



# BGES, INC.

ENVIRONMENTAL CONSULTANTS

**SITE CHARACTERIZATION REPORT  
HOMER HERC BUILDINGS  
HOMER, ALASKA**

**ADEC FILE NUMBER 2314.38.043  
ADEC HAZARD ID 27933**

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## ACRONYMS

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AAC	-	Alaska Administrative Code
ABCA	-	Analysis of Brownfield Cleanup Alternatives
ACBM	-	Asbestos-Containing Building Materials
ACM	-	Asbestos-Containing Materials
ADEC	-	Alaska Department of Environmental Conservation
AHERA	-	Asbestos Hazard Emergency Response Act
bg	-	Below Grade
BGES	-	Braunstein Geological and Environmental Services
CFR	-	Code of Federal Regulations
cm <sup>2</sup>	-	Square Centimeter
DBAC	-	ADEC Brownfield Assessment and Cleanup
EMSL	-	EMSL Analytical, Inc.
EPA	-	Environmental Protection Agency
GoldStreak	-	Alaska Air Cargo
GPS	-	Global Positioning System
HBM	-	Hazardous Building Materials
HBMI	-	Hazardous Building Materials Inventory
HERC	-	Homer Education and Recreation Center
HTRW	-	HTRW, LLC
HUD	-	U.S. Department of Housing and Urban Development
KPB	-	Kenai Peninsula Borough
LBP	-	Lead-Based Paint
MDL	-	Method Detection Limit
Metiri	-	APPL, a Metiri Group Laboratory
mg/Kg	-	Milligram per Kilogram
mg/L	-	Milligrams per Liter
µg/L	-	Micrograms per Liter
MS	-	Matrix Spike
MSD	-	Matrix Spike Duplicate
NESHAP	-	National Emissions Standard for Hazardous Air Pollutants
PCB	-	Polychlorinated Biphenyls
PPE	-	Personal Protective Equipment
ppm	-	Parts Per Million
PQL	-	Practical Quantitation Limit
QC	-	Quality Control
QEP	-	Qualified Environmental Professional
RCRA	-	Resource Conservation and Recovery Act
RPD	-	Relative Percent Difference
SGS	-	SGS North America
TCLP	-	Toxicity Characteristic Leaching Procedure
TSCA	-	Toxic Substances Control Act
XRF	-	X-Ray Fluorescence

## 1.0 EXECUTIVE SUMMARY

BGES, Inc. (BGES) was contracted by the Alaska Department of Environmental Conservation (ADEC) to evaluate the presence of lead and other metals, polychlorinated biphenyls (PCBs), and asbestos in the soil in the vicinity of the Homer Education and Recreation Center (HERC) buildings in Homer, Alaska, hereafter referred to as the “subject property” (Figure 1), and to conduct a data gap analysis and any additional testing deemed necessary to complement existing hazardous building materials inventories (HBMI) for the two buildings.

The subject property is listed in the ADEC Contaminated Sites database under File Number 2314.38.043 and Hazard ID 27933. The legal description of the subject property is listed by the Kenai Peninsula Borough (KPB) Property Information database as “T 6S R 13W SEC 19 SEWARD MERIDIAN HM 2000022 HOMER SCHOOL SURVEY 1999 CITY ADDN TRACT 2”. The subject property is located at 450 Sterling Highway, to the northwest of the intersection of Sterling Highway and West Pioneer Avenue in the southern portion of Homer, Alaska, and is approximately 4.3 acres in size. Two buildings are present on the subject property (Figure 2). HERC 1 (Photograph 1 in Appendix B) is currently utilized by the City of Homer Parks and Recreation Department. HERC 2 is abandoned due to structural concerns and has been boarded up to prevent unauthorized access (Photograph 2 in Appendix B).

Between May 19 and May 21, 2025, BGES hand-dug a total of 54 test holes adjacent to the two buildings on the subject property, including 17 test holes surrounding HERC 2 and 37 test holes surrounding HERC 1. A total of 158 field screening samples were collected from various depths within the test holes and analyzed using an x-ray fluorescence (XRF) meter to evaluate the presence or absence of lead in the soils. A total of 44 soil samples (including 4 duplicate samples) were collected from the locations that exhibited the greatest XRF results and were submitted for laboratory analysis. Groundwater was not encountered in any of the test holes.

Arsenic was the only contaminant detected above ADEC cleanup criteria for migration to groundwater, with concentrations ranging from 0.069 milligram per kilogram (mg/Kg) to 37 mg/Kg. However, the detected concentrations of arsenic are considered to be within the range of naturally occurring arsenic in soil in Alaska. Only one soil sample, collected from HERC 1, exhibited a detectable concentration of PCBs. The detected concentration was 0.12 mg/Kg, which is below the ADEC cleanup criterion for migration to groundwater of 1.0 mg/Kg. In summary, soil contamination was not detected on the subject property during our project activities.

