## 2021 Monitoring Report

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

Issued: 24 August 2021

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





24 August 2021

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

## RE: 2021 Monitoring Report American Jewish University, Brandeis-Bardin Campus 1101 Peppertree Lane Brandeis, California

Dear Mr. Breitfeld:

GSI Environmental Inc. (GSI) is submitting the enclosed 2021 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.

Travis Wicks, PG Project Geologist

Susar Gallardo

Susan Gallardo, PE Principal Engineer

Enclosure: 2021 Monitoring Report



## **2021 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:

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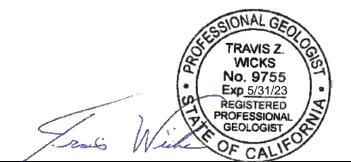
GSI Job No. 5182 Issued: 24 August 2021



24 August 2021 Job No. 5182

This 2021 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.



Travis Wicks, PG #9755

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## 1.0 INTRODUCTION

GSI Environmental Inc. (GSI) has prepared this report to document the surface soil, sediment, spring water, and fruit sampling conducted on behalf of the American Jewish University (AJU) at the Brandeis-Bardin Campus of AJU 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 that is 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 (COCs) 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 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 again in 2020. No evidence of chemical impacts from the SSFL were detected from either of these two events (GSI, 2019 and 2020). The following sections describe the third of GSI's monitoring events, conducted in 2021, 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 (lemon) grown on trees within the Main Campus Area. Fruit on other types of trees were not present at the time of sampling.

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.



## 2.0 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 2021 monitoring event is available in Table 1.

## 2.1 High-Use Areas

At least one soil or sediment sample was collected on 25 to 27 May 2021 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 TestAmerica of West Sacramento, California (Eurofins), while samples for radionuclide analysis were submitted to GEL Laboratories of Charleston, South Carolina (GEL). 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 and 2020 investigations, except as described below, and are shown on Figures 2 and 5 through 10. Samples were collected on 25 and 26 May 2021. One sediment sample also was collected from the drainage channel near Old Well Camp during the May 2021 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). Sediment samples collected from this location 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 where water was present. Water was also sampled during the May monitoring event directly from springs, where present. Due to drought conditions, surface water was not present in most drainages, and water samples were collected only from the following locations:

- OS8-W (see Figure 9)
- OS357-W (the combined outflow of springs OS3, OS5, and OS7; see Figure 5)

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

- Title 22 Metals<sup>1</sup> (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 also analyzed for volatile organic compounds (VOCs) by USEPA Method 8260.

The sediment sample collected from location OS1-SED-1 was additionally analyzed for N-Nitrosodimethylamine (NDMA) by TestAmerica method GCMSMS\_NDMA. This analysis was conducted because NDMA was detected above screening levels in the third quarter 2020 groundwater sample collected from an upstream well (National Aeronautics and Space Administration, 2021).

Samples were submitted to Eurofins for analysis of metals, perchlorate, NDMA, and VOCs while samples were submitted to GEL for radionuclide analysis. Analytical results for radionuclides are reported on a dry-weight basis.

## 2.3 Fruit Sampling

Consistent with the 2020 sampling event, it was planned that fruit-bearing trees in a small fruit orchard and avocado grove, both located in the Main Campus Area (see Figure 3, 11, and 12), would be sampled in 2021. However, because most trees were not bearing fruit at the time of sampling, only the lemons were sampled. Lemons purchased from a nearby grocery store serve as a point of comparison, with California-grown lemons being preferentially selected from the store, if available.

This sample and the store-bought equivalent were analyzed for the following:

<sup>&</sup>lt;sup>1</sup> California Code of Regulations (CCR), Title 22, Division 4.5, Chapter 11, Article 3, Section 66261.24.



- Title 22 Metals<sup>2</sup> (metals) by United States Environmental Protection Agency (USEPA) Methods 6010 and 7471
- Perchlorate by USEPA Method 6850
- 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 lemons were preferentially sampled from the AJU trees, though not all fruits were ripe at the time of sampling. All samples were submitted to GEL.

## 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 and spring water samples were collected directly from water in the drainages into laboratory-provided bottles and VOA jars. Sample water was transferred into bottles and jars containing preservative via a clean, unpreserved bottle. All samples were stored in an ice-chilled cooler prior to transfer to the analytical laboratory, following standard chain-of-custody procedures.

The AJU and grocery store lemon samples consisted of 16 and 9 individual fruits, respectively, collected from the same tree or purchased from the grocery store. Fruits were wiped with a clean, unused paper towel moistened with potable 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. Fruits were processed by the laboratory before analysis such that only the commonly consumed portions of each fruit were included. For the lemon samples, only the fruit flesh was included.

## 3.0 RESULTS

Laboratory analytical results for each sample area are presented below and are also summarized in Tables 2 through 7. Laboratory reports are included in Appendices A through C.

## 3.1 Data Validation

Analytical results were reviewed in accordance with the following documents:

<sup>&</sup>lt;sup>2</sup> 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:

- Title 22 metals were reported to the method detection limit for all water samples to meet screening levels for certain analytes. Beryllium, chromium, copper, lead, and silver were detected at least once between the reporting limit and the method detection limit. Each detection in this range was flagged with a "J".
- Silver was detected in the laboratory method blank for water samples. As such, all detections of silver in water samples within 10x the detection in the blank are flagged with a "J".
- Zinc was detected in the laboratory method blank for fruit samples. As such, all detections of zinc in fruit samples within 10x the detection in the blank are flagged with a "J".
- Tritium was recovered in the matrix spike for fruit samples slightly below quality control limits. Results for tritium in fruit, which were all below the minimum detectable concentration, are flagged with a "UJ".

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 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 endorsed or modified by the Department of Toxic Substances Control of the California Environmental Protection Agency (DTSC, 2020). For analytes not evaluated by the DTSC, screening levels were derived from USEPA RSLs published in 2021 (USEPA, 2021). 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 screening levels but was included for purposes of calculating the PRG with respect to the fruit samples, as described in Section 3.2.3. 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).<sup>3,4</sup> Documentation regarding background values is included in the 2019 Monitoring Report (GSI 2019).

Additionally, because the Old Well Camp drainage does not drain any portion of the SSFL site, sediment samples from this location 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 the following drinking water screening levels in descending order of preference:

- California maximum contaminant levels (MCLs), as established in Title 22 of the California Code of Regulations (CCR) § 64431.
- Residential tap water screening levels as endorsed or modified by the DTSC (2020).
- Regional screening levels (RSLs) for residential tap water, as published by the USEPA (2021).

Comparison to these drinking water screening levels is a conservative approach because 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. However, metals values used in the selection of SSFL groundwater comparison concentrations did not encompass the full range of results that could be considered background concentrations and may, therefore, represent values that are appreciably lower than localized, naturally occurring conditions. As such, the derived SSFL comparison concentrations provide

<sup>&</sup>lt;sup>3</sup> Available through AJU at

https://www.aju.edu/sites/default/files/docs/Tetra Tech-Technical Report April 2016r.pdf

<sup>&</sup>lt;sup>4</sup> As a conservative measure, 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.



conservative threshold values, and results above these comparison concentrations do not necessarily indicate impacts to groundwater quality (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.<sup>5</sup>

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 are calculated using DTSC's LeadSpread8, which accounts for soil-based exposures at a site, as well as background lead exposure from other sources.<sup>6</sup> 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 are estimated by (1) using the maximum measured soil lead concentration at the Site to account for background blood lead levels from incidental ingestion, inhalation, and dermal exposure to Site soils; (2) calculating the additional quantity of lead that would be ingested due to the consumption of homegrown produce; then (3) adding the two together to derive an estimate of daily lead exposure.

Lead was not detected in the lemon sample collected during the 2021 program. Therefore, background daily lead exposure levels are as presented in the 2020 monitoring report (GSI, 2020).

The PRGs for the radionuclides were calculated using the USEPA PRG Calculator for radionuclides. Inputs and details regarding the method for calculating these screening levels are included in Appendix A of the 2020 Monitoring Report (GSI, 2020).

## 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 A. 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

<sup>&</sup>lt;sup>5</sup> http://ceventura.ucdavis.edu/Com\_Ag/Subtropical/Fruit\_and\_Nut\_Varieties/

<sup>&</sup>lt;sup>6</sup> <u>https://dtsc.ca.gov/leadspread-8/</u>



results appear consistent with natural conditions and do not indicate migration of contaminants 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 A. 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 appear consistent with natural conditions and do not indicate migration from the SSFL or other anthropogenic sources.

## 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 southern boundary of the property, which is adjacent to the NBZ.

## 3.4.1 Metals, Perchlorate, NDMA, and VOC Results

Analytical results for metals, perchlorate, and NDMA in sediment samples are tabulated on Table 2. Laboratory data reports are included in Appendix A. In sediment, all analyzed 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. These results are consistent with natural conditions and do not indicate 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. Laboratory data reports are included in Appendix B. Antimony, arsenic, cadmium, mercury, selenium, and thallium were not detected above the detection limit in any sample. Barium, beryllium, chromium, copper, lead, silver, vanadium, and zinc were detected in one or more water samples at concentrations well below their respective MCLs, where published, or, where not published, below tap water screening levels published by the DTSC (2020) and USEPA (2021).

Silver and vanadium were also detected in the water sample from location OS8-W at concentrations that slightly exceed SSFL groundwater comparison concentrations but are lower than their respective tap water screening levels. Silver was detected at a concentration of 0.0016 milligrams per liter (mg/L); the SSFL groundwater comparison concentration is 0.00017 mg/L, and the USEPA tap water screening level is 0.094 mg/L. However, this detection is likely biased high and not indicative of Site conditions because silver was also detected in the laboratory blank. Vanadium was detected at a concentration of 0.010 mg/L; the SSFL groundwater comparison concentrations is 0.0026 mg/L, and the USEPA tap water screening level is 0.086 mg/L. However, the range of background vanadium concentrations is 0.00011 mg/L to 0.0378 mg/L (total of 168 samples in the data set; MWH Americas Inc., 2014). Because the vanadium concentration detected during the 2021 monitoring event is well within the background range, the results do not indicate an impact from SSFL or other anthropogenic sources.

No perchlorate or VOCs were detected in the spring and surface water samples.



Overall, the analytical results for metals, perchlorate, and VOCs for spring and surface water samples appear consistent with natural conditions and do not indicate migration from the SSFL or other anthropogenic sources.

## 3.4.2 Radionuclide Results

Analytical results for radionuclides are tabulated on Tables 3 and 5, and laboratory data reports are included in Appendices A and B. In sediment, no radionuclides were detected above their respective background levels or PRGs. In spring water, no radionuclides were detected above their respective minimum detectable concentrations. These results appear consistent with natural conditions and do not indicate migration from the SSFL or other anthropogenic sources.

## 3.5 Fruit Sample Results

Analytical results for metals and perchlorate in the lemon sample are tabulated on Table 6, and results for radionuclides are on Table 7. Laboratory data reports are included in Appendix C.

Arsenic, beryllium, cadmium, chromium, cobalt, copper, lead, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and perchlorate were not detected in the sample from the lemon grown on-Site (Table 6).<sup>7</sup> Concentrations of all other tested metals were well below their respective fruit-specific PRGs.

Radionuclides were not detected in fruit samples above their respective minimal detectable concentrations, and minimum detectable concentrations for each radionuclide were below their respective PRGs.

Both individually and collectively, the analytical results for metals, perchlorate, and radionuclides for fruit samples appear consistent with natural conditions and do not indicate the presence of on-Site chemical impacts from the SSFL or other anthropogenic sources.

## 4.0 CONCLUSIONS

Results from the 2021 sampling event are consistent with analytical testing of media that has occurred at the Brandeis-Bardin campus since 1991. Samples taken in high-use areas, in drainage channels located at the border between the campus and the Northern Buffer Zone, and from fruit grown on Site appear consistent with natural conditions and do not indicate impacts from the SSFL or other anthropogenic sources.

<sup>&</sup>lt;sup>7</sup> 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.



## 5.0 REFERENCES

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## 2021 Monitoring Report

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## TABLE 1 SAMPLING AND ANALYSIS SUMMARY

AJU Brandeis-Bardin Campus

Brandeis, CA

					Anal	yses <sup>1</sup>		
			Metals <sup>2</sup>	Perchlorate <sup>2</sup>	VOCs <sup>2</sup>	Strontium-90 <sup>3</sup>	Tritium <sup>3</sup>	Cesium-137 <sup>3</sup>
Sampling Location	Campus Area	Sample Type	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 Samp	ples							
HV-1		Soil	Х	Х	-	Х	Х	Х
HV-2	Hidden Valley Camp	Soil	Х	Х	-	Х	Х	Х
HV-SED-1		Sediment	Х	Х	-	Х	Х	Х
TF-1	Terry Field	Soil	Х	Х	_	Х	Х	Х
KC-1	Kids' Cabins	Soil	Х	Х	_	Х	Х	Х
GF-1	Gan Field	Soil	Х	Х	_	Х	Х	Х
CIT-1	CIT Cabins	Soil	Х	Х	_	Х	Х	Х
AT-1	Alpine Tower	Soil	Х	Х	_	Х	Х	Х
Drainage Samples		•					•	
OS1-W	Downstream from OS1 and SSFL	Water			Not Sa	mpled <sup>4</sup>		
OS1-SED-1	Downstream from OST and SSFL	Sediment	Х	Х	_	X	Х	Х
OS3-W	Spring OS3	Water			Not Sa	mpled <sup>5</sup>	•	•
OS357-W	Springs OS3, 5, and 7	Water	Х	Х	Х	X	Х	Х
BP-SED-1	Downstream from the burn pit portion of the SSFL	Sediment	Х	Х	_	Х	Х	Х
RRMDF-SED-1	Downstream from the reactor and RMDF portions of the SSFL	Sediment	Х	Х	_	Х	Х	Х
SRE-SED-2	Downstream from the sodium reactor portion of the SSFL	Sediment	Х	Х	-	Х	Х	Х
SRE-W	Downstream from the social reactor portion of the SSFE	Water			Not Sampled - N	lo Water Present		
OS8-SED-1	Downstream of Spring OS8	Sediment	Х	Х	-	Х	Х	Х
OS8-W	Downstream of Spring OS6	Water	Х	Х	Х	Х	Х	Х
OW-SED-1	Old Well Camp area	Sediment	Х	Х	-	Х	Х	Х
Fruit Samples					•			
AV-1	Avocado Grove	Avocado			Not Sampled -	No Fruit Present		
A-1		Apple			Not Sampled -	No Fruit Present		
G-1	Fruit Orchard	Grapefruit			Not Sampled -	No Fruit Present		
L-1	Fiul Orchaid	Lemon	Х	Х	_	Х	Х	Х
O-1		Orange		-	Not Sampled -	No Fruit Present	-	·
AV-2		Avocado			Not Sampled - No Corres	sponding On-Site Sample		
A-2		Apple			Not Sampled - No Corres	sponding On-Site Sample		
G-2	Grocery Store	Grapefruit			Not Sampled - No Corres	sponding On-Site Sample		
L-2		Lemon	Х	Х	_	Х	Х	Х
O-1		Orange		-	Not Sampled - No Corres	sponding On-Site Sample	-	

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 May 2021 sampling event. Instead, the immediate vicinity and downstream area of the well was checked for ponded water from the well.

5. A sample was collected from a point (OS357-W) downstream of springs OS3, OS5, and OS7 rather than collect a sample from a single spring.

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

											Т	Title 22 Metal	s <sup>1</sup>									
Sample Location Name	Sample Name	Matrix	Date Collected	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury <sup>2</sup>	Molyb- denum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Per- chlorate <sup>3</sup>	NDMA <sup>4</sup>
													mg/kg									
High Use Area San			1/00/0010	4.0.111		400	0.54	0.44	15		5.0	_	0.044	1.0		0.5	0.00	1.0			0.000	J
1.157.4	HV-1-190422	011	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	HV-1-200603	Soil	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-1-210526		5/26/2021	19	5	66	0.86	<0.2	12	3.6	6.6	4.5	< 0.039	<2	6.4	<2	<0.49	<2	20	46	<0.040	-
10/0	HV-2-190422	0.11	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	HV-2-200603	Soil	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-2-210526		5/26/2021	21	4.5	58	0.9	0.2	15	4.2	10	14	<0.039	<2	9.2	<2	1.4	<2	23	50	<0.200	
	HV-SED-1-190422		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	HV-SED-1-200603	Sediment	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	-
	HV-SED-1-210526		5/26/2021	17	3.9	47	0.75	<0.2	11	3.2	7.1	8.9	<0.039	<2	6.7	<2	<0.5	<2	19	43	<0.039	-
	TF-1-190422		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	TF-1-200603	Soil	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	_
	TF-1-210526		5/26/2021	17	5.6	84	1	0.2	20	7.6	21	11	< 0.039	<2	13	<2	<0.5	<2	39	55	<0.200	_
	KC-1-190422		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	KC-1-200603	Soil	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	
	KC-1-210527		5/27/2021	13	4.4	49	0.75	<0.2	14	4.5	8.2	9.6	< 0.039	<2	8.3	<2	<0.49	<2	27	49	< 0.039	_
	GF-1-190422		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	GF-1-200603	Soil	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	_
	GF-1-210527		5/27/2021	12	2.9	41	0.62	0.21	10	3.7	7.3	5.7	< 0.038	<2	6.7	<2	<0.5	<2	22	60	<0.200	
	CIT-1-190422		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	CIT-1-200603	Soil	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	
-	CIT-1-210525		5/25/2021	12	2.7	44	0.63	<0.2	12	3.9	8.9	8.7	< 0.039	<2	7.4	<2	<0.49	<2	21	52	<0.200	
	AT-1-190422		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	AT-1-200603	Soil	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	_
	AT-1-200003	0011	5/27/2021	14	4.4	65	0.81	0.24	17	5	12	8.1	<0.020	<1.9	9.4	<1.9	<0.48	<1.9	28	43	<0.400	_
Drainage Sediment			0/21/2021	••			0.01	0.2.1	••	0		011	10.000	\$1.0	0.1	\$1.0	\$0.10	\$1.0	20	-10	\$0.100	
Dramage eeumen	BP-SED-1-190613		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	BP-SED-1-200602	Sediment	6/2/2020	<10 UJ	11	43 J	<0.51	<0.50	10	3.3	6.5	7.7	0.022	<2.0	6.8	<3.0	<1.5	<10	19	37	<0.040	_
DI OLD I	BP-SED-1-200002 BP-SED-1-210525	Ocument	5/25/2020	21	12	43 J 51	0.89	<0.31	11	3.8	6.4	9.3	<0.038	<2.0	7.6	<3.0	<0.5	<10	22	45	<0.040	_
			6/13/2019		3.8				1				-									_
OS8-SED-1	OS8-SED-1-190613 OS8-SED-1-200603	Sediment		<9.9 UJ <9.9 UJ	<b>3.8</b> <3.0	34 32 J	<0.49 <0.50	<0.49 <0.50	12	<u>1.4</u> 1.9	4.8 5.5	5.4 5.3	<0.020	<2.0 <2.0	6.1	<3.0 <3.0	<1.5 <1.5	<9.9 <9.9	21 14	32 25	<0.040	
000-020-1	OS8-SED-1-200603	Geaiment	6/2/2020 5/26/2021	<9.9 UJ	<3.0 <b>2.1</b>	32 3	<0.50 <b>0.48</b>	<0.50	7.5 6.8	2	4.3	5.3	<0.020 <0.038	<2.0	5.1 4.4	<3.0	<0.48	<9.9	14	25	<0.040 <0.039	_
	RRMDF-SED-1-190613		6/13/2019	<10 UJ	4.2	63	0.48	<0.19	10	2.1	4.3 5.2	6.4	<0.038 0.018 J	<1.9	4.4 5.7	<3.0	<0.46	<1.9	21	53	<0.039	_
RRMDF-SED-1	RRMDF-SED-1-190613	Sediment	6/3/2020	<10 UJ	<b>4.2</b> <3.0	60 J	<0.54	<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	
	RRMDF-SED-1-200802 RRMDF-SED-1-210525	Sediment	5/25/2020	<10 UJ 20		71	<0.50 <b>0.97</b>	<0.50 <b>0.21</b>	9.5	4.1	7.4	8.3	<0.020		6.5 7.7				23	40		_
SRE-SED-1	SRE-SED-1-210525	Sediment	6/13/2019	<10 UJ	3.4 4.3	51	0.97	<0.50	7.9	2.1	3.2	6.8	<0.04	<2 <2.0	4.1	<2 <3.0	<0.5 <1.5	<2 <10	23	49 47	<0.039 <0.040	_
	SRE-SED-1-190613 SRE-SED-2-200603	Sediment	6/3/2020	<10 UJ	<b>4.3</b> <3.1	42 J	<0.51	<0.50	7.9	2.1	8.8	5.9	<0.020	<2.0	5.1	<3.0	<1.5	<10	18	36	<0.040	_
SRE-SED-2	SRE-SED-2-200003	Sediment	5/26/2021	17	2.3	42 5	0.82	<0.2	8.8	3.5	8.8	7.4	<0.020	<2	5.6	<2	<0.49	<10	19	43	<0.040	_
	OW-SED-1-190613		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	OW-SED-1-200603	Sediment	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	-
	OW-SED-1-210526		5/26/2021	18	4.9	56	0.76	<0.19	9.9	3.4	5.6	7.1	< 0.038	<1.9	6.3	<1.9	<0.49	<1.9	21	36	< 0.040	_
004.055.4	OS1-SED-1-200603	Co director t	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	_
OS1-SED-1	OS1-SED-1-210526	Sediment	5/26/2021	22	3.0	61	0.98	<0.19	13	4.5	7.3	8.6	0.11	<1.9	7.9	<1.9	1	<1.9	25	54		<0.00049
Screening Criteria																						
, j	Residential I	Risk-Based Sc	creening Levels <sup>5</sup>	31	0.11	15,000	16	71	120.000	23	3.100	80	1	390	820	390	390	0.78	390	23.000	55	0.002
			kground Levels <sup>6</sup>	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	-
				0.00	55.1	010		0.00		50		12	0.10	3.2		0.000	0.100	0.001			0.00100	

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 N-Nitrosodimethylamine (NDMA) by TestAmerica method GCMSMS\_NDMA.

5. Regional screening levels (RSLs) for residential soil endorsed or modified by the California Department of Toxic Substances Control (DTSC, 2020), or USEPA RSLs for analytes not included in DTSC's document (USEPA, 2021).

6. Background threshold values as calculated by the DTSC for the Santa Susana Field Laboratory (2013).

7. 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).



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

Abbreviations:

**Bold** = analyte detected above the laboratory reporting limit

< = analyte was not detected above the reporting limit shown

- mg/kg = milligrams per kilogram NDMA = N-Nitrosodimethylamine
- UJ = The analyte 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, 2020, Human and Ecological Risk Office (HERO) Human Health Risk Assessment Note Number 3, June.
- U. S. Environmental Protection Agency (USEPA), 2021, Regional Screening Levels, May.



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## TABLE 3 SOIL AND SEDIMENT ANALYTICAL RESULTS - RADIONUCLIDES



AJU Brandeis-Bardin Campus Brandeis, CA

Sample Location	Sample Name	Matrix	Date	Tritium <sup>1</sup>	Strontium-90 <sup>2</sup>	Cesium-137 <sup>3</sup>
			Collected		pCi/g	
Main Campus Samp					1	
	HV-1-190422		4/22/2019	<0.359	<0.273	<0.187
HV-1	HV-1-200603	Soil	6/3/2020	<2.14	<0.0987	<0.0557
	HV-1-210526		5/26/2021	<2.23	<0.082	<0.0465
	HV-2-190422	_	4/22/2019	<0.362	<0.242	<0.125
HV-2	HV-2-200603	Soil	6/3/2020	<2.22	<0.0978	<0.0409
	HV-2-210526		5/26/2021	<2.22	<0.0912	<0.0560
	HV-SED-1-190422	<b>-</b>	4/22/2019	<0.363	<0.284	<0.161
HV-SED-1	HV-SED-1-200603	Sediment	6/3/2020	<2.09	<0.0929	<0.0618
	HV-SED-1-210526		5/26/2021	<2.08	<0.0825	<0.0604
	TF-1-190422		4/22/2019	<0.355	<0.495	<0.158
TF-1	TF-1-200603	Soil	6/3/2020	<2.23	<0.0954	<0.0551
	TF-1-210526		5/26/2021	<2.17	<0.0991	<0.0479
	KC-1-190422		4/22/2019	<0.332	<0.266	<0.192
KC-1	KC-1-200603	Soil	6/3/2020	<2.15	<0.0981	<0.0458
	KC-1-210527		5/27/2021	<2.12	<0.0849	<0.0564
	GF-1-190422		4/22/2019	<0.393	<0.281	<0.165
GF-1	GF-1-200603	Soil	6/3/2020	<2.08	<0.0981	0.0662
	GF-1-210527		5/27/2021	<2.26	<0.0976	<0.0521
	CIT-1-190422		4/22/2019	<0.348	<0.246	<0.162
CIT-1	CIT-1-200602	Soil	6/2/2020	<2.21	<0.0951	0.0789
	CIT-1-210525		5/25/2021	<2.03	<0.0821	0.0900
	AT-1-190422		4/22/2019	<0.356	<0.267	<0.207
AT-1	AT-1-200603	Soil	6/3/2020	<2.30	<0.0920	<0.0627
	AT-1-210527		5/27/2021	<1.93	<0.0837	<0.0609
Drainage Sampling I	ocations				-	
	BP-SED-1-190613		6/13/2019	<0.061	0.32	0.0550
BP-SED-1	BP-SED-1-190829	Sediment	8/29/2019	_	<0.0506	_
51 025 1	BP-SED-1-200602	Counterie	6/2/2020	<3.14	<0.0994	0.110
	BP-SED-1-210525		5/25/2021	<2.98	<0.0947	0.0985
BP-SED-1A	BP-SED-1A-190829		8/29/2019	_	<0.0968	_
BP-SED-1B	BP-SED-1B-190829	Sediment	8/29/2019	_	<0.0474	_
BP-SED-1C	BP-SED-1C-190829		8/29/2019	_	<0.0976	_
	RRMDF-SED-1-190613		6/13/2019	<0.068	0.48	0.111
RRMDF-SED-1	RRMDF-SED-1-190829	Sediment	8/29/2019	-	<0.0667	_
	RRMDF-SED-1-200602	Counterie	6/2/2020	<3.45	<0.0948	0.198
	RRMDF-SED-1-21025		5/25/2021	<2.23	<0.0802	0.0795
RRMDF-SED-1A	RRMDF-SED-1A-190829		8/29/2019	-	<0.0984	_
RRMDF-SED-1B	RRMDF-SED-1B-190829	Sediment	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	Countent	8/29/2019	_	<0.0982	_
SRE-SED-1A	SRE-SED-1A-190829		8/29/2019	_	<0.053	-
SRE-SED-1B	SRE-SED-1B-190829	Sediment	8/29/2019	_	<0.0977	_
SRE-SED-1C	SRE-SED-1C-190829		8/29/2019	_	<0.0435	-
	SRE-SED-2-190829		8/29/2019	_	<0.0443	—
SRE-SED-2	SRE-SED-2-200603	Sediment	6/3/2020	<3.11	<0.0931	0.0567
	SRE-SED-2-210526		5/26/2021	<2.15	<0.0822	0.0729
OS1-SED-1-200603	051-SED-1-200603	Sediment	6/3/2020	<3.13	<0.0637	<0.0528
001-0ED-1-200003	OS1-SED-1-210526	Seument	5/26/2021	<2.04	<0.0812	0.0669

## TABLE 3 SOIL AND SEDIMENT ANALYTICAL RESULTS - RADIONUCLIDES



AJU Brandeis-Bardin Campus

Sample Location         Sample Name         Matrix         Collected $pCig$ $OS8-SED-1$ $OS8-SED-1-190613$ $OS8-SED-1-190830$ $ef(13/2019)$ $ef(13/2010)$ $ef(13/2010)$ $ef(13/2010)$ $ef(13/2010)$ $ef(13/2010)$ $ef(13/2010)$ $ef(13/2010)$ $ef(13/2010)$ <t< th=""><th>Cesium-137<sup>3</sup></th></t<>				Cesium-137 <sup>3</sup>		
			Collected		pCi/g	
	OS8-SED-1-190613		6/13/2019	<0.161	0.36	0.0360
	OS8-SED-1-190830	Sodimont	8/30/2019	_	<0.0644	-
030-3ED-1	058-SED-1-200603	Sediment	6/3/2020	<3.21	<0.0962	<0.0989
	OS8-SED-1-210526		5/26/2021	<2.11	<0.0792	0.109
OS8-SED-1A	OS8-SED-1A-190830		8/30/2019	-	<0.0821	_
OS8-SED-1B	OS8-SED-1B-190830	Sediment	8/30/2019	_	<0.0991	_
OS8-SED-1C	OS8-SED-1C-190830		8/30/2019	_	<0.0462	_
	OW-SED-1-190613		6/13/2019	<0.101	<0.128	0.0310
OW-SED-1	OW-SED-1-200603	Sediment	6/3/2020	<3.28	<0.0989	0.0720
	OW-SED-1-210526		5/26/2021	<2.22	<0.0925	0.147
Background Levels						
		McLaren/Hart	(1993; 1995) <sup>4</sup>	None	0.130	0.275
Ogde	en Environmental and Energ	y Services Co	., Inc. (1998) <sup>4</sup>	0.226	None	0.167
	ŀ	- lydroGeoLogio	c, Inc. (2012) <sup>5</sup>	7.38	0.075	0.193
Health-Based Screer	ning Criteria				-	
	Preli	iminary Reme	diation Goals <sup>6</sup>	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. 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.
- 5. Background values are drawn from the look-up tables published by HydroGeoLogic, Inc. (2012) and approved by the USEPA.
- 6. 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.
- 7. 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

										Т	itle 22 Metal	s <sup>1</sup>								_	VC	DCs⁴
Sample Location Name	Sample Name	Date Collected	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Mercury <sup>2</sup>	Molyb- denum	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	Per- chlorate <sup>3</sup>	Naph- thalene	Other VOCs
							•	•			m	g/L			•	•	•			•	μ	g/L
Spring/Seep Sam	ples		•																			
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
030-W	OS8-W-210526 <sup>5</sup>	5/26/2021	<0.0098	<0.012	0.11	< 0.00030	< 0.00050	0.0027 J	<0.0030	0.0042 J	0.0028 J	<0.00010	<0.0027	< 0.0024	<0.013	0.0016 J	< 0.0090	0.010	0.027	< 0.002	<0.48	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
033-11	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	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	None
	OS357-W-210525 5	5/25/2021	<0.0098	<0.012	0.039	0.00055 J	< 0.00050	<0.0012	<0.0030	<0.0021	<0.0025	<0.00010	<0.0027	<0.0024	<0.013	<0.00084	< 0.0090	<0.0019	<0.0030	< 0.002	<0.48	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/Ru	noff 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	a																					
	Drinking Water S	Screening Level <sup>6</sup>	0.006	0.010	1.0	0.004	0.005	0.05	0.006	1.3	0.015	0.002	0.1	0.1	0.05	0.094	0.002	0.086	6.0	0.006	0.12	Various
SSFL Gr	roundwater Comparison	Concentrations <sup>7</sup>	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 total metals using U.S. Environmental Protection Agency (USEPA) Method 6010B unless otherwise indicated.

2. Samples analyzed for total mercury using USEPA Method 7471A.

3. Samples analyzed for total perchlorate using USEPA Method 314.0.

4. Samples analyzed for VOCs using USEPA Method 8260.

5. Results reported to the method detection limit.

6. Drinking water screening levels were drawn from the following sources in descending order of preference:

California maximum contaminant levels (MCLs), as established in Title 22 of the California Code of Regulations (CCR) § 64431. Residential tap water screening levels as endorsed or modified by the DTSC (2020).

Regional screening levels (RSLs) for residential tap water, as published by the USEPA (2021).

7. Background concentrations in groundwater determined for the Santa Susana Field Lab (SSFL; MWH Americas, Inc., 2014).

#### Abbreviations:

**Bold** = analyte detected above the laboratory reporting limit

< = analyte was not detected above the reporting limit or method detection limit shown

mg/L = milligrams per liter

µg/L = nanograms per liter

J = Reported value is estimated.

B = constituent was detected in the laboratory blank above the detection limit.

NA = not analyzed

### References:

DTSC, 2020, Human and Ecological Risk Office (HERO) Human Health Risk Assessment Note Number 3, June.

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

VOCs = volatile organic compounds

MCL = maximum contaminant level

RSL = regional screening level

U. S. Environmental Protection Agency (USEPA), 2021, Regional Screening Levels, May.



GSI Job No. 5182 TABLE 5
Issued: 24 August 2021 SPRING AND SURFACE WATER ANALYTICAL RESULTS Page 7 of 11 RADIONUCLIDES



AJU Brandeis-Bardin Campus

Brandeis, CA

Sample	Sample Name	Date	Tritium <sup>1</sup>	Strontium-90 <sup>2</sup>	Cesium-137 <sup>3</sup>
Location Name	•	Collected		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
033-11	0S3-W-200602	6/2/2020	<368	<1.28	<8.15
OS357-W	0S357-W-200602	6/2/2020	<362	<1.32	<6.86
03357-77	OS357-W-210525	5/25/2021	<401	<0.976	<8.58
OS8-W	0S8-W-200603	6/3/2020	<360	<1.37	<8.20
036-11	OS8-W-210526	5/26/2021	<410	<1.17	<5.69
SRE-W	SRE-W-200603	6/3/2020	<360	<1.54	<6.76
Screening Criteri	а				
	Maximum Cor	ntaminant Level <sup>4</sup>	20,000	8.0	None
SSFL G	Groundwater Comparison	Concentrations <sup>5</sup>	20,000	8.0	200

Notes:

- 1. Samples analyzed for total tritium using U.S. Environmental Protection Agency (USEPA) Method 906.0 or equivalent.
- 2. Samples analyzed for total strontium-90 using USEPA Method 905.0 or equivalent.
- 3. Samples analyzed for total 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	Sample Name	Matrix	Date Collected	Antir	mony	Arso	enic	Bari	ium	Bery	llium	Cadr	nium	Chror	nium	Col	balt	Сор	per	Le	ad	Mere	cury <sup>2</sup>
Name			Conected	PRG <sup>4</sup>	Conc.	PRG	Conc.	PRG	Conc.	PRG	Conc.	PRG	Conc.	PRG	Conc.	PRG	Conc.	PRG	Conc.	PRG	Conc.	PRG	Conc.
													μg	/kg									
On-Site Sar	mples																						
AV-1	AV-1-200604	Avocado	6/4/2020	11,000	1,450	0.77	<475	540,000	214	540	<95.1	2,700	<95.1	4,100,000	<143	810	<143	110,000	4,500	Note 5	<314	430	<6.81
A-1	A-1-200604	Apple	6/4/2020	15,000	<330	1.10	<500	740,000	225	740	<100	3,700	<100	5,600,000	<150	1,100	<150	150,000	563	Note 5	397	590	<7.73
G-1	G-1-200604	Grapefruit	6/4/2020	890	343	0.06	<453	45,000	602	44.5	<90.6	220	<90.6	330,000	<136	66.8	<136	8,900	435	Note 5	<299	35.6	<7.20
0-1	0-1-200604	Orange	6/4/2020	890	<303	0.06	<459	45,000	883	44.5	<91.7	220	<91.7	330,000	<138	66.8	<138	8,900	454	Note 5	<303	35.6	<7.08
1.4	L-1-200604	Lemon	6/4/2020	890	<304	0.06	<461	45,000	437	44.5	<92.3	220	<92.3	330,000	<138	66.8	<138	8,900	367	Note 5	<304	35.6	<7.67
L-1	L-1-210527	Lemon	5/27/2021	890	496 J	0.06	<455	45,000	423 J	44.5	<91.1	220	<91.1	330,000	<137	66.8	<137	8,900	<273	Note 5	<301	35.6	<7.64
Off-Site Ret	ference Samples	;									·												
AV-2	AV-2-200604	Avocado	6/4/2020	11,000	<315	0.77	<477	540,000	<95.4	540	<95.4	2,700	<95.4	4,100,000	<143	810	<143	110,000	3,240	Note 5	446	430	<7.50
A-2	A-2-200604	Apple	6/4/2020	15,000	460	1.10	<480	740,000	343	740	<96.0	3,700	<96.0	5,600,000	<144	1,100	<144	150,000	426	Note 5	<317	590	<7.31
G-2	G-2-200604	Grapefruit	6/4/2020	890	516	0.06	<481	45,000	149	44.5	<96.2	220	<96.2	330,000	<144	66.8	<144	8,900	3,360	Note 5	431	35.6	<7.50
O-2	0-2-200604	Orange	6/4/2020	890	<307	0.06	<466	45,000	313	44.5	<93.1	220	<93.1	330,000	<140	66.8	<140	8,900	636	Note 5	<307	35.6	<8.01
	L-2-200604	Lemon	6/4/2020	890	<326	0.06	<494	45,000	<98.8	44.5	<98.8	220	<98.8	330,000	<148	66.8	<148	8,900	340	Note 5	<326	35.6	<7.53
L-2	L-2-210527	Lemon	5/27/2021	890	<321	0.06	<486	45,000	134 J	44.5	<97.3	220	<97.3	330,000	<146	66.8	<146	8,900	321 J	Note 5	<321	35.6	<7.05



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

Sample Location	Sample Name	Matrix	atrix Date Collected	Molybo	denum	Nic	kel	Sele	nium	Sil	ver	Tha	llium	Vana	dium	Ziı	nc	Perch	nlorate
Name			Collected	PRG	Conc.	PRG	Conc.	PRG	Conc.	PRG	Conc.	PRG	Conc.	PRG	Conc.	PRG	Conc.	PRG	Conc.
					-				-		μg	/kg			-				
On-Site Sam	ples																		
AV-1	AV-1-200604	Avocado	6/4/2020	14,000	<190	30,000	<143	14,000	<475	14,000	<95.1	27.0	<475	14,000	<95.1	810,000	5610	1,900	<0.437
A-1	A-1-200604	Apple	6/4/2020	19,000	<200	41,000	<150	19,000	<500	19,000	<100	37.0	<500	19,000	<100	1,100,000	1,480 J	2,600	<0.455
G-1	G-1-200604	Grapefruit	6/4/2020	1,100	<181	2,400	<136	1,100	<453	1,100	<90.6	2.23	<453	1,100	<90.6	67,000	2,400	160	<4.05
O-1	0-1-200604	Orange	6/4/2020	1,100	<183	2,400	315 J	1,100	<459	1,100	<91.7	2.23	<459	1,100	<91.7	67,000	3,230	160	<10.2
1 1	L-1-200604	Lemon	6/4/2020	1,100	<185	2,400	<138	1,100	<461	1,100	<92.3	2.23	<461	1,100	<92.3	67,000	3,450	160	<10.6
L-1	L-1-210527	Lemon	5/27/2021	1,100	<182	2,400	<137	1,100	<455	1,100	<91.1	2.23	<455	1,100	<91.1	67,000	5,770 J	160	<0.403
Off-Site Refe	rence Samples																		
AV-2	AV-2-200604	Avocado	6/4/2020	14,000	<191	30,000	245 J	14,000	<477	14,000	<95.4	27.0	<477	14,000	<95.4	810,000	4,970	1,900	<0.840
A-2	A-2-200604	Apple	6/4/2020	19,000	<192	11,000	151 J	19,000	<480	19,000	<96.0	37.0	<480	19,000	<96.0	1,100,000	2,270	2,600	<0.459
G-2	G-2-200604	Grapefruit	6/4/2020	1,100	<192	2,450	<144	1,100	<481	1,100	<96.2	2.23	<481	1,100	<96.2	67,000	4,370	160	<4.29
O-2	0-2-200604	Orange	6/4/2020	1,100	<186	2,450	143 J	1,100	<466	1,100	<93.1	2.23	<466	1,100	<93.1	67,000	4,050	160	<10.7
	L-2-200604	Lemon	6/4/2020	1,100	<198	2,450	<148	1,100	<494	1,100	<98.8	2.23	<494	1,100	<98.8	67,000	1,700 J	160	<10.0
L-2	L-2-210527	Lemon	5/27/2021	1,100	<195	2,450	<146	1,100	<486	1,100	<97.3	2.23	<486	1,100	<97.3	67,000	5,240 J	160	<0.426

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 and assume the exposure frequencies below based on the average length of the fruit-producing season in Ventura County for each type of fruit:

Avocado = 129 days per year

Apples = 92 days per year

Grapefruits, Oranges, and Lemons = 350 days per year

5. Adverse health effects from exposure to lead at residential sites is evaluated by calculating the blood lead level of a child. The evaluation in 2020 was conducted using the DTSC's LeadSpread8. For more information, see Appendix A of the 2020 monitoring report (GSI, 2020). The results indicated that the presence of lead at the Site, when detected, does not result in adverse health effects for a residential exposure. No additional lead was detected in the lemon sample collected in 2021, so the conclusion has not changed from 2020.

#### Abbreviations:

**Bold** = analyte detected above the laboratory reporting limit

< = analyte was not detected above the detection limit shown

µg/kg = micrograms per kilogram

-- = not applicable

J = 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. GSI Environmental, Inc. (GSI), 2020, 2020 Monitoring Report, American Jewish University, Brandeis-Bardin Campus, 1101 Peppertree lane, Brandeis, California, 5 August.



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## TABLE 7 FRUIT ANALYTICAL RESULTS - RADIONUCLIDES AJU Brandeis-Bardin Campus



### JU Brandeis-Bardin Camp Brandeis, CA

Sample Location	Sample Name	Sample Type	Date Collected	Tritium <sup>1</sup>		Strontium-90 <sup>2</sup>		Cesium-137 <sup>3</sup>	
				PRG⁴	Concentration	PRG⁴	Concentration	PRG⁴	Concentration
Name				pCi/g⁵					
On-Site San	nples								
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-1-190830	Lemon	8/30/2019	2.04	_	0.843	<0.117	4.41	_
L-1	L-1-200604		6/4/2020		<4.57		<0.0419		<0.00739
	L-1-210527		5/27/2021		<1.13 UJ		<0.119		<0.0120
Off-Site Ref	erence Samples				-				
4)/ 0	AV-2-190830	Avocado	8/30/2019	7.76	_	3.21	<0.225	16.8	_
AV-2	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
	L-2-210527		5/27/2021		<0.960 UJ		<0.0332		<0.0119

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.

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



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
- = not analyzed
- UJ = The analyte was analyzed for, but not detected. The reported quantitation limit is approximate and may be inaccurate or imprecise.

