		ug/L		94	63 - 130
1,2,4-Trichlorobenzene	100	96.5		ug/L		97	60 - 140
1,2,4-Trimethylbenzene	100	111		ug/L		111	70 - 135
1,2-Dibromo-3-Chloropropane	100	81.0		ug/L		81	52 - 140
1,2-Dibromoethane (EDB)	100	96.3		ug/L		96	70 - 130
1,2-Dichlorobenzene	100	107		ug/L		107	70 - 130
1,2-Dichloroethane	100	89.7		ug/L		90	57 - 138
1,2-Dichloropropane	100	106		ug/L		106	67 - 130
1,3,5-Trimethylbenzene	100	110		ug/L		110	70 - 136
1,3-Dichlorobenzene	100	107		ug/L		107	70 - 130
1,3-Dichloropropane	100	100		ug/L		100	70 - 130
1,4-Dichlorobenzene	100	110		ug/L		110	70 - 130
2,2-Dichloropropane	100	93.6		ug/L		94	68 - 141
2-Chlorotoluene	100	104		ug/L		104	70 - 130
4-Chlorotoluene	100	103		ug/L		103	70 - 130
Benzene	100	106		ug/L		106	68 - 130
Bromobenzene	100	99.8		ug/L		100	70 - 130
Bromochloromethane	100	98.9		ug/L		99	70 - 130
Bromodichloromethane	100	90.1		ug/L		90	70 - 132
Bromoform	100	74.7		ug/L		75	60 - 148
Bromomethane	100	91.3		ug/L		91	64 - 139
Carbon tetrachloride	100	75.4		ug/L		75	60 - 150
Chlorobenzene	100	106		ug/L		106	70 - 130
Chloroethane	100	102		ug/L		102	64 - 135
Chloroform	100	83.6		ug/L		84	70 - 130
Chloromethane	100	114		ug/L		114	47 - 140
cis-1,2-Dichloroethene	100	94.9		ug/L		95	70 - 133
cis-1,3-Dichloropropene	100	102		ug/L		102	70 - 133
Dibromochloromethane	100	86.2		ug/L		86	69 - 145
Dibromomethane	100	94.4		ug/L		94	70 - 130
Dichlorodifluoromethane	100	80.7		ug/L		81	29 - 150
Ethylbenzene	100	99.1		ug/L		99	70 - 130
Hexachlorobutadiene	100	90.6		ug/L		91	10 - 150
Isopropylbenzene	100	103		ug/L		103	70 - 136
m,p-Xylene	100	106		ug/L		106	70 - 130
Methylene Chloride	100	104		ug/L		104	52 - 130
Naphthalene	100	92.3		ug/L		92	60 - 140
n-Butylbenzene	100	109		ug/L		109	65 - 150
N-Propylbenzene	100	111		ug/L		111	67 - 139
o-Xylene	100	106		ug/L		106	70 - 130
p-Isopropyltoluene	100	108		ug/L		108	70 - 132
Styrene	100	101		ug/L		101	70 - 134
sec-Butylbenzene	100	113		ug/L		113	70 - 138
tert-Butylbenzene	100	108		ug/L		108	70 - 130
Tetrachloroethene	100	95.4		ug/L		95	70 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-611577/2-A
Matrix: Water
Analysis Batch: 611806

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Toluene	100	102		ug/L		102	70 - 130
trans-1,2-Dichloroethene	100	97.4		ug/L		97	70 - 130
trans-1,3-Dichloropropene	100	95.6		ug/L		96	70 - 132
Trichloroethene	100	97.8		ug/L		98	70 - 130
Trichlorofluoromethane	100	74.2		ug/L		74	60 - 150
Vinyl chloride	100	104		ug/L		104	59 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*107*		*80 - 120*
Dibromofluoromethane (Surr)	*95*		*76 - 132*
Toluene-d8 (Surr)	*102*		*80 - 128*

Lab Sample ID: LCS 440-611806/1002
Matrix: Water
Analysis Batch: 611806

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	24.0		ug/L		96	60 - 141
1,1,1-Trichloroethane	25.0	20.2		ug/L		81	70 - 130
1,1,2,2-Tetrachloroethane	25.0	28.1		ug/L		113	63 - 130
1,1,2-Trichloroethane	25.0	27.6		ug/L		110	70 - 130
1,1-Dichloroethane	25.0	26.1		ug/L		104	64 - 130
1,1-Dichloroethene	25.0	23.9		ug/L		95	70 - 130
1,1-Dichloropropene	25.0	26.6		ug/L		106	70 - 130
1,2,3-Trichlorobenzene	25.0	24.3		ug/L		97	60 - 140
1,2,3-Trichloropropane	25.0	24.3		ug/L		97	63 - 130
1,2,4-Trichlorobenzene	25.0	25.2		ug/L		101	60 - 140
1,2,4-Trimethylbenzene	25.0	28.8		ug/L		115	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	22.4		ug/L		89	52 - 140
1,2-Dibromoethane (EDB)	25.0	24.7		ug/L		99	70 - 130
1,2-Dichlorobenzene	25.0	27.6		ug/L		110	70 - 130
1,2-Dichloroethane	25.0	22.3		ug/L		89	57 - 138
1,2-Dichloropropane	25.0	26.8		ug/L		107	67 - 130
1,3,5-Trimethylbenzene	25.0	29.5		ug/L		118	70 - 136
1,3-Dichlorobenzene	25.0	27.6		ug/L		110	70 - 130
1,3-Dichloropropane	25.0	26.0		ug/L		104	70 - 130
1,4-Dichlorobenzene	25.0	27.0		ug/L		108	70 - 130
2,2-Dichloropropane	25.0	24.9		ug/L		100	68 - 141
2-Chlorotoluene	25.0	27.0		ug/L		108	70 - 130
4-Chlorotoluene	25.0	26.9		ug/L		108	70 - 130
Benzene	25.0	27.6		ug/L		110	68 - 130
Bromobenzene	25.0	24.8		ug/L		99	70 - 130
Bromochloromethane	25.0	25.2		ug/L		101	70 - 130
Bromodichloromethane	25.0	23.1		ug/L		92	70 - 132
Bromoform	25.0	19.6		ug/L		78	60 - 148
Bromomethane	25.0	24.4		ug/L		98	64 - 139
Carbon tetrachloride	25.0	21.3		ug/L		85	60 - 150
Chlorobenzene	25.0	26.5		ug/L		106	70 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-611806/1002
Matrix: Water
Analysis Batch: 611806

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Chloroethane	25.0	27.2		ug/L		109	64 - 135
Chloroform	25.0	21.4		ug/L		86	70 - 130
Chloromethane	25.0	30.4		ug/L		122	47 - 140
cis-1,2-Dichloroethene	25.0	24.3		ug/L		97	70 - 133
cis-1,3-Dichloropropene	25.0	26.7		ug/L		107	70 - 133
Dibromochloromethane	25.0	22.7		ug/L		91	69 - 145
Dibromomethane	25.0	24.1		ug/L		96	70 - 130
Dichlorodifluoromethane	25.0	23.6		ug/L		94	29 - 150
Ethylbenzene	25.0	25.9		ug/L		104	70 - 130
Hexachlorobutadiene	25.0	23.8		ug/L		95	10 - 150
Isopropylbenzene	25.0	27.3		ug/L		109	70 - 136
m,p-Xylene	25.0	27.5		ug/L		110	70 - 130
Methylene Chloride	25.0	24.1		ug/L		96	52 - 130
Naphthalene	25.0	25.9		ug/L		104	60 - 140
n-Butylbenzene	25.0	29.2		ug/L		117	65 - 150
N-Propylbenzene	25.0	29.2		ug/L		117	67 - 139
o-Xylene	25.0	27.8		ug/L		111	70 - 130
p-Isopropyltoluene	25.0	29.7		ug/L		119	70 - 132
Styrene	25.0	27.3		ug/L		109	70 - 134
sec-Butylbenzene	25.0	29.9		ug/L		119	70 - 138
tert-Butylbenzene	25.0	28.9		ug/L		116	70 - 130
Tetrachloroethene	25.0	25.4		ug/L		102	70 - 130
Toluene	25.0	26.7		ug/L		107	70 - 130
trans-1,2-Dichloroethene	25.0	26.2		ug/L		105	70 - 130
trans-1,3-Dichloropropene	25.0	25.7		ug/L		103	70 - 132
Trichloroethene	25.0	26.5		ug/L		106	70 - 130
Trichlorofluoromethane	25.0	20.8		ug/L		83	60 - 150
Vinyl chloride	25.0	27.9		ug/L		112	59 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*103*		*80 - 120*
Dibromofluoromethane (Surr)	*92*		*76 - 132*
Toluene-d8 (Surr)	*101*		*80 - 128*

Lab Sample ID: MB 440-611968/4
Matrix: Water
Analysis Batch: 611968

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50		ug/L			06/09/20 21:05	1
1,1,1-Trichloroethane	ND		0.50		ug/L			06/09/20 21:05	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			06/09/20 21:05	1
1,1,2-Trichloroethane	ND		0.50		ug/L			06/09/20 21:05	1
1,1-Dichloroethane	ND		0.50		ug/L			06/09/20 21:05	1
1,1-Dichloroethene	ND		0.50		ug/L			06/09/20 21:05	1
1,1-Dichloropropene	ND		0.50		ug/L			06/09/20 21:05	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			06/09/20 21:05	1
1,2,3-Trichloropropane	ND		1.0		ug/L			06/09/20 21:05	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-611968/4
Matrix: Water
Analysis Batch: 611968

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,4-Trichlorobenzene	ND		1.0		ug/L			06/09/20 21:05	1
1,2,4-Trimethylbenzene	ND		0.50		ug/L			06/09/20 21:05	1
1,2-Dibromo-3-Chloropropane	ND		1.0		ug/L			06/09/20 21:05	1
1,2-Dibromoethane (EDB)	ND		0.50		ug/L			06/09/20 21:05	1
1,2-Dichlorobenzene	ND		0.50		ug/L			06/09/20 21:05	1
1,2-Dichloroethane	ND		0.50		ug/L			06/09/20 21:05	1
1,2-Dichloropropane	ND		0.50		ug/L			06/09/20 21:05	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			06/09/20 21:05	1
1,3-Dichlorobenzene	ND		0.50		ug/L			06/09/20 21:05	1
1,3-Dichloropropane	ND		0.50		ug/L			06/09/20 21:05	1
1,4-Dichlorobenzene	ND		0.50		ug/L			06/09/20 21:05	1
2,2-Dichloropropane	ND		1.0		ug/L			06/09/20 21:05	1
2-Chlorotoluene	ND		0.50		ug/L			06/09/20 21:05	1
4-Chlorotoluene	ND		0.50		ug/L			06/09/20 21:05	1
Benzene	ND		0.50		ug/L			06/09/20 21:05	1
Bromobenzene	ND		0.50		ug/L			06/09/20 21:05	1
Bromochloromethane	ND		0.50		ug/L			06/09/20 21:05	1
Bromodichloromethane	ND		0.50		ug/L			06/09/20 21:05	1
Bromoform	ND		1.0		ug/L			06/09/20 21:05	1
Bromomethane	ND		0.50		ug/L			06/09/20 21:05	1
Carbon tetrachloride	ND		0.50		ug/L			06/09/20 21:05	1
Chlorobenzene	ND		0.50		ug/L			06/09/20 21:05	1
Chloroethane	ND		1.0		ug/L			06/09/20 21:05	1
Chloroform	ND		0.50		ug/L			06/09/20 21:05	1
Chloromethane	ND		0.50		ug/L			06/09/20 21:05	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			06/09/20 21:05	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			06/09/20 21:05	1
Dibromochloromethane	ND		0.50		ug/L			06/09/20 21:05	1
Dibromomethane	ND		0.50		ug/L			06/09/20 21:05	1
Dichlorodifluoromethane	ND		1.0		ug/L			06/09/20 21:05	1
Ethylbenzene	ND		0.50		ug/L			06/09/20 21:05	1
Hexachlorobutadiene	ND		0.50		ug/L			06/09/20 21:05	1
Isopropylbenzene	ND		0.50		ug/L			06/09/20 21:05	1
m,p-Xylene	ND		1.0		ug/L			06/09/20 21:05	1
Methylene Chloride	ND		2.0		ug/L			06/09/20 21:05	1
Naphthalene	ND		1.0		ug/L			06/09/20 21:05	1
n-Butylbenzene	ND		1.0		ug/L			06/09/20 21:05	1
N-Propylbenzene	ND		0.50		ug/L			06/09/20 21:05	1
o-Xylene	ND		0.50		ug/L			06/09/20 21:05	1
p-Isopropyltoluene	ND		0.50		ug/L			06/09/20 21:05	1
Styrene	ND		0.50		ug/L			06/09/20 21:05	1
sec-Butylbenzene	ND		0.50		ug/L			06/09/20 21:05	1
tert-Butylbenzene	ND		0.50		ug/L			06/09/20 21:05	1
Tetrachloroethene	ND		0.50		ug/L			06/09/20 21:05	1
Toluene	ND		0.50		ug/L			06/09/20 21:05	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			06/09/20 21:05	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			06/09/20 21:05	1
Trichloroethene	ND		0.50		ug/L			06/09/20 21:05	1
Trichlorofluoromethane	ND		0.50		ug/L			06/09/20 21:05	1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-611968/4
Matrix: Water
Analysis Batch: 611968

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Vinyl chloride	ND		0.50		ug/L			06/09/20 21:05	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*108*		*80 - 120*		*06/09/20 21:05*	*1*
Dibromofluoromethane (Surr)	*92*		*76 - 132*		*06/09/20 21:05*	*1*
Toluene-d8 (Surr)	*106*		*80 - 128*		*06/09/20 21:05*	*1*

Lab Sample ID: LCS 440-611968/1002
Matrix: Water
Analysis Batch: 611968

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	22.3		ug/L		89	60 - 141
1,1,1-Trichloroethane	25.0	18.7		ug/L		75	70 - 130
1,1,2,2-Tetrachloroethane	25.0	30.6		ug/L		122	63 - 130
1,1,2-Trichloroethane	25.0	28.3		ug/L		113	70 - 130
1,1-Dichloroethane	25.0	24.6		ug/L		98	64 - 130
1,1-Dichloroethene	25.0	22.5		ug/L		90	70 - 130
1,1-Dichloropropene	25.0	25.3		ug/L		101	70 - 130
1,2,3-Trichlorobenzene	25.0	23.8		ug/L		95	60 - 140
1,2,3-Trichloropropane	25.0	25.2		ug/L		101	63 - 130
1,2,4-Trichlorobenzene	25.0	24.5		ug/L		98	60 - 140
1,2,4-Trimethylbenzene	25.0	28.3		ug/L		113	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	24.9		ug/L		99	52 - 140
1,2-Dibromoethane (EDB)	25.0	25.6		ug/L		103	70 - 130
1,2-Dichlorobenzene	25.0	27.6		ug/L		110	70 - 130
1,2-Dichloroethane	25.0	21.7		ug/L		87	57 - 138
1,2-Dichloropropane	25.0	28.0		ug/L		112	67 - 130
1,3,5-Trimethylbenzene	25.0	28.0		ug/L		112	70 - 136
1,3-Dichlorobenzene	25.0	26.9		ug/L		108	70 - 130
1,3-Dichloropropane	25.0	27.1		ug/L		109	70 - 130
1,4-Dichlorobenzene	25.0	26.9		ug/L		108	70 - 130
2,2-Dichloropropane	25.0	22.4		ug/L		90	68 - 141
2-Chlorotoluene	25.0	26.5		ug/L		106	70 - 130
4-Chlorotoluene	25.0	26.1		ug/L		104	70 - 130
Benzene	25.0	27.5		ug/L		110	68 - 130
Bromobenzene	25.0	24.7		ug/L		99	70 - 130
Bromochloromethane	25.0	26.6		ug/L		106	70 - 130
Bromodichloromethane	25.0	22.9		ug/L		92	70 - 132
Bromoform	25.0	20.1		ug/L		80	60 - 148
Bromomethane	25.0	23.2		ug/L		93	64 - 139
Carbon tetrachloride	25.0	19.1		ug/L		76	60 - 150
Chlorobenzene	25.0	25.6		ug/L		103	70 - 130
Chloroethane	25.0	25.3		ug/L		101	64 - 135
Chloroform	25.0	21.1		ug/L		84	70 - 130
Chloromethane	25.0	27.3		ug/L		109	47 - 140
cis-1,2-Dichloroethene	25.0	24.1		ug/L		96	70 - 133
cis-1,3-Dichloropropene	25.0	25.8		ug/L		103	70 - 133

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-611968/1002
Matrix: Water
Analysis Batch: 611968

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Dibromochloromethane	25.0	21.9		ug/L		88	69 - 145
Dibromomethane	25.0	25.2		ug/L		101	70 - 130
Dichlorodifluoromethane	25.0	19.7		ug/L		79	29 - 150
Ethylbenzene	25.0	24.5		ug/L		98	70 - 130
Hexachlorobutadiene	25.0	21.7		ug/L		87	10 - 150
Isopropylbenzene	25.0	25.6		ug/L		102	70 - 136
m,p-Xylene	25.0	26.2		ug/L		105	70 - 130
Methylene Chloride	25.0	23.4		ug/L		94	52 - 130
Naphthalene	25.0	27.3		ug/L		109	60 - 140
n-Butylbenzene	25.0	27.4		ug/L		109	65 - 150
N-Propylbenzene	25.0	27.8		ug/L		111	67 - 139
o-Xylene	25.0	26.3		ug/L		105	70 - 130
p-Isopropyltoluene	25.0	27.9		ug/L		112	70 - 132
Styrene	25.0	26.4		ug/L		105	70 - 134
sec-Butylbenzene	25.0	28.2		ug/L		113	70 - 138
tert-Butylbenzene	25.0	26.8		ug/L		107	70 - 130
Tetrachloroethene	25.0	23.5		ug/L		94	70 - 130
Toluene	25.0	25.5		ug/L		102	70 - 130
trans-1,2-Dichloroethene	25.0	25.1		ug/L		100	70 - 130
trans-1,3-Dichloropropene	25.0	25.5		ug/L		102	70 - 132
Trichloroethene	25.0	24.8		ug/L		99	70 - 130
Trichlorofluoromethane	25.0	18.4		ug/L		73	60 - 150
Vinyl chloride	25.0	26.0		ug/L		104	59 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*
Dibromofluoromethane (Surr)	*94*		*76 - 132*
Toluene-d8 (Surr)	*101*		*80 - 128*

Lab Sample ID: MB 440-612382/4
Matrix: Water
Analysis Batch: 612382

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		0.50		ug/L			06/11/20 21:17	1
1,1,1-Trichloroethane	ND		0.50		ug/L			06/11/20 21:17	1
1,1,2,2-Tetrachloroethane	ND		0.50		ug/L			06/11/20 21:17	1
1,1,2-Trichloroethane	ND		0.50		ug/L			06/11/20 21:17	1
1,1-Dichloroethane	ND		0.50		ug/L			06/11/20 21:17	1
1,1-Dichloroethene	ND		0.50		ug/L			06/11/20 21:17	1
1,1-Dichloropropene	ND		0.50		ug/L			06/11/20 21:17	1
1,2,3-Trichlorobenzene	ND		1.0		ug/L			06/11/20 21:17	1
1,2,3-Trichloropropane	ND		1.0		ug/L			06/11/20 21:17	1
1,2,4-Trichlorobenzene	ND		1.0		ug/L			06/11/20 21:17	1
1,2,4-Trimethylbenzene	ND		0.50		ug/L			06/11/20 21:17	1
1,2-Dibromo-3-Chloropropane	ND		1.0		ug/L			06/11/20 21:17	1
1,2-Dibromoethane (EDB)	ND		0.50		ug/L			06/11/20 21:17	1
1,2-Dichlorobenzene	ND		0.50		ug/L			06/11/20 21:17	1

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98770-1

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-612382/4
Matrix: Water
Analysis Batch: 612382

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2-Dichloroethane	ND		0.50		ug/L			06/11/20 21:17	1
1,2-Dichloropropane	ND		0.50		ug/L			06/11/20 21:17	1
1,3,5-Trimethylbenzene	ND		0.50		ug/L			06/11/20 21:17	1
1,3-Dichlorobenzene	ND		0.50		ug/L			06/11/20 21:17	1
1,3-Dichloropropane	ND		0.50		ug/L			06/11/20 21:17	1
1,4-Dichlorobenzene	ND		0.50		ug/L			06/11/20 21:17	1
2,2-Dichloropropane	ND		1.0		ug/L			06/11/20 21:17	1
2-Chlorotoluene	ND		0.50		ug/L			06/11/20 21:17	1
4-Chlorotoluene	ND		0.50		ug/L			06/11/20 21:17	1
Benzene	ND		0.50		ug/L			06/11/20 21:17	1
Bromobenzene	ND		0.50		ug/L			06/11/20 21:17	1
Bromochloromethane	ND		0.50		ug/L			06/11/20 21:17	1
Bromodichloromethane	ND		0.50		ug/L			06/11/20 21:17	1
Bromoform	ND		1.0		ug/L			06/11/20 21:17	1
Bromomethane	ND		0.50		ug/L			06/11/20 21:17	1
Carbon tetrachloride	ND		0.50		ug/L			06/11/20 21:17	1
Chlorobenzene	ND		0.50		ug/L			06/11/20 21:17	1
Chloroethane	ND		1.0		ug/L			06/11/20 21:17	1
Chloroform	ND		0.50		ug/L			06/11/20 21:17	1
Chloromethane	ND		0.50		ug/L			06/11/20 21:17	1
cis-1,2-Dichloroethene	ND		0.50		ug/L			06/11/20 21:17	1
cis-1,3-Dichloropropene	ND		0.50		ug/L			06/11/20 21:17	1
Dibromochloromethane	ND		0.50		ug/L			06/11/20 21:17	1
Dibromomethane	ND		0.50		ug/L			06/11/20 21:17	1
Dichlorodifluoromethane	ND		1.0		ug/L			06/11/20 21:17	1
Ethylbenzene	ND		0.50		ug/L			06/11/20 21:17	1
Hexachlorobutadiene	ND		0.50		ug/L			06/11/20 21:17	1
Isopropylbenzene	ND		0.50		ug/L			06/11/20 21:17	1
m,p-Xylene	ND		1.0		ug/L			06/11/20 21:17	1
Methylene Chloride	ND		2.0		ug/L			06/11/20 21:17	1
Naphthalene	ND		1.0		ug/L			06/11/20 21:17	1
n-Butylbenzene	ND		1.0		ug/L			06/11/20 21:17	1
N-Propylbenzene	ND		0.50		ug/L			06/11/20 21:17	1
o-Xylene	ND		0.50		ug/L			06/11/20 21:17	1
p-Isopropyltoluene	ND		0.50		ug/L			06/11/20 21:17	1
Styrene	ND		0.50		ug/L			06/11/20 21:17	1
sec-Butylbenzene	ND		0.50		ug/L			06/11/20 21:17	1
tert-Butylbenzene	ND		0.50		ug/L			06/11/20 21:17	1
Tetrachloroethene	ND		0.50		ug/L			06/11/20 21:17	1
Toluene	ND		0.50		ug/L			06/11/20 21:17	1
trans-1,2-Dichloroethene	ND		0.50		ug/L			06/11/20 21:17	1
trans-1,3-Dichloropropene	ND		0.50		ug/L			06/11/20 21:17	1
Trichloroethene	ND		0.50		ug/L			06/11/20 21:17	1
Trichlorofluoromethane	ND		0.50		ug/L			06/11/20 21:17	1
Vinyl chloride	ND		0.50		ug/L			06/11/20 21:17	1

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
4-Bromofluorobenzene (Surr)	*105*		*80 - 120*		*06/11/20 21:17*	*1*

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: MB 440-612382/4
Matrix: Water
Analysis Batch: 612382

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Dibromofluoromethane (Surr)	95		76 - 132		06/11/20 21:17	1
Toluene-d8 (Surr)	109		80 - 128		06/11/20 21:17	1

Lab Sample ID: LCS 440-612382/1002
Matrix: Water
Analysis Batch: 612382

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
1,1,1,2-Tetrachloroethane	25.0	24.1		ug/L		96	60 - 141
1,1,1-Trichloroethane	25.0	21.4		ug/L		86	70 - 130
1,1,2,2-Tetrachloroethane	25.0	27.1		ug/L		108	63 - 130
1,1,2-Trichloroethane	25.0	27.3		ug/L		109	70 - 130
1,1-Dichloroethane	25.0	26.7		ug/L		107	64 - 130
1,1-Dichloroethene	25.0	24.4		ug/L		98	70 - 130
1,1-Dichloropropene	25.0	27.0		ug/L		108	70 - 130
1,2,3-Trichlorobenzene	25.0	22.8		ug/L		91	60 - 140
1,2,3-Trichloropropane	25.0	23.6		ug/L		94	63 - 130
1,2,4-Trichlorobenzene	25.0	24.6		ug/L		98	60 - 140
1,2,4-Trimethylbenzene	25.0	29.9		ug/L		120	70 - 135
1,2-Dibromo-3-Chloropropane	25.0	22.8		ug/L		91	52 - 140
1,2-Dibromoethane (EDB)	25.0	24.2		ug/L		97	70 - 130
1,2-Dichlorobenzene	25.0	27.8		ug/L		111	70 - 130
1,2-Dichloroethane	25.0	22.4		ug/L		90	57 - 138
1,2-Dichloropropane	25.0	27.7		ug/L		111	67 - 130
1,3,5-Trimethylbenzene	25.0	29.9		ug/L		120	70 - 136
1,3-Dichlorobenzene	25.0	27.8		ug/L		111	70 - 130
1,3-Dichloropropane	25.0	24.5		ug/L		98	70 - 130
1,4-Dichlorobenzene	25.0	27.5		ug/L		110	70 - 130
2,2-Dichloropropane	25.0	24.9		ug/L		100	68 - 141
2-Chlorotoluene	25.0	28.2		ug/L		113	70 - 130
4-Chlorotoluene	25.0	27.4		ug/L		110	70 - 130
Benzene	25.0	28.3		ug/L		113	68 - 130
Bromobenzene	25.0	25.7		ug/L		103	70 - 130
Bromochloromethane	25.0	24.4		ug/L		98	70 - 130
Bromodichloromethane	25.0	22.8		ug/L		91	70 - 132
Bromoform	25.0	19.5		ug/L		78	60 - 148
Bromomethane	25.0	25.5		ug/L		102	64 - 139
Carbon tetrachloride	25.0	22.2		ug/L		89	60 - 150
Chlorobenzene	25.0	27.2		ug/L		109	70 - 130
Chloroethane	25.0	28.3		ug/L		113	64 - 135
Chloroform	25.0	21.8		ug/L		87	70 - 130
Chloromethane	25.0	32.8		ug/L		131	47 - 140
cis-1,2-Dichloroethene	25.0	24.5		ug/L		98	70 - 133
cis-1,3-Dichloropropene	25.0	26.3		ug/L		105	70 - 133
Dibromochloromethane	25.0	22.6		ug/L		91	69 - 145
Dibromomethane	25.0	24.0		ug/L		96	70 - 130
Dichlorodifluoromethane	25.0	26.8		ug/L		107	29 - 150
Ethylbenzene	25.0	26.6		ug/L		106	70 - 130

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Lab Sample ID: LCS 440-612382/1002
Matrix: Water
Analysis Batch: 612382

