### **REPORT ON REMOVAL PRELIMINARY ASSESSMENT**

CLOSED LOOP REFINING & RECOVERY 1655 AND 1675 WATKINS ROAD COLUMBUS, OHIO 43207

EPA ID No. OHR000167718

EnSafe Project Number: 0888823935/004

Prepared for:

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April 2020

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#### 1.0 INTRODUCTION

This *Report on Removal Preliminary Assessment* addresses removal preliminary assessment activities previously performed at the Closed Loop Refining & Recovery (Closed Loop) facility (subject property) in Columbus, Ohio, as shown in Figure 1. The subject property includes the 1675 Watkins Road warehouse (1675 warehouse) and the south portion of the 1655 Watkins Road warehouse (1655 warehouse; Figures 2 and 3). This report has been prepared pursuant to applicable rules in Title 40 of the Code of Federal Regulations, Section 300.410.

This report is a summary of two previously prepared removal preliminary assessments:

- AECOM Technical Services, Inc. *Baseline Environmental Conditions and Closure Cost Evaluation; The Closed Loop Inc. Facility; 1675 and 1655 Watkins Road; Columbus, Ohio.* (2015).
- Atwell, LLC. *Evaluation of E-Waste Inventories and Remediation/Closure Options for 1655 and 1675 Watkins Road, Columbus, Ohio.* (May 4, 2017).

#### 1.1 2015 AECOM Technical Services, Inc. Assessment

During late 2015, AECOM Technical Services, Inc. (AECOM) prepared a report entitled *Baseline Environmental Conditions and Closure Cost Evaluation*. The purpose of this evaluation was to assess potential hazardous materials contained in the 1675 and 1655 warehouses. AECOM's report noted that Closed Loop operated in 290,000 square feet of the 1675 warehouse and 145,000 square feet of the 1655 warehouse. The AECOM report is included in Appendix A.

AECOM's site assessment included collection of 19 dust samples from the floor and horizontal surfaces in the 1675 and 1655 warehouses (eleven and eight samples respectively), for analysis of the eight Resource Conservation and Recovery Act metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) as totals. An additional five dust samples from the 1675 warehouse and four dust samples from the 1655 warehouse were also analyzed by the Toxicity Characteristic Leaching Procedure (TCLP) for the eight Resource Conservation and Recovery Act metals. Indoor airborne sampling was also performed for analysis of mercury.



A summary of the analytical results for the 1655 warehouse indicated:

- Lead was detected in each total dust sample at concentrations ranging from 2,300 to 13,000 milligrams per kilogram (mg/kg), exceeding the Ohio Voluntary Action Program (VAP) generic, direct-contact residential soil standard (GDCSS) of 400 mg/kg.
- Chromium was reported to exceed the residential GDCSS of 120 mg/kg in two samples.
- Barium, cadmium, mercury, and silver were detected in each total dust sample at concentrations below their respective Ohio VAP residential GDCSS.
- Arsenic and selenium were not detected in total or TCLP dust samples.
- Lead was reported in three of four TCLP dust sample results at concentrations of 92 to 180 milligrams/liter (mg/L), which exceed the characteristically hazardous concentration of 5.0 mg/L for lead.
- Remaining TCLP dust sample results were below detection limits and/or their respective characteristically hazardous concentration limits.

A summary of the analytical results for the 1675 warehouse indicated:

- Lead was detected in each total dust sample at concentrations ranging from 2,200 to 15,000 mg/kg, exceeding the Ohio VAP residential GDCSS of 400 mg/kg.
- Barium, cadmium, chromium, mercury, and silver were detected in each total dust sample at concentrations below their respective Ohio VAP residential GDCSS.
- With the exception of one total dust sample where total selenium was detected at a concentration below its Ohio VAP residential GDCSS, arsenic and selenium were not detected in total or TCLP dust samples.
- Lead was reported in each of the five TCLP dust samples at concentrations of 11 to 220 mg/L, which exceed the characteristically hazardous concentration of 5.0 mg/L for lead.



• Remaining TCLP dust sample results were below detection limits and/or their respective characteristically hazardous concentration limits.

AECOM reported that indoor air mercury concentrations ranged from less than the detection limit to 0.044 milligrams per cubic meter and that mercury results were below the Occupational Safety and Health Administration permissible exposure limit of 0.10 milligrams per cubic meter (NIOSH 2015).

#### 1.2 2017 Atwell LLC Assessment

During 2016, Atwell performed site investigation activities that culminated in preparation of their May 4, 2017 report entitled *Evaluation of E-Waste Inventories and Remediation/Closure Options for 1655 and 1675 Watkins Road, Columbus, Ohio.* A copy of the Atwell report is presented in Appendix B; significant findings are summarized below:

- The 1675 and 1655 warehouses are approximately 90% full of cathode ray tube (CRT) devices, super sacks, and cardboard Gaylord containers (measuring approximately 4-foot-square and high) containing crushed CRT glass on wooden pallets. Throughout the majority of the warehouses, the Gaylord containers are stacked three high. Many Gaylord containers are deteriorated, which Atwell notes "may be a function of Closed Loop's practice to repurpose the same boxes used to transport intact CRTs to the site...." Atwell noted that there are only a few accessible aisles between the stockpiled CRT materials and that many containers are not readily accessible.
- The majority of containers in the 1675 warehouse contain crushed CRT glass; former aisle ways have containers with "whole unprocessed CRT units (televisions, computer monitors, and/or intact CRT tubes)." The 1675 warehouse also includes a demanufacturing line and a glass crushing process area.
- The majority of containers in the 1655 warehouse appear to contain "intact CRT units (televisions and computer monitors)." A "small demanufacturing line where Closed Loop would manually separate the CRT tubes from plastic and metal housings associated with whole televisions and or/computer monitors", is also present in the north portion of this warehouse.



- Eight types of containerized CRT-related materials were identified on the site, as summarized below.
  - 1675 Watkins Road Warehouse:

0	Whole CRT tubes	2,163,603 pounds
0	Complete CRT units (shrink wrapped)	1,115,288 pounds
0	Complete CRT units (in Gaylord containers)	354,591 pounds
0	Projection lamps	0 pounds
0	CRT crushed glass	113,750,757 pounds
0	Scrap plastic	15,120 pounds
0	Scrap metal with glass	324,648 pounds
0	CRT panel glass with metal bands	175,273 pounds

Estimated total weight (1675 warehouse) ..... 117,899,280 pounds

This analysis was summarized as follows:

0	Non-processed CRTs	
0	CRT crushed glass	113,750,757 pounds
0	Recyclable plastic, glass, and steel	515,041 pounds

1655 Watkins Road Warehouse

0	Whole CRT tubes	6,576,765 pounds
0	Complete CRT units (shrink wrapped)	841,582 pounds
0	Complete CRT units (in Gaylord containers)	2,648,869 pounds
0	Projection lamps	185,087 pounds
0	CRT crushed glass	0 pounds
0	Scrap plastic	19,440 pounds
0	Scrap metal with glass	1,944 pounds
0	CRT panel glass with metal bands	14,406 pounds

Estimated total weight (1655 warehouse) ..... 10,288,093 pounds



This analysis was summarized as follows:

0	Non-processed CRTs	10,252,303 pounds

- CRT crushed glass .....0 pounds
   Recyclable plastic, glass, and steel ......35,790 pounds
- Atwell estimated that the 1675 and 1655 warehouses contained approximately 128,187,373 pounds (64,093 tons) of CRT-related material.
- Based on this analysis, and after discussion with vendors, Atwell estimated the cost to remove and recycle or dispose (landfill) containerized CRT-related materials at approximately \$12,480,000. An additional approximate \$415,000 was estimated to decontaminate lead-dust from the 1675 and 1655 warehouses.
- Atwell also observed that: "Costs, however, may be significantly higher and depend upon the material quantities, transportation fuel costs, and the availability of previously-identified landfills, lead smelters, or other disposal/recycling outlets to accept such high volumes of e-waste at the time the removal efforts are launched. Costs may also increase depending upon the extent of Ohio EPA's oversight over RCRA closure of the Site. At this time, it is not possible to project with any reasonable certainty how these and other variables will ultimately impact the bottom line."

#### 2.0 EVALUATION OF MAGNITUDE OF THREAT

As noted by Atwell, the Closed Loop portion of the 1675 and 1655 warehouses includes approximately 435,000 square feet of floor space with a combined estimated 128,187,373 pounds (64,093 tons) of containerized CRT-related materials. The CRT-related materials contain lead. CRT-related materials are stored throughout the warehouses and occupy approximately 90% of the floor space. The containers are constructed of cardboard and are deteriorating, becoming unstable, and in some cases collapsing and blocking aisle ways.

As noted by AECOM, in addition to the abundance of CRT-related materials, past Closed Loop operations have resulted in lead-containing dust coating the stored containers of CRT-related materials and warehouse surfaces. This lead-containing dust has been documented to be characteristically hazardous.

#### Pertinent Exposure Pathways

Based on current/future land use, the primary exposure pathways to lead-containing dusts are anticipated to be as summarized below:

- Personnel entering the 1675 and 1655 warehouses could be exposed to dust if they were to touch dust contaminated surfaces; further, the potential presence of airborne dusts in the warehouses are a lead inhalation hazard.
- The volume of material makes it difficult to access interior portions of the 1675 and 1655 warehouses; if a release of water were to occur inside of the warehouses, lead-containing materials could be released to the exterior of the warehouses.
- The condition of the containers makes it likely that containers could collapse in the future. If a container collapses against an exterior door, there could be a release of CRT-related materials and lead-containing dust to the exterior of the warehouses.

#### **Potential Receptors**

Work within the 1675 and 1655 warehouses poses a risk to maintenance workers, personnel, and visitors due to the potential for lead-containing dust exposure and a physical crushing hazard due to collapsing boxes. If CRT-related materials or lead-containing dust were released to the exterior of the warehouses, there are additional hazards for exposure of site visitors, workers, and ecological receptors to stormwater and sediment that could become contaminated with lead.

#### Potential Threat to Surface Water

According to Mr. Mike Koenig, formerly of Atwell, there are no surface water bodies on the 1675 and 1655 Watkins Road property. He concluded that stormwater west of the 1675 and 1655 warehouses would enter one of three stormwater catch basins west of the access road and parking areas that are west of the 1655 warehouse, and flow north to a ditch that is west of the access road and parking areas that are west of the 1675 warehouse. Mr. Koenig stated that the ditch flowed into an underground conveyance but did not know where it ultimately discharged to. Mr. Koenig stated that he has not observed any hazardous substances being released from the building.

It should be noted that during September 2013, the Ohio Environmental Protection Agency performed a complaint investigation of the Closed Loop operation at 1675 Watkins Road and identified the exterior storage of "...approximately 300 pallets of broken CRTs outside in cardboard gaylords..." and "...approximately 450 pallets of televisions..." outside and west of the warehouse. The Ohio Environmental Protection Agency's June 10, 2014 *Director's Final Findings & Orders* and *Expedited Settlement Agreement,* related to the September 2013 complaint investigation, indicated that the observed materials that had been stored outside had been moved inside the building and did not require further evaluation.

Based on the absence of surface water bodies on the 1675 and 1655 Watkins Road property, the absence of observed hazardous materials on the property, and Closed Loop's resolution of observed exterior storage activities in 2013, there does not currently appear to be a substantial threat to the public health or welfare of the United States related to stormwater or sediment at the subject property.

#### 3.0 PUBLIC HEALTH ASSESSMENT

As the CRT-related materials and lead-containing dust are currently contained within the 1675 and 1655 warehouses, and as neither AECOM nor Atwell identified evidence of these materials outside of the 1675 and 1655 warehouses, there is no need for the Agency for Toxic Substances and Disease Registry, or other agencies, to perform a public health assessment.

Report on Removal Preliminary Assessment Closed Loop Refining & Recovery Columbus, Ohio Revision 0.0 April 2020

#### 4.0 EVALUATION OF FACTORS FOR REMOVAL NECESSITY

Although the CRT-related materials and associated lead-containing dust are currently contained within the 1675 and 1655 warehouses, their presence poses a potential threat of release outside of these warehouses in keeping with the pertinent exposure pathways noted above. According to Mr. Koenig, the stored materials pose a threat to emergency responders in the event of a fire because there is limited aisle space and the boxes containing CRTs are deteriorating and collapsing, which also threatens the integrity of several bay doors. Mr. Koenig further noted that the stored materials limit access to building mechanicals, which in the event of an emergency, could increase emergency response times. In the event of a fire, Mr. Koenig stated that water used to suppress the fire would escape the 1675 and 1655 warehouses and pose a potential exposure threat to first responders and others near the subject property.

Based on this, removal of the CRT-related materials and decontamination of dust on building surfaces will provide the most protection to human health and the environment. This action will be a permanent solution by reducing the toxicity, mobility, and volume of CRT-related material and lead dust.

#### 5.0 CONCLUSION

Based on the above information, and as no other party is taking action, a non-time critical removal action to be performed by Garrison Southfield is appropriate to reduce the likelihood of human health and environmental exposure. As there is currently no exposure to CRT-related materials or lead-containing dust, and there is sufficient time for a 6-month planning period from the time the removal action is determined to be necessary to the time of initiation of the action, a non-time critical removal action is appropriate to address health threats and accelerate the 1675 and 1655 warehouses through the Comprehensive Environmental Response, Compensation, and Liability Act response process.

### **FIGURES**



(15) 1 2 5 6  $\bigcirc$ 8 9 10 (11) (12) (13) (14) (16) 3 4 Ø-B C **NEIGHBORING** D-TENANT E-E7 G-CONVEYOR PROCESSING AREA FIGURE 2 SITE LAYOUT MAP **1655 WATKINS ROAD** COLUMBUS, OHIO LEGEND REQUESTED BY: NAD 1983 STATE PLANE NB CLOSED LOOP LEASE SPACE OHIO SOUTH FEET DRAWN BY: KMB CRT - RELATED MATERIALS IN BOXES 50 100 DATE: 2/19/2019 Creative thinking. Custom solutions LOADING DOCK DOORS SCALE IN FEET PROJECT: 0888823935 800.588.7962 www.ensafe.com

DATA SOURCES: Genesis Planning and Design - 300 East Broad Street, Suite 310 - Columbus, Ohio 43215



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Appendix A

2015 AECOM Baseline Environmental Conditions and Closure Cost Evaluation

## **BASELINE ENVIRONMENTAL CONDITIONS AND CLOSURE COST EVALUATION**

## THE CLOSED LOOP INC. FACILITY 1675 & 1655 WATKINS ROAD COLUMBUS, OHIO

Prepared for:

Garrison Southfield Park LLC 1290 Avenue of the Americas, 9<sup>th</sup> Floor New York, NY 10104

December 1, 2015



1375 Euclid Avenue, Suite 600 Cleveland, Ohio 44115 Phone: (216) 622-2400 Project No. 60447615

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AECOM Technical Services, Inc. (AECOM) was retained by Garrison Southfield Park, LLC. (GSP) to complete a Baseline Environmental Conditions and Closure Cost Evaluation to assess baseline environmental conditions of the Closed Loop facilities (the Property) located at 1675 and 1655 Watkins Road, Columbus, Franklin County, Ohio. The location of the Property is shown on **Figure 1**.

#### 1.1 OBJECTIVES

The objective of this Report is to provide GSP a baseline of environmental conditions at the Property and estimates for the potential clean-up of hazardous materials in the buildings and removal of the existing inventory of electronic devices. The scope of work for this report was authorized by GSP, in accordance with the AECOM proposal and work order dated October 19, 2015.

#### 1.2 PROPERTY BACKGROUND

The Property consists of two commercial buildings constructed in 1974 which are currently leased by Closed Loop Refining and Recovery, Inc. (Closed Loop) since 2012. The 1655 Watkins Road building (Building 1655) consists of manufacturing space totaling approximately 145,000 square feet and is exclusively used for inventory storage and some dismantling activities. The main manufacturing space is located at 1675 Watkins Road (Building 1675) and consists of approximately 290,000 square feet of manufacturing and office space.

Closed Loop accepts electronic wastes including cathode ray tubes (CRTs), flat-screen displays, projection televisions, and other electronic waste for disassembly and recycling. The primary operations at the Property include mechanical dismantling of mainly CRTs at the Property. The dismantling is conducted at first by manual means to separate plastic and precious metals. The second phase of the work is the mechanical crushing of the glass components in a designated area of Building 1675. The interior of both buildings were observed to have a heavy dust residue from the activities conducted by Closed Loop. Photographs of the Property are provided in **Appendix A**.

#### 1.3 COMPLIANCE AND REGULATIONS

The Property operates under Ohio Environmental Protection Agency (EPA) identification number OHR000167718 as a small quantity generator (SQG) of D008 (lead) hazardous waste (Dimeo, 2015). Waste consisting of CRTs may fall under exclusion to the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.4(a)(22) (also known as the "CRT rule") whereby used CRTs and CRT glass being recycled that meet the requirements of the exclusion are conditionally excluded from the hazardous waste regulations. This exclusion applies to broken and intact CRTs as well as crushed glass originating from CRTs (USEPA, 2015). To be granted this exclusion, the waste, if not exported, must meet the following criteria:

• Not disposed or speculatively accumulated,



- Destined for recycling,
- Stored and processed in a building with a roof, floor and walls or placed in an container that meets the regulatory requirements, not exposed to temperatures high enough to volatize lead from CRTs,
- Labeled according to the regulatory requirements,
- Transported in a container that meets the regulatory requirements, and
- Processed only in a building with roof, floor, and walls.

A potential significant issue relative to the waste at the Property is the requirement that the waste not be speculatively accumulated. Although this is not thought to be the case, the test for speculative accumulation by the USEPA is the facility operator accumulating the CRTs and CRT glass must show that the material is potentially recyclable and has a feasible means of recycling the material. During the calendar year, the amount of material that is recycled or transferred to a different site for recycling must equal at least 75 percent of that material accumulated at the beginning of the period. According to a correspondence provided to AECOM by the Garrison Investment Group, the Ohio EPA evaluated and determined that the Property was not speculatively accumulating CRT or CRT glass during the 2013 or 2014 calendar years. AECOM does not have sufficient data to determine if Closed Loop is meeting this requirement for the 2015 calendar year. The Property is located at 1675 and 1655 Watkins Road, Columbus, Franklin County, Ohio in an industrial area southeast of Columbus (**Figure 1**).

#### 2.1 BUILDING 1655

Closed Loop occupies the southern portion of Building 1655 and is approximately 145,000 square feet (SF). It is a single story, steel-sided structure on a concrete slab. Thirteen overhead doors and the main entrance are located along the buildings west side. During the November 2015 site visits, the building contained waste electronics and consumer items stacked in one cubic yard, corrugated fiberboard (Gaylord-type) containers on wood pallets. The containers were stacked one to four containers high and occupied approximately 81% of the floor area (**Figure 2**).

A significant amount of Gaylord containers appeared to contain unprocessed CRTs. Approximately a third of the building was inaccessible due to the close proximity of adjacent containers and material dispersed on the floor. The material volume stored in Building 1655 was estimated at 15,200 cubic yards. This estimation includes an assumption that the inaccessible areas were also stacked with Gaylord containers to the same height of what was observable. There was no activity within Building 1655 during the initial site visit; however, a fork lift was placing large-screen televisions in the building during the second site visit.

#### 2.2 BUILDING 1675

Close Loop's main operations are located at 1675 Watkins Road (Building 1675). Building 1675 is entirely occupied by Closed Loop and includes offices, material storage, and glass crushing operations. The building contains approximately 290,000 SF of warehouse space and 9,590 SF of office space on two levels. A total of 37 overhead doors are located along the buildings west side.

An area of approximately 19,350 SF was enclosed in the central portion of the building for glass crushing operations. This glass crushing area had two entrance points for product movement with strip door curtains to minimize the migration of dust generated by glass crushing operations.

The Gaylord containers were stacked one to four high throughout the warehouse and occupied approximately 80% of the floor area (**Figure 3**). Approximately a third of the building was inaccessible due to the close proximity of adjacent containers. The volume of material stored in Building 1675 was estimated at 96,200 cubic yards. This estimation includes an assumption that the inaccessible areas were also stacked with Gaylord containers to the same height of what was observable.

During the initial site visit, significant activity was observed in the glass crushing area and along an aisle way leading to an overhead door at the buildings northwest corner. A manual waste separation line was also observed at the north end of the warehouse where workers dismantled picture tubes with a hammer and hand sorted components into Gaylord containers.



#### 3.1 ANALYTICAL PLAN

Data was collected in accordance with the Sampling and Analysis Plan (SAP) (AECOM, 2015). The SAP established the sample locations, Quality Assurance/Quality Control (QA/QC) parameters, the selection of potential chemicals of concern (COCs), and sample collection procedures.

#### 3.1.1 Field Quality Control

Sampling efforts included QC parameters by collecting field duplicates. One field duplicate was collected per 20 environmental samples as recommended in the SAP.

#### 3.1.2 Potential Chemicals of Concern

Based upon the operations regarding hazardous substance use and management, the potential chemicals of concern at the Property included the following eight metals: lead, cadmium, mercury, arsenic, chromium, barium, selenium, and silver.

#### 3.2 SAMPLE COLLECTION PROCEDURES

On November 9 and 12, 2015, AECOM collected dust surface samples throughout the Property buildings. Building 1655 was divided into 12 approximately 12,080 square foot sampling grids identified as locations 1 thorough 12 as shown in **Figure 4**. Building 1675 was divided to produce 14 sample grid locations of approximately 20,000 square feet each and identified as locations 1 through 14 (**Figure 5**).

#### 3.2.1 Dust Sampling – Total Metals Analysis

Samples were collected in a non-abrasive manner by utilizing a 2-inch wide paint bush and a plastic scraping tool to collect a layer of accumulated dust from the floor and horizontal surfaces. A new paint brush and plastic scraper were used for each sample to limit the potential of cross contamination. The material was placed into a 4- or 8-ounce jars, depending on the analytical suite, sealed with a Teflon<sup>TM</sup> lined lid, and labeled. A total of 21 samples (including two duplicates) were collected from the floors of Building 1655 and Building 1675 as shown on the sample location maps (**Figures 4 and 5**). Nine samples (including one duplicate) were analyzed from Building 1655 and 12 samples (including one duplicate) were analyzed from Building 1675. Each sample was placed in a glass jar immediately after collection and placed in a cooler with ice for transportation to TestAmerica Laboratories in North Canton, Ohio (TestAmerica). The samples were analyzed for total metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver) by EPA Method 6010/7471B.



#### 3.2.2 Dust Sampling – Toxicity Characteristic Leaching Procedure (TCLP)

Samples were collected utilizing the same sampling procedures as for total metals analysis. Nine samples (four from Building 1655 and five from Building 1675) were collected and analyzed for toxicity characteristic leaching procedure (TCLP) for lead, cadmium, mercury, arsenic, chromium, barium, selenium, and silver by EPA Method 6010/7470A.

#### 3.2.3 Airborne Mercury Sampling

The process being conducted by Closed Loop may also have generated elemental mercury that could become airborne inside the building. Therefore, the interior air space was sampled with a Jerome Model X431 for airborne mercury. The Jerome meter is a direct read instrument that provides real time airborne mercury concentrations. The Jerome Meter was carried by the field technician within the building to collect readings throughout the building.

The Certificate of Instrument Calibration is provided in **Appendix B**. The meter was regenerated prior to its operation in accordance with manufacturer's instructions.

#### 3.3 **DEVIATIONS**

Due to the high concentration of air-borne dust in Building 1675, modified Level C respiratory protection consisting of a full-face air purifying respirators (APR) with P100 particulate filters and hooded Tyvex<sup>TM</sup> coveralls were used during sampling in that building on November 9, 2015. The respiratory protection was upgraded by substituting a combined mercury vapor and P100 particulate cartridges on November 12, 2015 as explained in the Air Monitoring section. Sampling activities were completed on November 12, 2015.

Due to the presence of stacked containers and materials, several sampling grid locations were inaccessible. This resulted in a reduction of the total number of samples from 30 to 21.

Two soil samples were scheduled to be collected from gravel pits along the central east side of Building 1655; however, due to poor access to the area, these sampling locations could not be safely accessed and the samples were not collected.

#### 4.1 LABORATORY CERTIFICATION DOCUMENTATION AND DATA REVIEW

Chemical data was generated by TestAmerica in North Canton, Ohio. The laboratory is certified in accordance with OAC 3745-300-04 for the analytical data presented in this Report. **Appendix C** contains copies of the laboratory certificates and the laboratory analytical reports. Analytical parameters are shown in **Table 1**.

The analytical data were reviewed by an AECOM chemist for usability in making determinations required by these sampling activities. The data review assessed sample handling and holding times; supporting QC parameters, including blank results, laboratory control sample recoveries, MS/MSD accuracy and precision, and field duplicate precision; sample dilutions; and any nonconformances reported by the laboratory.

A number of sample results were qualified as estimated due to QC nonconformances. The samples affected and reasons for qualification are specified in the data review report, included in **Appendix C**. All data were considered useable for decision making purposes.

Several of the samples were analyzed at a dilution for at least one parameter, because of an analyte concentration above the calibration range or to minimize matrix interference. The reporting limits for these samples were adjusted accordingly. The reporting limits achieved by the laboratory were sufficiently sensitive to meet the applicable standards with the exception of nine samples for arsenic. All other results for arsenic were reported as nondetect at a reporting limit below the applicable standards. Based on the nature of the samples and lack of detections in the remaining samples, it is unlikely arsenic is a chemical of concern for the Property.

#### 4.2 ANALYTICAL RESULTS

**Table 1** summarizes the analytical results for chemicals detected at least once in the samples collected from the Property. The analytical results were compared to the Ohio Voluntary Action Program (VAP) single chemical generic direct-contact soil standards (GDCSS) for commercial/industrial land use and the Toxicity Characteristic Leaching Procedure (TCLP) Regulatory Levels.

#### 4.2.1 Total Metals Results

A total of 21 dust surface samples, including two field duplicate samples, were analyzed for RCRA metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver). Nine samples (including one duplicate) were analyzed from Building 1655 and 12 samples (including one duplicate) were analyzed from Building 1675.

All metals analyzed except arsenic were detected in Property dust samples. Barium, cadmium, lead, mercury, and silver were detected in every sample. Chromium was detected in all samples except one. Selenium was only detected in one sample. Lead exceeded the VAP GDCSS for



commercial/industrial land use (800 mg/kg) in all samples with concentrations ranging from 2,200 mg/kg to 15,000 mg/kg. All other metals results were below the VAP GDCSS.

#### 4.2.2 TCLP Results

A total of nine dust surface samples were analyzed for RCRA metals using TCLP. Four samples were analyzed from Building 1655 and five samples were analyzed from Building 1675. Barium, cadmium, chromium, and lead were detected in every sample. Mercury was detected in three samples and silver was detected in two samples. Arsenic and selenium were not detected in any samples. Lead concentrations ranged from 4.7 to 220 mg/L which exceeded the TCLP regulatory limit (5 mg/L) in all samples except DS-08-1655. All other TCLP results were below the TCLP regulatory limits.

#### 4.3 AIRBORNE MERCURY RESULTS

Seventeen airborne mercury readings were collected using the Jerome Model X431 meter. Mercury concentrations ranged from nondetect to  $0.044 \text{ mg/m}^3$  (Building 1675) which was slightly below the action level of  $0.05 \text{ mg/m}^3$  as presented in the AECOM Health and Safety Plan (HASP). The mercury action level was conservatively established as half of the Occupational Safety and Health Administration (OSHA) permissible exposure limit (PEL) (NIOSH, 2015). Airborne mercury results are shown in **Table 2**.

This Report was conducted for the Closed Loop facilities (the Property) located at 1675 and 1655 Watkins Road, Columbus, Franklin County, Ohio.

#### 5.1 SUMMARY

The Report concluded the Property buildings have been impacted by current operations. A total of 21 dust surface samples were analyzed for RCRA metals and nine dust surface samples were analyzed for RCRA metals by TCLP. Total lead exceeded the VAP GDCSS for commercial/industrial land use (800 mg/kg) in all samples with concentrations ranging from 2,200 mg/kg to 15,000 mg/kg. All other metals results were below the VAP GDCSS. TCLP lead concentrations ranged from 4.7 to 220 mg/L which exceeded the TCLP regulatory limit (5 mg/L) in all samples except DS-08-1655. Based on the TCLP exceedances, it is assumed this material will likely be classified as a hazardous material. All other TCLP results were below the TCLP regulatory limits.

#### 5.2 CLOSURE PROCEDURES AND COSTS EVALUATION

AECOM contacted several contractors to obtain costs for Property material removal, disposal, and cleanup. AECOM has compiled the following preliminary estimates. In order to obtain an accurate cost, it would be necessary to conduct a formal bidding process.

The closure and cleanup activities involve three components, (1) the removal of stored material, (2) the disposal of stored material, and (3) the decontamination of the warehouse space. A summary of the closure and cleanup costs are described in **Table 4**.

Garrison Investment Group provided AECOM with a Site Closure Plan for the 1675 Watkins Road facility which was prepared by Closed Loop Refining and Recovery, Inc. in Phoenix, Arizona dated June 30, 2015. Information presented in this report was used for comparison purposes when developing the closure and cleanup costs. According to the Closure Plan (Closed Loop, 2015), the maximum material inventory at the facility is approximately 45,000 tons.

#### 5.2.1 Removal and Disposal of Stored Material

The removal of the stored material would likely involve removing accumulated lead dust and loading the Gaylord boxes into trucks for transport to a processing facility or to an appropriate treatment, storage or disposal facility. Due to the volume of material being shipped, the processor may not be able to accommodate this material over a short period and may be necessary to transport the material to a temporary storage facility.

Preliminary estimates of material removal indicated a cost of \$642,600. This cost includes the loading and shipping of material to a Columbus, Ohio, recycler approximately 8 miles from the Property. Due to the limited rate at which this facility can accept material, a temporary storage facility may be used to store the material at a rate of \$0.35 per sf.



## **SECTION**FIVE

Material disposal costs were found to vary significantly between contractors. The most competitive rates were from a local recycler with quoted costs of \$0.14 to \$0.19 per pound for CRTs, leaded glass, and projection TVs. Based on site observations on November 9 and 12, 2015, the cost of material removal and offsite management would cost approximately \$4.49 million. A summary of estimates received from the contractors is shown in **Appendix D**.

#### 5.2.2 Building Decontamination

The presence of debris and dust within the two buildings may be remediated by either vacuuming with a high efficiency particulate air (HEPA) filter vacuum and/or a high pressure spray wash. It is assumed all loose contents (inventory, equipment, etc.) would be removed prior to building decontamination and the cleanup would only include the interior surfaces. Following cleanup, confirmation samples would be collected using either wipe tests or X-ray refraction (XRF) methods. All materials collected from the remediation would be tested and disposed of in accordance with Ohio EPA and USEPA regulatory requirements. Decontamination of the building may take approximately 2 weeks to complete.

Building decontamination costs were estimated at \$85,000 if the rinse water was determined to be non-hazardous or up to \$463,000 if the rinse water was determined to be hazardous. Based on the TCLP results for lead, it is assumed the rinse water would be classified as hazardous waste.

#### 5.3 COST LIMITATIONS

Approximately a third of the building was inaccessible due to the close proximity of adjacent containers and materials on the floor. Gaylord containers were stacked one to four high throughout the warehouse and occupied approximately 80% of the floor area. Therefore, cost calculations include an assumption that the inaccessible areas were also stacked with Gaylord containers to the same height of what was observable.

AECOM. 2015. AECOM Technical Services, Inc. <u>Sampling and Analysis Plan, Interior</u> <u>Sampling of the Closed Loop, Inc. Facility, 1675 & 1655 Watkins Road, Columbus, Ohio.</u> November 3, 2015.

Brennesholtz, M. S. (2008). Projection Displays. John Wiley & Sons.

- Closed Loop Refining and Recovery, Inc. (2015). Site Closure Plan, Closed Loop Refining and Recovery, Inc., 1675 Watkins Road, Columbus, Ohio. Phoenix, AZ: Closed Loop Refining and Recovery, Inc.
- Dimeo, D. (2015). Ohio Environmental Protection Agency Division of Solid and Hazardous Waste. November 18, 2015. (J. Berk, Interviewer).
- Florida DEP. (2015). Florida Department of Environmental Protection, Cathode Ray Tube Glass -A Recycling Challenge. Retrieved November 17, 2015, from http://www.dep.state.fl.us/Waste/categories/electronics/pages/lead.htm
- NIOSH. (2015). NIOSH Pocket Guide to Chemical Hazards. NIOSH.
- OEPA. 2014. Ohio Environmental Protection Agency. <u>Support Document for the Development</u> of Generic Numerical Standards and Risk Assessment Procedures. The Ohio Voluntary Action Program, Division of Environmental Response and Revitalization. August 2014.
- OEPA. 2015. Ohio Environmental Protection Agency correspondence. <u>Closed Loop Refining</u> and Recovery, Inc. Compliance Review, Letter of Compliance RCRA C – Hazardous Waste, <u>Franklin County, OHR 000167718, Speculative Accumulation.</u> Ohio EPA. July 27, 2015.
- Tamulonis, K. (2015). General Manager, Jones Lang LaSalle Property Management. November 16, 2015. (J. Berk, Interviewer).
- USEPA. (2015). Frequently Asked Questions: Regulation of Used Cathode Ray Tubes (CRTs) and CRT Glass. Retrieved November 16, 2015, from Waste Hazardous Waste: http://www3.epa.gov/epawaste/hazard/recycling/electron/crt-faq.htm

TABLES

#### Table 1 Analytical Data Summary - Building 1655 Closed Loop Facility Columbus, Ohio

		VAP	Building 1655										
Parameter	Units	Commercial/ Industrial GNS <sup>(1)</sup>	DS-01-1655 11/12/2015	DS-02-1655 11/12/2015	DS-07-1655 11/9/2015	DS-08-1655 11/9/2015	DUP A 11/9/2015	DS-09-1655 11/9/2015	DS-10-1655 11/9/2015	DS-11-1655 11/9/2015	DS-12-1655 11/9/2015		
Arsenic	mg/Kg	77	30 U	30 U	26 U	71 U	140 U	23 U	22 U	28 U	26 U		
Barium	mg/Kg	680,000	450	150 J	150 J	300 J	350 J	140 J	180 J	210 J	210 J		
Cadmium	mg/Kg	2,600	3.6 J	1.8 J	7.2 J	16 J	23 J	3.7 J	4.2 J	4.4 J	2.9 J		
Chromium	mg/Kg	210	170	160	40	38 J	35 J	18	43	98	78		
Lead	mg/Kg	800	13000	3300	3100	3000	2700	2500	2400	2300	2800		
Mercury	mg/Kg	3.1	0.11	0.084 J	0.081 J	0.19	0.17	0.052 J	0.098	0.14	0.092 J		
Selenium	mg/Kg	20,000	40 U	40 U	35 U	94 U	190 U	30 U	30 U	38 U	34 U		
Silver	mg/Kg	20,000	6.1 J	1.7 J	1.3 J	8.2 J	14 J	2.2 J	3.3 J	5.7 J	5.8 J		
TCLP Analysis	Units	TCLP Limits <sup>(2)</sup>											
Arsenic	mg/L	5	0.50 U	NS	NS	0.50 U	NS	NS	0.50 U	NS	0.50 U		
Barium	mg/L	100	6.0 J	NS	NS	1.8 J	NS	NS	5.1 J	NS	5.7 J		
Cadmium	mg/L	1	0.013 J	NS	NS	0.038 J	NS	NS	0.023 J	NS	0.019 J		
Chromium	mg/L	5	0.025 J	NS	NS	0.012 J	NS	NS	0.039 J	NS	0.043 J		
Lead	mg/L	5	180	NS	NS	4.7	NS	NS	92	NS	120		
Mercury	mg/L	0.2	0.0020 U	NS	NS	0.0020 U	NS	NS	0.0020 U	NS	0.0020 U		
Selenium	mg/L	1	0.25 U	NS	NS	0.25 U	NS	NS	0.25 U	NS	0.25 U		
Silver	mg/L	5	0.50 U	NS	NS	0.50 U	NS	NS	0.50 U	NS	0.50 U		
Percent Moisture	%		0.79	1.2	0.42	1.6	1	0.96	0.99	0.89	0.73		
Percent Solids	%	-	99	99	100	98	99	99	99	99	99		

U = The analyte was not detected. Value shown is the sample reporting limit.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J = Estimated concentration because the result was below the sample reporting limit.

NS = Not Sampled

Concentration exceeds the VAP Commercial/Industrial Standard or TCLP limits.

(1) Ohio Voluntary Action Program Generic Direct-Contact Soil Standards for Commercial/Industrial Land Use Categories (June 2015).

(2) Toxicity Characteristic Leaching Procedure (TCLP) Regulatory Levels.



# Table 2 Analytical Data Summary - Building 1675 Closed Loop Facility Columbus, Ohio

		VAP	Building 1675											
Parameter	Units	Commercial/ Industrial GNS <sup>(1)</sup>	DS-01-1675 11/12/2015	DUP B 11/12/2015	DS-02-1675 11/12/2015	DS-03-1675 11/9/2015	DS-04-1675 11/9/2015	DS-08-1675 11/9/2015	DS-09-1675 11/9/2015	DS-10-1675 11/12/2015	DS-11-1675 11/9/2015	DS-12-1675 11/9/2015	DS-13-1675 11/9/2015	DS-14-1675 11/9/2015
Arsenic	mg/Kg	77	230 U	260 U	270 U	100 U	260 U	64 U	120 U	66 U	26 U	260 U	66 U	150 U
Barium	mg/Kg	680,000	380 J	680 J	640 J	230 J	210 J	410 J	520 J	280 J	190 J	390 J	400 J	320 J
Cadmium	mg/Kg	2,600	37 J	48 J	52 J	16 J	25 J	15 J	23 J	5.2 J	4.9 J	33 J	14 J	30 J
Chromium	mg/Kg	210	50 J	58 J	54 J	28 J	170 U	35 J	52 J	40 J	14 J	37 J	60	84 J
Lead	mg/Kg	800	3800 J	13000 J	15000	2900	2200	8000	11000	6200	5100	5200	9100	2300
Mercury	mg/Kg	3.1	0.17	0.18	0.3	0.093 J	0.042 J	0.10 J	0.17	0.1	0.015 J	0.3	0.46	0.25
Selenium	mg/Kg	20,000	310 UJ	61 J	370 U	140 U	350 U	85 U	170 U	88 U	35 U	350 U	89 U	200 U
Silver	mg/Kg	20,000	16 J	21 J	14 J	8.7 J	22 J	9.7 J	14 J	8.4 J	2.5 J	15 J	6.7 J	15 J
TCLP Analysis	Units	TCLP Limits <sup>(2)</sup>												
Arsenic	mg/L	5	0.50 U	NS	NS	0.50 U	NS	NS	0.50 U	NS	0.50 U	NS	0.50 U	NS
Barium	mg/L	100	6.6 J	NS	NS	7.5 J	NS	NS	6.8 J	NS	7.2 J	NS	0.35 J	NS
Cadmium	mg/L	1	0.083 J	NS	NS	0.012 J	NS	NS	0.056 J	NS	0.0092 J	NS	0.088 J	NS
Chromium	mg/L	5	0.037 J	NS	NS	0.049 J	NS	NS	0.034 J	NS	0.059 J	NS	0.012 J	NS
Lead	mg/L	5	39	NS	NS	190	NS	NS	58	NS	220	NS	11	NS
Mercury	mg/L	0.2	0.0020 U	NS	NS	0.00017 J	NS	NS	0.0020 U	NS	0.000097 J	NS	0.00011 J	NS
Selenium	mg/L	1	0.25 U	NS	NS	0.25 U	NS	NS	0.25 U	NS	0.25 U	NS	0.25 U	NS
Silver	mg/L	5	0.0010 J	NS	NS	0.50 U	NS	NS	0.50 U	NS	0.50 U	NS	0.0013 J	NS
Percent Moisture	%		0.89	0.96	0.71	0.35	0.44	0.84	1.6	0.66	2.5	1.6	1.8	2
Percent Solids	%	-	99	99	99	100	100	99	98	99	97	98	98	98

U = The analyte was not detected. Value shown is the sample reporting limit.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

J = Estimated concentration because the result was below the sample reporting limit.

NS = Not Sampled

Concentration exceeds the VAP Commercial/Industrial Standard or TCLP limits.

(1) Ohio Voluntary Action Program Generic Direct-Contact Soil Standards for Commercial/Industrial Land Use Categories (June 2015).

(2) Toxicity Characteristic Leaching Procedure (TCLP) Regulatory Levels.

# Table 3 Mercury Concentrations in Ambient Air Closed Loop Facility Columbus, Ohio

Building	Sample Grid	Date	Time	Mercury Concentration (mg/m <sup>3</sup> )
1655	2	11/12/2015	10:05 AM	0.007
1655	2	11/12/2015	10:30 AM	0.025
1655	7	11/12/2015	10:00 AM	0.008
1655	8	11/9/2015	10:30 AM	<0.003
1655	10	11/9/2015	11:30 AM	<0.003
1655	10	11/12/2015	10:55 AM	0.027
1655	12	11/12/2015	9:55 AM	<0.003
1675	1	11/12/2015	2:25 PM	0.025
1675	Btw 1 & 8	11/12/2015	2:20 PM	0.023
1675	3	11/12/2015	3:05 PM	0.02
1675	3 (Conveyor)	11/12/2015	3:15 PM	0.011
1675	8	11/9/2015	3:45 PM	0.035
1675	10	11/9/2015	3:30 PM	0.044
1675	10	11/12/2015	1:50 PM	0.015
1675	11	11/12/2015	1:45 PM	0.02
1675	12	11/12/2015	1:35 PM	0.034
1675	12	11/9/2015	2:00 PM	0.027



1

#### Table 4 Waste Inventory Management Assumptions and Calculations Closed Loop Facility Columbus, Ohio

	AECOM Estimate <sup>(1)</sup>	Maximum Inventory <sup>(2)</sup>	Units	Assumptions				
Waste Inventory Management								
1. Waste Inventory								
a) Recyclable material onsite	Unknown	150	tons	Waste consisting of non-ferrous metals, baled steel, card board and wooden pallets				
b) Solid waste onsite	31,786	32,100	tons	Waste consisting of non-leaded glass and fines				
c) Maximum hazardous waste onsite	12,625	12,750	tons	Unprocessed CRTs, leaded glass and other solid waste (e.g., PPE, filters, plastic, non-CRT electronic components)				
d) Estimated total waste onsite	44,560	45,000	tons	Based on square footage calculations (Appendix D)				
2. Offsite Management of Inventory								
a) Cost per truck load to haul material offsite	\$300	\$300	\$/load	Price per truck load (EMS cost estimate) to transport to facility 8 miles away				
b) Number of loads	2,142	2,142	loads	Based on square footage calculations (Appendix D) from Novotec				
c) Offsite management unit cost for solid waste	\$2	\$2	\$/ton	Price per ton for non-leaded glass (Novotec cost estimate)				
d) Offsite management unit cost for hazardous	\$300	\$300	\$/ton	Price per ton for TVs and CRTs (Novotec cost estimate)				
e) Cost per ton to transport and treat recyclable material	\$0	\$0	\$/ton	Cost offset by inherent value of material				
3. Waste Management Calculations								
a) Cost to haul material offsite	\$642,600	\$642,600	\$					
b) Offsite management solid waste unit cost	\$63,572	\$64,200	\$					
c) Offsite management hazardous waste unit cost	\$3,787,500	\$3,825,000	\$					
Waste Inventory Management Total: \$4,493,672 \$4,531,800								
Decontamination								
1. Concrete Floor Pad & Walls Decontamination								
a) Method of decontamination	NA	NA	NA	HEPA vacuum and high pressure spray wash (one time only). Building interior only.				
b) Floor and wall area to be decontaminated (square feet)	540,000	540,000	SF	All loose contents (inventory, equipment, etc.) to be removed prior to cleanup				
c) Floor and wall area decontamination cost	\$463,000	\$463,000	Lump	Based on decontamination costs assuming hazardous waste and empty building (Precision cost estimate)				
d) Verification sample costs	\$2,556	\$2,556	Lump	Includes costs for verification samples				
Decontamination Total: \$465,556		\$465,556						
Management, Coordination, and Oversight Activities <sup>(3)</sup> : \$347,146		\$349,815						
Closure Estimate: \$5,306,374 \$5,347,171								

1) AECOMs estimate based on visual square footage as shown on Figures 2 and 3 and calculations shown in Appendix D. Solid and hazardous waste estimates based on a percentage of the maximum inventory.

2) Maximum inventory onsite (Items 1.a through 1.d) based on Closed Loop's 2015 Closure Plan estimates.

3) Activities based on 7% of the total estimated costs.



FIGURES


K:\Projects\G\Garrison Southfield Park LLC\60447615\_SiteSampl\DWGs\Figures\Fig\_1\_GLM.dwg User: james\_tilocco Nov 03, 2015 - 2:32pm



APPROX. SCALE: 1"= 60'

902'-0" 1 2 3 4 5 6  $\bigcirc$ 8 9 10  $\bigcirc$ 12 14 13 15  $\nabla$ + AGLASS B CRUSHING ROOM X C 322'-0"  $\mathbb{O}_{\setminus}$ SORTING CONVEYOR Đ + Ð + G N C2 20 21 22 23 24L 25 26 27 28L 29L 30 31L 32L 33L 34L 35L 36 37 2 3 4L 5 6 7L 8 9L 10 11L 12L 13 14 15 16L 17 18 19 - LEGEND -CLOSED LOOP LEASE AREA MATERIAL STACKED 1 HIGH OR SCATTERED + MATERIAL STACKED 2 HIGH MATERIAL STACKED 3-4 HIGH 37.5 ₹Z APPROX. SCALE: 1"= 75'





APPROX. SCALE: 1"=60'





JT

МW

60447615

**APPENDIX** A





AEC	OM <sup>°</sup>			PHOTOGRAPHIC LOG			
Client Name: Garrison Sout		LLC	Site Location: Columbus, Ohi	0	Project No. 60447615		
Photo No. 5	<b>Date:</b> 11/11/15						
Description: Building 1675 Entrance to C office	losed Loop						
Photo No. 6	<b>Date:</b> 11/11/15				and the second		
Description:							
Building 1675 northeast	facing						





## PHOTOGRAPHIC LOG

Client Name: Garrison Sout	hfield Park, I	LLC	Site Location: Columbus, Ohio	Project No. 60447615
Photo No. 9	<b>Date:</b> 11/11/15			
Description:			And the second state of th	
Building 1675				
Photo No. 10 Description: Building 1675	Date: 11/11/15			



AEC	OM <sup>.</sup>		PHOTOGRAPHIC LOG		
<b>Client Name:</b> Garrison Sout		LLC	Site Location: Columbus, Ohi		Project No. 60447615
Photo No. 13	<b>Date:</b> 11/11/15		1		1
Description: Building 1675					

**APPENDIX B** 

#### ARIZONA INSTRUMENT LLC 3375 N. Delaware St., Chandler, AZ 85225 (800) 528-7411 • (602) 470-1414 www.azic.com • customerservice@azic.com



#### **Certification of Instrument Calibration**

RMA# 2266937

Pine Environmental 92 N. Main St, Bldg 20 Windsor, NJ 08561

This is to certify that the Jerome **X431 0002** Gold Film Mercury Analyzer, Serial Number **4219**, with Sensor Number **08-9-22-X4D**, was calibrated with standard units traceable to NIST.

Calibration Status as Received:			Out of Calibr	<u>ation</u>				
		Actual		Calibrati	ion Gas	Allowable Range		
Incoming:	coming: Level 1 0.064 m RSD % 11.79		mg/m3 Hg	0.101	mg/m3 Hg	0.096 - 0.106 mg/m3 Hg <5%		
Outgoing:	Level 1 RSD % Level 2 SD	0.101 0.80	mg/m3 Hg mg/m3 Hg	0.100 0.025 mg	mg/m3 Hg ;/m3 Hg	0.095 - 0.105 mg/m3 Hg <3% 0.020 - 0.030 mg/m3 Hg <0.005 mg/m3 Hg		
	Level 3 SD		mg/m3 Hg	0.010 mg	/m3 Hg	0.005 - 0.015 mg/m3 Hg <0.005 mg/m3 Hg		

Calibration Status as Left: In Calibration

Estimated Uncertainty of Calibration System: 3.5%

Calibration Date: 22-Sep-2015

Temperature °F: 74.40

% Relative Humidity: 34.10

Recalibration Date: 21-Sep-2016

yl thadek

Date Approved: 25-Sep-2015

Title: Cheryl Hradek - Quality Control

Equipment Used:

Approved By:

 Permeation Tube:
 <u>498-45577</u>
 NIST#:
 <u>ISO12712</u>; 072958-697-060314

 Calibration Date:
 <u>22-Jan-2015</u>
 Calibration Date Due:
 <u>22-Jan-2016</u>

DynaCalibrator: M-1878 NIST#: 14-2485 Calibration Date: 19-Nov-2014 Calibration Date Due: 20-Nov-2015

Digital Multimeter: <u>89990030</u> NIST#: <u>7000660</u> Calibration Date: <u>14-Apr-2015</u> Calibration Date Due: <u>14-Apr-2016</u>

Flowmeter: <u>154482</u> NIST#: <u>150422154482\_000</u> Calibration Date: <u>22-Apr-2015</u> Calibration Date Due: <u>22-Apr-2016</u>

Calibration Procedure Used: 730-0041

Arizona Instrument certifies that the above listed instrument meets or exceeds all published specifications and has been calibrated using standards whose accuracy are traceable to the NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY within the limitations of the Institute's calibration services, or have been derived from accepted values of natural physical constraints, or have been derived by the ratio type of self-calibration techniques.

Disclaimer: Any unauthorized adjustments, removal or breaking of QC seals, or other customer modifications on your Jerome Analyzer WILL VOID this factory calibration. Because any of the above acts could affect the calibration and readings of the instrument, their certification will no longer be valid and, further, Arizona Instrument LLC WILL NOT be responsible for any liabilities created as a result of using the instrument after such adjustments, seal removal, or modifications. As long as a functional test is within range, according to the procedure outlined in the Operator's Manual, the instrument is performing correctly.

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**APPENDIX C** 



### Data Quality Review Report Closed Loop Facility Columbus, Ohio

### Data Packages: 240-57769 & 240-57899

### I. INTRODUCTION

Twenty-one dust samples were collected at the Closed Loop Facility in Columbus, Ohio, on November 9 and 12, 2015. All samples were submitted to TestAmerica in North Canton, Ohio, for analysis of the parameters listed in Table 1.

				Requested	Analyses <sup>(1)</sup>
Laboratory ID	Sample ID	Sample Date	Matrix	Metals	TCLP
240-57769-1	DS-11-1675	11/09/15	Solid	Х	Х
240-57769-2	DS-03-1675	11/09/15	Solid	Х	Х
240-57769-3	DS-13-1675	11/09/15	Solid	Х	Х
240-57769-4	DS-09-1675	11/09/15	Solid	Х	Х
240-57769-5	DS-10-1655	11/09/15	Solid	Х	Х
240-57769-6	DS-12-1655	11/09/15	Solid	Х	Х
240-57769-7	DS-08-1655	11/09/15	Solid	Х	Х
240-57769-8	DS-14-1675	11/09/15	Solid	Х	
240-57769-9	DS-12-1675	11/09/15	Solid	Х	
240-57769-10	DS-07-1655	11/09/15	Solid	Х	
240-57769-11	DS-04-1675	11/09/15	Solid	Х	
240-57769-12	DS-09-1655	11/09/15	Solid	Х	
240-57769-13	DUP A	11/09/15	Solid	Х	
240-57769-14	DS-08-1675	11/09/15	Solid	Х	
240-57769-15	DS-11-1655	11/09/15	Solid	Х	
240-57899-1	DS-01-1675	11/12/15	Solid	Х	Х
240-57899-2	DS-01-1655	11/12/15	Solid	Х	Х
240-57899-3	DS-02-1655	11/12/15	Solid	Х	
240-57899-4	DS-10-1675	11/12/15	Solid	Х	
240-57899-5	DS-02-1675	11/12/15	Solid	Х	
240-57899-6	DUP B	11/12/15	Solid	Х	

## Table 1Sample and Analysis Summary

(1) Method References: Metals TCLP = Total Metals by SW-846 Method 6010C/7471B

= Toxicity Characteristic Leaching Procedure Metals by SW-846 Method 6010C/7470A

Source: SW-846 = "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", USEPA, Third Edition, November 1986 and its updates. AECOM performed a standard review for data quality for all samples listed in Table 1. A standard review includes assessment of supporting quality control (QC) parameters and a review for compliance with the cited methods, but does not include reconstruction of the analytical data. The following information was reviewed:

- Report Narratives
- Chain-of-Custody and sample login documents
- AECOM sample ID and laboratory sample ID
- Sample results by sample, by analytical fraction
- Analytical methods performed
- Units of measure and detection limits
- Laboratory data qualifiers
- Date samples were digested and/or analyzed
- Laboratory Method Blank results
- Laboratory Control Sample (LCS) results
- Matrix Spike/Matrix Spike Duplicate (MS/MSD) results
- Duplicate sample results
- Surrogate recoveries (where applicable)
- Internal Standard responses (where applicable and noted in case narratives)
- Any nonconformances or analytical problems noted in the case narratives
- Electronic Data

Guidance documents for the review process included the referenced analytical methods, "USEPA Contract Laboratory Program National Functional Guidelines for Superfund Organic Methods Data Review" (July 2008), and "USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review" (October 2004).

### II. DATA REVIEW

The sections below describe the data review procedures and any findings identified during the review process. Unless otherwise noted, the acceptance criteria described in each section were met for each sample, and no qualifications were required. The qualifier flags used are as follows:

- **U** = The analyte was analyzed for, but was not detected. Value shown is the sample reporting limit.
- J = Estimated concentration because the result was below the sample reporting limit or quality control criteria were not met.
- **UJ** = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

### A. Sample Receipt and Handling

The Chain of Custody and sample receiving documents are reviewed for correct sample identifications, preservatives, temperatures, dates, signatures, and condition of the containers and custody seals upon receipt. Lack of proper preservation can result in qualification or rejection of data, depending on the specific parameters and severity of the exceedance. Other discrepancies or deficiencies may require contacting the laboratory for additional information and are assessed in accordance with the guidance documents on a case-by-case basis.

 All samples were received intact at the laboratory. The cooler temperatures at the time of receipt were 0.4°C and 4.7°C, within SW-846 preservation criteria (SW-846 preservation guidelines require that samples be maintained at ≤6°C). No discrepancies were noted on the login documents.

### **B. Holding Times**

The laboratory report is reviewed to determine if analyses were performed within the methodrequired holding times.

 The analyses performed on the samples under review were in compliance with method holding time criteria.

### C. Blanks

Blank samples can include laboratory method blanks, instrument blanks, equipment blanks, and trip blanks. Blanks are evaluated to determine whether conditions exist resulting in reported sample concentrations that are not related to site contamination (i.e., if samples are contaminated from an external source). Contamination introduced from an external source is demonstrated when an analyte is detected in a blank, and the concentration in an associated sample is not significantly higher (less than five times for most analytes or less than ten times for common laboratory contaminants).

- Arsenic was detected in the TCLP method blank in both data packages. The concentrations
  in the associated samples were less than five times the concentration in the method blank;
  therefore, the associated samples were qualified as nondetect ("U") at the reporting limit.
- Barium, chromium, and/or lead were detected in the TCLP method blank in one or both data packages. The concentrations in the associated samples were greater than five times the concentration in the method blank; therefore, no qualifications were necessary.
- Lead and/or chromium were detected in the total metals method blank in one or both data packages. The concentrations in the associated samples were greater than five times the concentration in the method blank; therefore, no qualifications were necessary.

### D. Laboratory Control Samples

A Laboratory Control Sample (LCS) is a "contaminant-free matrix" spiked with a known concentration of all analytes of interest or a representative subset of the target analytes. The LCS is carried through the complete sample preparation and the analytical procedures and thereby provides information on the method's performance. Percent recoveries are monitored to provide a

continuous measure of each method's accuracy. The LCS recoveries are compared with established method performance criteria to determine data acceptability.

• All LCS recoveries were within the laboratory's QC acceptance criteria.

### E. Matrix Spike/Matrix Spike Duplicate Samples

An aliquot of the matrix (i.e., a groundwater sample) is spiked with a known concentration of representative analytes of interest to obtain Matrix Spike/Matrix Spike Duplicate (MS/MSD) samples. The MS/MSD samples are subjected to the entire preparation and analytical procedure in order to assess matrix effects on the method, as well as to evaluate instrument performance. Accuracy and precision for the matrix are determined by calculating the percent recovery and the relative percent difference (RPD) of the two spiked samples.

MS/MSD analyses were not performed during this sampling event.

### F. Duplicate/Replicate Samples

Duplicate or replicate samples are analyzed to monitor and estimate the precision of data generated. Field duplicate results also serve as an indicator of sample representativeness and data reproducibility. If significant differences between analyses are identified, associated data are qualified as estimated.

 Samples DS-08-1655 and DUP-A and DS-01-1675 and DUP-B were collected as field duplicates. The field duplicate results for samples DS-01-1675 and DUP-B for barium, lead, and selenium did not meet project acceptance criteria for precision. The results were qualified as estimated ("J"/"UJ"). All other results met the project acceptance criteria for precision.

### III. DATA USABILITY

Based on the findings of this data quality review, the analytical data are considered usable for supporting project objectives.

The final data set, with qualifiers, is presented in Table 2.