## References:

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



## 2021 Monitoring Report

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

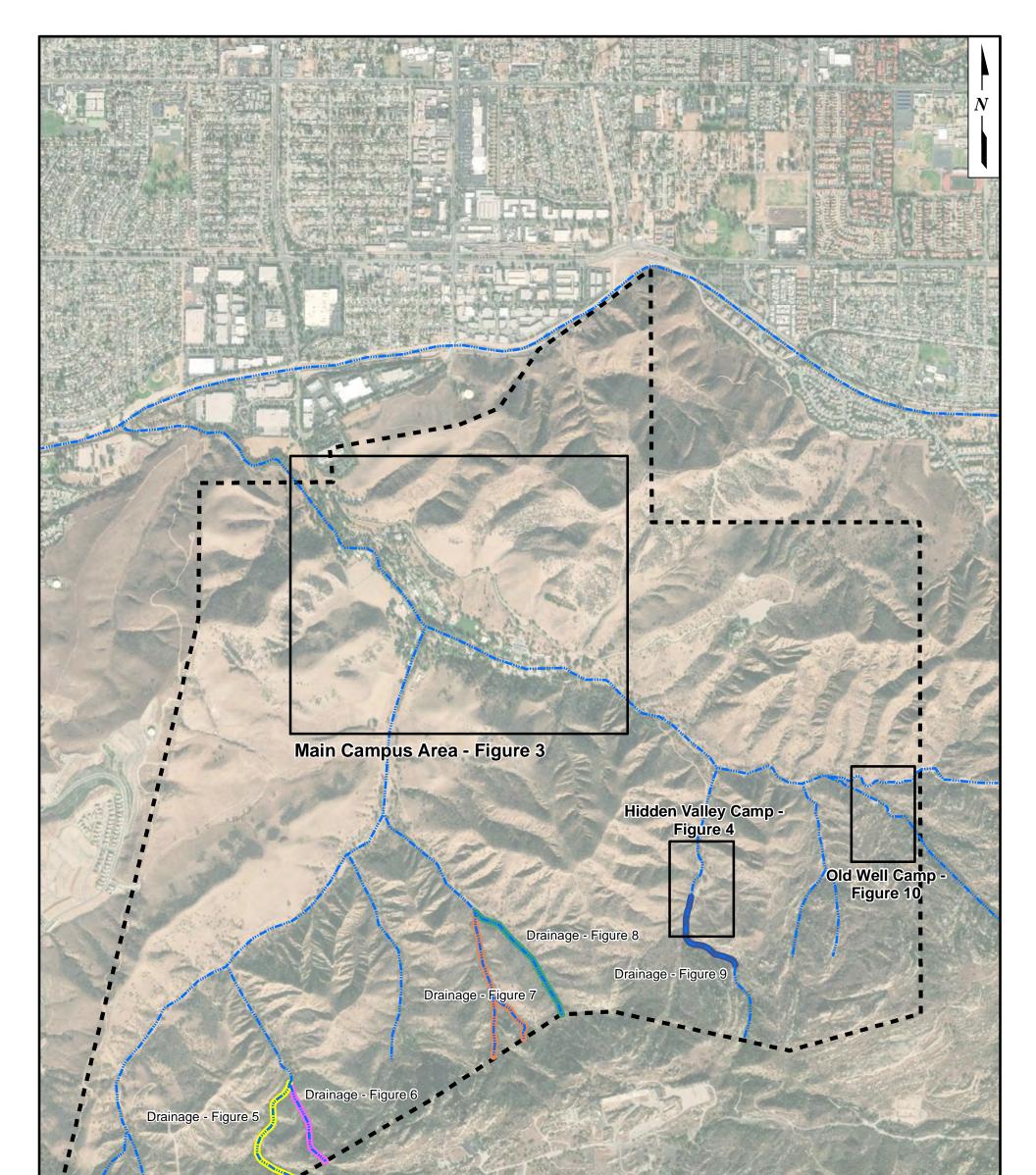
## Figures

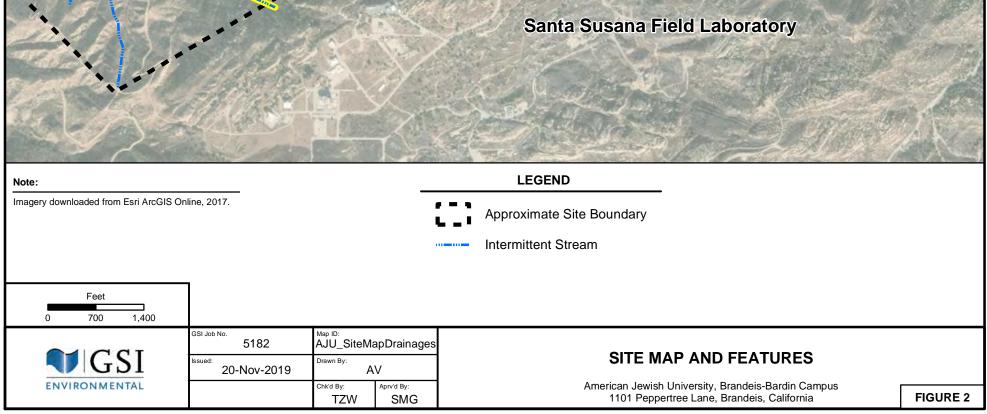
Figure 1 Site Location Map Figure 2 Site Map and Features Figure 3 Main Campus Area Map and Sampling Locations Hidden Valley Camp Sampling Locations Figure 4 Sampling Locations OS3-W, OS357-W and BP-SED-1 Figure 5 Figure 6 Sampling Location RRMDF-SED-1 Figure 7 Sampling Locations SRE-SED-1, SRE-SED-2 and SRE-W Figure 8 Sampling Locations OS1-W and OS1-SED-1 Figure 9 Sampling Locations OS8-SED-1 and OS-8-W Figure 10 Sampling Location OW-SED-1 Figure 11 Fruit Orchard Sampling Locations

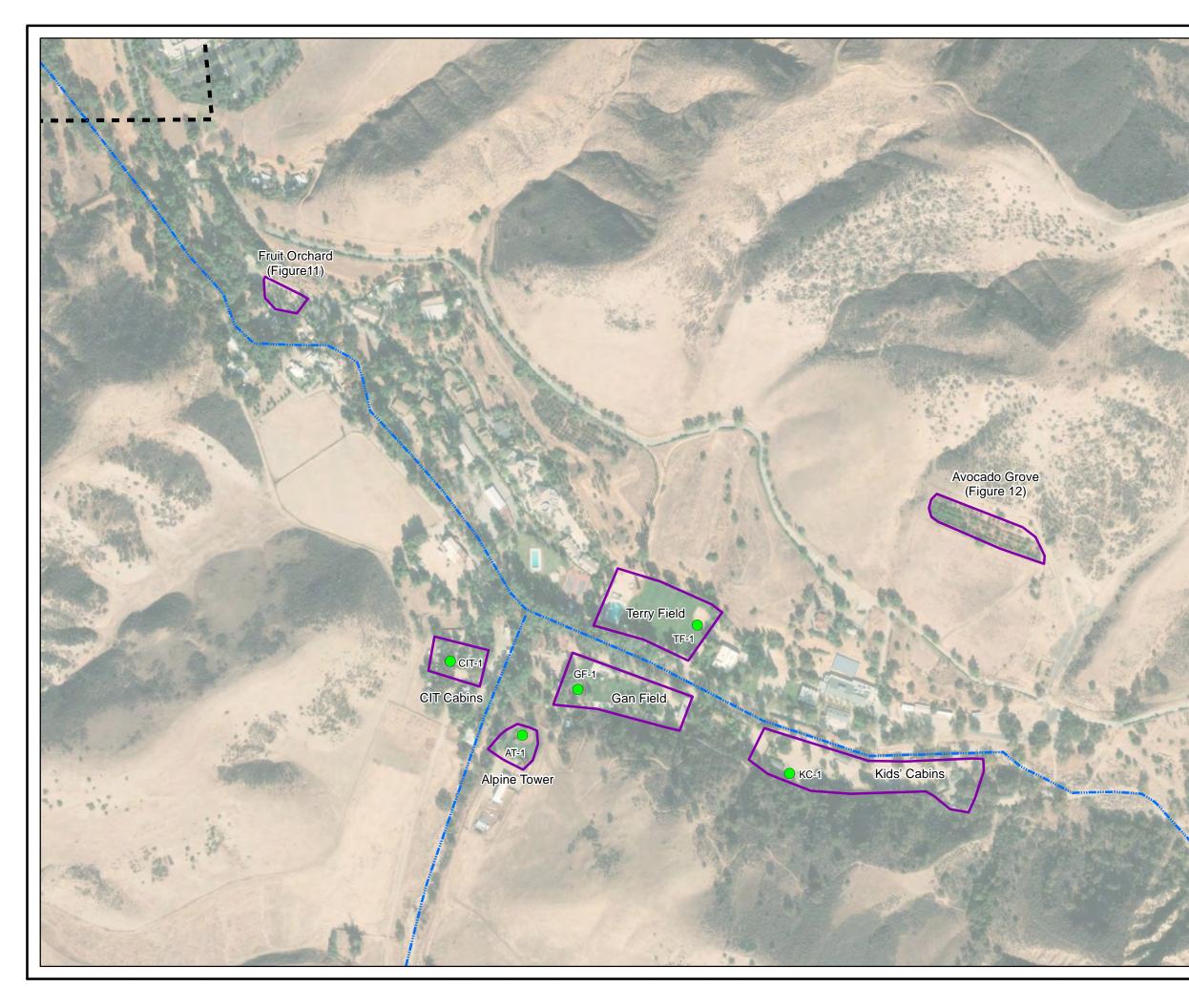


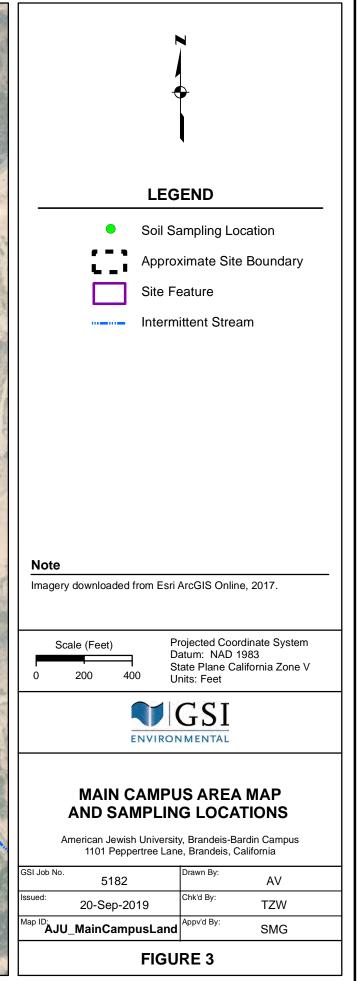
AJU\_SiteLocMap

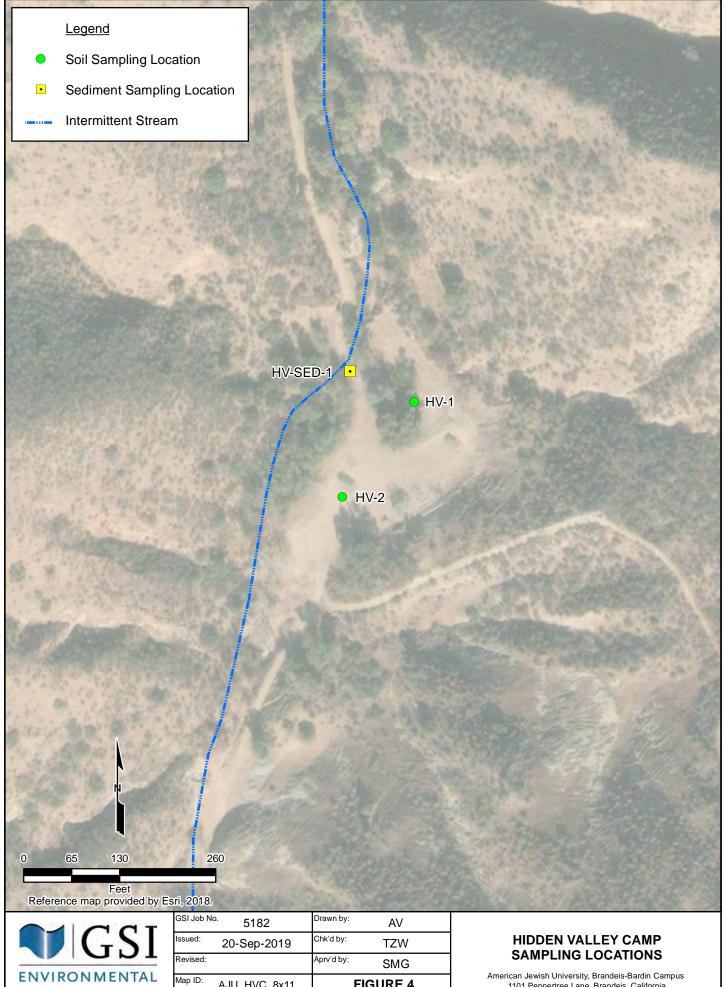
American Jewish University, Brandeis-Bardin Campus 1101 Peppertree Lane, Brandeis, California







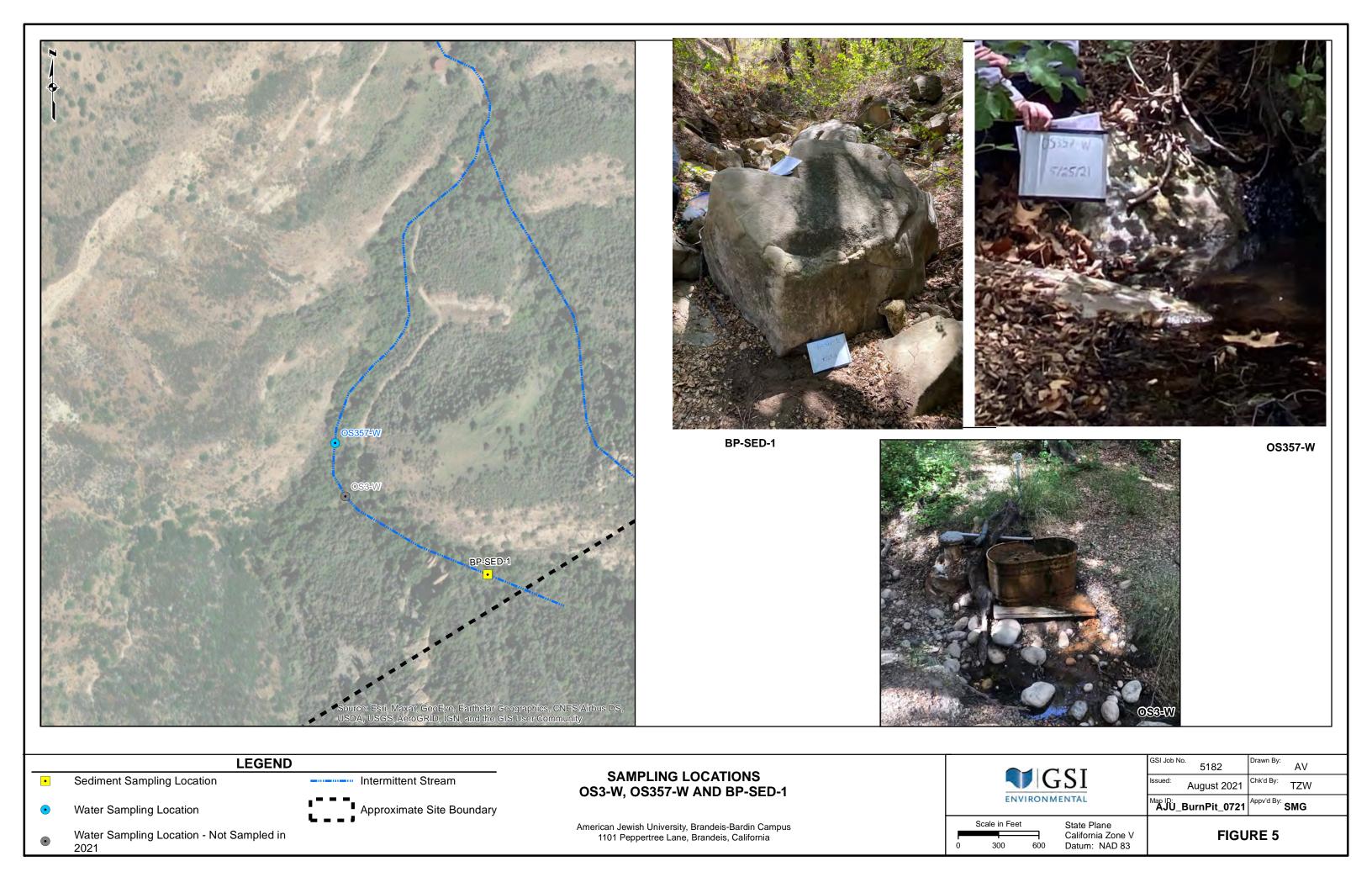


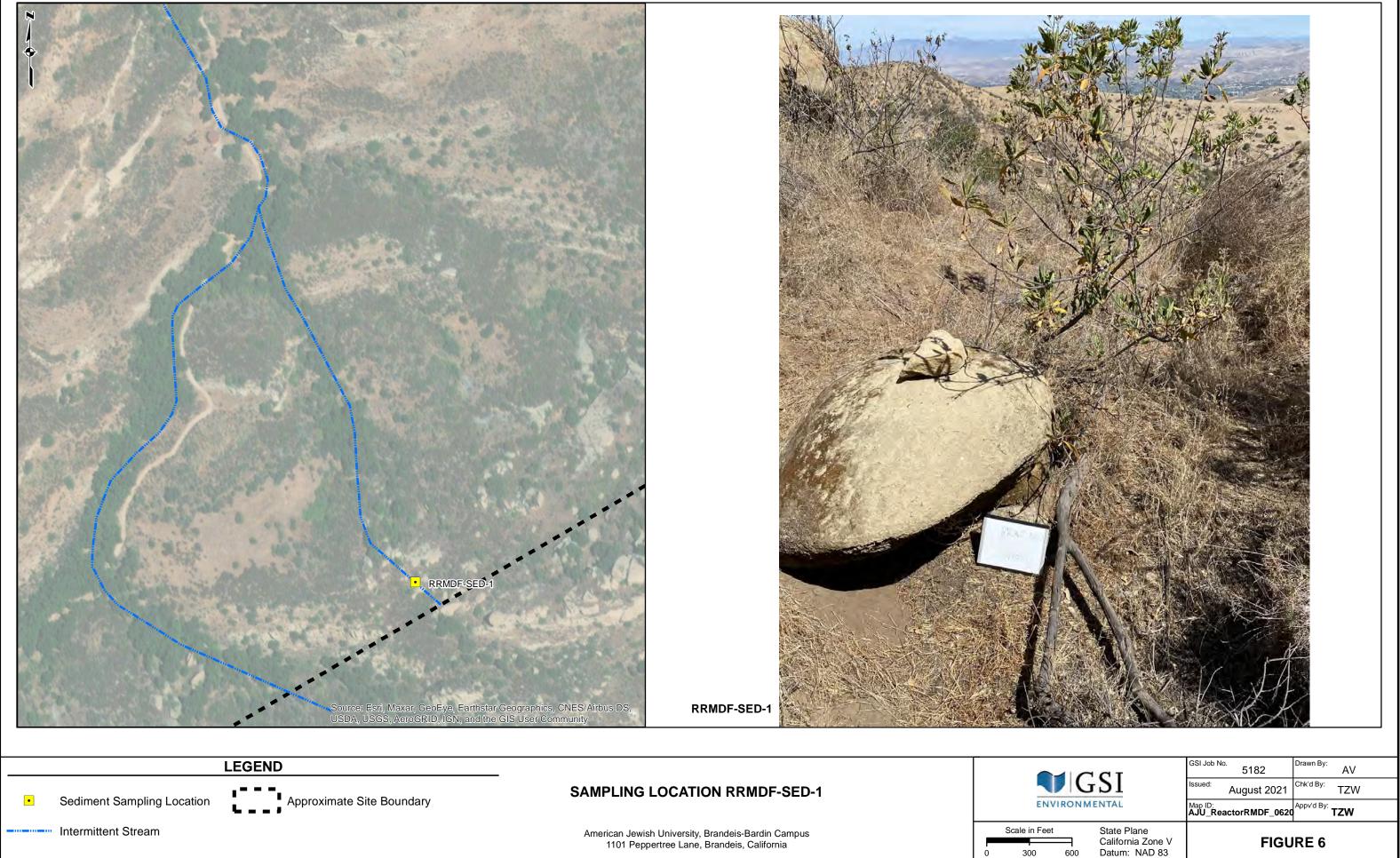


**FIGURE 4** 

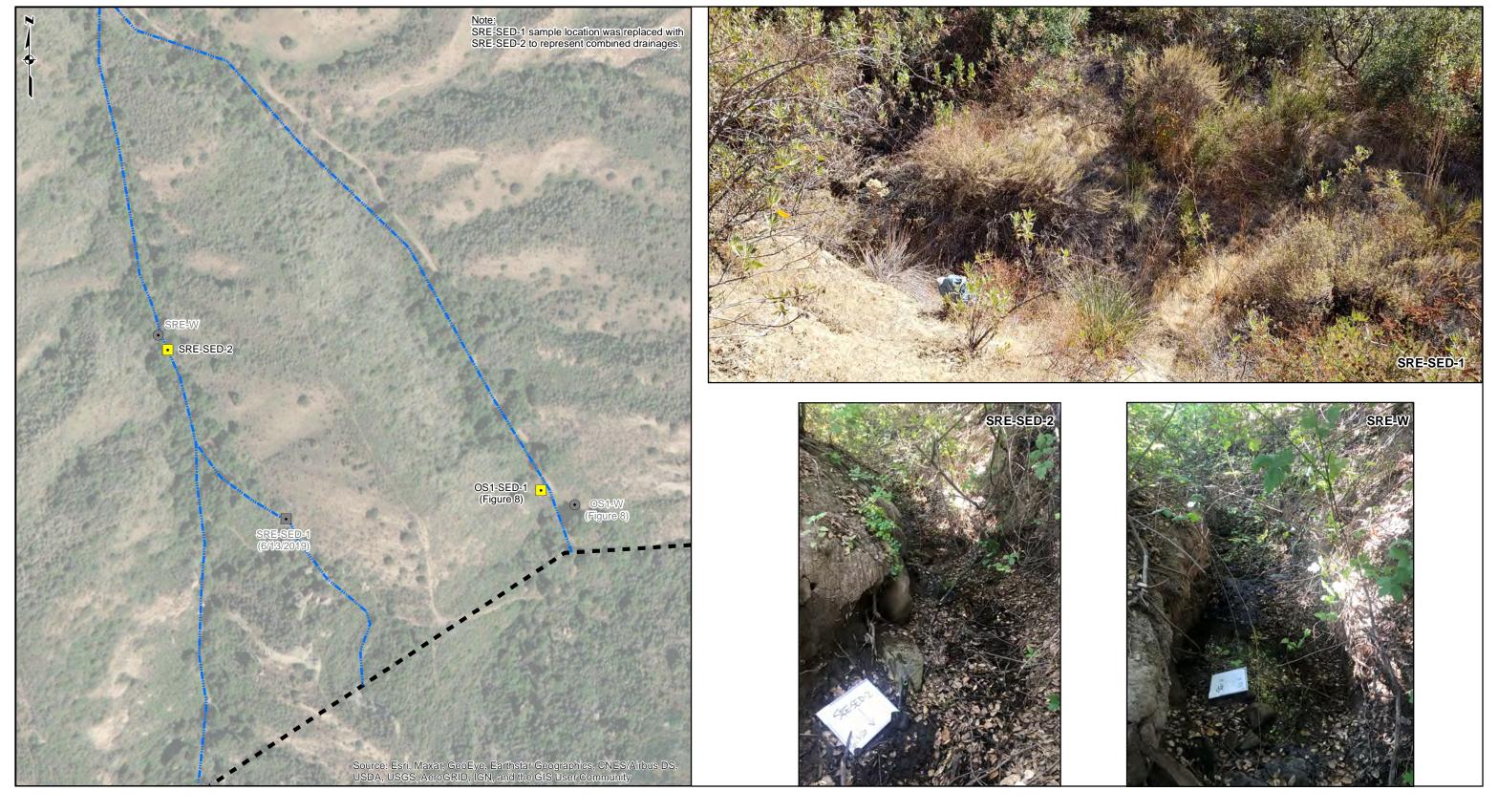
AJU\_HVC\_8x11

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	GSI Job No.         Drawn By:         AV           Issued:         August 2021         Chk'd By:         TZW           Map ID:         AJU_ReactorRMDF_0620         Appv'd By:         TZW				
State Plane           California Zone V           600         Datum: NAD 83	FIGURE 6				



### LEGEND

Intermittent Stream

ι.

Approximate Site Boundary

- Water Sampling Location Not Sampled in 2021
- Sediment Sampling Location
- Sediment Sampling Location Not Sampled in 2021

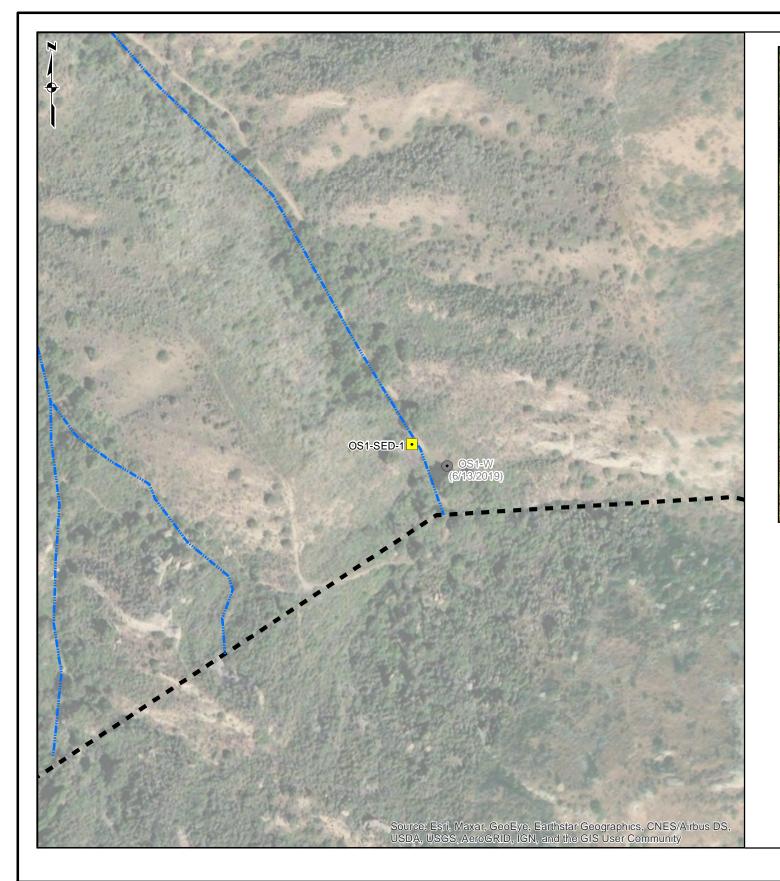
American Jewish University, Brandeis-Bardin Campus 1101 Peppertree Lane, Brandeis, California

SAMPLING LOCATIONS

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



		GSI Job No Issued: Map ID: AJU	5182 2-Jul-2021 _ <b>SRER_0721</b>	Drawn By: Chk'd By: Appv'd By:	AV TZW TZW
Cal	ite Plane lifornia Zone V tum: NAD 83		FIGU	IRE 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 May 2021 monitoring event.

### LEGEND

Water Sampling Location - Not Sampled in 2021  $\bullet$ 

Sediment Sampling Location •

Intermittent Stream

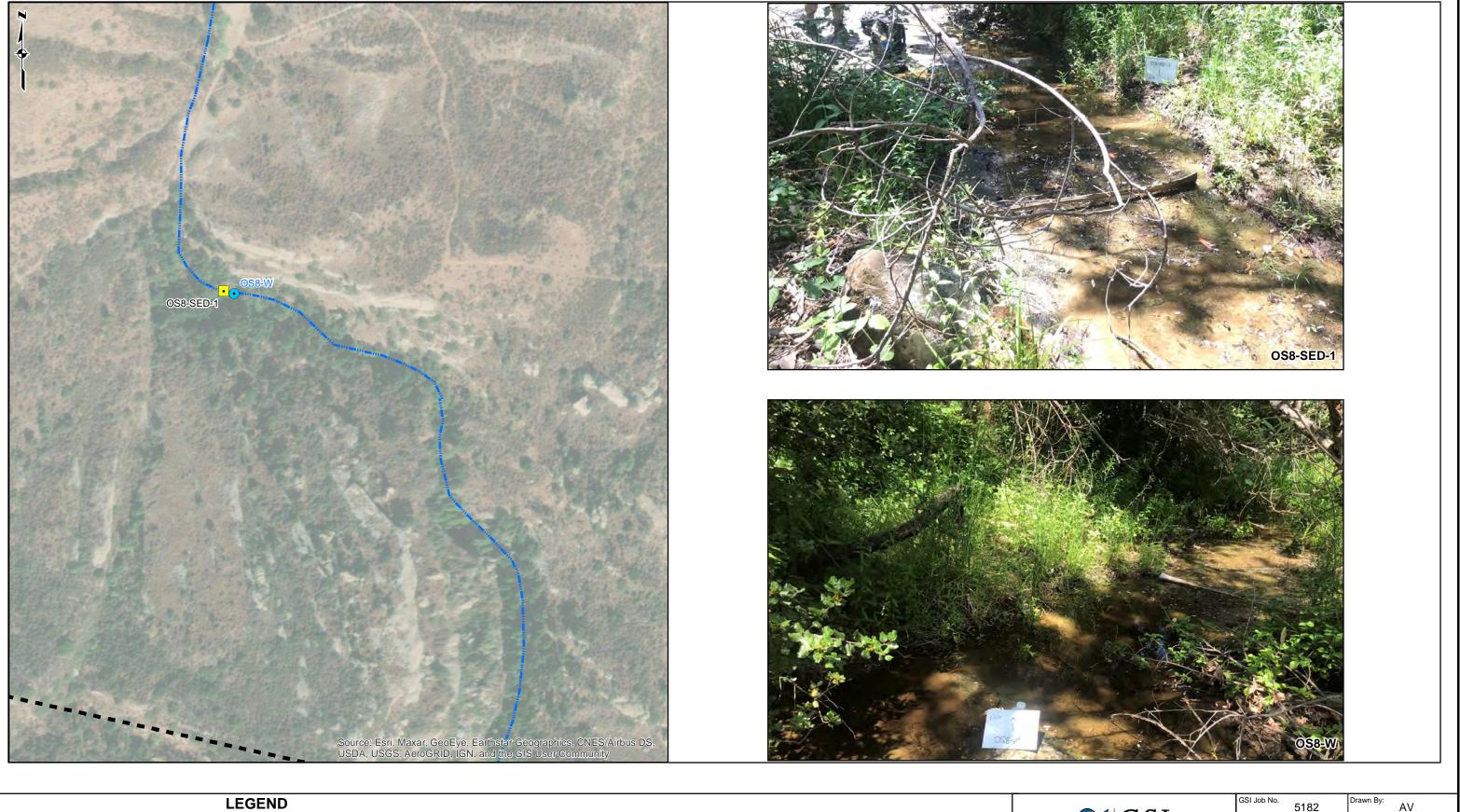
Approximate Site Boundary 

### SAMPLING LOCATIONS **OS1-W AND OS1-SED-1**

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



	GSI Job No. 5182 Drawn By: AV
<b>G2</b>	Issued: 2-Jul-2021 Chk'd By: TZW
ENVIRONMENTAL	Map ID: AJU_OS1_0721 Appv'd By: TZW
Scale in Feet State Plane California Zone V 300 600 Datum: NAD 83	FIGURE 8



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 Job No. Issued:	5182 2-Jul-2021	Drawn By: Chk'd By:	AV TZW
		Map ID: AJ		Appv'd By:	
Feet 600	State Plane California Zone V Datum: NAD 83		FIGU	RE 9	



### LEGEND

Sediment Sampling Location

Approximate Site Boundary

### SAMPLING LOCATION OW-SED-1

Scale in Fe

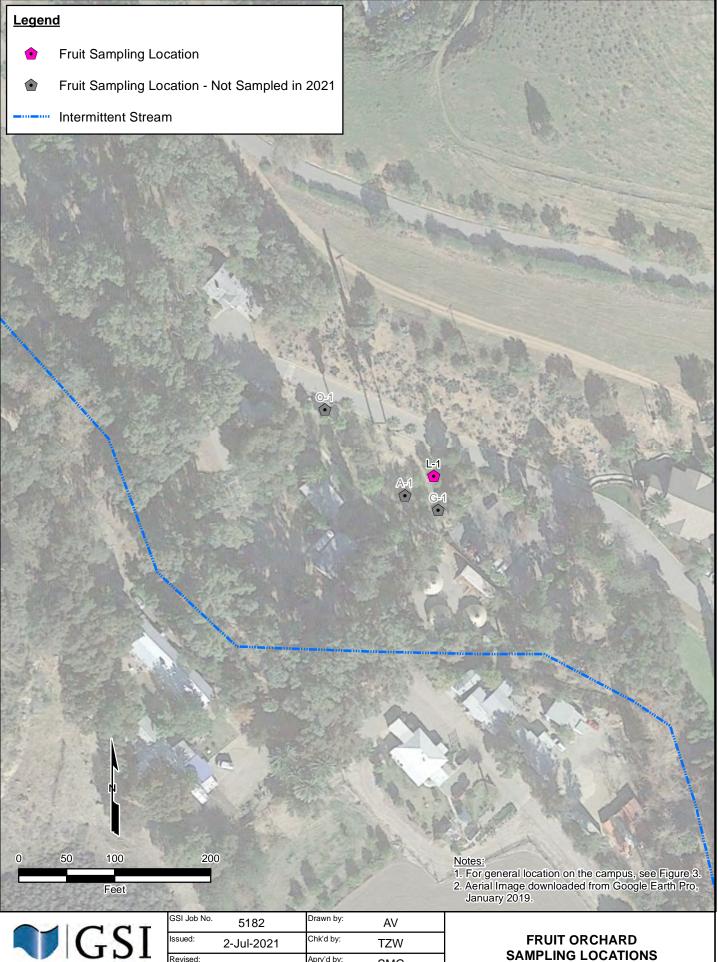
0

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

Intermittent Stream

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		GSI Job No. 5182 Issued: August 2021 Map ID: AJU_OWC_0621	Drawn By: AV Chk'd By: TZW Appv'd By: SMG
Feet 600	State Plane California Zone V Datum: NAD 83	FIGU	RE 10



Revised: Aprv'd by: SMG Map ID: AJU\_FruitOrchard\_0721 **FIGURE 11** 

ENVIRONMENTAL

### **FRUIT ORCHARD** SAMPLING LOCATIONS

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



### 2021 Monitoring Report

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

### Appendices

- Appendix A. Analytical Laboratory Reports Soil and Sediment Samples
- Appendix B. Analytical Laboratory Reports Water Samples
- Appendix C. Analytical Laboratory Reports Fruit Samples



### 2021 Monitoring Report

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

Appendix A

**Analytical Laboratory Reports – Soil and Sediment Samples** 

# 🔅 eurofins

# Environment Testing America

# **ANALYTICAL REPORT**

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

### Laboratory Job ID: 320-74350-1 Client Project/Site: AJU-BB

For:

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

Attn: Susan Gallardo

Alsanch Sit

Authorized for release by: 6/7/2021 2:12:49 PM

Afsaneh Salimpour, Senior Project Manager (925)484-1919 Afsaneh.Salimpour@Eurofinset.com

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

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

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



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### **Definitions/Glossary**

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

Glossary	These commonly used althroughtions may as may not be present in this report	<b>3</b>
Abbreviation ¤	These commonly used abbreviations may or may not be present in this report.	
» %R	Percent Recovery	
CFL	Contains Free Liquid	
CFU	Colony Forming Unit	5
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)	8
EDL	Estimated Detection Limit (Dioxin)	
LOD	Limit of Detection (DoD/DOE)	9
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	13
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 RPD	Reporting Limit or Requested Limit (Radiochemistry) Relative Percent Difference, a measure of the relative difference between two points	
TEF	Toxicity Equivalent Factor (Dioxin)	
TEQ	Toxicity Equivalent Pactor (Dioxin)	

### Job ID: 320-74350-1

### Laboratory: Eurofins TestAmerica, Sacramento

Narrative

Job Narrative 320-74350-1

#### Comments

No additional comments.

### Receipt

The samples were received on 5/28/2021 9:20 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.5° C and 4.6° C.

### GC/MS Semi VOA

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

#### Metals

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

### **General Chemistry**

Method 314.0: The following samples in analytical batch 320-494739 were diluted due to the nature of the sample matrix: CIT-1-210525 (320-74350-3), SRE-SED-2-210526 (320-74350-4) and OS1-SED-1-210526 (320-74350-5). The samples were difficult to filter after being centrifuged. In order to protect the instrument, the samples were diluted. Elevated reporting limits (RLs) are provided.

Method 314.0: The following samples in analytical batch 320-495092 were diluted due to the nature of the sample matrix: HV-2-210526 (320-74350-7), TF-1-210526 (320-74350-11), GF-1-210527 (320-74350-13) and AT-1-210527 (320-74350-14). Samples were difficult to filter after being centrifuged. In order to protect instrumentation, the samples were diluted. Elevated reporting limits (RLs) are provided.

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

### **Organic Prep**

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

### Client Sample ID: RRMDF-SED-1-210525

5

### Lab Sample ID: 320-74350-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac D	Method	Prep Type
Arsenic	3.4		2.0		mg/Kg	1	6010B	Total/NA
Barium	71		0.99		mg/Kg	1	6010B	Total/NA
Beryllium	0.97		0.20		mg/Kg	1	6010B	Total/NA
Cadmium	0.21		0.20		mg/Kg	1	6010B	Total/NA
Cobalt	4.1		0.50		mg/Kg	1	6010B	Total/NA
Chromium	12		0.50		mg/Kg	1	6010B	Total/NA
Copper	7.1		1.5		mg/Kg	1	6010B	Total/NA
Nickel	7.7		0.99		mg/Kg	1	6010B	Total/NA
Lead	8.3		0.99		mg/Kg	1	6010B	Total/NA
Antimony	20		2.0		mg/Kg	1	6010B	Total/NA
Vanadium	23		0.50		mg/Kg	1	6010B	Total/NA
Zinc	49		2.0		mg/Kg	1	6010B	Total/NA

### Client Sample ID: BP-SED-1-210525

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D Metho	od Prep Type	
Arsenic	12		2.0		mg/Kg	1	6010E	B Total/NA	_
Barium	51		1.0		mg/Kg	1	6010E	B Total/NA	
Beryllium	0.89		0.20		mg/Kg	1	6010E	B Total/NA	
Cobalt	3.8		0.50		mg/Kg	1	6010E	3 Total/NA	
Chromium	11		0.50		mg/Kg	1	6010E	B Total/NA	
Copper	6.4		1.5		mg/Kg	1	6010E	B Total/NA	
Nickel	7.6		1.0		mg/Kg	1	6010E	B Total/NA	
Lead	9.3		1.0		mg/Kg	1	6010E	B Total/NA	
Antimony	21		2.0		mg/Kg	1	6010E	B Total/NA	
Vanadium	22		0.50		mg/Kg	1	6010E	B Total/NA	
Zinc	45		2.0		mg/Kg	1	6010E	B Total/NA	

### Client Sample ID: CIT-1-210525

### Lab Sample ID: 320-74350-3

Lab Sample ID: 320-74350-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	2.7		2.0		mg/Kg	1	_	6010B	Total/NA
Barium	44		0.98		mg/Kg	1		6010B	Total/NA
Beryllium	0.63		0.20		mg/Kg	1		6010B	Total/NA
Cobalt	3.9		0.49		mg/Kg	1		6010B	Total/NA
Chromium	12		0.49		mg/Kg	1		6010B	Total/NA
Copper	8.9		1.5		mg/Kg	1		6010B	Total/NA
Nickel	7.4		0.98		mg/Kg	1		6010B	Total/NA
Lead	8.7		0.98		mg/Kg	1		6010B	Total/NA
Antimony	12		2.0		mg/Kg	1		6010B	Total/NA
Vanadium	21		0.49		mg/Kg	1		6010B	Total/NA
Zinc	52		2.0		mg/Kg	1		6010B	Total/NA

### Client Sample ID: SRE-SED-2-210526

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	2.3		2.0		mg/Kg	1	_	6010B	Total/NA
Barium	47		0.98		mg/Kg	1		6010B	Total/NA
Beryllium	0.82		0.20		mg/Kg	1		6010B	Total/NA
Cobalt	3.5		0.49		mg/Kg	1		6010B	Total/NA
Chromium	8.8		0.49		mg/Kg	1		6010B	Total/NA
Copper	8.8		1.5		mg/Kg	1		6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Sacramento

### **Detection Summary**

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

### Client Sample ID: SRE-SED-2-210526 (Continued)

Analyte Nickel	Result	Qualifier	<b>RL</b> 0.98	MDL	Unit mg/Kg		D Method 6010B	Total/NA
Lead	7.4		0.98		mg/Kg	1	6010B	Total/NA
Antimony	17		2.0		mg/Kg	1	6010B	Total/NA
Vanadium	19		0.49		mg/Kg	1	6010B	Total/NA
Zinc	43		2.0		mg/Kg	1	6010B	Total/NA

### Client Sample ID: OS1-SED-1-210526

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	Method	Prep Type
Silver	1.0		0.49		mg/Kg	1	6010B	Total/NA
Arsenic	3.0		1.9		mg/Kg	1	6010B	Total/NA
Barium	61		0.97		mg/Kg	1	6010B	Total/NA
Beryllium	0.98		0.19		mg/Kg	1	6010B	Total/NA
Cobalt	4.5		0.49		mg/Kg	1	6010B	Total/NA
Chromium	13		0.49		mg/Kg	1	6010B	Total/NA
Copper	7.3		1.5		mg/Kg	1	6010B	Total/NA
Nickel	7.9		0.97		mg/Kg	1	6010B	Total/NA
Lead	8.6		0.97		mg/Kg	1	6010B	Total/NA
Antimony	22		1.9		mg/Kg	1	6010B	Total/NA
Vanadium	25		0.49		mg/Kg	1	6010B	Total/NA
Zinc	54		1.9		mg/Kg	1	6010B	Total/NA
Mercury	0.11		0.041		mg/Kg	1	7471A	Total/NA

### Client Sample ID: HV-1-210526

Analyte	Result (	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	5.0		2.0		mg/Kg	1	_	6010B	Total/NA
Barium	66		0.98		mg/Kg	1		6010B	Total/NA
Beryllium	0.86		0.20		mg/Kg	1		6010B	Total/NA
Cobalt	3.6		0.49		mg/Kg	1		6010B	Total/NA
Chromium	12		0.49		mg/Kg	1		6010B	Total/NA
Copper	6.6		1.5		mg/Kg	1		6010B	Total/NA
Nickel	6.4		0.98		mg/Kg	1		6010B	Total/NA
Lead	4.5		0.98		mg/Kg	1		6010B	Total/NA
Antimony	19		2.0		mg/Kg	1		6010B	Total/NA
Vanadium	20		0.49		mg/Kg	1		6010B	Total/NA
Zinc	46		2.0		mg/Kg	1		6010B	Total/NA

### Client Sample ID: HV-2-210526

### Lab Sample ID: 320-74350-7

Lab Sample ID: 320-74350-6

Analyte	Result Qualifier	· RL	MDL U	Unit	Dil Fac	D	Method	Prep Type
Silver	1.4	0.49	r	mg/Kg	1	_	6010B	Total/NA
Arsenic	4.5	2.0	r	mg/Kg	1		6010B	Total/NA
Barium	58	0.98	r	mg/Kg	1		6010B	Total/NA
Beryllium	0.90	0.20	r	mg/Kg	1		6010B	Total/NA
Cadmium	0.20	0.20	r	mg/Kg	1		6010B	Total/NA
Cobalt	4.2	0.49	r	mg/Kg	1		6010B	Total/NA
Chromium	15	0.49	r	mg/Kg	1		6010B	Total/NA
Copper	10	1.5	r	mg/Kg	1		6010B	Total/NA
Nickel	9.2	0.98	r	mg/Kg	1		6010B	Total/NA
Lead	14	0.98	r	mg/Kg	1		6010B	Total/NA
Antimony	21	2.0	r	mg/Kg	1		6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Sacramento

