RCRA Inspection Report

1) Inspectors and Authors of this Report

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RCRA Enforcement Section
Chemical Safety and Land Enforcement Branch
Enforcement and Compliance Assurance Division
U.S. Environmental Protection Agency (EPA), Region 4
61 Forsyth Street, S.W.
Atlanta, Georgia 30303

2) Facility Information

TAV Holdings, Inc.
3311 Empire Boulevard, SW
Atlanta, Georgia 30354
EPA ID: GAD033537663

3) Responsible Officials

Brent Fairchild
TAV Holdings, Inc. (TAV)
Environmental, Health and Safety Director

4) Inspection Participants

Brooke York, EPA
Mark Anthony Relon, EPA
William Kappler, EPA
Paula Whiting, EPA
Brent Fairchild, TAV
Ricky Cosme, TAV
Claiborne Thorton, Industrial Environmental Consultants (IEC)
Tanner Mikell, IEC

Zachary Watson, IEC

5) Date and Time of Inspection

November 1, 2022, 9:00 AM eastern time

6) Applicable Authority

Sections 7003(a) and 3007 of the Resource Conservation and Recovery Act (RCRA), 42 U.S.C. §§ 6973(a) and 6927; RCRA 7003 Administrative Order, Docket No.: RCRA-04-2022-2101, issued January 10, 2022 (hereinafter, "RCRA 7003 Order").

7) Purpose of Inspection

The purpose of this inspection was to conduct an announced focused compliance inspection (FCI) and sampling oversight to evaluate TAV's compliance status with the applicable requirements set forth in the EPA's RCRA 7003 Order. Samples were collected for characterization of waste generated from a pilot test run of the Falling Velocity Separator (FVS) prior to Ball Mill No. 1, and of waste filter cake generated from the filter press stored inside the Keebler Building.

8) Previous Inspection History

Georgia Environmental Protection Division (GAEPD) and/or EPA have conducted five (5) previous site visits or RCRA Inspections at the subject Facility within the last year, including: 1) an October 6, 2021 RCRA Compliance Evaluation Inspection (CEI); 2) an October 20, 2021 RCRA Case Development Inspection Evaluation (CDIE), which included waste, sediment, and surface water sampling; 3) a December 6, 2021 site visit with Occupational Safety and Health Administration (OSHA) inspectors; 4) a January 28, 2022 Focused Compliance Inspection (FCI); and 5) a June 22, 2022 FCI.

9) Facility Description

TAV (hereinafter, also referred to as the "Facility") includes offices and warehouse storage at 3311 Empire Boulevard, SW; the northern portion of the parking lot at 3325 Empire Boulevard, SW; the Keebler Complex (three (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 lay-down yard and stockpile at 3320 Empire Boulevard, SW. The TAV Facility receives automobile shredder residue (ASR), aluminum shredder residue, waste electrical and electronic equipment, material mined from solid waste landfills, and incinerator ash from multiple sources, and processes it to recover metals.

10) Opening Conference

On November 1, 2022, EPA inspectors Brooke York, Mark Anthony Relon, William Kappler, and Paula Whiting, EPA Laboratory Services and Applied Science Division (LSASD) Project Leader, arrived at TAV at approximately 9:00 AM. Brent Fairchild, TAV Environmental, Health and Safety Director, immediately received the inspectors. Brent Fairchild, and the inspectors were joined by IEC representatives Claiborne Thorton, Tanner Mikell, and Zachary Watson, for the opening conference. The inspectors introduced themselves, showed their credentials to Brent Fairchild, and explained the purpose of the visit. The inspectors described the anticipated use of equipment (digital camera) during the inspection. The inspectors discussed the company's ability, pursuant to 40 C.F.R. § 2.203, to assert a business confidentiality claim for information submitted to EPA. The company asserted a business confidentiality claim. The inspection participants also discussed health and safety protocols and required personal protective equipment before Brent Fairchild led the inspectors on a tour of the Facility operations.

Brent Fairchild provided an overview of the facility's history and current operations during the opening conference. The company does not appear to meet the Small Business Regulatory Enforcement Fairness Act's classification of a "small business," which is generally set by the Small Business Administration using the business' SIC/NAICS code and annual receipts or number of employees. Therefore, the EPA inspector did not provide a copy of the agency's information sheet for small businesses, which can be found at https://www.epa.gov/compliance/small-business-resources-information-sheet.

11) Findings

Gravity Wall Pond

The EPA observed the area that had previously been included/discussed as part of the Jig Pad. This area includes the pond in the north area (a portion of the old Keebler parking lot), which is bordered by the Gravity Wall to the north, the Jig Pad and Keebler Complex to the south, the Keebler Pile to the west, and the Receiving Area to the east. For the purposes of this report, this area is referred to as the "Gravity Wall Pond."

At the time of the previous FCI on June 22, 2022, Brent Fairchild informed the inspectors that the waste was being moved from the large pile on the northwest portion of the property (the "Keebler Pile") around the building for processing. In TAV's September 19, 2022 weekly report, TAV notified the EPA that it had cleared the Keebler Pile. However, the inspectors observed that the Keebler Pile was still present, and it still contained ASR waste material (Figures 1 and 3) during this FCI. The inspectors observed the area to be less accessible than it was during the previous FCI; therefore, photos were taken further away near the Bunker Area. TAV claims it is continuing to reduce the remainder of the ASR waste material.

Bunker Area and Outfall 003

In TAV's August 2022, Stormwater Pollution Prevent Plan (SWPPP), the outfall behind the

bunkers is identified as Outfall 003 and will be referenced as such in this report. The area to the west of Outfall 003 consists of two (2) bunkers made from concrete blocks (referred by TAV as "mafia blocks") and agricultural hoop house material. At the time of the FCI, according to TAV representatives the bunkers were storing ASR waste material from the 3320 Empire Boulevard parcel (Figure 4 and 16; right side) and iron product (Figure 4 and 16, left side; Figure 5).

The inspectors observed a settlement basin, concrete conveyance, and Outfall 003 between the bunker and the 3311 Building (Figure 2, and Figures 32-38). The sedimentation basin contained water and sediment (Figure 32). An Adler portable container and pump were situated to the south of the sedimentation basin, which appeared to be used to pump water accumulating in the sedimentation basin to the Adler potable tank. The inspectors observed the tank leaking (Figure 60).

Falling Velocity Separator (FVS) Sampling

During previous discussions between TAV and EPA, TAV proposed to change its process, to include a FVS prior to Ball Mill #1. TAV proposed to pilot this process change, in an effort to remove the "lights" from the ASR waste material prior to the Ball Mill #1, which would increase the efficiency of the process (up to four (4) times its current processing speed). This proposed process change would result in the generation of a waste stream. Therefore, sampling for waste characterization was determined to be necessary during the pilot. ASR waste material from the 3320 Empire Boulevard parcel was included in the pilot sample study (Figures 6, 12-15).

The FVS is a wet process that separates ASR waste material using specific gravity, into two separate streams which TAV refers to as "lights" and "heavies" (Figures 17 and 19). As planned, during the pilot the lights were accumulated in a roll-off container and collected for waste characterization sampling (Figures 24 and 26). The heavies were accumulated outside opposite the roll-off container (Figure 25) on the asphalt. For the purpose of the FVS pilot study, Brent Fairchild explained that the heavies will be collected in a pile rather than being fed to the process. Ricky Cosme, a facility personnel escort, provided the inspectors access to the other side of the FVS. A defoamer additive was introduced (Figure 23).

The inspectors observed, miscellaneous piles consisting of what appeared to be ASR waste material comingled with other wastes, sand, and/or filter cakes located on the east side of the alley adjacent to the FVS (Figures 7-11, 21, and 22). Inspectors asked Brent Fairchild to identify the miscellaneous piles (from Figures 8-11), but facility representatives had no knowledge of what was in the piles in question and did not know if it was for the pilot sampling.

The inspectors observed wastewater accumulated near the FVS flowing toward the Bunker Area (Figures 27-31).

The inspectors observed TAV and IEC collecting samples from the FVS in 5-gallon

containers (Figures 18-20). The containers were then taken near the receiving area where a table had been set up to complete the sampling process for the FVS pilot test run. Sample materials were removed from the containers and evenly spread out onto a table before the material was divided by hand into nine sections. Approximately one liter of material was randomly picked from each section for a total of 10 samples. At approximately 11:30 AM, TAV and IEC determined the pilot was complete (Figures 39-41).

Gravity Wall

A concrete curb and gutter-type conveyance extends from the settlement basin at Outfall 003 behind the Gravity Wall to at least one storm drain (Figures 33-38). This conveyance appeared to be the original curb and gutter associated with the parking lot.

The inspectors observed at least one storm drain in the conveyance(Figure 34-38). Evidence of leaching was observed in the conveyance. The leaching appeared to come from under the Gravity Wall, and from beneath the concrete of the conveyance (Figures 33-38).

Keebler Pile

TAV notified the EPA on September 19, 2022 in their weekly report "TAV has cleared the Keebler material pile, in compliance with the parties' target date of Thursday, September 15, 2022, and is now beginning remediation efforts to clear any remaining material that was inaccessible."

The inspectors observed the Keebler Pile (Figures 43-46). The remaining ASR waste material can be seen in Figures 49-52, and Figures 54-58. Additionally, it appeared that most of the ASR waste material that had been in the Keebler Pile was now piled in the Gravity Wall Pond Area.

Outfall 002 near Northwest Corner of the Facility

The inspectors observed standing liquid in the sedimentation basin associated with Outfall 002 (as described by the SWPPP), northwest of the Keebler Pile, with a pump nearby (Figures 47-48).

Filter Cake Piles

In the Keebler Building, inspectors observed sections of the building identified by alphanumeric signs storing piles of waste, with no distinguishable barriers or containment to separate each pile. The alphanumeric signs were displayed on metal columns throughout the area ranging from A1 to H17.

The purpose of the sampling in this area was to characterize piles of filter cakes. Inspectors observed potential commingling from other piles of ASR waste material, which did not appear to be filter cakes. Inspectors asked facility personnel to indicate specifically which filter cake piles were being characterized. The facility claimed the filter cake piles that would be characterized included all material from columns C5 to C9 and I5 to I9 (Figures 61-

67). Refer to Appendix B for approximate location of ASR waste material (Note: yellow color indicates the facility's claimed filter cake pile that would be characterized by the sampling).

The inspectors observed unknown piles, which appeared to be different than the filter cake piles. TAV did not claim the piles of unknown waste as part of the filter cake characterization (Figures 69-73, and 85). The inspectors discovered miscellaneous materials beside the piles such as process equipment, containers with unknown liquids, and trash (Figures 74-75). Refer to Appendix B for approximate locations of miscellaneous material. During the filter cake sampling, the inspectors identified sampling protocols conducted by the facility to differ from the original sampling protocol description that was submitted to the EPA.

Process Area/Process Water Tanks/Jig Pad Area

The inspectors observed the Process Area with wastewater and waste on the floor (Figures 76-77, 79-84). Access to the process water tanks were in a similar state found during the previous inspection (Figure 84). The floor around the filter press contained wastewater with no secondary containment (Figure 79-81). Inspectors observed the sedimentation basin nearby the process tanks (referred to in previous Reports as the "Clarifier") (Figures 78, 82-83). Inspectors observed process water draining from the equipment in the Jig Pad Area (Figure 53). The ponded water in the Jig Pad Area was observed to be at full capacity and had no free board available to accommodate any additional material.

Access Road and Unnamed Tributary

The inspectors observed signage, and fencing had been installed to limit access (Figures 86 and 87). The inspectors observed ground surfaces and surface water near Outfall 001 and creek for releases of ASR waste (Figures 88 and 89).

After entering the vegetative overgrowth and woods area behind the Bunker Area, the inspectors discovered what appeared to be discharges from the Outfall 003 being released from the site (Figures 90 and 91).

12) Closing Conference

The inspectors conducted the exit meeting at 6:51 PM with Brent Fairchild. During this meeting, the inspectors stated the preliminary findings of the inspection. TAV agreed to provide the sample results for the FVS and filter cake piles by Friday, November 4, 2022. The inspectors requested the chain of custody forms regarding the FVS and filter cake samples by Tuesday, November 1, 2022. On November 1, 2022, TAV provided the FVS sample chain of custody and on November 9, 2022, provided the filter cake sample chain of custody. On Friday, November 18, 2022, TAV provided the sample results for the FVS and filter cake piles in an email to Brooke York and Mark Anthony Relon.

