William S. "Buddy" Cox
Partner
bcox@bradley.com
205.521.8461 direct

Bradley

January 21, 2022

Via e-mail: michuda.colleen@epa.gov and U.S. Mail
Colleen E. Michuda
Senior Counsel
Environmental Protection Agency
61 Forsyth Street, S.W.
Atlanta, GA 36303

Re: Administrative Order Pursuant to Section 7003 of RCRA
Docket No. RCRA-04-2022-2101
EPA ID: GAD 033 537 663

Dear Colleen:

Thank you and your colleagues for meeting with us on January 18, 2022. As promised, this letter and the attachments provide the TAV Respondents' (TAV Holdings, Inc., TAV Hollow Tree Lane LLC, and Empire Development LLC) response to the RCRA Section 7003 order (the "Order"). Based upon your email communication, we understand that EPA is staying paragraph 83 of the Order until further notice. The TAV Respondents request that the information provided in this letter and in the attachments be included in the administrative record for this matter. As set forth below, the TAV Respondents have taken steps to ensure that the facility does not discharge or release any stormwater that has the potential for coming into contact with any in-process material. As a result, the TAV Respondents believe that it has taken steps to eliminate the potential for any releases of material via stormwater transport and to ensure any on-going operations do not present any imminent or substantial endangerment to human health or the environment and any possible endangerment has been abated sufficiently.

I. Preliminary Matters

The TAV Respondents do not receive any solid waste as defined by RCRA at the Empire Boulevard Complex. The automobile shredder residue and other materials received and processed by TAV Holdings contain valuable metals that are extracted at the Empire Boulevard Complex and sold as products throughout the United States and internationally. Metals are extracted through an in-solution process using and recycling water.

Solid waste is defined under RCRA as ". . . any garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and **other discarded material**, including solid, liquid, semisolid, or contained gaseous material . . ." resulting from certain processes. 42 U.S.C. § 9603(27)(emphasis added). The term "hazardous waste" means "solid wastes, or combination of solid wastes" that may pose a threat to human health of the environment due to the materials characteristics. 42 U.S.C. § 9603(5). As a bedrock principal, a hazardous waste must be considered a solid waste first, before determining whether is the material's characteristics may render it a hazardous waste under RCRA.

There are classes of materials that would be considered a solid waste that are exempted under EPA regulations from the definition of a solid waste due to the continued economic value of the materials, particularly with respect to materials that otherwise would be considered "discarded" and thus a solid waste. *See* 40 C.F.R § 261.2, *et seq*. The test for determining whether a potentially discarded material, such as ASR material, is considered a solid waste hinges on whether the material is considered "abandoned." 40 C.F.R. § 261.2(2)(i)(A)-(D). An "abandoned" material is any material that is abandoned by being disposed of; or burned or incinerated, or accumulated, stored, or treated (but not recycled) before or in lieu of being abandoned by being disposed of, burned or incinerated; or "sham recycled," as defined under EPA's solid was regulations. 40 C.F.R. § 261.2(b).

The ASR material received by TAV Holdings from automobile shredders is not a solid waste when transported from TAV Holdings' suppliers to the site and does not become a solid waste until TAV Holdings completes its processes of extracting metals from the ASR material leaving no residual economic value. TAV Holdings receives the ASR material from its suppliers and processes it through its advanced proprietary system to extract valuable metals that are resold by TAV Holdings. Throughout the process of extracting metals, TAV Holdings manages the ASR materials in stockpiles in accordance with practices standard across the ASR material recycling industry. The ASR material is regularly turned and separated to maximize the percentage of metals extracted from the stockpiles via TAV Holdings' processing. Post processing, the ASR materials are considered a solid waste and TAV holdings contracts with a third party waste contractor to remove the residual wastes in accordance with applicable federal and state law. Thus, the ASR material is not a "solid waste" as a "discarded" or "abandoned" material until TAV Holdings completes its processing of the materials and the residual material is of no economic value. TAV Holdings' contract with Waste Management for waste hauling and disposal is attached here to as **Exhibit 1**. The ASR material shipped from the site as a solid waste has been profiled and accepted by Waste Management for disposal as a solid waste. A copy of the current waste profile is attached as **Exhibit 2**. Further, TCLP results of the residual ASR materials submitted demonstrates the residual material tested as characteristically non-hazardous. See **Exhibit 2** attached hereto.

As further evidence of the economic value of the ASR material, TAV Holdings' process involves equipment and procedures that are unique to TAV Holdings. The Empire Boulevard Complex is used as a research and development facility to evaluate, develop, and commercialize equipment and processes so that metal content of ASR and other materials may be used in lieu of virgin materials. It is clear from the process that ASR materials are not considered a solid waste when entering the facility.

Further, without these proprietary processes and the work being performed by TAV Holdings, it is likely that a significant amount of these metals would be disposed of in Subtitle D or other non-hazardous waste landfills resulting in loss of landfill space, increases in greenhouse gases from these landfills, and increases in greenhouse gases associated with the production of virgin materials. **Exhibit 3** provides a partial list of TAV Holdings' patents and patent application for equipment and processes that are used at the Empire Boulevard Complex.

II. Scope of the Order

The Order should be revised to exclude the activities of TAV Holdings at 3311 Empire Boulevard (owned by Rajpoot Properties) and 3405 Empire Boulevard (owned by Carolyn Empire). The building at 3311 Empire Boulevard is used for administrative/office activities. No material is received, stored or processed on this property. Access to this property is controlled via key card access. Similarly, the property at 3405 Empire Boulevard is used to store finished goods prior to shipment. No portion of this property is used to receive, store or process any in-process materials. No waste materials are stored on this property.

III. In-Process Air Sampling Showed Employees are Not At-Risk

Table 1 below shows that employees working on in-process materials are not exposed to excessive levels of lead or particulate matter. The testing data received from the laboratory is included as **Exhibit 4**.

Table 1
Results of Air Sampling and Analysis for Lead and Total Particulate
TAV Holdings, Inc.
Atlanta, Georgia
December 15, 2021
Apex Project No. TVH001-0419061-2100613

Sample Number	Sample Description	Sampling Time (start/stop)	Sample Duration (minutes)	Lead (µg/m³)	Total Particulate (mg/m³)
OSHA PEL (8-hour TWA)				0.05	15
OSHA AL (8-hour TWA)				0.03	NE
ACGIH TLV (8-hour TWA)				0.05	NE
PY197720674	Dorian Allen – Dock Employee General Laborer	0622 / 1140 1309 / 1514	443	0.0012	0.37
PY197720672	Juan Escobar – Eddy Current Area	0633 / 1148 1313 / 1511	433	0.0018	0.27
PY197720673	Cecilia Castaneda – Table Line	0635 / 1139 1256 / 1506	434	0.0026	0.42
PY197720667	Dale Robinson – Lab Technician	0823 / 1149 1237 / 1448	347	0.0063	0.73
PY197720670	Blank	-	-	<1 µg	<50 µg

OSHA: Occupational Safety and Health Administration
AL: Action Level
PEL: Permissible Exposure Limit
TWA: Time-Weighted Average
ACGIH: American Conference of Governmental Industrial Hygienists
TLV: Threshold Limit Value
mg/m³: Milligrams per cubic meter
NE: Not Established. The ACGIH believes that even biologically inert, insoluble, or poorly soluble particles may have adverse effects and recommends that airborne concentrations should be kept below 3 mg/m³, respirable particles, and 10 mg/m³, inhalable particles, until such time as a TLV is set for a particular substance

IV. The Root Cause of Hydraulic Overload

Because the process is an in-solution process, the facility uses and recycles water. Prior to COVID, the facility was able to operate without any challenges caused by stormwater run-on from upgradient/upstream properties. After the start of the COVID pandemic, the City of Atlanta stopped maintaining the stormwater system upgradient of the Empire Boulevard Complex. This caused significant amounts of stormwater to run across the Empire Boulevard Complex exceeding the ability of the TAV Respondents to use all of the stormwater in the process. The hydraulic overload caused stormwater to be commingled with in-process materials and some of the commingled water was discharged from the NPDES stormwater outfalls. We believe these conditions and the migration of this stormwater explains the presence of in-process material below the NPDES outfall discharge points and downstream. The TAV Respondents undertook a cleanout

of the upgradient sewer system to minimize the amount of surface water run-on to the extent possible. This task was completed in late December, 2021.

In accordance with paragraph 86 of the Order, the TAV Respondents will submit a workplan to characterize any material in the drainage ditch on property owner or controlled by the TAV Respondents. This workplan will be provided forty-five days from the effective date of the Order. As we have discussed, the TAV Respondents are also willing to do additional characterization work in the off-site areas, but EPA has indicated that they are performing such work under the Superfund program.

V. Zero-Discharge Facility

As of today, the TAV Respondents have completed the work necessary to capture, retain, and use on-site all stormwater that was previously directed to the NPDES outfalls. Drawings showing the construction of run-on and run-off controls will be completed and signed by a professional engineer and will be provided to you next week. By limiting the amount of run-on from upgradient properties and constructing additional capacity to contain water on-site, the TAV Respondents will prevent any discharge from the NPDES outfalls even in extreme weather events (greater than the 25-year/24-hour storm). In addition, the TAV Respondents have eliminated the use of city water except in extreme drought conditions. As a result of the work performed and the commitment to eliminating the use of city water under normal conditions, the TAV Respondents have abated any risk of in-process material from being released from the site. As a result, we believe that we have satisfied the requirement of paragraph 82 of the Order.

VI. Project Coordinator and Primary Contractor

Pursuant to paragraph 78 of the Order, the TAV Respondents designate Brent Fairchild as their project coordinator. Mr. Fairchild's contact information is as follows:

Brent Fairchild,
TAV Holdings, Inc.
Director Of EHS
56 Jarrell Rd
Greenville, Georgia 30222
Mobile # (678) 956 - 0507
Bfairchild@tavholdingsinc.com

Under paragraphs 80 and 81 of the Order, the TAV Respondents propose Claiborne Thornton and Lydia Crabtree of Industrial Environmental Consultants, Inc. as the primary contractors retained by the TAV Respondents to oversee the work to be performed under the Order. Copies of CVs and QMP will be submitted under separate cover in accordance with the Order. Additional subcontractors will be identified as required by the Order.

VII. TAV Respondents' Response to the Order

As required by paragraph 77 of the Order, the TAV Respondents provide the following specific responses to the requirements of the Order. If a paragraph does not require any particular action on behalf of the TAV Respondents, the TAV Respondents have not provided any specific comments regarding such paragraph. However, the failure to respond to a particular paragraph of the Order should not be considered an admission, concession or agreement with the specific paragraph or any portion thereof.

a. Paragraph 2 – the TAV Respondents have already implemented supplemental best management practices to eliminate the potential for any water to be discharged from the NDPES outfalls or to otherwise be released from the Empire Boulevard Complex. To the extent any such discharge could be considered a release of a solid or hazardous waste, all such releases have been eliminated. The order should not apply to 3311 Empire Boulevard or 3405 Empire Boulevard.
b. Paragraph 8 – the TAV Respondents dispute that their on-site processes involve the past or present handling, storage, treatment, transportation, or disposal of solid or hazardous waste that may present an imminent and substantial endangerment to health or the environment. All solid waste generated as a result of the processes used by the TAV Respondents has been managed, characterized, and disposed of in accordance with RCRA.
c. Paragraph 15 – Beginning on January 25, 2022, a copy of the Order as modified by the suspension or stay of paragraph 82 will be provided to contractors, subcontractors, laboratories, and consultants in accordance with the terms of the Order.
d. Paragraph 17 – The work already completed satisfies the two-fold purpose identified in this paragraph.
e. Paragraph 23 – The material the TAV Respondents receive at the Empire Boulevard Complex is not a solid waste. In-process material cannot be considered a hazardous waste under RCRA.
f. Paragraph 30 – TAV is not required to provide any notice to GAEPD or EPA. TAV is not a generator of hazardous waste.
g. Paragraphs 34- 39– Material being stored and processed was not a solid waste. It was being stored and processed in a manner consistent with standard industrial practices.
h. Paragraph 40 – Laboratory staff wears respirators because of the process used to analyze finished products may pose a risk of inhalation of lead. Testing of the process areas showed that there was no elevated exposure to the employees working in other areas of the facility.
i. Paragraphs 41-43 – The potential for discharge of stormwater or other water through the NPDES outfalls or otherwise has been eliminated.
j. Paragraph 44 – There is a settling basin on the downgradient portion of 3320 Empire Boulevard that captures stormwater and any material that may be released from the in-process material stored on this property.
k. Paragraph 45 – The TAV Respondents are not aware of any in-process material that has been allowed to migrate down Empire Boulevard.
l. Paragraph 48-66 – In-process material is not a solid waste and therefore, cannot be classified as a hazardous waste under RCRA

m. Paragraph 68 – The TAV Respondents did not receive any solid waste at the facility. Any solid waste generated by the TAV Respondents was managed properly.
n. Paragraph 75.b. – The material received and processed by the TAV Respondents is not a solid or hazardous waste under RCRA.
o. Paragraphs 76-81 – See above
p. Paragraph 82- See above
q. Paragraph 83 – Stayed by EPA
r. Paragraph 84 – The TAV Respondents will submit a report of the work performed prior to the effective date of the Order to control stormwater run-on and stormwater run-off and a workplan for any additional work proposed to be implemented by the TAV Respondents to meet its zero discharge goal.
s. Paragraph 85 – The TAV Respondents will provide the requested information regarding any solid and/or hazardous waste generated for disposal after the effective date of the Order. The TAV Respondents interpret this provision as being applicable to products sold to customers of TAV Holdings.
t. Paragraph 86 – The TAV Respondents will submit a workplan to identify and characterize any drainage ditches or other areas downstream of the NPDES outfalls or downgradient of the Empire Boulevard Complex for the presence of in-process materials within 45 days of the effective date of this order.
u. Paragraph 87-88 – The TAV Respondents will submit a site access and site restriction workplan, including appropriate signage and PPE, within 45 days of the effective date of the order. The TAV Respondents do not believe "Hazardous Waste" should appear on any signs around the perimeter of the Empire Boulevard Complex.
v. Paragraph 89 – The TAV Respondents would like the opportunity to discuss this paragraph with EPA.
w. Paragraph 90 and 91 – The TAV Respondents suggests that a weekly written report be provided one day after the weekly conference call to provide a summary of the matters addressed in the calls.
x. Paragraph 115 – The TAV Respondents will provide CBI designations for all of EPA's photographs submitted for review by February 28, 2022.

VIII. Meeting with GAEPD

The TAV Respondents are working on arranging a meeting with GAEPD to discuss the current status of the Empire Building Complex and the operations of TAV Holding and the current and past status of the industrial stormwater permit. The meeting has been scheduled for January 31, 2022 at 9:00 am (EST). We will update this letter with information regarding this matter on or before February 4, 2022.

Very truly yours,

William S. "Buddy" Cox

EXHIBIT 1

INDUSTRIAL WASTE & DISPOSAL SERVICES AGREEMENT

COMPANY:	Greenbow, LLC *A WASTE MANAGEMENT COMPANY*	**CUSTOMER:**	TAV Holdings, Inc
Address:	7144 Lone Oak Road	Address:	3311 Empire BLVD SW
City/State/Zip:	Hogansville, GA, 30230-4157	City/State/Zip:	Atlanta, GA, 30354
Signed:	Shafonte Burrell *Authorized Signature*	Signed:	Andy Wahl *Authorized Signature*
Name:	Shafonte Burrell	Name:	Andy Wahl
Title:	Technical Service Rep	Title:	-
Effective Date:	7/20/2020 *Date*	**Initial Term:**	36 months 7/20/2020 *Date*

AGREEMENT

This INDUSTRIAL WASTE & DISPOSAL SERVICES AGREEMENT, consisting of the terms and conditions set forth herein, and Exhibit A, and/or Confirmation Letter(s) and the Profile Sheet(s) entered into from and after the date hereof from time to time (all of the foregoing being collectively referred to as the "Agreement"), is made as of the Effective Date shown above by and between the Customer named above, on its and its subsidiaries and affiliates behalf (collectively, "Customer") and the Waste Management entity named above ("the Company").

TERMS AND CONDITIONS

1. SERVICES PROVIDED. The Company and/or its affiliates will provide Customer with collection, management, transportation, disposal, treatment and recycling services ("Services") for Customer's non-hazardous Solid Waste, Special Waste, Hazardous Waste, and/or Recyclables, as described on Exhibit A and/or Confirmation Letter(s) and/or applicable Profile Sheets (collectively "Industrial Waste"). **"Solid Waste"** means garbage, refuse and rubbish including those which are recyclable but excluding Special Waste and Hazardous Waste. **"Special Waste"** includes polychlorinated biphenyl ("PCB") wastes, industrial process wastes, asbestos containing material, petroleum contaminated soils, treated/de-characterized wastes, incinerator ash, medical wastes, demolition debris and other materials requiring special handling in accordance with any applicable federal, state, provincial or local laws or regulations. **"Hazardous Waste"** means any hazardous, toxic, or radioactive substances, as such terms are defined by any applicable federal, state, provincial or local laws or regulations. **"Nonconforming Waste"** means waste that (a) is not in conformance with waste descriptions given by Customer under this Agreement, in an Exhibit A, Confirmation Letter(s) or the Profile Sheet incorporated herein; (b) is prohibited from being received, managed or disposed of at a transfer, storage or disposal facility used hereunder by federal, state or local law, regulation, ordinance, permit or other legal requirement; (c) is non-hazardous Solid Waste that contains regulated Special Waste or Hazardous Waste; (d) is or contains any infectious waste, radioactive, volatile, corrosive, flammable, explosive, biomedical, biohazardous material, regulated medical or hazardous waste or toxic substances, as defined pursuant to or listed or regulated under applicable federal, state or local law, except as stated on Exhibit A, the Profile Sheet or Confirmation Letter; or (e) contains information protected by federal, state or local privacy or data security laws, including but not limited to the Health Insurance Portability and Accountability Act of 1996, as amended ("HIPAA").