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Hexachlorobutadiene	25.0	23.0		ug/L		92	10 - 150
Isopropylbenzene	25.0	27.9		ug/L		112	70 - 136
m,p-Xylene	25.0	28.7		ug/L		115	70 - 130
Methylene Chloride	25.0	24.2		ug/L		97	52 - 130
Naphthalene	25.0	24.4		ug/L		98	60 - 140
n-Butylbenzene	25.0	29.4		ug/L		117	65 - 150
N-Propylbenzene	25.0	29.8		ug/L		119	67 - 139
o-Xylene	25.0	28.2		ug/L		113	70 - 130
p-Isopropyltoluene	25.0	30.4		ug/L		122	70 - 132
Styrene	25.0	27.1		ug/L		108	70 - 134
sec-Butylbenzene	25.0	30.6		ug/L		122	70 - 138
tert-Butylbenzene	25.0	29.6		ug/L		118	70 - 130
Tetrachloroethene	25.0	26.6		ug/L		107	70 - 130
Toluene	25.0	27.8		ug/L		111	70 - 130
trans-1,2-Dichloroethene	25.0	26.7		ug/L		107	70 - 130
trans-1,3-Dichloropropene	25.0	25.9		ug/L		104	70 - 132
Trichloroethene	25.0	27.2		ug/L		109	70 - 130
Trichlorofluoromethane	25.0	22.4		ug/L		89	60 - 150
Vinyl chloride	25.0	31.2		ug/L		125	59 - 133

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
4-Bromofluorobenzene (Surr)	*106*		*80 - 120*
Dibromofluoromethane (Surr)	*93*		*76 - 132*
Toluene-d8 (Surr)	*105*		*80 - 128*

Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 440-612254/6
Matrix: Water
Analysis Batch: 612254

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0		ug/L			06/11/20 09:59	1

Lab Sample ID: LCS 440-612254/5
Matrix: Water
Analysis Batch: 612254

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	10.0	9.75		ug/L		97	85 - 115

Lab Sample ID: MRL 440-612254/4
Matrix: Water
Analysis Batch: 612254

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits
Perchlorate	1.00	ND		ug/L		111	75 - 125

Method: 314.0 - Perchlorate (IC) (Continued)

Lab Sample ID: MRL 440-612254/8
Matrix: Water
Analysis Batch: 612254

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte			Spike Added	MRL Result	MRL Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate			4.00	4.05		ug/L		101	75 - 125		

Lab Sample ID: 720-98770-4 MS
Matrix: Water
Analysis Batch: 612254

Client Sample ID: SRE-W-200603
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perchlorate	ND		10.0	10.4		ug/L		104	80 - 120		

Lab Sample ID: 720-98770-4 MSD
Matrix: Water
Analysis Batch: 612254

Client Sample ID: SRE-W-200603
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perchlorate	ND		10.0	10.5		ug/L		105	80 - 120	1	15

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 440-611699/1-A
Matrix: Water
Analysis Batch: 611848

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 611699

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	ND		0.010		mg/L		06/08/20 11:16	06/08/20 18:34	1
Barium	ND		0.010		mg/L		06/08/20 11:16	06/08/20 18:34	1
Beryllium	ND		0.0020		mg/L		06/08/20 11:16	06/08/20 18:34	1
Cadmium	ND		0.0050		mg/L		06/08/20 11:16	06/08/20 18:34	1
Chromium	ND		0.0050		mg/L		06/08/20 11:16	06/08/20 18:34	1
Cobalt	ND		0.010		mg/L		06/08/20 11:16	06/08/20 18:34	1
Copper	ND		0.010		mg/L		06/08/20 11:16	06/08/20 18:34	1
Lead	ND		0.0050		mg/L		06/08/20 11:16	06/08/20 18:34	1
Molybdenum	ND		0.020		mg/L		06/08/20 11:16	06/08/20 18:34	1
Nickel	ND		0.010		mg/L		06/08/20 11:16	06/08/20 18:34	1
Selenium	ND		0.010		mg/L		06/08/20 11:16	06/08/20 18:34	1
Thallium	ND		0.010		mg/L		06/08/20 11:16	06/08/20 18:34	1
Vanadium	ND		0.010		mg/L		06/08/20 11:16	06/08/20 18:34	1
Zinc	ND		0.020		mg/L		06/08/20 11:16	06/08/20 18:34	1

Lab Sample ID: MB 440-611699/1-A
Matrix: Water
Analysis Batch: 612023

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 611699

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Antimony	ND		0.010		mg/L		06/08/20 11:16	06/09/20 19:22	1
Silver	ND		0.010		mg/L		06/08/20 11:16	06/09/20 19:22	1

Method: 6010B - Metals (ICP) (Continued)

Lab Sample ID: LCS 440-611699/2-A
Matrix: Water
Analysis Batch: 611848

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 611699

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	1.00	0.933		mg/L		93	80 - 120
Barium	1.00	0.908		mg/L		91	80 - 120
Beryllium	1.00	0.921		mg/L		92	80 - 120
Cadmium	1.00	0.918		mg/L		92	80 - 120
Chromium	1.00	0.930		mg/L		93	80 - 120
Cobalt	1.00	0.928		mg/L		93	80 - 120
Copper	1.00	0.949		mg/L		95	80 - 120
Lead	1.00	0.932		mg/L		93	80 - 120
Molybdenum	1.00	1.00		mg/L		100	80 - 120
Nickel	1.00	0.928		mg/L		93	80 - 120
Selenium	1.00	0.909		mg/L		91	80 - 120
Thallium	1.00	0.903		mg/L		90	80 - 120
Vanadium	1.00	0.932		mg/L		93	80 - 120
Zinc	1.00	0.937		mg/L		94	80 - 120

Lab Sample ID: LCS 440-611699/2-A
Matrix: Water
Analysis Batch: 612023

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 611699

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Antimony	1.00	0.985		mg/L		99	80 - 120
Silver	0.500	0.456		mg/L		91	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 440-611462/1-A
Matrix: Water
Analysis Batch: 611745

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 611462

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020		mg/L		06/05/20 08:57	06/08/20 11:44	1

Lab Sample ID: LCS 440-611462/2-A
Matrix: Water
Analysis Batch: 611745

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 611462

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.00400	0.00432		mg/L		108	80 - 120

GC/MS VOA

Leach Batch: 611577

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 440-611577/1-A	Method Blank	Total/NA	Water	1311	
LCS 440-611577/2-A	Lab Control Sample	Total/NA	Water	1311	

Analysis Batch: 611806

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-98770-1	OS8-W-200603	Total/NA	Water	8260B	
720-98770-2	OS3-W-200602	Total/NA	Water	8260B	
MB 440-611577/1-A	Method Blank	Total/NA	Water	8260B	611577
MB 440-611806/4	Method Blank	Total/NA	Water	8260B	
LCS 440-611577/2-A	Lab Control Sample	Total/NA	Water	8260B	611577
LCS 440-611806/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 611968

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-98770-3	OS357-W-200602	Total/NA	Water	8260B	
720-98770-4	SRE-W-200603	Total/NA	Water	8260B	
MB 440-611968/4	Method Blank	Total/NA	Water	8260B	
LCS 440-611968/1002	Lab Control Sample	Total/NA	Water	8260B	

Analysis Batch: 612382

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-98770-5	TB-200604	Total/NA	Water	8260B	
MB 440-612382/4	Method Blank	Total/NA	Water	8260B	
LCS 440-612382/1002	Lab Control Sample	Total/NA	Water	8260B	

HPLC/IC

Analysis Batch: 612254

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-98770-1	OS8-W-200603	Total/NA	Water	314.0	
720-98770-2	OS3-W-200602	Total/NA	Water	314.0	
720-98770-3	OS357-W-200602	Total/NA	Water	314.0	
720-98770-4	SRE-W-200603	Total/NA	Water	314.0	
MB 440-612254/6	Method Blank	Total/NA	Water	314.0	
LCS 440-612254/5	Lab Control Sample	Total/NA	Water	314.0	
MRL 440-612254/4	Lab Control Sample	Total/NA	Water	314.0	
MRL 440-612254/8	Lab Control Sample	Total/NA	Water	314.0	
720-98770-4 MS	SRE-W-200603	Total/NA	Water	314.0	
720-98770-4 MSD	SRE-W-200603	Total/NA	Water	314.0	

Metals

Prep Batch: 611462

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-98770-1	OS8-W-200603	Total/NA	Water	7470A	
720-98770-2	OS3-W-200602	Total/NA	Water	7470A	
720-98770-3	OS357-W-200602	Total/NA	Water	7470A	
720-98770-4	SRE-W-200603	Total/NA	Water	7470A	
MB 440-611462/1-A	Method Blank	Total/NA	Water	7470A	
LCS 440-611462/2-A	Lab Control Sample	Total/NA	Water	7470A	

Metals

Prep Batch: 611699

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-98770-1	OS8-W-200603	Total Recoverable	Water	3005A	
720-98770-2	OS3-W-200602	Total Recoverable	Water	3005A	
720-98770-3	OS357-W-200602	Total Recoverable	Water	3005A	
720-98770-4	SRE-W-200603	Total Recoverable	Water	3005A	
MB 440-611699/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 440-611699/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Analysis Batch: 611745

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-98770-1	OS8-W-200603	Total/NA	Water	7470A	611462
720-98770-2	OS3-W-200602	Total/NA	Water	7470A	611462
720-98770-3	OS357-W-200602	Total/NA	Water	7470A	611462
720-98770-4	SRE-W-200603	Total/NA	Water	7470A	611462
MB 440-611462/1-A	Method Blank	Total/NA	Water	7470A	611462
LCS 440-611462/2-A	Lab Control Sample	Total/NA	Water	7470A	611462

Analysis Batch: 611848

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-98770-1	OS8-W-200603	Total Recoverable	Water	6010B	611699
720-98770-2	OS3-W-200602	Total Recoverable	Water	6010B	611699
720-98770-3	OS357-W-200602	Total Recoverable	Water	6010B	611699
720-98770-4	SRE-W-200603	Total Recoverable	Water	6010B	611699
MB 440-611699/1-A	Method Blank	Total Recoverable	Water	6010B	611699
LCS 440-611699/2-A	Lab Control Sample	Total Recoverable	Water	6010B	611699

Analysis Batch: 612023

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-98770-1	OS8-W-200603	Total Recoverable	Water	6010B	611699
720-98770-2	OS3-W-200602	Total Recoverable	Water	6010B	611699
720-98770-3	OS357-W-200602	Total Recoverable	Water	6010B	611699
720-98770-4	SRE-W-200603	Total Recoverable	Water	6010B	611699
MB 440-611699/1-A	Method Blank	Total Recoverable	Water	6010B	611699
LCS 440-611699/2-A	Lab Control Sample	Total Recoverable	Water	6010B	611699

Analysis Batch: 612346

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
720-98770-2	OS3-W-200602	Total Recoverable	Water	6010B	611699
720-98770-4	SRE-W-200603	Total Recoverable	Water	6010B	611699

Client Sample ID: OS8-W-200603

Lab Sample ID: 720-98770-1

Date Collected: 06/03/20 11:30

Matrix: Water

Date Received: 06/04/20 16:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	611806	06/09/20 18:19	MML	TAL IRV
Total/NA	Analysis	314.0		1			612254	06/11/20 11:28	PS	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	611699	06/08/20 11:16	M1G	TAL IRV
Total Recoverable	Analysis	6010B		1			611848	06/08/20 19:00	TQN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	611699	06/08/20 11:16	M1G	TAL IRV
Total Recoverable	Analysis	6010B		1			612023	06/09/20 19:51	KE	TAL IRV
Total/NA	Prep	7470A			20 mL	20 mL	611462	06/05/20 08:57	MEM	TAL IRV
Total/NA	Analysis	7470A		1			611745	06/08/20 12:13	MEM	TAL IRV

Client Sample ID: OS3-W-200602

Lab Sample ID: 720-98770-2

Date Collected: 06/02/20 10:25

Matrix: Water

Date Received: 06/04/20 16:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	611806	06/09/20 18:47	MML	TAL IRV
Total/NA	Analysis	314.0		1			612254	06/11/20 11:45	PS	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	611699	06/08/20 11:16	M1G	TAL IRV
Total Recoverable	Analysis	6010B		1			612346	06/11/20 14:31	TQN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	611699	06/08/20 11:16	M1G	TAL IRV
Total Recoverable	Analysis	6010B		1			611848	06/08/20 19:02	TQN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	611699	06/08/20 11:16	M1G	TAL IRV
Total Recoverable	Analysis	6010B		1			612023	06/09/20 19:53	KE	TAL IRV
Total/NA	Prep	7470A			20 mL	20 mL	611462	06/05/20 08:57	MEM	TAL IRV
Total/NA	Analysis	7470A		1			611745	06/08/20 12:15	MEM	TAL IRV

Client Sample ID: OS357-W-200602

Lab Sample ID: 720-98770-3

Date Collected: 06/02/20 11:05

Matrix: Water

Date Received: 06/04/20 16:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	611968	06/10/20 06:19	WC	TAL IRV
Total/NA	Analysis	314.0		1			612254	06/11/20 12:03	PS	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	611699	06/08/20 11:16	M1G	TAL IRV
Total Recoverable	Analysis	6010B		1			611848	06/08/20 19:05	TQN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	611699	06/08/20 11:16	M1G	TAL IRV
Total Recoverable	Analysis	6010B		1			612023	06/09/20 19:56	KE	TAL IRV
Total/NA	Prep	7470A			20 mL	20 mL	611462	06/05/20 08:57	MEM	TAL IRV
Total/NA	Analysis	7470A		1			611745	06/08/20 12:17	MEM	TAL IRV

Client Sample ID: SRE-W-200603

Lab Sample ID: 720-98770-4

Date Collected: 06/03/20 08:20

Matrix: Water

Date Received: 06/04/20 16:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	611968	06/10/20 06:47	WC	TAL IRV

Lab Chronicle

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98770-1

Client Sample ID: SRE-W-200603

Lab Sample ID: 720-98770-4

Date Collected: 06/03/20 08:20

Matrix: Water

Date Received: 06/04/20 16:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	314.0		1			612254	06/11/20 12:21	PS	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	611699	06/08/20 11:16	M1G	TAL IRV
Total Recoverable	Analysis	6010B		1			612346	06/11/20 14:33	TQN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	611699	06/08/20 11:16	M1G	TAL IRV
Total Recoverable	Analysis	6010B		1			611848	06/08/20 19:07	TQN	TAL IRV
Total Recoverable	Prep	3005A			25 mL	25 mL	611699	06/08/20 11:16	M1G	TAL IRV
Total Recoverable	Analysis	6010B		1			612023	06/09/20 19:58	KE	TAL IRV
Total/NA	Prep	7470A			20 mL	20 mL	611462	06/05/20 08:57	MEM	TAL IRV
Total/NA	Analysis	7470A		1			611745	06/08/20 12:19	MEM	TAL IRV

Client Sample ID: TB-200604

Lab Sample ID: 720-98770-5

Date Collected: 06/04/20 13:40

Matrix: Water

Date Received: 06/04/20 16:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	8260B		1	10 mL	10 mL	612382	06/12/20 03:45	GMA	TAL IRV

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Accreditation/Certification Summary

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98770-1

Laboratory: Eurofins TestAmerica, Pleasanton

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2496	01-31-20 *
USDA	US Federal Programs	P330-18-00328	11-06-21

Laboratory: Eurofins Calscience Irvine

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Alaska	State	CA01531	06-30-20
Arizona	State	AZ0671	10-14-20
California	Los Angeles County Sanitation Districts	10256	06-30-20
California	State	2706	06-30-20
Guam	State	20-004R	01-23-21
Hawaii	State	CA01531	01-29-21
Kansas	NELAP	E-10420	07-31-20
Nevada	State	CA015312020-9	06-16-20
Oregon	NELAP	4028 - 008	01-29-21
USDA	US Federal Programs	P330-18-00214	07-09-21
Washington	State	C900	09-03-20

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98770-1

Method	Method Description	Protocol	Laboratory
8260B	Volatile Organic Compounds (GC/MS)	SW846	TAL IRV
314.0	Perchlorate (IC)	EPA	TAL IRV
6010B	Metals (ICP)	SW846	TAL IRV
7470A	Mercury (CVAA)	SW846	TAL IRV
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	TAL IRV
5030B	Purge and Trap	SW846	TAL IRV
7470A	Preparation, Mercury	SW846	TAL IRV

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

TAL IRV = Eurofins Calscience Irvine, 17461 Derian Ave, Suite 100, Irvine, CA 92614-5817, TEL (949)261-1022

Sample Summary

Client: GSI Environmental, Inc
Project/Site: AJU-BB

Job ID: 720-98770-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
720-98770-1	OS8-W-200603	Water	06/03/20 11:30	06/04/20 16:05	
720-98770-2	OS3-W-200602	Water	06/02/20 10:25	06/04/20 16:05	
720-98770-3	OS357-W-200602	Water	06/02/20 11:05	06/04/20 16:05	
720-98770-4	SRE-W-200603	Water	06/03/20 08:20	06/04/20 16:05	
720-98770-5	TB-200604	Water	06/04/20 13:40	06/04/20 16:05	

720-98770

GSI ENVIRONMENTAL

CHAIN-OF-CUSTODY RECORD
Date: 6/4/20
Page 1 of 1

FROM: GSI Environmental Inc. 155 Grand Ave. Suite 704 Oakland, CA 94612 (510) 463-8484	PROJECT NAME: AJU-BB PROJECT CONTACT: Susan Gallardo GLOBAL ID: -	PROJECT NO.: 5182 LAB CONTACT: Afsaneh Salimpour (Pleasanton) SAMPLER(S): (PRINT): Kylie Howell + Josh Voss
TEL.: (510) 463-8484	E-MAIL: smgallardo@gsi-net.com; tzwicks@gsi-net.com	
LABORATORY: Eurofins Calscience		

TURNAROUND TIME: ☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ STANDARD

SPECIAL INSTRUCTIONS: HOLD TB-220604

REQUESTED ANALYSES
Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Title 22 Metals (6010/7470)	Perchlorate (314.0)	VOCs (8260)
	OS2-W-220603	6/3/20	1130	water	5	X	X		X	X	X
	OS3-W-220602	6/2/20	1125			X	X		X	X	X
	OS5A-W-220602	6/2/20	1105			X	X		X	X	X
	SRE-W-220603	6/3/20	0820			X	X		X	X	X
	TB-220604	6/4/20	1340		2		X				X

720-98770 Chain of Custody

Relinquished by: (Signature)	Received by: (Signature)	Date: 6/4/20	Time: 1420
Relinquished by: (Signature)	Received by: (Signature)	Date: 6/4/20	Time: 1605
Relinquished by: (Signature)	Received by: (Signature) EC-IRV	Date: 6/4/20	Time: 1605

06/08 IR-93

GSI ENVIRONMENTAL

CHAIN-OF-CUSTODY RECORD
Date: 6/4/20
Page 1 of 1

FROM	PROJECT NAME:	PROJECT NO.:
GSI Environmental Inc. 155 Grand Ave. Suite 704 Oakland, CA 94612 (510) 463-8484	AJU-BB	5182
	PROJECT CONTACT: Susan Gallardo	LAB CONTACT: Afsaneh Salimpour (Pleasanton)
	GLOBAL ID: -	SAMPLER(S) (PRINT): Kylie Howell + Josh Voss
TEL: (510) 463-8484	E-MAIL: smgallardo@gsi-net.com; tzwicks@gsi-net.com	
LABORATORY: Eurofins Calscience		

TURNAROUND TIME: ☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ STANDARD

SPECIAL INSTRUCTIONS: HOLD TB-200604

REQUESTED ANALYSES
Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Title 22 Metals (6010/7470)	Perchlorate (314.0)	VOCs (8260)
	OS8-W-200603	6/3/20	1130	water	5	X	X		X	X	X
	OS3-W-200602	6/2/20	1025			X	X		X	X	X
	OS5A-W-200602	6/2/20	1105			X	X		X	X	X
	SRE-W-200603	6/3/20	0820			X	X		X	X	X
	TB-200604	6/4/20	1340		2		X				X

720-98770 Chain of Custody

Relinquished by: (Signature)	Received by: (Signature)	Date: 6/4/20	Time: 1420
Relinquished by: (Signature)	Received by: (Signature)	Date: 6/4/20	Time: 1605
Relinquished by: (Signature)	Received by: (Signature) EC-IRV	Date: 6/4/20	Time: 1605

0.6/10.8 IR-93

Login Sample Receipt Checklist

Client: GSI Environmental, Inc

Job Number: 720-98770-1

Login Number: 98770
List Number: 1
Creator: Arauz, Dennis

List Source: Eurofins TestAmerica, Pleasanton

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.		
The cooler's custody seal, if present, is intact.		
Sample custody seals, if present, are intact.		
The cooler or samples do not appear to have been compromised or tampered with.		
Samples were received on ice.		
Cooler Temperature is acceptable.		
Cooler Temperature is recorded.		
COC is present.		
COC is filled out in ink and legible.		
COC is filled out with all pertinent information.		
Is the Field Sampler's name present on COC?		
There are no discrepancies between the containers received and the COC.		
Samples are received within Holding Time (excluding tests with immediate HTs)		
Sample containers have legible labels.		
Containers are not broken or leaking.		
Sample collection date/times are provided.		
Appropriate sample containers are used.		
Sample bottles are completely filled.		
Sample Preservation Verified.		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs		
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").		
Multiphasic samples are not present.		
Samples do not require splitting or compositing.		
Residual Chlorine Checked.		

Login Sample Receipt Checklist

Client: GSI Environmental, Inc

Job Number: 720-98770-1

Login Number: 98770
List Number: 2
Creator: Bonta, Lucia F

List Source: Eurofins Irvine

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	Not present
Sample custody seals, if present, are intact.	N/A	Not Present
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Login Sample Receipt Checklist

Client: GSI Environmental, Inc

Job Number: 720-98770-1

Login Number: 98770
List Number: 3
Creator: Bonta, Lucia F

List Source: Eurofins Irvine
List Creation: 06/04/20 08:31 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	True	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	True	

GEL Laboratories LLC
a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.556.8171
F 843.766.1178

gel.com

June 26, 2020

Travis Wicks
GSI Environmental Inc.
155 Grand Ave
Suite 704
Oakland, California 94612

Re: Near S SFL
Work Order: 512873

Dear Travis Wicks:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on June 05, 2020. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4487.

Sincerely,

B Luthman

Brielle Luthman
Project Manager

Purchase Order: 5182
Enclosures

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 − (843) 556−8171 − www.gel.com

Certificate of Analysis Report
for

GSIE002 GSI Environmental Inc.

Client SDG: 512873 GEL Work Order: 512873

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a Tracer compound

** Analyte is a surrogate compound

U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Brielle Luthman.

Reviewed by B Luthman

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: June 26, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: 0S8-W-200603
Sample ID: 512873001
Matrix: Water
Collect Date: 03-JUN-20
Receive Date: 05-JUN-20
Collector: Client

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Liquid (Standard List) "As Received"														
Cesium-137	U	1.04	+/-4.78	8.20	+/-4.80	10.0	pCi/L			RYH1	06/06/20	1151	2008751	1
Rad Gas Flow Proportional Counting														
GFPC, Sr90, Liquid "As Received"														
Strontium-90	U	0.535	+/-0.794	1.37	+/-0.799	2.00	pCi/L			MXS2	06/18/20	1100	2008948	2
Rad Liquid Scintillation Analysis														
LSC, Tritium Distillation, Liquid "As Received"														
Tritium	U	40.6	+/-205	360	+/-205	700	pCi/L			EW3	06/10/20	0513	2009073	3

The following Analytical Methods were performed

Method	Description
1	EPA 901.1
2	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
3	EPA 906.0 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Strontium Carrier	GFPC, Sr90, Liquid "As Received"	2008948	92.1	(25%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: June 26, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: 0S3-W-200602
Sample ID: 512873002
Matrix: Water
Collect Date: 02-JUN-20
Receive Date: 05-JUN-20
Collector: Client

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Liquid (Standard List) "As Received"														
Cesium-137	U	2.46	+/-4.15	8.15	+/-4.30	10.0	pCi/L			RYH1	06/06/20	1152	2008751	1
Rad Gas Flow Proportional Counting														
GFPC, Sr90, Liquid "As Received"														
Strontium-90	U	0.348	+/-0.719	1.28	+/-0.721	2.00	pCi/L			MXS2	06/18/20	1100	2008948	2
Rad Liquid Scintillation Analysis														
LSC, Tritium Distillation, Liquid "As Received"														
Tritium	U	82.2	+/-212	368	+/-213	700	pCi/L			EW3	06/10/20	0544	2009073	3

The following Analytical Methods were performed

Method	Description
1	EPA 901.1
2	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
3	EPA 906.0 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Strontium Carrier	GFPC, Sr90, Liquid "As Received"	2008948	106	(25%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: June 26, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: 0S357-W-200602
Sample ID: 512873003
Matrix: Water
Collect Date: 02-JUN-20
Receive Date: 05-JUN-20
Collector: Client

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Liquid (Standard List) "As Received"														
Cesium-137	U	0.524	+/-3.69	6.86	+/-3.70	10.0	pCi/L			RYH1	06/06/20	1152	2008751	1
Rad Gas Flow Proportional Counting														
GFPC, Sr90, Liquid "As Received"														
Strontium-90	U	0.150	+/-0.705	1.32	+/-0.705	2.00	pCi/L			MXS2	06/18/20	1100	2008948	2
Rad Liquid Scintillation Analysis														
LSC, Tritium Distillation, Liquid "As Received"														
Tritium	U	12.5	+/-205	362	+/-205	700	pCi/L			EW3	06/10/20	0616	2009073	3

The following Analytical Methods were performed

Method	Description
1	EPA 901.1
2	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
3	EPA 906.0 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Strontium Carrier	GFPC, Sr90, Liquid "As Received"	2008948	87.6	(25%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: June 26, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: SRE-W-200603
Sample ID: 512873004
Matrix: Water
Collect Date: 03-JUN-20
Receive Date: 05-JUN-20
Collector: Client

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Liquid (Standard List) "As Received"														
Cesium-137	U	4.44	+/-3.14	6.76	+/-3.75	10.0	pCi/L			RYH1	06/06/20	1153	2008751	1
Rad Gas Flow Proportional Counting														
GFPC, Sr90, Liquid "As Received"														
Strontium-90	U	-0.615	+/-0.673	1.54	+/-0.673	2.00	pCi/L			MXS2	06/18/20	1100	2008948	2
Rad Liquid Scintillation Analysis														
LSC, Tritium Distillation, Liquid "As Received"														
Tritium	U	92.9	+/-208	360	+/-209	700	pCi/L			EW3	06/10/20	0648	2009073	3

The following Analytical Methods were performed

Method	Description
1	EPA 901.1
2	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
3	EPA 906.0 Modified

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Strontium Carrier	GFPC, Sr90, Liquid "As Received"	2008948	74.2	(25%-125%)

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

QC Summary

Client : **GSI Environmental Inc.**
155 Grand Ave
Suite 704
Oakland, California

Contact: **Travis Wicks**

Workorder: **512873**

Report Date: June 26, 2020

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 2008751										
QC1204573899 512873001 DUP										
Cesium-137	U	1.04	U	5.84	pCi/L	0			N/A RYH1	06/06/2018:18
	Uncert:	+/-4.78		+/-4.59						
	TPU:	+/-4.80		+/-5.31						
QC1204573900 LCS										
Americium-241	1.09E+05			1.22E+05	pCi/L		112	(75%-125%)	RYH1	06/06/2011:54
	Uncert:			+/-3300						
	TPU:			+/-14200						
Cobalt-60	25700			27100	pCi/L		105	(75%-125%)		
	Uncert:			+/-830						
	TPU:			+/-2700						
Cesium-137	39300			39900	pCi/L		102	(75%-125%)		
	Uncert:			+/-842						
	TPU:			+/-3420						
QC1204573898 MB										
Cesium-137			U	-1.19	pCi/L				RYH1	06/07/2009:52
	Uncert:			+/-4.37						
	TPU:			+/-4.41						
Rad Gas Flow										
Batch 2008948										
QC1204574435 512873001 DUP										
Strontium-90	U	0.535	U	-0.394	pCi/L	0			N/A MXS2	06/18/2011:00
	Uncert:	+/-0.794		+/-0.681						
	TPU:	+/-0.799		+/-0.681						
QC1204574436 LCS										
Strontium-90	74.4			60.4	pCi/L		81.2	(75%-125%)	MXS2	06/18/2011:00
	Uncert:			+/-4.43						
	TPU:			+/-10.5						
QC1204574434 MB										
Strontium-90			U	0.248	pCi/L				MXS2	06/18/2011:00
	Uncert:			+/-0.622						
	TPU:			+/-0.623						
Rad Liquid Scintillation										
Batch 2009073										
QC1204574766 512898001 DUP										
Tritium	U	40.9	U	-273	pCi/L	0			N/A EW3	06/10/2012:54
	Uncert:	+/-505		+/-496						
	TPU:	+/-505		+/-496						
QC1204574768 LCS										
Tritium	5770			4400	pCi/L		76.2	(75%-125%)	EW3	06/10/2009:26
	Uncert:			+/-389						