13) Sampling Overview

The final Sampling Investigation Final Report from the oversight activities discussed herein can be reviewed in Appendix C.

14) Inspection Findings

Based on the observations on November 1, 2022, TAV does not appear to be in compliance with the EPA RCRA 7003 Order.

Pursuant to Paragraph 82 of the RCRA 7003 Order, Respondents must "immediately cease all activities (including operations, business practices, and material management, including commingling, mixing, and receipt and transfer of ASR waste) that may result in the release of solid and/or hazardous waste into the environment, including, but not limited to, ceasing the placement of ASR waste, intermediates from the processing of ASR waste, materials resulting from the processing of ASR waste, wastewaters and/or process waters, sludge, and/or any other wastes, directly onto the ground, including onto asphalt, concrete, or other surfaces."

15) List of Appendices

Appendix A– Photograph Log:
Photographs taken on: November 1, 2022
Photos taken by: William Kappler
Photos taken with: Samsung Camera (Model WB250F)
EPA Property Tag: # S75917

Appendix B – Approximation of ASR Waste Material Stored in Keebler Building

Appendix C- Project ID: 23-0046 Sampling Investigation Final Report TAV Holdings, Inc. – Atlanta, Georgia

16) Signed

ARACELI CHAVEZ Digitally signed by ARACELI CHAVEZ
Date: 2023.02.02 13:42:05 -05'00'

for William Kappler — Date
Physical Scientist

MARK ANTHONY RELON Digitally signed by MARK ANTHONY RELON
Date: 2023.02.02 10:29:00 -05'00'

Mark Anthony Relon Date
Environmental Engineer

BROOKE YORK Digitally signed by BROOKE YORK
Date: 2023.02.02 10:23:28 -05'00'

Brooke York Date
Environmental Engineer

17) <u>Concurrence</u>

ARACELI CHAVEZ Digitally signed by ARACELI CHAVEZ
Date: 2023.02.02 13:42:45 -05'00'

Araceli B. Chavez Date
Chief
RCRA Enforcement Section

Appendix A

Photograph Log
Photographs taken on: November 1, 2022
Photos taken by: William Kappler
Photos taken with: Samsung Camera (Model WB250F)
EPA Property Tag: # S75917

Figure 1: 111 Hollow Tree Lane (HTL). Observed previous ASR Pile storage area 9:49 am. View North to Northwest.

Figure 2: HTL. Observed right bunker and concrete culvert area 9:49 am. View North.

Figure 3: HTL. Adjacent Old Keebler Plant. Observed several piles of filter cake, sand & other unknown material. Observed wastewater on ground 9:49 am. View North to Northwest.

Figure 4: HTL. Observed left bunker storing possible recovered iron and right bunker for ASR storage. Observed wastewater on the ground 9:49 am. View North.

Figure 5: HTL. Observed right bunker for ASR storage. Observed sand in piles. Observed wastewater comingled. 9:49 am. View North to Northwest.

Figure 6: HTL. Old Keebler Plant. ASR loading area for TAV process 9:51 am. View North.

Figure 7: HTL. Adjacent Old Keebler Plant. Observed an assortment of recovered material & various waste piles on ground adjacent to TAV processing area 9:52 am. View South to Southwest

Figure 8: HTL. Adjacent Old Keebler Plant. Observed an assortment of comingled waste piles with sand on ground adjacent to TAV processing area 9:52 am. View South.

Figure 9: HTL. Adjacent Old Keebler Plant. Observed an assortment of comingled waste piles on ground adjacent to TAV processing area 9:53 am. View South.

Figure 10: HTL. Adjacent Old Keebler Plant. Observed an assortment of comingled waste piles with sand on ground adjacent to TAV processing area 9:55 am. View South.

Figure 11: HTL. Adjacent Old Keebler Plant. Observed comingled waste piles with sand on ground adjacent to TAV processing area. 955 am.

Figure 12: HTL. Adjacent Old Keebler Plant. Observed comingled waste pile with 3320 Empire ASR. Loader Bucket occasionally feeds into process 10 am. View toward building.

Figure 13: HTL. Adjacent Old Keebler Plant. Observed front end loader with bucket feeding ASR to process. 10:02 am. View toward building.

Figure 14: HTL. Adjacent Old Keebler Plant. 3320 Empire ASR used for FVS pilot sampling 10:07 am. View North.

Figure 15: HTL. Adjacent Old Keebler Plant. 320 Empire ASR used for FVS pilot sampling 10:07 am. View North.

Figure 16: HTL. Adjacent Old Keebler Plant. Bunker storage. Left bunker has iron material and right bunker has 3320 Empire ASR 10:07 am. View North.

Figure 17: HTL. Adjacent Old Keebler Plant. Observed sampling process started generating new FVS heavies from back end 10:14 am. View Southwest.

Figure 18: HTL. Adjacent Old Keebler Plant. Observed sampling of new FVS lights into 5-gallon container from new FVS process. 10:16 am.

Figure 19: HTL. Adjacent Old Keebler Plant. Observed sampling of new FVS lights into 5-gallon container at from new FVS process. 1016 am.

Figure 20: HTL. Adjacent Old Keebler Plant. Observed samples taken of FVS lights from new FVS. 10:17 am.

Figure 21: HTL. Adjacent Old Keebler Plant. Observed pile of possible filter cake mixed with 3320 Empire ASR on ground next to new FVS. 10:20 am. View South.

Figure 22: HTL. Adjacent Old Keebler Plant. Observed pile of possible filter cake mixed with 3320 Empire ASR on ground next to New FVS 10:25 am. View South.

Figure 23: HTL. Adjacent Old Keebler Plant. Observed conveyer system for new FVS process. 10:29 am.

Figure 24: HTL. Adjacent Old Keebler Plant. Observed new FVS sampling stopped at about 10:30 am. New FVS lights remaining in dumpster not sampled. 10:36 am.

Figure 25: HTL. Adjacent Old Keebler Plant. Continue to generate New FVS heavies from back end during sampling Observed wastewater on ground. 10:37 am.

Figure 26: HTL. Adjacent Old Keebler Plant. New FVS lights remaining in dumpster not sampled. 10:46 am.

Figure 27: HTL. Adjacent Old Keebler Plant. New FVS sample containers (10) transferred for composite sampling. Observed wastewater on ground. 10:54 am.

Figure 28: HTL. Adjacent Old Keebler Plant. Continue to generate New FVS heavies from back end. Process feed stopped. Observed wastewater on ground. 10:58 am.

Figure 29: HTL. Bunkers. Observed stream of wastewater flowing down gradient towards Bunkers 11:17 am. View North.

Figure 30: HTL. Bunkers. Observed stream of wastewater flowing down gradient towards Bunkers 11:18 am. View North.

Figure 31: HTL. Bunkers. Observed stream of wastewater accumulated and comingled with ASR in right Bunker 11:19 am. View North.

Figure 32: HTL. Bunkers. Observed wastewater accumulated in concrete culvert next to right Bunker 1120 am. View North.

Figure 33: HTL. Bunkers. Observed concrete culvert was wet behind Bunkers 11:22 am. View Northwest.

Figure 34: HTL. Bunkers. Observed concrete culvert was wet behind Bunkers. Observed drain. appeared wet 11:24 am. View Northwest.

Figure 35: HTL. Bunkers. Observed liquid between Bunker Mafia Blocks along concrete culvert. Behind Bunkers 11:26 am.

Figure 36: HTL. Bunkers. Observed water between Bunker Mafia Blocks along concrete culvert. Behind Bunkers 11:26 am.

Figure 37: HTL. Bunkers. Observed concrete culvert near drain had water behind Bunkers. Observed drains to outfall downhill to woods near Access Road Area. 11:27 am.

Figure 38: HTL. Bunkers. Observed concrete culvert and drain had water behind Bunkers. Observed concrete berm was breached and drains to outfall downhill to woods near Access Road Area. 11:27 am.

Figure 39: HTL. Adjacent Old Keebler Plant. Stopped sampling of New FVS lights. Generation of New FVS heavies stopped about 11:31 am. View South.

Figure 40: HTL. Adjacent Old Keebler Plant. Completed ASR processing to New FVS. Observed remaining lights in dumpster not sampled 11:32 am. View North.

Figure 41: HTL. Adjacent Old Keebler Plant. Completed ASR processing to New FVS. Observed remaining lights in dumpster not sampled 11:32 am. View North.

Figure 42: HTL. Behind Old Keebler Plant on Northwest corner. 11:39 am. View South.

Figure 43: HTL. Northwest Corner Old Keebler Plant (NWOKP). Remaining ASR in storage area, 11:41 am. View West.

Figure 44: HTL. NWOKP. ASR storage area. Observed Mafia blocks. 11:41 am. View West

Figure 45: HTL. NWOKP. ASR storage area. Observed Mafia blocks. 11:41 am. View West.

Figure 46: HTL. NWOKP. ASR storage area. Observed Mafia blocks. 11:42 am. View West.

Figure 47: HTL. NWOKP. View of Northwest corner adjacent to ASR storage area. 11:42 am. View North.

Figure 48: HTL. NWOKP. View of Northwest corner adjacent to ASR storage area. Down gradient of hill toward stormwater outfall. 11:44 am. View North.

Figure 49: HTL. NWOKP. NW area. Observed possible filter cake/waste solids in ASR storage area, Observed Jig Pad Area. 11:47 am. View West.

Figure 50: HTL. NWOKP. Observed possible filter cake/waste solids in ASR storage area, Observed Jig Pad Area. 11:47 am. View West.

Figure 51: HTL. NWOKP. Observed possible filter cake/waste solids in ASR storage area, Observed Jig Pad Area. 11:47 am. View West.

Figure 52: HTL. NWOKP. Observed possible filter cake/waste solids in ASR storage area, Observed Jig Pad Area. 11:47 am. View West.

Figure 53: HTL. NWOKP. Observed release of water from process to Jig Pad Area 11:48 am. View West.

Figure 54: HTL. NWOKP. Observed possible filter cake/waste solids in ASR storage area, Observed water in Jig Pad Area. 11:50 am. View West.

Figure 55: HTL. NWOKP. Observed ASR processed lights in ASR storage area 11:55 am. View West.

Figure 56: HTL. NWOKP. Observed ASR processed lights in ASR storage area 11:55 am.

Figure 57: HTL. NWOKP. Observed a possible piece of a circuit board in ASR storage area 11:58 am.

Figure 58: HTL. NWOKP. Observed a possible piece of a circuit board in ASR storage area 12:00 pm.

Figure 59: HTL. Old Keebler Plant Basement. Possible capacitors or transformers. 12:17 pm.

Figure 60: HTL. Culvert Next to Bunkers. Observed water released from roll-off container to concrete culvert next to right Bunker 3:04 pm. View North.

Figure 61: HTL. Old Keebler Plant (OKP). Observed asymmetrical oval shaped filter cake pile (Pile) in center area of building. 3:18 pm.

Figure 62: HTL. OKP. Old Keebler Plant. Observed Pile extends from Column C to I & Rows 5 to 9. 3:18 pm.

Figure 63: HTL. OKP. Pile stored in Pile from column A5 to A15 and I5 to I15 3:18 pm.

Figure 64: HTL. OKP. Observed Pile from column H5 to A5 3:18 pm.

Figure 65: HTL. OKP. Observed the Pile cut to access sampling between Columns D5 to E5 3:22 pm.

Figure 66: HTL. OKP. Observed the Pile cut to access sampling between Columns D5 to E5 3:22 pm.

Figure 67: HTL. OKP. Observed the Pile cut to access sampling between Columns D5 to E5 3:22 pm.

Figure 68: HTL. OKP. Observed the Pile between Columns A9 to A11 and A14 3:32 pm.

Figure 69: HTL. OKP. Observed a washed-out & dried area of the Pile between Columns B14 to B15 3:36 pm.

Figure 70: HTL. OKP. Observed a washed-out & dried area of the Pile between Columns B14 to B15 3:36 pm.

Figure 71: HTL. OKP. Observed the backside of the Pile between Columns C15 to G14 3:36 pm.

Figure 72: HTL. OKP. Observed a washed-out & dried area of the Pile between Columns B14 to B15 3:39 pm.

Figure 73: HTL. OKP. Observed washed-out area of the Pile from columns B9 to B12 and columns C9 to C12. 3:41 pm.