2. CUSTOMER WARRANTIES. Customer hereby represents and warrants that all Industrial Waste collected by or delivered to the Company shall be in accordance with waste descriptions given in this Agreement and shall not be or contain any Nonconforming Waste. When the Company handles Special or Hazardous Waste for Customer, Customer will provide the Company with a Generator's Waste Profile Sheet ("Profile Sheet") describing all Special or Hazardous Waste, and provide a representative sample of such waste on request. In the event this Agreement includes transportation by the Company, Customer shall, at the time of tender, provide to the Company accurate and complete documents, shipping papers or manifests as are required for the lawful transfer of the Industrial Waste under all applicable federal, state or local laws or regulations. Tender or delivery shall be considered nonconforming if not in accordance with this Section. Customer further represents and warrants that it will comply with all applicable laws, ordinances, regulations, orders, permits or other legal requirements applicable to the Industrial Waste. Customer shall provide the Company and its Subcontractors a safe work environment for Services performed on any premises owned or controlled by Customer.

3. TERM OF AGREEMENT; RIGHT TO PROVIDE COMPETING OFFERS. The Initial Term of this Agreement shall be as set forth above and if no such term is set forth above, it shall be 36 months, commencing on the Effective Date set forth above. This Agreement shall automatically renew thereafter for additional terms of twelve (12) months each ("Renewal Term", with "Initial Term," collectively, the "Term") unless either party gives to the other party written notice of termination at least ninety (90) days prior to the termination of the then-existing term; provided however, that the terms and conditions of this Agreement shall remain in full force and effect, in accordance with its terms, with respect to any uncompleted or unfinished Services provided for in an Exhibit A, Confirmation Letter and/or Profile Sheet until such Services are completed. Notice of termination received at any other time will be considered ineffective and the Agreement will be considered automatically renewed upon completion of the then-existing term. If Customer receives an offer from (or makes any offer to) a third party relating to such third party's provision to the Customer of the same or similar Services to those provided hereunder, Customer shall give Company prompt written notice of any such offer and a 15-day period to respond to such third party offer prior to Customer agreeing to such third party offer.

4. INSPECTION; REJECTION OF WASTE. Title to and liability for Nonconforming Waste shall remain with Customer at all times. Company shall have the right to inspect, analyze or test any waste delivered by Customer. If Customer's Industrial Waste is Nonconforming Waste, Company can, at its option, reject Nonconforming Waste and return it to Customer or require Customer to remove and dispose of the Nonconforming Waste at Customer's expense. Customer shall indemnify, hold harmless (in accordance with Section 9) and pay or reimburse Company for any and all costs, damages and/or fines incurred as a result of or relating to Customer's tender or delivery of Nonconforming Waste or other failure to comply or conform to this Agreement, including costs of inspection, testing and analysis. Company also may impose volume limitations on inbound deliveries, reject any Industrial Waste that could adversely impact the receiving facility, or Company may terminate the Agreement or the applicable Exhibit A related to such Industrial Waste.

5. SPECIAL HANDLING; TITLE. If Company elects to handle, rather than reject, Nonconforming Waste, Company shall have the right to manage the same in the manner deemed most appropriate by Company given the characteristics of the Nonconforming Waste. Company may assess and Customer shall pay additional charges associated with delivery of Nonconforming Waste, including, but not limited to, special handling or disposal charges, and costs associated with different quantities of waste, different delivery dates, modifications in operations, specialized equipment, and other operational, environmental, health, safety or regulatory requirements. Title to and ownership of acceptable Industrial Waste shall transfer to Company upon its final acceptance of such waste.

6. COMPANY WARRANTIES. Company hereby represents and warrants that: (a) Company will manage the Industrial Waste in a safe and workmanlike manner in full compliance with all valid and applicable federal, state and local laws, ordinances, orders, rules and regulations; and (b) it will use disposal and recycling facilities that have been issued permits, licenses, certificates or approvals required by valid and applicable laws, ordinances and regulations necessary to allow the facility to accept, treat and/or dispose of Industrial Waste. Except as provided herein, Company makes no other warranties and hereby disclaims any other warranty, whether implied or statutory.

7. LIMITED LICENSE TO ENTER. When a Customer is transporting Industrial Waste to a Company facility, Customer and its subcontractors shall have a limited license to enter a disposal facility for the sole purpose of off-loading Industrial Waste at an area designated, and in the manner directed, by Company. Customer shall, and shall ensure that its subcontractors, comply with all rules and regulations of the facility, as amended. Company may reject Industrial Waste, deny Customer or its subcontractors entry to its facility and/or terminate this Agreement in the event of Customer's or its subcontractors' failure to follow such rules and regulations.

8. CHARGES AND PAYMENTS. Customer shall pay the rates ("Charges") set forth on Exhibit A or a Confirmation Letter, which may be modified as provided in this Agreement. Company reserves the right, and Customer acknowledges that it should expect Company to increase or add Charges payable by Customer hereunder during the Term. The rates may be adjusted by Company to account for: any changes or modifications to, or differences between, the actual equipment and Services provided by Company to Customer and those specified on Exhibit A; any increase in or to recoup all or any portion of, disposal, transportation, processing and fuel costs or environmental compliance fees or costs, or recovery of the Company's and affiliates' costs associated with host community fees, waste disposal taxes and similar charges paid to municipal or other governmental authorities or agencies to engage in recycling and waste collection, transfer, processing, disposal and treatment; any change in the composition, amount or weight of the Industrial Waste collected by Company from Customer's service location(s) from what is specified on Exhibit A (including for container overages or overflows) of the Industrial Waste; increased costs due to uncontrollable circumstances, including, without limitation, changes (occurring from and after three (3) months prior to the Effective Date) in local, state, federal or foreign laws or regulations (or the enforcement, interpretation or application thereof), including the imposition of or increase in taxes, fees or surcharges, or acts of God such as floods, fires, hurricanes and natural disasters. Company also reserves the right to charge Customer additional charges for Services provided by Company to Customer, whether requested or incurred by Customer, including, but not limited to, dig out, minimum load charges, profile approval charges, all at such rates that Company is charging its customers at such time The Company may also increase the charges by an amount equal to the average percentage increase for the previous twelve-month period in the Consumer Price Index for Water & Sewer & Trash Collection Services, as published by the U.S. Department of Labor, with the amount of the increase based on the most current information available from the U.S. Department of Labor 30 days prior to the date of the increase, unless the parties have otherwise agreed to a different CPI as stated in an Exhibit A. Without limiting the foregoing, Company also reserves the right to adjust all pricing provided in an Exhibit A at any time with ten (10) days' advance written notice to Customer. Changes to the Charges payable under this Agreement may be agreed to orally, in writing or by other actions and practices of the parties, including, without limitation, electronic or online acceptance or payment of the invoice reflecting such changes, and written notice to Customer of any such changes and Customer's failure to object to such changes, which shall be deemed to be Customer's affirmative consent to such changes. Increases to Charges as specified in this Section may be applied singularly or cumulatively and may include an amount for Company's operating or profit margin. Customer acknowledges and agrees that any increased Charges under this section are not represented to be solely an offset or pass through of Company's costs. All rate adjustments as provided above and in Section 5 shall take effect upon notification from Company to Customer. Customer shall pay the rates in full within thirty (30) days of the invoice date.

Company shall send all invoices for Charges and any required notices to Customer under this Agreement to Customer's billing address specified at the top of the Agreement. Unless specifically

agreed to in writing by Company and subject to such additional costs that Company may charge, in its discretion, Company shall not be required to bill Customer using Customer's or any third party billing portal or program. In no event shall the use by Company of Customer's or any third party billing portal or program, or any terms thereof, operate to amend or supplement the terms and conditions of this Agreement, which will remain binding in accordance with its terms. Customer shall pay all invoiced Charges within thirty (30) days of the invoice date, by check mailed to Company's payment address on Customer's invoice. Payment by any other method or channel, including in person, online or by phone, shall be as allowed by Company and subject to applicable convenience fees and other costs charged by Company, from time to time. Any Customer invoice balance not paid within thirty (30) days of the date of invoice is subject to a late charge, and any Customer check returned for insufficient funds is subject to a non-sufficient funds charge, both to the maximum extent allowed by applicable law. Customer acknowledges that any late charge charged by Company is not to be considered as interest on debt or a finance charge, and is a reasonable charge for the anticipated loss and cost to Company for late payment. If payment is not made when due, Company retains the right to suspend Services until the past due balance is paid in full. In addition to full payment of outstanding balances, Customer shall be required to pay a reactivation charge to resume suspended Services. If Services are suspended for more than fifteen (15) days, Company may immediately terminate this Agreement for default and recover any equipment and all amounts owed hereunder, including liquidated damages under Section 14.

9. INDEMNIFICATION. The Company agrees to indemnify, defend and save Customer harmless from and against any and all liability (including reasonable attorneys' fees) which Customer may be responsible for or pay out as a result of bodily injuries (including death), property damage, or any violation or alleged violation of law, to the extent caused by Company's breach of this Agreement or by any negligent act, negligent omission or willful misconduct of the Company or its employees, which occurs (1) during the collection or transportation of Customer's Industrial Waste by Company, or (2) as a result of the disposal of Customer's Industrial Waste, after the date of this Agreement, in a facility owned by a subsidiary or affiliate of the Company provided that the Company's indemnification obligations will not apply to occurrences involving Nonconforming Waste.

Customer agrees to indemnify, defend and save the Company harmless from and against any and all liability (including reasonable attorneys' fees) which the Company may be responsible for or pay out as a result of bodily injuries (including death), property damage, or any violation or alleged violation of law to the extent caused by Customer's breach of this Agreement or by any negligent act, negligent omission or willful misconduct of the Customer or its employees, agents or contractors in the performance of this Agreement or Customer's use, operation or possession of any equipment furnished by the Company.

Neither party shall be liable to the other for consequential, incidental or punitive damages arising out of the performance of this Agreement except for third party claims related to violations of law.

10. UNCONTROLLABLE CIRCUMSTANCES. Except for the obligation to make payments hereunder, neither party shall be in default for its failure to perform or delay in performance caused by events beyond its reasonable control, including, but not limited to, strikes, riots, imposition of laws or governmental orders, fires, acts of God, and inability to obtain equipment, permit changes and regulations, restrictions (including land use) therein, and the affected party shall be excused from performance during the occurrence of such events.

11. RECYCLING SERVICES. The following shall apply to fiber and non-fiber recyclables ("Recyclable Materials") and recycling services: All Recyclable Materials must be clean, dry, unshredded, empty, loose and unbagged. (a)(i) Single stream Recyclable Materials ("Single Stream") will consist of Customer's entire volume of uncoated office and writing paper, magazines, pamphlets, mail, newspaper; flattened, uncoated cardboard, paperboard boxes; aluminum food and beverage containers, tin or steel cans; glass, and rigid container plastics #1, #2 and #5, including narrow neck containers and tubs. Any material not specifically set forth above, including but not limited to foam, film plastics, plastic bags, napkins, tissue, paper towels, or paper that has been in contact with food, is unacceptable. Glass may not be accepted at all locations. (ii) Customer shall provide source-separated wastepaper, cardboard, plastics and metals in accordance with the most current ISRI Scrap Specifications Circular and any amendments thereto or replacements thereof. (iii) All other Recyclable Materials will be delivered in accordance with industry standards or such specifications communicated to Customer by the Company from time-to-time. (iv) the Company reserves the right, upon notice to Customer, to discontinue acceptance of any category of Recyclable Materials set forth above as a result of market conditions related to such materials and makes no representations as to the recyclability of the materials. Collected Recyclable Materials for which no commercially reasonable market exists may be landfilled at Customer's Cost; (b) Notwithstanding anything to the contrary contained herein, Recyclable Materials may not contain Nonconforming Waste, Hazardous Waste, Special Waste or other materials that are deleterious or capable of causing material damage to any part of the Company's property, its personnel or the public or materially impair the strength or the durability of the Company's structures or equipment. (c) the Company may reject in whole or in part, or may process, in its sole discretion, Recyclable Materials not meeting the specifications. Customer shall pay the Company for all increased costs, losses and expenses incurred with respect to such non-conforming Recyclable Materials which charges may include an amount for the Company's operating or profit margin (collectively the "Cost"). Without limiting the foregoing, and Customer shall pay a contamination charge for additional handling, processing, transporting and/or disposing of such non-conforming Recyclable Materials, Hazardous Waste, Special Waste, Nonconforming Waste, and/or all of part of non-conforming loads and additional charges may be assessed for bulky items such as appliances, concrete, furniture, mattresses, tires, electronics, pallets, yard waste, propane tanks, etc.; (d) Recycling Services are subject to a Recyclable Material Offset (RMO) charge to the extent that (a) the Company's processing cost per ton, including costs of disposal for contamination and profit margin, exceeds (b) an amount equal to recyclables value per ton minus an amount for profit margin. The RMO charge, including profit margin, processing and disposal costs and recyclable value shall be determined by the Company from time-to-time, in its sole discretion, based on applicable operating data and market information. If recyclables value exceeds processing costs, plus profit margin, a RMO credit may apply, at the Company's sole discretion.

12. ASSIGNMENT & SUBCONTRACTING. This Agreement shall be binding on and shall inure to the benefit of the parties and their respective successors and assigns. Customer acknowledges and agrees that the Company may utilize unaffiliated subcontractors that are not affiliates of Company to provide the Services to Customer. Customer may not broker the disposal of Industrial Waste through third parties under this Agreement without Company's express written consent.

13. ENTIRE AGREEMENT. This Agreement and its exhibits and attachments represent the entire understanding and agreement between the parties relating to the Services and supersedes any and all prior agreements, whether written or oral, between the parties regarding the same; provided that, the terms of any national service agreement or lease agreement for compactors or specialty equipment between the parties shall govern over any inconsistent terms herein.

14. TERMINATION; LIQUIDATED DAMAGES. Company may immediately terminate this Agreement, (a) in the event of Customer's breach of any term or provision of this Agreement, including failure to pay on a timely basis, or (b) if Customer becomes insolvent, the subject of an order for relief in bankruptcy, receivership, reorganization dissolution, or similar law, or makes an assignment for the benefit of its creditors or if Company deems itself insecure as to payment ("Default"). Notice of termination shall be in writing and deemed given when delivered in person or by certified mail, postage prepaid, return receipt requested. In the event Customer terminates this Agreement prior to the expiration of the Initial or Renewal Term ("Term") for any reason other than as set forth in Section 3, or in the event Company terminates this Agreement for Customer's default, Customer shall pay the following liquidated damages in addition to the Company's legal fees, if any: (a) if the remaining Term (including any applicable Renewal Term) under this Agreement is six (6) or more months, Customer shall pay the average of its six (6) most recent monthly Charges (or, if the Effective Date is within six (6) months of Company's last invoice date, the average of all monthly Charges) multiplied by six (6); or (b) if the remaining Term under this Agreement is less than six (6) months, Customer shall pay the average of its six (6) most recent monthly Charges multiplied by the number of months remaining in the Term. Customer shall pay liquidated damages of $100 for every Customer waste tire that is found at the disposal facility. Customer acknowledges that the actual damage to Company in the event of termination is impractical or extremely difficult to fix or prove, and the foregoing liquidated damages amount is reasonable and commensurate with the anticipated loss to Company resulting from such termination and is an agreed upon charge and is not imposed as a penalty. Collection of liquidated damages by Company shall be in addition to any rights or remedies available to Company under this Agreement or at law. In addition to and not in limitation of the foregoing, Company shall be entitled to recover all losses, damages and costs, including attorneys' fees and costs, resulting from Customer's breach of any other provision of this Agreement in addition to all other remedies available at law or in equity.

15. EQUIPMENT. All equipment furnished by Company shall remain its property; however Customer shall have care, custody and control of the equipment and shall be liable for all loss or damage to the equipment and for its contents while at Customer's service location(s) or otherwise under its care, custody and control. Customer will not overload, move or alter the equipment, or allow a third party to do so, and shall use it only for its intended purpose. At the termination of this Agreement, Company's equipment shall be in the condition in which it was provided, normal wear and tear excepted. Customer shall provide safe and unobstructed access to the equipment on the scheduled collection day. Company may suspend Services or terminate this Agreement in the event Customer violates any of the requirements of this provision. Customer shall pay, if charged by Company, any additional Charges, determined by Company in its sole discretion, for overloading, moving or altering the equipment or allowing a third party to do so, and for any service modifications caused by or resulting from Customer's failure to provide access. Customer warrants that Customer's property is sufficient to bear the weight of Company's equipment and vehicles and agrees that Company shall not be responsible for any damage to Customer's pavement or any other surface resulting from the equipment or Services.

16. CONFIDENTIALITY. Except as required by law, the parties agree that the rates set forth on Exhibit A, a Confirmation Letter, including any adjustments thereto, and any other pricing information shall be considered confidential and shall not be disclosed to third parties without the other party's written approval.