### Job ID: 320-74350-1

Lab Sample ID: 320-74350-4

### **Detection Summary**

RL

2.0

RL

2.0

1.0

0.20

0.50

0.50

1.5

1.0

1.0

2.0

0.50

0.49

MDL Unit

MDL

mg/Kg

mg/Kg

Unit

mg/Kg

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

Analyte

Analyte

Arsenic

Barium

Cobalt

Copper

Nickel

Lead

Antimony

Vanadium

Beryllium

Chromium

Zinc

Vanadium

### Client Sample ID: HV-2-210526 (Continued)

Client Sample ID: HV-SED-1-210526

**Result Qualifier** 

**Result Qualifier** 

23

50

3.9

47

0.75

3.2

11

7.1

6.7

8.9

17

19

Prep Type

Total/NA

Total/NA

Prep Type

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA Total/NA

Total/NA

Total/NA

Lab Sample ID: 320-74350-7

Lab Sample ID: 320-74350-8

Dil Fac D Method

1

1

Dil Fac D

1

1

1

1

1

1

1

1

1

1

6010B

6010B

Method

6010B

5

					0 0			
Zinc	43		2.0		mg/Kg	1	6010B	Total/NA
Client Sample ID: C	DS8-SED-1-21052		Lab Sample ID: 320-74350-9					
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D Method	Ргер Туре
Arsenic	2.1		1.9		mg/Kg	1	6010B	Total/NA
Barium	30		0.95		mg/Kg	1	6010B	Total/NA
Beryllium	0.48		0.19		mg/Kg	1	6010B	Total/NA
Cobalt	2.0		0.48		mg/Kg	1	6010B	Total/NA
Chromium	6.8		0.48		mg/Kg	1	6010B	Total/NA
Copper	4.3		1.4		mg/Kg	1	6010B	Total/NA
Nickel	4.4		0.95		mg/Kg	1	6010B	Total/NA
Lead	5.3		0.95		mg/Kg	1	6010B	Total/NA
Antimony	11		1.9		mg/Kg	1	6010B	Total/NA
Vanadium	13		0.48		mg/Kg	1	6010B	Total/NA
Zinc	24		1.9		mg/Kg	1	6010B	Total/NA

### Client Sample ID: OW-SED-1-210526

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	4.9		1.9		mg/Kg	1		6010B	Total/NA
Barium	56		0.97		mg/Kg	1		6010B	Total/NA
Beryllium	0.76		0.19		mg/Kg	1		6010B	Total/NA
Cobalt	3.4		0.49		mg/Kg	1		6010B	Total/NA
Chromium	9.9		0.49		mg/Kg	1		6010B	Total/NA
Copper	5.6		1.5		mg/Kg	1		6010B	Total/NA
Nickel	6.3		0.97		mg/Kg	1		6010B	Total/NA
Lead	7.1		0.97		mg/Kg	1		6010B	Total/NA
Antimony	18		1.9		mg/Kg	1		6010B	Total/NA
Vanadium	21		0.49		mg/Kg	1		6010B	Total/NA
Zinc	36		1.9		mg/Kg	1		6010B	Total/NA

### Client Sample ID: TF-1-210526

Analyte	Result Qualifier	RL	MDL Unit	Dil Fac	Method	Prep Type
Arsenic	5.6	2.0	mg/Kg	1	6010B	Total/NA
Barium	84	0.99	mg/Kg	1	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Sacramento

Lab Sample ID: 320-74350-11

### Client Sample ID: TF-1-210526 (Continued)

5

### Lab Sample ID: 320-74350-11

Lab Sample ID: 320-74350-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac D	Method	Prep Type
Beryllium	1.0		0.20		mg/Kg	1	6010B	Total/NA
Cadmium	0.20		0.20		mg/Kg	1	6010B	Total/NA
Cobalt	7.6		0.50		mg/Kg	1	6010B	Total/NA
Chromium	20		0.50		mg/Kg	1	6010B	Total/NA
Copper	21		1.5		mg/Kg	1	6010B	Total/NA
Nickel	13		0.99		mg/Kg	1	6010B	Total/NA
Lead	11		0.99		mg/Kg	1	6010B	Total/NA
Antimony	17		2.0		mg/Kg	1	6010B	Total/NA
Vanadium	39		0.50		mg/Kg	1	6010B	Total/NA
Zinc	55		2.0		mg/Kg	1	6010B	Total/NA

### Client Sample ID: KC-1-210527

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac D	Method	Prep Type
Arsenic	4.4		2.0		mg/Kg		6010B	Total/NA
Barium	49		0.98		mg/Kg	1	6010B	Total/NA
Beryllium	0.75		0.20		mg/Kg	1	6010B	Total/NA
Cobalt	4.5		0.49		mg/Kg	1	6010B	Total/NA
Chromium	14		0.49		mg/Kg	1	6010B	Total/NA
Copper	8.2		1.5		mg/Kg	1	6010B	Total/NA
Nickel	8.3		0.98		mg/Kg	1	6010B	Total/NA
Lead	9.6		0.98		mg/Kg	1	6010B	Total/NA
Antimony	13		2.0		mg/Kg	1	6010B	Total/NA
Vanadium	27		0.49		mg/Kg	1	6010B	Total/NA
Zinc	49		2.0		mg/Kg	1	6010B	Total/NA

### Client Sample ID: GF-1-210527

### Lab Sample ID: 320-74350-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Arsenic	2.9		2.0		mg/Kg	1	_	6010B	Total/NA
Barium	41		1.0		mg/Kg	1		6010B	Total/NA
Beryllium	0.62		0.20		mg/Kg	1		6010B	Total/NA
Cadmium	0.21		0.20		mg/Kg	1		6010B	Total/NA
Cobalt	3.7		0.50		mg/Kg	1		6010B	Total/NA
Chromium	10		0.50		mg/Kg	1		6010B	Total/NA
Copper	7.3		1.5		mg/Kg	1		6010B	Total/NA
Nickel	6.7		1.0		mg/Kg	1		6010B	Total/NA
Lead	5.7		1.0		mg/Kg	1		6010B	Total/NA
Antimony	12		2.0		mg/Kg	1		6010B	Total/NA
Vanadium	22		0.50		mg/Kg	1		6010B	Total/NA
Zinc	60		2.0		mg/Kg	1		6010B	Total/NA

### Client Sample ID: AT-1-210527

Analyte	Result Qualifier	RL	MDL Unit	Dil Fac	D Method	Prep Type
Arsenic	4.4	1.9	mg/Kg	1	6010B	Total/NA
Barium	65	0.96	mg/Kg	1	6010B	Total/NA
Beryllium	0.81	0.19	mg/Kg	1	6010B	Total/NA
Cadmium	0.24	0.19	mg/Kg	1	6010B	Total/NA
Cobalt	5.0	0.48	mg/Kg	1	6010B	Total/NA
Chromium	17	0.48	mg/Kg	1	6010B	Total/NA
Copper	12	1.4	mg/Kg	1	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Sacramento

### **Detection Summary**

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

### Client Sample ID: AT-1-210527 (Continued)

### Lab Sample ID: 320-74350-14

Job ID: 320-74350-1

Analyte	Result	Qualifier	RL	MDL Unit	Dil Fac	D Method	Prep Type
Nickel	9.4		0.96	mg/Kg	1	6010B	Total/NA
Lead	8.1		0.96	mg/Kg	1	6010B	Total/NA
Antimony	14		1.9	mg/Kg	1	6010B	Total/NA
Vanadium	28		0.48	mg/Kg	1	6010B	Total/NA
Zinc	43		1.9	mg/Kg	1	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

Nickel

Lead

Selenium

Mercury

Molybdenum

### Client Sample ID: RRMDF-SED-1-210525 Date Collected: 05/25/21 10:15 Date Received: 05/28/21 09:20

 Method: 314.0 - Perchlorate (IC)	- Soluble	l.							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		39		ug/Kg			06/02/21 13:25	1
 Method: 6010B - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.50		mg/Kg		06/01/21 13:18	06/02/21 17:23	1
Arsenic	3.4		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:23	1
Barium	71		0.99		mg/Kg		06/01/21 13:18	06/02/21 17:23	1
Beryllium	0.97		0.20		mg/Kg		06/01/21 13:18	06/02/21 17:23	1
Cadmium	0.21		0.20		mg/Kg		06/01/21 13:18	06/02/21 17:23	1
Cobalt	4.1		0.50		mg/Kg		06/01/21 13:18	06/02/21 17:23	1
Chromium	12		0.50		mg/Kg		06/01/21 13:18	06/02/21 17:23	1
Copper	7.1		1.5		mg/Kg		06/01/21 13:18	06/02/21 17:23	1

2.0

0.99

0.99

2.0

0.040

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

Method: 7471A - Mercury (CVAA) Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	
Zinc	49		2.0		mg/Kg		06/01/21 13:18	(
Vanadium	23		0.50		mg/Kg		06/01/21 13:18	(
Thallium	ND		2.0		mg/Kg		06/01/21 13:18	(
Antimony	20		2.0		mg/Kg		06/01/21 13:18	(

ND

7.7

8.3

ND

ND

### Lab Sample ID: 320-74350-1

06/01/21 13:18 06/02/21 17:23

06/01/21 13:18 06/02/21 17:23

06/01/21 13:18 06/02/21 17:23

06/01/21 13:18 06/02/21 17:23

06/01/21 13:18 06/02/21 17:23

06/03/21 10:00 06/03/21 14:44

06/02/21 17:23

06/02/21 17:23

06/02/21 17:23

Analyzed

Job ID: 320-74350-1

Matrix: Solid

1

1

1

1

1

1

1

1

1

Dil Fac

5

### Client Sample ID: BP-SED-1-210525 Date Collected: 05/25/21 11:30 Date Received: 05/28/21 09:20

Method: 314.0 - Perchlorate (IC) -	Soluble								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		39		ug/Kg			06/02/21 14:31	1
Method: 6010B - Metals (ICP)									
	Desult	Qualifier	RL	MDI	Unit		Drenered	Analyzad	
Analyte		Quaimer		MDL		<u>D</u>	Prepared	Analyzed	Dil Fac
Silver	ND		0.50		mg/Kg		06/01/21 13:18	06/02/21 17:27	1
Arsenic	12		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:27	1
Barium	51		1.0		mg/Kg		06/01/21 13:18	06/02/21 17:27	1
Beryllium	0.89		0.20		mg/Kg		06/01/21 13:18	06/02/21 17:27	1
Cadmium	ND		0.20		mg/Kg		06/01/21 13:18	06/02/21 17:27	1
Cobalt	3.8		0.50		mg/Kg		06/01/21 13:18	06/02/21 17:27	1
Chromium	11		0.50		mg/Kg		06/01/21 13:18	06/02/21 17:27	1
Copper	6.4		1.5		mg/Kg		06/01/21 13:18	06/02/21 17:27	1
Molybdenum	ND		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:27	1
Nickel	7.6		1.0		mg/Kg		06/01/21 13:18	06/02/21 17:27	1
Lead	9.3		1.0		mg/Kg		06/01/21 13:18	06/02/21 17:27	1
Selenium	ND		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:27	1
Antimony	21		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:27	1
Thallium	ND		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:27	1
Vanadium	22		0.50		mg/Kg		06/01/21 13:18	06/02/21 17:27	1
Zinc	45		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:27	1
Method: 7471A - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.038		mg/Kg		06/03/21 10:00	06/03/21 14:46	1

### Lab Sample ID: 320-74350-2

Matrix: Solid

5

Selenium

Thallium

Zinc

Antimony

Vanadium

### Client Sample ID: CIT-1-210525 Date Collected: 05/25/21 14:30 Date Received: 05/28/21 09:20

Method: 314.0 - Perchlorate (IC)	- Soluble	•							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200		ug/Kg			06/02/21 14:54	5
Method: 6010B - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.49		mg/Kg		06/01/21 13:18	06/02/21 17:31	1
Arsenic	2.7		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:31	1
Barium	44		0.98		mg/Kg		06/01/21 13:18	06/02/21 17:31	1
Beryllium	0.63		0.20		mg/Kg		06/01/21 13:18	06/02/21 17:31	1
Cadmium	ND		0.20		mg/Kg		06/01/21 13:18	06/02/21 17:31	1
Cobalt	3.9		0.49		mg/Kg		06/01/21 13:18	06/02/21 17:31	1
Chromium	12		0.49		mg/Kg		06/01/21 13:18	06/02/21 17:31	1
Copper	8.9		1.5		mg/Kg		06/01/21 13:18	06/02/21 17:31	1
Molybdenum	ND		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:31	1
Nickel	7.4		0.98		mg/Kg		06/01/21 13:18	06/02/21 17:31	1
Lead	8.7		0.98		mg/Kg		06/01/21 13:18	06/02/21 17:31	1

Method:	7471A -	Mercury	(CVAA)
			·

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.039		mg/Kg		06/03/21 10:00	06/03/21 14:48	1

2.0

2.0

2.0

0.49

2.0

mg/Kg

mg/Kg

mg/Kg

mg/Kg

mg/Kg

ND

12

ND

21

52

### Lab Sample ID: 320-74350-3 Matrix: Solid

06/01/21 13:18 06/02/21 17:31

06/01/21 13:18 06/02/21 17:31

06/01/21 13:18 06/02/21 17:31

06/01/21 13:18 06/02/21 17:31

06/01/21 13:18 06/02/21 17:31

1

1

1

1

1

5

### Client Sample ID: SRE-SED-2-210526 Date Collected: 05/26/21 09:00 Date Received: 05/28/21 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200		ug/Kg			06/02/21 15:16	5
Method: 6010B - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.49		mg/Kg		06/01/21 13:18	06/02/21 17:35	1
Arsenic	2.3		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:35	1
Barium	47		0.98		mg/Kg		06/01/21 13:18	06/02/21 17:35	1
Beryllium	0.82		0.20		mg/Kg		06/01/21 13:18	06/02/21 17:35	1
Cadmium	ND		0.20		mg/Kg		06/01/21 13:18	06/02/21 17:35	1
Cobalt	3.5		0.49		mg/Kg		06/01/21 13:18	06/02/21 17:35	1
Chromium	8.8		0.49		mg/Kg		06/01/21 13:18	06/02/21 17:35	1
Copper	8.8		1.5		mg/Kg		06/01/21 13:18	06/02/21 17:35	1
Molybdenum	ND		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:35	1
Nickel	5.6		0.98		mg/Kg		06/01/21 13:18	06/02/21 17:35	1
Lead	7.4		0.98		mg/Kg		06/01/21 13:18	06/02/21 17:35	1
Selenium	ND		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:35	1
Antimony	17		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:35	1
Thallium	ND		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:35	1
Vanadium	19		0.49		mg/Kg		06/01/21 13:18	06/02/21 17:35	1
Zinc	43		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:35	1
Method: 7471A - Mercury (CVAA	)								
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.043		mg/Kg		06/03/21 10:00	06/03/21 14:49	1

Job ID: 320-74350-1

### Lab Sample ID: 320-74350-4

Matrix: Solid

5

6

Eurofins TestAmerica, Sacramento

### Client Sample ID: OS1-SED-1-210526 Date Collected: 05/26/21 10:10 Date Received: 05/28/21 09:20

### Lab Sample ID: 320-74350-5 Matrix: Solid

5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
N-Nitrosodimethylamine	ND		0.49		ug/Kg		06/01/21 11:49	06/03/21 13:47	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
N-Nitrosodimethylamine-d6	76		50 - 150				06/01/21 11:49	06/03/21 13:47	1
Method: 314.0 - Perchlorate	(IC) - Soluble	l.							
Analyte	· · ·	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200		ug/Kg			06/02/21 15:38	5
Method: 6010B - Metals (ICF	<b>)</b> )								
Analyte	· ·	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	1.0		0.49		mg/Kg		06/01/21 13:18	06/02/21 17:39	1
Arsenic	3.0		1.9		mg/Kg		06/01/21 13:18	06/02/21 17:39	1
Barium	61		0.97		mg/Kg		06/01/21 13:18	06/02/21 17:39	1
Beryllium	0.98		0.19		mg/Kg		06/01/21 13:18	06/02/21 17:39	1
Cadmium	ND		0.19		mg/Kg		06/01/21 13:18	06/02/21 17:39	1
Cobalt	4.5		0.49		mg/Kg		06/01/21 13:18	06/02/21 17:39	1
Chromium	13		0.49		mg/Kg		06/01/21 13:18	06/02/21 17:39	1
Copper	7.3		1.5		mg/Kg		06/01/21 13:18	06/02/21 17:39	1
Molybdenum	ND		1.9		mg/Kg		06/01/21 13:18	06/02/21 17:39	1
Nickel	7.9		0.97		mg/Kg		06/01/21 13:18	06/02/21 17:39	1
Lead	8.6		0.97		mg/Kg		06/01/21 13:18	06/02/21 17:39	1
Selenium	ND		1.9		mg/Kg		06/01/21 13:18	06/02/21 17:39	1
Antimony	22		1.9		mg/Kg		06/01/21 13:18	06/02/21 17:39	1
Thallium	ND		1.9		mg/Kg		06/01/21 13:18	06/02/21 17:39	1
Vanadium	25		0.49		mg/Kg		06/01/21 13:18	06/02/21 17:39	1
Zinc	54		1.9		mg/Kg		06/01/21 13:18	06/02/21 17:39	1
Method: 7471A - Mercury (C	VAA)								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.11		0.041		mg/Kg		06/03/21 10:00	06/03/21 14:51	1

### Client Sample ID: HV-1-210526 Date Collected: 05/26/21 11:30 Date Received: 05/28/21 09:20

Job ID: 320-74350	)-1
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### Lab Sample ID: 320-74350-6 Matrix: Solid

rix: Solid

5

Method: 314.0 - Perchlorate (I	C) - Soluble							
Analyte	Result Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND	40		ug/Kg			06/03/21 14:41	1

Method: 6010B - Metals (ICP)										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Silver	ND		0.49		mg/Kg		06/01/21 13:18	06/02/21 17:42	1	
Arsenic	5.0		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:42	1	
Barium	66		0.98		mg/Kg		06/01/21 13:18	06/02/21 17:42	1	
Beryllium	0.86		0.20		mg/Kg		06/01/21 13:18	06/02/21 17:42	1	ł
Cadmium	ND		0.20		mg/Kg		06/01/21 13:18	06/02/21 17:42	1	
Cobalt	3.6		0.49		mg/Kg		06/01/21 13:18	06/02/21 17:42	1	
Chromium	12		0.49		mg/Kg		06/01/21 13:18	06/02/21 17:42	1	
Copper	6.6		1.5		mg/Kg		06/01/21 13:18	06/02/21 17:42	1	
Molybdenum	ND		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:42	1	
Nickel	6.4		0.98		mg/Kg		06/01/21 13:18	06/02/21 17:42	1	
Lead	4.5		0.98		mg/Kg		06/01/21 13:18	06/02/21 17:42	1	
Selenium	ND		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:42	1	ŝ
Antimony	19		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:42	1	
Thallium	ND		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:42	1	ł
Vanadium	20		0.49		mg/Kg		06/01/21 13:18	06/02/21 17:42	1	
Zinc	46		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:42	1	
∑ Method: 7471A - Mercury (CVAA	.)									
Analyte	•	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Mercury	ND		0.039		mg/Kg		06/03/21 10:00	06/03/21 14:53	1	

### Client Sample ID: HV-2-210526 Date Collected: 05/26/21 11:40 Date Received: 05/28/21 09:20

### Lab Sample ID: 320-74350-7 Matrix: Solid

rix: Solid

5 6

Method: 314.0 - Perchlorate (IC) Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		200		ug/Kg			06/03/21 15:03	5
Method: 6010B - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	1.4		0.49		mg/Kg		06/01/21 13:18	06/02/21 17:46	1
Arsenic	4.5		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:46	1
Barium	58		0.98		mg/Kg		06/01/21 13:18	06/02/21 17:46	
Beryllium	0.90		0.20		mg/Kg		06/01/21 13:18	06/02/21 17:46	
Cadmium	0.20		0.20		mg/Kg		06/01/21 13:18	06/02/21 17:46	
Cobalt	4.2		0.49		mg/Kg		06/01/21 13:18	06/02/21 17:46	
Chromium	15		0.49		mg/Kg		06/01/21 13:18	06/02/21 17:46	
Copper	10		1.5		mg/Kg		06/01/21 13:18	06/02/21 17:46	
Molybdenum	ND		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:46	
Nickel	9.2		0.98		mg/Kg		06/01/21 13:18	06/02/21 17:46	
Lead	14		0.98		mg/Kg		06/01/21 13:18	06/02/21 17:46	
Selenium	ND		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:46	
Antimony	21		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:46	
Fhallium	ND		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:46	
Vanadium	23		0.49		mg/Kg		06/01/21 13:18	06/02/21 17:46	
Zinc	50		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:46	

### Method: 7471A - Mercury (CVAA)

Analyte	Result C	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.039		mg/Kg		06/03/21 10:00	06/03/21 14:55	1

### Client Sample ID: HV-SED-1-210526 Date Collected: 05/26/21 11:55 Date Received: 05/28/21 09:20

Method: 314.0 - Perchlorate (IC) -	Soluble								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		39		ug/Kg			06/03/21 15:26	1
Method: 6010B - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.50		mg/Kg		06/01/21 13:18	06/02/21 17:50	1
Arsenic	3.9		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:50	1
Barium	47		1.0		mg/Kg		06/01/21 13:18	06/02/21 17:50	1
Beryllium	0.75		0.20		mg/Kg		06/01/21 13:18	06/02/21 17:50	1
Cadmium	ND		0.20		mg/Kg		06/01/21 13:18	06/02/21 17:50	1
Cobalt	3.2		0.50		mg/Kg		06/01/21 13:18	06/02/21 17:50	1
Chromium	11		0.50		mg/Kg		06/01/21 13:18	06/02/21 17:50	1
Copper	7.1		1.5		mg/Kg		06/01/21 13:18	06/02/21 17:50	1
Molybdenum	ND		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:50	1
Nickel	6.7		1.0		mg/Kg		06/01/21 13:18	06/02/21 17:50	1
Lead	8.9		1.0		mg/Kg		06/01/21 13:18	06/02/21 17:50	1
Selenium	ND		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:50	1
Antimony	17		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:50	1
Thallium	ND		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:50	1
Vanadium	19		0.50		mg/Kg		06/01/21 13:18	06/02/21 17:50	1
Zinc	43		2.0		mg/Kg		06/01/21 13:18	06/02/21 17:50	1
Method: 7471A - Mercury (CVAA)						_	_		
Analyte		Qualifier	RL	MDL		D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.039		mg/Kg		06/03/21 10:00	06/03/21 14:56	1

### Lab Sample ID: 320-74350-8 Matrix: Solid

Job ID: 320-74350-1

olid

5

### Client Sample ID: OS8-SED-1-210526 Date Collected: 05/26/21 12:40 Date Received: 05/28/21 09:20

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		39		ug/Kg			06/03/21 15:48	1
Method: 6010B - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.48		mg/Kg		06/01/21 13:18	06/02/21 18:01	1
Arsenic	2.1		1.9		mg/Kg		06/01/21 13:18	06/02/21 18:01	1
Barium	30		0.95		mg/Kg		06/01/21 13:18	06/02/21 18:01	1
Beryllium	0.48		0.19		mg/Kg		06/01/21 13:18	06/02/21 18:01	1
Cadmium	ND		0.19		mg/Kg		06/01/21 13:18	06/02/21 18:01	1
Cobalt	2.0		0.48		mg/Kg		06/01/21 13:18	06/02/21 18:01	1
Chromium	6.8		0.48		mg/Kg		06/01/21 13:18	06/02/21 18:01	1
Copper	4.3		1.4		mg/Kg		06/01/21 13:18	06/02/21 18:01	1
Molybdenum	ND		1.9		mg/Kg		06/01/21 13:18	06/02/21 18:01	1
Nickel	4.4		0.95		mg/Kg		06/01/21 13:18	06/02/21 18:01	1
Lead	5.3		0.95		mg/Kg		06/01/21 13:18	06/02/21 18:01	1
Selenium	ND		1.9		mg/Kg		06/01/21 13:18	06/02/21 18:01	1
Antimony	11		1.9		mg/Kg		06/01/21 13:18	06/02/21 18:01	1
Thallium	ND		1.9		mg/Kg		06/01/21 13:18	06/02/21 18:01	1
Vanadium	13		0.48		mg/Kg		06/01/21 13:18	06/02/21 18:01	1
Zinc	24		1.9		mg/Kg		06/01/21 13:18	06/02/21 18:01	1
Method: 7471A - Mercury (CVAA	)								
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.038		mg/Kg		06/03/21 10:00	06/03/21 14:58	1

### Lab Sample ID: 320-74350-9

Matrix: Solid

5

6

Eurofins TestAmerica, Sacramento

### Client Sample ID: OW-SED-1-210526 Date Collected: 05/26/21 13:45 Date Received: 05/28/21 09:20

### Lab Sample ID: 320-74350-10 Matrix: Solid

Job ID: 320-74350-1

Solid

5

Method: 314.0 - Perchlorate (IC)	- Soluble								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		40		ug/Kg			06/03/21 16:54	1
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.49		mg/Kg		06/01/21 13:18	06/02/21 18:05	1

Mercury	ND		0.038		mg/Kg		06/03/21 10:00	06/03/21 15:03	1	
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Method: 7471A - Mercury (CVAA)										
Zinc	36		1.9		mg/Kg		06/01/21 13:18	06/02/21 18:05	1	
Vanadium	21		0.49		mg/Kg		06/01/21 13:18	06/02/21 18:05	1	
Thallium	ND		1.9		mg/Kg		06/01/21 13:18	06/02/21 18:05	1	
Antimony	18		1.9		mg/Kg		06/01/21 13:18	06/02/21 18:05	1	
Selenium	ND		1.9		mg/Kg		06/01/21 13:18	06/02/21 18:05	1	
Lead	7.1		0.97		mg/Kg		06/01/21 13:18	06/02/21 18:05	1	
Nickel	6.3		0.97		mg/Kg		06/01/21 13:18	06/02/21 18:05	1	
Molybdenum	ND		1.9		mg/Kg		06/01/21 13:18	06/02/21 18:05	1	
Copper	5.6		1.5		mg/Kg		06/01/21 13:18	06/02/21 18:05	1	
Chromium	9.9		0.49		mg/Kg		06/01/21 13:18	06/02/21 18:05	1	
Cobalt	3.4		0.49		mg/Kg		06/01/21 13:18	06/02/21 18:05	1	
Cadmium	ND		0.19		mg/Kg		06/01/21 13:18	06/02/21 18:05	1	
Beryllium	0.76		0.19		mg/Kg		06/01/21 13:18	06/02/21 18:05	1	
Barium	56		0.97		mg/Kg		06/01/21 13:18	06/02/21 18:05	1	
Arsenic	4.9		1.9		mg/Kg		06/01/21 13:18	06/02/21 18:05	1	
Silver	ND		0.49		mg/Kg		06/01/21 13:18	06/02/21 18:05	1	

### Client Sample ID: TF-1-210526 Date Collected: 05/26/21 14:40 Date Received: 05/28/21 09:20

Date Collected: 05/26/21 14:40								Matrix
Date Received: 05/28/21 09:20								
Method: 314.0 - Perchlorate (I	C) - Soluble							
Analyte		Qualifier	RL	MDI	Unit	Р	Prepared	Analvzed
Analyte	Result	Quaimer	RL	WDL	Unit		Frepareu	Analyzeu
Perchlorate	ND		200		ug/Kg			06/03/21 17:17

, mary to	nooun	quanner			onne	-	Tioparoa	/ mary zoa	Dirrao	
Perchlorate	ND		200		ug/Kg			06/03/21 17:17	5	i
Method: 6010B - Metals (ICP)										
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Silver	ND		0.50		mg/Kg		06/01/21 13:18	06/02/21 18:09	1	
Arsenic	5.6		2.0		mg/Kg		06/01/21 13:18	06/02/21 18:09	1	
Barium	84		0.99		mg/Kg		06/01/21 13:18	06/02/21 18:09	1	
Beryllium	1.0		0.20		mg/Kg		06/01/21 13:18	06/02/21 18:09	1	
Cadmium	0.20		0.20		mg/Kg		06/01/21 13:18	06/02/21 18:09	1	
Cobalt	7.6		0.50		mg/Kg		06/01/21 13:18	06/02/21 18:09	1	
Chromium	20		0.50		mg/Kg		06/01/21 13:18	06/02/21 18:09	1	
Copper	21		1.5		mg/Kg		06/01/21 13:18	06/02/21 18:09	1	
Molybdenum	ND		2.0		mg/Kg		06/01/21 13:18	06/02/21 18:09	1	
Nickel	13		0.99		mg/Kg		06/01/21 13:18	06/02/21 18:09	1	
Lead	11		0.99		mg/Kg		06/01/21 13:18	06/02/21 18:09	1	
Selenium	ND		2.0		mg/Kg		06/01/21 13:18	06/02/21 18:09	1	2
Antimony	17		2.0		mg/Kg		06/01/21 13:18	06/02/21 18:09	1	
Thallium	ND		2.0		mg/Kg		06/01/21 13:18	06/02/21 18:09	1	2
Vanadium	39		0.50		mg/Kg		06/01/21 13:18	06/02/21 18:09	1	
Zinc	55		2.0		mg/Kg		06/01/21 13:18	06/02/21 18:09	1	
Method: 7471A - Mercury (CVAA	.)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac	
Mercury	ND		0.039		mg/Kg		06/03/21 10:00	06/03/21 15:05	1	
-										

### Lab Sample ID: 320-74350-11 Matrix: Solid

5 6

Dil Fac

Eurofins TestAmerica, Sacramento

RL

39

RL

MDL Unit

MDL Unit

ug/Kg

Result Qualifier

Result Qualifier

ND

Analyte

Analyte

Perchlorate

### Client Sample ID: KC-1-210527 Date Collected: 05/27/21 08:00 Date Received: 05/28/21 09:20

Method: 6010B - Metals (ICP)

Method: 314.0 - Perchlorate (IC) - Soluble

Lab Sa	mple ID: 320	)-74350-12

Prepared

Prepared

D

D

Job ID: 320-74350-1

Analyzed

06/03/21 17:39

Analyzed

Matrix: Solid

Dil Fac

Dil Fac

1

5
6
8
9

Silver	ND		0.49		mg/Kg		06/01/21 13:18	06/02/21 18:13	1
Arsenic	4.4		2.0		mg/Kg		06/01/21 13:18	06/02/21 18:13	1
Barium	49		0.98		mg/Kg		06/01/21 13:18	06/02/21 18:13	1
Beryllium	0.75		0.20		mg/Kg		06/01/21 13:18	06/02/21 18:13	1
Cadmium	ND		0.20		mg/Kg		06/01/21 13:18	06/02/21 18:13	1
Cobalt	4.5		0.49		mg/Kg		06/01/21 13:18	06/02/21 18:13	1
Chromium	14		0.49		mg/Kg		06/01/21 13:18	06/02/21 18:13	1
Copper	8.2		1.5		mg/Kg		06/01/21 13:18	06/02/21 18:13	1
Molybdenum	ND		2.0		mg/Kg		06/01/21 13:18	06/02/21 18:13	1
Nickel	8.3		0.98		mg/Kg		06/01/21 13:18	06/02/21 18:13	1
Lead	9.6		0.98		mg/Kg		06/01/21 13:18	06/02/21 18:13	1
Selenium	ND		2.0		mg/Kg		06/01/21 13:18	06/02/21 18:13	1
Antimony	13		2.0		mg/Kg		06/01/21 13:18	06/02/21 18:13	1
Thallium	ND		2.0		mg/Kg		06/01/21 13:18	06/02/21 18:13	1
Vanadium	27		0.49		mg/Kg		06/01/21 13:18	06/02/21 18:13	1
Zinc	49		2.0		mg/Kg		06/01/21 13:18	06/02/21 18:13	1
Method: 7471A - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.039		mg/Kg		06/03/21 10:00	06/03/21 15:07	1

RL

200

RL

0.50

2.0

1.0

0.20

0.20

0.50

0.50

1.5

2.0

1.0

1.0

2.0

2.0

2.0

0.50

2.0

MDL Unit

MDL Unit

ug/Kg

mg/Kg

D

D

Prepared

Prepared

Result Qualifier

Result Qualifier

ND

ND

2.9

41

0.62

0.21

3.7

10

7.3

ND

6.7

5.7

ND

12

ND

22

60

Analyte

Analyte

Arsenic

**Barium** 

**Beryllium** 

Cadmium

Chromium

Molybdenum

Cobalt

Copper

Nickel

Lead

Selenium

Thallium

Zinc

Antimony

Vanadium

Silver

Perchlorate

### Client Sample ID: GF-1-210527 Date Collected: 05/27/21 08:20 Date Received: 05/28/21 09:20

Method: 6010B - Metals (ICP)

Method: 314.0 - Perchlorate (IC) - Soluble

Job ID: 320-74350-1

06/01/21 13:18 06/02/21 18:16

06/01/21 13:18 06/02/21 18:16

06/01/21 13:18 06/02/21 18:16

06/01/21 13:18 06/02/21 18:16

06/01/21 13:18 06/02/21 18:16

06/01/21 13:18 06/02/21 18:16

06/01/21 13:18 06/02/21 18:16

06/01/21 13:18 06/02/21 18:16

06/01/21 13:18 06/02/21 18:16

06/01/21 13:18 06/02/21 18:16

06/01/21 13:18 06/02/21 18:16

06/01/21 13:18 06/02/21 18:16

06/01/21 13:18 06/02/21 18:16

06/01/21 13:18 06/02/21 18:16

06/01/21 13:18 06/02/21 18:16

06/01/21 13:18 06/02/21 18:16

### Lab Sample ID: 320-74350-13 Matrix: Solid

Analyzed

06/03/21 18:01

Analyzed

6

Dil Fac

Dil Fac

5

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

1

I	0	
	9	
		3

Method: 7471A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.038		mg/Kg		06/03/21 10:00	06/03/21 15:08	1

### Client Sample ID: AT-1-210527 Date Collected: 05/27/21 08:45 Date Received: 05/28/21 09:20

Job	ID:	320-74350-1
000		

### Lab Sample ID: 320-74350-14 Matrix: Solid

5

Method: 314.0 - Perchlorate (IC)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		400		ug/Kg			06/03/21 18:23	10
Method: 6010B - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.48		mg/Kg		06/01/21 13:18	06/02/21 18:20	1
Arsenic	4.4		1.9		mg/Kg		06/01/21 13:18	06/02/21 18:20	1
	4.4 65		1.9 0.96		mg/Kg mg/Kg			06/02/21 18:20 06/02/21 18:20	1 1

Doryman									-	
Cadmium	0.24		0.19		mg/Kg		06/01/21 13:18	06/02/21 18:20	1	
Cobalt	5.0		0.48		mg/Kg		06/01/21 13:18	06/02/21 18:20	1	
Chromium	17		0.48		mg/Kg		06/01/21 13:18	06/02/21 18:20	1	
Copper	12		1.4		mg/Kg		06/01/21 13:18	06/02/21 18:20	1	
Molybdenum	ND		1.9		mg/Kg		06/01/21 13:18	06/02/21 18:20	1	
Nickel	9.4		0.96		mg/Kg		06/01/21 13:18	06/02/21 18:20	1	
Lead	8.1		0.96		mg/Kg		06/01/21 13:18	06/02/21 18:20	1	
Selenium	ND		1.9		mg/Kg		06/01/21 13:18	06/02/21 18:20	1	5
Antimony	14		1.9		mg/Kg		06/01/21 13:18	06/02/21 18:20	1	
Thallium	ND		1.9		mg/Kg		06/01/21 13:18	06/02/21 18:20	1	
Vanadium	28		0.48		mg/Kg		06/01/21 13:18	06/02/21 18:20	1	
Zinc	43		1.9		mg/Kg		06/01/21 13:18	06/02/21 18:20	1	
 Method: 7471A - Mercury (CVAA)										
Analyte	Pocult	Qualifier	RL	мы	Unit	D	Prepared	Analyzed	Dil Fac	
		Quainter								
Mercury	ND		0.038		mg/Kg		06/03/21 10:00	06/03/21 15:10	1	

### Method: GCMSMS\_NDMA - Nitrosamines by Isotope Dilution and GC/CI/MS/MS Matrix: Solid Prep Type: Total/NA

			Percent Isotope Dilution Recovery (Acceptance Limits)
		DMA	
Lab Sample ID	Client Sample ID	(50-150)	
320-74350-5	OS1-SED-1-210526	76	
320-74350-5 MS	OS1-SED-1-210526	72	
320-74350-5 MSD	OS1-SED-1-210526	73	
LCS 320-494368/2-A	Lab Control Sample	76	
MB 320-494368/1-A	Method Blank	76	
Surrogate Legend			

DMA = N-Nitrosodimethylamine-d6

Job ID: 320-74350-1

### Method: GCMSMS\_NDMA - Nitrosamines by Isotope Dilution and GC/CI/MS/MS

Lab Sample ID: MB 320-49 Matrix: Solid	94368/1-A								C	lie	ent Sam	ole ID: Meth Prep Type:		
Analysis Batch: 495135												Prep Batcl		
		MB MB												
Analyte	Re	sult Qual	ifier	R	L	MDL	Unit		D _	P	repared	Analyzed		Dil Fa
N-Nitrosodimethylamine		ND		0.5	0		ug/Kg		0	6/0	1/21 11:49	06/03/21 13:0	)3	
		MB MB												
Isotope Dilution	%Recov	very Qual	ifier	Limits					_		repared	Analyzed		Dil Fa
N-Nitrosodimethylamine-d6		76		50 - 150					0	6/0	1/21 11:49	06/03/21 13:0	)3	
Lab Sample ID: LCS 320-4	194368/2-4							Clie	nt S	Sar	nnlo ID:	Lab Contro		mnl
Matrix: Solid	104000/2 /							one		Jui		Prep Type:		
Analysis Batch: 495135												Prep Batcl		
·····,			1	Spike	LCS	LCS	5					%Rec.		
Analyte			A	Added	Result	Qua	lifier	Unit		D	%Rec	Limits		
N-Nitrosodimethylamine				2.00	2.04			ug/Kg		_	102	70 - 130		
	LCS	LCS												
Isotope Dilution	%Recovery	Qualifier	L	imits										
N-Nitrosodimethylamine-d6	76		50	0 - 150										
										_				
Lab Sample ID: 320-74350	)-5 MS							Cli	ent	Sa	imple ID	: OS1-SED		
Matrix: Solid												Prep Type:		
Analysis Batch: 495135	0	0		0								Prep Batcl	1: 49	436
A malu da	Sample			Spike	-	MS		11		<b>_</b>	0/ <b>D</b> = =	%Rec.		
Analyte N-Nitrosodimethylamine	ND	Qualifier	A	Added 1.99	2.04		litter			D	<u>%Rec</u>	Limits		
n-nitrosodimetriylamine	MD MS	MC		1.99	2.04			ug/Kg			103	70-130		
Isotope Dilution		ws Qualifier	,	imits										
N-Nitrosodimethylamine-d6	%Recovery 72	Quaimer		0 - 150										
Lab Sample ID: 320-74350	)-5 MSD							Cli	ient	Sa	mple ID	: OS1-SED-	<b>1-21</b>	052
Matrix: Solid												Prep Type:	Tot	al/N
Analysis Batch: 495135												Prep Batcl	า: <mark>4</mark> 9	436
	Sample	Sample	;	Spike	MSD	MSE	)					%Rec.		RP
	•			Opine	NICD	MICL								Lim
•	Result	Qualifier	A	Added	Result	Qua	lifier	Unit		D	%Rec		RPD	
•	Result ND		A	•	-	Qua	lifier	Unit ug/Kg		D	<b>%Rec</b>	Limits F 70 - 130	RPD 4	3
Analyte N-Nitrosodimethylamine	Result ND MSD	MSD		Added	Result	Qua	lifier			D				3
N-Nitrosodimethylamine	Result ND MSD %Recovery	MSD		Added 1.99	Result	Qua	lifier			D				3
N-Nitrosodimethylamine	Result ND MSD	MSD		Added	Result	Qua	lifier			<u>D</u>				3
N-Nitrosodimethylamine Isotope Dilution N-Nitrosodimethylamine-d6	Result ND MSD %Recovery 73	MSD		Added 1.99	Result	Qua	lifier			<u>D</u>				
N-Nitrosodimethylamine Isotope Dilution N-Nitrosodimethylamine-d6 Iethod: 314.0 - Perchl Lab Sample ID: MRL 320-4	Result ND MSD %Recovery 73	MSD		Added 1.99	Result	Qua	lifier	ug/Kg	ent S		107	70 - 130	4 ol Sa	ımpl
N-Nitrosodimethylamine Isotope Dilution N-Nitrosodimethylamine-d6 Iethod: 314.0 - Perchl Lab Sample ID: MRL 320-4	Result ND MSD %Recovery 73	MSD		Added 1.99	Result	Qua	lifier	ug/Kg	ent S		107	70 - 130	4 ol Sa	impl
N-Nitrosodimethylamine Isotope Dilution N-Nitrosodimethylamine-d6 Iethod: 314.0 - Perchl Lab Sample ID: MRL 320-4 Matrix: Solid	Result ND MSD %Recovery 73	MSD	Li 50	imits 0 - 150	Result 2.13	Qua		ug/Kg	ent S		107	70 - 130 Lab Contro Prep Type:	4 ol Sa	impl
N-Nitrosodimethylamine Isotope Dilution N-Nitrosodimethylamine-d6 Iethod: 314.0 - Perchl Lab Sample ID: MRL 320-4 Matrix: Solid Analysis Batch: 494739	Result ND MSD %Recovery 73	MSD	Li 50	Added 1.99 <i>imits</i> 0 - 150 Spike	Result 2.13	Qua		ug/Kg Clie	ent S	- Sar	 nple ID:	70 - 130 Lab Contro Prep Type: %Rec.	4 ol Sa	impl
N-Nitrosodimethylamine Isotope Dilution N-Nitrosodimethylamine-d6 Iethod: 314.0 - Perchl Lab Sample ID: MRL 320-4 Matrix: Solid Analysis Batch: 494739 Analyte	Result ND MSD %Recovery 73	MSD	Li 50	Added	Result 2.13 MRL Result	Qua		ug/Kg Clie	ent S	- Sar	107 mple ID: %Rec	70 - 130 Lab Contro Prep Type: %Rec. Limits	4 ol Sa	impl
N-Nitrosodimethylamine Isotope Dilution N-Nitrosodimethylamine-d6 Iethod: 314.0 - Perchl Lab Sample ID: MRL 320-4 Matrix: Solid Analysis Batch: 494739 Analyte	Result ND MSD %Recovery 73	MSD	Li 50	Added 1.99 <i>imits</i> 0 - 150 Spike	Result 2.13	Qua		ug/Kg Clie		- Sar	 nple ID:	70 - 130 Lab Contro Prep Type: %Rec.	4 ol Sa	impl
N-Nitrosodimethylamine Isotope Dilution N-Nitrosodimethylamine-d6 Iethod: 314.0 - Perchl Lab Sample ID: MRL 320-4 Matrix: Solid Analysis Batch: 494739 Analyte Perchlorate	Result           ND           MSD           %Recovery           73           Orate (IC)           494739/4	MSD	Li 50	Added	Result 2.13 MRL Result	Qua		Unit ug/L		Sar	107 mple ID: 	70 - 130 Lab Contro Prep Type: %Rec. Limits 75 - 125	4 ol Sa Tot	impl al/N
N-Nitrosodimethylamine Isotope Dilution N-Nitrosodimethylamine-d6 Iethod: 314.0 - Perchl Lab Sample ID: MRL 320-4 Matrix: Solid Analysis Batch: 494739 Analyte Perchlorate Lab Sample ID: MRL 320-4	Result           ND           MSD           %Recovery           73           Orate (IC)           494739/4	MSD	Li 50	Added	Result 2.13 MRL Result	Qua		Unit ug/L		Sar	107 mple ID: 	70 - 130 Lab Contro Prep Type: %Rec. Limits 75 - 125 Lab Contro	4 I Sa Tot	impl al/N
N-Nitrosodimethylamine Isotope Dilution N-Nitrosodimethylamine-d6 Iethod: 314.0 - Perchl Lab Sample ID: MRL 320-4 Matrix: Solid Analysis Batch: 494739 Analyte Perchlorate Lab Sample ID: MRL 320-4 Matrix: Solid	Result           ND           MSD           %Recovery           73           Orate (IC)           494739/4	MSD	Li 50	Added	Result 2.13 MRL Result	Qua		Unit ug/L		Sar	107 mple ID: 	70 - 130 Lab Contro Prep Type: %Rec. Limits 75 - 125	4 I Sa Tot	impl al/N
N-Nitrosodimethylamine Isotope Dilution N-Nitrosodimethylamine-d6 Iethod: 314.0 - Perchl Lab Sample ID: MRL 320-4 Matrix: Solid Analysis Batch: 494739 Analyte Perchlorate Lab Sample ID: MRL 320-4 Matrix: Solid	Result           ND           MSD           %Recovery           73           Orate (IC)           494739/4	MSD	L 50	Added	Result 2.13 MRL Result ND	Qua	lifier	Unit ug/L		Sar	107 mple ID: 	70 - 130 Lab Contro Prep Type: %Rec. Limits 75 - 125 Lab Contro	4 I Sa Tot	impl al/N
•	Result           ND           MSD           %Recovery           73           Orate (IC)           494739/4	MSD		Added	Result 2.13 MRL Result ND	Qua MRI Qua	lifier	Unit ug/L		Sar	107 mple ID: 	70 - 130 Lab Contro Prep Type: %Rec. Limits 75 - 125 Lab Contro Prep Type:	4 I Sa Tot	impl al/N