Figure 74: HTL. OKP. Observed liquid materials in containers, process equipment and trash on backside of the Pile adjacent to columns A9 to A15. 3:45 pm.

Figure 75: HTL. OKP. Observed unknown materials, process equipment and trash on backside of the Pile adjacent to columns A15 to H15. 3:50 pm.

Figure 76: HTL. OKP. Wastewater treatment (WWT). Observed wastewater, waste solids and sludge on floor of screw area. 3:58 pm.

Figure 77: HTL. OKP. WWT. WWT. Observed wastewater, waste solids and sludge on floor. 3:58 pm.

Figure 78: HTL. OKP. WWT. View of the Jig Pad. Observed Jig Pad full of wastewater possibly overflowing to the ground. 4:01 pm.

Figure 79: HTL. OKP. WWT. Observed wastewater, waste solids and sludge on floor. 4:03 pm.

Figure 80: HTL. OKP. WWT. View of the Filter Press. Observed waste solids and wastewater on floor under the filter press. 4:04 pm.

Figure 81: HTL. OKP. Area near to WWT. Observed wastewater, waste solid and sludge behind the filter screen for the spiral line. 4:27 pm.

Figure 82: HTL. OKP. WWT. View of Jig Pad. Observed Jig Pad full of water adjacent to piles of possible filter cake/waste solids adjacent to ASR storage area. 4:28 pm.

Figure 83: HTL. OKP. WWT. View of Jig Pad. Observed Jig Pad full of water adjacent to possible filter cake/waste solids. 4:28 pm.

Figure 84: HTL. OKP. WWT. Observed wastewater and sludge. 4:31 pm.

Figure 85: HTL. OKP. Observed washed-out and dried area of Pile. 5:15 pm.

Figure 86: Access Road, Unknown Tributary Area. Near Crawford Middle School. Sign indicating lead hazard/ISE. 5:30 pm.

Figure 87: Access Road, Unknown Tributary Area. Near Crawford Middle School. Fence prohibiting access to area. 5:38 pm.

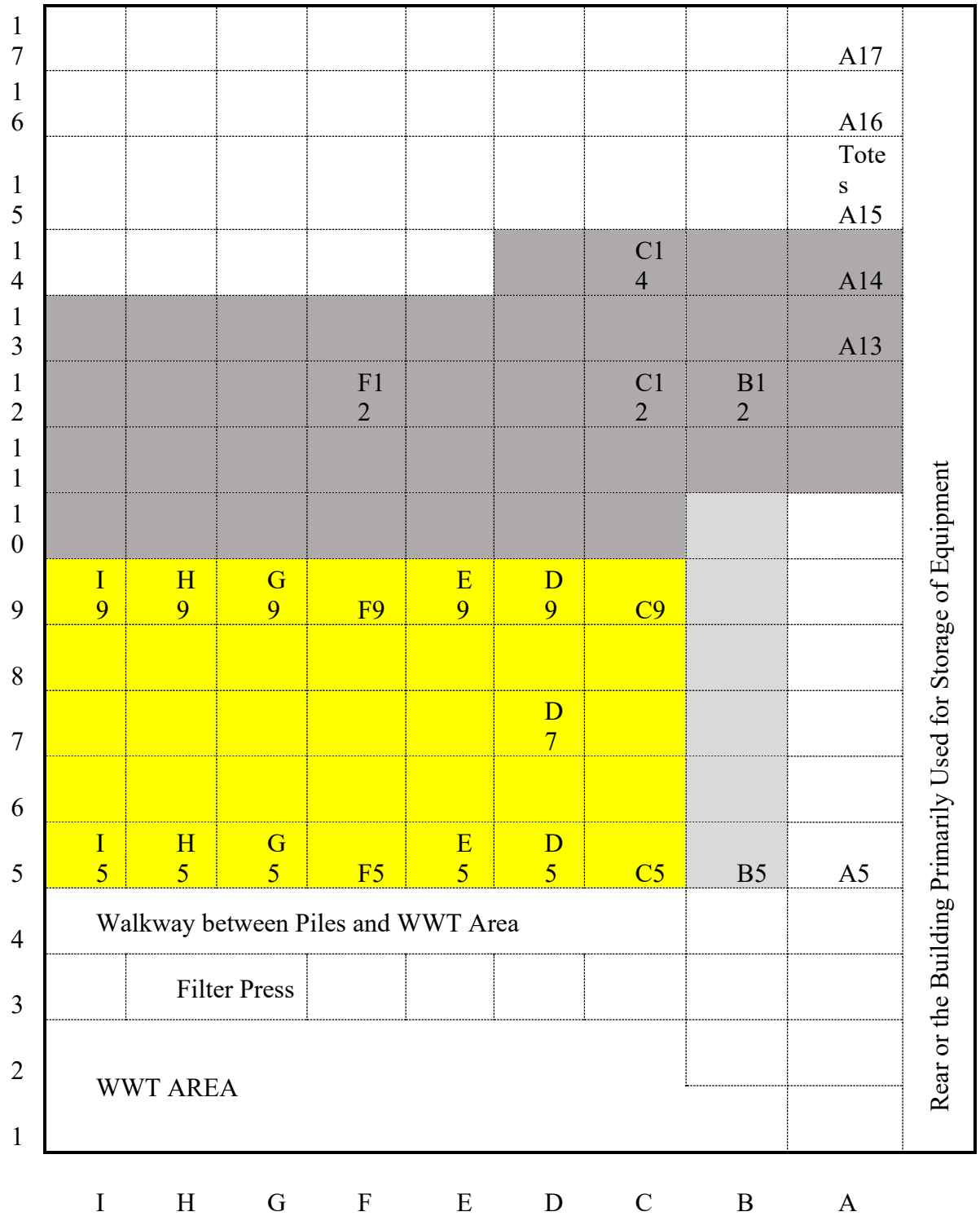
Figure 88: Access Road, Unknown Tributary Area. Near Crawford Middle School. Observed ground surfaces. 5:40 pm.

Figure 89: Access Road, Unknown Tributary Area. Near Crawford Middle School. Observed surface water. 5:44 pm.

Figure 90: Access Road Area. View of woods looking up the hill to the Bunker drain. Observed a washed-out area from release of possible wastewater. 6:01 pm.

Figure 91: Access Road Area. View of woods looking down from the hill behind the Bunker drain. Observed a washed-out area from release of possible wastewater. 6:01 pm.

Appendix B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Walkway between Piles and WWT Area
Filter Press
WWT AREA
Rear or the Building Primarily Used for Storage of Equipment
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Appendix C

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 4

Laboratory Services & Applied Science Division
980 College Station Road
Athens, Georgia 30605-2720

January 27, 2023

MEMORANDUM

SUBJECT: Sampling Investigation Final Report
TAV Holdings, Inc – Atlanta, GA
LSASD Project # 23-0046

FROM: Paula A Whiting, Environmental Engineer
Hazardous Waste Section
Field Services Branch

THRU: Liza I. Montalvo, Supervisor
Hazardous Waste Section
Field Services Branch

TO: Brooke York, Environmental Engineer
William Kappler, Environmental Engineer
RCRA Enforcement Section
Chemical Safety and Land Enforcement Branch
Enforcement and Compliance Assurance Division

Attached is the Sampling Investigation Final Report for the sampling that was conducted at the TAV Holdings, Inc. site in Atlanta, Georgia on November 1, 2022. If you have any questions concerning the sampling investigation, please call me at (706) 818-5926.

Attachment

Project ID: 23-0046

Sampling Investigation Final Report

TAV Holdings, Inc. – Atlanta, Georgia

3311 Empire Blvd., SW
Atlanta, Georgia 30354

Project Date: November 1, 2022

Report Date: January 27, 2023

Project Leader: Paula A Whiting
Hazardous Waste Section
Field Services Branch
Laboratory Services & Applied Science Division
US Environmental Protection Agency – Region 4
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The ANSI National Accreditation Board attests that U.S. EPA Region 4 Laboratory Services and Applied Science Division fulfills the requirements of ISO/IEC 17025:2017 ANAB Forensic Testing & Calibration AR 3125:2019 in the field of Forensic Testing. The activities contained in this report fall within the scope of accreditation, Certificate Number: AT-2628. Expires 08 June 2024

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Sampling Investigation Report
TAV Holdings, Inc. - Atlanta, GA

1.0 Introduction

The United States Environmental Protection Agency (US EPA) Region 4 Laboratory Services and Applied Science Division (LSASD) personnel conducted sampling at the TAV Holdings, Inc. - Atlanta, GA in Atlanta, Georgia on November 1, 2022. Brooke York, William Kappler and Mark Anthony Relon, Environmental Engineers, Region 4 Enforcement and Compliance Assurance Division RCRA Enforcement Section (ECAD RES) requested the sampling oversight, sampling, and laboratory analyses of the Falling Velocity Separator (FVS) Lights Pilot and Filter Press Cake piles.

Representatives of LSASD conducted the requested oversight and waste sampling investigation. The following personnel were present for all or a portion of the investigation:

NAME	ORGANIZATION	DUTIES
Paula Whiting	LSASD	Project Leader, Scribe, Sampler
Brooke York	ECAD RES	Inspector
William Kappler	ECAD RES	Inspector
Mark Anthony Relon	ECAD RES	Inspector
Brent Fairchild	TAV	EHS Director
Claiborne Thornton	IEC (TAV Contractor)	President, Sampler
Zachary Watson	IEC	Sampler
Tanner Mikell	IEC	Sampler

This sampling event was conducted in accordance with the Sampling and Analysis Plan (SAP) for the TAV Holdings, Inc. - Atlanta, GA facility dated November 1, 2022. Any deviations from the SAP are documented in the field logbook as needed and discussed in the appropriate sections of this report. In addition, the SAP was designed to be used in conjunction with the Applied Science Branch (ASB) Quality Assurance Project Plan December 2019.

2.0 Summary

During the TAV Holdings, Inc. - Atlanta, GA sampling investigations, LSASD personnel collected a total of six samples from the facility. The samples were waste samples collected from FVS Lights Pilot test and the Filter Press Cake piles in the Keebler building. LSASD's Laboratory Services Branch chemists analyzed the samples for total metals, Toxicity Characteristic Leaching Procedure (TCLP) metals and Polychlorinated Biphenyls (PCBs).

Total metal laboratory analyses showed that all the samples W01-W06, collected from the waste piles material, contained metals, and could potentially exhibit the toxicity characteristic (TC) for lead (D008). The waste samples W01, W05 and W06 TCLP results for lead exceeded the TC regulatory level of 5 mg/L with values of 6.1 mg/L, 34 mg/L, and 16 mg/L, respectively.

3.0 Site Background

TAV Holdings Inc. (TAV) is located at 3311 Empire Blvd. SW in Atlanta, Georgia. TAV operates a recycling facility that uses various separation technologies for different industries, as well as a processing and trading company of non-ferrous metals. TAV is also an auto shredder residue (or "ASR") processing facility. TAV takes ASR from other facilities and uses a proprietary process to recover additional metals, primarily copper.

On October 6, 2021, EPA Region 4 ECAD personnel conducted a RCRA Compliance Evaluation Inspection at the TAV facility and found several potential waste management issues. There are large piles of ASR stored both inside and outside the facility.

On October 20, 2021, LSASD accompanied ECAD RCRA Enforcement Section to the facility and collected waste and environmental samples. Additional TAV affiliated sites were also identified, and these locations were subsequently inspected and sampled with LSASD support. The analysis of the samples from the Atlanta Empire Blvd. facility, resulted in the finding of improperly managed, stored and/or disposed of hazardous waste that exceeded the lead (Pb) regulatory limits on- and off-site. Other constituents were also detected at elevated concentrations (i.e., chromium and cadmium).

In January 2022, ECAD RES issued a unilateral RCRA 7003 Imminent and Substantial Endangerment Order (RCRA 7003 Order) to TAV for the Atlanta Empire Blvd. facility. The RCRA 7003 Order requires TAV to secure the facility, address the ASR piles and begin the assessment and cleanup of the Facility. The RCRA 7003 Order and its administrative record can be reviewed here: Records Collections | US Environmental Protection Agency (epa.gov)

On September 14, 2022, TAV submitted a Filter Cake Protocol, which proposes a protocol for sampling the waste filter cakes as they are generated. However, the filter press has been operating since approximately May 2022 and generating filter cakes that have been accumulated and stored in piles in the Keebler Building. Because of this, a different sampling protocol will be required for the accumulated filter cakes.

