

RCRA CASE DEVELOPMENT INVESTIGATION EVALUATION REPORT

1) **Inspector and Author of Report**

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2) **Facility Information**

TAV Holdings, Inc. (TAV)
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Atlanta, Georgia 30354
EPA ID # GAD033537663

3) **Primary Contact**

Thomas Valerio, CEO

4) **Inspection Participants**

Thomas Valerio, TAV, CEO
Heli Tello, TAV, Fabrication Inventory Manager
Alex Camozzi, TAV, Director of Operations
Bob Brown, TAV
Joe Blackmon-Dishaw, TAV, Laboratory Manager,
Faney Foster, GAEPD Hazardous Waste
David Champagne, EPA, Region 4
Brooke York, EPA, Region 4
Paula Whiting, EPA, Region 4
Mike Neill, EPA, Region 4
Arthur Masters, EPA, Region 4

5) **Date of Inspection**

October 20, 2021

6) **Applicable Authority**

Chapter 391-3-11 of the Georgia Rules for Hazardous Waste Management which adopts and incorporates by reference 40 CFR Parts 260 - 266, 268, 270, 273 & 279, and the Georgia Hazardous Waste Management Act, O.C.G.A. 12-8-60 *et seq.*, as amended through December 9, 2019 (Act).

Pursuant to Ga. Comp. R. and Regs. 391-3-11-.02(1) [40 C.F.R. § 260.10], a large quantity generator of hazardous waste (LQG) is a generator who generates greater than or equal to 1,000 kilograms (2,200 pounds) of non-acute hazardous waste in a calendar month.

Pursuant to Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. § 262.17], an LQG may accumulate hazardous waste on-site for 90 days or less without a permit or without having interim status, as required by Section 12-8-66 of the GHWMA, Ga. Code Ann. § 12-8-66 [Section 3005 of RCRA, 42 U.S.C. § 6925], provided that the generator complies with the conditions listed in Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. § 262.17] (hereinafter referred to as the “LQG Permit Exemption”).

As the State’s authorized hazardous waste program operates in lieu of the federal RCRA program, the citations of those authorized provisions alleged herein will be to the authorized State program; however, for ease of reference, the federal citations will follow in brackets.

7) **Purpose of Inspection**

This unannounced case development investigation evaluation (CDIE) was conducted to further evaluate the Facility’s compliance with applicable requirements of RCRA and the corresponding Georgia Rules for Hazardous Waste Management. The CDIE included sampling conducted by the LSASD, Region 4. The report summarizing these sampling activities and analysis is Attachment 1.

8) **Facility Description**

TAV Holdings, Inc. (TAV) operates a Facility that includes, at a minimum; offices and warehouse storage at 3311 Empire Boulevard, SW; the northern portion of the parking lot at 3325 Empire Boulevard, SW; the Keebler Complex (3 buildings, the White Building, the Process Building and the Keebler Building) at 111 Hollow Tree Lane; the Fabrication Shop at 3405 Empire Boulevard, SW; and the laydown yard and stockpile at 3320 Empire Boulevard, SW (hereinafter, “the TAV Facility”). TAV stores processed auto shredder residue (ASR) in large piles. The largest of these piles is located at 3320 Empire Boulevard, and the second largest in the rear of the Keebler Complex near a stormwater Outfall 3.

TAV claims to be a research and development Facility that develops equipment used to improve the recovery of metals from ASR and other post-consumer materials. TAV has stated that it receives and processes the following types of materials: ASR waste, aluminum shredder residue, waste electrical and electronic equipment, and incinerator ash. TAV has also stated that it “mines” materials from solid waste landfills. The Facility changes the processes regularly. The process observed during this inspection is a snapshot of the operations taking place at TAV during that time and are not representative of current or past operations/processes. Its process utilizes ball mills, particle size separation, eddy current, and vibration to attempt to recover metals, particularly copper, from the various waste streams. As a result of TAV’s processing, the piles of “processed” waste consist of very small particle sizes. In addition, the process uses a significant amount of water. TAV claims that it can recover approximately 1800 to 6000 pounds of metals per truckload of material received and that this material would otherwise be directed to a landfill. Its claimed rate of recovery for metals is 15%. It has developed multiple patents for its equipment and claims to sell its equipment and processes to recycling businesses in 25 states and

15 countries. The ASR and other materials received would otherwise be disposed of in solid waste landfills that are appropriately designed, operated, and permitted to receive, store, and dispose of these solid wastes. The only environmental permit TAV currently holds is an industrial stormwater general permit from the Georgia Environmental Protection Division (GAEPD). TAV has not notified the GAEPD of any hazardous waste management activities or obtained an EPA Identification Number (the EPA ID Number provided on the first page of this report was obtained by the previous owner of the property). For the purposes of this report and given the volume of waste at the Facility, the EPA has written this report using the large quantity generator requirements.

9) Previous Inspection History

A RCRA Compliance Evaluation Inspection (CEI) was conducted at the TAV Facility on October 6, 2021.

10) Findings

The inspectors arrived at TAV at 9:25 AM EDT and asked for Alex Camozzi or Bob Brown at the guard shack. An opening conference was held with Mr. Camozzi and Mr. Brown during which the inspectors showed their credentials and explained the purpose of the evaluation. The inspectors also indicated that a camera would be used to take pictures during the inspection and notified the representatives of the collection of waste and other environmental media samples. In addition, the EPA inspector discussed the company's ability, pursuant to 40 C.F.R. § 2.203, to assert a business confidentiality claim for information submitted. The TAV representatives indicated that some of the equipment may be confidential business information (CBI) and that any pictures taken during the inspection should be reviewed prior to public release. The inspectors confirmed the personal protection equipment required for the Facility tour. The Facility tour began at approximately 10:10 AM EDT.