A data gap analysis of the existing HBMI for both buildings was performed and a limited HBMI was conducted for HERC 1 between May 20 and 21, 2025. The presence of lead-based paint (LBP) was evaluated using an XRF field-screening instrument. A total of 440 LBP readings were taken and 45 of those readings exceeded the Environmental Protection Agency (EPA) regulatory limit of 1.0 milligram of lead per square centimeter, or 1.0 mg/cm<sup>2</sup>. A copy of this HBMI report is included in Appendix A.

The field activities described in this report summarize the soil characterization activities completed in May 2025.

## **2.0 SITE BACKGROUND**

The subject property is listed in the ADEC Contaminated Sites database, under File Number 2314.38.043 and Hazard I.D. Number 27933. The legal description of the subject property is listed by the KPB Property Information database as “T 6S R 13W SEC 19 SEWARD MERIDIAN HM 2000022 HOMER SCHOOL SURVEY 1999 CITY ADDN TRACT 2”, and the property is approximately 4.3 acres in size. The subject property is located at 450 Sterling Highway, to the northwest of the intersection of Sterling Highway and West Pioneer Avenue in the southern portion of Homer, Alaska (Figure 1).

According to the ADEC Brownfields Assessment and Cleanup (DBAC) Application, the City of Homer purchased the HERC Buildings, HERC 1 and HERC 2, in July 2000 from the KPB, which had previously used them as a school. The buildings were constructed in the 1950s, before statehood when construction with hazardous building materials (HBMs) was commonplace. HERC 1 is a mixed office space and community gym, and HERC 2 is abandoned due to structural concerns.

HBMI assessments were conducted in 2020 and again in 2023 and identified HBMs such as asbestos-containing building materials (ACBMs), LBP, and PCBs. Consequently, the City of Homer applied for DEC DBAC services to review previous HBMI assessments and provide a data gap analysis; assess previous environmental sampling efforts and evaluate the presence of lead in soils from LBP around both buildings; and to assist with cleanup planning by providing an Analysis of Brownfield Cleanup Alternatives (ABCA) for the whole site, including providing support with community engagement efforts.

A recap of the data gap analysis and a reporting of the characterization activities completed during May of 2025 at the subject property are described below.

### **3.0 Data Gap Analysis**

HBMI assessments were conducted for both buildings in 2020 and again in 2022 to 2023 by two separate firms. According to the National Emissions Standard for Hazardous Air Pollutants (NESHAP), Asbestos-Containing Materials (ACMs) are defined as containing at least 1 percent asbestos; including but not limited to chrysotile and amosite asbestos. According to the Toxic Substances Control Act (TSCA) in 40 Code of Federal Regulations (CFR) Part 761, PCB bulk product waste is defined as containing PCBs at a concentration of greater than or equal to 50 mg/Kg. However, landfills in Alaska are not permitted to accept waste with any detectable concentrations of PCBs. LBP is regulated under U.S. Department of Housing and Urban Development (HUD) regulations per Sections 1012 & 1013 of Title X, 24 CFR Part 35 and the EPA regulatory limit is 1.0 mg/cm<sup>2</sup>.

### **3.1 2020 Hazardous Building Material Inventory**

An HBMI was conducted by Environmental Management, Inc. in 2020 for both buildings (*Hazardous Building Materials Survey – HERC Buildings 1 and 2*; March 2020).

A total of 191 bulk layers were collected from 99 sample locations from both buildings for asbestos analysis. Twenty-three of the samples were found to contain between 2.4 percent and 80 percent asbestos. The HBMI identified ACBMs such as floor tile mastic, pipe insulation, and joint compound in both buildings.

A total of 44 readings were collected from both buildings to assess the presence of LBP; however, while the 2020 HBMI report concluded that the windows of each building contained LBP, the HBMI did not collect the appropriate number of readings for the windows or for other building fixtures, did not present the locations of the XRF readings, and did not present the numerical results of those readings, as required by HUD regulations per Sections 1012 & 1013 of Title X, 24 CFR Part 35. The HBMI visually assessed building materials for PCBs and concluded that light ballasts may contain PCBs but did not collect samples for analysis.

The positive detections of ACBMs are shown on Figures 3 through 6 and are presented in Table 1.

### **3.2 2022-2023 Hazardous Building Material Inventories**

In 2022 and 2023, HBMI were again conducted for both buildings.

#### ***Homer HERC 2 – 2022***

In October 2022, in January 2023, and again in May 2023, HTRW, LLC (HTRW) conducted an HBMI of the HERC 2 building (*HERC 2 Hazardous Materials Assessment*, July 25, 2003). The inspection included sampling for ACBM and PCBs and screening for LBP.

A total of 78 bulk layers were collected from 64 sample locations within the building for asbestos analysis. A total of thirty-nine samples were found to contain chrysotile or amosite, and detections ranged from 1.1 percent to 85 percent. The HBMI identified ACBMs such as floor tile and mastic, ceiling mastic, pipe insulation, joint compound, sealant and putty, and other miscellaneous building materials.