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Job ID: 320-74350-1

### Method: 314.0 - Perchlorate (IC)

Lab Sample ID: MB 320-4 Matrix: Solid	94499/1-A						Clie	ent Sam	nple ID: Mo Prep Ty		
Analysis Batch: 494739											
Analyte	Ba	MB MB sult Qualifier		RL	MDL Uni	•	D P	repared	Analyz	od	Dil Fac
Perchlorate				40		-	– –	repareu	$-\frac{-}{06/02/21}$		
		ND		40	ug	Ng (			00/02/21	12.10	
Lab Sample ID: LCS 320-4	494499/2-A					Clie	ent Sa	mple ID	: Lab Con	trol Sa	ample
Matrix: Solid									Prep Ty		
Analysis Batch: 494739											
-			Spike	LCS	LCS				%Rec.		
Analyte			Added	Result	Qualifie	r Unit	D	%Rec	Limits		
Perchlorate			499	454		ug/Kg		91	75 - 125		
Lab Sample ID: 320-74350 Matrix: Solid Analysis Batch: 494739	)-1 MS					Client	Samp	ole ID: F	RRMDF-SE Prep Ty		
	Sample	Sample	Spike	MS	MS				%Rec.		
Analyte	Result	Qualifier	Added	Result	Qualifie	r Unit	D	%Rec	Limits		
Perchlorate	ND		496	479		ug/Kg		97	75 - 125		
 Lab Sample ID: 320-74350	)-1 MSD					Client	Sam	ole ID: F	RRMDF-SE	D-1-2	10525
Matrix: Solid									Prep Ty		
Analysis Batch: 494739										•	
	Comple	Sample	Spike	MSD	MSD				%Rec.		RPD
-	Sample	••••••••									=
Analyte	•	Qualifier	Added	Result	Qualifie	r Unit	D	%Rec	Limits	RPD	

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

### Lab Sample ID: MB 320-494387/1-A Matrix: Solid Analysis Batch: 495010

### Client Sample ID: Method Blank Prep Type: Total/NA Prep Batch: 494387

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		0.50		mg/Kg		06/01/21 13:18	06/02/21 16:31	1
Arsenic	ND		2.0		mg/Kg		06/01/21 13:18	06/02/21 16:31	1
Barium	ND		1.0		mg/Kg		06/01/21 13:18	06/02/21 16:31	1
Beryllium	ND		0.20		mg/Kg		06/01/21 13:18	06/02/21 16:31	1
Cadmium	ND		0.20		mg/Kg		06/01/21 13:18	06/02/21 16:31	1
Cobalt	ND		0.50		mg/Kg		06/01/21 13:18	06/02/21 16:31	1
Chromium	ND		0.50		mg/Kg		06/01/21 13:18	06/02/21 16:31	1
Copper	ND		1.5		mg/Kg		06/01/21 13:18	06/02/21 16:31	1
Molybdenum	ND		2.0		mg/Kg		06/01/21 13:18	06/02/21 16:31	1
Nickel	ND		1.0		mg/Kg		06/01/21 13:18	06/02/21 16:31	1
Lead	ND		1.0		mg/Kg		06/01/21 13:18	06/02/21 16:31	1
Selenium	ND		2.0		mg/Kg		06/01/21 13:18	06/02/21 16:31	1
Antimony	ND		2.0		mg/Kg		06/01/21 13:18	06/02/21 16:31	1
Thallium	ND		2.0		mg/Kg		06/01/21 13:18	06/02/21 16:31	1
Vanadium	ND		0.50		mg/Kg		06/01/21 13:18	06/02/21 16:31	1
Zinc	ND		2.0		mg/Kg		06/01/21 13:18	06/02/21 16:31	1

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

Lab Sample ID: LCS 320-494387/2-A				nt Sample ID: Lab Control Sam						
Matrix: Solid Analysis Batch: 495010							Prep Type: Total/NA Prep Batch: 494387			
	Spike	LCS	LCS				%Rec.			
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits			
Silver	5.05	4.72		mg/Kg		93	80 - 120			
Arsenic	50.0	45.0		mg/Kg		90	80 - 120			
Barium	50.0	47.2		mg/Kg		94	80 - 120			
Beryllium	25.0	24.0		mg/Kg		96	80 - 120			
Cadmium	25.0	23.9		mg/Kg		95	80 - 120			
Cobalt	25.0	24.0		mg/Kg		96	80 - 120			
Chromium	25.0	23.9		mg/Kg		96	80 - 120			
Copper	25.0	23.6		mg/Kg		94	80 - 120			
Molybdenum	25.0	23.5		mg/Kg		94	80 - 120			
Nickel	25.0	23.4		mg/Kg		94	80 - 120			
Lead	25.0	23.2		mg/Kg		93	80 - 120			
Selenium	50.0	45.5		mg/Kg		91	80 - 120			
Antimony	49.5	44.2		mg/Kg		89	80 - 120			
Thallium	50.0	48.2		mg/Kg		96	80 - 120			
Vanadium	25.0	23.6		mg/Kg		94	80 - 120			
Zinc	50.0	47.3		mg/Kg		95	80 - 120			

### Method: 7471A - Mercury (CVAA)

Lab Sample ID: MB 320-49 Matrix: Solid Analysis Batch: 495436	95048/11-A MB	МВ							С	lie		ole ID: Meth Prep Type: Prep Batcl	Tot	al/NA
Analyte		Qualifier		RL		MDL	Unit		D	Pr	epared	Analyzed	I	Dil Fac
Mercury	ND			0.040			mg/K	g	0	6/03	3/21 10:00	06/03/21 14:2	21	1
Lab Sample ID: LCS 320-4 Matrix: Solid Analysis Batch: 495436	95048/12-A							Clie	ent S	San		Lab Contro Prep Type: Prep Batcl	Tot	al/NA
-			Spike		LCS	LCS	i					%Rec.		
Analyte			Added		Result	Qua	lifier	Unit		D	%Rec	Limits		
Mercury			0.167		0.174			mg/Kg		_	104	86 - 114		
Lab Sample ID: LCSD 320 Matrix: Solid Analysis Batch: 495436	-495048/13-A						C	lient Sa	amp	le		Control Sa Prep Type: Prep Batcl	Tot	al/NA
-			Spike		LCSD	LCS	D					%Rec.		RPD
Analyte			Added		Result	Qua	lifier	Unit		D	%Rec	Limits F	PD	Limit
Mercury			0.167		0.169			mg/Kg		_	101	86 - 114	3	17

### GC/MS Semi VOA

### Prep Batch: 494368

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-74350-5	OS1-SED-1-210526	Total/NA	Solid	3550B	
MB 320-494368/1-A	Method Blank	Total/NA	Solid	3550B	
LCS 320-494368/2-A	Lab Control Sample	Total/NA	Solid	3550B	
320-74350-5 MS	OS1-SED-1-210526	Total/NA	Solid	3550B	
320-74350-5 MSD	OS1-SED-1-210526	Total/NA	Solid	3550B	

**QC Association Summary** 

### Analysis Batch: 495135

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
320-74350-5	OS1-SED-1-210526	Total/NA	Solid	GCMSMS_NDM A	494368
MB 320-494368/1-A	Method Blank	Total/NA	Solid	GCMSMS_NDM A	494368
LCS 320-494368/2-A	Lab Control Sample	Total/NA	Solid	GCMSMS_NDM A	494368
320-74350-5 MS	OS1-SED-1-210526	Total/NA	Solid	GCMSMS_NDM A	494368
320-74350-5 MSD	OS1-SED-1-210526	Total/NA	Solid	GCMSMS_NDM A	494368

### HPLC/IC

### Leach Batch: 494499

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-74350-1	RRMDF-SED-1-210525	Soluble	Solid	DI Leach	
320-74350-2	BP-SED-1-210525	Soluble	Solid	DI Leach	
320-74350-3	CIT-1-210525	Soluble	Solid	DI Leach	
320-74350-4	SRE-SED-2-210526	Soluble	Solid	DI Leach	
320-74350-5	OS1-SED-1-210526	Soluble	Solid	DI Leach	
320-74350-6	HV-1-210526	Soluble	Solid	DI Leach	
320-74350-7	HV-2-210526	Soluble	Solid	DI Leach	
320-74350-8	HV-SED-1-210526	Soluble	Solid	DI Leach	
320-74350-9	OS8-SED-1-210526	Soluble	Solid	DI Leach	
320-74350-10	OW-SED-1-210526	Soluble	Solid	DI Leach	
320-74350-11	TF-1-210526	Soluble	Solid	DI Leach	
320-74350-12	KC-1-210527	Soluble	Solid	DI Leach	
320-74350-13	GF-1-210527	Soluble	Solid	DI Leach	
320-74350-14	AT-1-210527	Soluble	Solid	DI Leach	
MB 320-494499/1-A	Method Blank	Soluble	Solid	DI Leach	
LCS 320-494499/2-A	Lab Control Sample	Soluble	Solid	DI Leach	
320-74350-1 MS	RRMDF-SED-1-210525	Soluble	Solid	DI Leach	
320-74350-1 MSD	RRMDF-SED-1-210525	Soluble	Solid	DI Leach	

### Analysis Batch: 494739

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-74350-1	RRMDF-SED-1-210525	Soluble	Solid	314.0	494499
320-74350-2	BP-SED-1-210525	Soluble	Solid	314.0	494499
320-74350-3	CIT-1-210525	Soluble	Solid	314.0	494499
320-74350-4	SRE-SED-2-210526	Soluble	Solid	314.0	494499
320-74350-5	OS1-SED-1-210526	Soluble	Solid	314.0	494499
MB 320-494499/1-A	Method Blank	Soluble	Solid	314.0	494499
LCS 320-494499/2-A	Lab Control Sample	Soluble	Solid	314.0	494499
MRL 320-494739/4	Lab Control Sample	Total/NA	Solid	314.0	
320-74350-1 MS	RRMDF-SED-1-210525	Soluble	Solid	314.0	494499

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Job ID: 320-74350-1

### HPLC/IC (Continued)

### Analysis Batch: 494739 (Continued)

Lab Sample ID 320-74350-1 MSD	Client Sample ID RRMDF-SED-1-210525	Prep Type Soluble	Matrix Solid	Method 314.0	Prep Batch 494499
Analysis Batch: 498	5092				
Lab Sample ID 320-74350-6	Client Sample ID HV-1-210526	Prep Type Soluble	Matrix Solid	Method 314.0	Prep Batch 494499

320-74350-7	HV-2-210526	Soluble	Solid	314.0	494499
320-74350-8	HV-SED-1-210526	Soluble	Solid	314.0	494499
320-74350-9	OS8-SED-1-210526	Soluble	Solid	314.0	494499
320-74350-10	OW-SED-1-210526	Soluble	Solid	314.0	494499
320-74350-11	TF-1-210526	Soluble	Solid	314.0	494499
320-74350-12	KC-1-210527	Soluble	Solid	314.0	494499
320-74350-13	GF-1-210527	Soluble	Solid	314.0	494499
320-74350-14	AT-1-210527	Soluble	Solid	314.0	494499
MRL 320-495092/4	Lab Control Sample	Total/NA	Solid	314.0	

### **Metals**

### Prep Batch: 494387

Lab Sample ID	Client Sample ID		Matrix	Method	Prep Batch
320-74350-1	RRMDF-SED-1-210525	Total/NA	Solid	3050B	
320-74350-2	BP-SED-1-210525	Total/NA	Solid	3050B	
320-74350-3	CIT-1-210525	Total/NA	Solid	3050B	
320-74350-4	SRE-SED-2-210526	Total/NA	Solid	3050B	
320-74350-5	OS1-SED-1-210526	Total/NA	Solid	3050B	
320-74350-6	HV-1-210526	Total/NA	Solid	3050B	
320-74350-7	HV-2-210526	Total/NA	Solid	3050B	
320-74350-8	HV-SED-1-210526	Total/NA	Solid	3050B	
320-74350-9	OS8-SED-1-210526	Total/NA	Solid	3050B	
320-74350-10	OW-SED-1-210526	Total/NA	Solid	3050B	
320-74350-11	TF-1-210526	Total/NA	Solid	3050B	
320-74350-12	KC-1-210527	Total/NA	Solid	3050B	
320-74350-13	GF-1-210527	Total/NA	Solid	3050B	
320-74350-14	AT-1-210527	Total/NA	Solid	3050B	
MB 320-494387/1-A	Method Blank	Total/NA	Solid	3050B	
LCS 320-494387/2-A	Lab Control Sample	Total/NA	Solid	3050B	

### Analysis Batch: 495010

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-74350-1	RRMDF-SED-1-210525	Total/NA	Solid	6010B	494387
320-74350-2	BP-SED-1-210525	Total/NA	Solid	6010B	494387
320-74350-3	CIT-1-210525	Total/NA	Solid	6010B	494387
320-74350-4	SRE-SED-2-210526	Total/NA	Solid	6010B	494387
320-74350-5	OS1-SED-1-210526	Total/NA	Solid	6010B	494387
320-74350-6	HV-1-210526	Total/NA	Solid	6010B	494387
320-74350-7	HV-2-210526	Total/NA	Solid	6010B	494387
320-74350-8	HV-SED-1-210526	Total/NA	Solid	6010B	494387
320-74350-9	OS8-SED-1-210526	Total/NA	Solid	6010B	494387
320-74350-10	OW-SED-1-210526	Total/NA	Solid	6010B	494387
320-74350-11	TF-1-210526	Total/NA	Solid	6010B	494387
320-74350-12	KC-1-210527	Total/NA	Solid	6010B	494387
320-74350-13	GF-1-210527	Total/NA	Solid	6010B	494387

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Job ID: 320-74350-1

## Metals (Continued)

### Analysis Batch: 495010 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-74350-14	AT-1-210527	Total/NA	Solid	6010B	494387
MB 320-494387/1-A	Method Blank	Total/NA	Solid	6010B	494387
LCS 320-494387/2-A	Lab Control Sample	Total/NA	Solid	6010B	494387

### Prep Batch: 495048

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-74350-1	RRMDF-SED-1-210525	Total/NA	Solid	7471A	
320-74350-2	BP-SED-1-210525	Total/NA	Solid	7471A	
320-74350-3	CIT-1-210525	Total/NA	Solid	7471A	
320-74350-4	SRE-SED-2-210526	Total/NA	Solid	7471A	
320-74350-5	OS1-SED-1-210526	Total/NA	Solid	7471A	
320-74350-6	HV-1-210526	Total/NA	Solid	7471A	
320-74350-7	HV-2-210526	Total/NA	Solid	7471A	
320-74350-8	HV-SED-1-210526	Total/NA	Solid	7471A	
320-74350-9	OS8-SED-1-210526	Total/NA	Solid	7471A	
320-74350-10	OW-SED-1-210526	Total/NA	Solid	7471A	
320-74350-11	TF-1-210526	Total/NA	Solid	7471A	
320-74350-12	KC-1-210527	Total/NA	Solid	7471A	
320-74350-13	GF-1-210527	Total/NA	Solid	7471A	
320-74350-14	AT-1-210527	Total/NA	Solid	7471A	
MB 320-495048/11-A	Method Blank	Total/NA	Solid	7471A	
LCS 320-495048/12-A	Lab Control Sample	Total/NA	Solid	7471A	
LCSD 320-495048/13-A	Lab Control Sample Dup	Total/NA	Solid	7471A	

### Analysis Batch: 495436

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-74350-1	RRMDF-SED-1-210525	Total/NA	Solid	7471A	495048
320-74350-2	BP-SED-1-210525	Total/NA	Solid	7471A	495048
320-74350-3	CIT-1-210525	Total/NA	Solid	7471A	495048
320-74350-4	SRE-SED-2-210526	Total/NA	Solid	7471A	495048
320-74350-5	OS1-SED-1-210526	Total/NA	Solid	7471A	495048
320-74350-6	HV-1-210526	Total/NA	Solid	7471A	495048
320-74350-7	HV-2-210526	Total/NA	Solid	7471A	495048
320-74350-8	HV-SED-1-210526	Total/NA	Solid	7471A	495048
320-74350-9	OS8-SED-1-210526	Total/NA	Solid	7471A	495048
320-74350-10	OW-SED-1-210526	Total/NA	Solid	7471A	495048
320-74350-11	TF-1-210526	Total/NA	Solid	7471A	495048
320-74350-12	KC-1-210527	Total/NA	Solid	7471A	495048
320-74350-13	GF-1-210527	Total/NA	Solid	7471A	495048
320-74350-14	AT-1-210527	Total/NA	Solid	7471A	495048
MB 320-495048/11-A	Method Blank	Total/NA	Solid	7471A	495048
LCS 320-495048/12-A	Lab Control Sample	Total/NA	Solid	7471A	495048
LCSD 320-495048/13-A	Lab Control Sample Dup	Total/NA	Solid	7471A	495048

## Client Sample ID: RRMDF-SED-1-210525 Date Collected: 05/25/21 10:15 Date Received: 05/28/21 09:20

Batch		Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.09 g	50 mL	494499	06/01/21 14:21	TCS	TAL SAC
Soluble	Analysis	314.0		1			494739	06/02/21 13:25	TCS	TAL SAC
Total/NA	Prep	3050B			1.01 g	100 mL	494387	06/01/21 13:18	JP	TAL SAC
Total/NA	Analysis	6010B		1			495010	06/02/21 17:23	GSH	TAL SAC
Total/NA	Prep	7471A			0.60 g	50 mL	495048	06/03/21 10:00	IM	TAL SAC
Total/NA	Analysis	7471A		1			495436	06/03/21 14:44	IM	TAL SAC

### Client Sample ID: BP-SED-1-210525 Date Collected: 05/25/21 11:30 Date Received: 05/28/21 09:20

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.11 g	50 mL	494499	06/01/21 14:21	TCS	TAL SAC
Soluble	Analysis	314.0		1			494739	06/02/21 14:31	TCS	TAL SAC
Total/NA	Prep	3050B			1.00 g	100 mL	494387	06/01/21 13:18	JP	TAL SAC
Total/NA	Analysis	6010B		1			495010	06/02/21 17:27	GSH	TAL SAC
Total/NA	Prep	7471A			0.64 g	50 mL	495048	06/03/21 10:00	IM	TAL SAC
Total/NA	Analysis	7471A		1			495436	06/03/21 14:46	IM	TAL SAC

### Client Sample ID: CIT-1-210525 Date Collected: 05/25/21 14:30 Date Received: 05/28/21 09:20

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.10 g	50 mL	494499	06/01/21 14:21	TCS	TAL SAC
Soluble	Analysis	314.0		5			494739	06/02/21 14:54	TCS	TAL SAC
Total/NA	Prep	3050B			1.02 g	100 mL	494387	06/01/21 13:18	JP	TAL SAC
Total/NA	Analysis	6010B		1			495010	06/02/21 17:31	GSH	TAL SAC
Total/NA	Prep	7471A			0.62 g	50 mL	495048	06/03/21 10:00	IM	TAL SAC
Total/NA	Analysis	7471A		1			495436	06/03/21 14:48	IM	TAL SAC

### Client Sample ID: SRE-SED-2-210526 Date Collected: 05/26/21 09:00 Date Received: 05/28/21 09:20

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.04 g	50 mL	494499	06/01/21 14:21	TCS	TAL SAC
Soluble	Analysis	314.0		5			494739	06/02/21 15:16	TCS	TAL SAC
Total/NA	Prep	3050B			1.02 g	100 mL	494387	06/01/21 13:18	JP	TAL SAC
Total/NA	Analysis	6010B		1			495010	06/02/21 17:35	GSH	TAL SAC
Total/NA	Prep	7471A			0.56 g	50 mL	495048	06/03/21 10:00	IM	TAL SAC
Total/NA	Analysis	7471A		1			495436	06/03/21 14:49	IM	TAL SAC

# Lab Sample ID: 320-74350-1

Job ID: 320-74350-1

Matrix: Solid

Matrix: Solid

Lab Sample ID: 320-74350-3 Matrix: Solid

Lab Sample ID: 320-74350-4

Matrix: Solid

Lab Sample ID: 320-74350-2

## Client Sample ID: OS1-SED-1-210526 Date Collected: 05/26/21 10:10 Date Received: 05/28/21 09:20

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3550B			10.26 g	0.5 mL	494368	06/01/21 11:49		TAL SAC
Total/NA	Analysis	GCMSMS_NDMA		1			495135	06/03/21 13:47		TAL SAC
Soluble	Leach	DI Leach			5.01 g	50 mL	494499	06/01/21 14:21	TCS	TAL SAC
Soluble	Analysis	314.0		5			494739	06/02/21 15:38	TCS	TAL SAC
Total/NA	Prep	3050B			1.03 g	100 mL	494387	06/01/21 13:18	JP	TAL SAC
Total/NA	Analysis	6010B		1			495010	06/02/21 17:39	GSH	TAL SAC
Total/NA	Prep	7471A			0.58 g	50 mL	495048	06/03/21 10:00	IM	TAL SAC

1

## Client Sample ID: HV-1-210526

Analysis

7471A

Date Collected: 05/26/21 11:30 Date Received: 05/28/21 09:20

Total/NA

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.04 g	50 mL	494499	06/01/21 14:21	TCS	TAL SAC
Soluble	Analysis	314.0		1			495092	06/03/21 14:41	TCS	TAL SAC
Total/NA	Prep	3050B			1.02 g	100 mL	494387	06/01/21 13:18	JP	TAL SAC
Total/NA	Analysis	6010B		1			495010	06/02/21 17:42	GSH	TAL SAC
Total/NA	Prep	7471A			0.62 g	50 mL	495048	06/03/21 10:00	IM	TAL SAC
Total/NA	Analysis	7471A		1			495436	06/03/21 14:53	IM	TAL SAC

## Client Sample ID: HV-2-210526 Date Collected: 05/26/21 11:40

### Batch Batch Dil Initial Final Batch Prepared Prep Type Method Number or Analyzed Туре Run Factor Amount Amount Analyst Lab Soluble Leach DI Leach 5.05 g 50 mL 494499 06/01/21 14:21 TCS TAL SAC Soluble 314.0 495092 06/03/21 15:03 TCS TAL SAC Analysis 5 Total/NA Prep 3050B 100 mL 494387 06/01/21 13:18 JP TAL SAC 1.02 g Total/NA 6010B Analysis 495010 06/02/21 17:46 GSH TAL SAC 1 495048 Total/NA Prep 7471A 0.62 g 50 mL 06/03/21 10:00 IM TAL SAC Total/NA 495436 06/03/21 14:55 IM TAL SAC Analysis 7471A 1

### Client Sample ID: HV-SED-1-210526 Date Collected: 05/26/21 11:55 Date Received: 05/28/21 09:20

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.07 g	50 mL	494499	06/01/21 14:21	TCS	TAL SAC
Soluble	Analysis	314.0		1			495092	06/03/21 15:26	TCS	TAL SAC
Total/NA	Prep	3050B			1.00 g	100 mL	494387	06/01/21 13:18	JP	TAL SAC
Total/NA	Analysis	6010B		1			495010	06/02/21 17:50	GSH	TAL SAC
Total/NA	Prep	7471A			0.61 g	50 mL	495048	06/03/21 10:00	IM	TAL SAC
Total/NA	Analysis	7471A		1			495436	06/03/21 14:56	IM	TAL SAC

### Eurofins TestAmerica, Sacramento

Job ID: 320-74350-1

## Lab Sample ID: 320-74350-5 Matrix: Solid

5 10

### Lab Sample ID: 320-74350-6 Matrix: Solid

06/03/21 14:51 IM

495436

TAL SAC

### Lab Sample ID -7

Lab Sample ID: 320-74350-8

Matrix: Solid

Matrix: Solid

6/7/2021

Date Received: 05/28/21 09:20

: 320-	74350
	TAL SAC
	TAL SAC
SH	TAL SAC
)	TAL SAC

## Client Sample ID: OS8-SED-1-210526 Date Collected: 05/26/21 12:40 Date Received: 05/28/21 09:20

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.08 g	50 mL	494499	06/01/21 14:21	TCS	TAL SAC
Soluble	Analysis	314.0		1			495092	06/03/21 15:48	TCS	TAL SAC
Total/NA	Prep	3050B			1.05 g	100 mL	494387	06/01/21 13:18	JP	TAL SAC
Total/NA	Analysis	6010B		1			495010	06/02/21 18:01	GSH	TAL SAC
Total/NA	Prep	7471A			0.64 g	50 mL	495048	06/03/21 10:00	IM	TAL SAC
Total/NA	Analysis	7471A		1			495436	06/03/21 14:58	IM	TAL SAC

10

Job ID: 320-74350-1

Matrix: Solid

Matrix: Solid

Lab Sample ID: 320-74350-9

### Client Sample ID: OW-SED-1-210526 Date Collected: 05/26/21 13:45 Date Received: 05/28/21 09:20

-	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.05 g	50 mL	494499	06/01/21 14:21	TCS	TAL SAC
Soluble	Analysis	314.0		1			495092	06/03/21 16:54	TCS	TAL SAC
Total/NA	Prep	3050B			1.03 g	100 mL	494387	06/01/21 13:18	JP	TAL SAC
Total/NA	Analysis	6010B		1			495010	06/02/21 18:05	GSH	TAL SAC
Total/NA	Prep	7471A			0.64 g	50 mL	495048	06/03/21 10:00	IM	TAL SAC
Total/NA	Analysis	7471A		1			495436	06/03/21 15:03	IM	TAL SAC

### Client Sample ID: TF-1-210526 Date Collected: 05/26/21 14:40 Date Received: 05/28/21 09:20

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.05 g	50 mL	494499	06/01/21 14:21	TCS	TAL SAC
Soluble	Analysis	314.0		5			495092	06/03/21 17:17	TCS	TAL SAC
Total/NA	Prep	3050B			1.01 g	100 mL	494387	06/01/21 13:18	JP	TAL SAC
Total/NA	Analysis	6010B		1			495010	06/02/21 18:09	GSH	TAL SAC
Total/NA	Prep	7471A			0.61 g	50 mL	495048	06/03/21 10:00	IM	TAL SAC
Total/NA	Analysis	7471A		1			495436	06/03/21 15:05	IM	TAL SAC

### Client Sample ID: KC-1-210527 Date Collected: 05/27/21 08:00 Date Received: 05/28/21 09:20

## Lab Sample ID: 320-74350-12 **Matrix: Solid**

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Soluble	Leach	DI Leach			5.09 g	50 mL	494499	06/01/21 14:21	TCS	TAL SAC
Soluble	Analysis	314.0		1			495092	06/03/21 17:39	TCS	TAL SAC
Total/NA	Prep	3050B			1.02 g	100 mL	494387	06/01/21 13:18	JP	TAL SAC
Total/NA	Analysis	6010B		1			495010	06/02/21 18:13	GSH	TAL SAC
Total/NA	Prep	7471A			0.62 g	50 mL	495048	06/03/21 10:00	IM	TAL SAC
Total/NA	Analysis	7471A		1			495436	06/03/21 15:07	IM	TAL SAC

### Lab Sample ID: 320-74350-11 **Matrix: Solid**

Initial

Amount

5.09 g

1.00 g

0.64 g

Final

Amount

50 mL

100 mL

50 mL

Batch

Number

494499

495092

494387

495010

495048

495436

Dil

5

1

1

Factor

Prep Type

Soluble

Soluble

Total/NA

Total/NA

Total/NA

Total/NA

## Client Sample ID: GF-1-210527 Date Collected: 05/27/21 08:20 Date Received: 05/28/21 09:20

Batch

Туре

Leach

Prep

Prep

Analysis

Analysis

Analysis

Batch

Method

DI Leach

314.0

3050B

6010B

7471A

7471A

### Lab Sample ID: 320-74350-13 Matrix: Solid

Analyst

Lab

TAL SAC

TAL SAC

TAL SAC

TAL SAC

TAL SAC

Prepared

or Analyzed

06/01/21 14:21 TCS

06/03/21 18:01 TCS

06/02/21 18:16 GSH

06/01/21 13:18 JP

06/03/21 10:00 IM

0

36	06/03/21 15:08	IM	TAL SAC	8
La	b Sample I		74350-14 atrix: Solid	9
				10
h ber	Prepared or Analyzed	Analyst	Lab	11

Client Sample ID: AT-1-210527

Run

## Date Collected: 05/27/21 08:45 Date Received: 05/28/21 09:20

	Batch	Batch		Dil	Initial	Final	Batch	Prepared			- 1
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab	
Soluble	Leach	DI Leach			5.06 g	50 mL	494499	06/01/21 14:21	TCS	TAL SAC	
Soluble	Analysis	314.0		10			495092	06/03/21 18:23	TCS	TAL SAC	
Total/NA	Prep	3050B			1.04 g	100 mL	494387	06/01/21 13:18	JP	TAL SAC	
Total/NA	Analysis	6010B		1			495010	06/02/21 18:20	GSH	TAL SAC	
Total/NA	Prep	7471A			0.63 g	50 mL	495048	06/03/21 10:00	IM	TAL SAC	
Total/NA	Analysis	7471A		1			495436	06/03/21 15:10	IM	TAL SAC	

### Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Job ID: 320-74350-1

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> 11 12

### Laboratory: Eurofins TestAmerica, Sacramento Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below. Authority Program **Identification Number Expiration Date** California State 2897 01-31-22 The following analytes are included in this report, but the laboratory is not certified by the governing authority. This list may include analytes for which the agency does not offer certification. Matrix Analysis Method Prep Method Analyte 314.0 Solid Perchlorate GCMSMS\_NDMA 3550B Solid N-Nitrosodimethylamine

Eurofins TestAmerica, Sacramento

## **Method Summary**

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

lethod	Method Description	Protocol	Laboratory
GCMSMS_NDMA	Nitrosamines by Isotope Dilution and GC/CI/MS/MS	TestAmerica SOP	TAL SAC
14.0	Perchlorate (IC)	EPA	TAL SAC
010B	Metals (ICP)	SW846	TAL SAC
471A	Mercury (CVAA)	SW846	TAL SAC
050B	Preparation, Metals	SW846	TAL SAC
550B	Ultrasonic Extraction	SW846	TAL SAC
471A	Preparation, Mercury	SW846	TAL SAC
l Leach	Deionized Water Leaching Procedure	ASTM	TAL SAC

### **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. TestAmerica SOP = TestAmerica, Inc., Standard Operating Procedure

### Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

## Sample Summary

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

_ab Sample ID	Client Sample ID	Matrix	Collected	Received	Ass
320-74350-1	RRMDF-SED-1-210525	Solid	05/25/21 10:15	05/28/21 09:20	
320-74350-2	BP-SED-1-210525	Solid	05/25/21 11:30	05/28/21 09:20	
320-74350-3	CIT-1-210525	Solid	05/25/21 14:30	05/28/21 09:20	
320-74350-4	SRE-SED-2-210526	Solid	05/26/21 09:00	05/28/21 09:20	
320-74350-5	OS1-SED-1-210526	Solid	05/26/21 10:10	05/28/21 09:20	
320-74350-6	HV-1-210526	Solid	05/26/21 11:30	05/28/21 09:20	
320-74350-7	HV-2-210526	Solid	05/26/21 11:40	05/28/21 09:20	
20-74350-8	HV-SED-1-210526	Solid	05/26/21 11:55	05/28/21 09:20	
20-74350-9	OS8-SED-1-210526	Solid	05/26/21 12:40	05/28/21 09:20	
20-74350-10	OW-SED-1-210526	Solid	05/26/21 13:45	05/28/21 09:20	
320-74350-11	TF-1-210526	Solid	05/26/21 14:40	05/28/21 09:20	
320-74350-12	KC-1-210527	Solid	05/27/21 08:00	05/28/21 09:20	
20-74350-13	GF-1-210527	Solid	05/27/21 08:20	05/28/21 09:20	
20-74350-14	AT-1-210527	Solid	05/27/21 08:45	05/28/21 09:20	

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Image: Second control in the second control of the second contrel control of the secon		Oakland, CA 94612 (510) 463-8484		LOBAL ID:						SAMPLER	S; (PRINT) C/1 / CTB
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6/7/2021

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Client: GSI Environmental, Inc

### Login Number: 74350 List Number: 1 Creator: Anderson, Marina M

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	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	

Job Number: 320-74350-1

List Source: Eurofins TestAmerica, Sacramento





PO Box 30712 Charleston, SC 29417 2040 Savage Road Charleston, SC 29407 P 843,556,8171 F 843,766,1178

gel.com

July 23, 2021

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

Re: Near SSFL Work Order: 545806

Dear Travis Wicks:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on May 28, 2021. 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 duth man,

Brielle Luthman Project Manager

Purchase Order: 5182 Enclosures

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

## Certificate of Analysis Report for

GSIE002 GSI Environmental Inc.

### Client SDG: 545806 GEL Work Order: 545806

### 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.

B duth man

Reviewed by

Company Address :	155 Sui	5 Grand Av te 704	nental Inc. ve ifornia 9461	2					F	Report Date:	Jı	ıly 23,	2021	
Contact:	Tra	vis Wicks												
Project:	Ne	ar SSFL												_
Client Sar Sample II Matrix: Collect Da Receive D Collector: Moisture:	D: ate: Date:	RRMDI 545806 Soil 25-MA 28-MA Client 1.27%	Y-21	21025				oject: lent ID:		IE00119 IE002				
Parameter	(	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date	Time	Batch	Mtd.
Rad Gamma Sp Gammaspec, C Cesium-137 Rad Gas Flow P GFPC, Sr90, S Strontium-90	Gamma, So Proportion Solid "Dry	olid (Stando <b>al Countin</b> Weight Co U	0.0795 ng	Pry Weight Co +/-0.0465 +/-0.0499	orrected" 0.0518 0.0802	+/-0.0470 +/-0.0509	0.100 0.100	pCi/g pCi/g					2133406 2133470	
Rad Liquid Scin LSC, Tritium 1		•	Received"											
Tritium	Distillation	U U	-0.415	+/-1.23	2.23	+/-1.23	0.200	pCi/g		KXA1	06/16/21	1832	2138793	3
The following P			performed											
Method	Descrij	ption				Analyst	Date	Tir	ne	<b>Prep Batch</b>				
Dry Soil Prep	Dry Soil	l Prep GL-R	AD-A-021			LYT1	06/01/21	103	39	2133223				
The following A			vere perfor	med										
Method	Descrip	otion												
1	DOE HA	ASL 300, 4.5	5.2.3/Ga-01-I	ર										
2	EPA 905	5.0 Modified	l/DOE RP50	1 Rev. 1 Modi	fied									
3	EPA 906	5.0 Modified	1											
Surrogate/Trac	er Recove	ery ]	Fest					]	Batch	ID Recover	ry% A	ccepta	ble Limi	ts
Strontium Ca	rrier		GFPC, Sr9	0, Solid "Dr	Weight Cor	rected"			21334	170 71	.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 23, 2021
Contact:	Travis Wicks					
Project:	Near SSFL					
Client Sample Sample ID:	ID: RRMDF-SED-1-21025 545806001			Project: Client ID:	GSIE00119 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:Mtd.: MetDF: Dilution FactorMtd.: MetDL: Detection LimitPF: Prep HLc/LC: Critical LevelRL: ReportMDA: Minimum Detectable ActivityTPU: TotalMDC: Minimum Detectable ConcentrationF

Company Address :	155 Suit	Grand Ave 704	nental Inc. ve fornia 9461	2					F	Report Date:	Ju	ly 23,	2021	
Contact:	Trav	vis Wicks												
Project:	Nea	r SSFL												
Client Sat Sample II Matrix: Collect D Receive I Collector Moisture:	D: Date: Date: :	BP-SEE 5458060 Soil 25-MA 28-MA Client 1.91%	Y-21	5				oject: ient ID:		IE00119 IE002				
Parameter	Q	ualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date	Time	Batch	Mtd.
Rad Gamma Sp Gammaspec, Cesium-137 Rad Gas Flow H GFPC, Sr90, Strontium-90 Rad Liquid Scin LSC, Tritium Tritium The following H Method Dry Soil Prep	Gamma, Son Proportiona Solid "Dry V ntillation A Distillation, Prep Metho Descrip Dry Soil	lid (Standa Il Countin Weight Co U nalysis Soil "As I U ds were p tion Prep GL-R	0.0985 ng prrected" 0.0323 Received" -1.58 performed AD-A-021	+/-0.0584 +/-0.0548 +/-1.58	orrected" 0.0553 0.0947 2.98	+/-0.0589 +/-0.0551 +/-1.58 Analyst LYT1	0.100 0.100 0.200 Date 06/01/21		<b>me</b> 39	LXB3	07/12/21 06/09/21 06/16/21	1219	2133470	2
The following A Method	Analytical M Descrip		vere perfor	med										
1	-		5.2.3/Ga-01-F	2										
2		,		N 1 Rev. 1 Modi	fied									
3	EPA 906	0 Modified	1											
Surrogate/Tra	cer Recover	ry 1	ſest						Batch	ID Recover	y% Ac	cepta	ble Limi	its
Strontium Ca	arrier		GFPC, Sr9	0, Solid "Dr	y Weight Co	orrected"			21334	70 67	.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 23, 2021
Contact:	Travis Wicks					
Project:	Near SSFL					
Client Sample				Project:	GSIE00119	
Sample ID:	545806002			Client ID:	GSIE002	
Parameter	Qualifier Result Uncertainty	MDC	ΤΡΙ	RL Units	PF DF Analyst	Date Time Batch Mtd

Parameter	Qualifier	Result Uncertainty	MDC	'	TPU	KL	Units	PF	DF Analyst	Date 1	Ime	Batch	Mtd.
Surrogate/Tracer Reco	overy '	Гest						Batch ]	D Recovery	% Acc	eptab	le Limi	its

### 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:Mtd.: MethoDF: Dilution FactorMtd.: MethoDL: Detection LimitPF: Prep FacLc/LC: Critical LevelRL: ReportinMDA: Minimum Detectable ActivityTPU: Total HMDC: Minimum Detectable ConcentrationF

Company Address :	155 Grand Suite 704	nmental Inc. Ave alifornia 946	12					F	Report Date:	Ju	ly 23,	2021	
Contact:	Travis Wic	ks											
Project:	Near SSFL												
Client Sat Sample II Matrix: Collect D Receive I Collector Moisture:	D: 5458( Soil Pate: 25-M Date: 28-M : Clien	AY-21 AY-21 t					oject: ent ID:		IE00119 IE002				
Parameter	Qualifie	r Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date	Time	Batch	Mtd.
Cesium-137 <b>Rad Gas Flow I</b> <i>GFPC, Sr90,</i> Strontium-90 <b>Rad Liquid Scin</b> <i>LSC, Tritium</i> Tritium <u>The following I</u> <u>Method</u> Dry Soil Prep	Gamma, Solid (Stat Proportional Cour Solid "Dry Weight U ntillation Analysis Distillation, Soil "A U Prep Methods wer Description Dry Soil Prep GI	0.0900 ting Corrected" 0.0147 as Received" 0.728 e performed -RAD-A-021	+/-0.0762 +/-0.0449 +/-1.19	orrected" 0.0520 0.0821 2.03	+/-0.0766 +/-0.0450 +/-1.20 Analyst LYT1	0.100 0.100 0.200 <b>Date</b> 06/01/21	pCi/g pCi/g pCi/g Tin 103		LXB3	06/02/21 06/09/21 06/16/21	0547	2133470	2
The following A Method	Analytical Method Description	s were perfor	med										
1	DOE HASL 300,	4.5.2.3/Ga-01-	R										
2	EPA 905.0 Modif			fied									
3	EPA 906.0 Modif	ïed											
Surrogate/Tra	cer Recovery	Test					]	Batch	ID Recover	y% Ac	cepta	ble Limi	its
Strontium Ca	arrier	GFPC, Sr9	0, Solid "Dr	y Weight Co	rrected"			21334		-	(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 23, 2021
Contact:	Travis Wicks				
Project:	Near SSFL				
Client Sample Sample ID:	e ID: CIT-1-210525 545806003		Project: Client ID:	GSIE00119 GSIE002	
Parameter	Qualifier Result Uncertainty	MDC TPI	RL Units	PF DF Analyst	Date Time Batch Mtd

Parameter	Qualifier	Result Uncertainty	MDC	TPU	RL	Units	PF	DF Analyst	Date Time	e Batch	Mtd.
Surrogate/Tracer	Recovery	Гest					Batch	ID Recovery	% Accepta	able Limi	its

### 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:<br/>DF: Dilution FactorMtd.: MethodDL: Detection LimitPF: Prep FactorLc/LC: Critical LevelRL: Reporting LimitMDA: Minimum Detectable ActivityTPU: Total Propagated UncertaintyMDC: Minimum Detectable ConcentrationFinit TPU: Total Propagated Uncertainty

Company Address :	155 Grand Suite 704	onmental Inc. Ave California 946	12					F	Report Date:	July 23,	, 2021	
Contact:	Travis Wi	cks										
Project:	Near SSFI											
Client Sam Sample II Matrix: Collect Da Receive D Collector: Moisture:	D: 5458 Soil ate: 26-M Date: 28-M		526				oject: ient ID:		IE00119 IE002			
Parameter	Qualifi	er Result U	Incertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date Time	Batch I	Mtd.
Cesium-137 <b>Rad Gas Flow P</b> <i>GFPC, Sr90, S</i> Strontium-90 <b>Rad Liquid Scin</b> <i>LSC, Tritium I</i> Tritium	Gamma, Solid (Sta Proportional Cou Solid "Dry Weight U	0.0729 nting <i>Corrected</i> " 0.0291 s As Received" -0.00170	Dry Weight C +/-0.0311 +/-0.0473 +/-1.21	lorrected" 0.0465 0.0822 2.15	+/-0.0316 +/-0.0476 +/-1.21	0.100 0.100 0.200 Date	pCi/g pCi/g pCi/g Tir	10	LXB3	06/02/21 1111 06/09/21 1024 06/16/21 2022	2133470	2
	-				Analyst				-			
	Dry Soil Prep G nalytical Method		rmed		LYT1	06/01/21	103	9	2133223			
Method	Description											
1	DOE HASL 300	, 4.5.2.3/Ga-01-	R									
2	EPA 905.0 Modi	fied/DOE RP50	1 Rev. 1 Modi	fied								
3	EPA 906.0 Modi	fied										
Surrogate/Trac	er Recovery	Test					]	Batch	ID Recover	y% Accepta	ıble Limit	ts
Strontium Ca	rrier	GFPC, Sr	90, Solid "Dr	y Weight C	orrected"			21334	170 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 23, 2021
Contact:	Travis Wicks					
Project:	Near SSFL					
Client Sample	ID: SRE-SED-2-210526			Project:	GSIE00119	
Sample ID:	545806004			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:Mtd.: MethodDF: Dilution FactorMtd.: MethodDL: Detection LimitPF: Prep FacLc/LC: Critical LevelRL: ReportionMDA: Minimum Detectable ActivityTPU: TotalMDC: Minimum Detectable ConcentrationPE