17. MISCELLANEOUS. (a) The prevailing party will be entitled to recover reasonable fees and court costs, including attorneys' and expert fees, in enforcing this Agreement. In the event Customer fails to pay Company all amounts due hereunder, Company will be entitled to collect all reasonable collection costs or expenses, including reasonable attorneys' and expert fees, court costs or handling fees for returned checks from Customer; (b) The validity, interpretation and performance of this Agreement shall be construed in accordance with the law of the state in which the Services are performed; (c) If any provision of this Agreement is declared invalid or unenforceable, then such provision shall be deemed severable from and shall not affect the remainder of this Agreement, which shall remain in full force and effect; (d) Customer's payment obligation for Services and the Warranties and indemnification made by each party shall survive termination of this Agreement.

EXHIBIT 2

industrial environmental consultants

Industrial Environmental Consultants, LLC
2603 Fessey Park Road • PO Box 40066
Nashville, Tennessee 37204
615-730-5059

LETTER OF TRANSMITTAL

TO:	Ms. Shafonte Burrell Waste Management 36964 AL Hwy. 17/POB 55 Emelle, AL 35459 sburrell@wm.com	DATE:	09/18/18
		PROJECT NO:	15064
		RE:	TAV Holdings, Atlanta - Monitoring

WE ARE SENDING YOU: ☒Attached ☐Previously Faxed ☐Under separate cover

VIA: ☐Overnight ☐2nd Day ☒Email

THE FOLLOWING ITEMS: ☒Exhibits ☐Shop Drawings ☐Permit Application ☐Reports ☐Survey ☐Change Order ☐Plan ☐Specifications ☐Other:

COPIES	DATE	PGS	DESCRIPTION
1	08/28/18		Exhibit Nos. 1-2: Summary of Analytical Data
1	08/28/18		Chain of Custody and Laboratory Results

THESE ARE TRANSMITTED as checked below:

☐For approval ☐Approved as submitted ☐Resubmit copies for approval
☒For your use ☐Approved as noted ☐Submit copies for distribution
☐As requested ☐Returned for correction ☐Return corrected prints
☐For your information ☐Returned report

REMARKS: Attached are the 3rd quarter ASR monitoring results for TAV Holdings, 3311 Empire Blvd., Atlanta, GA 30354. Please let us know if you have any questions.

COPY TO: Mr. Andy Wahl (Email)

SIGNED: J. Claiborne Thornton

J. Claiborne Thornton, III, P.E.
President

ph

If enclosures are not as indicated, kindly notify us at once.

EXHIBIT NO. 1

TAV HOLDINGS, INC.
ATLANTA, GEORGIA

SUMMARY OF ANALYTICAL DATA
SHREDDER RESIDUE MONITORING
TOXICITY CHARACTERISTIC LEACHING PROCEDURE

AUGUST 28, 2018

PARAMETER	"A"	EPA LIMIT
TCLP METALS (mg/L)[1]		
Arsenic	<0.0500	5.0
Barium	<1.00	100.0
Cadmium	0.0156	1.0
Chromium	<0.0500	5.0
Lead	0.198	5.0
Mercury	<0.00200	0.2
Selenium	<0.0100	1.0
Silver	<0.0500	5.0

[1]EPA Method 1311

INDUSTRIAL ENVIRONMENTAL CONSULTANTS, LLC
Environmental Engineers & Consultants
2603 Fessey Park Road, P. O. Box 40066
Nashville, TN 37204

ph\15064

iec

EXHIBIT NO. 2

TAV HOLDINGS, INC.
ATLANTA, GEORGIA

SUMMARY OF ANALYTICAL DATA
SHREDDER RESIDUE MONITORING
CONSTITUENT ANALYSIS (mg/Kg)

AUGUST 28, 2018

PARAMETER	"GA"	EPA LIMIT
PCB[1]	4.84	50.0
% Moisture	17.7	N.S.

[1]Concentration corrected for moisture content - EPA Method 8082
N.S. - No Standard

INDUSTRIAL ENVIRONMENTAL CONSULTANTS, LLC
Environmental Engineers & Consultants
2603 Fessey Park Road, P. O. Box 40066
Nashville, TN 37204

ph\15064

iec

iec
Industrial Environmental Consultants
2603 Fessey Park Road, Nashville, TN 37204
P.O. BOX 40066
Office: 615-730-5059 Fax: 615-730-9278

Client Chain of Custody

Project No. 15064 Page ___ of ___

GENERATOR: TAV Holdings - Atlanta

ADDRESS: 3311 Empire Blvd.

CITY: Atlanta **STATE:** GA **ZIP:** 30354

SAMPLE POINT:

SAMPLER'S NAME: Tim Goode Jr. (PRINT) _____ (SIGN)

COMPANY NAME:

Part II- Sample Information

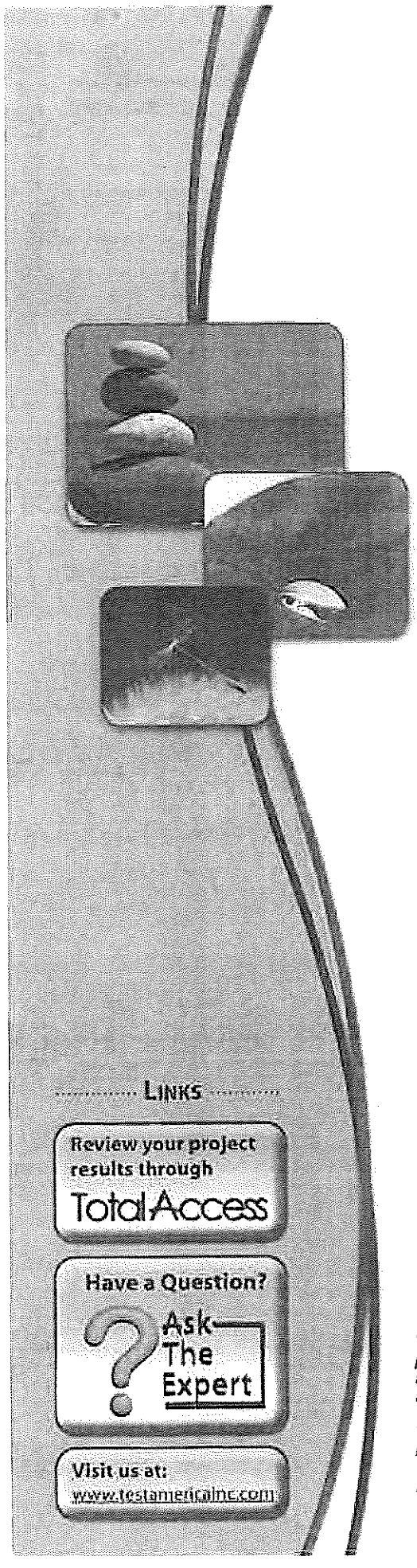
Sample Matrix Codes

DW	Drinking Water	OL	Oil
WW	Wastewater	SL	Sludge
GW	Groundwater	SO	Soil
SW	Stormwater	SR	Shredder Residue
SU	Surface Water	EC	Eddy Current

Sample I.D.	Date	Time	Matrix	Requested Analysis: Comp	Requested Analysis: Grab	Total No. of containers
15064 GA	08/28/18	1200	SR			1

Part III- Chain of Custody

	Relinquished By: (Signature)	Date:	Time:	Received By: (Signature)
1				
2				
3				
Received for Laboratory By: (Signature)	Robert W Hall	08/29/18	0945	Custody Seals Intact: ☐ Yes ☐ No Temp: (° C) ___



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Tel: (615)726-0177

TestAmerica Job ID: 490-158280-1
TestAmerica Sample Delivery Group: 15064
Client Project/Site: 15064

For:
Industrial Environmental Consultants LLC
2603 Fessey Park Road
PO BOX 40066
Nashville, Tennessee 37204

Attn: Industrial Env Consultants

Authorized for release by:
9/6/2018 1:26:38 PM

Ken Hayes, Project Manager II
(615)301-5035
ken.hayes@testamericainc.com

Table of Contents

Sample Summary

Client: Industrial Environmental Consultants LLC
Project/Site: 15064

TestAmerica Job ID: 490-158280-1
SDG: 15064

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-158280-1	15064 A	Shredder Residue	08/28/18 12:00	08/29/18 14:18

Case Narrative

Client: Industrial Environmental Consultants LLC
Project/Site: 15064

TestAmerica Job ID: 490-158280-1
SDG: 15064

Job ID: 490-158280-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative
490-158280-1

Comments
No additional comments.

Receipt
The sample was received on 8/29/2018 2:18 PM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 20.0° C.

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

Organic Prep
Method1311: Initial/Secondary pH

490-158280-1 8.99/7.79

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

Qualifiers

Metals

Qualifier	Qualifier Description
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
E	Result exceeded calibration range.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
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 (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample ID: 15064 A

Date Collected: 08/28/18 12:00
Date Received: 08/29/18 14:18

Lab Sample ID: 490-158280-1

Matrix: Shredder Residue

Method: 6010B - Metals (ICP) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.0500		0.0500		mg/L		08/31/18 14:49	09/04/18 18:33	1
Barium	<1.00		1.00		mg/L		08/31/18 14:49	09/04/18 18:33	1
Cadmium	**0.0156**		0.0100		mg/L		08/31/18 14:49	09/04/18 18:33	1
Chromium	<0.0500		0.0500		mg/L		08/31/18 14:49	09/04/18 18:33	1
Lead	**0.198**		0.0500		mg/L		08/31/18 14:49	09/04/18 18:33	1
Selenium	<0.0100		0.0100		mg/L		08/31/18 14:49	09/04/18 18:33	1
Silver	<0.0500		0.0500		mg/L		08/31/18 14:49	09/04/18 18:33	1

Method: 7470A - Mercury (CVAA) - TCLP

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00200		0.00200		mg/L		08/31/18 16:50	08/31/18 23:00	1

QC Sample Results

Client: Industrial Environmental Consultants LLC
Project/Site: 15064

TestAmerica Job ID: 490-158280-1
SDG: 15064

Method: 6010B - Metals (ICP)

Lab Sample ID: MB 490-540119/1-A
Matrix: Solid
Analysis Batch: 540596

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 540119

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.0500		0.0500		mg/L		08/31/18 14:49	09/04/18 17:35	1
Barium	<1.00		1.00		mg/L		08/31/18 14:49	09/04/18 17:35	1
Cadmium	<0.0100		0.0100		mg/L		08/31/18 14:49	09/04/18 17:35	1
Chromium	<0.0500		0.0500		mg/L		08/31/18 14:49	09/04/18 17:35	1
Lead	<0.0500		0.0500		mg/L		08/31/18 14:49	09/04/18 17:35	1
Selenium	<0.0100		0.0100		mg/L		08/31/18 14:49	09/04/18 17:35	1
Silver	<0.0500		0.0500		mg/L		08/31/18 14:49	09/04/18 17:35	1

Lab Sample ID: LCS 490-540119/2-A
Matrix: Solid
Analysis Batch: 540596

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 540119

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	0.200	0.1686		mg/L		84	80 - 120
Barium	2.00	1.949		mg/L		97	80 - 120
Cadmium	0.200	0.2039		mg/L		102	80 - 120
Chromium	1.00	1.011		mg/L		101	80 - 120
Lead	1.00	0.9777		mg/L		98	80 - 120
Selenium	0.200	0.1874		mg/L		94	80 - 120
Silver	0.200	0.1907		mg/L		95	80 - 120

Lab Sample ID: LB 490-539884/1-B
Matrix: Solid
Analysis Batch: 540596

Client Sample ID: Method Blank
Prep Type: TCLP
Prep Batch: 540119

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Arsenic	<0.0500		0.0500		mg/L		08/31/18 14:49	09/04/18 17:45	1
Barium	<1.00		1.00		mg/L		08/31/18 14:49	09/04/18 17:45	1
Cadmium	<0.0100		0.0100		mg/L		08/31/18 14:49	09/04/18 17:45	1
Chromium	<0.0500		0.0500		mg/L		08/31/18 14:49	09/04/18 17:45	1
Lead	<0.0500		0.0500		mg/L		08/31/18 14:49	09/04/18 17:45	1
Selenium	<0.0100		0.0100		mg/L		08/31/18 14:49	09/04/18 17:45	1
Silver	<0.0500		0.0500		mg/L		08/31/18 14:49	09/04/18 17:45	1

Lab Sample ID: 490-158264-I-1-D MS
Matrix: Solid
Analysis Batch: 540596

Client Sample ID: Matrix Spike
Prep Type: TCLP
Prep Batch: 540119

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Arsenic	<0.0500		0.200	0.1836		mg/L		92	75 - 125
Barium	277	E	2.00	282.3	E 4	mg/L		250	75 - 125
Cadmium	<0.0100		0.200	0.2058		mg/L		103	75 - 125
Chromium	<0.0500		1.00	1.011		mg/L		100	75 - 125
Lead	<0.0500		1.00	0.9108		mg/L		91	75 - 125
Selenium	<0.0100		0.200	0.1992		mg/L		100	75 - 125
Silver	<0.0500		0.200	0.1924		mg/L		96	75 - 125

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

Lab Sample ID: 490-158264-I-1-E MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 540596 — **Prep Batch: 540119**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Arsenic	<0.0500		0.200	0.1855		mg/L		93	75 - 125	1	20
Barium	277	E	2.00	273.6	E 4	mg/L		-185	75 - 125	3	20
Cadmium	<0.0100		0.200	0.2059		mg/L		103	75 - 125	0	20
Chromium	<0.0500		1.00	1.011		mg/L		100	75 - 125	0	20
Lead	<0.0500		1.00	0.9248		mg/L		92	75 - 125	2	20
Selenium	<0.0100		0.200	0.2015		mg/L		101	75 - 125	1	20
Silver	<0.0500		0.200	0.1892		mg/L		95	75 - 125	2	20

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 490-540160/1-A — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 540387 — **Prep Batch: 540160**

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00200		0.00200		mg/L		08/31/18 16:50	08/31/18 22:29	1

Lab Sample ID: LCS 490-540160/2-A — **Client Sample ID: Lab Control Sample**
Matrix: Solid — **Prep Type: Total/NA**
Analysis Batch: 540387 — **Prep Batch: 540160**

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	0.0200	0.02002		mg/L		100	80 - 120

Lab Sample ID: LB 490-539884/1-C — **Client Sample ID: Method Blank**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 540387 — **Prep Batch: 540160**

Analyte	LB Result	LB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	<0.00200		0.00200		mg/L		08/31/18 16:50	08/31/18 22:34	1

Lab Sample ID: 490-158264-I-1-G MS — **Client Sample ID: Matrix Spike**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 540387 — **Prep Batch: 540160**

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Mercury	<0.00200		0.0200	0.01920		mg/L		96	75 - 125

Lab Sample ID: 490-158264-I-1-H MSD — **Client Sample ID: Matrix Spike Duplicate**
Matrix: Solid — **Prep Type: TCLP**
Analysis Batch: 540387 — **Prep Batch: 540160**

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Mercury	<0.00200		0.0200	0.01902		mg/L		95	75 - 125	1	20

QC Association Summary

Client: Industrial Environmental Consultants LLC
Project/Site: 15064

TestAmerica Job ID: 490-158280-1
SDG: 15064

Metals

Leach Batch: 539884

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-158280-1	15064 A	TCLP	Shredder Residue	1311	
LB 490-539884/1-B	Method Blank	TCLP	Solid	1311	
LB 490-539884/1-C	Method Blank	TCLP	Solid	1311	
490-158264-I-1-D MS	Matrix Spike	TCLP	Solid	1311	
490-158264-I-1-E MSD	Matrix Spike Duplicate	TCLP	Solid	1311	
490-158264-I-1-G MS	Matrix Spike	TCLP	Solid	1311	
490-158264-I-1-H MSD	Matrix Spike Duplicate	TCLP	Solid	1311	

Prep Batch: 540119

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-158280-1	15064 A	TCLP	Shredder Residue	3010A	539884
LB 490-539884/1-B	Method Blank	TCLP	Solid	3010A	539884
MB 490-540119/1-A	Method Blank	Total/NA	Solid	3010A	
LCS 490-540119/2-A	Lab Control Sample	Total/NA	Solid	3010A	
490-158264-I-1-D MS	Matrix Spike	TCLP	Solid	3010A	539884
490-158264-I-1-E MSD	Matrix Spike Duplicate	TCLP	Solid	3010A	539884

Prep Batch: 540160

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-158280-1	15064 A	TCLP	Shredder Residue	7470A	539884
LB 490-539884/1-C	Method Blank	TCLP	Solid	7470A	539884
MB 490-540160/1-A	Method Blank	Total/NA	Solid	7470A	
LCS 490-540160/2-A	Lab Control Sample	Total/NA	Solid	7470A	
490-158264-I-1-G MS	Matrix Spike	TCLP	Solid	7470A	539884
490-158264-I-1-H MSD	Matrix Spike Duplicate	TCLP	Solid	7470A	539884

Analysis Batch: 540387

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-158280-1	15064 A	TCLP	Shredder Residue	7470A	540160
LB 490-539884/1-C	Method Blank	TCLP	Solid	7470A	540160
MB 490-540160/1-A	Method Blank	Total/NA	Solid	7470A	540160
LCS 490-540160/2-A	Lab Control Sample	Total/NA	Solid	7470A	540160
490-158264-I-1-G MS	Matrix Spike	TCLP	Solid	7470A	540160
490-158264-I-1-H MSD	Matrix Spike Duplicate	TCLP	Solid	7470A	540160