QC Summary

Workorder: **512873**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Liquid Scintillation										
Batch 2009073										
	TPU:			+/-935						
QC1204574765 MB										
Tritium			U	-28.1	pCi/L				EW3	06/10/2007:51
	Uncert:			+/-203						
	TPU:			+/-203						
QC1204574767 512898001 MS										
Tritium	19300	U 40.9		16200	pCi/L		84.4	(75%-125%)	EW3	06/10/2008:54
	Uncert:	+/-505		+/-1380						
	TPU:	+/-505		+/-3430						

Notes:

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

The Qualifiers in this report are defined as follows:

**	Analyte is a Tracer compound
<	Result is less than value reported
>	Result is greater than value reported
BD	Results are either below the MDC or tracer recovery is low
FA	Failed analysis.
H	Analytical holding time was exceeded
J	See case narrative for an explanation
J	Value is estimated
K	Analyte present. Reported value may be biased high. Actual value is expected to be lower.
L	Analyte present. Reported value may be biased low. Actual value is expected to be higher.
M	M if above MDC and less than LLD
M	REMP Result > MDC/CL and < RDL
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
UI	Gamma Spectroscopy--Uncertain identification
UJ	Gamma Spectroscopy--Uncertain identification
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h	Preparation or preservation holding time was exceeded

QC Summary

Workorder: **512873**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
** Indicates analyte is a surrogate/tracer compound.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptence criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

GSI ENVIRONMENTAL

CHAIN-OF-CUSTODY RECORD

Date: 6/4/20

Page 1 of 1

512873

FROM: GSI Environmental Inc. 155 Grand Ave. Suite 704 Oakland, CA 94612 (510) 463-8484	PROJECT NAME: AJU-BB PROJECT CONTACT: Susan Gallardo GLOBAL ID: --	PROJECT NO.: 5182 LAB CONTACT: Brielle Luthman SAMPLER(S): (PRINT) Kalin Howell + Josh Voss
TEL: (510) 463-8484	E-MAIL: smgallardo@gsi-net.com; tzwicks@gsi-net.com	
LABORATORY: GEL Laboratories		

TURNAROUND TIME:

☐ SAME DAY ☐ 24 HR ☐ 48 HR
☐ 72 HR ☐ 5 DAYS ☒ STANDARD

SPECIAL INSTRUCTIONS:
- Sr-90 MDC of ~~0.1 pCi/g~~ 8 pCi/L - Cs-137 MDC of ~~0.1 pCi/g~~ 200 pCi/L
- H-3 MDC of ~~0.2 pCi/g~~ 20,000 pCi/L

KJH 6/4/20

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Sr-90 (905.0)	Cs-137 (901.1)	H-3 (906)
	OS8-W-200603	6/3/20	1130	water	4	X	X		X	X	X
	OS3-W-200602	6/2/20	1025		4	X	X		X	X	X
	OS357-W-200602	6/2/20	1105		4	X	X		X	X	X
	SRE-W-200603	6/3/20	0820		4	X	X		X	X	X

KJH 6/4/20

Relinquished by: (Signature)	Received by: (Signature) FEDEX	Date: 6/4/20	Time: 1445
Relinquished by: (Signature)	Received by: (Signature)	Date: 6/5/20	Time: 9:10
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: GSIE	SDG/AR/COC/Work Order: 512873
Received By: STACY BOONE	Date Received: JUNE 5, 2020
Carrier and Tracking Number	Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other 3935 4669 0289-4c 3935 4669 0278-21

Suspected Hazard Information	Yes	No	
			*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes___ No___
B) Did the client designate the samples are to be received as radioactive?		✓	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		✓	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 27 CPM / mR/Hr Classified as: Rad 1 Rad 2 Rad 3
D) Did the client designate samples are hazardous?		✓	COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		✓	If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	✓			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	✓			Preservation Method: Wet Ice Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP:___
4	Daily check performed and passed on IR temperature gun?	✓			Temperature Device Serial #: IR1-19 Secondary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?	✓			Sample ID's and Containers Affected: If Preservation added, Lot#:
7	Do any samples require Volatile Analysis?				If Yes, are Encores or Soil Kits present for solids? Yes___ No___ NA___(If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes___ No___ NA___(If unknown, select No) Are liquid VOA vials free of headspace? Yes___ No___ NA___ Sample ID's and containers affected:
8	Samples received within holding time?	✓			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			ID's and containers affected:
10	Date & time on COC match date & time on bottles?			✓	Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11	Number of containers received match number indicated on COC?	✓			Circle Applicable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided?	✓			
13	COC form is properly signed in relinquished/received sections? SB	✓			Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

058-W-200603 COC TIME: 11:30 SAMPLE TIME: 11:40

PM (or PMA) review: Initials CD Date 6/8/20 Page 1 of 1

GL-CHL-SR-001 Rev 6

Clare Drennen

From: Travis Wicks <TZWicks@gsi-net.com>
Sent: Monday, June 08, 2020 4:41 PM
To: Clare Drennen; team.luthman
Subject: RE: GEL Sample Receipt 512873 for Near S SFL

Hi Clare,

11:30 is the correct time. Thanks!

Travis Wicks | Staff Geologist | GSI Environmental Inc.
phone 510.463.8494 | cell 510.468.6940
tzwicks@gsi-net.com

From: Clare Drennen <Clare.Drennen@gel.com>
Sent: Monday, June 8, 2020 1:32 PM
To: Travis Wicks <TZWicks@gsi-net.com>; team.luthman <team.luthman@gel.com>
Subject: RE: GEL Sample Receipt 512873 for Near S SFL

Hi Travis,

I can make those changes for you.

One other thing- it was noted that 058-W-200603 has a time discrepancy. COC says 11:30 but the sample time on the bottle says 11:40. Please confirm which is the correct time.

Thank you,

Clare Drennen
Assistant Project Manager

GEL Laboratories LLC

2040 Savage Road, Charleston, SC 29407 | PO Box 30712, Charleston, SC 29417
Office Direct: 843.769.7376 X4705 | Office Main: 843.556.8171 | Fax: 843.766.1178
E-Mail: clare.drennen@gel.com | Website: www.gel.com
Analytical Testing

GEL Laboratories is an Essential Business and remains open to support your analytical needs.

From: Travis Wicks <TZWicks@gsi-net.com>
Sent: Monday, June 08, 2020 3:50 PM
To: team.luthman <team.luthman@gel.com>
Subject: RE: GEL Sample Receipt 512873 for Near S SFL

Hi Brielle,

For the sample names beginning with “05” can we have that changed to “OS”. For example, 058-W-200603 would become OS8-W-200603.

Thanks,

Travis Wicks | Staff Geologist | GSI Environmental Inc.
phone 510.463.8494 | cell 510.468.6940
tzwicks@gsi-net.com

From: GEL Data <data@gellaboratories.com>
Sent: Monday, June 8, 2020 12:34 PM
To: Travis Wicks <TZWicks@gsi-net.com>
Subject: GEL Sample Receipt 512873 for Near S SFL

GEL Laboratories, LLC received sample(s) on June 05, 2020. The final data is due to report on July 06, 2020. Please review the attached PDF. Should you find any discrepancies within the document, please call or email your project manager Brielle Luthman.

Do not reply to data@gellaboratories.com as this email address is not monitored. Please contact your project manager, Brielle Luthman, at Team.Luthman@gel.com regarding this message or its attachments.

List of current GEL Certifications as of 26 June 2020

State	Certification
Alabama	42200
Alaska	17−018
Alaska Drinking Water	SC00012
Arkansas	88−0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH−0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330−15−00283, P330−15−00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C−SC−01
Kansas NELAP	E−10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M−SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE−OS−26−13
Nevada	SC000122020−1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R−158
Oklahoma	2019−165
Pennsylvania NELAP	68−00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235−20−17
Utah NELAP	SC000122020−32
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

Radiochemistry
Technical Case Narrative
GSI Environmental Inc.
SDG #: 512873

Product: **Gammaspec, Gamma, Liquid (Standard List)**
Analytical Method: EPA 901.1
Analytical Procedure: GL-RAD-A-013 REV# 27
Analytical Batch: 2008751

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512873001	0S8-W-200603
512873002	0S3-W-200602
512873003	0S357-W-200602
512873004	SRE-W-200603
1204573898	Method Blank (MB)
1204573899	512873001(0S8-W-200603) Sample Duplicate (DUP)
1204573900	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **GFPC, Sr90, Liquid**
Analytical Method: EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
Analytical Procedure: GL-RAD-A-004 REV# 21
Analytical Batch: 2008948

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512873001	0S8-W-200603
512873002	0S3-W-200602
512873003	0S357-W-200602
512873004	SRE-W-200603
1204574434	Method Blank (MB)
1204574435	512873001(0S8-W-200603) Sample Duplicate (DUP)
1204574436	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **LSC, Tritium Distillation, Liquid**
Analytical Method: EPA 906.0 Modified
Analytical Procedure: GL-RAD-A-002 REV# 23
Analytical Batch: 2009073

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512873001	0S8-W-200603
512873002	0S3-W-200602
512873003	0S357-W-200602
512873004	SRE-W-200603
1204574765	Method Blank (MB)
1204574766	512898001(NonSDG) Sample Duplicate (DUP)
1204574767	512898001(NonSDG) Matrix Spike (MS)
1204574768	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Recounts
Sample 1204574766 (Non SDG 512898001DUP) was recounted due to high MDC. The recount is reported.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

2020 Monitoring Report

American Jewish University, Brandeis-Bardin Campus
1101 Peppertree Lane
Brandeis, California

Appendix E

Analytical Laboratory Reports – Fruit Samples

GEL Laboratories LLC
a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.556.8171
F 843.766.1178

gel.com

July 02, 2020

Travis Wicks
GSI Environmental Inc.
155 Grand Ave
Suite 704
Oakland, California 94612

Re: Near S SFL
Work Order: 512859

Dear Travis Wicks:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on June 05, 2020. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4487.

Sincerely,

B Luthman

Brielle Luthman
Project Manager

Purchase Order: 5182
Enclosures

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 − (843) 556−8171 − www.gel.com

Certificate of Analysis Report
for

GSIE002 GSI Environmental Inc.

Client SDG: 512859 GEL Work Order: 512859

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a Tracer compound

** Analyte is a surrogate compound

J See case narrative for an explanation

J Value is estimated

U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Brielle Luthman.

Reviewed by B Luthman

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: July 2, 2020

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612
Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: A-1-200604
Sample ID: 512859001
Matrix: Vegetation
Collect Date: 04-JUN-20 10:40
Receive Date: 05-JUN-20
Collector: Client

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
LC-MS/MS Perchlorate												
Perchlorate by LC-MS/MS "As Received"												
Perchlorate	U	ND	0.455	1.82	ug/kg	9.09	1	CWW	06/19/20	1459	2011115	1
Mercury Analysis-CVAA												
7471 Cold Vapor Mercury, Solid "As Received"												
Mercury	U	ND	7.73	23.1	ug/kg	115	1	MTM1	06/17/20	1044	2011848	2
Metals Analysis-ICP												
SW846 3050B/6010D Metals, Solid "As Received"												
Antimony	U	ND	330	2000	ug/kg	100	1	JWJ	06/09/20	1926	2008857	3
Arsenic	U	ND	500	3000	ug/kg	100	1					
Barium	J	225	100	500	ug/kg	100	1					
Beryllium	U	ND	100	500	ug/kg	100	1					
Cadmium	U	ND	100	500	ug/kg	100	1					
Chromium	U	ND	150	1000	ug/kg	100	1					
Cobalt	U	ND	150	500	ug/kg	100	1					
Copper	J	563	300	2000	ug/kg	100	1					
Lead	J	397	330	2000	ug/kg	100	1					
Molybdenum	U	ND	200	1000	ug/kg	100	1					
Nickel	U	ND	150	500	ug/kg	100	1					
Selenium	U	ND	500	3000	ug/kg	100	1					
Silver	U	ND	100	500	ug/kg	100	1					
Thallium	U	ND	500	2000	ug/kg	100	1					
Vanadium	U	ND	100	500	ug/kg	100	1					
Zinc	J	1480	400	2000	ug/kg	100	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
GEL Prep Method	Laboratory Composite				2008703
SW846 3050B	SW846 3050B Prep	SM1	06/09/20	0900	2008854
SW846 6850 Modified	EPA 6850 Perchlorate Extraction Solids	CWW	06/18/20	1839	2011114
SW846 7471A Prep	EPA 7471A Mercury Prep Soil	AXS5	06/16/20	1334	2011847

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 6850 Modified	
2	SW846 7471A	
3	SW846 3050B/6010D	

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: July 2, 2020

Company :	GSI Environmental Inc.
Address :	155 Grand Ave Suite 704 Oakland, California 94612
Contact:	Travis Wicks
Project:	Near S SFL

Client Sample ID:	A-1-200604	Project:	GSIE00119
Sample ID:	512859001	Client ID:	GSIE002

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

Notes:

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: July 2, 2020

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612
Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: A-2-200604
Sample ID: 512859002
Matrix: Vegetation
Collect Date: 04-JUN-20 13:20
Receive Date: 05-JUN-20
Collector: Client

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
LC-MS/MS Perchlorate												
Perchlorate by LC-MS/MS "As Received"												
Perchlorate	U	ND	0.459	1.83	ug/kg	9.17	1	CWW	06/19/20	1508	2011115	1
Mercury Analysis-CVAA												
7471 Cold Vapor Mercury, Solid "As Received"												
Mercury	U	ND	7.31	21.8	ug/kg	109	1	MTM1	06/17/20	1045	2011848	2
Metals Analysis-ICP												
SW846 3050B/6010D Metals, Solid "As Received"												
Antimony	J	460	317	1920	ug/kg	96.0	1	JWJ	06/09/20	1929	2008857	3
Arsenic	U	ND	480	2880	ug/kg	96.0	1					
Barium	J	343	96.0	480	ug/kg	96.0	1					
Beryllium	U	ND	96.0	480	ug/kg	96.0	1					
Cadmium	U	ND	96.0	480	ug/kg	96.0	1					
Chromium	U	ND	144	960	ug/kg	96.0	1					
Cobalt	U	ND	144	480	ug/kg	96.0	1					
Copper	J	426	288	1920	ug/kg	96.0	1					
Lead	U	ND	317	1920	ug/kg	96.0	1					
Molybdenum	U	ND	192	960	ug/kg	96.0	1					
Nickel	J	151	144	480	ug/kg	96.0	1					
Selenium	U	ND	480	2880	ug/kg	96.0	1					
Silver	U	ND	96.0	480	ug/kg	96.0	1					
Thallium	U	ND	480	1920	ug/kg	96.0	1					
Vanadium	U	ND	96.0	480	ug/kg	96.0	1					
Zinc		2270	384	1920	ug/kg	96.0	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
GEL Prep Method	Laboratory Composite				2008703
SW846 3050B	SW846 3050B Prep	SM1	06/09/20	0900	2008854
SW846 6850 Modified	EPA 6850 Perchlorate Extraction Solids	CWW	06/18/20	1839	2011114
SW846 7471A Prep	EPA 7471A Mercury Prep Soil	AXS5	06/16/20	1334	2011847

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 6850 Modified	
2	SW846 7471A	
3	SW846 3050B/6010D	

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: July 2, 2020

Company :	GSI Environmental Inc.
Address :	155 Grand Ave Suite 704 Oakland, California 94612
Contact:	Travis Wicks
Project:	Near S SFL

Client Sample ID:	A-2-200604	Project:	GSIE00119
Sample ID:	512859002	Client ID:	GSIE002

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

Notes:

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: A-1-200604
Sample ID: 512859001
Matrix: Vegetation
Collect Date: 04-JUN-20
Receive Date: 05-JUN-20
Collector: Client
Moisture: 85.8%

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "As Received"														
Cesium-137	U	-0.00323	+/-0.00680	0.0115	+/-0.00696	0.100	pCi/g			RXF2	06/11/20	1011	2009006	1
Rad Gas Flow Proportional Counting														
GFPC, Sr90, Vegetation "As Received"														
Strontium-90	U	0.0187	+/-0.0259	0.0447	+/-0.0263	0.240	pCi/g			MXS2	06/26/20	0648	2008956	2
Rad Liquid Scintillation Analysis														
LSC, Tritium Distillation, Vegetation "As Received"														
Tritium	U	-2.36	+/-2.71	4.90	+/-2.71	5.00	pCi/g			EW3	06/22/20	1916	2011631	3
Solid Preparation														
Laboratory Composite "As Received"														

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LYT1	06/08/20	0937	2008811
GEL Prep Method	Laboratory Composite				2008703

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R
2	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
3	EPA 906.0 Modified
4	GEL Prep Method

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Strontium Carrier	GFPC, Sr90, Vegetation "As Received"	2008956	106	(25%-125%)

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: A-1-200604
Sample ID: 512859001

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer Recovery	**Test**							**Batch ID**	**Recovery%**	**Acceptable Limits**				

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: A-2-200604
Sample ID: 512859002
Matrix: Vegetation
Collect Date: 04-JUN-20
Receive Date: 05-JUN-20
Collector: Client
Moisture: 87.3%

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "As Received"														
Cesium-137	U	0.00183	+/-0.00628	0.0123	+/-0.00634	0.100	pCi/g			RXF2	06/11/20	1011	2009006	1
Rad Gas Flow Proportional Counting														
GFPC, Sr90, Vegetation "As Received"														
Strontium-90	U	0.00387	+/-0.0351	0.0634	+/-0.0351	0.240	pCi/g			MXS2	06/27/20	1250	2008956	2
Rad Liquid Scintillation Analysis														
LSC, Tritium Distillation, Vegetation "As Received"														
Tritium	U	-0.224	+/-1.73	3.28	+/-1.73	5.00	pCi/g			EW3	06/24/20	0302	2011631	3
Solid Preparation														
Laboratory Composite "As Received"														

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LYT1	06/08/20	0937	2008811
GEL Prep Method	Laboratory Composite				2008703

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R
2	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
3	EPA 906.0 Modified
4	GEL Prep Method

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Strontium Carrier	GFPC, Sr90, Vegetation "As Received"	2008956	94.4	(25%-125%)

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: A-2-200604
Sample ID: 512859002

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer Recovery	**Test**							**Batch ID**	**Recovery%**	**Acceptable Limits**				

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

QC Summary

Report Date: July 2, 2020

GSI Environmental Inc.
155 Grand Ave
Suite 704
Oakland, California

Contact: **Travis Wicks**

Workorder: **512859**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
LC-MS/MS Perchlorate										
Batch 2011115										
QC1204578057 ICS										
Perchlorate	1.95			2.02	ug/kg		104	(70%-130%)	CWW	06/19/20 14:05
QC1204578054 LCS										
Perchlorate	1.91		J	1.89	ug/kg		99	(70%-130%)		06/19/20 13:56
QC1204578053 MB										
Perchlorate			U	ND	ug/kg					06/19/20 13:47
QC1204578055 512856001 MS										
Perchlorate	1.88	U	ND	1.95	ug/kg		104	(75%-125%)		06/19/20 14:32
QC1204578056 512856001 MSD										
Perchlorate	1.73	U	ND	1.82	ug/kg	7	105	(0%-30%)		06/19/20 14:41
Metals Analysis-ICP										
Batch 2008857										
QC1204574160 LCS										
Antimony	45400			44700	ug/kg		98.4	(80%-120%)	JWJ	06/09/20 19:00
Arsenic	45400			42000	ug/kg		92.5	(80%-120%)		
Barium	45400			43200	ug/kg		95.3	(80%-120%)		
Beryllium	45400			46500	ug/kg		102	(80%-120%)		
Cadmium	45400			42100	ug/kg		92.8	(80%-120%)		
Chromium	45400			42700	ug/kg		94.1	(80%-120%)		

QC Summary

Workorder: **512859**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP										
Batch 2008857										
Cobalt	45400			44800	ug/kg		98.7	(80%-120%)	JWJ	06/09/20 19:00
Copper	45400			42800	ug/kg		94.4	(80%-120%)		
Lead	45400			43100	ug/kg		95	(80%-120%)		
Molybdenum	45400			46200	ug/kg		102	(80%-120%)		
Nickel	45400			42500	ug/kg		93.7	(80%-120%)		
Selenium	45400			41900	ug/kg		92.4	(80%-120%)		
Silver	9070			8480	ug/kg		93.5	(80%-120%)		
Thallium	45400			44100	ug/kg		97.2	(80%-120%)		
Vanadium	45400			42700	ug/kg		94.2	(80%-120%)		
Zinc	45400			42500	ug/kg		93.6	(80%-120%)		
QC1204574159 MB										
Antimony			J	820	ug/kg					06/09/20 18:56
Arsenic			U	ND	ug/kg					
Barium			U	ND	ug/kg					
Beryllium			U	ND	ug/kg					
Cadmium			U	ND	ug/kg					

QC Summary

Workorder: **512859**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP										
Batch 2008857										
Chromium			J	198	ug/kg				JWJ	06/09/20 18:56
Cobalt			U	ND	ug/kg					
Copper			U	ND	ug/kg					
Lead			J	780	ug/kg					
Molybdenum			U	ND	ug/kg					
Nickel			U	ND	ug/kg					
Selenium			U	ND	ug/kg					
Silver			U	ND	ug/kg					
Thallium			U	ND	ug/kg					
Vanadium			U	ND	ug/kg					
Zinc			U	ND	ug/kg					
QC1204574161 512856001 MS										
Antimony	46100	J	1450	44300	ug/kg		93	(75%-125%)		06/09/20 19:06
Arsenic	46100	U	ND	44600	ug/kg		96.8	(75%-125%)		
Barium	46100	J	214	45400	ug/kg		98	(75%-125%)		
Beryllium	46100	U	ND	49100	ug/kg		107	(75%-125%)		

QC Summary

Workorder: **512859**

Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP											
Batch 2008857											
Cadmium	46100	U	ND		43900	ug/kg		95.2	(75%-125%)	JWJ	06/09/20 19:06
Chromium	46100	U	ND		44500	ug/kg		96.4	(75%-125%)		
Cobalt	46100	U	ND		48700	ug/kg		106	(75%-125%)		
Copper	46100		4500		47700	ug/kg		93.6	(75%-125%)		
Lead	46100	U	ND		45100	ug/kg		97.3	(75%-125%)		
Molybdenum	46100	U	ND		49500	ug/kg		107	(75%-125%)		
Nickel	46100	U	ND		44600	ug/kg		96.3	(75%-125%)		
Selenium	46100	U	ND		43900	ug/kg		95.1	(75%-125%)		
Silver	9230	U	ND		8720	ug/kg		94.5	(75%-125%)		
Thallium	46100	U	ND		43100	ug/kg		93.5	(75%-125%)		
Vanadium	46100	U	ND		44900	ug/kg		97.3	(75%-125%)		
Zinc	46100		5610		48200	ug/kg		92.3	(75%-125%)		
QC1204574162 512856001 MSD											
Antimony	47500	J	1450		46200	ug/kg	4	94.1	(0%-20%)		06/09/20 19:08
Arsenic	47500	U	ND		44300	ug/kg	0.779	93.2	(0%-20%)		
Barium	47500	J	214		45500	ug/kg	0.195	95.3	(0%-20%)		

QC Summary

Workorder: **512859**

Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP											
Batch 2008857											
Beryllium	47500	U	ND		49200	ug/kg	0.0435	103	(0%-20%)	JWJ	06/09/20 19:08
Cadmium	47500	U	ND		44100	ug/kg	0.474	92.8	(0%-20%)		
Chromium	47500	U	ND		44700	ug/kg	0.402	93.9	(0%-20%)		
Cobalt	47500	U	ND		48200	ug/kg	0.98	101	(0%-20%)		
Copper	47500		4500		47900	ug/kg	0.432	91.3	(0%-20%)		
Lead	47500	U	ND		44900	ug/kg	0.472	94	(0%-20%)		
Molybdenum	47500	U	ND		49500	ug/kg	0.168	104	(0%-20%)		
Nickel	47500	U	ND		44400	ug/kg	0.415	93.1	(0%-20%)		
Selenium	47500	U	ND		41600	ug/kg	5.34	87.5	(0%-20%)		
Silver	9510	U	ND		8660	ug/kg	0.595	91.2	(0%-20%)		
Thallium	47500	U	ND		43200	ug/kg	0.0556	90.8	(0%-20%)		
Vanadium	47500	U	ND		45300	ug/kg	0.851	95.3	(0%-20%)		
Zinc	47500		5610		49300	ug/kg	2.29	91.9	(0%-20%)		
QC1204574163 512856001 SDILT											
Antimony		J	15.2	U	ND	ug/L	N/A		(0%-20%)		06/09/20 19:13
Arsenic		U	ND	U	ND	ug/L	N/A		(0%-20%)		

QC Summary

Workorder: **512859**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP										
Batch 2008857										
Barium	J	2.25	U	ND	ug/L	N/A		(0%-20%)	JWJ	06/09/20 19:13
Beryllium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Cadmium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Chromium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Cobalt	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Copper		47.3	J	9.21	ug/L	2.69		(0%-20%)		
Lead	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Molybdenum	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Nickel	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Selenium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Silver	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Thallium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Vanadium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Zinc		59.0	J	14.1	ug/L	19.8		(0%-20%)		

QC Summary

Workorder: **512859**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-Mercury										
Batch 2011848										
QC1204579697 LCS										
Mercury	238			191	ug/kg		80.2	(80%-120%)	MTM1	06/17/20 10:32
QC1204579696 MB										
Mercury			U	ND	ug/kg					06/17/20 10:30
QC1204579699 513320001 MS										
Mercury	345	47.6		363	ug/kg		91.5	(80%-120%)		06/17/20 11:02
QC1204579701 513320001 MSD										
Mercury	305	47.6		323	ug/kg	11.8	90.2	(0%-20%)		06/17/20 11:04
QC1204579702 513320001 SDILT										
Mercury		0.311	U	ND	ug/L	N/A		(0%-10%)		06/17/20 11:05

Notes:

The Qualifiers in this report are defined as follows:

**	Analyte is a surrogate compound
<	Result is less than value reported
>	Result is greater than value reported
A	The TIC is a suspected aldol-condensation product
B	The target analyte was detected in the associated blank.
C	Analyte has been confirmed by GC/MS analysis
D	Results are reported from a diluted aliquot of the sample
E	%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
E	Concentration of the target analyte exceeds the instrument calibration range
FB	Mercury was found present at quantifiable concentrations in field blanks received with these samples. Data associated with the blank are deemed invalid for reporting to regulatory agencies
H	Analytical holding time was exceeded
J	See case narrative for an explanation
J	Value is estimated
JNX	Non Calibrated Compound
N	Metals--The Matrix spike sample recovery is not within specified control limits
N	Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor

QC Summary

Workorder: **512859**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time

N Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor

N/A RPD or %Recovery limits do not apply.