A total of 118 samples were collected for PCB analyses, plus 14 duplicate samples. Fifty-seven of the samples, including four duplicate samples, contained detectable amounts of PCBs; thirty-six of those samples contained PCBs in exceedance of 1.0 mg/Kg. Building materials that contained PCBs included wall, door, and window paints; window glazing compounds; ceiling and floor tiles; mastic; cove base; and fiberglass insulation. As mentioned above, these building components are not acceptable at any landfills

in Alaska.

HTRW collected 112 LBP screenings using a hand-held XRF (SciApps X-550) from locations throughout the interior and around the exterior of the building. Fourteen of the readings exceeded the EPA regulatory limit of 1.0 mg/cm<sup>2</sup>. However, the inspector did not conduct an inspection to the extent that the HUD regulations require per Sections 1012 & 1013 of Title X, 24 CFR Part 35, and did not collect the appropriate number of samples for each testing combination and each wall within each room equivalent.

The positive detections of ACBMs, PCBs, and LBP are shown on Figures 5 and 6 and are presented in Table 1.

### ***Homer HERC 1 - 2023***

In May of 2023, HTRW conducted an HBMI of the HERC 1 building (*HERC 1 Hazardous Materials Assessment*, July 25, 2003). The inspection included sampling for ACBM and PCBs and screening for LBP.

HTRW collected 15 bulk samples from 13 sample locations within HERC 1 for asbestos analysis. Three of those samples had detections of chrysotile asbestos at or above 1 percent and were found in the putty used in the exterior seams of the metal siding, window glazing compound, and a cloth within the duct system in the kitchen.

HTRW did not perform an LBP-survey of HERC 1.

HTRW collected 34 samples, including 5 duplicate samples, for PCB analysis. Nine of the samples contained detectable concentrations of PCBs and seven of those samples contained PCBs in exceedance of 1.0 mg/Kg. Building materials that contained PCBs included wall and window paints and varnish; ceiling tiles; and mastic. As mentioned above, these building components (with detectable concentrations of PCBs) are not acceptable at any landfills in Alaska.

The positive detections of ACBMs and PCBs are shown on Figures 3 and 4 and are presented in Table 1.

### **3.3 Data Gap Evaluation of Previous Investigations**

Upon review of the previous reports, it is our opinion that insufficient LBP testing was performed in both buildings. It is also our opinion that not enough potentially PCB-containing building material samples were collected for analysis from HERC 1.

During our 2025 field work, a thorough LBP inspection was completed for HERC 1 and the results of that inspection are summarized below and discussed in detail in the *2025 Hazardous Building Materials*

*Inventory*, attached as Appendix A. Samples were not collected for additional PCB analysis and recommendations are discussed in detail in the *Analysis of Brownfields Cleanup Alternatives*, prepared under separate cover.

Based on the existing documentation, it also appears that uncontrolled demolition of ACMs occurred in HERC 2, and asbestos may have been spread across much of the building interior and potentially the exterior ground surface. During our 2025 field work, the soils were assessed for potential asbestos-contamination and two samples were collected for laboratory analysis, as discussed in detail below. Detailed information pertaining to the results of our hazardous building materials testing during the 2025 fieldwork is included in our Hazardous Building Materials Inventory report, included in Appendix A.

#### 4.0 FIELD ACTIVITIES

The 2025 site characterization activities were performed by Lisa Vitale, Environmental Scientist II, and Javier Acuña, Environmental Scientist I, of BGES, both Qualified Environmental Professionals (QEPs) as defined by the ADEC. The characterization activities were performed in accordance with the *Site Characterization Work Plan* (dated October 9, 2024, and approved by the ADEC on October 24, 2024) and in general accordance with ADEC's Field Sampling Guidance (August 2024), 18 Alaska Administrative Code (AAC) 75 (October 18, 2023), and EPA SW-846 Test Method 6200. Photographs of the characterization activities are included in Appendix B. Field notes and global positioning system (GPS) coordinates are included in Appendix C. Prior to mobilizing to the site, BGES enlisted Alaska One-Call to mark all public underground utilities.

##### 4.1 Workplan Deviations

Workplan deviations include the following:

- Because the north, south, and part of the west sides of the HERC 1 building were paved up to the building's exterior walls and because of an area of tall, dense, overgrown vegetation on the west side of HERC 1 (Photographs 3 and 4 in Appendix B), a request to the ADEC was made to decrease the total number of test holes from 80 to 54, with test holes placed at a spacing of approximately 10 feet between each hole. Permission was granted by the ADEC verbally and via e-mail on May 20, 2025.
- The *Site Characterization Workplan* stipulated that ten soil samples would be submitted for asbestos analysis. Based on field observations, it was decided that two samples would be submitted for analysis. One sample was collected from each of the entrances to HERC 2.

## **4.2 Field Screening and Sampling**

Two ASTs were observed in proximity to the HERC 1 building (Photographs 5 and 6 in Appendix B). A transformer was observed on the north side of HERC 2 and on the west side of HERC 1; no labels regarding the presence or absence of PCBs were observed on either transformer (Photographs 7 and 8 in Appendix B). No staining was observed at the base of either transformer.