The process discussion found in this Report is intended to be representative of the process at the time of this CDIE. The EPA's current understanding of the operations at the Facility is that the processes change frequently, as determined by TAV. These changes in process either are not recorded by TAV or have not been shared with the EPA prior to the drafting of this Report.

Receiving and Screening Plant

The Receiving Area is outside just past the office building. Inspectors observed inbound material stored on the asphalt, outside and uncovered, without secondary containment. See Attachment 2, Figures 2-7 and Attachment 3, Figures 1 and 5-8. The operations of the Facility, stormwater runoff, and rainfall events contribute to an almost continuous flow of water through the Facility. See Attachment 2, Figures 13-17, and Attachment 3, Figures 6-8.

The inspectors observed trommels in the Screening Plant separating the material by particle size. See Attachment 2, Figure 4, and Attachment 3, Figure 5. After separation, the larger material is placed in another process that further separates the material into "heavies" and "lights".

Ball Mill #1 Plant

The smallest material resulting from the trommel process is placed in the Ball Mill #1 Plant feeder. The material goes through the feeder (Attachment 2, Figure 17 and 19, Attachment 3,

Figure 9) to a star screen for further particle size sorting. Material collected by the star screen is larger than ¾ inch. The screened material is sent to be re-shredded. The smaller material continues to the ball mill where the particle size is further reduced. Following the ball mill, the material continues to a falling velocity separator (FVS). The FVS process separates the material into two (2) streams: “organics” and “FVS concentrate.” Facility representatives and operators informed inspectors, that the organics generated by Ball Mill #1 (Ball Mill #1 Lights) have historically been added to the large storage piles. Ball Mill #1 Lights appear to consist primarily of micro plastics coated in sludge. Facility representatives informed inspectors that the Ball Mill #1 Lights were intended to be rerun/reprocessed with the other material in the piles. Following this inspection, the EPA inspectors were informed that these materials were being collected and sent for disposal off-site at a Subtitle D Landfill and are considered waste. The inspectors requested hazardous waste determinations for this material.

Pursuant to Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. § 262.11], a person who generates a solid waste, as defined in Ga. Comp. R. and Regs. 391-3-11-.07(1) [40 C.F.R. § 261.2], must make an accurate determination as to whether that waste is a hazardous waste in order to ensure wastes are properly managed.

The remaining FVS concentrate (or the “heavies”) go to a shaker screen. The shaker screen separates the material based on particle size: (1) FVS Concentrate 0-2 mm; and (2) FVS Concentrate 2-19 mm. A dewatering process occurs on at least the FVS Concentrate 0-2 mm.

The FVS Concentrate 2-19 mm from the Ball Mill #1 Plant can go to the Jig/Twitch Room Plant or the FIS #1 Plant. The Jig/Twitch Room Plant requires approximately 5-6 employees to run, and the FIS #1 Plant requires approximately 1-2 employees to run. The FIS process is faster than the Jig/Twitch process. The decision to send the FVS Concentrate 2-19 mm to the Jig/Twitch Room Plant may be dependent on available resources or the speed at which the material needs to be processed.

Jig/Twitch Room Plant

The Jig/Twitch Room Plant receives the FVS Concentrate 2-19 mm from the Ball Mill #1. This material undergoes numerous process steps where ferrous concentrates (<6 mm, 6-10 mm, and >10 mm), >10 mm Zorba/Aluminum, >10 mm stainless, and copper concentrates (<6 mm, 6-10 mm), are removed and accumulated.

FIS #1 Plant

The FIS #1 Plant receives FVS Concentrate 2-19 mm from Ball Mill #1. The FIS #1 Plant produces copper concentrate (<6mm, 2-10 mm, and 10-19 mm), Aluminum/ICW/Aggregate and organics. Facility representatives informed inspectors that these FIS #1 Organics were previously placed on the piles. Following the inspection, TAV claimed that these are collected and managed with the Ball Mill Lights, and ultimately sent to a Subtitle D landfill for disposal.

Pursuant to Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. § 262.11], a person who generates a solid waste, as defined in Ga. Comp. R. and Regs. 391-3-11-.07(1) [40 C.F.R. § 261.2], must make an accurate determination as to whether that waste is a hazardous waste in order to ensure wastes are properly managed

Ball Mill #2 Plant

The FVS Concentrate 0-2 mm from Ball Mill #1 Plant is placed in the feeder for the Ball Mill #2 Plant. This process screens out particles over 0.75 inch which are sent for re-shredding. Ball mill concentrates are produced and sent to the FIS #2 Plant. The organics are considered ball mill “lights” by Facility representatives. Inspectors asked if Ball Mill #2 Lights were different than Ball Mill #1 Lights. The Facility representatives claim that the ball mill lights are all organic material and are not different. The Facility claims it is now managing these Ball Mill #2 Lights with the Ball Mill #1 Lights and they are shipped for disposal at a Subtitle D Landfill.

Pursuant to Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. § 262.11], a person who generates a solid waste, as defined in Ga. Comp. R. and Regs. 391-3-11-.07(1) [40 C.F.R. § 261.2], must make an accurate determination as to whether that waste is a hazardous waste in order to ensure wastes are properly managed.