#### Table 2 Analytical Data Summary Closed Loop Facility Columbus, Ohio

		Building 1655								
Parameter	Units	DS-01-1655 11/12/2015	DS-02-1655 11/12/2015	DS-07-1655 11/9/2015	DS-08-1655 11/9/2015	DUP A 11/9/2015	DS-09-1655 11/9/2015	DS-10-1655 11/9/2015	DS-11-1655 11/9/2015	DS-12-1655 11/9/2015
Arsenic	mg/Kg	30 U	30 U	26 U	71 U	140 U	23 U	22 U	28 U	26 U
Barium	mg/Kg	450	150 J	150 J	300 J	350 J	140 J	180 J	210 J	210 J
Cadmium	mg/Kg	3.6 J	1.8 J	7.2 J	16 J	23 J	3.7 J	4.2 J	4.4 J	2.9 J
Chromium	mg/Kg	170	160	40	38 J	35 J	18	43	98	78
Lead	mg/Kg	13000	3300	3100	3000	2700	2500	2400	2300	2800
Mercury	mg/Kg	0.11	0.084 J	0.081 J	0.19	0.17	0.052 J	0.098	0.14	0.092 J
Selenium	mg/Kg	40 U	40 U	35 U	94 U	190 U	30 U	30 U	38 U	34 U
Silver	mg/Kg	6.1 J	1.7 J	1.3 J	8.2 J	14 J	2.2 J	3.3 J	5.7 J	5.8 J
TCLP Analysis	Units									
Arsenic	mg/L	0.50 U	NS	NS	0.50 U	NS	NS	0.50 U	NS	0.50 U
Barium	mg/L	6.0 J	NS	NS	1.8 J	NS	NS	5.1 J	NS	5.7 J
Cadmium	mg/L	0.013 J	NS	NS	0.038 J	NS	NS	0.023 J	NS	0.019 J
Chromium	mg/L	0.025 J	NS	NS	0.012 J	NS	NS	0.039 J	NS	0.043 J
Lead	mg/L	180	NS	NS	4.7	NS	NS	92	NS	120
Mercury	mg/L	0.0020 U	NS	NS	0.0020 U	NS	NS	0.0020 U	NS	0.0020 U
Selenium	mg/L	0.25 U	NS	NS	0.25 U	NS	NS	0.25 U	NS	0.25 U
Silver	mg/L	0.50 U	NS	NS	0.50 U	NS	NS	0.50 U	NS	0.50 U
Percent Moisture	%	0.79	1.2	0.42	1.6	1	0.96	0.99	0.89	0.73
Percent Solids	%	99	99	100	98	99	99	99	99	99

U = The analyte was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

NS = Not Sampled



#### Table 2 **Analytical Data Summary Closed Loop Facility** Columbus, Ohio

								Building 1675					
Parameter	Units	DS-01-1675 11/12/2015	DUP B 11/12/2015	DS-02-1675 11/12/2015	DS-03-1675 11/9/2015	DS-04-1675 11/9/2015	DS-08-1675 11/9/2015	DS-09-1675 11/9/2015	DS-10-1675 11/12/2015	DS-11-1675 11/9/2015	DS-12-1675 11/9/2015	DS-13-1675 11/9/2015	DS-14-1675 11/9/2015
Arsenic	mg/Kg	230 U	260 U	270 U	100 U	260 U	64 U	120 U	66 U	26 U	260 U	66 U	150 U
Barium	mg/Kg	380 J	680 J	640 J	230 J	210 J	410 J	520 J	280 J	190 J	390 J	400 J	320 J
Cadmium	mg/Kg	37 J	48 J	52 J	16 J	25 J	15 J	23 J	5.2 J	4.9 J	33 J	14 J	30 J
Chromium	mg/Kg	50 J	58 J	54 J	28 J	170 U	35 J	52 J	40 J	14 J	37 J	60	84 J
Lead	mg/Kg	3800 J	13000 J	15000	2900	2200	8000	11000	6200	5100	5200	9100	2300
Mercury	mg/Kg	0.17	0.18	0.3	0.093 J	0.042 J	0.10 J	0.17	0.1	0.015 J	0.3	0.46	0.25
Selenium	mg/Kg	310 UJ	61 J	370 U	140 U	350 U	85 U	170 U	88 U	35 U	350 U	89 U	200 U
Silver	mg/Kg	16 J	21 J	14 J	8.7 J	22 J	9.7 J	14 J	8.4 J	2.5 J	15 J	6.7 J	15 J
TCLP Analysis	Units												
Arsenic	mg/L	0.50 U	NS	NS	0.50 U	NS	NS	0.50 U	NS	0.50 U	NS	0.50 U	NS
Barium	mg/L	6.6 J	NS	NS	7.5 J	NS	NS	6.8 J	NS	7.2 J	NS	0.35 J	NS
Cadmium	mg/L	0.083 J	NS	NS	0.012 J	NS	NS	0.056 J	NS	0.0092 J	NS	0.088 J	NS
Chromium	mg/L	0.037 J	NS	NS	0.049 J	NS	NS	0.034 J	NS	0.059 J	NS	0.012 J	NS
Lead	mg/L	39	NS	NS	190	NS	NS	58	NS	220	NS	11	NS
Mercury	mg/L	0.0020 U	NS	NS	0.00017 J	NS	NS	0.0020 U	NS	0.000097 J	NS	0.00011 J	NS
Selenium	mg/L	0.25 U	NS	NS	0.25 U	NS	NS	0.25 U	NS	0.25 U	NS	0.25 U	NS
Silver	mg/L	0.0010 J	NS	NS	0.50 U	NS	NS	0.50 U	NS	0.50 U	NS	0.0013 J	NS
Percent Moisture	%	0.89	0.96	0.71	0.35	0.44	0.84	1.6	0.66	2.5	1.6	1.8	2
Percent Solids	%	99	99	99	100	100	99	98	99	97	98	98	98

U = The analyte was not detected. Value shown is the sample reporting limit.

J = Estimated concentration because the result was below the sample reporting limit.

UJ = The analyte was not detected at or above the sample reporting limit. However, the reporting limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

NS = Not Sampled





THE LEADER IN ENVIRONMENTAL TESTING

# **ANALYTICAL REPORT**

### TestAmerica Laboratories, Inc.

TestAmerica Canton 4101 Shuffel Street NW North Canton, OH 44720 Tel: (330)497-9396

### TestAmerica Job ID: 240-57899-1

TestAmerica SDG: Garrison Southfield Park, LLC Client Project/Site: Closed Loop

### For:

URS Corporation 1375 Euclid Avenue Suite 600 Cleveland, Ohio 44115

Attn: Seda Ergun

Authorized for release by: 11/18/2015 5:05:07 PM Mark Loeb, Project Manager II

(330)966-9387 mark.loeb@testamericainc.com

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.

LINKS **Review your project** results through Total Access Have a Question? Ask-The Expert Visit us at: www.testamericainc.com

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### **Qualifiers**

### .

Metals		
Qualifier	Qualifier Description	
U	Indicates the analyte was analyzed for but not detected.	5
В	Compound was found in the blank and sample.	Ð
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.	
General C	hemistry	

#### General Chemistry

Qualifier	Qualifier Description
F3	Duplicate RPD exceeds the control limit

### Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.	9
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis	
%R	Percent Recovery	
CFL	Contains Free Liquid	
CNF	Contains no Free Liquid	
DER	Duplicate error ratio (normalized absolute difference)	
Dil Fac	Dilution Factor	
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample	
DLC	Decision level concentration	13
MDA	Minimum detectable activity	
EDL	Estimated Detection Limit	
MDC	Minimum detectable concentration	
MDL	Method Detection Limit	
ML	Minimum Level (Dioxin)	
NC	Not Calculated	
ND	Not detected at the reporting limit (or MDL or EDL if shown)	
PQL	Practical Quantitation Limit	
QC	Quality Control	
RER	Relative error ratio	
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)	

### TestAmerica Job ID: 240-57899-1 SDG: Garrison Southfield Park, LLC

### Job ID: 240-57899-1

#### Laboratory: TestAmerica Canton

Narrative

### **CASE NARRATIVE**

### **Client: URS Corporation**

**Project: Closed Loop** 

### Report Number: 240-57899-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

#### **RECEIPT**

The samples were received on 11/13/2015 2:34 PM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.4° C.

#### TCLP METALS (ICP)

Samples DS-01-1675 (240-57899-1) and DS-01-1655 (240-57899-2) were analyzed for TCLP metals (ICP) in accordance with EPA SW-846 Methods 1311/6010C. The samples were leached on 11/16/2015, prepared on 11/17/2015 and analyzed on 11/18/2015.

Barium and Lead were detected in method blank MB 240-207131/2-A at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Arsenic, Barium, Chromium and Lead were detected in method blank LB 240-207033/1-B at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

Samples DS-01-1675 (240-57899-1)[5X] and DS-01-1655 (240-57899-2)[100X] required dilution prior to analysis. The reporting limits have been adjusted accordingly.

TestAmerica Job ID: 240-57899-1 SDG: Garrison Southfield Park, LLC

### Job ID: 240-57899-1 (Continued)

### Laboratory: TestAmerica Canton (Continued)

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

#### TOTAL METALS (ICP)

Samples DS-01-1675 (240-57899-1), DS-01-1655 (240-57899-2), DS-02-1655 (240-57899-3), DS-10-1675 (240-57899-4), DS-02-1675 (240-57899-5) and DUP B (240-57899-6) were analyzed for total metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 11/17/2015 and analyzed on 11/18/2015.

Chromium was detected in method blank MB 240-207146/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

The following samples was diluted due to the nature of the sample matrix: DS-01-1675 (240-57899-1)[200X], DS-01-1655 (240-57899-2) [20X], DS-02-1655 (240-57899-3)[20X], DS-10-1675 (240-57899-4)[50X], DS-02-1675 (240-57899-5)[200X] and DUP B (240-57899-6) [200X]. 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.

#### **TCLP MERCURY**

Samples DS-01-1675 (240-57899-1) and DS-01-1655 (240-57899-2) were analyzed for TCLP mercury in accordance with EPA SW-846 Methods 1311/7470A. The samples were leached on 11/16/2015, prepared on 11/17/2015 and analyzed on 11/18/2015.

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

#### MERCURY

Samples DS-01-1675 (240-57899-1), DS-01-1655 (240-57899-2), DS-02-1655 (240-57899-3), DS-10-1675 (240-57899-4), DS-02-1675 (240-57899-5) and DUP B (240-57899-6) were analyzed for mercury in accordance with EPA SW-846 Method 7471B. The samples were prepared on 11/17/2015 and analyzed on 11/18/2015.

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

#### PERCENT SOLIDS

Samples DS-01-1675 (240-57899-1), DS-01-1655 (240-57899-2), DS-02-1655 (240-57899-3), DS-10-1675 (240-57899-4), DS-02-1675 (240-57899-5) and DUP B (240-57899-6) were analyzed for percent solids in accordance with EPA Method 160.3 MOD. The samples were analyzed on 11/13/2015.

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

### **Method Summary**

### Client: URS Corporation Project/Site: Closed Loop

TestAmerica Job ID: 240-57899-1 SDG: Garrison Southfield Park, LLC

Method	Method Description	Protocol	Laboratory
6010C	Metals (ICP)	SW846	TAL CAN
7470A	Mercury (CVAA)	SW846	TAL CAN
7471B	Mercury (CVAA)	SW846	TAL CAN
Moisture	Percent Moisture	EPA	TAL CAN

#### 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 CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

### Sample Summary

Client: URS Corporation Project/Site: Closed Loop TestAmerica Job ID: 240-57899-1 SDG: Garrison Southfield Park, LLC

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-57899-1	DS-01-1675	Solid	11/12/15 00:00	11/13/15 14:34
240-57899-2	DS-01-1655	Solid	11/12/15 00:00	11/13/15 14:34
240-57899-3	DS-02-1655	Solid	11/12/15 00:00	
240-57899-4	DS-10-1675	Solid	11/12/15 00:00	
240-57899-5	DS-02-1675	Solid	11/12/15 00:00	
40-57899-6	DUP B	Solid	11/12/15 00:00	11/13/15 14:34

Lab Sample ID: 240-57899-1

### Client Sample ID: DS-01-1675

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	380	J	3100	64	mg/Kg	200	¢	6010C	Total/NA
Cadmium	37	J	78	3.3	mg/Kg	200	₽	6010C	Total/NA
Chromium	50	JB	160	12	mg/Kg	200	₽	6010C	Total/NA
Lead	3800		160	3.4	mg/Kg	200	¢	6010C	Total/NA
Silver	16	J	160	9.9	mg/Kg	200	¢	6010C	Total/NA
Arsenic	0.0047	JB	0.50	0.0029	mg/L	1		6010C	TCLP
Barium	6.6	JB	10	0.0010	mg/L	1		6010C	TCLP
Cadmium	0.083	J	0.10	0.00014	mg/L	1		6010C	TCLP
Chromium	0.037	JB	0.50	0.00055	mg/L	1		6010C	TCLP
Lead	39	В	2.5	0.0095	mg/L	5		6010C	TCLP
Silver	0.0010	J	0.50	0.00092	mg/L	1		6010C	TCLP
Hg	0.17		0.10	0.014	mg/Kg	1	₽	7471B	Total/NA

### Client Sample ID: DS-01-1655

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	450		400	8.1	mg/Kg	20	☆	6010C	Total/NA
Cadmium	3.6	J	9.9	0.42	mg/Kg	20	₽	6010C	Total/NA
Chromium	170	В	20	1.5	mg/Kg	20	₽	6010C	Total/NA
Lead	13000		20	0.43	mg/Kg	20	₽	6010C	Total/NA
Silver	6.1	J	20	1.2	mg/Kg	20	₽	6010C	Total/NA
Arsenic	0.0051	JB	0.50	0.0029	mg/L	1		6010C	TCLP
Barium	6.0	JB	10	0.0010	mg/L	1		6010C	TCLP
Cadmium	0.013	J	0.10	0.00014	mg/L	1		6010C	TCLP
Chromium	0.025	JB	0.50	0.00055	mg/L	1		6010C	TCLP
Lead	180	В	50	0.19	mg/L	100		6010C	TCLP
Hg	0.11		0.11	0.016	mg/Kg	1	₽	7471B	Total/NA

### Client Sample ID: DS-02-1655

### Lab Sample ID: 240-57899-3

Lab Sample ID: 240-57899-4

Lab Sample ID: 240-57899-5

Lab Sample ID: 240-57899-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	150	J	400	8.2	mg/Kg	20	<del>ŢŢ</del>	6010C	Total/NA
Cadmium	1.8	J	10	0.42	mg/Kg	20	₽	6010C	Total/NA
Chromium	160	В	20	1.5	mg/Kg	20	₽	6010C	Total/NA
Lead	3300		20	0.44	mg/Kg	20	\$	6010C	Total/NA
Silver	1.7	J	20	1.3	mg/Kg	20	₽	6010C	Total/NA
Hg	0.084	J	0.10	0.014	mg/Kg	1	₽	7471B	Total/NA

### Client Sample ID: DS-10-1675

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	280	J	880	18	mg/Kg	50	₩	6010C	Total/NA
Cadmium	5.2	J	22	0.93	mg/Kg	50	₽	6010C	Total/NA
Chromium	40	JB	44	3.3	mg/Kg	50	₽	6010C	Total/NA
Lead	6200		44	0.97	mg/Kg	50	φ.	6010C	Total/NA
Silver	8.4	J	44	2.8	mg/Kg	50	₽	6010C	Total/NA
Hg	0.10		0.096	0.013	mg/Kg	1	₽	7471B	Total/NA

### Client Sample ID: DS-02-1675

This Detection Summary does not include radiochemical test results.

### Client Sample ID: DS-02-1675 (Continued)

### Lab Sample ID: 240-57899-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	640	J	3700	75	mg/Kg	200	<del>☆</del>	6010C	Total/NA
Cadmium	52	J	92	3.8	mg/Kg	200	₽	6010C	Total/NA
Chromium	54	JB	180	14	mg/Kg	200	¢	6010C	Total/NA
Lead	15000		180	4.0	mg/Kg	200	¢	6010C	Total/NA
Silver	14	J	180	12	mg/Kg	200	¢	6010C	Total/NA
Hg	0.30		0.089	0.012	mg/Kg	1	¢	7471B	Total/NA

### **Client Sample ID: DUP B**

### Lab Sample ID: 240-57899-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	680	J	3500	72	mg/Kg	200	₿ ↓	6010C	Total/NA
Cadmium	48	J	88	3.7	mg/Kg	200	₽	6010C	Total/NA
Chromium	58	JB	180	13	mg/Kg	200	₽	6010C	Total/NA
Lead	13000		180	3.9	mg/Kg	200	₽	6010C	Total/NA
Selenium	61	J	350	60	mg/Kg	200	₽	6010C	Total/NA
Silver	21	J	180	11	mg/Kg	200	¢	6010C	Total/NA
Hg	0.18		0.11	0.016	mg/Kg	1	¢	7471B	Total/NA

Client: URS Corporation Project/Site: Closed Loop

### TestAmerica Job ID: 240-57899-1 SDG: Garrison Southfield Park, LLC

### Client Sample ID: DS-01-1675 Date Collected: 11/12/15 00:00 Date Received: 11/13/15 14:34

### Lab Sample ID: 240-57899-1 Matrix: Solid

Method: 6010C - Metals (ICP) - Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0047	JB	0.50	0.0029	mg/L		11/17/15 10:30	11/18/15 10:24	1
Barium	6.6	JB	10	0.0010	mg/L		11/17/15 10:30	11/18/15 10:24	1
Cadmium	0.083	J	0.10	0.00014	mg/L		11/17/15 10:30	11/18/15 10:24	1
Chromium	0.037	JB	0.50	0.00055	mg/L		11/17/15 10:30	11/18/15 10:24	1
Lead	39	В	2.5	0.0095	mg/L		11/17/15 10:30	11/18/15 10:58	5
Selenium	0.25	U	0.25	0.0040	mg/L		11/17/15 10:30	11/18/15 10:24	1
Silver	0.0010	J	0.50	0.00092	mg/L		11/17/15 10:30	11/18/15 10:24	1
Method: 7470A - Mercury (CVA	A) - TCLP								
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020	0.000090	mg/L		11/17/15 14:00	11/18/15 08:41	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	99		0.10	0.10	%			11/13/15 16:36	1
Percent Moisture	0.89		0.10	0.10	%			11/13/15 16:36	1

Client: URS Corporation Project/Site: Closed Loop

### Client Sample ID: DS-01-1675 Date Collected: 11/12/15 00:00

Date Received: 11/13/15 14:34

### Lab Sample ID: 240-57899-1 Matrix: Solid

Percent Solids: 99.1

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Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	230	U	230	64	mg/Kg	<u>\$</u>	11/17/15 11:10	11/18/15 11:14	200
Barium	380	J	3100	64	mg/Kg	¢	11/17/15 11:10	11/18/15 11:14	200
Cadmium	37	J	78	3.3	mg/Kg	¢	11/17/15 11:10	11/18/15 11:14	200
Chromium	50	JB	160	12	mg/Kg	¢	11/17/15 11:10	11/18/15 11:14	200
Lead	3800		160	3.4	mg/Kg	¢	11/17/15 11:10	11/18/15 11:14	200
Selenium	310	U	310	53	mg/Kg	₽	11/17/15 11:10	11/18/15 11:14	200
Silver	16	J	160	9.9	mg/Kg	¢	11/17/15 11:10	11/18/15 11:14	200
Method: 7471B - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	0.17		0.10	0.014	mg/Kg	<u> </u>	11/17/15 15:55	11/18/15 11:50	1

Client: URS Corporation Project/Site: Closed Loop TestAmerica Job ID: 240-57899-1 SDG: Garrison Southfield Park, LLC

### Client Sample ID: DS-01-1655 Date Collected: 11/12/15 00:00 Date Received: 11/13/15 14:34

### Lab Sample ID: 240-57899-2 Matrix: Solid

Method: 6010C - Metals (ICP) - T	CLP								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0051	JB	0.50	0.0029	mg/L		11/17/15 10:30	11/18/15 10:28	1
Barium	6.0	JB	10	0.0010	mg/L		11/17/15 10:30	11/18/15 10:28	1
Cadmium	0.013	J	0.10	0.00014	mg/L		11/17/15 10:30	11/18/15 10:28	1
Chromium	0.025	JB	0.50	0.00055	mg/L		11/17/15 10:30	11/18/15 10:28	1
Lead	180	В	50	0.19	mg/L		11/17/15 10:30	11/18/15 11:10	100
Selenium	0.25	U	0.25	0.0040	mg/L		11/17/15 10:30	11/18/15 10:28	1
Silver	0.50	U	0.50	0.00092	mg/L		11/17/15 10:30	11/18/15 10:28	1
Method: 7470A - Mercury (CVAA	) - TCLP								
Analyte	•	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020	0.000090	mg/L		11/17/15 14:00	11/18/15 08:43	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	99		0.10	0.10	%			11/13/15 16:36	1
Percent Moisture	0.79		0.10	0.10	%			11/13/15 16:36	1

Client: URS Corporation Project/Site: Closed Loop

### Client Sample ID: DS-01-1655 Date Collected: 11/12/15 00:00

Date Received: 11/13/15 14:34

### TestAmerica Job ID: 240-57899-1 SDG: Garrison Southfield Park, LLC

### Lab Sample ID: 240-57899-2 Matrix: Solid

Percent Solids: 99.2

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Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	30	U	30	8.1	mg/Kg	<del>\\\\</del>	11/17/15 11:10	11/18/15 10:37	20
Barium	450		400	8.1	mg/Kg	¢	11/17/15 11:10	11/18/15 10:37	20
Cadmium	3.6	J	9.9	0.42	mg/Kg	¢	11/17/15 11:10	11/18/15 10:37	20
Chromium	170	В	20	1.5	mg/Kg	¢	11/17/15 11:10	11/18/15 10:37	20
Lead	13000		20	0.43	mg/Kg	¢	11/17/15 11:10	11/18/15 10:37	20
Selenium	40	U	40	6.7	mg/Kg	¢	11/17/15 11:10	11/18/15 10:37	20
Silver	6.1	J	20	1.2	mg/Kg	¢	11/17/15 11:10	11/18/15 10:37	20
Method: 7471B - Mercury (CVAA	)								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	0.11		0.11	0.016	mg/Kg	₩ <del> </del> <del> </del>	11/17/15 15:55	11/18/15 11:52	1

Client: URS Corporation Project/Site: Closed Loop

### TestAmerica Job ID: 240-57899-1 SDG: Garrison Southfield Park, LLC

### Client Sample ID: DS-02-1655 Date Collected: 11/12/15 00:00

Date Received: 11/13/15 14:34

### Lab Sample ID: 240-57899-3 Matrix: Solid

Percent Solids: 98.8

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Method: 6010C - Metals (IC		Qualifian		MDI	11	-	Duo u o uo d	A a h a d	
Analyte		Qualifier	RL	MDL		D	Prepared	Analyzed	Dil Fac
Arsenic	30	U	30	8.2	mg/Kg	¢	11/17/15 11:10	11/18/15 10:41	20
Barium	150	J	400	8.2	mg/Kg	¢	11/17/15 11:10	11/18/15 10:41	20
Cadmium	1.8	J	10	0.42	mg/Kg	₽	11/17/15 11:10	11/18/15 10:41	20
Chromium	160	В	20	1.5	mg/Kg	¢	11/17/15 11:10	11/18/15 10:41	20
Lead	3300		20	0.44	mg/Kg	₽	11/17/15 11:10	11/18/15 10:41	20
Selenium	40	U	40	6.8	mg/Kg	☆	11/17/15 11:10	11/18/15 10:41	20
Silver	1.7	J	20	1.3	mg/Kg	¢	11/17/15 11:10	11/18/15 10:41	20
Method: 7471B - Mercury (									
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	0.084	J	0.10	0.014	mg/Kg	<u>Å</u>	11/17/15 15:55	11/18/15 11:54	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	99		0.10	0.10	%			11/13/15 16:36	1
Percent Moisture	1.2		0.10	0.10	%			11/13/15 16:36	1
Client: URS Corporation Project/Site: Closed Loop

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#### TestAmerica Job ID: 240-57899-1 SDG: Garrison Southfield Park, LLC

#### Client Sample ID: DS-10-1675 Date Collected: 11/12/15 00:00

Date Received: 11/13/15 14:34

#### Lab Sample ID: 240-57899-4 Matrix: Solid

Percent Solids: 99.3

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Method: 6010C - Metals (ICP)						_	_		
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	66	U	66	18	mg/Kg	₩	11/17/15 11:10	11/18/15 10:45	50
Barium	280	J	880	18	mg/Kg	¢	11/17/15 11:10	11/18/15 10:45	50
Cadmium	5.2	J	22	0.93	mg/Kg	₽	11/17/15 11:10	11/18/15 10:45	50
Chromium	40	JB	44	3.3	mg/Kg	¢	11/17/15 11:10	11/18/15 10:45	50
Lead	6200		44	0.97	mg/Kg	₽	11/17/15 11:10	11/18/15 10:45	50
Selenium	88	U	88	15	mg/Kg	☆	11/17/15 11:10	11/18/15 10:45	50
Silver	8.4	J	44	2.8	mg/Kg	¢	11/17/15 11:10	11/18/15 10:45	50
Method: 7471B - Mercury (C)	<b>/AA</b> )								
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	0.10		0.096	0.013	mg/Kg		11/17/15 15:55	11/18/15 11:57	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	99		0.10	0.10	%			11/13/15 16:36	1
Percent Moisture	0.66		0.10	0.10	%			11/13/15 16:36	1

Client: URS Corporation Project/Site: Closed Loop

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#### TestAmerica Job ID: 240-57899-1 SDG: Garrison Southfield Park, LLC

#### Client Sample ID: DS-02-1675 Date Collected: 11/12/15 00:00

Date Received: 11/13/15 14:34

#### Lab Sample ID: 240-57899-5 Matrix: Solid

Percent Solids: 99.3

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Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	270	U	270	75	mg/Kg	\ ☆	11/17/15 11:10	11/18/15 11:18	200
Barium	640	J	3700	75	mg/Kg	₽	11/17/15 11:10	11/18/15 11:18	200
Cadmium	52	J	92	3.8	mg/Kg	₽	11/17/15 11:10	11/18/15 11:18	200
Chromium	54	JB	180	14	mg/Kg	¢	11/17/15 11:10	11/18/15 11:18	200
Lead	15000		180	4.0	mg/Kg	₽	11/17/15 11:10	11/18/15 11:18	200
Selenium	370	U	370	62	mg/Kg	₽	11/17/15 11:10	11/18/15 11:18	200
Silver	14	J	180	12	mg/Kg	¢	11/17/15 11:10	11/18/15 11:18	200
Method: 7471B - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Нд	0.30		0.089	0.012	mg/Kg	- <del>\</del>	11/17/15 15:55	11/18/15 11:59	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	99		0.10	0.10	%			11/13/15 16:36	1
Percent Moisture	0.71		0.10	0.10	%			11/13/15 16:36	1

Client: URS Corporation Project/Site: Closed Loop TestAmerica Job ID: 240-57899-1 SDG: Garrison Southfield Park, LLC

# Client Sample ID: DUP B Date Collected: 11/12/15 00:00

Date Received: 11/13/15 14:34

#### Lab Sample ID: 240-57899-6 Matrix: Solid

Percent Solids: 99.0

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Method: 6010C - Metals (ICP)	Desult	Qualifian	ы	MDI	11	<b>_</b>	Drenered	Analyzad	
Analyte		Qualifier	RL	MDL		D	Prepared	Analyzed	Dil Fac
Arsenic	260	U	260	72	mg/Kg	¢	11/17/15 11:10	11/18/15 11:22	200
Barium	680	J	3500	72	mg/Kg	¢	11/17/15 11:10	11/18/15 11:22	200
Cadmium	48	J	88	3.7	mg/Kg	¢	11/17/15 11:10	11/18/15 11:22	200
Chromium	58	JB	180	13	mg/Kg	¢	11/17/15 11:10	11/18/15 11:22	200
Lead	13000		180	3.9	mg/Kg	¢	11/17/15 11:10	11/18/15 11:22	200
Selenium	61	J	350	60	mg/Kg	₽	11/17/15 11:10	11/18/15 11:22	200
Silver	21	J	180	11	mg/Kg	¢.	11/17/15 11:10	11/18/15 11:22	200
Method: 7471B - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Нд	0.18		0.11	0.016	mg/Kg	<u>\$</u>	11/17/15 15:55	11/18/15 12:03	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	99		0.10	0.10	%			11/13/15 16:36	1
Percent Moisture	0.96		0.10	0.10	%			11/13/15 16:36	1

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

#### Lab Sample ID: MB 240-207131/2-A Matrix: Solid Analysis Batch: 207392

Analysis Batch: 207392								Prep Batch:	207131
-	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.50	U	0.50	0.0029	mg/L		11/17/15 10:30	11/18/15 10:08	1
Barium	0.00105	J	10	0.0010	mg/L		11/17/15 10:30	11/18/15 10:08	1
Cadmium	0.10	U	0.10	0.00014	mg/L		11/17/15 10:30	11/18/15 10:08	1
Chromium	0.50	U	0.50	0.00055	mg/L		11/17/15 10:30	11/18/15 10:08	1
Lead	0.00416	J	0.50	0.0019	mg/L		11/17/15 10:30	11/18/15 10:08	1
Selenium	0.25	U	0.25	0.0040	mg/L		11/17/15 10:30	11/18/15 10:08	1
Silver	0.50	U	0.50	0.00092	mg/L		11/17/15 10:30	11/18/15 10:08	1

#### Lab Sample ID: LCS 240-207131/3-A Matrix: Solid

Analysis Batch: 207392

#### Prep Batch: 207131 LCS LCS Spike %Rec. Added Limits Analyte **Result Qualifier** Unit D %Rec 2.00 Arsenic 2.09 mg/L 105 50 - 150 Barium 2.00 1.93 J 50 - 150 mg/L 96 Cadmium 0.0500 0.0501 J mg/L 100 50 - 150 Chromium 0.200 0.197 J mg/L 99 50 - 150 50 - 150 Lead 0.500 0.454 J mg/L 91 Selenium 2.00 2.17 mg/L 108 50 - 150 Silver 0.0500 0.0554 J 111 50 - 150 mg/L

#### Lab Sample ID: MB 240-207146/1-A Matrix: Solid Analysis Batch: 207392

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.5	U	1.5	0.41	mg/Kg		11/17/15 11:10	11/18/15 09:28	1
Barium	20	U	20	0.41	mg/Kg		11/17/15 11:10	11/18/15 09:28	1
Cadmium	0.50	U	0.50	0.021	mg/Kg		11/17/15 11:10	11/18/15 09:28	1
Chromium	0.0812	J	1.0	0.075	mg/Kg		11/17/15 11:10	11/18/15 09:28	1
Lead	1.0	U	1.0	0.022	mg/Kg		11/17/15 11:10	11/18/15 09:28	1
Selenium	2.0	U	2.0	0.34	mg/Kg		11/17/15 11:10	11/18/15 09:28	1
Silver	1.0	U	1.0	0.063	mg/Kg		11/17/15 11:10	11/18/15 09:28	1

#### Lab Sample ID: LCS 240-207146/2-A **Matrix: Solid** Analysis Batch: 207392

# Prep Type: Total/NA Prep Batch: 207146

**Client Sample ID: Method Blank** 

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 207146

	Spike	LCS	LCS				%Rec.	
Analyte	Added	Result	Qualifier	Unit	D	%Rec	Limits	
Arsenic	200	191		mg/Kg		95	80 - 120	
Barium	200	186		mg/Kg		93	80 - 120	
Cadmium	5.00	4.74		mg/Kg		95	80 - 120	
Chromium	20.0	19.3		mg/Kg		96	80 - 120	
Lead	50.0	46.1		mg/Kg		92	80 - 120	
Selenium	200	192		mg/Kg		96	80 - 120	
Silver	5.00	5.14		mg/Kg		103	80 - 120	

**TestAmerica** Canton

TestAmerica Job ID: 240-57899-1 SDG: Garrison Southfield Park, LLC

**Client Sample ID: Lab Control Sample** 

**Client Sample ID: Method Blank** 

Prep Type: Total/NA

Prep Type: Total/NA

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

Lab Sample ID: LB 240-20703 Matrix: Solid								le ID: Methoo Prep Type	: TCLF
Analysis Batch: 207392		LB						Prep Batch:	20713 <sup>,</sup>
Analyte		LD Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Arsenic	0.00495	J	0.50	0.0029	mg/L		11/17/15 10:30	11/18/15 10:03	
Barium	0.00280	J	10	0.0010	mg/L		11/17/15 10:30	11/18/15 10:03	1
Cadmium	0.10	U	0.10	0.00014	mg/L		11/17/15 10:30	11/18/15 10:03	1
Chromium	0.00161	J	0.50	0.00055	mg/L		11/17/15 10:30	11/18/15 10:03	1
Lead	0.00758	J	0.50	0.0019	mg/L		11/17/15 10:30	11/18/15 10:03	1
Selenium	0.25	U	0.25	0.0040	mg/L		11/17/15 10:30	11/18/15 10:03	1
Silver	0.50	U	0.50	0.00092	mg/L		11/17/15 10:30	11/18/15 10:03	1
lethod: 7470A - Mercury	(CVAA)								
Lab Sample ID: MB 240-2071 Matrix: Solid	34/2-A							le ID: Methoo Prep Type: To	

Analysis Batch: 207339								Prep Batch:	207134
	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020	0.000090	mg/L		11/17/15 14:00	11/18/15 08:24	1
Lab Sample ID: LCS 240-207134	3-A					Client	Sample ID:	Lab Control S	Sample
Matrix: Solid								Prep Type: To	otal/NA
Analysis Batch: 207339								Prep Batch:	207134
			Spike	LCS LCS	6			%Rec.	
Analyte			Added	Result Qua	alifier	Unit	D %Rec	Limits	
Mercury			0.00500	0.00568		mg/L		80 - 120	
Lab Sample ID: LB 240-207033/1-	.c						Client Samp	ole ID: Method	Blank
Matrix: Solid								Prep Type	: TCLP
Analysis Batch: 207339								Prep Batch:	207134
-	LB	LB						•	
Analyte		Qualifian	RL	MDL	Unit	D	Bronorod	Applyzod	
Analyte	Result	Qualifier	RL RL		Unit	U	Prepared	Analyzed	Dil Fac

# Method: 7471B - Mercury (CVAA)

Lab Sample ID: MB 240-2071 Matrix: Solid Analysis Batch: 207407		МР							Clie		ole ID: Method Prep Type: To Prep Batch: 3	otal/NA
Analyte		MB Qualifier		RL	I	MDL	Unit	D	Р	repared	Analyzed	Dil Fac
Hg	0.10	U		0.10	0	.014	mg/Kg		11/1	17/15 15:55	11/18/15 11:17	1
Lab Sample ID: LCS 240-207 Matrix: Solid Analysis Batch: 207407	152/2-A							Clien	t Sa		Lab Control S Prep Type: To Prep Batch: 3	otal/NA
			Spike		LCS						%Rec.	
Analyte Hg			Added 0.833		<b>Result</b> 0.815	Qual		Unit mg/Kg	_ D	%Rec	Limits 80 - 120	

# Method: Moisture - Percent Moisture

Lab Sample ID: 240-57899-1 DU Matrix: Solid Analysis Batch: 206747					Client Sa	ample ID: I Prep Typ			
S	ample San	ample DU	DU					RPD	
Analyte F	Result Qua	ualifier Result	Qualifier	Unit	D		RPD	Limit	
Percent Solids	99	99		%			0.3	20	
Percent Moisture	0.89	0.61	F3	%			38	20	

11 12

#### Metals

#### Leach Batch: 207033

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batc
240-57899-1	DS-01-1675	TCLP	Solid	1311	
240-57899-2	DS-01-1655	TCLP	Solid	1311	
LB 240-207033/1-B	Method Blank	TCLP	Solid	1311	
LB 240-207033/1-C	Method Blank	TCLP	Solid	1311	
rep Batch: 207131					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batc
240-57899-1	DS-01-1675	TCLP	Solid	3010A	20703
240-57899-2	DS-01-1655	TCLP	Solid	3010A	20703
_B 240-207033/1-B	Method Blank	TCLP	Solid	3010A	20703
LCS 240-207131/3-A	Lab Control Sample	Total/NA	Solid	3010A	
MB 240-207131/2-A	Method Blank	Total/NA	Solid	3010A	
rep Batch: 207134					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Bato
240-57899-1		TCLP	Solid	7470A	20703
240-57899-2	DS-01-1655	TCLP	Solid	7470A	20703
LB 240-207033/1-C	Method Blank	TCLP	Solid	7470A	20703
LCS 240-207134/3-A	Lab Control Sample	Total/NA	Solid	7470A	
VIB 240-207134/2-A	Method Blank	Total/NA	Solid	7470A	
rep Batch: 207146					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Bato
240-57899-1	DS-01-1675	Total/NA	Solid	3050B	
240-57899-2	DS-01-1655	Total/NA	Solid	3050B	
240-57899-3	DS-02-1655	Total/NA	Solid	3050B	
240-57899-4	DS-10-1675	Total/NA	Solid	3050B	
240-57899-5	DS-02-1675	Total/NA	Solid	3050B	
240-57899-6	DUP B	Total/NA	Solid	3050B	
LCS 240-207146/2-A	Lab Control Sample	Total/NA	Solid	3050B	
MB 240-207146/1-A	Method Blank	Total/NA	Solid	3050B	
rep Batch: 207152					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Bate
240-57899-1	DS-01-1675	Total/NA	Solid	7471B	
240-57899-2	DS-01-1655	Total/NA	Solid	7471B	
240-57899-3	DS-02-1655	Total/NA	Solid	7471B	
240-57899-4	DS-10-1675	Total/NA	Solid	7471B	
240-57899-5	DS-02-1675	Total/NA	Solid	7471B	
240-57899-6	DUP B	Total/NA	Solid	7471B	
LCS 240-207152/2-A	Lab Control Sample	Total/NA	Solid	7471B	
MB 240-207152/1-A	Method Blank	Total/NA	Solid	7471B	
analysis Batch: 207	339				
-					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Bate

Lab Sample ID	Client Sample ID	Prep Туре	Matrix	Method Pre	ep Batch
240-57899-1	DS-01-1675	TCLP	Solid	7470A	207134
240-57899-2	DS-01-1655	TCLP	Solid	7470A	207134
LB 240-207033/1-C	Method Blank	TCLP	Solid	7470A	207134
LCS 240-207134/3-A	Lab Control Sample	Total/NA	Solid	7470A	207134
MB 240-207134/2-A	Method Blank	Total/NA	Solid	7470A	207134

# Metals (Continued)

#### Analysis Batch: 207392

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-57899-1	DS-01-1675	TCLP	Solid	6010C	207131
240-57899-1	DS-01-1675	TCLP	Solid	6010C	207131
240-57899-1	DS-01-1675	Total/NA	Solid	6010C	207146
240-57899-2	DS-01-1655	TCLP	Solid	6010C	207131
240-57899-2	DS-01-1655	TCLP	Solid	6010C	207131
240-57899-2	DS-01-1655	Total/NA	Solid	6010C	207146
240-57899-3	DS-02-1655	Total/NA	Solid	6010C	207146
240-57899-4	DS-10-1675	Total/NA	Solid	6010C	207146
240-57899-5	DS-02-1675	Total/NA	Solid	6010C	207146
240-57899-6	DUP B	Total/NA	Solid	6010C	207146
LB 240-207033/1-B	Method Blank	TCLP	Solid	6010C	207131
LCS 240-207131/3-A	Lab Control Sample	Total/NA	Solid	6010C	207131
LCS 240-207146/2-A	Lab Control Sample	Total/NA	Solid	6010C	207146
MB 240-207131/2-A	Method Blank	Total/NA	Solid	6010C	207131
MB 240-207146/1-A	Method Blank	Total/NA	Solid	6010C	207146
L					

#### Analysis Batch: 207407

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch	
240-57899-1	DS-01-1675	Total/NA	Solid	7471B	207152	
240-57899-2	DS-01-1655	Total/NA	Solid	7471B	207152	
240-57899-3	DS-02-1655	Total/NA	Solid	7471B	207152	
240-57899-4	DS-10-1675	Total/NA	Solid	7471B	207152	
240-57899-5	DS-02-1675	Total/NA	Solid	7471B	207152	
240-57899-6	DUP B	Total/NA	Solid	7471B	207152	
LCS 240-207152/2-A	Lab Control Sample	Total/NA	Solid	7471B	207152	
MB 240-207152/1-A	Method Blank	Total/NA	Solid	7471B	207152	

# **General Chemistry**

#### Analysis Batch: 206747

Lab Sample ID	Client Sample ID	Ргер Туре	Matrix	Method	Prep Batch
240-57899-1	DS-01-1675	Total/NA	Solid	Moisture	
240-57899-1 DU	DS-01-1675	Total/NA	Solid	Moisture	
240-57899-2	DS-01-1655	Total/NA	Solid	Moisture	
240-57899-3	DS-02-1655	Total/NA	Solid	Moisture	
240-57899-4	DS-10-1675	Total/NA	Solid	Moisture	
240-57899-5	DS-02-1675	Total/NA	Solid	Moisture	
240-57899-6	DUP B	Total/NA	Solid	Moisture	

TestAmerica Job ID: 240-57899-1 SDG: Garrison Southfield Park, LLC

|1 |2 |3

Lab Sample ID: 240-57899-1

# Client Sample ID: DS-01-1675 Date Collected: 11/12/15 00:00

Date Received: 11/13/15 14:34

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
TCLP	Leach	1311			207033	11/16/15 17:10	SMH	TAL CAN
TCLP	Prep	3010A			207131	11/17/15 10:30	DEE	TAL CAN
TCLP	Analysis	6010C		1	207392	11/18/15 10:24	KLC	TAL CAN
TCLP	Leach	1311			207033	11/16/15 17:10	SMH	TAL CAN
TCLP	Prep	3010A			207131	11/17/15 10:30	DEE	TAL CAN
TCLP	Analysis	6010C		5	207392	11/18/15 10:58	KLC	TAL CAN
TCLP	Leach	1311			207033	11/16/15 17:10	SMH	TAL CAN
TCLP	Prep	7470A			207134	11/17/15 14:00	DEE	TAL CAN
TCLP	Analysis	7470A		1	207339	11/18/15 08:41	WAL	TAL CAN
Total/NA	Analysis	Moisture		1	206747	11/13/15 16:36	BLW	TAL CAN

#### Client Sample ID: DS-01-1675 Date Collected: 11/12/15 00:00 Date Received: 11/13/15 14:34

Lab Sample ID: 2	240-57899-1

Matrix: Solid Percent Solids: 99.1

Matrix: Solid

5 6

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			207146	11/17/15 11:10	DEE	TAL CAN
Total/NA	Analysis	6010C		200	207392	11/18/15 11:14	KLC	TAL CAN
Total/NA	Prep	7471B			207152	11/17/15 15:55	DEE	TAL CAN
Total/NA	Analysis	7471B		1	207407	11/18/15 11:50	WAL	TAL CAN

#### Client Sample ID: DS-01-1655 Date Collected: 11/12/15 00:00 Date Received: 11/13/15 14:34

#### Lab Sample ID: 240-57899-2 Matrix: Solid

Lab Sample ID: 240-57899-2

Matrix: Solid

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
TCLP	Leach	1311			207033	11/16/15 17:10	SMH	TAL CAN
TCLP	Prep	3010A			207131	11/17/15 10:30	DEE	TAL CAN
TCLP	Analysis	6010C		1	207392	11/18/15 10:28	KLC	TAL CAN
TCLP	Leach	1311			207033	11/16/15 17:10	SMH	TAL CAN
TCLP	Prep	3010A			207131	11/17/15 10:30	DEE	TAL CAN
TCLP	Analysis	6010C		100	207392	11/18/15 11:10	KLC	TAL CAN
TCLP	Leach	1311			207033	11/16/15 17:10	SMH	TAL CAN
TCLP	Prep	7470A			207134	11/17/15 14:00	DEE	TAL CAN
TCLP	Analysis	7470A		1	207339	11/18/15 08:43	WAL	TAL CAN
Total/NA	Analysis	Moisture		1	206747	11/13/15 16:36	BLW	TAL CAN

#### Client Sample ID: DS-01-1655 Date Collected: 11/12/15 00:00 Date Received: 11/13/15 14:34

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			207146	11/17/15 11:10	DEE	TAL CAN

**TestAmerica** Canton

Percent Solids: 99.2

Matrix: Solid

ate Collected	: 11/12/15 (						Lab		240-57899-2 Matrix: Solic cent Solids: 99.2
	Batch	Batch		Dilution	Batch	Prepared			
Prep Type	Type	Method	Run	Factor	Number	or Analyzed	Analyst	Lab	
Total/NA	Analysis	6010C		20	207392	11/18/15 10:37	-	TAL CAN	
Total/NA	Prep	7471B			207152	11/17/15 15:55	DEE	TAL CAN	
Total/NA	Analysis	7471B		1	207407	11/18/15 11:52	WAL	TAL CAN	
Client Samp	le ID: DS	-02-1655					Lab	Sample IE	): 240-57899-3
Date Collected								•	Matrix: Soli
Date Received:	: 11/13/15 1	4:34							
-	Batch	Batch		Dilution	Batch	Prepared			
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab	
Total/NA	Analysis	Moisture		1	206747	11/13/15 16:36	BLW	TAL CAN	
Client Samp		00:00					Lab		D: 240-57899- Matrix: Soli
	: 11/13/15 1	4:34						Per	cent Solias: 98.
				Dilution	Batch	Bronarod		Per	cent Solids: 98.
Date Received:	Batch	Batch	Run	Dilution	Batch	Prepared or Analyzed	Analyst		cent Solids: 98.
Date Received: Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Number	or Analyzed	Analyst DEE	Lab	cent Solids: 98.
Date Received:	Batch	Batch	Run			•	DEE		cent Solias: 98.
Date Received: Prep Type Total/NA Total/NA	Batch Type Prep Analysis	Batch Method 3050B 6010C	Run	Factor	Number 207146 207392	or Analyzed 11/17/15 11:10 11/18/15 10:41	DEE KLC	Lab TAL CAN TAL CAN	cent Solias: 98.
Date Received: Prep Type Total/NA	Batch Type Prep	Batch Method 3050B	Run	Factor	Number 207146 207392 207152	or Analyzed 11/17/15 11:10	DEE KLC DEE	Lab TAL CAN	cent Solids: 98.
Date Received: Prep Type Total/NA Total/NA Total/NA Total/NA Total/NA Client Samp	Batch Type Prep Analysis Prep Analysis	Batch Method 3050B 6010C 7471B 7471B -10-1675	Run	Factor 20	Number 207146 207392 207152	or Analyzed 11/17/15 11:10 11/18/15 10:41 11/17/15 15:55	DEE KLC DEE WAL	Lab TAL CAN TAL CAN TAL CAN TAL CAN	): 240-57899-
Prep Type Total/NA Total/NA Total/NA	Batch Type Prep Analysis Prep Analysis Ie ID: DS : 11/12/15 (	Batch Method 3050B 6010C 7471B 7471B -10-1675 00:00	Run	Factor 20	Number 207146 207392 207152	or Analyzed 11/17/15 11:10 11/18/15 10:41 11/17/15 15:55	DEE KLC DEE WAL	Lab TAL CAN TAL CAN TAL CAN TAL CAN	<b>Cent Solids: 98.</b> <b>): 240-57899-</b> Matrix: Soli

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	206747	11/13/15 16:36	BLW	TAL CAN

#### Client Sample ID: DS-10-1675 Date Collected: 11/12/15 00:00 Date Received: 11/13/15 14:34

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analvst	Lab
Total/NA	Prep	3050B				11/17/15 11:10		TAL CAN
Total/NA	Analysis	6010C		50	207392	11/18/15 10:45	KLC	TAL CAN
Total/NA	Prep	7471B			207152	11/17/15 15:55	DEE	TAL CAN
Total/NA	Analysis	7471B		1	207407	11/18/15 11:57	WAL	TAL CAN

Lab Sample ID: 240-57899-4

Matrix: Solid

Percent Solids: 99.3

Prep Type Total/NA

#### Client Sample ID: DS-02-1675 Date Collected: 11/12/15 00:00

**Date Received** 

#### Lab Sample ID: 240-57899-5 Matrix: Solid

d: 11/13/1	5 14:34						
Batch	Batch		Dilution	Batch	Prepared		
Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Analys	is Moisture		1	206747	11/13/15 16:36	BLW	TAL CAN

#### Client Sample ID: DS-02-1675 Date Collected: 11/12/15 00:00 Date Received: 11/13/15 14:34

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			207146	11/17/15 11:10	DEE	TAL CAN
Total/NA	Analysis	6010C		200	207392	11/18/15 11:18	KLC	TAL CAN
Total/NA	Prep	7471B			207152	11/17/15 15:55	DEE	TAL CAN
Total/NA	Analysis	7471B		1	207407	11/18/15 11:59	WAL	TAL CAN

#### **Client Sample ID: DUP B** Date Collected: 11/12/15 00:00 **Date Received:**

: 11	/13/15 1	4:34								
I	Batch	Batch		Dilution	Batch	Prepared				
-	T	Mathad	D	Feeter	Number		Amelyet	l ah		

Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	206747	11/13/15 16:36	BLW	TAL CAN

#### **Client Sample ID: DUP B** Date Collected: 11/12/15 00:00 Date Received: 11/13/15 14:34

Lab Sample ID: 240-57899-6 Matrix: Solid Percent Solids: 99.0

Lab Sample ID: 240-57899-6

Matrix: Solid

Γ	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			207146	11/17/15 11:10	DEE	TAL CAN
Total/NA	Analysis	6010C		200	207392	11/18/15 11:22	KLC	TAL CAN
Total/NA	Prep	7471B			207152	11/17/15 15:55	DEE	TAL CAN
Total/NA	Analysis	7471B		1	207407	11/18/15 12:03	WAL	TAL CAN

#### Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

# **Certification Summary**

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EPA Region

**Certification ID** 

01144CA

PH-0590

200004

E-10336

98016

L2315

OH001

10975

CL0024

68-00340

460175

999518190

C971

210

4062

039-999-348

OH-000482008A

T104704517-15-5

P330-13-00319

58

2927

Client: URS Corporation Project/Site: Closed Loop

Authority

California

California

Illinois

Kansas

L-A-B

Minnesota

New Jersey

New York

Ohio VAP

Pennsylvania

Oregon

Texas

USDA

Virginia

Washington

Wisconsin

West Virginia DEP

Nevada

Connecticut

Kentucky (UST)

Kentucky (WW)

# Laboratory: TestAmerica Canton

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

State Program

DoD ELAP

NELAP

NELAP

NELAP

NELAP

NELAP

NELAP

Federal

NELAP

Program

NELAP

NELAP

NELAP

**Expiration Date** 

06-30-14 \*

04-30-17

12-31-15

07-31-16

01-31-16 \*

02-26-16

12-31-15

07-18-16

12-31-15

07-31-16

11-30-15 \*

03-31-16

09-14-17

02-23-16

08-31-16

08-31-16

11-26-16

09-14-16

01-12-16

12-31-15

08-31-16

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	9

\* Certification renewal pending - certification considered valid.



TestAmerica Laboratories, Inc.

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13

# CHAIN OF CUSTODY AND RECEIVING DOCUMENTS

Record   COM   COM   Eucil   Eucl   Contention   Interviewed   Interviewed <th><math display="block">\begin{array}{ c c c c c c c c c c c c c c c c c c c</math></th> <th>Tet Leader In survivous Date Channel Case of Munder   The Leader In survivous Tet Leader In structions/ Tet Case of Munder   Analysis (Mach Instructions/ Special Instructions/ Special Instructions/   Analysis (Mach Instructions/ Analysis (Mach Instructions/ Analysis (Mach Instructions/   Analysis (Mach Instructions/ Analysis (Mach Instructions/ Analysis (Mach Instructions/   Analysis (Mach Instructions/ Analysis (Mach Instructions/ Analysis (Mach Instructions/   Analysis (Mach Instructions/ Analysis (Mach Instructions/ Analysis (Mach Instructions/   Analysis (Mach Instructions/ Analysis (Mach Instructions/ Analysis (Mach Instructions/   Analysis (Mach Instructions/ Analysis (Mach Instructions/ Analysis (Mach Instructions/   Analysis (Mach Instruct</th>	$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	Tet Leader In survivous Date Channel Case of Munder   The Leader In survivous Tet Leader In structions/ Tet Case of Munder   Analysis (Mach Instructions/ Special Instructions/ Special Instructions/   Analysis (Mach Instructions/ Analysis (Mach Instructions/ Analysis (Mach Instructions/   Analysis (Mach Instructions/ Analysis (Mach Instructions/ Analysis (Mach Instructions/   Analysis (Mach Instructions/ Analysis (Mach Instructions/ Analysis (Mach Instructions/   Analysis (Mach Instructions/ Analysis (Mach Instructions/ Analysis (Mach Instructions/   Analysis (Mach Instructions/ Analysis (Mach Instructions/ Analysis (Mach Instructions/   Analysis (Mach Instructions/ Analysis (Mach Instructions/ Analysis (Mach Instructions/   Analysis (Mach Instruct
3. Relinquished By Date Time Comments DISTRIBUTION: WHITE - Returned to Client with Report, CAWARY - Stays with the Sample; PINK - Field Copy	3. Recorded by	Date Time
	10 11 12 13	1 2 3 4 5 6 7 8 9

- ----

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TestAmerica Canton Sample Receipt Form/Narrative	Login # : 57899
Canton Facility	Login # :1 0-124
Client <u>AECOM</u> , Site Name i	Cooler unpacked by:
Cooler Received on $11/13/15$ Opened on $11/13/1$	5 (hur) 3
FedEx: 1 <sup>st</sup> Grd Exp   UPS   FAS   Stetson   Client Drop Off   FestAmeric     Receipt After-hours:   Drop-off Date/Time   Storage	ca Courier Other
TestAmerica Cooler #Foam Box Client Cooler Box	Other 4
Packing material used: Bubble Wrap Foam Plastic Bag None	Other 5
COOLANT: Wet'Ice Blue Ice Dry Ice Water None 1. Cooler temperature upon receipt	
IR GUN# 53 (CF +0.1 °C) Observed Cooler Temp. $G.S$ °C Correcte	
IR GUN# 48 (CF -0.3 °C) Observed Cooler Temp°C Correcte IR GUN# 5 (CF +0.4 °C) Observed Cooler Temp°C Correcte	ed Cooler Temp. <u>°C</u> See Multiple 7
IR GUN# 8 (CF -0.5 °C) Observed Cooler Temp. °C Correcte	ed Cooler Temp°C Cooler Form
2. Were custody seals on the outside of the cooler(s)? If Yes Quantity	Yes (No )
-Were custody seals on the outside of the cooler(s) signed & dated? -Were custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes No NA' Yes No )
3. Shippers' packing slip attached to the cooler(s)?	Yes No
4. Did custody papers accompany the sample(s)?	Veo No III
<ul><li>5. Were the custody papers relinquished &amp; signed in the appropriate place?</li><li>6. Was/were the person(s) who collected the samples clearly identified on the Collected the samples clearly identified th</li></ul>	$\begin{array}{c} (Yes) & N_0 \\ OC? & Yes & N_0 \end{array}$
7. Did all bottles arrive in good condition (Unbroken)?	Ver No
<ul><li>8. Could all bottle labels be reconciled with the COC?</li><li>9. Were correct bottle(s) used for the test(s) indicated?</li></ul>	Cler No
10. Sufficient quantity received to perform indicated analyses?	Yes No Yes No
11. Were sample(s) at the correct pH upon receipt?	Yes No NA DH Strip Lot# <u>HC554612</u>
<ul><li>12. Were VOAs on the COC?</li><li>13. Were air bubbles &gt;6 mm in any VOA vials? *</li></ul>	Yes No NA
14. Was a trip blank present in the cooler(s)? Trip Blank Lot #	Yes No
Contacted PM Date by vi Concerning	a Verbal Voice Mail Other
14. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES	Samples processed by:
Samples It& have I'D's which	start with SN nother
than "DS", which is how they	are listed on the
· · ·	
15. SAMPLE CONDITION	
Sample(s) were received after the recomme Sample(s) we	ended holding time had expired.
Sample(s) were received with bubb	re received in a broken container. le >6 mm in diameter. (Notify PM)
16. SAMPLE PRESERVATION	
	were further preserved in the laboratory.
Sample(s) Preservative(s) added/Lot number(s):	

Ref: SOP NC-SC-0005, Sample Receiving X:\X-Drive Document Control\SOPs\Work Instructions\Word Version Work Instructions\WI-NC-099V-102115 Cooler Receipt Form.doc djl



THE LEADER IN ENVIRONMENTAL TESTING

# **ANALYTICAL REPORT**

# TestAmerica Laboratories, Inc.

TestAmerica Canton 4101 Shuffel Street NW North Canton, OH 44720 Tel: (330)497-9396

# TestAmerica Job ID: 240-57769-1 Client Project/Site: Closed Loop

For: URS Corporation 1375 Euclid Avenue Suite 600 Cleveland, Ohio 44115

Attn: Seda Ergun

Authorized for release by: 11/17/2015 5:22:11 PM Mark Loeb, Project Manager II (330)966-9387 mark.loeb@testamericainc.com

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.

LINKS **Review your project** results through Total Access Have a Question? Ask-The Expert Visit us at: www.testamericainc.com

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# Metals

Metals		
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.	5
U	Indicates the analyte was analyzed for but not detected.	5
В	Compound was found in the blank and sample.	

# Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.	
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis	8
%R	Percent Recovery	
CFL	Contains Free Liquid	9
CNF	Contains no Free Liquid	
DER	Duplicate error ratio (normalized absolute difference)	
Dil Fac	Dilution Factor	
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample	
DLC	Decision level concentration	
MDA	Minimum detectable activity	
EDL	Estimated Detection Limit	
MDC	Minimum detectable concentration	
MDL	Method Detection Limit	
ML	Minimum Level (Dioxin)	
NC	Not Calculated	
ND	Not detected at the reporting limit (or MDL or EDL if shown)	
PQL	Practical Quantitation Limit	
QC	Quality Control	
RER	Relative error ratio	
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)

#### Job ID: 240-57769-1

#### Laboratory: TestAmerica Canton

Narrative

# **CASE NARRATIVE**

#### **Client: URS Corporation**

**Project: Closed Loop** 

#### Report Number: 240-57769-1

With the exceptions noted as flags or footnotes, standard analytical protocols were followed in the analysis of the samples and no problems were encountered or anomalies observed. In addition all laboratory quality control samples were within established control limits, with any exceptions noted below. Each sample was analyzed to achieve the lowest possible reporting limit within the constraints of the method. In some cases, due to interference or analytes present at high concentrations, samples were diluted. For diluted samples, the reporting limits are adjusted relative to the dilution required.

TestAmerica Canton attests to the validity of the laboratory data generated by TestAmerica facilities reported herein. All analyses performed by TestAmerica facilities were done using established laboratory SOPs that incorporate QA/QC procedures described in the application methods. TestAmerica's operations groups have reviewed the data for compliance with the laboratory QA/QC plan, and data have been found to be compliant with laboratory protocols unless otherwise noted below.

The test results in this report meet all NELAP requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in this report. Pursuant to NELAP, this report may not be reproduced, except in full, without the written approval of the laboratory.

Calculations are performed before rounding to avoid round-off errors in calculated results.

All holding times were met and proper preservation noted for the methods performed on these samples, unless otherwise detailed in the individual sections below.

All solid sample results are reported on an "as received" basis unless otherwise indicated by the presence of a % solids value in the method header.

This laboratory report is confidential and is intended for the sole use of TestAmerica and its client.

#### **RECEIPT**

The samples were received on 11/11/2015 10:00 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 4.7° C.

#### TCLP METALS (ICP)

Samples DS-11-1675 (240-57769-1), DS-03-1675 (240-57769-2), DS-13-1675 (240-57769-3), DS-09-1675 (240-57769-4), DS-10-1655 (240-57769-5), DS-12-1655 (240-57769-6) and DS-08-1655 (240-57769-7) were analyzed for TCLP metals (ICP) in accordance with EPA SW-846 Methods 1311/6010C. The samples were leached on 11/12/2015, prepared on 11/13/2015 and analyzed on 11/16/2015.

Arsenic, Barium and Chromium were detected in method blank LB 240-206575/1-B at levels that were above the method detection limit but below the reporting limit. The values should be considered estimates, and have been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

The following samples was diluted due to the nature of the sample matrix: DS-11-1675 (240-57769-1)[100X], DS-03-1675 (240-57769-2) [100X], DS-09-1675 (240-57769-4)[10X], DS-10-1655 (240-57769-5)[20X] and DS-12-1655 (240-57769-6)[100X]. Elevated reporting limits (RLs) are provided.

Insufficient sample was provided to perform the leaching procedure with the required 100g for the following sample: DS-08-1655

# Job ID: 240-57769-1 (Continued)

#### Laboratory: TestAmerica Canton (Continued)

(240-57769-7). The volume of leaching fluid was adjusted proportionally to maintain a 20:1 ratio of leaching fluid to weight of sample. Reporting limits (RLs) are not affected.

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

#### TOTAL METALS (ICP)

Samples DS-11-1675 (240-57769-1), DS-03-1675 (240-57769-2), DS-13-1675 (240-57769-3), DS-09-1675 (240-57769-4), DS-10-1655 (240-57769-5), DS-12-1655 (240-57769-6), DS-08-1655 (240-57769-7), DS-14-1675 (240-57769-8), DS-12-1675 (240-57769-9), DS-07-1655 (240-57769-10), DS-04-1675 (240-57769-11), DS-09-1655 (240-57769-12), DUP A (240-57769-13), DS-08-1675 (240-57769-14) and DS-11-1655 (240-57769-15) were analyzed for total metals (ICP) in accordance with EPA SW-846 Method 6010C. The samples were prepared on 11/12/2015 and analyzed on 11/13/2015.

Lead was detected in method blank MB 240-206494/1-A at a level that was above the method detection limit but below the reporting limit. The value should be considered an estimate, and has been flagged. If the associated sample reported a result above the MDL and/or RL, the result has been flagged. Refer to the QC report for details.

The following samples was diluted due to the nature of the sample matrix: DS-11-1675 (240-57769-1)[20X], DS-03-1675 (240-57769-2) [100X], DS-13-1675 (240-57769-3)[50X], DS-09-1675 (240-57769-4)[100X], DS-10-1655 (240-57769-5)[20X], DS-12-1655 (240-57769-6) [20X], DS-08-1655 (240-57769-7)[50X], DS-14-1675 (240-57769-8)[100X], DS-12-1675 (240-57769-9)[250X], DS-07-1655 (240-57769-10) [20X], DS-04-1675 (240-57769-11)[250X], DS-09-1655 (240-57769-12)[20X], DUP A (240-57769-13)[100X], DS-08-1675 (240-57769-14) [50X] and DS-11-1655 (240-57769-15)[20X]. 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.

#### **TCLP MERCURY**

Samples DS-11-1675 (240-57769-1), DS-03-1675 (240-57769-2), DS-13-1675 (240-57769-3), DS-09-1675 (240-57769-4), DS-10-1655 (240-57769-5), DS-12-1655 (240-57769-6) and DS-08-1655 (240-57769-7) were analyzed for TCLP mercury in accordance with EPA SW-846 Methods 1311/7470A. The samples were leached on 11/12/2015, prepared on 11/13/2015 and analyzed on 11/16/2015.

Insufficient sample was provided to perform the leaching procedure with the required 100g for the following sample: DS-08-1655 (240-57769-7). The volume of leaching fluid was adjusted proportionally to maintain a 20:1 ratio of leaching fluid to weight of sample. Reporting limits (RLs) are not affected.

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

#### MERCURY

Samples DS-11-1675 (240-57769-1), DS-03-1675 (240-57769-2), DS-13-1675 (240-57769-3), DS-09-1675 (240-57769-4), DS-10-1655 (240-57769-5), DS-12-1655 (240-57769-6), DS-08-1655 (240-57769-7), DS-14-1675 (240-57769-8), DS-12-1675 (240-57769-9), DS-07-1655 (240-57769-10), DS-04-1675 (240-57769-11), DS-09-1655 (240-57769-12), DUP A (240-57769-13), DS-08-1675 (240-57769-14) and DS-11-1655 (240-57769-15) were analyzed for mercury in accordance with EPA SW-846 Method 7471B. The samples were prepared on 11/12/2015 and analyzed on 11/13/2015.

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

#### PERCENT SOLIDS

Samples DS-11-1675 (240-57769-1), DS-03-1675 (240-57769-2), DS-13-1675 (240-57769-3), DS-09-1675 (240-57769-4), DS-10-1655 (240-57769-5), DS-12-1655 (240-57769-6), DS-08-1655 (240-57769-7), DS-14-1675 (240-57769-8), DS-12-1675 (240-57769-9), DS-07-1655 (240-57769-10), DS-04-1675 (240-57769-11), DS-09-1655 (240-57769-12), DUP A (240-57769-13), DS-08-1675 (240-57769-14) and DS-11-1655 (240-57769-15) were analyzed for percent solids in accordance with EPA Method 160.3 MOD. The samples were analyzed on 11/12/2015.

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

# **Method Summary**

#### Client: URS Corporation Project/Site: Closed Loop

Method 6010C

7470A

7471B

Moisture

TAL CAN

EPA

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TestAmerica Canton

d	Method Description	Protocol	Laboratory
	Metals (ICP)	SW846	TAL CAN
	Mercury (CVAA)	SW846	TAL CAN
	Mercury (CVAA)	SW846	TAL CAN

#### Protocol References:

EPA = US Environmental Protection Agency

Percent Moisture

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

#### Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

11/17/2015

# Sample Summary

Client: URS Corporation Project/Site: Closed Loop

TestAmerica Job ID: 240-57769-1

240-57769-1		Matrix	Collected Received
	DS-11-1675	Solid	11/09/15 00:00 11/11/15 10:00
240-57769-2	DS-03-1675	Solid	11/09/15 00:00 11/11/15 10:00
240-57769-3	DS-13-1675	Solid	11/09/15 00:00 11/11/15 10:00
240-57769-4	DS-09-1675	Solid	11/09/15 00:00 11/11/15 10:00
240-57769-5	DS-10-1655	Solid	11/09/15 00:00 11/11/15 10:00
240-57769-6	DS-12-1655	Solid	11/09/15 00:00 11/11/15 10:00
240-57769-7	DS-08-1655	Solid	11/09/15 00:00 11/11/15 10:00
240-57769-8	DS-14-1675	Solid	11/09/15 00:00 11/11/15 10:00
240-57769-9	DS-12-1675	Solid	11/09/15 00:00 11/11/15 10:00
240-57769-10	DS-07-1655	Solid	11/09/15 00:00 11/11/15 10:00
240-57769-11	DS-04-1675	Solid	11/09/15 00:00 11/11/15 10:00
240-57769-12	DS-09-1655	Solid	11/09/15 00:00 11/11/15 10:00
240-57769-13	DUP A	Solid	11/09/15 00:00 11/11/15 10:00
240-57769-14	DS-08-1675	Solid	11/09/15 00:00 11/11/15 10:00
240-57769-15	DS-11-1655	Solid	11/09/15 00:00 11/11/15 10:00

#### Client Sample ID: DS-11-1675

# Lab Sample ID: 240-57769-1

Lab Sample ID: 240-57769-2

Lab Sample ID: 240-57769-3

Lab Sample ID: 240-57769-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	190	J	350	7.2	mg/Kg	20	₽	6010C	Total/NA
Cadmium	4.9	J	8.8	0.37	mg/Kg	20	₽	6010C	Total/NA
Chromium	14	J	18	1.3	mg/Kg	20	₽	6010C	Total/NA
Lead	5100	В	18	0.39	mg/Kg	20	¢	6010C	Total/NA
Silver	2.5	J	18	1.1	mg/Kg	20	₽	6010C	Total/NA
Arsenic	0.0039	JB	0.50	0.0029	mg/L	1		6010C	TCLP
Barium	7.2	JB	10	0.0010	mg/L	1		6010C	TCLP
Cadmium	0.0092	J	0.10	0.00014	mg/L	1		6010C	TCLP
Chromium	0.059	JB	0.50	0.00055	mg/L	1		6010C	TCLP
Lead	220		50	0.19	mg/L	100		6010C	TCLP
Mercury	0.000097	J	0.0020	0.000090	mg/L	1		7470A	TCLP
Hg	0.015	J	0.089	0.012	mg/Kg	1	₽	7471B	Total/NA

#### Client Sample ID: DS-03-1675

#### Analyte **Result Qualifier** RL MDL Unit Dil Fac D Method Prep Type Barium 230 J 1400 28 mg/Kg 100 🔅 6010C Total/NA 100 🌣 Cadmium 16 J 34 1.4 mg/Kg 6010C Total/NA Chromium 28 J 68 5.1 mg/Kg 100 🌣 6010C Total/NA Lead 2900 B 68 100 🌣 Total/NA 1.5 mg/Kg 6010C Silver 8.7 J 68 4.3 mg/Kg 100 🌣 6010C Total/NA Arsenic 0.0046 JB 0.50 0.0029 mg/L 6010C TCLP 1 Barium 7.5 JB 10 0.0010 mg/L 1 6010C TCLP 0.012 J 0.00014 mg/L Cadmium 0.10 1 6010C TCLP Chromium 0.049 JB 0.50 0.00055 mg/L 1 6010C TCLP Lead 190 50 0.19 mg/L 100 6010C TCLP Mercury 0.000090 mg/L 7470A TCLP 0.00017 J 0.0020 1 0.093 J 0.096 0.013 mg/Kg 1 🌣 7471B Total/NA Hg

#### Client Sample ID: DS-13-1675

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	400	J	890	18	mg/Kg	50	₩.	6010C	Total/NA
Cadmium	14	J	22	0.93	mg/Kg	50	₽	6010C	Total/NA
Chromium	60		44	3.3	mg/Kg	50	₽	6010C	Total/NA
Lead	9100	В	44	0.97	mg/Kg	50	₽	6010C	Total/NA
Silver	6.7	J	44	2.8	mg/Kg	50	₽	6010C	Total/NA
Arsenic	0.012	JB	0.50	0.0029	mg/L	1		6010C	TCLP
Barium	0.35	JB	10	0.0010	mg/L	1		6010C	TCLP
Cadmium	0.088	J	0.10	0.00014	mg/L	1		6010C	TCLP
Chromium	0.012	JB	0.50	0.00055	mg/L	1		6010C	TCLP
Lead	11		0.50	0.0019	mg/L	1		6010C	TCLP
Silver	0.0013	J	0.50	0.00092	mg/L	1		6010C	TCLP
Mercury	0.00011	J	0.0020	0.000090	mg/L	1		7470A	TCLP
Hg	0.46		0.12	0.017	mg/Kg	1	¢	7471B	Total/NA

# Client Sample ID: DS-09-1675

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Analyte	Result (	Qualifier	RL	MDL	Unit	Dil Fac D Method	Prep Type
Barium	520	J	1700	34	mg/Kg	100 🌣 6010C	Total/NA

This Detection Summary does not include radiochemical test results.

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# Client Sample ID: DS-09-1675 (Continued)

# Lab Sample ID: 240-57769-4

Lab Sample ID: 240-57769-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Cadmium	23	J	42	1.7	mg/Kg	100	₽	6010C	Total/NA
Chromium	52	J	83	6.2	mg/Kg	100	₽	6010C	Total/NA
Lead	11000	В	83	1.8	mg/Kg	100	¢	6010C	Total/NA
Silver	14	J	83	5.2	mg/Kg	100	₽	6010C	Total/NA
Arsenic	0.0062	JB	0.50	0.0029	mg/L	1		6010C	TCLP
Barium	6.8	JB	10	0.0010	mg/L	1		6010C	TCLP
Cadmium	0.056	J	0.10	0.00014	mg/L	1		6010C	TCLP
Chromium	0.034	JB	0.50	0.00055	mg/L	1		6010C	TCLP
Lead	58		5.0	0.019	mg/L	10		6010C	TCLP
Hg	0.17		0.092	0.013	mg/Kg	1	¢	7471B	Total/NA

# Client Sample ID: DS-10-1655

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	180	J	300	6.1	mg/Kg	20	₽	6010C	Total/NA
Cadmium	4.2	J	7.5	0.31	mg/Kg	20	₽	6010C	Total/NA
Chromium	43		15	1.1	mg/Kg	20	₽	6010C	Total/NA
Lead	2400	В	15	0.33	mg/Kg	20	¢	6010C	Total/NA
Silver	3.3	J	15	0.94	mg/Kg	20	₽	6010C	Total/NA
Arsenic	0.0061	JB	0.50	0.0029	mg/L	1		6010C	TCLP
Barium	5.1	JB	10	0.0010	mg/L	1		6010C	TCLP
Cadmium	0.023	J	0.10	0.00014	mg/L	1		6010C	TCLP
Chromium	0.039	JB	0.50	0.00055	mg/L	1		6010C	TCLP
Lead	92		10	0.038	mg/L	20		6010C	TCLP
Hg	0.098		0.090	0.013	mg/Kg	1	₽	7471B	Total/NA

# Client Sample ID: DS-12-1655

# Lab Sample ID: 240-57769-6

Lab Sample ID: 240-57769-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	210	J	340	7.0	mg/Kg	20	$\overline{\Delta}$	6010C	Total/NA
Cadmium	2.9	J	8.5	0.36	mg/Kg	20	₽	6010C	Total/NA
Chromium	78		17	1.3	mg/Kg	20	₽	6010C	Total/NA
Lead	2800	В	17	0.38	mg/Kg	20	¢	6010C	Total/NA
Silver	5.8	J	17	1.1	mg/Kg	20	₽	6010C	Total/NA
Arsenic	0.0051	JB	0.50	0.0029	mg/L	1		6010C	TCLP
Barium	5.7	JB	10	0.0010	mg/L	1		6010C	TCLP
Cadmium	0.019	J	0.10	0.00014	mg/L	1		6010C	TCLP
Chromium	0.043	JB	0.50	0.00055	mg/L	1		6010C	TCLP
Lead	120		50	0.19	mg/L	100		6010C	TCLP
Hg	0.092	J	0.10	0.014	mg/Kg	1	₽	7471B	Total/NA

# Client Sample ID: DS-08-1655

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	300	J	940	19	mg/Kg	50	₩	6010C	Total/NA
Cadmium	16	J	24	0.99	mg/Kg	50	₽	6010C	Total/NA
Chromium	38	J	47	3.5	mg/Kg	50	₽	6010C	Total/NA
Lead	3000	В	47	1.0	mg/Kg	50	φ	6010C	Total/NA
Silver	8.2	J	47	3.0	mg/Kg	50	₽	6010C	Total/NA
Arsenic	0.0091	JB	0.50	0.0029	mg/L	1		6010C	TCLP

This Detection Summary does not include radiochemical test results.

## Client Sample ID: DS-08-1655 (Continued)

# Lab Sample ID: 240-57769-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac D	Method	Prep Type
Barium	1.8	JB	10	0.0010	mg/L	1	6010C	TCLP
Cadmium	0.038	J	0.10	0.00014	mg/L	1	6010C	TCLP
Chromium	0.012	JB	0.50	0.00055	mg/L	1	6010C	TCLP
Lead	4.7		0.50	0.0019	mg/L	1	6010C	TCLP
Hg	0.19		0.11	0.015	mg/Kg	1 <sup>‡</sup>	7471B	Total/NA

#### Client Sample ID: DS-14-1675

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	320	J	2000	41	mg/Kg	100	<del>\\\</del>	6010C	Total/NA
Cadmium	30	J	51	2.1	mg/Kg	100	₽	6010C	Total/NA
Chromium	84	J	100	7.6	mg/Kg	100	₽	6010C	Total/NA
Lead	2300	В	100	2.2	mg/Kg	100	¢	6010C	Total/NA
Silver	15	J	100	6.4	mg/Kg	100	₽	6010C	Total/NA
Hg	0.25		0.11	0.015	mg/Kg	1	₽	7471B	Total/NA

# Client Sample ID: DS-12-1675

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	390	J	3500	71	mg/Kg	250	<del>₽</del>	6010C	Total/NA
Cadmium	33	J	86	3.6	mg/Kg	250	₽	6010C	Total/NA
Chromium	37	J	170	13	mg/Kg	250	₽	6010C	Total/NA
Lead	5200	В	170	3.8	mg/Kg	250	¢	6010C	Total/NA
Silver	15	J	170	11	mg/Kg	250	₽	6010C	Total/NA
Hg	0.30		0.090	0.013	mg/Kg	1	₽	7471B	Total/NA

# Client Sample ID: DS-07-1655

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	150	J	350	7.2	mg/Kg	20	<del>☆</del>	6010C	Total/NA
Cadmium	7.2	J	8.7	0.37	mg/Kg	20	¢	6010C	Total/NA
Chromium	40		17	1.3	mg/Kg	20	₽	6010C	Total/NA
Lead	3100	В	17	0.38	mg/Kg	20	φ.	6010C	Total/NA
Silver	1.3	J	17	1.1	mg/Kg	20	₽	6010C	Total/NA
Hg	0.081	J	0.10	0.015	mg/Kg	1	₽	7471B	Total/NA

#### Client Sample ID: DS-04-1675

Lab Sample ID: 240-57769-12

Lab Sample ID: 240-57769-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	210	J	3500	71	mg/Kg	250	₩	6010C	Total/NA
Cadmium	25	J	87	3.6	mg/Kg	250	¢	6010C	Total/NA
Lead	2200	В	170	3.8	mg/Kg	250	₽	6010C	Total/NA
Silver	22	J	170	11	mg/Kg	250	¢	6010C	Total/NA
Hg	0.042	J	0.11	0.015	mg/Kg	1	¢	7471B	Total/NA

# Client Sample ID: DS-09-1655

Analyte	Result Quali	fier RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	140 J	300	6.2	mg/Kg	20	₽	6010C	Total/NA
Cadmium	3.7 J	7.6	0.32	mg/Kg	20	₽	6010C	Total/NA

This Detection Summary does not include radiochemical test results.

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#### Client Sample ID: DS-09-1655 (Continued)

# Lab Sample ID: 240-57769-12

Lab Sample ID: 240-57769-13

Lab Sample ID: 240-57769-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Chromium	18		15	1.1	mg/Kg	20	<u>Å</u>	6010C	Total/NA
Lead	2500	В	15	0.33	mg/Kg	20	¢	6010C	Total/NA
Silver	2.2	J	15	0.96	mg/Kg	20	₽	6010C	Total/NA
Hg	0.052	J	0.10	0.014	mg/Kg	1	₽	7471B	Total/NA

# **Client Sample ID: DUP A**

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	350	J	1900	38	mg/Kg	100	<del>\</del>	6010C	Total/NA
Cadmium	23	J	46	1.9	mg/Kg	100	₽	6010C	Total/NA
Chromium	35	J	93	7.0	mg/Kg	100	₽	6010C	Total/NA
Lead	2700	В	93	2.0	mg/Kg	100	φ.	6010C	Total/NA
Silver	14	J	93	5.8	mg/Kg	100	₽	6010C	Total/NA
Hg	0.17		0.096	0.013	mg/Kg	1	₽	7471B	Total/NA

# Client Sample ID: DS-08-1675

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	410	J	850	18	mg/Kg	50	<del>\</del>	6010C	Total/NA
Cadmium	15	J	21	0.90	mg/Kg	50	₽	6010C	Total/NA
Chromium	35	J	43	3.2	mg/Kg	50	₽	6010C	Total/NA
Lead	8000	В	43	0.94	mg/Kg	50	¢	6010C	Total/NA
Silver	9.7	J	43	2.7	mg/Kg	50	₽	6010C	Total/NA
Hg	0.10	J	0.11	0.015	mg/Kg	1	¢	7471B	Total/NA

# Client Sample ID: DS-11-1655

# Lab Sample ID: 240-57769-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	210	J	380	7.7	mg/Kg	20	₽	6010C	Total/NA
Cadmium	4.4	J	9.4	0.40	mg/Kg	20	₽	6010C	Total/NA
Chromium	98		19	1.4	mg/Kg	20	₽	6010C	Total/NA
Lead	2300	В	19	0.41	mg/Kg	20	¢	6010C	Total/NA
Silver	5.7	J	19	1.2	mg/Kg	20	₽	6010C	Total/NA
Hg	0.14		0.096	0.013	mg/Kg	1	₽	7471B	Total/NA

This Detection Summary does not include radiochemical test results.

Client: URS Corporation Project/Site: Closed Loop

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Client Sample ID: DS-11-1675 Date Collected: 11/09/15 00:00 Date Received: 11/11/15 10:00

Method: 6010C - Metals (ICP) - TCLP

#### Lab Sample ID: 240-57769-1 Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0039	JB	0.50	0.0029	mg/L		11/13/15 10:23	11/16/15 13:06	1
Barium	7.2	JB	10	0.0010	mg/L		11/13/15 10:23	11/16/15 13:06	1
Cadmium	0.0092	J	0.10	0.00014	mg/L		11/13/15 10:23	11/16/15 13:06	1
Chromium	0.059	JB	0.50	0.00055	mg/L		11/13/15 10:23	11/16/15 13:06	1
Lead	220		50	0.19	mg/L		11/13/15 10:23	11/16/15 14:17	100
Selenium	0.25	U	0.25	0.0040	mg/L		11/13/15 10:23	11/16/15 13:06	1
Silver	0.50	U	0.50	0.00092	mg/L		11/13/15 10:23	11/16/15 13:06	1
Method: 7470A - Mercury	(CVAA) - TCLP								
Analyte	· ·	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.000097	J	0.0020	0.000090	mg/L		11/13/15 14:00	11/16/15 16:22	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	97		0.10	0.10	%			11/12/15 15:23	1
Percent Moisture	2.5		0.10	0.10	%			11/12/15 15:23	1

Client: URS Corporation Project/Site: Closed Loop

# Client Sample ID: DS-11-1675 Date Collected: 11/09/15 00:00

Date Received: 11/11/15 10:00

#### Lab Sample ID: 240-57769-1 Matrix: Solid Percent Solids: 97.5

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Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	26	U	26	7.2	mg/Kg	<u>\$</u>	11/12/15 10:45	11/13/15 14:25	20
Barium	190	J	350	7.2	mg/Kg	☆	11/12/15 10:45	11/13/15 14:25	20
Cadmium	4.9	J	8.8	0.37	mg/Kg	☆	11/12/15 10:45	11/13/15 14:25	20
Chromium	14	J	18	1.3	mg/Kg	¢	11/12/15 10:45	11/13/15 14:25	20
Lead	5100	В	18	0.39	mg/Kg	☆	11/12/15 10:45	11/13/15 14:25	20
Selenium	35	U	35	6.0	mg/Kg	₿	11/12/15 10:45	11/13/15 14:25	20
Silver	2.5	J	18	1.1	mg/Kg	¢	11/12/15 10:45	11/13/15 14:25	20
Method: 7471B - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	0.015	J	0.089	0.012	mg/Kg	\ ↓	11/12/15 15:45	11/13/15 14:32	1

Result Qualifier

0.0046 JB

Client: URS Corporation Project/Site: Closed Loop

Analyte

Arsenic

Dil Fac

1

#### Client Sample ID: DS-03-1675 Date Collected: 11/09/15 00:00 Date Received: 11/11/15 10:00

Method: 6010C - Metals (ICP) - TCLP

#### Lab Sample ID: 240-57769-2 Matrix: Solid

11/13/15 10:23 11/16/15 13:10

Analyzed

Barium	7.5	JB	10	0.0010	mg/L		11/13/15 10:23	11/16/15 13:10	1
Cadmium	0.012	J	0.10	0.00014	mg/L		11/13/15 10:23	11/16/15 13:10	1
Chromium	0.049	JB	0.50	0.00055	mg/L		11/13/15 10:23	11/16/15 13:10	1
Lead	190		50	0.19	mg/L		11/13/15 10:23	11/16/15 14:21	100
Selenium	0.25	U	0.25	0.0040	mg/L		11/13/15 10:23	11/16/15 13:10	1
Silver	0.50	U	0.50	0.00092	mg/L		11/13/15 10:23	11/16/15 13:10	1
Method: 7470A - Mercury (0	CVAA) - TCLP								
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
			RL 0.0020	MDL 0.000090		D	Prepared 11/13/15 14:00	Analyzed 11/16/15 16:24	Dil Fac
Analyte Mercury	Result					<u>D</u>	•		Dil Fac
Analyte	Result			0.000090		D	•		Dil Fac 1 Dil Fac
Analyte Mercury General Chemistry	Result	J	0.0020	0.000090	mg/L Unit		11/13/15 14:00	11/16/15 16:24	1

RL

0.50

MDL Unit

0.0029 mg/L

D

Prepared

Client: URS Corporation Project/Site: Closed Loop

# Client Sample ID: DS-03-1675 Date Collected: 11/09/15 00:00

Date Received: 11/11/15 10:00

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TestAmerica Job ID: 240-57769-1

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	100	U	100	28	mg/Kg	<u>Å</u>	11/12/15 10:45	11/13/15 15:38	100
Barium	230	J	1400	28	mg/Kg	¢	11/12/15 10:45	11/13/15 15:38	100
Cadmium	16	J	34	1.4	mg/Kg	₽	11/12/15 10:45	11/13/15 15:38	100
Chromium	28	J	68	5.1	mg/Kg	¢	11/12/15 10:45	11/13/15 15:38	100
Lead	2900	В	68	1.5	mg/Kg	¢	11/12/15 10:45	11/13/15 15:38	100
Selenium	140	U	140	23	mg/Kg	☆	11/12/15 10:45	11/13/15 15:38	100
Silver	8.7	J	68	4.3	mg/Kg	¢	11/12/15 10:45	11/13/15 15:38	100
Method: 7471B - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	0.093	J	0.096	0.013	mg/Kg	<u>Å</u>	11/12/15 15:45	11/13/15 14:33	1

Result Qualifier

Client: URS Corporation Project/Site: Closed Loop

Analyte

Dil Fac

#### Client Sample ID: DS-13-1675 Date Collected: 11/09/15 00:00 Date Received: 11/11/15 10:00

Method: 6010C - Metals (ICP) - TCLP

#### Lab Sample ID: 240-57769-3 Matrix: Solid

Analyzed

Arsenic	0.012	JB	0.50	0.0029	mg/L		11/13/15 10:23	11/16/15 13:14	1
Barium	0.35	JB	10	0.0010	mg/L		11/13/15 10:23	11/16/15 13:14	1
Cadmium	0.088	J	0.10	0.00014	mg/L		11/13/15 10:23	11/16/15 13:14	1
Chromium	0.012	JB	0.50	0.00055	mg/L		11/13/15 10:23	11/16/15 13:14	1
Lead	11		0.50	0.0019	mg/L		11/13/15 10:23	11/16/15 13:14	1
Selenium	0.25	U	0.25	0.0040	mg/L		11/13/15 10:23	11/16/15 13:14	1
Silver	0.0013	J	0.50	0.00092	mg/L		11/13/15 10:23	11/16/15 13:14	1
-					-				
-					-				
Method: 7470A - Mercury Analyte	(CVAA) - TCLP Result	Qualifier	RL	MDL		D	Prepared	Analyzed	Dil Fac
_ Method: 7470A - Mercury	(CVAA) - TCLP		<b>RL</b> 0.0020	MDL 0.000090		D	Prepared 11/13/15 14:00		Dil Fac
Method: 7470A - Mercury Analyte Mercury	(CVAA) - TCLP Result					D			Dil Fac
Method: 7470A - Mercury Analyte	(CVAA) - TCLP Result 0.00011				mg/L	D			Dil Fac 1 Dil Fac
Method: 7470A - Mercury Analyte Mercury General Chemistry	(CVAA) - TCLP Result 0.00011	J	0.0020	0.000090	mg/L Unit		11/13/15 14:00	11/16/15 16:27	1

RL

MDL Unit

D

Prepared

Client: URS Corporation Project/Site: Closed Loop

#### TestAmerica Job ID: 240-57769-1

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# Client Sample ID: DS-13-1675 Date Collected: 11/09/15 00:00

Date	<b>Received:</b>	11/11/15	10:00

#### Lab Sample ID: 240-57769-3 Matrix: Solid Percent Solids: 98.2

Method: 6010C - Metals (ICP) Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	66	U	66	18	mg/Kg	<u>Å</u>	11/12/15 10:45	11/13/15 14:33	50
Barium	400	J	890	18	mg/Kg	₽	11/12/15 10:45	11/13/15 14:33	50
Cadmium	14	J	22	0.93	mg/Kg	☆	11/12/15 10:45	11/13/15 14:33	50
Chromium	60		44	3.3	mg/Kg	¢	11/12/15 10:45	11/13/15 14:33	50
Lead	9100	В	44	0.97	mg/Kg	₽	11/12/15 10:45	11/13/15 14:33	50
Selenium	89	U	89	15	mg/Kg	₽	11/12/15 10:45	11/13/15 14:33	50
Silver	6.7	J	44	2.8	mg/Kg	¢	11/12/15 10:45	11/13/15 14:33	50
Method: 7471B - Mercury (CVAA	)								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	0.46		0.12	0.017	mg/Kg	<u> </u>	11/12/15 15:45	11/13/15 14:35	1

Client: URS Corporation Project/Site: Closed Loop 8

#### Client Sample ID: DS-09-1675 Date Collected: 11/09/15 00:00 Date Received: 11/11/15 10:00

Method: 6010C - Metals (ICP) - TCLP

#### Lab Sample ID: 240-57769-4 Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0062	JB	0.50	0.0029	mg/L		11/13/15 10:23	11/16/15 13:19	1
Barium	6.8	JB	10	0.0010	mg/L		11/13/15 10:23	11/16/15 13:19	1
Cadmium	0.056	J	0.10	0.00014	mg/L		11/13/15 10:23	11/16/15 13:19	1
Chromium	0.034	JB	0.50	0.00055	mg/L		11/13/15 10:23	11/16/15 13:19	1
Lead	58		5.0	0.019	mg/L		11/13/15 10:23	11/16/15 14:25	10
Selenium	0.25	U	0.25	0.0040	mg/L		11/13/15 10:23	11/16/15 13:19	1
Silver	0.50	U	0.50	0.00092	mg/L		11/13/15 10:23	11/16/15 13:19	1
Method: 7470A - Mercury (CVA	A) - TCLP								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020	0.000090	mg/L		11/13/15 14:00	11/16/15 15:49	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	98		0.10	0.10	%			11/12/15 15:23	1
Percent Moisture	1.6		0.10	0.10	%			11/12/15 15:23	1

Client: URS Corporation Project/Site: Closed Loop

# Client Sample ID: DS-09-1675 Date Collected: 11/09/15 00:00

Date Received: 11/11/15 10:00

#### Lab Sample ID: 240-57769-4 Matrix: Solid Percent Solids: 98.4

Method: 6010C - Metals (ICP)	Desult	Qualifian	DI	MDI	11		Ducusaria	Amelumed	
Analyte	Result	Qualifier	RL	MDL	Unit	<u>D</u>	Prepared	Analyzed	Dil Fac
Arsenic	120	U	120	34	mg/Kg	¢	11/12/15 10:45	11/13/15 15:51	100
Barium	520	J	1700	34	mg/Kg	☆	11/12/15 10:45	11/13/15 15:51	100
Cadmium	23	J	42	1.7	mg/Kg	☆	11/12/15 10:45	11/13/15 15:51	100
Chromium	52	J	83	6.2	mg/Kg	¢	11/12/15 10:45	11/13/15 15:51	100
Lead	11000	В	83	1.8	mg/Kg	☆	11/12/15 10:45	11/13/15 15:51	100
Selenium	170	U	170	28	mg/Kg	¢	11/12/15 10:45	11/13/15 15:51	100
Silver	14	J	83	5.2	mg/Kg	¢	11/12/15 10:45	11/13/15 15:51	100
Method: 7471B - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	0.17		0.092	0.013	mg/Kg	<u>Å</u>	11/12/15 15:45	11/13/15 14:36	1

Client: URS Corporation Project/Site: Closed Loop

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Lab Sample ID: 240-57769-5

Matrix: Solid

#### Client Sample ID: DS-10-1655 Date Collected: 11/09/15 00:00 Date Received: 11/11/15 10:00

Method: 6010C - Metals (IC	CP) - TCLP								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0061	JB	0.50	0.0029	mg/L		11/13/15 10:23	11/16/15 13:23	1
Barium	5.1	JB	10	0.0010	mg/L		11/13/15 10:23	11/16/15 13:23	1
Cadmium	0.023	J	0.10	0.00014	mg/L		11/13/15 10:23	11/16/15 13:23	1
Chromium	0.039	JB	0.50	0.00055	mg/L		11/13/15 10:23	11/16/15 13:23	1
Lead	92		10	0.038	mg/L		11/13/15 10:23	11/16/15 14:37	20
Selenium	0.25	U	0.25	0.0040	mg/L		11/13/15 10:23	11/16/15 13:23	1
Silver	0.50	U	0.50	0.00092	mg/L		11/13/15 10:23	11/16/15 13:23	1
Method: 7470A - Mercury	(CVAA) - TCLP								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020	0.000090	mg/L		11/13/15 14:00	11/16/15 15:51	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	99		0.10	0.10	%			11/12/15 15:23	1
Percent Moisture	0.99		0.10	0.10	%			11/12/15 15:23	1

11/17/2015

**Client: URS Corporation** Project/Site: Closed Loop

#### TestAmerica Job ID: 240-57769-1

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#### Client Sample ID: DS-10-1655 Date Collected: 11/09/15 00:00

Date Received: 11/11/15 10:00

Lab Sample ID: 240-57769-5
Matrix: Solid
Percent Solids: 99.0

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Arsenic	22	U	22	6.1	mg/Kg	\ ☆	11/12/15 10:45	11/13/15 14:41	2
Barium	180	J	300	6.1	mg/Kg	¢	11/12/15 10:45	11/13/15 14:41	2
Cadmium	4.2	J	7.5	0.31	mg/Kg	₽	11/12/15 10:45	11/13/15 14:41	2
Chromium	43		15	1.1	mg/Kg	¢.	11/12/15 10:45	11/13/15 14:41	2
Lead	2400	В	15	0.33	mg/Kg	¢	11/12/15 10:45	11/13/15 14:41	2
Selenium	30	U	30	5.1	mg/Kg	¢	11/12/15 10:45	11/13/15 14:41	2
Silver	3.3	J	15	0.94	mg/Kg	¢	11/12/15 10:45	11/13/15 14:41	2
Method: 7471B - Mercury (CVA	A)								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Hg	0.098		0.090	0.013	mg/Kg	\ ☆	11/12/15 15:45	11/13/15 14:38	
Client: URS Corporation Project/Site: Closed Loop

## Client Sample ID: DS-12-1655 Date Collected: 11/09/15 00:00

Method: 6010C - Metals (ICP) - TCLP

Date	<b>Received:</b>	11/11/15	10:00

Lab Sample	ID:	240-57769-6
		Matrix: Solid

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.0051	JB	0.50	0.0029	mg/L		11/13/15 10:23	11/16/15 13:27	1
Barium	5.7	JB	10	0.0010	mg/L		11/13/15 10:23	11/16/15 13:27	1
Cadmium	0.019	J	0.10	0.00014	mg/L		11/13/15 10:23	11/16/15 13:27	1
Chromium	0.043	JB	0.50	0.00055	mg/L		11/13/15 10:23	11/16/15 13:27	1
Lead	120		50	0.19	mg/L		11/13/15 10:23	11/16/15 14:42	100
Selenium	0.25	U	0.25	0.0040	mg/L		11/13/15 10:23	11/16/15 13:27	1
Silver	0.50	U	0.50	0.00092	mg/L		11/13/15 10:23	11/16/15 13:27	1
Mothed: 7470A Menoumy (									
Method: 7470A - Mercury ( Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	0.0020	U	0.0020	0.000090	mg/L		11/13/15 14:00	11/16/15 15:53	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	99		0.10	0.10	%			11/12/15 15:23	1
Percent Moisture	0.73		0.10	0.10	%			11/12/15 15:23	1

Client: URS Corporation Project/Site: Closed Loop

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#### TestAmerica Job ID: 240-57769-1

#### Client Sample ID: DS-12-1655 Date Collected: 11/09/15 00:00

Date Received: 11/11/15 10:00

Lab Sample ID: 240-57769-6
Matrix: Solid
Percent Solids: 99.3

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	26	U	26	7.0	mg/Kg	\ ☆	11/12/15 10:45	11/13/15 14:45	20
Barium	210	J	340	7.0	mg/Kg	¢	11/12/15 10:45	11/13/15 14:45	20
Cadmium	2.9	J	8.5	0.36	mg/Kg	₽	11/12/15 10:45	11/13/15 14:45	20
Chromium	78		17	1.3	mg/Kg	¢	11/12/15 10:45	11/13/15 14:45	20
Lead	2800	В	17	0.38	mg/Kg	¢	11/12/15 10:45	11/13/15 14:45	20
Selenium	34	U	34	5.8	mg/Kg	₽	11/12/15 10:45	11/13/15 14:45	20
Silver	5.8	J	17	1.1	mg/Kg	¢	11/12/15 10:45	11/13/15 14:45	20
Method: 7471B - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	0.092	J	0.10	0.014	mg/Kg	<u> </u>	11/12/15 15:45	11/13/15 14:40	1

RL

0.50

0.10

0.50

0.50

0.25

0.50

10

MDL Unit

0.0029 mg/L

0.0010 mg/L

0.00014 mg/L

0.00055 mg/L

0.0019 mg/L

0.0040 mg/L

0.00092 mg/L

D

Prepared

**Result Qualifier** 

1.8 J B

0.0091 JB

0.038 J

4.7

0.012 JB

0.25 U

0.50 U

Client: URS Corporation Project/Site: Closed Loop

Analyte

Arsenic

**Barium** 

Lead

Silver

Selenium

Cadmium

Chromium

8

Dil Fac

1

1

1

1

1

1

1

1

1

1

Dil Fac

Dil Fac

#### Client Sample ID: DS-08-1655 Date Collected: 11/09/15 00:00 Date Received: 11/11/15 10:00

Method: 6010C - Metals (ICP) - TCLP

Method: 7470A - Mercury (CVAA) - TCLP

### Lab Sample ID: 240-57769-7 Matrix: Solid

11/13/15 10:23 11/16/15 13:32

11/13/15 10:23 11/16/15 13:32

11/13/15 10:23 11/16/15 13:32

11/13/15 10:23 11/16/15 13:32

11/13/15 10:23 11/16/15 13:32

11/13/15 10:23 11/16/15 13:32

11/13/15 10:23 11/16/15 13:32

Analyzed

Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	
Mercury	0.0020	U	0.0020	0.000090	mg/L		11/13/15 14:00	11/16/15 15:47	-
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	
Percent Solids	98		0.10	0.10	%			11/12/15 15:23	
Percent Moisture	1.6		0.10	0.10	%			11/12/15 15:23	

Client: URS Corporation Project/Site: Closed Loop

### Client Sample ID: DS-08-1655 Date Collected: 11/09/15 00:00

Date Received: 11/11/15 10:00

#### Lab Sample ID: 240-57769-7 Matrix: Solid Percent Solids: 98.4

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Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	71	U	71	19	mg/Kg	<u> </u>	11/12/15 10:45	11/13/15 14:49	50
Barium	300	J	940	19	mg/Kg	¢	11/12/15 10:45	11/13/15 14:49	50
Cadmium	16	J	24	0.99	mg/Kg	₽	11/12/15 10:45	11/13/15 14:49	50
Chromium	38	J	47	3.5	mg/Kg	¢	11/12/15 10:45	11/13/15 14:49	50
Lead	3000	В	47	1.0	mg/Kg	¢	11/12/15 10:45	11/13/15 14:49	50
Selenium	94	U	94	16	mg/Kg	₽	11/12/15 10:45	11/13/15 14:49	50
Silver	8.2	J	47	3.0	mg/Kg	¢	11/12/15 10:45	11/13/15 14:49	50
Method: 7471B - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	0.19		0.11	0.015	mg/Kg	\ ₽	11/12/15 15:45	11/13/15 14:44	1

Client: URS Corporation Project/Site: Closed Loop

#### TestAmerica Job ID: 240-57769-1

Client	Sample	ID:	DS-14-	1675
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Date Collected: 11/09/15 00:00 Date Received: 11/11/15 10:00

Lab Sample	ID: 240-57769-8
	Matrix: Solid

Percent Solids: 98.0

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	150	U	150	41	mg/Kg	— <u>¤</u>	11/12/15 10:45	11/13/15 15:59	100
Barium	320	J	2000	41	mg/Kg	☆	11/12/15 10:45	11/13/15 15:59	100
Cadmium	30	J	51	2.1	mg/Kg	☆	11/12/15 10:45	11/13/15 15:59	100
Chromium	84	J	100	7.6	mg/Kg	¢	11/12/15 10:45	11/13/15 15:59	100
Lead	2300	В	100	2.2	mg/Kg	₽	11/12/15 10:45	11/13/15 15:59	100
Selenium	200	U	200	34	mg/Kg	☆	11/12/15 10:45	11/13/15 15:59	100
Silver	15	J	100	6.4	mg/Kg	¢	11/12/15 10:45	11/13/15 15:59	100
Method: 7471B - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Нд	0.25		0.11	0.015	mg/Kg	<u>Å</u>	11/12/15 15:45	11/13/15 14:46	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	98		0.10	0.10	%			11/12/15 15:23	1
Percent Moisture	2.0		0.10	0.10	%			11/12/15 15:23	1

Client: URS Corporation Project/Site: Closed Loop

#### TestAmerica Job ID: 240-57769-1

#### Client Sample ID: DS-12-1675 Date Collected: 11/09/15 00:00

Date Received: 11/11/15 10:00

#### Lab Sample ID: 240-57769-9 Matrix: Solid Percent Solids: 98.4

Method: 6010C - Metals (ICP)	Pocult	Qualifier	RL	MDL	Unit	D	Droparod	Applyzod	Dil Fac
Analyte							Prepared	Analyzed	
Arsenic	260	U	260	71	mg/Kg	¢	11/12/15 10:45	11/13/15 16:03	250
Barium	390	J	3500	71	mg/Kg	¢	11/12/15 10:45	11/13/15 16:03	250
Cadmium	33	J	86	3.6	mg/Kg	¢	11/12/15 10:45	11/13/15 16:03	250
Chromium	37	J	170	13	mg/Kg	¢	11/12/15 10:45	11/13/15 16:03	250
Lead	5200	В	170	3.8	mg/Kg	¢	11/12/15 10:45	11/13/15 16:03	250
Selenium	350	U	350	59	mg/Kg	₽	11/12/15 10:45	11/13/15 16:03	250
Silver	15	J	170	11	mg/Kg	¢.	11/12/15 10:45	11/13/15 16:03	250
Method: 7471B - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Нд	0.30		0.090	0.013	mg/Kg	<u>\$</u>	11/12/15 15:45	11/13/15 14:47	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	98		0.10	0.10	%			11/12/15 15:23	1
Percent Moisture	1.6		0.10	0.10	%			11/12/15 15:23	1

Client: URS Corporation Project/Site: Closed Loop

#### Lab Sample ID: 240-57769-10 Matrix: Solid

Date Collected: 11/09/15 00:00 Date Received: 11/11/15 10:00

Client Sample ID: DS-07-1655

<b>Percent Solids:</b>	99.6

5

Method: 6010C - Metals (ICP) Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	26	U –	26	7.2	mg/Kg	— <del></del>	11/12/15 10:45	11/13/15 15:14	20
Barium	150	J	350	7.2	mg/Kg	¢	11/12/15 10:45	11/13/15 15:14	20
Cadmium	7.2	J	8.7	0.37	mg/Kg	¢	11/12/15 10:45	11/13/15 15:14	20
Chromium	40		17	1.3	mg/Kg	¢	11/12/15 10:45	11/13/15 15:14	20
Lead	3100	В	17	0.38	mg/Kg	₽	11/12/15 10:45	11/13/15 15:14	20
Selenium	35	U	35	5.9	mg/Kg	☆	11/12/15 10:45	11/13/15 15:14	20
Silver	1.3	J	17	1.1	mg/Kg	¢.	11/12/15 10:45	11/13/15 15:14	20
Method: 7471B - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Нд	0.081	J	0.10	0.015	mg/Kg	<u>\$</u>	11/12/15 15:45	11/13/15 14:50	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	100		0.10	0.10	%			11/12/15 15:23	1
Percent Moisture	0.42		0.10	0.10	%			11/12/15 15:23	1

Client: URS Corporation Project/Site: Closed Loop

Client Sample ID: DS-04-1675 Date Collected: 11/09/15 00:00

Date Received: 11/11/15 10:00

#### Lab Sample ID: 240-57769-11 Matrix: Solid Percent Solids: 99.6

5

**8** 9

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	260	U	260	71	mg/Kg	₩ \[\]	11/12/15 10:45	11/13/15 16:07	250
Barium	210	J	3500	71	mg/Kg	¢	11/12/15 10:45	11/13/15 16:07	250
Cadmium	25	J	87	3.6	mg/Kg	₽	11/12/15 10:45	11/13/15 16:07	250
Chromium	170	U	170	13	mg/Kg	¢	11/12/15 10:45	11/13/15 16:07	250
Lead	2200	В	170	3.8	mg/Kg	¢	11/12/15 10:45	11/13/15 16:07	250
Selenium	350	U	350	59	mg/Kg	₽	11/12/15 10:45	11/13/15 16:07	250
Silver	22	J	170	11	mg/Kg	¢.	11/12/15 10:45	11/13/15 16:07	250
_ Method: 7471B - Mercury (CVAA	)								
Analyte	•	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Нд	0.042	J	0.11	0.015	mg/Kg	<u>\$</u>	11/12/15 15:45	11/13/15 14:52	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	100		0.10	0.10	%			11/12/15 15:23	1
Percent Moisture	0.44		0.10	0.10	%			11/12/15 15:23	1

Client: URS Corporation Project/Site: Closed Loop

#### Client Sample ID: DS-09-1655 Date Collected: 11/09/15 00:00

Date Received: 11/11/15 10:00

#### Lab Sample ID: 240-57769-12 Matrix: Solid Percent Solids: 99.0

5

Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	23	U	23	6.2	mg/Kg	<u>\$</u>	11/12/15 10:45	11/13/15 15:22	20
Barium	140	J	300	6.2	mg/Kg	¢	11/12/15 10:45	11/13/15 15:22	20
Cadmium	3.7	J	7.6	0.32	mg/Kg	₽	11/12/15 10:45	11/13/15 15:22	20
Chromium	18		15	1.1	mg/Kg	¢	11/12/15 10:45	11/13/15 15:22	20
Lead	2500	В	15	0.33	mg/Kg	¢	11/12/15 10:45	11/13/15 15:22	20
Selenium	30	U	30	5.2	mg/Kg	₽	11/12/15 10:45	11/13/15 15:22	20
Silver	2.2	J	15	0.96	mg/Kg	¢	11/12/15 10:45	11/13/15 15:22	20
Method: 7471B - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Нд	0.052	J	0.10	0.014	mg/Kg	- <del>x</del>	11/12/15 15:45	11/13/15 14:53	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	99		0.10	0.10	%			11/12/15 15:23	1
Percent Moisture	0.96		0.10	0.10	%			11/12/15 15:23	1

**Client: URS Corporation** Project/Site: Closed Loop

### **Client Sample ID: DUP A** Date Collected: 11/09/15 00:00

#### Lab Sample ID: 240-57769-13 Matrix: Solid t Solide

8

Date Received: 11/11/15 10:00								Percent Solid	ls: 99.0
Method: 6010C - Metals (ICP)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	140	U	140	38	mg/Kg	<u>⊅</u>	11/12/15 10:45	11/13/15 16:28	100
Barium	350	J	1900	38	mg/Kg	☆	11/12/15 10:45	11/13/15 16:28	100
Cadmium	23	J	46	1.9	mg/Kg	¢	11/12/15 10:45	11/13/15 16:28	100
Chromium	35	J	93	7.0	mg/Kg	¢	11/12/15 10:45	11/13/15 16:28	100
Lead	2700	В	93	2.0	mg/Kg	¢	11/12/15 10:45	11/13/15 16:28	100
Selenium	190	U	190	32	mg/Kg	¢	11/12/15 10:45	11/13/15 16:28	100
Silver	14	J	93	5.8	mg/Kg	¢.	11/12/15 10:45	11/13/15 16:28	100
Method: 7471B - Mercury (CVAA	)								
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	0.17		0.096	0.013	mg/Kg	<u>Å</u>	11/12/15 15:45	11/13/15 14:56	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	99		0.10	0.10	%			11/12/15 15:23	1
Percent Moisture	1.0		0.10	0.10	%			11/12/15 15:23	1

Client: URS Corporation Project/Site: Closed Loop

#### TestAmerica Job ID: 240-57769-1

### Client Sample ID: DS-08-1675 Date Collected: 11/09/15 00:00

Date Received: 11/11/15 10:00

#### Lab Sample ID: 240-57769-14 Matrix: Solid Percent Solids: 99.2

Method: 6010C - Metals (ICP	•								
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	64	U	64	18	mg/Kg	₩ Ţ	11/12/15 10:45	11/13/15 15:30	50
Barium	410	J	850	18	mg/Kg	¢	11/12/15 10:45	11/13/15 15:30	50
Cadmium	15	J	21	0.90	mg/Kg	₿	11/12/15 10:45	11/13/15 15:30	50
Chromium	35	J	43	3.2	mg/Kg	¢	11/12/15 10:45	11/13/15 15:30	50
Lead	8000	В	43	0.94	mg/Kg	☆	11/12/15 10:45	11/13/15 15:30	50
Selenium	85	U	85	15	mg/Kg	☆	11/12/15 10:45	11/13/15 15:30	50
Silver	9.7	J	43	2.7	mg/Kg	¢	11/12/15 10:45	11/13/15 15:30	50
Method: 7471B - Mercury (C	VAA)								
Analyte		Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	0.10	J	0.11	0.015	mg/Kg	<u>\$</u>	11/12/15 15:45	11/13/15 14:57	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	99		0.10	0.10	%		·	11/12/15 15:23	1
Percent Moisture	0.84		0.10	0.10	%			11/12/15 15:23	1

Client: URS Corporation Project/Site: Closed Loop

#### Lab Sample ID: 240-57769-15 Matrix: Solid

Date Collected: 11/09/15 00:00 Date Received: 11/11/15 10:00

Client Sample ID: DS-11-1655

	•••••
Percent Solids:	99.1

5

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	28	U	28	7.7	mg/Kg	₩	11/12/15 10:45	11/13/15 15:34	20
Barium	210	J	380	7.7	mg/Kg	₽	11/12/15 10:45	11/13/15 15:34	20
Cadmium	4.4	J	9.4	0.40	mg/Kg	☆	11/12/15 10:45	11/13/15 15:34	20
Chromium	98		19	1.4	mg/Kg	¢	11/12/15 10:45	11/13/15 15:34	20
Lead	2300	В	19	0.41	mg/Kg	☆	11/12/15 10:45	11/13/15 15:34	20
Selenium	38	U	38	6.4	mg/Kg	☆	11/12/15 10:45	11/13/15 15:34	20
Silver	5.7	J	19	1.2	mg/Kg	¢	11/12/15 10:45	11/13/15 15:34	20
Method: 7471B - Mercury (CVAA)									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hg	0.14		0.096	0.013	mg/Kg	<u>Å</u>	11/12/15 15:45	11/13/15 14:59	1
General Chemistry									
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	99		0.10	0.10	%			11/12/15 15:23	1
Percent Moisture	0.89		0.10	0.10	%			11/12/15 15:23	ł

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

### Lab Sample ID: MB 240-206494/1-A

#### Matrix: Solid Analysis Batch: 206868

	MB	MB							
Analyte F	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	1.5	U	1.5	0.41	mg/Kg		11/12/15 10:45	11/13/15 13:35	1
Barium	20	U	20	0.41	mg/Kg		11/12/15 10:45	11/13/15 13:35	1
Cadmium	0.50	U	0.50	0.021	mg/Kg		11/12/15 10:45	11/13/15 13:35	1
Chromium	1.0	U	1.0	0.075	mg/Kg		11/12/15 10:45	11/13/15 13:35	1
Lead	0.183	J	1.0	0.022	mg/Kg		11/12/15 10:45	11/13/15 13:35	1
Selenium	2.0	U	2.0	0.34	mg/Kg		11/12/15 10:45	11/13/15 13:35	1
Silver	1.0	U	1.0	0.063	mg/Kg		11/12/15 10:45	11/13/15 13:35	1

#### Lab Sample ID: LCS 240-206494/2-A Matrix: Solid

Analysis Batch: 206868

#### Prep Batch: 206494 LCS LCS Spike %Rec. Added Limits Analyte **Result Qualifier** Unit D %Rec 200 Arsenic 186 mg/Kg 93 80 - 120 Barium 200 185 93 80 - 120 mg/Kg Cadmium 5.00 4.67 mg/Kg 93 80 - 120 Chromium 20.0 18.8 mg/Kg 94 80 - 120 Lead 50.0 45.6 mg/Kg 91 80 - 120 Selenium 200 185 mg/Kg 92 80 - 120 Silver 5.00 4.83 97 80 - 120 mg/Kg

#### Lab Sample ID: MB 240-206678/2-A Matrix: Solid

#### Analysis Batch: 206959

	MB	MB							
Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	0.50	U	0.50	0.0029	mg/L		11/13/15 10:23	11/16/15 11:30	1
Barium	10	U	10	0.0010	mg/L		11/13/15 10:23	11/16/15 11:30	1
Cadmium	0.10	U	0.10	0.00014	mg/L		11/13/15 10:23	11/16/15 11:30	1
Chromium	0.50	U	0.50	0.00055	mg/L		11/13/15 10:23	11/16/15 11:30	1
Lead	0.50	U	0.50	0.0019	mg/L		11/13/15 10:23	11/16/15 11:30	1
Selenium	0.25	U	0.25	0.0040	mg/L		11/13/15 10:23	11/16/15 11:30	1
Silver	0.50	U	0.50	0.00092	mg/L		11/13/15 10:23	11/16/15 11:30	1

#### Lab Sample ID: LCS 240-206678/3-A Matrix: Solid Analysis Batch: 206959

**Client Sample ID: Method Blank** 

Prep Type: Total/NA Prep Batch: 206678

#### **Client Sample ID: Lab Control Sample** Prep Type: Total/NA Prep Batch: 206678

Analysis Batch. 200909	Spike	LCS	LCS			%Rec.
Analyte	Added	Result	Qualifier	Unit	D %Rec	Limits
Arsenic	2.00	1.99		mg/L	100	50 - 150
Barium	2.00	1.85	J	mg/L	93	50 - 150
Cadmium	0.0500	0.0483	J	mg/L	97	50 - 150
Chromium	0.200	0.189	J	mg/L	94	50 - 150
Lead	0.500	0.432	J	mg/L	86	50 - 150
Selenium	2.00	2.01		mg/L	101	50 - 150
Silver	0.0500	0.0535	J	mg/L	107	50 - 150