On October 11, 2022, TAV notified the EPA that it has elected to shut down the Atlanta Empire Blvd. facility. TAV intends to draw down the remaining ASR waste material, through processing, within the next 2 years. TAV has expressed its intent to close operations and remediate the facility using residential Regional Screening Levels (RSLs) in 5 years.

As sources of contamination on other portions of the Atlanta Empire Blvd. facility are removed or controlled, the EPA intends to trigger additional characterization of those areas pursuant to Paragraph 86 of the RCRA 7003 Order, which requires TAV to submit a characterization plan within 45 days of such notice.

On October 19, 2022, TAV submitted another sampling protocol specific to a newly-generated waste, as well as the accumulated filter cakes. TAV has also notified the EPA that it is moving forward on November 1, 2022, with the characterization of the newly-generated wastes, as well as the accumulated filter cake wastes, at the Atlanta Empire Blvd. facility using procedures that have not been fully evaluated or approved by the EPA. The EPA has put TAV on notice that it has not reviewed the proposed sampling protocol and does not plan to provide comment. The 7003 Order does not specifically require RES approval of the waste characterization plans. It does require TAV

to follow the guidance and policy cited in the Order which includes "EPA Requirements for Quality Assurance Project Plans" (QA/R5) (EPA/240/B-01/003, March 2001), "Guidance for Quality Assurance Project Plans (QA/G-5)" (EPA/600/R-98/018, February 1998), and "EPA Requirements for Quality Management Plans (QA/R-2)" (EPA/240/b-01/002, March 2001), Field Branches Quality System and Technical Procedures, other relevant EPA guidance, for sampling and analysis activities. ECAD has requested LSASD to provide oversight of this sampling activity.

Enforcement and Compliance Assurance Division requested sampling of the FVS Lights Pilot test and the Filter Press Cake piles in the Keebler building at the facility. Analyses of Total Metals, TCLP Metals and PCBs were conducted. Analytical results from the samples were compared to the characteristic regulatory levels listed in 40 C.F.R. 261.24 for the Total and TCLP metals and 40 C.F.R. 761 for PCBs.

4.0 Field Investigation and Methodology

On November 1, 2022, LSASD conducted an overview of waste sampling at TAV Holdings, Inc. – Atlanta, GA. The TAV facility is located at 3311 Empire Blvd., Atlanta, Georgia. The waste sampling was conducted in accordance with the RCRA 7003 Order and agreements between TAV and the EPA. Mr. Claiborne Thornton, Mr. Zachary Watson, and Mr. Tanner Mikell from Industrial Environmental Consultants (IEC) were contracted to conduct the sampling. The overview was requested by ECAD.

During the overview, LSASD observed a safety briefing, the pilot of the additional FVS lights prior to the Ball Mill No. 1, waste sampling, sample handling activities, sample equipment decontamination and collection of quality control (QC) samples. During the overview, LSASD observed IEC samplers collecting 30 waste samples. Additionally, the samplers were observed decontaminating sampling equipment and collecting samples during this event. The *Administrative Order Pursuant to Section 7003 of RCRA TAV Holdings, Inc., TAV Hollow Tree Lane LLC, Rajpoot Property, Inc., Empire Development LLC, and Carolyn Empire LLC, Atlanta, Georgia Docket No. RCRA-04-2022-2101 EPA ID: GAD 033 537 663* was provided as guidance for the sampling but was not consistently followed.

The day started with an opening conference introducing all participants. Scheduled events for the day were displayed on dry erase board and discussed. Safety briefing was given by TAV EHS Director. To enter the facility all employees were required to wear hard hats, safety boots, and safety glasses. Hearing protection was required during the pilot sampling. After the opening conference, the group proceeded to Ball Mill No. 1 to observe the FVS Lights Pilot. Arcadis in a letter to Brooke York on October 18, 2022, originally proposed the following sampling procedure for the FVS Pilot at the Ball Mill No. 1:

The pilot operation would run the FVS equipment until one roll-off container is filled with material. It is anticipated that the feed material would consist of approximately 50 to 60 buckets of material from the 3320 Keebler staging pile (a sufficient number of feed buckets to account for material compositional variability). The feed buckets are the same size as that which is currently being used for Ball Mill No. 1.

Samples of the FVS waste stream will be sampled at pre-determined intervals directly from the process output. The samples will be collected from the process by filling a front-end loader bucket

and placing the material on poly sheeting. The material will be spread out in a grid (e.g., 3 x 3). Equal representative sample volumes from each grid will be combined into a single bucket container and homogenized. Samples will be collected from the bucket and placed into laboratory supplied containers. Each sample will be analyzed for the eight RCRA metals by the Toxicity Characteristic Leaching Procedure (TCLP) (40 CFR § 261.24). Non-mercury extract analyses will be performed by SW-846 6010, and mercury extract will be analyzed by SW-846 7470.

Sampling will occur at intervals to provide for ten (10) individual samples over the anticipated period of operation of one to two hours. Each of the ten samples will be sampled as described above. The samples will also be analyzed for PCBs (SW-846 Method 8082) and, at TAV and/or the landfill's discretion, additional physical parameters such as bulk density.

During the November 1st overview, LSASD noted that IEC originally planned to fill up ten (10) white 5-gallon buckets with samples representative of the volume of the 20 cubic yard roll-off. The intent was to have the front loader fill its bucket with lights and then the samplers would collect their 5-gallon buckets. However, the front loader bucket could not fit under the lights seperator, so the seperated lights were dropped into the roll-off.

The FVS Lights pilot began at 10 AM. The first 5-gallon bucket took 15 minutes to fill, and by the tenth bucket it was filling up within one minute. During the sampling the lights material kept accumulating near the front of the roll-off (**Photos 1-3**). Mr. Watson got inside the roll-off with a shovel and moved the material away from the front area, so that the buckets collect the material. The roll-off was only 1/4th full (5 cubic yards) when the pilot ended at 10:49 AM. IEC tried to space out filling of the buckets, but the EHS Director insisted the IEC samplers just fill up the buckets immediately and not wait for the entire roll-off to be filled. Each bucket was numbered and then closed with a lid when filled.

IEC then set up tables in the TAV warehouse located in the main building. The tables were covered in plastic film. Each bucket was individually spread out on the table and then divided into nine sections (**Photo 4**). Mr. Watson then used his hands to grab an aliquot from each section and deposited it in the zip lock bag that Mr. Mikell was holding. Mr. Mikell had labeled each zip lock bag with the company name, project number, date, sample location and sample time (**Photo 5**). After each bucket was sampled, the plastic film and remaining material were placed back into its numbered bucket and sealed. The zip lock bags were placed in a cooler, and the sample times and IDs were listed on the chain of custody. Split samples were collected for the EPA from Bucket No. 6 and placed into 8-ounce glass jars.

The EPA was originally informed that the buckets would be composited into one sample which would be split with the EPA. Due to the change in sampling procedure, LSASD collected aliquots from each bucket in a clean stainless steel bowl and blended them with a stainless steel spoon. Eight ounce jars of the composited material were collected for total metals, TCLP metals and PCBs. The IEC samplers collected a portion of the composited material into a zip lock bag and labeled it. The remaining material was placed in a clean white bucket and labeled as No. 1-10 Composite.

The samples and chain of custody were driven to AES LLC located in Norcross, Georgia by Lenin Rincon, TAV. However, the IEC samplers did not retain a copy of the chain of custody for their files. Instead, they had to wait for the final chain of custody to be scanned and emailed back to them. In addition, LSASD did not observe a project logbook (written or electronic) being used during the

sampling. The samplers were not documenting physical characteristics for the waste samples (i.e., location, material size, type, time, description) or sampling procedures used, nor was the documentation of the sampling described adequately in the October 18, 2022, sampling protocol. IEC did take some photographs of the samples and their locations when on site. However, the samplers did not keep a written or electronic photolog of the sample locations during the event. Personal protective equipment such as latex gloves were used during the sampling and handling of the material. When each bucket sample was collected the gloves were removed and discarded into the facility trash.

The sampling of the Filter Press Cake was conducted in the Keebler warehouse. Prior to the sampling, Mr. Thornton asked LSASD if it was acceptable to continue to use the same gloves for each sample point. The inspector explained that if aliquots for compositing were being collected for one sample, then the use of the same gloves was acceptable. However, since each sample point was considered an individual sample then new gloves and new sampling equipment had to be used at each sample point.

Mr. Watson stated that the trowels and garden augers that IEC stocked for the sampling had not been cleaned and required cleaning prior to use. In addition, Mr. Watson did not believe that IEC had brought enough sampling equipment for the 30 samples IEC planned to collect that afternoon, so deconning would be required after the first 20 samples. LSASD observed IEC set up a decontamination area with a table and buckets in the Filter Press Cake area. The trowels and garden augers were deconned with deionized water and Liquinox.

After examining the sample locations, LSASD stated that climbing on top of the sample piles was a safety concern and requested that IEC remain within the leveled driveways. Also Mr. Fairchild explained that Section A7-B6 was not filter cake and should not be sampled. IEC adjusted their sample plan/diagram to remove Section A7-B6 and substitute it with Section E5-F6. IEC sampled the side walls, the back wall and the floor of the two leveled driveways, Sections D6-E5 (IEC labeled this section as D7-F6) and G6-H5. Ten samples were collected per driveway using trowels and garden augers and placing the samples directly into the plastic bags. Some of the samples were grab samples from one location and some were composited from different areas within the driveway. IEC did specify on the chain of custody which samples were grab and which were composite, however EPA did not observe the sample bags being labeled as grab or composite.

Section E5-F6 (**Photos 6-7**) was dug into by a front end loader five times with two samples per bucket and sampled directly from the front end loader bucket.

The samplers were organized and cooperative. Mr. Thornton, Mr. Watson, and Mr. Mikell were receptive to recommendations and implemented changes to procedures when possible. Procedures and measures of improvement with the field activities were identified to the IEC samplers. The items below were immediately identified during the oversight and sampling:

- It is not an EPA recommended sampling protocol to use hands (even if gloved) to collect samples. No sampling equipment (i.e., spoon, trowels) was used during FVS lights sampling which contained shredded pieces of metal, plastics, and wire. Mr. Claiborne later explained that Mr. Watson was trained to collect samples using his gloved hands.
- The sampler is required to maintain a copy of the chain of custody after relinquishing the samples. The FVS samples were transported to AES with the only copy of the chain of custody.

- The samplers must use new and/or clean sampling equipment (i.e., gloves, trowels, augers) per sample station. The IEC samplers wanted to continue to wear the same gloves per sample location (i.e., Filter Press Cake pile leveled driveway) and had also planned to sample using their hands.

ECAD requested that LSASD obtain split samples from the FVS Lights Pilot test and the Filter Press Cake piles in the Keebler building collected by IEC. LSASD personnel also sampled composited solids from the FVS Lights Pilot test (W02) and samples from the Filter Press Cake piles (W04, W05).

During the November 1st sampling investigation, ECAD identified two areas of interest for sampling. The first area was in the south side of the Keebler warehouse which did not have lighting and was used as equipment and filter press cake storage. LSASD personnel was directed to obtain a sample from a pile in front of Column C14. The sample was collected using a stainless steel spoon and placed directly into 8-ounce glass containers and labeled W04.

The second area was also in the south side of the Keebler warehouse and near the back wall. LSASD personnel was directed by ECAD RES to climb on top of the pile and collect a scoop of dried filter cake with a stainless steel scoop and spoon which was placed into 8-ounce glass containers. This sample was labeled W05.

AES LLC located in Norcross, Georgia conducted analyses for TCLP Metals (EPA Method 1311), and PCBs (EPA Method 8082A) for IEC and TAV.

Mr. Watson and Mr. Mikell, IEC, Inc., escorted LSASD during the overview. LSASD took photographs of the sampling. The photographs were taken using an iPhone 7 and an Olympus Tough camera Serial Number SC7374. The photographs taken during LSASD's overview are in **Appendix A**. Additionally, attached is LSASD's Field Overview Checklist of the IEC sample activities at TAV in **Appendix B**.

Chain of custody documents were prepared using the US EPA's Scribe program. Samples were submitted to the LSASD laboratory for analyses. Split samples were collected by LSASD and were provided to Mr. Claiborne Thornton, IEC on November 01, 2022, at 5:17 PM.