Fifty-four test holes were dug using hand shovels around the exterior of the HERC buildings, to depths ranging from approximately 6 inches below grade (bg) to approximately 2 feet bg. The shovels were decontaminated prior to, and after each use by spraying the equipment with an Alconox (detergent-grade) solution, wiping with a paper towel, spraying with clean water, and wiping again with a clean paper towel (Photograph 9 in Appendix B). The soils were temporarily placed next to their respective test holes until completion of sampling, and then the soils and field screening samples were ultimately returned to their respective test holes.

Field screening samples in each test hole were collected from depths of approximately 6 inches bg, 1-foot bg, and 2-feet bg, using clean stainless-steel spoons. Soils were collected from each sample interval in individual sealable plastic bags that were labeled with unique sample numbers and times of collection (Photograph 9 in Appendix B). A total of 158 field screening samples were collected and field-screened using an XRF, and the maximum lead concentration reading associated with each sample was recorded in the field notebook. The XRF readings ranged from values that were less than 0 parts per million (ppm) to 154 ppm. Handheld XRFs estimate concentrations after background “noise” subtraction and a calibration fit. When the true concentration is near zero, random counting noise can cause the reported value to dip below zero. These values are considered non-detect results for lead. Four of the samples exhibited XRF readings equal to, or above 100 ppm. No staining on the ground or odors were observed during field activities.

The 40 field screening samples that exhibited the greatest XRF results were selected for laboratory analysis. Sample portions for laboratory analysis were placed directly into laboratory-supplied containers that were labeled and placed in a chilled cooler. As a quality control (QC) procedure, an additional four duplicate samples were collected (or one per ten primary samples) from the sample locations with the greatest XRF readings and submitted “blindly” to the laboratory to evaluate field sampling precision. The samples were immediately placed in a cooler with frozen gel ice to maintain a temperature of 0 to 6 degrees Celsius.

Because hand tools were reused, two equipment blank samples (or one per twenty primary samples) were collected by rinsing the equipment with analyte-free water supplied by the laboratory and collecting the

rinsate in laboratory-supplied containers for the same analyses as the primary samples to evaluate the effectiveness of our decontamination procedures.

The location of each test hole was recorded in the field notebook, and the geographical coordinates were recorded using a StoneX GPS with sub-meter accuracy. Field notes and GPS coordinates are attached in Appendix C and sample locations are depicted on Figures 7 and 8.

### **4.3 Laboratory Analysis**

Forty-four soil samples, including four duplicate samples, and two equipment blank samples were collected as described above, uniquely labeled, and placed in a chilled cooler which was transported from Homer to Anchorage by BGES personnel and then shipped via Alaska Air Cargo (Goldstreak) by BGES personnel under chain of custody protocol to APPL, a Metiri Group Laboratory (Metiri), in Clovis, California, an ADEC-approved laboratory, for analysis of Resource Conservation and Recovery Act (RCRA) Metals by EPA Methods 6020B and 7471B. Nine of the soil samples, including one duplicate sample pair, were selected for analysis of PCBs by EPA Method 8082A based on their proximity to a transformer, window, or door. Based on laboratory analytical results, one soil sample was re-analyzed for lead by Toxicity Characteristic Leaching Procedure (TCLP) EPA Method 1311. In addition, two soil samples collected near the entrances to HERC 2 were shipped in a box and submitted to EMSL Analytical (EMSL) in San Leandro, California via FedEx shipment by BGES personnel under chain of custody protocol. These samples were submitted for asbestos analysis in accordance with Asbestos Hazard Emergency Response Act (AHERA) guidelines, outlined in 40 Code of Federal Regulations (CFR) 763 Subpart E Appendix E; via EPA Method 600/R-93/116. This method utilizes polarized light microscopy.

### **4.4 Investigative-Derived Waste**

Investigative-derived waste included soils removed from each test hole, field-screening samples, plastic bags, spent paper towels, and miscellaneous personal protective equipment (PPE). The small volume of soils removed from each test hole and the field-screening samples were replaced in their respective test holes upon completion of the soil sampling activities. Used paper towels, plastic bags, and PPE were disposed of as municipal waste.

## **5.0 EVALUATION OF LABORATORY DATA**

The samples scheduled for RCRA metals and PCB analysis were shipped in a chilled cooler by BGES personnel under chain of custody protocol to Metiri in Clovis, California; an ADEC-approved laboratory for analyses. As an additional QC measure, four duplicate soil samples were collected and submitted “blindly” to Metiri for analysis. The samples scheduled for asbestos analysis were shipped in a box via

FedEx by BGES personnel under chain of custody protocol to EMSL in San Leandro, California.

Soil cleanup criteria for PCBs and RCRA Metals are obtained from ADEC 18 AAC 75.341, Table B1, Method 2, Migration to Groundwater values (October 18, 2023), except for PCBs which are obtained from the more stringent Under 40-inch Zone (referring to annual precipitation) Human Health Pathway (October 18, 2023). The regulatory level for TCLP Lead was obtained from 40 CFR 261.24. The ADEC has not promulgated a cleanup criterion for asbestos in soil.