**TestAmerica** Canton

**Client Sample ID: Method Blank** 

**Client Sample ID: Lab Control Sample** 

Prep Type: Total/NA

Prep Batch: 206494

Prep Type: Total/NA

RL

0.50

0.10

0.50

0.50

0.25

0.50

10

MDL Unit

0.0029 mg/L

0.0010 mg/L

0.00014 mg/L

0.00055 mg/L

0.0019 mg/L

0.0040 mg/L

0.00092 mg/L

D

Prepared

Analysis Batch: 206959

**Matrix: Solid** 

Analyte

Arsenic

Barium

Lead

Silver

Cadmium

Chromium

Selenium

**Client Sample ID: Method Blank** 

11/13/15 10:23 11/16/15 11:26

11/13/15 10:23 11/16/15 11:26

11/13/15 10:23 11/16/15 11:26

11/13/15 10:23 11/16/15 11:26

11/13/15 10:23 11/16/15 11:26

11/13/15 10:23 11/16/15 11:26

11/13/15 10:23 11/16/15 11:26

Analyzed

Prep Type: TCLP

Dil Fac

1

1

1

1

1

1

1

Prep Batch: 206678

5
8
9

# Method: 7470A - Mercury (CVAA)

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

LB LB

0.00462 J

0.00325 J

0.00157 J

0.10 U

0.50 U

0.25 U

0.50 U

**Result Qualifier** 

Lab Sample ID: LB 240-206575/1-B

Lab Sample ID: MB 240-206680/2-A Matrix: Solid Analysis Batch: 207017	МВ	МВ							С		ole ID: Methoo Prep Type: T Prep Batch:	otal/NA
Analyte R	esult	Qualifier		RL	М	οLι	Jnit	1	D	Prepared	Analyzed	Dil Fac
Mercury 0.	0020	U	0	.0020	0.0000	90 n	ng/L		1	1/13/15 14:00	11/16/15 15:26	1
Lab Sample ID: LCS 240-206680/3-A         Matrix: Solid         Analysis Batch: 207017         Analyte         Mercury			Spike Added 0.00500	(	LCS L Result C		fier	Clie Unit mg/L			Lab Control 3 Prep Type: T Prep Batch: %Rec. Limits 80 - 120	otal/NA
Lab Sample ID: LB 240-206575/1-C Matrix: Solid Analysis Batch: 207017	LB	LB							С	lient Samp	ole ID: Methoo Prep Type Prep Batch:	: TCLP
Analyte R	esult	Qualifier		RL	M	οLι	Jnit	I	D	Prepared	Analyzed	Dil Fac
Mercury 0.	0020	U	0	.0020	0.0000	90 n	ng/L		1	1/13/15 14:00	11/16/15 15:24	1

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

Lab Sample ID: MB 240-2068 Matrix: Solid Analysis Batch: 206814		МВ							Clie		ble ID: Method Prep Type: To Prep Batch: 2	otal/NA
Analyte	Result	Qualifier		RL	I	MDL	Unit	D	Р	repared	Analyzed	Dil Fac
Hg	0.10	U		0.10	0	.014	mg/Kg	<u> </u>	11/1	2/15 15:45	11/13/15 11:23	1
Lab Sample ID: LCS 240-206 Matrix: Solid Analysis Batch: 206814	511/2-A							Client	: Sai		Lab Control S Prep Type: To Prep Batch: 2	otal/NA
			Spike		LCS	LCS					%Rec.	
Analyte Hg			Added 0.833		Result	Qua		Unit mg/Kg		%Rec	Limits 80 - 120	

## Method: Moisture - Percent Moisture

Lab Sample ID: 240-57769- Matrix: Solid Analysis Batch: 206558	5 DU						mple ID: DS-10 Prep Type: Tot	
	Sample	Sample	DU	DU				RPD
Analyte	Result	Qualifier	Result	Qualifier	Unit	D	RPD	Limit
Percent Solids	99		99		%		0.1	20
Percent Moisture	0.99		1.1		%		13	20
Lab Sample ID: 240-57769- Matrix: Solid	14 DU						mple ID: DS-08 Prep Type: Tot	
Analysis Batch: 206558								
	Sample	Sample	DU	DU				RPD
Analyte	Result	Qualifier	Result	Qualifier	Unit	D	RPD	Limit
Percent Solids	99		99		%		0.08	20
Percent Moisture	0.84		0.76		%		10	20

#### **Metals**

#### Prep Batch: 206494

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-57769-1	DS-11-1675	Total/NA	Solid	3050B	
240-57769-2	DS-03-1675	Total/NA	Solid	3050B	
240-57769-3	DS-13-1675	Total/NA	Solid	3050B	
240-57769-4	DS-09-1675	Total/NA	Solid	3050B	
240-57769-5	DS-10-1655	Total/NA	Solid	3050B	
240-57769-6	DS-12-1655	Total/NA	Solid	3050B	
240-57769-7	DS-08-1655	Total/NA	Solid	3050B	
240-57769-8	DS-14-1675	Total/NA	Solid	3050B	
240-57769-9	DS-12-1675	Total/NA	Solid	3050B	
240-57769-10	DS-07-1655	Total/NA	Solid	3050B	
240-57769-11	DS-04-1675	Total/NA	Solid	3050B	
240-57769-12	DS-09-1655	Total/NA	Solid	3050B	
240-57769-13	DUP A	Total/NA	Solid	3050B	
240-57769-14	DS-08-1675	Total/NA	Solid	3050B	
240-57769-15	DS-11-1655	Total/NA	Solid	3050B	
LCS 240-206494/2-A	Lab Control Sample	Total/NA	Solid	3050B	
MB 240-206494/1-A	Method Blank	Total/NA	Solid	3050B	
Prep Batch: 206511					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-57769-1	DS-11-1675	Total/NA	Solid	7471B	
240-57769-2	DS-03-1675	Total/NA	Solid	7471B	
240-57769-3	DS-13-1675	Total/NA	Solid	7471B	
240-57769-4	DS-09-1675	Total/NA	Solid	7471B	
240-57769-5	DS-10-1655	Total/NA	Solid	7471B	
240-57769-6	DS-12-1655	Total/NA	Solid	7471B	

Total/NA

Solid

7471B

### MB 240-206511/1-A Leach Batch: 206575

DS-08-1655

DS-14-1675

DS-12-1675

DS-07-1655

DS-04-1675

DS-09-1655

DS-08-1675

DS-11-1655

Method Blank

Lab Control Sample

DUP A

240-57769-7

240-57769-8

240-57769-9

240-57769-10

240-57769-11

240-57769-12

240-57769-13

240-57769-14

240-57769-15

LCS 240-206511/2-A

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-57769-1	DS-11-1675	TCLP	Solid	1311	
240-57769-2	DS-03-1675	TCLP	Solid	1311	
240-57769-3	DS-13-1675	TCLP	Solid	1311	
240-57769-4	DS-09-1675	TCLP	Solid	1311	
240-57769-5	DS-10-1655	TCLP	Solid	1311	
240-57769-6	DS-12-1655	TCLP	Solid	1311	
240-57769-7	DS-08-1655	TCLP	Solid	1311	
LB 240-206575/1-B	Method Blank	TCLP	Solid	1311	
LB 240-206575/1-C	Method Blank	TCLP	Solid	1311	

## Metals (Continued)

### Prep Batch: 206678

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-57769-1	DS-11-1675	TCLP	Solid	3010A	206575
240-57769-2	DS-03-1675	TCLP	Solid	3010A	206575
240-57769-3	DS-13-1675	TCLP	Solid	3010A	206575
240-57769-4	DS-09-1675	TCLP	Solid	3010A	206575
240-57769-5	DS-10-1655	TCLP	Solid	3010A	206575
240-57769-6	DS-12-1655	TCLP	Solid	3010A	206575
240-57769-7	DS-08-1655	TCLP	Solid	3010A	206575
LB 240-206575/1-B	Method Blank	TCLP	Solid	3010A	206575
LCS 240-206678/3-A	Lab Control Sample	Total/NA	Solid	3010A	
MB 240-206678/2-A	Method Blank	Total/NA	Solid	3010A	

#### Prep Batch: 206680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-57769-1	DS-11-1675	TCLP	Solid	7470A	206575
240-57769-2	DS-03-1675	TCLP	Solid	7470A	206575
240-57769-3	DS-13-1675	TCLP	Solid	7470A	206575
240-57769-4	DS-09-1675	TCLP	Solid	7470A	206575
240-57769-5	DS-10-1655	TCLP	Solid	7470A	206575
240-57769-6	DS-12-1655	TCLP	Solid	7470A	206575
240-57769-7	DS-08-1655	TCLP	Solid	7470A	206575
LB 240-206575/1-C	Method Blank	TCLP	Solid	7470A	206575
LCS 240-206680/3-A	Lab Control Sample	Total/NA	Solid	7470A	
MB 240-206680/2-A	Method Blank	Total/NA	Solid	7470A	

#### Analysis Batch: 206814

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-57769-1	DS-11-1675	Total/NA	Solid	7471B	206511
240-57769-2	DS-03-1675	Total/NA	Solid	7471B	206511
240-57769-3	DS-13-1675	Total/NA	Solid	7471B	206511
240-57769-4	DS-09-1675	Total/NA	Solid	7471B	206511
240-57769-5	DS-10-1655	Total/NA	Solid	7471B	206511
240-57769-6	DS-12-1655	Total/NA	Solid	7471B	206511
240-57769-7	DS-08-1655	Total/NA	Solid	7471B	206511
240-57769-8	DS-14-1675	Total/NA	Solid	7471B	206511
240-57769-9	DS-12-1675	Total/NA	Solid	7471B	206511
240-57769-10	DS-07-1655	Total/NA	Solid	7471B	206511
240-57769-11	DS-04-1675	Total/NA	Solid	7471B	206511
240-57769-12	DS-09-1655	Total/NA	Solid	7471B	206511
240-57769-13	DUP A	Total/NA	Solid	7471B	206511
240-57769-14	DS-08-1675	Total/NA	Solid	7471B	206511
240-57769-15	DS-11-1655	Total/NA	Solid	7471B	206511
LCS 240-206511/2-A	Lab Control Sample	Total/NA	Solid	7471B	206511
MB 240-206511/1-A	Method Blank	Total/NA	Solid	7471B	206511

#### Analysis Batch: 206868

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-57769-1	DS-11-1675	Total/NA	Solid	6010C	206494
240-57769-2	DS-03-1675	Total/NA	Solid	6010C	206494
240-57769-3	DS-13-1675	Total/NA	Solid	6010C	206494
240-57769-4	DS-09-1675	Total/NA	Solid	6010C	206494
240-57769-5	DS-10-1655	Total/NA	Solid	6010C	206494

**TestAmerica** Canton

Prep Type

Total/NA

Matrix

Solid

Metals (Continued)

Lab Sample ID

240-57769-6

240-57769-7

240-57769-8

240-57769-9

240-57769-10

240-57769-11

240-57769-12

240-57769-13

240-57769-14

240-57769-15

Analysis Batch: 206868 (Continued)

**Client Sample ID** 

DS-12-1655

DS-08-1655

DS-14-1675

DS-12-1675

DS-07-1655

DS-04-1675

DS-09-1655

DS-08-1675

DS-11-1655

Method Blank

Lab Control Sample

DUP A

Method

6010C

**Prep Batch** 

206494

206494

206494

206494

206494

206494

206494

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206494

206494

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Analysis Batch: 206959

LCS 240-206494/2-A

MB 240-206494/1-A

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-57769-1	DS-11-1675	TCLP	Solid	6010C	206678
240-57769-1	DS-11-1675	TCLP	Solid	6010C	206678
240-57769-2	DS-03-1675	TCLP	Solid	6010C	206678
240-57769-2	DS-03-1675	TCLP	Solid	6010C	206678
240-57769-3	DS-13-1675	TCLP	Solid	6010C	206678
240-57769-4	DS-09-1675	TCLP	Solid	6010C	206678
240-57769-4	DS-09-1675	TCLP	Solid	6010C	206678
240-57769-5	DS-10-1655	TCLP	Solid	6010C	206678
240-57769-5	DS-10-1655	TCLP	Solid	6010C	206678
240-57769-6	DS-12-1655	TCLP	Solid	6010C	206678
240-57769-6	DS-12-1655	TCLP	Solid	6010C	206678
240-57769-7	DS-08-1655	TCLP	Solid	6010C	206678
LB 240-206575/1-B	Method Blank	TCLP	Solid	6010C	206678
LCS 240-206678/3-A	Lab Control Sample	Total/NA	Solid	6010C	206678
MB 240-206678/2-A	Method Blank	Total/NA	Solid	6010C	206678

#### Analysis Batch: 207017

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-57769-1	DS-11-1675	TCLP	Solid	7470A	206680
240-57769-2	DS-03-1675	TCLP	Solid	7470A	206680
240-57769-3	DS-13-1675	TCLP	Solid	7470A	206680
240-57769-4	DS-09-1675	TCLP	Solid	7470A	206680
240-57769-5	DS-10-1655	TCLP	Solid	7470A	206680
240-57769-6	DS-12-1655	TCLP	Solid	7470A	206680
240-57769-7	DS-08-1655	TCLP	Solid	7470A	206680
LB 240-206575/1-C	Method Blank	TCLP	Solid	7470A	206680
LCS 240-206680/3-A	Lab Control Sample	Total/NA	Solid	7470A	206680
MB 240-206680/2-A	Method Blank	Total/NA	Solid	7470A	206680

#### **General Chemistry**

#### Analysis Batch: 206558

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-57769-1	DS-11-1675	Total/NA	Solid	Moisture	
240-57769-2	DS-03-1675	Total/NA	Solid	Moisture	

#### TestAmerica Job ID: 240-57769-1

# General Chemistry (Continued)

### Analysis Batch: 206558 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-57769-3	DS-13-1675	Total/NA	Solid	Moisture	
240-57769-4	DS-09-1675	Total/NA	Solid	Moisture	
240-57769-5	DS-10-1655	Total/NA	Solid	Moisture	
240-57769-5 DU	DS-10-1655	Total/NA	Solid	Moisture	
240-57769-6	DS-12-1655	Total/NA	Solid	Moisture	
240-57769-7	DS-08-1655	Total/NA	Solid	Moisture	
240-57769-8	DS-14-1675	Total/NA	Solid	Moisture	
240-57769-9	DS-12-1675	Total/NA	Solid	Moisture	
240-57769-10	DS-07-1655	Total/NA	Solid	Moisture	
240-57769-11	DS-04-1675	Total/NA	Solid	Moisture	
240-57769-12	DS-09-1655	Total/NA	Solid	Moisture	
240-57769-13	DUP A	Total/NA	Solid	Moisture	
240-57769-14	DS-08-1675	Total/NA	Solid	Moisture	
240-57769-14 DU	DS-08-1675	Total/NA	Solid	Moisture	
240-57769-15	DS-11-1655	Total/NA	Solid	Moisture	

## Lab Sample ID: 240-57769-1 Matrix: Solid

#### Client Sample ID: DS-11-1675 Date Collected: 11/09/15 00:00 Date Received: 11/11/15 10:00

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
TCLP	Leach	1311			206575	11/12/15 17:00	DRJ	TAL CAN
TCLP	Prep	3010A			206678	11/13/15 10:23	WKD	TAL CAN
TCLP	Analysis	6010C		1	206959	11/16/15 13:06	KLC	TAL CAN
TCLP	Leach	1311			206575	11/12/15 17:00	DRJ	TAL CAN
TCLP	Prep	3010A			206678	11/13/15 10:23	WKD	TAL CAN
TCLP	Analysis	6010C		100	206959	11/16/15 14:17	KLC	TAL CAN
TCLP	Leach	1311			206575	11/12/15 17:00	DRJ	TAL CAN
TCLP	Prep	7470A			206680	11/13/15 14:00	WKD	TAL CAN
TCLP	Analysis	7470A		1	207017	11/16/15 16:22	WAL	TAL CAN
Total/NA	Analysis	Moisture		1	206558	11/12/15 15:23	GNR	TAL CAN

#### Client Sample ID: DS-11-1675 Date Collected: 11/09/15 00:00 Date Received: 11/11/15 10:00

	_
Lab Sample ID: 240-57769-	I
Matelia Oalla	а.

Matrix: Solid Percent Solids: 97.5

-	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			206494	11/12/15 10:45	DEE	TAL CAN
Total/NA	Analysis	6010C		20	206868	11/13/15 14:25	KLC	TAL CAN
Total/NA	Prep	7471B			206511	11/12/15 15:45	DEE	TAL CAN
Total/NA	Analysis	7471B		1	206814	11/13/15 14:32	DSH	TAL CAN

#### Client Sample ID: DS-03-1675 Date Collected: 11/09/15 00:00 Date Received: 11/11/15 10:00

#### Lab Sample ID: 240-57769-2 Matrix: Solid

Lab Sample ID: 240-57769-2

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
TCLP	Leach	1311			206575	11/12/15 17:00	DRJ	TAL CAN
TCLP	Prep	3010A			206678	11/13/15 10:23	WKD	TAL CAN
TCLP	Analysis	6010C		1	206959	11/16/15 13:10	KLC	TAL CAN
TCLP	Leach	1311			206575	11/12/15 17:00	DRJ	TAL CAN
TCLP	Prep	3010A			206678	11/13/15 10:23	WKD	TAL CAN
TCLP	Analysis	6010C		100	206959	11/16/15 14:21	KLC	TAL CAN
TCLP	Leach	1311			206575	11/12/15 17:00	DRJ	TAL CAN
TCLP	Prep	7470A			206680	11/13/15 14:00	WKD	TAL CAN
TCLP	Analysis	7470A		1	207017	11/16/15 16:24	WAL	TAL CAN
Total/NA	Analysis	Moisture		1	206558	11/12/15 15:23	GNR	TAL CAN

#### Client Sample ID: DS-03-1675 Date Collected: 11/09/15 00:00 Date Received: 11/11/15 10:00

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			206494	11/12/15 10:45	DEE	TAL CAN

**TestAmerica** Canton

Percent Solids: 99.7

5 6

Matrix: Solid

Date Received	d: 11/11/15 ′	10:00						Percent Solids: 99.7
	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	6010C		100	206868	11/13/15 15:38	KLC	TAL CAN
Total/NA	Prep	7471B			206511	11/12/15 15:45	DEE	TAL CAN
Total/NA	Analysis	7471B		1	206814	11/13/15 14:33	DSH	TAL CAN

#### Client Sample ID: DS-13-1675 Date Collected: 11/09/15 00:00 Date Received: 11/11/15 10:00

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
TCLP	Leach	1311			206575	11/12/15 17:00	DRJ	TAL CAN
TCLP	Prep	3010A			206678	11/13/15 10:23	WKD	TAL CAN
TCLP	Analysis	6010C		1	206959	11/16/15 13:14	KLC	TAL CAN
TCLP	Leach	1311			206575	11/12/15 17:00	DRJ	TAL CAN
TCLP	Prep	7470A			206680	11/13/15 14:00	WKD	TAL CAN
TCLP	Analysis	7470A		1	207017	11/16/15 16:27	WAL	TAL CAN
Total/NA	Analysis	Moisture		1	206558	11/12/15 15:23	GNR	TAL CAN

#### Client Sample ID: DS-13-1675 Date Collected: 11/09/15 00:00 Date Received: 11/11/15 10:00

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			206494	11/12/15 10:45	DEE	TAL CAN
Total/NA	Analysis	6010C		50	206868	11/13/15 14:33	KLC	TAL CAN
Total/NA	Prep	7471B			206511	11/12/15 15:45	DEE	TAL CAN
Total/NA	Analysis	7471B		1	206814	11/13/15 14:35	DSH	TAL CAN

#### Client Sample ID: DS-09-1675 Date Collected: 11/09/15 00:00 Date Received: 11/11/15 10:00

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
TCLP	Leach	1311			206575	11/12/15 17:00	DRJ	TAL CAN
TCLP	Prep	3010A			206678	11/13/15 10:23	WKD	TAL CAN
TCLP	Analysis	6010C		1	206959	11/16/15 13:19	KLC	TAL CAN
TCLP	Leach	1311			206575	11/12/15 17:00	DRJ	TAL CAN
TCLP	Prep	3010A			206678	11/13/15 10:23	WKD	TAL CAN
TCLP	Analysis	6010C		10	206959	11/16/15 14:25	KLC	TAL CAN
TCLP	Leach	1311			206575	11/12/15 17:00	DRJ	TAL CAN
TCLP	Prep	7470A			206680	11/13/15 14:00	WKD	TAL CAN
TCLP	Analysis	7470A		1	207017	11/16/15 15:49	WAL	TAL CAN
Total/NA	Analysis	Moisture		1	206558	11/12/15 15:23	GNR	TAL CAN

**TestAmerica** Canton

TestAmerica Job ID: 240-57769-1

Lab Sample ID: 240-57769-2

Lab Sample ID: 240-57769-3

Lab Sample ID: 240-57769-3

Lab Sample ID: 240-57769-4

Matrix: Solid

Matrix: Solid

Matrix: Solid

Matrix: Solid

Percent Solids: 98.2

#### Client Sample ID: DS-09-1675 Lab Sample ID: 240-57769-4 Date Collected: 11/09/15 00:00 Matrix: Solid Date Received: 11/11/15 10:00 Percent Solids: 98.4 Batch Batch Dilution Batch Prepared Prep Type Туре Method Run Factor Number or Analyzed Analyst Lab Total/NA Prep 3050B 206494 11/12/15 10:45 DEE TAL CAN Total/NA Analysis 6010C 100 206868 11/13/15 15:51 KLC TAL CAN Total/NA Prep 7471B 206511 11/12/15 15:45 DEE TAL CAN Total/NA Analysis 7471B 206814 11/13/15 14:36 DSH TAL CAN 1

#### Client Sample ID: DS-10-1655 Date Collected: 11/09/15 00:00 Date Received: 11/11/15 10:00

Lab S	Sample	ID: 240-577	'69-5
		Matrix:	Solid

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
TCLP	Leach	1311			206575	11/12/15 17:00	DRJ	TAL CAN
TCLP	Prep	3010A			206678	11/13/15 10:23	WKD	TAL CAN
TCLP	Analysis	6010C		1	206959	11/16/15 13:23	KLC	TAL CAN
TCLP	Leach	1311			206575	11/12/15 17:00	DRJ	TAL CAN
TCLP	Prep	3010A			206678	11/13/15 10:23	WKD	TAL CAN
TCLP	Analysis	6010C		20	206959	11/16/15 14:37	KLC	TAL CAN
TCLP	Leach	1311			206575	11/12/15 17:00	DRJ	TAL CAN
TCLP	Prep	7470A			206680	11/13/15 14:00	WKD	TAL CAN
TCLP	Analysis	7470A		1	207017	11/16/15 15:51	WAL	TAL CAN
Total/NA	Analysis	Moisture		1	206558	11/12/15 15:23	GNR	TAL CAN

#### Client Sample ID: DS-10-1655 Date Collected: 11/09/15 00:00 Date Received: 11/11/15 10:00

#### Lab Sample ID: 240-57769-5 Matrix: Solid Percent Solids: 99.0

Lab Sample ID: 240-57769-6

Γ	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			206494	11/12/15 10:45	DEE	TAL CAN
Total/NA	Analysis	6010C		20	206868	11/13/15 14:41	KLC	TAL CAN
Total/NA	Prep	7471B			206511	11/12/15 15:45	DEE	TAL CAN
Total/NA	Analysis	7471B		1	206814	11/13/15 14:38	DSH	TAL CAN

#### Client Sample ID: DS-12-1655 Date Collected: 11/09/15 00:00 Date Received: 11/11/15 10:00

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
TCLP	Leach	1311			206575	11/12/15 17:00	DRJ	TAL CAN
TCLP	Prep	3010A			206678	11/13/15 10:23	WKD	TAL CAN
TCLP	Analysis	6010C		1	206959	11/16/15 13:27	KLC	TAL CAN
TCLP	Leach	1311			206575	11/12/15 17:00	DRJ	TAL CAN
TCLP	Prep	3010A			206678	11/13/15 10:23	WKD	TAL CAN
TCLP	Analysis	6010C		100	206959	11/16/15 14:42	KLC	TAL CAN
TCLP	Leach	1311			206575	11/12/15 17:00	DRJ	TAL CAN
TCLP	Prep	7470A			206680	11/13/15 14:00	WKD	TAL CAN

**TestAmerica** Canton

Matrix: Solid

Matrix: Solid

Matrix: Solid

Percent Solids: 99.3

# Date Collected: 11/09/15 00:00

Date Received: 11/11/15 10:00

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
TCLP	Analysis	7470A		1	207017	11/16/15 15:53	WAL	TAL CAN
Total/NA	Analysis	Moisture		1	206558	11/12/15 15:23	GNR	TAL CAN

#### Client Sample ID: DS-12-1655 Date Collected: 11/09/15 00:00 Date Received: 11/11/15 10:00

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			206494	11/12/15 10:45	DEE	TAL CAN
Total/NA	Analysis	6010C		20	206868	11/13/15 14:45	KLC	TAL CAN
Total/NA	Prep	7471B			206511	11/12/15 15:45	DEE	TAL CAN
Total/NA	Analysis	7471B		1	206814	11/13/15 14:40	DSH	TAL CAN

#### Client Sample ID: DS-08-1655 Date Collected: 11/09/15 00:00 Date Received: 11/11/15 10:00

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
TCLP	Leach	1311			206575	11/12/15 17:00	DRJ	TAL CAN
TCLP	Prep	3010A			206678	11/13/15 10:23	WKD	TAL CAN
TCLP	Analysis	6010C		1	206959	11/16/15 13:32	KLC	TAL CAN
TCLP	Leach	1311			206575	11/12/15 17:00	DRJ	TAL CAN
TCLP	Prep	7470A			206680	11/13/15 14:00	WKD	TAL CAN
TCLP	Analysis	7470A		1	207017	11/16/15 15:47	WAL	TAL CAN
Total/NA	Analysis	Moisture		1	206558	11/12/15 15:23	GNR	TAL CAN

#### Client Sample ID: DS-08-1655 Date Collected: 11/09/15 00:00 Date Received: 11/11/15 10:00

-	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			206494	11/12/15 10:45	DEE	TAL CAN
Total/NA	Analysis	6010C		50	206868	11/13/15 14:49	KLC	TAL CAN
Total/NA	Prep	7471B			206511	11/12/15 15:45	DEE	TAL CAN
Total/NA	Analysis	7471B		1	206814	11/13/15 14:44	DSH	TAL CAN

#### Client Sample ID: DS-14-1675 Date Collected: 11/09/15 00:00 Date Received: 11/11/15 10:00

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	206558	11/12/15 15:23	GNR	TAL CAN

Matrix: Solid

Lab Sample ID: 240-57769-6

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#### Lab Sample ID: 240-57769-7 Matrix: Solid

Lab Sample ID: 240-57769-7 Matrix: Solid Percent Solids: 98.4

Lab Sample ID: 240-57769-8

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lient: URS Co roject/Site: C	•						les	tAmerica Jo	b ID: 240-57769-1
		44 4075					Lab	O a manufacili	D. 040 57700 0
Client Sam							Lab	Sample I	D: 240-57769-8
Date Collecte Date Received								Pe	Matrix: Solic rcent Solids: 98.0
-	Batch	Batch		Dilution	Batch	Prepared			
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab	
Total/NA	Prep	3050B			206494	11/12/15 10:45		TAL CAN	
Total/NA	Analysis	6010C		100	206868	11/13/15 15:59	KLC	TAL CAN	
Total/NA	Prep	7471B			206511	11/12/15 15:45	DEE	TAL CAN	
Total/NA	Analysis	7471B		1	206814	11/13/15 14:46	DSH	TAL CAN	
Client Sam	ole ID: DS	-12-1675					Lab	Sample I	D: 240-57769-9
Date Collecte									Matrix: Solic
ate Received	d: 11/11/15 1	10:00							
	Batch	Batch		Dilution	Batch	Prepared			
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab	
Total/NA	Analysis	Moisture		1		11/12/15 15:23	-	TAL CAN	
-									
							Lah	Sample I	D: 240-57769-9
Client Sam	ple ID: DS	-12-1675					Lau	eanipie i	
Client Sam							Lau	Campion	Matrix: Solic
	d: 11/09/15 (	00:00					Lau		
ate Collecte	d: 11/09/15 (	00:00		Dilution	Batch	Prepared	Lab		Matrix: Solic
ate Collecte	d: 11/09/15 ( d: 11/11/15 1	00:00 10:00	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst		Matrix: Solic
Date Collecte Date Received	d: 11/09/15 ( d: 11/11/15 1 Batch	00:00 10:00 Batch <u>Method</u> 3050B	Run	Factor		•	Analyst	Pe	Matrix: Solic
Date Collecte Date Received Prep Type	d: 11/09/15 ( d: 11/11/15 1 Batch Type	00:00 10:00 Batch Method	Run		<b>Number</b> 206494	or Analyzed	Analyst DEE	Pe Lab	Matrix: Solic
Date Collecter Date Received Prep Type Total/NA	d: 11/09/15 ( d: 11/11/15 1 Batch Type Prep	00:00 10:00 Batch <u>Method</u> 3050B	Run	Factor	Number 206494 206868	or Analyzed 11/12/15 10:45	Analyst DEE KLC	Pe Lab TAL CAN	Matrix: Solic
Date Collecter Date Received Prep Type Total/NA Total/NA	d: 11/09/15 ( d: 11/11/15 1 Batch Type Prep Analysis	00:00 10:00 Batch Method 3050B 6010C	Run	Factor	Number 206494 206868 206511	or Analyzed 11/12/15 10:45 11/13/15 16:03	Analyst DEE KLC DEE	Pe Lab TAL CAN TAL CAN	Matrix: Solic
Date Collecter Date Received Prep Type Total/NA Total/NA Total/NA Total/NA	d: 11/09/15 d d: 11/11/15 d Batch Type Prep Analysis Prep Analysis	00:00 10:00 Batch Method 3050B 6010C 7471B 7471B	Run	Factor	Number 206494 206868 206511	or Analyzed 11/12/15 10:45 11/13/15 16:03 11/12/15 15:45	Analyst DEE KLC DEE DSH	Pe TAL CAN TAL CAN TAL CAN TAL CAN TAL CAN	Matrix: Solic rcent Solids: 98.4
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Date Collecter Date Received Prep Type Total/NA Total/NA Total/NA Total/NA Client Samp Date Collecter	d: 11/09/15 ( d: 11/11/15 1 Batch Type Prep Analysis Prep Analysis Die ID: DS d: 11/09/15 ( d: 11/11/15 1	00:00 10:00 Batch Method 3050B 6010C 7471B 7471B 7471B -07-1655 00:00 10:00	Run	Factor           250           1	Number 206494 206868 206511 206814	or Analyzed 11/12/15 10:45 11/13/15 16:03 11/12/15 15:45 11/13/15 14:47	Analyst DEE KLC DEE DSH	Pe TAL CAN TAL CAN TAL CAN TAL CAN TAL CAN	Matrix: Solic rcent Solids: 98.4 2: 240-57769-10
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Lab Sample ID: 240-57769-11

Lab Sample ID: 240-57769-11

# Lab Sample ID: 240-57769-12

Matrix: Solid

Matrix: Solid

Matrix: Solid

Percent Solids: 99.6

<b>Client Sample</b>	ID: DS-04-1675
<b>Date Collected: 1</b>	1/09/15 00:00

Date Received: 11/11/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	206558	11/12/15 15:23	GNR	TAL CAN

#### Client Sample ID: DS-04-1675 Date Collected: 11/09/15 00:00 Date Received: 11/11/15 10:00

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			206494	11/12/15 10:45	DEE	TAL CAN
Total/NA	Analysis	6010C		250	206868	11/13/15 16:07	KLC	TAL CAN
Total/NA	Prep	7471B			206511	11/12/15 15:45	DEE	TAL CAN
Total/NA	Analysis	7471B		1	206814	11/13/15 14:52	DSH	TAL CAN

#### Client Sample ID: DS-09-1655 Date Collected: 11/09/15 00:00 Date Received: 11/11/15 10:00

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	206558	11/12/15 15:23	GNR	TAL CAN

#### Client Sample ID: DS-09-1655 Date Collected: 11/09/15 00:00 Date Received: 11/11/15 10:00

Lab Sample	ID: 240-57769-12
	Matrix: Solid
	Percent Solids: 99.0

Lab Sample ID: 240-57769-13

	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			206494	11/12/15 10:45	DEE	TAL CAN
Total/NA	Analysis	6010C		20	206868	11/13/15 15:22	KLC	TAL CAN
Total/NA	Prep	7471B			206511	11/12/15 15:45	DEE	TAL CAN
Total/NA	Analysis	7471B		1	206814	11/13/15 14:53	DSH	TAL CAN

#### **Client Sample ID: DUP A** Date Collected: 11/09/15 00:00 Date Received: 11/11/15 10:00

_								
	Batch	Batch Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	206558	11/12/15 15:23	GNR	TAL CAN

Client Sam	•						Lab S	ample ID	): 240-57769-13
Date Collecte	a: 11/09/15	00:00							Matrix: Solid
Date Receive	d: 11/11/15	10:00						Pe	ercent Solids: 99.0
Γ	Batch	Batch		Dilution	Batch	Prepared			
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab	
Total/NA	Prep	3050B			206494	11/12/15 10:45	DEE	TAL CAN	-

**TestAmerica** Canton

Matrix: Solid

Lab Sample ID: 240-57769-13

Lab Sample ID: 240-57769-14

Lab Sample ID: 240-57769-14

#### **Client Sample ID: DUP A** Date Collected: 11/09/15 00:00

Date Received: 11/11/15 10:00

Date Receive	Date Received: 11/11/15 10:00												
Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab					
Total/NA	Analysis	6010C		100	206868	11/13/15 16:28	KLC	TAL CAN					
Total/NA Total/NA	Prep Analysis	7471B 7471B		1		11/12/15 15:45 11/13/15 14:56		TAL CAN TAL CAN					

#### Client Sample ID: DS-08-1675 Date Collected: 11/09/15 00:00 Date Received: 11/11/15 10:00

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Analysis	Moisture		1	206558	11/12/15 15:23	GNR	TAL CAN

#### Client Sample ID: DS-08-1675 Date Collected: 11/09/15 00:00 Date Received: 11/11/15 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			206494	11/12/15 10:45	DEE	TAL CAN
Total/NA	Analysis	6010C		50	206868	11/13/15 15:30	KLC	TAL CAN
Total/NA	Prep	7471B			206511	11/12/15 15:45	DEE	TAL CAN
Total/NA	Analysis	7471B		1	206814	11/13/15 14:57	DSH	TAL CAN

#### Client Sample ID: DS-11-1655 Date Collected: 11/09/15 00:00 Date Received: 11/11/15 10:00

# Lab Sample ID: 240-57769-15

Lab Sample ID: 240-57769-15

Matrix: Solid

Matrix: Solid

Percent Solids: 99.1

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analvst	Lab
Total/NA	Analysis	Moisture		1		11/12/15 15:23	GNR	TAL CAN

#### Client Sample ID: DS-11-1655 Date Collected: 11/09/15 00:00 Date Received: 11/11/15 10:00

_	Batch	Batch		Dilution	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	3050B			206494	11/12/15 10:45	DEE	TAL CAN
Total/NA	Analysis	6010C		20	206868	11/13/15 15:34	KLC	TAL CAN
Total/NA	Prep	7471B			206511	11/12/15 15:45	DEE	TAL CAN
Total/NA	Analysis	7471B		1	206814	11/13/15 14:59	DSH	TAL CAN

#### Laboratory References:

TAL CAN = TestAmerica Canton, 4101 Shuffel Street NW, North Canton, OH 44720, TEL (330)497-9396

Matrix: Solid

Matrix: Solid

Matrix: Solid

Percent Solids: 99.2

# **Certification Summary**

Client: URS Corporation Project/Site: Closed Loop

#### TestAmerica Job ID: 240-57769-1

12

13

# Laboratory: TestAmerica Canton

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

Authority	Program	EPA Region	Certification ID	Expiration Date
California	NELAP	9	01144CA	06-30-14 *
California	State Program	9	2927	04-30-17
Connecticut	State Program	1	PH-0590	12-31-15
llinois	NELAP	5	200004	07-31-16
Kansas	NELAP	7	E-10336	01-31-16 *
(entucky (UST)	State Program	4	58	02-26-16
Centucky (WW)	State Program	4	98016	12-31-15
A-B	DoD ELAP		L2315	07-18-16
linnesota	NELAP	5	039-999-348	12-31-15
levada	State Program	9	OH-000482008A	07-31-16
lew Jersey	NELAP	2	OH001	11-30-15 *
ew York	NELAP	2	10975	03-31-16
hio VAP	State Program	5	CL0024	09-14-17
regon	NELAP	10	4062	02-23-16
ennsylvania	NELAP	3	68-00340	08-31-16
exas	NELAP	6	T104704517-15-5	08-31-16
SDA	Federal		P330-13-00319	11-26-16
irginia	NELAP	3	460175	09-14-16
ashington	State Program	10	C971	01-12-16
est Virginia DEP	State Program	3	210	12-31-15
Visconsin	State Program	5	999518190	08-31-16

\* Certification renewal pending - certification considered valid.



TestAmerica Laboratories, Inc.

# CHAIN OF CUSTODY

# AND RECEIVING DOCUMENTS



21/ 4101 Shuffel Street, N.W. North Canton, OH 44720 tel 330.497.9396 fax 330.497.0772 www.testamericainc.com

11/17/2015

TestAmerica	THE LEADER IN ENVIRONMENTAL TESTING THE LEADER IN ENVIRONMENTAL TESTING TESTAMENT OF WILDON AND ADD ADD TESTAMENTAL	COC No:	of 2 COCs	Sampler:	For Lab Use Only:	Lab Sampling:	-	Job / SDG No.:															Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)	Archive for Months	-	3: Therm ID No.:		Date/Time:	Date/Time:	1 2 3 4 5 6 7 8
cord		Date:	Loeb Carrier:			-		-															e may be assessed if sample	Construction of the second sec	possibly mercunu	<b>O</b>	Company:	Company:	by: Company:	- 9 10 11 12
Chain of Custody Record	S Other:	Site Contact:	Mark	01	G	, ) <i>Q</i> N //	() a	SW /	1152 bereating 280 mrothe しっとし		2	) 7	>	3	7	7	<i>}</i>	7	7	<u>}</u>	· · · · · · · · · · · · · · · · · · ·			Return to Client	cadmium		Received by:	Received by:	Received in Laboratory by:	13
Chain	ogram: Dw Nppes	Ergu		Analysis Turnaround Time		2 weeks	1 week	2 days 1 dav	Sample Sample Type (=Comp, # of G=Grab) Matrix Cont.	L'iliz													te Codes for the sample in the	<b>X</b> Unknown	high lead and		Date/Time:	Date/Time:	Date/Time:	
小らにより	72 Regulatory Program:	Project Manager: 🕹ପୁର	Tel/Fax:	Analysis	TAT If different from Below				Sample Sample Date Time												Ŷ	HNO3; 5=NaOH; 6= Other	Please List any EPA Wast e.	itant 🗌 Poison B	s we expect	Custody Seal No.:	Company:	Company:	Company:	
Testâmerica Canton 4101 Shuffel Street, N. H.	Horth Canton, UH 44720 Phone: 330.497.9396 Fax: 330.497.0772		5	CLID AVE	16-622-2400		Project Name: Closes Loop	PO#	Samble Identification	DS-11-1675	DS-03-1675	D5-13-1675	70- 20	B D S - 10 - 1655	3 DS -12 -1655	B NS - 08-1655	0 DS-14-1675	DS-12-1675	DS-07-1655	DS-04-1675	DS - 09-1655	Preservation Used: 1= Ice, 2= HCI; 3= H2SO4; 4=HNO3;	Possible Hazard Identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes Comments Section if the lab is to dispose of the sample.	Non-Hazard Elammable Skin Irritant	special Instructions/QC Requirements & comments: Samples contaun glass.	Custody Seals Intact: C Yes No	Kelinquisged by Perl	Relinquighed by:	Relinquished by:	<b>F</b>

TestAmerica	THE LEADER IN ENVIRONMENTAL TESTING TestAmerica Laboratories, Inc. Form No. CA-C-W1-002, Rev. 4.2, deted 04(02/2013	COC No:	J of 2 COCS		For Lab Use Only:	Walk-in Client:	Lab Sampling:		: ON SING / GOD		Sample Specific Notes:												·		Sample Disposal ( A fee may be assessed if samples are retained longer than 1 month)	Archive for Months			Therm ID No.:		Date/Time:		Date/Time:	1 2 3 4 5 6 7 8
		Date:	Carrier:																		-		 		be assessed if sample	M Disnocal hv I ah			Obs'd: Corr'd:	Company:	Company:	-	Company:	 9 10 11
Chain of Custody Record	CRA Other:	Site Contact:	Lab Contact: Mente Loe b				Ос. 1 л	) as	SW / 3	≥M mroths b¢t⊆M	Ы			3											Sample Disposal ( A fee may	Return to Client		-	Cooler Temp. (°C): Obs'd	Received by:	Received by:		Received in Laboratory by:	12
Chain of	1: DW NPDES	ERUN	le p	ound Time	WORKING DAYS	MO	<u>, , , , , , , , , , , , , , , , , , , </u>		əldu	tered Sar		C solid 1	ļ		2		· ·								ss for the sample in the	Linknown				Date/Time:	Date/Time:		Date/Time:	
4.6/C47	Regulatory Program:	Project Manager: Secla	Tel/Fax:	Analysis Turna	CALENDAR DAYS	TAT if different from Below			1 dav	e Sample		11/9 C		~ ~	2 									o≖NaUH; 6= Uther	e List any EPA Waste Code	Deison B			Custody Seal No.:	Company:	Э <u>Г.</u>		Company:	1
TestAmerica Canton 4101 Shuffel Street, N. U. 46	Horth Canton, OH 44720 Phone: 330.497.9396 Fax: 330.497.0772		= Accom	-16-		1e: 2/6 -	- I	Project Name: (05 ed) Loop	PO#		0	DUP A	DS-08-1675-	DS-11-1655	P	80		51 6	<b>xf-5</b>	2				Preservation.useq: 1= Ice, 2= Hul; 3= HzSU4; 4=HNU3;	Possible nazard identification: Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.	Non-Hazard Hammable Skin Irritant	Special Instructions/QC Requirements & Comments:	see Ist page	Custody Seals Intact:	Z (1	: لا		Relinquished by:	

Client AFCOM	Site Name	Cooler un	npacked by:	
Cooler Received on 11-11-15	Opened on 11-11-15			
FedEx: $1^{\text{st}}$ Grd $(E_{\text{XP}})$ UPS FAS Stetson	1 <u></u>	ca Courier Other		
		e Location		
TestAmerica Cooler # Foam Bo	x Client Cooler Box	Other		
Packing material-used: Public Wrap COOLANT: Welfice Blue Ice	oam Plastic Bag None			
1. Cooler temperature upon receipt				
IR GUN# 53 (CF +0.1 °C) Observed C IR GUN# 48 (CF -0.3 °C) Observed Co IR GUN# 5 (CF +0.4 °C) Observed C	ooler Temp°C Correct	ed Cooler Temp	°C See Multiple	
IR GUN# 8 (CF -0.5 °C) Observed Co	oler Temp. °C Correct	ed Cooler Temp.	Č I	
2. Were custody seals on the outside of the coo		( No		
-Were custody seals on the outside of the co	oler(s) signed & dated?	Yes No NA		
-Were custody seals on the bottle(s) or bottle	e kits (LLHg/MeHg)?	Yes 👁		
3. Shippers' packing slip attached to the cooler(	s)?	Ves No		
4. Did custody papers accompany the sample(s)		Ces/ No		
5. Were the custody papers relinquished & sign		Ves No		
6. Was/were the person(s) who collected the sa				
7. Did all bottles arrive in good condition (Unb		Yes No		
8. Could all bottle labels be reconciled with the		Yes No		
9. Were correct bottle(s) used for the test(s) ind		res No		- <u>+</u>
10. Sufficient quantity received to perform indi		Yes No		
11. Were sample(s) at the correct pH upon receipt	ot?		pH Strip Lot# <u>HC554612</u>	
12. Were VOAs on the COC?		Yes No		
13. Were air bubbles >6 mm in any VOA vials?		Yes No NA		
14. Was a trip blank present in the cooler(s)? Tr	ip Blank Lot #	Yes (N)		
Contacted PM Date	by	via Verbal Voice Mail Ot	her	
Concerning				
		Sample	s processed by:	
14. CHAIN OF CUSTODY & SAMPLE DISC	CREPANCIES	Sumpre	s processed by:	
			······································	
	-			
	•			
	**			
15. SAMPLE CONDITION				
Sample(s)	were received after the recom	nended holding time had e	evnired	
Sample(s)		vere received in a broken of	container	
Sample(s)	were received with but	ble $>6$ mm in diameter $\alpha$	Notify PM)	
Sampre(8)		one -0 mm m diameter. (I	NOLITY 1111)	
16. SAMPLE PRESERVATION				

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Ref: SOP NC-SC-0005, Sample Receiving X: \X-Drive Document Control\SOPs\Work Instructions\Word Version Work Instructions\WI-NC-099V-102115 Cooler Receipt Form.doc djl

**APPENDIX D** 

#### Appendix D Calculations for Closure Costs Closed Loop Facility Columbus, Ohio

Conversions	ionversions:													
Quantity	Unit		Quantity	Unit	Notes									
1	Gaylord box	=	1	Cubic Yards (CYs)	Assumption for the average sized box.									
1	53' Truck	=	3,392	Cubic Feet (CF)	Novotec states truck is 53' long x 8' high x 8' wide									
1	53' Truck	=	126	CYs	Conversion (cubic feet to cubic yards)									
1	53' Truck	=	52	Gaylord boxes	Novotec states truck can fit 2 rows of 13 stacked 2 high									
1	53' Truck	=	21	Tons	Max weight capacity per Ohio law									

Calculations	::											
Total Truck I	Loads based on Weigh	t:										
44,560	Tons of Inventory	/	21	Tons per Truck Load	=	2,122	Truck Loads					
Total Truck I	Total Truck Loads based on 52 boxes per truck:											
111,400	CYs or Gaylord Box	/	52	Gaylords per Truck	=	2,142	Truck Loads					
Gaylord Box	Weight:											
21	Tons per Truckload	/	52	Gaylords per Truck	=	0.4	Tons per Gaylord					
Estimated M	Estimated Mass on Inventory Onsite:											
0.4	Tons per Gaylord	*	111,400	Cu. Yds. of Material	=	44,560	Tons of Inventory					



#### Appendix D Summary of Cost Estimates Closed Loop Facility Columbus, Ohio

Material	Novotec	Waste Management	Enviroserve	EMS	Dlubak Glass
Inventory:					
CRT monitors	\$0.15/lb	\$0.56/lb			\$0.25/lb
Rear projection TVs	\$0.19/lb	\$0.56/lb			\$0.25/lb
Leaded Glass	\$0.14/lb				
Non-leaded Glass	\$2/ton				
Electronics	\$0.2/ton				
LCD Monitors, stereos, DVD players, keyboards, printers		\$0.09/lb			
Laptops, PCs		\$0.07/lb			
LCD Monitors (Damaged)		\$0.47/lb			
Commodities (hard drives, power supplies, wires)		\$0.07/lb			
Trucking	\$300/ton	\$1125/load	\$450/ton	\$300/truck load	

Warehouse decontamination	Quantity	Units	Unit Costs	Total Costs	Assumptions
EMS					
Mob/Demob	1	EA	4,400	4,400	
Labor & Equipment	12	Days	5,000	60,000	12 days
Transport and disposal	20,000	Gallons	0.75	15,000	Assuming non-haz waste
Frac Tank & Cleaning at end of Project	1	EA Tot	5,000 al Estimated Cost:	5,000 <b>\$84,400</b>	10 day rental
Includes clean-up of dust (assumed hazardous) from 2 warehouses. All floors and horizontal surfaces (including bar joists) shall be cleaned. Cleaning methods include high pressure steam and HEPA vacuums.		Tot	al Estimated Cost:	\$463,000	



Appendix B

2017 Atwell Evaluation of E-Waste Inventories and Remediation/Closure Options



# EVALUATION OF E-WASTE INVENTORIES AND REMEDIATION/CLOSURE OPTIONS

For

1655 and 1675 Watkins Road Columbus, Ohio

**Prepared** for

Katten Muchin Rosenman LLP 2900 K Street NW, North Tower - Suite 200 Washington, DC 20007

Prepared by

Atwell, LLC 7100 E. Pleasant Valley Road, Suite 220 Independence, Ohio 44131

May 4, 2017

EXHIBIT
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### **1.0 EXECUTIVE SUMMARY**

Atwell, LLC (Atwell) was retained by Katten Muchin Rosenman LLP (Client) to provide environmental consulting services associated with abandoned electronic waste (e-waste) in the former Closed Loop Refining and Recovery, Inc. (Closed Loop) tenant space located at 1655 and 1675 Watkins Road, Columbus, Ohio (the Site). The Site is currently owned by Garrison Southfield Park LLC (Southfield). As pertinent, the Client directed Atwell to assess the nature and quantity of e-waste present at the Site; to identify and vet hazardous e-waste recycling and abatement contractors for the removal and remediation of the Site; to provide an estimate of costs for the removal and remediation of the Site in accordance with reasonably foreseeable Resource Conservation and Recovery Act (RCRA) closure standards; and to demonstrate that the costs of responding to the abandonment are necessary costs consistent with the national contingency plan (NCP) in 40 C.F.R. Part 300.

### Background

The Site includes two contiguous, commercial warehouses that were leased for the last several years to Closed Loop. Closed Loop held itself out as an e-waste recycler that would accept cathode ray tubes (CRTs). A CRT is a high vacuum tube in which cathode rays produce a luminous image on a fluorescent screen. CRTs can contain lead in amounts that exceed regulatory thresholds for hazardous waste under federal and state environmental laws. Closed Loop has since breached their leases and abandoned the Site, leaving both warehouses –90% full of e-waste. It also appears that Closed Loop's e-waste recycling operations may not have had appropriate dust control systems in place, which appears to have contributed to hazardous dust residue throughout both warehouses. It is Atwell's understanding that Southfield is currently cooperating with the Ohio Environmental Protection Agency (Ohio EPA) in discussions regarding how best to remediate the Site. In the interim, access to the buildings impacted by the Closed Loop's operations currently requires authorization by Southfield; personal protective equipment, including a respirator; and compliance with a detailed Health and Safety Plan prepared by Atwell in keeping with Occupational Safety and Health Act criteria. Atwell has also taken appropriate interim actions to control and stabilize the Site and structures within the Site, consistent with the NCP.

### Nature and Quantity of E-Waste

Based on Atwell's on-site inspection and records review, Closed Loop abandoned approximately 128,200,000 pounds (lbs.) (i.e., 64,100 tons) of e-wastes at the Site (*see Table 1* and *Table 2*). The e-waste includes used, broken CRTs; processed CRT glass; flat-screen displays; projection units; and miscellaneous electronic scrap, e.g., segregated plastic and scrap metal. The predominant e-waste present on the Site consists of stockpiled crushed CRT glass from e-waste received and partially processed by Closed Loop, which must be disposed of as either a hazardous waste for lead in a RCRA Subtitle C landfill or as a non-hazardous waste pursuant to a lead pretreatment process in a RCRA Subtitle D landfill, unless an alternate lead smelting/recycling option exists. Factoring in a 5% margin of error, Atwell is estimating that between 60,100 tons and 67,300 tons of e-waste will require removal, disposal and/or recycling in accordance with applicable federal and state hazardous waste law.

### Hazardous Waste Removal and Remediation Contractors

Atwell solicited bids from several hazardous waste recyclers for e-waste removal, disposal and/or recycling. Atwell's contractor pre-selection criteria involved the evaluation of, among other things, location relative to the Site, regulatory compliance history, applicable means and methods, historical e-waste practices, ability to handle a project of this magnitude, preliminary pricing/schedule estimates, and environmentally-sound disposition of the subject material. Atwell identified six all-inclusive contractors willing to present e-waste removal bids, which ranged from \$12.5 million to \$51.2 million. Atwell also identified one contractor that presented a bid of \$290,000 associated only with the packaging and loading phase. Based on the quality of the bids and contractor capabilities, Atwell identified three frontrunners, which included Novotec, Hazardous Waste Experts, and URT, with bids ranging from \$12.5 million to \$18 million, respectively. Of the three frontrunners, Novotec has been selected as the most preferred.

Atwell also solicited bids from several remediation contractors that would provide lead dust remediation services inside the Site following the removal of the e-waste. Atwell's contractor preselection criteria involved the evaluation of, among other things, contractor approach, expertise, and manpower. Atwell identified three contractors willing to present remediation bids, which included Precision Environmental, Hazardous Waste Experts, and Environmental Management Specialists with bids ranging from \$103,000 to \$413,050. Each firm was deemed capable of performing the work, although Precision Environmental has been selected as the most preferred.

### **Total Projected Removal and Remediation Costs**

Based on available information, and as discussed further below, the total project cost is estimated to be \$14.2 million, which includes \$1.2 million in estimated costs for Atwell project administration, environmental consulting, and other advisory services. Costs, however, may be significantly higher and depend upon the material quantities, transportation fuel costs, and the availability of previously-identified landfills, lead smelters, or other disposal/recycling outlets to accept such high volumes of e-waste at the time the removal efforts are launched. Costs may also increase depending upon the extent of Ohio EPA's oversight over RCRA closure of the Site. At this time, it is not possible to project with any reasonable certainty how these and other variables will ultimately impact the bottom line.

### 2.0 INTRODUCTION

Atwell was retained by the Client to provide environmental consulting services is connection with abandoned e-waste in the former Closed Loop tenant space located at 1655 and 1675 Watkins Road, Columbus, Ohio.

### **Atwell Professional Qualifications**

Atwell has been providing environmental consulting services in Ohio for more than 20 years. Atwell has worked on numerous industrial sites including forge/foundry sites, paper mills, steel mills and/or metal working/machining facilities, bulk petroleum plants, automotive plants, cold storage facilities, numerous types of manufacturing facilities, landfills, and food processing facilities. Our project experience has included various forms of environmental due diligence, foreclosure assessments, site

assessments, contaminant delineation, remediation design and execution, compliance, permitting, demolition and disposal assessments, waste characterization (i.e., solid, hazardous, universal, and e-waste), regulator coordination and negotiations, e.g., various branches and programs under the United States Environmental Protection Agency and Ohio EPA, waste disposal oversight, and achieving site compliance via the Ohio EPA's Voluntary Action Program (VAP).

Atwell has worked on numerous project sites involving the evaluation and disposal coordination of solid wastes, hazardous wastes, universal wastes, and e-wastes. Our clients for these projects have included international and national manufacturing companies, hospitals, brownfield developers, owners/operators, and lenders that have foreclosed on industrial properties. Recently, Atwell provided professional consulting for a brownfield redevelopment project involving the evaluation of various hazardous and non-hazardous wastes streams, universal wastes, and e-wastes associated with several multi-story buildings encompassing two city blocks in a prominent metropolitan downtown community. Atwell completed all of the necessary site/building evaluation services to characterize the waste streams; arranged for the proper remediation, disposal, and recycling of the materials; properly permit the project; and achieved project site closure through appropriate federal and state programs.

Michael Koenig serves as Atwell's Team Leader for the Southfield project. Mr. Koenig has more than 19 years of experience in environmental consulting and manages Atwell's environmental teams in Independence, Ohio; Pittsburgh, Pennsylvania; and Atlanta, Georgia. He has managed and overseen a variety of remediation projects involving the assessment and remediation of various chemicals of concern, at large-scale commercial and industrial facilities. He has expertise in conducting site assessments, contaminant delineation, waste characterization (solid, hazardous, universal, and ewaste), waste disposal oversight, and achieving site compliance. He has successfully shepherded numerous brownfield projects through compliance with the Ohio EPA's VAP.

Appendix A contains information regarding Atwell's qualifications and professional environmental consulting experience; a *curriculum vitae* for Michael Koenig; summary letter pertaining to Atwell's project costs incurred to-date; and a proposed scope of work and cost estimate for additional environmental consulting services associated with the remediation and regulatory closure activities for the Site.

### **Closed Loop Project Summary**

The Site is comprised of two commercial warehouse buildings, 1655 and 1675 Watkins Road, each of which were formerly leased by Closed Loop in the operation of a purported e-waste recycling facility. The 1655 Watkins Road building is approximately 218,000 square feet. Closed Loop previously occupied the southern 145,000 square foot portion of this building. The 1675 Watkins Road building is approximately 290,000 square feet and was solely occupied by Closed Loop. The buildings and Closed Loop tenant space are connected by an approximately 20 foot-wide corridor.

Based on available information, Closed Loop held itself out as an e-waste recycler in the two buildings referenced above from approximately 2012 to 2016. Closed Loop accepted e-wastes including CRTs, flat-screen displays, projection units, and other e-waste for disassembly and recycling. Primary operations included mechanical dismantling of televisions and computer monitors (CRT containing devices), which involved manual separation of plastic, precious metals, and CRT. Secondary operations included the mechanical crushing of the CRT glass components. Segregated plastics,

metals, and crushed glass were then re-packaged into open-top, cardboard gaylord containers. Some of the segregated plastics and metals were shipped off-site for recycling. Most of the processed CRT glass, however, was stockpiled on-site for several years, apparently in violation of RCRA's prohibition on the speculative accumulation of processed CRT glass undergoing recycling.