Field activities were conducted in accordance with LSASD's Field Branch's Management and Quality System Procedures and the following LSASD field sampling operating procedures:

LSASDPROC-302-R4, Waste Sampling
LSASDPROC-200-R4, Sediment Sampling
LSASDPROC-300-R4, Soil Sampling

All field measurement and sampling procedures were performed and/or overseen by LSASD Field Services Branch personnel proficient in the pertinent procedures. Any person that was not proficient in any measurement or sampling procedure was teamed with someone who was proficient.

Sample data collected during the investigation are presented in **Table 1**. Photographs are in **Appendix A**.

5.0 Results and Discussion

Two samples were collected from the FVS Pilot Test - Bucket No. 6 (W01) and a composite of all ten FVS buckets (W02). Four samples were collected from the Filter Press Cake piles in the Keebler Building. Two of the samples were collected by IEC (W03 - Section E5-D6 and W06 - Section G5-H6). All samples were analyzed for total metals using USEPA Method 6010C and USEPA Method 200.8, and also USEPA Method 7473 for mercury. When the total metal scan results showed that one of the TC constituents in the sample could possibly exceed its TC regulatory levels, the TCLP was performed on the two samples using US EPA Method 1311 and the TCLP extracts were analyzed for TC metals. In addition, all the samples were analyzed for PCBs using USEPA Method 8082A.

Table 2 summarizes the Total Metals – Data Summary, **Table 3** summarizes the TCLP metal analyses, and **Table 4** summarizes the PCB analyses for the waste and sediment samples. LSASD's complete analytical reports are included as **Appendix D**.

As expected, total metal scans of the waste samples W01-W06 showed concentrations of aluminum, antimony, arsenic, barium, cadmium, calcium, chromium, cobalt, copper, iron, lead, magnesium, manganese, mercury, nickel, silver, strontium, tin, titanium, vanadium, and zinc. Analyses showed the waste samples ranging from 2.0 to 4.3 mg/kg arsenic, 220 to 610 mg/kg barium, 9.4 to 20 mg/kg cadmium, 58 to 120 mg/kg chromium, 11 to 14 mg/kg cobalt, 3700 to 5600 mg/kg copper, 580 to 2800 mg/kg lead, 0.51 to 2.1 mg/kg mercury, 36 to 130 mg/kg nickel, 8.2 to 11 mg/kg silver, 53 to 120 mg/kg tin, and 1100 to 5600 mg/kg zinc (**Table 2**).

Based on concentrations of TC metals obtained during the total metal scans, all six samples were extracted for the TCLP. However, TCLP results for lead exceeded the TC regulatory level of 5 mg/L for only three samples. The lead TCLP results were 6.1 mg/L for sample W01, 34 mg/L for sample W05 and 16 mg/L for sample W06 (**Table 3**). The waste samples had a barium TCLP results ranging from 0.72-3.4 mg/L, a cadmium TCLP results ranging from 0.12-0.66 mg/L, and a zinc TCLP result of 13-130 mg/L. Zinc does not have a comparative TCLP standard.

The PCB scans of the waste samples W01-W06 showed concentrations of PCB-1016 (Aroclor 1016) ranging from 0.96 J,O mg/kg to 8.9 J,O mg/kg. Samples W01 and W02 exceeded the RSL Industrial Soil May 2022 THQ=0.1 of 5.1 mg/kg.

Quality Control Sample Results

Blanks (Field and Equipment)
No field or equipment blanks were collected during this investigation. A temperature blank accompanied the environmental sample and arrived at the laboratory at 0.6° C.

Split Samples
The EPA received split samples collected at four sample stations and transported them for analysis at LSASD laboratory. In addition, the EPA collected two waste samples and split them with IEC to transport to their contract laboratory for analysis. The copies of the signed Receipt of Samples and Chains of Custodies are in **Appendix C**.

Laboratory Quality Control Samples

For the metal analyses, samples W02, W03, and W06 were designated as the LSASD's laboratory matrix spike/matrix spike duplicate (MS/MSD), and for the PCB analyses, sample W03 was used as the duplicate quality control sample. Results of quality control analyses are contained in the LSASD's Laboratory Analytical Data Reports in **Appendix D** and are acceptable for the purposes of this investigation. Full definitions for the data qualifiers are provided in their respective reports. The reported results are accurate within the limits of the methods.

6.0 Conclusions

Laboratory analyses showed concentrations of metals and PCBs in the waste samples but only samples W01, W05 and W06 were exhibited the toxicity characteristic for lead (D008) with lead TCLP results of 6.1 mg/L, 34 mg/L and 16 mg/L, respectively.

The analytical data from this sampling investigation indicate that the TAV Holdings, Inc. - Atlanta, GA's activities and operations could potentially impact environmental media at the site due to the FVS Lights and Filter Press Cake with concentrations of metals being stored on the ground.

7.0 References

US EPA LSASD. "Quality System and Technical Procedures for SESD Field Branches." https://www.epa.gov/quality/quality-system-and-technical-procedures-lsasd-field-branches, Most recent versions as of study date.

US EPA LSASD. "Laboratory Services Branch Laboratory Operations and Quality Assurance Manual." April 24, 2020.

US EPA LSASD. "Sampling and Analysis Plan for TAV Holdings, Inc. - Atlanta, GA" September 30, 2022.

Arcadis, U.S., Inc. "Waste Characterization Sampling (FVS Pilot & Filter Cake)." October 18, 2022.

Industrial Environmental Consultants. "Protocols for Sampling, Analysis and Data Review Of End-Of-Process Material – Pile Sampling." October 2022.

Figure 1: TAV Holdings, Inc. - Atlanta, GA Site Map

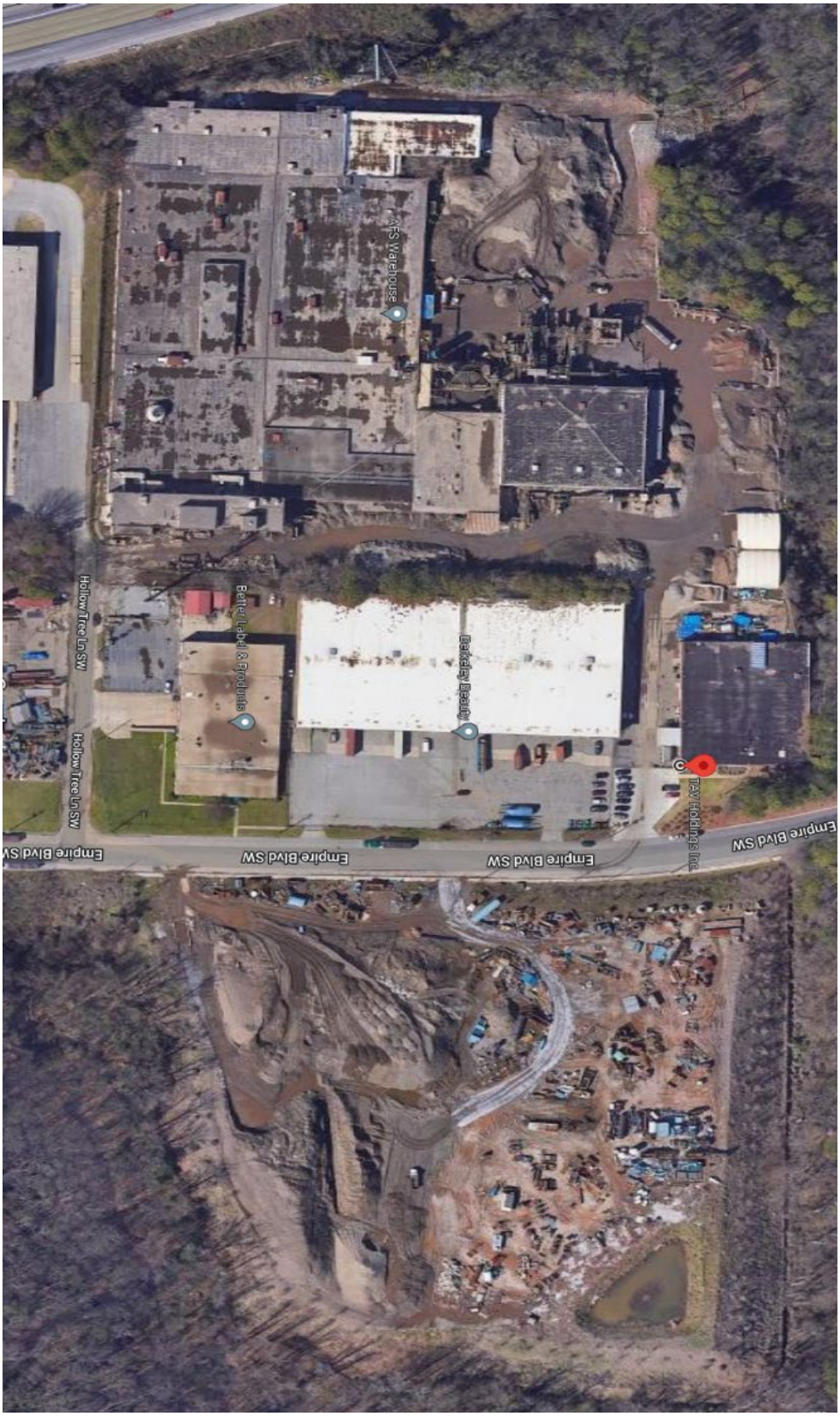

Table 1

Sample Data						
Sample ID	**Sample Media**	**Sample Description**	**Location**	**Sample Type**	**Sample Container**	**Analyses**
W01	Waste	Dark brown solid material with debris, rocks, plant material, plastic and wire	FVS Lights Bucket #6	Solid	8 ounces	Total Metals TCLP Metals PCBs
W02	Waste	Dark brown solid material with debris, rocks, plant material, plastic and wire	FVS Lights Composite of Buckets 1-10	Solid	8 ounces	Total Metals TCLP Metals PCBs
W03	Waste	Gray-white fine gritty solid	Filter Press Cake Section E5-D6; Sample #3	Solid	8 ounces	Total Metals TCLP Metals PCBs
W04	Waste	Gray-white fine gritty solid	Filter Press Cake Section C14	Solid	8 ounces	Total Metals TCLP Metals PCBs
W05	Waste	Gray-white fine gritty solid	Filter Press Cake Section B11-B12	Solid	8 ounces	Total Metals TCLP Metals PCBs
W06	Waste	Gray-white fine gritty solid	Filter Press Cake Section G5-H6; Sample #7	Solid	8 ounces	Total Metals TCLP Metals PCBs

Table 2

Data Summary RCRA Total Metals Pilot (W01-W02); Keebler Storage Area (W03-W06)							
-	**Sample ID**	W01	W02	W03	W04	W05	W06
-	**Matrix**	Waste	Waste	Waste	Waste	Waste	Waste
-	**Sample Date**	11/1/2022 11:15 AM	11/1/2022 12:02 PM	11/1/2022 16:10 PM	11/1/2022 16:54 PM	11/1/2022 17:17 PM	11/1/2022 17:27 PM
Analyte	**Units**						
Aluminum	mg/kg	20000	8300	23000	25000	19000	26000
Antimony	mg/kg	32	45	22	21	21	22
Arsenic	mg/kg	3.8	2.0	3.2	2.9	4.3	2.5 J,O
Barium	mg/kg	610	470	270	270	220	260 J,O
Cadmium	mg/kg	9.4	3.3	14	18	20	13 J,O
Calcium	mg/kg	14000	9100	22000	21000	21000	23000
Chromium	mg/kg	92	58	120	120	120	110 J,O
Cobalt	mg/kg	11	< 3.7 U	14	14	14	14 J,O
Copper	mg/kg	4500	3800	5000	5600	3700	5100
Iron	mg/kg	21000	8900	24000	21000	30000	24000
Lead	mg/kg	1500	580	2300	1800	2800	2200
Magnesium	mg/kg	2800	1200	4300	3900	4200	4600
Manganese	mg/kg	510	300	870	840	1100	910 J,O
Mercury	mg/kg	0.51	0.97	1.3	0.67	2.1	1.1
Nickel	mg/kg	100	36	130	130	130	120 J,O
Silver	mg/kg	8.2	< 3.7 U	9.2	9.9	11	11 J,O
Strontium	mg/kg	65	37	84	78	81	91 J,O
Tin	mg/kg	99	53	120	90	100	90 J,O
Titanium	mg/kg	150	55	160	150	190	160
Vanadium	mg/kg	9.5	5.8	14	13	17	14 J,O
Zinc	mg/kg	3300	1100	4100	3500	5600	4600