FIS #2 Plant

The FIS #2 Plant receives the ball mill concentrates from the Ball Mill #2 Plant and Feedstock B3. This material is further refined into five (5) products and organics. These organics appear to be wastes from the process.

Pursuant to Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. § 262.11], a person who generates a solid waste, as defined in Ga. Comp. R. and Regs. 391-3-11-.07(1) [40 C.F.R. § 261.2], must make an accurate determination as to whether that waste is a hazardous waste in order to ensure wastes are properly managed.

Eddy Current Line

The Eddy Current line recovers additional stainless steel and ferrous metals from primarily aluminum material. The remaining material that has completed this process may be further processed in the HS Mill Plant.

The “heavy mids/aluminum” of various sizes are further refined by the Eddy Current Line, where Twitch/aluminum, ferrous concentrates, and Eddy Drops are generated. Twitch/aluminum, and ferrous concentrates are sold as commodities. The Facility representatives describe the Eddy Drops as mostly wire insulation and plastics.

Wastewater Treatment (WWT) Area/Clarifier

The Facility manages process water, wastewater, and ASR sludge on the floor of the Keebler Building and in the WWT Area. It is comingled on the ground where it is exposed to stormwater and additional process water overflowing from an onsite tank. Overflowing process water, stormwater, the wastewater mixed with ASR sludge migrate downgradient to the Jig Pad Area.

The Facility representative informed inspectors that a screw observed in the WWT Area generates a waste, but the waste could be reprocessed. The Facility has historically collected the waste generated at the screw on the floor in the center of the Keebler Building. At the time of the inspection, several sections of the building were observed to be storing this material.

The LSASD Team took a sample of the material that the Facility representative, Alex Camozzi, indicated was the end of the process and would be waste near the screw (Attachment 2, Figures 32, 35, 81 and 82). This sample is referred to as WA03. The total lead concentration was found

to be approximately 1600 mg/kg. Sample WA03 was submitted for the Toxicity Characteristic Leaching Procedure (TCLP). The results of the analysis found the leachable concentration of lead to be 12 mg/L TCLP, which is above the 5 mg/L regulatory threshold for a characteristic hazardous waste, D008. Table 1 below summarizes the WA03 results relevant to the Regional Screening Levels (RSLs) for industrial soils, the maximum concentration for toxicity characteristic (regulatory level), and the universal treatment standard (UTS).

Table 1: WA03 Sample Results

Analyte	Total Metals	TCLP Metals	Regulatory Level	UTS	RSL Industrial Soil
Cadmium	4.6 mg/kg	0.14 J,QR-2 mg/L	1 mg/L	0.11 mg/L	980 mg/kg
Chromium	290 mg/kg	0.10U mg/L	5 mg/L	0.6 mg/L	6.3* mg/kg
Lead	1600J,QC-4 mg/kg	12 mg/L	5 mg/L	0.75 mg/L	800 mg/kg
Zinc	2900 mg/kg	47 mg/L	--	4.3** mg/L	3.5x10 ⁵ mg/kg

*Chromium (IV)

** zinc is not an underlying hazardous constituent (UHC) requiring treatment in characteristic hazardous wastes.

This hazardous waste is accumulated in an open pile on the floor in the WWT Area, where it is exposed to process water and conveyed by the flow, out of the Keebler Building onto the ground (Attachment 2, Figures 36, 37, 87-93).

Pursuant to Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. § 262.17] a large quantity generator of hazardous waste may accumulate hazardous waste in containers, tanks, drip pads, or containment buildings, meeting the prescribed conditions, for no more than 90-days without first obtaining a Permit.

Facility representatives informed the inspectors that sometimes this hazardous waste accumulated beneath the screw in the WWT Area is piled in the building (Attachment 2, Figures 29, 30, 34, 42-48, sometimes placed back in the process and other times placed on the piles outside. In Figure 48 a sign reading “sludge” is seen in the material.

Another sample was collected of the material stored in the middle of the Keebler Building. This sample is referred to as WA04. The total lead concentration was found to be approximately 5600 mg/kg. Sample WA04 was submitted for TCLP analysis. The results of the analysis found the leachable concentration of lead to be 10 mg/L TCLP, which is above the 5 mg/L regulatory threshold for a characteristic hazardous waste, D008. Table 2 below summarizes the WA04 results relevant to the RSLs for industrial soils, the maximum concentration for toxicity characteristic (regulatory level), and the UTS.

Table 2: WA04 Sample Results

Analyte	Total Metals	TCLP Metals	Regulatory Level	UTS	RSL Industrial Soil
Cadmium	38J,QM-3 mg/kg	0.71 mg/L	1 mg/L	0.11 mg/L	980 mg/kg

Chromium	420 mg/kg	0.10U mg/L	5 mg/L	0.6 mg/L	6.3* mg/kg
Lead	5600 mg/kg	10 mg/L	5 mg/L	0.75 mg/L	800 mg/kg

*Chromium (IV)

When asked how long the material had been stored in this area. Facility representatives could not say exactly, only that it had been routine practice to store the material from the screw in the WWT Area in the central areas of the Keebler Building for the last several years.

Pursuant to Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. § 262.17] a large quantity generator of hazardous waste may accumulate hazardous waste in containers, tanks, drip pads, or containment buildings, meeting the prescribed conditions, for no more than 90-days without first obtaining a Permit.