Company Address :	155 G Suite	rand Av 704	ental Inc. e fornia 9461	2					F	Report Date:	Jı	ıly 23,	2021	
Contact:	Travis	s Wicks												
Project:	Near	SSFL												
Client Sat Sample II Matrix: Collect D Receive I Collector Moisture:	D: Solution Solutin Solution Solution Solution Solution Solution Solution Solution S	DS1-SE 5458060 50il 26-MAY 28-MAY Client 5.72%	Z-21	26				oject: ient ID:		IE00119 IE002				
Parameter	Qu	alifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date	Time	Batch	Mtd.
Rad Gamma Sp Gammaspec, Cesium-137 Rad Gas Flow H GFPC, Sr90, Strontium-90 Rad Liquid Scin LSC, Tritium Tritium The following I Method Dry Soil Prep The following A	Gamma, Solia Proportional Solid "Dry Wa ntillation Ana Distillation, S Prep Method Descriptio Dry Soil Pr	Countin Countin U U U Source propon Con Con Counting Counting Counting Counting Counting Counting Counting Counting U Counting C	0.0669 g rected" 0.0678 ecceived" -0.0847 erformed	+/-0.0579 +/-0.0521 +/-1.15	lorrected" 0.0461 0.0812 2.04	+/-0.0582 +/-0.0535 +/-1.15 Analyst LYT1	0.100 0.100 0.200 <b>Date</b> 06/01/21	pCi/g pCi/g pCi/g Tin 10:		LXB3	06/09/21	0547	2133406 2133470 2138793	2
Method	Description		ere perior	ineu										
1	DOE HASI	300, 4.5.	2.3/Ga-01-F	٤										
2				1 Rev. 1 Modi	fied									
3	EPA 906.0	Modified												
Surrogate/Tra	cer Recovery	Т	est					]	Batch	ID Recover	y% A	ccepta	ble Limi	its
Strontium Ca	arrier		GFPC, Sr9	0, Solid "Dr	y Weight Cor	rrected"			21334	70 71	.9	(25%-	125%)	

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## **Certificate of Analysis**

Company :	GSI Environmental Inc.			
Address :	155 Grand Ave			
	Suite 704 Oakland, California 94612		Demost Data	July 22, 2021
_	·		Report Date:	July 23, 2021
Contact:	Travis Wicks			
Project:	Near SSFL			
Client Sample Sample ID:	ID: OS1-SED-1-210526 545806005	Project: Client ID:	GSIE00119 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 FactorMtd.: MeDL: Detection LimitPF: PrepLc/LC: Critical LevelRL: RepoMDA: Minimum Detectable ActivityTPU: TotMDC: Minimum Detectable ConcentrationF

Company Address :	155 Gran Suite 704	ronmental Inc. d Ave California 946	12					F	Report Date:	Ju	ly 23,	2021	
Contact:	Travis W	icks											
Project:	Near SSF	L											
Client Sar Sample II Matrix: Collect D Receive I Collector Moisture:	D: 5453 Soil Date: 26-M Date: 28-M : Clie	MAY-21 MAY-21 nt					oject: lent ID:		IE00119 IE002				
Parameter	Qualif	er Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date	Time	Batch	Mtd.
Cesium-137 <b>Rad Gas Flow H</b> <i>GFPC, Sr90, J</i> Strontium-90 <b>Rad Liquid Scin</b> <i>LSC, Tritium J</i> Tritium <u>The following I</u> <u>Method</u> Dry Soil Prep	Dec Analysis Gamma, Solid (St U Proportional Cou Solid "Dry Weigh U ntillation Analysi Distillation, Soil " U Prep Methods we Description Dry Soil Prep C Analytical Metho	0.00932 nting t Corrected" 0.0711 s 'As Received" 0.0449 ere performed GL-RAD-A-021	+/-0.0243 +/-0.0594 +/-1.21	Corrected" 0.0465 0.0962 2.14	+/-0.0247 +/-0.0608 +/-1.21 Analyst LYT1	0.100 0.100 0.200 <b>Date</b> 06/01/21	pCi/g pCi/g pCi/g Tin 10:		LXB3	06/02/21 06/09/21 06/16/21	0554	2133470	2
Method	Description	us were perior	ineu										
1	DOE HASL 30	), 4.5.2.3/Ga-01-J	R										
2	EPA 905.0 Mod	ified/DOE RP50	1 Rev. 1 Modi	fied									
3	EPA 906.0 Mod	lified											
Surrogate/Tra	cer Recovery	Test					]	Batch	ID Recover	y% Ac	cepta	ble Limi	its
Strontium Ca	arrier	GFPC, Sr	0, Solid "Dr	y Weight Cor	rected"			21334	170 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 23, 2021
Contact:	Travis Wicks					
Project:	Near SSFL					
Client Sample	ID: HV-1-210526			Project:	GSIE00119	
Sample ID:	545806006			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:<br/>DF: Dilution FactorMtd.: MethodDL: Detection LimitPF: Prep FactorLc/LC: Critical LevelRL: Reporting LimitMDA: Minimum Detectable ActivityTPU: Total Propagated UncertaintyMDC: Minimum Detectable ConcentrationFree Prep Factor

Page 14 of 40 SDG: 545806

Company Address :	155 Grand Suite 704	onmental Inc. Ave alifornia 946	12					F	Report Date:	Jul	y 23,	2021	
Contact:	Travis Wic	ks											
Project:	Near SSFL	,											
Client San Sample II Matrix: Collect D Receive I Collector: Moisture:	D: 5458 Soil Pate: 26-M Date: 28-M : Clien						oject: lent ID:		IE00119 IE002				
Parameter	Qualifie	r Result L	Incertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date '	Гіте	Batch	Mtd.
Cesium-137 <b>Rad Gas Flow F</b> <i>GFPC, Sr90, J</i> Strontium-90 <b>Rad Liquid Scin</b> <i>LSC, Tritium J</i> Tritium The following H Method Dry Soil Prep	Dec Analysis Gamma, Solid (Sta U Proportional Cour Solid "Dry Weight U ntillation Analysis Distillation, Soil "A U Prep Methods wer Description Dry Soil Prep GI Analytical Method	0.0311 ting Corrected" 0.00227 As Received" -0.213 e performed -RAD-A-021	+/-0.0278 +/-0.0470 +/-1.24	orrected" 0.0560 0.0912 2.22	+/-0.0313 +/-0.0470 +/-1.24 Analyst LYT1	0.100 0.100 0.200 <b>Date</b> 06/01/21	pCi/g pCi/g pCi/g Tir 10:		LXB3	06/02/21 06/09/21 06/16/21	0554	2133470	2
Method	Description	s were perior	incu										
1	DOE HASL 300,	4.5.2.3/Ga-01-	R										
2	EPA 905.0 Modi			fied									
3	EPA 906.0 Modi	fied											
Surrogate/Trac	cer Recovery	Test					]	Batch	ID Recover	y% Ac	cepta	ble Limi	ts
Strontium Ca	arrier	GFPC, Sr	90, Solid "Dr	y Weight Cor	rected"			21334	470 65.	.2 (	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 23, 2021
Contact:	Travis Wicks					
Project:	Near SSFL					
Client Sample	ID: HV-2-210526			Project:	GSIE00119	
Sample ID:	545806007			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 FactorMtd.: MethoDL: Detection LimitPF: Prep FacLc/LC: Critical LevelRL: ReportinMDA: Minimum Detectable ActivityTPU: Total IMDC: Minimum Detectable ConcentrationFile

Company Address :	155 Grand A Suite 704		12					F	Report Date:	July 23	3, 2021	
Contact:	Travis Wick	38										
Project:	Near SSFL											
Client Sar Sample II Matrix: Collect Da Receive E Collector: Moisture:	D: 54580 Soil ate: 26-M Date: 28-M Client	AY-21 AY-21	26				oject: ent ID:		IE00119 IE002			
Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analyst	t Date Tim	e Batch	Mtd.
Cesium-137 <b>Rad Gas Flow P</b> <i>GFPC, Sr90, S</i> Strontium-90 <b>Rad Liquid Scir</b> <i>LSC, Tritium T</i> Tritium The following F Method Dry Soil Prep	ec Analysis Gamma, Solid (Stan UI Proportional Count Solid "Dry Weight O U ntillation Analysis Distillation, Soil "A U Prep Methods were Description Dry Soil Prep GL analytical Methods	0.000 ing Corrected" 0.0363 s Received" 0.311 e performed RAD-A-021	+/-0.0753 +/-0.0483 +/-1.19	orrected" 0.0604 0.0825 2.08	+/-0.0755 +/-0.0487 +/-1.19 Analyst LYT1	0.100 0.100 0.200 <b>Date</b> 06/01/21	pCi/g pCi/g pCi/g Tin 103		LXB3	06/02/21 1113 06/09/21 0554 06/16/21 2249	2133470	) 2
Method	Description	were perior	incu									
1	DOE HASL 300, 4	4.5.2.3/Ga-01-I	R									
2	EPA 905.0 Modifi			fied								
3	EPA 906.0 Modifi	ed										
Surrogate/Trac	cer Recovery	Test					ł	Batch	ID Recover	y% Accept	able Lim	its
Strontium Ca	rrier	GFPC, Sr9	0, Solid "Dr	y Weight Co	rrected"			21334			5-125%)	

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## **Certificate of Analysis**

Client Sample Sample ID:	ID: HV-SED-1-210526 545806008	Project: Client ID:	GSIE00119 GSIE002	
Project:	Near SSFL			
Contact:	Travis Wicks			
riddross .	Suite 704 Oakland, California 94612		Report Date:	July 23, 2021
Company : Address :	GSI Environmental Inc. 155 Grand Ave			

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:<br/>DF: Dilution FactorMtd.: MethodDL: Detection LimitPF: Prep FactorLc/LC: Critical LevelRL: Reporting LimitMDA: Minimum Detectable ActivityTPU: Total Propagated UncertaintyMDC: Minimum Detectable ConcentrationFree Prep Factor

Company : Address :	GSI Environ 155 Grand A Suite 704 Oakland, Cal	ve	12					F	Report Date:	July 23	, 2021	
Contact:	Travis Wicks	3										
Project:	Near SSFL											
Client Sampl Sample ID: Matrix: Collect Date Receive Date Collector: Moisture:	545806 Soil : 26-MA	Y-21	26				oject: ient ID:		IE00119 IE002			
Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	Date Tim	e Batch	Mtd.
	nma, Solid (Stand portional Counti id "Dry Weight C U lation Analysis tillation, Soil "As U p Methods were Description Dry Soil Prep GL-I	0.109 ng orrected" -0.00431 Received" 0.0818 performed RAD-A-021	+/-0.0588 +/-0.0411 +/-1.19	Corrected" 0.0615 0.0792 2.11	+/-0.0595 +/-0.0411 +/-1.19 Analyst LYT1	0.100 0.100 0.200 <b>Date</b> 06/01/21	pCi/g pCi/g pCi/g Tin 103		LXB3	06/02/21 1113 06/09/21 0554 06/16/21 2326	2133470	) 2
	Description	were perior	meu									
	DOE HASL 300, 4.	.5.2.3/Ga-01-I	R									
	EPA 905.0 Modifie			fied								
3	EPA 906.0 Modifie	d										
Surrogate/Tracer	Recovery	Test					J	Batch	ID Recover	y% Accept	able Limi	its
Strontium Carrie		GFPC, Sr9						21334	170 87		-125%)	

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## **Certificate of Analysis**

Company :	GSI Environmental Inc.			
Address :	155 Grand Ave			
	Suite 704 Oakland, California 94612		Dement Deter	L.L. 22, 2021
_	,		Report Date:	July 23, 2021
Contact:	Travis Wicks			
Project:	Near SSFL			
Client Sample Sample ID:	ID: OS8-SED-1-210526 545806009	Project: Client ID:	GSIE00119 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:Mtd.: MetDF: Dilution FactorMtd.: MetDL: Detection LimitPF: Prep FLc/LC: Critical LevelRL: ReportMDA: Minimum Detectable ActivityTPU: TotalMDC: Minimum Detectable ConcentrationF

Company Address :	155 Gra Suite 7	vironmental In and Ave )4 1, California 94						F	Report Date:	Jul	y 23,	2021	
Contact:	Travis	Wicks											
Project:	Near S	SFL											
Client Sar Sample II Matrix: Collect Da Receive D Collector: Moisture:	D: 54 Sc ate: 26 Date: 28 Cl	W-SED-1-210 5806010 bil -MAY-21 -MAY-21 ient 6.6%	)526				oject: ient ID:		IE00119 IE002				
Parameter	Qua	ifier Result	Uncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date '	Гime	Batch	Mtd.
Rad Gamma Sp         Gammaspec, O         Cesium-137         Rad Gas Flow P         GFPC, Sr90, S         Strontium-90         Rad Liquid Scin         LSC, Tritium D         Tritium         The following P         Method         Dry Soil Prep	Gamma, Solid ( <b>Proportional C</b> Solid "Dry Wei <b>U</b> <b>Itillation Anal</b> Distillation, So <b>Prep Methods</b> <b>Description</b>	0.147 ounting ght Corrected" -0.0469 ysis il "As Received 0.0325 were performe	+/-0.0470 +/-0.0457 "5 +/-1.25	Corrected" 0.0484 0.0925 2.22	+/-0.0493 +/-0.0457 +/-1.25 Analyst LYT1	0.100 0.100 0.200 Date 06/01/21		<b>me</b> 39	LXB3	06/02/21 06/09/21 06/17/21	0555	2133470	0 2
The following A	nalytical Met	ods were perf	ormed										
Method	Description												
1	DOE HASL	300, 4.5.2.3/Ga-0	1-R										
2	EPA 905.0 M	odified/DOE RP	501 Rev. 1 Mod	lified									
3	EPA 906.0 N	odified											
Surrogate/Trac	er Recovery	Test						Batch	ID Recover	y% Ac	cepta	ble Lim	its
Strontium Ca	rrier	GFPC, S	Sr90, Solid "Di	ry Weight Co	rrected"			21334	470 89	.9 (	25%-	125%)	

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## **Certificate of Analysis**

Parameter	Qualifier R	Result Uncertainty	MDC	TPU	RL Un	nits PF	<b>DF</b> Analyst	Date Time Ba	tch Mtd.
Client Sample Sample ID:	ID: OW-SED- 545806010				Project Client		SIE00119 SIE002		
Project:	Near SSFL								
Contact:	Travis Wicks								
	Suite 704 Oakland, Californ	nia 94612				1	Report Date:	July 23, 202	1
Address :	155 Grand Ave								
Company :	GSI Environment	tal Inc.							

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:Mtd.: MethDF: Dilution FactorMtd.: MethDL: Detection LimitPF: Prep FLc/LC: Critical LevelRL: ReportMDA: Minimum Detectable ActivityTPU: TotaMDC: Minimum Detectable ConcentrationTPU: Tota

Company Address :	15 Su	SI Environr 5 Grand Av ite 704 akland, Cali		2					R	eport Date:	J	uly 23,	2021	
Contact:	Tr	avis Wicks												
Project:	Ne	ear SSFL												
Client Sar Sample II Matrix: Collect Da Receive D Collector: Moisture:	D: ate: Date:	TF-1-21 545806 Soil 26-MA 28-MA Client 4.79%	011 Y-21					oject: lent ID:		IE00119 IE002				
Parameter		Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analy	st Date	Time	Batch N	1td.
Rad Gamma Sp Gammaspec, C Cesium-137 Rad Gas Flow P GFPC, Sr90, S Strontium-90 Rad Liquid Scin LSC, Tritium I Tritium	Gamma, So Proportion Solid "Dry Intillation 4	olid (Standa U nal Countin Weight Co U Analysis	0.0372 ng orrected" 0.0530	Pry Weight C +/-0.0224 +/-0.0593 +/-1.21	orrected" 0.0479 0.0991 2.17	+/-0.0282 +/-0.0600 +/-1.21	0.100 0.100 0.200	pCi/g pCi/g pCi/g		LXB3	06/09/21	1 1024	2133406 2133470 2138793	2
The following <b>P</b>	-	-	performed											
Method	Descri	iption				Analyst	Date	Tir	ne	Prep Batch	۱			
Dry Soil Prep	Dry Soi	il Prep GL-R	AD-A-021			LYT1	06/01/21	103	39	2133223				
The following A	•		vere perfor	med										
Method	Descri	ption												
1	DOE H	ASL 300, 4.5	5.2.3/Ga-01-H	2										
2	EPA 90	5.0 Modified	I/DOE RP50	l Rev. 1 Modi	fied									
3	EPA 90	6.0 Modified	1											
Surrogate/Trac	er Recov	ery 7	ſest					]	Batch	ID Recove	ry% A	ccepta	ble Limit	5
Strontium Ca	rrier		GFPC, Sr9	0, Solid "Dr	y Weight Co	rrected"			21334	.70 6	5.2	(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 23, 2021
Contact:	Travis Wicks				
Project:	Near SSFL				
Client Sample	ID: TF-1-210526		Project:	GSIE00119	
Sample ID:	545806011		Client ID:	GSIE002	
Parameter	Qualifier Result Uncertainty	MDC TPI	<b>RL Units</b>	DE DE Analyst	Data Tima Datah MtJ
I al ametel	Quanner Result Uncertainty	MDC TPU	J <b>RL Units</b>	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:Mtd.: MethodDF: Dilution FactorMtd.: MethodDL: Detection LimitPF: Prep FactorLc/LC: Critical LevelRL: ReportingMDA: Minimum Detectable ActivityTPU: Total PreprintMDC: Minimum Detectable ConcentrationFree Preprint

Company Address :	155 C Suite	rand Av 704	ental Inc. e fornia 9461	2					F	Report Date:	Jı	ıly 23,	2021	
Contact:	Travis	s Wicks												
Project:	Near	SSFL												
Client Sar Sample II Matrix: Collect D Receive I Collector Moisture:	D: Solution State: Solution St	C-1-21 5458060 Soil 27-MAY 28-MAY Client 1.37%	)12 7-21					oject: ent ID:		IE00119 IE002				
Parameter	Qu	alifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date	Time	Batch	Mtd.
Rad Gamma Sp Gammaspec, G Cesium-137 Rad Gas Flow H GFPC, Sr90, J Strontium-90 Rad Liquid Scin LSC, Tritium Tritium The following I Method Dry Soil Prep The following A	Gamma, Solia Proportional Solid "Dry Wa ntillation Ana Distillation, S Prep Method Descripti Dry Soil Pr	UI Countin eight Con U uysis oil "As R U s were p on ep GL-RA	0.000 g rrected" 0.0117 Pecceived" 0.514 erformed	+/-0.0277 +/-0.0453 +/-1.23	orrected" 0.0564 0.0849 2.12	+/-0.0423 +/-0.0453 +/-1.23 Analyst LYT1	0.100 0.100 0.200 <b>Date</b> 06/01/21	pCi/g pCi/g pCi/g Tin 10:		LXB3	06/02/21 06/09/21 06/17/21	0559	2133470	2
Method	Descriptio		ere perior	mea										
1	-		.2.3/Ga-01-F	2										
2		<i>,</i>		l Rev. 1 Modi	fied									
3	EPA 906.0	Modified												
Surrogate/Tra	cer Recovery	Т	est					j	Batch	ID Recover	y% A	ccepta	ble Limi	its
Strontium Ca	arrier		GFPC, Sr9	0, Solid "Dr	y Weight Co	rrected"			21334		-	(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 23, 2021
Contact:	Travis Wicks				
Project:	Near SSFL				
Client Sample	ID: KC-1-210527		Project:	GSIE00119	
Sample ID:	545806012		Client ID:	GSIE002	
Parameter	<b>Oualifier</b> Result Uncertainty	MDC TPU	RL Units	PF DF Analyst	Date Time Batch Mtd.
	Qualifier Result Uncertainty	MDC IFU	KL UIIIIS	FF DF Analysi	Date Thire Datch Mitu.

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 FactorMtd.: MethodDL: Detection LimitPF: Prep FacLc/LC: Critical LevelRL: ReportingMDA: Minimum Detectable ActivityTPU: Total FMDC: Minimum Detectable ConcentrationF

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# **Certificate of Analysis**

Company Address :	155 C Suite	Grand Av 704	nental Inc. 7e fornia 9461	2					F	Report Date:	Jul	y 23,	2021	
Contact:	Travi	s Wicks												
Project:	Near	SSFL												
Client Sat Sample II Matrix: Collect D Receive I Collector Moisture:	D: Date: Date: :	GF-1-21 5458060 Soil 27-MAX 28-MAX Client 19.7%	013 Y-21					oject: ent ID:		IE00119 IE002				
Parameter	Qu	alifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date '	Гіте	Batch	Mtd.
Rad Gamma Sp Gammaspec, C Cesium-137 Rad Gas Flow H GFPC, Sr90, Strontium-90 Rad Liquid Scin LSC, Tritium Tritium The following I Method Dry Soil Prep	Gamma, Solia Proportional Solid "Dry W ntillation An Distillation, S Prep Method Descripti Dry Soil P	U Countin Geight Co U alysis Soil "As F U s were p on rep GL-R.	0.0516 ng rrected" -0.0469 Received" 0.353 performed AD-A-021	+/-0.0322 +/-0.0474 +/-1.29	orrected" 0.0521 0.0976 2.26	+/-0.0325 +/-0.0474 +/-1.30 Analyst LYT1	0.100 0.100 0.200 Date 06/01/21	pCi/g pCi/g pCi/g Tin 10		LXB3	06/02/21 06/09/21 0 06/09/21 0 06/17/21 0	)600	2133470	2
The following A Method	Analytical Mo Description		ere perfor	med										
1	-		.2.3/Ga-01-F	2										
2		,		l Rev. 1 Modi	fied									
3	EPA 906.0													
Surrogate/Tra	cer Recovery	, T	`est						Batch	ID Recover	y% Ac	cepta	ble Limi	ts
Strontium Ca	arrier		GFPC, Sr9	0, Solid "Dr	y Weight Co	orrected"			21334	170 69	.7 (	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 23, 2021
Contact:	Travis Wicks				
Project:	Near SSFL				
Client Sample	ID: GF-1-210527		Project:	GSIE00119	
Sample ID:	545806013		Client ID:	GSIE002	
Parameter	Qualifier Result Uncertainty N	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 FactorMtd.: MethodDL: Detection LimitPF: Prep FacLc/LC: Critical LevelRL: ReportingMDA: Minimum Detectable ActivityTPU: Total DMDC: Minimum Detectable ConcentrationFree Prep Fac

Mtd.: Method PF: Prep Factor RL: Reporting Limit TPU: Total Propagated Uncertainty

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# **Certificate of Analysis**

Company Address :	155 Gran Suite 704		12					F	Report Date:	Ju	ıly 23,	2021	
Contact:	Travis W	icks											
Project:	Near SSF	TL											
Client San Sample II Matrix: Collect D Receive I Collector: Moisture:	D: 545 Soil Pate: 27-] Date: 28-] : Clie	MAY-21 MAY-21 ent					oject: lent ID:		IE00119 IE002				
Parameter	Qualif	ier Result U	Incertainty	MDC	TPU	RL	Units	PF	DF Analys	t Date	Time	Batch	Mtd.
Cesium-137 <b>Rad Gas Flow P</b> <i>GFPC, Sr90, S</i> Strontium-90 <b>Rad Liquid Scir</b> <i>LSC, Tritium T</i> Tritium The following H Method Dry Soil Prep	Gamma, Solid (Si UI Proportional Con Solid "Dry Weigh U ntillation Analys Distillation, Soil U Prep Methods we Description	0.000 onting out Corrected" 0.0329 is "As Received" -0.195 ere performed GL-RAD-A-021	+/-0.0559 +/-0.0485 +/-1.08	Corrected" 0.0609 0.0837 1.93	+/-0.0562 +/-0.0488 +/-1.08 Analyst LYT1	0.100 0.100 0.200 <b>Date</b> 06/01/21	pCi/g pCi/g pCi/g Tir 103		LXB3	06/09/21	1024	2133406 2133470 2138793	2
Method	Description	ds were perior	rmed										
1	-	0, 4.5.2.3/Ga-01-	R										
2		lified/DOE RP50		fied									
3	EPA 906.0 Mo	lified											
Surrogate/Trac	cer Recovery	Test					]	Batch	ID Recover	y% A	ccepta	ble Limi	its
Strontium Ca	arrier	GFPC, Sr	90, Solid "Dr	y Weight Co	rrected"			21334	170 80	.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 23, 2021
Contact:	Travis Wicks					
Project:	Near SSFL					
Client Sample	ID: AT-1-210527			Project:	GSIE00119	
Sample ID:	545806014			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:Mtd.: MethodDF: Dilution FactorMtd.: MethodDL: Detection LimitPF: Prep FactorLc/LC: Critical LevelRL: ReportingMDA: Minimum Detectable ActivityTPU: Total PreprintMDC: Minimum Detectable ConcentrationFree Preprint

Mtd.: Method PF: Prep Factor RL: Reporting Limit TPU: Total Propagated Uncertainty

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# **OC Summary**

			Q	C S	ummary	/		D	- 4 - 1 - 1 - 22 - 2021	
Client :	<b>GSI Environmental Inc.</b>					-	J	Report Da	ate: July 23, 2021	
Cheme .	155 Grand Ave	•							Page 1 of 3	
	Suite 704									
	Suite 704 Oakland, California									
Contact:	Travis Wicks									
Workorder:	545806									ļ
	575000		<u> </u>							
Parmname		NOM	Sample	Quai	QC	Units	RPD%	REC%	Range Anlst	Date Time
Rad Gamma Spe Batch	2133406 —									
QC1204832782	545806001 DUP									
Cesium-137			0.0795	UI	0.000	pCi/g	52.2		(0% - 100%) RXF2	06/02/2113:14
		Uncert:	+/-0.0465		+/-0.0646	•				
		TPU:	+/-0.0470		+/-0.0648					
QC1204832783	LCS									
Americium-241		485			560	pCi/g		115	(75%-125%) RXF2	06/02/2113:08
-		Uncert:			+/-12.9	r C				
		TPU:			+/-62.1					
Cobalt-60		86.9			85.0	pCi/g		97.8	(75%-125%)	
Coour co		Uncert:			+/-2.62	10.0		21.0	(10/0 120/0)	
		TPU:			+/-8.96					
Cesium-137		161			156	pCi/g		97.2	(75%-125%)	
Cestum-137		Uncert:			+/-2.91	per s		91.4	(15%)-12570;	
					+/-2.91 +/-13.0					1
QC1204832781	MB	TPU:			+/-13.0					1
	МБ			T	0.0121	nCi/a			DVE2	06/02/2112.11
Cesium-137		TT south		U	0.0121	pCi/g			RXF2	06/02/2113:11
		Uncert:			+/-0.0236					
:		TPU:			+/-0.0236					
Rad Gas Flow										
Batch	2133470									
QC1204832926	545806005 DUP									
Strontium-90		U	0.0678	U	-0.00341	pCi/g	0		N/A LXB3	06/09/2106:03
		Uncert:	+/-0.0521	-	+/-0.0483	r c				
		TPU:	+/-0.0535		+/-0.0484					
QC1204832927	LCS	11 0.	17 0.0222		17 0.0.0.0					
Strontium-90	LCS	3.94			3.31	nCi/a		83.9	(75%-125%) LXB3	06/09/2106:04
Suomum-30		Uncert:			+/-0.237	pCi/g		03.7	(1370-12370) LADS	00/09/2100.04
0.01004020025		TPU:			+/-0.636					
QC1204832925	MB				0.00750	<b>C</b> :/			LVD2	26/22/21/06/22
Strontium-90				U	0.00758	pCi/g			LXB3	06/09/2106:03
		Uncert:			+/-0.0451					
		TPU:			+/-0.0451					
Rad Liquid Scint Batch	tillation 2138793									
OC1204842525	545806001 DUP									
Tritium	5 15000001 2 22	U	-0.415	U	0.188	pCi/g	0		N/A KXA1	06/17/2103:06
Tituuni		Uncert:	+/-1.23	U	+/-1.19	PC1/5	v		11/1111/111	00/17/2105.00
			+/-1.23							
0.01004040507		TPU:	+/-1.23		+/-1.19					
QC1204842527	LCS				20.0	<b>C</b> :/		0 <b>4 7</b>		2
Tritium		30.9			29.9	pCi/g		96.7	(75%-125%) KXA1	06/16/2109:15
		Uncert:			+/-3.42					

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# **QC Summary**

Workorder: 545806							Page 2	of 3	
Parmname	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Liquid ScintillationBatch2138793									
OC1204842524 MB	TPU:		+/-7.59						
Tritium		U	-0.159	pCi/g				KXA1	06/16/2108:26
Tittuiti	Uncert: TPU:	0	+/-1.62	per/g				KAAI	00/10/2108.20
QC1204842526 545806001 MS	110.		+/-1.02						
Tritium	55.4 U	-0.415	49.6	pCi/g		89.6	(75%-125%)	) KXA1	06/16/2108:59
	Uncert:	+/-1.23	+/-5.99						
	TPU:	+/-1.23	+/-12.8						

### Notes:

Wenleender

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

= 4500

- < 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

# **GEL LABORATORIES LLC**

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# **QC Summary**

Workorder:	545806				-			Page 3 of 3	
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.

ENVIRONMENTAL									Date: Pa	Page   of
EDA14.									545806	806
	PROJECT NAME:	AJU-BB						PROJECT NO .:	5182	>
155 Grand Ave. Suite 704	PROJECT CONTACT:	Susan Gallardo	allardo					LAB CONTACT	LAB CONTACT: Brielle Luthman	
Uakiand, CA 94612 (510) 463-8484	GLOBAL ID:							SAMPLER(S): (	SAMPLER(S): (PRINT)	91
(2)	smgallardo@gsi-net.com: t?wicks@gsi-net.com	-net.com: to	wicks@p	i-net cor						2
LABORATORY: GEL Laboratories			- Charles				REQL	REQUESTED ANALYSES	VALYSES Iank as needed.	
TURNAROUND TIME: SAME DAY 24 HR	☐48 HR XSTANDARD									
L INSTRUCTIONS: 00 MDC of 0.1 pCi/g MDC of 0.2 pCi/g	- Cs-137 MDC of 0.1 pCi/g	ci/g			iltered 3r-90 (905.	(906) 2:1-2				
LAB SAMPLE ID	SAMPLING	MATRIX	NO. OF	uəsə	3					
DATI	TIME	,	CONT.	ЪЧ						
C/SE/S CTOP_T-TX	1 1015	2	Ţ	X	N)	X				
6Y-SEV-1-219525	1130				Ŷ	(X X				
05.25 V	1450				Î					
2KE-5EU-2-210520 10/20/3	~~				Ń	<u>IX</u>				
, °   4	1010									
1-21055	1130				Ŕ					
16-6-1	0111		*****			X				
- 5EU-1	1155				X					
- 55 D-4	1240					X				
1-24.0.	1345				Š	X				
- 210526	0440		******		X					
(- 1 - 21052	0000	******			X					
	0830	******			<u>X</u> X	X				
41-7-310523 N	0845	$\geq$	<u>イ</u> ラ		X	X				
Relinquished by: (Signature)										
	k		<u>x</u>	Received by: (Signature)	: (Signatt	re)			Date: デバンハ	1 Time: 10 M
Keiinquisned by: (Signature)			œ	Received by: (Signature)	: (Signatu	re)			Date:	Time:
Relinquished by: (Signature)					SAK				- X.7V.7J	

Client:       GSEEF       GSEEF       SDG/AR/COC/Work Order:       -545300       545806         Received By:       MLS       Date Received:       5.728.21       MB 6/1/21         Carrier and Tracking Number       FedEx Express       FedEx Ground       UPS       Field Services       Courier       Other         Suspected Hazard Information       Image: State Courier       Image: State Courier       Group Courier       Other         Suspected Hazard Information       Image: State Courier       Image: State Courier       Image: State Courier       Other         A)Shipped as a DOT Hazardous?       Image: Hazard Class Shipped:       UN#:       UN#:       Image: State Courier       Nome:         B) Did the client designate the samples are to be received as radioactive?       COC notation or radioactive stickers on containers equal client designation.       COC notation or hazard labels on containers equal client designation.         C) Did the client designate samples are hazardous?       Image: Courier Courie	<b>GEL</b> Laboratories LLC	SAMPLE RECEIPT & REVIEW FORM
Received By:       MLS       Date Received:       5 · 2 & 2 (MB & 1/2)         Carrier and Tracking Number       Circle Applicable:       Circle Applicable:         Carrier and Tracking Number       78746       6573       5410-62         Josspected Hazard Information       37       2       * 1f Net Counts > 100 cpm on samples not marked "radioactive". contact the Radiation Safety Group for further investigation         A)Shipped as a DOT Hazardous?       //       Hazard Class Shipped:       UN#:         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 client designate samples as malpes are hazardous?       //       Maximum Net Counts Observed * (Observed Counts - Area Background Counts):       /// CpM mR/Hr         D) Did the client designate samples are hazardous?       //       If D or E is yes, select Hazard below.       PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:         E) Did the client designate samples are hazardous?       //       If D or E is yes, select Hazards below.       PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:         Sample Receipt Criteria       2       2       Comments/Qualifiers (Required for Non-Conforming Items)         1       Shipping containers received intact and acted in a distribute of the selective domanners included on thazard is a distribute of the selectint designate ont	GISEI GSTE	and a second dealer and a second
Circle Applicable:         Circle Applicable: <td< td=""><td>141.0</td><td></td></td<>	141.0	
Suspected Hazard Information       \$\frac{2}{3}\$       \$\frac{2}{3}\$ <th< td=""><td>ier and Tracking Number</td><td>Circle Applicable: FedEx Ground UPS Field Services Courier Other</td></th<>	ier and Tracking Number	Circle Applicable: FedEx Ground UPS Field Services Courier Other
A)Shipped as a DOT Hazardous?       /       Hazard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? YesNo         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): // CPP) mR/Hr         D) Did the client designate samples are hazardous?       /       COC notation or hazard labels on containers equal client designation.         E) Did the client designate samples are hazardous?       /       COC notation or hazard labels on containers equal client designation.         D) Did the client designate samples are hazardous?       /       If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:         Sample Receipt Criteria       3/       2/       2       Comments/Qualifiers (Required for Non-Conforming Items)         1       Shipping containers received intact and seled?       Circle Applicable: Seals broken Damaged container Leaking container Other (describe)	Hazard Information	
received as radioactive?       /       /       //       <		Hazard Class Shipped: UN#:
Indicative?       Chashind as: Rail 1 Rail 2 Rails         D) Did the client designate samples are hazardous?       /         COC notation or hazard labels on containers equal client designation.         I       If D or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:         Sample Receipt Criteria       If Z       Z         I       Shipping containers received intact and sealed?       Circle Applicable: Seals broken Damaged container Leaking container Other (describe)	client designate the samples are to be radioactive?	COC notation or radioactive stickers 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       Z       Z       Comments/Qualifiers (Required for Non-Conforming Items)         1       Shipping containers received intact and sealed?       Circle Applicable: Seals broken Damaged container Leaking container Other (describe)	RSO classify the samples as	Maximum Net Counts Observed* (Observed Counts - Area Background Counts):
Sample Receipt Criteria     Sample Receipt Criteria     Sample Receipt Criteria     Sample Receipt Criteria     Comments/Qualifiers (Required for Non-Conforming Items)       1     Shipping containers received intact and sealed?     Circle Applicable:     Seals broken     Damaged container     Leaking container     Other (describe)		If D or E is yes, select Hazards below,
Shipping containers received intact and sealed?         Circle Applicable: Seals broken Damaged container Leaking container Other (describe)		
Chain of custody documents included	ng containers received intact and	
2 chain of custody documents included with shipment?	of custody documents included	Circle Applicable: Client contacted and provided COC COC created upon receipt
3 Samples requiring cold preservation within $(0 \le 6 \text{ deg. C})$ ?* Preservation Method: Wet Ice Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP:	The preservation $(0 \le 6 \text{ deg. C})$ ?*	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?       Image: Comparison of the performed and passed on IR Secondary Temperature Device Serial #: <u>IR3-21</u> 5       Secondary Temperature Device Serial #: <u>IR3-21</u>		Temperature Device Serial #: <u>IR3-21</u> Secondary Temperature Device Serial # (If Applicable):
5 Sample containers intact and sealed? Circle Applicable: Seals broken Damaged container Leaking container Other (describe)	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#:	s requiring chemical preservation rpH?	If Preservation added, Lot#-
7       Do any samples require Volatile Analysis?       If Yes, are Encores or Soil Kits present for solids? Yes NA (If yes, take to VOA Freezer)         0       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:		Do liquid VOA vials contain acid preservation? YesNo NA(If unknown, select No) Are liquid VOA vials free of headspace? YesNoNA
8 Samples received within holding time? ID's and tests affected:	s received within holding time?	ID's and tests affected:
9 Sample ID's on COC match ID's on ID's and containers affected:	ID's on COC match ID's on	ID's and containers affected:
Date & time on COC match date & time / Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)	time on COC match date & time /	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?         2       Are sample containers identifiable as GEL provided by use of GEL labels?	indicated on COC? ple containers identifiable as wided by use of GEL labels?	Missing 1 cooler
3 COC form is properly signed in relinquished/received sections? Circle Applicable: Not relinquished Other (describe)	hed/received sections?	Circle Applicable: Not relinquished Other (describe)
PM (or PMA) review: Initials DS Date 6/1/21 Page of		

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	SC000122021-1
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	T104704235-21-19
Utah NELAP	SC000122021-35
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

List of current GEL Certifications as of 23 July 2021

# Radiochemistry Technical Case Narrative GSI Environmental Inc. SDG #: 545806

<u>Product:</u> Dry Weight <u>Preparation Method:</u> Dry Soil Prep <u>Preparation Procedure:</u> GL-RAD-A-021 REV# 24 <u>Preparation Batch:</u> 2133223

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

GEL Sample ID#	<b><u>Client Sample Identification</u></b>
545806001	RRMDF-SED-1-21025
545806002	BP-SED-1-210525
545806003	CIT-1-210525
545806004	SRE-SED-2-210526
545806005	OS1-SED-1-210526
545806006	HV-1-210526
545806007	HV-2-210526
545806008	HV-SED-1-210526
545806009	OS8-SED-1-210526
545806010	OW-SED-1-210526
545806011	TF-1-210526
545806012	KC-1-210527
545806013	GF-1-210527
545806014	AT-1-210527

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: 2133406

**Preparation Method:** Dry Soil Prep **Preparation Procedure:** GL-RAD-A-021 REV# 24 **Preparation Batch:** 2133223

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

<u>GEL Sample ID#</u> <u>Client Sample Identification</u>

545906001	DDMDE CED 1 21025
545806001	RRMDF-SED-1-21025
545806002	BP-SED-1-210525
545806003	CIT-1-210525
545806004	SRE-SED-2-210526
545806005	OS1-SED-1-210526
545806006	HV-1-210526
545806007	HV-2-210526
545806008	HV-SED-1-210526
545806009	OS8-SED-1-210526
545806010	OW-SED-1-210526
545806011	TF-1-210526
545806012	KC-1-210527
545806013	GF-1-210527
545806014	AT-1-210527
1204832781	Method Blank (MB)
1204832782	545806001(RRMDF-SED-1-21025) Sample Duplicate (DUP)
1204832783	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

Sample 545806002 (BP-SED-1-210525) was recounted to verify sample results. Recount is reported.

# **Qualifier Information**

Qualifier	Reason	Analyte	Sample	Client Sample
UI	Results are considered a false positive due to high counting uncertainty.	Cesium-137	545806008	HV-SED-1-210526
			545806014	AT-1-210527
			1204832782	RRMDF-SED-1-21025(545806001DUP)
UI	Results are considered a false positive due to low abundance.		545806012	KC-1-210527

<u>Product:</u> GFPC, Sr90, Solid <u>Analytical Method:</u> EPA 905.0 Modified/DOE RP501 Rev. 1 Modified <u>Analytical Procedure:</u> GL-RAD-A-004 REV# 21 <u>Analytical Batch:</u> 2133470

<u>Preparation Method:</u> Dry Soil Prep <u>Preparation Procedure:</u> GL-RAD-A-021 REV# 24 <u>Preparation Batch:</u> 2133223

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

<u>GEL Sample ID#</u>	Client Sample Identification
545806001	RRMDF-SED-1-21025
545806002	BP-SED-1-210525
545806003	CIT-1-210525
545806004	SRE-SED-2-210526
545806005	OS1-SED-1-210526
545806006	HV-1-210526
545806007	HV-2-210526
545806008	HV-SED-1-210526
545806009	OS8-SED-1-210526
545806010	OW-SED-1-210526
545806011	TF-1-210526
545806012	KC-1-210527
545806013	GF-1-210527
545806014	AT-1-210527
1204832925	Method Blank (MB)
1204832926	545806005(OS1-SED-1-210526) Sample Duplicate (DUP)
1204832927	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

Sample 545806002 (BP-SED-1-210525) was recounted due to high MDC. The recount is reported. Sample 545806004 (SRE-SED-2-210526) was recounted due to results more negative than the three sigma TPU. The second count is reported. Samples 545806011 (TF-1-210526) and 545806014 (AT-1-210527) were recounted due to a suspected false positive. The recounts are reported.

**Product: LSC, Tritium Distillation, Soil Analytical Method:** EPA 906.0 Modified **Analytical Procedure:** GL-RAD-A-002 REV# 23 **Analytical Batch:** 2138793 The following samples were analyzed using the above methods and analytical procedure(s).

545806001       RRMDF-SED-1-21025         545806002       BP-SED-1-210525         545806003       CIT-1-210525         545806004       SRE-SED-2-210526         545806005       OS1-SED-1-210526         545806006       HV-1-210526         545806007       HV-2-210526         545806008       HV-SED-1-210526         545806009       OS8-SED-1-210526
545806003       CIT-1-210525         545806004       SRE-SED-2-210526         545806005       OS1-SED-1-210526         545806006       HV-1-210526         545806007       HV-2-210526         545806008       HV-SED-1-210526
545806004       SRE-SED-2-210526         545806005       OS1-SED-1-210526         545806006       HV-1-210526         545806007       HV-2-210526         545806008       HV-SED-1-210526
545806005       OS1-SED-1-210526         545806006       HV-1-210526         545806007       HV-2-210526         545806008       HV-SED-1-210526
545806006         HV-1-210526           545806007         HV-2-210526           545806008         HV-SED-1-210526
545806007         HV-2-210526           545806008         HV-SED-1-210526
545806008 HV-SED-1-210526
545806009 OS8-SED-1-210526
545806010 OW-SED-1-210526
545806011 TF-1-210526
545806012 KC-1-210527
545806013 GF-1-210527
545806014 AT-1-210527
1204842524 Method Blank (MB)
1204842525 545806001(RRMDF-SED-1-21025) Sample Duplicate (DUP)
1204842526 545806001(RRMDF-SED-1-21025) Matrix Spike (MS)
1204842527Laboratory 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 1204842525 (RRMDF-SED-1-21025DUP), 545806001 (RRMDF-SED-1-21025), 545806002 (BP-SED-1-210525), 545806003 (CIT-1-210525), 545806004 (SRE-SED-2-210526), 545806005 (OS1-SED-1-210526), 545806006 (HV-1-210526), 545806007 (HV-2-210526), 545806008 (HV-SED-1-210526), 545806009 (OS8-SED-1-210526), 545806010 (OW-SED-1-210526), 545806011 (TF-1-210526), 545806012 (KC-1-210527), 545806013 (GF-1-210527) and 545806014 (AT-1-210527) were recounted due to high MDCs. The recounts are reported.