Although their primary function is to evaluate data quality, the equipment blank samples were compared to the groundwater cleanup criteria obtained from ADEC 18 AAC 75.345, Table C (October 18, 2023).

The samples were uniquely labeled, for example H2-01-02-051925, by the HERC building, test hole, and depth interval they were collected from. For Sample H2-01-02-051925, the prefix "H2" indicates that this sample was collected from near HERC 2, "-01" indicates that this sample was collected from Test Hole 1, and "-02" indicates that this sample was collected from the second depth interval, and "-051925" indicates the month, day, and year when the sample was collected. The equipment blank samples were referred to as, for example, "EB01-051925", where the prefix EB01 indicates the unique sample ID of the equipment blank and "-051925" indicates the month, day, and year when the sample was collected. For brevity in this report, the samples are referred to as, for example, H2-01-02 without the date.

Arsenic was detected in all soil samples at concentrations ranging from 0.069 mg/Kg to 37 mg/Kg. Although the arsenic concentrations in all samples, except for Sample H2-12-02, exceeded the ADEC cleanup criterion of 0.20 mg/Kg, the reported arsenic concentrations are within typical background concentrations observed within Alaska (Gough et al, 1988); therefore, it is our opinion that the reported detections are representative of background levels of arsenic and that arsenic should not be considered a contaminant of concern for this site.

PCB Aroclor 1260 was detected in Sample H1-28-01 at a concentration of 0.12 mg/Kg, which is below the ADEC cleanup criterion of 1 mg/Kg for migration to groundwater and below the TSCA definition of PCB bulk waste (50 mg/Kg).

Lead was detected in all soil samples, except for Sample H1-53-03, at concentrations ranging from 0.57 mg/Kg to 43 mg/Kg, below ADEC cleanup criterion for residential land use. Lead was detected in Sample H1-53-03 at a concentration of 190 mg/Kg, which is below the ADEC cleanup criterion but may be at a concentration that would be considered leachable. This sample was therefore also analyzed for TCLP lead to determine whether or not the lead within these soils may be leachable and whether or not the soils would potentially be hazardous when excavated during future remediation activities. This sample exhibited a

TCLP lead concentration of 0.34 milligram per liter (mg/L), which is below the RCRA-defined threshold of 5.0 mg/L. Based on this TCLP lead result, it appears that any soil remediated from this area in the future may not need to be managed as a hazardous waste after excavation.

All other RCRA metal analytes were either not detected or were detected at concentrations below ADEC cleanup criteria.

Asbestos was not detected in either soil sample that was submitted to the laboratory.

The analytical results of the samples are presented in Tables 2 and 3, and soil samples results are shown on Figures 7 and 8.

The analytical concentrations of lead were compared to their associated x-ray fluorescence (XRF) field screening detections and sample moisture content to determine if there is a correlation between the field screening results and the analytical results. No correlation is apparent and the moisture content does not appear to play a factor, indicating poor field screening accuracy. These data are shown on Table 4.

Copies of the laboratory data packages are included in Appendix D.

## **6.0 LABORATORY DATA QUALITY**

Data quality was reviewed in accordance with ADEC guidance and standard industry practices. ADEC laboratory data review checklists were completed for the Metiri work orders, and the checklists are included in Appendix E. The checklists provide an overview of the quality of the laboratory data. The following is a discussion of our evaluation of sample conditions and laboratory procedures for the soil samples collected during the May 2025 sampling activities.

The soil sample containers were labeled, placed in an ice-filled cooler, and shipped via Alaska Airlines Goldstreak along with chain-of-custody documentation to Metiri in Clovis, California. The samples contained the proper preservatives for the requested analyses. A case narrative was included in the laboratory reports and several quality control (QC) failures were identified and are evaluated below.

### **6.1 Laboratory Data Package 25E0110**

The cooler arrived at the laboratory in good condition, and the temperature of the sample cooler that contained the soil samples was measured at the time of receipt to be 3.8 degrees Celsius, which is within the ADEC-prescribed optimal range of 0 to 6 degrees Celsius. The samples for mercury analyses were subcontracted to SGS North America (SGS) and received at their Orlando laboratory at a temperature of 3.0 degrees Celsius, which is also within the ADEC-prescribed optimal range of 0 to 6 degrees Celsius. No data quality issues were described in the SGS case narrative associated with the mercury analyses.

The surrogate decachlorobiphenyl associated with analysis of PCBs (EPA Method 8082A) for Sample H2-05-02, recovered below the laboratory's acceptance limit indicating the potential for the PCB concentrations in this sample to be biased low. However, because all of the PCB congener concentrations were non-detectable at a practical quantitation limit (PQL) that was one order of magnitude below the ADEC cleanup criterion, it is our opinion that this QC failure does not affect our interpretation of the data.