The Facility manages process water, wastewater, and ASR sludge on the floor of the Keebler Complex. The mixture flows through the Keebler Building to the dock area in the WWT Area (Attachment 2, Figures 87-97). where it is the pushed out of the building to the ground below by employees with squeegees. The sampling team collected a sample of this waste material from the ground by the dock in the WWT Area (Attachment 2, Figure 96). This sample is referred to as WA05. The sample is described as sludgy black mud solid with water. This sample was analyzed for total metals and TCLP Metals. Table 3 below summarizes the WA05 results relevant to the RSLs for industrial soils, the maximum concentration for toxicity characteristic (regulatory level), and the UTS.

Table 3: WA05 Sample Results

Analyte	Total Metals	TCLP Metals	Regulatory Level	UTS	RSL Industrial Soil
Arsenic	3 mg/kg	0.10 U mg/L	5 mg/L	5 mg/L	3 mg/kg
Cadmium	7.5 mg/kg	0.28 mg/L	1 mg/L	0.11 mg/L	980 mg/kg
Chromium	130 mg/kg	0.10 U mg/L	5 mg/L	0.6 mg/L	6.3* mg/kg
Lead	1600 mg/kg	24 mg/L	5 mg/L	0.75 mg/L	800 mg/kg

*Chromium (IV)

The sample exceeded the regulatory level for lead making it a D008 hazardous waste when disposed of. Disposal means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid or hazardous waste into or on any land or water so that such solid or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharge into any waters, including groundwaters. This D008 hazardous waste appears to have been disposed onto the ground outside the Keebler Building. The treatment, storage, or disposal of solid or hazardous waste requires permitting. TAV does not have a permit to treat, store or dispose of solid or hazardous waste. Further, when disposing of a D008 hazardous waste the UTS in the land disposal restrictions must be met (see 40 C.F.R. § 268.34). In this instance the sample results indicated that the waste exceeded the UTS for the underlying hazardous constituent cadmium and had not met the requirements for lead.

Pursuant to Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. §262.17(a)(6)], which incorporates Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. § 262.251], and is a condition of the LQG Permit Exemption, a generator is required to maintain and operate its Facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

Pursuant to the Georgia Hazardous Waste Management Act, O.C.G.A. 12-8-66, et seq. as amended [Section 3005 of RCRA, 42 U.S.C. § 6925], owners and operators of treatment, storage and disposal facilities shall obtain a permit for the treatment, storage, and disposal of hazardous waste before first treating, storing, or disposing of hazardous waste.

Pursuant to Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. § 262.17(a)(9)], which incorporates Ga. Comp. R. and Regs. 391-3-11-.16 [40 C.F.R. Part 268], and is a condition of the LQG Permit Exemption, a generator is required to comply with land disposal restrictions (LDR) for hazardous waste, including meeting the UTSs.

The Clarifier (Attachment 2, Figure 38), a square impounding basin used for the removal of suspended solids, collects process water. A flocculant is added to the Clarifier and solids accumulate behind a baffle. A backhoe is used to remove solids from the Clarifier. The operators remove these solids from the Clarifier and place them in pooled areas on the large waste pile on the Hollow Tree parcel (Attachment 2, Figure 40). The large waste pile on the Hollow Tree parcel is situated on the former Keebler asphalt parking lot, next to the Outfall 3.

In the rear of the large waste pile on the Hollow Tree parcel near the settling basin and Outfall 3, the pile is bordered by a few stacked concrete blocks (aka mafia blocks) (Attachment 2, Figures 67 and 68). Inspectors asked for the engineering design and as-built drawings for the former parking area and the stacked concrete block containment. TAV indicated that none are available. TAV claims that the solid waste material continues to contain recoverable metals. However, the inspectors observed that the material is being allowed to wash offsite with stormwater. The Facility does not appear to have managed the material as a commodity.

The sampling team collected a sample of this waste material from the ground by the outfall basin near the waste pile (Attachment 2, Figure 98). This sample is referred to as WA08. The sample is described as dark brown dry dusty solid. This sample was analyzed for total metals and TCLP Metals. Table 4 below summarizes the WA08 results relevant to the RSLs for industrial soils, the maximum concentration for toxicity characteristic (regulatory level), and the UTS.

Table 4: WA08 Sample Results

Analyte	Total Metals	TCLP Metals	Regulatory Level	UTS	RSL Industrial Soil
Arsenic	3.8 mg/kg dry	0.10U mg/L	5 mg/L	5 mg/L	3 mg/kg
Chromium	120 mg/kg dry	0.10U mg/L	5 mg/L	0.6 mg/L	6.3* mg/kg
Lead	2600 mg/kg dry	2.3 mg/L	5 mg/L	0.75 mg/L	800 mg/kg
Zinc	6200 mg/kg dry	19 mg/L	--	4.3** mg/L	3.5x10 ⁵ mg/kg

*Chromium (IV)

****zinc is not a UHC requiring treatment in characteristic hazardous wastes.**

Pursuant to Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. § 262.17(a)(6)], which incorporates Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. § 262.251], and is a condition of the LQG Permit Exemption, a generator is required to maintain and operate its Facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

Pursuant to Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. § 262.17(a)(9)], which incorporates Ga. Comp. R. and Regs. 391-3-11-.16 [40 C.F.R. Part 268], and is a condition of the LQG Permit Exemption, a generator is required to comply with land disposal restrictions (LDR) for hazardous waste, including meeting the UTSS.