Table 3

Data Summary RCRA TLCP Metals Pilot (W01-W02); Keebler Storage Area (W03-W06)								
-	**Sample ID**	-	W01	W02	W03	W04	W05	W06
-	**Matrix**	-	Waste	Waste	Waste	Waste	Waste	Waste
-	**Sample Date**	-	11/1/2022 11:15 AM	11/1/2022 12:02 PM	11/1/2022 16:10 PM	11/1/2022 16:54 PM	11/1/2022 17:17 PM	11/1/2022 17:27 PM
Analyte	**Units**	**Comparison Standard**						
Barium	mg/L	RCRA (TCLP): 100 mg/l	3.1	3.4	0.79	0.81	0.72	1.6
Cadmium	mg/L	RCRA (TCLP): 1 mg/l	0.12	0.13	0.12	0.17	0.66	0.42
Lead	mg/L	RCRA (TCLP): 5 mg/l	6.1 ^	4.6	2.3	3.5	34 ^	16 ^
Zinc	mg/L		14	13	21	26	130	68

Table 4

Data Summary PCBs Pilot (W01-W02); Keebler Storage Area (W03-W06)								
-	**Station ID**	-	W01	W02	W03	W04	W05	W06
-	**Sample ID**	-	W01	W02	W03	W04	W05	W06
-	**Matrix**	-	Waste	Waste	Waste	Waste	Waste	Waste
-	**Sample Date**	-	11/1/2022 11:15 AM	11/1/2022 12:02 PM	11/1/2022 16:10 PM	11/1/2022 16:54 PM	11/1/2022 17:17 PM	11/1/2022 17:27 PM
Analyte	**Units**	**Comparison Standard**						
PCB-1016 (Aroclor 1016)	mg/kg	RSL Industrial Soil May 2022 THQ=0.1: 5.1 mg/kg	8.9 J,O ^	8.1 J,O ^	2.8 J,O	1.4 J,O	0.96 J,O	2.0 J,O

DEFINITIONS OF REGION 4 ANALYTICAL DATA QUALIFIERS

- **U** The analyte was not detected at or above the reporting limit.
- **J** The identification of the analyte is acceptable; the reported value is an estimate.
- **O** Other qualifiers have been assigned providing additional information. These explanatory qualifiers are included in the printable pdf report and in other columns in the export files.

Appendix A – Photographs

Photos taken by Paula Whiting

Camera Type: Olympus Tough and Apple iPhone 7

Serial Numbers: SC7374 and SQ3467

Photo 1 taken by P. Whiting 11/01/2022

Sample Location: Falling Velocity Separator (FVS) Lights Pilot Test Roll-off

Photo 2 taken by P. Whiting 11/01/2022

Sample Location: Falling Velocity Separator (FVS) Lights Pilot Test Roll-off and collection bucket

Photo 3 taken by P. Whiting 11/01/2022

Sample Location: Falling Velocity Separator (FVS) Lights Pilot Test Roll-off with collection bucket

Photo 4 taken by P. Whiting 11/01/2022

Sample Location: Falling Velocity Separator (FVS) Lights Pilot Test sample compiled and sectioned

Photo 5 taken by P. Whiting 11/01/2022

Sample Location: Falling Velocity Separator (FVS) Lights Pilot Test Sample

Photo 6 taken by P. Whiting 11/01/2022

Sample Location: Filter Press Cake piles in the Keebler building.

Photo 7 taken by P. Whiting 11/01/2022

Sample Location: Filter Press Cake piles in the Keebler building

Appendix B – Field Oversight Checklist

Field Overview Checklist

Overview Personnel	
LSASD Project Leader:	Paula Whiting
R4 Program Manager(s):	Brooke York, ECAD
State\Contractor Project Leader:	
State\Contractor Organization:	Industrial Environmental Consultants (IEC)
Other Personnel and Affiliation: Bill Kappler, ECAD RES Mark Anthony Relon, ECAD RES	
Comments:	

Site\Facility\Waterbody	
Name: TAV Holdings, Inc. – Atlanta, GA	
Address: 3311 Empire Blvd., SW	
City: Atlanta	
State: Georgia	Zip: 30354
Active:	Yes: ☐ No: ☐ NA: ☐
Comments: Attending Brent Fairchild, TAV EHS Director; Claiborne Thornton, Sampler/IEC Owner; Zach Watson, IEC Sampler; and Tanner Mikell, IEC Sampler.	

Investigation
Type of investigation: Sampling Overview and Receive Split Sample
Date(s) of Overview: November 1, 2022
Comments: TAV idled the facility and provided limited heavy machinery crew for the sampling pilot. Mr. Fairchild explained that the filter cake pile was one very large pile (5 columns long x 4 columns wide). The pile is located inside the Keebler building. TAV cut ramps/driveways into three of the piles for deeper sampling access for the pilot sampling. Pilot FVS plan is to feed the raw material into the feed system, separate out the “lights” which will go to the ball mill. IEC would capture the wet “lights” into a container from the shaker screen. The samples will be taken to AES laboratory which closes early today at 3:00 PM. The belief explained to the inspectors is that “input to front of ball mill will speed up the 3320 pile by 4 times.”

Investigation Documents			
Approved QAPP: (1)	Yes: ☐	No: ☒	
QAPP Matches Site Conditions:	Yes: ☐	No: ☒	
Sample Locations Meet Study Objectives:	Yes: ☒	No: ☐	
Field Procedures Used Documented or Referenced in QAPP: (2)	Yes: ☐	No: ☒	
Approved Safety\Float Plan:	Yes: ☐	No: ☒	
Safety Plan Complete:	Yes: ☐	No: ☒	
On-Site Safety Briefing(s): (3)	Yes: ☒	No: ☐	
Designated Site Safety Officer:	Yes: ☒	No: ☐	
QAPP and Safety Plan On-Site	Yes: ☐	No: ☒	
Site Investigation Conducted Safely:	Yes: ☒	No: ☐	
One Call Documentation:	Yes: ☐	No: ☐	NA: ☒
Comments: (1) Sampling protocol created by IEC and Arcadis. (2) Sampling protocol not followed – IEC collected samples in Ziploc, composite per bucket. (3) Safety briefing provided by TAV EHS Director.			

Site Safety					
On-Site Safety Briefing(s):	Yes: ☒	No: ☐			
Designated Site Safety Officer:***	Yes: ☒	No: ☐			
PPE:	A: ☐	B: ☐	C: ☐	D: ☒	NA: ☐
Steel Toe\Shank Boots:	Yes: ☒	No: ☐	NA: ☐		
Hearing Protection:	Yes: ☒	No: ☐	NA: ☐		
Eye Protection:	Yes: ☒	No: ☐	NA: ☐		
Air Monitoring (AM):	Yes: ☐	No: ☐	NA: ☒		
AM Equipment Properly Used:	Yes: ☐	No: ☐	NA: ☒		
AM Equipment Properly Calibrated:	Yes: ☐	No: ☐	NA: ☒		
AM Calibration Results Recorded:	Yes: ☐	No: ☐	NA: ☒		
Special Protective Measures:	Yes: ☐	No: ☐	NA: ☒		
Comments: ***Brent Fairchild, TAV EHS Director					

Project Documentation		
Notebook(s) Consistent and Complete:	Yes: ☐	No: ☒
Notebooks Properly Protected:	Yes: ☐	No: ☒
Bound Field Notebook(s):	Yes: ☐	No: ☒
Indelible Ink:	Yes: ☐	No: ☒
Sampling Locations Properly Documented:	Yes: ☐	No: ☒
Samples Collected in Proper Order:	Yes: ☒	No: ☐

Project Documentation		
Photos Taken:	Yes: ☒	No: ☐
Photolog Maintained:	Yes: ☐	No: ☒
Comments: When the first bucket was placed, no visible documentation was noted – electronic or written. Only photos during the FVS pilot were noted.		

Field Parameter Measurements			
Instruments Properly Calibrated:	Yes: ☐	No: ☐	NA: ☐
Calibration Properly Documented:	Yes: ☐	No: ☐	NA: ☐
Calibration Checked At End or Day:	Yes: ☐	No: ☐	NA: ☐
Comments:			

Investigation Derived Waste (IDW)			
Purge Water:			
Containerized:	Yes: ☐	No: ☐	NA: ☐
Placed on Ground:	Yes: ☐	No: ☐	NA: ☐
Placed in Treatment System:	Yes: ☐	No: ☐	NA: ☐
Other:	Yes: ☐	No: ☐	NA: ☐
Soils\Drilling Fluids:			
Containerized:	Yes: ☐	No: ☐	NA: ☐
Placed on Ground:	Yes: ☐	No: ☐	NA: ☐
Placed in Treatment System:	Yes: ☐	No: ☐	NA: ☐
Other:	Yes: ☐	No: ☐	NA: ☐
Comments:			

Field Procedures and Equipment			
Sampling Equipment (SE) Wrapped:	Yes: ☐	No: ☒	NA: ☐
SE Deconned Before Arrival On Site:	Yes: ☐	No: ☒	NA: ☐
SE Constructed or Inert Materials:	Yes: ☐	No: ☒	
SE Properly Used:	Yes: ☒	No: ☐	
Comments on Condition or Manual Sampling Equipment: Gloves discarded in the site trash, plastic used to wrap excess sample and placed back into bucket. Buckets, stainless steel bowls, trowels, garden auger used.			

Field Procedures and Equipment			
Comments on Condition or Power Equipment:			
Decon Area Properly Located:	Yes: ☒	No: ☐	NA: ☐
Cleaned Equipment Wrapped:	Yes: ☒	No: ☐	NA: ☐
Cleaned Equipment Stored Properly:	Yes: ☒	No: ☐	NA: ☐
SE Properly Deconned On-Site:	Yes: ☒	No: ☐	NA: ☐
Comments: Deconn set up in Filter Cake Storage Area. Trowels and augers were deconned prior to sampling in Filter Press Cake storage area. IEC was wrapping the cleaned trowels, but LSASD explained no need if about to use immediately.			
Rig or Backhoe (RB) Decon:	Yes: ☐	No: ☐	NA: ☐
RB Pressure Washed or Steam Cleaned:	Yes: ☐	No: ☐	NA: ☐
Comments on RB Decon:			
Condition or RB:			

Field QA			
Equipment Rinse Blanks:	Yes: ☐	No: ☒	NA: ☐
Trip Blanks:	Yes: ☐	No: ☒	NA: ☐
Preservative Blanks:	Yes: ☐	No: ☐	NA: ☒
Duplicates:	Yes: ☒	No: ☐	NA: ☐
Other Field Blanks: Temperature Blank	Yes: ☐	No: ☒	NA: ☐
Comments: No trip blanks, MS/MSDs or equipment rinse blanks were collected. Duplicate was taken at 12:00 PM but did not designated which sample location in FVS lights that was duplicated.			

Sample Handling			
Proper Sample Containers:	Yes: ☒	No: ☐	NA: ☐
Proper Number or Containers:	Yes: ☒	No: ☐	NA: ☐
Properly Transferred to Containers:	Yes: ☐	No: ☐	NA: ☒
Concentrated Samples Isolated:	Yes: ☐	No: ☐	NA: ☒
Samples Properly Field Preserved:	Yes: ☐	No: ☐	NA: ☒
Preserved Sample pH Checked:	Yes: ☐	No: ☐	NA: ☒
Samples Immediately Iced:	Yes: ☒	No: ☐	NA: ☐
New Gloves for Each Sample:	Yes: ☒	No: ☐	NA: ☐
Samples Filtered:	Yes: ☐	No: ☐	NA: ☒
List Analyses: RCRA TCLP Metals, PCBs			
Comments: Samples collected in 5-gallon buckets and one-gallon zip-lock bags. Ten zip-lock bags for FVS pilot and ten bags for Filter Press Cake area.			