Analysis Batch: 540596

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-158280-1	15064 A	TCLP	Shredder Residue	6010B	540119
LB 490-539884/1-B	Method Blank	TCLP	Solid	6010B	540119
MB 490-540119/1-A	Method Blank	Total/NA	Solid	6010B	540119
LCS 490-540119/2-A	Lab Control Sample	Total/NA	Solid	6010B	540119
490-158264-I-1-D MS	Matrix Spike	TCLP	Solid	6010B	540119
490-158264-I-1-E MSD	Matrix Spike Duplicate	TCLP	Solid	6010B	540119

Lab Chronicle

Client: Industrial Environmental Consultants LLC
Project/Site: 15064

TestAmerica Job ID: 490-158280-1
SDG: 15064

Client Sample ID: 15064 A
Date Collected: 08/28/18 12:00
Date Received: 08/29/18 14:18

Lab Sample ID: 490-158280-1
Matrix: Shredder Residue

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
TCLP	Leach	1311			100.00 g	2000 mL	539884	08/30/18 17:13	JDG	TAL NSH
TCLP	Prep	3010A			50 mL	50 mL	540119	08/31/18 14:49	CAP	TAL NSH
TCLP	Analysis	6010B		1			540596	09/04/18 18:33	RDH	TAL NSH
TCLP	Leach	1311			100.00 g	2000 mL	539884	08/30/18 17:13	JDG	TAL NSH
TCLP	Prep	7470A			3 mL	30 mL	540160	08/31/18 16:50	CSL	TAL NSH
TCLP	Analysis	7470A		1			540387	08/31/18 23:00	CSL	TAL NSH

Laboratory References:
TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Method Summary

Client: Industrial Environmental Consultants LLC
Project/Site: 15064

TestAmerica Job ID: 490-158280-1
SDG: 15064

Method	Method Description	Protocol	Laboratory
6010B	Metals (ICP)	SW846	TAL NSH
7470A	Mercury (CVAA)	SW846	TAL NSH
1311	TCLP Extraction	SW846	TAL NSH
3010A	Preparation, Total Metals	SW846	TAL NSH
7470A	Preparation, Mercury	SW846	TAL NSH

Protocol References:

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

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Accreditation/Certification Summary

Client: Industrial Environmental Consultants LLC
Project/Site: 15064

TestAmerica Job ID: 490-158280-1
SDG: 15064

Laboratory: TestAmerica Nashville

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

Authority	Program	EPA Region	Identification Number	Expiration Date
A2LA	ISO/IEC 17025		0453.07	12-31-19
Alaska (UST)	State Program	10	UST-087	06-30-19
Arizona	State Program	9	AZ0473	05-05-19
Arkansas DEQ	State Program	6	88-0737	04-25-19
California	State Program	9	2938	10-31-18
Connecticut	State Program	1	PH-0220	12-31-19
Florida	NELAP	4	E87358	06-30-19
Georgia	State Program	4	NA: NELAP & A2LA	12-31-19
Illinois	NELAP	5	200010	12-09-18
Iowa	State Program	7	131	04-01-20
Kansas	NELAP	7	E-10229	10-31-18
Kentucky (UST)	State Program	4	19	06-30-19
Kentucky (WW)	State Program	4	90038	12-31-18
Louisiana	NELAP	6	30613	06-30-19
Maine	State Program	1	TN00032	11-03-19
Maryland	State Program	3	316	03-31-19
Massachusetts	State Program	1	M-TN032	06-30-19
Minnesota	NELAP	5	047-999-345	12-31-18
Mississippi	State Program	4	N/A	06-30-19
Montana (UST)	State Program	8	NA	02-24-20
Nevada	State Program	9	TN00032	07-31-19
New Hampshire	NELAP	1	2963	10-09-18
New Jersey	NELAP	2	TN965	06-30-19
New York	NELAP	2	11342	03-31-19
North Carolina (WW/SW)	State Program	4	387	12-31-18
North Dakota	State Program	8	R-146	06-30-19
Ohio VAP	State Program	5	CL0033	07-06-19
Oklahoma	State Program	6	9412	08-31-19
Oregon	NELAP	10	TN200001	04-26-19
Pennsylvania	NELAP	3	68-00585	07-31-19
Rhode Island	State Program	1	LAO00268	12-30-18
South Carolina	State Program	4	84009 (001)	02-28-19
Tennessee	State Program	4	2008	02-23-20
Texas	NELAP	6	T104704077	08-31-19
USDA	Federal		P330-13-00306	12-01-19
Utah	NELAP	8	TN00032	07-31-19
Virginia	NELAP	3	460152	06-14-19
Washington	State Program	10	C789	07-19-19
West Virginia DEP	State Program	3	219	02-28-19
Wisconsin	State Program	5	998020430	08-31-19
Wyoming (UST)	A2LA	8	453.07	12-31-19

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

COOLER RECEIPT FORM

490-158280 Chain of Custody

Cooler Received/Opened On 08-29-2018 14:18 KD ~~08-29-2018 @~~

Time Samples Removed From Cooler 15:09 Time Samples Placed In Storage 15:13 (2 Hour Window)

1. Tracking #_____ (last 4 digits, FedEx) Courier: Client

IR Gun ID 31470366 pH Strip Lot N/A Chlorine Strip Lot N/A

2. Temperature of rep. sample or temp blank when opened: 20.0 Degrees Celsius

3. If item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA

4. Were custody seals on outside of cooler? YES NO NA

If yes, how many and where:_____

5. Were the seals intact, signed, and dated correctly? YES...NO...NA

6. Were custody papers inside cooler? YES...NO...NA KD

I certify that I opened the cooler and answered questions 1-6 (initial) KD

7. Were custody seals on containers: YES NO and intact YES...NO...NA

Were these signed and dated correctly? YES...NO...NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry Ice Other None

10. Did all containers arrive in good condition (unbroken)? YES...NO...NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES...NO...NA

12. Did all container labels and tags agree with custody papers? YES...NO...NA

13a. Were VOA vials received? YES NO...NA

b. Was there any observable headspace present in any VOA vial? YES...NO...NA

Larger than this.

14. Was there a Trip Blank in this cooler? YES NO...NA If multiple coolers, sequence #_____

I certify that I unloaded the cooler and answered questions 7-14 (initial) KD

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES...NO...NA

b. Did the bottle labels indicate that the correct preservatives were used YES...NO...NA

16. Was residual chlorine present? YES...NO...NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) CI

17. Were custody papers properly filled out (ink, signed, etc)? YES...NO...NA

18. Did you sign the custody papers in the appropriate place? YES...NO...NA

19. Were correct containers used for the analysis requested? YES...NO...NA

20. Was sufficient amount of sample sent in each container? YES...NO...NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) KD

I certify that I attached a label with the unique LIMS number to each container (initial) CI

21. Were there Non-Conformance issues at login? YES NO Was a NCM generated? YES NO #_____

BIS = Broken in shipment
Cooler Receipt Form.doc

LF-1
End of Form

Revised 8/23/17

9/6/2018

Loc: 490
158280

C

TestAmerica Nashville	
NASHVILLE DIVISION	
2960 Foster Creighton Drive	Phone: (615) 726-0177
Nashville, TN 37204	Fax: (615) 726-3403

CHAIN OF CUSTODY

Client Contact	Project Manager:	TA Project Manager: Ken Hayes	Chain of Custody
Industrial Environmental Consultants, LLC (IEC)	Tel/Fax:		1 OF
2603 Fessey Park Road	Analysis Turnaround Time		
Nashville, TN 37204	☐ CALENDAR DAYS ☐ WORKING DAYS		
(615) 730-5059 Phone	TAT if different from Below _____		
(615) 730-9278 FAX	☐ 2 weeks		
Project: 150604	☐ 1 week		
State: GA	☐ 2 days		
	☐ 1 day		

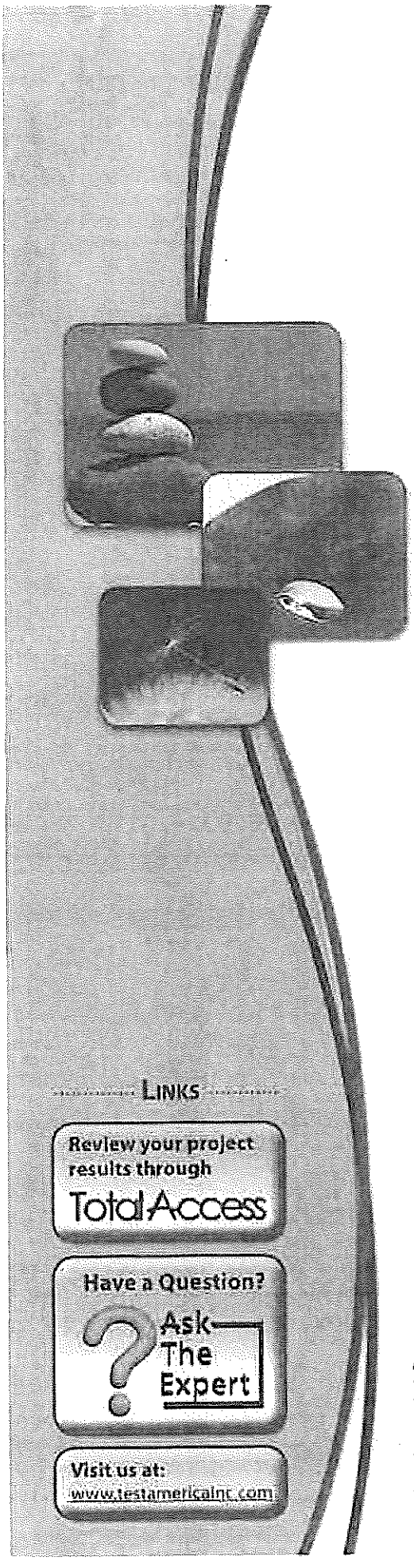
Sample Identification	Sample Date	Sample Time	Comp	Grab	# of Cont.	Field Filtered	Preservative: ICE	HNO_3 (Red Label)	HCl (Blue Label)	NaOH (Orange Label)	H_2SO_4 (Yellow Label)	None (Black Label)	Other	Matrix: Shredder Residue	Groundwater	Stormwater	Soil	Wastewater	Other	Analysis: TCLP & METALS	RUSH TAT (Pre-Schedule)	Standard TAT	Fax Results	Send QC with Report
A	8-28	12:00	X											X						X		X		X

Special Instructions/QC Requirements & Comments: PLEASE INCLUDE INITIAL AND SECONDARY ph data if applicable. ALSO INCLUDE MASS AND VOLUME USED FOR EXTRACTION if applicable.

DATE NEEDED IF RUSH:

Cooler Temp. (°C): Obs'd: 20.0 Corr'd: _____ Therm ID No.:

Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
[signature]	8/29/18 2:00	IEC	[signature]	14:18 08/29/18	TA-NAS
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received in Laboratory by:	Date/Time:	Company:



TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Nashville
2960 Foster Creighton Drive
Nashville, TN 37204
Tel: (615)726-0177

TestAmerica Job ID: 490-158277-1
TestAmerica Sample Delivery Group: 15064
Client Project/Site: 15064

For:
Industrial Environmental Consultants LLC
2603 Fessey Park Road
PO BOX 40066
Nashville, Tennessee 37204

Attn: Industrial Env Consultants

Authorized for release by:
9/11/2018 6:11:45 PM

Ken Hayes, Project Manager II
(615)301-5035
ken.hayes@testamericainc.com

Table of Contents

Sample Summary

Client: Industrial Environmental Consultants LLC
Project/Site: 15064

TestAmerica Job ID: 490-158277-1
SDG: 15064

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
490-158277-1	15064 GA	Shredder Residue	08/28/18 12:00	08/29/18 14:18

Case Narrative

Client: Industrial Environmental Consultants LLC
Project/Site: 15064

TestAmerica Job ID: 490-158277-1
SDG: 15064

Job ID: 490-158277-1

Laboratory: TestAmerica Nashville

Narrative

Job Narrative
490-158277-1

Comments
No additional comments.

Receipt
The sample was received on 8/29/2018 2:18 PM; the sample arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 20.0° C.

GC Semi VOA
Method 8082A: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 490-541776 and analytical batch 490-541925.

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

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

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
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 (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Client Sample ID: 15064 GA

Date Collected: 08/28/18 12:00
Date Received: 08/29/18 14:18

Lab Sample ID: 490-158277-1

Matrix: Shredder Residue

Method: 8082A_ASP - Polychlorinated Biphenyls (PCBs) (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.524		0.524		mg/Kg		09/10/18 15:55	09/11/18 14:28	5
PCB-1221	<0.524		0.524		mg/Kg		09/10/18 15:55	09/11/18 14:28	5
PCB-1232	<0.524		0.524		mg/Kg		09/10/18 15:55	09/11/18 14:28	5
PCB-1242	3.98	4.84(c)	0.524		mg/Kg		09/10/18 15:55	09/11/18 14:28	5
PCB-1248	<0.524		0.524		mg/Kg		09/10/18 15:55	09/11/18 14:28	5
PCB-1254	<0.524		0.524		mg/Kg		09/10/18 15:55	09/11/18 14:28	5
PCB-1260	<0.524		0.524		mg/Kg		09/10/18 15:55	09/11/18 14:28	5

Surrogate	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)				*09/10/18 15:55*	*09/11/18 14:28*	*5*
Tetrachloro-m-xylene	*73*		*19 - 147*	*09/10/18 15:55*	*09/11/18 14:28*	*5*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	82.3		0.1		%			08/30/18 14:04	1

Method: 8082A_ASP - Polychlorinated Biphenyls (PCBs) (GC)

Lab Sample ID: MB 490-541776/1-A
Matrix: Solid
Analysis Batch: 541925

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 541776

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
PCB-1016	<0.625		0.625		mg/Kg		09/10/18 15:55	09/11/18 13:47	5
PCB-1221	<0.625		0.625		mg/Kg		09/10/18 15:55	09/11/18 13:47	5
PCB-1232	<0.625		0.625		mg/Kg		09/10/18 15:55	09/11/18 13:47	5
PCB-1242	<0.625		0.625		mg/Kg		09/10/18 15:55	09/11/18 13:47	5
PCB-1248	<0.625		0.625		mg/Kg		09/10/18 15:55	09/11/18 13:47	5
PCB-1254	<0.625		0.625		mg/Kg		09/10/18 15:55	09/11/18 13:47	5
PCB-1260	<0.625		0.625		mg/Kg		09/10/18 15:55	09/11/18 13:47	5

Surrogate	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
DCB Decachlorobiphenyl (Surr)				*09/10/18 15:55*	*09/11/18 13:47*	*5*
Tetrachloro-m-xylene	*83*		*19 - 147*	*09/10/18 15:55*	*09/11/18 13:47*	*5*

Lab Sample ID: LCS 490-541776/2-A
Matrix: Solid
Analysis Batch: 541925

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 541776

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
PCB-1248	12.5	9.760		mg/Kg		78	56 - 141

Surrogate	*LCS %Recovery*	*LCS Qualifier*	*Limits*
Tetrachloro-m-xylene	*82*		*19 - 147*

Lab Sample ID: LCSD 490-541776/3-A
Matrix: Solid
Analysis Batch: 541925

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 541776

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
PCB-1248	12.5	10.29		mg/Kg		82	56 - 141	5	50

Surrogate	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
Tetrachloro-m-xylene	*82*		*19 - 147*

Method: Moisture - Percent Moisture

Lab Sample ID: 490-158294-A-1 DU
Matrix: Solid
Analysis Batch: 539803

Client Sample ID: Duplicate
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Percent Solids	83.2		83.6		%		0.5	20

QC Association Summary

Client: Industrial Environmental Consultants LLC
Project/Site: 15064

TestAmerica Job ID: 490-158277-1
SDG: 15064

GC Semi VOA

Prep Batch: 541776

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-158277-1	15064 GA	Total/NA	Shredder Residue	None	
MB 490-541776/1-A	Method Blank	Total/NA	Solid	None	
LCS 490-541776/2-A	Lab Control Sample	Total/NA	Solid	None	
LCSD 490-541776/3-A	Lab Control Sample Dup	Total/NA	Solid	None	

Analysis Batch: 541925

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-158277-1	15064 GA	Total/NA	Shredder Residue	8082A_ASP	541776
MB 490-541776/1-A	Method Blank	Total/NA	Solid	8082A_ASP	541776
LCS 490-541776/2-A	Lab Control Sample	Total/NA	Solid	8082A_ASP	541776
LCSD 490-541776/3-A	Lab Control Sample Dup	Total/NA	Solid	8082A_ASP	541776

General Chemistry

Analysis Batch: 539803

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
490-158277-1	15064 GA	Total/NA	Shredder Residue	Moisture	
490-158294-A-1 DU	Duplicate	Total/NA	Solid	Moisture	

Lab Chronicle

Client: Industrial Environmental Consultants LLC
Project/Site: 15064

TestAmerica Job ID: 490-158277-1
SDG: 15064

Client Sample ID: 15064 GA

Date Collected: 08/28/18 12:00
Date Received: 08/29/18 14:18

Lab Sample ID: 490-158277-1

Matrix: Shredder Residue

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			59.66 g	125 mL	541776	09/10/18 15:55	ZXS	TAL NSH
Total/NA	Analysis	8082A_ASP		5			541925	09/11/18 14:28	SLA	TAL NSH
Total/NA	Analysis	Moisture		1			539803	08/30/18 14:04	BAA	TAL NSH

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

9

Method Summary

Client: Industrial Environmental Consultants LLC
Project/Site: 15064

TestAmerica Job ID: 490-158277-1
SDG: 15064

Method	Method Description	Protocol	Laboratory
8082A_ASP	Polychlorinated Biphenyls (PCBs) (GC)	SW846	TAL NSH
Moisture	Percent Moisture	EPA	TAL NSH
None	Extraction, FLuff	TAL SOP	TAL NSH