In the spring of 2016, Closed Loop abandoned the Site, leaving their unprocessed or partially processed e-waste left behind. Both buildings are approximately 90% full of e-waste and e-waste containers (cardboard gaylord containers) that are predominately stacked on top of each other two or three high. Additionally, it appears the CRT glass crushing operations conducted by Closed Loop may not have been operating with dust control systems that met Ohio EPA or OSHA standards, resulting in heavy dust residue throughout the Site.

Appendix B includes representative photographs of the abandoned e-waste and associated Site conditions.

The sections below describe Atwell's efforts to complete the following tasks for the Client:

- Review records associated with Closed Loop operations and existing Site conditions to evaluate potential remedies for the Client.
- Inspect the Site and abandoned e-waste to identify the types and condition of the e-waste materials on Site and the overall quantities of each waste stream that will require removal for recycling and/or disposal.
- Identify and vet potential e-waste recycling contractors for the removal of the e-waste from the Site for proper off-site recycling and/or disposal.
- Identify and vet potential environmental remediation contractors to remediate the Site of hazardous dust following the removal of the stockpiled e-waste materials.
- Provide an estimate of costs for the removal and remediation of the Site in accordance with reasonably foreseeable RCRA closure standards.

# 3.0 SITE INSPECTIONS FOR E-WASTE EVALUATION (QUANTITY, TYPE, CONDITION ASSESSMENTS)

At the Client's direction, Atwell completed field inspections on June 10, 2016, July 12, 2016, and August 1-4, 2016, to evaluate the amount and type of abandoned e-waste at the Site. The August 1-4 inspections included two representatives from URT Solutions (URT), a prominent and seasoned e-waste recycling firm.

Due to the condition in which Closed Loop abandoned the Site, there were limiting factors that affected the inventory due diligence work – namely, that a thorough examination of each individual cardboard gaylord container was not possible. As previously mentioned, both buildings are approximately 90% full of e-waste. The e-waste is mostly containerized in cardboard gaylord containers that are approximately 4-feet wide by 4-feet long and 4-feet tall. Many of these gaylords have deteriorated, which may have been a function of Closed Loop's practice to repurpose the same

boxes used to transport intact CRTs to the Site as opposed to purchasing new and more durable containers. Each gaylord is situated on a standard wood pallet, with the gaylords and accompanying pallets stacked two or three high throughout the majority of the Site. Furthermore, many of the aisles were used to accommodate additional storage, which impeded the ability to access much of the Site. Throughout the nearly 10 acres of building area, only few aisles exist along the east walls of the buildings, in three small processing areas, and in a few locations through the central portions of the stockpiled e-waste. Thus, many of the gaylords were not reasonably accessible.

Based on Atwell's and URT's inspection and inventory assessment, 1675 Watkins Road was predominately used to stockpile crushed CRT glass. This building is nearly full of gaylords stacked two-three high with crushed CRT glass. During the inspection, it became evident that, at some point, Closed Loop had started filling the aisles that previously existed in 1675 Watkins Road to store intact CRT units that were not being processed. The central portion of this building contains gaylords of crushed CRT glass; the aisles along the south, east, and north perimeter walls appear to contain whole unprocessed CRT units (televisions, computer monitors, and/or intact CRT tubes).

The 1655 Watkins Road location appears to have been used to receive intact CRT units (televisions and computer monitors) and store the units for on-site de-manufacturing. The north portion of this building also contains a small de-manufacturing line where Closed Loop would manually separate the CRT tubes from plastic and metal housings associated with whole televisions and/or computer monitors.

As part of the e-waste inventory assessment, Atwell and URT completed a visual assessment of each building to calculate the total number of gaylords and the types of e-waste present in the buildings. Furthermore, Atwell and URT assessed representative samplings of the various material types to establish average weights of each material type container. To accomplish this evaluation, Atwell and URT utilized a forklift and pallet scale to weigh representative unit containers. Atwell and URT broke the materials down into eight basic unit categories:

- 1. CRT whole tubes (tubes only) in cardboard gaylords on wood pallets,
- 2. Complete CRT units on wood pallets (wrapped in plastic, not in cardboard gaylords),
- 3. Complete CRT units in cardboard gaylords on wood pallets,
- 4. Projections lamps in cardboard gaylords on wood pallets (1655 only),
- 5. CRT crushed glass in cardboard gaylords on wood pallets (1675 only).
- 6. Scrap plastic in cardboard gaylords on wood pallets,
- 7. Scrap metal with glass in cardboard gaylords on wood pallets, and
- 8. CRT panel glass with metal bands on wood pallets and in super sacks.

To establish average weights for each unit (e-waste) type, Atwell and URT selected at least ten representative containers of each unit type. Each unit container was weighed on a pallet scale. The individual weights were then used to calculate an average weight for each unit waste type. Once the average weights were determined, Atwell and URT identified the locations of material by type throughout the Site and documented estimated quantities. Once the total number of unit containers was evaluated, Atwell and URT utilized the average weights to calculate the total quantity of each waste stream in the buildings.

Appendix C, Figures 1 and 2, summarize the number of containers and their locations at the Site.

Tables 1 and 2, below, summarize the total amount of estimated e-waste present at the Site.

1655 Watkins Road Building	Estimated Total Number of Containers/Units	Average Weight of Container/Unit (lbs.)	Estimated Total Weight (lbs.)
CRT whole tubes in cardboard gaylords on wood pallets	5,815	1,131	6,576,765
Complete CRT units on wood pallets	658	1,279	841,582
Complete CRT units in cardboard gaylords on wood pallets	4,639	571	2,648,869
Projection lamps in cardboard gaylords on wood pallets	193	959	185,087
Scrap plastic in cardboard gaylords on wood pallets	108	180	19,440
Scrap metal with glass in cardboard gaylords on wood pallets	4	486	1,944
CRT panel with metal bands on wood pallets and in super sacks	6	2401	14,406
Estimated Total Weight	10.2	88,093 lbs. (5,144 tor	15)

### Table 2: 1675 Watkins Road - Est. Total E-Waste Weight Based on Waste Type Container Averages

1675 Watkins Road Building	Estimated Total Number of Containers/Units	Average Weight of Container/Unit (lbs.)	Estimated Total Weight (lbs.)
CRT whole tubes in cardboard gaylords on wood pallets	1913	1,131	2,163,603
Complete CRT units on wood pallets	872	1,279	1,115,288
Complete CRT units in cardboard gaylords on wood pallets	621	571	354,591
CRT crushed glass in cardboard gaylords on wood pallets	· 28,233	4,029	113,750,757
Scrap plastic in cardboard gaylords on wood pallets	84	180	15,120
Scrap metal with glass in cardboard gaylords on wood pallets	668	486	324,648
CRT panel with metal bands on wood pallets and in super sacks	73	2,401	175,273
Estimated Total Weight	117,899,280 lbs. (58,949 tons)		
Estimated Total Amount of E-Waste in Both Buildings	128,187,373 lbs. (64,093 tons)		

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### 4.0 E-WASTE REMOVAL: SCOPE DEVELOPMENT AND COST ESTIMATES

Atwell evaluated various scopes of work for removing the e-waste from the Site. Atwell reached out to numerous e-waste recycling contractors in an effort to obtain competitive cost estimates and schedules in the removal of accumulated e-waste inside the Site buildings. Atwell's due diligence for contractor selection involved the evaluation of, among other things, the contractor's location relative to the Site, regulatory compliance history, applicable means and methods, historical e-waste practices, their ability to handle a project of this magnitude, preliminary pricing/schedule estimates, and the environmentally-sound disposition of the subject material.

Based on discussions with e-waste recycling contractors, the e-waste recycling industry is comprised of a limited number of companies that have the ability to handle significant quantities of e-waste. As such, many of the e-waste recycling contractors approached for this project were determined to be unsuitable or unable to handle a project of this magnitude either due to their size, lack of preferred certifications, or their proposed recycling/disposal practices.

Atwell conducted an "open house/preliminary bid meeting" at the Site on June 10, 2016, to familiarize qualified e-waste recycling, transportation, and remediation contractors with the project. The purpose of the meeting was to allow qualified contractors to evaluate the amount, type, and condition of materials on Site so each firm could formulate a strategic and site-specific proposal for the removal of the e-waste from the buildings, and to account for proper recycling and/or disposing of the materials. The following contractors attended the open house/preliminary bid meeting:

- · E-Waste, LLC Potential e-waste loading and transportation contractor
- Environmental Management Specialists Potential loading contractor
- URT Solutions Potential transportation and recycling contractor

- Hazardous Waste Experts Potential loading, transportation, recycling contractor
- Electronic Recyclers International Potential recycling contractor
- · Nulife Glass Potential transportation and recycling contractor

Certain contractors elected not to submit bids. Following the pre-bid walk-through, E-waste, LLC and American Abatement decided to not provide quotes for the project due to its size and complexity.

Certain contractor options that initially appeared promising proved not to be viable. Nulife Glass initially expressed potential interest in purchasing the Site, its contents, and the property in its current state. Nulife was assessing the viability of installing smelting furnaces on Site to process the significant quantities of crushed CRT glass, thus avoiding off-site transportation for recycling or disposal of the material. However, based on further review, there were too many uncertainties, including, among other things, whether and on what time frame Nulife could secure the appropriate air permitting.

In addition to the contractors referenced above, Atwell also evaluated previous cost estimate proposals provided by Kuusakoski Recycling, BCS, Inc. (BCS), and Novotec Recycling (Novotec). Kuusakoski was eliminated from consideration in light of Closed Loop records that indicated that Kuusakoski or entities affiliated with Kuusakoski had previously shipped approximately 40 million lbs of e-waste to the Site for processing by Closed Loop.

Novotec evaluated several outlets for the crushed CRT glass including one of which that had the Atwell, LLC

potential to represent a large cost savings for the project. Novotec indicated that they had previously visited the Site with a representative of Camacho Recycling from Spain. Camacho has recently been recognized by e-waste recyclers as economical solution for leaded glass recycling. Unfortunately, according to Novotec, Camacho determined that they would not be interested in receiving the crushed CRT glass, as Closed Loop did not properly sort the materials during their initial processing/crushing operations (i.e., clean crushed glass is mixed with leaded glass along with some plastic and metal fragments), thus resulting in a commingled e-waste (i.e., leaded and non-leaded glass).

*Table 3* presents summaries of project cost estimates and schedules received from e-waste recycling contractors. In an effort to "compare apples to apples," the contractor estimates evaluated and summarized in the table below are based on unit rates provided by the contractors and Atwell's estimated e-waste material quantities present on Site.

Appendix D includes the removal contractors' cost estimate proposals and information concerning their qualifications.

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1655 and 1675 Watkim Rised, Columbus, Ohio

Contractor	tadas	Fatmaned Fac Trafa	Material & Lencking Unit Rates	Schedule Duration	Cannord
Environmental Management Specialists	L	\$290,000	V/N	7 Months	For the recycling component of this project, this contractor could provide packaging and loading services only. For proposal purposes, they assumed project duration of 7 months. Thus contractor will also be including costs for installing dust controls, critical barriers, and/or environmental packaging efforts during loading. However, the cost for such is not yet included as the project/site-specific control measures or protocols have not yet been fully determined. The additional cost associated with the dust control measures and protocols is not yet been fully determined. The additional cost associated with the dust control measures and protocols is not yet been fully determined.
BCS/Glassico	L, T, R	\$24,996,537	Quoted alf-inclusive at S0.195/1b	3-6 Months	This contractor is not recommended since their proposal as not considered competitive
Electronic Recyclers International	R	\$51,274,949	\$0.40/lb	7-8 Months	This contractor is not recommended since their proposal is not considered competitive.
Kuusakoski	L, T, R	\$22,554,108	Device 50, 14 CRT Tube 50, 125 Glass 50, 08 5700/foad non-haz \$1,125/foad haz Labor/Handling 50,014	9 Months	This contractor is not recommended since their proposal is not considered competitive. This contractor is also not recommended at this time due to their previous involvement, i.e., shipped approximately 40,000,000 lbs of e-waste to the Site for processing by Closed Loop. Much of the e-waste that Kuusakoski shipped still remains in the buildings. This contractor also project cost estimates for two alternate project schedules/durations, an 18 month project and a 6 month project. The cost estimate for the 18 month project duration was estimated to be \$17,500,000. The 6 month project duration was estimated to be
Hazardous Waste Experts	L, T, R	\$17,955.396	Device 50.24 to 50.28/th Glass 5.049/th Trans = Rail and Truck At 50.27/th	8 5 months	This contractor plans to recycle all CRT monitors, tubes, and unlact device at a R2 certified recycling facility in Mexico. This contractor would be shipping CRT devices, tubes, and intact devices to a rail yard approximately 15 miles from the Site. These recyclable materials would hravel to Calexico, CA where they would be processed for export and off-loaded into rucks and prepared for transportation into Mexico for final recycling by Technology Displays. Processed for export and off-loaded into rucks and prepared for transportation into Mexico for final recycling the CRT manufacturing process. Residual wastes generated by Technology Displays would be disposed of muniferid Mexican landfills. All entibled glass at the Site would be transported and landfilled to Tazardobus waste landfill (ferviosale) in Oregon, Otion using a cement incro-encapstuation process to prevent leacting. Clean scrap metal and plastic would be transported to local sceyclers.
URT Solutions	T, R	\$15,034,087	Device \$0.14/lb Device \$710/laad Glass \$0.11/lb Glass Inteking included in price/lb	6-9 Months	URT is an E-Stewards certified recycler. All CRT monitors, lubes, and intact devices would be recycled by URT in their Janesville, WI recycling facility using an automated dry process to remove lead from the CRT funnel glass. Processed leaded glass would be transported to Carnacho in Spain for recycling in the cerumic tile industry. Clean scrap netal and plastic would be transported to local recyclers. URT's proposal includes transporting all broken glass to U.S. Ecology in Detroit, MI for pre-treatment and disposal in a Subtifie D solid waste landfill using a 20 year old accepted process that has been approved for similar projects by the Michigan Department of Environmental Quality.
Navatec	L,T,R	\$12,476,611	Device 50.16 to 50.18/1b Glass 50.09/1b Estimates include loading & trucking costs	9 Months	This is a preferred contractor. Novotec is an R2 certified e-waste recycler that is located approximately 6 miles from the Site. All CRT monitors, inbes, and infact devices will be recycled by Novotec at their local recycling facility. The contractor's proposal includes transporting all crushed glass to three separate landfills for disposal (1) US Ecology in Detroit, MI (hazardous transport, pretreatment and off-site transport for disposal in a US Ecology affiliated non-hazardous Subtitle C landfill, in Oregon, OH (hazardous transport, pretreatment (i.e., ercapilation) and disposal within an onsite Favirosafe Landfill, (2) Envirosafe Landfill, in Oregon, OH (hazardous transport, pretreatment (i.e., ercapsulation) and disposal within an onsite Favirosafe hazardous Subtitle C landfill, and (3) Max Environmental Landfill in Yukon, PA (hazardous transport, pretreatment) (i.e., ercapsulation) and disposal within an onsite Favirosafe hazardous Subtitle C landfill), and (3) Max Environmental Landfill in Yukon, PA (hazardous transport, pretreatment, ercatment, i.e., ercapsulation) and disposal within an onsite Favironation Subtitle C landfill), and (3) Max Environmental Landfill in Yukon, PA (hazardous transport, pretreatment, i.e., ercaptulating a fourth option for cushed glass consisting of a CRT smelting facility in Canado. The contractor will be utilizing his local fast' for manuteut the daty packantha and logitime observations.

1 Maintana fiest are based in weights of maintait weit weights for diagonal feed due of buil variance transportations feed. Harmand feed due 3% magned were in maintait volume exhautava. Atwell, LAC

### 5.0 SITE REMEDIATION: SCOPE DEVELOPMENT & COST ESTIMATES

As previously discussed, based on Atwell's inspection activities it appears that the CRT glass crushing operations conducted by Closed Loop was not operating with sufficient dust control systems, resulting in heavy dust residue throughout the Site. The most severe dust contamination is near the former CRT crushing equipment. Heavy dust residues were observed on the floors of the buildings, on stockpiled containers of e-waste, on the walls of the buildings, and on virtually all flat surfaces.

Based on laboratory analytical testing results, the dust residues tested hazardous for lead. Based on these findings, the hazardous leaded dust will require remediation. The current project plan involves the remediation of lead dust following the removal of e-waste from the Site. During the removal of e-waste from the Site, workers inside the buildings will be required to wear proper personal protective equipment. Additionally, engineering controls and critical barriers are being established in an effort to prevent dust migration beyond the Site's footprint.

To develop Site remediation scopes of work and remediation cost estimates, Atwell solicited qualified remediation contractors to attend the June 10, 2016 "open house/preliminary bid meeting." The purpose of the meeting was to allow qualified remediation contractors to evaluate the severity of the lead dust impacts on the Site, to formulate a strategic lead dust removal work plan, and develop a site-specific proposal for the proper remediation of lead dust within all Site internal space. The following remediation contractors attended the open house/preliminary bid meeting:

- Precision Environmental
- American Abatement
- Environmental Management Specialists
- Hazardous Waste Experts

Following the inspection activities by the contractors, American Abatement elected to not provide a cost proposal due to the size and complexity of the project.

*Table 4*, below, summarizes the cost estimates provided by Precision Environmental, and Environmental Management Specialists, and Hazardous Wastes Experts, respectively.

Appendix E includes the remediation contractors' cost estimate proposals and information concerning their qualifications.

1635 and 1675 Watkins Road, Columbus, Ohio

Contractor	Fee	Schedule	Comments
Precision Environmental	\$413.050	3.25 Months	Cleaning all dust impacted surfaces (floors, walls, columns, framing), removing carpeting and ceiling tiles from office. Bulk dust vaeuum of impacted surfaces and then steam clean rinse.
Environmental Management Specialists	\$170.000 <sup>2</sup>	1 Month	Cleaning all dust impacted surfaces (floors, walls, columns, and framing) with high pressure vac, removing carpeting and ceiling tiles from office. No water/steam cleaning or rinsing proposed.
Hazardous Waste Experts	\$103.000	16-days	Cleaning all dust impacted surfaces (floors, walls, columns, framing) with high volume vacuum. Wipe down of all hard surface and ceiling tiles from office. No water/steam cleaning proposed.

Table 4: Summary of Contractor Cost Estimates: Site Remediation (Lead Contaminated Dust)

The overall c-waste removal and Site remediation will likely require compliance with applicable RCRA closure requirements. In general, closure under RCRA will include the following tasks: 1) an evaluation in the defined on-Site Solid Waste Management Units, 2) an internal/external lead dust confirmatory sampling post remediation, 3) a groundwater evaluation, 4) a soil evaluation, and 5) an applicable standards evaluation, post impact delineation, data collection and data evaluation.

### 6.0 RECOMMENDATIONS FOR SELECT CONTRACTORS

Based on the project due diligence, contractor qualifications, and estimating services completed todate, Atwell recommends the following:

- Atwell currently recommends Novotec Recycling as the preferred contractor for the e-waste removal, recycling, and disposal activities. This recommendation is based on their industry knowledge, cost estimate, proposed schedule, and close proximity to the Site.
- Atwell currently recommends Precision Environmental as the preferred remediation contractor. This recommendation is based on their site-specific scope work and the remediation methods they plan to execute.

<sup>&</sup>lt;sup>2</sup> The Environmental Management Specialists proposal in Appendix F reflects a bid for \$97,820. This bid was adjusted upwards for purposes of this cost summary to account for hazardous waste disposal costs, as other bids accounted for these costs. Atwell, LLC

1655 and 1675 Watkins Road, Columbus, Ohio

Novotec Recycling	E-waste Removal, Recycling, Disposal	\$12,476,611
Precision Environmental	Site Remediation	\$413,050
ж. п	E-waste Ownership Research and Reporting, Remediation Design, Contractor Procurement, Bid Processing	\$94,922 <sup>3</sup>
Atwell	E-waste Removal/Remediation Oversight, Project Management, Environmental Compliance	\$1,179.700
	Estimated Project Total:	514,164,283 4

Based on these recommendations, Atwell anticipates the overall project costs to be as follows:

### 7.0 DISCLAIMER

At well has provided the services described above in a manner consistent with the level of care and skill ordinarily exercised by members of the profession who perform similar environmental services under similar conditions. At well shall not be responsible for conditions or consequences arising from relevant information that was concealed or not fully disclosed. At well's opinions and recommendations are based solely on information derived from the field observations and contractor evaluations completed to-date.

We are excited about the opportunity to work with you on this project, and we appreciate the opportunity to present this Summary Report. If you have any questions or comments, or if we can be of further assistance during your review process, please contact us at (440) 349-2000.

This report submitted by:

T-K

Thomas Leigh

Project Manager

Michael J. Koenig Team Leader

<sup>3</sup> Atwell costs accred to date in the research, development of removal remodation cost, project management and project tasks implementation 4 Project costs will vary significantly based on, among other things, material quantities, the availability of previously-identified disposal/recycling outlets, fuel costs, the extent of Ohio I PA's oversight over RCRA closure of the site, and other contingencies

### APPENDIX A

Atwell Qualifications, Michael Koenig Curriculum Vitae, Atwell Project to Date Costs, and Atwell Scope of Work/Cost Estimate



### STATEMENT OF QUALIFICATIONS

CONSULTING. ENGINEERING. CONSTRUCTION.

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# FIRM OVERVIEW

### WHY ATWELL?

- Local knowledge with national reach
- Specialized teams by market, region and service
- Passionate, energetic professionals driven by project success
- Engaged senior management
- Adaptive structure built for clients' changing needs
- Single project manager with access to full-service solutions

Atwell is a bold leader in the consulting, engineering, and construction industry. We serve five core markets, offer ten main services, and deliver countless solutions to our clients.

Our teams combine to offer efficient, creative, and profitable solutions for your projects and operations. We are organized for your success, working seamlessly across departments and locations to deliver what you need to where you need it, all from one trusted source.

We are a business of passionate people. For every project, we instinctively manage critical issues like quality, safety, and technical results. But it may surprise you to know how well we get to know you and your vision – and how we boldly advocate for your success.

When our teams work together on your behalf, remarkable things begin to happen. No matter what the project, Atwell delivers complete service with complete confidence.

### **REAL ESTATE & LAND DEVELOPMENT**

Residential - Commercial - Community

#### OIL & GAS

Exploration & Production · Pipelines & Facilities · Logistics & Storage

#### **POWER & ENERGY**

Power Generation - Power Delivery

#### **MINING & METALS**

Greenfield & Restarts · Processing Facilities · Maintenance Programs

### INDUSTRIAL & MANUFACTURING

Processing Facilities · Warehouse & Logistics · Automotive





# **OFFICES, LICENSING & REGISTRATION**



MESA, ARIZONA 4700 East Southern Avenue Mesa, Arizona 85206

DENVER, COLORADO 143 Union Boulevard, Suite 700 Lakewood, Colorado 80228

ATLANTA, GEORGIA 1800 Parkway Place, Suite 700 Marietta, Georgia 30067

NAPERVILLE, ILLINOIS 1245 East Diehl Road, Suite 100 Naperville, Illinois 60563

LENEXA, KANSAS 15500 College Boulevard Lenexa, Kansas 66219

SOUTHFIELD, MICHIGAN (HQ) Two Towne Square, Suite 700 Southfield, Michigan 48076

ANN ARBOR, MICHIGAN 311 North Main Street Ann Arbor, Michigan 48104 CADILLAC, MICHIGAN 7192 East 34 Road, Suite 4 Cadillac, Michigan 49601

CLEVELAND, OHIO 7100 East Pleasant Valley Road, Suite 220 Independence, Ohio 44131

PITTSBURGH, PENNSYLVANIA 6000 Town Center Way, Suite 165 Canonsburg, Pennsylvania 15317

CLEVELAND, TENNESSEE 4160 North Ocoee Street, Suite 8 Cleveland, TN 37312

HOUSTON, TEXAS 820 Gessner Drive, Suite 1140 Houston, Texas 77024

SAN ANTONIO, TEXAS 10101 Reunion Place, Suite 350 San Antonio, Texas 78216



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## THE ATWELL DIFFERENCE



### TURNKEY APPROACH

Atwell offers specialty planning capabilities combined with aggressive land development and entitlement services to provide clients a seamless transition from concept to construction. This turnkey approach and collaborative effort allows Atwell to maximize project value and minimize development timelines via customized design solutions that are technically sound and financially feasible to construct.

### FULL-SERVICE CONSULTING

Atwell offers due diligence, land planning and design, engineering, land surveying, environmental consulting, ecological and cultural resource services, water resource solutions, construction management, and other niche services through a single project manager – shortening timelines, minimizing coordination effort, and maximizing your return on investment.

### TOTAL QUALITY MANAGEMENT

Atwell's Quality Assurance Program provides maximized returns through the development process and a consistent, scalable design approach and philosophy. A thorough project review by Atwell's team of experts proactively addresses areas that add project value and minimize costs to maximize your return on investment.

### MARKET SECTOR APPROACH

Atwell organizes its design teams into market sectors as opposed to service groups by technical discipline. As such, Atwell can divide and conquer your most complex projects with staff fully educated on your specific industry, relevant market trends, and product type.

### NATIONAL REACH COUPLED WITH PROGRAM MANAGEMENT SERVICES

Atwell offers access to a national Power & Energy development consulting platform via 16 offices throughout the United States. Atwell dedicates teams of specialists to the evolving needs of the Renewable Energy, Electric Transmission, and Oil & Gas Pipeline markets. Comprised of engineers, planners, land surveyors, environmental specialists and other niche professionals, these teams are fully educated on the energy market and its service needs. Via a single point-of-contact, clients receive the benefits of numerous teams throughout the organization providing local knowledge and support, as well as program-level consistency and standards.



# **CIVIL ENGINEERING** SERVICES



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### FROM PLANNING TO PERMITS

Atwell's civil engineering services are the technical foundation of successful construction projects. In addition to the traditional engineering activities, today's projects demand professionals who can successfully navigate critical regulatory constraints, functional demands, and environmental concerns. Our specialized teams strive to balance these forces through sound design, aggressive project management, and continual stakeholder engagement.

- Due Diligence & Site Research
- Site Layout & Preliminary Engineering Design
- Annexation & Zoning Strategies
- Easement Acquisition
- Cost Estimating
- Site Construction Plans
- Drainage & Stormwater Management System, Design & Permitting
- Roadway & Pavement Design
- Wastewater Collection System Design
- Floodplain Analysis, Permitting & Mitigation
- FEMA Map Amendments
- Subdivision & Site Condominium Documents
- Hydrology Design
- Utility Design
- Earthwork Analysis
- Value Engineering
- Permitting Strategy





# **CONSTRUCTION SERVICES**







### WORLD-CLASS INDUSTRIAL CONTRACTORS

Primarily focused on building industrial projects, Atwell's construction division, Strategic Construction Solutions (SCS), supports the development, construction, management and maintenance of ferrous and non-ferrous mineral pursuits; processing and manufacturing facilities; and infrastructure supporting the power generation, transmission, and oil and gas markets.

Knowing the challenges that can accompany these often complex and fast-paced projects, we are committed to three basic principles: safety, quality, and results. Our leadership team focuses on the constructability, efficiency and functionality of each project it builds, protecting our clients' investments, commitments and reputations.

### CAPABILITIES

#### **Delivery Methods**

- General Contracting
- Design/Build
- Construction Management
- Engineer, Procure, Construct (EPC)
- Project Contractor

#### Self-Perform

- Structural Steel Erection & Fabrication
- Pipe Fitting & Welding
- Equipment & Conveyor Assembly Site Logistics
- HDPE Pipelines
- TIG, MIG & ARC Welding
- Mechanical
- Concrete

- Electrical, Instrumentation & Automation
- Metal Buildings
- Post-Construction Support
- General Contracting
- Design/Build





# **CULTURAL RESOURCE** SERVICES







### PROACTIVE KNOWLEDGE PROTECTS HERITAGE

Even the greenest of fields can hold historical significance. Atwelf encourages clients to conduct basic cultural resource audits on development projects to ensure there are no unforeseen impacts or surprises during construction. For sites known or speculated to contain cultural or historical features, our team of archaeologists, cultural resource management specialists and field staff employ GIS services, ground-penetrating radar and mapping technology to anticipate and inventory site features of concern.

Our team regularly coordinates with State Historic Prevention Offices (SHPO), local stakeholders and community groups to protect regional and national artifacts – and your business interests.

- Archaeological, Architectural & Historic Landscape Surveys & Evaluations
  - Class I Literature, Site Files & Desktop Reviews
  - Class II & III Cultural Resource Surveys
  - Excavations
  - Prehistoric Artifact Analysis
- Artifact Analysis
- Historic Preservation
- Management Plans
- Research Design & Work Plans
- Data Recovery & Excavation of Archaeological Sites
- Conditions & Historic Property Assessments
- Permitting & Compliance (Federal, State, Local & Tribal Stakeholders)
- Mitigation Plans
- Archaeological Construction Monitoring





# NATURAL RESOURCES SERVICES







### AGGRESSIVE STRATEGIES FOR COLLECTIVE SUCCESS

From site selection through post-construction compliance, Atwell's ecologists and biologists pursue your project objectives. They work alongside engineers and contractors to alert you to potential environmental disturbances and their impact on project feasibility, scope, and schedule. Aggressive design, permitting, and mitigation strategies are employed to maximize land use and minimize threats to regional species, watersheds, and ecosystems.

- Wetland & Water Quality Services
  - Wetland Delineation and Assessments
  - Pond, Lake, and Stream Assessments
  - Mitigation, Design, and Monitoring
- Wildlife Assessments and Management
  - Threatened and Endangered Species Surveys
  - Comprehensive Avian and Bat Services
    - Migration and Use Surveys
    - Mist Net and Acoustic Surveys
    - Post Construction Mortality Monitoring
  - Aquatic Surveys
  - Mitigation, Design, and Monitoring
  - Management Documents:
    - BBCS, ECP, HCP, Eagle Management Plans
- Vegetation Sampling and Surveys
  - Tree and Forest Surveys
  - FQI, VIBI, Qualities, and Quantities Assessments
  - Mitigation, Design, and Monitoring
  - Management Documents
- GIS and Mapping
- Regulatory Coordination, Compliance, and Permitting
  - Federal Compliance and Permitting
    NEPA, FERC, USFWS, USACE, EPA
  - State and Local Consultation and Permitting
    CEQA, EPA, DNR, DEQ



# **ECOLOGICAL** SERVICES



### AGGRESSIVE STRATEGIES FOR COLLECTIVE SUCCESS

From site selection through post-construction compliance, Atwell's ecologists and biologists pursue your project objectives. They work alongside engineers and contractors to alert you to potential environmental disturbances and their impact on project feasibility, scope and schedule. Aggressive design, permitting and mitigation strategies are employed to maximize land use and minimize threats to regional species, watersheds and ecosystems.

- Wetland Services
- Threatened & Endangered Species Surveys
- Flora & Fauna Habitat Assessments & Management
- Aquatic Ecosystem Assessments & Management
- Natural Resources Assessment & Restoration Assistance
- \* Wildlife & Avian Hazard Assessments & Mitigation
- Violation Assistance & Expert Witness Testimony
- CEQA, NEPA
- Permitting
- Mitigation & Monitoring
- Management Plans
- Regulatory Consultations





# **ENVIRONMENTAL** SERVICES







### **ELEVATING ENVIRONMENTAL EXPERTISE**

To help you successfully comply with local, state, and federal regulations that affect your real estate interests, our environmental engineers, geologists, hydrogeologists, and regulatory specialists offer a diverse range of services and technical expertise to meet any environmental challenge. Our teams provide a variety of soil, water, and air assessments for transactional real estate requirements, as well as environmentally challenged properties and facilities. Whether your interests involve real estate transaction support, facility compliance audits, environmental cleanup, site remediation, or brownfield revitalization and redevelopment, we have the tools and environmental expertise to get the job done.

- Environmental Site Assessments (Phase I & Phase II)
- Risk-based No Further Remediation (NFR) Determinations
- Brownfield Redevelopment/Financial Incentives Assessment
- Underground Storage Tanks (UST) Removal and Closure
- Property Condition Assessments
- Hydrogeological Studies
- Soil Management Plans
- Asbestos, Lead-based Paint, Indoor Air Quality, and Mold Programs
- Soil and Hazardous Waste Identification/Management
- Sub-surface Geophysical Investigations
- Potentially Responsible Party Assistance
- Third-Party Review & Evaluation
- Soil & Groundwater Remediation
- Permitting & Compliance Assistance
- Strategic Project Planning & Device
- Health & Safety Plans
- Expert Witness Testimony
- Storm Water Management
- Remedial Investigation/Feasibility Studies
- Transaction Screens
- Remedial System Construction and System Operation and Maintenance
- SPCC Plans
- Waste Minimization
- RCRA Permitting and Facility Investigations
- Risk Management/Risk Assessments
- Facility Compliance Audits
- Air Permitting and Title V
- Air Quality Monitoring



## SITE REMEDIATION & DEVELOPMENT SERVICES







### DATA TO DRIVE DECISIONS

Environmental modeling and analysis are necessary to help clients understand remediation risk and cost for new developments, as well as how to avoid and manage contamination risk during construction or operation. Atwell's geologists and specialists provide complete remediation solutions, as well as financial and technical models for infill and redevelopment opportunities.

- Risk-based No Further Remediation (NFR) Determinations
- Underground Storage Tanks (UST) Removal & Closure
- Hydrogeological Studies
- Soil Management Plans
- Soil & Groundwater Remediation Services
- Geophysical Investigations
- Remedial Investigation/Feasibility Studies
- Remedial System Design & Construction
- Remedial System Operation & Maintenance
- Risk Assessments
- Vadose Zone & Groundwater Modeling
- Brownfield & Infill Redevelopment
- Financial Incentives Assessment





# LAND SURVEYING SERVICES







### WHERE SCIENCE MEETS STRATEGY

The tools and technology continue to evolve, but the science of land surveying remains a consistent feature of development, construction and maintenance. And the equipment is only as effective and reliable as the professionals operating it. That's why Atwell is proud to provide clients with experienced, proven land surveyors, project managers and technical teams that take a practical, functional approach to solving client needs through accurate and timely research, data and documentation.

- Land Boundary Survey
- ALTA/NSPS Land Title Survey
- 3D Machine Countrol
- Control Survey, Control Networks
- Planimetric Surveys
- Land Division/Final Subdivision Plats
- Maps/Exhibit & Condominium Documentation
- Easement Exhibits for Acquisition or Dedication
- High-Resolution Laser Scanning
- Topographic & Hydrographic Survey
- Underground Utility Layout
- Monitoring Well Survey, Landfill Capping, Volumetric Surveying & Closure As-Builts
- Lot-Fit Studies
- FEMA Elevations/Flood Plain Certificates
- Corridor Surveys
- Industrial Plant Surveying, Control, Baseline Establishment
- Rail Surveying
- Easement Acquisitions
- Construction Staking/Proposed Improvements Layout





# LAND PLANNING SERVICES







### **COLLABORATIVE** SOLUTIONS

Atwell's approach to achieving project development goals relies on a collaborative, creative, and constructive planning process. Land planning professionals thoughtfully develop strategy to approach site or project objectives, accomplish maximum property yields, and create value for future project phases. Through this process, we pursue consensus the between developers, communities, and key stakeholders, reducing friction and obstacles during project permitting and entitlement activities.

- Site Planning
- Ordinance Review & Project Entitlement Strategies
- Purchase Agreement (PA) Negotiation
- Comprehensive Land Use Planning & Analysis & Amendments
- Area Land Planning
- Property Due Diligence Investigations
- Site Investigation Reports (SIR)
- Natural Features/Site Analysis
- Feasibility Studies & Analysis
- Conceptual Land Planning & Design
- Yield Planning/Calculation
- Economic Viability Analysis
- ProForma Development & Analysis
- Site Design & Use Planning
- Charrette Services
- Graphic Design/Renderings
- Land Policy/Ordinance Creation Research and/or Analysis
- Entitlements





# LANDSCAPE ARCHITECTURE SERVICES







### BUILDING BEYOND THE BRICKS

Innovative and creative landscape architecture enhances the appeal and marketability of commercial and residential development. Atwell's landscape architects employ an interactive approach to landscape architecture through a four-step design process – visualization, customization, integration and implementation.

This process is essential to developing strong designs that address sociobehavioral, environmental and aesthetic preferences and provide an attractive, functional, and sustainable product. Our professionals capture your vision in their designs by combining concept drawings, sketches, images and materials in a collaborative environment.

- Site Analysis
- Natural Features Analysis & Site Planning
- Tree Survey/Condition Assessments
- Design Idea Generation/Conceptual Plant Missing Plans
- Preliminary & Final Landscape Designs
- Landscape Maintenance Planning
- Specification Standards
- Ordinance Compliance Calculations
- Hardscape Design & Detailing
- Streetscape Design
- Recreation Facilities Planning & Design
- Irrigation Design
- Sustainable/Low-Impact Design
- Presentation Graphics & Renderings





# LAND & RIGHT-OF-WAY SERVICES







### IT ALL STARTS HERE

Even the most preliminary project surveys and studies often require access to potentially involved or impacted property. As a project evolves, permanent right-of-way or acquisition negotiations with land owners become a critical activity. Professionals from Atwell support the selection, negotiation and acquisition process for clients through a network of national land agents, specialized in-house project managers and legal professionals focused on quality data delivery, land owner engagement and timely project execution.

The combination of proprietary GIS mapping technology services and experience throughout North America makes Atwell the ideal partner for clients seeking energetic, experienced representation on their next project.

### CAPABILITIES

- Site Selection
- FEED Studies
- Title Services
- Field Representation
- Project Management
- Prospecting/Desktop Studies
- GIS Mapping
- Landowner Database Creation & Management
- Community & Stakeholder Presentations/Education
- Land Leasing
- Mineral Right Acquisition
- Right-of-Way Acquisition
- Right-of-Entry Acquisition
- Fee Simple Acquisition
- Abstracting & Lease Take-Offs
- 40-Year Chains of Title
- Document Preparation
- Curative Title





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# **GIS & MAPPING** SERVICES







### VISUALIZING VALUE

Today, more than ever, real estate and development professionals need timely and targeted information to formulate and evolve their development and management strategies.

The use of Geospatial Information Systems (GIS) compiles data so it can be viewed and interpreted to reveal relationships and trends. It can also combine traditionally fragmented data into an integrated asset management solution.

Atwell offers a dedicated GIS consulting, analysis and mapping team that supports our clients involved in the development of large land parcels, multiple locations or the ongoing management of property portfolios.

### CAPABILITIES

### Data Modeling & Analysis

- Site Suitability & Constraint Modeling
- Market Analysis

### Asset Management

- Site & Property Management
- Utility Location & Management
- Real Estate Portfolios
- Infrastructure & Energy Systems

### Project Management Services

- GIS Consulting & Support
- Presentation Materials for Agency Reviews & Permits
- GIS Data Integration
- GIS Application Development
- Data Conversion & Migration

- Site Selection
- Developable Land Analysis
- Land Use Analysis/Planning
- Custom Asset Management Systems
- Land Acquisition & Right-of-Way Process Management
- Data Management & Mapping Solution (PIVIT <sup>1\*</sup>)





### PROJECT MANAGEMENT SERVICES





Property Condition Assessments (PCAs) are classified as engineering due diligence projects associated with commercial real estate, though engineering work is not part of the assessment and is excluded in the scope of the assessment. Often, they are completed as part of a property transfer, along with a Phase I Environmental Site Assessment. They are done in both equity and debt markets.

In equity markets, these reports primarily have value to the purchaser in that they can understand the issues and the potential costs associated with owning a property. The Property Condition Report (PCR) would be used in these cases to negotiate the purchase price as it reveals all physical repairs that a property may require—routing maintenance, normal operational maintenance, miscellaneous minor repairs, etc. These reports tend to be very detailed and may require a number of specialists to evaluate the various building systems (e.g. HVAC, elevators).

In debt markets, the reports have the value of letting the lender know that the borrower will likely have sufficient cash flow to operate, maintain, and update the property over the course of the loan. This provides some assurance to the lender that the loan will be repaid or, in the worst case, the property will not decline in value in the situation they have to sell it to recoup their loan amount.

### SCOPE

- Site Assessment
- Interviews

### BUILDING SYSTEMS EVALUATION

- HVAC Systems
- Elevators
- Plumbing
- Boilers
- Electrical
- Fire Suppression Systems

### **BUILDING EVALUATION**

- Foundations
- Structure
- Roof
- Interior Finishes
- Building Envelope

#### SITE IMPROVEMENTS EVALUATION

- Pavement
- Drainage
- Signage
- Lighting





# **INDUSTRIAL COMPLIANCE** SERVICES







### DATA TO DRIVE DECISIONS

Atwell's compliance specialists advise clients in the manufacturing, heavy industrial and power markets on proactive solutions to manage environmental compliance, permitting and health and safety programs.

- Soil & Hazardous Waste Identification/Management
- Environmental Permitting, Compliance & Auditing Programs
- Environmental Health & Safety Consulting Services
- Industrial Storm Water Management
- SPCC Plans
- Waste Minimization
- RCRA Permitting & Facility Investigations
- Facility Compliance Audits





## **PROGRAM & CONSTRUCTION MANAGEMENT** SERVICES







### MORE VALUE, LESS LAYERS

Gain a more comprehensive understanding of project options and potential through the engagement of a construction manager. Atwell delivers continuity and efficiency to complex projects and programs by facilitating design, permitting and construction activities, while reducing time spent coordinating vendors, tasks and schedules.

Our construction managers become experts on your goals and preferences, acting as an extension of your in-house team and are able to add flexible resources on a per-project basis. For multi-site, large-scale or complex projects, this project delivery method efficiently increases consistency and communication for a superior and consistent product.

- Project Scope Development
- Budget/Cost Control
- Feasibility & Due Diligence Services
- Design Professional (Architect/ Engineer) Selection
- Constructability Review
- Value Engineering Review
- Construction Phasing & Scheduling
- Client Representation
- Permitting Strategy & Guidance
- Bid Scopes for Individual Trade Disciplines
- Contract Negotiation & Execution
  Coordination
- Procurement & Material Sourcing
- Vendor & Subconsultant Management

- Site Logistics & Strategy
- Construction Monitoring & Evaluation
- QA/QC All Trades
- Onsite Construction Management
- Commissioning
- Permanent Relocation/ Occupancy Assistance
- As-Built Surveys
- Closeout Procedures & Financial Surety Releases
- Project & Document Controls
- EPCM Delivery Method





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## PROJECT MANAGEMENT SERVICES





### **EXCEEDING EXPECTATIONS**

Project management is an expected service, but how that management is defined and delivered can vary significantly. Clients of Atwell rely on our aggressive, proactive project management style, and our spirit of client advocacy and constant communication.

The singular job of our project managers is to deliver client solutions that address organization and individual needs. Managers have the freedom to leverage technical and corporate resources from across the organization to ensure timely, productive results.

- Project Planning & Scope Development
- Project-Specific Execution Planning
- Communication Strategy
- Scheduling & Budgets
- Permit Strategy & Execution
- Cost Controls & Resource Allocation
- Quality Assurance Management
- Contract Administration
- Document Management
- Service & Subconsultant Coordination
- Project Delivery & Close-Out
- Client & Stakeholder Representation





#### EDUCATION Bachelor of Science Geology Kent State University 1996

WORK EXPERIENCE EDP Consultants Environmental Geologist 1997-2004

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Atwell, LLC Environmental Team Leader 2004 - Present

CERTIFICATIONS Asbestos Building Inspector Ohio (2001-2013) Pennsylvania (2008-2013)

Asbestos Management Planner Ohio (2001-2013) Pennsylvania (2008-2013)

OSHA Hazwoper Training 29 CFR 1910.120(e) 1998 - Present

AFFILIATIONS Building Environment Council of Ohio, Inc.

#### EXPERTISE

- Hazardous Substances & Environmental Site Assessments
- Remediation Design and Estimating
- Universal and E-Waste Evaluations and Remediation
- Air Quality Monitoring & Permitting
- Asbestos & Lead-Based Paint
- Brownfield Redevelopment
- Due Diligence/Feasibility
- Environmental Management Systems Development & Reporting
- Geophysical Investigations
- Groundwater Monitoring
- Health & Safety Plans
- Human Health Risk
- Assessments
- Hydrogeolic Studies
- Indoor Air Quality
- Landfill Assessments & Monitoring
- NEPA Reviews & Compliance
- Oversight of Remediation Activities
- Permitting & Compliance Assistance
- Phase I, Phase II & Phase III ESAs
- Public Outreach

### Michael J. Koenig | Team Leader, Environmental Services

Mr. Koenig has more than 19 years of experience in environmental consulting and currently manages daily operations with respect to project and client initiatives within the Atwell's environmental and natural resources groups. Mr. Koenig is responsible for managing environmental staff and operations in Atwell's Ohio, Pennsylvania, and Georgia offices. In addition to staff and project management, he is responsible for assisting clients in project definition, preparing work plan proposals and cost estimates, directing subcontractors, performing environmental investigations, performing remediation projects, interfacing with regulators and other project professionals, and the preparing/reviewing of project reports.

#### RECENT RELEVANT EXPERIENCE

#### Project Management & Team Leadership

Mr. Koenig's project/client management and team leadership experience includes all aspects of a project life cycle including: managing and directing a staff of environmental professionals, initial coordination and work scope development with the client to ensure all the client's needs are fulfilled in the most timely and cost effective manner, contract preparation and estimating, negotiations with regulators on behalf of the client, oversight of project execution, quality control, and financial management.

### Environmental Assessment and Remediation Projects

Mr. Koenig manages projects ranging from environmental site assessments of small residential properties to large-scale industrial facilities including identification, evaluation, and remediation of various chemicals of concern such as petroleum hydrocarbons, pesticides and herbicides, PCBs, chlorinated solvents, metals, universal hazardous wastes, E-wastes, asbestos, lead-based paint, etc.

#### Subsurface Investigation Projects

Mr. Koenig manages surface and subsurface evaluations involving soil, surface water, and groundwater investigations and remediation. Investigative activities including site inspections, the design and implementation of drilling programs, sampling plans, identification of chemicals of concern, appropriate analytical testing methods, and data interpretation. Also designs, manages and directs remediation projects involving excavation and disposal of contaminated soil and groundwater and the in-place treatment of subsurface COCs.

#### **Commercial Retail**

Mr. Koenig has provided and managed environmental services for numerous commercial retail clients including, but not limited to the following: Walmart, Target, Menards, Dollar General, Rite Aid, Aldi, Walgreens, Lowes, Giant Eagle, Sears/Kmart, JC Penny, Tim Horton's, and Goodwill. Mr. Koenig has coordinated the execution of Master Service Agreements with commercial retail clients, established protocols for work to be completed as part of roll-out programs, and managed the execution of work associated with large-scale roll-out programs.

#### Industrial Facilities

Mr. Koenig has provided and managed environmental services for numerous industrial clients and properties including, but not limited to the following: Nestle food processing facilities, Metaldyne automotive part manufacturing facilities/foundries, Vesco Oil and Ullman Oil bulk petroleum storage and distribution facilities, Bridgestone/Firestone facilities, Parker Hannifan, various landfill sites, machining and/or metal working facilities, trucking terminal/distribution facilities, and numerous manufacturing facilities. Services have included the management of site assessments, remediation activities, compliance, permitting, and/or reporting.



- Regulatory Compliance/Permitting
- Remediation System Design
- Risk-Based Compliance Determinations
- Soil & Groundwater Remediation
- Soil, Vapor & Groundwater Sampling
- Solid & Hazardous Waste Identification/Management
- Stormwater Evaluation
- Technical Reporting
- UST Removal & Closure
- Vapor Encroachment Assessment
- Vapor & Groundwater Modeling
- Voluntary Cleanup Regulations & Policies

#### Power and Energy

Mr. Koenig has provided and managed environmental services for numerous power and energy clients (oil/gas, solar, wind) including, but not limited to the following:

Consol, BP of North America, Tracker Resources, NextEra, Atlas Energy, Element Power, and National Renewable Energy Corp. Services have included the management of site assessments, remediation activities, compliance, permitting, and/or reporting.

#### Banking and Financial Institutions

Mr. Koenig has provided and managed environmental services for numerous banking and financial institution clients including, but not limited to the following: Key Bank, National City Bank, PNC Bank, Fifth Third Bank, First Place Bank, Huntingdon Bank, Northern Trust, First Federal Lakewood, Cooperative Business Services, and Charter One. Services have included the management of site assessments associated with lending due diligence and/or foreclosure, remediation evaluations and estimating, compliance evaluations, permitting, and/or reporting.

#### Underground Storage Tank (UST) Projects

Mr. Koenig manages projects ranging from single tank removals to the closure of multi-tank systems. Project sites and clients have included retail gas stations owners, automotive repair facilities, telecommunication sites, manufacturing facilities, and orphaned properties. Environmental services have include site assessment activities, project coordination, corrective action evaluations, groundwater monitoring, compliance, human health risk evaluations, remediation, regulator coordination, obtaining state approved No Further Action and or closure status, and obtaining State reimbursement funds for owner/operators.

### Asbestos and Hazardous Waste Assessment Projects

Mr. Koenig manages projects ranging in size and scope from AHERA re-inspections for local school districts to large-scale demolition projects for multi-tenant commercial facilities or industrial facilities. Provides management and oversight for sampling, mapping the extent and condition of asbestos and hazardous substances, evaluating the potential for disturbance and exposure, assisting clients with obtaining abatement permits, pricing, oversight, and preparing or updating operation and maintenance programs.




May 3, 2017

Garrison Southfield Park, LLC c/o Karl R. Heisler Katten Muchin Rosenman LLP 1290 Avenue of the Americas, 9th Floor New York, New York 10104

#### RE: Professional Consulting Services to date under the National Contingency Plan - Closed Loop Facility located at 1675 & 1655 Watkins Road, Columbus, Ohio.

Dear Mr. Heisler:

Per your request, Atwell, LLC (Atwell) has conducted an internal review for all professional consulting services to date which qualify under the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) in support of the ongoing investigation of the above referenced Closed Loop facility.

For the period of June 15, 2016 through May 3, 2017, Atwell has accrued a total of \$94,922.82 in NCP compliant professional consulting fees in association with the Closed Loop facility investigation.

If you have any questions or comments, or if we can be of further assistance, please do not hesitate to contact us at (440) 349-2000.

Sincerely, ATWELL, LLC

Tom Leigh Project Manager

Michael Koenig Team Leader



May 2, 2016

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Garrison Southfield Park, LLC. C/O Karl Heisler 1290 Avenue of the Americas, 9th Floor New York, New York 10104

RE: Proposal Summary for Consulting Services Related to the Removal, Disposal & Remediation of E-Waste at the Former Closed Loop, Inc. Facility 1675 & 1655 Watkins Road Columbus, Ohio

Dear Mr. Heisler:

Atwell, LLC is pleased to present this proposal summary for consulting services related to ewaste removal, disposal/recycling and remediation at the former Closed Loop facility located at 1675 and 1655 Watkins Road in Columbus, Ohio. Our attached proposal is based upon site visits of the former Closed Loop, Inc. facility, meetings with property owner representatives, a review of available records pertaining to Closed Loop's former operations and evaluations of site conditions, and conversations with legal counsel for Garrison Southfield Park, LLC (Garrison).

Please review the attached proposal summary. If you have any questions or would like further information, please contact us at (248) 447-2000.

Sincerely, ATWELL, LLC

Thomas Leigh Project Manager

Michael Koenig Team Leader

### **1.0 INTRODUCTION**

This scope of work and cost estimate has been prepared in response to a request from Karl Heisler, Katten et.al., counsel to Garrison Southfield Park, LLC., 1290 Avenue of the Americas, 9th Floor, New York, New York 10104 (hereafter referred to as "Client"). Atwell, LLC (hereafter referred to as "Atwell") has prepared this scope of work and cost estimate to perform a series of consulting tasks related to the removal of abandoned e-waste, transportation to a e-waste recycling facility(ies) and/or landfills, the remediation of the building's interior, and subsequent regulatory closure associated with the former Closed Loop, Inc. operations located at 1675 and 1655 Watkins Road, Columbus, Ohio (Subject site).

Based on our understanding of the environmental and regulatory challenges associated with the site, including the issuance of a Notice of Violation (NOV) to Closed Loop Refining and Recovery, Inc. on April 11, 2016 and potential nearby sensitive receptors to current site conditions, Atwell recommends the following Scope of Services.

#### 2.0 PROPOSED SCOPE OF WORK

Atwell proposes to act as the Client and property owner's advocate throughout the process described in this proposal. In order to ensure the most efficient approach to the removal of the accumulated e-waste as well as subsequent remediation of the buildings and regulatory compliance for the site concerns, Atwell proposes to complete the following tasks.

- <u>Task 1</u> Initial Planning and Coordination: Atwell will prepare a Project Plan for the oversight and monitoring of the work activities to be conducted at the Subject site. The Project Plan will include the necessary (and regulatory required) work plans, loading plans, monitoring plans, sampling plans, and quality assurance plans to implement the logistics, removal of ewastes from the building, oversight, assessment, and remediation compliance.
- <u>Task 2</u> **Project Administration and Advisory Services:** Atwell will provide project administration advisory services on behalf of the Client to assist with the loading, transportation, removal of the e-waste, and building remediation. This task will include planning and procurement phase services, contractor removal/remediation administration phase services, and close-out phase services.
- <u>Task 3</u> Environmental Consulting Services During E-Waste Removal: Based upon the approved Project Plan, Atwell will work closely with the Client's selected contractor(s) to monitor and document environmental conditions (i.e., internal and external) during waste loading/removal activities and building remediation.
- <u>Task 4 -</u> <u>Environmental Consulting Services for RCRA Closure and Building Remediation:</u> Following the removal of the abandoned e-waste from the buildings, Atwell will assist the Client to engage and confirm the services of a lead abatement contractor to remediate residual lead-contaminated dust within the buildings, and provide the necessary environmental consulting, closure sampling, and reporting activities to achieve a RCRA compliant closure.



### 3.0 FEES

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Atwell will provide the environmental services described in this proposal on a Time & Material (T&M) basis. Sub-consultant charges, fees, commissions, mateials, supplies, and out of town travel expenses will be billed at cost plus 15%. All labor charges for the project will be billed in accordance with Atwell's 2017 Fee Schedule for Professional Services. Any project related work that is conducted in hazardous working conditions utilizing the need for Tyvex suits and respirators will have an additional surcharge of 15% added to the hourly rates. A Budgetary T&M Estimate for each Task is presented in Table 1.

Task Summary (Budgetary Time & Materials Estimates)	
Task 1 – Initial Planning and Coordination	
Atwell labor and services	\$70,000
Task 2 – Project Administration and Advisory Services	
Atwell labor and services	\$121,600
Atwell travel costs and per diem at government rates	\$11,400
Task 3 - Environmental Consulting Services During E-Waste Removal	
Atwell labor and services	\$490,200
Atwell travel costs and per diem at government rates	\$57,000
Task 4 – Environmental Consulting Services for RCRA Closure and Building Reme	diation
RCRA Closure - Atwell labor and services	\$300,000
Building Remediation Monitoring – Atwell labor and Services	\$77,000
Atwell travel costs and per diem at government rates	\$9,000
Task 98 – Project Reimbursables	\$43,500
Budgetary Time & Material Estimated Project Cost	\$1,179,700

Note: Atwell's fees associated with site monitoring, administration, and advisory services during the removal of e-waste and the building remediation activities are based on Contractor anticipated schedules and task durations. E-waste removal (9 months), Building dust remediation (3 months).

### 4.0 SCHEDULE

Based on the remediation estimates received for this project, the e-waste removal activities have been estimated to take approximately 9 months to compelte. The subsequent building remediation activities have been estimated to take approximately 3 months to complete. The duration of the regualory closure assessment and approval process will be dependent on the Ohio EPAs Ohio EPA's oversight over RCRA closure.

Atwell will conduct the environmental services outlined in this proposal consistent with the standard skills used by local members of the environmental profession practicing under similar

## ATWELL

Garrison Southfield Park, LLC | Remediation of E-Waste Accumulation-Former Closed Loop, Inc. Facility Columbus, Ohio

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conditions. This proposal does not include sampling or laboratory analysis for the disposal of soil or liquid waste derived from the subsurface investigation operations. The handling and disposal of all sample media will be the responsibility of the independently retained laboratory. This proposal does not include contaminated soils removal, characterization, or disposal from the project site. If necessary, these costs will be in addition to the Scope of Work and fees presented herein.

### 5.0 PROJECT UNDERSTANDINGS

Atwell, LLC is acting in the role of Client consultant / advisor for this project and will execute all work in good faith in accordance with industry standard practice and procedures. Atwell is not serving as a General Contractor. The estimated project schedule and cost estimates are highly dependent on factors not within Atwell's control, including governmental and agency reviews and contractor's performance. Atwell's role does not include: (a) the selected contractor's health and safety protocols; and (b) transportation and ultimate recycling/disposal of e-waste. Accordingly, Atwell assumes no liability for Contractor performance, including project schedule, project budget or jobsite health and safety.

This proposal is valid for a period of sixty (60) days. This proposal shall serve as Exhibits A, B and C, as referenced in Atwell's Professional Services Agreement as agreed upon by Katten. The Time and Material cost estimates include project related reimbursable expenses, including vehicle mileage, hotels, per diem, postage/shipping, and reproductions. Those costs will be billed in accordance with the Atwell Professional Services Fee Schedule. Any application, bonding, or permit fees for the project will be paid directly by the Client.