### **Miscellaneous Information**

### **Additional Comments**

The matrix spike, 1204842526 (RRMDF-SED-1-21025MS), 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.



# 2021 Monitoring Report

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

Appendix B

**Analytical Laboratory Reports – Water Samples** 

# 🔅 eurofins

# Environment Testing America

# **ANALYTICAL REPORT**

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

# Laboratory Job ID: 320-74353-1 Client Project/Site: AJU-BB

For:

LINKS

Review your project results through

Total Access

**Have a Question?** 

Ask-

The

www.eurofinsus.com/Env

Visit us at:

Expert

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

Attn: Susan Gallardo

Alsanch Sit

Authorized for release by: 6/8/2021 1:07:38 PM

Afsaneh Salimpour, Senior Project Manager (925)484-1919 Afsaneh.Salimpour@Eurofinset.com

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

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

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

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Method Summary	21
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Chain of Custody	23
Receipt Checklists	26

### 0 alifi

Qualifiers		3
GC/MS VOA		
Qualifier	Qualifier Description	4
*+	LCS and/or LCSD is outside acceptance limits, high biased.	
HPLC/IC		5
Qualifier	Qualifier Description	
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.	
Metals		
Qualifier	Qualifier Description	
В	Compound was found in the blank and sample.	
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.	8
Glossary		
Abbreviation	These commonly used abbreviations may or may not be present in this report.	2
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis	1
%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: 320-74353-1

# Laboratory: Eurofins TestAmerica, Sacramento

### Narrative

Job Narrative 320-74353-1

### Comments

No additional comments.

### Receipt

The samples were received on 5/28/2021 9:20 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperatures of the 2 coolers at receipt time were 3.5° C and 4.6° C.

### **Receipt Exceptions**

TB containers had no IDs, time and date on them. But the plastic bag in which they came did have ID, time and date that match that of COC for sample 4 (TB).

# TB-210527 (320-74353-4)

### GC/MS VOA

Method 8260B: The laboratory control sample (LCS) for analytical batch 320-495507 recovered outside control limits for the following analytes: 1,2-Dibromo-3-Chloropropane and Bromoform. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260B: Internal standard (ISTD) response for Dioxane-d8 for the following samples were outside acceptance criteria: OS8-W-210526 (320-74353-3), (CCV 320-495507/2) and (MB 320-495507/7). This ISTD does not correspond to any of the requested target compounds; therefore, the data have been reported.

Method 8260B: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with analytical batch 320-495507.

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

### Metals

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.

# Job ID: 320-74353-1

# Client Sample ID: OS357-W-210525

Lab Sample ID: 320-74353-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac D	Method	Prep Type
Barium	0.039		0.0050	0.0025	mg/L	1	6010B	Total/NA
Beryllium	0.00055	J	0.0020	0.00030	mg/L	1	6010B	Total/NA
Client Sample ID: 0	DS8-W-210526					Lab Sa	mple ID:	320-74353-3
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	Method	Prep Type
Silver	0.0016	JB	0.0050	0.00084	mg/L	1	6010B	Total/NA
Barium	0.11		0.0050	0.0025	mg/L	1	6010B	Total/NA
Chromium	0.0027	J	0.0080	0.0012	mg/L	1	6010B	Total/NA
Copper	0.0042	J	0.010	0.0021	mg/L	1	6010B	Total/NA
Lead	0.0028	J	0.0050	0.0025	mg/L	1	6010B	Total/NA
Vanadium	0.010		0.0050	0.0019	mg/L	1	6010B	Total/NA
Zinc	0.027		0.010	0.0030	mg/L	1	6010B	Total/NA

This Detection Summary does not include radiochemical test results.

# Client Sample ID: OS357-W-210525 Date Collected: 05/25/21 13:00 Date Received: 05/28/21 09:20

Analyte	Result Qualifier	RL	MDL		D	Prepared	Analyzed	Dil Fac
,2,3-Trichloropropane	ND	1.0	0.13	ug/L			06/04/21 16:24	1
,1,1,2-Tetrachloroethane	ND	0.50	0.10	ug/L			06/04/21 16:24	1
,1,1-Trichloroethane	ND	0.50	0.10	ug/L			06/04/21 16:24	1
,1,2,2-Tetrachloroethane	ND	0.50	0.11	ug/L			06/04/21 16:24	1
,1,2-Trichloroethane	ND	0.50	0.12	ug/L			06/04/21 16:24	1
,1-Dichloroethane	ND	0.50	0.10	ug/L			06/04/21 16:24	1
,1-Dichloroethene	ND	0.50	0.13	ug/L			06/04/21 16:24	1
,1-Dichloropropene	ND	0.50	0.12	ug/L			06/04/21 16:24	1
,2,3-Trichlorobenzene	ND	1.0	0.40	ug/L			06/04/21 16:24	1
,2,4-Trichlorobenzene	ND	1.0	0.25	ug/L			06/04/21 16:24	1
,2,4-Trimethylbenzene	ND	1.0	0.32	ug/L			06/04/21 16:24	1
,2-Dibromo-3-Chloropropane	ND *+	1.0	0.20	-			06/04/21 16:24	1
,2-Dichlorobenzene	ND	0.50	0.097				06/04/21 16:24	1
,2-Dichloroethane	ND	0.50	0.14	-			06/04/21 16:24	1
,2-Dichloropropane	ND	0.50	0.15	-			06/04/21 16:24	1
,3,5-Trimethylbenzene	ND	0.50	0.16				06/04/21 16:24	1
,3-Dichlorobenzene	ND	0.50	0.086	-			06/04/21 16:24	
,3-Dichloropropane	ND	1.0	0.10	-			06/04/21 16:24	
,4-Dichlorobenzene	ND	0.50	0.083				06/04/21 16:24	
,2-Dichloropropane	ND	1.0	0.46	-			06/04/21 16:24	
-Chlorotoluene	ND	0.50		ug/L			06/04/21 16:24	
-Chlorotoluene	ND	0.50	0.10				06/04/21 16:24	
-Isopropyltoluene	ND	1.0	0.15	-			06/04/21 16:24	
enzene	ND	0.50	0.080	-			06/04/21 16:24	
romobenzene	ND	1.0	0.000				06/04/21 16:24	
romoform	ND *+	1.0		-			06/04/21 16:24	
romomethane	ND +	1.0		ug/L ug/L			06/04/21 16:24	
arbon tetrachloride	ND	0.50		ug/L			06/04/21 16:24	
hlorobenzene	ND	0.50	0.070	-			06/04/21 16:24	
romochloromethane	ND	1.0	0.18				06/04/21 16:24	
hloroethane	ND	1.0		ug/L			06/04/21 16:24	
hloroform	ND	1.0	0.12	-			06/04/21 16:24	
hloromethane	ND	1.0	0.26				06/04/21 16:24	
s-1,2-Dichloroethene	ND	0.50		ug/L			06/04/21 16:24	
s-1,3-Dichloropropene	ND	0.50	0.15	-			06/04/21 16:24	
ibromochloromethane	ND	0.50		ug/L			06/04/21 16:24	
ibromomethane	ND	0.50		ug/L			06/04/21 16:24	
romodichloromethane	ND	0.50		ug/L			06/04/21 16:24	
ichlorodifluoromethane	ND	1.0	0.32				06/04/21 16:24	
thylbenzene	ND	0.50	0.084	ug/L			06/04/21 16:24	
exachlorobutadiene	ND	1.0	0.23	ug/L			06/04/21 16:24	
opropylbenzene	ND	0.50		ug/L			06/04/21 16:24	
,p-Xylene	ND	0.50	0.27	ug/L			06/04/21 16:24	
lethylene Chloride	ND	1.0	0.16	ug/L			06/04/21 16:24	
aphthalene	ND	1.0	0.48	ug/L			06/04/21 16:24	
Butylbenzene	ND	1.0	0.18	ug/L			06/04/21 16:24	
-Propylbenzene	ND	1.0	0.11	ug/L			06/04/21 16:24	
Xylene	ND	0.50	0.14	ug/L			06/04/21 16:24	
ec-Butylbenzene	ND	1.0		ug/L			06/04/21 16:24	

# Lab Sample ID: 320-74353-1

Matrix: Water

Job ID: 320-74353-1

# Client Sample ID: OS357-W-210525 Date Collected: 05/25/21 13:00 Date Received: 05/28/21 09:20

# Lab Sample ID: 320-74353-1

Matrix: Water

5

6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		0.50	0.13	ug/L			06/04/21 16:24	
tert-Butylbenzene	ND		1.0	0.13	ug/L			06/04/21 16:24	1
Tetrachloroethene	ND		0.50	0.10	ug/L			06/04/21 16:24	1
Toluene	ND		0.50	0.095	ug/L			06/04/21 16:24	1
trans-1,2-Dichloroethene	ND		0.50	0.11	ug/L			06/04/21 16:24	1
trans-1,3-Dichloropropene	ND		0.50	0.16	ug/L			06/04/21 16:24	1
Trichloroethene	ND		0.50	0.10	ug/L			06/04/21 16:24	
Trichlorofluoromethane	ND		1.0	0.13	ug/L			06/04/21 16:24	
Vinyl chloride	ND		0.50	0.18	ug/L			06/04/21 16:24	
1,2-Dibromoethane (EDB)	ND		0.50	0.12	ug/L			06/04/21 16:24	
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
Toluene-d8 (Surr)	104		78 - 120					06/04/21 16:24	
4-Bromofluorobenzene (Surr)	104		74 - 120					06/04/21 16:24	
Dibromofluoromethane (Surr)	106		80 - 123					06/04/21 16:24	
Method: 314.0 - Perchlorate	e (IC)								
Analyte	· · ·	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Perchlorate	ND		4.0	2.0	ug/L			06/03/21 13:12	
Method: 6010B - Metals (IC	D)								
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Silver	ND		0.0050	0.00084	mg/L		06/01/21 13:47	06/02/21 17:07	
Arsenic	ND		0.020	0.012	mg/L		06/01/21 13:47	06/02/21 17:07	
Barium	0.039		0.0050	0.0025	mg/L		06/01/21 13:47	06/02/21 17:07	
Beryllium	0.00055	J	0.0020	0.00030	mg/L		06/01/21 13:47	06/02/21 17:07	
Cadmium	ND		0.0020	0.00050	mg/L		06/01/21 13:47	06/02/21 17:07	
Cobalt	ND		0.0050	0.0030	mg/L		06/01/21 13:47	06/02/21 17:07	
Chromium	ND		0.0080	0.0012	mg/L		06/01/21 13:47	06/02/21 17:07	
Copper	ND		0.010	0.0021	mg/L		06/01/21 13:47	06/02/21 17:07	
Molybdenum	ND		0.020	0.0027	mg/L		06/01/21 13:47	06/02/21 17:07	
Nickel	ND		0.0050	0.0024	mg/L		06/01/21 13:47	06/02/21 17:07	
Lead	ND		0.0050	0.0025	mg/L		06/01/21 13:47	06/02/21 17:07	
Selenium	ND		0.020	0.013	mg/L		06/01/21 13:47	06/02/21 17:07	
Antimony	ND		0.020	0.0098	mg/L		06/01/21 13:47	06/02/21 17:07	
Thallium	ND		0.020	0.0090	mg/L		06/01/21 13:47	06/02/21 17:07	
Vanadium	ND		0.0050	0.0019	mg/L		06/01/21 13:47	06/02/21 17:07	
Zinc	ND		0.010	0.0030	mg/L		06/01/21 13:47	06/02/21 17:07	
Method: 7470A - Mercury (0									
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa

# Client Sample ID: OS8-W-210526 Date Collected: 05/26/21 12:30 Date Received: 05/28/21 09:20

Analyte	Result Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
,2,3-Trichloropropane	ND	1.0		ug/L			06/04/21 16:46	1
,1,1,2-Tetrachloroethane	ND	0.50	0.10	ug/L			06/04/21 16:46	1
,1,1-Trichloroethane	ND	0.50	0.10	ug/L			06/04/21 16:46	1
,1,2,2-Tetrachloroethane	ND	0.50	0.11	ug/L			06/04/21 16:46	1
,1,2-Trichloroethane	ND	0.50	0.12	ug/L			06/04/21 16:46	1
,1-Dichloroethane	ND	0.50	0.10	ug/L			06/04/21 16:46	1
,1-Dichloroethene	ND	0.50	0.13	ug/L			06/04/21 16:46	1
,1-Dichloropropene	ND	0.50	0.12	ug/L			06/04/21 16:46	1
,2,3-Trichlorobenzene	ND	1.0	0.40	ug/L			06/04/21 16:46	1
,2,4-Trichlorobenzene	ND	1.0	0.25	ug/L			06/04/21 16:46	1
,2,4-Trimethylbenzene	ND	1.0	0.32	ug/L			06/04/21 16:46	1
,2-Dibromo-3-Chloropropane	ND *+	1.0	0.20	ug/L			06/04/21 16:46	1
,2-Dichlorobenzene	ND	0.50	0.097	ug/L			06/04/21 16:46	1
,2-Dichloroethane	ND	0.50	0.14	ug/L			06/04/21 16:46	1
,2-Dichloropropane	ND	0.50		ug/L			06/04/21 16:46	1
,3,5-Trimethylbenzene	ND	0.50		ug/L			06/04/21 16:46	1
,3-Dichlorobenzene	ND	0.50	0.086	-			06/04/21 16:46	1
,3-Dichloropropane	ND	1.0		ug/L			06/04/21 16:46	
,4-Dichlorobenzene	ND	0.50	0.083				06/04/21 16:46	• • • • •
,2-Dichloropropane	ND	1.0		ug/L			06/04/21 16:46	
-Chlorotoluene	ND	0.50		ug/L			06/04/21 16:46	
-Chlorotoluene	ND	0.50		ug/L			06/04/21 16:46	
-Isopropyltoluene	ND	1.0		ug/L			06/04/21 16:46	
enzene	ND	0.50	0.080	-			06/04/21 16:46	
romobenzene	ND	1.0	0.000				06/04/21 16:46	
romoform	ND *+	1.0		ug/L			06/04/21 16:46	
romomethane	ND	1.0		ug/L			06/04/21 16:46	
Carbon tetrachloride	ND			ug/L			06/04/21 16:46	
	ND	0.50 0.50	0.12	-			06/04/21 16:46	
Chlorobenzene				-				
romochloromethane	ND	1.0		ug/L			06/04/21 16:46	
Chloroethane	ND	1.0		ug/L			06/04/21 16:46	-
Chloroform	ND	1.0		ug/L			06/04/21 16:46	-
Chloromethane	ND	1.0		ug/L			06/04/21 16:46	
is-1,2-Dichloroethene	ND	0.50		ug/L			06/04/21 16:46	
is-1,3-Dichloropropene	ND	0.50		ug/L			06/04/21 16:46	~
libromochloromethane	ND	0.50		ug/L			06/04/21 16:46	
libromomethane	ND	0.50		ug/L			06/04/21 16:46	
romodichloromethane	ND	0.50		ug/L			06/04/21 16:46	
lichlorodifluoromethane	ND	1.0		ug/L			06/04/21 16:46	• • • • • • • •
thylbenzene	ND	0.50	0.084				06/04/21 16:46	
exachlorobutadiene	ND	1.0		ug/L			06/04/21 16:46	
opropylbenzene	ND	0.50	0.11	ug/L			06/04/21 16:46	
ı,p-Xylene	ND	0.50		ug/L			06/04/21 16:46	
lethylene Chloride	ND	1.0	0.16	ug/L			06/04/21 16:46	
aphthalene	ND	1.0	0.48	ug/L			06/04/21 16:46	
-Butylbenzene	ND	1.0	0.18	ug/L			06/04/21 16:46	
I-Propylbenzene	ND	1.0		ug/L			06/04/21 16:46	
-Xylene	ND	0.50		ug/L			06/04/21 16:46	
ec-Butylbenzene	ND	1.0		ug/L			06/04/21 16:46	• • • • • • • •

Eurofins TestAmerica, Sacramento

# Lab Sample ID: 320-74353-3

Matrix: Water

Job ID: 320-74353-1

# Client Sample ID: OS8-W-210526 Date Collected: 05/26/21 12:30 Date Received: 05/28/21 09:20

# Lab Sample ID: 320-74353-3

Matrix: Water

5

6

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Styrene	ND		0.50	0.13	ug/L			06/04/21 16:46	1
tert-Butylbenzene	ND		1.0	0.13	ug/L			06/04/21 16:46	1
Tetrachloroethene	ND		0.50	0.10	ug/L			06/04/21 16:46	1
Toluene	ND		0.50	0.095	ug/L			06/04/21 16:46	1
trans-1,2-Dichloroethene	ND		0.50	0.11	ug/L			06/04/21 16:46	1
trans-1,3-Dichloropropene	ND		0.50	0.16	ug/L			06/04/21 16:46	1
Trichloroethene	ND		0.50	0.10	ug/L			06/04/21 16:46	1
Trichlorofluoromethane	ND		1.0	0.13	ug/L			06/04/21 16:46	1
/inyl chloride	ND		0.50	0.18	ug/L			06/04/21 16:46	1
1,2-Dibromoethane (EDB)	ND		0.50	0.12	ug/L			06/04/21 16:46	1
Surrogate	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		78 - 120					06/04/21 16:46	1
4-Bromofluorobenzene (Surr)	105		74 - 120					06/04/21 16:46	1
Dibromofluoromethane (Surr)	110		80 - 123					06/04/21 16:46	1
Method: 314.0 - Perchlorate (IC)	)								
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perchlorate	ND		4.0	2.0	ug/L			06/03/21 14:19	1
Method: 6010B - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	0.0016	JB	0.0050	0.00084	mg/L		06/01/21 13:47	06/02/21 17:11	1
Arsenic	ND		0.020	0.012	mg/L		06/01/21 13:47	06/02/21 17:11	1
Barium	0.11		0.0050	0.0025	mg/L		06/01/21 13:47	06/02/21 17:11	1
Beryllium	ND		0.0020	0.00030	mg/L		06/01/21 13:47	06/02/21 17:11	1
Cadmium	ND		0.0020	0.00050	mg/L		06/01/21 13:47	06/02/21 17:11	1
Cobalt	ND		0.0050	0.0030	mg/L		06/01/21 13:47	06/02/21 17:11	1
Chromium	0.0027	J	0.0080	0.0012	mg/L		06/01/21 13:47	06/02/21 17:11	1
Copper	0.0042	J	0.010	0.0021	mg/L		06/01/21 13:47	06/02/21 17:11	1
Molybdenum	ND		0.020	0.0027	mg/L		06/01/21 13:47	06/02/21 17:11	1
Nickel	ND		0.0050	0.0024	mg/L		06/01/21 13:47	06/02/21 17:11	1
Lead	0.0028	J	0.0050	0.0025	mg/L		06/01/21 13:47	06/02/21 17:11	1
Selenium	ND		0.020	0.013	mg/L		06/01/21 13:47	06/02/21 17:11	1
Antimony	ND		0.020	0.0098	mg/L		06/01/21 13:47	06/02/21 17:11	1
Thallium	ND		0.020	0.0090	mg/L		06/01/21 13:47	06/02/21 17:11	1
Vanadium	0.010		0.0050	0.0019	mg/L		06/01/21 13:47	06/02/21 17:11	1
Zinc	0.027		0.010	0.0030	mg/L		06/01/21 13:47	06/02/21 17:11	1
Method: 7470A - Mercury (CVA	<b>A</b> )								
Method: 7470A - Mercury (CVAA Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac

# **Surrogate Summary**

# Method: 8260B - Volatile Organic Compounds (GC/MS) **Matrix: Water**

			Pe	ercent Surro
		TOL	BFB	DBFM
Lab Sample ID	Client Sample ID	(78-120)	(74-120)	(80-123)
320-74353-1	OS357-W-210525	104	104	106
320-74353-3	OS8-W-210526	101	105	110
LCS 320-495507/3	Lab Control Sample	111	115	105
LCSD 320-495507/4	Lab Control Sample Dup	112	104	105
MB 320-495507/7	Method Blank	103	103	105
Surrogate Legend				

TOL = Toluene-d8 (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DBFM = Dibromofluoromethane (Surr)

Eurofins TestAmerica, Sacramento

# Method: 8260B - Volatile Organic Compounds (GC/MS)

# Lab Sample ID: MB 320-495507/7 Matrix: Water

Analysis Batch: 495507

	MB	МВ							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,2,3-Trichloropropane	ND		1.0	0.13	ug/L			06/04/21 13:25	1
1,1,1,2-Tetrachloroethane	ND		0.50	0.10	ug/L			06/04/21 13:25	1
1,1,1-Trichloroethane	ND		0.50	0.10	ug/L			06/04/21 13:25	1
1,1,2,2-Tetrachloroethane	ND		0.50	0.11	ug/L			06/04/21 13:25	1
1,1,2-Trichloroethane	ND		0.50	0.12	ug/L			06/04/21 13:25	1
1,1-Dichloroethane	ND		0.50	0.10	ug/L			06/04/21 13:25	1
1,1-Dichloroethene	ND		0.50	0.13	ug/L			06/04/21 13:25	1
1,1-Dichloropropene	ND		0.50	0.12	ug/L			06/04/21 13:25	1
1,2,3-Trichlorobenzene	ND		1.0	0.40	ug/L			06/04/21 13:25	1
1,2,4-Trichlorobenzene	ND		1.0	0.25	ug/L			06/04/21 13:25	1
1,2,4-Trimethylbenzene	ND		1.0	0.32	ug/L			06/04/21 13:25	1
1,2-Dibromo-3-Chloropropane	ND		1.0	0.20	ug/L			06/04/21 13:25	1
1,2-Dichlorobenzene	ND		0.50	0.097	ug/L			06/04/21 13:25	1
1,2-Dichloroethane	ND		0.50	0.14	ug/L			06/04/21 13:25	1
1,2-Dichloropropane	ND		0.50	0.15	ug/L			06/04/21 13:25	1
1,3,5-Trimethylbenzene	ND		0.50	0.16	ug/L			06/04/21 13:25	1
1,3-Dichlorobenzene	ND		0.50	0.086	ug/L			06/04/21 13:25	1
1,3-Dichloropropane	ND		1.0	0.10	ug/L			06/04/21 13:25	1
1,4-Dichlorobenzene	ND		0.50	0.083	ug/L			06/04/21 13:25	1
2,2-Dichloropropane	ND		1.0	0.46	ug/L			06/04/21 13:25	1
2-Chlorotoluene	ND		0.50	0.11	ug/L			06/04/21 13:25	1
4-Chlorotoluene	ND		0.50	0.10	ug/L			06/04/21 13:25	1
p-Isopropyltoluene	ND		1.0	0.15	ug/L			06/04/21 13:25	1
Benzene	ND		0.50	0.080	ug/L			06/04/21 13:25	1
Bromobenzene	ND		1.0	0.091	ug/L			06/04/21 13:25	1
Bromoform	ND		1.0	0.19	ug/L			06/04/21 13:25	1
Bromomethane	ND		1.0	0.21	ug/L			06/04/21 13:25	1
Carbon tetrachloride	ND		0.50		ug/L			06/04/21 13:25	1
Chlorobenzene	ND		0.50	0.070	-			06/04/21 13:25	1
Bromochloromethane	ND		1.0	0.18				06/04/21 13:25	1
Chloroethane	ND		1.0	0.24	-			06/04/21 13:25	1
Chloroform	ND		1.0	0.12	-			06/04/21 13:25	1
Chloromethane	ND		1.0	0.26				06/04/21 13:25	1
cis-1,2-Dichloroethene	ND		0.50	0.18	-			06/04/21 13:25	1
cis-1,3-Dichloropropene	ND		0.50	0.15	ug/L			06/04/21 13:25	1
Dibromochloromethane	ND		0.50	0.16	ug/L			06/04/21 13:25	1
Dibromomethane	ND		0.50		ug/L			06/04/21 13:25	1
Bromodichloromethane	ND		0.50		ug/L			06/04/21 13:25	1
Dichlorodifluoromethane	ND		1.0		ug/L			06/04/21 13:25	1
Ethylbenzene	ND		0.50	0.084				06/04/21 13:25	1
Hexachlorobutadiene	ND		1.0		ug/L			06/04/21 13:25	1
lsopropylbenzene	ND		0.50	0.11	ug/L			06/04/21 13:25	1
m,p-Xylene	ND		0.50		ug/L			06/04/21 13:25	1
Methylene Chloride	ND		1.0		ug/L			06/04/21 13:25	1
Naphthalene	ND		1.0		ug/L			06/04/21 13:25	1
n-Butylbenzene	ND		1.0		ug/L			06/04/21 13:25	1
N-Propylbenzene	ND		1.0	0.11	ug/L			06/04/21 13:25	1
o-Xylene	ND		0.50	0.14	ug/L			06/04/21 13:25	1

Eurofins TestAmerica, Sacramento

Prep Type: Total/NA

**Client Sample ID: Method Blank** 

RL

1.0

0.50

1.0

0.50

0.50

0.50

0.50

0.50

1.0

0.50

0.50

Limits

78 - 120

74 - 120

80 - 123

MDL Unit

0.14 ug/L

0.13 ug/L

0.13 ug/L

0.10 ug/L

0.095 ug/L

0.11 ug/L

0.16 ug/L

0.10 ug/L

0.13 ug/L

0.18 ug/L

0.12 ug/L

D

Prepared

Prepared

Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

Result

ND

103

103

105

%Recovery

MB MB

Qualifier

MB MB

Qualifier

Analysis Batch: 495507

**Matrix: Water** 

sec-Butylbenzene

tert-Butylbenzene

Tetrachloroethene

Trichloroethene

Vinyl chloride

Surrogate

Toluene-d8 (Surr)

trans-1,2-Dichloroethene

trans-1,3-Dichloropropene

1,2-Dibromoethane (EDB)

4-Bromofluorobenzene (Surr)

Dibromofluoromethane (Surr)

Trichlorofluoromethane

Analyte

Styrene

Toluene

Lab Sample ID: MB 320-495507/7

# Job ID: 320-74353-1

Prep Type: Total/NA

**Client Sample ID: Method Blank** 

Analyzed

06/04/21 13:25

06/04/21 13:25

06/04/21 13:25

06/04/21 13:25

06/04/21 13:25

06/04/21 13:25

06/04/21 13:25

06/04/21 13:25

06/04/21 13:25

06/04/21 13:25

06/04/21 13:25

Analyzed

06/04/21 13:25

06/04/21 13:25

06/04/21 13:25

Prep Type: Total/NA

**Client Sample ID: Lab Control Sample** 

Dil Fac

1

1

1

1

1

1

1

1

1

1

1

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# Lab Sample ID: LCS 320-495507/3 Matrix: Water Analysis Batch: 495507

	Spike	LCS	LCS				%Rec.
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits
1,2,3-Trichloropropane	20.0	23.5		ug/L		117	73 - 120
1,1,1,2-Tetrachloroethane	20.0	22.2		ug/L		111	79 - 120
1,1,1-Trichloroethane	20.0	22.0		ug/L		110	79 - 121
1,1,2,2-Tetrachloroethane	20.0	21.1		ug/L		106	74 - 137
1,1,2-Trichloroethane	20.0	23.6		ug/L		118	79 - 127
1,1-Dichloroethane	20.0	22.0		ug/L		110	79 - 120
1,1-Dichloroethene	20.0	21.8		ug/L		109	74 - 120
1,1-Dichloropropene	20.0	21.4		ug/L		107	77 - 120
1,2,3-Trichlorobenzene	20.0	27.7		ug/L		139	47 - 162
1,2,4-Trichlorobenzene	20.0	26.0		ug/L		130	61 - 130
1,2,4-Trimethylbenzene	20.0	21.1		ug/L		105	76 - 120
1,2-Dibromo-3-Chloropropane	20.0	25.3	*+	ug/L		126	66 - 121
1,2-Dichlorobenzene	20.0	22.3		ug/L		111	77 - 120
1,2-Dichloroethane	20.0	23.1		ug/L		116	77 - 128
1,2-Dichloropropane	20.0	22.1		ug/L		111	75 - 125
1,3,5-Trimethylbenzene	20.0	20.6		ug/L		103	79 - 120
1,3-Dichlorobenzene	20.0	21.2		ug/L		106	78 - 120
1,3-Dichloropropane	20.0	22.9		ug/L		114	79 - 120
1,4-Dichlorobenzene	20.0	21.1		ug/L		106	74 - 120
2,2-Dichloropropane	20.0	22.8		ug/L		114	75 - 127
2-Chlorotoluene	20.0	20.7		ug/L		104	79 - 120
4-Chlorotoluene	20.0	20.7		ug/L		104	80 - 121
p-Isopropyltoluene	20.0	21.1		ug/L		106	76 - 120
Benzene	20.0	21.2		ug/L		106	79 - 120
Bromobenzene	20.0	21.1		ug/L		106	80 - 120
Bromoform	20.0	24.4	*+	ug/L		122	80 - 120

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Prep Type: Total/NA

# Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

# Lab Sample ID: LCS 320-495507/3

# Matrix: Water Analysis Batch: 495507

Analysis Baten. 400007	Spike		LCS			%Rec.	
Analyte	Added	Result	Qualifier	Unit	D %Rec	Limits	
Bromomethane	20.0	20.5		ug/L	103	65 - 132	
Carbon tetrachloride	20.0	21.4		ug/L	107	78 - 124	
Chlorobenzene	20.0	21.0		ug/L	105	78 - 120	
Bromochloromethane	20.0	23.3		ug/L	117	80 - 120	
Chloroethane	20.0	22.2		ug/L	111	65 - 123	
Chloroform	20.0	22.5		ug/L	113	80 - 120	
Chloromethane	20.0	22.5		ug/L	113	62 - 129	
cis-1,2-Dichloroethene	20.0	22.5		ug/L	112	78 - 120	
cis-1,3-Dichloropropene	20.0	23.0		ug/L	115	80 - 131	
Dibromochloromethane	20.0	22.9		ug/L	115	80 - 122	
Dibromomethane	20.0	23.6		ug/L	118	80 - 121	
Bromodichloromethane	20.0	22.5		ug/L	112	80 - 124	
Dichlorodifluoromethane	20.0	19.6		ug/L	98	39 - 161	
Ethylbenzene	20.0	20.7		ug/L	104	80 - 120	
Hexachlorobutadiene	20.0	23.8		ug/L	119	69 - 120	
Isopropylbenzene	20.0	21.4		ug/L	107	80 - 121	
m,p-Xylene	20.0	20.9		ug/L	104	80 - 121	
Methylene Chloride	20.0	22.9		ug/L	115	77 - 120	
Naphthalene	20.0	26.5		ug/L	132	56 - 143	
n-Butylbenzene	20.0	21.2		ug/L	106	72 - 120	
N-Propylbenzene	20.0	20.4		ug/L	102	76 - 120	
o-Xylene	20.0	21.8		ug/L	109	80 - 124	
sec-Butylbenzene	20.0	20.4		ug/L	102	77 - 120	
Styrene	20.0	22.2		ug/L	111	80 - 120	
tert-Butylbenzene	20.0	20.6		ug/L	103	78 - 120	
Tetrachloroethene	20.0	19.9		ug/L	100	74 - 120	
Toluene	20.0	20.9		ug/L	104	79 - 126	
trans-1,2-Dichloroethene	20.0	21.7		ug/L	109	76 - 120	
trans-1,3-Dichloropropene	20.0	23.9		ug/L	119	75 - 133	
Trichloroethene	20.0	22.2		ug/L	111	74 - 120	
Trichlorofluoromethane	20.0	22.8		ug/L	114	60 - 135	
Vinyl chloride	20.0	22.0		ug/L	110	68 - 121	
1,2-Dibromoethane (EDB)	20.0	23.4		ug/L	117	78 - 120	

	LCS	LCS	
Surrogate	%Recovery	Qualifier	Limits
Toluene-d8 (Surr)	111		78 - 120
4-Bromofluorobenzene (Surr)	115		74 - 120
Dibromofluoromethane (Surr)	105		80 - 123

# Lab Sample ID: LCSD 320-495507/4 Matrix: Water Analysis Batch: 495507

	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,2,3-Trichloropropane	20.0	23.6		ug/L		118	73 - 120	1	22
1,1,1,2-Tetrachloroethane	20.0	20.8		ug/L		104	79 - 120	7	23
1,1,1-Trichloroethane	20.0	20.6		ug/L		103	79_121	7	25
1,1,2,2-Tetrachloroethane	20.0	19.9		ug/L		99	74 - 137	6	27

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Prep Type: Total/NA

**Client Sample ID: Lab Control Sample Dup** 

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Client Sample ID: Lab Control Sample Dup

# Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

# Lab Sample ID: LCSD 320-495507/4 Matrix: Water

# Analysis Batch: 495507

	Spike		LCSD				%Rec.		RPD
Analyte	Added		Qualifier	Unit	D	%Rec	Limits	RPD	Limit
1,1,2-Trichloroethane	20.0	23.2		ug/L		116	79 - 127	2	30
1,1-Dichloroethane	20.0	20.5		ug/L		103	79 - 120	7	21
1,1-Dichloroethene	20.0	20.4		ug/L		102	74 - 120	7	22
1,1-Dichloropropene	20.0	20.2		ug/L		101	77 - 120	6	20
1,2,3-Trichlorobenzene	20.0	27.5		ug/L		137	47 - 162	1	45
1,2,4-Trichlorobenzene	20.0	25.1		ug/L		126	61 - 130	3	40
1,2,4-Trimethylbenzene	20.0	21.0		ug/L		105	76 - 120	0	17
1,2-Dibromo-3-Chloropropane	20.0	24.9	*+	ug/L		124	66 - 121	2	33
1,2-Dichlorobenzene	20.0	21.7		ug/L		108	77 - 120	3	19
1,2-Dichloroethane	20.0	21.6		ug/L		108	77 - 128	7	25
1,2-Dichloropropane	20.0	21.5		ug/L		108	75 - 125	3	27
1,3,5-Trimethylbenzene	20.0	20.5		ug/L		103	79 - 120	0	20
1,3-Dichlorobenzene	20.0	20.5		ug/L		103	78 - 120	3	17
1,3-Dichloropropane	20.0	22.2		ug/L		111	79 - 120	3	15
1,4-Dichlorobenzene	20.0	20.6		ug/L		103	74 - 120	2	15
2,2-Dichloropropane	20.0	21.1		ug/L		105	75 - 127	8	25
2-Chlorotoluene	20.0	20.8		ug/L		104	79 - 120	0	19
4-Chlorotoluene	20.0	20.5		ug/L		102	80 - 121	1	19
p-Isopropyltoluene	20.0	20.8		ug/L		104	76 - 120	2	18
Benzene	20.0	20.2		ug/L		101	79 - 120	5	21
Bromobenzene	20.0	21.2		ug/L		106	80 - 120	0	17
Bromoform	20.0	22.3		ug/L		111	80 - 120	9	16
Bromomethane	20.0	19.2		ug/L		96	65 - 132	7	40
Carbon tetrachloride	20.0	20.1		ug/L		100	78 - 124	6	25
Chlorobenzene	20.0	19.9		ug/L		100	78 - 120	5	15
Bromochloromethane	20.0	22.0		ug/L		110	80 - 120	6	19
Chloroethane	20.0	20.6		ug/L		103	65 - 123	8	40
Chloroform	20.0	20.9		ug/L		105	80 - 120	7	22
Chloromethane	20.0	20.9		ug/L		104	62 - 129	7	25
cis-1,2-Dichloroethene	20.0	20.7		ug/L		104	78 - 120	8	18
cis-1,3-Dichloropropene	20.0	23.3		ug/L		117	80 - 131	2	24
Dibromochloromethane	20.0	22.1		ug/L		110	80 - 122	4	17
Dibromomethane	20.0	22.2		ug/L		111	80 - 121	6	17
Bromodichloromethane	20.0	21.6		ug/L		108	80 - 124	4	20
Dichlorodifluoromethane	20.0	18.0		ug/L		90	39 - 161	8	51
Ethylbenzene	20.0	19.5		ug/L		98	80 - 120	6	15
Hexachlorobutadiene	20.0	22.8		ug/L		114	69 - 120	4	30
Isopropylbenzene	20.0	19.8		ug/L		99	80 - 121	8	17
m,p-Xylene	20.0	19.8		ug/L		99	80 - 121	5	15
Methylene Chloride	20.0	21.6		ug/L		108	77 - 120	6	20
Naphthalene	20.0	25.9		ug/L		129	56 - 143	2	48
n-Butylbenzene	20.0	20.7		ug/L		104	72 - 120	2	25
N-Propylbenzene	20.0	20.7		ug/L		103	76 - 120	1	26
o-Xylene	20.0	20.0		ug/L		100	80 - 124	8	18
sec-Butylbenzene	20.0	20.0		ug/L		100	77 - 120	0	19
Styrene	20.0	20.3		ug/L		101	80 - 120	9	15
tert-Butylbenzene	20.0	20.3		ug/L		102	78 - 120	1	19
Tetrachloroethene	20.0	19.0		ug/L		95	76 - 120	5	18
Toluene	20.0	20.8		ug/L		93 104	74 - 120 79 - 126	1	20
	20.0	20.0		uyıL		104	10-120		20

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# Method: 8260B - Volatile Organic Compounds (GC/MS) (Continued)

### Lab Sample ID: LCSD 320-495507/4 **Client Sample ID: Lab Control Sample Dup** Matrix: Water Prep Type: Total/NA Analysis Batch: 495507 LCSD LCSD RPD Spike %Rec. Analyte Added **Result Qualifier** Unit D %Rec Limits RPD Limit trans-1,2-Dichloroethene 20.0 20.2 101 76 - 120 7 20 ug/L ug/L trans-1,3-Dichloropropene 20.0 24.4 122 75 - 133 2 29 20 Trichloroethene 20.0 21.7 ug/L 108 74 \_ 120 2 Trichlorofluoromethane 20.0 20.7 ug/L 103 60 - 135 10 41 ug/L Vinyl chloride 20.0 20.3 102 68 - 121 8 33 1,2-Dibromoethane (EDB) 20.0 22.4 ug/L 112 78 - 120 4 15 LCSD LCSD Surrogate %Recovery Qualifier Limits Toluene-d8 (Surr) 112 78 - 120 4-Bromofluorobenzene (Surr) 104 74 - 120 Dibromofluoromethane (Surr) 105 80 - 123 Method: 314.0 - Perchlorate (IC) Lab Sample ID: MB 320-495092/5 **Client Sample ID: Method Blank Matrix: Water** Prep Type: Total/NA Analysis Batch: 495092 MB MB Analyte **Result Qualifier** RL MDL Unit D Prepared Analyzed Dil Fac Perchlorate ND 4.0 2.0 ug/L 06/03/21 12:28 1 Lab Sample ID: LCS 320-495092/6 **Client Sample ID: Lab Control Sample** Matrix: Water Prep Type: Total/NA Analysis Batch: 495092 LCS LCS Spike %Rec. Analyte Added **Result Qualifier** Unit D %Rec Limits Perchlorate 49.9 52.0 ug/L 104 85 - 115 Lab Sample ID: MRL 320-495092/4 **Client Sample ID: Lab Control Sample Matrix: Water** Prep Type: Total/NA Analysis Batch: 495092 Spike MRL MRL %Rec. Analyte Added **Result Qualifier** Unit %Rec Limits D Perchlorate 3.99 3.65 J 92 75 - 125 ug/L Lab Sample ID: 320-74353-1 MS Client Sample ID: OS357-W-210525 **Matrix: Water** Prep Type: Total/NA Analysis Batch: 495092 MS MS Sample Sample Spike %Rec.