N1 See case narrative

ND Analyte concentration is not detected above the detection limit

NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, the difference is >70%.

Q One or more quality control criteria have not been met. Refer to the applicable narrative or DER.

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

UJ Compound cannot be extracted

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y Other specific qualifiers were required to properly define the results. Consult case narrative.

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.

h Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

QC Summary

Client : **GSI Environmental Inc.**
155 Grand Ave
Suite 704
Oakland, California

Contact: **Travis Wicks**

Workorder: **512859**

Report Date: July 2, 2020

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 2009006										
QC1204574617 512856001 DUP										
Cesium-137	U	0.00577	U	0.00416	pCi/g	0			N/A RXF2	06/11/2013:12
	Uncert:	+/-0.0149		+/-0.0150						
	TPU:	+/-0.0151		+/-0.0151						
QC1204574618 LCS										
Americium-241	486			572	pCi/g		118	(75%-125%)	RXF2	06/11/2013:26
	Uncert:			+/-12.4						
	TPU:			+/-54.5						
Cobalt-60	98.8			99.2	pCi/g		100	(75%-125%)		
	Uncert:			+/-2.30						
	TPU:			+/-8.79						
Cesium-137	165			165	pCi/g		100	(75%-125%)		
	Uncert:			+/-2.54						
	TPU:			+/-14.1						
QC1204574616 MB										
Cesium-137			U	0.000724	pCi/g				RXF2	06/11/2010:16
	Uncert:			+/-0.00567						
	TPU:			+/-0.00568						
Rad Gas Flow										
Batch 2008956										
QC1204574465 512856001 DUP										
Strontium-90	U	-0.271	U	-0.0524	pCi/g	0			N/A MXS2	06/26/2006:57
	Uncert:	+/-0.105		+/-0.0909						
	TPU:	+/-0.105		+/-0.0909						
QC1204574466 LCS										
Strontium-90	1.45			1.27	pCi/g		87.6	(75%-125%)	MXS2	06/26/2006:57
	Uncert:			+/-0.0762						
	TPU:			+/-0.299						
QC1204574464 MB										
Strontium-90			U	0.00694	pCi/g				MXS2	06/26/2006:57
	Uncert:			+/-0.0169						
	TPU:			+/-0.0170						
Rad Liquid Scintillation										
Batch 2011631										
QC1204579192 512856001 DUP										
Tritium	U	0.335	U	0.898	pCi/g	0			N/A EW3	06/24/2011:03
	Uncert:	+/-1.80		+/-1.87						
	TPU:	+/-1.80		+/-1.88						
QC1204579194 LCS										
Tritium	85.0			66.2	pCi/g		77.9	(75%-125%)	EW3	06/23/2007:11
	Uncert:			+/-9.01						

QC Summary

Workorder: **512859**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Liquid Scintillation										
Batch 2011631										
	TPU:			+/-17.5						
QC1204579191 MB										
Tritium			U	-1.17	pCi/g				EW3	06/23/2004:45
	Uncert:			+/-2.70						
	TPU:			+/-2.70						
QC1204579193 512856001 MS										
Tritium	90.9 U	0.335		73.2	pCi/g		80.5	(75%-125%)	EW3	06/23/2006:48
	Uncert:	+/-1.80		+/-8.21						
	TPU:	+/-1.80		+/-18.5						

Notes:

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

The Qualifiers in this report are defined as follows:

**	Analyte is a Tracer compound
<	Result is less than value reported
>	Result is greater than value reported
BD	Results are either below the MDC or tracer recovery is low
FA	Failed analysis.
H	Analytical holding time was exceeded
J	See case narrative for an explanation
J	Value is estimated
K	Analyte present. Reported value may be biased high. Actual value is expected to be lower.
L	Analyte present. Reported value may be biased low. Actual value is expected to be higher.
M	M if above MDC and less than LLD
M	REMP Result > MDC/CL and < RDL
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
UI	Gamma Spectroscopy--Uncertain identification
UJ	Gamma Spectroscopy--Uncertain identification
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h	Preparation or preservation holding time was exceeded

QC Summary

Workorder: **512859**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
** Indicates analyte is a surrogate/tracer compound.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptence criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

GSI ENVIRONMENTAL

CHAIN-OF-CUSTODY RECORD
Date: 6/4/20
Page 1 of 1

512859

FROM: GSI Environmental Inc. 155 Grand Ave. Suite 704 Oakland, CA 94612 (510) 463-8484	PROJECT NAME: AJU-BB	PROJECT NO.: 5182
	PROJECT CONTACT: Susan Gallardo	LAB CONTACT: Brielle Luthman
	GLOBAL ID: –	SAMPLER(S): (PRINT) Kaleb Howell + Josh Voss
TEL: (510) 463-8484	E-MAIL: smgallardo@gsi-net.com; tzwicks@gsi-net.com	
LABORATORY: GEL Laboratories		

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR
☐ 72 HR ☐ 5 DAYS ☒ STANDARD

SPECIAL INSTRUCTIONS:
- Sr-90 MDC of 0.5 pCi/g
- Cs-137 MDC of 1 pCi/g
- H-3 MDC of 5 pCi/g
- Include skin and flesh, but not seeds or stem

REQUESTED ANALYSES
Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Sr-90 (905.0)	Cs-137 (901.1)	H-3 (906)	CA Title 22 Metals (6010/7470)	Perchlorate (314.0)
	A-1-200604	6/4/20	1040	Fruit	1	X			X	X	X	X	X
	A-2-200604	1	1320	1	1	X			X	X	X	X	X

Relinquished by: (Signature)	Received by: (Signature) FEDEX	Date: 6/4/20	Time: 1445
Relinquished by: (Signature)	Received by: (Signature)	Date: 6/5/20	Time: 9:10
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: GSIE	SDG/AR/COC/Work Order: 512859
Received By: STACY BOONE	Date Received: JUNE 5, 2020
Carrier and Tracking Number	Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other 3935 4669 0289-4c 3935 4669 0278-21

Suspected Hazard Information	Yes	No	
			*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes___ No___
B) Did the client designate the samples are to be received as radioactive?		✓	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		✓	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): Ø CPM / mR/Hr Classified as: Rad 1 Rad 2 Rad 3
D) Did the client designate samples are hazardous?		✓	COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		✓	If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	✓			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	✓			Preservation Method: Wet Ice Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP:___
4	Daily check performed and passed on IR temperature gun?	✓			Temperature Device Serial #: IR1-19 Secondary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?	✓			Sample ID's and Containers Affected: If Preservation added, Lot#:
7	Do any samples require Volatile Analysis?				If Yes, are Encores or Soil Kits present for solids? Yes___ No___ NA___(If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes___ No___ NA___(If unknown, select No) Are liquid VOA vials free of headspace? Yes___ No___ NA___ Sample ID's and containers affected:
8	Samples received within holding time?	✓			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			ID's and containers affected:
10	Date & time on COC match date & time on bottles?			✓	Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11	Number of containers received match number indicated on COC?	✓			Circle Applicable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided?	✓			
13	COC form is properly signed in relinquished/received sections? SB	✓		✓	Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

058-W-200603 COC TIME: 11:30 SAMPLE TIME: 11:40

PM (or PMA) review: Initials CD Date 6/8/20 Page 1 of 1

GL-CHL-SR-001 Rev 6

List of current GEL Certifications as of 02 July 2020

State	Certification
Alabama	42200
Alaska	17−018
Alaska Drinking Water	SC00012
Arkansas	88−0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH−0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330−15−00283, P330−15−00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C−SC−01
Kansas NELAP	E−10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M−SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE−OS−26−13
Nevada	SC000122020−1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R−158
Oklahoma	2019−165
Pennsylvania NELAP	68−00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235−20−17
Utah NELAP	SC000122020−32
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

Technical Case Narrative
GSI Environmental Inc.
SDG #: 512859

Perchlorates by LCMSMS

Product: **Definitive Low Level Perchlorate Analysis Utilizing Liquid Chromatography/Mass Spectrometry/Mass Spectrometry (LC/MS/MS) by EPA Method 6850 Modified (6850M)**
Analytical Method: SW846 6850 Modified
Analytical Procedure: GL-OA-E-067 REV# 15
Analytical Batches: 2011115 and 2011114

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512859001	A-1-200604
512859002	A-2-200604
1204578053	Method Blank (MB)
1204578054	Laboratory Control Sample (LCS)
1204578055	512856001(AV-1-200604) Matrix Spike (MS)
1204578056	512856001(AV-1-200604) Matrix Spike Duplicate (MSD)
1204578057	Interference Check Sample (ICS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Metals

Product: **Determination of Metals by ICP**
Analytical Method: SW846 3050B/6010D
Analytical Procedure: GL-MA-E-013 REV# 31
Analytical Batch: 2008857

Preparation Method: SW846 3050B
Preparation Procedure: GL-MA-E-009 REV# 29
Preparation Batch: 2008854

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512859001	A-1-200604
512859002	A-2-200604
1204574159	Method Blank (MB)**ICP**
1204574160	Laboratory Control Sample (LCS)
1204574163	512856001(AV-1-200604L) Serial Dilution (SD)
1204574161	512856001(AV-1-200604S) Matrix Spike (MS)
1204574162	512856001(AV-1-200604SD) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Preparation/Analytical Method Verification
Method SW-846 3050B is not a total digestion technique for most samples. It is a very strong acid digestion that will dissolve almost all elements that could become environmentally available. By design, elements bound in silicate structures are not normally dissolved by this procedure as they are not usually mobile in the environment.

Product: **Mercury Analysis Using the Perkin Elmer Automated Mercury Analyzer**
Analytical Method: SW846 7471A
Analytical Procedure: GL-MA-E-010 REV# 38
Analytical Batch: 2011848

Preparation Method: SW846 7471A Prep
Preparation Procedure: GL-MA-E-010 REV# 38
Preparation Batch: 2011847

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512859001	A-1-200604
512859002	A-2-200604
1204579696	Method Blank (MB)**CVAA**
1204579697	Laboratory Control Sample (LCS)
1204579702	513320001(NonSDGL) Serial Dilution (SD)
1204579699	513320001(NonSDGS) Matrix Spike (MS)
1204579701	513320001(NonSDGSD) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Radiochemistry

Product: **Dry Weight**
Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 23
Preparation Batch: 2008811

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512859001	A-1-200604
512859002	A-2-200604

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **Gammaspec, Gamma, Solid (Standard List)**
Analytical Method: DOE HASL 300, 4.5.2.3/Ga-01-R
Analytical Procedure: GL-RAD-A-013 REV# 27
Analytical Batch: 2009006

Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 23
Preparation Batch: 2008811

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512859001	A-1-200604
512859002	A-2-200604
1204574616	Method Blank (MB)
1204574617	512856001(AV-1-200604) Sample Duplicate (DUP)
1204574618	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: GFPC, Sr90, Vegetation
Analytical Method: EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
Analytical Procedure: GL-RAD-A-004 REV# 21
Analytical Batch: 2008956

Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 23
Preparation Batch: 2008811

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512859001	A-1-200604
512859002	A-2-200604
1204574464	Method Blank (MB)
1204574465	512856001(AV-1-200604) Sample Duplicate (DUP)
1204574466	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **LSC, Tritium Distillation, Vegetation**
Analytical Method: EPA 906.0 Modified
Analytical Procedure: GL-RAD-A-002 REV# 23
Analytical Batch: 2011631

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512859001	A-1-200604
512859002	A-2-200604
1204579191	Method Blank (MB)
1204579192	512856001(AV-1-200604) Sample Duplicate (DUP)
1204579193	512856001(AV-1-200604) Matrix Spike (MS)
1204579194	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Recounts
Samples 1204579192 (AV-1-200604DUP) and 512859002 (A-2-200604) were recounted due to high MDCs. The recounts are reported.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL Laboratories LLC
a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.556.8171
F 843.766.1178

gel.com

July 02, 2020

Travis Wicks
GSI Environmental Inc.
155 Grand Ave
Suite 704
Oakland, California 94612

Re: Near S SFL
Work Order: 512856

Dear Travis Wicks:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on June 05, 2020. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4487.

Sincerely,

B Luthman

Brielle Luthman
Project Manager

Purchase Order: 5182
Enclosures

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 − (843) 556−8171 − www.gel.com

Certificate of Analysis Report
for

GSIE002 GSI Environmental Inc.

Client SDG: 512856 GEL Work Order: 512856

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a Tracer compound

** Analyte is a surrogate compound

J See case narrative for an explanation

J Value is estimated

U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Brielle Luthman.

Reviewed by B Luthman

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: July 2, 2020

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612
Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: AV-1-200604
Sample ID: 512856001
Matrix: Vegetation
Collect Date: 04-JUN-20 09:30
Receive Date: 05-JUN-20
Collector: Client

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
LC-MS/MS Perchlorate												
Perchlorate by LC-MS/MS "As Received"												
Perchlorate	U	ND	0.437	1.75	ug/kg	8.73	1	CWW	06/19/20	1423	2011115	1
Mercury Analysis-CVAA												
7471 Cold Vapor Mercury, Solid "As Received"												
Mercury	U	ND	6.81	20.3	ug/kg	102	1	MTM1	06/17/20	1040	2011848	2
Metals Analysis-ICP												
SW846 3050B/6010D Metals, Solid "As Received"												
Antimony	J	1450	314	1900	ug/kg	95.1	1	JWJ	06/09/20	1902	2008857	3
Arsenic	U	ND	475	2850	ug/kg	95.1	1					
Barium	J	214	95.1	475	ug/kg	95.1	1					
Beryllium	U	ND	95.1	475	ug/kg	95.1	1					
Cadmium	U	ND	95.1	475	ug/kg	95.1	1					
Chromium	U	ND	143	951	ug/kg	95.1	1					
Cobalt	U	ND	143	475	ug/kg	95.1	1					
Copper		4500	285	1900	ug/kg	95.1	1					
Lead	U	ND	314	1900	ug/kg	95.1	1					
Molybdenum	U	ND	190	951	ug/kg	95.1	1					
Nickel	U	ND	143	475	ug/kg	95.1	1					
Selenium	U	ND	475	2850	ug/kg	95.1	1					
Silver	U	ND	95.1	475	ug/kg	95.1	1					
Thallium	U	ND	475	1900	ug/kg	95.1	1					
Vanadium	U	ND	95.1	475	ug/kg	95.1	1					
Zinc		5610	380	1900	ug/kg	95.1	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
GEL Prep Method	Laboratory Composite				2008703
SW846 3050B	SW846 3050B Prep	SM1	06/09/20	0900	2008854
SW846 6850 Modified	EPA 6850 Perchlorate Extraction Solids	CWW	06/18/20	1839	2011114
SW846 7471A Prep	EPA 7471A Mercury Prep Soil	AXS5	06/16/20	1334	2011847

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 6850 Modified	
2	SW846 7471A	
3	SW846 3050B/6010D	

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Certificate of Analysis

Report Date: July 2, 2020

Company :	GSI Environmental Inc.
Address :	155 Grand Ave Suite 704 Oakland, California 94612
Contact:	Travis Wicks
Project:	Near S SFL

Client Sample ID:	AV-1-200604	Project:	GSIE00119
Sample ID:	512856001	Client ID:	GSIE002

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

Notes:

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: July 2, 2020

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612
Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: AV-2-200604
Sample ID: 512856002
Matrix: Vegetation
Collect Date: 04-JUN-20 13:00
Receive Date: 05-JUN-20
Collector: Client

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
LC-MS/MS Perchlorate												
Perchlorate by LC-MS/MS "As Received"												
Perchlorate	U	ND	0.840	3.36	ug/kg	8.40	2	CWW	06/19/20	1450	2011115	1
Mercury Analysis-CVAA												
7471 Cold Vapor Mercury, Solid "As Received"												
Mercury	U	ND	7.50	22.4	ug/kg	112	1	MTM1	06/17/20	1042	2011848	2
Metals Analysis-ICP												
SW846 3050B/6010D Metals, Solid "As Received"												
Antimony	U	ND	315	1910	ug/kg	95.4	1	JWJ	06/09/20	1922	2008857	3
Arsenic	U	ND	477	2860	ug/kg	95.4	1					
Barium	U	ND	95.4	477	ug/kg	95.4	1					
Beryllium	U	ND	95.4	477	ug/kg	95.4	1					
Cadmium	U	ND	95.4	477	ug/kg	95.4	1					
Chromium	U	ND	143	954	ug/kg	95.4	1					
Cobalt	U	ND	143	477	ug/kg	95.4	1					
Copper		3240	286	1910	ug/kg	95.4	1					
Lead	J	446	315	1910	ug/kg	95.4	1					
Molybdenum	U	ND	191	954	ug/kg	95.4	1					
Nickel	J	245	143	477	ug/kg	95.4	1					
Selenium	U	ND	477	2860	ug/kg	95.4	1					
Silver	U	ND	95.4	477	ug/kg	95.4	1					
Thallium	U	ND	477	1910	ug/kg	95.4	1					
Vanadium	U	ND	95.4	477	ug/kg	95.4	1					
Zinc		4970	382	1910	ug/kg	95.4	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
GEL Prep Method	Laboratory Composite				2008703
SW846 3050B	SW846 3050B Prep	SM1	06/09/20	0900	2008854
SW846 6850 Modified	EPA 6850 Perchlorate Extraction Solids	CWW	06/18/20	1839	2011114
SW846 7471A Prep	EPA 7471A Mercury Prep Soil	AXS5	06/16/20	1334	2011847

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 6850 Modified	
2	SW846 7471A	
3	SW846 3050B/6010D	

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Certificate of Analysis

Report Date: July 2, 2020

Company :	GSI Environmental Inc.
Address :	155 Grand Ave Suite 704 Oakland, California 94612
Contact:	Travis Wicks
Project:	Near S SFL

Client Sample ID:	AV-2-200604	Project:	GSIE00119
Sample ID:	512856002	Client ID:	GSIE002

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

Notes:

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: AV-1-200604
Sample ID: 512856001
Matrix: Vegetation
Collect Date: 04-JUN-20
Receive Date: 05-JUN-20
Collector: Client
Moisture: 62.8%

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "As Received"														
Cesium-137	U	0.00577	+/-0.0149	0.0288	+/-0.0151	0.100	pCi/g			RXF2	06/11/20	1009	2009006	1
Rad Gas Flow Proportional Counting														
GFPC, Sr90, Vegetation "As Received"														
Strontium-90	U	-0.271	+/-0.105	0.237	+/-0.105	0.240	pCi/g			MXS2	07/02/20	0712	2008956	2
Rad Liquid Scintillation Analysis														
LSC, Tritium Distillation, Vegetation "As Received"														
Tritium	U	0.335	+/-1.80	3.28	+/-1.80	5.00	pCi/g			EW3	06/24/20	0117	2011631	3
Solid Preparation														
Laboratory Composite "As Received"														

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LYT1	06/08/20	0937	2008811
GEL Prep Method	Laboratory Composite				2008703

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R
2	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
3	EPA 906.0 Modified
4	GEL Prep Method

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Strontium Carrier	GFPC, Sr90, Vegetation "As Received"	2008956	62.9	(25%-125%)

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Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: AV-1-200604
Sample ID: 512856001

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer Recovery	**Test**							**Batch ID**	**Recovery%**	**Acceptable Limits**				

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: AV-2-200604
Sample ID: 512856002
Matrix: Vegetation
Collect Date: 04-JUN-20
Receive Date: 05-JUN-20
Collector: Client
Moisture: 71.5%

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "As Received"														
Cesium-137	U	-0.00117	+/-0.00799	0.0145	+/-0.00801	0.100	pCi/g			RXF2	06/11/20	1010	2009006	1
Rad Gas Flow Proportional Counting														
GFPC, Sr90, Vegetation "As Received"														
Strontium-90	U	-0.0220	+/-0.0705	0.140	+/-0.0705	0.240	pCi/g			MXS2	06/26/20	0648	2008956	2
Rad Liquid Scintillation Analysis														
LSC, Tritium Distillation, Vegetation "As Received"														
Tritium	U	1.49	+/-2.66	4.64	+/-2.68	5.00	pCi/g			EW3	06/24/20	0210	2011631	3
Solid Preparation														
Laboratory Composite "As Received"														

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LYT1	06/08/20	0937	2008811
GEL Prep Method	Laboratory Composite				2008703

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R
2	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
3	EPA 906.0 Modified
4	GEL Prep Method

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Strontium Carrier	GFPC, Sr90, Vegetation "As Received"	2008956	89.9	(25%-125%)

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: AV-2-200604
Sample ID: 512856002

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer Recovery	**Test**							**Batch ID**	**Recovery%**	**Acceptable Limits**				

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

QC Summary

Report Date: July 2, 2020

GSI Environmental Inc.
155 Grand Ave
Suite 704
Oakland, California

Contact: **Travis Wicks**

Workorder: **512856**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
LC-MS/MS Perchlorate											
Batch 2011115											
QC1204578057 ICS											
Perchlorate	1.95			2.02	ug/kg		104	(70%-130%)	CWW	06/19/20	14:05
QC1204578054 LCS											
Perchlorate	1.91		J	1.89	ug/kg		99	(70%-130%)		06/19/20	13:56
QC1204578053 MB											
Perchlorate			U	ND	ug/kg					06/19/20	13:47
QC1204578055 512856001 MS											
Perchlorate	1.88 U	ND		1.95	ug/kg		104	(75%-125%)		06/19/20	14:32
QC1204578056 512856001 MSD											
Perchlorate	1.73 U	ND		1.82	ug/kg	7	105	(0%-30%)		06/19/20	14:41
Metals Analysis-ICP											
Batch 2008857											
QC1204574160 LCS											
Antimony	45400			44700	ug/kg		98.4	(80%-120%)	JWJ	06/09/20	19:00
Arsenic	45400			42000	ug/kg		92.5	(80%-120%)			
Barium	45400			43200	ug/kg		95.3	(80%-120%)			
Beryllium	45400			46500	ug/kg		102	(80%-120%)			
Cadmium	45400			42100	ug/kg		92.8	(80%-120%)			
Chromium	45400			42700	ug/kg		94.1	(80%-120%)			

QC Summary

Workorder: **512856**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP										
Batch 2008857										
Cobalt	45400			44800	ug/kg		98.7	(80%-120%)	JWJ	06/09/20 19:00
Copper	45400			42800	ug/kg		94.4	(80%-120%)		
Lead	45400			43100	ug/kg		95	(80%-120%)		
Molybdenum	45400			46200	ug/kg		102	(80%-120%)		
Nickel	45400			42500	ug/kg		93.7	(80%-120%)		
Selenium	45400			41900	ug/kg		92.4	(80%-120%)		
Silver	9070			8480	ug/kg		93.5	(80%-120%)		
Thallium	45400			44100	ug/kg		97.2	(80%-120%)		
Vanadium	45400			42700	ug/kg		94.2	(80%-120%)		
Zinc	45400			42500	ug/kg		93.6	(80%-120%)		
QC1204574159 MB										
Antimony			J	820	ug/kg					06/09/20 18:56
Arsenic			U	ND	ug/kg					
Barium			U	ND	ug/kg					
Beryllium			U	ND	ug/kg					
Cadmium			U	ND	ug/kg					

QC Summary

Workorder: **512856**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP										
Batch 2008857										
Chromium			J	198	ug/kg				JWJ	06/09/20 18:56
Cobalt			U	ND	ug/kg					
Copper			U	ND	ug/kg					
Lead			J	780	ug/kg					
Molybdenum			U	ND	ug/kg					
Nickel			U	ND	ug/kg					
Selenium			U	ND	ug/kg					
Silver			U	ND	ug/kg					
Thallium			U	ND	ug/kg					
Vanadium			U	ND	ug/kg					
Zinc			U	ND	ug/kg					
QC1204574161 512856001 MS										
Antimony	46100	J	1450	44300	ug/kg		93	(75%-125%)		06/09/20 19:06
Arsenic	46100	U	ND	44600	ug/kg		96.8	(75%-125%)		
Barium	46100	J	214	45400	ug/kg		98	(75%-125%)		
Beryllium	46100	U	ND	49100	ug/kg		107	(75%-125%)		

QC Summary

Workorder: **512856**

Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP											
Batch 2008857											
Cadmium	46100	U	ND		43900	ug/kg		95.2	(75%-125%)	JWJ	06/09/20 19:06
Chromium	46100	U	ND		44500	ug/kg		96.4	(75%-125%)		
Cobalt	46100	U	ND		48700	ug/kg		106	(75%-125%)		
Copper	46100		4500		47700	ug/kg		93.6	(75%-125%)		
Lead	46100	U	ND		45100	ug/kg		97.3	(75%-125%)		
Molybdenum	46100	U	ND		49500	ug/kg		107	(75%-125%)		
Nickel	46100	U	ND		44600	ug/kg		96.3	(75%-125%)		
Selenium	46100	U	ND		43900	ug/kg		95.1	(75%-125%)		
Silver	9230	U	ND		8720	ug/kg		94.5	(75%-125%)		
Thallium	46100	U	ND		43100	ug/kg		93.5	(75%-125%)		
Vanadium	46100	U	ND		44900	ug/kg		97.3	(75%-125%)		
Zinc	46100		5610		48200	ug/kg		92.3	(75%-125%)		
QC1204574162 512856001 MSD											
Antimony	47500	J	1450		46200	ug/kg	4	94.1	(0%-20%)		06/09/20 19:08
Arsenic	47500	U	ND		44300	ug/kg	0.779	93.2	(0%-20%)		
Barium	47500	J	214		45500	ug/kg	0.195	95.3	(0%-20%)		

QC Summary

Workorder: **512856**

Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP											
Batch 2008857											
Beryllium	47500	U	ND		49200	ug/kg	0.0435	103	(0%-20%)	JWJ	06/09/20 19:08
Cadmium	47500	U	ND		44100	ug/kg	0.474	92.8	(0%-20%)		
Chromium	47500	U	ND		44700	ug/kg	0.402	93.9	(0%-20%)		
Cobalt	47500	U	ND		48200	ug/kg	0.98	101	(0%-20%)		
Copper	47500		4500		47900	ug/kg	0.432	91.3	(0%-20%)		
Lead	47500	U	ND		44900	ug/kg	0.472	94	(0%-20%)		
Molybdenum	47500	U	ND		49500	ug/kg	0.168	104	(0%-20%)		
Nickel	47500	U	ND		44400	ug/kg	0.415	93.1	(0%-20%)		
Selenium	47500	U	ND		41600	ug/kg	5.34	87.5	(0%-20%)		
Silver	9510	U	ND		8660	ug/kg	0.595	91.2	(0%-20%)		
Thallium	47500	U	ND		43200	ug/kg	0.0556	90.8	(0%-20%)		
Vanadium	47500	U	ND		45300	ug/kg	0.851	95.3	(0%-20%)		
Zinc	47500		5610		49300	ug/kg	2.29	91.9	(0%-20%)		
QC1204574163 512856001 SDILT											
Antimony		J	15.2	U	ND	ug/L	N/A		(0%-20%)		06/09/20 19:13
Arsenic		U	ND	U	ND	ug/L	N/A		(0%-20%)		

QC Summary

Workorder: **512856**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP										
Batch 2008857										
Barium	J	2.25	U	ND	ug/L	N/A		(0%-20%)	JWJ	06/09/20 19:13
Beryllium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Cadmium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Chromium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Cobalt	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Copper		47.3	J	9.21	ug/L	2.69		(0%-20%)		
Lead	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Molybdenum	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Nickel	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Selenium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Silver	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Thallium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Vanadium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Zinc		59.0	J	14.1	ug/L	19.8		(0%-20%)		

QC Summary

Workorder: **512856**

Parmname			NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis-Mercury													
Batch 2011848													
QC1204579697	LCS												
Mercury			238			191	ug/kg		80.2	(80%-120%)	MTM1	06/17/20	10:32
QC1204579696	MB												
Mercury					U	ND	ug/kg					06/17/20	10:30
QC1204579699	513320001	MS											
Mercury			345	47.6		363	ug/kg		91.5	(80%-120%)		06/17/20	11:02
QC1204579701	513320001	MSD											
Mercury			305	47.6		323	ug/kg	11.8	90.2	(0%-20%)		06/17/20	11:04
QC1204579702	513320001	SDILT											
Mercury				0.311	U	ND	ug/L	N/A		(0%-10%)		06/17/20	11:05

Notes:

The Qualifiers in this report are defined as follows:

**	Analyte is a surrogate compound
<	Result is less than value reported
>	Result is greater than value reported
A	The TIC is a suspected aldol-condensation product
B	The target analyte was detected in the associated blank.
C	Analyte has been confirmed by GC/MS analysis
D	Results are reported from a diluted aliquot of the sample
E	%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
E	Concentration of the target analyte exceeds the instrument calibration range
FB	Mercury was found present at quantifiable concentrations in field blanks received with these samples. Data associated with the blank are deemed invalid for reporting to regulatory agencies
H	Analytical holding time was exceeded
J	See case narrative for an explanation
J	Value is estimated
JNX	Non Calibrated Compound
N	Metals--The Matrix spike sample recovery is not within specified control limits
N	Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor

QC Summary

Workorder: **512856**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time

N Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor

N/A RPD or %Recovery limits do not apply.