Silver was detected above the PQL in the Laboratory Blank Sample, indicating the potential for this analyte to be biased high in the associated laboratory samples. Therefore, the silver concentrations in the project samples are qualified with a "J" in Table 2, and should be considered estimates. However, because the silver concentrations in all project samples were detected at concentrations that were at least one order of magnitude below the ADEC cleanup criterion, it is our opinion that this QC failure does not affect our interpretation of the data.

The matrix spike (MS) and the MS duplicate (MSD) samples associated with analysis of metals (EPA 6020B) derived from Sample 25E0110-15, exhibited barium recoveries that were below and above, the laboratory's acceptance limits, respectively, indicating the potential for the barium concentrations in the project samples to be biased. Therefore, the barium concentrations in the project samples are qualified with a "J" in Table 2, and should be considered estimates. Because the barium concentrations in all project samples were detected at concentrations that were at least one order of magnitude below the ADEC cleanup criterion, it is our opinion that this QC failure does not affect our interpretation of the data.

Sample H2-09-04 was a duplicate of Sample H2-09-01 and was collected to evaluate field-sampling precision. The relative percent differences (RPDs) for the metals ranged from 4 to 43 percent, indicating acceptable field-sampling precision. RPDs could not be calculated for PCB analytes because they were all non-detectable.

Sample H2-10-04 was a duplicate of Sample H2-10-03 and was collected to evaluate field-sampling precision. The RPDs for the metals ranged from 4 to 44 percent, indicating acceptable field-sampling precision. RPDs could not be calculated for PCB analytes because they were all non-detectable.

## **6.2 Laboratory Data Package 25E0111**

The cooler arrived at the laboratory in good condition, and the temperature of the sample cooler that contained the soil samples was measured at the time of receipt to be 3.8 degrees Celsius, which is within the ADEC-prescribed optimal range of 0 to 6 degrees Celsius. The samples for mercury analyses were subcontracted to SGS and received at their Orlando laboratory at a temperature of 3.0 degrees Celsius, which is also within the ADEC-prescribed optimal range of 0 to 6 degrees Celsius. The report was revised

to include the results of TCLP- Lead analysis for Sample H1-53-03. Data quality issues were described in both the Metiri and SGS case narratives and are discussed below.

The MS sample associated with analysis of metals (EPA 6020B) derived from Sample H1-35-03 exhibited a chromium concentration that was slightly below the laboratory's acceptance limits, indicating the potential for the chromium concentrations in the project samples to be biased low. Therefore, the chromium concentrations in the project samples are qualified with a "J" in Table 2 and should be considered estimates. Because the chromium concentrations are assumed to be indicative of chromium III and were consistent within the range of 17 to 35 mg/Kg, which in our opinion is indicative of background chromium concentrations and well below the ADEC chromium III cleanup criterion in all project sample, it is our opinion that this QC failure does not affect our interpretation of the data.

SGS reported that the MS/MSD recoveries for mercury analyses (EPA Method 7471B) were outside of the laboratory's acceptance criteria, indicating the potential for the mercury concentrations in the project samples to be biased. However, because the MS/MSD samples were prepared from soils from a different project, it is our opinion that this QC failure does not affect our interpretation of the data.

SGS reported that the laboratory duplicate sample and the serial dilution duplicate sample (EPA Method 7471B) RPDs exceeded the laboratory's acceptance criteria, indicating the potential for the mercury concentrations in the project samples to be biased. Therefore, the detected mercury concentrations in the project samples are qualified with a "J" in Table 2 and should be considered estimates. However, mercury was either not detected above PQLs at least 10 percent less than ADEC cleanup criterion, or mercury concentrations were detected at least 27 percent below the ADEC cleanup criterion (except for Sample H1-53-03); therefore, for these samples, it is our opinion that this QC failure does not affect our interpretation of the data. Sample H1-53-03 exhibited a mercury concentration that was only about 2.8 percent below the ADEC cleanup criterion; therefore, it cannot be determined if this concentration actually exceeds the ADEC cleanup criterion. We have included the mercury result for this sample on Figure 8 with a note to this effect.

Sample H1-38-04 was a duplicate of Sample H1-38-02 and was collected to evaluate field-sampling precision. The RPDs for the metals ranged from 3 to 23 percent indicating acceptable field-sampling precision.

Sample H1-43-04 was a duplicate of Sample H1-43-03 and was collected to evaluate field-sampling precision. The RPDs for the metals ranged from 4 to 30 percent indicating acceptable field-sampling precision.

### 6.3 Laboratory Data Package 25E012

Two equipment blanks were collected during the sampling activities to evaluate the potential for cross-contamination from field equipment. The cooler arrived at the laboratory in good condition, and the temperature of the sample cooler that contained the soil samples was measured at the time of receipt to be 3.8 degrees Celsius, which is within the ADEC-prescribed optimal range of 0 to 6 degrees Celsius. The samples for mercury analyses were subcontracted to SGS and received at their Orlando laboratory at a temperature of 3.0 degrees Celsius, which is also within the ADEC-prescribed optimal range of 0 to 6 degrees Celsius. Data quality issues were described in both the APPL and SGS case narratives and are discussed below.