Sample Processing			
Scribe Used for COC:	Yes: ☐	No: ☐	NA: ☒
Region 4 Scribe Template Used:	Yes: ☐	No: ☐	NA: ☒
MS\MSD Designated:	Yes: ☐	No: ☐	NA: ☒
Samples Properly Labeled: (1)	Yes: ☒	No: ☐	NA: ☐
Custody Maintained On-Site:	Yes: ☒	No: ☐	NA: ☐
Samples Sealed With Custody Tape:	Yes: ☐	No: ☒	NA: ☐
Shipping Cooler(s) Custody Sealed:	Yes: ☐	No: ☒	NA: ☐
Shipping Cooler(s) Properly Packed:	Yes: ☒	No: ☐	NA: ☐
Temp Blank in Each Cooler(s):	Yes: ☐	No: ☒	NA: ☐
COC Matches Cooler(s) Contents:	Yes: ☐	No: ☐	NA: ☐
Packing Material:	NA: ☐		
Vermiculite:	Yes: ☐	No: ☒	
Bubble Wrap	Yes: ☐	No: ☒	
Other:	Yes: ☒	No: ☐	
Comments: (1) Written on zip-lock bags in permanent black marker. Used ice as packing material. (2) FVS Lights Samples were transported by TAV employee. IEC did not keep a copy of the FVS Lights COC after signing and relinquishing the samples. AES closed at 3 PM on 11/01/22. IEC transported Filter Press Cake samples to AES on 11/02/22.			

Monitor Well Sampling			
Upgradient or Control:	Yes: ☐	No: ☐	NA: ☐
Wells Secured:	Yes: ☐	No: ☐	NA: ☐
Wells Undamaged:	Yes: ☐	No: ☐	NA: ☐
Wells Properly Identified:	Yes: ☐	No: ☐	NA: ☐
Total Depth Measured:	Yes: ☐	No: ☐	NA: ☐
Depth to Water Measured:	Yes: ☐	No: ☐	NA: ☐
Depth Measurements to 0.01 ft.:	Yes: ☐	No: ☐	NA: ☐
All Wells Measured on Same Day:	Yes: ☐	No: ☐	NA: ☐
Time for Equilibration Allowed:	Yes: ☐	No: ☐	NA: ☐
Measuring Device Decontaminated:	Yes: ☐	No: ☐	NA: ☐
Purge Volume Calculated:	Yes: ☐	No: ☐	NA: ☐
Wells Properly Purged:	Yes: ☐	No: ☐	NA: ☐
Purge Volume Measured:	Yes: ☐	No: ☐	NA: ☐
Purging Devices Cleaned Between Wells:	Yes: ☐	No: ☐	NA: ☐
Purge Confirmed W\Field Parameters:	Yes: ☐	No: ☐	NA: ☐
Field Parameters Stable:	Yes: ☐	No: ☐	NA: ☐
Sample Devices Cleaned Between Wells:	Yes: ☐	No: ☐	NA: ☐
Comments:			
Purge Technique(s):			
Multiple Volume (MV):	Yes: ☐	No: ☐	NA: ☐
MV Min. purge calculations correct:	Yes: ☐	No: ☐	NA: ☐
Additional volume purged (if needed) Beyond 3 well volumes			
Low Flow (LF):	Yes: ☐	No: ☐	NA: ☐
LF inlet placed at mid-screen:	Yes: ☐	No: ☐	NA: ☐
Method Used for Determining Location or Intake:			
Water Level Checked:	Yes: ☐	No: ☐	NA: ☐
LF Drawdown Monitored During Purge:	Yes: ☐	No: ☐	NA: ☐
LF Drawdown Acceptable:	Yes: ☐	No: ☐	NA: ☐
Comments:			
Purge Device(s):			
Closed Top Bailer:	Yes: ☐	No: ☐	NA: ☐
Portable Submersible Pump:	Yes: ☐	No: ☐	NA: ☐

Peristaltic Pump:	Yes: ☐	No: ☐	NA: ☐
Bladder Pump:	Yes: ☐	No: ☐	NA: ☐
Other (Specify):	Yes: ☐	No: ☐	NA: ☐
Comments:			
Monitor Well Sampling			
Generator(s) Used:	Yes: ☐	No: ☐	NA: ☐
Generator & Fuel Isolated From Well:	Yes: ☐	No: ☐	NA: ☐
Dedicated Tubing:	Yes: ☐	No: ☐	NA: ☐
New Tubing:	Yes: ☐	No: ☐	NA: ☐
Sample Device(s):			
Bailer W\Teflon Coated Wire Leader:	Yes: ☐	No: ☐	NA: ☐
Portable Submersible Pump:	Yes: ☐	No: ☐	NA: ☐
Peristaltic Pump (Vacuum):	Yes: ☐	No: ☐	NA: ☐
Peristaltic Pump (Through Head):	Yes: ☐	No: ☐	NA: ☐
Peristaltic Pump (Reverse Flow):	Yes: ☐	No: ☐	NA: ☐
Bladder Pump:	Yes: ☐	No: ☐	NA: ☐
Passive Diffusion Bag (PDB):	Yes: ☐	No: ☐	NA: ☐
Other (Specify):	Yes: ☐	No: ☐	NA: ☐
Comments:			
Passive Diffusion Bag (PDB) Sampling:	Yes: ☐	No: ☐	NA: ☐
PDB Procedure Detailed in QAPP:	Yes: ☐	No: ☐	NA: ☐
PDB Material(s):			
PDB Manufacturer/Brand Name:			
PDB Date(s) Deployed:			
PDB Date(s) Retrieved:			
Comments (comment on any other minimal purge or no-purge methods used):			

Potable Water Sampling			
Depth Known\Documented:	Yes: ☐	No: ☐	NA: ☐
Purge Confirmed W\Field Parameters:	Yes: ☐	No: ☐	NA: ☐
Field Measurements Stable:	Yes: ☐	No: ☐	NA: ☐
Purge Volume Measured:	Yes: ☐	No: ☐	NA: ☐
Method:			
Directly Fill Container:	Yes: ☐	No: ☐	NA: ☐
Fill Transfer Device (Specify):	Yes: ☐	No: ☐	NA: ☐
Other (Specify):	Yes: ☐	No: ☐	NA: ☐
Comments:			

Soil, Sediment, and Sludge Sampling			
Background or Control:	Yes: ☐	No: ☒	NA: ☐
Grab or Composite:	Grab: ☐	Composite: ☐	Both: ☒
Incremental Sampling:	Yes: ☐	No: ☐	NA: ☒
Comments: Waste samples of FVS Lights and Filter Press Cake.			
Manual Samples Collected With:			
Spoon:	Yes: ☐	No: ☒	NA: ☐
Hand Auger:	Yes: ☒	No: ☐	NA: ☐
5035 Sample Barrel:	Yes: ☐	No: ☐	NA: ☒
Scoop and Bracket:	Yes: ☐	No: ☐	NA: ☒
Other (Specify): Gloved Hand, Trowel	Yes: ☒	No: ☐	NA: ☐
Comments: IEC samplers used their gloved hands to collect the FVS lights samples and placed them into zip-lock bags. For the Filter Press Cake, trowels and garden augers were used to collect the samples and put them into bags.			
Power Assisted Samples Collected With:			
Split Spoon:	Yes: ☐	No: ☐	NA: ☐
Macro Core:	Yes: ☐	No: ☐	NA: ☐
Vibra Core:	Yes: ☐	No: ☐	NA: ☐
Comments:			
Samples (Not VOC) Properly Mixed:	Yes: ☐	No: ☒	NA: ☐
VOC Samples Protected From Exposure:	Yes: ☐	No: ☐	NA: ☒
Comments: IEC samplers used their gloved hands to spread the FVS lights onto a plastic film covered table, gridded the material into 9 sections, then grabbed a handful from each section and placed the material into a zip lock bag.			

Surface Water Sampling			
Background or Control:	Yes: ☐	No: ☐	NA: ☐
Grab or Composite:	Grab: ☐	Composite: ☐	Both: ☐
Sediment Roiled:	Yes: ☐	No: ☐	NA: ☐
Collected Upstream or Sampler:	Yes: ☐	No: ☐	NA: ☐
Platform:			
Wading:	Yes: ☐	No: ☐	NA: ☐
Boat:	Yes: ☐	No: ☐	NA: ☐
Bridge:	Yes: ☐	No: ☐	NA: ☐
From Shore:	Yes: ☐	No: ☐	NA: ☐
Comments:			
Method:			
Dip Container:	Yes: ☐	No: ☐	NA: ☐
Fill Transfer Device (Specify):	Yes: ☐	No: ☐	NA: ☐
Peristaltic Pump:	Yes: ☐	No: ☐	NA: ☐
Other Pump (Specify):	Yes: ☐	No: ☐	NA: ☐
Sample Depth:			
Surface:	Yes: ☐	No: ☐	NA: ☐
Other (Specify):			
Comments:			

Permanent Monitor Well Installation			
Upgradient or Control Wells First:	Yes: ☐	No: ☐	NA: ☐
Rig Type:			
Direct Push:	Yes: ☐	No: ☐	NA: ☐
Sonic:	Yes: ☐	No: ☐	NA: ☐
Air Rotary:	Yes: ☐	No: ☐	NA: ☐
in-Line Organic Air Filter:	Yes: ☐	No: ☐	NA: ☐
Cyclone Velocity Dissipator:	Yes: ☐	No: ☐	NA: ☐
Rotary Auger:	Yes: ☐	No: ☐	NA: ☐
Mud Type Specified in QAPP:	Yes: ☐	No: ☐	NA: ☐
Water Source Specified in QAPP:	Yes: ☐	No: ☐	NA: ☐
2” Minimum Annulus:	Yes: ☐	No: ☐	NA: ☐
Screen Bottom Plugged or Capped:	Yes: ☐	No: ☐	NA: ☐
Well(s) Double Cased:	Yes: ☐	No: ☐	NA: ☐
Comments:			
Samples Collected for Logging:	Yes: ☐	No: ☐	NA: ☐
Borehole Diameter(s):			
Surface Outer Casings:	Yes: ☐	No: ☐	NA: ☐
Depth:			
Well Casing Material Specified in QAPP:	Yes: ☐	No: ☐	NA: ☐
Well Casing Depth Specified in QAPP:	Yes: ☐	No: ☐	NA: ☐
Well Casing Diameter Specified in QAPP:	Yes: ☐	No: ☐	NA: ☐
Well Screen Length Specified in QAPP:	Yes: ☐	No: ☐	NA: ☐
Well Screen Slot Size Specified in QAPP:	Yes: ☐	No: ☐	NA: ☐
Well Screen Manufacturer(s):			
Comments:			
Bottom or Well Screen Plugged\Capped:	Yes: ☐	No: ☐	
Sand or Gravel Filter Pack:	Yes: ☐	No: ☐	
Filter Pack Material:			
Sieve Analysis for Screen\Filter Pack:	Yes: ☐	No: ☐	
Well(s) Installed to Proper Depth:	Yes: ☐	No: ☐	
Screened interval(s) Specified in QAPP:	Yes: ☐	No: ☐	NA: ☐
Filter Pack Material Specified in QAPP:	Yes: ☐	No: ☐	NA: ☐
Filter Packs to 2’ Above Screen:	Yes: ☐	No: ☐	
Filter Pack Placed W\Tremie Tube:	Yes: ☐	No: ☐	
Comments:			

Permanent Monitor Well Installation			
Sealed Above Filter Pack:	Yes: ☐	No: ☐	NA: ☐
Material Used for Seal:			
Seal Minimum 2' Thick:	Yes: ☐	No: ☐	NA: ☐
Seal (Bentonite) 8 Hours Hydration:	Yes: ☐	No: ☐	NA: ☐
Seal Placed W\Tremie Tube:	Yes: ☐	No: ☐	NA: ☐
Comments:			
Type or Grout:			
Grout Mix Ratio Specified in QAPP:	Yes: ☐	No: ☐	NA: ☐
Grout Mix Used (If Not in QAPP):			
Grout Density:			
Density Measured W\Mud Balance:	Yes: ☐	No: ☐	NA: ☐
Grout Set for 24 hours Before Pad:	Yes: ☐	No: ☐	NA: ☐
Comments:			
Concrete Pad Installed:	Yes: ☐	No: ☐	NA: ☐
Outer Protective Casing\Locking Cap:	Yes: ☐	No: ☐	NA: ☐
Depth Below Ground of Pad:			
Pad Dimensions:	Yes: ☐	No: ☐	NA: ☐
Protective Posts:	Yes: ☐	No: ☐	NA: ☐
Weep Holes in Protective Casing:	Yes: ☐	No: ☐	NA: ☐
Wells Lockable:	Yes: ☐	No: ☐	NA: ☐
Comments:			
Wells Properly Developed:	Yes: ☐	No: ☐	NA: ☐
Turbidity After Development <10 NTU:	Yes: ☐	No: ☐	NA: ☐
Method or Development:			