N1 See case narrative

ND Analyte concentration is not detected above the detection limit

NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, the difference is >70%.

Q One or more quality control criteria have not been met. Refer to the applicable narrative or DER.

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

UJ Compound cannot be extracted

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y Other specific qualifiers were required to properly define the results. Consult case narrative.

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.

h Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

QC Summary

Client : **GSI Environmental Inc.**
155 Grand Ave
Suite 704
Oakland, California

Contact: **Travis Wicks**

Workorder: **512856**

Report Date: July 2, 2020

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 2009006										
QC1204574617 512856001 DUP										
Cesium-137	U	0.00577	U	0.00416	pCi/g	0			N/A RXF2	06/11/2013:12
	Uncert:	+/-0.0149		+/-0.0150						
	TPU:	+/-0.0151		+/-0.0151						
QC1204574618 LCS										
Americium-241	486			572	pCi/g		118	(75%-125%)	RXF2	06/11/2013:26
	Uncert:			+/-12.4						
	TPU:			+/-54.5						
Cobalt-60	98.8			99.2	pCi/g		100	(75%-125%)		
	Uncert:			+/-2.30						
	TPU:			+/-8.79						
Cesium-137	165			165	pCi/g		100	(75%-125%)		
	Uncert:			+/-2.54						
	TPU:			+/-14.1						
QC1204574616 MB										
Cesium-137			U	0.000724	pCi/g				RXF2	06/11/2010:16
	Uncert:			+/-0.00567						
	TPU:			+/-0.00568						
Rad Gas Flow										
Batch 2008956										
QC1204574465 512856001 DUP										
Strontium-90	U	-0.271	U	-0.0524	pCi/g	0			N/A MXS2	06/26/2006:57
	Uncert:	+/-0.105		+/-0.0909						
	TPU:	+/-0.105		+/-0.0909						
QC1204574466 LCS										
Strontium-90	1.45			1.27	pCi/g		87.6	(75%-125%)	MXS2	06/26/2006:57
	Uncert:			+/-0.0762						
	TPU:			+/-0.299						
QC1204574464 MB										
Strontium-90			U	0.00694	pCi/g				MXS2	06/26/2006:57
	Uncert:			+/-0.0169						
	TPU:			+/-0.0170						
Rad Liquid Scintillation										
Batch 2011631										
QC1204579192 512856001 DUP										
Tritium	U	0.335	U	0.898	pCi/g	0			N/A EW3	06/24/2011:03
	Uncert:	+/-1.80		+/-1.87						
	TPU:	+/-1.80		+/-1.88						
QC1204579194 LCS										
Tritium	85.0			66.2	pCi/g		77.9	(75%-125%)	EW3	06/23/2007:11
	Uncert:			+/-9.01						

QC Summary

Workorder: **512856**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Liquid Scintillation										
Batch 2011631										
	TPU:			+/-17.5						
QC1204579191 MB										
Tritium			U	-1.17	pCi/g				EW3	06/23/2004:45
	Uncert:			+/-2.70						
	TPU:			+/-2.70						
QC1204579193 512856001 MS										
Tritium	90.9 U	0.335		73.2	pCi/g		80.5	(75%-125%)	EW3	06/23/2006:48
	Uncert:	+/-1.80		+/-8.21						
	TPU:	+/-1.80		+/-18.5						

Notes:

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

The Qualifiers in this report are defined as follows:

**	Analyte is a Tracer compound
<	Result is less than value reported
>	Result is greater than value reported
BD	Results are either below the MDC or tracer recovery is low
FA	Failed analysis.
H	Analytical holding time was exceeded
J	See case narrative for an explanation
J	Value is estimated
K	Analyte present. Reported value may be biased high. Actual value is expected to be lower.
L	Analyte present. Reported value may be biased low. Actual value is expected to be higher.
M	M if above MDC and less than LLD
M	REMP Result > MDC/CL and < RDL
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
UI	Gamma Spectroscopy--Uncertain identification
UJ	Gamma Spectroscopy--Uncertain identification
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h	Preparation or preservation holding time was exceeded

QC Summary

Workorder: **512856**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
** Indicates analyte is a surrogate/tracer compound.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptence criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

GSI ENVIRONMENTAL

CHAIN-OF-CUSTODY RECORD
Date: 6/4/20
Page 1 of 1

512856

FROM:
GSI Environmental Inc.
155 Grand Ave. Suite 704
Oakland, CA 94612
(510) 463-8484

PROJECT NAME: AJU-BB
PROJECT CONTACT: Susan Gallardo
GLOBAL ID: --
PROJECT NO.: 5182
LAB CONTACT: Brielle Luthman
SAMPLER(S): (PRINT) Kalia Howell + Josh Voss

TEL: (510) 463-8484
E-MAIL: smgallardo@gsi-net.com; tzwicks@gsi-net.com

LABORATORY: GEL Laboratories

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR
☐ 72 HR ☐ 5 DAYS ☒ STANDARD

SPECIAL INSTRUCTIONS:
- Sr-90 MDC of 0.5 pCi/g
- Cs-137 MDC of 1 pCi/g
- H-3 MDC of 5 pCi/g
- Include flesh only; no peel or pit

REQUESTED ANALYSES
Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Sr-90 (905.0)	Cs-137 (901.1)	H-3 (906)	CA Title 22 Metals (6010/7470)	Perchlorate (314.0)
	AV-1-200604	6/4/20	0930	Fruit	1	X			X	X	X	X	X
	AV-2-200604	1	1300	1	1	X			X	X	X	X	X

Relinquished by: (Signature) [signature]
Relinquished by: (Signature)
Relinquished by: (Signature)

Received by: (Signature) FEDEX
Received by: (Signature) [signature]
Received by: (Signature)

Date: 6/4/20 Time: 1445
Date: 6/5/20 Time: 9:10
Date: Time:

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: GSIE	**SDG/AR/COC/Work Order:** 512856
Received By: STACY BOONE	**Date Received:** JUNE 5, 2020
Carrier and Tracking Number	Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other 3935 4669 0289-4 3935 4669 0278-21

Suspected Hazard Information	Yes	No	
			*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes___ No___
B) Did the client designate the samples are to be received as radioactive?		✓	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		✓	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 0 CPM / mR/Hr Classified as: Rad 1 Rad 2 Rad 3
D) Did the client designate samples are hazardous?		✓	COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		✓	If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	✓			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	✓			Preservation Method: Wet Ice Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP:_____
4	Daily check performed and passed on IR temperature gun?	✓			Temperature Device Serial #: IR1-14 Secondary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?	✓			Sample ID's and Containers Affected: If Preservation added, Lot#:
7	Do any samples require Volatile Analysis?			✓	If Yes, are Encores or Soil Kits present for solids? Yes___ No___ NA___(If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes___ No___ NA___(If unknown, select No) Are liquid VOA vials free of headspace? Yes___ No___ NA___ Sample ID's and containers affected:
8	Samples received within holding time?	✓			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			ID's and containers affected:
10	Date & time on COC match date & time on bottles?			✓	Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11	Number of containers received match number indicated on COC?	✓			Circle Applicable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided?			✓	
13	COC form is properly signed in relinquished/received sections? SB	✓			Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

058-W-200693 COC TIME: 11:30 SAMPLE TIME: 11:40

PM (or PMA) review: Initials CD Date 6/8/20 Page 1 of 1

GL-CHL-SR-001 Rev 6

List of current GEL Certifications as of 02 July 2020

State	Certification
Alabama	42200
Alaska	17−018
Alaska Drinking Water	SC00012
Arkansas	88−0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH−0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330−15−00283, P330−15−00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C−SC−01
Kansas NELAP	E−10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M−SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE−OS−26−13
Nevada	SC000122020−1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R−158
Oklahoma	2019−165
Pennsylvania NELAP	68−00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235−20−17
Utah NELAP	SC000122020−32
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

Technical Case Narrative
GSI Environmental Inc.
SDG #: 512856

Perchlorates by LCMSMS

Product: **Definitive Low Level Perchlorate Analysis Utilizing Liquid Chromatography/Mass Spectrometry/Mass Spectrometry (LC/MS/MS) by EPA Method 6850 Modified (6850M)**
Analytical Method: SW846 6850 Modified
Analytical Procedure: GL-OA-E-067 REV# 15
Analytical Batches: 2011115 and 2011114

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512856001	AV-1-200604
512856002	AV-2-200604
1204578053	Method Blank (MB)
1204578054	Laboratory Control Sample (LCS)
1204578055	512856001(AV-1-200604) Matrix Spike (MS)
1204578056	512856001(AV-1-200604) Matrix Spike Duplicate (MSD)
1204578057	Interference Check Sample (ICS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Sample Dilutions
Due to the foamy nature of the sample matrix, it was necessary to analyze 512856002 (AV-2-200604) at a 1:2 dilution.

Metals

Product: **Determination of Metals by ICP**
Analytical Method: SW846 3050B/6010D
Analytical Procedure: GL-MA-E-013 REV# 31
Analytical Batch: 2008857

Preparation Method: SW846 3050B

Preparation Procedure: GL-MA-E-009 REV# 29
Preparation Batch: 2008854

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512856001	AV-1-200604
512856002	AV-2-200604
1204574159	Method Blank (MB)**ICP**
1204574160	Laboratory Control Sample (LCS)
1204574163	512856001(AV-1-200604L) Serial Dilution (SD)
1204574161	512856001(AV-1-200604S) Matrix Spike (MS)
1204574162	512856001(AV-1-200604SD) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Preparation/Analytical Method Verification
Method SW-846 3050B is not a total digestion technique for most samples. It is a very strong acid digestion that will dissolve almost all elements that could become environmentally available. By design, elements bound in silicate structures are not normally dissolved by this procedure as they are not usually mobile in the environment.

Product: Mercury Analysis Using the Perkin Elmer Automated Mercury Analyzer
Analytical Method: SW846 7471A
Analytical Procedure: GL-MA-E-010 REV# 38
Analytical Batch: 2011848

Preparation Method: SW846 7471A Prep
Preparation Procedure: GL-MA-E-010 REV# 38
Preparation Batch: 2011847

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512856001	AV-1-200604
512856002	AV-2-200604
1204579696	Method Blank (MB)**CVAA**

1204579697	Laboratory Control Sample (LCS)
1204579702	513320001(NonSDGL) Serial Dilution (SD)
1204579699	513320001(NonSDGS) Matrix Spike (MS)
1204579701	513320001(NonSDGSD) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Radiochemistry

Product: **Dry Weight**
Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 23
Preparation Batch: 2008811

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512856001	AV-1-200604
512856002	AV-2-200604

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **Gammaspec, Gamma, Solid (Standard List)**
Analytical Method: DOE HASL 300, 4.5.2.3/Ga-01-R
Analytical Procedure: GL-RAD-A-013 REV# 27
Analytical Batch: 2009006

Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 23
Preparation Batch: 2008811

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512856001	AV-1-200604
512856002	AV-2-200604
1204574616	Method Blank (MB)
1204574617	512856001(AV-1-200604) Sample Duplicate (DUP)
1204574618	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: GFPC, Sr90, Vegetation
Analytical Method: EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
Analytical Procedure: GL-RAD-A-004 REV# 21
Analytical Batch: 2008956

Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 23
Preparation Batch: 2008811

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512856001	AV-1-200604
512856002	AV-2-200604
1204574464	Method Blank (MB)
1204574465	512856001(AV-1-200604) Sample Duplicate (DUP)
1204574466	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Negative > 3 sigma TPU
Sample result was more negative than the three sigma TPU. The background control chart was examined and the detector was determined to be fully functional.

Sample	Analyte	Value
512856001 (AV-1-200604)	Strontium-90	Negative Result > 3 sigma value

Recounts
Sample 512856001 (AV-1-200604) was taken through additional clean-up steps and recounted due to a suspected false positive. The recount is reported.

Product: **LSC, Tritium Distillation, Vegetation**
Analytical Method: EPA 906.0 Modified
Analytical Procedure: GL-RAD-A-002 REV# 23
Analytical Batch: 2011631

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512856001	AV-1-200604
512856002	AV-2-200604
1204579191	Method Blank (MB)
1204579192	512856001(AV-1-200604) Sample Duplicate (DUP)
1204579193	512856001(AV-1-200604) Matrix Spike (MS)
1204579194	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Recounts
Samples 1204579192 (AV-1-200604DUP), 512856001 (AV-1-200604) and 512856002 (AV-2-200604) were recounted due to high MDCs. The recounts are reported.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL Laboratories LLC
a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.556.8171
F 843.766.1178

gel.com

July 02, 2020

Travis Wicks
GSI Environmental Inc.
155 Grand Ave
Suite 704
Oakland, California 94612

Re: Near S SFL
Work Order: 512862

Dear Travis Wicks:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on June 05, 2020. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4487.

Sincerely,

B Luthman

Brielle Luthman
Project Manager

Purchase Order: 5182
Enclosures

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 − (843) 556−8171 − www.gel.com

Certificate of Analysis Report
for

GSIE002 GSI Environmental Inc.

Client SDG: 512862 GEL Work Order: 512862

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a Tracer compound

** Analyte is a surrogate compound

J See case narrative for an explanation

J Value is estimated

U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Brielle Luthman.

Reviewed by B Luthman

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: July 2, 2020

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612
Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: G-1-200604
Sample ID: 512862001
Matrix: Vegetation
Collect Date: 04-JUN-20 10:10
Receive Date: 05-JUN-20
Collector: Client

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
LC-MS/MS Perchlorate												
Perchlorate by LC-MS/MS "As Received"												
Perchlorate	U	ND	4.05	16.2	ug/kg	8.10	10	CWW	06/22/20	2123	2011115	1
Mercury Analysis-CVAA												
7471 Cold Vapor Mercury, Solid "As Received"												
Mercury	U	ND	7.20	21.5	ug/kg	108	1	MTM1	06/17/20	1050	2011848	2
Metals Analysis-ICP												
SW846 3050B/6010D Metals, Solid "As Received"												
Antimony	J	343	299	1810	ug/kg	90.6	1	JWJ	06/09/20	1933	2008857	3
Arsenic	U	ND	453	2720	ug/kg	90.6	1					
Barium		602	90.6	453	ug/kg	90.6	1					
Beryllium	U	ND	90.6	453	ug/kg	90.6	1					
Cadmium	U	ND	90.6	453	ug/kg	90.6	1					
Chromium	U	ND	136	906	ug/kg	90.6	1					
Cobalt	U	ND	136	453	ug/kg	90.6	1					
Copper	J	435	272	1810	ug/kg	90.6	1					
Lead	U	ND	299	1810	ug/kg	90.6	1					
Molybdenum	U	ND	181	906	ug/kg	90.6	1					
Nickel	U	ND	136	453	ug/kg	90.6	1					
Selenium	U	ND	453	2720	ug/kg	90.6	1					
Silver	U	ND	90.6	453	ug/kg	90.6	1					
Thallium	U	ND	453	1810	ug/kg	90.6	1					
Vanadium	U	ND	90.6	453	ug/kg	90.6	1					
Zinc		2400	362	1810	ug/kg	90.6	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
GEL Prep Method	Laboratory Composite				2008703
SW846 3050B	SW846 3050B Prep	SM1	06/09/20	0900	2008854
SW846 6850 Modified	EPA 6850 Perchlorate Extraction Solids	CWW	06/18/20	1839	2011114
SW846 7471A Prep	EPA 7471A Mercury Prep Soil	AXS5	06/16/20	1334	2011847

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 6850 Modified	
2	SW846 7471A	
3	SW846 3050B/6010D	

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Certificate of Analysis

Report Date: July 2, 2020

Company :	GSI Environmental Inc.
Address :	155 Grand Ave Suite 704 Oakland, California 94612
Contact:	Travis Wicks
Project:	Near S SFL

Client Sample ID:	G-1-200604	Project:	GSIE00119
Sample ID:	512862001	Client ID:	GSIE002

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

Notes:

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: July 2, 2020

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612
Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: G-2-200604
Sample ID: 512862002
Matrix: Vegetation
Collect Date: 04-JUN-20 13:05
Receive Date: 05-JUN-20
Collector: Client

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
LC-MS/MS Perchlorate												
Perchlorate by LC-MS/MS "As Received"												
Perchlorate	U	ND	4.29	17.2	ug/kg	8.58	10	CWW	06/22/20	2132	2011115	1
Mercury Analysis-CVAA												
7471 Cold Vapor Mercury, Solid "As Received"												
Mercury	U	ND	7.50	22.4	ug/kg	112	1	MTM1	06/17/20	1052	2011848	2
Metals Analysis-ICP												
SW846 3050B/6010D Metals, Solid "As Received"												
Antimony	J	516	317	1920	ug/kg	96.2	1	JWJ	06/09/20	1936	2008857	3
Arsenic	U	ND	481	2880	ug/kg	96.2	1					
Barium	J	149	96.2	481	ug/kg	96.2	1					
Beryllium	U	ND	96.2	481	ug/kg	96.2	1					
Cadmium	U	ND	96.2	481	ug/kg	96.2	1					
Chromium	U	ND	144	962	ug/kg	96.2	1					
Cobalt	U	ND	144	481	ug/kg	96.2	1					
Copper		3360	288	1920	ug/kg	96.2	1					
Lead	J	431	317	1920	ug/kg	96.2	1					
Molybdenum	U	ND	192	962	ug/kg	96.2	1					
Nickel	U	ND	144	481	ug/kg	96.2	1					
Selenium	U	ND	481	2880	ug/kg	96.2	1					
Silver	U	ND	96.2	481	ug/kg	96.2	1					
Thallium	U	ND	481	1920	ug/kg	96.2	1					
Vanadium	U	ND	96.2	481	ug/kg	96.2	1					
Zinc		4370	385	1920	ug/kg	96.2	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
GEL Prep Method	Laboratory Composite				2008703
SW846 3050B	SW846 3050B Prep	SM1	06/09/20	0900	2008854
SW846 6850 Modified	EPA 6850 Perchlorate Extraction Solids	CWW	06/18/20	1839	2011114
SW846 7471A Prep	EPA 7471A Mercury Prep Soil	AXS5	06/16/20	1334	2011847

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 6850 Modified	
2	SW846 7471A	
3	SW846 3050B/6010D	

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Certificate of Analysis

Report Date: July 2, 2020

Company :	GSI Environmental Inc.
Address :	155 Grand Ave Suite 704 Oakland, California 94612
Contact:	Travis Wicks
Project:	Near S SFL

Client Sample ID:	G-2-200604	Project:	GSIE00119
Sample ID:	512862002	Client ID:	GSIE002

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

Notes:

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: G-1-200604
Sample ID: 512862001
Matrix: Vegetation
Collect Date: 04-JUN-20
Receive Date: 05-JUN-20
Collector: Client
Moisture: 87.8%

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "As Received"														
Cesium-137	U	-0.00369	+/-0.00786	0.0134	+/-0.00805	0.100	pCi/g			RXF2	06/11/20	1012	2009006	1
Rad Gas Flow Proportional Counting														
GFPC, Sr90, Vegetation "As Received"														
Strontium-90	U	0.00830	+/-0.0396	0.0714	+/-0.0396	0.240	pCi/g			MXS2	06/26/20	0648	2008956	2
Rad Liquid Scintillation Analysis														
LSC, Tritium Distillation, Vegetation "As Received"														
Tritium	U	-0.632	+/-2.71	4.78	+/-2.71	5.00	pCi/g			EW3	06/22/20	2121	2011631	3
Solid Preparation														
Laboratory Composite "As Received"														

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LYT1	06/08/20	0937	2008811
GEL Prep Method	Laboratory Composite				2008703

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R
2	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
3	EPA 906.0 Modified
4	GEL Prep Method

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Strontium Carrier	GFPC, Sr90, Vegetation "As Received"	2008956	98.9	(25%-125%)

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Certificate of Analysis

Company : GSI Environmental Inc.
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Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: G-1-200604
Sample ID: 512862001

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer Recovery	**Test**							**Batch ID**	**Recovery%**	**Acceptable Limits**				

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: G-2-200604
Sample ID: 512862002
Matrix: Vegetation
Collect Date: 04-JUN-20
Receive Date: 05-JUN-20
Collector: Client
Moisture: 91.7%

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "As Received"														
Cesium-137	U	-0.00501	+/-0.00608	0.00968	+/-0.00650	0.100	pCi/g			RXF2	06/11/20	1012	2009006	1
Rad Gas Flow Proportional Counting														
GFPC, Sr90, Vegetation "As Received"														
Strontium-90	U	-0.0134	+/-0.0213	0.0425	+/-0.0213	0.240	pCi/g			MXS2	06/26/20	0648	2008956	2
Rad Liquid Scintillation Analysis														
LSC, Tritium Distillation, Vegetation "As Received"														
Tritium	U	2.65	+/-2.11	3.38	+/-2.19	5.00	pCi/g			EW3	06/24/20	0825	2011631	3
Solid Preparation														
Laboratory Composite "As Received"														

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LYT1	06/08/20	0937	2008811
GEL Prep Method	Laboratory Composite				2008703

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R
2	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
3	EPA 906.0 Modified
4	GEL Prep Method

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Strontium Carrier	GFPC, Sr90, Vegetation "As Received"	2008956	101	(25%-125%)

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: G-2-200604
Sample ID: 512862002

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer Recovery	**Test**							**Batch ID**	**Recovery%**	**Acceptable Limits**				

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

QC Summary

Report Date: July 2, 2020

GSI Environmental Inc.
155 Grand Ave
Suite 704
Oakland, California

Contact: **Travis Wicks**

Workorder: **512862**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
LC-MS/MS Perchlorate											
Batch 2011115											
QC1204578057 ICS											
Perchlorate	1.95			2.02	ug/kg		104	(70%-130%)	CWW	06/19/20	14:05
QC1204578054 LCS											
Perchlorate	1.91		J	1.89	ug/kg		99	(70%-130%)		06/19/20	13:56
QC1204578053 MB											
Perchlorate			U	ND	ug/kg					06/19/20	13:47
QC1204578055 512856001 MS											
Perchlorate	1.88	U	ND	1.95	ug/kg		104	(75%-125%)		06/19/20	14:32
QC1204578056 512856001 MSD											
Perchlorate	1.73	U	ND	1.82	ug/kg	7	105	(0%-30%)		06/19/20	14:41
Metals Analysis-ICP											
Batch 2008857											
QC1204574160 LCS											
Antimony	45400			44700	ug/kg		98.4	(80%-120%)	JWJ	06/09/20	19:00
Arsenic	45400			42000	ug/kg		92.5	(80%-120%)			
Barium	45400			43200	ug/kg		95.3	(80%-120%)			
Beryllium	45400			46500	ug/kg		102	(80%-120%)			
Cadmium	45400			42100	ug/kg		92.8	(80%-120%)			
Chromium	45400			42700	ug/kg		94.1	(80%-120%)			

QC Summary

Workorder: **512862**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP										
Batch 2008857										
Cobalt	45400			44800	ug/kg		98.7	(80%-120%)	JWJ	06/09/20 19:00
Copper	45400			42800	ug/kg		94.4	(80%-120%)		
Lead	45400			43100	ug/kg		95	(80%-120%)		
Molybdenum	45400			46200	ug/kg		102	(80%-120%)		
Nickel	45400			42500	ug/kg		93.7	(80%-120%)		
Selenium	45400			41900	ug/kg		92.4	(80%-120%)		
Silver	9070			8480	ug/kg		93.5	(80%-120%)		
Thallium	45400			44100	ug/kg		97.2	(80%-120%)		
Vanadium	45400			42700	ug/kg		94.2	(80%-120%)		
Zinc	45400			42500	ug/kg		93.6	(80%-120%)		
QC1204574159 MB										
Antimony			J	820	ug/kg					06/09/20 18:56
Arsenic			U	ND	ug/kg					
Barium			U	ND	ug/kg					
Beryllium			U	ND	ug/kg					
Cadmium			U	ND	ug/kg					

QC Summary

Workorder: **512862**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP										
Batch 2008857										
Chromium			J	198	ug/kg				JWJ	06/09/20 18:56
Cobalt			U	ND	ug/kg					
Copper			U	ND	ug/kg					
Lead			J	780	ug/kg					
Molybdenum			U	ND	ug/kg					
Nickel			U	ND	ug/kg					
Selenium			U	ND	ug/kg					
Silver			U	ND	ug/kg					
Thallium			U	ND	ug/kg					
Vanadium			U	ND	ug/kg					
Zinc			U	ND	ug/kg					
QC1204574161 512856001 MS										
Antimony	46100	J	1450	44300	ug/kg		93	(75%-125%)		06/09/20 19:06
Arsenic	46100	U	ND	44600	ug/kg		96.8	(75%-125%)		
Barium	46100	J	214	45400	ug/kg		98	(75%-125%)		
Beryllium	46100	U	ND	49100	ug/kg		107	(75%-125%)		

QC Summary

Workorder: **512862**

Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP											
Batch 2008857											
Cadmium	46100	U	ND		43900	ug/kg		95.2	(75%-125%)	JWJ	06/09/20 19:06
Chromium	46100	U	ND		44500	ug/kg		96.4	(75%-125%)		
Cobalt	46100	U	ND		48700	ug/kg		106	(75%-125%)		
Copper	46100		4500		47700	ug/kg		93.6	(75%-125%)		
Lead	46100	U	ND		45100	ug/kg		97.3	(75%-125%)		
Molybdenum	46100	U	ND		49500	ug/kg		107	(75%-125%)		
Nickel	46100	U	ND		44600	ug/kg		96.3	(75%-125%)		
Selenium	46100	U	ND		43900	ug/kg		95.1	(75%-125%)		
Silver	9230	U	ND		8720	ug/kg		94.5	(75%-125%)		
Thallium	46100	U	ND		43100	ug/kg		93.5	(75%-125%)		
Vanadium	46100	U	ND		44900	ug/kg		97.3	(75%-125%)		
Zinc	46100		5610		48200	ug/kg		92.3	(75%-125%)		
QC1204574162 512856001 MSD											
Antimony	47500	J	1450		46200	ug/kg	4	94.1	(0%-20%)		06/09/20 19:08
Arsenic	47500	U	ND		44300	ug/kg	0.779	93.2	(0%-20%)		
Barium	47500	J	214		45500	ug/kg	0.195	95.3	(0%-20%)		

QC Summary

Workorder: **512862**

Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP											
Batch 2008857											
Beryllium	47500	U	ND		49200	ug/kg	0.0435	103	(0%-20%)	JWJ	06/09/20 19:08
Cadmium	47500	U	ND		44100	ug/kg	0.474	92.8	(0%-20%)		
Chromium	47500	U	ND		44700	ug/kg	0.402	93.9	(0%-20%)		
Cobalt	47500	U	ND		48200	ug/kg	0.98	101	(0%-20%)		
Copper	47500		4500		47900	ug/kg	0.432	91.3	(0%-20%)		
Lead	47500	U	ND		44900	ug/kg	0.472	94	(0%-20%)		
Molybdenum	47500	U	ND		49500	ug/kg	0.168	104	(0%-20%)		
Nickel	47500	U	ND		44400	ug/kg	0.415	93.1	(0%-20%)		
Selenium	47500	U	ND		41600	ug/kg	5.34	87.5	(0%-20%)		
Silver	9510	U	ND		8660	ug/kg	0.595	91.2	(0%-20%)		
Thallium	47500	U	ND		43200	ug/kg	0.0556	90.8	(0%-20%)		
Vanadium	47500	U	ND		45300	ug/kg	0.851	95.3	(0%-20%)		
Zinc	47500		5610		49300	ug/kg	2.29	91.9	(0%-20%)		
QC1204574163 512856001 SDILT											
Antimony		J	15.2	U	ND	ug/L	N/A		(0%-20%)		06/09/20 19:13
Arsenic		U	ND	U	ND	ug/L	N/A		(0%-20%)		

QC Summary

Workorder: **512862**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP										
Batch 2008857										
Barium	J	2.25	U	ND	ug/L	N/A		(0%-20%)	JWJ	06/09/20 19:13
Beryllium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Cadmium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Chromium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Cobalt	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Copper		47.3	J	9.21	ug/L	2.69		(0%-20%)		
Lead	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Molybdenum	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Nickel	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Selenium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Silver	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Thallium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Vanadium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Zinc		59.0	J	14.1	ug/L	19.8		(0%-20%)		

QC Summary

Workorder: **512862**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-Mercury										
Batch 2011848										
QC1204579697 LCS										
Mercury	238			191	ug/kg		80.2	(80%-120%)	MTM1	06/17/20 10:32
QC1204579696 MB										
Mercury			U	ND	ug/kg					06/17/20 10:30
QC1204579699 513320001 MS										
Mercury	345	47.6		363	ug/kg		91.5	(80%-120%)		06/17/20 11:02
QC1204579701 513320001 MSD										
Mercury	305	47.6		323	ug/kg	11.8	90.2	(0%-20%)		06/17/20 11:04
QC1204579702 513320001 SDILT										
Mercury		0.311	U	ND	ug/L	N/A		(0%-10%)		06/17/20 11:05

Notes:

The Qualifiers in this report are defined as follows:

**	Analyte is a surrogate compound
<	Result is less than value reported
>	Result is greater than value reported
A	The TIC is a suspected aldol-condensation product
B	The target analyte was detected in the associated blank.
C	Analyte has been confirmed by GC/MS analysis
D	Results are reported from a diluted aliquot of the sample
E	%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
E	Concentration of the target analyte exceeds the instrument calibration range
FB	Mercury was found present at quantifiable concentrations in field blanks received with these samples. Data associated with the blank are deemed invalid for reporting to regulatory agencies
H	Analytical holding time was exceeded
J	See case narrative for an explanation
J	Value is estimated
JNX	Non Calibrated Compound
N	Metals--The Matrix spike sample recovery is not within specified control limits
N	Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor

QC Summary

Workorder: **512862**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time

N Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor

N/A RPD or %Recovery limits do not apply.