The routine practice of mixing process material and waste from the process back onto the waste pile on the 111 Hollow Tree parcel appears to constitute illegal treatment, storage, and disposal of a hazardous waste.

Pursuant to the Georgia Hazardous Waste Management Act, O.C.G.A. 12-8-66, et seq. as amended [Section 3005 of RCRA, 42 U.S.C. § 6925], owners and operators of treatment, storage and disposal facilities shall obtain a permit for the treatment, storage, and disposal of hazardous waste before first treating, storing, or disposing of hazardous waste.

Jig Pad Area

The Jig Pad Area is immediately to the north of the Jig/Twitch Room Plant. This area is used to collect water (stormwater, contact runoff, noncontact runoff, and process water) (Attachment 2, Figures 73-77). This area was formerly an asphalt parking lot. This area is downgradient of the Wastewater Treatment (WWT) Area and collects all overflow from the WWT Area. Outfall 2 is located adjacent to the Jig Pad Area. The Jig Area is not designed sufficiently to hold process water or waste. The inspectors requested documentation regarding the design parameters of the area. The inspectors were informed by Facility representatives that the area is secured to the north by large blocks, sealed together with Great StuffTM and/or expanding foam, and that no design information was available. At the time of the inspection, a frac tank was stored in the Jig Pad Area. The TAV representative informed inspectors that the frac tank had been brought in to hold water that was ponding in the Jig Pad Area in an effort to better control the water.

The sampling team collected a sample from the Jig Pad Area. This sample is referred to as WA01. The sample is described as brown multi-phase liquid with brown solids with gravel and metal debris. This sample was analyzed for total metals and TCLP Metals. Table 5 below summarizes the WA01 results relevant to the RSLs for industrial soils, the maximum concentration for toxicity characteristic (regulatory level), and the UTS.

Table 5: WA01 Sample Results

Analyte	Total Metals	TCLP Metals	Regulatory Level	UTS	RSL Industrial Soil
Cadmium	1.8 mg/kg	0.32 mg/L	1 mg/L	0.11 mg/L	9.8x10 ² mg/kg
Chromium	24 mg/kg	0.10 mg/L	5 mg/L	0.6 mg/L	6.3* mg/kg

Copper	730 mg/kg		--		4.7x10 ⁴ mg/kg
Lead	300 mg/kg	21 mg/L	5 mg/L	0.75 mg/L	800 mg/kg

*Chromium (VI)

Pursuant to Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. § 262.17(a)(6)], which incorporates Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. § 262.251], and is a condition of the LQG Permit Exemption, a generator is required to maintain and operate its Facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

Pursuant to Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. § 262.17(a)(9)], which incorporates Ga. Comp. R. and Regs. 391-3-11-.16 [40 C.F.R. Part 268], and is a condition of the LQG Permit Exemption, a generator is required to comply with land disposal restrictions (LDR) for hazardous waste, including the requirement to meet UTSS.

Pursuant to the Georgia Hazardous Waste Management Act, O.C.G.A. 12-8-66, et seq. as amended [Section 3005 of RCRA, 42 U.S.C. § 6925], owners and operators of treatment, storage and disposal facilities shall obtain a permit for the treatment, storage, and disposal of hazardous waste before first treating, storing, or disposing of hazardous waste.

TAV appears to be claiming that the Jig Pad is part of its process. However, the Jig Pad does not appear to have the structural integrity required to be considered a process unit. The Jig Pad closely resembles a surface pond, a land-based unit, which cannot be a manufacturing process unit.

Rear of Keebler Complex

Inspectors observed retired or unused equipment and retained samples in 5-gallon buckets stored inside the main floor of the Keebler Building. This equipment did not appear to have been cleared of the ASR material prior to being placed in storage. The ASR material was observed to be in the equipment and being released to the floor surrounding the equipment. The 5-gallon buckets were open and appeared to be unlabeled. (Attachment 2, Figure 49-53)

Pursuant to Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. § 262.11], a person who generates a solid waste, as defined in Ga. Comp. R. and Regs. 391-3-11-.07(1) [40 C.F.R. § 261.2], must make an accurate determination as to whether that waste is a hazardous waste in order to ensure wastes are properly managed.

Inspectors observed equipment stored in the rear of the Keebler Complex that contained ASR waste. This equipment appeared to have been retired and the Facility had failed to remove the waste prior to placing it outside. (Attachment 2, Figures 64 and 65)

Pursuant to Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. § 262.17(a)(6)], which incorporates Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. § 262.251], and is a condition of the LQG Permit Exemption, a generator is required to maintain and operate its Facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-

sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

Basement of the Keebler Building

Inspectors observed equipment in the rear portion of the Basement of the Keebler Building (Attachment 2, Figures 54-61). Inspectors were informed that the equipment was a furnace and a baghouse for the furnace. Inspectors observed a strong smell of ammonia in the area. Facility representatives informed inspectors that the furnace had been used in an effort to melt aluminum, but had not continued, or been permitted. Inspectors observed several piles of whitish material in the basement (Attachment 2, Figure 57).

Outfall 3

The inspectors observed Outfall 3 (Attachment 2, Figures 66, 69-71, and 100) in the northwest corner of the former Keebler Complex parking lot near the large waste pile on the Hollow Tree parcel. The area had a large concrete settling basin that appeared to be used to separate solids from liquids. At the time of the CDIE, the basin was completely full of sludge. Evidence of stormwater and sludge overflowing the basin and by-passing the outfall can be seen in Attachment 2, Figure 100.