Equipment Blank EB01 was collected on May 19, 2025, and exhibited concentrations of barium [0.61 micrograms per liter ( $\mu\text{g/L}$ )] and chromium (0.81  $\mu\text{g/L}$ ), which were between the PQLs and the MDLs. Because these analytes were detected in the Equipment Blank EB01 sample collected on May 19, 2025, the reported concentrations of these analytes within the project samples collected on this same date are qualified with a “J” in Table 2 and should be considered estimated.

Equipment Blank EB02 was collected on May 21, 2025. Sample EB02 exhibited concentrations of barium (1.9  $\mu\text{g/L}$ ) and chromium (0.52  $\mu\text{g/L}$ ) which were between the PQLs and the MDLs. Because these analytes were detected in the Equipment Blank EB02 sample collected on May 21, 2025, the reported concentrations of these analytes within the project samples collected on this same date are qualified with a “J” in Table 2 and should be considered estimated.

The MS recoveries for barium and lead (EPA Method 6020B) were slightly below the laboratory’s acceptance criteria, indicating the potential for these analytes to be biased low in the project samples. Lead was not detected in either sample at MDLs that were at least one order of magnitude below the ADEC cleanup criterion. The detected concentrations of barium are qualified with a “J” in Table 3 and should be considered estimates; however, barium was detected at concentrations that were at least three orders of magnitude below the ADEC cleanup criterion. Therefore, it is our opinion that this QC failure does not affect our interpretation of the data. The MSD recoveries for cadmium and chromium slightly exceeded the laboratory’s acceptance criteria, indicating the potential for these analytes to be biased high in the project samples. Because cadmium was not detected above MDLs that were less than the ADEC cleanup criterion and because the detected concentrations of chromium were below the ADEC cleanup criterion (assuming chromium III to be the appropriate cleanup criterion), it is our opinion that this QC failure does not affect our interpretation of the data.

The RPD for the MS/MSD sample pair (EPA Method 6020B) exceeded the laboratory's acceptance criteria, indicating the potential for the arsenic, cadmium, and chromium concentrations in the project samples to be biased. Therefore, the detectable concentrations of chromium in the project samples are qualified with a "J" in Table 3 and should be considered estimates. However, arsenic and cadmium were not detected at MDLs that were at least 40 percent below ADEC cleanup criteria, and chromium was detected at concentrations at least five orders of magnitude below the ADEC cleanup criterion (assuming chromium III to be the appropriate cleanup criterion); therefore, it is our opinion that this QC failure does not affect our interpretation of the data.

SGS reported that the percent recovery of mercury in the MS sample was below the laboratory's acceptance criteria, indicating the potential for this analyte to be biased low in the project samples. In addition, the RPD for the MS/MSD sample pair exceeded the laboratory's acceptance criteria, indicating the potential for the mercury concentrations in the project samples to be biased. However, because the mercury results were non-detectable and because these samples were equipment blanks, it is our opinion that this QC failure does not affect our interpretation of the data.

## **7.0 CONCEPTUAL SITE MODEL**

A graphic conceptual site model detailing the potential exposure media, transport mechanisms, exposure pathways, and human receptors for suspected contamination at this site was prepared and is included in Appendix F. The media identified at the site which may have been impacted includes surface soils. The transport mechanisms through which contamination may have, or might potentially mobilize, were identified as migration to subsurface soil. Commercial workers, construction workers, site visitors, trespassers, and/or recreational users might be at risk of exposure through the following pathways: ingestion of soil, dermal absorption of contaminants from soils, and inhalation of fugitive dust.

## **8.0 CONCLUSIONS**

According to the DBAC Application, the City of Homer purchased the HERC Buildings, HERC 1 and HERC 2, during July of 2000 from the KPB, which had previously used them as a school. The buildings were constructed in the 1950s, before statehood, when construction with hazardous building materials (HBMs) was commonplace. HERC 1 is a mixed office space and community gym, and HERC 2 is abandoned due to structural concerns. The subject property is listed in the ADEC Contaminated Sites database, under File Number 2314.38.043 and Hazard I.D. Number: 27933.

Between May 19 and 21, 2025, BGES hand-dug 54 test holes to a maximum depth of 2 feet bg around the perimeters of the two buildings present on the subject property, including 17 test holes surrounding HERC

2 and 37 test holes surrounding HERC 1. A total of 158 field screening samples were collected from various depths within the test holes and analyzed using an XRF to field screen for the presence of lead in the soils. A total of 44 samples (including four duplicate samples) were collected from the locations that exhibited the greatest XRF results and were submitted for laboratory analysis. No staining or odors were observed in any of the test holes. Groundwater was not encountered in any of the test holes.