N1 See case narrative

ND Analyte concentration is not detected above the detection limit

NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, the difference is >70%.

Q One or more quality control criteria have not been met. Refer to the applicable narrative or DER.

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

UJ Compound cannot be extracted

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y Other specific qualifiers were required to properly define the results. Consult case narrative.

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.

h Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

QC Summary

Client : **GSI Environmental Inc.**
155 Grand Ave
Suite 704
Oakland, California

Contact: **Travis Wicks**

Workorder: **512862**

Report Date: July 2, 2020

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 2009006										
QC1204574617 512856001 DUP										
Cesium-137	U	0.00577	U	0.00416	pCi/g	0			N/A RXF2	06/11/2013:12
	Uncert:	+/-0.0149		+/-0.0150						
	TPU:	+/-0.0151		+/-0.0151						
QC1204574618 LCS										
Americium-241	486			572	pCi/g		118	(75%-125%)	RXF2	06/11/2013:26
	Uncert:			+/-12.4						
	TPU:			+/-54.5						
Cobalt-60	98.8			99.2	pCi/g		100	(75%-125%)		
	Uncert:			+/-2.30						
	TPU:			+/-8.79						
Cesium-137	165			165	pCi/g		100	(75%-125%)		
	Uncert:			+/-2.54						
	TPU:			+/-14.1						
QC1204574616 MB										
Cesium-137			U	0.000724	pCi/g				RXF2	06/11/2010:16
	Uncert:			+/-0.00567						
	TPU:			+/-0.00568						
Rad Gas Flow										
Batch 2008956										
QC1204574465 512856001 DUP										
Strontium-90	U	-0.271	U	-0.0524	pCi/g	0			N/A MXS2	06/26/2006:57
	Uncert:	+/-0.105		+/-0.0909						
	TPU:	+/-0.105		+/-0.0909						
QC1204574466 LCS										
Strontium-90	1.45			1.27	pCi/g		87.6	(75%-125%)	MXS2	06/26/2006:57
	Uncert:			+/-0.0762						
	TPU:			+/-0.299						
QC1204574464 MB										
Strontium-90			U	0.00694	pCi/g				MXS2	06/26/2006:57
	Uncert:			+/-0.0169						
	TPU:			+/-0.0170						
Rad Liquid Scintillation										
Batch 2011631										
QC1204579192 512856001 DUP										
Tritium	U	0.335	U	0.898	pCi/g	0			N/A EW3	06/24/2011:03
	Uncert:	+/-1.80		+/-1.87						
	TPU:	+/-1.80		+/-1.88						
QC1204579194 LCS										
Tritium	85.0			66.2	pCi/g		77.9	(75%-125%)	EW3	06/23/2007:11
	Uncert:			+/-9.01						

QC Summary

Workorder: **512862**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Liquid Scintillation										
Batch 2011631										
	TPU:			+/-17.5						
QC1204579191 MB										
Tritium			U	-1.17	pCi/g				EW3	06/23/2004:45
	Uncert:			+/-2.70						
	TPU:			+/-2.70						
QC1204579193 512856001 MS										
Tritium	90.9 U	0.335		73.2	pCi/g		80.5	(75%-125%)	EW3	06/23/2006:48
	Uncert:	+/-1.80		+/-8.21						
	TPU:	+/-1.80		+/-18.5						

Notes:

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

The Qualifiers in this report are defined as follows:

**	Analyte is a Tracer compound
<	Result is less than value reported
>	Result is greater than value reported
BD	Results are either below the MDC or tracer recovery is low
FA	Failed analysis.
H	Analytical holding time was exceeded
J	See case narrative for an explanation
J	Value is estimated
K	Analyte present. Reported value may be biased high. Actual value is expected to be lower.
L	Analyte present. Reported value may be biased low. Actual value is expected to be higher.
M	M if above MDC and less than LLD
M	REMP Result > MDC/CL and < RDL
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
UI	Gamma Spectroscopy--Uncertain identification
UJ	Gamma Spectroscopy--Uncertain identification
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h	Preparation or preservation holding time was exceeded

QC Summary

Workorder: **512862**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
** Indicates analyte is a surrogate/tracer compound.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptence criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

GSI ENVIRONMENTAL

CHAIN-OF-CUSTODY RECORD
Date: 6/4/20
Page 1 of 1

512862

FROM: GSI Environmental Inc. 155 Grand Ave. Suite 704 Oakland, CA 94612 (510) 463-8484	PROJECT NAME: AJU-BB	PROJECT NO.: 5182
	PROJECT CONTACT: Susan Gallardo	LAB CONTACT: Brielle Luthman
	GLOBAL ID: -	SAMPLER(S): (PRINT) Kalia Hovell + Josh Voss
TEL: (510) 463-8484	E-MAIL: smgallardo@gsi-net.com; tzwicks@gsi-net.com	
LABORATORY: GEL Laboratories		

TURNAROUND TIME:
☐ SAME DAY ☐ 24 HR ☐ 48 HR
☐ 72 HR ☐ 5 DAYS ☒ STANDARD

SPECIAL INSTRUCTIONS:
- Sr-90 MDC of 0.5 pCi/g
- Cs-137 MDC of 1 pCi/g
- H-3 MDC of 5 pCi/g
- Include flesh only; no peel

REQUESTED ANALYSES
Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Sr-90 (905.0)	Cs-137 (901.1)	H-3 (906)	CA Title 22 Metals (6010/7470)	Perchlorate (314.0)
	G-1-200604	6/4/20	1010	Fruit	1	X			X	X	X	X	X
	G-2-200604	6/4/20	1305	Fruit	1	X			X	X	X	X	X

Relinquished by: (Signature)	Received by: (Signature) FEDEX	Date: 6/4/20	Time: 1445
Relinquished by: (Signature)	Received by: (Signature) VTSB	Date: 6/5/20	Time: 910
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: GSIE	SDG/AR/COC/Work Order: 512862
Received By: STACY BOONE	Date Received: JUNE 5, 2020
Carrier and Tracking Number	Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other 3935 4669 0289-4c 3935 4669 0278-21c

Suspected Hazard Information	Yes	No	
			*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes___ No___
B) Did the client designate the samples are to be received as radioactive?		✓	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		✓	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 67 CPM / mR/Hr Classified as: Rad 1 Rad 2 Rad 3
D) Did the client designate samples are hazardous?		✓	COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		✓	If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	✓			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	✓			Preservation Method: Wet Ice Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP:___
4	Daily check performed and passed on IR temperature gun?	✓			Temperature Device Serial #: IR1-14 Secondary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?	✓			Sample ID's and Containers Affected: If Preservation added, Lot#:
7	Do any samples require Volatile Analysis?			✓	If Yes, are Encores or Soil Kits present for solids? Yes___ No___ NA___(If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes___ No___ NA___(If unknown, select No) Are liquid VOA vials free of headspace? Yes___ No___ NA___ Sample ID's and containers affected:
8	Samples received within holding time?	✓			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			ID's and containers affected:
10	Date & time on COC match date & time on bottles?			✓	Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11	Number of containers received match number indicated on COC?	✓			Circle Applicable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided?			✓	
13	COC form is properly signed in relinquished/received sections? SB	✓		✓	Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

058-W-200693 COC TIME: 11:30 SAMPLE TIME: 11:40

PM (or PMA) review: Initials CD Date 6/8/20 Page 1 of 1

GL-CHL-SR-001 Rev 6

List of current GEL Certifications as of 02 July 2020

State	Certification
Alabama	42200
Alaska	17−018
Alaska Drinking Water	SC00012
Arkansas	88−0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH−0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330−15−00283, P330−15−00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C−SC−01
Kansas NELAP	E−10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M−SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE−OS−26−13
Nevada	SC000122020−1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R−158
Oklahoma	2019−165
Pennsylvania NELAP	68−00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235−20−17
Utah NELAP	SC000122020−32
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

Perchlorates by LCMSMS

Product: **Definitive Low Level Perchlorate Analysis Utilizing Liquid Chromatography/Mass Spectrometry/Mass Spectrometry (LC/MS/MS) by EPA Method 6850 Modified (6850M)**
Analytical Method: SW846 6850 Modified
Analytical Procedure: GL-OA-E-067 REV# 15
Analytical Batches: 2011115 and 2011114

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512862001	G-1-200604
512862002	G-2-200604
1204578053	Method Blank (MB)
1204578054	Laboratory Control Sample (LCS)
1204578055	512856001(AV-1-200604) Matrix Spike (MS)
1204578056	512856001(AV-1-200604) Matrix Spike Duplicate (MSD)
1204578057	Interference Check Sample (ICS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Sample Dilutions
It was necessary to analyze 512862001 (G-1-200604) and 512862002 (G-2-200604) at a dilution. This was due to the matrix effect on the recovery of the internal standard, Perchlorate-O(18). When the samples were analyzed neat or at a lower dilution, the recovery of the internal standard was less than 50%. This may have been the result of the acidic nature of the sample matrix. It was necessary to increase the dilutions to 1:10 for 512862001 and 512862002, and to 1:25 for 512864001, 512864002, 512866001, and 512866002.

Metals

Product: **Determination of Metals by ICP**
Analytical Method: SW846 3050B/6010D
Analytical Procedure: GL-MA-E-013 REV# 31

Analytical Batch: 2008857

Preparation Method: SW846 3050B
Preparation Procedure: GL-MA-E-009 REV# 29
Preparation Batch: 2008854

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512862001	G-1-200604
512862002	G-2-200604
1204574159	Method Blank (MB)**ICP**
1204574160	Laboratory Control Sample (LCS)
1204574163	512856001(AV-1-200604L) Serial Dilution (SD)
1204574161	512856001(AV-1-200604S) Matrix Spike (MS)
1204574162	512856001(AV-1-200604SD) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Preparation/Analytical Method Verification
Method SW-846 3050B is not a total digestion technique for most samples. It is a very strong acid digestion that will dissolve almost all elements that could become environmentally available. By design, elements bound in silicate structures are not normally dissolved by this procedure as they are not usually mobile in the environment.

Product: **Mercury Analysis Using the Perkin Elmer Automated Mercury Analyzer**
Analytical Method: SW846 7471A
Analytical Procedure: GL-MA-E-010 REV# 38
Analytical Batch: 2011848

Preparation Method: SW846 7471A Prep
Preparation Procedure: GL-MA-E-010 REV# 38
Preparation Batch: 2011847

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification

512862001	G-1-200604
512862002	G-2-200604
1204579696	Method Blank (MB)**CVAA**
1204579697	Laboratory Control Sample (LCS)
1204579702	513320001(NonSDGL) Serial Dilution (SD)
1204579699	513320001(NonSDGS) Matrix Spike (MS)
1204579701	513320001(NonSDGSD) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Radiochemistry

Product: **Dry Weight**
Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 23
Preparation Batch: 2008811

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512862001	G-1-200604
512862002	G-2-200604

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **Gammaspec, Gamma, Solid (Standard List)**
Analytical Method: DOE HASL 300, 4.5.2.3/Ga-01-R
Analytical Procedure: GL-RAD-A-013 REV# 27
Analytical Batch: 2009006

Preparation Method: Dry Soil Prep

Preparation Procedure: GL-RAD-A-021 REV# 23
Preparation Batch: 2008811

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512862001	G-1-200604
512862002	G-2-200604
1204574616	Method Blank (MB)
1204574617	512856001(AV-1-200604) Sample Duplicate (DUP)
1204574618	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: GFPC, Sr90, Vegetation
Analytical Method: EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
Analytical Procedure: GL-RAD-A-004 REV# 21
Analytical Batch: 2008956

Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 23
Preparation Batch: 2008811

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512862001	G-1-200604
512862002	G-2-200604
1204574464	Method Blank (MB)
1204574465	512856001(AV-1-200604) Sample Duplicate (DUP)
1204574466	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **LSC, Tritium Distillation, Vegetation**
Analytical Method: EPA 906.0 Modified
Analytical Procedure: GL-RAD-A-002 REV# 23
Analytical Batch: 2011631

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512862001	G-1-200604
512862002	G-2-200604
1204579191	Method Blank (MB)
1204579192	512856001(AV-1-200604) Sample Duplicate (DUP)
1204579193	512856001(AV-1-200604) Matrix Spike (MS)
1204579194	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Recounts
Samples 1204579192 (AV-1-200604DUP) and 512862002 (G-2-200604) were recounted due to high MDCs. The recounts are reported.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL Laboratories LLC
a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.556.8171
F 843.766.1178

gel.com

July 02, 2020

Travis Wicks
GSI Environmental Inc.
155 Grand Ave
Suite 704
Oakland, California 94612

Re: Near S SFL
Work Order: 512864

Dear Travis Wicks:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on June 05, 2020. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4487.

Sincerely,

B Luthman

Brielle Luthman
Project Manager

Purchase Order: 5182
Enclosures

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 − (843) 556−8171 − www.gel.com

Certificate of Analysis Report
for

GSIE002 GSI Environmental Inc.

Client SDG: 512864 GEL Work Order: 512864

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a Tracer compound

** Analyte is a surrogate compound

J See case narrative for an explanation

J Value is estimated

U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Brielle Luthman.

Reviewed by B Luthman

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: July 2, 2020

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612
Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: L-1-200604
Sample ID: 512864001
Matrix: Vegetation
Collect Date: 04-JUN-20 10:20
Receive Date: 05-JUN-20
Collector: Client

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
LC-MS/MS Perchlorate												
Perchlorate by LC-MS/MS "As Received"												
Perchlorate	U	ND	10.6	42.6	ug/kg	8.51	25	CWW	06/22/20	2151	2011115	1
Mercury Analysis-CVAA												
7471 Cold Vapor Mercury, Solid "As Received"												
Mercury	U	ND	7.67	22.9	ug/kg	115	1	MTM1	06/17/20	1054	2011848	2
Metals Analysis-ICP												
SW846 3050B/6010D Metals, Solid "As Received"												
Antimony	U	ND	304	1850	ug/kg	92.3	1	JWJ	06/09/20	1939	2008857	3
Arsenic	U	ND	461	2770	ug/kg	92.3	1					
Barium	J	437	92.3	461	ug/kg	92.3	1					
Beryllium	U	ND	92.3	461	ug/kg	92.3	1					
Cadmium	U	ND	92.3	461	ug/kg	92.3	1					
Chromium	U	ND	138	923	ug/kg	92.3	1					
Cobalt	U	ND	138	461	ug/kg	92.3	1					
Copper	J	367	277	1850	ug/kg	92.3	1					
Lead	U	ND	304	1850	ug/kg	92.3	1					
Molybdenum	U	ND	185	923	ug/kg	92.3	1					
Nickel	U	ND	138	461	ug/kg	92.3	1					
Selenium	U	ND	461	2770	ug/kg	92.3	1					
Silver	U	ND	92.3	461	ug/kg	92.3	1					
Thallium	U	ND	461	1850	ug/kg	92.3	1					
Vanadium	U	ND	92.3	461	ug/kg	92.3	1					
Zinc		3450	369	1850	ug/kg	92.3	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
GEL Prep Method	Laboratory Composite				2008703
SW846 3050B	SW846 3050B Prep	SM1	06/09/20	0900	2008854
SW846 6850 Modified	EPA 6850 Perchlorate Extraction Solids	CWW	06/18/20	1839	2011114
SW846 7471A Prep	EPA 7471A Mercury Prep Soil	AXS5	06/16/20	1334	2011847

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 6850 Modified	
2	SW846 7471A	
3	SW846 3050B/6010D	

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Certificate of Analysis

Report Date: July 2, 2020

Company :	GSI Environmental Inc.
Address :	155 Grand Ave Suite 704 Oakland, California 94612
Contact:	Travis Wicks
Project:	Near S SFL

Client Sample ID:	L-1-200604	Project:	GSIE00119
Sample ID:	512864001	Client ID:	GSIE002

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

Notes:

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: July 2, 2020

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612
Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: L-2-200604
Sample ID: 512864002
Matrix: Vegetation
Collect Date: 04-JUN-20 13:10
Receive Date: 05-JUN-20
Collector: Client

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
LC-MS/MS Perchlorate												
Perchlorate by LC-MS/MS "As Received"												
Perchlorate	U	ND	10.0	40.2	ug/kg	8.03	25	CWW	06/22/20	2201	2011115	1
Mercury Analysis-CVAA												
7471 Cold Vapor Mercury, Solid "As Received"												
Mercury	U	ND	7.53	22.5	ug/kg	112	1	MTM1	06/17/20	1055	2011848	2
Metals Analysis-ICP												
SW846 3050B/6010D Metals, Solid "As Received"												
Antimony	U	ND	326	1980	ug/kg	98.8	1	JWJ	06/09/20	1943	2008857	3
Arsenic	U	ND	494	2960	ug/kg	98.8	1					
Barium	U	ND	98.8	494	ug/kg	98.8	1					
Beryllium	U	ND	98.8	494	ug/kg	98.8	1					
Cadmium	U	ND	98.8	494	ug/kg	98.8	1					
Chromium	U	ND	148	988	ug/kg	98.8	1					
Cobalt	U	ND	148	494	ug/kg	98.8	1					
Copper	J	340	296	1980	ug/kg	98.8	1					
Lead	U	ND	326	1980	ug/kg	98.8	1					
Molybdenum	U	ND	198	988	ug/kg	98.8	1					
Nickel	U	ND	148	494	ug/kg	98.8	1					
Selenium	U	ND	494	2960	ug/kg	98.8	1					
Silver	U	ND	98.8	494	ug/kg	98.8	1					
Thallium	U	ND	494	1980	ug/kg	98.8	1					
Vanadium	U	ND	98.8	494	ug/kg	98.8	1					
Zinc	J	1700	395	1980	ug/kg	98.8	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
GEL Prep Method	Laboratory Composite				2008703
SW846 3050B	SW846 3050B Prep	SM1	06/09/20	0900	2008854
SW846 6850 Modified	EPA 6850 Perchlorate Extraction Solids	CWW	06/18/20	1839	2011114
SW846 7471A Prep	EPA 7471A Mercury Prep Soil	AXS5	06/16/20	1334	2011847

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 6850 Modified	
2	SW846 7471A	
3	SW846 3050B/6010D	

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Certificate of Analysis

Report Date: July 2, 2020

Company :	GSI Environmental Inc.
Address :	155 Grand Ave Suite 704 Oakland, California 94612
Contact:	Travis Wicks
Project:	Near S SFL

Client Sample ID:	L-2-200604	Project:	GSIE00119
Sample ID:	512864002	Client ID:	GSIE002

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

Notes:

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: L-1-200604
Sample ID: 512864001
Matrix: Vegetation
Collect Date: 04-JUN-20
Receive Date: 05-JUN-20
Collector: Client
Moisture: 92.1%

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "As Received"														
Cesium-137	U	-0.00233	+/-0.00426	0.00739	+/-0.00439	0.100	pCi/g			RXF2	06/11/20	1013	2009006	1
Rad Gas Flow Proportional Counting														
GFPC, Sr90, Vegetation "As Received"														
Strontium-90	U	0.0124	+/-0.0239	0.0419	+/-0.0241	0.240	pCi/g			MXS2	06/26/20	0657	2008956	2
Rad Liquid Scintillation Analysis														
LSC, Tritium Distillation, Vegetation "As Received"														
Tritium	U	0.0695	+/-2.45	4.57	+/-2.45	5.00	pCi/g			EW3	06/24/20	0918	2011631	3
Solid Preparation														
Laboratory Composite "As Received"														

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LYT1	06/08/20	0937	2008811
GEL Prep Method	Laboratory Composite				2008703

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R
2	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
3	EPA 906.0 Modified
4	GEL Prep Method

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Strontium Carrier	GFPC, Sr90, Vegetation "As Received"	2008956	92.1	(25%-125%)

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Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: L-1-200604
Sample ID: 512864001

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer Recovery	**Test**							**Batch ID**	**Recovery%**	**Acceptable Limits**				

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: L-2-200604
Sample ID: 512864002
Matrix: Vegetation
Collect Date: 04-JUN-20
Receive Date: 05-JUN-20
Collector: Client
Moisture: 93.4%

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "As Received"														
Cesium-137	U	0.00269	+/-0.00545	0.0114	+/-0.00560	0.100	pCi/g			RXF2	06/11/20	1015	2009006	1
Rad Gas Flow Proportional Counting														
GFPC, Sr90, Vegetation "As Received"														
Strontium-90	U	0.0411	+/-0.0278	0.0440	+/-0.0293	0.240	pCi/g			MXS2	06/26/20	0657	2008956	2
Rad Liquid Scintillation Analysis														
LSC, Tritium Distillation, Vegetation "As Received"														
Tritium	U	0.576	+/-1.81	3.25	+/-1.81	5.00	pCi/g			EW3	06/24/20	1010	2011631	3
Solid Preparation														
Laboratory Composite "As Received"														

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LYT1	06/08/20	0937	2008811
GEL Prep Method	Laboratory Composite				2008703

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R
2	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
3	EPA 906.0 Modified
4	GEL Prep Method

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Strontium Carrier	GFPC, Sr90, Vegetation "As Received"	2008956	92.1	(25%-125%)

GEL LABORATORIES LLC

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Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: L-2-200604
Sample ID: 512864002

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer Recovery	**Test**							**Batch ID**	**Recovery%**	**Acceptable Limits**				

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

QC Summary

Report Date: July 2, 2020

GSI Environmental Inc.
155 Grand Ave
Suite 704
Oakland, California

Contact: **Travis Wicks**

Workorder: **512864**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
LC-MS/MS Perchlorate											
Batch 2011115											
QC1204578057 ICS											
Perchlorate	1.95			2.02	ug/kg		104	(70%-130%)	CWW	06/19/20	14:05
QC1204578054 LCS											
Perchlorate	1.91		J	1.89	ug/kg		99	(70%-130%)		06/19/20	13:56
QC1204578053 MB											
Perchlorate			U	ND	ug/kg					06/19/20	13:47
QC1204578055 512856001 MS											
Perchlorate	1.88	U	ND	1.95	ug/kg		104	(75%-125%)		06/19/20	14:32
QC1204578056 512856001 MSD											
Perchlorate	1.73	U	ND	1.82	ug/kg	7	105	(0%-30%)		06/19/20	14:41
Metals Analysis-ICP											
Batch 2008857											
QC1204574160 LCS											
Antimony	45400			44700	ug/kg		98.4	(80%-120%)	JWJ	06/09/20	19:00
Arsenic	45400			42000	ug/kg		92.5	(80%-120%)			
Barium	45400			43200	ug/kg		95.3	(80%-120%)			
Beryllium	45400			46500	ug/kg		102	(80%-120%)			
Cadmium	45400			42100	ug/kg		92.8	(80%-120%)			
Chromium	45400			42700	ug/kg		94.1	(80%-120%)			

QC Summary

Workorder: **512864**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP										
Batch 2008857										
Cobalt	45400			44800	ug/kg		98.7	(80%-120%)	JWJ	06/09/20 19:00
Copper	45400			42800	ug/kg		94.4	(80%-120%)		
Lead	45400			43100	ug/kg		95	(80%-120%)		
Molybdenum	45400			46200	ug/kg		102	(80%-120%)		
Nickel	45400			42500	ug/kg		93.7	(80%-120%)		
Selenium	45400			41900	ug/kg		92.4	(80%-120%)		
Silver	9070			8480	ug/kg		93.5	(80%-120%)		
Thallium	45400			44100	ug/kg		97.2	(80%-120%)		
Vanadium	45400			42700	ug/kg		94.2	(80%-120%)		
Zinc	45400			42500	ug/kg		93.6	(80%-120%)		
QC1204574159 MB										
Antimony			J	820	ug/kg					06/09/20 18:56
Arsenic			U	ND	ug/kg					
Barium			U	ND	ug/kg					
Beryllium			U	ND	ug/kg					
Cadmium			U	ND	ug/kg					

QC Summary

Workorder: **512864**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP										
Batch 2008857										
Chromium			J	198	ug/kg				JWJ	06/09/20 18:56
Cobalt			U	ND	ug/kg					
Copper			U	ND	ug/kg					
Lead			J	780	ug/kg					
Molybdenum			U	ND	ug/kg					
Nickel			U	ND	ug/kg					
Selenium			U	ND	ug/kg					
Silver			U	ND	ug/kg					
Thallium			U	ND	ug/kg					
Vanadium			U	ND	ug/kg					
Zinc			U	ND	ug/kg					
QC1204574161 512856001 MS										
Antimony	46100	J	1450	44300	ug/kg		93	(75%-125%)		06/09/20 19:06
Arsenic	46100	U	ND	44600	ug/kg		96.8	(75%-125%)		
Barium	46100	J	214	45400	ug/kg		98	(75%-125%)		
Beryllium	46100	U	ND	49100	ug/kg		107	(75%-125%)		