The stormwater and sludge overflowing the basin and bypassing Outfall 3 was sampled. This sample is referred to as WA07 and is described as a dark brown dry dusty solid. Table 6 below summarizes the WA07 results relevant to the RSLs for industrial soils, the maximum concentration for toxicity characteristic (regulatory level), and the UTS.

Table 6: WA07 Sample Results

Analyte	Total Metals	TCLP Metals	Regulatory Level	UTS	RSL Industrial Soil
Cadmium	10 mg/kg	0.26 mg/L	1 mg/L	0.11 mg/L	980 mg/kg
Chromium	120 mg/kg	0.10U mg/L	5 mg/L	0.6 mg/L	6.3* mg/kg
Lead	1700 J,QC-4 mg/kg	9.1 mg/L	5 mg/L	0.75 mg/L	800 mg/kg
Zinc	4600 mg/kg	76 mg/L	--	4.3** mg/L	3.5x10 ⁵ mg/kg

*Chromium (VI)

**zinc is not a UHC requiring treatment in characteristic hazardous wastes.

Pursuant to Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. § 262.17(a)(6)], which incorporates Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. § 262.251], and is a condition of the LQG Permit Exemption, a generator is required to maintain and operate its Facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

Pursuant to Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. § 262.17(a)(9)], which incorporates Ga. Comp. R. and Regs. 391-3-11-.16 [40 C.F.R. Part 268], and is a condition of the LQG Permit Exemption, a generator is required to comply with land disposal restrictions (LDR) for hazardous waste, including the requirement to meet UTSs.

Pursuant to the Georgia Hazardous Waste Management Act, O.C.G.A. 12-8-66, et seq. as amended [Section 3005 of RCRA, 42 U.S.C. § 6925], owners and operators of treatment, storage and disposal facilities shall obtain a permit for the treatment, storage, and disposal of hazardous waste before first treating, storing, or disposing of hazardous waste.

Laydown Yard (Boneyard) and Stored Waste

The parcel (3320 Empire) across the street from 3311 Empire Boulevard was observed to be used for storing old equipment and solid waste material in another very large substantial pile. The small particle sized waste (the majority less than 60 mm) is piled in a landfill-like fashion as seen in Attachment 2, Figures 111-112. The Facility claims that the solid waste material continues to contain recoverable metals. However, the inspectors observed that the material is being allowed to wash offsite with stormwater. The Facility appears to have failed to manage the material as a commodity.

Inspectors were informed that material that was to be reprocessed or was waste, and/or was in the way at the Keebler Complex (obstructing equipment) was placed on this pile and blended in. Specifically, the material previously discussed and sampled (WA03 and WA04) in the Keebler Building is placed on the pile. Both samples of the material in the Keebler Building were found to exceed the TCLP regulatory limit for lead (5 mg/L). Therefore, TAV has been placing characteristically hazardous waste on the pile and blending it in, without regard to RCRA regulation, including land disposal restrictions. Table 7 below summarizes the WA09 results relevant to the RSLs for industrial soils, the maximum concentration for toxicity characteristic (regulatory level), and the UTS. The sample taken of the material was not intended to provide a comprehensive characterization of the waste in the pile. Although the results did not fail TCLP, lead is present in the waste pile above UTS.

Table 7: WA09 Sample Results

Analyte	Total Metals	TCLP Metals	Regulatory Level	UTS	RSL Industrial Soil
Chromium	120 mg/kg dry	0.10U mg/L	5 mg/L	0.6 mg/L	6.3* mg/kg
Lead	1400 mg/kg dry	3.6 mg/L	5 mg/L	0.75 mg/L	800 mg/kg

*Chromium (VI)

Pursuant to Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. § 262.17(a)(6)], which incorporates Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. § 262.251], and is a condition of the LQG Permit Exemption, a generator is required to maintain and operate its Facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

Pursuant to Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. § 262.17(a)(9)], which incorporates Ga. Comp. R. and Regs. 391-3-11-.16 [40 C.F.R. Part 268], and is a condition of the LQG Permit Exemption, a generator is required to comply with land disposal restrictions (LDR) for hazardous waste.

The routine practice of mixing process material and waste from the process back onto the waste pile on the 3320 parcel appears to constitute illegal treatment, storage, and disposal of a hazardous waste.

Pursuant to the Georgia Hazardous Waste Management Act, O.C.G.A. 12-8-66, et seq. as amended [Section 3005 of RCRA, 42 U.S.C. § 6925], owners and operators of treatment, storage and disposal facilities shall obtain a permit for the treatment, storage, and disposal of hazardous waste before first treating, storing, or disposing of hazardous waste.

Additionally, the large piles of waste at the Facility pose potential fire concerns. The ASR waste material piled in a landfill like fashion, can generate internal heat from composting and other reactions, which may result in fire and the release of toxic fumes and smoke.

Inspectors observed containers stored outside in the laydown/boneyard area at 3320 Empire. At least one of these containers held liquid. This container was open, and unlabeled at the time of the inspection. Additionally, the inspectors observed an aerosol can discarded in the container (Attachment 2, Figures 106, 108, 109, 119 and 120).

Pursuant to Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. § 262.11], a person who generates a solid waste, as defined in Ga. Comp. R. and Regs. 391-3-11-.07(1) [40 C.F.R. § 261.2], must make an accurate determination as to whether that waste is a hazardous waste in order to ensure wastes are properly managed.