Protocol References:

EPA = US Environmental Protection Agency

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

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

TAL NSH = TestAmerica Nashville, 2960 Foster Creighton Drive, Nashville, TN 37204, TEL (615)726-0177

Accreditation/Certification Summary

Client: Industrial Environmental Consultants LLC
Project/Site: 15064

TestAmerica Job ID: 490-158277-1
SDG: 15064

Laboratory: TestAmerica Nashville

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

Authority	Program	EPA Region	Identification Number	Expiration Date
A2LA	ISO/IEC 17025		0453.07	12-31-19
Alaska (UST)	State Program	10	UST-087	06-30-19
Arizona	State Program	9	AZ0473	05-05-19
Arkansas DEQ	State Program	6	88-0737	04-25-19
California	State Program	9	2938	10-31-18
Connecticut	State Program	1	PH-0220	12-31-19
Florida	NELAP	4	E87358	06-30-19
Georgia	State Program	4	NA: NELAP & A2LA	12-31-19
Illinois	NELAP	5	200010	12-09-18
Iowa	State Program	7	131	04-01-20
Kansas	NELAP	7	E-10229	10-31-18
Kentucky (UST)	State Program	4	19	06-30-19
Kentucky (WW)	State Program	4	90038	12-31-18
Louisiana	NELAP	6	30613	06-30-19
Maine	State Program	1	TN00032	11-03-19
Maryland	State Program	3	316	03-31-19
Massachusetts	State Program	1	M-TN032	06-30-19
Minnesota	NELAP	5	047-999-345	12-31-18
Mississippi	State Program	4	N/A	06-30-19
Montana (UST)	State Program	8	NA	02-24-20
Nevada	State Program	9	TN00032	07-31-19
New Hampshire	NELAP	1	2963	10-09-18
New Jersey	NELAP	2	TN965	06-30-19
New York	NELAP	2	11342	03-31-19
North Carolina (WW/SW)	State Program	4	387	12-31-18
North Dakota	State Program	8	R-146	06-30-19
Ohio VAP	State Program	5	CL0033	07-06-19
Oklahoma	State Program	6	9412	08-31-19
Oregon	NELAP	10	TN200001	04-26-19
Pennsylvania	NELAP	3	68-00585	07-31-19
Rhode Island	State Program	1	LAO00268	12-30-18
South Carolina	State Program	4	84009 (001)	02-28-19
Tennessee	State Program	4	2008	02-23-20
Texas	NELAP	6	T104704077	08-31-19
USDA	Federal		P330-13-00306	12-01-19
Utah	NELAP	8	TN00032	07-31-19
Virginia	NELAP	3	460152	06-14-19
Washington	State Program	10	C789	07-19-19
West Virginia DEP	State Program	3	219	02-28-19
Wisconsin	State Program	5	998020430	08-31-19
Wyoming (UST)	A2LA	8	453.07	12-31-19

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING
Nashville, TN

490-158277 Chain of Custody

COOLER RECEIPT FORM

Cooler Received/Opened On 08-29-2018 @ 14:18 KD

Time Samples Removed From Cooler 14:55 Time Samples Placed In Storage 15:01 (2 Hour Window)

1. Tracking # _____ (last 4 digits, FedEx) Courier: Client

IR Gun ID 31470366 pH Strip Lot N/A Chlorine Strip Lot N/A

2. Temperature of rep. sample or temp blank when opened: 20.0 Degrees Celsius

3. If item #2 temperature is 0°C or less, was the representative sample or temp blank frozen? YES NO NA

4. Were custody seals on outside of cooler? YES NO NA

If yes, how many and where: _____

5. Were the seals intact, signed, and dated correctly? YES NO NA

6. Were custody papers inside cooler? YES NO NA

I certify that I opened the cooler and answered questions 1-6 (initial) KD

7. Were custody seals on containers: YES NO and intact YES NO NA

Were these signed and dated correctly? YES NO NA

8. Packing mat'l used? Bubblewrap Plastic bag Peanuts Vermiculite Foam Insert Paper Other None

9. Cooling process: Ice Ice-pack Ice (direct contact) Dry Ice Other None

10. Did all containers arrive in good condition (unbroken)? YES NO NA

11. Were all container labels complete (#, date, signed, pres., etc)? YES NO NA

12. Did all container labels and tags agree with custody papers? YES NO NA

13a. Were VOA vials received? YES NO NA

b. Was there any observable headspace present in any VOA vial? YES NO NA

Larger than this.

14. Was there a Trip Blank in this cooler? YES NO NA If multiple coolers, sequence # _____

I certify that I unloaded the cooler and answered questions 7-14 (initial) KD

15a. On pres'd bottles, did pH test strips suggest preservation reached the correct pH level? YES NO NA

b. Did the bottle labels indicate that the correct preservatives were used YES NO NA

16. Was residual chlorine present? YES NO NA

I certify that I checked for chlorine and pH as per SOP and answered questions 15-16 (initial) KD

17. Were custody papers properly filled out (ink, signed, etc)? YES NO NA

18. Did you sign the custody papers in the appropriate place? YES NO NA

19. Were correct containers used for the analysis requested? YES NO NA

20. Was sufficient amount of sample sent in each container? YES NO NA

I certify that I entered this project into LIMS and answered questions 17-20 (initial) KD

I certify that I attached a label with the unique LIMS number to each container (initial) KD

21. Were there Non-Conformance issues at login? YES NO Was a NCM generated? YES NO #_____

BIS = Broken in shipment

Loc: 490
158277

TestAmerica Nashville
NASHVILLE DIVISION
2960 Foster Creighton Drive
Nashville, TN 37204
Phone: (615) 726-0177
Fax: (615) 726-3403

CHAIN OF CUSTODY

Client Contact	Project Manager:	TA Project Manager: Ken Hayes	Chain of Custody
Industrial Environmental Consultants, LLC (IEC)	Tel/Fax:	Preservative / Matrix / Analysis	1 OF
2803 Fessey Park Road	Analysis Turnaround Time		
Nashville, TN 37204	☐ CALENDAR DAYS ☐ WORKING DAYS		
(615) 730-5059 Phone	TAT if different from Below _____		
(615) 730-8278 FAX	☐ 2 weeks		
Project:	☐ 1 week		
State:	☐ 2 days		
	☐ 1 day		

Sample Identification	Sample Date	Sample Time	Comp	Grab	# of Cont.	Field Filtered	ICE	HNO_3 (Red Label)	HCl (Blue Label)	NaOH (Orange Label)	H_2SO_4 (Yellow Label)	None (Black Label)	Other	Shredder Residue	Groundwater	Stormwater	Soil	Wastewater	Other	PCB's 8082A									RUSH TAT (Pre-Schedule)	Standard TAT	Fax Results	Send QC with Report
150641 GA	8-28	12:00	X											X						X										X	X	X

Special Instructions/QC Requirements & Comments:

DATE NEEDED IF RUSH:

Cooler Temp. (°C): Obs'd: 20.0 Corr'd: Therm ID No.:

Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
[signature]	8/29/2018	IEC	[signature]	08/29/18 14:13	TA-NAS
Relinquished by:	Date/Time:	Company:	Received by:	Date/Time:	Company:
Relinquished by:	Date/Time:	Company:	Received in Laboratory by:	Date/Time:	Company:

ISDC 4

Tuesday, September 18, 2018 at 3:30:44 PM Eastern Daylight Time

Subject: [WMSolutions.com] Profile 403513GA (TAV Holdings, Inc) has been approved TAV
Date: Tuesday, September 18, 2018 at 3:30:37 PM Eastern Daylight Time
From: Emelle TSC
To: good2013@gmail.com
CC: Andy Wahl

New Contract expires 9/30/2021

Allison

WASTE MANAGEMENT

THINK GREEN.®

Request Renewal for Metals & PCB

Notice of Profile Approval: 403513GA

Profile Number:	403513GA
Waste Stream:	Shredder Residue Waste
Generator Name:	TAV Holdings, Inc
Disposal Site:	Pine Bluff Landfill
Expiration Date:	09/30/2021

Sy Waste manifest w/approval

Dear Tim Good,

We are pleased to inform you that Profile 403513GA has been approved by our Emelle TSC Technical Service Center. Your Waste Approval Terms and Conditions can be found on either your *Profile Form* or *Approval Form*. Both documents are available as a PDF in the *Approved Tab* in your WMSolutions.com account.

Please feel free to email us at TSCAlabama@wm.com or call 800-963-4776 with any questions.

Thank you for choosing Waste Management.

Emelle TSC
PO Box 55
Emelle, AL 35459
Phone: (800) 963-4776
TSCAlabama@wm.com

Industrial Waste & Disposal Services Agreement

Exhibit A

Profile number: 403513GA TSR: [illegible] Sales person: [illegible]

A. GENERATOR

1. Name: TAV Holdings Inc
2. Address: 111 Hollow Tree Lane SW

City: Atlanta County: Fulton

State: GA ZIP code: 30354

B. CUSTOMER BILLING INFORMATION

1. Name: TAV Holdings Inc
2. Address: 3111 [illegible] BLVD SW

City: Atlanta

State: GA ZIP code: 30354

3. Contact name: Tim [illegible]
4. Email: [illegible]@gmail.com
5. Phone: (404) 767-0870 6. Fax
7. P.O. number

C. FACILITY ❑ See Attached

1. Name(s): Pine Bluff Landfill

D. MATERIAL

1. Name: [illegible] Waste
2. Anticipated volume 2000 Tons

E. CHARGES ❑ See Attached

[illegible]	[illegible]	[illegible]
Pine Bluff Landfill		
Treatment Method Direct Landfill	$17.14 / Ton	
Tax County Tax	$1.00 / Ton	
Tax State Tax	$0.75 / Ton	
Fuel	Included	
Environmental	Included	
RCR Regulatory Cost Recovery	Included	
WWM Waste Water Management	Included	
Waste Approvals Recertification	$25.00 / Each	
Please see the attachment for additional surcharges		

Other services not listed above will incur additional charges that vary by location and are subject to change without notice. Payment of invoice represents agreement of such charges.

PLEASE REVIEW SECTION F WHICH CONTAINS IMPORTANT COMMENTS REGARDING YOUR WASTE STREAM.

THINK GREEN: QUESTIONS? CALL 800 963 4776 FOR ASSISTANCE

COMMENTS

☐ See Attached

- Waste Management reserves the right to refuse any load or discontinue any waste stream should such waste pose a threat to human health or safety, prove to be operationally challenging, or is in violation of any WM permit.

- All loads must be accompanied by proper shipping paper

- If Waste Management (WM) received authorization to make changes to your waste profile during the approval process, your acceptance and execution of this Exhibit A confirms the accuracy of the changes.

- If WM (or a WM contracted hauler) is not providing the transportation services, you must ensure that the transporter is licensed and approved to haul the Special Waste and/or Hazardous Waste. All third Party Transporters must comply with WM Safety requirements and procedures (hard hat, safety glasses, steel-toe boots, and safety vest). If transporting to a CWM facility, a Tyvek suit and respirator are also required.

- Prices quoted herein are valid for 30 days. Unless Waste Management is hired for this project prior to the expiration of this 30 day period in which case pricing remains valid in accordance with the terms of the Service Agreement.

- Pricing is based on the information provided on your profile and the representative data previously submitted. Charges incurred for additional services not listed above will be subject to standard rates and payment of the invoice represents mutual agreement of these charges

- The fuel surcharge percentage can fluctuate on a weekly basis; www.wm.com/fsc.jsp provides the current Fuel Surcharge and DOE average. The actual percentage rate applied to the total project invoice will be determined on the date the load was received

- Please see profile approval form for special handling instructions. Additional special terms and conditions may be defined on your original quotation

The work contemplated by this Exhibit A is to be done in accordance with the terms and conditions of the Industrial Waste & Disposal Services Agreement or other contractual agreement between the parties dated: 06/3/2015

YOUR ACCEPTANCE OF THESE TERMS CREATES A BINDING AGREEMENT AS FOLLOWS: (I) TYPE OR SIGN YOUR NAME AND TITLE WHERE INDICATED BELOW OR (II) YOUR TENDER OR DELIVERY TO COMPANY OF THE INDUSTRIAL WASTE DESCRIBED IN THE COMPANY APPROVED PROFILE SHEET AND (IF APPLICABLE) CONFIRMATION LETTER SHALL CONSTITUTE YOUR ACCEPTANCE OF THESE TERMS WITHOUT YOUR SIGNATURE.

COMPANY		CUSTOMER	
By:	Date:	Signature:	Date:
Name:		Name:	
Title:		Title:	

WASTE MANAGEMENT

Pine Bluff – Attachment I – Surcharges & Landfill Requirements

The rates set forth below are subject to change without notice. Landfill services will be charged according to the facility's rates at the time of service.

Manifest - $1.00/Each.

Spill Cleanup - $500.00/load.

Unloading - $75.00/hour with $150.00/per load minimum.

Witness Destruction - $50.00.

Special Handling/Burial - $175.00.

Unscheduled/Late Load - $250.00/load.

Certification of Burial/Destruction – $200.00.

Wash-Out - $100/load.

Dig-Out - $150.00.

Project Consulting - $100.00.

Pull-Off's - $100.00.

Overweight Loads - $100.00.

Additional Documentation – Tickets cc's – $50.00.

Waste Ban Items (Specify) - $50.00.

Overpacked Drums - $50.00/drum.

Tipper Use - $100.00.

Please contact the landfill at least 24-Hours in advance for all asbestos and solidification loads at 770-479-2936.

All bulk loads must be tarped.

Please review your profile for accuracy and direct any questions to the Industrial Technical Service Center at 800/963-4776.

Revised 10/6/2015

Non-Hazardous WAM Approval

Requested Management Facility: [illegible]

Profile Number: [illegible]

Waste Acceptance Expiration Date: [illegible]

Common Name: [illegible]

WAM Regulatory Volume Limit: [illegible] ☑ NA

APPROVAL DETAILS

Approval Decision: ☑ Approved ☐ Not Approved

Profile Renewal: ☑ Yes ☐ No

Management Method: [illegible]

Generator's Name: [illegible]

Profile Expiration Date: [illegible]

Periodic Testing Due Date: [illegible] ☐ NA

Other Due Date: [illegible] ☑ NA (Specify)

Management Facility Precautions, Special Handling Procedures or Limitation on approval:

Generator Conditions

WM Authorization Name: [illegible] Title: [illegible]

WM Authorization Signature: [illegible] Date: [illegible]

Agency Authorization (If Required): [illegible] Date: [illegible]

THINK GREEN: [illegible]

EZ Profile™

Requested Facility: Pine Bluff Landfill ☐ Unsure Profile Number: _____
☐ Multiple Generator Locations (Attach Locations) ☐ Request Certificate of Disposal ☐ Renewal? Original Profile Number: _____

A. GENERATOR INFORMATION (MATERIAL ORIGIN)

1. Generator Name: TAV Holdings, Inc.
2. Site Address: 111 Hollow Tree Lane SW
   (City, State, ZIP) Atlanta, GA 30354
3. County: Fulton
4. Contact Name: Tim Good
5. Email: goodl2013@gmail.com
6. Phone: (404) 898-2811 7. Fax: (404) 767-8872
8. Generator EPA ID: _____ ☐ N/A
9. State ID: _____ ☐ N/A

B. BILLING INFORMATION ☑ SAME AS GENERATOR

1. Billing Name: _____
2. Billing Address: _____
   (City, State, ZIP) _____
3. Contact Name: _____
4. Email: _____
5. Phone: _____ 6. Fax: _____
7. WM Hauled? ☐ Yes ☑ No
8. P.O. Number: _____
9. Payment Method: ☑ Credit Account ☐ Cash ☐ Credit Card

C. MATERIAL INFORMATION

1. Common Name: Shredder Residue Waste
   Describe Process Generating Material: ☐ See Attached
   Material recycling - sorting metal and leaving waste
2. Material Composition and Contaminants: ☐ See Attached

1. Plastic	72
2. Glass	3
3. Wood	3
4. Dirt	3
Total composition must be equal to or greater than 100%	≥100%

3. State Waste Codes: _____ ☐ N/A
4. Color: Brown
5. Physical State at 70°F: ☑ Solid ☐ Liquid ☐ Other: _____
6. Free Liquid Range Percentage: _____ to _____ ☑ N/A
7. pH. 7.4 to 8.9 ☐ N/A
8. Strong Odor: ☐ Yes ☑ No Describe: Slight Musty
9. Flash Point: ☐ <140°F ☐ 140°–199°F ☑ ≥200° ☐ N/A

D. REGULATORY INFORMATION

1. EPA Hazardous Waste? ☐ Yes* ☑ No
   Code: _____
2. State Hazardous Waste? ☐ Yes ☑ No
   Code: _____
3. Is this material non-hazardous due to Treatment, Delisting, or an Exclusion? ☐ Yes* ☑ No
4. Contains Underlying Hazardous Constituents? ☐ Yes* ☑ No
5. From an industry regulated under Benzene NESHAP? ☐ Yes* ☑ No
6. Facility remediation subject to 40 CFR 63 GGGGG? ☐ Yes* ☑ No
7. CERCLA or State-mandated clean-up? ☐ Yes* ☑ No
8. NRC or State-regulated radioactive or NORM waste? ☐ Yes* ☑ No

*If Yes, see Addendum (page 2) for additional questions and space.