If Client chooses to alter the proposed scope of work, Client shall so advise Atwell, and Atwell shall propose alterations to the scope of work and related fees. Client will authorize Atwell in writing to conduct more or less work than defined in the proposal.



## **APPENDIX B**

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Photographs of E-Waste and Site Conditions

Photographic Log Abandoned E-Waste and Building Conditions 1655 and 1675 Watkins Road, Columbus, Ohio



General image of a CRT, it's main components, and associated lead content.



View of containers of stockpiled crushed CRT glass stacked three high in the south portion of building 1675.



Additional view of containers of stockpiled crushed CRT glass stacked three high in the south portion of building 1675. Containers of segregated scrap metal (frit) are in the foreground.



Additional view of containers of stockpiled crushed CRT glass stacked three high in the south portion of building 1675. Containers of segregated scrap metal (frit) are in the foreground.



View of containers of stockpiled crushed CRT glass stacked three high in the north portion of building 1675.



View of a typical container of crushed CRT glass.



Typical view of stockpiled gaylords containing crushed CRT glass.



View of a container of CRT Tubes (not yet processed).



View of a container of projection CRT units not yet processed.



View of a container of segregated plastic components.



View of intact CRT devices (TVs) not in gaylord containers but as originally received by Closed Loop and unprocessed.



View of a manual processing line in the south portion of building 1675 where TVs and computer monitors would be disassembled.



View of the CRT crushing area in the west central portion of building 1675. The CRT crusher is the blue equipment behind plastic sheeting installed as an attempt to control dust.



View of the crusher and a few inches of accumulated hazardous lead dust under the unit.



View of dust accumulation on the floor of the building.



View of stockpiled CRT devices awaiting processing in the south portion of building 1655.



Additional view of stockpiled CRT devices awaiting processing in the south portion of building 1655.



View of stockpiled CRT devices awaiting processing in the north portion of building 1655.

## APPENDIX C

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D

Figures



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## APPENDIX D

Preferred Removal Contractor Proposals and Qualifications: HWE, Novotec, URT NOVO recycling 3960 Groves Rd. Columbus, OH 43232

614-236-2222 www.novotecrecycling.

# Revised Proposal for Removal and Disposition of Material from 1655 and 1675 Watkins Road Warehouse

## Submitted by: Novotec Recycling LLC

Date: August 23, 2016

Novotec Recycling (hereinafter referred to as Novotec) is pleased to submit the proposal outlined below at the request of Garrison Investment Group of 1290 Avenue of the Americas, 9<sup>th</sup> Floor, New York, NY 10104 (hereinafter referred to as Garrison). This proposal is to provide all management, transportation and labor required for the removal and proper disposal and/or recycling of all Subject Material as outlined below from the Subject Property outlined below.

## Summary

Novotec proposes to work with a variety of final processors for the CRT material to maximize the number of loads leaving the warehouse each week. Novotec has existing relationships with every downstream option available and will negotiate the best pricing balanced with the desire to move the material out as quickly as possible. These options include landfill, long term storage cells, glass-to-glass recycling, multiple lead and copper smelters, several glass recyclers who blend CRT glass, tile manufactures in Spain and several more. The goal would be to have multiple outlets taking material at the same time.

The pricing outlined below is design to cover all of the various costs involved in the project and thus minimize the number of contractors Garrison has to deal with to complete the project. The pricing includes all labor and equipment to stage and load the material, all transportation costs and all disposal or recycling fees.

Novotec's headquarters and all management and staff live and work in Columbus, Ohio. Novotec will provide experienced, full time employees, NO TEMPS, for this project. Each Novotec employee that will be involved in this project will have at least one full year of experience working with CRT material.

Novotec will be providing all of the equipment necessary to complete the work as outlined, including but not limited to forklifts, scissor lifts, balers, shrink wrap machines and pallet jacks.

This proposal is not intended to cover every detail of the agreement. It is anticipated that a formal contract or Service Agreement would be drafted and executed which would spell out details regarding payments, insurance and liability assumptions, notice, jurisdiction, dispute resolution, etc.

3960 Groves Rd. Columbus, OH 43232

## Definitions

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recycling

Subject Property: The Subject Property includes the entire approximately 290,444 square feet of warehouse space in the building located at 1675 Watkins Road, Columbus, Ohio 43207 (hereinafter referred to as 1675) and approximately 115,000 square feet of the warehouse space in the building located at 1655 Watkins Road, Columbus, Ohio 43207 (hereinafter referred to as 1655). The warehouse space located at 1655 Watkins Road is located at the southern end of that same building. The Subject Property also includes the space located in the connecting structure between 1675 and 1655 Watkins Road.

Subject Material: The material to be removed from the property includes but is not limited to whole CRT containing display devices (televisions, computer monitors and terminal displays), partial or broken CRT display devices, CRTs which have been removed from whole CRT display devices, broken or partial CRTs which have been removed from whole CRT display devices, boxes of glass which have been removed from CRTs, steel banding from CRTs, plastic housings which have been removed from whole CRT display devices, flat panel displays (flat panel televisions and computer monitors), whole and partial projector TV sets, projector TV lamps, whole and broken pallets, miscellaneous equipment (including but not limited to conveyors, tables, portable light fixtures, balers, screeners, dumpers, trash containers) and miscellaneous non-hazardous waste. An Estimate of the breakdown of the Subject Material is attached to this proposal as Attachment A.

Approved Service Provider (ASP): An Approved Service Provider is a legal entity doing business as a company which provides disposal and/or recycling services which are required for the proper, legal and final disposition of the Subject Material such that Garrison is relieved of all liability for such material and has no further financial or legal obligation regarding such material. Novotec has relationships with a variety of possible ASP for this project. Each ASP has different processes and services which will dispose of and/or recycle the Subject Material and each of the ASP has different price structures and costs. Novotec will provide Garrison with pricing and details on the options for using the different ASP and Garrison shall choose which ASP they wish to utilize. Once approved Novotec will set up logistics and work to maximize the number of loads per day sent to each ASP with the goal of clearing the Subject Property as quickly as possible.

3960 Groves Rd. Columbus: OH 43232

## Novotec's Obligations

Novotec's obligations under this proposal shall include the following:

- 1) Novotec will provide all of the labor and equipment required to safely move the Subject Material within the warehouse and stage such material for shipping. This may require that some boxes or pallets currently in the warehouse be repackaged if the existing box or pallet falls apart during the staging process. Client is aware that much of this material has been sitting in the warehouse for several years or more and many of the boxes and pallets are not in very good condition. Novotec will provide the shrink wrap, pallets and gaylords as required to stage the loads properly for shipping.
- Novotec will provide all of the labor and equipment required to load the Subject Material into the appropriate shipping containers for transportation to each specific ASP for disposal and/or recycling of that specific material.
- 3) Novotec will arrange, manage and pay for all transportation services required to transport the Subject Material from the Subject Property to its designated ASP. Novotec will provide all legal documentation and keep records of all shipments as may be required by any applicable laws, rules or regulations or industry certifications.
- 4) Novotec will arrange, manage and pay for all disposal and/or recycling services as they may be provided by each ASP. Novotec will provide records of all invoices and payments to any ASP which is not Novotec.
- 5) Novotec will provide Garrison with invoices for the removal of all of the material as the material is being shipped. Due to the nature of the Subject Material it is anticipated that most of this material will require payment to be made for such services at the time the material is shipped. Novotec will provide all invoices in a timely manner such that Garrison has ample time to pay such invoices. Novotec will work with Garrison to arrange for financial assurances such as Letters of Credit or prepayment accounts that can be drawn upon for shipments as they leave the warehouse. Details of payment terms will need to be worked out in detail prior to commencement of the project.

3950 Groves Rd Columbus, OH 43232

## Garrison's Obligations

recycling

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Garrison's obligations under this proposal shall include the following:

- 1) Garrison will provide access to the building, the front dock area and parking area such that Novotec can meet all of their obligations outlined above without any interference or delay.
- 2) Garrison will insure that the lights in the warehouse are working and full power is available for operating any lights, dock doors or other equipment Novotec will need to fulfill their obligations as outlined above. Novotec does not anticipate requiring any additional heavy equipment or equipment which would use large power requirements.
- 3) Garrison will pay all invoices within the terms provided for such payment. Due to the nature of the material being removed from the Subject Property it is anticipated that most or all ASP will require Novotec to make payment in advance of the material arriving at their facility. It may be prudent to set up Letters of Credit or accounts to draw against for payments in order to allow for the uninterrupted flow of material out of the warehouse. Garrison agrees to work with Novotec to provide such financial assurances as Novotec may require in order to make Novotec's payments to the various ASPs. Details of payment terms will need to be worked out in detail prior to commencement of the project.

3960 Groves Rd. Columbus OH 43232



## Strategy

After additional discussions with Garrison Novotec recommends that both 1655 and 1675 be cleaned out simultaneously. The time frames below will start at approximately the same time as scheduling allows.

1655 – (24 to 39 weeks) - 1655 will involve removal of all Subject Material in 1655 such that Garrison can lease perform a final cleaning of the facility and lease it to a new tenant. Novotec would ship this material to the Novotec Recycling facility located in Columbus Ohio for recycling of the CRT glass such that all of the materials in the 1655 building remain Conditionally Exempt from being designated as waste or Hazardous Waste under CFR Title 40 Subchapter I regarding Solid Wastes. Some of this Material may also go to a Lowest Cost ASP.

1675 – (9 to 15 months) – 1675 will involve removal of all Subject Material within 1675. In order to expedite this process Novotec will identify and work with Garrison to approve as many ASP as possible for this material. Novotec has currently identified 2 definite ASP and has identified several more potential outlets which may require additional work to achieve an agreement for them to accept the material within the time frame and in the condition in which the material currently exists. One of the already identified ASP is a Lowest Cost ASP for the material in 1675. Shipping to this ASP could begin immediately. Garrison may choose to utilize an ASP which is higher in cost in addition to the Lowest Cost ASP in order to decrease the time required to ship out all of the material in the warehouse. Novotec will continually manage the contracts with each ASP to maximize the number of loads per day that each ASP can take.

Pricing – The Pricing for each different material is shown on Attachment A. The pricing for the Mixed Funnel/Panel Glass in Gaylords is based upon using our currently identified Lowest Cost ASP. The costs shown for Whole Units and Unprocessed CRT are based upon Novotec processing the material in accordance with all state Producer Responsibility Programs, all R2 certification guidelines and e-steward certification guidelines and all major Original Equipment Manufacturer requirements. All pricing includes all costs associated with the management of the material to final disposition as outlined above under Novotec's obligations. Due to the fact that these prices include transportation costs which include fuel surcharges it is understood that the prices may changes slightly prior to actual execution of the final service agreement. It is not anticipated that fuel costs or transportation costs will greatly increase or decrease pricing.

3960 Groves Rd. Columbus, OF 48232 614-236-2222 www.novotecrecyc.ngi

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Novotec appreciates the opportunity to submit this proposal and looks forward to working with Garrison on this project.

Regards. CE recycling

Novo

recycling

3960 Groves Road, Columbus, Ohio 43232 (614) 236-2222 tbolon@novotecrecycling.com



Garrison Investment Group accepts this proposal and agrees to move forward in good faith to negotiate, draft and execute a formal agreement based upon the above terms and conditions.

MEMBER

Signature		 	Title:
	1155		

\_\_\_\_\_ ·\_\_ Date:\_\_

Print Name:\_\_\_\_\_

Attachment A

Material		See Notes Belo	w regarding We	See Notes Below regarding Weights and Pricing		
	1655	1675	# / 2011	1655	1675	
Whole Units	3,490,451	1,469,879	(\$0.16)	(\$558,472)	(\$235,181)	(\$793,653)
Unprocessed CRT	6,576,765	2,163,603	(\$0.16)	(\$1,052,282)	(\$346,176)	(\$1,398,459)
Projector Lamps and TV	185,087		(\$0.18)	(\$33,316)	\$0	(\$33,316)
Mixed Funnel/Panel Glass in Gaylords		113,750,757	(\$0.0\$)	ŞO	\$0 (\$10,237,568)	(\$10,237,568)
Steel with glass	1,944	324,648	\$0.00	\$0	\$0	0\$
Plastic	19,440	15,120	\$0.10	\$1,944	\$1,512	\$3,456
Panel with metal	14,406	175,273	(\$0.0\$)	(\$1,297)	(\$15,775)	(\$17,071)
	10,288,093	10,288,093 117,899,280		(\$1,643,423)	(\$1,643,423) (\$10,833,188)	(\$12,476,611)
Totals		128,187,373 Av	(\$0.097) Average Cost per LB	œ		(\$12,476,611)

1 All weights are estimates and are not intended to be used as definative or actual weights Notes:

2 Actual weights will be provided as the material is being loaded.

3 All Cost Totals are estimates based upon estimated weights and are not intended to be used as actual costs.

4 All Pricing is a unit pricing per LB of loaded material.

### **Novotec Recycling**

Founded: 2008

Industry Certifications: R2, ISO 14001, OSHAS 18001, EPSC approved

Employees: 170

Facility: 200,000 SF - 18 docks, 12 acres, full inside rail access

#### Introduction to Novotec Recycling

Novotec was founded in 2008 as a Cathode Ray Tube (CRT) and flat panel display recycler. The company, located in Columbus, Ohio operates out of a 200,000 SF facility on 12 acres with full inside rail access.

Novotec is open 7 days a week operating 3 shifts processing an average 50,000,000 LB annually. With capacity to process over 100,000,000 LB of CRT and flat panel material annually Novotec is positioned to handle any size project efficiently while maintaining full compliance. All employees are full or part time company employees with no temporary staffing.

Novotec is R2 certified as well as ISO 14001 and OSHAS 18001 certified. As a member of ISRI Novotec works with other industry leading companies to promote and encourage safe, responsible recycling of all materials. Novotec is also an approved recycler under the Electronics Product Stewardship Canada Recycler Qualification Program

#### Why Work with Novotec

Novotec was built and operates around three major principals:

1) Focus - Focus on one thing and do it right - that is recycling displays including the processing and recycling CRT's and CRT glass and Flat panel displays;

2) Compliance – Full compliance with all federal, state and industry regulations including R2 and esteward standards – Novotec from the first day of operations was focused on being ahead of the curve on Environmental, Health and Safety compliance and on finding sustainable solutions for all downstream material and by-products of our operations; and

3) Integrity - Never compete with our clients. Novotec is a Third Party Processor and does not compete directly for contracts against our own clients (this practice was very common in the industry). Always deliver more than we promise. Focus on developing long term mutually beneficial relationships with clients over short term profit.

#### FOCUS

Over the past 9 years Novotec has developed a reputation as a leader in the electronics recycling industry specifically as the highest compliance level option for CRT glass. By concentrating on CRT glass and understanding its structure and physical properties as well as analyzing existing economic and market factors related to the glass and its major components, Novotec is able to continually evaluate all available recycling and processing options for CRT glass and assure our clients that their CRT material is being handled as economically as possible while maintaining the highest level of environmental stewardship and regulatory compliance. In 2008 the EPA regulations allowed for 2 main processes for the recycling of CRT glass. One was using the glass to manufacture a new CRT tube and the other was working with a smelter to melt the glass and recycle the lead from the glass. When many CRT processors were sending their glass to a company in Mexico which in turn sent the glass to India to a CRT manufacturer there Novotec saw that the CRT market was essentially gone and that soon the India option would go away. Instead Novotec worked with the largest lead smelter in North America to develop a product that was beneficial to the smelters process and economical for Novotec to produce. Smelting is the only process that removes the lead from the glass and recycles it back into the economy helping to reduce the environmental impact of mining virgin ores while utilizing no additional energy in the recycling process. Securing this option assured Novotec and its clients that their material would be fully recycled in full compliance with all EPA regulations for years to come.

When new solutions for CRT glass are promoted to the industry Novotec is able to knowledgably analyze the claims of the company and process they are promoting and determine if the option is viable and if it would be beneficial to our clients to pursue working with this option. Over the past 9 years the industry has seen many of these companies and solutions enter the market with much self-promotion and fanfare and unfortunately we have seen almost all of these companies fail to deliver and most have gone out of business and left large stockpiles of CRT material for others to deal with.

#### COMPLIANCE

Novotec has consistently focused on and delivered to its clients the highest level of regulatory compliance in the industry. Many top electronics OEM programs require their CRT material be sent to Novotec due to this high level of compliance with all regulations and industry environmental standards.

Novotec is audited annually by multiple OEM programs and large recycler clients. In addition Novotec is audited annually by the R2 certification program and the Canadian Recycling program. Auditors consistently relate that Novotec's operation is a top performer in audits. Below are some quotes from one R2 audit final report:

"This is the best management review I have seen over the years auditing."

"All employees interviewed in this area did a great job answering questions related to PPE, Focus Materials, Emergency Preparedness and Response. Even the newly hired employees did an excellent job answering questions. While at the organization a sense of good work ethic is felt among the work force." "Excellent cleanliness witnessed."

"Monitor area was highly organized with all raw materials containers labeled and work areas cleaned. The following employees were interviewed and demonstrated excellent knowledge of the process:"
"Bailing operation was also very clean and organized. The operator was aware of the safety precautions for his area and the focus materials.

"Excellent work instructions for the processes."

"All employees did an excellent job on wearing the appropriate PPE for their jobs! "

- Quotes from Novotec R2 Surveillance audit Final Report - April 1st and 2nd 2013

In 2013 Novotec implemented a company-wide program 5S Site Management Standards which provided all employees with the tools and training which allowed them to take ownership of their work areas and processes.

#### INTEGRITY

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Novotec's operating principals are all built on a base of integrity in everything we do. When many CRT processors were competing for the same contracts that their clients had in place that were generating material coming to them, Novotec specifically did not take up that practice and instead worked with their clients to make sure that they kept those contracts and focused on helping them grow which in turn helped Novotec grow.

When buying and/or selling commodities Novotec strives to create mutually beneficial pricing and terms that will help both sides want to develop long term and profitable relationships. There is always a sweet spot where both sides are happy and look forward to working together on the next deal.

In operations Novotec looks to be a leader in environmental health and safety often putting programs in place well above the required regulations. Employee safety is a top concern as well as environmental stewardship. Novotec will never take the lower cost option on processing or on working with downstream vendors if that option has any chance of creating exposure to downstream liabilities for their clients.

## Novotec's Reputation is Second to None

The best marketing tool that Novotec has is their clients. Novotec is proud of the fact that nearly all of their clients have come to them thru word of mouth, coming to Novotec thru their stellar reputation as the trusted industry leader in compliant CRT recycling. When a company is new to the CRT recycling sector or finds themselves looking for a new CRT processing partner they only have to make a few calls before Novotec Recycling comes up. The next call is usually to Novotec.



## HAZARDOUS WASTE EXPERTS PROPOSAL FOR SERVICES

### OVERVIEW

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Hazardous waste experts is pleased to submit this proposal for services to clean out the abandoned electronic waste processing facility located at 1675 Watkins Road, Columbus, Ohio. This proposal sets forth our approach for a single-source solution for the management, packing, labeling, transporting, and disposal of approximately 128 million pounds of electronic waste. The waste consists of cathode ray tube (CRT) monitors, television sets, projector lamps, crushed CRT funnel and panel glass, and various types of scrap metal and plastic. We plan to provide all services necessary to complete the cleanout of this facility. Approximately 14 million pounds of whole CRT units, television sets, projector lamps, and scrap material will be recycled in accordance with R2 standards. The crushed CRT glass will be disposed of in a hazardous waste landfill. At the conclusion of the project, all of the material will have been recycled or disposed of permanently, in a manner that is fully compliant with all appropriate rules, regulations, laws, and standards.

### The Objectives

Our plan will ensure that the following objectives are met:

- The project will be completed in less than 180 working days (nine months).
- Our total cost for this project (at projected volumes) will be \$17,955 396.30
- We will complete all tasks related to a complete cleanout of the site.
- We will ensure that all risks associated with this project are mitigated to the fullest extent possible

### The Plan

Our plan is comprehensive, ensuring that all aspects of the project are managed and implemented by our project team.

- Whole CRTs, complete units, scrap plastic, and scrap panels with metal will be segregated into cubic yard (Gaylord) boxes on wooden pallets. These pallets will be covered entirely by stretch plastic film and then labeled with the origin, weight, load number, destination, and other regulatory information. The pallets will be loaded into 53 foot inter-modal containers at the site and then transported over-the-road to a rail siding where the containers will be transferred onto rail cars. The containers will travel by rail from Columbus. Ohio to San Bernardino, California, where they will be transferred by crane back onto truck chassis for over-the-road transportation to Calexico, California. In Calexico, the containers will be prepared and labeled for export into Mexico and then shipped over-the-road across the border to the treatment facility in Mexicali, Mexico. At the treatment facility, the units will be disassembled and all of the materials segregated. The tube guns, plastic, metal, circuit boards, and wiring will all be transferred to local companies for further recycling. The funnel and panel glass will be shredded and crushed and then continuously washed to remove all lead dust. The clean glass cullet will be placed into lined cubic yard boxes for transport to a CRT glass manufacturing facility in Bharuch, India.
- Projector lamps will be segregated into cubic yard boxes on wooden pallets and then shipped in truckload quantities overthe-road to a processing facility in East Windsor. Connecticut. The lamps will be processed in a Balcan Lamp Processor. The lamps are fed into the sealed processor where they are crushed and the materials separated into three recyclable end products- metal, glass, and mercury-containing calcium phosphate powder. Each end-product is then delivered to downstream recyclers for final recycling.
- Crushed CRT glass will be removed from the facility in cubic yard boxes on pallets. These boxes will be dumped into bulk end-dump trailers. The trailers will then travel over-the-road to a hazardous waste landfill in Oregon, Ohio. At the landfill, a sample from each load will be evaluated to determine the physical and chemical characteristics of the waste glass. The trailers will unload by dumping the glass onto a segregated tipping floor in the treatment area of the facility. The tipping



floor is equipped with an air pollution system to eliminate external dust emissions during the unloading and waste processing processes. The waste is then transported to the stabilization and containment building, where it is processed before landfilling. The glass will be treated by a stabilization process that utilizes both macroencapsulation and microencapsulation processes that utilize a combination of physical and chemical techniques to ensure that no lead from the waste can leach while contained in the landfill. Upon completion of the treatment process, the waste is then submitted to the onsite laboratory for completion of a Toxic Characteristic Leaching Protocot (TCLP) test to ensure that the material has been rendered non-hazardous under both state and federal guidelines. The waste is then disposed of in the site's fully permitted Subtitle C landfill.

Scrap plastic and steel will be vacuumed with a HEPA vacuum unit and then segregated into cubic yard boxes for transport by over-the-road truck to approved plastic and scrap metal recycling facilities.

### **OUR PROPOSAL**

Hazardous Waste Experts will provide a six member crew at the site to perform all inspection, packaging, labeling, preparation, documentation, and loading of the waste material. Each member of the crew is properly trained in the handling of RCRA waste, the proper fitting and wearing of personal protective equipment (PPE), the regulations for packaging and shipping of hazardous waste, and the proper documentation of waste for shipment.

#### Packing

All waste materials will be placed into cubic-yard cardboard boxes, commonly referred to as Gaylord Boxes. These boxes have excellent structural strength and integrity and are the most common method for packing waste for shipment to recycling or disposal locations. These boxes are placed onto standard 40° x 48° wooden pallets that allow for handling by forklift. Each box is then wrapped with plastic stretch film which provides both an air barrier to eliminate any dissipation of contaminated dust from the waste, and adds structural strength to the box. Every box will be vacuumed with a HEPA vacuum to remove any surface dust before being wrapped with stretch film and then vacuumed again once the stretch film is applied to the box.

#### Labeling

Each palletized box will be labeled with regulatory labels that indicate the nature of the waste, the origin, the destination, contact information for our company, and any other necessary information as required by regulation, law, or standard. Each container will have a unique serial number that is tracked from origin to disposal. We will maintain a comprehensive log of each container and its status throughout the process.

### Whole CRT and Complete Units

These monitors and televisions will be vacuumed to remove exterior dust and then packed as tightly as possible into cubic yard boxes. The boxes will be stretch-wrapped with plastic film and then vacuumed once again. The box will then be labeled and logged into our management system. The boxes will be loaded tightly into 53 foot inter-modal containers that are backed up to loading docks at the facility. We will maintain approximately fifteen of these containers on site at all times. When a container is full, all regulatory documentation will be attached to the last pallet in the container. This documentation consists of the following:

- Material Safety Data Sheet (MSDS)
- Approval of Consent Letter from EPA
- Generator Waste Profile
- Universal Waste Labels designating the waste as "CRT Glass for Recycling"
- Packing List with gross, tare, and net weight of the container and a detailed list of the waste

All whole CRT monitors and television sets must be segregated into one of the following categories:



- 1. Monitor up to 14"
- 2. Monitor over 14"
- 3. Television up to 14"
- 4. Television over 14" but up to 21"
- 5. Television over 21"

The fully loaded containers will be picked up by our drayage transporter utilizing a drop-and-hook method whereby they bring an empty container and leave with a full container. The transporter will then transport the full containers to a rail terminal in Columbus, Ohio where they will be loaded by crane onto an inter-modal rail car. These trains leave daily from the siding for transportation to another rail terminal in San Bernardino, California where they will be unloaded from the train cars onto over-the-road chassis for transportation to our receiving center in Calexico, California.

The facility in Calexico (Technologies Displays America) will receive the containers, inspect them for shipping integrity, inspect the documentation, and then prepare the loads for transfer across the U.S./Mexico border between Calexico and Mexicali, Mexico to the recycling center operated by Technologies Displays Mexicana. Both centers are subsidiaries of Indian conglomerate Videocon, a major recycler of CRT glass. The process for handling of the material will be managed by our downstream partner Cali Resources, LLC, a certified R2 recycler of CRT glass.

The processing facility at Mexicali is a US preferred recycling center for CRT glass and is certified under ISO 9001 and ISO 14001. It is the single largest processor of clean glass cullet for recycling as glass-to-glass in North America. TDM complies with all Mexican environmental regulations and is audited by state and federal entities yearly. The plant has a processing capacity of 25 tons per hour for panel glass and 12 tons per hour of funnel glass.

TDM has authorization to import CRT glass from the United States under the auspices of an EPA Approval of Consent Letter for the period July 1, 2016 until June 30, 2017. Its recycling authorization from the Mexican environmental agency SEMARNAT extends, under the current permit, from April 27, 2010 until April 26, 2020. The plant is also permitted for site operations and air pollution and holds a site closure bond and extensive insurance coverages.

All material processed at TDA and TDM is monitored by Cali Resources, LLC, our certified R2 recycler. Cali Resources will ensure that we receive certificates of recycling for each load that is transported to TDM.

The only waste processing by-product that is generated at TDM that is not 100% recycled is the metal-bearing sludge and filter press material from the waste water plant. This waste is packed into 55 gallon steel UN listed waste drums and shipped under a Universal Hazardous Waste Manifest to the US Ecology facility in Beatty, Nevada. All other material from the processing of the waste is recycled.

Our project team will segregate, package, label, and load approximately two of the 53 foot inter-modal containers per day. We estimate that there are 331 containers of whole CRT and complete units for shipment to the recycling center in Mexico, allowing us to complete this portion of the project in approximately 166 work days.

#### **Crushed CRT Glass**

There are approximately 28,233 cubic yard boxes of crushed glass from CRT and television units. This material will be processed for disposal at a hazardous waste landfill operated by Envirosafe Services of Ohio, Inc. in Oregon, Ohio.

We strongly believe that this material must be disposed of in a RCRA certified hazardous waste landfill that is permitted under federal and state regulations as a Part B Permitted RCRA Subtitle C Treatment. Storage, and Disposal Facility (TSDF), including CERCLA approval. While some states make allowances for disposal of broken CRT glass in non-hazardous landfill facilities, these facilities are not adequately prepared to address the long-term possibility of leaching of the metals, in spite of the fact that the material passes the TCLP test at the time of disposal. In order to have comfort that there will be no long-term liability issues from the disposal of this waste material, the use of a Subtitle C hazardous waste landfill is highly desirable, regardless of the higher cost of doing so.

The landfill operated by Envirosate of Ohio is properly equipped and permitted to treat the lead-bearing glass that we intend to dispose at the facility. The waste material that arrives at the landfill is tested at the on-site quality control





laboratory. The laboratory contains two ICP units, a microwave digester, extractors, x-ray, pH meters, radiation detectors, flashpoint testers, H-Nu photo-ionization detector, TLV sniffer, and other sophisticated equipment. This laboratory will ensure that the waste is fully understood and that the proper treatment methods are employed on the waste.

The landfill's treatment capabilities include the stabilization of solid wastes classified under RCRA as hazardous due to their metal content, and the treatment of debris classified as hazardous under RCRA. The facility utilizes cement-based and pozzolannic-based stabilization technologies, which may be supplemented by other proprietary additives as needed to meet specific regulatory treatment standards. The stabilization process acts both chemically and physically to limit the solubility or mobility of contaminants in the waste by converting metals into insoluble hydroxides and carbonates, and by creating rigid physical matrices to contain the contaminants. The debris treatment system includes macroencapsulation and microencapsulation technologies. As with stabilization, these technologies act to reduce the leachability of contaminants. Macroencapsulation involves creating a "jacket" or inert material around the debris to reduce exposure to leaching agents, while microencapsulation utilizes stabilization technology to directly "treat" the contaminants associated with the debris.

Both the stabilization and debris treatment processes take place in a fully enclosed containment building with air pollution control systems. Waste streams are treated individually to ensure efficient and cost effective mix designs. Treated wastes are then disposed of in the Subtitle C landfill. Each shipment will receive a certificate of disposal and a completed Uniform Hazardous Waste Manifest. Our log system will record the manifest and COD numbers as an additional record of the disposal.

To ensure long-term risk mitigation, the facility is required to pay into a closure fund that would meet the cost of closing the cell at any given time and preparing the site for post closure monitoring for 30 years. A trust fund is used as the financial instrument to meet this requirement. The site has fully funded its closure and post-closure trust funds in cash. In addition to these funds, the facility is also required to pay into a separate trust fund, called the Perpetual Care Fund, that will function to maintain the site in perpetuity and accommodate additional future modifications to the site as required to retain the integrity of the barrier between the environment and the disposed materials. The closure, post-closure, and perpetual care funds are all fully funded in cash. The combined funds currently total over \$50 million and are estimated to grow to hundreds of millions of dollars by the time the money is needed.

#### **Projector Lamp Recycling**

There are approximately 193 cubic yard boxes of projector lamps that require transportation and processing for recycling. Projector lamps require treatment due to the mercury that is contained in the lamps.

The projector lamps will be segregated into cubic yard boxes. Each box will be vacuumed with a HEPA vacuum and stretch-wrapped to fully enclose the box. The boxes will be loaded onto over-the-road trailers and transported from the site to East Windsor, Connecticut for recycling.

The processing facility is operated by NLR, Inc. as a large quantity handler of universal waste lamps, batteries, mercury devices, and electronics.

The recycling of "spent" lamps involves the crushing of broken and unbroken mercury-containing lamps (MCL), including linear, compact, circleline, "U" tubes, and high intensity discharge (HID) lamps. Used mercury containing lamps must be managed in a way that prevents releases to the environment. The facility recycles mercury-containing lamps using a Balcan MP8000 Lamp Processor, manufactured by Balcan Engineering Limited, Lincolnshire, England. Lamps are fed into the hermetically sealed processor where they are crushed and the materials separated into three recyclable end-products: metal (including end caps, insulators, and wires); glass; and mercury-containing calcium phosphate powder. Each end-product is delivered to downstream recyclers in accordance with applicable waste management regulations.

The lamp recycling process generates calcium phosphate powder with mercury contamination. This powder is managed as a hazardous waste and is shipped to a permitted hazardous waste treatment facility. The EPA approved treatment process to reclaim the mercury from the powder is called a mercury retort. In a retort the powder is heated to approximately 650 degrees Celsius, causing the mercury to vaporize. Once vaporized, the gasses travel into a condenser



where it is cooled and the mercury turns back into a liquid state. Approximately 45,000 lamps recycled in this fashion will result in 3 pounds of liquid mercury being reclaimed for future use.

#### **Plastic and Metal Recycling**

There are approximately 672 cubic yard boxes of scrap metal and 192 cubic yard boxes of scrap plastic that are available for recycling.

Scrap metal will be transferred to a local scrap metal dealer in Columbus, Ohio for recycling. All boxes containing metal scrap will be vacuumed with a HEPA vacuum and packed into stretch-wrapped boxes for shipment. A receipt for each load will show the volume and weight of the metal that was accepted.

Scrap plastic, primarily High Impact Polystyrene from electronic component housings, will be transported by over-the-road transport to Genesis Plastics Recycling in Wheeling, Illinois. This material will be vacuumed and packed into stretchwrapped cubic yard boxes for transportation. The recycler will grind the plastic and make it available on the open plastics feedstock market to a variety of recyclers. A receipt showing the volume and weight of all plastic sent to the recycler will be recorded in the project log.

#### **Facility Remediation**

Once all waste has been transported from the facility, we will HEPA vacuum the interior of the building. All floor surfaces, including the office area, ceiling beams and trusses, and accessible processing equipment will be vacuumed. Equipment and hard surfaces will also be wiped down with D-Lead wipes. We will provide necessary utility vehicles, platform lifts, HEPA vacuums, PPE, and forklift.

All waste generated during the decontamination will be collected into DOT approved 55 gal drums for off-site waste disposal. The waste will include the following lead contaminated items: PPE, HEPA vacuum filters, rags, and wipes. We assume collection of thirty 55 gal drums of this material.

#### Documentation

The project team will prepare all necessary documentation for the material to be recycled or disposed of. We will scan and store copies of every label, form, and document and will maintain a log of each type of document. These documents will be available as needed in the event of an audit or inspection by the EPA or other regulatory agency.

#### Schedule

Our plan has been calculated down to the hour and we are confident that we will be able to complete the project at a maximum duration of 180 working days (nine months). All transportation, treatment, and disposal partners have confirmed their capacity to handle this material and work load. We are committed to complete the project as rapidly as possible, and believe that this timeline is achievable.

#### Inventory

Below is the site inventory we received.

Material Type	1 86	umber of Containers/Units	Total Wt of Each Type (ibs)	1 Transformer		
Totals			1 rout the or court office lunal	e (ibs) Total Wt of Each Type (tons)		
CRT Whole (PG) CRT Crushed (PG)		7,728		8,740,368	4,370	
Complete Units (P)		28,233		113,750,757	56,875	
Projector Lamps (PG)		6,790		4,960,330	2,450	
Plastic (PG)		193		185,087	93	
and the second se		192		34,560	37	
Scrap Steel (PG)		672		326,592	163	
Panel with Metal (P/SS)		79		189,679	55	
H	Grand Total	43,887		128,187,373	64,094	
Key						
PG		Implete Units In Gaylonis on I	Pallets			
P	Complete Units Plastic Wrapped on Pallets					
P/55		Pallets and Super Sadis				



Description	Rate	Unit	Total	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1
CRT Monitors and Tube TVs				
Recycle: CRT Monitors	\$0.33	8,740,368 Lb		\$2,884,321.44
Recycle: Tube TVs - No Wood	\$0.33	4,960,330 Lb		\$1,636,908.90
Transportation: To Mexico for Recycle	\$2,950.00	381 Loa	d	\$1,123,950.00
		S	ub Total	\$5,645,180.34
Leaded Glass				
Disposal: Encapsulation & Landfill	\$110.00	56,875 Tor		\$6,256,250.00
Transportation: Oregon, OH	\$55.00	56,875 Tor		\$3,128,125.00
Scrap Metal		S	ub Total	\$9,384,375.00
Recycle: Scrap Metal		and the		
Transportation: Local Dealers	\$0.00	258 Tor		TBC
Transportation. Local Dealers	\$0.00	258 Tor		TBC
Plastics		S	ub Total	TBC
Recycle: Plastic	\$0.00	17 Tor	the second second	The
Transportation: Wheeling, IL	\$1,850.00	1 Loa		TBD
in the perturbative in the contract in the con			ub Total	\$1,850.00
Lamps			up rotai	\$1,850.00
Recycling Lamps w/Metal Housings	\$3.60	185,087 Lb		\$666,313.20
Transportation: East Windsor, CT	\$2,550.00	8 Loa	d	\$20,400.00
			ub Total	\$686,713.20
Labor and Materials				
Supervisor	\$120.00	1,440 Hou	ar I	\$172,800.00
Project Manager	\$120.00	1,440 Hou		\$172,800.00
Operator - Forklift	\$85.00	1,440 Hou		\$122,400.00
Operator - Forklift	\$85.00	1,440 Hou	ır	\$122,400.00
Operator - Loader	\$85.00	1,440 Hot	ır	\$122,400.00
Laborer	\$75.00	1,440 Hou	ır	\$108,000.00
Laborer	\$75.00	1,440 Hou	ır	\$108,000.00
Level C PPE (6 Persons)	\$540.00	180 Day		\$97,200.00
Reclaimed Gaylord Boxes	\$25.00	5,000 Box		\$125,000.00
Recycled Wooden Pallets	\$15.00	200 Pail		\$3,000.00
HEPA Vacuum (2 Units per Day)	\$25.00	180 Day		\$4,500.00
Stretch Wrap	\$20.00	1,700 Roll		\$34,000.00
Utility Vehicle	\$225.00	180 Day		\$40,500.00
Forklifts and Fuel (2 Units)	\$2,850.00	36 We		\$102,600.00
Loader and Fuel	\$5,335.00	36 We		\$192,060.00
Meal Per Diem (6 Persons x 3 Meals)	\$450.00	180 Day		\$81,000.00
Lodging	\$4,250.00	9 Mor		\$38,250.00
Facility Remediation		S	ub Total	\$1,646,910.00
Supervisor and (3) Technicians	057 200 00			
Equipment	\$57,360.00		np Sum	\$57,360.00
Consumables	\$30,360.00		np Sum	\$30,360.00
Transportation and Disposal of Lead Debris	\$5,160.00		ip Sum	\$5,160.00
nansponation and Disposal Of Lead Debits	\$445.00		al Drum	\$13,350.00
Surcharges		SI	ub Total	\$106,230.00
Environmental Insurance, Taxes, FSC	20/6	Total Invoice	. I	6574 437 76
Estimated Total	376 01	Total Invoice		\$524,137.76
	la			\$17,995,396.30



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- The rates and schedule will be based on contract terms agreed upon by both parties.
- The rates and schedule listed in the preceding tables are estimates and subject to change. Fuel costs and surcharges are also subject to change.
- Fuel surcharge for transportation of bulk loads of leaded glass to the landfill in Oregon, OH is currently 24% but subject to change weekly based on national average fuel price. This fuel surcharge is included in our transportation rate to Oregon, OH. This transportation rate is also based on 22 Net Tons minimum for each truck ordered. Additionally, the rate includes 2 free hours load time and 2 free hours unload time. Demurrage will be billed at \$125.00 per hour in excess of free load and unload time. Trucks ordered but unused will be billed at 60% minimum load. Overnight layover will be billed at \$850.00 per truck if loaded the next day, assuming the truck arrived during scheduled load times. Rejected shipments redirected to an alternate facility will be billed at \$3.25 per mile with a \$350.00 minimum (this does not included demurrage charges).
- Plastics and scrap metals uncontaminated with lead glass will be either recycled or landfilled. Typically, local plastics and scrap metal dealers will accept this material for free but it depends on the quality and grade of the plastic and metal. Poor grade and low quality uncontaminated metals and plastics will be sent to a non-hazardous waste landfill for \$85.00 per ton and \$1,850 per load. If this material is contaminated, then our leaded glass landfill transportation and disposal rates will apply.
- The "Consumables" rate under "Facility Remediation" includes the provision of 30 55-gal drums to contain waste along with HEPA vacuum filters and D-Lead Wipes. Additional 55-gal Drums will be billed at \$65,00 each.
- For "Facility Remediation." We assume the floor, ceiling beams, and trusses will be clean after being HEPA vacuumed one time. Wet wiping the floors and ceiling items with D-Lead wipes is not included in this proposal or scope of work.
- We estimate that the Facility Remediation will take 16 working days at 10 hours per day on site.
- Labor overtime rates begin after completion of an 8 hour work day. Overtime rates will be charged at standard rate + \$15.00/hr
- We are asking for a 20% prepayment before we begin along with 30 day payment terms or less.
- 53ft trailers can transport 18 Ton over the road according to DOT regulations
- The "Panel with Metal" on the inventory sheet is included in the scrap metal tonnage. It makes up 98 ton of the total 258 ton scrap metal estimate. If contaminated our hazardous landfill disposal and transportation rates will apply. If low grade and unable to recycle, our non-hazardous landfill disposal rates and transportation will apply.


This proposal is designed to provide the client with a full-service, turn-key solution to the clean-out of the facility.

### Features of the Plan

- Clean-out completed within 180 working days.
- Total cost of project \$17,995,396.30
- Comprehensive, full-service, turn-key plan.
- All risk is mitigated through utilization of recycling and disposal options that are heavily permitted

### **Benefits of the Plan**

- <u>Convenience</u>. Minimal participation by client. We provide all necessary people, equipment, materials, transportation, recycling, and disposal downstream vendors.
- Transparency. We will create logs, document repositories, and dashboards that will reflect the project status in real time.
- <u>Sustainability</u>. We will recycle all of the whole CRTs, complete units, projector lamps, scrap plastic, and scrap metal. Only
  the crushed glass will be disposed of. We will utilize an R2 certified recycler for the whole CRTs and complete units.
- Speed. We will complete the project in less than nine months.
- Experience. Our project team has almost 200 years of combined environmental services experience.
- <u>Peace of Mind</u>. We are using only permitted and heavily vetted partners for work on this project. Each has presented us
  with audit packages on their facility, certificates of insurance, and we have performed due diligence on each. We are
  utilizing techniques and technologies that will heavily mitigate any long-term risk of the project.

### QUALIFICATIONS

Hazardous waste experts is continually proven to be an industry leader for hazardous waste management, environmental remediation, and emergency response services.

Our unique characteristics include:

- We are extremely experienced management team. Most with over 20 years of hands-on environmental services experience at all levels from branch management to executive management.
- We have very strong partner relationships. We work intensively with a large group of very talented service providers.
- We have a track record of successful jobs, including many highly complex regulated waste projects.

### CONCLUSION

This project is right in the center of our business model and service offerings. We have taken great effort to create a comprehensive work plan that will require virtually no involvement by the client. We have selected the most compliant and sustainable solutions within the budget that we were given. We are committed to achieving the timeline that is set forth in the plan. We look forward to working with you on this project and thank you for your consideration.

Eric Apfelbach - President | 608-210-4226 (Office) | 608-576-7549 (Mobile) | eric.apfelbach@hazardouswasteexperts.com Roy Wimer - Regional Director | 608-210-4211 (Office) | 608-628-5468 (Mobile) | roy.wimer@hazardouswasteexperts.com



### **Statement of Qualifications**

### Overview

- I. History
- II. Management Team
- III. Experience
- IV. Qualifications

### History

- Founded in July 2012 and headquartered in Madison, WI
- US and Canada market coverage
- Annual revenue of \$7 M
- Specialties: Universal Waste, Hazardous Waste, Used Oil, Industrial Services, Spill Response, Medical Waste Disposal, Environmental Remediation
- Custom turnkey solutions for nationwide clients (one-stop shop)

### **Management Team**

- Eric Apfelbach, President and CEO
  - o 16 years of CEO experience at both public and private companies
  - BS Chemical Engineering-UW Madison
- Wade Maleck, CFO, CPA
  - o 10 years of CFO experience: cash management, financial projections, and GAAP
- Dan Chamberlin, VP Sales and Marketing
  - 26 years with Safety-Kleen: Sales, field services, logistics, project management, safety manager, fleet manager
- Alisha Thompson, Director of Operations
  - o 13 years of industry experience: technical director, regulatory compliance
  - o Master's Degree in Management, BS in Earth Science-UM Ann Arbor
- Field Team
  - 167 years of combined industry experience

### Experience

- >10,000 nationwide waste disposal projects completed
- >2,500 customers served, 50% of projects recur



### **Customer Map**



- Example projects
  - E-Waste and universal waste bulk loads
  - Plant decommissions
  - Multi-laboratory chemical lab packing
  - High Hazard waste handling and removal (reactive, explosive, radioactive)
  - Household hazardous waste from donation centers and city collection programs

- \$1.3 M in Department of Defense contracts scheduled for 2017
- Key customers
  - o Nike
  - o Goodwill
  - Wilbur-Ellis
  - Department of Defense
  - o Murphy's Oil

### Qualifications

- EPA/RCRA permitted disposal facilities
- Hazardous waste transportation licenses in all 50 states
- OSHA HazWoper 40 HR training for all field technicians
- Certified Hazardous Materials Manager (CHMM)



Wisconsin . Oregon Texas . New Hampshire

### **Atwell Group Quote**

Customer	Atwell Group
Contact Name	Michael Koenig
Phone	(440) 394-0409
Email	mkoenig@atwell-group.com

**Created Date Expiration Date** 

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August 25, 2016 30 Days

Item Category	Material Specifications	U/M	Pricing
	113,935,844 pounds broken CRT @ \$0.11/lb.*	Lbs.	\$12,532,943.00
	14,251,529 pounds whole units @ \$0.14/lb.	Lbs.	\$1,995,214.00
	713 loads (Whole units) @ \$710.00/load**	Ea.	\$506,230.00
	See notes below:		
		Total:	\$15,034,387

\*Based on 22% Fuel Surcharge. If Surcharges increase, additional fees may apply. Loading time is based upon 2 hours per load. Demurrage charges may apply in excess of 2 hours. \*\*Based on 22% Fuel Surcharge. If surcharges increase, additional fees may apply. Based upon 20,000 pounds

per load.

Let me know if you have any questions and when would be convenient time to discuss this quotation further.

Thank you for your consideration!

Steve Pfeiffer

Direct Line: 608-314-8113 Email: spfeiffer@universalrecyclers.com

www.URTsolutions.com Tal: (877) 278-0799







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### **STATEMENT OF** QUALIFICATIONS

Updated // 09.27.16





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### ABOUT

As the recycling industry's trusted leader, we provide full-service electronic waste and universal waste recycling to everyone from municipalities and governments to individual consumers. Our complete transparency gives customers the peace of mind to know their materials have been processed exactly as promised.



### DOING GREAT THINGS FOR THE RECYCLING INDUSTRY

We're on a mission to become the market leader in electronic and universal waste management. Focused on the innovation of technologies through a commitment to continuous improvement, we exist to serve our customers and the earth. Every day we do our part to protect the earth and the liability of our customers through our ethical, safe and secure recycling processes. Our ethical business philosophy instills trust and delivers unparalleled value to our customers—providing them peace-of-mind knowing that their materials have been processed exactly as promised.



### NOBODY HANDLES MATERIAL LIKE WE DO

Our operations excel through rigorous processes which we continually improve to advance the standards of our industry for efficiency, safety and security. Through the deployment of our proprietary recycling systems, our facilities are highly efficient. Our 140,000 square foot headquarters and other supporting locations were designed to handle vast processing capacities efficiently while maintaining the highest standards for safety and security.



### SAFETY IS AT THE CENTER OF OUR OPERATIONS

The safety and well-being of our people, our customers and the planet are central to our operations. We understand that we have a cradle-to-grave responsibility and duty to protect the liability of our customers and preserve and ensure the sustainability of our planet. By investing in the training of our people, we educate them to ensure their ability to properly handle all hazardous materials that come through our facilities and operate our systems safely.



### WE TAKE SECURITY SERIOUSLY

Our facilities were designed taking every step necessary to keep customer data safe and secure. Unlike other recyclers who outsource services to third-party vendors, our customers' materials stay with us—we manage 100 percent of the process from start to finish. Following strict data protocols and adhering to the stringent standards of NIST, we provide customers peace-of-mind knowing their materials will not leave our secure facilities until they're properly wiped, tested and verified as completely destroyed or refurbished



### WE EXCEED STANDARDS

URT takes pride in our home-grown proprietary processes that have earned stamps of approval from our industries top certifying entities. We're a registered collector in every state that we operate and 100 percent compliant with the EPA holding ISO 9001 and e-Stewards® certifications and ISO 14001 compliant as it is encompassed within the e-Stewards® certification. Our certifications ensure consistency and enable us to build and retain strong trusted relationships with our customers.



### HISTORY

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Since 2003, URT has provided unparalleled service and invaluable innovations to the recycling industry. Inspired by our proud past, we look ahead towards our future with an unwavering and continued commitment to do great things for the recycling industry.

### **BEFORE URT, CRT**

CRT Processing, LLC was formed by Don Seiler and Jim Cornwell in 2003 to process electronic waste (e-waste) including cathode ray tube (CRT) glass-to-glass recycling. It was one of only a handful in the nation, and the only Midwestern firm, to do so at the time. As an engineer, Seiler designed advanced processing equipment capable of breaking down electronic component parts for safe and responsible recycling. This allowed CRT to process e-waste in-house for its customers, making the company an exceptionally trustworthy partner for big business. With a long and respected career in universal waste management, Cornwell worked with Seiler to develop a vision for the future that included the development of multiple lines of universal recycling services and products.

### RAPID EXPANSION

The partnership of these visionary owners set the stage for rapid expansion. In 2007, the company was noticed and then acquired by the Hendricks Holding Co. of Beloit, WI. Hendricks Holding Co. was founded by the late Ken Hendricks and is now owned and operated by his wife, Diane Hendricks. Almost immediately after the Hendricks partnership, CRT Processing acquired Uniwaste Systems in Portsmouth, NH and acquired Environmental Light Recyclers, a fluorescent lamp processing facility in Fort Worth, TX. In 2009, CRT continued to grow, opening a West Coast e-waste processing facility in Clackamas, OR; acquiring Resource Technology, a fluorescent lamp recycling equipment sales and service company; and introducing WasteSecure, a pre-paid pack-and-ship box program for fluorescent lamp and battery recycling.

### URT: POISED FOR THE FUTURE

By late 2009, it was clear that CRT Processing, LLC had expanded far beyond the "CRT processing" that first brought it acclaim. With its full-service universal waste recycling service and product lines, it was time for a new name to match the company's expanded mission. In January 2010, CRT Processing, LLC became Universal Recycling Technologies, LLC or URT.

### HENDRICKS HOLDING COMPANY

CRT Processing was acquired by the Hendricks Holding Co. in 2007 and subsequently changed its name to Universal Recycling Technologies to reflect the aggressive market expansion supported by its new investment partner. Hendricks Holding Company Inc.(*HHC*), founded in 2001, is an investment and corporate development group with a diverse portfolio of businesses that span the globe. It has a proven track record of acquiring and developing businesses that have demonstrated a propensity for market-driven innovation. HHC seeks to become long-term partners with exceptional management teams and employees who share its goal of significant long-term growth while simultaneously leaving a lasting and positive impact on the communities in which these companies operate. Founded by Ken and Diane Hendricks and head-quartered in Beloit, Wisconsin, HHC has a diverse portfolio of companies in the recycling and sustainability, transportation and logistics, industrial products, real estate, insurance and health care industries (www.hendricksholding.com). With the force of HHC fully behind URT, there are few limits to its future growth and development.



### **FACILITIES' LOCATIONS & CAPABILITIES**

### WISCONSIN FACILITY - HDQ

Plant Manager: Randy Call 2535 Beloit Avenue Janesville, WI 53546 Phone: (877) 278-0799 Fax: (608) 754-3473

### **NEW HAMPSHIRE FACILITY**

Plant Manager: Keith Simpson 61 Industrial Park Drive Dover, NH 03820 Phone: (603) 422-7711 Fax: (603) 422-7720

### WISCONSIN - ASSETS FACILITY

Plant Manager: Randy Call 120 E. Burbank Avenue Janesville, WI 53546 Phone: (877) 278-0799 FAX: (608) 314-8180

### **OREGON FACILITY**

Plant Manager: Robert Gaudinier 10151 S.E. Jennifer Street Clackamas, OR 97015 Phone: (503) 722-2236 Fax: (503) 722-2322

### TEXAS FACILITY

Plant Manager: Keith Sheehan 2301 Franklin Dr. Fort Worth, TX 76106 Phone: (817)-924-9300



### **ELECTRONIC RECYCLING SERVICES**

A comprehensive electronic waste recycling program protects our customers from unnecessary complications and costs while improving their business and the environment. With locations across the nation and a history of ethical and responsible business practices. URT offers an unparalleled suite of leading-edge, integrated e-waste services.



### END-OF-LIFE DESTRUCTION

Your security and safety is our priority. URT recycles all equipment to its individual commodity components and separates all hazardous materials on-site to meet U.S. Environmental Protection Agency requirements. We offer compliance documentation to eliminate the liability associated with the hazards of electronics. All equipment is handled safely to protect our customers, our employees and our environment.



### CRT GLASS RECYCLING

URT's state-of-the art, automated demanufacturing and recycling system provides an effective, economical solution for recycling obsolete monitors and televisions that contain cathode ray tube glass (*CRT*). Using a glass recycling process that is the preferred method of recycling by state and federal agencies, we sort by type and chemistry to produce furnace-ready cullet. All protocols meet U.S. Environmental Protection Agency regulations, safely processing the glass with no exposure to the environment. The processed, clean glass is reused, eliminating customer liability associated with managing hazardous materials.



### RETAIL ELECTRONIC RETURNS

URT's retailer recalls and returns program is specifically designed for retailers seeking a safe and reliable way to handle product recalls and consumer returns. Our extensive knowledge of retail operations ensures our customers the most dependable and efficient program in the nation. From secure shipments to product tracking and disposal, our program provides convenient, comprehensive recycling that improves efficiency and simplifies your business.

### LEGISLATIVE MANAGEMENT

URT has assisted OEM's in meeting their legislative requirements since 2007. URT provides recycling nationally and assistance to OEM's with voluntary recycling programs. URT's extensive collector network includes municipal and retail locations across the nation—covering all 50 states—greatly expanding potential and capacity for its customers.

### A PROVEN PARTNER

The URT legislative team understands the challenges OEMs face in managing a consistent flow of pounds across various states with differing legislative requirements for accurate reporting and clear visibility. URT partners with its client OEMs to provide competitive costs, consistent pounds and certified recycling capabilities that exceed industry standards.

URT offers shredding capabilities that set it apart from the competition, an experienced legislative team that provide dedicated one-on-one customer services and a national collection network capable of managing OEM legislative needs across the United States.



### SHREDDING SYSTEM

URT's proprietary "Seiler" separation and shredding system is uniquely designed to handle both whole units and e-waste commodities/components. The system is divided into three stages for maximum effectiveness and recovery:



Stage 1: The Seiler separation system begins with gross separation which allows for the best recovery of plastics, stainless steel and other bulk materials prior to shredding.

Stage 2: The primary shredder is a hydraulic shred system designed to reduce the size of metals and circuit board materials for further separation and recovery. After shredding, the processed material moves through a series of magnets to recover ferrous metals. The remaining processed material proceeds through an Eddy Current separator to remove non-ferrous metal from the stream prior to further reduction.

Stage 3: The material then enters a secondary shredder designed to further reduce material size and liberate additional ferrous and nonferrous metals, and the material again flows through series of magnets to further remove ferrous metal content. In the final step, the



circuit board containing items are recovered.



### ASSET MANAGEMENT

URT can help you maximize the return on your IT investment by capturing the remaining value of your assets. Our trained experts seek the highest value available for your equipment and share the true worth of obsolete electronics submitted for refurbishing. We identify equipment that can be refurbished, harvest valuable component parts, and then use our in-depth knowledge of the secondary market to turn your obsolete electronics into revenue. This is accomplished while adhering to the strictest data security protocols in the business by a third party vendor, e-Stewards<sup>®</sup>, to eliminate risk and protect your investment.

URT provides its customers with best-in-class asset management and recovery services while ensuring confidentiality and data security. URT pledges to maximize its clients return on investment in information technology by capturing the remaining value of IT assets.

- URT's trained experts seek the highest value available for equipment and share the true worth of obsolete electronics submitted for refurbishing.
- URT adheres to the strictest data security protocols in the business to eliminate risk and to protect client's environmental and data security liability.
- URT is ISO 9001, ISO 14001 and e-Stewards<sup>®</sup> (www.ban.com) certified and ISO 14001 compliant as it is
  encompassed within the e-Stewards<sup>®</sup> certification. URT is a member of the National Association for Information
  Destruction (NAID) and International Association of Information Technology Asset Managers (IAITAM).



### ASSET PROCESSING

URT professionals manage each shipment based on individual industry and customer requirements. Every piece of equipment containing data is processed first in URT's on-site data security department to ensure that all data destruction is completed in a secure environment. URT asset employees undergo a stringent background review process to ensure client security. Equipment is cleaned, tested and electronically wiped to remove personal and proprietary data. All corporate identification is removed prior to remarketing. All assets are processed in accordance with the strictest security protocols that meet state and federal regulations and recommendations, including U.S. Department of Defense and National Institute of Standards and Technology requirements.

### ASSET MATERIAL MANAGEMENT PROCESS

Materials entering the URT asset material flow are triaged utilizing URT Triage Guidelines. The Operations Team works in partnership with URT Sales to review and/or update the Triage Guidelines when the market changes demand it. Materials may receive one of three dispositions available:

- Asset = Material follows URT's Asset Recovery Service work instruction. This service attempts to refurbish, recover and return a portion the item's value to its original owner. Successful items result in resale. Failed items are reclassified to non-asset.
- Non-Asset = Material follows URT's Non-Asset Recycle process. This allows the item to be dismantled into resalable commodities for downstream vendors.
- Special Projects = Special project items follow the unique, required steps provided by a customer and detailed on a URT Special Project form. URT employees assigned to special projects receive supplemental training to support unique needs.