QC Summary

Workorder: **512864**

Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP											
Batch 2008857											
Cadmium	46100	U	ND		43900	ug/kg		95.2	(75%-125%)	JWJ	06/09/20 19:06
Chromium	46100	U	ND		44500	ug/kg		96.4	(75%-125%)		
Cobalt	46100	U	ND		48700	ug/kg		106	(75%-125%)		
Copper	46100		4500		47700	ug/kg		93.6	(75%-125%)		
Lead	46100	U	ND		45100	ug/kg		97.3	(75%-125%)		
Molybdenum	46100	U	ND		49500	ug/kg		107	(75%-125%)		
Nickel	46100	U	ND		44600	ug/kg		96.3	(75%-125%)		
Selenium	46100	U	ND		43900	ug/kg		95.1	(75%-125%)		
Silver	9230	U	ND		8720	ug/kg		94.5	(75%-125%)		
Thallium	46100	U	ND		43100	ug/kg		93.5	(75%-125%)		
Vanadium	46100	U	ND		44900	ug/kg		97.3	(75%-125%)		
Zinc	46100		5610		48200	ug/kg		92.3	(75%-125%)		
QC1204574162 512856001 MSD											
Antimony	47500	J	1450		46200	ug/kg	4	94.1	(0%-20%)		06/09/20 19:08
Arsenic	47500	U	ND		44300	ug/kg	0.779	93.2	(0%-20%)		
Barium	47500	J	214		45500	ug/kg	0.195	95.3	(0%-20%)		

QC Summary

Workorder: **512864**

Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP											
Batch 2008857											
Beryllium	47500	U	ND		49200	ug/kg	0.0435	103	(0%-20%)	JWJ	06/09/20 19:08
Cadmium	47500	U	ND		44100	ug/kg	0.474	92.8	(0%-20%)		
Chromium	47500	U	ND		44700	ug/kg	0.402	93.9	(0%-20%)		
Cobalt	47500	U	ND		48200	ug/kg	0.98	101	(0%-20%)		
Copper	47500		4500		47900	ug/kg	0.432	91.3	(0%-20%)		
Lead	47500	U	ND		44900	ug/kg	0.472	94	(0%-20%)		
Molybdenum	47500	U	ND		49500	ug/kg	0.168	104	(0%-20%)		
Nickel	47500	U	ND		44400	ug/kg	0.415	93.1	(0%-20%)		
Selenium	47500	U	ND		41600	ug/kg	5.34	87.5	(0%-20%)		
Silver	9510	U	ND		8660	ug/kg	0.595	91.2	(0%-20%)		
Thallium	47500	U	ND		43200	ug/kg	0.0556	90.8	(0%-20%)		
Vanadium	47500	U	ND		45300	ug/kg	0.851	95.3	(0%-20%)		
Zinc	47500		5610		49300	ug/kg	2.29	91.9	(0%-20%)		
QC1204574163 512856001 SDILT											
Antimony		J	15.2	U	ND	ug/L	N/A		(0%-20%)		06/09/20 19:13
Arsenic		U	ND	U	ND	ug/L	N/A		(0%-20%)		

QC Summary

Workorder: **512864**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP										
Batch 2008857										
Barium	J	2.25	U	ND	ug/L	N/A		(0%-20%)	JWJ	06/09/20 19:13
Beryllium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Cadmium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Chromium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Cobalt	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Copper		47.3	J	9.21	ug/L	2.69		(0%-20%)		
Lead	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Molybdenum	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Nickel	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Selenium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Silver	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Thallium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Vanadium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Zinc		59.0	J	14.1	ug/L	19.8		(0%-20%)		

QC Summary

Workorder: **512864**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-Mercury										
Batch 2011848										
QC1204579697 LCS										
Mercury	238			191	ug/kg		80.2	(80%-120%)	MTM1	06/17/20 10:32
QC1204579696 MB										
Mercury			U	ND	ug/kg					06/17/20 10:30
QC1204579699 513320001 MS										
Mercury	345	47.6		363	ug/kg		91.5	(80%-120%)		06/17/20 11:02
QC1204579701 513320001 MSD										
Mercury	305	47.6		323	ug/kg	11.8	90.2	(0%-20%)		06/17/20 11:04
QC1204579702 513320001 SDILT										
Mercury		0.311	U	ND	ug/L	N/A		(0%-10%)		06/17/20 11:05

Notes:

The Qualifiers in this report are defined as follows:

**	Analyte is a surrogate compound
<	Result is less than value reported
>	Result is greater than value reported
A	The TIC is a suspected aldol-condensation product
B	The target analyte was detected in the associated blank.
C	Analyte has been confirmed by GC/MS analysis
D	Results are reported from a diluted aliquot of the sample
E	%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
E	Concentration of the target analyte exceeds the instrument calibration range
FB	Mercury was found present at quantifiable concentrations in field blanks received with these samples. Data associated with the blank are deemed invalid for reporting to regulatory agencies
H	Analytical holding time was exceeded
J	See case narrative for an explanation
J	Value is estimated
JNX	Non Calibrated Compound
N	Metals--The Matrix spike sample recovery is not within specified control limits
N	Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor

QC Summary

Workorder: **512864**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time

N Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor

N/A RPD or %Recovery limits do not apply.

N1 See case narrative

ND Analyte concentration is not detected above the detection limit

NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, the difference is >70%.

Q One or more quality control criteria have not been met. Refer to the applicable narrative or DER.

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

UJ Compound cannot be extracted

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y Other specific qualifiers were required to properly define the results. Consult case narrative.

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.

h Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

QC Summary

Client : **GSI Environmental Inc.**
155 Grand Ave
Suite 704
Oakland, California

Contact: **Travis Wicks**

Workorder: **512864**

Report Date: July 2, 2020

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 2009006										
QC1204574617 512856001 DUP										
Cesium-137	U	0.00577	U	0.00416	pCi/g	0			N/A RXF2	06/11/2013:12
	Uncert:	+/-0.0149		+/-0.0150						
	TPU:	+/-0.0151		+/-0.0151						
QC1204574618 LCS										
Americium-241	486			572	pCi/g		118	(75%-125%)	RXF2	06/11/2013:26
	Uncert:			+/-12.4						
	TPU:			+/-54.5						
Cobalt-60	98.8			99.2	pCi/g		100	(75%-125%)		
	Uncert:			+/-2.30						
	TPU:			+/-8.79						
Cesium-137	165			165	pCi/g		100	(75%-125%)		
	Uncert:			+/-2.54						
	TPU:			+/-14.1						
QC1204574616 MB										
Cesium-137			U	0.000724	pCi/g				RXF2	06/11/2010:16
	Uncert:			+/-0.00567						
	TPU:			+/-0.00568						
Rad Gas Flow										
Batch 2008956										
QC1204574465 512856001 DUP										
Strontium-90	U	-0.271	U	-0.0524	pCi/g	0			N/A MXS2	06/26/2006:57
	Uncert:	+/-0.105		+/-0.0909						
	TPU:	+/-0.105		+/-0.0909						
QC1204574466 LCS										
Strontium-90	1.45			1.27	pCi/g		87.6	(75%-125%)	MXS2	06/26/2006:57
	Uncert:			+/-0.0762						
	TPU:			+/-0.299						
QC1204574464 MB										
Strontium-90			U	0.00694	pCi/g				MXS2	06/26/2006:57
	Uncert:			+/-0.0169						
	TPU:			+/-0.0170						
Rad Liquid Scintillation										
Batch 2011631										
QC1204579192 512856001 DUP										
Tritium	U	0.335	U	0.898	pCi/g	0			N/A EW3	06/24/2011:03
	Uncert:	+/-1.80		+/-1.87						
	TPU:	+/-1.80		+/-1.88						
QC1204579194 LCS										
Tritium	85.0			66.2	pCi/g		77.9	(75%-125%)	EW3	06/23/2007:11
	Uncert:			+/-9.01						

QC Summary

Workorder: **512864**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Liquid Scintillation										
Batch 2011631										
	TPU:			+/-17.5						
QC1204579191 MB										
Tritium			U	-1.17	pCi/g				EW3	06/23/2004:45
	Uncert:			+/-2.70						
	TPU:			+/-2.70						
QC1204579193 512856001 MS										
Tritium	90.9 U	0.335		73.2	pCi/g		80.5	(75%-125%)	EW3	06/23/2006:48
	Uncert:	+/-1.80		+/-8.21						
	TPU:	+/-1.80		+/-18.5						

Notes:

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

The Qualifiers in this report are defined as follows:

**	Analyte is a Tracer compound
<	Result is less than value reported
>	Result is greater than value reported
BD	Results are either below the MDC or tracer recovery is low
FA	Failed analysis.
H	Analytical holding time was exceeded
J	See case narrative for an explanation
J	Value is estimated
K	Analyte present. Reported value may be biased high. Actual value is expected to be lower.
L	Analyte present. Reported value may be biased low. Actual value is expected to be higher.
M	M if above MDC and less than LLD
M	REMP Result > MDC/CL and < RDL
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
UI	Gamma Spectroscopy--Uncertain identification
UJ	Gamma Spectroscopy--Uncertain identification
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h	Preparation or preservation holding time was exceeded

QC Summary

Workorder: **512864**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
** Indicates analyte is a surrogate/tracer compound.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptence criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

GSI ENVIRONMENTAL

CHAIN-OF-CUSTODY RECORD

Date: 6/4/20

Page 1 of 1

512864

FROM: GSI Environmental Inc. 155 Grand Ave. Suite 704 Oakland, CA 94612 (510) 463-8484	PROJECT NAME: AJU-BB	PROJECT NO.: 5182
	PROJECT CONTACT: Susan Gallardo	LAB CONTACT: Brielle Luthman
	GLOBAL ID: --	SAMPLER(S): (PRINT) Kalin Howell + Josh Voss
TEL: (510) 463-8484	E-MAIL: smgallardo@gsi-net.com; tzwicks@gsi-net.com	
LABORATORY: GEL Laboratories		

TURNAROUND TIME:

☐ SAME DAY ☐ 24 HR ☐ 48 HR ☐ 72 HR ☐ 5 DAYS ☒ STANDARD

SPECIAL INSTRUCTIONS:

- Sr-90 MDC of 0.5 pCi/g
- Cs-137 MDC of 1 pCi/g
- H-3 MDC of 5 pCi/g
- Include flesh only; no peel

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Sr-90 (905.0)	Cs-137 (901.1)	H-3 (906)	CA Title 22 Metals (6010/7470)	Perchlorate (314.0)
	L-1-200604	6/4/20	1020	Fruit	1	X			X	X	X	X	X
	L-2-200604	1	1310	1	1	X			X	X	X	X	X

Relinquished by: (Signature)	Received by: (Signature) FEDEX	Date: 6/4/20	Time: ~1445
Relinquished by: (Signature)	Received by: (Signature) Fly Boon	Date: 6/5/20	Time: 910
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: GSIE	SDG/AR/COC/Work Order: 512864
Received By: STACY BOONE	Date Received: JUNE 5, 2020
Carrier and Tracking Number	Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other 3935 4669 0289-4c 3935 4669 0278-21

Suspected Hazard Information	Yes	No	
			*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes___ No___
B) Did the client designate the samples are to be received as radioactive?		✓	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		✓	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 67 CPM / mR/Hr Classified as: Rad 1 Rad 2 Rad 3
D) Did the client designate samples are hazardous?		✓	COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		✓	If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	✓			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	✓			Preservation Method: Wet Ice Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP:___
4	Daily check performed and passed on IR temperature gun?	✓			Temperature Device Serial #: IR1-14 Secondary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?	✓			Sample ID's and Containers Affected: If Preservation added, Lot#:
7	Do any samples require Volatile Analysis?				If Yes, are Encores or Soil Kits present for solids? Yes___ No___ NA___(If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes___ No___ NA___(If unknown, select No) Are liquid VOA vials free of headspace? Yes___ No___ NA___ Sample ID's and containers affected:
8	Samples received within holding time?	✓			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			ID's and containers affected:
10	Date & time on COC match date & time on bottles?			✓	Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11	Number of containers received match number indicated on COC?	✓			Circle Applicable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided?			✓	
13	COC form is properly signed in relinquished/received sections? SB	✓			Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

658-W-200693 COC TIME: 11:30 SAMPLE TIME: 11:40

PM (or PMA) review: Initials CD Date 6/8/20 Page 1 of 1

GL-CHL-SR-001 Rev 6

List of current GEL Certifications as of 02 July 2020

State	Certification
Alabama	42200
Alaska	17−018
Alaska Drinking Water	SC00012
Arkansas	88−0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH−0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330−15−00283, P330−15−00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C−SC−01
Kansas NELAP	E−10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M−SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE−OS−26−13
Nevada	SC000122020−1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R−158
Oklahoma	2019−165
Pennsylvania NELAP	68−00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235−20−17
Utah NELAP	SC000122020−32
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

Perchlorates by LCMSMS

Product: **Definitive Low Level Perchlorate Analysis Utilizing Liquid Chromatography/Mass Spectrometry/Mass Spectrometry (LC/MS/MS) by EPA Method 6850 Modified (6850M)**
Analytical Method: SW846 6850 Modified
Analytical Procedure: GL-OA-E-067 REV# 15
Analytical Batches: 2011115 and 2011114

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512864001	L-1-200604
512864002	L-2-200604
1204578053	Method Blank (MB)
1204578054	Laboratory Control Sample (LCS)
1204578055	512856001(AV-1-200604) Matrix Spike (MS)
1204578056	512856001(AV-1-200604) Matrix Spike Duplicate (MSD)
1204578057	Interference Check Sample (ICS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Sample Dilutions
It was necessary to analyze 512864001 (L-1-200604) and 512864002 (L-2-200604) at a dilution. This was due to the matrix effect on the recovery of the internal standard, Perchlorate-O(18). When the samples were analyzed neat or at a lower dilution, the recovery of the internal standard was less than 50%. This may have been the result of the acidic nature of the sample matrix. It was necessary to increase the dilutions to 1:10 for 512862001 and 512862002, and to 1:25 for 512864001, 512864002, 512866001, and 512866002.

Metals

Product: **Determination of Metals by ICP**
Analytical Method: SW846 3050B/6010D
Analytical Procedure: GL-MA-E-013 REV# 31

Analytical Batch: 2008857

Preparation Method: SW846 3050B
Preparation Procedure: GL-MA-E-009 REV# 29
Preparation Batch: 2008854

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512864001	L-1-200604
512864002	L-2-200604
1204574159	Method Blank (MB)**ICP**
1204574160	Laboratory Control Sample (LCS)
1204574163	512856001(AV-1-200604L) Serial Dilution (SD)
1204574161	512856001(AV-1-200604S) Matrix Spike (MS)
1204574162	512856001(AV-1-200604SD) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Preparation/Analytical Method Verification
Method SW-846 3050B is not a total digestion technique for most samples. It is a very strong acid digestion that will dissolve almost all elements that could become environmentally available. By design, elements bound in silicate structures are not normally dissolved by this procedure as they are not usually mobile in the environment.

Product: Mercury Analysis Using the Perkin Elmer Automated Mercury Analyzer
Analytical Method: SW846 7471A
Analytical Procedure: GL-MA-E-010 REV# 38
Analytical Batch: 2011848

Preparation Method: SW846 7471A Prep
Preparation Procedure: GL-MA-E-010 REV# 38
Preparation Batch: 2011847

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification

512864001	L-1-200604
512864002	L-2-200604
1204579696	Method Blank (MB)**CVAA**
1204579697	Laboratory Control Sample (LCS)
1204579702	513320001(NonSDGL) Serial Dilution (SD)
1204579699	513320001(NonSDGS) Matrix Spike (MS)
1204579701	513320001(NonSDGSD) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Radiochemistry

Product: **Dry Weight**
Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 23
Preparation Batch: 2008811

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512864001	L-1-200604
512864002	L-2-200604

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **Gammaspec, Gamma, Solid (Standard List)**
Analytical Method: DOE HASL 300, 4.5.2.3/Ga-01-R
Analytical Procedure: GL-RAD-A-013 REV# 27
Analytical Batch: 2009006

Preparation Method: Dry Soil Prep

Preparation Procedure: GL-RAD-A-021 REV# 23
Preparation Batch: 2008811

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512864001	L-1-200604
512864002	L-2-200604
1204574616	Method Blank (MB)
1204574617	512856001(AV-1-200604) Sample Duplicate (DUP)
1204574618	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: GFPC, Sr90, Vegetation
Analytical Method: EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
Analytical Procedure: GL-RAD-A-004 REV# 21
Analytical Batch: 2008956

Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 23
Preparation Batch: 2008811

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512864001	L-1-200604
512864002	L-2-200604
1204574464	Method Blank (MB)
1204574465	512856001(AV-1-200604) Sample Duplicate (DUP)
1204574466	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **LSC, Tritium Distillation, Vegetation**
Analytical Method: EPA 906.0 Modified
Analytical Procedure: GL-RAD-A-002 REV# 23
Analytical Batch: 2011631

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512864001	L-1-200604
512864002	L-2-200604
1204579191	Method Blank (MB)
1204579192	512856001(AV-1-200604) Sample Duplicate (DUP)
1204579193	512856001(AV-1-200604) Matrix Spike (MS)
1204579194	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Recounts
Samples 1204579192 (AV-1-200604DUP), 512864001 (L-1-200604) and 512864002 (L-2-200604) were recounted due to high MDCs. The recounts are reported.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.

GEL Laboratories LLC
a member of The GEL Group INC

PO Box 30712 Charleston, SC 29417
2040 Savage Road Charleston, SC 29407
P 843.556.8171
F 843.766.1178

gel.com

July 02, 2020

Travis Wicks
GSI Environmental Inc.
155 Grand Ave
Suite 704
Oakland, California 94612

Re: Near S SFL
Work Order: 512866

Dear Travis Wicks:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on June 05, 2020. This original data report has been prepared and reviewed in accordance with GEL's standard operating procedures.

Test results for NELAP or ISO 17025 accredited tests are verified to meet the requirements of those standards, with any exceptions noted. The results reported relate only to the items tested and to the sample as received by the laboratory. These results may not be reproduced except as full reports without approval by the laboratory. Copies of GEL's accreditations and certifications can be found on our website at www.gel.com.

Our policy is to provide high quality, personalized analytical services to enable you to meet your analytical needs on time every time. We trust that you will find everything in order and to your satisfaction. If you have any questions, please do not hesitate to call me at (843) 556-8171, ext. 4487.

Sincerely,

B Luthman

Brielle Luthman
Project Manager

Purchase Order: 5182
Enclosures

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 − (843) 556−8171 − www.gel.com

Certificate of Analysis Report
for

GSIE002 GSI Environmental Inc.

Client SDG: 512866 GEL Work Order: 512866

The Qualifiers in this report are defined as follows:

* A quality control analyte recovery is outside of specified acceptance criteria

** Analyte is a Tracer compound

** Analyte is a surrogate compound

J See case narrative for an explanation

J Value is estimated

U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the Certificate of Analysis.

The designation ND, if present, appears in the result column when the analyte concentration is not detected above the limit as defined in the 'U' qualifier above.

This data report has been prepared and reviewed in accordance with GEL Laboratories LLC standard operating procedures. Please direct any questions to your Project Manager, Brielle Luthman.

Reviewed by B Luthman

GEL LABORATORIES LLC
2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Report Date: July 2, 2020

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612
Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: 0-1-200604
Sample ID: 512866001
Matrix: Vegetation
Collect Date: 04-JUN-20 10:30
Receive Date: 05-JUN-20
Collector: Client

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
LC-MS/MS Perchlorate												
Perchlorate by LC-MS/MS "As Received"												
Perchlorate	U	ND	10.2	41.0	ug/kg	8.20	25	CWW	06/22/20	2220	2011115	1
Mercury Analysis-CVAA												
7471 Cold Vapor Mercury, Solid "As Received"												
Mercury	U	ND	7.08	21.1	ug/kg	106	1	MTM1	06/17/20	1057	2011848	2
Metals Analysis-ICP												
SW846 3050B/6010D Metals, Solid "As Received"												
Antimony	U	ND	303	1830	ug/kg	91.7	1	JWJ	06/09/20	1946	2008857	3
Arsenic	U	ND	459	2750	ug/kg	91.7	1					
Barium		883	91.7	459	ug/kg	91.7	1					
Beryllium	U	ND	91.7	459	ug/kg	91.7	1					
Cadmium	U	ND	91.7	459	ug/kg	91.7	1					
Chromium	U	ND	138	917	ug/kg	91.7	1					
Cobalt	U	ND	138	459	ug/kg	91.7	1					
Copper	J	454	275	1830	ug/kg	91.7	1					
Lead	U	ND	303	1830	ug/kg	91.7	1					
Molybdenum	U	ND	183	917	ug/kg	91.7	1					
Nickel	J	315	138	459	ug/kg	91.7	1					
Selenium	U	ND	459	2750	ug/kg	91.7	1					
Silver	U	ND	91.7	459	ug/kg	91.7	1					
Thallium	U	ND	459	1830	ug/kg	91.7	1					
Vanadium	U	ND	91.7	459	ug/kg	91.7	1					
Zinc		3230	367	1830	ug/kg	91.7	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
GEL Prep Method	Laboratory Composite				2008703
SW846 3050B	SW846 3050B Prep	SM1	06/09/20	0900	2008854
SW846 6850 Modified	EPA 6850 Perchlorate Extraction Solids	CWW	06/18/20	1839	2011114
SW846 7471A Prep	EPA 7471A Mercury Prep Soil	AXS5	06/16/20	1334	2011847

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 6850 Modified	
2	SW846 7471A	
3	SW846 3050B/6010D	

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Certificate of Analysis

Report Date: July 2, 2020

Company :	GSI Environmental Inc.
Address :	155 Grand Ave Suite 704 Oakland, California 94612
Contact:	Travis Wicks
Project:	Near S SFL

Client Sample ID:	0-1-200604	Project:	GSIE00119
Sample ID:	512866001	Client ID:	GSIE002

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

Notes:

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Certificate of Analysis

Report Date: July 2, 2020

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612
Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: 0-2-200604
Sample ID: 512866002
Matrix: Vegetation
Collect Date: 04-JUN-20 13:10
Receive Date: 05-JUN-20
Collector: Client

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method
LC-MS/MS Perchlorate												
Perchlorate by LC-MS/MS "As Received"												
Perchlorate	U	ND	10.7	42.7	ug/kg	8.55	25	CWW	06/22/20	2229	2011115	1
Mercury Analysis-CVAA												
7471 Cold Vapor Mercury, Solid "As Received"												
Mercury	U	ND	8.01	23.9	ug/kg	120	1	MTM1	06/17/20	1059	2011848	2
Metals Analysis-ICP												
SW846 3050B/6010D Metals, Solid "As Received"												
Antimony	U	ND	307	1860	ug/kg	93.1	1	JWJ	06/09/20	1949	2008857	3
Arsenic	U	ND	466	2790	ug/kg	93.1	1					
Barium	J	313	93.1	466	ug/kg	93.1	1					
Beryllium	U	ND	93.1	466	ug/kg	93.1	1					
Cadmium	U	ND	93.1	466	ug/kg	93.1	1					
Chromium	U	ND	140	931	ug/kg	93.1	1					
Cobalt	U	ND	140	466	ug/kg	93.1	1					
Copper	J	636	279	1860	ug/kg	93.1	1					
Lead	U	ND	307	1860	ug/kg	93.1	1					
Molybdenum	U	ND	186	931	ug/kg	93.1	1					
Nickel	J	143	140	466	ug/kg	93.1	1					
Selenium	U	ND	466	2790	ug/kg	93.1	1					
Silver	U	ND	93.1	466	ug/kg	93.1	1					
Thallium	U	ND	466	1860	ug/kg	93.1	1					
Vanadium	U	ND	93.1	466	ug/kg	93.1	1					
Zinc		4050	372	1860	ug/kg	93.1	1					

The following Prep Methods were performed:

Method	Description	Analyst	Date	Time	Prep Batch
GEL Prep Method	Laboratory Composite				2008703
SW846 3050B	SW846 3050B Prep	SM1	06/09/20	0900	2008854
SW846 6850 Modified	EPA 6850 Perchlorate Extraction Solids	CWW	06/18/20	1839	2011114
SW846 7471A Prep	EPA 7471A Mercury Prep Soil	AXS5	06/16/20	1334	2011847

The following Analytical Methods were performed:

Method	Description	Analyst Comments
1	SW846 6850 Modified	
2	SW846 7471A	
3	SW846 3050B/6010D	

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Certificate of Analysis

Report Date: July 2, 2020

Company :	GSI Environmental Inc.
Address :	155 Grand Ave Suite 704 Oakland, California 94612
Contact:	Travis Wicks
Project:	Near S SFL

Client Sample ID:	0-2-200604	Project:	GSIE00119
Sample ID:	512866002	Client ID:	GSIE002

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analyst	Date	Time	Batch	Method

Notes:

Column headers are defined as follows:

DF: Dilution Factor	Lc/LC: Critical Level
DL: Detection Limit	PF: Prep Factor
MDA: Minimum Detectable Activity	RL: Reporting Limit
MDC: Minimum Detectable Concentration	SQL: Sample Quantitation Limit

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Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: 0-1-200604
Sample ID: 512866001
Matrix: Vegetation
Collect Date: 04-JUN-20
Receive Date: 05-JUN-20
Collector: Client
Moisture: 89.4%

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "As Received"														
Cesium-137	U	0.00352	+/-0.00556	0.0113	+/-0.00579	0.100	pCi/g			RXF2	06/11/20	1015	2009006	1
Rad Gas Flow Proportional Counting														
GFPC, Sr90, Vegetation "As Received"														
Strontium-90	U	0.0377	+/-0.0302	0.0488	+/-0.0314	0.240	pCi/g			MXS2	06/27/20	1250	2008956	2
Rad Liquid Scintillation Analysis														
LSC, Tritium Distillation, Vegetation "As Received"														
Tritium	U	0.519	+/-2.88	4.98	+/-2.88	5.00	pCi/g			EW3	06/23/20	0240	2011631	3
Solid Preparation														
Laboratory Composite "As Received"														

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LYT1	06/08/20	0937	2008811
GEL Prep Method	Laboratory Composite				2008703

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R
2	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
3	EPA 906.0 Modified
4	GEL Prep Method

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Strontium Carrier	GFPC, Sr90, Vegetation "As Received"	2008956	101	(25%-125%)

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Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: 0-1-200604
Sample ID: 512866001

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer Recovery	**Test**							**Batch ID**	**Recovery%**	**Acceptable Limits**				

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

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Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: 0-2-200604
Sample ID: 512866002
Matrix: Vegetation
Collect Date: 04-JUN-20
Receive Date: 05-JUN-20
Collector: Client
Moisture: 88.2%

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Analysis														
Gammaspec, Gamma, Solid (Standard List) "As Received"														
Cesium-137	U	-0.00775	+/-0.0169	0.0308	+/-0.0173	0.100	pCi/g			RXF2	06/11/20	1016	2009006	1
Rad Gas Flow Proportional Counting														
GFPC, Sr90, Vegetation "As Received"														
Strontium-90	U	-0.0182	+/-0.0217	0.0467	+/-0.0217	0.240	pCi/g			MXS2	06/26/20	0657	2008956	2
Rad Liquid Scintillation Analysis														
LSC, Tritium Distillation, Vegetation "As Received"														
Tritium	U	-0.169	+/-2.65	4.63	+/-2.65	5.00	pCi/g			EW3	06/23/20	0343	2011631	3
Solid Preparation														
Laboratory Composite "As Received"														