9. Contains PCBs? → If Yes, answer a, b and c. ☑ Yes ☐ No
   a. Regulated by 40 CFR 761? ☐ Yes ☑ No
   b. Remediation under 40 CFR 761.61 (a)? ☐ Yes ☑ No
   c. Were PCB imported into the US? ☐ Yes ☑ No
10. Regulated and/or Untreated Medical/Infectious Waste? ☐ Yes ☑ No
11. Contains Asbestos? ☐ Yes ☑ No
    → If Yes: ☐ Non-Friable ☐ Non-Friable - Regulated ☐ Friable

E. ANALYTICAL AND OTHER REPRESENTATIVE INFORMATION

1. Analytical attached ☑ Yes
   Please identify applicable samples and/or lab reports:
2. Other information attached (such as MSDS)? ☐ Yes

F. SHIPPING AND DOT INFORMATION

1. ☐ One-Time Event ☑ Repeat Event/Ongoing Business
2. Estimated Quantity/Unit of Measure: 2000 per month
   ☑ Tons ☐ Yards ☐ Drums ☐ Gallons ☐ Other: _____
3. Container Type and Size: Trucks
4. USDOT Proper Shipping Name: ☐ N/A

G. GENERATOR CERTIFICATION (PLEASE READ AND CERTIFY BY SIGNATURE)

By signing this EZ Profile™ form, I hereby certify that all information submitted in this and all attached documents contain true and accurate descriptions of this material, and that all relevant information necessary for proper material characterization and to identify known and suspected hazards has been provided. Any analytical data attached was derived from a sample that is representative as defined in 40 CFR 261 – Appendix 1 or by using an equivalent method. All changes occurring in the character of the material (i.e., changes in the process or new analytical) will be identified by the Generator and be disclosed to Waste Management prior to providing the material to Waste Management.

If I am an agent signing on behalf of the Generator, I have confirmed with the Generator that information contained in this Profile is accurate and complete.

Certification Signature

Name (Print): Tim Good Date: 07/28/15
Title: Operations Manager
Company: HAV Holdings, Inc.

THINK GREEN.

QUESTIONS? CALL 800 963 4776 FOR ASSISTANCE

Revised September 12, 2014

WASTE MANAGEMENT

EZ Profile™ Addendum

Only complete this Addendum if prompted by responses on EZ Profile™ (page 1) or to provide additional information. Sections and question numbers correspond to EZ Profile™.

Profile Number: _____

C. MATERIAL INFORMATION

Describe Process Generating Material (Continued from page 1): If more space is needed, please attach additional pages.

Material Composition and Contaminants (Continued from page 1): If more space is needed, please attach additional pages.

5. Unrecyclable Rubber Debris	0-14
6. Fiber	3
7.	
8. *Composition of waste is subject to variation of 3-5% for each parameter	
9.	
Total composition must be equal to or greater than 100%	≥100%

D. REGULATORY INFORMATION

Only questions with a "Yes" response in Section D on the EZ Profile™ form (page 1) need to be answered here.

1. EPA Hazardous Waste
   a. Please list all USEPA listed and characteristic waste code numbers:

      N/A

   b. Is the material subject to the Alternative Debris standards (40 CFR 268.45)? ☐ Yes ☑ No
   c. Is the material subject to the Alternative Soil standards (40 CFR 268.49)? → If Yes, complete question 4. ☐ Yes ☑ No
   d. Is the material exempt from Subpart CC Controls (40 CFR 264.1083)? ☐ Yes ☑ No
      → If Yes, please check **one** of the following:
      ☐ Waste meets LDR or treatment exemptions for organics (40 CFR 264.1082(c)(2) or (c)(4))
      ☐ Waste contains VOCs that average <500 ppmw (CFR 264.1082(c)(1)) – will require annual update.
2. State Hazardous Waste → Please list all state waste codes: _____
3. For material that is Treated, Delisted, or Excluded → Please indicate the category, below:
   ☐ Delisted Hazardous Waste ☐ Excluded Waste under 40 CFR 261.4 → Specify Exclusion: _____
   ☐ Treated Hazardous Waste Debris ☐ Treated Characteristic Hazardous Waste → If checked, complete question 4.
4. Underlying Hazardous Constituents → Please list all Underlying Hazardous Constituents:
5. Industries regulated under Benzene NESHAP include petroleum refineries, chemical manufacturing plants, coke by-product recovery plants, and TSDFs.
   a. Are you a TSDF? → If yes, please complete Benzene NESHAP questionnaire. If not, continue. ☐ Yes ☑ No
   b. Does this material contain benzene? ☐ Yes ☑ No
      1. If yes, what is the flow weighted average concentration? _____ ppmw
   c. What is your facility's current total annual benzene quantity in Megagrams? ☐ <1 Mg ☐ 1–9.99 Mg ☐ ≥10 Mg
   d. Is this waste soil from a remediation? ☐ Yes ☑ No
      1. If yes, what is the benzene concentration in remediation waste? _____ ppmw
   e. Does the waste contain >10% water/moisture? ☑ Yes ☐ No
   f. Has material been treated to remove 99% of the benzene or to achieve <10 ppmw? ☐ Yes ☑ No
   g. Is material exempt from controls in accordance with 40 CFR 61.342? ☐ Yes ☐ No
      → If yes, specify exemption: _____
   h. Based on your knowledge of your waste and the BWON regulations, do you believe that this waste stream is subject to treatment and control requirements at an off-site TSDF? ☐ Yes ☑ No
6. 40 CFR 63 GGGGG → Does the material contain <500 ppmw VOHAPs at the point of determination? ☐ Yes ☑ No
7. CERCLA or State-Mandated clean up → Please submit the Record of Decision or other documentation with process information to assist others in the evaluation for proper disposal. A "Determination of Acceptability" may be needed for CERCLA wastes not going to a CERCLA approved facility.
8. NRC or state regulated radioactive or NORM Waste → Please identify Isotopes and pCi/g: _____

WASTE MANAGEMENT

Additional Profile Information

Profile Number: _____

C. MATERIAL INFORMATION

Material Composition and Contaminants (Continued from page 2): If more space is needed, please attach additional pages.

10.	
11.	
12.	
13.	
14.	
15.	
16.	
17.	
18.	
19.	
20.	
21.	
22.	
23.	
24.	
25.	
26.	
27.	
28.	
29.	
30.	
31.	
32.	
33.	
34.	
35.	
36.	
37.	
38.	
39.	
40.	
Total composition must be equal to or greater than 100%	≥100%

D. REGULATORY INFORMATION

1. EPA Hazardous Waste
   a. Please list all USEPA listed and characteristic waste code numbers (Continued from page 2):

EXHIBIT 3

TAV Patent Listing (incomplete)

Case Number	Country	Application No.	Filing Date	Publication No.	Publication Date	Patent No.	Issue Date	Expiration Date	Status	Title
41473.4001 US	United States of America	15/747,738	25-Jan-2018	US 2018-0214891 A1	02-Aug-2018	10569281	25-Feb-2020	25-Jul-2036	Granted	SYSTEM AND METHOD FOR RECOVERING DESIRED MATERIALS AND PRODUCING CLEAN AGGREGATE FROM INCINERATOR ASH
41473.4004 US	United States of America	12/720,509	09-Mar-2010	US 2010-0224537 A1	09-Sep-2010	8,158,902	17-Apr-2012	08-Apr-2026	Granted	METHOD AND APPARATUS FOR SORTING METAL
41473.4005 CA	Canada	2,967,960	22-May-2015	2967960	26-Nov-2015	2967960	26-Feb-2019	22-May-2035	Granted	SYSTEM AND METHOD FOR RECOVERING METALS FROM A WASTE STREAM
41473.4007 US	United States of America	15/560,052	20-Sep-2017	US 2018-0071785 A1	15-Mar-2018	10,363,578	30-Jul-2019	20-Mar-2036	Granted	SYSTEM, APPARATUS AND METHOD FOR SEPARATING MATERIALS USING A SCREEN BED AND VACUUM
41473.4011 US	United States of America	16/060,395	07-Jun-2018	US-2018-0272356-A1	27-Sep-2018	10,486,164	26-Nov-2019	07-Dec-2036	Granted	SYSTEM AND METHOD FOR SEPARATING MATERIALS USING STIRRING MOTION, STRATIFICATION, AND VERTICAL MOTION
41473.4015 US	United States of America	14/307,833	18-Jun-2014	US 2014-0299516 A1	09-Oct-2014	9,764,361	19-Sep-2017	25-Jan-2032	Granted	PROCESSING A WASTE STREAM BY SEPARATING AND RECOVERING WIRE AND OTHER METAL FROM PROCESSED RECYCLED MATERIALS
41473.4017 US	United States of America	12/619,232	16-Nov-2009	US 2010-0126913 A1	27-May-2010	8,360,242	29-Jan-2013	24-Oct-2026	Granted	WIRE RECOVERY SYSTEM
41473.4018 US	United States of America	12/848,317	02-Aug-2010	US 2011-0024531 A1	03-Feb-2011	8,360,347	29-Jan-2013	23-Jun-2031	Granted	Method and System for Separating and Recovering Wire and Other Metal from Processed Recycled Materials
41473.4019 US	United States of America	12/870,223	27-Aug-2010	US 2011-0049021 A1	03-Mar-2011	8,138,437	20-Mar-2012	25-Jun-2029	Granted	METHOD AND SYSTEM FOR RECOVERING METAL FROM PROCESSED RECYCLED MATERIALS
41473.4022 AU	Australia	2017240565	29-Mar-2017			2017240565	29-Mar-2017	29-Mar-2037	Granted	METHOD AND SYSTEM FOR PRODUCING AGGREGATE
41473.4028 EP	European Patent Convention	09729003.5	31-Mar-2009	2272250	12-Jan-2011	2272250	27-May-2020	31-Mar-2029	Granted	SYSTEM AND METHOD FOR SORTING DISSIMILAR MATERIALS USING A DYNAMIC SENSOR
41473.4028 US	United States of America	12/080,793	03-Apr-2008	US 2009-0250384 A1	08-Oct-2009	7,732,726	08-Jun-2010	17-Jan-2029	Granted	SYSTEM AND METHOD FOR SORTING DISSIMILAR MATERIALS USING A DYNAMIC SENSOR
41473.4029 US	United States of America	13/445,468	12-Apr-2012	US 2012-0260772 A1	18-Oct-2012	8,790,443	29-Jul-2014	09-Jun-2032	Granted	Method and System for Processing an Iron Ore Tailings Byproduct
41473.4031 US	United States of America	14/024,120	11-Sep-2013	US 2014-0077008 A1	20-Mar-2014	9,315,878	19-Apr-2016	11-Sep-2033	Granted	SYSTEM AND METHOD FOR IRON ORE BYPRODUCT PROCESSING
41473.4032 US	United States of America	12/006,932	07-Jan-2008	US 2008-0257793 A1	23-Oct-2008	8,177,069	15-May-2012	11-Sep-2028	Granted	SYSTEM AND METHOD FOR SORTING DISSIMILAR MATERIALS
41473.4033 US	United States of America	11/255,850	21-Oct-2005			7,674,994	09-Mar-2010	08-Apr-2026	Granted	METHOD AND APPARATUS FOR SORTING METAL
41473.4040 US	United States of America	12/769,525	28-Apr-2010	US 2011-0067569 A1	24-Mar-2011	8,627,960	14-Jan-2014	28-Apr-2030	Granted	APPARATUS AND METHOD FOR SEPARATING MATERIALS USING AIR
41473.4041 CA	Canada	2,720,093	31-Mar-2009	2720093	08-Oct-2009	2,720,093	28-Oct-2014	31-Mar-2029	Granted	SYSTEM AND METHOD FOR SORTING DISSIMILAR MATERIALS USING A DYNAMIC SENSOR
41473.4041 GB	United Kingdom	07754592.9	02-Apr-2007	2004339	24-Dec-2008	2004339	25-Jan-2012	02-Apr-2027	Granted	METHOD AND APPARATUS FOR SORTING FINE NONFERROUS METALS AND INSULATED WIRE PIECES
41473.4042 CA	Canada	2,727,460	11-Jun-2009	2727460	17-Dec-2009	2,727,460	30-Dec-2014	11-Jun-2029	Granted	METHOD AND SYSTEM FOR RECOVERING METAL FROM PROCESSED RECYCLED MATERIALS
41473.4046 US	United States of America	13/616,948	14-Sep-2012	US 2013-0008832 A1	10-Jan-2013	8,690,086	08-Apr-2014	02-Aug-2030	Granted	METHOD AND SYSTEM FOR SEPARATING AND RECOVERING WIRE AND OTHER METAL FROM PROCESSED RECYCLED MATERIALS
41473.4005 AU3	Australia	2020201679	06-Mar-2020					22-May-2035	Pending	SYSTEM AND METHOD FOR RECOVERING METALS FROM A WASTE STREAM
41473.4006 US	United States of America	15/761,417	19-Mar-2018						Pending	SYSTEM AND METHOD FOR RECOVERING METALS FROM ELECTRONIC SCRAP AND AUTO SHRED RESIDUE FINES
41473.4011 AU	Australia	2016365741	07-Dec-2016						Pending	SYSTEM AND METHOD FOR SEPARATING MATERIALS USING STIRRING MOTION, STRATIFICATION, AND VERTICAL MOTION
41473.4011 IN	India	201817021427	07-Jun-2018						Pending	SYSTEM AND METHOD FOR SEPARATING MATERIALS USING STIRRING MOTION, STRATIFICATION, AND VERTICAL MOTION
41473.4011 KR	Korea, Republic of	10-2018-7019288	07-Dec-2016						Pending	SYSTEM AND METHOD FOR SEPARATING MATERIALS USING STIRRING MOTION, STRATIFICATION, AND VERTICAL MOTION
41473.4026 AU	Australia	2017367603	19-Jun-2019					29-Nov-2037	Pending	METHODS AND SYSTEMS FOR POLISHING AND RECOVERING ALUMINUM FROM A WASTE MATERIAL
41473.4026 MX	Mexico	MX/a/2019/006300	29-May-2019						Pending	METHODS AND SYSTEMS FOR POLISHING AND RECOVERING ALUMINUM FROM A WASTE MATERIAL
41473.4027 AU	Australia	2017367700	27-Jun-2019					30-Nov-2037	Pending	APPARATUS AND METHODS FOR SEPARATING MATERIALS USING STRATIFICATION
41473.4046P2	United States of America	62/689,821	25-Jun-2018					25-Jun-2019	Pending	Method, Process, and System of Using a Ball Mill to Separate Metals from Fibrous Feedstock
41473.4047 WO	Patent Cooperation Treaty	PCT/US19/68190	21-Dec-2019						Pending	SYSTEM AND METHOD FOR FOUR DIMENSIONALLY SEPARATING MATERIALS
41473.4048 WO	Patent Cooperation Treaty	PCT/US20/22813	13-Mar-2020						Pending	SYSTEM AND METHOD FOR RECOVERING METAL FROM ASH
41473.4049P	United States of America	62/820,251	18-Mar-2019					18-Mar-2020	Pending	WATER AND MEDIA RECOVERY CIRCUIT FOR SEPARATION APPLICATIONS
41473.4050 WO	Patent Cooperation Treaty	PCT/US20/23456	18-Mar-2020						Pending	SYSTEM AND METHOD FOR RECOVERING DESIRED MATERIALS USING A BALL MILL OR ROD MILL
41473.4051P1	United States of America	62/904,367	23-Sep-2019					23-Sep-2020	Pending	APPARATUS AND METHOD FOR HIGH THROUGHPUT SEPARATION OF MATERIALS USING STRATIFICATION AND ROTATIONAL MOTION
41473.4051 WO	Patent Cooperation Treaty	PCT/US20/23458	18-Mar-2020						Pending	APPARATUS AND METHOD FOR HIGH THROUGHPUT SEPARATION OF MATERIALS USING STRATIFICATION

TAV Patent Listing (incomplete)