### RETAILER ELECTRONIC RETURNS

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URT's retailer recalls and returns program is specifically designed for retailers seeking a safe and reliable way to handle product recalls and consumer returns. Our extensive knowledge of retail operations ensures our customers the most dependable and efficient program in the nation. From secure shipments to product tracking and disposal our program provides convenient, comprehensive recycling that improves efficiency and simplifies your business.





### LIFE CYCLE MANAGEMENT

URT is trusted partner able to assess and inform its clients' strategic information technology planning.

- Asset tracking: Through its infinity chain of custody, which protects clients' sensitive data from pick up through destruction and beyond, URT, provides secure processing. Inventory is reported by item class, brand, model and serial number support. A transparent grading scale ensures that recovered items receive the appropriate rating and customers remain fully informed.
- Data destruction: URT utilizes DoD and NIST certified sanitization processes and offers state-of-the-art, on-site shredding capabilities. Please see "Data Destruction" and "Shredding Services" for additional detail.
- Redeployment and disposal management: URT assists with remarketing whole units and components. As an
  e-Stewards® recycler, URT adheres to the highest standards of responsible recycling in the industry today. This
  protects its customers' confidential information—and their overall brand—in a way that lesser requirements
  cannot guarantee.
- Retailer return program: URT's retailer recalls and returns program is designed specifically for retailers seeking a safe and reliable way to handle product recalls and consumer returns. URT's extensive knowledge of retail operations ensures customers an efficient, dependable and convenient program created with the needs of the retail industry foremost in mind. The program provides secure shipments, detailed product tracking, convenient reporting and comprehensive recycling/disposal that improve efficiency.

### **REVENUE OPTIONS**

URT can purchase used equipment outright or share revenues for asset remarketing on a percentage basis when equipment is refurbished and sold. URT's knowledge of the secondary market supports accurate assessments to maximize value, helping customers recover a portion of the capital invested in information technology. Working in partnership, URT attains the common goal of environmentally responsible management of customer assets.



### **IT ASSET DISPOSITION SERVICES**

URT is a full-service IT asset disposition and equipment recycler. Our experience providing secure collection, transportation, data destruction, and proper recycling enables us to assist customers across industries with their equipment processing and recycling needs. Our goal with every customer is to help them turn their obsolete electronic and computer assets into revenue.

URT pledges to maximize its clients return on investment in information technology by capturing the remaining value of IT assets. URT can inform strategic IT purchases, retire equipment in compliance with the strictest industry standards by a third party vendor, e-Stewards<sup>®</sup>, ISO 9001:2008, and ISO 14001:2004, and help clients capture the maximum remaining value of retired assets.

### TURNING OBSOLETE ASSETS INTO REVENUE

URT helps their customers maximize the return on their IT investment by capturing the remaining value of their assets. URT's asset management program begins with logistics management-collecting and recording each item into their personal customer site and securing items for transport to URT processing centers.

### ASSET MATERIAL MANAGEMENT PROCESS

Upon arrival at a URT processing center, our receiving process captures and records the platform, make, model and serial number, accompanied by the item count and weight count, using bar-code scan technology for accuracy and simplicity.

Our ITAD professionals then identify any equipment that can be refurbished, as well as identifies and extracts component parts from equipment that retains value and can be remarketed using URT Triage Guidelines. Under these guidelines, materials may receive one of three dispositions available:

Asset: Material follows URT's Asset Recovery Service work instruction. This service attempts to refurbish, recover and return a portion of the item's value to its original owner. Successful items result in resale. Failed items are reclassified to non-asset.

Non-Asset: Material follows URT's Non-Asset Recycle process. This allows the item to be dismantled into resalable commodities for downstream vendors.

Special Projects: Special project items follow the unique, required steps provided by a customer and detailed on a URT Special Project form. URT employees assigned to special projects receive supplemental training to support unique needs.

### ASSET PROCESSING

We're the industry's responsible partner. Every piece of equipment that comes to our facilities containing data is processed first in URT's on-site data security department to ensure that all data destruction is completed in a secure environment. Our data destruction processes were designed to process assets in accordance with the strictest security protocols that meet state and federal regulations and recommendations, including U.S. Department of Defense and National Institute of Standards and Technology requirements and remarketing expertise

While URT often purchases used equipment outright from our customers for processing, we also offer shared revenue programs for asset remarketing. URT's trained experts seek the highest value available for equipment and share the true worth of obsolete electronics submitted for refurbishing. Our knowledge of the secondary market supports accurate assessments to maximize value, helping customers recover a portion of the capital invested in information technology.



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### RETAILER RETURN PROGRAM

URT's retailer recalls and returns program is designed specifically for retailers seeking a safe and reliable way to handle product recalls and consumer returns. URT's extensive knowledge of retail operations ensures customers an efficient, dependable and convenient program created with the needs of the retail industry foremost in mind. The program provides secure shipments, detailed product tracking, convenient reporting and comprehensive recycling/disposal that improve efficiency.

### DATA DESTRUCTION

URT's data security and destruction services prevent the accidental or illegal use of sensitive information, such as client data, financial and employee records. URT provides specialized services for all types of systems and can satisfy virtually any destruction need.

- · URT offers hard drive destruction capacity across multiple locations.
- · All hardware is secured until every trace of data-confidential, proprietary or otherwise-is destroyed.
- · URT's comprehensive data destruction system complies with federal laws and regulations.
- · URT eliminates customer liability by offering a completed certificate of destruction documenting the entire process
- URT's detailed asset disposition and reporting service tracks each hard drive or other electronic media, including
  hard drives pulled from machines, through the destruction process.
- URT provides the most thorough reporting in the industry for demonstrating compliance with privacy rules. Inventory system offers online portal to view processing and reporting information.

We handle our customers' data destruction in the same manner that we handle our own—effectively and expertly—cleaning confidential data and specifying the entire process to our client. We understand security and liability are top-of-mind for our customers. We eliminate client liability by offering a completed certificate of destruction documenting the entire process—bringing them peace-of-mind that their business and brand are protected.

### **COMPLETE COMPLIANCE**

Adhering to strictly documented and controlled information security procedures and protocols, each unit URT receives is tracked and logged, and customer identification tags are removed as part of asset recovery. Then, based on customer requirements or triage disposition, URT determines the most appropriate data destruction method. Ultimately, our processes go above and beyond to protect our customers' sensitive data and comply with all federal laws and regulations, including:

- The Federal Privacy Act
- . The Health Insurance Portability and Accountability Act (HIPPA)
- U.S. Department of Defense & National Security Agency requirements for purging classified information on magnetic disk and tape media.
- Gramm-Leach-Bliley Act requirements for device and media control policies that govern the receipt and removal
  of hardware and electronic media (including disposal, media reuse and accountability).
- In addition, the URT Shield Data Sanitation and Hard Drive Destruction Security Process safeguards our customers' private, protected information and their brand. We offer:
- · Full indemnity against risk
- · Indemnification for privacy and environmental liability
- · e-Stewards® certified recycling
- · Certified environmental compliance



### REMARKETING EXPERTISE

URT's trained experts seek the highest value available for equipment and share the true worth of obsolete electronics submitted for refurbishing. URT intake specialists identify equipment that can be refurbished, harvest valuable component parts and apply our in-depth knowledge of the secondary market to turn obsolete electronics into generous shared revenue.

- · On-site white glove destruction (serialized and auditable)
- · Secure transport to a URT facility near you
- Materials inspection and sorting by type and value (serialized and auditable)
  - Expert refurbishment an resale
  - On-site parts harvesting
  - e-Stewards<sup>®</sup> certified recycling

### **COMPREHENSIVE SERVICES**

URT can expertly handle all manner of data-bearing and electronic materials, including equipment beyond the desktop, from data center and networking devices to telecom equipment. As an integrated service provider, URT is a true one-stop shop, offering on-site recycling with advanced shredding technology and universal waste (*bulbs, ballasts, batteries*) recycling.

### URT SHIELD DATA SECURE GUARANTEE

The URT Shield data sanitization and hard drive destruction security process safeguards your private, protected information and your brand. This fully auditable process offers:

- Full indemnity against risk
- · Indemnification for privacy and environmental liability
- e-Stewards® certified recycling
- · Certified environmental compliance

We handle your data destruction in the same manner that we handle our own—effectively and expertly—cleaning confidential data and specifying the entire process to our client. We eliminate client liability by offering a completed certificate of destruction documenting the entire process.

URT asset recovery services provide return on investment that translates into reinvestment, helping your company achieve its maximum potential







### **DATA SECURITY SERVICES**

URT's data security and destruction services prevent the accidental or illegal use of sensitive information, such as client data, financial and employee records. URT provides specialized services for all types of systems and can satisfy virtually any destruction need:

- · URT offers hard drive destruction capacity across multiple locations.
- · All hardware is secured until every trace of data-confidential, proprietary or otherwise-is destroyed.
- URT's comprehensive data destruction system complies with federal laws and regulations.
- URT eliminates customer liability by offering a completed certificate of destruction documenting the entire process.
- URT's detailed asset disposition and reporting service tracks each hard drive or other electronic media, including
  hard drives pulled from machines, through the destruction process.
- URT provides the most thorough reporting in the industry for demonstrating compliance with privacy rules. Inventory system offers online portal to view processing and reporting information.

URT's comprehensive data destruction system is guaranteed to comply with federal laws and regulations, including the Federal Privacy Act, the Health Insurance Portability and Accountability Act (*HIPPA*) and state legislation. Going above and beyond to protect customers' sensitive data, URT meets:

- U.S. Department of Defense & National Security Agency requirements for purging classified information on magnetic disk and tape media. For many years, the Department of Defense (DOD) standard for data eradication was directive 5220.22-M. Today, the National Institute of Standards and Technology (NIST) has defined further eradication standards referred to as NIST 800-88, providing for both "clear" and "purged" data. URT processes meet all requirements, including DOD standards and NIST's purge rating, the highest level of security acknowledged by the NIST.
- Gramm-Leach-Bliley Act requirements for device and media control policies that govern the receipt and removal
  of hardware and electronic media (including disposal, media reuse and accountability).

URT adheres to strictly documented and controlled information security procedures and protocols. Each unit URT receives is tracked and logged, and customer identification tags are removed as part of asset recovery. Then, based on customer requirements or triage disposition, URT determines the most appropriate data destruction method: electronic data removal through sanitization software or physical destruction via shredding.





### AUDIT SANITIZATION SOFTWARE

Audit sanitization software is completed via an Acronis Drive Cleanser 6.0 manufactured by Acronis Inc. The square root of each day's process is sampled daily for audit.

### DOCUMENTATION

Documentation per customer requests will be recorded on a Certificate of Recycling, Certificate of Erasure, or Certificate 
of Destruction.

### **ELECTRONIC DATA SANITIZATION**

Electronic data sanitization software is completed via Blancco Server Edition software manufactured by Blancco Oy Ltd.

- Blancco is an approved disk sanitizing solution by the U.S. Department of Defense that wipes hard drives at the DoD 5220.22-M standard featuring multiple overwrites, random characters and write verification.
- Blancco's Management Console creates comprehensive data erasure reports automatically detailing each hard drive serial number that is sanitized. A digital signature or 'fingerprint' evidencing wipe will be left on each hard drive.
- Standards of compliance include:
  - DoD 5220.22-M
  - HMG IS5 Baseline
  - HMG IS5 Enhanced
  - Canada Ops-II
  - US Army AR380-19

- US Air Force 5020
- German VSITR
- NAVSO P-5239-26
- NCSC-TG-025
- Russian GOST P50739-95





### **COMMODITY SERVICES**

With in-house shred capabilities and strategic partnerships with smelters and similar downstream processors, URT acts as a trusted partner for recycling companies, recycling material collectors and other similar organizations seeking a commodity solution. URT accepts a wide range of commodity materials at a competitive market rate. Rates are typically assessed and updated weekly.

URT commodity customers are individually approved on an ongoing basis, after having completed a vendor agreement contract, third-party downstream vendor application, credit application and certificate of insurance. Once approved, proof of insurance and third-party provider forms must be updated and submitted annually.

### **COMMODITY QUALITY STANDARDS**

URT Commodity Quality Standards are established by URT's Commodities Management Team utilizing current facility capabilities and as per customer requirements. Quality Standards for commodities are documented in a controlled file available to URT employees for reference.

The Quality Standards shall include, but are not limited to, guidelines and visual aids that define the minimum acceptable level of materials for shipment to URT's Downstream Vendors. Materials not meeting the established minimum acceptable levels can be shipped only with prior written approval from the Downstream Vendor or by upgrading/reworking materials to the minimum acceptable level. Sample loads may be shipped to vendors as a benchmark for new products or new Downstream Vendors.

The URT Quality Management Representative approves all commodities shipped from URT facilities and approval of a commodity quality standard is communicated to the URT ISO Coordinator, and then to the URT Plant Manager, through a standardized ISO-approved process. URT Plant Managers at each facility then have one week to implement the new quality standard for current or in-process materials. Shipment of in-house material after the implementation date must meet the new Quality Standard.

The URT Quality Management Representative has the authority to stop shipments of any or all commodities that do not meet approved standards from all URT facilities.



### **UNIVERSAL WASTE RECYCLING SERVICES**

URT provides nationwide collection and recycling for all types of universal waste including lamps, batteries, mercury-containing devices, lighting ballasts and more. Because of the dangerous and toxic materials contained in these products, proper recycling is both required and mandated by various state and federal agencies. With URT, you can rest assured that your products will be recycled responsibly, conveniently and in a competitive manner that meets and exceeds every compliance standard. Our in-house recycling process provides our customers with added confidence that every requirement is attended to without fail.

Multiple state-of-the-art facilities allow URT to process huge volumes of product daily, ensuring customers avoid costly and inconvenient delays. URT has a combined 50+ years of experience handling hazardous materials. Processing capabilities include (but are not limited to):

Fluorescent Lamps :

- Straight, U-Bend and Circular
- Shatter Resistant
- Ultra Violet
- · High Intensity Discharge
- Metal Halide
- High Pressure Sodium
- Compact Fluorescent Lamps (CFLs)

Batteries:

- NiCad (Nickel Codmium)
  - · Mercury Oxide
  - Silver Oxide
  - Alkaline
  - Lithium Metal & Hydride
- Nickel Metal Hydride
  - Lead Acid

### **OUR PROCESSES**

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With URT our customers can rest assured knowing that their products will be recycled responsibly, conveniently and in a competitive manner that meets and exceeds every compliance standard. With multiple state-of-the-art facilities, we're structured to process huge volumes of product daily so that our customers avoid costly and inconvenient delays. Our inhouse recycling process provides our customers with added confidence that every requirement is attended to without fail.

### FLOURESCENT LAMP RECYCLING

Today's energy efficient fluorescent lamps are ever-present and provide many environmental and efficiency benefits. However, they must be recycled properly and in accordance with local, state, federal and industry guidelines. URT provides full-service and comprehensive lamp recycling services that ensure our customers' lamps will be recycled quickly, safely and in full compliance with all requirements.

Upon receipt of boxed lamps, URT personnel opens each box and take an item-by-item inventory count of lamps. Broken lamps are segregated from intact lamps, weighed, and immediately contained in the lamp processing area to prevent spread of mercury-contaminated materials. Once sorted, lamps are transported to URT's Fort Worth, TX or Dover, NH facility for final processing.

### BATTERY RECYCLING

Batteries contain multiple corrosive materials that pose a liability and make proper disposal imperative. URT's full-service and comprehensive battery services recycle batteries quickly, safely and in full compliance with all local, state. federal and industry requirements.

Batteries accepted for processing or transport are sorted by type and contained in drums for transport and storage. Upon



receipt of battery shipments, URT personnel inspect, weigh and temporarily store as universal waste for transport to the batteries' final recycling destination.

### BALLAST RECYCLING

The Environmental Protection Agency banned the manufacture of all lighting ballasts using PCBs in 1978. Today, both PCB-containing and non-PCB ballasts are regulated by various agencies to ensure proper recycling. URT provides full-service and comprehensive lighting ballast recycling services. We provide our customers peace-of-mind knowing their materials will be recycled quickly, safely and in full compliance with all local, state, federal and industry requirements. Upon receipt, fluorescent lighting ballasts and drums are opened, inspected and sorted to ensure that potentially PCB-containing ballasts are accounted for. The materials are then consolidated and sent to a downstream processor.

### MERCURY-CONTAINING DEVICES

Mercury is found in many devices critical to business processes. yet it is highly toxic and requires great care during disposal. URT provides full-service and comprehensive recycling services for all types of mercury-containing devices. Our experience managing recycling programs for this highly regulated substance is unparalleled.

### WASTESECURE (CONVENIENT PREPAID MAIL-BACK PROGRAM)

Through URT's WasteSecure® program, prepaid pack-and-ship boxes are available to simplify the process of transporting used items to URT for recycling. Scalable, compliant, documented programs that include options such as regularly scheduled nationwide pick-ups and private label branded recycling boxes help our clients select a custom recycling solution that meets their every need. Our exceptional customer service and convenient, reliable programs simplify your recycling efforts and assure complete compliance.

- Nationwide service
- One-stop shopping
- · Web-based tracking and reporting
- All-inclusive pricing
- · Certificates of Compliance via email
- · Easy-to-follow instructions
- · English and Spanish language
- · Private label programs available

### LAMP RECYCLING EQUIPMENT

URT is the world's leading manufacturer and supplier of fluorescent lamp recycling systems. URT's lamp recycling systems have set a new standard for simplicity, safety and recycling efficiency. Every model is fully computerized to provide turnkey startup and ongoing operational safeguards. URT offers recycling systems for all types of lamps including:

- Compact Fluorescent Lamps (CFLs)
- High Intensity Discharge Lamps (HIDs)
- Shatter Resistant Lamps



### **RECYCLING PROCESSES**

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### LAMP RECYCLING PROCESS: RESOURCE TECHNOLOGIES INCORPORATED (RTI) LSS1 LAMP PROCESSING MACHINE



URT is registered with the Texas Commission of Environmental Quality and the U.S. Environmental Protection Agency as a recycler of mercury-containing lamps. The company is approved to operate under recycling exemptions per 40 CFR, part 261c and 30 TAC Section 335.

Upon receipt of boxed lamps, URT personnel open each box and take an item-by-item inventory count of lamps. Broken lamps are segregated from intact lamps, weighed, and immediately contained in the lamp processing area to prevent spread of mercury-contaminated materials. URT accepts delivery of lamps directly from customers using their own vehicles or third party transportation services. Lamps transported from customer sites to the recycling facility by URT are recorded and shipped using a standard shipping document. The company uses no third party storage for lamps waiting for processing.

Waste lamps are processed inside the negative air pressure environment of our proprietary Modified LSS1 lamp processor that was designed and built by the URT team. The Model LSS1 Lamp Recycling System sets a higher standard for simplicity, safety, and recycling efficiency.

The Model LSS1 can process over 4,000 lamps per hour with virtually no fugitive emissions, and is capable of processing straight, circular, and U-shaped fluorescent, bulbs and lamps. The glass and metal is air-cleaned and mechanically separated. Glass and metal components are ejected from the processor and collected in boxes for immediate reuse. The calcium phosphate powder and mercury mixture is deposited in sealed 55-gallon barrels and sent for Mercury recover/ retort. URT is registered as a large quantity generator (LQG) of mercury contaminated powder. Materials recovered from our lamp recycling process, e.g., lamp glass, lamp metals, and cardboard are all recycled through various glass, metal, and paper recycling companies.

### BALLAST PROCESS

Upon receipt, fluorescent lighting ballasts and drums are opened, inspected, and sorted to ensure that potentially PCB-containing ballasts are accounted for. The materials are then consolidated and sent to a downstream processor.



### BATTERY PROCESS

Batteries accepted for processing or transport are sorted by type by the generator, and contained in drums for transport and storage. Upon receipt of battery shipments, URT personnel inspect, weigh, and temporarily store as universal waste for transport to the batteries' final recycling destination.

### ELECTRONIC WASTE HANDLING/RECYCLING PROCESS

Upon receipt electronic waste is delivered to the E-Waste warehouse to be staged for disassembly. If required, all data containing equipment will be sorted, handled appropriately, and stored in a secured designated area. All the electronic waste will be evaluated for parts recovery, recycled or disposed of as product, commodities or energy recovery.

- 1.) Receiving Process:
  - · All inbound shipments are scheduled through the customer service department.
  - Upon confirmation of shipping date, a sales order will be issued to the customer. No shipments will be received without a sales order.
  - Upon delivery, the sales order will be matched to the corresponding shipping papers (BOL), as well
    as a visual inspection of the shipping load.
  - Upon approval of the load and corresponding sales order, shipping papers will be signed, and materials will be considered received by processing facility. Universal Recycling Technologies, LLC reserves the right to reject any part or all of incoming loads based on non-conforming materials.
  - Upon receipt, each container will be assigned a distinct bar code and labeled to be tracked throughout the process system.
  - Following the assignment of the tracking code, each container will be weighed and/or units counted to confirm quantities of units per container.
  - Once unit quantities are confirmed, containers will be either staged for processing or delivered to the storage area.
  - · Shipping paperwork will be delivered to the office for order entry and invoicing.
- 2.) Sorting Process:
  - · Materials received will be sorted into like categories whenever possible.
  - Sorting of the materials and equipment will be based on equipment type, customer requirements, size of unit, or further evaluation criteria.
  - · All data containing equipment will be sorted and sent directly to the secure data processing area.
- 3.) Disassembly Process:
  - Upon delivery to the disassembly area, each unit will be transported or conveyed to disassembly stations. Each station will be equipped with tools adequate to completely strip each unit.
  - Upon removal of the plastic casing, the CRT will then be separated from the framework, and the framework and circuitry will be placed on a conveyor or appropriate container for further processing or outbound shipment.

Completely stripped of hardware, the CRT is placed onto the conveyor system which stages the CRTs for further separation in the glass processing system. These tubes are sent to URT's Janesville, WI facility for final processing and recovery.

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### **PROCESS REQUIREMENTS**

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### SCHEDULING PROCESS REQUIREMENTS

- The URT Business Relations Specialist, BRC, (or designee) receives a service request from a sales associate or a customer via telephone (877) 278-0799, email customerservice@URTsolutions.com or fax (608) 754-3473.
- . If the facility receives a customer request, the information is forwarded to the BRC.
- Utilizing URT facility's receiving calendar, a customer pick up or drop-off is scheduled based on available openings and an appointment is made to receive material. For EOL (End-of-Life) processes, the receiving calendar is available via Intranet or printed copy for the next day shipments.
- · Shipping instructions are detailed on the purchase order created by the BRC.
- If a delay or rescheduling occurs, the Scheduling Team (or designee) communicates any changes in the schedule to the BRC and receiving department (via email or in person). Any customer-arranged transportation delivery delays are communicated to the BRC (or designee) and rescheduled as the facility receiving schedule allows.

### RECEIVING PROCESS REQUIREMENTS

- All incoming material is delivered to the URT receiving dock. A bill of lading document identifying the general material in the load is provided by carrier or manifest to the facility.
- The receiving forklift operator unloads the trailers, weighing each container on the floor scales. Delivery bills of lading are given to the receiving clerk for processing.
- Material is identified by type of material. The purchase order number that accompanies the bill of lading or manifest should match the purchase order number on the daily pickup list or receiving calendar.
- If the bill of lading has estimated or actual weights, the Receiving Clerk adjusts for any differences on the customer copy. The Receiving Clerk inputs the actual scaled weight and posts the data into Microsoft Dynamics AX inventory. Additionally, if materials received are bulbs or lamps, total counts are added by number and size of each item (where applicable), and the data is posted into Microsoft Dynamics AX inventory along with the weight.
- The Receiving Clerk will remove or deface any incoming labels whenever possible and accessible. Lot label
  identification tags are placed on all skids. This lot tag is placed on the top right or top left side of the box
  (depending on placement into the bay). The tag is placed on the open side of the bay walkway to support
  inventory control. Facilities determine the common tag location per layout and storage requirements at each
  location.
- The load is posted in Microsoft Dynamics AX when the truckload is completed. A packing slip is created from Microsoft Dynamics AX. One copy of the customer bill of lading is retained by the receiving clerk and the remaining copies are given to the truck driver.
- The packing slip and the customer bill of lading are placed into the production office box for the BRC, Operations staff, or designee. Every bill of lading is reviewed for discrepancies in weight or material type reported by the Receiving Clerk. The originals are scanned at the receiving facility into AX Microsoft Dynamics within 24 hours of receipt. Discrepancies are forwarded via email to the BRC for customer notification.



### INVOICING PROCESS REQUIREMENTS

- After materials are received, the Receiving Shipping Clerk provides the signed documents and backup detail (known going forward as "paperwork") to the Business Relations Coordinator (BRC) or designee assigned to their facility.
- The paperwork should consist of, but is not limited to, a signed bill of lading and customer inventory sheet. Once the paperwork is received by the BRC, the purchase order (or internal packing slip in AX) is compared to the external, signed bill of lading and customer inventory sheet (if provided).
- Materials received will fall under three categories: Consumer, Business to Business, Assets.
  - Covered materials are invoiced to the manufacturers or collector under state program guidelines as designated by the Sales Department.
  - Business to Business materials are billed to the customer as defined in their agreement. Asset ma materials are billed to the customer as defined in their agreement.
- Once the paperwork has been inspected and, if necessary, adjusted, the BRC invoices the customer for business to business materials and covered material if necessary. National Accounts Specialist will bill manufacturers, and other national accounts either once or twice a month depending on the agreement made.
- The date of the invoice is the date on the URT packing slip/last receipt date (actual date the material was received or, in the case of consumer materials, the 15th or the last day of the month per agreements with manufacturers. Other national accounts that are billed on the last day of the month per contract agreements).
- For non-covered materials, sales orders are invoiced with three business days of the receipt of the paper work, unless the BRC discovers discrepancies and has contact the customer for clarification or corrective action.
- A Certificate of Recycling is created after the material has been received. The certificate references the received materials.
- . The invoice and certificates are mailed/emailed out to the customer or manufacturer once completed.





### **SAFETY & TRAINING**

URT and its staff are committed to the protection of the environment, to meeting customer expectations and to promoting the health and safety of its personnel and operations.

The executive management team ensures that this commitment remains the highest priority and that the processing of equipment is completed under strict quality controls in an environmentally friendly, healthy and safe manner.

The executive management team ensures to the best of its ability that all vendors for downstream materials adhere to the same environmental and quality standards and protections as URT. All URT buyers, purchasers and downstream vendors are expected to protect the environment of developing countries by following good product stewardship guidelines.

URT is committed to:

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- · Continual improvement, prevention of pollution and the prevention of injury and ill health.
- Complying and exceeding all legal and other requirements, including the Basel Convention, Basel Amend Amendment, OECD Decisions and national laws of import and export countries.
- Monitoring its Environmental, Quality, Health and Safety objectives and targets, and continually improving its management system.
- Managing hazardous e-waste materials throughout the recycling chain to final disposition with due diligence to protect the environment and worker health.
- Social accountability values, including the prohibition of prison and minor labor.
- Educating its customers on data security issues and protecting their data throughout the recycling chain.

URT communicates and reinforces this policy throughout the company and to its customers, suppliers and the public. At each location, URT's Plant Manager ensures that any persons performing tasks for or on behalf of URT that affect product quality, have the potential to cause a significant environmental impact or whose work involves a "significant" health and safety risk, is identified by URT as competent on the basis of appropriate education and training or experience, and will retain associated records.

All new URT employees receive Quality and EHS General Awareness Training through review of the EHS Policy and EHS expectations during URT's new hire orientation conducted by Human Resource the EHS Department or site management. Records are kept in the employees' personnel file maintained by the Human Resources Department. Additional initial EHS and competency trainings are conducted depending on the role(*s*) of the employee going forward, as appropriate to meet or exceed all regulatory and internal standards and guidelines. Training Records are kept by the Plant Manager and maintained by the EHS Department.

On-site contractors receive training, conducted by the Plant Manager, prior to performing tasks. These requirements are documented in URT's Visitor Contractor and Employee EHS Work Instructions.





### **FINANCIAL STRENGTH**

In less than ten years, URT has grown from a small start-up into a formidable industry player, expanding services and annually increasing revenues. FY2011 revenues exceeded \$25.5 million—nearly double that of FY 2008, when URT began to systematically grow its business. With a proven track record of innovation, a diversified client portfolio, and strong support for continued expansion and growth from its private equity investor group, URT expects revenues to continue to grow well into the future.

### **CLOSURE PLAN**

Closure steps are as follows:

- URT has established a facility closure plan in order to facilitate the clean up, transport and dispersion of any and all materials left over from the e-recycling process.
- URT has established a financial assurance mechanism to accomplish the closure and remediation necessary for clean up and removal of all residual materials left at a site.
- In the event of a single facility closure URT staff from existing facilities will pack up, move and transport
  materials to one or more of the other existing facilities for final processing.
- In the event of a closure of any URT operations, URT will utilize its existing locations for processing of any residual materials.
- The URT Environmental Health and Safety department will conduct final assurance testing for contamination within each closed site. In the event of a complete company closure, URT has contracted with certified 3rd party contractors for conducting final closure sampling and wipe analysis.





### FACILITY SECURITY

URT adheres to the following physical security procedures and protocols:

- URT facilities are under 24-hour CCTV camera surveillance both internally and externally. All recordings are
  retained for at least 30 days.
- · URT facilities are monitored by alarm company(s).
- After hour's activity is strictly monitored. URT employees with key and alarm code access to the facility
  after hours must be pre-authorized. The list of authorized employee's is maintained by the Plant Mangers.
- · URT employees are identified via an employee photo ID badge with security level access color codes.
- URT is a drug free workplace requiring pre-employment drug screening. Furthermore, URT employees who work within the Assets Division receive criminal background checks prior to hire.
- URT data destruction equipment is secured in a locked cage or office, and is controlled by authorized badge access. Facilities not designated for data destruction secure material for shipment to an authorized facility.
- All visitors, contractors and visiting employees must sign in and out in the Visitor Entry Log and wear an
  identification badge. Visiting URT employees entering a secured facility must be escorted into the facility by
  another employee with the appropriate security level.
- · All trailers that contain material are secured.
- All access to the URT internal computer system(s) shall be monitored by the corporate IT department with specifically controlled access to the Microsoft Dynamics AX accounting systems controlled by the corporate Finance Department.

The physical security procedures and effectiveness are verified via management, internal, and external audits.

### AUDIT SANITATION SOFTWARE

Audit sanitation software is completed via an Acronis Drive Cleanser 6.0 manufactured by Acronis Inc. The square root of each day's process is sampled daily for audit.





### **CERTIFICATIONS & MEMBERSHIPS**

In 2011, URT's became the 11th recycling company in the nation certified to the e-Stewards® Standard for Responsible Recycling and Reuse of Electronic Equipment.

Representing our years of concerted effort to recycle ethically and operate responsibly, URT upholds the standards and qualifications of our industry's most rigorous certifying agencies.

### ISO 14001:2004 & ISO 9001:2008

The ISO 14001:2004 standard recognizes the consistent application and success of a company's environmental health and safety management system. URT is ISO 14001:2004 compliant as it is encompassed within the e-stewards certification.

URT's ISO 9001:2008 standard certification takes this a step further, certifying the overall company quality management system. It demonstrates the company's commitment and ability to deliver superior quality and customer satisfaction. Both standards were developed and maintained by the International Organization for Standardization.

### MICROSOFT® REGISTERED REFURBISHER

URT is a Microsoft® Registered Refurbisher, which allows the company to install Microsoft® operating systems and software, opening up tremendous revenue opportunities for recycled computer equipment.

### E-STEWARDS® CERTIFICATION

Each of URT's facilities are e-Stewards® certified, providing unparalleled security and brand protection. The e-Stewards® Certification program, created by the Basel Action Network (*BAN-www.e-stewards.org*), formally recognizes electronics recyclers that adhere to the highest environmentally and socially responsible practices when recovering materials from electronic scrap. It is the only electronics recycling standard that bans all exports of hazardous e-waste to developing countries, and prohibits the use of prison labor. The accredited third-party certification program is supported by the U.S. EPA and is endorsed by Greenpeace USA, the Sierra Club, the Natural Resources Defense Council (NRDC), the Electronics Take Back Coalition and 68 other environmental organizations. It has drawn the public support of major corporate "e-Stewards® Enterprises" including Samsung, Alcoa, Bank of America, Capital One Financial Corp. and Wells Fargo.

URT has been recognized by BAN for its ongoing efforts to safely process and clean leaded CRT glass, a hazard that requires extra care and has historically been difficult to cleanly recycle. URT's proprietary process of glass recycling safely removes the coatings allowing it to be recycled into various new products.

"URT has demonstrated a commitment to the highest levels of responsible recycling. As one of the few recyclers nationwide who can safely process leaded TV and monitor glass, the company not only benefits its direct customers but also is a great resource to other recyclers," said BAN Executive Director Jim Puckett.

### e-Stewards<sup>e</sup> Standard for Responsible Recycling & Reuse of Electronic Equipment: Version 2.0

### "1. SCOPE:

This international Standard specifies requirements for an environment management system to enable an Organization to develop and implement a policy and objectives which take into account legal requirements and other requirements to which the Organization subscribes, and information about significant environmental, health and safety, data security, and social accountability aspects. It applies to those Environmental and Stewardship Aspects that the Organization identifies as those which it can control and those which it can influence. It does not itself state specific environmental performance criteria, except as defined by e-Stewards<sup>e</sup> requirements.

This International Standard is applicable to any Organization that wishes to :



- a) establish, implement, maintain and improve an environmental management system in conformity with ISO 14001: 2004 and e-Stewards<sup>o</sup> requirements,
- b) assure itself of conformity with its stated environmental policy, and minimize internal and customer risks associated with the environment, occupational health and safety, and data security,
- c) demonstrate conformity with this International Standard only by exercising option 4 below
  - 1. making a self-determination and self-declaration (not allowed under e-Stewards® requirements), or
  - seeking confirmation of its conformance by parties having an interest in the organization, such as customers (not allowed under e-Stewards<sup>®</sup> requirements), or
  - seeking confirmation of its self-declaration by a party external to the organization (not allowed under e-Stewards<sup>®</sup> requirements), or
  - seeking certification/registration of its environmental management system by an external organization, and specifically <u>by an e-Stewards accredited certification body.</u>

All the requirements in this International Standard are intended to be incorporated into any e-Stewards<sup>®</sup> environmental management system. The extent of the application depends on factors such as the environmental policy of the Organization, the nature of its activities, products and services and the location where and the conditions in which it functions. This International Standard also provides, in Annex A1, informative guidance on its use.

The e-Stewards<sup>®</sup> Standard specifies minimum performance requirements for eligible Organizations in the electronics Recycling, asset recovery, Processing, and refining industries, inserted into the framework of the ISO 14001 environmental management system standard. This enables an Organization to develop policies and objectives which also take into account information about significant health and safety, data security, and social accountability aspects of its operation.

The term "environmental management system", as used throughout this Standard, includes within its scope the environmental, occupational health and safety, data security, social accountability, and other performance requirements identified in this Standard. The scope of the management system also extends to Ancillary Sites owned and/or Controlled by the e-Stewards<sup>®</sup> corporate entity (see Appendix B for more information on Ancillary Sites.)

1.1 Application // 1.1.1 Integration with ISO 14001: 2004

The e-Stewards<sup>®</sup> Standard fully incorporates the requirements of the international environmental management systems standard, ISO 14001: 2004<sup>®</sup> (ISO). It also includes industry-specific performance requirements which are fully integrated into ISO 14001and are written for use internationally.

For the sake of clarity, regular font indicates the e-Stewards<sup>®</sup> industry-specific performance requirements throughout this Standard, while italic font depicts the requirements of ISO 14001: 2004. The font style does not infer greater or lesser importance of the text. Conformance to this e- Stewards<sup>®</sup> Standard requires that both sets of criteria be met in order to receive e-Stewards<sup>®</sup> certification.

The textual requirements of ISO 14001: 2004 are reproduced in full in this Standard, including references to this document as an "International Standard." Where this phrase is used in italic font, "International Standard" refers to ISO 14001: 2004, and may also refer to the e-Stewards<sup>®</sup> Standard requirements."

### NAID MEMBERSHIP

Through URT's certification in e-Stewards® V2:2013 and its own company policies, URT is compliant with the requirements of NAID AAA Certification for Computer Hard Drive Sanitization. Additionally, as a member of NAID since 2011, URT has had the ability to adopt and implement many of the NAID forms.

### APPENDIX E

Preferred Remediation Contractor Proposals and Qualifications: EMS, HWE, and Precision

### Cincinnati/Dayton • Cleveland/Akron/Canton • Columbus Indianapolis . Toledo/Detroit . Wheeling/Pittsburgh . Zanesville

Customer:	Atwell LL	.C	Contact:	Mike Koening	
Address: 7100 E Pleasant Valley Rd. Suite 220 Independence Ohio 44131		Phone:	440.349.2000 mkoening@atwell-group.com		
		Email:			
Project Na	me:	Lead Abatement	Bid Date:	6.22.16	
Project Ad	dress:	1655-1675 Watkins Rd Columbus, Ohio	Bid Type:	Industrial Services	

### Scope of Work

- EMS will provide a crew to Abate a 435,000 square foot warehouse, 1,000 square foot office, foam seal a wall 20' X 322' and decon a crushing machine.
- · EMS will also provide Haz and Non Haz waste disposal and transportation
- EMS assumes all waste characterization will be completed by Atwell
- Labor and equipment will include: Master Vac with Operator, Supervisor, 4 Techs, Service truck, All required PPE

Item #	Description	Estimated Quantity	Units	1	Unit Cost	Lin	e Item Cost
1.0	General Terms and Conditions	1	LS	\$	6,500.00	\$	6,500.00
2.0	Mobilization	1	Per event	\$	900.00	\$	900.00
3.0	Labor and Equipment	22	Days	\$	3,920.00	Ś	86,240.00
4.0	Non Haz C&D waste Disposal (5 ton Min)	5	Ton	Ś	40.00	S	200.00
5.0	Non Haz Dust waste disposal (10 ton Min)	10	Ton	\$	66.00	S	660.00
5.0	Haz Dust waste disposal (5 yard Min)	5	Yard	5	156.00	\$	780.00
7.0	Vac Box Rental (2)	40	Days	5	55.00	Ś	2,200.00
8.0	Roll off box rental (1)	20	Days	S	17.00	Ś	340.00
9.0	Haz Waste Transportation	TBD	Load	Ś	920.00		
10.0	Non Haz Waste Transportation	TBD	Load	\$	450.00		
		Estir	nated Total	\$			97,820.00

Conditions

- EMS assumes that all work will be completed in one mobilization unless otherwise noted above.
- For any additional work beyond the original scope of work, Time & Material (T&M) rates will apply according to the EMS Preferred Rate Sheet.
- Above noted quantities are speculative. With the exception of minimums, all billing will be based on actual quantities at the above noted Unit Costs.
- A four (4) hour minimum will apply to all Unit Costs quoted by the hour.
- Unit Costs quoted by the day will be billed at the full day rate for any work on site. There will be no partial billing for partial work days.
- Unit Costs quoted by the day apply up to eight (8) hours per day. After eight (8) hours per day, the day rate will be pro-rated for additional hours.
- Above Unit Costs are based on a non-union work force, no prevailing wages, no overtime work and no performance bond.
- This proposal is valid for thirty (30) days.

Additional costs related to unexpected or concealed conditions or any delays at the project site shall be incurred by Customer. In the event that underground or above ground structures, cables, conduit or other materials or equipment are destroyed or damaged during the project, EMS will not be held responsible. By signing below Customer acknowledges that they have received, reviewed and agreed to the EMS Standard Terms and Conditions (or the master service agreement between Customer and EMS if applicable). The terms of this agreement are effective and binding on Customer and EMS upon written execution or initiation of performance of this Agreement. Thank you for the opportunity to assist with your environmental service needs. If you require any additional information, please contact us at the below.

### Payment Terms

Unless otherwise agreed to in writing, payment terms are net thirty (30) days from the invoice date.

### Authorization To Proceed

The above prices, specifications and conditions are satisfactory and hereby accepted and EMS is authorized to proceed.

		Buy	e	5
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Signature:

**Buyer Signoture** 

Print Name

Date of Acceptance:

6909 Engle Road, C-31 Cleveland, Ohio 44130 Estimator: Josh Baker Phone: (440) 816-1107 Email: ibaker@emsonsite.com

**Environmental Management Specialists** 

**RETURN ACCEPTANCE TO:** 

6/24/2016 7:49 AM

### STATEMENT OF QUALIFICATIONS

EMS

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# INTRODUCTION

Founded in 2000, Environmental Management Specialists, Inc. [EMS] is a protessional environmental services company with strategically-located service centers providing coverage across Ohio, western Pennsylvania, West Virginia, Kentucky, Indiana, Winois, southern Wisconsin, southern Michigan, and beyond.



# **10 KEY DIFFERENTIATORS:**

- SAFETY is at our core. Our comprehensive salely program is deeply-ingrained in the EMS culture and our core values
- Ņa never had a lost time accident in the entire RESPONSIBLE. Our EMR is 0.50 and we've
- history of the company. CAPABLE. Our employees are extensively-trained and certilied (i.e. HAZWOPER, CSE.
- QUALIFIED. EMS is pre-qualified by several SaleLand, APL e-RAILSAFE, RWI...].
- shop for a wide variety of environmental EXTENSIVE EXPERIENCE. EMS is your one-stop contractor screening consortiums, including ISNetworld, PEC Premier and Avetta.
- 9111. We oller 24/7 accessibility through our "One Call" dispatch program. RESPONSIVE. Call us anytime at: (877) 816-Services
- contact for repeat customers through our DEDICATED. We provide a single point-of-
- PROMISES KEPT. The EMS "Value Guarantee" gives our customers the ability to short pay "Operations Conclerge" program

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- to the Division VP, COO, or CEO If we did not any T&M Invaice or contest any change order
- WASTE EXPERTS. EMS is permitted to transport both non-hazardous and hazardous waste. deliver on the expected value.

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- dispose of waste the right way, every time. 10. OSRO CERTIFIED. EMS is a United States Coast We properly containerize, document, and
- Guard-certified Oil Spill Removal Organization OSRO #473).



## OUR CORE SERVICES:

- REMEDIATION
- Hog-and-haul site remediation Fueling station cleanup and UST removal Gas and vapor barrier installation
- Mult-faceted brownfield remediation
- Wetland, stream and channel restoration
- Sheet Piling
- Landill remediation
- Impoundment pond and lagoon remediation Hazardous soil and groundwater treatment

## EMERGENCY RESPONSE

- Railway, pipeline, roadway, and waterway spill response
- OSRO for Facility Response Plans (FRPs)
- 24/7/365 dispatch for emergency service needs HAZWOPER Training

## TANK & UTILITY SERVICES

- OWS, vessels... Tank cleaning (API tanks, trac tanks, pits, sumps,
- Product transfer and temporary storage Tank decommissioning and demosition Confined Space Entry (CSE) rescue teams
- Line jetting
- Air knifing and hydro-excavation
- CSE training (mobile training vessel)

## WASTE SERVICES

- Integrated waste management services Waste transport and disposal

- Waste characterization and containerization
- Drum waste "milk runs"
- Vacuum truck/tanker services
- Roll-off truck services
- Vacuum and roll-oil box rental
- RCRA and DOI training



Environmental Management Specialists, Inc.

Environmental Management Specialists, Inc.

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# THE HISTORY OF EMS

EMS started in Ohio In November 2000 as a singleemployee waste broker adding environmental consulting firms and contractors with management of hazardous waste. EMS founder Jon Ransom began his career in the environmental industry as a safes representative with Ashland Chemical in 1991. Subsequent positions with environmental service and experience. Family lies brought him back to Ohio in 2000. Startling out at Jon's basement. EMS overcame many early challenges typical of startups as the company developed an extrave network of transportation and disposal vendors to broker. In 2006, EMS recruited a core group of remediation professionals and bagan self-performing remediation projects from start to fatthh. Through 2009, EMS experienced staady growth expanding to 12 employees and one small warehouse. Throughout this time itame. EMS developed a solid company culture, a strong balance sheet, and a quality reputation in the growth. EMS hill its stride in the second halt of 2009 and quickly accelerated both its pace of improvement and growth. At the center of this growth mitably were several Best of the Best (808) professionate who jained EMS and homed the nuckeus of the EMS teadership Team. From here, the teadership team launched an interne drive to grow EMS through continuous improvement and the development of people and processes. From 2009 to 2011, EMS become the # 1 canked remediation contractor in Ohio, and rated among the best ternediation contractors in the egion. At the same time. EMS began an influence to divership its capabilities to include emergency tesponse, tank and utility services, and waste services. In kale 2011, remediation funding in Chio came to an abrupt hall along with the mojority of the remediation work across the state. With close to 80 percent of its buiness field to remediation. EMS significantly increased the fempo of its push into services work. EMS doe expanded its remediation reach into reighboring states and added sitralegic remediation reachines. Including gar and vapor bariter instaleation and wetfand and stream restoration services. This diversitacion initiative led directly to the recruitment and development of BOB professionals of all evek of the company.

Environmental Management Specialists, Inc. 3

Today, EMS has grown to mare than 150 employees, with operallan canlesi in Cleveland, Chicago, Cincinnati, Calumbus, Indianapotis, Steubenville, Tolado, and Zonesvilla. Far beyond its early days as a waste broker, EMS now provides fullservice emergency spill response, altifat services, environmental services, waste transpiration, site emediation, and tank management services.

utility, transportation, and manulacturing industries.



## MISSION STATEMENT

EMS is a quality-cliven, value-added ervironmental contractor with a deep commitment to providing what our customer need, when they need it, with a guarantee of safety, prepreduess, and communication at the canter of every retallonship. We have an intense drive to succeed, with each incremental improvement bringing us closer to our potential. We compare ourselves not to any competitor but rather to the progress of our stepby-step pursuit of excellence. Our repulation as the best-or-the-best is our most valued asset, and we are determined to maintain and build on that we are determined to maintain and build on that we are determined to maintain and build on that We maintain a consistent focus on sustainable, protitable growth, with the understanding that building a great company is achieved by the crutifing and reliabing great people who thrive an tearwork. We have a fundamental belief in doing right by our employees, as well as our customers, and we take great care to cutifivate a meaningful and enjoyable workplace for the ervitormental industry's best of the best where they are challenged, apprecided, supported and emplowered to maximize the value defivered to our customers.

### CORE VALUES

At EMS, our core values are more than words – more than what we wish athers would think of us. Our core values are what we spect from ourselves and hence what others should expect and demand of us. They shope every strategic decision we make as a company, and they are a guide to daily decisions made by each and every person at EMS.

Solution-oriented Anticipate ctent needs Fallow-through Enthusiastic dedication Trust through integrity and compassion Yes - "Can do!"



# WHO IS EMS?

# Awards | Recognition

Inc. Magazine's annual exclusive its! al America's fastest-grawing private companies — the Inc. 500|500 EMS is proud to announce

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EMS is proud to announce our inclusion on the 2016 Inc. 5000 List of America's Fastest-Growing

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America's Factory Gravit-Gravit Companies. Even more Empressive. Ihis is our offi appearance on the Inc. 5000 is since 2009. This

year, we rank at #3320 overall and #24 among all environmental services companies on the list, We're grateful to our 150 dedicated employees;

our many valued clearls who first us with their environmental projects every day: and for the vision of EMS's leadership, who continue to guide our itemendous growth and the continuous improvement that drives it



RECOGNITION EMS founder and President Jon Ransom received The Ems 2 Young Entropreneur OI The Years 2011 Northeast Ohlo Award in the Specialty Products and Services category.

About Ernst & Young Entrepreneur

Of The Year® Errol & Young Eriepreneur Of the Year® is the world's most prestigious business award for entrepreneurs. The unique award recognizes the contribution of people who inspire others with their vision, leadership and activement and celebrates those who are building and leading successful, growing and dynamic businesses, recognizing them through regional, national and glabal awards programs in more than 140 cities in more than 50 counties. Environmental Management Specialists, Inc.
# SAFETY

EMS considers the safety of our employees and customers the most important aspect of our operations. EMS has never had an OSHA violation or a lost-time accident in the history of the company. EMS maintains a BWC Experience Maditcation Rating (EMR) of 0.50. All EMS personnel receive extensive training, including 40-hour HAZWOPER, annual eight-hour HAZWOPER refresher, RCRA, DOT, confined space entry, respiratory protection. first aid/CPR and associated industry-specific and customer-specific training programs.

- Our EAR to 20 and we've never had a lost-lime
- accident in the entire history of the company Top quartite Total Recordable Incident Rate (TRIR) performance for NAICS Code 562910 Comprehensive, independently-reviewed corporate
- health and safely plan

**KEY SAFETY PRACTICES:** 

- Daily Job Salety Analysis on all projects
- Quarterly altemployee safety meetings
- Weekly safely performance reporting to corporate
- leadership learn
- Short-Service Employee Program Regular, documented jobsite and tacility safety audits
- Enhanced incident reporting protocol, including nearmiss reporting
- and near-misses, including documentation of corrective Full rool-cause investigation of altreported incidents
- Safety performance included in all employee measures performance evaluations

# HAZWOPER TRAINING:

training Includes both classrom and hands-on activities, and covers all of the topics outlined in OSHA regulations. respiratory protection, first aid/CPR and assorted industry-HAZWOPER refresher, RCRA, DOT, confined space entry, including 40-hour Initial HAZWOPER, annual eight-hour All EMS personnel performing duties involving hazardous waste and emergency response receive extensive training. specific and customer-specific training programs. Our

> ADVANCED RAIL CAR SPECIALIST TRAINING: Several EMS personnel are certilited by the Emergency Response Training Center (ERTC) In

haz-mal response. haz-mal emergency training course covering all facets of Pueblo, Calorado as Advanced Rail Car Specialist (ARCS), ARCS training is a comprehensive four-day

WMD incident in a rail transportation emergency. Participants respond to railcar emergencies and incidents necessary for effectively managing a haz-mal/ Advanced (TCS-A) trained and certified. TCS training covers the technical skills and knowledge Several EMS personnel are Tank Car Specialists

commodilies emergencies related to rail transport of a variety of

FRA ROADWAY WORKER TRAINING (RWT):

qualification requirements, and with the FRAs On-Irack Protection, 49 Code of Regulations (CFR), Part 214, including, without Imitations, the training and Raitroad Administration (FRA), Roadway Warker

# API WORKSAFE TRAINING:

ANK CAR SPECIALIST (TCS) TRAINING: 

while functioning within a designated emergency response team. Situations involve scenario-based

EMS complies with all requirements of the Federal

Salety Program.

A large percentage of EMS field personnel are API WorkSate certified by the American Petroleum testitute

Petroleum Institute.

API TANK ENTRY SUPERVISOR (TES)

TRAINING: Severol EMS personnel are Trank Entry Supervisors (TES) dulies required by lank entry supervisors program qualifies participants as having the minimum knowledge, expetience. and skills needed to safely perform cerlined. The API-TES certification

# SAFELAND TRAINING:

organization. SafeLandUSA is an organization of independent all and Industry purpose of developing slandardized gas operaling companies with the receive SaleLand training and requirements for the U.S. onshore E&P safely orientalian with minimum Colorent of the A large percentage of EMS field personnel

# CONFINED SPACE ENTRY (CSE)

of entering and working in confined DANGER compliance with OSHA requirements confined space entry Iraining in spaces, workers are required to take for continuous occupancy. To fully inherently hazardous and not meant Contract addressed RAINING general industrias, are in construction and Confined spaces, no matter how common

equipment systems; and personal protective **CSE RESCUE TRAINING:** vertical and horizontal hauting/lowering equipment use and smilations; knots; monitoring; confined space rescue confined space hazards; almospheric workplace, including assessment of afficiently perform entry rescues in the skills needed to safely and will be proficient in the basic space rescue learn members EMS ensures that our confined

and quick service, which we get every time fram EMS. I feel at ease knowing the EMS team is a phone of all involved. call away to help ensure the safety guidelines and provide professional contractors follow strict regulatory "It is very important that our WHAT OUR CLIENTS HAVE TO SAY ...

- Environmental Manager, The Ohlo State University

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provide the most value for the doftar and bring all work to problem or providing routine services, we always strive to measure our success. Whether we are solving a customer understand their needs and execute the work accordingly By developing and maintaining strong personal the minimum performance standards by which we manner. The expectations of our customers determine that we provide high-quality services in a cost-effective To succeed in a highly compellitive market, it is critical relationships with our customers, we are able to fully



available 24 hours a day, 7 days a operation with on-call EMS personnel EMS maintains a "one call" dispatch 24-HOUR DISPATCH

## week, 365 days a year ONECALL

and results in a broad commitment ta achieving our common goals. across all business groups leads to initiatives. Wide participation throughout our various growth planning process, which is updated annually, in order to leverage aur EMS conducts a formal strategic strengths and maintain algnment STRATEGIC PLANNING

### INSURANCE

EMS maintains substantial insurance coverage, including general lability Our insurance certificate can be and automobile tability insurance pollution liability, professional liability INIORINGIION. provided for detailed coverage

> capacity in excess of \$20 million. EMS maintains aggregate bonding NONDING

The extensive Iraining, experience, and expertise of our personnel to exceeding the expectations of our as demonstrated by a commitment proven record of service excellence, faced by our customers. EMS has a to a wide variety of challenges enables us to recognize and respond EXPERIENCE AND EXPERIISE

### customers. PROFESSIONALISM All EMS personnel are skilled in

appearance and attitude of our Apidso our professionalism is always on personnel to the quality of our to maintain those skills. From the receive extensive ongoing training their area of experitse and also documentation and record-keeping

#### EMS is dedicated to providing locused first and loremost on the the highest level of service and 15 RESPONSIVENESS

needs of our customers.

organization.

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## INTEGRITY

reasonable. We take our reputation very seriously, and we recognize that term consequences, we step to the plate and deal with difficult issues our reputation. everything we do has an impact an We are committed to being fair and in an honest and upfront manner. and ending up with negative long-Instead of taking the easy route

# COMMUNICATION

communication Inroughout our on training, enhanced internal EMS conducts a quarterly meeting and especially with our customers. maintain a culture of effective an essential part of our effort to designed to encourage and teamwork. These meetings are communication strategies, and with all employees which locuses communication - balls within EMS clear, accurate, and consistent maintain a constant focus on Throughout our organization, we educate our employees, and are

# What our clients have to say...

manner and willing to address unforeseen issues in a limely projects by working with us in a callaborative nature. innovative solutions to complex remediation We have found EMS to be efficient, cost-effective. found that EMS differentiates itself by providing petroleum, and RCRA cleanup projects. I have for the past 25 years on brownfield remediation environmental contractors throughout the Midwest "I have had the apportunity to work with many

Principal, Regional environmental consulling firm

consulting firm Project Manager, Regional environmental other consultants and clients." performance, and I have recommended them to cast-conscious. I am completely satisfied with their remediation activities and emergency years. I have used them to do disposal of waste. "I have worked with EMS for more than five knowledgeable of regulatory requirements, and responses. They are professional, client-oriented, undergraund slorage lank (USI) removals,

> other contractors." attention to detail that is rarely experienced with personnel are highly-malivated and display an courteous service at competitive prices. Their "In all cases, EMS has pravided professional

consulling firm - Project Manager, Regional environmental

cleaning team up with EMS for these services. of waste management, remediation, or industrial professional, complete, and done right the first time Professionals. The work performed by EMS is accurate, and cancise, which is crucial for EHS communications on operations are expedient "Working with EMS provides peace of mind that would recommend that any company in need EHS Specialist, Fortune 500 oil & gas producer

are a cut above any contractor we have had complete work here. We will absolutely be using your company again for future work." "EMS equipment, crew, and general work ethic Plant Manager, Steel manufacturing facility

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subject to joint federal and state regulation. large-scale remediation and redevelopment projects management. He has served in roles he hydrogeologist to senior project manager on multiple oil and gas industry services, and a

## EDUCATION

of Missouri-Ralka, 1999, Chancellor's Fellow Master of Science, Geology & Geophysics, University University, 1996, Summa Cum Laude Bachelor of Science, Geology, Youngstown State

#### DOJ General Awareness Safety Fil-Tested for Respirator Use IATA Dangerous Good Regulations Smith System DriverDirect On Road Defensive Driving Contractor Safety (Range Resources) Contractor Safety (Rice Energy) SaleLandUSA/PEC Basic Ottentation Unconventional Business Unit Safety (Hess) **OSHA Annual 8-hour Refreshers** OSHA 40-hour HA2WOPER TRAINING AND CERTIFICATIONS

Advanced First Ald/CPR (American Red Cross)



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Chesapeake, Antero, Williams, Gulfport, Maralhon

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in oil and gas field services, emergency response, industrial services, and remediation projects. He has PUCO compliance officer, and health and safety coordinator, project manager, estimator, DOT/ equipment operator, site supervisor, on-scene served in roles ranging from field technician, heavy levi Cordle has more than 15 years of experience.