Up to three field screening samples were collected from each test hole, for a total of 158 field screening samples. XRF readings ranged from (effectively) non-detect to 154 ppm. A total of 40 analytical samples were selected for analysis of RCRA metals with an additional four duplicate samples collected as a QC measure. Nine of the soil samples, including one duplicate sample pair, were also analyzed for PCBs based on their proximity to a transformer, window, or door. The soil samples were analyzed by Metiri, an ADEC-approved laboratory. In addition, two soil samples collected near the entrances to HERC 2 were analyzed for asbestos by EMSL, an ADEC-approved laboratory.

Arsenic was detected in all soil samples at concentrations exceeding the ADEC cleanup criterion; however, arsenic is a naturally occurring metal, the reported concentrations are within typical background concentrations observed within Alaska, and there is no evidence of anthropogenic origins for the arsenic. Therefore, it is our opinion that these detections are representative of background levels of arsenic and that arsenic should not be considered a contaminant of concern for this site.

Lead was detected in all soil samples, except for Sample H1-53-03, at concentrations ranging from 0.057 mg/Kg to 43 mg/Kg, below ADEC cleanup criterion for residential land use. Lead was detected in Sample H1-53-03 at a concentration of 190 mg/Kg, which is below ADEC cleanup criterion but may be at a concentration that would be considered leachable. This sample was therefore also analyzed for TCLP lead to determine whether or not the lead within these soils may be leachable and whether or not the soils would potentially be hazardous when excavated during future remediation activities. This sample exhibited a TCLP lead concentration of 0.34 mg/L, which is below the RCRA-defined threshold of 5.0 mg/L. Based on this TCLP lead result, it appears that any soil remediated from this area in the future may not need to be managed as a hazardous waste after excavation.

PCBs were only detected in H1-28-01 as Aroclor 1260 at 120 µg/kg, which represents a concentration well below the definition of TSCA definition of PCB bulk waste and also below the ADEC Human Health cleanup criterion. However, Alaska landfills do not currently accept material containing any detections of PCBs. Therefore, if the soils in this area are to be excavated, arrangements may be needed to transport the material to a state in the lower-48 states that can accept PCB-containing materials.

Asbestos was not detected in either soil sample that was submitted to the laboratory. No other analytes were detected at concentrations exceeding ADEC cleanup criteria. Based on these results, BGES did not identify any site-related contamination in the soils at the subject property.

The excavated soils were temporarily staged next to their respective test pits and were returned to their respective holes upon completion of field activities on May 21, 2025.

BGES also performed a data gap analysis of the existing HBMI reports and compiled a table and figures showing the hazardous building materials for each building. It is our opinion that not enough LBP ~~testing~~ characterization for disposal was performed in either building during those previous assessments. It is also our opinion that not enough potentially PCB-containing building material samples were collected for analysis from HERC 1.

Based on the results of the HBMI conducted by BGES, both buildings ~~still lack complete~~ will require TCLP determinations, unless materials will be assumed to be hazardous for disposal purposes. Building materials containing PCBs are not acceptable at any landfills in Alaska. Because of the presence of lead-based paint and PCB-containing building materials within both buildings, additional Further testing for LBP, including paint chip analysis and/or TCLP methodology, and for PCBs will likely be required prior to demolition and disposal of the building debris to determine whether they are hazardous waste.

A copy of this HBMI report is included in Appendix A. Proposed cleanup alternatives are discussed in the *Analysis of Brownfields Cleanup Alternatives*, prepared under separate cover to this report.

## 9.0 EXCLUSIONS AND CONSIDERATIONS

This report presents facts, observations, and inferences based on conditions observed during the period of our project activities, and only those conditions that were evaluated as part of our scope of work. Our conclusions are based solely on our observations made and work conducted, and only apply to the immediate vicinities of the locations where samples were collected. In addition, changes to site conditions may have occurred since the completion of our project activities. These changes may be from the actions of man or nature. Changes in regulations may also impact the interpretation of site conditions. BGES will not disclose our findings to any parties other than our client as listed above, except as directed by our client, or as required by law.

The fieldwork described in this report was performed by Lisa Vitale, Environmental Scientist II, and Javier Acuna, Environmental Scientist I, of BGES. Ms. Vitale and Mr. Acuna are QEPs as defined by the ADEC. This report was prepared by Emily Adler, Environmental Scientist I, and Lisa Vitale, Environmental Scientist II, of BGES. This report was reviewed by Robert Braunstein, a Principal Geologist of BGES and a QEP as defined by the ADEC. Robert Braunstein has more than 45 years of geological and environmental consulting experience and has conducted and managed thousands of site characterization and remediation projects throughout Alaska and the lower 48 states.

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**APPENDIX A  
LIMITED HAZARDOUS BUILDING MATERIALS INVENTORY (HBMI)  
~TO BE INCLUDED IN FINAL REPORT~**

**APPENDIX B  
SITE PHOTOGRAPHS**

**APPENDIX C  
FIELD NOTES & GPS COORDINATES**

**APPENDIX D  
LABORATORY ANALYTICAL DATA**

**APPENDIX E  
LABORATORY DATA REVIEW CHECKLIST**

**APPENDIX F  
CONCEPTUAL SITE MODEL**