41473.4002 US	United States of America	15/747,725	25-Jan-2018	US 2018-0214890 A1	02-Aug-2018		Published	SYSTEM AND METHOD FOR RECOVERING DESIRED MATERIALS AND PRODUCING CLEAN AGGREGATE FROM INCINERATOR ASH
41473.4005 AU2	Australia	2018256627	02-Nov-2018	2018256627	22-Nov-2018	22-May-2035	Published	SYSTEM AND METHOD FOR RECOVERING METALS FROM A WASTE STREAM
41473.4005 EP	European Patent Convention	15731749.6	22-May-2015	3145635	29-Mar-2017	22-May-2035	Published	SYSTEM AND METHOD FOR RECOVERING METALS FROM A WASTE STREAM
41473.4007 US2	United States of America	16/526,988	30-Jul-2019	US 2019-0351455 A1	21-Nov-2019	30-Jul-2019	Published	SYSTEM, APPARATUS AND METHOD FOR SEPARATING MATERIALS USING A SCREEN BED AND VACUUM
41473.4008 AU	Australia	2016297876	25-Jul-2016	2016297876	02-Feb-2017		Published	System and method for recovering desired materials from fines in incinerator ash
41473.4008 CA	Canada	2,993,792	25-Jul-2016	2993792	02-Feb-2017	25-Jul-2036	Published	SYSTEM AND METHOD FOR RECOVERING DESIRED MATERIALS FROM FINES IN INCINERATOR ASH
41473.4008 EP	European Patent Convention	16831178.5	25-Jul-2016	3325167	30-May-2018	25-Jul-2036	Published	SYSTEM AND METHOD FOR RECOVERING DESIRED MATERIALS FROM FINES IN INCINERATOR ASH
41473.4009 AU	Australia	2016297875	25-Jul-2016	2016297875	02-Feb-2017		Published	System and method for recovering desired materials and producing clean aggregate from incinerator ash
41473.4009 CA	Canada	2,993,818	25-Jul-2016	2993818	02-Feb-2017	25-Jul-2036	Published	SYSTEM AND METHOD FOR RECOVERING DESIRED MATERIALS AND PRODUCING CLEAN AGGREGATE FROM INCINERATOR ASH
41473.4009 EP	European Patent Convention	16831177.7	25-Jul-2016	3325166	30-May-2018		Published	SYSTEM AND METHOD FOR RECOVERING DESIRED MATERIALS AND PRODUCING CLEAN AGGREGATE FROM INCINERATOR ASH
41473.4011 CA	Canada	3,007,837	07-Dec-2016	3007837	15-Jun-2017		Published	SYSTEM AND METHOD FOR SEPARATING MATERIALS USING STIRRING MOTION, STRATIFICATION, AND VERTICAL MOTION
41473.4011 EP	European Patent Convention	16873801.1	07-Dec-2016	3386639	18-Oct-2017		Published	SYSTEM AND METHOD FOR SEPARATING MATERIALS USING STIRRING MOTION, STRATIFICATION, AND VERTICAL MOTION
41473.4011J P	Japan	2018-529590	07-Dec-2016	2019-501014	17-Jan-2019		Published	SYSTEM AND METHOD FOR SEPARATING MATERIALS USING STIRRING MOTION, STRATIFICATION, AND VERTICAL MOTION
41473.4011 MX	Mexico	MX/a/2018/006962	07-Dec-2016	MX/a/2018/006962	18-Sep-2018		Publshed	SYSTEM AND METHOD FOR SEPARATING MATERIALS USING STIRRING MOTION, STRATIFICATION, AND VERTICAL MOTION
41473.4012 US	United States of America	16/695,711	26-Nov-2019	US 2020-0094261 A1	26-Mar-2020		Published	SYSTEMS AND METHODS FOR SEPARATING MATERIALS USING STIRRING MOTION, STRATIFICATION, AND VERTICAL MOTION
41473.4022 CA	Canada	3,019,507	29-Mar-2017	3019507	05-Oct-2017		Published	METHOD AND SYSTEM FOR PRODUCING AGGREGATE
41473.4022 EP	European Patent Convention	17776602.9	29-Mar-2017	3436200	06-Feb-2019		Published	METHOD AND SYSTEM FOR PRODUCING AGGREGATE
41473.4022J P	Japan	2018551823	29-Mar-2017	2019-511361A	25-Apr-2019		Published	METHOD AND SYSTEM FOR PRODUCING AGGREGATE
41473.4022 US	United States of America	16/090,264	30-Sep-2018	US 2019-0111441 A1	18-Apr-2019		Published	METHOD AND SYSTEM FOR PRODUCING AGGREGATE
41473.4023 EP	European Patent Convention	17840237.6	11-Mar-2019	3496862	19-Jun-2019		Published	RECOVERING METALS AND AGGREGATE USING MULTIPLE SCREW SEPARATORS
41473.4023US	United States of America	16/324,869	11-Feb-2019	US 2019-0168235 A1	06-Jun-2019		Published	RECOVERING METALS AND AGGREGATE USING MULTIPLE SCREW SEPARATORS
41473.4023WO	Patent Cooperation Treaty	PCT/US2017/046174	09-Aug-2017	WO 2018/031701	15-Feb-2018	09-Mar-2019	Published	RECOVERING METALS AND AGGREGATE USING MULTIPLE SCREW SEPARATORS
41473.4025CA	Canada	3,048,836	14-Nov-2017	3048836	17-May-2018		Published	METHOD AND SYSTEM FOR RECOVERING METALS USING A HELIX SEPARATOR
41473.4025EP	European Patent Convention	17869039.2	14-Jun-2019	3538280	18-Sep-2019		Published	METHOD AND SYSTEM FOR RECOVERING METAL USING A HELIX SEPARATOR
41473.4025US	United States of America	16/486,699	16-Aug-2019	US 2020-0164383 A1	28-May-2020		Published	METHOD AND SYSTEM FOR RECOVERING METAL USING A HELIX SEPARATOR
41473.4026CA	Canada	3,045,437	29-Nov-2017	3045437	07-Jun-2018		Published	METHODS AND SYSTEMS FOR POLISHING AND RECOVERING ALUMINUM FROM A WASTE MATERIAL
41473.4026EP	European Patent Convention	17876354.6	29-Nov-2017	3548192	09-Oct-2019		Published	METHODS AND SYSTEMS FOR POLISHING AND RECOVERING ALUMINUM FROM A WASTE MATERIAL
41473.4026US	United States of America	16/465,131	29-May-2019	US 2019-0329268 A1	31-Oct-2019		Published	METHODS AND SYSTEMS FOR POLISHING AND RECOVERING ALUMINUM FROM A WASTE MATERIAL
41473.4027CA	Canada	3,045,653	30-Nov-2017	3045653	07-Jun-2018		Published	APPARATUS AND METHODS FOR SEPARATING MATERIALS USING STRATIFICATION
41473.4027EP	European Patent Convention	17875352.1	27-Jun-2019	3548182	09-Oct-2019		Published	APPARATUS AND METHODS FOR SEPARATING MATERIALS USING STRATIFICATION
41473.4027US	United States of America	16/465,522	30-May-2019	US 2020-0094262 A1	26-Mar-2020		Published	APPARATUS AND METHOD FOR SEPARATING MATERIALS USING STRATIFICATION
41473.4044WO	Patent Cooperation Treaty	PCT/US2019/032753	16-May-2019	WO 2019/222558	21-Nov-2019		Published	FLUIDIZED INERTIA TABLE
41473.4045EP	European Patent Convention	17844229.9	21-Mar-2019	3500371	26-Jun-2019	21-Aug-2037	Published	SYSTEM AND METHOD FOR RECOVERING GLASS AND METAL FROM A MIXED WASTE STREAM
41473.4045US	United States of America	16/327,313	21-Feb-2019	US 2019-0176163 A1	13-Jun-2019		Published	SYSTEM AND METHOD FOR RECOVERING GLASS AND METAL FROM A MIXED WASTE STREAM
41473.4046WO	Patent Cooperation Treaty	PCT/US2019/039083	25-Jun-2019	WO 2020/006007	02-Jan-2020		Published	Method, Process, and System of Using a Mill to Separate Metals from Fibrous Feedstock

EXHIBIT 4

January 20, 2022

Brent Fairchild
Corporate Safety Director
TAV Holdings, Inc.
3311 Empire Boulevard SW
Atlanta, Georgia 30354

Apex Project No. 21002613

Subject: **OSHA Side-by-Side Sampling for Noise, Lead and Total Particulates Report / December 15 & 16, 2021 – TAV Holdings, Inc. (Atlanta, Georgia)**

Dear Mr. Fairchild:

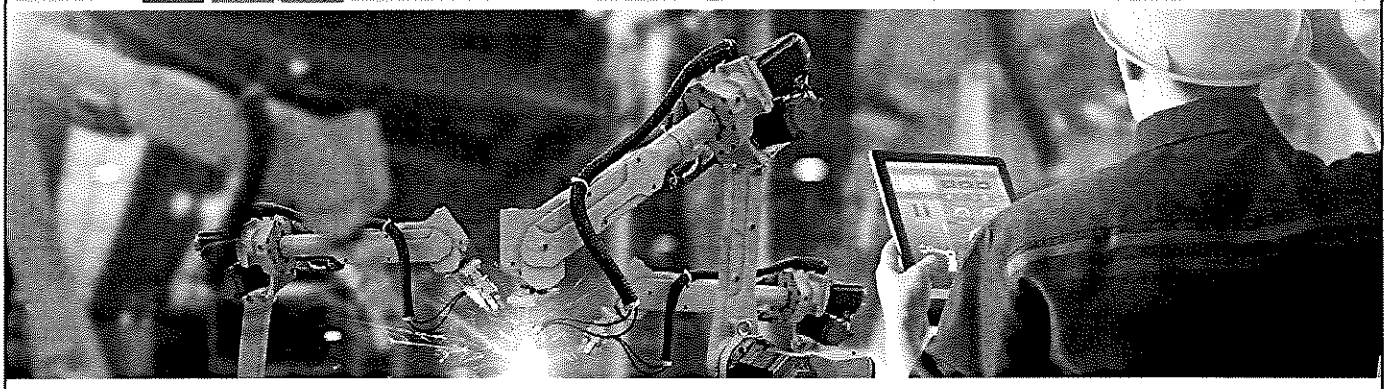
Apex Companies, LLC, (Apex) is pleased to provide you with the report of the OSHA Sampling for noise, lead and total particulates conducted during the site visit at the TAV Holdings, Inc facility on December 15th and 16th, 2021.

Should you have questions regarding the enclosed report, or need assistance with other industrial hygiene issues, please contact me at (404) 640-4850 or Mr. Pat Baird at (470) 494-5039.

Sincerely,

David Kalafut
Assistant Project Manager
Apex Companies, LLC
Health, Safety and Environmental Services
Mobile: (404) 640-4850
david.kalafut@apexcos.com

APEX COMPANIES, LLC



Industrial Hygiene Consultant Services
Noise and Chemical Exposure Assessment – Atlanta, GA

Project No. 21002613

PREPARED FOR:
Brent Fairchild
Corporate Safety Director
TAV Holdings Inc.
3311 Empire Boulevard SW
Atlanta, Georgia 30354

Report Date: January 20, 2022

Visit Dates: December 15th and 16th, 2021

PREPARED BY:
David Kalafut
Assistant Project Manager
Apex Companies, LLC
David.Kalafut@apexcos.com

Apex Companies, LLC
1990 Vaughn Road
300 Barrett Summit, Suite 310
Kennesaw, GA 30144

APEX

APEX

CONTENTS

1.0 INTRODUCTION

Mr. Brent Fairchild, Corporate Safety Director with TAV Holdings Inc., and Mr. Howard Mavity, Partner with Fisher Phillips LLP, retained the HSE Division of Apex Companies, LLC (Apex) to conduct an OSHA side-by-side Industrial Hygiene Assessment for noise, lead, and total particulates exposures during representative operations at the TAV Holdings, Inc. facility located at 3311 Empire Boulevard SW, Atlanta, Georgia. The scope of work for this project was described in Proposal No. 7248405909, dated December 15, 2021. The project was completed in accordance with the terms and conditions outlined in the Apex Standard Terms and Conditions – June 2020.

Mr. David Kalafut, Assistant Project manager / Industrial Hygienist with Apex, completed the industrial hygiene assessment on December 15th and 16th, 2021. Mr. Fairchild was Apex's primary contact while on-site and assisted Apex and the OSHA inspector with selecting employees and areas for monitoring.

The purpose of the assessment was to:

- Measure targeted employees and area exposures within the main facility for Noise, Lead and total Particulate.

- Work alongside an OSHA representative to conduct side-by-side employee exposure air sampling. It should be noted that the OSHA inspector placed her sampling media on the opposite shoulder from the sampling media placed by Apex.

Detailed results of this assessment are presented in Appendix A of this report. Appendix B is a copy of the BV Labs analytical report for Total Particulate and Lead in air.

The data presented in this report represent conditions existing at this location on the days of the assessment. Caution must be exercised in drawing conclusions from the data in this report due to hazards that may exist under different circumstances.

2.0 STANDARDS AND GUIDELINES

Results of the air and noise samples collected during the assessments were compared against OSHA ALs and PELs. The Apex consultant considered these ALs and PELs in forming conclusions.

OSHA recognizes that many of its Permissible Exposure Limits (PELs) are outdated and inadequate for ensuring protection of worker health. Most of OSHA's PELs were issued shortly after adoption of the Occupational Safety and Health (OSH) Act in 1970 and have not been updated since that time. Industrial experience, new developments in technology and scientific data clearly indicate that in many instances these adopted limits are not sufficiently protective of worker health.

OSHA's mandatory PELs remain in effect. However, OSHA recommends that employers consider using the alternative occupational exposure limits (such as ACGIH® TLVs® and NIOSH RELs) because the Agency believes that exposures above some of these alternative occupational exposure limits may be hazardous to workers, even when the exposure levels are in compliance with the relevant PELs. Specific limits are shown in Table 1 (Appendix A).

3.0 SUMMARY OF RESULTS

3.1 Occupational Noise Exposure

The calculated, full shift, TWA noise exposures was equal to or exceeded the Occupational Safety and Health Administration (OSHA) Action Level of 85 dBA for seven of the eight employees monitored. None of those seven who exceeded the Action Level of 85 dBA exceeded the Permissible Exposure Limit (PEL) of 90dBA.

The monitored employees were observed wearing Moldex earplugs with a Noise Reduction Rating (NRR) of 33 decibels (dB) during their work shifts. This means the earplugs being worn during this assessment should reduce the employee's in-ear noise exposures to below 85 dBA, if worn properly. See Appendix C for more info on Noise Reduction Ratings.

The highest estimated noise exposure based on noise exposures measured during this assessment and using the NRR of the Moldex hearing protection worn: *Estimated Exposure = 90 dBA – (33 - 7) = 64 dBA.*

If using the OSHA recommended correction factor of 50% to account for differences in laboratory determined NRR and the actual NRR achieved in the field, the above *Estimated Exposure* would be: Estimated Exposure = 90 dBA – ((33-7)*0.5) = 77 dBA.

3.2 Total Particulate

All measured total particulate exposure levels were below the OSHA PEL of 15.0 mg/m^3.

3.3 Lead

All measured lead exposure levels were below the OSHA AL of 0.03 mg/m^3.

4.0 FACILITY PROCESS AND DESCRIPTION

Plant operations were considered normal and representative during the assessments of December 15th and 16th, 2021.

TAV Holdings Inc. recycles scrap metal and sells the sorted scrap metal to foundries. The processes within the complex include raw materials handling, metal sorting, washing, float tables, drying, and processing. The raw material handling process is the collection and processing of various scrap metals, steel, and various alloys. The sorting process starts with scrap waste being placed onto a conveyor belt system. The conveyor belt moves the scrap waste thru a series of conveyor belts that shakes free trash, dust and other non-profitable waste from the scrap metal that can be turned into profit. The sorted metal is then placed into a series of tanks, with each successive tank having a lower specific gravity than the previous tank. This causes the lighter metals in the liquid to come to the surface and the heavier materials to settle at the bottom of the tank. The metals at the surface get screeded off the top and flow into the next tank. This process is repeated multiple times, which in the end produces sorted piles of recyclable metals. Once sorted, a portion of the recyclables/metals are put through a QA/QC process to ensure its contents. Once having passed inspection, the recyclables are bagged in a burlap sack and dried in the warehouse until ready for processing / shipping.

5.0 RECOMMENDATIONS

IH-01 (Jan '22) Employee exposure monitoring was conducted for total particulate, lead, and noise, each of which has an Occupational Safety and Health Administration (OSHA) standard that contains specific instructions for notifying employees of their monitoring results.

- Notify monitored employees of their lead and total particulate air sampling results within 15 days of receiving the final industrial hygiene assessment report.
- Notify employees who were monitored for noise exposure of their individual results within 30 days of receiving the final industrial hygiene assessment report.
- Employees who perform similar tasks need to be made aware of the sampling results.
- Inform employees of their right to access these records.
- Retain the industrial hygiene report, which is a record of employee exposure monitoring, for the length of employment plus 30 years as required by OSHA regulations.

IH-02 (Jan '22) Seven of the eight measured noise exposures equaled or exceeded the OSHA AL of 85 dBA but were less than the OSHA PEL of 90 dBA:

- Employees with measured noise exposures of 85 dBA or greater must be included in a Hearing Conservation Program (HCP) that complies with OSHA regulation 29 CFR 1910.95 – Occupational Noise Exposure.
- TAV Holdings Inc. must determine which similar exposure groups (SEGs) are represented by the employees whose noise exposures approached or exceeded the OSHA AL, and then ensure that all employees in the SEG(s) are included in the facility's HCP, which must include yearly audiometric exams, mandatory training on hearing loss and hearing protection, and other elements to comply with OSHA regulations.
- Continue to conduct periodic noise assessments.
- Continue to provide hearing protection. Require the use of hearing protection by employees who have not had a baseline audiogram, or who have had a standard threshold shift (STS).

IH-03 (Jan '22) Exposure levels will vary with changing work conditions. The results of this survey are representative of environmental, operating, and production conditions on the day that sampling was conducted (December 15 and 16, 2021). Additional monitoring should be conducted following any significant changes in production, equipment, or exposure control strategies.

6.0 QUALITY ASSURANCE

This report has been reviewed as a part of our quality process.