The equipment stored in the boneyard at 3320 Empire did not appear to have been cleared of the ASR material prior to being placed outside for storage. The ASR material was observed to be in the equipment and being released to the ground surrounding the equipment (Attachment 2, Figure 107-112, 116-120).

Pursuant to Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. § 262.11], a person who generates a solid waste, as defined in Ga. Comp. R. and Regs. 391-3-11-.07(1) [40 C.F.R. § 261.2], must make an accurate determination as to whether that waste is a hazardous waste in order to ensure wastes are properly managed.

Discussion with Mr. Valerio

Mr. Valerio met briefly with the inspectors to discuss the process and procedures at the Facility. Mr. Valerio described the ‘auto sampling’ method used to sample the material stored and produced by the TAV. Inspectors asked if the piles had been sampled. Mr. Valerio informed the inspectors that the piles had been sampled and that they contained between 6-25% metals. He informed the inspectors that the piles are analyzed prior to processing. The sampling procedure is to split the sample and then ash (a process where a portion of the waste is burned off) one portion prior to analyzing it. The lab uses an Optima 8000, optical emission spectrometer to conduct some of its analyses. Mr. Valerio committed to providing a process diagram to the inspectors by October 22, 2021. Mr. Valerio informed the inspectors that TEC Services provides TAV laboratory services for material intended to be used in concrete.

Laboratory

Facility representatives were able to inform inspectors of the percent metal content in various piles of the solid waste material onsite. The inspectors spoke with the Joe Blackmon-Dishaw, Laboratory Manager, who explained that all the material sold from the Facility is sampled and sometimes analyzed prior to leaving the Facility, that at least some of the material is analyzed prior to processing, and some in-process material had been analyzed. Inspectors were told that all the samples ever analyzed are stored in an onsite data system. The inspectors asked what the

average amount of lead in the samples analyzed had been and requested the ability to review the data. The inspectors were informed that lead content could range from 0.25% to 13% but it was not clear what material this estimate was for. The data was not made available for review at the time of the inspection but was subsequently requested formally.

The inspectors observed a box holding nine (9) 2.5-liter bottles of waste nitric acid and waste hydrochloric acid. The bottles collecting waste were labeled with the product labels and were not labeled hazardous waste or dated. The technician estimated that a 2.5-liter bottle takes approximately 1 month to accumulate. The Facility labeled the containers hazardous waste.

Pursuant to Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. § 262.17(a)(5)(i)], which is a condition of the LQG Permit Exemption, a generator must mark or label its containers with the following: the words “Hazardous Waste”; an indication of the hazards of the contents; and the date upon which each period of accumulation begins clearly visible for inspection on each container.

The inspectors observed a storage room near the lab. The Laboratory Manager explained that this area was used to store 5-gallon containers of retained samples and used lead assays. The lead assays were the remaining waste following the analysis.

Pursuant to Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. § 262.11], a person who generates a solid waste, as defined in Ga. Comp. R. and Regs. 391-3-11-.07(1) [40 C.F.R. § 261.2], must make an accurate determination as to whether that waste is a hazardous waste in order to ensure wastes are properly managed.

In the utility room inspectors observed numerous spent universal waste lamps. The spent lamps were not properly contained, dated, or labeled.

Pursuant to Ga. Comp. R. and Regs. 391-3-11-.18 [40 C.F.R. § 273.14(e)], a SQHUW must label or mark each lamp or container of lamps clearly with one of the following phrases: “Universal Waste-Lamp(s),” or “Waste Lamp(s),” or “Used Lamps.”

Pursuant to Ga. Comp. R. and Regs. 391-3-11-.18 [40 C.F.R. § 273.15(a) and (c)], a SQHUW may accumulate universal waste no longer than one year and must to be able to demonstrate the length of time that the universal waste has accumulated from the date that it became a waste or was received.

Pursuant Ga. Comp. R. and Regs. 391-3-11-.18 [40 C.F.R. § 273.13(d)], a SQHUW must manage universal waste lamps in a way that prevents releases of any universal waste or component of a universal waste to the environment.

Unnamed Tributary of the South River

The sampling team collected two (2) sediment samples from the unnamed tributary of the South River near the TAV Facility and one upstream from the Facility. These sample locations were denoted SD01-SD03.

The sediment samples collected at SD01 and SD02 are described as dark brown-gray silty solid with water. The background sediment sample collected at SD03 is described as a sandy, gritty

solid. These samples were analyzed for total metals and TCLP Metals. Table 8 below summarizes the sediment sample results from all the stations in the unnamed tributary relevant to the RSLs for residential soils, the maximum concentration for toxicity characteristic (regulatory level), and the UTS.

Pursuant to Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. § 262.17(a)(6)], which incorporates Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. § 262.251], and is a condition of the LQG Permit Exemption, a generator is required to maintain and operate its Facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous waste or hazardous waste constituents to air, soil, or surface water which could threaten human health or the environment.

Pursuant to Ga. Comp. R. and Regs. 391-3-11-.08(1) [40 C.F.R. § 262.17(a)(9)], which incorporates Ga. Comp. R. and Regs. 391-3-11-.16 [40 C.F.R. Part 268], and is a condition of the LQG Permit Exemption, a generator is required to comply with land disposal restrictions (LDR) for hazardous waste.