Analyte Perchlorate	Result         Qualifier           ND	<b>Added</b> 49.9	ResultQualifier49.1	- Unit ug/L	<u>D</u>	<b>%Rec</b> 99	Limits 80 - 120	
Lab Sample ID: 320-74353 Matrix: Water	-1 MSD				Client	Sample	ID: OS357- Prep Type	
Analysis Batch: 495092	Sample Sample	Spiko					% Boc	חפפ

-	Sample	Sample	Spike	MSD	MSD				%Rec.		RPD	
Analyte	Result	Qualifier	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit	
Perchlorate	ND		49.9	49.3		ug/L		99	80 - 120	0	20	

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# Method: 6010B - Metals (ICP)

# Lab Sample ID: MB 320-494493/1-A Matrix: Water Analysis Batch: 495006

MB	МВ							
Analyte Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver 0.000930	J	0.0050	0.00084	mg/L		06/01/21 13:47	06/02/21 16:13	1
Arsenic ND		0.020	0.012	mg/L		06/01/21 13:47	06/02/21 16:13	1
Barium ND		0.0050	0.0025	mg/L		06/01/21 13:47	06/02/21 16:13	1
Beryllium ND		0.0020	0.00030	mg/L		06/01/21 13:47	06/02/21 16:13	1
Cadmium ND		0.0020	0.00050	mg/L		06/01/21 13:47	06/02/21 16:13	1
Cobalt ND		0.0050	0.0030	mg/L		06/01/21 13:47	06/02/21 16:13	1
Chromium ND		0.0080	0.0012	mg/L		06/01/21 13:47	06/02/21 16:13	1
Copper ND		0.010	0.0021	mg/L		06/01/21 13:47	06/02/21 16:13	1
Molybdenum ND		0.020	0.0027	mg/L		06/01/21 13:47	06/02/21 16:13	1
Nickel ND		0.0050	0.0024	mg/L		06/01/21 13:47	06/02/21 16:13	1
Lead ND		0.0050	0.0025	mg/L		06/01/21 13:47	06/02/21 16:13	1
Selenium ND		0.020	0.013	mg/L		06/01/21 13:47	06/02/21 16:13	1
Antimony ND		0.020	0.0098	mg/L		06/01/21 13:47	06/02/21 16:13	1
Thallium ND		0.020	0.0090	mg/L		06/01/21 13:47	06/02/21 16:13	1
Vanadium ND		0.0050	0.0019	mg/L		06/01/21 13:47	06/02/21 16:13	1
Zinc ND		0.010	0.0030	mg/L		06/01/21 13:47	06/02/21 16:13	1

### Lab Sample ID: LCS 320-494493/2-A Matrix: Water Analysis Batch: 495006

Analysis Batch: 495006	Spike	LCS LCS				Prep Batch: 494493 %Rec.
Analyte	Added	Result Qualifier	Unit	D	%Rec	Limits
Silver	0.0505	0.0510	mg/L		101	80 - 120
Arsenic	0.500	0.499	mg/L		100	80 - 120
Barium	0.500	0.521	mg/L		104	80 - 120
Beryllium	0.250	0.257	mg/L		103	80 - 120
Cadmium	0.250	0.253	mg/L		101	80 - 120
Cobalt	0.250	0.255	mg/L		102	80 - 120
Chromium	0.250	0.257	mg/L		103	80 - 120
Copper	0.250	0.252	mg/L		101	80 - 120
Molybdenum	0.250	0.261	mg/L		104	80 - 120
Nickel	0.250	0.250	mg/L		100	80 - 120
Lead	0.250	0.258	mg/L		103	80 - 120
Selenium	0.500	0.486	mg/L		97	80 - 120
Antimony	0.495	0.494	mg/L		100	80 - 120
Thallium	0.500	0.516	mg/L		103	80 - 120
Vanadium	0.250	0.257	mg/L		103	80 - 120
Zinc	0.500	0.510	mg/L		102	80 - 120

# Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 320-49489 Matrix: Water Analysis Batch: 495175	4/11-A							ole ID: Method Prep Type: To Prep Batch:	otal/NA
	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.00020	0.00010	mg/L		06/02/21 14:00	06/03/21 08:50	1

Job ID: 320-74353-1

Prep Type: Total/NA

Prep Batch: 494493

**Client Sample ID: Method Blank** 

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

# 2 3 4 5 6 7 8 9

# Method: 7470A - Mercury (CVAA) (Continued)

Lab Sample ID: LCS 320-494894/12-A Matrix: Water Analysis Batch: 495175	Spike	LCS	LCS	Clie	ent Sai	mple ID	: Lab Cor Prep Ty Prep Ba %Rec.	pe: Tot	al/NA
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits		
Mercury	0.00100	0.00106		mg/L		106	82 - 113		
Lab Sample ID: LCSD 320-494894/13-A Matrix: Water			C	Client Sa	ample	ID: Lab	Control S Prep Ty		
Analysis Batch: 495175							Prep Ba	atch: 49	94894
	Spike	LCSD	LCSD				%Rec.		RPD
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
Mercury	0.00100	0.00106		mg/L		106	82 - 113	0	17

Prep Type

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Prep Type

Total/NA

Total/NA

Total/NA

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8260B

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Method

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314.0

314.0

314.0

314.0

314.0

314.0

**Client Sample ID** 

OS357-W-210525

Lab Control Sample

**Client Sample ID** 

OS357-W-210525

Lab Control Sample

Lab Control Sample

OS357-W-210525

OS357-W-210525

OS8-W-210526

Method Blank

Lab Control Sample Dup

OS8-W-210526

Method Blank

Analysis Batch: 495507

**GC/MS VOA** 

Lab Sample ID

MB 320-495507/7

LCS 320-495507/3

LCSD 320-495507/4

Analysis Batch: 495092

320-74353-1

320-74353-3

HPLC/IC

Lab Sample ID

MB 320-495092/5

LCS 320-495092/6

MRL 320-495092/4

320-74353-1 MS

320-74353-1

320-74353-3

Prep Batch

Prep Batch

# 6 7 8 10 11 12

L	320-74353-1 MSD
	<b>Metals</b>

# Prep Batch: 494493

Lab Sample ID 320-74353-1	Client Sample ID OS357-W-210525	Prep Type Total/NA	Matrix Water	Method 3010A	Prep Batch
320-74353-3	OS8-W-210526	Total/NA	Water	3010A	
MB 320-494493/1-A	Method Blank	Total/NA	Water	3010A	
LCS 320-494493/2-A	Lab Control Sample	Total/NA	Water	3010A	

# Prep Batch: 494894

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-74353-1	OS357-W-210525	Total/NA	Water	7470A	
320-74353-3	OS8-W-210526	Total/NA	Water	7470A	
MB 320-494894/11-A	Method Blank	Total/NA	Water	7470A	
LCS 320-494894/12-A	Lab Control Sample	Total/NA	Water	7470A	
LCSD 320-494894/13-A	Lab Control Sample Dup	Total/NA	Water	7470A	

# Analysis Batch: 495006

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-74353-1	OS357-W-210525	Total/NA	Water	6010B	494493
320-74353-3	OS8-W-210526	Total/NA	Water	6010B	494493
MB 320-494493/1-A	Method Blank	Total/NA	Water	6010B	494493
LCS 320-494493/2-A	Lab Control Sample	Total/NA	Water	6010B	494493

# Analysis Batch: 495175

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-74353-1	OS357-W-210525	Total/NA	Water	7470A	494894
320-74353-3	OS8-W-210526	Total/NA	Water	7470A	494894
MB 320-494894/11-A	Method Blank	Total/NA	Water	7470A	494894
LCS 320-494894/12-A	Lab Control Sample	Total/NA	Water	7470A	494894
LCSD 320-494894/13-A	Lab Control Sample Dup	Total/NA	Water	7470A	494894

# Client Sample ID: OS357-W-210525 Date Collected: 05/25/21 13:00 Date Received: 05/28/21 09:20

Prep Type Total/NA	Batch Type Analysis	Batch Method 8260B	Run	Dil Factor	Initial Amount 50 mL	Final Amount 50 mL	Batch Number 495507	Prepared or Analyzed 06/04/21 16:24		Lab TAL SAC
Total/NA Total/NA Total/NA	Analysis Prep Analysis	314.0 3010A 6010B		1	50 mL	50 mL	495092 494493 495006	06/03/21 13:12 06/01/21 13:47 06/02/21 17:07	TCS JP SP	TAL SAC TAL SAC TAL SAC
Total/NA Total/NA	Prep Analysis	7470A 7470A		1	30 mL	30 mL	494894 495175	06/02/21 14:00 06/03/21 11:26	IM IM	TAL SAC TAL SAC

# Client Sample ID: OS8-W-210526 Date Collected: 05/26/21 12:30 Date Received: 05/28/21 09:20

	Batch	Batch		Dil	Initial	Final	Batch	Prepared			
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab	
Total/NA	Analysis	8260B		1	50 mL	50 mL	495507	06/04/21 16:46	SS	TAL SAC	1
Total/NA	Analysis	314.0		1			495092	06/03/21 14:19	TCS	TAL SAC	
Total/NA	Prep	3010A			50 mL	50 mL	494493	06/01/21 13:47	JP	TAL SAC	
Total/NA	Analysis	6010B		1			495006	06/02/21 17:11	SP	TAL SAC	
Total/NA	Prep	7470A			30 mL	30 mL	494894	06/02/21 14:00	IM	TAL SAC	
Total/NA	Analysis	7470A		1			495175	06/03/21 11:29	IM	TAL SAC	

Laboratory References:

TAL SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Job ID: 320-74353-1

# Lab Sample ID: 320-74353-1

Lab Sample ID: 320-74353-3

Matrix: Water

Matrix: Water

**5** 6 10

# Accreditation/Certification Summary

Job ID: 320-74353-1

# Image: Construction of the accreditations/certifications listed below are applicable to this report. 3 Authority Program Identification Number Expiration Date 4 California State 2897 01-31-22 5 6 7 8

Eurofins TestAmerica, Sacramento

# **Method Summary**

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

Method	Method Description	Protocol	Laboratory
3260B	Volatile Organic Compounds (GC/MS)	SW846	TAL SAC
314.0	Perchlorate (IC)	EPA	TAL SAC
6010B	Metals (ICP)	SW846	TAL SAC
7470A	Mercury (CVAA)	SW846	TAL SAC
3010A	Preparation, Total Metals	SW846	TAL SAC
5030B	Purge and Trap	SW846	TAL SAC
7470A	Preparation, Mercury	SW846	TAL SAC

### **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 SAC = Eurofins TestAmerica, Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

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

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
320-74353-1	OS357-W-210525	Water	05/25/21 13:00	05/28/21 09:20	
320-74353-3	OS8-W-210526	Water	05/26/21 12:30	05/28/21 09:20	

### Salimpour, Afsaneh

From:Travis Wicks <TZWicks@gsi-net.com>Sent:Tuesday, June 1, 2021 9:29 AMTo:Salimpour, Afsaneh; Susan GallardoSubject:RE: Eurofins TestAmerica Sample Login Confirmation files from 320-74353 AJU-BB

EXTERNAL EMAIL\*

Hi Afsaneh,

Correct. CAM 17 analyses are total, and your decision on the TB sounds good to me. One change – can you not have OS1-W-210526 (320-74353-2) analyzed? That sample was collected in error.

Thanks,

Travis Wicks | Staff Geologist | GSI Environmental Inc.

phone 510.463.8494 | cell 510.468.6940 tzwicks@gsi-net.com

Notice: The information contained in (and attached to) this e-mail is intended only for the personal and confidential use of the designated recipient(s) named above. This message may be a consultant/client, attorney/client, or attorney work product communication and as such is privileged and confidential. If the reader of this message is not the intended recipient, you are hereby notified that you have received this document in error and that any review, dissemination, distribution, or copying of this message is strictly prohibited. If you received this communication in error, please notify us immediately by reply e-mail, and delete the original message (including attachments).

From: Afsaneh Salimpour <Afsaneh.Salimpour@Eurofinset.com>
Sent: Tuesday, June 1, 2021 9:06 AM
To: Susan Gallardo <SMGallardo@gsi-net.com>; Travis Wicks <TZWicks@gsi-net.com>
Subject: Eurofins TestAmerica Sample Login Confirmation files from 320-74353 AJU-BB

Hi Travis, The CAM 17 are totals? correct? TB containers had no IDs, time and date on them. But the plastic bag in which they came did have ID, time and date that match that of COC for sample 4 (TB).

TB-210527 (320-74353-4)

Afsaneh F Salimpour Project Manager

Eurofins TestAmerica, Sacramento Phone: 925-484-1919 E-mail: <u>Afsaneh.Salimpour@Eurofinset.com</u> <u>www.eurofinsus.com/env</u>



Reference: [320-349597] Attachments: 3

## > > Bank information has changed, please refer to remittance information on invoice. < <

\* WARNING - EXTERNAL: This email originated from outside of Eurofins Environment Testing America. Do not click any links or open any attachments unless you trust the sender and know that the content is safe!

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Second Action         Time         Sugary Control         Time         Sugary Control         Time         REQUES           65101 463-8464         (510) 463-846         (510) 463-846	GSI Environmental Inc.		PROJECT NAME:	AJU-BB			PROJECT NO	5182	
Under LA Mart 12 (510).453-9443     Totols (10)       Image: Stript 43-9443     Event (10).453-9443     Image: Stript 43-94 (10).453-9443     Image: Stript 43-94 (10).453-9443       Image: Stript 43-94 (10).453-9443     Image: Stript 43-94 (10).453	155 Grand Ave. Suite 704		UJECT CONTACT:	Susan Gallar	ор		LAB CONTACT	Afsaneh Salimpour (Pleasanton	
dd     Filme       rs     Calacience       rs     Calacience <td< th=""><th>1612 34</th><th></th><th>JBAL ID:</th><th></th><th></th><th></th><th>SAMPLER(S):</th><th>en i Ci</th></td<>	1612 34		JBAL ID:				SAMPLER(S):	en i Ci	
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Date     Title       1973.5     5737/al     1300     W     5     X     X     X       1973.6     5141/al     0.050     W     5     X     X     X       1973.6     5141/al     1.000     W     5     X     X     X       1973.6     5141/al     1.000     W     5     X     X     X       1973.7     S137.4     1.000     W     30.7433.0     M     X       107     M     A     X     X     X     X       108     M     M     M     X     X     X       109     M     A     X     X     X     X       100     M     X     X     X     X     X       100     M     X     X     X     X     X       100     M     X     X     X     X     X       100 <td< td=""><td>SAMPLEID</td><td>SAME</td><td>PLING</td><td></td><td>eseu</td><td>ıәд</td><td>10+</td><td></td></td<>	SAMPLEID	SAME	PLING		eseu	ıәд	10+		
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Bold With Condenses     320:74353     Chan of Custory       20:74353     Chan of Custory       20:7571     Chan of Custory									
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15/29 55	On plicitic bay	Jut un cur		5125h	2			3.584.6	
	0						(		

Client: GSI Environmental, Inc

#### Login Number: 74353 List Number: 1 Creator: Anderson, Marina M

Question	Answer	Comment
Radioactivity wasn't checked or is = background as measured by a survey meter.</td <td>True</td> <td></td>	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	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	

Job Number: 320-74353-1

List Source: Eurofins TestAmerica, Sacramento





PO Box 30712 Charleston, SC 29417 2040 Savage Road Charleston, SC 29407 P 843,556,8171 F 843,766,1178

gel.com

June 09, 2021

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

Re: Near S SFL Work Order: 545799

Dear Travis Wicks:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on May 28, 2021. 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,

Meredith Boldiford

Meredith Boddiford for Brielle Luthman Project Manager

Purchase Order: 5182 Enclosures

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

### Certificate of Analysis Report for

GSIE002 GSI Environmental Inc.

### Client SDG: 545799 GEL Work Order: 545799

### 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.

Meredith Boldiford

Reviewed by

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

# **Certificate of Analysis**

Company : Address :	GSI Environ 155 Grand A Suite 704 Oakland, Cal	ve	2					Re	port Date:	June 9	, 2021
Contact:	Travis Wicks										
Project:	Near S SFL										
Client Sample Sample ID: Matrix: Collect Date: Receive Date: Collector:	545799 Water 25-MA	Y-21					oject: ent ID:		200119 2002		
Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	DF Analyst	Date Time	e Batch Mt
Rad Gamma Spec A Gammaspec, Gam Cesium-137 Rad Gas Flow Prope GFPC, Sr90, Lique Strontium-90	ma, Liquid (Stan U ortional Counti id "As Received" U	-0.745 ng	As Received' +/-4.88 +/-0.517	, 8.58 0.976	+/-4.90 +/-0.517	10.0 2.00	pCi/L pCi/L			06/01/21 1851 06/08/21 1009	
Rad Liquid Scintilla											
LSC, Tritium Disti Tritium	llation, Liquid "A U	As Received 224	+/-241	401	+/-244	700	pCi/L		KXA1 (	06/08/21 1610	2133996 3
The following Analy Method D	escription	were perfor					r				
	PA 901.1										
	PA 905.0 Modifie		Rev. 1 Modi	fied							
3 E Surrogate/Tracer F	PA 906.0 Modifie Recoverv	a <b>Fest</b>						Batch I	D Recoverv	- % Accepta	able Limits
Strontium Carrier		GFPC. Sr9	0, Liquid "A	s Received"				213346			-125%)
<b>Notes:</b> The MDC is a sar TPU and Counti	nple specific N ng Uncertainty	IDC. are calcula			nce level (1.96-sign	na).					,
Column headers DF: Dilution Fac DL: Detection Li	tor	follows:		Method rep Factor							

Lc/LC: Critical Level RL: Reporting Limit TPU: Total Propagated Uncertainty MDA: Minimum Detectable Activity MDC: Minimum Detectable Concentration

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# **Certificate of Analysis**

Company : Address :	GSI Environn 155 Grand Av Suite 704										
	Oakland, Cali	ifornia 94612						Re	port Date:	June 9	, 2021
Contact:	Travis Wicks								•		,
Project:	Near S SFL										
Client Sample Sample ID: Matrix: Collect Date: Receive Date: Collector:	ID: OS1-W 5457990 Water 26-MA 28-MA Client	Y-21					oject: ient ID:		E00119 E002		
Parameter	Qualifier	Result Un	certainty	MDC	TPU	RL	Units	PF	DF Analyst	Date Tim	e Batch Mtd.
Rad Liquid Scintillat LSC, Tritium Distil	-	As Received"									
Tritium	U	-100	+/-199	405	+/-199	700	pCi/L		KXA1	06/08/21 1627	2133996 1
The following Analyt	tical Methods v	vere perform	ed								
Method De	escription										
1 EP	A 906.0 Modified	1									
Surrogate/Tracer R	ecovery 7	ſest						Batch I	D Recovery	y% Accept	able Limits
Notes:											
The MDC is a sam TPU and Countin			ed at the 9	5% confi	dence level (1.96-sig	gma).					
Column headers a		follows:	26.1	N. 4 1							

DF: Dilution FactorMtd.: MethodDL: Detection LimitPF: Prep FactorLc/LC: Critical LevelRL: ReportingMDA: Minimum Detectable ActivityTPU: Total Preprint

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 : Address :	GSI Environm 155 Grand Av Suite 704 Oakland, Calif	ve						Re	port Date:		June 9,	2021	
Contact:	Travis Wicks												
Project:	Near S SFL												I
Client Sample Sample ID: Matrix: Collect Date: Receive Date: Collector:	ID: OS8-W- 5457990 Water 26-MAY 28-MAY Client	003 Y-21 Y-21					oject: ient ID:	GSIE					
Parameter	Qualifier	Result Unc	ertainty	MDC	TPU	RL	Units	PF :	DF Analys	t Dat	e Time	Batch I	Mtd.
Rad Gamma Spec An Gammaspec, Gamm	na, Liquid (Stand												
Cesium-137	U	1.14	+/-2.87	5.69	+/-2.91	10.0	pCi/L		MJH1	06/01/2	1 1851	2133739	1
Rad Gas Flow Propor GFPC, Sr90, Liquid	d "As Received"	0											-
Strontium-90	U	0.333	+/-0.654	1.17	+/-0.656	2.00	pCi/L		BXFI	06/08/2	.1 1536	2133460	2
Rad Liquid Scintillat LSC, Tritium Distill		Received"											
Tritium	U	200	+/-243	410	+/-246	700	pCi/L		KXA1	06/08/2	21 1643	2133996	3
							r		-				-
The following Analyt Method De	tical Methods w escription	ere periorino	ed										
	PA 901.1												
21	A 901.1 A 905.0 Modified	DOE RP501 I	₹ev 1 Modifi	ied									
	PA 906.0 Modified			Su									
								Datah F			A aconto	Llo T imi	4
Surrogate/Tracer Ro	-	Cest							D Recover	-			.s
Strontium Carrier		GFPC, Sr90,	Liquid "As	Received"				213346	0 60	).7	(25%-	125%)	
Notes: The MDC is a sam TPU and Countin <u>Column headers a</u> DF: Dilution Factor DL: Detection Lir Lc/LC: Critical Le MDA: Minimum 1 MDC: Minimum 1	ng Uncertainty a <u>are defined as fo</u> or mit evel Detectable Act	are calculate <u>collows:</u> tivity	Mtd.: M PF: Pre RL: Re	Method ep Factor eporting L	lence level (1.96-sigm Limit Dagated Uncertainty	a).							

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

## **OC Summary**

			Q	C Si	ummary	7	1	Damant D	- 4 T 0 2021	
Client :	<b>GSI Environmenta</b>	al Inc.				-	1	keport Da	ate: June 9, 2021 Page 1 of 3	
	155 Grand Ave								Page 1 01 5	
	Suite 704 Oakland, Californ	ia								
Contact:	Travis Wicks	114								
Workorder:	545799									
Parmname		NOM	Sample (	Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
Rad Gamma Spe	с									
	2133739 —									
QC1204833556	545799001 DUP									
Cesium-137		U	-0.745	U	-4.42	pCi/L	0		N/A MJH1	06/02/2108:21
		Uncert:	+/-4.88		+/-4.97					
		TPU:	+/-4.90		+/-5.36					
QC1204833557	LCS									
Americium-241		1.09E+05			1.20E+05	pCi/L		110	(75%-125%) MJH1	06/02/2108:22
		Uncert:			+/-3320					
		TPU:			+/-13000					
Cobalt-60		22600			24100	pCi/L		107	(75%-125%)	
		Uncert:			+/-766					
		TPU:			+/-2430					
Cesium-137		38300			40200	pCi/L		105	(75%-125%)	
		Uncert:			+/-812					
		TPU:			+/-3430					
QC1204833555	MB									
Cesium-137				U	0.438	pCi/L			MJH1	06/01/2118:51
		Uncert:			+/-3.21					
		TPU:			+/-3.21					
Rad Gas Flow	2122460									
Batch	2133460									
QC1204832897	545280007 DUP									
Strontium-90		U	-0.0954	U	0.552	pCi/L	0		N/A BXF1	06/08/2110:08
		Uncert:	+/-0.475		+/-0.630					
		TPU:	+/-0.475		+/-0.636					
QC1204832899	LCS									
Strontium-90		77.3			80.1	pCi/L		104	(75%-125%) BXF1	06/08/2110:08
		Uncert:			+/-3.60					
		TPU:			+/-13.1					
QC1204832895	MB									
Strontium-90				U	-0.0794	pCi/L			BXF1	06/08/2110:08
		Uncert:			+/-0.453					
		TPU:			+/-0.453					
QC1204832898	545280007 MS									
Strontium-90		465 U	-0.0954		494	pCi/L		106	(75%-125%) BXF1	06/08/2110:08
		Uncert:	+/-0.475		+/-21.4					
		TPU:	+/-0.475		+/-81.2					
Rad Liquid Scint										
Batch	2133996 —									
QC1204834140	545511001 DUP									
Tritium	2.2011001.001		2590		2600	pCi/L	.316		(0%-20%) KXA1	06/08/2114:38
		Uncert:	+/-193		+/-195	PCI/L	.510		(0,0 =0,0) 12.011	56, 56, 21 14.50
		Cheert.	11175		1/ 1/5					

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### **QC** Summary

Workorder:	545799							Page 2	of 3	
Parmname		NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date Time
Rad Liquid Scin	ntillation									
Batch	2133996									
		TPU:	+/-537	+/-539						
QC1204834142	LCS									
Tritium		5740		5220	pCi/L		91.1	(75%-125%	b) KXA1	06/08/2117:17
		Uncert:		+/-589						
		TPU:		+/-1170						
QC1204834139	MB									
Tritium			U	132	pCi/L				KXA1	06/08/2113:03
		Uncert:		+/-122						
		TPU:		+/-125						
QC1204834141	545511001 MS									
Tritium		5750	2590	7300	pCi/L		81.9	(75%-125%	5) KXA1	06/08/2117:00
		Uncert:	+/-193	+/-673						
		TPU:	+/-537	+/-1560						

#### 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.

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## **QC Summary**

Workorder:	545799				_			Page 3 of 3	
Parmname		NOM	Sample Qual	QC	Units	RPD%	REC%	Range Anlst	Date Time
h Prena	ration or preservation	holding time was ever	eeded						

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.

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CHAIN-OF-CUSTODY RECORD Date: 5/27/2021

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FROM:	GSI Environmental Inc.		PROJECT NAME:	AJU-BB										PRO.	PROJECT NO .:	<sup>).:</sup> 5182	2				
	155 Grand Ave. Suite 704	704	PROJECT CONTACT:	Susan Gallardo	allardo									LAB	CONTAC	ST: Brie	LAB CONTACT: Brielle Luthman	lan			
	Uakiand, CA 94612 (510) 463-8484		GLOBAL ID:	ł										SAMI	PLER(S)	SAMPLER(S): (PRINT)	teu/	CJB			T
TEL:	(510) 463-8484	E-MAIL:	smgallardo@gsi-net.com; tzwicks@gsi-net.com	net.com; ta	<u>rwicks@g</u>	si-net.c	Elo					R H		REQUESTED		NAI '	ANAI YSES				Г
LABOR	LABORATORY: GEL Laboratories	ries								╞		Pleas	e checi	k box o	r fill in	blank a	Please check box or fill in blank as needed.		F	F	Т
TURNA	SAME DAY 72 HR	□24 HR □5 DAYS [∑	☐ 48 HR ⊠STANDARD																	*****	
SPECIA - S7-5 - H-3	special instructions: - Sr-90 MDC of 8 pCi/L - H-3 MDC of 20,000 pCi/L	- Cs-137 A	- Cs-137 MDC of 200 pCi/L			рөл рөллөз	iltered.	26) 781-80 909) 781-80 909) 781-80	906) E-H	*****											9999-00-00-00-00-00-00-00-00-00-00-00-00
LAB USE	SAMPLE ID		SAMPLING	MATRIX	NO. OF	ese.															
ONLY	05357 - M-210525	5/25/21	1300	13	NON (~			$\Rightarrow$	K	_		-				1					Ι
	052-W-210526	5/26/21	0450	N	~ ~			$\mathbb{R}$	K							1			1		Τ
	058-W-210526	12/20/31	130	Ŵ	$\infty$	XX		X	X							<u> </u>					Τ
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Reling	Relinquished by: (Signature) 🍸 🏅					Received by: (Signature)	):Yd b	Signatt	Xau	$\ $		1					DateS12	28171	Time://	125	6
Reling	Relinquished by: (Signature)					Received by: (Signature)	d by: (	Signatu	ire)								Date:		Time:		l
	n de la companya de l					in the second second second			<b>Variational Contractions</b>	And the second se			Contrastructure de la contraste		Nononovana and			Concernation of the second			

<u>لا</u> ک	Laboratories LLC				SAMPLE RECEIPT & REVIEW FORM
Client: -	GSET GSTE			SD	G/AR/COC/Work Order: 545799
Received	By: MLS			Da	te Received: 5.28.21
Carr	ier and Tracking Number			1 1	FedEx Express FedEx Ground UPS Field Services Courier Other 1876 6573 5410-60 1876 6573 5421-2000
Suspected	Hazard Information	Yes	°2		Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation.
A)Shipped	as a DOT Hazardous?				ard Class Shipped: UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes No
	client designate the samples are to be radioactive?		/	co	C notation or radioactive stickers on containers equal client designation.
C) Did the radioactive	RSO classify the samples as ?		/	' Ma	ximum Net Counts Observed* (Observed Counts - Area Background Counts):mR/Hr Classified as: Rad 1 Rad 2 Rad 3
	elient designate samples are hazardous?	,	/	35.2	C notation or hazard labels on containers equal client designation. or E is yes, select Hazards below. PCB's Flammable Foreign Soil RCRA Ashestos Beryllium Other:
E) Did the	RSO identify possible hazards?	<u> </u>	Ľ	<u> </u>	PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:
	Sample Reccipt Criteria	Yes	NA	ž	Comments/Qualifiers (Required for Non-Conforming Items)
sealed					Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
	of custody documents included hipment?			Ļ	Circle Applicable: Client contacted and provided COC COC created upon receipt
within	es requiring cold preservation $(0 \le 6 \text{ deg. C})$ ?*	2			Preservation Method: Wet Ice Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius TEMP:
	check performed and passed on IR rature gun?	1			Temperature Device Serial #: <u>IR3-21</u> Secondary Temperature Device Serial # (If Applicable):
5 Sampl	e containers intact and sealed?				Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
	es requiring chemical preservation per pH?	/			Sample ID's and Containers Affected: If Preservation added, Lot#:
7 D	o any samples require Volatile Analysis?			/	If Yes, are Encores or Soil Kits present for solids? YesNoNA(If yes, take to VOA Freezer) Do liquid VOA vials contain acid preservation? YesNoNA(If unknown, select No) Are liquid VOA vials free of headspace? YesNoNA Sample ID's and containers affected:
8 Sampl	es received within holding time?				ID's and tests affected:
9 Sampl	e ID's on COC match ID's on ?	7			ID's and containers affected:
10 Date & on bot	t time on COC match date & time tles?	/			Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
11 numbe 12 Are sau GEL p 13 COC f relinqu	er of containers received match r indicated on COC? mple containers identifiable as rovided by use of GEL labels? orm is properly signed in tished/received sections?	//		//	Circle Applicable: No container count on COC Other (describe) MISSING 1 COOLER Circle Applicable: Not relinquished Other (describe)
_omments (	Use Continuation Form if needed); PM (or PM/				is DS Date Date Page of

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	SC000122021-1
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	T104704235-21-19
Utah NELAP	SC000122021-35
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

List of current GEL Certifications as of 09 June 2021

#### Radiochemistry Technical Case Narrative GSI Environmental Inc. SDG #: 545799

**Product:** Gammaspec, Gamma, Liquid (Standard List) Analytical Method: EPA 901.1 Analytical Procedure: GL-RAD-A-013 REV# 27 Analytical Batch: 2133739

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

<u>GEL Sample ID#</u>	Client Sample Identification
545799001	OS357-W-210525
545799003	OS8-W-210526
1204833555	Method Blank (MB)
1204833556	545799001(OS357-W-210525) Sample Duplicate (DUP)
1204833557	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: 2133460

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

<u>GEL Sample ID#</u>	Client Sample Identification
545799001	OS357-W-210525
545799003	OS8-W-210526
1204832895	Method Blank (MB)
1204832897	545280007(NonSDG) Sample Duplicate (DUP)
1204832898	545280007(NonSDG) Matrix Spike (MS)
1204832899	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.

#### **Preparation Information**

#### **Homogenous Matrix**

Sample 545799003 (OS8-W-210526) was non-homogenous matrix. 544962001 was hazy 545579003 has black sediment 545799003 (OS8-W-210526).

#### **Technical Information**

#### Recounts

Sample 545799003 (OS8-W-210526) was recounted due to a suspected false positive. The recount is reported.

#### **Miscellaneous Information**

Additional Comments The matrix spike, 1204832898 (Non SDG 545280007MS), aliquot was reduced to conserve sample volume.

**Product: LSC, Tritium Distillation, Liquid Analytical Method:** EPA 906.0 Modified **Analytical Procedure:** GL-RAD-A-002 REV# 23 **Analytical Batch:** 2133996

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

<u>GEL Sample ID#</u>	Client Sample Identification
545799001	OS357-W-210525
545799002	OS1-W-210526
545799003	OS8-W-210526
1204834139	Method Blank (MB)
1204834140	545511001(NonSDG) Sample Duplicate (DUP)
1204834141	545511001(NonSDG) Matrix Spike (MS)
1204834142	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.

### **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.



# 2021 Monitoring Report

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

Appendix C

Analytical Laboratory Reports – Fruit Samples





PO Box 30712 Charleston, SC 29417 2040 Savage Road Charleston, SC 29407 P 843,556,8171 F 843,766,1178

gel.com

July 23, 2021

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

Re: Near SSFL Work Order: 545795

Dear Travis Wicks:

GEL Laboratories, LLC (GEL) appreciates the opportunity to provide the enclosed analytical results for the sample(s) we received on May 28, 2021. This revised data report has been prepared and reviewed in accordance with GEL's standard operating procedures. The data package has been revised to report Sr-90 reanalysis.

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 duth man,

Brielle Luthman Project Manager

Purchase Order: 5182 Enclosures

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

### Certificate of Analysis Report for

GSIE002 GSI Environmental Inc.

#### Client SDG: 545795 GEL Work Order: 545795

#### 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 duth man

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

## **Certificate of Analysis**

Report Date: July 23, 2021 Company : GSI Environmental Inc. Address : 155 Grand Ave Suite 704 Oakland, California 94612 Contact: Travis Wicks Near SSFL Project: Client Sample ID: L-1-210527 Project: GSIE00119 Sample ID: 545795001 Client ID: GSIE002 Matrix: Vegetation Collect Date: 27-MAY-21 09:20 Receive Date: 28-MAY-21 Collector: Client

Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time	e Batch	Method
LC-MS/MS Perchlora	te											
Perchlorate by LC-MS	S/MS "As Rece	eived"										
Perchlorate	U	ND	0.403	1.61	ug/kg	8.06	1	JLS	06/03/21	1955	2134493	1
Mercury Analysis-CV	'AA											
7471 Cold Vapor Mer	cury, Solid "A	s Received"										
Mercury	U	ND	7.64	22.8	ug/kg	114	1	MTM1	06/11/21	0855	2137458	2
Metals Analysis-ICP												
SW846 3050B/6010D	Metals, Solid	"As Received"										
Antimony	J	496	301	1820	ug/kg	91.1	1	JWJ	06/09/21	0039	2134384	3
Arsenic	U	ND	455	2730	ug/kg	91.1	1					
Barium	J	423	91.1	455	ug/kg	91.1	1					
Beryllium	U	ND	91.1	455	ug/kg	91.1	1					
Cadmium	U	ND	91.1	455	ug/kg	91.1	1					
Chromium	U	ND	137	911	ug/kg	91.1	1					
Cobalt	U	ND	137	455	ug/kg	91.1	1					
Copper	U	ND	273	1820	ug/kg	91.1	1					
Lead	U	ND	301	1820	ug/kg	91.1	1					
Molybdenum	U	ND	182	911	ug/kg	91.1	1					
Nickel	U	ND	137	455	ug/kg	91.1	1					
Selenium	U	ND	455	2730	ug/kg	91.1	1					
Silver	U	ND	91.1	455	ug/kg	91.1	1					
Thallium	U	ND	455	1820	ug/kg	91.1	1					
Vanadium	U	ND	91.1	455	ug/kg	91.1	1					
Zinc		5770	364	1820	ug/kg	91.1	1					
The following Prep M	lethods were pe	erformed:										
Method	Description	n		Analyst	Date	r	Time	e Pr	ep Batch			
GEL Prep Method	Laboratory C	omposite		-				21	33413			
SW846 3050B	SW846 3050		:	SM1	06/08/21	(	0955	21	34383			
SW846 6850 Modified	EPA 6850 Pe	rchlorate Extraction Solids	5	SXC7	06/03/21		1511	21	34492			
SW846 7471A Prep	EPA 7471A I	Mercury Prep Soil		AXS5	06/10/21		1630	21	37457			
The following Analyt	tical Methods v	were performed:										
Method	Description	l			A	Analyst	Co	nment	3			
1	SW846 6850					<i>.</i>						
2	SW846 7471A	A										
3	SW846 3050E											

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

# **Certificate of Analysis**

			Report Date:	July 23, 2021
Company :	GSI Environmental Inc.			
Address :	155 Grand Ave			
	Suite 704			
	Oakland, California 94612			
Contact:	Travis Wicks			
Project:	Near SSFL			
Client Sample ID:	L-1-210527	Project:	GSIE00119	
Sample ID:	545795001	Client ID:	GSIE002	

Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch	Method
Notes:									
Column headers are DF: Dilution Factor DL: Detection Limit MDA: Minimum De MDC: Minimum De	t etectable Activit	у	Lc/LC: Critical Level PF: Prep Factor RL: Reporting Limit SQL: Sample Quantitati	on Limit					

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

## **Certificate of Analysis**

Report Date: July 23, 2021 Company : GSI Environmental Inc. Address : 155 Grand Ave Suite 704 Oakland, California 94612 Contact: Travis Wicks Project: Near SSFL Client Sample ID: L-2-210527 Project: GSIE00119 Sample ID: 545795002 Client ID: GSIE002 Matrix: Vegetation Collect Date: 27-MAY-21 10:30 Receive Date: 28-MAY-21 Collector: Client

LC-MS/MS "As Received"         Perchlorate by LC-MS/MS "As Received"         Marceived Wather Wathe	Parameter	Qualifier	Result	DL	RL	Units	PF	DF	Analy	st Date	Time	e Batch	Method
Perchlorate       U       ND       0.426       1.70       ug/kg       8.51       1       J.S.       06.03/2       2021       2134493       1         Mercury Analysis-CVAA	LC-MS/MS Perchlorat	te											
Perchlorate       U       ND       0.426       1.70       ug/kg       8.51       1       J.S.       06/03/21       2021       2134493       1         Mercury Analysis-CVAA	Perchlorate by LC-MS	MS "As Rece	eived"										
7471 Cold Vapor Mercury, Solid "As Received"         Mercury       U       ND       7.05       21.1       ug/kg       105       I       MTMI       06/11/21       08.57       2137458       2         SW846 3050B/6010D Metals, Solid "As Received"       3       1       JWJ       06/09/21       00.53       2134384       3         Arsenic       U       ND       321       1950       ug/kg       97.3       1       JWJ       06/09/21       00.53       2134384       3         Arsenic       U       ND       486       ug/kg       97.3       1				0.426	1.70	ug/kg	8.51	1	JLS	06/03/21	2021	2134493	1
Mercury         U         ND         7.05         2.1.         ug/kg         105         1         MTMI         06/11/21         0857         2137458         2           Metals Analysis-ICP         SW846 3050B/6010D Metals, Solid "As Received"         ND         321         1950         ug/kg         97.3         1         JWJ         06/09/21         0053         2134384         3           Arsenic         U         ND         321         1950         ug/kg         97.3         1         JWJ         06/09/21         0053         2134384         3           Barium         J         134         97.3         486         ug/kg         97.3         1         -	Mercury Analysis-CV	AA											
Mercury         U         ND         7.05         2.1.         ug/kg         105         1         MTMI         06/11/21         0857         2137458         2           Metals Analysis-ICP         SW846 3050B/6010D Metals, Solid "As Received"         ND         321         1950         ug/kg         97.3         1         JWJ         06/09/21         0053         2134384         3           Arsenic         U         ND         321         1950         ug/kg         97.3         1         JWJ         06/09/21         0053         2134384         3           Barium         J         134         97.3         486         ug/kg         97.3         1         -	• •		s Received"										
SW846 3050B/6010D Metals, Solid "As Received"         Antimony       U       ND       321       1950       ug/kg       97.3       1       JWJ       06/09/21       0053       2134384       3         Arsenic       U       ND       486       2920       ug/kg       97.3       1       JWJ       06/09/21       0053       2134384       3         Barium       J       134       97.3       486       ug/kg       97.3       1       J	1	•		7.05	21.1	ug/kg	105	1	MTM1	06/11/21	0857	2137458	2
Animony       U       ND       321       1950       ug/kg       97.3       1       JWJ       06/09/21       0053       2134384       3         Arsenic       U       ND       486       2920       ug/kg       97.3       1 <td< td=""><td>Metals Analysis-ICP</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	Metals Analysis-ICP												
Animony       U       ND       321       1950       ug/kg       97.3       1       JWJ       06/09/21       0053       2134384       3         Arsenic       U       ND       486       2920       ug/kg       97.3       1 <td< td=""><td>SW846 3050B/6010D</td><td>Metals, Solid</td><td>"As Received"</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	SW846 3050B/6010D	Metals, Solid	"As Received"										
Barium       J       134       97.3       486       ug/kg       97.3       1         Beryllium       U       ND       97.3       486       ug/kg       97.3       1         Cadmium       U       ND       97.3       486       ug/kg       97.3       1         Cadmium       U       ND       146       973       ug/kg       97.3       1         Cobalt       U       ND       146       973       ug/kg       97.3       1         Cobalt       U       ND       146       486       ug/kg       97.3       1         Lead       U       ND       321       1950       ug/kg       97.3       1         Molydenum       U       ND       195       973       ug/kg       97.3       1         Selenium       U       ND       486       ug/kg       97.3       1       Superior         Silver       U       ND       97.3       486       ug/kg       97.3       1         Yanadium       U       ND       97.3       486       ug/kg       97.3       1         Zinc       5240       389       1950       ug/kg       9				321	1950	ug/kg	97.3	1	JWJ	06/09/21	0053	2134384	3
Beryllium       U       ND       97.3       486       ug/kg       97.3       1         Cadmium       U       ND       97.3       486       ug/kg       97.3       1         Chromium       U       ND       146       973       ug/kg       97.3       1         Cobalt       U       ND       146       486       ug/kg       97.3       1         Cobalt       U       ND       146       486       ug/kg       97.3       1         Copper       J       321       292       1950       ug/kg       97.3       1         Lead       U       ND       321       292       1950       ug/kg       97.3       1         Molydenum       U       ND       146       486       ug/kg       97.3       1         Nickel       U       ND       486       2920       ug/kg       97.3       1         Silver       U       ND       97.3       486       ug/kg       97.3       1         Yanadium       U       ND       97.3       486       ug/kg       97.3       1         Zinc       5240       389       1950       ug/kg <td>Arsenic</td> <td>U</td> <td>ND</td> <td>486</td> <td>2920</td> <td>ug/kg</td> <td>97.3</td> <td>1</td> <td></td> <td></td> <td></td> <td></td> <td></td>	Arsenic	U	ND	486	2920	ug/kg	97.3	1					
Beryllium         U         ND         97.3         486         ug/kg         97.3         1           Cadmium         U         ND         97.3         486         ug/kg         97.3         1           Chromium         U         ND         146         97.3         486         ug/kg         97.3         1           Cobalt         U         ND         146         486         ug/kg         97.3         1           Copper         J         321         292         1950         ug/kg         97.3         1           Molybdenum         U         ND         195         973         ug/kg         97.3         1           Selenium         U         ND         146         486         ug/kg         97.3         1           Silver         U         ND         486         2920         ug/kg         97.3         1           Silver         U         ND         97.3         486         ug/kg         97.3         1           Yanadium         U         ND         97.3         486         ug/kg         97.3         1           Zinc         5240         97.3         486         ug/kg	Barium	J	134	97.3	486		97.3	1					
Cadmium       U       ND       97.3       486       ug/kg       97.3       1         Chromium       U       ND       146       973       ug/kg       97.3       1         Cobalt       U       ND       146       486       ug/kg       97.3       1         Copper       J       321       292       1950       ug/kg       97.3       1         Lead       U       ND       321       1950       ug/kg       97.3       1         Molybdenum       U       ND       195       973       ug/kg       97.3       1         Nickel       U       ND       146       486       ug/kg       97.3       1         Selenium       U       ND       486       2920       ug/kg       97.3       1         Silver       U       ND       97.3       486       ug/kg       97.3       1         Vanadium       U       ND       97.3       486       ug/kg       97.3       1         Vanadium       U       ND       97.3       486       ug/kg       97.3       1         Kethod       Description       Analyst       Date       Time	Beryllium	U	ND	97.3	486		97.3	1					
Chromium       U       ND       146       973       ug/kg       97.3       1         Cobalt       U       ND       146       486       ug/kg       97.3       1         Copper       J       321       292       1950       ug/kg       97.3       1         Lead       U       ND       321       1950       ug/kg       97.3       1         Molybdenum       U       ND       195       973       ug/kg       97.3       1         Nickel       U       ND       146       486       ug/kg       97.3       1         Selenium       U       ND       486       2920       ug/kg       97.3       1         Silver       U       ND       486       1950       ug/kg       97.3       1         Thallium       U       ND       97.3       486       ug/kg       97.3       1         Zinc       5240       389       1950       ug/kg       97.3       1         GEL Prep Method       Laboratory Composite       Time       Prep Batch         GEL Prep Method       Laboratory Composite       2133413       2134383         SW846 6350 Modified <t< td=""><td>Cadmium</td><td>U</td><td>ND</td><td>97.3</td><td>486</td><td></td><td>97.3</td><td>1</td><td></td><td></td><td></td><td></td><td></td></t<>	Cadmium	U	ND	97.3	486		97.3	1					
Cobalt       U       ND       146       486       ug/kg       97.3       1         Copper       J       321       292       1950       ug/kg       97.3       1         Lead       U       ND       321       1950       ug/kg       97.3       1         Molybdenum       U       ND       195       973       ug/kg       97.3       1         Nickel       U       ND       146       486       ug/kg       97.3       1         Selenium       U       ND       486       2920       ug/kg       97.3       1         Silver       U       ND       486       1950       ug/kg       97.3       1         Thallium       U       ND       486       1950       ug/kg       97.3       1         Vanadium       U       ND       97.3       486       ug/kg       97.3       1         Zinc       5240       39       195       ug/kg       97.3       1       1         Method       Description       Analyst       Date       Time       Prep Batch         GEL Prep Method       Laboratory Composit       2133413       2134492       2134492	Chromium	U	ND	146	973		97.3	1					
Copper         J         321         292         1950         ug/kg         97.3         1           Lead         U         ND         321         1950         ug/kg         97.3         1           Molybdenum         U         ND         195         97.3         ug/kg         97.3         1           Nickel         U         ND         146         486         ug/kg         97.3         1           Selenium         U         ND         486         2920         ug/kg         97.3         1           Silver         U         ND         486         2920         ug/kg         97.3         1           Vanadium         U         ND         486         1950         ug/kg         97.3         1           Zinc         5240         389         1950         ug/kg         97.3         1           Zinc         5240         389         1950         ug/kg         97.3         1           GEL Prep Method         Laboratory Composite         Image         2133413         213433           SW846 3050B         SW846 3050B Prep         SM1         06/08/21         0955         2134383           SW846 6850 Modif	Cobalt	U	ND	146	486		97.3	1					
Lead       U       ND       321       1950       ug/kg       97.3       1         Molybdenum       U       ND       195       973       ug/kg       97.3       1         Nickel       U       ND       146       486       ug/kg       97.3       1         Selenium       U       ND       486       2920       ug/kg       97.3       1         Silver       U       ND       486       ug/kg       97.3       1         Yanadium       U       ND       486       ug/kg       97.3       1         Vanadium       U       ND       97.3       486       ug/kg       97.3       1         Zinc       5240       389       1950       ug/kg       97.3       1         The following Prep Methods were performed:	Copper	J	321	292			97.3	1					
Molybdenum       U       ND       195       973       ug/kg       97.3       1         Nickel       U       ND       146       486       ug/kg       97.3       1         Selenium       U       ND       486       2920       ug/kg       97.3       1         Silver       U       ND       97.3       486       ug/kg       97.3       1         Thallium       U       ND       486       1950       ug/kg       97.3       1         Vanadium       U       ND       486       1950       ug/kg       97.3       1         Zinc       5240       389       1950       ug/kg       97.3       1         Method       Description       Analyst       Date       Time       Prep Batch         GEL prep Method       Laboratory Composit       2133413       2133413         SW846 3050B       SW846 3050B Prep       SM1       06/08/21       0955       2134383         SW846 3050B       EPA 7471A Mercury Prep Soil       AXS5       06/10/21       1630       2137457         The following Analytic/Lare performed:		U	ND	321	1950		97.3	1					
Nickel         U         ND         146         486         ug/kg         97.3         1           Selenium         U         ND         486         2920         ug/kg         97.3         1           Silver         U         ND         97.3         486         ug/kg         97.3         1           Thallium         U         ND         486         1950         ug/kg         97.3         1           Vanadium         U         ND         486         1950         ug/kg         97.3         1           Vanadium         U         ND         97.3         486         ug/kg         97.3         1           Zinc         5240         38         1950         ug/kg         97.3         1           Enco         5240         389         1950         ug/kg         97.3         1           Method         Description         Analyst         Date         Time         Prep Batch           GEL Prep Method         Laboratory Composite         2133413         2133413           SW846 3050B         SW846 3050B Prep         SM1         06/08/21         0955         2134383           SW846 6850 Modified         EPA 7471A Mercury Pre	Molybdenum	U	ND	195	973		97.3	1					
Selenium         U         ND         486         2920         ug/kg         97.3         1           Silver         U         ND         97.3         486         ug/kg         97.3         1           Thallium         U         ND         486         1950         ug/kg         97.3         1           Vanadium         U         ND         486         1950         ug/kg         97.3         1           Vanadium         U         ND         97.3         486         ug/kg         97.3         1           Zinc         5240         389         1950         ug/kg         97.3         1           The following Prep Methods were performed:	2	U	ND	146	486		97.3	1					
Silver       U       ND       97.3       486       ug/kg       97.3       1         Thallium       U       ND       486       1950       ug/kg       97.3       1         Vanadium       U       ND       97.3       486       ug/kg       97.3       1         Vanadium       U       ND       97.3       486       ug/kg       97.3       1         Zinc       5240       389       1950       ug/kg       97.3       1         The following Prep Methods were performed:        Analyst       Date       Time       Prep Batch         GEL Prep Method       Laboratory Composite        2133413         2133413         SW846 3050B       SW846 3050B Prep       SM1       06/08/21       0955       2134383         SW846 6850 Modified       EPA 6850 Perchlorate Extraction Solids       SXC7       06/03/21       1511       2134492         SW846 7471A Prep       EPA 7471A Mercury Prep Soil       AXS5       06/10/21       1630       2137457         The following Analytical Methods were performed:              1       SW846 6850 Modified       2       SW846 6850 Modified	Selenium	U	ND	486	2920		97.3	1					
Thallium       U       ND       486       1950       ug/kg       97.3       1         Vanadium       U       ND       97.3       486       ug/kg       97.3       1         Zinc       5240       389       1950       ug/kg       97.3       1         The following Prep Methods were performed:       Method       Description       Analyst       Date       Time       Prep Batch         GEL Prep Method       Laboratory Composite       2133413       2134383       2134383       2134383         SW846 3050B       SW846 3050B Prep       SM1       06/08/21       0955       2134383         SW846 6850 Modified       EPA 6850 Perchlorate Extraction Solids       SXC7       06/03/21       1511       2134492         SW846 7471A Mercury Prep Soil       AXS5       06/10/21       1630       2137457         The following Analytical Methods were performed:       Interview Prep Soil       Analyst Comments         1       SW846 6850 Modified       SW846 6850 Modified       2       2       2         2       SW846 7471A       SW846 7471A       SW846 7471A       SW846 7471A	Silver	U	ND	97.3	486	ug/kg	97.3	1					
Zinc         5240         389         1950         ug/kg         97.3         1           The following Prep Methods were performed:         Method         Description         Analyst         Date         Time         Prep Batch           GEL Prep Method         Laboratory Composite         2133413           SW846 3050B         SW846 3050B Prep         SM1         06/08/21         0955         2134383           SW846 6850 Modified         EPA 6850 Perchlorate Extraction Solids         SXC7         06/03/21         1511         2134492           SW846 7471A Prep         EPA 7471A Mercury Prep Soil         AXS5         06/10/21         1630         2137457           The following Analytical Methods were performed:	Thallium	U	ND	486	1950		97.3	1					
The following Prep Methods were performed:MethodDescriptionAnalystDateTimePrep BatchGEL Prep MethodLaboratory Composite2133413SW846 3050BSW846 3050B PrepSM106/08/2109552134383SW846 6850 ModifiedEPA 6850 Perchlorate Extraction SolidsSXC706/03/2115112134492SW846 7471A PrepEPA 7471A Mercury Prep SoilAXS506/10/2116302137457The following Analytical Methods were performed:MethodDescriptionAnalyst Comments1SW846 6850 ModifiedSW846 7471A2SW846 7471A	Vanadium	U	ND	97.3	486	ug/kg	97.3	1					
MethodDescriptionAnalystDateTimePrep BatchGEL Prep MethodLaboratory Composite2133413SW846 3050BSW846 3050B PrepSM106/08/2109552134383SW846 6850 ModifiedEPA 6850 Perchlorate Extraction SolidsSXC706/03/2115112134492SW846 7471A PrepEPA 7471A Mercury Prep SoilAXS506/10/2116302137457The following Analytical Methods were performed:Image: CommentsImage: Comments1SW846 6850 ModifiedSW846 7471AImage: Comments2SW846 7471AImage: Comments	Zinc		5240	389	1950		97.3	1					
GEL Prep Method         Laboratory Composite         2133413           SW846 3050B         SW846 3050B Prep         SM1         06/08/21         0955         2134383           SW846 6850 Modified         EPA 6850 Perchlorate Extraction Solids         SXC7         06/03/21         1511         2134492           SW846 7471A Prep         EPA 7471A Mercury Prep Soil         AXS5         06/10/21         1630         2137457           The following Analytical Methods were performed:         Amalyst Comments           1         SW846 6850 Modified         2         SW846 7471A	The following Prep M	ethods were po	erformed:										
GEL Prep Method         Laboratory Composite         2133413           SW846 3050B         SW846 3050B Prep         SM1         06/08/21         0955         2134383           SW846 6850 Modified         EPA 6850 Perchlorate Extraction Solids         SXC7         06/03/21         1511         2134492           SW846 7471A Prep         EPA 7471A Mercury Prep Soil         AXS5         06/10/21         1630         2137457           The following Analytical Methods were performed:         Analyst Comments           1         SW846 6850 Modified         2         SW846 7471A         SW846 7471A	Method	Description	n		Analyst	Date	,	Time	e Pr	ep Batch			
SW846 3050B         SW846 3050B Prep         SM1         06/08/21         0955         2134383           SW846 6850 Modified         EPA 6850 Perchlorate Extraction Solids         SXC7         06/03/21         1511         2134492           SW846 7471A Prep         EPA 7471A Mercury Prep Soil         AXS5         06/10/21         1630         2137457           The following Analytical Methods were performed:         Analyst Comments           Method         Description         Analyst Comments           1         SW846 6850 Modified         SW846 7471A           2         SW846 7471A         SW846 7471A	GEL Prep Method	Laboratory C	omposite						213	33413			
SW846 7471A PrepEPA 7471A Mercury Prep SoilAXS506/10/2116302137457The following Analytical Methods were performed:Analyst CommentsMethodDescriptionAnalyst Comments1SW846 6850 ModifiedSW846 7471A2SW846 7471A	-	•	*		SM1	06/08/21		0955	213	34383			
SW846 7471A PrepEPA 7471A Mercury Prep SoilAXS506/10/2116302137457The following Analytical Methods were performed:Analyst CommentsMethodDescriptionAnalyst Comments1SW846 6850 ModifiedSW846 7471A2SW846 7471A	SW846 6850 Modified	EPA 6850 Pe	rchlorate Extraction Solids		SXC7	06/03/21		1511	213	34492			
MethodDescriptionAnalyst Comments1SW846 6850 Modified2SW846 7471A					AXS5	06/10/21							
1         SW846 6850 Modified           2         SW846 7471A	The following Analyt	ical Methods v	were performed:										
1         SW846 6850 Modified           2         SW846 7471A			•			A	Analyst	Co	nments	5			
2 SW846 7471A						-		2.51		-			
	-												
	5	5 11 0-10 50501	5,00102										