This report was prepared by:

David Kalafut
Assistant Project Manager
Apex Companies, LLC
Health, Safety, and Environmental Services
david.kalafut@apexcos.com

This report was reviewed by:

Pat Baird, CIH, CSP, PG
Program Manager
Apex Companies, LLC
Health, Safety, and Environmental Services
pat.baird@apexcos.com

APPENDIX A

INDUSTRIAL HYGIENE ASSESSMENT TABLES

Table 1
Results of Air Sampling and Analysis for Lead and Total Particulate

TAV Holdings, Inc.
Atlanta, Georgia
December 15, 2021

Apex Project No. 21002613

Sample Number	Sample Description	Sampling Time (start/stop)	Sample Duration (minutes)	Lead (mg/m^3)	Total Particulate (mg/m3)
OSHA PEL (8-hour TWA)				0.05	15
OSHA AL (8-hour TWA)				0.03	NE
ACGIH TLV (8-hour TWA)				0.05	NE
PY197720674	[redacted] – Dock Employee General Laborer	0622 / 1140 1309 / 1514	443	0.0012	0.37
PY197720672	[redacted] – Eddy Current Area	0633 / 1148 1313 / 1511	433	0.0018	0.27
PY197720673	[redacted] – Table Line	0635 / 1139 1256 / 1506	434	0.0026	0.42
PY197720667	[redacted] – Lab Technician	0823 / 1149 1237 / 1448	347	0.0063	0.73
PY197720670	Blank	-	-	<1 µg	<50 µg

OSHA: Occupational Safety and Health Administration
AL: Action Level
PEL: Permissible Exposure Limit
TWA: Time-Weighted Average
ACGIH: American Conference of Governmental Industrial Hygienists
TLV: Threshold Limit Value
mg/m^3: Milligrams per cubic meter
NE: Not Established. The ACGIH believes that even biologically inert, insoluble, or poorly soluble particles may have adverse effects and recommends that airborne concentrations should be kept below 3 mg/m^3, respirable particles, and 10 mg/m^3, inhalable particles, until such time as a TLV is set for a particular substance

Table 2
Results of Personal Noise Dosimeter Measurements Compared with the OSHA AL and PEL

TAV Holdings, Inc.
Atlanta, Georgia
December 15 and 16, 2021

Apex Project No. 21002613

Dosimeter Serial Number	Employee Name, Employee Number, Job Title	Shift Length (Minutes)	Sampling Period (Start/Stop)	Sample Duration (minutes)	80 dBA Threshold (AL)			90 dBA Threshold (PEL)		
					Measured Dose (%)	Projected 8-Hour Dose[1] (%)	8-Hour TWA Exposure[2] (dBA)	Measured Dose (%)	Projected 8-Hour Dose[3] (%)	8-Hour TWA Exposure[4] (dBA)
OSHA PEL-(8-hour TWA)					--	--	--	**100**	--	**90**
OSHA AL-(8-hour TWA)					**50**	--	**85**	--	--	--
December 15, 2021										
050137	[redacted] Ball Mill Operator	480	0620 / 1152 1257 / 1502	457	82.3	86.4	89	50.4	52.9	85
030678	[redacted]os Eddy Current	480	0637 / 1147 1311 / 1517	436	70.2	77.3	88	43.8	48.2	85
028147	[redacted] Big Ball Mill	480	0646 / 1144 1307 / 1509	420	41.8	47.8	85	18.3	20.9	79
046245	[redacted] Trammel	480	1322 / 1515	113	16	68.0	87	12.8	54.4	86
December 16, 2021										
030678	Baldwin Hammer Mill Operator	480	1824 / 2355	330	39.1	56.9	86	18.9	27.5	81

Table 2
Results of Personal Noise Dosimeter Measurements Compared with the OSHA AL and PEL

TAV Holdings, Inc.
Atlanta, Georgia
December 15 and 16, 2021

Apex Project No. 21002613

Dosimeter Serial Number	Employee Name, Employee Number, Job Title	Shift Length (Minutes)	Sampling Period (Start/Stop)	Sample Duration (minutes)	80 dBA Threshold (AL)			90 dBA Threshold (PEL)		
					Measured Dose (%)	Projected 8-Hour Dose[1] (%)	8-Hour TWA Exposure[2] (dBA)	Measured Dose (%)	Projected 8-Hour Dose[3] (%)	8-Hour TWA Exposure[4] (dBA)
OSHA PEL-(8-hour TWA)					--	--	--	**100**	–	**90**
OSHA AL-(8-hour TWA)					**50**	--	**85**	–	–	--
028147	Oscar Hammer Mill Operator	480	1825 / 2355	329	41.8	61.0	86	18.1	26.4	80
046245	Nelson Loader	480	1826 / 2348	322	65.9	98.2	90	45.5	67.8	87
050137	Christopher Loader	480	1827 / 2347	320	18.2	27.3	81	7	10.5	74

Highlight: Exposures equaling or exceeding the OSHA AL or PEL
OSHA: Occupational Safety and Health Administration
AL: Action Limit
PEL: Permissible Exposure Limit
%: Per cent
dBA: Decibel A-weighted scale, slow meter response, reference sound pressure level of 0.00002 Newtons per square meter.

8-Hour TWA: The projected 8-hour TWA presumes the same exposure during the unmonitored and monitored portions of the work shift. This presumption is consistent with onsite observations by Apex.

The 1st column contains the noise dosimeter's serial number.

The 2nd column contains the sample description—who wore the noise dosimeter.

The 3rd column contains the shift length in minutes that the employee worked.

The 4th column contains the sample start and stop times.

The 5th column contains the sample duration—how long the sample ran.

The 6th column contains the sample dose (using OSHA AL dosimeter settings) in % for the sample duration assuming uniform exposure for the unsampled portion of the work shift.

The 7th column contains the projected dose for the full shift (using OSHA AL dosimeter settings). It is calculated from,

$$\text{Projected Full Shift Noise Dose} = (\text{Sample Dose}) * \left(\frac{\text{Shift Time}}{\text{Sample Duration}} \right)$$

The 8th column contains the projected full-shift noise exposure (normalized to an 8-hour TWA) in dBA (using OSHA AL dosimeter settings). It is calculated from,

$$\text{Projected Full Shift Noise Level} = 90 + 16.61 * \text{Log}_{10} \left(\frac{\text{Projected Full Shift Noise Dose}}{100} \right)$$

The 9th column contains the sample dose (using OSHA PEL dosimeter settings) in % for the sample duration assuming uniform exposure for the unsampled portion of the work shift.

The 10th column contains the projected dose for 8 hours (480 minutes) exposure time (using OSHA PEL dosimeter settings). If the sample duration minus break time during the sample is longer than 480 minutes, then the projected dose for 8 hours of exposure is less than the sample dose. The projected 8-hour Noise Dose is calculated from,

$$\text{Projected 8-Hour Noise Dose} = (\text{Sample Dose}) * \left(\frac{480 \text{ minutes}}{\text{Sample Duration}} \right)$$

The 11th column contains the projected 8-hour TWA in dBA (using OSHA PEL dosimeter settings). It is calculated from,

$$\text{Projected 8-Hour Noise Level} = 90 + 16.61 * \text{Log}_{10} \left(\frac{\text{Projected 8-Hour Noise Dose}}{100} \right)$$

APPENDIX B

LABORATORY DOCUMENTATION

Your Project #: TVH001-0419061-2100613

Attention: David Kalafut
APEX COMPANIES LLC
1990 Vaughn Road
Suite 310
Kennesaw, GA
USA 30144

Report Date: 01/03/2022
Report #: R6947394
Version: 1 - Final

ANALYTICAL REPORT

BV LABS JOB #: C1AA633
Received: 12/21/2021, 00:00

Sample Matrix: Air
Samples Received: 5

Analyses	Quantity	Date Analyzed	Laboratory Method	Analytical Method
Metals, Routine, by NIOSH 7303 - Air	5	12/29/2021	NOV2SOP-00009	NIOSH 7303 Modified
Total Particulate by NIOSH 0500-PVC	5	12/27/2021	NOV8SOP-00001	NIOSH 0500

Results relate only to the items tested.
Reference Method suffix "m" indicates test methods incorporate validated modifications from specific reference methods to improve performance.

Encryption Key

Please direct all questions regarding this Analytical Report to your Project Manager.
Wendy Lesniak, CS
Email: Wendy.Lesniak@bureauveritas.com
Phone# (248) 344-1770
==========
BV Labs has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports.

Total Cover Pages : 1

Bureau Veritas Job #: C1AA633
Report Date: 01/03/2022

APEX COMPANIES LLC
Client Project #: TVH001-0419061-2100613

ANALYTICAL RESULTS

Client ID:	PY197720674	Matrix:	Air
Bureau Veritas ID:	RLG974	Sample Media:	5 MICR W/PAD PW 2 PC CASS
Date Sampled:	12/15/2021	Air Volume (L):	916

ANALYTE	Mass ug	Concentration mg/m3	RL ug	Test Method	Date Analyzed
Particulate: Total	340	0.37	50	NIOSH 0500	12/27/2021
Lead (Pb)	1.1	0.0012	1.0	NIOSH 7303 Modified	12/29/2021

RL = Reporting Limit

Client ID:	PY197720672	Matrix:	Air
Bureau Veritas ID:	RLG975	Sample Media:	5 MICR W/PAD PW 2 PC CASS
Date Sampled:	12/15/2021	Air Volume (L):	868

ANALYTE	Mass ug	Concentration mg/m3	RL ug	Test Method	Date Analyzed
Particulate: Total	230	0.27	50	NIOSH 0500	12/27/2021
Lead (Pb)	1.6	0.0018	1.0	NIOSH 7303 Modified	12/29/2021

RL = Reporting Limit

Client ID:	PY197720673	Matrix:	Air
Bureau Veritas ID:	RLG976	Sample Media:	5 MICR W/PAD PW 2 PC CASS
Date Sampled:	12/15/2021	Air Volume (L):	871

ANALYTE	Mass ug	Concentration mg/m3	RL ug	Test Method	Date Analyzed
Particulate: Total	370	0.42	50	NIOSH 0500	12/27/2021
Lead (Pb)	2.3	0.0026	1.0	NIOSH 7303 Modified	12/29/2021

RL = Reporting Limit

Client ID:	PY197720667	Matrix:	Air
Bureau Veritas ID:	RLG977	Sample Media:	5 MICR W/PAD PW 2 PC CASS
Date Sampled:	12/15/2021	Air Volume (L):	693

ANALYTE	Mass ug	Concentration mg/m3	RL ug	Test Method	Date Analyzed
Particulate: Total	510	0.73	50	NIOSH 0500	12/27/2021
Lead (Pb)	4.4	0.0063	1.0	NIOSH 7303 Modified	12/29/2021

RL = Reporting Limit

Bureau Veritas Job #: C1AA633
Report Date: 01/03/2022

APEX COMPANIES LLC
Client Project #: TVH001-0419061-2100613

ANALYTICAL RESULTS

Client ID:	PY197720670	Matrix:	Air
Bureau Veritas ID:	RLG978	Sample Media:	5 MICR W/PAD PW 2 PC CASS
Date Sampled:	12/15/2021		

ANALYTE	Mass ug	Concentration mg/m3	RL ug	Test Method	Date Analyzed
Particulate: Total	<50	N/A	50	NIOSH 0500	12/27/2021
Lead (Pb)	<1.0	N/A	1.0	NIOSH 7303 Modified	12/29/2021

RL = Reporting Limit

GENERAL COMMENTS

Unless otherwise noted below the following statements apply: 1) all samples were received in acceptable condition, 2) all quality control results associated with this sample set were within acceptable limits and /or do not adversely affect the reported results and 3) the industrial hygiene results have not been blank corrected.

The client provided their pertinent field sampling data on the analysis request paperwork submitted with the samples. Results apply to the sample as received.

Sample RLG978 [PY197720670] : Actual value of the total particulate blank was 32ug; results have been blank corrected.

Results relate only to the items tested.

Request for Laboratory Analytical Services

IMPORTANT: Date results required: _____

Rush charges authorized? Yes ☐ No ☐

Fax or ☐ E-mail results ☐

E-mail Address: _____

Page: 1

For Lab Use Only

Lab Project #: CIAA633

Bureau Veritas North America, Inc.

Report results to:

Name: David Kalafut

Company: Apex Cos LLC

Mailing Address: 1990 Vaughn Road, 300 Barrett Summit Suite 310

City, State, Zip: Kennesaw, Georgia 30144

Telephone No.: 404-640-4850 Fax No.: _____

Client Project Number: TVH001-0419061-2100613

Send invoice to:

Name: Pat Baird

Company: Apex Cos LLC

Address: 1990 Vaughn Road, 300 Barrett Summit Suite 310

City, State, Zip: Kennesaw, Georgia 30144

P.O. No. _____

Special instructions and/or specific regulatory requirements: (method, limit of detection, etc.)

Email Results to

~~Pat.Baird@apexcos.com~~

David.Kalafut@apexcos.com

Asbestos/Soil samples only: Which state are these from? _____

Water samples are:

Drinking water _____ Groundwater _____

Wastewater _____

Client Sample Identification	Date Sampled	Time Sampled	Matrix/Media	Air Volume (Liters)	# of Jars	ANALYSIS REQUESTED (List each analyte on the lines below, multiple analytes per line)
PY1977206 74 X	12/15/21	1514	Air/PVC	916	1	NIOSH 0500, NIOSH 7303 (Lead) per Pat Baird
PY1977206 72 X	12/15/21	1511	Air/PVC	866	1	NIOSH 0500, NIOSH 7303
PY1977206 73 X	12/15/21	1506	Air/PVC	871	1	NIOSH 0500, NIOSH 7303
PY1977206 67 X	12/15/21	1448	Air/PVC	693	1	NIOSH 0500, NIOSH 7303
PY1977206 70 X	12/15/21	1520	Air/PVC	0	1	NIOSH 0500, NIOSH 7303

Collected by: David Kalafut ***Date/Time*** 12-15-21 ***Collector's Signature:*** _____

Relinquished by: David Kalafut ***Date/Time*** 12-17-21 ***Received by:*** _____

Relinquished by: _____ ***Date/Time*** _____ ***Received by:*** Richard Clinton

Method of Shipment: UPS ***Sample Condition on Receipt:*** Acceptable X Other: _____ (Explain)

Authorized by: _____ (Signature MUST accompany request)

Date/Time _____ ***Date/Time*** _____ ***Date/Time*** 12-21-21 10:45

Ship to:

Detroit Lab
22345 Roethel Drive
Novi, MI 48375
248.344.2652
800.806.5887
Fax: 248.344.2655

Atlanta Lab
3380 Chastain Meadows Pkwy., Ste 300
Kennesaw, GA 30144
770.499.7701
800.806.5887
Fax: 770.499.7511

Chicago Lab
95 Oakwood Road
Lake Zurich, IL 60047
888.576.7522
847.726.3320
Fax: 847.726.3323

Canadian Clients
1415 Janette Ave
Windsor, ON N8X 1Z1

*Unless otherwise agreed to in writing, work submitted on this Chain of Custody is subject to Bureau Veritas' standard Terms & Conditions. Signing of this Chain of Custody document is acknowledgment & acceptance of our terms available at https://www.bvna.com/coc-terms-and-conditions

APPENDIX C

EQUIPMENT AND ASSESSMENT PROCEDURES

EQUIPMENT AND ASSESSMENT PROCEDURES

TAV Holdings Inc
Atlanta, Georgia
December 15 & 16, 2021

Apex Project No. 21002613

SAMPLING AND ANALYTICAL METHODS			
Substance	Flowrate (LPM)	Sampling Media	Analytical Method
Total Particulate / Lead	2.0	Two-piece cassette containing a preweighed polyvinylchloride filter (PVC) and a backup pad. The filter has a 5 micron pore size.	NIOSH 7303 Modified for Lead NIOSH 0500 for Total Particulate

LPM: Liters per Minute

Air Sampling

Apex collected the air samples with portable battery-powered sampling pumps by passing air at the recommended flowrate through the appropriate collection media. Personal samples were collected in employee breathing zones. The sampling pump flowrates were measured with primary calibration standard BIOS DryCal Defender 510-M (S/N: 07650) before and after the monitoring sessions.

Laboratory

Air samples for laboratory analysis collected during this assessment were analyzed at BV Labs, an American Industrial Hygiene Association (AIHA) accredited Laboratory (Laboratory No. 100967), located in Novi, Michigan. To review the accreditation, visit the organization website at https://online.aihaaccreditedlabs.org/.

Noise Exposure Monitoring

Employees' noise exposures were measured with TSI Edge 5, Type 2 noise dosimeters set to collect data for the following parameters: (1) To determine workers who must be included in a hearing conservation program and (2) To determine compliance with the OSHA PEL. The parameters are included in the Table, below.

	OSHA PEL (90 dBA 8-hour TWA)	OSHA AL (85 dBA 8-hour TWA)
Criterion Level	90 dBA	90 dBA
Threshold Level	90 dBA	80 dBA
Exchange Rate	5 dB	5 dB
Weighting Scale	A	A
Response Time	Slow	Slow

The dosimeters were calibrated acoustically before and after each monitoring session with an acoustical calibrator, QC-10, serial number QIM030082. The dosimeters used in this assessment are accurate to ±2 dBA.

The dosimeters were worn for a majority of the work shift with all of the results extrapolated to a full shift, in this case 8 hours. APEX assumed that the unsampled portions of the shift were equal to the average exposure during sampled portions of the shift. The results of these measurements are shown in Table 2 in Appendix A of this report.

Noise Reduction Rating (NRR)

The following formula was used to determine the adequacy of HPD attenuation using the noise reduction rating (NRR) of a given HPD:

Estimated Exposure (dBA) = TWA (dBA) – (NRR – 7)

To calculate the regulatory compliance NRR required based on the measured exposure, the following formula is used:

Minimum NRR = (8-*hour TWA* – 90) + 7

However, OSHA recommends the use of a 50% correction factor to account for the difference between a laboratory-determined NRR and the actual NRR achieved in the field due to field-use losses. For this more conservative approach, the effective in-ear attenuation that hearing protection is expected to provide should be determined using the formula:

Approximate field attenuation = 0.5 * (*NRR* – 7)

Therefore, the minimum required NRR is determined using the following formula:

Minimum NRR = 2 * (8-*hour TWA* – 90) + 7

For employees with a Standard Threshold Shift (STS), or who have not yet received a baseline audiogram, the minimum required NRR is determined using the following formula:

Minimum NRR = 2 * (8-*hour TWA* – 85) + 7