Pursuant to the Georgia Hazardous Waste Management Act, O.C.G.A. 12-8-66, et seq. as amended [Section 3005 of RCRA, 42 U.S.C. § 6925], owners and operators of treatment, storage and disposal facilities shall obtain a permit for the treatment, storage, and disposal of hazardous waste before first treating, storing, or disposing of hazardous waste.

The sediment in the unnamed tributary exceeds the regulatory limit for lead, making it a characteristic hazardous waste (D008). This appears to be a result of ongoing releases of hazardous waste from the TAV Facility. The background sample collected had significantly lower levels.

Table 8: SD01, SD02 and SD03 Sample Results

	SD01		SD02		SD03 (Background)		Regulatory Level	UTS	RSL Residential Soil
Analyte	Total Metals	TCLP Metals	Total Metals	TCLP Metals	Total Metals	TCLP Metals			
Antimony	59 mg/kg dry	0.10 U mg/L	48 J,O mg/kg dry	0.10 U mg/L	0.20 U mg/kg dry	0.10 U mg/L		1.15 mg/L	31 mg/kg
Arsenic	7.2 mg/kg dry	0.10 U mg/L	6.3 J,O mg/kg dry	0.10 U mg/L	0.67J,QC-2 mg/kg dry	0.10 U mg/L	5 mg/L	5 mg/L	0.68 mg/kg
Cadmium	24 mg/kg dry	0.3 mg/L	12 J,O mg/kg dry	0.23 J,O mg/L	0.099 U mg/kg dry	0.050 U mg/L	1 mg/L	0.11 mg/L	710 mg/kg
Chromium	200 mg/kg dry	0.10 U mg/L	180 mg/kg dry	0.10 U mg/L	9.6 mg/kg dry	0.10 U mg/L	5 mg/L	0.6 mg/L	0.3 mg/kg
Copper	10000 mg/kg dry		4500 mg/kg dry		10 mg/kg dry		--		3100 mg/kg
Lead	5400 mg/kg dry	8.2 mg/L	2000 mg/kg dry	12 mg/L	11 mg/kg dry	0.10 U mg/L	5 mg/L	0.75 mg/L	400 mg/kg
Nickel	230 mg/kg dry	0.31 mg/L	160 mg/kg dry	0.47 mg/L	5.0 U mg/kg dry	0.20 U mg/L	--	11 mg/L	1500 mg/kg
Zinc	11000 QC-4 mg/kg dry	51 mg/L	5600 mg/kg dry	69 mg/L	54 mg/kg dry	0.31 J,QR-1 mg/L	--	4.3* mg/L	23000 mg/kg

*zinc is not a underlying hazardous constituent requiring treatment in characteristic hazardous wastes.

Records

The inspectors requested specific records required for LQGs at the time of the inspection, but no records were available for review. Following the CDIE, the EPA issued a Request for Information (RFI) pursuant to Section 3007 of RCRA. The information provided in response to the RFI indicates that no waste was shipped from the Facility from September 2018 to October 2021. Therefore, it appears that the material accumulated in the piles at the Facility has been speculatively accumulated, as defined by RCRA.

Pursuant to Ga. Comp. R. and Regs. 391-3-11-.07(1) [40 C.F.R. § 261.1(c)(8) and 40 C.F.R. § 261.2(e)(2)], materials accumulated speculatively are solid wastes, even if the recycling involves use, reuse, or return to the original process.

Pursuant to Ga. Comp. R. and Regs. 391-3-11-.07(1) [40 C.F.R. § 260.43(a)(1) and (2)], the recycling of hazardous secondary materials for the purpose of the exclusions or exemptions from the hazardous waste regulations must be legitimate. Hazardous secondary material that is not legitimately recycled is discarded material and is a solid waste. In determining if their recycling is legitimate, persons must address all the requirements of these paragraph and must consider the requirements of 40 C.F.R. § 260.43(b).

Pursuant to Ga. Comp. R. and Regs. 391-3-11-.07(1) [40 C.F.R. § 261.2(f)], Respondents in actions to enforce regulations implementing subtitle C of RCRA who raise a claim that a certain material is not a solid waste, or is conditionally exempt from regulation, must demonstrate that there is a known market or disposition for the material, and that they meet the terms of the exclusion or exemption. In doing so, they must provide appropriate documentation (such as contracts showing that a second person uses the material as an ingredient in a production process) to demonstrate that the material is not a waste, or is exempt from regulation. In addition, owners or operators of facilities claiming that they actually are recycling materials must show that they have the necessary equipment to do so.

12) Closing Conference

At approximately 5:30 pm a closing conference was held which included all the inspectors and sampling support staff, and Alex Camozzi and Bob Brown from TAV. During the Closing Conference the seriousness of the conditions at the facility was conveyed, and split samples were provided to TAV. Alex Camozzi informed the inspectors that TAV had cleaned out the settlement basin prior to Outfall 3.

13) Attachments

Attachment 1: Sampling Report

Attachment 2: Photos taken by Brooke York during CDIE

Attachment 3: Photos taken by David Champagne during CDIE

14) **Signed**

BROOKE YORK

Brooke York
Inspector and Author of Report

 Digitally signed by BROOKE YORK
Date: 2022.07.20 15:36:39 -04'00'

Date

15) **Concurrence and Approval**

ARACELI CHAVEZ

Araceli B. Chavez
Chief
RCRA Enforcement Section

 Digitally signed by ARACELI CHAVEZ
Date: 2022.07.20 15:45:30 -04'00'

Date