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# **Certificate of Analysis**

			Report Date:	July 23, 2021
Company :	GSI Environmental Inc.			
Address :	155 Grand Ave			
	Suite 704			
	Oakland, California 94612			
Contact:	Travis Wicks			
Project:	Near SSFL			
Client Sample ID:	L-2-210527	Project:	GSIE00119	
Sample ID:	545795002	Client ID:	GSIE002	
-				

Parameter	Qualifier	Result	DL	RL	Units	PF	DF Analyst Date	Time Batch Method
Notes:								
Column headers are DF: Dilution Factor DL: Detection Limit MDA: Minimum De MDC: Minimum De	tectable Activit	у	Lc/LC: Critical Level PF: Prep Factor RL: Reporting Limit SQL: Sample Quantitat	ion Limit				

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# **Certificate of Analysis**

Company : Address :	GSI Environ 155 Grand A Suite 704 Oakland, Cal							R	eport Date:	July 23	3, 2021	
Contact:	Travis Wicks	3							-	•		
Project:	Near SSFL											
Client Sam Sample ID: Matrix: Collect Dat Receive Da Collector: Moisture:	545795 Vegeta te: 27-MA	5001 tion Y-21					oject: ient ID:		E00119 E002			
Parameter	Qualifier	<b>Result Uncer</b>	tainty	MDC	TPU	RL	Units	PF	DF Analys	t Date Tim	e Batch	Mtd.
Cesium-137 Rad Gas Flow Pr <i>GFPC, Sr90, Va</i> Strontium-90 Rad Liquid Scint <i>LSC, Tritium Da</i> Tritium Solid Preparation <i>Laboratory Con</i> The following Pr Method Dry Soil Prep	amma, Solid vegeta U oportional Counti egetation "As Recei U illation Analysis istillation, Vegetati U nposite "As Receive rep Methods were Description Dry Soil Prep GL-F	-0.000333 +/-0 ng ived" -0.0780 +/- on "As Received" 0.242 +. ed" performed RAD-A-021	0.00575	0.0120 0.119 1.13	+/-0.00575 +/-0.0532 +/-0.661 Analyst CXC1	0.100 0.500 2.00 <b>Date</b> 06/02/21	pCi/g pCi/g pCi/g Tin 133	-	JXK3 KXA1 Prep Batch 2133767	06/05/21 0923 07/19/21 1222 06/10/21 0139	2150390	) 2
GEL Prep Method	Laboratory Compo								2133413			
GEL Prep Method	Wet Soil Prep GL-I	RAD-A-026			CXC1	06/02/21	141	7	2134242			
The following An	alytical Methods	were performed										
Method	Description											
1	DOE HASL 300, 4.	5.2.3/Ga-01-R										
2	EPA 905.0 Modifie	d/DOE RP501 Rev	. 1 Modif	fied								
3	EPA 906.0 Modifie	d										
4	GEL Prep Method											
Surrogate/Trace	er Recovery	Test					F	Batch	ID Recover	y% Accept	able Lim	its
Strontium Carr	rier	GFPC, Sr90, V	egetation	n "As Recei	ved"		,	21503	90 76	.4 (25%	5-125%)	

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## **Certificate of Analysis**

Company :	GSI Environmental Inc.					
Address :	155 Grand Ave					
	Suite 704					
	Oakland, California 94612				Report Date:	July 23, 2021
Contact:	Travis Wicks					
Project:	Near SSFL					
Client Sample	ID: L-1-210527			Project:	GSIE00119	
Sample ID:	545795001			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:<br/>DF: Dilution FactorMtd.: MethodDL: Detection LimitPF: Prep FactorLc/LC: Critical LevelRL: Reporting LimitMDA: Minimum Detectable ActivityTPU: Total Propagated UncertaintyMDC: Minimum Detectable ConcentrationFree Prep Factor

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# **Certificate of Analysis**

Company : Address :	GSI Environ 155 Grand A Suite 704 Oakland, Cal	ve	12					R	eport Date:	Л	ıly 23,	2021	
Contact:	Travis Wicks		-					T.	port Dute.	51	ily 23,	2021	
Project:	Near SSFL												
Client Sample ID: Sample ID: Matrix: Collect Dat Receive Da Collector: Moisture:	ple ID: L-2-210 545795 Vegeta e: 27-MA	002 tion Y-21					oject: lent ID:		E00119 E002				
Parameter	Qualifier	Result U	ncertainty	MDC	TPU	RL	Units	PF	<b>DF</b> Analyst	Date	Time	Batch	Mtd.
Rad Gamma Spec Gammaspec, Ga Cesium-137	amma, Solid vegeta	tion "As Re -0.000850	<i>ceived"</i> +/-0.00621	0.0119	+/-0.00622	0.100	pCi/g		MIH1	06/05/21	0024	2135601	1
Rad Gas Flow Pro		ng	+/-0.00021	0.0119	+/-0.00022	0.100	pCI/g		MJHI	00/03/21	0924	2133001	1
Strontium-90	U	0.0108	+/-0.0191	0.0332	+/-0.0192	0.500	pCi/g		LXB3	06/08/21	1810	2134055	2
Rad Liquid Scinti													
	istillation, Vegetati						~ .						
Tritium	U	0.462	+/-0.569	0.960	+/-0.579	2.00	pCi/g		KXA1	06/10/21	1802	2135236	3
Solid Preparation Laboratory Con	n nposite "As Receive	ed"											
	ep Methods were	performed											
Method	Description				Analyst	Date	Tin		Prep Batch				
Dry Soil Prep	Dry Soil Prep GL-F				CXC1	06/02/21	133		2133767				
GEL Prep Method	Laboratory Compos	site							2133413				
GEL Prep Method	Wet Soil Prep GL-I	RAD-A-026			CXC1	06/02/21	141	17	2134242				
The following An	alytical Methods	were perfor	med										
Method	Description												
1	DOE HASL 300, 4.	5.2.3/Ga-01-	R										
2	EPA 905.0 Modifie	d/DOE RP50	1 Rev. 1 Modi	fied									
3	EPA 906.0 Modifie	d											
4	GEL Prep Method												
Surrogate/Trace	r Recovery	Test					I	Batch	D Recover	y% A	ccepta	ble Limi	its
Strontium Carr	ier	GFPC, Sr	0, Vegetatio	n "As Receive	d"			21340	55 71.	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 23, 2021
Contact:	Travis Wicks				
Project:	Near SSFL				
Client Sample	ID: L-2-210527		Project:	GSIE00119	
Sample ID:	545795002		Client ID:	GSIE002	
Parameter	Qualifier Result Uncertainty N	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:Mtd.: MethodDF: Dilution FactorMtd.: MethodDL: Detection LimitPF: Prep FactorLc/LC: Critical LevelRL: ReportingMDA: Minimum Detectable ActivityTPU: Total PreprintMDC: Minimum Detectable ConcentrationFree Preprint

Mtd.: Method PF: Prep Factor RL: Reporting Limit TPU: Total Propagated Uncertainty

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# **QC Summary**

Report Date: July 23, 2021

Page 1 of 8

155 Grand Ave Suite 704 Oakland, California Contact: Travis Wicks

**GSI Environmental Inc.** 

Workorder: 545795

Parmname	NOM	Sample Qual	QC	Units I	RPD/D%	REC%	Range	Anlst	Date Time
LC-MS/MS Perchlorate Batch 2134493									
QC1204835034 ICS Perchlorate	1.95		2.12	ug/kg		109	(70%-130%)	JLS	06/03/21 19:47
QC1204834915 LCS Perchlorate	1.87		1.98	ug/kg		106	(70%-130%)		06/03/21 19:39
QC1204834914 MB Perchlorate		U	ND	ug/kg					06/03/21 19:30
QC1204834916 545795001 MS Perchlorate	1.74 U	ND J	1.69	ug/kg		97	(75%-125%)		06/03/21 20:04
QC1204834917 545795001 MSD Perchlorate	1.61 U	ND	1.63	ug/kg	3	101	(0%-30%)		06/03/21 20:12
Metals Analysis-ICP Batch 2134384									
QC1204834723 LCS Antimony	48900		47700	ug/kg		97.5	(80%-120%)	JWJ	06/09/21 00:36
Arsenic	48900		48000	ug/kg		98.2	(80%-120%)		
Barium	48900		46800	ug/kg		95.6	(80%-120%)		
Beryllium	48900		49200	ug/kg		101	(80%-120%)		
Cadmium	48900		47000	ug/kg		96.1	(80%-120%)		
Chromium	48900		46600	ug/kg		95.3	(80%-120%)		

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Workorder: 545795		<u>v</u> eb.	amma	<u></u>					_	
				<b>T</b> T •4						2 of 8
Parmname Metals Analysis-ICP	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date 7	<u>l'ime</u>
Batch 2134384										I
Cobalt	48900		46300	ug/kg		94.7	(80%-120%)	JWJ	06/09/21	1 00:36
										I
Copper	48900		47300	ug/kg		96.7	(80%-120%)			I
Copper	40200		47500	u5/ к5		70.7	(0070-12070)			ł
- 1	12200		47000	a		06.1	(000/ 1000/)			ł
Lead	48900		47000	ug/kg		96.1	(80%-120%)			ł
										I
Molybdenum	48900		47000	ug/kg		96	(80%-120%)			ł
										ł
Nickel	48900		46800	ug/kg		95.7	(80%-120%)			ł
										ł
Selenium	48900		48100	ug/kg		98.4	(80%-120%)			ł
										ł
Silver	9780		9380	ug/kg		95.9	(80%-120%)			
Thallium	48900		48700	ug/kg		99.6	(80%-120%)			
Inamum	-0200		10700	"D' "D		77.0	(00/0-120/0)			I
<b>X</b> 7 _ <b>J</b> <sup>1</sup>	48000		47200	-1a/ka		064	(200/ 1200/)			
Vanadium	48900		47200	ug/kg		96.4	(80%-120%)			I
										I
Zinc	48900		47200	ug/kg		96.4	(80%-120%)			I
QC1204834722 MB Antimony		U	ND	ug/kg					06/09/21	1 00.32
Althiony		Ũ		ug/ng					00/07/21	00.52
		TT		a						
Arsenic		U	ND	ug/kg						
Barium		U	ND	ug/kg						
Beryllium		U	ND	ug/kg						
Cadmium		U	ND	ug/kg						

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					<u> </u>	ummar	<u>y</u>						
Workorder: 54	45795						_					Pag	ge 3 of 8
Parmname		NON	М	Sample	Qual	QC	Units	RPD/D%	REC%	6 Range	Anlst	Date	Time
Metals Analysis-ICPBatch213	44384												
Chromium					U	ND	ug/kg				JWJ	06/09/2	21 00:32
Cobalt					U	ND	ug/kg						
Copper					U	ND	ug/kg						
Lead					U	ND	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					J	619	ug/kg						
QC1204834724 Antimony	545795001 MS	44700	J	496		41800	ug/kg		92.3	(75%-125%	)	06/09/2	21 00:42
Arsenic		44700	U	ND		41900	ug/kg		93.7	(75%-125%	)		
Barium		44700	J	423		42300	ug/kg		93.7	(75%-125%	)		
Beryllium		44700	U	ND		44500	ug/kg		99.6	(75%-125%)	,)		

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		<u>v</u> eb	411111a1	<u> </u>				
Workorder: 545795	NOM		0.0					Page 4 of 8
Parmname Metals Analysis-ICP	NOM	Sample Qual	QC	Units R	RPD/D% REC	C% Range	Anlst	Date Time
Batch 2134384								
Cadmium	44700 U	ND	42200	ug/kg	94.:	3 (75%-125%	) JWJ	06/09/21 00:42
Chromium	44700 U	ND	42200	ug/kg	94.	3 (75%-125%	)	
Cobalt	44700 U	ND	42200	ug/kg	94.	3 (75%-125%	)	
Copper	44700 U	ND	43700	ug/kg	97.5	8 (75%-125%	)	
Lead	44700 U	ND	42500	ug/kg	94.	9 (75%-125%	)	
Molybdenum	44700 U	ND	42500	ug/kg	94.	9 (75%-125%	)	
Nickel	44700 U	ND	42800	ug/kg	95.	6 (75%-125%	)	
Selenium	44700 U	ND	42700	ug/kg	94.	8 (75%-125%	)	
Silver	8940 U	ND	8460	ug/kg	94.	6 (75%-125%	)	
Thallium	44700 U	ND	43600	ug/kg	97.	4 (75%-125%	)	
Vanadium	44700 U	ND	42900	ug/kg	90	6 (75%-125%	)	
Zinc	44700	5770	46700	ug/kg	91.	6 (75%-125%	)	
QC1204834725 545795001 MSD Antimony	47400 J	496	44300	ug/kg	5.9 92	3 (0%-20%	)	06/09/21 00:45
Arsenic	47400 U	ND	45200	ug/kg	7.51 95.2	2 (0%-20%	)	
Barium	47400 J	423	45500	ug/kg	7.28 93	5 (0%-20%	)	

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Workorder: 545795		<u>x</u> u su						
	NOM	<u> </u>		T-aita			Derres Aulet	Page 5 of 8
Parmname Metals Analysis-ICP	NOM	Sample Qual	QC	Units	RPD/D%	REC%	Range Anlst	Date Time
Batch 2134384								I
Beryllium	47400 U	ND	48000	ug/kg	7.53	101	(0%-20%) JWJ	J 06/09/21 00:45
Cadmium	47400 U	ND	45100	ug/kg	6.69	95.1	(0%-20%)	
Chromium	47400 U	ND	45000	ug/kg	6.6	94.9	(0%-20%)	
Cobalt	47400 U	ND	45000	ug/kg	6.58	94.9	(0%-20%)	
Copper	47400 U	ND	46400	ug/kg	5 6	97.9	(0%-20%)	
Lead	47400 U	ND	45300	ug/kg	6.55	95.6	(0%-20%)	
Molybdenum	47400 U	ND	45600	ug/kg	6.99	96	(0%-20%)	
Nickel	47400 U	ND	45300	ug/kg	5.62	95.3	(0%-20%)	
Selenium	47400 U	ND	45500	ug/kg	6.39	95.3	(0%-20%)	
Silver	9490 U	ND	8990	ug/kg	6.14	94.8	(0%-20%)	
Thallium	47400 U	ND	46400	ug/kg	6.27	97.8	(0%-20%)	
Vanadium	47400 U	ND	45800	ug/kg	6.4	96.5	(0%-20%)	
Zinc	47400	5770	48600	ug/kg	3.91	90.3	(0%-20%)	
QC1204834726 545795001 SDILT Antimony	J	5.45 U	ND	ug/L	, N/A		(0%-20%)	06/09/21 00:50
Arsenic	U	ND U	ND	ug/L	N/A		(0%-20%)	

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Workorder: 545795		-			<u>.</u>					_	
	NOM		Orrel		T			Derror			ge 6 of 8
Metals Analysis-ICP       Batch     2134384	NOM	Sample	Quai	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Barium	J	4.64	J	1.03	ug/L	11.2		(0%-20%)	) JWJ	06/09/2	21 00:50
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	U	ND	U	ND	ug/L	N/A		(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		63.3	J	13.5	ug/L	6.84		(0%-20%)	)		

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## **QC Summary**

Workorder: 545795										Page	e 7 of 8
Parmname	NOM	Sample	Qual	QC	Units	RPD/D%	REC%	Range	Anlst	Date	Time
Metals Analysis-Mercury       Batch     2137458											
QC1204840113 545832001 DUP Mercury		486		524	ug/kg	7.41		(0%-20%)	MTM1	06/11/2	21 09:02
QC1204840112 LCS Mercury	233			235	ug/kg		101	(80%-120%)	I	06/11/2	21 08:53
QC1204840111 MB Mercury			U	ND	ug/kg					06/11/2	21 08:52
QC1204840114 545832001 MS Mercury	244	486		762	ug/kg		113	(80%-120%)	I	06/11/2	21 09:36
QC1204840115 545832001 SDILT Mercury		3.76		0.820	ug/L	9.13		(0%-10%)	I	06/11/2	21 13:41

#### 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

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# **QC Summary**

Parmna	ne NOM Sample Qual QC Units RPD/D% REC% Range Anlst Date Time							
N N/A	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 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							
Р	OrganicsThe 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							
Х	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							
۸	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							
^ The R five time	icates that spike recovery limits do not apply when sample concentration exceeds spike conc. by a factor of 4 or more or %RPD not applicable. elative Percent Difference (RPD) obtained from the sample duplicate (DUP) is evaluated against the acceptance criteria when the sample is greater than es (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.

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\* 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.

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# OC Summerv

		0	СS	ummary	7	_			
GSI Environmental Inc.	-	<u> </u>	<u> </u>	······	-	J	Report Da		
	,							Page 1 of 3	
		<u> </u>	~ 1	20	<b>T</b> T •4		5500/		
	NOM	Sample v	Quai	QU	Units	KPD%	REC %	Kange Anist	Date Time
<b>c</b> 2135601									
545795001 DUP									
	U	-0.000333	U	-0.00113	pCi/g	0		N/A MJH1	06/05/2110:29
	Uncert:	+/-0.00575		+/-0.00786					
	TPU:	+/-0.00575		+/-0.00788					
LCS									
	92.5			105	pCi/g		113	(75%-125%) MJH1	06/05/2109:27
	Uncert:								
					pCi/g		103	(75%-125%)	
					<b>C</b> :/		104	(====)	
					pC1/g		104	(75%-125%)	
	TPU:			+/-3.12					
MB			T	0.00115				MILL	06/05/01/00:05
	I maarte		U		pC1/g			MJT	06/05/2109:25
	IPU:			+/-0.00420					
2134055									
545795002 DUP									
	U	0.0108	U	-0.00249	pCi/g	0		N/A LXB3	06/08/2118:10
	Uncert:	+/-0.0191		+/-0.0170					
	TPU:	+/-0.0192		+/-0.0170					
LCS									
(				0.886	pCi/g		99.1	(75%-125%) LXB3	06/08/2118:10
	TPU:			+/-0.209					
MB									
			U		pCi/g			LXB3	06/08/2118:10
2150200	TPU:			+/-0.0145					
545795001 DUP									
	U	-0.0780	U	0.0727	pCi/g	0		N/A JXK3	07/19/2112:22
	Uncert:	+/-0.0532							
	TPU:	+/-0.0532		+/-0.0750					
LCS									
					pCi/g		120	(75%-125%) JXK3	07/19/2114:54
	TPU:			+/-0.993					
	155 Grand Ave         Suite 704         Oakland, California         Travis Wicks         545795         c         2135601         545795001 DUP         LCS         MB         2134055         545795002 DUP         LCS         MB         2134055         545795002 DUP         LCS         MB         2150390         545795001 DUP	155 Grand Ave         Suite 704         Oakland, California         Travis Wicks         545795         NOM         c         2135601         545795001 DUP         U         LCS         92.5         Uncert:         TPU:         19.1         Uncert:         TPU:         32.5         Uncert:         TPU:         2134055         545795002 DUP         U         MB         Uncert:         TPU:         MB         Uncert:         TPU:         MB         Uncert:         TPU:         2150390         545795001 DUP         U         Uncert:         TPU:	GSI Environmental Inc. 155 Grand Ave Suite 704 Oakland, California Travis Wicks 545795	GSI Environmental Inc. 155 Grand Ave Suite 704 Oakland, California Travis Wicks 5457950 NOM Sample Qual c 2135601 U -0.000333 U Uncert: +/-0.00575 TPU: +/-0.00575 TPU: +/-0.00575 U Uncert: TPU:	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	$\begin{array}{c c c c c c c c c c c c c c c c c c c $	CSI Environmental Inc.         Image: Constraint of the second secon	CST Environmental Inc. ISS Grand Ave State 704 Oakland, California Travis Wicks 545795         NOM         Sample Value         Qual Value         QC         Units         RPD*         REC%         Range Anlst         Anlst           6 2135001

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# **QC** Summary

		$\underline{\mathbf{v}}$	Jummur	<u> </u>				
Workorder: 545795							Page 2 of 3	
Parmname	NOM	Sample Qua	I QC	Units	RPD%	REC%	Range Anlst	Date Time
Rad Gas FlowBatch2150390								
QC1204863754 MB								
Strontium-90		τ	0.0461	pCi/g			JXK3	07/19/2112:22
	Uncert: TPU:		+/-0.0537 +/-0.0547					
Rad Liquid ScintillationBatch2135236								
QC1204836253 545795001 DUP								
Tritium	U	0.242 U	0.244	pCi/g	0		N/A KXA1	06/10/2120:27
	Uncert:	+/-0.658	+/-0.510					
	TPU:	+/-0.661	+/-0.513					
QC1204836255 LCS								
Tritium	21.9		17.2	pCi/g		78.3	(75%-125%) KXA1	06/10/2122:11
	Uncert:		+/-1.48					
001004026252	TPU:		+/-4.17					
QC1204836252 MB Tritium		Ţ	0.432	-C:/-			KXA1	06/10/2119:14
Indum	Uncert:	Ĺ	+/-0.506	pCi/g			ΝΛΑΙ	00/10/2119:14
	TPU:		+/-0.516					
QC1204836254 545795001 MS	IFU.		+/-0.510					
Tritium	31.2 U	0.242	22.3	pCi/g		715*	(75%-125%) KXA1	06/10/2121:39
· · · · · · · · · · · · · · · · · · ·	Uncert:	+/-0.658	+/-2.03	Pei/s		/1.0	(15/0 125/0) 101111	00/10/2121.59
	TPU:	+/-0.661	+/-5.45					

#### 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

# **GEL LABORATORIES LLC**

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# **QC** Summary

	•		<u>v</u> e su		_						
Worko	order: 545795							Page 3	3 of 3		
Parmn	ame	NOM	Sample Qual	QC	Units	RPD%	REC%	Range	Anlst	Date	Time
U	Analyte was analyzed for, bu	t not detected above	the MDL, MDA, MDC	or LOD.							
UI	Gamma SpectroscopyUnce	rtain identification									
UJ	Gamma SpectroscopyUnce	rtain identification									
UL	Not considered detected. The	associated number	is the reported concentra	ation, whic	h may be	inaccurate d	lue to a low	bias.			
Х	Consult Case Narrative, Data	Summary package,	or Project Manager con	ncerning thi	s qualifie	r					
Y	Other specific qualifiers were	e required to properly	y define the results. Cor	nsult case n	arrative.						
^	RPD of sample and duplicate	evaluated using +/-	RL. Concentrations are	<5X the R	L. Qualif	fier Not App	licable for F	Radiochemi	istry.		
h	Preparation or preservation h	olding time was exc	eeded								
N/A i	ndicates that spike recovery lim	its do not apply who	en sample concentration	exceeds sp	vike conc.	by a factor	of 4 or more	or %RPD	not applic	able.	

\*\* 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.

EN												CHAIN	N-OF-CU late: 5 Page	CHAIN-OF-CUSTODY RECORD Date: 5/27/21 Page 1 of 1	C RECC
FROM:			PROJECT NAME-							545795	295	548	1 Op	2 2	e/1/21
	GSI Environmental Inc.	-	PROJECT CONTACT	₹							PROJECT NO .:	<sup>:</sup> 5182			
	Oakland, CA 94612	4	GLOBAL ID:	ß	san Gallardo						LAB CONTAC	LAB CONTACT: Brielle Luthman	an		
TEL:	(510) 463-8484 (510) 463-8484	E-MAIL:									SAMPLER(S):	SAMPLER(S): (PRINT)	1-	\	
LABC	rator	S	<u>smgallardo(@gsi-net.</u>		<u>com; tzwicks@gsi-net.com</u>	si-net.cor				REQUESTED	STED A	ANALYSES			
TURN	АУ		□48 HR						(0						-
	LT2 HR D5 SPECIAL INSTRUCTIONS: - Sr-90 MDC of 0.5 pCi/g - C - H-3 MDC of 2 pCi/g - Ir	☐5 DAYS X - Cs-137 MD - Include fles	□5 DAYS XSTANDARD     - CS-137 MDC of 1 pCi/g     - Include flesh only; no peel				-90 (905.0) -90 (905.0)	2 Wetals (6010) 1-3 (906) 2 Metals (6010)	liorate (314.						
USE USE	SAMPLE ID	SA	SAMPLING	VIGTAM		viəs	S		Perch						
ONL	1-1-210527	EDATE	TIME			Pre	LIG	C∀							
		127/21		LOMONS LOMONS	20		学								1
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nhuma	oignature)				Re.	Received by: (Signature)	(Signature					Date:		00	0
													-	ПС.	

	Client: GSET GSTI				SAMPLE RECEIPT & REVIEW FORM
	Received By: MLS				SDG/AR/COC/Work Order: 545 806 545795
					Date Received: 5.28.21 MB 4/1/21
I	Carrier and The Line as				Circle Applicable: FedEx Express FedEx Ground UPS Field Services Courier Other
I	Carrier and Tracking Number				
L					1040 6573 5410-6C
s	Suspected Hazard Information	Т	Yes		7876 6573 5410-60 -1876 6573 5421-200
-			2	<sup>°</sup> Z	in Net Counts > 100cpm on samples not marked "radioactive", contact the Radiation Safety Group for further investigation
A	Shipped as a DOT Hazardous?			1	thead caus shipped:
B	) Did the client designate the samples and	$\pm$	-		UN#: If UN2910, Is the Radioactive Shipment Survey Compliant? Yes No
-	served as fadloactive?			/	COC notation or radioactive stickers on containers equal client designation.
2) ac	) Did the RSO classify the samples as dioactive?			/	Maximum Net Counts Observed* (Observed Ca
			+	4	Classified as: Rad 1 Rad 2 Rad 3
<u>"</u>	Did the client designate samples are hazardo	us?			COC notation or hazard labels on containers equal client designation.
	Did the RSO identify possible hazards?	T	T	7	f D or E is yes, select Hazards below.
-	Sample Receipt Criteria		Ľ	1	PCB's Flammable Foreign Soil RCRA Asbestos Beryllium Other:
	Shipping containers received intact and	Yes		EN1	2 Comments/Qualifiers (Required for Non-Conforming Items) Circle Applicable: Scals broken Damaged container of statistical for Non-Conforming Items)
	sealed?				Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
	Chain of custody documents included with shipment?	1			Circle Anniestelas Citare
		-	P	4	
-	Samples requiring cold preservation within $(0 \le 6 \text{ deg. C})$ ?*	V			Preservation Method: Wet Ice Ice Packs Dry ice None Other: *all temperatures are recorded in Celsius
	Daily check performed and passed on IR temperature gun?	1			Temperature Device Social #1, 102 cc
1		ľ.			Secondary Temperature Device Serial # (If Applicable):
+	Sample containers intact and sealed?				Circle Applicable: Seals broken Damaged container Leaking container Other (describe)
ŀ	Samples requiring chemical preservation at proper pH?	$\int$			Sample ID's and Containers Affected:
t	Proper pri			$\vdash$	If Preservation added, Lot#:
	Do any samples require Volatile				If Yes, are Encores or Soil Kits present for solids? Yes No NA (If yes, take to VOA Freezer)
	Analysis?			/	Are liquid VOA vials free of headspace? Vac. NA (If unknown, select No)
~					and to s and containers affected:
<u>-</u>	amples received within holding time?				ID's and tests affected:
Sa	ample ID's on COC match ID's on ottles?	7	-		ID's and containers affected:
	ate & time on COC match date & time				
n	n bottles?				Circle Applicable: No dates on containers No times on containers COC missing info Other (describe)
h	umber of containers received match				Circle Applicable: No container count on COC Other (describe)
r	e sample containers identifiable as		ľ	1	Missing 1 (DOTION
Ľ	SL provided by use of GEL labele?		-	1	0
11	DC form is properly signed in inquished/received sections?			P	ircle Applicable: Not relinquished Other (describe)
n	nts (Use Continuation Form if needed):		8 <b>1</b>		
	_				
	PM (or PMA) n				

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	SC000122021-1
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	T104704235-21-19
Utah NELAP	SC000122021-35
Vermont	VT87156
Virginia NELAP	460202
Washington	C780

List of current GEL Certifications as of 23 July 2021

## Technical Case Narrative GSI Environmental Inc. SDG #: 545795

# **Perchlorates by LCMSMS**

<u>Product:</u> Definitive Low Level Perchlorate Analysis Utilizing Liquid Chromatography/Mass Spectrometry/Mass Spectrometry (LC/MS/MS) by EPA Method 6850 Modified (6850M) <u>Analytical Method:</u> SW846 6850 Modified <u>Analytical Procedure:</u> GL-OA-E-067 REV# 15 <u>Analytical Batches:</u> 2134493 and 2134492

<u>Composite Preparation Method:</u> GEL Prep Method <u>Composite Preparation Procedure:</u> GL-RAD-A-026 REV# 18 <u>Composite Preparation Batch:</u> 2133413

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

<u>GEL Sample ID#</u>	Client Sample Identification
545795001	L-1-210527
545795002	L-2-210527
1204834914	Method Blank (MB)
1204834915	Laboratory Control Sample (LCS)
1204834916	545795001(L-1-210527) Matrix Spike (MS)
1204834917	545795001(L-1-210527) Matrix Spike Duplicate (MSD)
1204835034	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**

<u>Product:</u> Determination of Metals by ICP <u>Analytical Method:</u> SW846 3050B/6010D <u>Analytical Procedure:</u> GL-MA-E-013 REV# 32 <u>Analytical Batch:</u> 2134384

**Preparation Method:** SW846 3050B **Preparation Procedure:** GL-MA-E-009 REV# 29 **Preparation Batch:** 2134383

<u>Composite Preparation Method:</u> GEL Prep Method <u>Composite Preparation Procedure:</u> GL-RAD-A-026 REV# 18 <u>Composite Preparation Batch:</u> 2133413 The following samples were analyzed using the above methods and analytical procedure(s).

<u>GEL Sample ID#</u>	Client Sample Identification
545795001	L-1-210527
545795002	L-2-210527
1204834722	Method Blank (MB)ICP
1204834723	Laboratory Control Sample (LCS)
1204834726	545795001(L-1-210527L) Serial Dilution (SD)
1204834724	545795001(L-1-210527S) Matrix Spike (MS)
1204834725	545795001(L-1-210527SD) 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.

<u>Product:</u> Mercury Analysis Using the Perkin Elmer Automated Mercury Analyzer <u>Analytical Method:</u> SW846 7471A <u>Analytical Procedure:</u> GL-MA-E-010 REV# 38 <u>Analytical Batch:</u> 2137458

**Preparation Method:** SW846 7471A Prep **Preparation Procedure:** GL-MA-E-010 REV# 38 **Preparation Batch:** 2137457

<u>Composite Preparation Method:</u> GEL Prep Method <u>Composite Preparation Procedure:</u> GL-RAD-A-026 REV# 18 <u>Composite Preparation Batch:</u> 2133413

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

<u>GEL Sample ID#</u>	Client Sample Identification
545795001	L-1-210527
545795002	L-2-210527
1204840111	Method Blank (MB)CVAA
1204840112	Laboratory Control Sample (LCS)
1204840115	545832001(NonSDGL) Serial Dilution (SD)
1204840113	545832001(NonSDGD) Sample Duplicate (DUP)
1204840114	545832001(NonSDGS) Matrix Spike (MS)

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**

<u>Product:</u> Dry Weight <u>Preparation Method:</u> Dry Soil Prep <u>Preparation Procedure:</u> GL-RAD-A-021 REV# 24 <u>Preparation Batch:</u> 2133767

<u>Composite Preparation Method:</u> GEL Prep Method <u>Composite Preparation Procedure:</u> GL-RAD-A-026 REV# 18 <u>Composite Preparation Batch:</u> 2133413

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

<u>GEL Sample ID#</u>	<b><u>Client Sample Identification</u></b>
545795001	L-1-210527
545795002	L-2-210527

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 vegetation Analytical Method:** DOE HASL 300, 4.5.2.3/Ga-01-R **Analytical Procedure:** GL-RAD-A-013 REV# 27 **Analytical Batch:** 2135601

**Preparation Method:** GEL Prep Method **Preparation Procedure:** GL-RAD-A-026 REV# 18 **Preparation Batch:** 2134242

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

<u>GEL Sample ID#</u>	Client Sample Identification
545795001	L-1-210527
545795002	L-2-210527
1204836687	Method Blank (MB)
1204836688	545795001(L-1-210527) Sample Duplicate (DUP)

1204836689 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: 2134055

**Preparation Method:** Dry Soil Prep **Preparation Procedure:** GL-RAD-A-021 REV# 24 **Preparation Batch:** 2133767

<u>Composite Preparation Method:</u> GEL Prep Method <u>Composite Preparation Procedure:</u> GL-RAD-A-026 REV# 18 <u>Composite Preparation Batch:</u> 2133413

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

<u>GEL Sample ID#</u>	Client Sample Identification
545795002	L-2-210527
1204834239	Method Blank (MB)
1204834240	545795002(L-2-210527) Sample Duplicate (DUP)
1204834241	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 545795001 (L-1-210527) was taken through additional clean-up steps and recounted to confirm the result. The recount is reported.

<u>Product:</u> GFPC, Sr90, Vegetation <u>Analytical Method:</u> EPA 905.0 Modified/DOE RP501 Rev. 1 Modified <u>Analytical Procedure:</u> GL-RAD-A-004 REV# 22 <u>Analytical Batch:</u> 2150390

**Preparation Method:** Dry Soil Prep **Preparation Procedure:** GL-RAD-A-021 REV# 24 **Preparation Batch:** 2133767

<u>Composite Preparation Method:</u> GEL Prep Method <u>Composite Preparation Procedure:</u> GL-RAD-A-026 REV# 18 <u>Composite Preparation Batch:</u> 2133413

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

<u>GEL Sample ID#</u>	Client Sample Identification
545795001	L-1-210527
1204863754	Method Blank (MB)
1204863755	545795001(L-1-210527) Sample Duplicate (DUP)
1204863756	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**

### Sample Re-prep/Re-analysis

Samples were reprepped to verify the results. The re-analysis is being reported.

#### Recounts

Sample 1204863756 (LCS) was recounted due to high recovery. 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:** 2135236

<u>Composite Preparation Method:</u> GEL Prep Method <u>Composite Preparation Procedure:</u> GL-RAD-A-026 REV# 18 <u>Composite Preparation Batch:</u> 2133413

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

GEL Sample ID# Client Sample Identification

545795001	L-1-210527
545795002	L-2-210527
1204836252	Method Blank (MB)
1204836253	545795001(L-1-210527) Sample Duplicate (DUP)
1204836254	545795001(L-1-210527) Matrix Spike (MS)
1204836255	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**

### Matrix Spike (MS) Recovery

Matrix spike (See Below) recovery requirement not met due to the matrix of the sample.

Sample	Analyte	Value
1204836254 (L-1-210527MS)	Tritium	71.5* (75%-125%)

### **Technical Information**

#### Recounts

Sample 1204836254 (L-1-210527MS) was recounted to verify sample results. The recount results are similar to the original results. Original results are reported.

# **Miscellaneous Information**

#### **Additional Comments**

The matrix spike, 1204836254 (L-1-210527MS), 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.