The following Prep Methods were performed

Method	Description	Analyst	Date	Time	Prep Batch
Dry Soil Prep	Dry Soil Prep GL-RAD-A-021	LYT1	06/08/20	0937	2008811
GEL Prep Method	Laboratory Composite				2008703

The following Analytical Methods were performed

Method	Description
1	DOE HASL 300, 4.5.2.3/Ga-01-R
2	EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
3	EPA 906.0 Modified
4	GEL Prep Method

Surrogate/Tracer Recovery	Test	Batch ID	Recovery%	Acceptable Limits
Strontium Carrier	GFPC, Sr90, Vegetation "As Received"	2008956	103	(25%-125%)

GEL LABORATORIES LLC

2040 Savage Road Charleston SC 29407 - (843) 556-8171 - www.gel.com

Certificate of Analysis

Company : GSI Environmental Inc.
Address : 155 Grand Ave
Suite 704
Oakland, California 94612

Report Date: July 2, 2020

Contact: Travis Wicks
Project: Near S SFL

Client Sample ID: 0-2-200604
Sample ID: 512866002

Project: GSIE00119
Client ID: GSIE002

Parameter	Qualifier	Result	Uncertainty	MDC	TPU	RL	Units	PF	DF	Analyst	Date	Time	Batch	Mtd.
Surrogate/Tracer Recovery	**Test**							**Batch ID**	**Recovery%**	**Acceptable Limits**				

Notes:

The MDC is a sample specific MDC.
TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

Column headers are defined as follows:

DF: Dilution Factor
DL: Detection Limit
Lc/LC: Critical Level
MDA: Minimum Detectable Activity
MDC: Minimum Detectable Concentration
Mtd.: Method
PF: Prep Factor
RL: Reporting Limit
TPU: Total Propagated Uncertainty

QC Summary

Report Date: July 2, 2020

GSI Environmental Inc.
155 Grand Ave
Suite 704
Oakland, California

Contact: **Travis Wicks**

Workorder: **512866**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
LC-MS/MS Perchlorate										
Batch 2011115										
QC1204578057 ICS										
Perchlorate	1.95			2.02	ug/kg		104	(70%-130%)	CWW	06/19/20 14:05
QC1204578054 LCS										
Perchlorate	1.91		J	1.89	ug/kg		99	(70%-130%)		06/19/20 13:56
QC1204578053 MB										
Perchlorate			U	ND	ug/kg					06/19/20 13:47
QC1204578055 512856001 MS										
Perchlorate	1.88 U	ND		1.95	ug/kg		104	(75%-125%)		06/19/20 14:32
QC1204578056 512856001 MSD										
Perchlorate	1.73 U	ND		1.82	ug/kg	7	105	(0%-30%)		06/19/20 14:41
Metals Analysis-ICP										
Batch 2008857										
QC1204574160 LCS										
Antimony	45400			44700	ug/kg		98.4	(80%-120%)	JWJ	06/09/20 19:00
Arsenic	45400			42000	ug/kg		92.5	(80%-120%)		
Barium	45400			43200	ug/kg		95.3	(80%-120%)		
Beryllium	45400			46500	ug/kg		102	(80%-120%)		
Cadmium	45400			42100	ug/kg		92.8	(80%-120%)		
Chromium	45400			42700	ug/kg		94.1	(80%-120%)		

QC Summary

Workorder: **512866**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP										
Batch 2008857										
Cobalt	45400			44800	ug/kg		98.7	(80%-120%)	JWJ	06/09/20 19:00
Copper	45400			42800	ug/kg		94.4	(80%-120%)		
Lead	45400			43100	ug/kg		95	(80%-120%)		
Molybdenum	45400			46200	ug/kg		102	(80%-120%)		
Nickel	45400			42500	ug/kg		93.7	(80%-120%)		
Selenium	45400			41900	ug/kg		92.4	(80%-120%)		
Silver	9070			8480	ug/kg		93.5	(80%-120%)		
Thallium	45400			44100	ug/kg		97.2	(80%-120%)		
Vanadium	45400			42700	ug/kg		94.2	(80%-120%)		
Zinc	45400			42500	ug/kg		93.6	(80%-120%)		
QC1204574159 MB										
Antimony			J	820	ug/kg					06/09/20 18:56
Arsenic			U	ND	ug/kg					
Barium			U	ND	ug/kg					
Beryllium			U	ND	ug/kg					
Cadmium			U	ND	ug/kg					

QC Summary

Workorder: **512866**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP										
Batch 2008857										
Chromium			J	198	ug/kg				JWJ	06/09/20 18:56
Cobalt			U	ND	ug/kg					
Copper			U	ND	ug/kg					
Lead			J	780	ug/kg					
Molybdenum			U	ND	ug/kg					
Nickel			U	ND	ug/kg					
Selenium			U	ND	ug/kg					
Silver			U	ND	ug/kg					
Thallium			U	ND	ug/kg					
Vanadium			U	ND	ug/kg					
Zinc			U	ND	ug/kg					
QC1204574161 512856001 MS										
Antimony	46100	J	1450	44300	ug/kg		93	(75%-125%)		06/09/20 19:06
Arsenic	46100	U	ND	44600	ug/kg		96.8	(75%-125%)		
Barium	46100	J	214	45400	ug/kg		98	(75%-125%)		
Beryllium	46100	U	ND	49100	ug/kg		107	(75%-125%)		

QC Summary

Workorder: **512866**

Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP											
Batch 2008857											
Cadmium	46100	U	ND		43900	ug/kg		95.2	(75%-125%)	JWJ	06/09/20 19:06
Chromium	46100	U	ND		44500	ug/kg		96.4	(75%-125%)		
Cobalt	46100	U	ND		48700	ug/kg		106	(75%-125%)		
Copper	46100		4500		47700	ug/kg		93.6	(75%-125%)		
Lead	46100	U	ND		45100	ug/kg		97.3	(75%-125%)		
Molybdenum	46100	U	ND		49500	ug/kg		107	(75%-125%)		
Nickel	46100	U	ND		44600	ug/kg		96.3	(75%-125%)		
Selenium	46100	U	ND		43900	ug/kg		95.1	(75%-125%)		
Silver	9230	U	ND		8720	ug/kg		94.5	(75%-125%)		
Thallium	46100	U	ND		43100	ug/kg		93.5	(75%-125%)		
Vanadium	46100	U	ND		44900	ug/kg		97.3	(75%-125%)		
Zinc	46100		5610		48200	ug/kg		92.3	(75%-125%)		
QC1204574162 512856001 MSD											
Antimony	47500	J	1450		46200	ug/kg	4	94.1	(0%-20%)		06/09/20 19:08
Arsenic	47500	U	ND		44300	ug/kg	0.779	93.2	(0%-20%)		
Barium	47500	J	214		45500	ug/kg	0.195	95.3	(0%-20%)		

QC Summary

Workorder: **512866**

Parmname	NOM		Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP											
Batch 2008857											
Beryllium	47500	U	ND		49200	ug/kg	0.0435	103	(0%-20%)	JWJ	06/09/20 19:08
Cadmium	47500	U	ND		44100	ug/kg	0.474	92.8	(0%-20%)		
Chromium	47500	U	ND		44700	ug/kg	0.402	93.9	(0%-20%)		
Cobalt	47500	U	ND		48200	ug/kg	0.98	101	(0%-20%)		
Copper	47500		4500		47900	ug/kg	0.432	91.3	(0%-20%)		
Lead	47500	U	ND		44900	ug/kg	0.472	94	(0%-20%)		
Molybdenum	47500	U	ND		49500	ug/kg	0.168	104	(0%-20%)		
Nickel	47500	U	ND		44400	ug/kg	0.415	93.1	(0%-20%)		
Selenium	47500	U	ND		41600	ug/kg	5.34	87.5	(0%-20%)		
Silver	9510	U	ND		8660	ug/kg	0.595	91.2	(0%-20%)		
Thallium	47500	U	ND		43200	ug/kg	0.0556	90.8	(0%-20%)		
Vanadium	47500	U	ND		45300	ug/kg	0.851	95.3	(0%-20%)		
Zinc	47500		5610		49300	ug/kg	2.29	91.9	(0%-20%)		
QC1204574163 512856001 SDILT											
Antimony		J	15.2	U	ND	ug/L	N/A		(0%-20%)		06/09/20 19:13
Arsenic		U	ND	U	ND	ug/L	N/A		(0%-20%)		

QC Summary

Workorder: **512866**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date Time
Metals Analysis-ICP										
Batch 2008857										
Barium	J	2.25	U	ND	ug/L	N/A		(0%-20%)	JWJ	06/09/20 19:13
Beryllium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Cadmium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Chromium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Cobalt	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Copper		47.3	J	9.21	ug/L	2.69		(0%-20%)		
Lead	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Molybdenum	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Nickel	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Selenium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Silver	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Thallium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Vanadium	U	ND	U	ND	ug/L	N/A		(0%-20%)		
Zinc		59.0	J	14.1	ug/L	19.8		(0%-20%)		

QC Summary

Workorder: **512866**

Parmname			NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis-Mercury													
Batch 2011848													
QC1204579697	LCS												
Mercury			238			191	ug/kg		80.2	(80%-120%)	MTM1	06/17/20	10:32
QC1204579696	MB												
Mercury					U	ND	ug/kg					06/17/20	10:30
QC1204579699	513320001	MS											
Mercury			345	47.6		363	ug/kg		91.5	(80%-120%)		06/17/20	11:02
QC1204579701	513320001	MSD											
Mercury			305	47.6		323	ug/kg	11.8	90.2	(0%-20%)		06/17/20	11:04
QC1204579702	513320001	SDILT											
Mercury				0.311	U	ND	ug/L	N/A		(0%-10%)		06/17/20	11:05

Notes:

The Qualifiers in this report are defined as follows:

**	Analyte is a surrogate compound
<	Result is less than value reported
>	Result is greater than value reported
A	The TIC is a suspected aldol-condensation product
B	The target analyte was detected in the associated blank.
C	Analyte has been confirmed by GC/MS analysis
D	Results are reported from a diluted aliquot of the sample
E	%difference of sample and SD is >10%. Sample concentration must meet flagging criteria
E	Concentration of the target analyte exceeds the instrument calibration range
FB	Mercury was found present at quantifiable concentrations in field blanks received with these samples. Data associated with the blank are deemed invalid for reporting to regulatory agencies
H	Analytical holding time was exceeded
J	See case narrative for an explanation
J	Value is estimated
JNX	Non Calibrated Compound
N	Metals--The Matrix spike sample recovery is not within specified control limits
N	Organics--Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor

QC Summary

Workorder: **512866**

Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time

N Presumptive evidence based on mass spectral library search to make a tentative identification of the analyte (TIC). Quantitation is based on nearest internal standard response factor

N/A RPD or %Recovery limits do not apply.

N1 See case narrative

ND Analyte concentration is not detected above the detection limit

NJ Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

P Organics--The concentrations between the primary and confirmation columns/detectors is >40% different. For HPLC, the difference is >70%.

Q One or more quality control criteria have not been met. Refer to the applicable narrative or DER.

R Sample results are rejected

U Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.

UJ Compound cannot be extracted

X Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier

Y Other specific qualifiers were required to properly define the results. Consult case narrative.

Y QC Samples were not spiked with this compound

^ RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.

h Preparation or preservation holding time was exceeded

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
* Indicates that a Quality Control parameter was not within specifications.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

QC Summary

Client : **GSI Environmental Inc.**
155 Grand Ave
Suite 704
Oakland, California

Contact: **Travis Wicks**

Workorder: **512866**

Report Date: July 2, 2020

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Gamma Spec										
Batch 2009006										
QC1204574617 512856001 DUP										
Cesium-137	U	0.00577	U	0.00416	pCi/g	0			N/A RXF2	06/11/2013:12
	Uncert:	+/-0.0149		+/-0.0150						
	TPU:	+/-0.0151		+/-0.0151						
QC1204574618 LCS										
Americium-241	486			572	pCi/g		118	(75%-125%)	RXF2	06/11/2013:26
	Uncert:			+/-12.4						
	TPU:			+/-54.5						
Cobalt-60	98.8			99.2	pCi/g		100	(75%-125%)		
	Uncert:			+/-2.30						
	TPU:			+/-8.79						
Cesium-137	165			165	pCi/g		100	(75%-125%)		
	Uncert:			+/-2.54						
	TPU:			+/-14.1						
QC1204574616 MB										
Cesium-137			U	0.000724	pCi/g				RXF2	06/11/2010:16
	Uncert:			+/-0.00567						
	TPU:			+/-0.00568						
Rad Gas Flow										
Batch 2008956										
QC1204574465 512856001 DUP										
Strontium-90	U	-0.271	U	-0.0524	pCi/g	0			N/A MXS2	06/26/2006:57
	Uncert:	+/-0.105		+/-0.0909						
	TPU:	+/-0.105		+/-0.0909						
QC1204574466 LCS										
Strontium-90	1.45			1.27	pCi/g		87.6	(75%-125%)	MXS2	06/26/2006:57
	Uncert:			+/-0.0762						
	TPU:			+/-0.299						
QC1204574464 MB										
Strontium-90			U	0.00694	pCi/g				MXS2	06/26/2006:57
	Uncert:			+/-0.0169						
	TPU:			+/-0.0170						
Rad Liquid Scintillation										
Batch 2011631										
QC1204579192 512856001 DUP										
Tritium	U	0.335	U	0.898	pCi/g	0			N/A EW3	06/24/2011:03
	Uncert:	+/-1.80		+/-1.87						
	TPU:	+/-1.80		+/-1.88						
QC1204579194 LCS										
Tritium	85.0			66.2	pCi/g		77.9	(75%-125%)	EW3	06/23/2007:11
	Uncert:			+/-9.01						

QC Summary

Workorder: **512866**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Liquid Scintillation										
Batch 2011631										
	TPU:			+/-17.5						
QC1204579191 MB										
Tritium			U	-1.17	pCi/g				EW3	06/23/2004:45
	Uncert:			+/-2.70						
	TPU:			+/-2.70						
QC1204579193 512856001 MS										
Tritium	90.9 U	0.335		73.2	pCi/g		80.5	(75%-125%)	EW3	06/23/2006:48
	Uncert:	+/-1.80		+/-8.21						
	TPU:	+/-1.80		+/-18.5						

Notes:

TPU and Counting Uncertainty are calculated at the 95% confidence level (1.96-sigma).

The Qualifiers in this report are defined as follows:

**	Analyte is a Tracer compound
<	Result is less than value reported
>	Result is greater than value reported
BD	Results are either below the MDC or tracer recovery is low
FA	Failed analysis.
H	Analytical holding time was exceeded
J	See case narrative for an explanation
J	Value is estimated
K	Analyte present. Reported value may be biased high. Actual value is expected to be lower.
L	Analyte present. Reported value may be biased low. Actual value is expected to be higher.
M	M if above MDC and less than LLD
M	REMP Result > MDC/CL and < RDL
N/A	RPD or %Recovery limits do not apply.
N1	See case narrative
ND	Analyte concentration is not detected above the detection limit
NJ	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Q	One or more quality control criteria have not been met. Refer to the applicable narrative or DER.
R	Sample results are rejected
U	Analyte was analyzed for, but not detected above the MDL, MDA, MDC or LOD.
UI	Gamma Spectroscopy--Uncertain identification
UJ	Gamma Spectroscopy--Uncertain identification
UL	Not considered detected. The associated number is the reported concentration, which may be inaccurate due to a low bias.
X	Consult Case Narrative, Data Summary package, or Project Manager concerning this qualifier
Y	Other specific qualifiers were required to properly define the results. Consult case narrative.
^	RPD of sample and duplicate evaluated using +/-RL. Concentrations are <5X the RL. Qualifier Not Applicable for Radiochemistry.
h	Preparation or preservation holding time was exceeded

QC Summary

Workorder: **512866**

Parmname	NOM	Sample	Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time

N/A indicates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable.
** Indicates analyte is a surrogate/tracer compound.
^ The Relative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptence criteria when the sample is greater than five times (5X) the contract required detection limit (RL). In cases where either the sample or duplicate value is less than 5X the RL, a control limit of +/- the RL is used to evaluate the DUP result.
For PS, PSD, and SDILT results, the values listed are the measured amounts, not final concentrations.

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless qualified on the QC Summary.

GSI ENVIRONMENTAL

CHAIN-OF-CUSTODY RECORD

Date: 6/4/20

Page 1 of 1

512866

FROM: GSI Environmental Inc. 155 Grand Ave. Suite 704 Oakland, CA 94612 (510) 463-8484	PROJECT NAME: AJU-BB	PROJECT NO.: 5182
	PROJECT CONTACT: Susan Gallardo	LAB CONTACT: Brielle Luthman
	GLOBAL ID: -	SAMPLER(S): (PRINT) Kalin Howell + Josh Voss
TEL: (510) 463-8484	E-MAIL: smgallardo@gsi-net.com; tzwicks@gsi-net.com	
LABORATORY: GEL Laboratories		

TURNAROUND TIME:

☐ SAME DAY ☐ 24 HR ☐ 48 HR
☐ 72 HR ☐ 5 DAYS ☒ STANDARD

SPECIAL INSTRUCTIONS:
- Sr-90 MDC of 0.5 pCi/g
- Cs-137 MDC of 1 pCi/g
- H-3 MDC of 5 pCi/g
- Include flesh only; no peel ~~or pit~~

KJH 6/4/20

REQUESTED ANALYSES

Please check box or fill in blank as needed.

LAB USE ONLY	SAMPLE ID	SAMPLING DATE	SAMPLING TIME	MATRIX	NO. OF CONT.	Unpreserved	Preserved	Field Filtered	Sr-90 (905.0)	Cs-137 (901.1)	H-3 (906)	CA Title 22 Metals (6010/7470)	Perchlorate (314.0)
	D-1-288684	6/4/20	1039	Fruit	1	X			X	X	X	X	X
	D-2-288684	〃	1319	〃	1	X			X	X	X	X	X

KJH 6/4/20

Relinquished by: (Signature)	Received by: (Signature) FEDEX	Date: 6/4/20	Time: 1445
Relinquished by: (Signature)	Received by: (Signature)	Date: 6/5/20	Time: 9:10
Relinquished by: (Signature)	Received by: (Signature)	Date:	Time:

GEL Laboratories LLC

SAMPLE RECEIPT & REVIEW FORM

Client: GSIE	SDG/AR/COC/Work Order: 512866
Received By: STACY BOONE	Date Received: JUNE 5, 2020
Carrier and Tracking Number	Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other 3935 4669 0289-4c 3935 4669 0278-21

Suspected Hazard Information	Yes	No	
			*If Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped as a DOT Hazardous?		✓	Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes___ No___
B) Did the client designate the samples are to be received as radioactive?		✓	COC notation or radioactive stickers on containers equal client designation.
C) Did the RSO classify the samples as radioactive?		✓	Maximum Net Counts Observed* (Observed Counts - Area Background Counts): 0 CPM / mR/Hr Classified as: Rad 1 Rad 2 Rad 3
D) Did the client designate samples are hazardous?		✓	COC notation or hazard labels on containers equal client designation.
E) Did the RSO identify possible hazards?		✓	If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:

	Sample Receipt Criteria	Yes	NA	No	Comments/Qualifiers (Required for Non-Conforming Items)
1	Shipping containers received intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
2	Chain of custody documents included with shipment?	✓			Circle Applicable: Client contacted and provided COC COC created upon receipt
3	Samples requiring cold preservation within (0 ≤ 6 deg. C)?*	✓			Preservation Method: Wet Ice Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP:___
4	Daily check performed and passed on IR temperature gun?	✓			Temperature Device Serial #: IR1-19 Secondary Temperature Device Serial # (If Applicable):
5	Sample containers intact and sealed?	✓			Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
6	Samples requiring chemical preservation at proper pH?	✓			Sample ID's and Containers Affected: If Preservation added, Lot#:
7	Do any samples require Volatile Analysis?				If Yes, are Encores or Soil Kits present for solids? Yes___ No___ NA___(If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? Yes___ No___ NA___(If unknown, select No) Are liquid VOA vials free of headspace? Yes___ No___ NA___ Sample ID's and containers affected:
8	Samples received within holding time?	✓			ID's and tests affected:
9	Sample ID's on COC match ID's on bottles?	✓			ID's and containers affected:
10	Date & time on COC match date & time on bottles?			✓	Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11	Number of containers received match number indicated on COC?	✓			Circle Applicable: No container count on COC Other (describe)
12	Are sample containers identifiable as GEL provided?			✓	
13	COC form is properly signed in relinquished/received sections? SB	✓			Circle Applicable: Not relinquished Other (describe)

Comments (Use Continuation Form if needed):

058-W-200693 COC TIME: 11:30 SAMPLE TIME: 11:40

PM (or PMA) review: Initials CD Date 6/8/20 Page 1 of 1

GL-CHL-SR-001 Rev 6

List of current GEL Certifications as of 02 July 2020

State	Certification
Alabama	42200
Alaska	17−018
Alaska Drinking Water	SC00012
Arkansas	88−0651
CLIA	42D0904046
California	2940
Colorado	SC00012
Connecticut	PH−0169
DoD ELAP/ ISO17025 A2LA	2567.01
Florida NELAP	E87156
Foreign Soils Permit	P330−15−00283, P330−15−00253
Georgia	SC00012
Georgia SDWA	967
Hawaii	SC00012
Idaho	SC00012
Illinois NELAP	200029
Indiana	C−SC−01
Kansas NELAP	E−10332
Kentucky SDWA	90129
Kentucky Wastewater	90129
Louisiana Drinking Water	LA024
Louisiana NELAP	03046 (AI33904)
Maine	2019020
Maryland	270
Massachusetts	M−SC012
Massachusetts PFAS Approv	Letter
Michigan	9976
Mississippi	SC00012
Nebraska	NE−OS−26−13
Nevada	SC000122020−1
New Hampshire NELAP	2054
New Jersey NELAP	SC002
New Mexico	SC00012
New York NELAP	11501
North Carolina	233
North Carolina SDWA	45709
North Dakota	R−158
Oklahoma	2019−165
Pennsylvania NELAP	68−00485
Puerto Rico	SC00012
S. Carolina Radiochem	10120002
Sanitation Districts of L	9255651
South Carolina Chemistry	10120001
Tennessee	TN 02934
Texas NELAP	T104704235−20−17
Utah NELAP	SC000122020−32
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

Technical Case Narrative
GSI Environmental Inc.
SDG #: 512866

Perchlorates by LCMSMS

Product: **Definitive Low Level Perchlorate Analysis Utilizing Liquid Chromatography/Mass Spectrometry/Mass Spectrometry (LC/MS/MS) by EPA Method 6850 Modified (6850M)**
Analytical Method: SW846 6850 Modified
Analytical Procedure: GL-OA-E-067 REV# 15
Analytical Batches: 2011115 and 2011114

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512866001	0-1-200604
512866002	0-2-200604
1204578053	Method Blank (MB)
1204578054	Laboratory Control Sample (LCS)
1204578055	512856001(AV-1-200604) Matrix Spike (MS)
1204578056	512856001(AV-1-200604) Matrix Spike Duplicate (MSD)
1204578057	Interference Check Sample (ICS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Sample Dilutions
It was necessary to analyze 512866001 (0-1-200604) and 512866002 (0-2-200604) at a dilution. This was due to the matrix effect on the recovery of the internal standard, Perchlorate-O(18). When the samples were analyzed neat or at a lower dilution, the recovery of the internal standard was less than 50%. This may have been the result of the acidic nature of the sample matrix. It was necessary to increase the dilutions to 1:10 for 512862001 and 512862002, and to 1:25 for 512864001, 512864002, 512866001, and 512866002.

Metals

Product: **Determination of Metals by ICP**
Analytical Method: SW846 3050B/6010D
Analytical Procedure: GL-MA-E-013 REV# 31

Analytical Batch: 2008857

Preparation Method: SW846 3050B
Preparation Procedure: GL-MA-E-009 REV# 29
Preparation Batch: 2008854

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512866001	0-1-200604
512866002	0-2-200604
1204574159	Method Blank (MB)**ICP**
1204574160	Laboratory Control Sample (LCS)
1204574163	512856001(AV-1-200604L) Serial Dilution (SD)
1204574161	512856001(AV-1-200604S) Matrix Spike (MS)
1204574162	512856001(AV-1-200604SD) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Preparation/Analytical Method Verification
Method SW-846 3050B is not a total digestion technique for most samples. It is a very strong acid digestion that will dissolve almost all elements that could become environmentally available. By design, elements bound in silicate structures are not normally dissolved by this procedure as they are not usually mobile in the environment.

Product: Mercury Analysis Using the Perkin Elmer Automated Mercury Analyzer
Analytical Method: SW846 7471A
Analytical Procedure: GL-MA-E-010 REV# 38
Analytical Batch: 2011848

Preparation Method: SW846 7471A Prep
Preparation Procedure: GL-MA-E-010 REV# 38
Preparation Batch: 2011847

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification

512866001	0-1-200604
512866002	0-2-200604
1204579696	Method Blank (MB)**CVAA**
1204579697	Laboratory Control Sample (LCS)
1204579702	513320001(NonSDGL) Serial Dilution (SD)
1204579699	513320001(NonSDGS) Matrix Spike (MS)
1204579701	513320001(NonSDGSD) Matrix Spike Duplicate (MSD)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Radiochemistry

Product: **Dry Weight**
Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 23
Preparation Batch: 2008811

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512866001	0-1-200604
512866002	0-2-200604

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **Gammaspec, Gamma, Solid (Standard List)**
Analytical Method: DOE HASL 300, 4.5.2.3/Ga-01-R
Analytical Procedure: GL-RAD-A-013 REV# 27
Analytical Batch: 2009006

Preparation Method: Dry Soil Prep

Preparation Procedure: GL-RAD-A-021 REV# 23
Preparation Batch: 2008811

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512866001	0-1-200604
512866002	0-2-200604
1204574616	Method Blank (MB)
1204574617	512856001(AV-1-200604) Sample Duplicate (DUP)
1204574618	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: GFPC, Sr90, Vegetation
Analytical Method: EPA 905.0 Modified/DOE RP501 Rev. 1 Modified
Analytical Procedure: GL-RAD-A-004 REV# 21
Analytical Batch: 2008956

Preparation Method: Dry Soil Prep
Preparation Procedure: GL-RAD-A-021 REV# 23
Preparation Batch: 2008811

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512866001	0-1-200604
512866002	0-2-200604
1204574464	Method Blank (MB)
1204574465	512856001(AV-1-200604) Sample Duplicate (DUP)
1204574466	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

There are no exceptions, anomalies or deviations from the specified methods. All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable.

Product: **LSC, Tritium Distillation, Vegetation**
Analytical Method: EPA 906.0 Modified
Analytical Procedure: GL-RAD-A-002 REV# 23
Analytical Batch: 2011631

Composite Preparation Method: GEL Prep Method
Composite Preparation Procedure: GL-RAD-A-026 REV# 17
Composite Preparation Batch: 2008703

The following samples were analyzed using the above methods and analytical procedure(s).

GEL Sample ID#	Client Sample Identification
512866001	0-1-200604
512866002	0-2-200604
1204579191	Method Blank (MB)
1204579192	512856001(AV-1-200604) Sample Duplicate (DUP)
1204579193	512856001(AV-1-200604) Matrix Spike (MS)
1204579194	Laboratory Control Sample (LCS)

The samples in this SDG were analyzed on an "as received" basis.

Data Summary:

All sample data provided in this report met the acceptance criteria specified in the analytical methods and procedures for initial calibration, continuing calibration, instrument controls and process controls where applicable, with the following exceptions.

Technical Information

Recounts
Sample 1204579192 (AV-1-200604DUP) was recounted due to high MDC. The recount is reported.

Certification Statement

Where the analytical method has been performed under NELAP certification, the analysis has met all of the requirements of the NELAC standard unless otherwise noted in the analytical case narrative.