EDUCATION Associates of Business, Ohlo Univ

**DOT Hazardous Malerial RCRA Hazardous Waste Management** OSHA Annual 8-hour Refreshers – Supervisor **OSHA Annual 8-hour Refreshers OSHA 40-hour HAZWOPER** IRAINING AND CERTIFICATIONS

Confined Space Entry Rescue – Team Member Boom Deployment, Fast Water Weapons of Mass Destruction Awareness Fil-Tested for Respirator Use **Cuttent Medical Suiveillance Documentation** Contractor Salety (Range Resources, Rice Energy, Contractor Safely/Down Une Awareness (AEP) SateLandUSA/PEC Basic Ottentation Coast Guard, Shoreline Assessment/Clean-up Rail Car Competent Person Excavation/Tranching Competent Person Advanced First Aid/CPR (American Red Cross) DOT/PUCO Hazardous Waste Transportation/Trainer onker Roll-over, Transfer and Recovery Isavy Equipment. Operations/Rescue





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Operations Manages, Environmental Services CLARK

and removal, hazardous waste excavation/inin the environmental services industry, including liansportation manager, and oper project manager, hazardous/non-hazardou mat responder, sile foreman, site superintendent a number of toles including field technician. hazground water treatment systems. He has served in remediation SVE (Soll Vapor Extraction), and situ treatment, TSCA remediation/excavation. transportation and disposal, UST installation rank Clark has more than 25 years of expetience **IDNOSS HIVERNO** 

## EDUCATION

Technical Institute, 1986-1987 Associates degree, Business Md

(TWIC)

Trenching & Excavation – (Association of Reciprocal Safety Council)

framportation Worker Identification Credenliat

Fall Protection

Institute)

UST Installation/Retrofitting (NCCER Pipeline)

Worksale (API) Drug & Alcohol Awareness – Supervisor OSHA Hazardous Waste - Supervisor **OSHA 30-hour Salety** ERAILSAFE Cerlification DOT Hazardous Moletial **RCRA Hazardous Wasle Management** Operation Aerial Work Platforms - Scissor & Boom Lift Sale Confined Space Entry – Supervisor **Confined Space Enlry** OSHA 40-hour HAZWOPER Roadworker Safely lank Entry (API) - Supervisor TRAINING AND CERTIFICATIONS ransportation Worker Identification Credenliab Advanced Fank Car Specialist (CSX - 24-hour)





releases, hazardous/non-hazardous chemical spills, UST instalkations and removals, and cleaning/ responses, including train derailments, pipeline expetience in the environmental services industry as a field technician, haz-mat responder, site demotilion of ASIs. Josh has experise in responding to emergency superintendent, and operations manager. Josh Dearing has more than 18 years of



S DE C i work. Business, Eureka College,

E-RAILSAFE Certification Tank Entry – Supervisor (American Petroleum Advanced Tank Car Specialist (CSX – 24-hour) Confined Space Enliy Rescue – Team Member Confined Space Enliy – Supervisor **DOI Hazardous Malerial** Advanced First Aid/CPR (American Red Cross) RCRA Hazardous Waste Management RAINING AND CERTIFICATIONS EN ADD エイトランコスム 8-hour Refreshers **WZWOPER** 



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salety program development; worker Iraining; data

characterization. transportation and disposal.

characterization and remediation; wasle In the hazardous waste industry with sile

lim Gress has more than 25 years of experience

policy and program development. He has worked in project management, sile supervision, training, data management, technical willing and public

management: and corporate-level regulatory

Director, Environmental, Health

& Safely

GRESS

**NIN** 

Masters, Applied Communication Theory and Methodology, Cleveland State University, 2000 Bachelors of Arts, Communication, Cleve<u>land S</u>tate

EDUCATION relations.



Current Medical Surveillance Documentation

Fit-Tested for Respirator Use

RCRA Hazardous Waste Managar

DOT Hazardous Material Canfined Space Enliny

TRAINING AND CERTIFICATIONS **OSHA Annual 8-hour Refreshers** 

University, 1994

OSHA 40-hour HAZWOPER



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# **OILFIELD SERVICES**

from tank cleaning to emergency response, and super sucker vacuum trucks, EMS provides a wide range of Emergency response (Irac-outs, spills, etc.) services to the oil and gas industry, including:

> vacuum trucks to remove liquids, sludges and/or sollds from a wide variety of sites. Our super sucker vacuum

EMS owns and operates a fleet of wet and dry

VACUUM TRUCK SERVICES

NOISIVID

disposal facilities or transfer waste to vacuum boxes, frac tanks, or other containers for temporary storage

on-site or off-site at an EMS service center.

trucks can transport waste directly to appropriate

- - Tank cleaning

- Waste containers (roll-off/vac boxes)
  - Air knifing (pipeline excovation)
  - Equipment decontamination Roll-off trucking

extraction). product transfers, dewatering and support for various industrial service, emergency response, and EMS vacuum trucks also provide various onsite services

Including vacuum enhanced recovery (dual phase

EMS has thoroughly trained technicians and owns the

TANK AND PIT CLEANING

storage tank management needs.

equipment required to enter and clean various-sized

space entry trained and have expetience cleaning even the most difficult-to-clean spaces while safely tanks and pits to remove all kinds of liquids. sludges

managing a wide variety of hazardous conditions.

solids, and debris. All EMS employees are confined

# PRESSURE WASHING

Our partable fleet consists of unlis that range from 3.000 pst to 10.000 pst and includes both cold and hot pressure washing capabilities, which can be coupled EMS performs a variety of pressure washing services. with the use of environmentally intendity degreasers to clean oils, lubricants, greases and tats. We also provide field equipment designed to provide self-contained water to clean areas that have Amiled water availability.





transported off-sile into a vacuum truck to be contained and/or excavation point while the soll slurry is vacuumed excavation equipment is directed at the desired angles, while preserving natural surroundings. Hydro-

from the crea using a powerful vacuum. Air kning (aka potholing or daylighting) includes all of the advantages of hydro-excavation. In addition AIR KNIFING Similar to hydro-excavation (without the water) Typical air knife applications include: produced through hydro-excavation. reduces disposal costs compared to the slury air kniling results in dry soil waste, which typically expand, and break up soil. The soil is then removed air kniling utilizes high velocity air to penetrate,

- ulfalles Surgical excavation around known or suspected
- Pre-drilling location clearance
- Underground utility location vertication
- Underground piping and conduit repairs Rehabilitation/desilting of small diameter

injection wells

# EQUIPMENT DECOMMISSIONING AND FACILITY

DECONTAMINATION

from small-scale product into removal to large-scale EMS provides all facets of equipment decommissioning and facility decontamination facility closure activities.

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# WASTE CHARACTERIZATION REMOVA AN

as fast-track waste approval and shipment. Customers rely on EMS to handle all kinds of RCRA hazardous waste. hazardous waste, ISCA regulated waste, and nonwith same-day, competitive price quotations as well as drum quantilies. EMS strives to provide customers and treatment and disposal. EMS offers recycling. EMS provides all aspects of waste management, including lab packing, waste identilication, hazardous and non-hazardous waste in bulk as well characterization, containerization, transportation, treatment, and disposal atternatives for all types of

the receipt and processing at the materials at the disposal facility. EMS personnel are experts allematives related to waste generating processes stream, and also assist customers with cost-saving environmentally-sound destination for each waste at determining the most economical and environmental care starts at the generator's site with all laws and regulations. The EMS system of waste materials are managed in shict accordance EMS customers have the assurance that their treatment options, and material packaging. with waste characterization and continues through

# CONFINED SPACE RESCUE TEAMS

non-entry and industrial entry teams, in most cases, non-entry rescue is preferred. But for many confined When it comes to worker rescue, there are two types: space rescue situations – which are often complex

and dangerous - entry rescue teams are the only

depth training and use specialized equipment to save performed by the entry attendant with minimal the worker trapped in the confined space. training, emergency service teams have more in-Unlike non-entry rescue, which offen can be

cients in the event of a confined space rescue. the specialty equipment required to support our EMS has thoroughly-trained entry rescue teams and

TRAINING SERVICES

into context and use real-world scenarios to explain variety of EHS disciplines. This experience enables our Our EMS trainers are industry experts straight from the trainees learn and truly understand what to da, how more than checking baxes. We focus on helping the "how to" in the classroom. EMS training is about uniquely-qualified frainers to put salely procedures field with extensive hands-on experience in a wide

to do II, and why II needs to be done. Doing so leaves





a lasting impact and leads to salety in action. EMS is your ONE CALL for:

- 40-Hour HAZWOPER
- 24-Hour HAZWOPER
- 8-Hour HAZWOPER Refresher
- Confined Space Entry (CSE)
- Confined Space Rescue (CSR)
- **DOT Hazardous Materials**
- ICAO/IATA Hazardous Materials
- IMO/IMDG Dangerous Goods
- ockaut Tag Out
- PEC SafeLand
- Personal Protective Equipment
- RCRA Hazardous Waste
- Respiratory Protection (with Fit Testing) First Aid/CPR/AED (can be offered as part of 40-hour, 24-hour, and CSR)



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# ENVIRONMENTAL CASE STUDIES

containers in addition to bulk waste ulfizing 5.000-psi hol pressure wash units. EMS safety protocols required space procedures, and continuous and removal of various hazardous air monitoring throughout the work Former Automotive Stamping Industrial clearing. EMS removed approximately 250,000 gallans of and pressure washed all surfaces Plant - Waste and Industrial oil and water fram two oil water EMS provided characterization the implementation of lockout/ temoval and confined space separators and five press pilts. lagoul procedures, confined and non-hazardous waste Services - Hilliord, OH

## ferminal - Emergency Railroad Locamolive

Response – Indianapolis, IN ENS responded to a large gasalno to a retention basin. EMS mobilized lechnicians to the project site from split at a locomotive terminal in Indianapolis. The cause of the split properly which in turn discharged was a leaking petroleum pipeline gasalne was discharged to a 3 supervisors, 6 operators and 5 4 different EMS locations along with 5 service trucks, 3 vacuum inucks, and assorted PPE, pads, Approximately 100,000 gallons drainage ditch localed on the that ran through the terminal.



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drainage ditch. Aller the bulk liquia equipment operation to remediate the impacted soils. Over 4,000 tons pillows and booms. EMS crews worked around the clock (12-hour of impacted soll, as well as 500,000 gallons of water and product, was for five days vacuuming gasofine kniling, hand digging, and heavy removed and transported for offshifts) and through the weekend from the retention pond and the was removed from the affected areas, EMS transitioned to air site disposal. Storm Damage (37 Transformer response. All 37 siles were granled NFA (No Further Action) status and EMS to succeed in this emergency spill siles. The high volume of work rapid response time requirements. daily EMS operations. Nothing less As a result of a severe winds lorm. EMS responded to multiple challenges. EMS overcame these challenges while ato addressing all commitments associated with had released PC8 and non-PC8 offs. Several EMS crews with proper personal protective to complete site cleanup, waste management and thorough site were closed out in accordance documentation for a total of 37 than extraordinary ettort by our seven days following the storm supervisors and crews enabled Response – Southern Ohlo and remote location of many locations where transformers of the siles presented unique equipment (PPE) worked for Split Sites) - Emergency with applicable regulatory requirements.

13.000 gallons of flammable liquid. crew to complete installation and Irain Derailment - Emergency EMS mobilized a multidisciplinary EMS responded to a train deraitment with the release of Response – Northern Ohla

excavation near a major liber oplic line. EMS also conducted extensive In total, EMS mobilized two incident femporary waler freatment system provide 24-hour product recovery services. EMS simultaneously assisted in defineating the extent addillonal exploratory excavation, vacuum Irucks, three roll-off trucks, equipment, 10 carbon vessels and installation, and site maintenance. our fully-equipped project trailers. la provide daily product recovery inillal response. EMS was relained support and waste transportation After establishing the Emits of the prevent product from impacting and 12 service hucks, in addition two air lancers with compressors, operators, 15 technicians, seven examining on-site subterranean structures for spill-related waste. of remediation technologies to 500 linear teet of sheet piting to spill. EMS assisted in the design miligate off-sile migration and a nearby marsh. Following the consequently completed the test pltting. Including air knite Installation of opproximately of the spill through precision contined space entry work, managers, six supervisors, 11 services while assisting with lo multiple pieces of heavy commanders, two project

## Industrial Services - Cincinnall, **Terminal Storage Facility** fank Cleaning at Major

lank manifold to the rack, removed product change-over. The process appropriate protocol for confined nto a vac fruck for transportation containing canola oil as part of a water blaster, scattolding, and all space entry. EMS crews cleaned emaining product from the tank and unloaded the Ine Irom the involved the use of a 10,000-pst EMS provided tank and line cleaning services for fanks Đ



As a result of our attention-to-detail he walk and floors of the lank to and disposal, and powerwashed and strong safety practices, EMS continues to gain repeat work at clean II for new product storage this terminal.

permitting and field coordination to allow for disposal of hydrostatic test water to the local sanitary Northern Kentucky. Responsibilitie: containment/response measures; solutions and rinse water; analysis, and disposal of cleaning solutions sewer system: analysis, treatment for hydrostatic testing projects in and tinse water at an approved tacility: overall environmental plan: providing roll alt containen Hydrostatic Testing Projects response spill support, including salely. Additional roles taken on Included providing emergency providing erosion and sediment project management; and site and Emergency Response during these projects included EMS was awarded a contract controls for disturbed areas in - Environmental Services emergency response support accordance with the SWPPP storage of pipeline cleaning environmental services and by a major utility to provide vac truck services and spill Northern Kentucky

services for hydrostatic testing frac tanks; and providing asbestos abatement of coal for coatings and gastefs encountered on the pipelines and anciliary equipment and disposal of pipeline pigging providing cleaning and disposal during the course of the project condensales and scrap plping: materials; providing PCB characterization of natural gos

refease from a petroleum tacility

EMS responded to a gasoline

onto a residential property. This

project included air kniiing.

excavation. backfill, well

Tank and PH Cleaning for Shale mulliple drill pads across Eastern Ohio and Western Pennsylvania. washer units and vacuum trucks frac tank cleaning, plt cleaning EMS was contracted to provide frac tanks and pits, often under Pads - Industrial Services to clean studge and mud from and vacuum truck services for During rig skids or moves, EMS Eastern Ohio and Western Gas Drill and Completion crews utlized hot pressure Pennsylvania

#### Recovery - Canolitan, OH Emergency Response, Air Knifing and Vapor/Fluid Residential Property -

produce

as key EMS differentiators.

been recognized by this

Responsiveness, a slrang work detailed record-keeping have

extreme weather conditions.

ethic, quality equipment and

resulted in the safe and permanent Solidification Services for Shale efimination of hazardous conditions construction. Ine jet camera video recovery (dual phase extraction) SVE system installation (soil vapor extraction) including design and installation, vacuum enhanced inspection and site restoration. Gas Drill Pads - Industrial EMS's multhstage approach Services - Eastern Ohio on the property.

EMS was contracted to provide 24-hour on-site solicification services solidifying and loading out waste to enable the drilling operations employed the use of excavators lor multiple drill pads. Operator/ process fluids with power ash to solidity the waste in preparation shale gas dill pads, where they to mix drill cuttings and related operators assisted with other rig to flow seamlessly. Additionally. supervisors were assigned to for disposal. Operators were responsible for continuously duties as requested.

and more projects of varying size and complexity.

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systems which provide a barrier against vapor intrusion water-based, and VOC-free membranes and venting EMS installs a variety of seamless cold spray applied. VOC-free vapor intrusion coaling systems that consist impaired sites. EMS also Installs various 2-part odorless, into structures on brownfields or other environmentally

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Environmental Management Specialists, Inc. 28 have extensive civil construction experience. As such, Many of our equipment operators and site supervisors restoration services provided by ENS include:
 Cleating and multihing
 Earthwork and grading (GPS accuracy and laser-grade quality) Geo-composite liner (GCL), HDPE liner, and cap EMS specializes in landfill capping, repairs, closures EMS is able to provide a seamless transition from remediation to restoration of the project sile. Sile Lease and access road construction Water and sewer line construction LANDFILL REMEDIATION Stream and welland restoration Geo-composite Ining (GCL) and cell expansions. Including: Leachate collection piping Limited new cell expansion SITE RESTORATION Revegetation construction Excavation Backfilling Paving 2 extensive project management experience on complex. Ngh-profile redevelopment sites. Our project execution and documentation in this arena are experienced personnel and investing in specialized demotition equipment. EMS is able to provide turn-key projects involve a combination of demotition and site Not anly is EMS able to reduce costs far our customers often features with strategic partners in the demolition industry. Combining resources and expertise on large-scale brownfield projects has proven to be the safest. deploying a broad range of construction techniques and measures in ecologically-sensitive systems, while habilat, increased stability, diverse riparian corridors, work. but we are also better able to manage quality Because a large percentage of brownfield cleanup demotition services along with our core remediation by self-performing both demolition and remediation remediation. EMS has expanded our capabilities to control and provide an exceptional level of project and improved water quality. We are well-versed in working within the regulatory parameters for these include demosition services. By hiring qualited and On large siles with complex demolillon needs. EMS most economical, and most efficient approach to in valious disciplines, a proven track record and We have a fremendous safely record, expertise **BROWNFIELD DEMOLITION** specialized restoration projects. reporting and documentation. many of our projects. second to none. capabilities. provides fum-key removal services for various sizes at aboveground storage tanks (ASTs) and underground wellands to systems with anhanced fish and wildlife learn is qualified to restore degraded streams and STORAGE TANK REMOVAL EMS provides comprehensive tonk removal. decommissioning, and demotilion services across consultants to implement design-build plans that improve the condition of wellands, streams. EMS specializes in working collaboratively with channels, and other natural systems. The EMS Wilh several certified personnel on staff. EMS storage tanks (USTs), including the following: Product removal and tank clearing Tank decommissioning and demolition WETLAND, STREAM, AND CHANNEL RESTORATION Contaminated soil removal Permitting and inspection Tank system removal UST closure-in-place our operating area. Site restoration

of chemically resistant maleriak to protect existing floor stabs and structures from the threat of contaminant vopor intrusion.

# SHEET PILING

this service as a component of our site remediation capabilities, as well as a containment measure during EMS provides installation of sheet pilling in various configurations and site conditions. Using a vibratory drive head attached to a 35-metric-ten excavator. EMS has installed thousands of feel of steel sheeting as well as HDPE sheeting, to prevent migration of contaminants of concern (COCs). EMS provides large emergency response incidents.

# MPOUNDMENT POND AND LAGOON REMEDIATION

EMS is experienced with various means and methods EMS has a variety of equipment with which to effectively manage small to farge-scale dewatering for dewatering and solidilying sediment and sludge. and solidication projects.



Environmental Management Specialists, Inc

Environmental Management Specialists, Inc. 3

and more projects of varying size

waste profiles for rush approval and was able to remabilize to petroleum-contaminated soil was site, an additional 1,300 tons of sile redevelopment project on with slandby lime and kept lhe minimized the costs associated hazardous soil. The fast lumaround the site the next day to begin results, EMS immediately submitted lacility. After receipt of analytical being hauted to a ISCA disposal high-level PCB-contaminated soll disposal facility and 400 tons of being hauled to a non-hazardous low-level PCB-contaminated soil discovery resulted in 2,500 tans of at two areas of the property. This elevated levels of PCBs in the soll of soil, lab analysis indicated tank installer. Prior to removal hauled for bloremediation chedule. From other areas on the emoving both hazardous and non

and complexity.

existing utility lines at this former walk, contaminated soil, and basements, vaults and retaining building foundations, stabs, EMS was contracted to provide Demolillon - Cleveland, OH **Site Remediation and** impact on neighboring properties temaval and disposal of all Former Industrial Facility -

1

monitoring in order to prevent any

direction of our in-house certified the four USTs from the site under the excavaled, crushed and removed one 42.000-gallon UST. EMS then petroleum-contaminated water from three 20,000-gation USTs and

landfill cap. EMS then installed the in preparation for installation of a the environmental consulting firm We then imported thousands of to a non-hazardous waste landfill sile. After being treated to below EMS conducted in-silu Zanesville, OH Superfund Sile - Sile to specifications developed by ions of clay and graded the site then excavaled and transported regulatory standards. The soil was lead-contaminated soil at the stabilization of 10,000 tons of Remediation and Landill Cap

project was the unusually large One notable obstacle on this associated engineering controls landfill cap and liner, as well as al

were then planted with native welland plant material for the other areas on site. The wetlands berms and basin areas. Following the grading process, the basin then compacted a total of 4,500 cubic areas. EMS Imported, placed, and solls and overburden was required of 3,000 cubic yards of unusable were constructed in conjunction quality, as both welland areas Erosion and water fillration controls 3.50 acres of area was cleared filtration of the seep water prior to with native soils excavated from geomembrane liner and covered was fined with a welded 40-mil yards of soll to build the required prior to initial grading of the with existing streams. Excavation were instatled to maintain water two separate wetland teatures. to provide for the instaliation of from a former landfill. A total of the liealmant of leachate seeps two bioremedial wellands for EMS was contracted to construct Construction – Steubenville, Former Landill - Welland 0

disposal as hazardous wasle. have been associated with all-site compared to costs that would turn delivered significant savings soil in place (In-silu), which in stabilized the lead-contaminated of hazardous waste standards. EMS tans of soil contained lead in excess heavy metals. Of that total 3,000 contaminated with petroleum and and removed 38,000 lans of soil this former manufacturing factility Action Program. Bits mobilized to -

while protecting underground utilities in the area. This \$1 million the environmental consultant and project was completed by EMS an property developer. to the complete satisfaction of start to finish), under budget, and schedule (23 working days from Clean Ohio Revitalization Fund to remove contaminated soil knling in the right-of-way in order In addition, EMS conducted air contaminated groundwater. structures and 10,000 gallons of 200 tons of subsurface concrete compaction. EMS also removed the site with construction-grade 7,700 tons at engineered fill across activities. EMS placed more than

Development - Site Remediation and In-silu Sof Commercial Property

Treatment - Cleveland, OH In accordance with a Rule 13 permit and the Ohio EPA Voluntary

discharge through an engineered

Former Dry Cleaner - Sile

60-mil LiquidBool® liner mote than 240,000 square feel of

On an especially expedited Remediation - Lyndhurst, OH

In conjunction with soil removal properties. EMS utilized vapar phases of the project. suppressing toom during certain the close proximity to neighboring waste sail for incineration. Due fa and 388,000 pounds of hazardous for treatment or direct landfill, 700 tans of hazardous waste sail 6.800 tons of non-hazardous soll EMS excavated and disposed of live distinct disposal categories. Identified areas across the site into contaminated soil in several with the environmental consultant to characterize and classify icherane; ENS Worked closely

Plant (MGP) Facility - Site Remediation - Marton, OH the objective of this project was

exceptionally well weather and cubic yards of backfill, and placed contaminated soil, placed 10,000 surrounding neighbathood. EMS temoved a total of 19,000 tons of of site workers and residents in the area and the health and safety while protecting utilities in the work result of historic gas manufacturing activities on this 1.06-acre sile. related chollenges associated time and under budget despite This project was completed on lopsoil and seed across the site to remove all solts impacted as a

Former Automotive Barrier - Columbus, OH Manufacturer - Gas Vapor compaction. with backfill placement and

vapors and meet residential indoor air standards. In total, EMS installed 2-inch diameter vent pipe and more than 16,000 linear test at to miligate potential residual of a passive vent system designed vapor barrier was installed as part Program (VAP), appraximately 240,000 square teet of 60-mil gas under the Ohio Voluntary Action compliance standards required Due to the site history and

29

Environmental Management Specialists, Inc.

Blazz species areas were reslared with native

drainage system. All adjacent

amount of rainfall encountered at the jab site during construction

industrial sile. EMS removed a

**REMEDIATION CASE STUDIES** 

budget contaminated hazardous waste and remove 2.000 tons of leadphase of the project to excavate removal an schedule and under soll. EMS completed this sail remobilized during a subsequent from the Ballimore area. EMS received from local contractors to the customer compared to blds EMS delivered a 25 percent savings project was completed in six days site. The projected two-week contaminated sail from the project and 200 lons of petroleumeight USTs, five all/water separators EMS was confracted to remove Manufacturer - Sile Removal ~ Baltimore, MD Remediation and Tank former Automotive

Former Manufactured Gas

challenges and the project was EMS worked through these completed to the consultant's

according to the specifications; bainter in-situ remediation systems EMS successfully installed at removed perchloroethylene (SVE), and groundwater hydraulic Installation and In-situ Sol Former Industrial Property complete satisfaction. sparge, sail vapor extraction freatment - Canton, OH **Remediation System** 

challenging former industrial site grade compaction; and restored all surface features across this all excavations with constructionpoint of compliance; backfilled (PCE)-contaminated soll to the

> industrial facility, immediately and dispose of a wide variety of

nazardous wastes inside the former

to identify, containerize, transport Before demoition of the existing

ive-story building, EMS mobilized Removal – Cleveland, OH Site Remediation and Tank Former Industrial Facility -

various fill malecials and graded The onlire site was backfilled with 49,000 tons of contaminated soil. yards of subsurface concrete and total of more than 4,000 cubic

per the specifications.

to remove 90,000 gallons of following demolilion, EMS mobilized

ullized as needed based on air of personal protective equipment and 1,430 lans of C&D debils, as PPE. Vapor suppressing loam was (PPE) from Level D PPE to Level B were conducted in various levels attachments. Mixing operations using an excavator and mixing slandard. Mbring look place in Alt above the hazardous waste with initial PCE concentrations silu with the contaminated sol sile, chemicals were mixed intreatment designed for the part of a chemical oxidation hazardous wasle standard. As of 2,360 tons of soil with iniliat well as treatment and removal hazardous PCE concentrations of 7.320 tons of soll with non-PCE concentrations above the this project included removal



#### CLEVELAND

HEADQUARTERS & SERVICE CENTER 6909 ENGLE ROAD, SUITE C-31 CLEVELAND, OH 44130 440.816.1107

#### CHICAGO

1949 NORTH WOODLAWN AVENUE GRIFFITH, IN 46319 219.314.0367

#### CINCINNATI

1231 4TH AVENUE DAYTON, KY 41074 513.729.9238

#### COLUMBUS

4601 HOMER OHIO LANE GROVEPORT, OH 43125 614.567.6273

#### INDIANAPOLIS 2852 RAND ROAD INDIANAPOLIS, IN 46241 317.550.2495

#### TOLEDO

27800 LEMOYNE ROAD MILLBURY, OH 43447 419.386.2331

#### WHEELING | PITTSBURGH 229 BUTTE STREET STEUBENVILLE, OH 43952 740.278.3000

#### ZANESVILLE

2055 GRIEF ROAD ZANESVILLE, OH 43702 740,204,2210



Safety. Customer. Efficiency. Sustainability.

DATE: 9/12/2016

COMPANY: Atwell, LLC ATTENTION: Mike Koenig LOCATION: 1675 Watkins Rd, Columbus, OH 43207 PROJECT TYPE: Facility Remediation

Hazardous Waste Experts (HWE) is pleased to provide you with a cost proposal to furnish environmental management services to complete the above referenced project. We are committed to providing the best possible service in a timely and efficient manner.

#### General Scope of Work

HWE will utilize several HEPA vacuums to perform the cleaning of the building interior. All of the floor surfaces will be vacuumed, including the office area, ceiling beams and trusses, and accessible processing equipment. Accessible processing equipment and hard surfaces in the office area will also be wiped down with D-Lead wipes.

All waste generated during the decontamination activities will be collected into DOT approved 55 gallon drums for off-site disposal. The waste will include the following lead contaminated items: PPE, HEPA vacuum filters, rags and wipes. HWE assumes that 30 x 55 gallon drums of this material will be collected. HWE assumes that the floor, ceiling beams and trusses will be clean after being HEPA vacuumed one time. Not included in this scope of work is wet wiping of the floors and ceiling items with D-Lead wipes. HWE estimates that this portion of the decontamination will take approximately 16 days at 10 hours per day.

#### Price Schedule

Rate		Unit	Total
\$55,800.00	LS	1 Lump Sum	\$55,800.00
\$27,500.00	LS		\$27,500.00
\$4,800.00	LS		\$4,800.00
\$500.00	EA		\$15,000.00
	\$55,800.00 \$27,500.00 \$4,800.00	\$55,800.00 LS \$27,500.00 LS \$4,800.00 LS \$500.00 EA	\$55,800.00      LS      1      Lump Sum        \$27,500.00      LS      1      Lump Sum        \$4,800.00      LS      1      Lump Sum

Includes lodging and Per Diem

 Equipment includes utility vehicles, platform lifts, HEPA vacuums, PPE, Forklift, Mobilization and Demobilization

 Includes provision of 30 x 55-GAL DOT drums, HEPA vacuum filters, and D-Lead wipes and subsequent transportation and disposal of these drums at Envirosafe's landfill in Mentor, OH.



#### **Acceptance**

The Undersigned proposes to furnish all materials and perform all labor necessary to complete the above referenced project according to the general assumptions and service agreement contained herein.

Roy Wimer

Roy Wimer Technical Director Hazardous Waste Experts roy.wimer@hazardouswasteexperts.com (608) 210-4211

Customer Name: \_

\_\_ Customer Signature:\_\_

Date:\_\_\_\_\_



#### Service Agreement

#### 1.0 GENERAL PROVISIONS

- 1.1 Hazardous Waste Experts ("HWE") is a subsidiary of Pegasus Sustainability Solutions, Inc., a corporation engaged in the business of environmental management, including, but not limited to, the packaging, transportation and disposal of hazardous waste; general and specific environmental, health and safety compliance, chemical relocations; radiological waste management; biological waste management, facility decontaminations; and on-site staffing of environmental professionals.
- 1.2 Upon acceptance of the agreement, the parties agree to be bound by the terms of the Service Agreement. The parties understand that the terms of the agreement and the terms of the Service Agreement make up the entire contract of the parties.
- 13 HWE carries all permits and authorizations required to perform work for CUSTOMER
- 2.0 LAWFUL COMPLIANCE IN PERFORMANCE OF WORK
- 2.1 HWE and CUSTOMER agree to comply with all applicable federal, state and local laws and ordinances and fawful orders, rules and regulations of any constituted authority that may pertain to the generation, collection, transportation, handling, storage or disposal of any of CUSTOMER'S waste. HWE and CUSTOMER have obtained all necessary permits, licenses and other forms of documentation required to perform their respective obligations hereunder and, upon request of the other party, each shall furnish copies thereof to such other party. CUSTOMER shall obtain generator EPA identification numbers and promptly notify HWE of such EPA identification numbers and any changes thereto. As it pertains to the transporting of the waste material, HWE is acting as a common carrier and in no other capacity. HWE will not accept improperly identified and/or unidentified material for packaging, transportation and/or disposal.
- 2.2 CUSTOMER warrants that it is under no temporary or permanent injunction, administrative or court order or writ, which would prohibit or constrain the transportation, treatment, storage and/or disposal of such wastes by HWE in any manner whatsoever.

#### 3.0 OWNERSHIP AND TITLE OF WASTE

- 3.1 CUSTOMER warrants that it holds clear title to all the wastes to be packaged, transported, treated, stored and or disposed of as part of the work. CUSTOMER assumes responsibility, without limitation, as "Generator" (as defined in the applicable statutes and/or regulations) for compliance with the Resource Conservation and Recovery Act. 42 USCA, section 6901, et seq., (hereinafter "RCRA"), the Comprehensive Environmental Response, Compensation and Liability Act. 42 U S.C. 9601, et seq., (hereinafter "CERCLA") and any federal, state or local statute, ordinance, treaty or regulation that applies to "Generators" or entities responsible for the creation of a hazardous waste or release thereof.
- 3.2 Nothing contained within this Contract shall be construed or interpreted as requiring HWE to assume the status of "Generator" as that term appears in RCRA, CERCLA, or any federal, state or local statute or ordinance or any treaty governing the generation, treatment, storage, transportation and disposal of waste, such as, without limitation, the Hazardous Waste Control Act and the Carpenter-Presley-Tanner Hazardous Substance Account Act.

#### 4.0 INSURANCE

- 4.1 HWE maintains insurance at or above the required levels required by governing agencies for work performed for CUSTOMER.
- 4.2 Certificates of insurance will be provided upon request.
- 5.0 WASTE DISPOSAL
- 5.1 CUSTOMER shall approve of the disposal facility to which the waste shall be taken. CUSTOMER acknowledges and agrees that CUSTOMER alone has reviewed and approved of the place of disposal, as indicated by CUSTOMER'S signature on relevant shipping documents.

#### 6.0 NON-CONFORMING WASTE

- 6.1 CUSTOMER understands that waste pricing is highly dependent on the constituents, and percentage of constituents, of the waste. CUSTOMER warrants that all wastes which may be serviced pursuant to this agreement shall materially conform to the WASTE DESCRIPTIONS in the Proposal, which were provided to HWE by CUSTOMER.
- 6.2 If CUSTOMER ships waste outside of the parameters set forth in the waste's profile. CUSTOMER understands additional charges may result, and agrees to pay the additional charges related to the packaging, transportation and disposal of the nonconforming waste.

#### 7.0 PRICING AND COMPENSATION

7.1 CUSTOMER agrees to compensate HWE pursuant to the parameters set forth in this agreement. HWE will invoice CUSTOMER as each stage of the project is completed. All invoices are due net thirty (30) days from date of issuance. HWE reserves the right to charge a 1%% finance charge per month for balances past due thirty (30) days



7.2 Pricing may be modified to (a) include pricing for new services and/or (b) adjust current pricing for existing services. If the pricing is modified, HWE shall provide CUSTOMER a Revised Pricing Schedule, which shall become effective upon date of receipt, indicated by signature of CUSTOMER.

#### 8.0 INDEMNIFICATION

- 8.1 HWE agrees, to the fullest extent permitted by law, to indemnify and hold harmless CUSTOMER from and against any tiabilities, damages, and/or costs (including reasonable attorney's fees and cost of defense) arising out of the death or bodily injury to any person, or the destruction or damage to any property, to the extent caused, during performance of services under this Contract, by the negligent acts, errors and/or omissions of HWE or its officers, directors, principals, or employees, subject to the limitations set forth in the Section 9.0 (Limitation of Liability) of this Contract.
- 8.2 CUSTOMER agrees, to the fullest extent permitted by law, to indemnify and hold harmless HWE, its officers, directors, principals and employees, from and against any liabilities, damages, and/or costs (including reasonable attorney's fees and cost of defense) arising out of the death or bodily injury to any person, or the destruction or damage to any property, to the extent caused, during performance of services under this Contract, by the negligent acts, errors or omissions of the CUSTOMER or CUSTOMER'S contractors, consultants or anyone for whom CUSTOMER is legally responsible.

#### 9.0 LIMITATION OF LIABILITY

- 9.1 To the fullest extant permitted by law, the total liability of HWE and its officers, directors, principals, employees, and any of them, to CUSTOMER, and anyone claiming by or through CUSTOMER, for any and all claims, losses, costs or damages, including attorneys' fees and costs and expert-witness fees and costs of any nature whatsoever, or claims or expenses, resulting from or in any way related to work performed for CUSTOMER, shall not exceed the total compensation received by HWE under this agreement, or the total amount of \$10,000 (Ten Thousand Dollars), whichever is less, except for HWE's willful misconduct. It is intended that this limitation apply to any and all liability or cause of action, including HWE's negligent acts, errors and/or omissions, however alleged or arising, unless otherwise prohibited by taw, and unless otherwise provided in this section.
- 9.2 CUSTOMER acknowledges and understands the inherent difficulty in packaging and moving materials in chemical relocation projects. Examples may include, but are not limited to, chemicals, media, livestock cultures, refrigerated material, research compounds and/or pharmaceutical related material. If any damage occurs to the materials during the packaging, shipment, unpacking and placement of the materials, CUSTOMER agrees to submit claims only for the replacement value of the materials, and in no circumstance shall such claim(s) exceed \$5,000 per project. CUSTOMER understands and agrees that \$5,000 is the maximum allowed claim for the replacement and damage of materials under this Contract, and that all other damage and/or replacement claims are hereby waived by CUSTOMER.
- 9.3 All materials with a value in excess of \$1,000 shall be identified to the HWE project manager. Any items damaged by HWE during relocation will have a maximum combined liability not to exceed \$1,000 unless identified to the HWE project manager in advance of start of work.

#### 10.0 INDEPENDENT CONTRACTORS

10 1 CUSTOMER understands and acknowledges, and HWE hereby agrees that this agreement shall not render the agents of HWE as employees of CUSTOMER for any purpose. The agent of HWE is and will remain an agent of HWE in his or her relationship to CUSTOMER. Consequently, CUSTOMER shall not be responsible for withholding taxes with respect to the agent's compensation. The agent shall have no claim against CUSTOMER hereunder or otherwise for vacation pay, sick leave, retirement benefits, social security, worker's compensation, health or disability benefits, unemployment insurance benefits, or employee benefits of any kind.

#### 11.0 RESTRICTIVE COVENANT CONVERSION/RIGHT TO HIRE

11.1 If CUSTOMER wishes to hire or otherwise engage an HWE employee as an employee, consultant, independent contractor, or in any other way utilize a person employed by HWE, or hire, contract or in any other way utilize a person employed by HWE within the previous 3 years of the date of said hiring, contracting or utilization, CUSTOMER agrees to pay HWE a personnel acquisition fee equal to one year (2060 Hours) of the individual's highest customer hourly billing rate.

#### 12.0 SUBCONTRACTORS

12.1 CUSTOMER understands and agrees that HWE may assign and subcontract certain portions of the work performed for CUSTOMER. However, HWE warrants that all work performed for CUSTOMER by HWE subcontractors shall carry all protections, restrictions and limitations as if HWE performed the work.

#### 13.0 ATTORNEY'S FEES

13.1 In any litigation, arbitration, or other proceeding by which one party either seeks to enforce its rights under this agreement (whether in contract, tort, or both) or seeks a declaration of any rights or obligations under this Contract, the prevailing party shall be awarded its reasonable attorney fees, and costs and expenses incurred.

#### 14.0 NOTICE

14.1 Any notices required or permitted to be given under this agreement shall be given in writing and shall be delivered (a) in person. (b) by a commercial overnight courier that guarantees next day delivery and provides a receipt or (c) by or prepaid certified mail, return receipt requested to both: Pegasus Sustainability Solutions, Inc. 2693 Research Park Drive, Suite 201, Fitchburg, Wisconsin 53711, Attn: Mark Hope, President, and Pegasus Sustainability Solutions, Inc.



#### 15.0 CONFIDENTIALITY

15.1 All information and material that may be disclosed by one party to the other in the course of performance of this Contract is considered confidential and proprietary and will not be used by the receiving party other than for the purposes under this agreement for which it was disclosed. The receiving party will protect such information from disclosure to third parties and hold it as confidential using the same degree of care as that party uses to protect its own confidential or proprietary material of like importance, but at least reasonable care. This obligation will continue for a period of two (2) years following receipt of the material and will survive any termination of this Contract, but it will not cover any information which is disclosed to a third party by the disclosing party without restrictions on disclosure, any information that has been or is developed independently by the receiving party without violation of obligations of confidentially, any information that falls into the public domain without fault of the receiving party any information that is rightly obtained by the receiving party from a third party without restriction, or any information that is rightly in the possession of the receiving party at the time of disclosure by the disclosing party.

#### 16.0 FORCE MAJEURE

16.1 Neither party shall be liable in damages or have the right to terminate this agreement for any delay or default in performing hereunder if such delay or default is caused by conditions beyond its control including Acts of God, government restrictions (including the denial or cancellation of any export or other necessary license), wars, insurrections and/or any other cause beyond the reasonable control of the party whose performance is affected.

#### 17.0 SEVERABILITY

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17.1 If any provision or provisions of this agreement shall be held to be invalid, illegal, and unenforceable or in conflict with the law of any jurisdiction, the validity, legality and enforceability of the remaining provisions shall not in any way be affected or impaired thereby.

#### 18.0 ENTIRE CONTRACT

- 18.1 This agreement, including the Scope of Work, Revised Pricing Schedule, Waste Profile Sheet(s) and any other schedule or exhibit referred to in this agreement, constitutes the final, complete, and exclusive statement of the terms of the agreement between the parties pertaining to the subject matter of this agreement and supersede all prior and contemporaneous understandings or agreements, whether oral or written, of the parties. This agreement may not be contradicted by evidence of any prior or contemporaneous statements or agreements.
- 16.2 No party has been induced to enter into this agreement by, nor is any party relying on,

any representation, understanding, agreement, commitment or warranty outside those expressly set forth in this agreement

18.3 No modification shall be binding on HWE unless in writing and signed by both parties.

In no event shall the conflicting terms or conditions found on any CUSTOMER purchase or work order be considered an amendment or modification to this agreement.

#### 19.0 GOVERNING LAW

19.1 The laws of the State of Wisconsin shall govern the validity and interpretation of this agreement, without regard for conflicts of law principles of this, or any other, jurisdiction

#### 20.0 JURISDICTION AND VENUE

20.1 All claims arising from the sale of the service, including any claim concerning the validity, construction, or enforcement of this Service Agreement, shall be brought exclusively in the Circuit Court of Dane County, Wisconsin, or the United States District Court for the Western District of Wisconsin. The parties hereby waive any objection to venue and consent to the personal jurisdiction of the state and federal courts located in Dane County, Wisconsin.



#### **Statement of Qualifications**

#### Overview

- I. History
- II. Management Team
- III. Experience
- IV. Qualifications

#### History

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- Founded in July 2012 and headquartered in Madison, WI
- US and Canada market coverage
- Annual revenue of \$7 M
- Specialties: Universal Waste, Hazardous Waste, Used Oil, Industrial Services, Spill Response, Medical Waste Disposal, Environmental Remediation
- Custom turnkey solutions for nationwide clients (one-stop shop)

#### **Management Team**

- Eric Apfelbach, President and CEO
  - 16 years of CEO experience at both public and private companies
  - BS Chemical Engineering-UW Madison
- Wade Maleck, CFO, CPA
  - o 10 years of CFO experience: cash management, financial projections, and GAAP
- Dan Chamberlin, VP Sales and Marketing
  - 26 years with Safety-Kleen: Sales, field services, logistics, project management, safety manager, fleet manager
- Alisha Thompson, Director of Operations
  - 13 years of industry experience: technical director, regulatory compliance
  - Master's Degree in Management, BS in Earth Science-UM Ann Arbor
- Field Team
  - 167 years of combined industry experience

#### Experience

- >10,000 nationwide waste disposal projects completed
- >2,500 customers served, 50% of projects recur



#### **Customer Map**



- Example projects
  - E-Waste and universal waste bulk loads
  - Plant decommissions
  - Multi-laboratory chemical lab packing
  - High Hazard waste handling and removal (reactive, explosive, radioactive)
  - o Household hazardous waste from donation centers and city collection programs

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o \$1.3 M in Department of Defense contracts scheduled for 2017

#### Key customers

- o Nike
- o Goodwill
- o Wilbur-Ellis
- Department of Defense
- Murphy's Oil

#### Qualifications

- EPA/RCRA permitted disposal facilities
- Hazardous waste transportation licenses in all 50 states
- OSHA HazWoper 40 HR training for all field technicians
- Certified Hazardous Materials Manager (CHMM)



April 14, 2017

5500 Old Brecksville Road • Independence, Ohio 44131 (216) 642-6040 • fax (216) 642-6041

We are an equal opportunity employer

Mr. Tom Leigh Atwell, LLC. 7100 East Pleasant Valley Road Suite 200 Independence, Ohio 44131

Re: Watkins Road Facilities – Columbus Lead and Cadmium Decontamination (Revision of 6/16/16 - #2)

Dear Mr. Leigh:

Thank you for the opportunity to provide our services. Precision Environmental proposes the following:

 Clean the lead and cadmium dust from 1655 and 1675 Watkins Road warehouses in Columbus. The floors, walls, bar joists, and horizontal surfaces will be HEPA vacuumed and/or power washed. Waste, be it solid or liquid, is assumed to be hazardous. The offices in 1675 will have the ceiling pads, carpets, and contents removed as part of this proposal. In addition, remaining conveyors and the crusher will be vacuumed and wet wiped (externally only). All other contents will be removed by others prior to mobilization.

#### The following is understood:

- All work will be performed in accordance with applicable Federal, State and Local compliance regulations.
- OSHA compliance personnel air monitoring is included.
- Power and water will be provided by the owner.
- The interior of ducts or air handlers are not included.
- Work hours would be Monday through Thursday, 10 hour days.
- No clearance levels are established for cleanliness.
- This proposal is valid for a term of 60 calendar days without confirmation of intended award or inclusion.
- Insurance Proposal includes asbestos liability insurance, general liability, auto liability with limits of one million/three million secured from Great American Insurance Company and Zurich and workman's compensations as regulated by the State of Ohio.
- Projects are involced monthly, on a percentage complete basis. Payments are due 30 days following the monthly invoice. Final payment is due within 30 days of last invoice. Unpaid balances received after the due date will accumulate interest at a rate of 1 ½% per month.

**Proposed Costs:** 

- 1655: \$129,800.00 (up to 4 weeks duration)
- 1675: \$283,250.00 (up to 8-9 weeks duration)

If you require further information, please contact me at 216-642-6040.

Sinterely,

C

Project Manager

## **Precision Environmental Co.**

#### SERVICES

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- Ashestos Abatement
  Environmental
- Remediation
- Selective Demolition
- Concrete Sawing & Drilling
- Floor Preparation
- HVAC Duct Cleaning
- ✓ Firestopping



#### Industrial Plant Experience

Honesty. Respect. Integrity. Innovation. Safety. Quality Workmanship. Loyalty. Commitment.

5500 Oid Brecksville Road, Independence, Ohio 44131 Phone: (216) 642-6040

#### Industrial Plant Experience

#### McCracken Power Plant Columbus, Ohio

#### Owner: Ohio State University Year: 2004

Scope: As Ohio State University's main steam plant, the plant had to remain open and operational during asbestos abatement and demolition of four boilers. Removal of asbestos insulation from 1500 KCMII cables at an OSU substation. Removal and disposal of appx. 7104P of deactivated Righ voltage cable from the west pempus substation.



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#### Former Akron Gorge Power Plant Akron, Ohio

#### Owner: First Energy Corporation Year: 2008

Scope: Remediation of asbestos and other hazardous and non-hazardous materials prior to demolition. Items to be abated and/or removed included approximately 60,000 square feet of asbestos containing Insulation, 18,000 square feet of asbestos-cement exterior siding, PCB containing transformers and ballasts, bulbs, switch controls as well as hazardous and non-hazardous oils and chemicals. In order to perform the asbestos removal on the two boilers, turbines and miscellaneous piping Precision placed the entire structure under negative air pressure.



#### Acme Power Plant Toledo, Ohio

#### Owner: City of Toledo Year: 2009

Scope: Clean-up of the former Toledo Edison Acme Power Plant consisted of the removal and disposal of approximately 150,000 square feet of ACM boiler Insulation from 9 bollers and associated insulation from vessels, fan ducts, heat exchangers, hoppers and other components. In addition, over 15,000 linear feat of plpe insulation and approximately 140,000 square feet of floor debris were removed. Despite obstacles such as no utilities or Infrastructure, Precision completed the project safely and ahead of schedule.



#### **Industrial Plant Experience**

#### Burns Harbor Stove Abatement Burns Harbor, Indiana

#### Owner: ArcelorMittal Year: 2006 & 2008

Scope: Utilizing the stove shell as a the primary containment barrier, crews removed and disposed of asbestos containing insulation and associated refractory brick from the inner-lining of 2 C Stove and D Stove.



#### Mad River Power Station Demolition Springfield, Ohio

#### Owner: First Energy Corporation Year: 2010

Scope: Removal of asbestos associated with three main boilers. The next phase of the project included the removal and recycling or disposing of transformers and ballasts containing PCBs, bulbs and switch controls containing Mercury, and other hazardous and non-hazardous oils and chemicals found at the facility.



#### Ashtabula Power Plant C Ashtabula, Ohio

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#### Owner: Ashtabula County Port Authority Year: 2008

Scope: Previously a First Energy Corporation Pow-er Plant, Precision Environmental provided abatement services on the unoccupied 6-story, 700,000 square foot structure that contained 4 boilers, 4 recuperators and multiple office areas. Utilizing one large negative air pressure containment, crews removed and disposed of 17,000 linear feet of pipe insulation and 64,850 square feet of surfacing material, floor tile with associated mas-tic, and exterior transite panels from the recuperators.



#### Frank R. Phillips Power Station Crescent, PA

Owner: Orion Power Midwest Year: 2010 Scope: Removal of asbestos associated with boilers, pipe, breeching. Removal and disposal of regulated waste.



#### W.N. Clark Power Plant Canon City, Colorado

#### Owner: Black Hills Power Year: 2014

Scope: The W.N. Clark Facility located in Canon City, CO. was a decommissioned power house facility consisting of two large coal-fired boilers and steam generators. Prior to the demolition sequence of the facility, asbestos abatement was required for approximately 16,000 square feet of boiler insulation, 2,862 lineal feet of pipe insulation, and 13,830 square feet of exterior transite paneling. Abatement of the facility provided unique challenges due to the stringent abatement standards required in the state of Colorado. Precision was required to encase the entire facility and line all walls, floors, and ceilings prior to abatement activity.



#### **Precision Environmental Co.**

For questions about our project experience or for more information regarding the wide range of services we provide, please feel free to contact us at the information below.



Precision Environmental Co. 5500 Old Brecksville Road Independence, Ohio 44131 Phone: (216) 642-6040 Fax: (216) 642-6041 www.precision-env.com

Dan Hazlett Project Manager Office: (216) 642-6040 Cell: (216) 570-5006 dhazlett@precision-env.com



Ranked 6th in the Country Amongst Asbestos Abatement Firms in 2013

## AIA Document A305" – 1986

#### **Contractor's Qualification Statement**

The Undersigned certifies under oath that the information provided herein is true and sufficiently complete so as not to be misleading.

SUBMITTED TO:

ADDRESS:

SUBMITTED BY: Precision Environmental Company

NAME: John E. Savage, Jr.

ADDRESS: 5500 Old Brecksville Road Independence, Ohio 44131 PRENCIPAL OFFICE: 5500 Old Brecksville Road

Independence, Ohio 44131

- [X] Corporation
- [] Partnezahip
- [] Individual
- [ ] Joint Venture
- [] Other

NAME OF PROJECT (if applicable);

TYPE OF WORK (file separate form for each Classification of Work):

- [ ] General Construction
- [] HVAC
- [] Electrical
- [] Plumbing

[X] Other (please specify) Selective Demolition

ADDITIONS AND DELETIONS: The author of this document has added information needed for its completion. The author may also have revised the text of the original AIA standard form. An Additions and Deletions Report that notes added information as well as revisions to the standard form text is available from the author and should be reviewed. A vertical line in the laft margin of this document indicates where the author has added necessary information and where the author has added to or deleted from the original AIA tend.

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§ 1. ORGANIZATION

§ 1,1 How many years has your organization been in business as a Contractor? 30

§1.2 How many years has your organization been in business under its present business name? 30

§ 1.2.1 Under what other or former names has your organization operated? N/A

§ 1.3 If your organization is a corporation, answer the following: § 1.3.1 Date of incorporation: 11-20-1987

§1.3.2 State of incorporation: Ohio

§1.3.3 President's name: Anthony DiGeronimo

§ 1.3.4 Vice-president's name(s)

John E. Savage, Jr. Joseph DiGeronimo

§1.3.5 Scoretary's name: James Reeves

§1.1.6 Treasurer's name: Anthony DiGeronimo

§ 1.4 If your organization is a partnership, answer the following: § 1.41 Date of organization:

§ 1.A.2 Type of partnership (if applicable):

§ 1.4.3 Name(s) of general partner(s)

§ 1.5 If your organization is individually owned, answer the following: § 1.5.1 Date of organization:

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§ 1.5.2 Name of owner;

§ 1.8 If the form of your organization is other than those listed above, describe it and name the principals:

§ 2. LICENSINO

§ 2.1 List jurisdictions and trade categories in which your organization is legally qualified to do business, and indicate registration or license numbers, if applicable.

§ 2.2 List jurisdictions in which your organization's partnership or trade name is filed.

#### § 1. ECPERIENCE

§ 3.1 List the categories of work that your organization normally performs with its own forces.

Please see attached list

§ 3.2 Claims and Suits. (If the answer to any of the questions below is yes, please attach details.) § 3.2.1 Has your organization ever failed to complete any work awarded to it?

§ 3.2.2 Are there any judgments, claims, arbitration proceedings or suits pending or outstanding against your organization or its officers?

No

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(2533788901)

No

§ 3.2.3 Has your organization filed any law suits or requested arbitration with regard to construction contracts within the last five years?

No

§ 3.3 Within the last five years, has any officer or principal of your organization over been an officer or principal of another organization when it failed to complete a construction contract? (If the answer is yes, please attach details.)

No

§ 3.4 On a separate sheet, list major construction projects your organization has in progress, giving the name of project, owner, architect, contract amount, percent complete and scheduled completion date.

Please see attached

§ 3.4.1 State total worth of work in progress and under contract:

Please see attached

§ 3.5 On a separate sheet, list the major projects your organization has completed in the past five years, giving the name of project, owner, exclutect, contract amount, date of completion and percentage of the cost of the work performed with your own forces.

Please see attached

§ 3.5.1 State average annual amount of construction work performed during the past five years:

\$35,000,000.00

§ 3.6 On a separate sheet, list the construction experience and present commitments of the key individuals of your organization.

See attached

§ 4. REFERENCES § 4.1 Trade References:

See attached

§ 4.2 Bank References:

PNC Bank 23000 Millcreek Boulevard Highland Hills, Ohio 44122 Contact: Andrew Rutherford (216)222-7146

#### § 4.3 Surety:

§4.3.1 Name of bonding company: Great American Insurance

§ 4.3.2 Name and address of agent: Jackson, Dieken & Associates

27893 Clemens Road, Suite 1

Contact: Maggie Loeser (440)250-6873

Westlake, Ohio 44145

#### **5. FINANCING**

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§ 5.1 Pinancial Statement.

§ 5.1.1 Attach a financial statement, preferably audited, including your organization's latest balance sheet and income statement showing the following items: Given Upon Award of Project

Current Assets (e.g., cash, joint venture accounts, accounts receivable, notes receivable, accrued income, deposits, materials inventory and prepaid expenses);

Net Fixed Assets;

Other Assets;

Current Liabilities (e.g., accounts payable, notes payable, accrued expenses, provision for income taxes, advances, accrued salaries and accrued payroll taxes);

Other Liabilities (e.g., capital, capital stock, authorized and outstanding shares par values, earned surplus and retained earnings).

§ 5.1.2 Name and address of firm preparing attached financial statement, and date thereof:

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- § 5.1.3 Is the attached financial statement for the identical organization named on page one? Yes
- § 5.1.4 If not, explain the relationship and financial responsibility of the organization whose financial statement is provided (e.g., parent-subsidiary).
- § 5.2 Will the organization whose financial statement is attached act as guaranter of the contract for construction? Yes

#### 56. SIGNATURE

§ 6.1 Dated at this 13th day of April , 2017 Name of Organization: Precision Environmental Company By: Y Savage, Jr. - Vice President Title: John E. \$ 6.2

being duly swom deposes and says that the information provided herein is true and sufficiently complete so as not to be misleading.

Subscribed and swom before me this 13th day of April 20 17

Notery Public:

I

My Commission Expires:

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Company Name: Address:	Precision Environmental Co. 5500 Old Brecksville Road Independence, Ohio 44131	
Our Facility:	We operate out of 100,000 square foot faci in Independence, Ohio 7 miles south of Cleveland. We operate our service center w a staff of over 50 people to support our field operation. In addition, we warehouse over 40,000 square feet of small tools and consumable materials that are deployed to job on a 24-hour basis as required. In-hous we maintain over 120 licensed vehicles, 60 pieces of construction equipment and a multitude of specialized abatement and demolition tools. In total, our support facility provides over \$5 million dollars of efficient resources to our customer projects on a year basis.	
Phone Number: Fax Number:	(216) 642-6040 (216) 642-6041	
Year Established:	November 1987	
Officers:	Tony DiGeronimo, President John E. Savage, Jr., Vice President Joseph DiGeronimo, Vice President James Reeves, Corporate Secretary Tony DiGeronimo, Treasurer	
Type of Business:	Corporation	
State of Incorporation:	Ohio	
Federal ID Number:	34-1570806	
State Unemployment Number:	0902950-00-5	
<b>Invoices:</b> Issued by Denise Rischel – <u>driscchel@pred</u> Received by Cathy Fox – <u>cfox@precision-e</u>	<u>cision-env.com</u> env.com	
PO's Please Send To: joyc@preci	lsion-env.com	
PNC 2300 B7-Y	Andrew Rutherford PNC Bank 23000 Mill Creek Boulevard B7-YB72-04-7	
Highl Remit to address: same as above.	land Hills, Ohio 44122	



#### Current State Registrations 2017

State of Ohio Asbestos Contractor # 1154 Exp: 02-26-18

State of Michigan Asbestos Contractor #C2637 Exp: 02-23-18 State of Pensylvania Asbestos Contractor #C0013A Exp: 10-30-17

State of New Jersey

Asbestos Contractor

#01212

Exp: 09-02-17

State of Colorado

State of Illinois Asbestos Contractor #500-0743 Exp: 05-15-17 State of Indiana Asbestos Contractor #193606025 Exp: 02-16-18

> State of W.V. Contractor # WV034878 Exp: 02-09-18

State of Georgia Asbestos #70NF011866 Exp: 01-06-18

#### State of Virginia

Asbestos 3306001217 11/30/2017 State of Maryland Asbestos Contractor #M36-00-432 Exp: 8/3/2017

State of W.V. Asbestos #AC002482 Exp: 02-28-18

State of Kentucky

Asbestos

C17-516-1

Exp: 1-18-18

Asbestos #20961 Exp: 03-31-17 State of Tennessee

Asbestos A-F-4421-49755 4/30/2017 State of NY Asbestos Handling #29861 Exp: 04-30-17

State of S Carolina Contractor #CO-00435 Exp: 02-22-17

#### State of Virginia Contractor 2705161344

10/31/2018