Temporary Well Installation			
Upgradient or Control Wells First:	Yes: ☐	No: ☐	NA: ☐
Rig Type:			
Direct Push:	Yes: ☐	No: ☐	NA: ☐
Sonic:	Yes: ☐	No: ☐	NA: ☐
Air Rotary:	Yes: ☐	No: ☐	NA: ☐
Mud Rotary Auger:	Yes: ☐	No: ☐	NA: ☐
Mud Type Specified in QAPP:	Yes: ☐	No: ☐	NA: ☐
Water Source Specified in QAPP:	Yes: ☐	No: ☐	NA: ☐
None (Hand Auger, etc.)	Yes: ☐	No: ☐	NA: ☐
Comments:			
Samples Collected for Lithology:	Yes: ☐	No: ☐	NA: ☐
Pre-Packed Screen:	Yes: ☐	No: ☐	NA: ☐
Well Casing Material Specified in QAPP:	Yes: ☐	No: ☐	NA: ☐
Well Casing Depth Specified in QAPP:	Yes: ☐	No: ☐	NA: ☐
Well Casing Diameter Specified in QAPP:	Yes: ☐	No: ☐	NA: ☐
Well Screen Length Specified in QAPP:	Yes: ☐	No: ☐	NA: ☐
Well Screen Slot Size Specified in QAPP:	Yes: ☐	No: ☐	NA: ☐
Well(s) Installed to Proper Depth:	Yes: ☐	No: ☐	
Screened interval(s) Specified in QAPP:	Yes: ☐	No: ☐	
Well Screen Manufacturer(s):			
Wells Removed at Demobilization:	Yes: ☐	No: ☐	NA: ☐
If No, Anticipated Lifespan:			
If No, Wells Lockable:	Yes: ☐	No: ☐	NA: ☐
Comments:			

Special Comments\Notes:
This is the first FVS equipment run at this site for this sampling purpose. TAV is amending the design and operation of the facility. Storage bunker to be built for FVS lights containment. Cutting in south side of 3320 pile – working south to north.

Start of sampling, roll off is empty. The expectation was to fill the roll off in one hour, and during that time collect 10 sample buckets as representative of the process. However, the process was initially very slow to fill the bucket, but as the process continued the buckets started to fill quickly. The IEC samplers tried to slow the bucket filling down by spacing out the buckets, but EHS Director disagreed and told IEC to just fill the buckets regardless of the roll off filling up.

Bucket No. 1 at 10:00 AM – 10:15 AM; allowing FVS lights to fall into bucket; used shovel to adjust location of bucket and then to move material piling around the bucket.
Bucket No. 2 at 10:15 AM – 10:19 AM
Bucket No. 3 at 10:19 AM – 10:22 AM (Photo was taken by LSASD)
Bucket No. 4 at 10:23 AM – 10:25 AM
Bucket No. 5 at 10:26 AM – 10:33 AM

IEC sampler entered the roll off and started to shovel the FVS lights material out of the way so that the sample bucket could be shifted to the best location to capture a representative sample.

Front end loader moved/pushed down the load and/or material inside the roll off. At the time front end loader was used, the roll off was only 1/10th full. The original plan was for the samples to represent full box however, the machine rate was slow to fill the roll off but instead quickly filled the sample buckets. Sample collection ended with the roll off only ¼ full (5 cubic yards). Originally the plan was to use a front end loader bucket and collect ten 5-gallon sample buckets from the front end loader.

Bucket No. 6 at 10:35 AM – 10:38 AM
Bucket No. 7 at 10:40 AM – 10:42 AM
Bucket No. 8 at 10:45 AM – 10:46 AM
Bucket No. 9 at 10:46 AM – 10:47 AM
Bucket No. 10 at 10:48 AM – 10:49 AM

Sample setup in the main building warehouse using a plastic sheet on top of foldable table. Each bucket will be spread out onto a table, then sectioned into nine (9) quadrants then placed into a labeled Ziploc bag.

Zach Watson was the IEC sampler, and Tanner Mikell collected the samples. Once the sample was collected the remaining material and the plastic sheet were folded up and placed back into the bucket. The bucket was sealed with a plastic lid. The zip lock sample bag was labeled with the time, date, project number, sampler initials, and contract company name.

Special Comments\Notes:

Sample 1 at 11:15 AM, marked duplicate sample at 12:00 PM.
Sample 2 at 11:31 AM
Sample 3 at 11:38 AM
Sample 4 at 11:47 AM
Sample 5 at 11:55 AM
Sample 6 at 12:02 PM – EPA Split Sample W02
Sample 7 at 12:13 PM
Sample 8 at 12:21 PM
Sample 10 at 12:30 PM
Sample 9 at 12:37 PM

PPE was discarded in the facility trash can. Fresh gloves and plastics were used for each sample bucket.

Keebler Building – Filter Press Cake Sampling
Plan was to sample between columns G5-F6, E6-D7 and B6-A7. However, the EHS Director stated that only Columns C and higher contained filter press cake and that columns A and B did not. This caused IEC to rethink their sampling plan (**Photo XX**) and shift their sampling to the remaining two driveways already cleared out. In addition, the space between columns E5-F5 was targeted and a front end loader was used to scoop out buckets of material and the IEC samplers pulled their samples from the buckets.

IEC owner asked LSASD if using the sample glove was acceptable for the Filter Cake sampling. LSASD explained if the 10 samples were aliquots to be composited into one sample, then it was acceptable. If the 10 samples were individual samples, then new gloves were required at each sample point. The IEC owner asked if sampling with the gloved hands was acceptable. LSASD explained that this was not a practice that was used by LSASD but would inquire about it. LSASD recommended sampling with spoons and/or scoops. IEC had hand trowels and garden augers that needed to be cleaned/decontaminated prior to use. IEC setup a decon station beside the filter press and deconned the trowels and augers.

Samples were taken from the leveled driveway between columns D6-E5.
Sample 1 – E5-D6 at 15:58
Sample 2 – E5-D6 at 16:06
Sample 3 – E5 at 16:10 - EPA Split Sample W03
Sample 4 – D6 at 16:15
Sample 5 – D5-D6 at 16:27

Special Comments\Notes:

Sample 6 – D5-E6 at 16:29
Sample 7 – E5-E6 at 16:31
Sample 8 – D6-E6 at 16:34
Sample 9 – D5-D6, E5-E6 at 16:36
Sample 10 – D5-E5 at 16:39

Samples were taken from the leveled driveway between columns G6-H5.
Sample 1 at 17:00
Sample 1 Duplicate at 17:02
Sample 2 at 17:04
Sample 3 at 17:08
Sample 4 at 17:13
Sample 5 at 17:16
Sample 6 at 17:21
Sample 7 at 17:27 – EPA Split Composite Sample W06 at H5
Sample 8 at 17:32
Sample 9 at 17:37
Sample 10 at 17:40

Backhoe Scoops from E5-F5
Sample 1 at 17:52
Sample 2 at 17:53
Sample 3 at 17:57
Sample 4 at 17:59
Sample 5 at 18:02
Sample 6 at 18:03
Sample 7 at 18:05
Sample 8 at 18:07
Sample 9 at 18:08
Sample 10 at 18:09

EPA Samples
ECAD requested sampling at Column C14 and between Columns B11-B12 (**Photo XX**). Filter cake piles had been accumulating on this of the Keebler Warehouse where filter cake and equipment are being stored.

Sample W01 – Composite of 10 FVS Lights Buckets at 11:15
Sample W02 – FVS Lights Bucket 6 at 12:02
Sample W03 – Column E5 at 16:10
Sample W04 – Column C14 at 16:54
Sample W05 – Column B11-B12 at 17:17
Sample W06 – Column H5 at 17:27
LSASD collected three 8-ounce jars of filter cake per sample location and a zip lock bag of filter cake as a split with IEC.

Brent Fairchild 11/01/22 TAV

TAV Holdings, Inc.

VISITOR SIGN IN SHEET

Empire Blvd, SW

NAME	DATE	COMPANY	TIME IN	TIME OUT
Paula Whiting	11/01/22	USEPA LSASD	9:15A	
William Kappler	11/01/22	USEPA, R4/ECAD	9:15Am	
Mark Anthony Relon	11/01/22	USEPA, R4/ECAD	9:16am	
Brooke York	11/1/22	USEPA, R4/ECAD	9:15 Am	
Claiborne Thornton	11/1/22	IEC	9:15Am	
ZACH WATSON	11/1/22	IEC	09:15	
Tanner Mizell	11/1/22	IEC	9:15	

Appendix C – Receipt for Samples and Chain of Custody

E224529

USEPA Region 4 COC (REGION COPY)

DateShipped:
CarrierName:
AirbillNo:

CHAIN OF CUSTODY RECORD

TAV Holdings, Inc. - Atlanta, GA/GA
Project Number: 23-0046
Cooler #: 1

No: 11/02/22-0001

Lab: Region 4 Lab
Lab Contact: Mike Beall
Lab Phone: 706-355-8856

LSASD ID: 23-0046

Sample Identifier	CLP Sample No.	Media/Sampler	Coll. Method	Analysis/Turnaround (Days)	Tag/Preservative/Bottles	Location	Collection Date/Time	Sample Type
-01 W01		Waste/ Paula Whiting	Comp.	TMTL + Hg(45), TCLPM-TMTL + Hg(45), PCBA(45)	A (Ice), B (Ice), C (Ice) (3) ✓	W01	11/01/2022 11:15	Field Sample
-02 W02		Waste/ Paula Whiting	Grab	TMTL + Hg(45), TCLPM-TMTL + Hg(45), PCBA(45)	A (Ice), B (Ice), C (Ice) (3) ✓	W02	11/01/2022 12:02	Field Sample
-03 W03		Waste/ Paula Whiting	Grab	TMTL + Hg(45), TCLPM-TMTL + Hg(45), PCBA(45)	A (Ice), B (Ice), C (Ice) (3) ✓	W03	11/01/2022 16:10	Field Sample
-04 W04		Waste/ Paula Whiting	Grab	TMTL + Hg(45), TCLPM-TMTL + Hg(45), PCBA(45)	A (Ice), B (Ice), C (Ice) (3) ✓	W04	11/01/2022 16:54	Field Sample
-05 W05		Waste/ Paula Whiting	Grab	TMTL + Hg(45), TCLPM-TMTL + Hg(45), PCBA(45)	A (Ice), B (Ice), C (Ice) (3) ✓	W05	11/01/2022 17:17	Field Sample
-06 W06		Waste/ Paula Whiting	Comp.	TMTL + Hg(45), TCLPM-TMTL + Hg(45), PCBA(45)	A (Ice), B (Ice), C (Ice) (3) ✓	W06	11/01/2022 17:27	Field Sample

Final Report

Special Instructions:	**Shipment for Case Complete? N**
	Samples Transferred From Chain of Custody #
Analysis Key: TMTL + Hg=(TMTL) Total Metals (Superfund, RCRA) + Hg, TCLPM-TMTL + Hg=(TCLPM-TMTL+Hg) TCLP + TMTL + Hg, PCBA=(PCBA) PCB Aroclors	

~~Items/Reason~~	~~Relinquished by (Signature and Organization)~~	Date/Time	Received by (Signature and Organization)	Date/Time	Sample Condition Upon Receipt
8 conts.	USEPA LSASD	11/2/22 1015	Robert M Beall EPA R4 LSASD	11-2-22 1015	Good

Beall, Mike

E224529

From: Beall, Mike
Sent: Thursday, November 03, 2022 11:11 AM
To: Walton, Ernest
Cc: Trapp, Kristin; Wellborn, Floyd; Giles, John
Subject: RE: 23-0046 TAV Holdings, Inc. - Atlanta, GA Samples

Got it.

From: Walton, Ernest <Walton.Ernest@epa.gov>
Sent: Thursday, November 03, 2022 11:10 AM
To: Beall, Mike <Beall.Mike@epa.gov>
Cc: Trapp, Kristin <Trapp.Kristin@epa.gov>; Wellborn, Floyd <Wellborn.Floyd@epa.gov>
Subject: RE: 23-0046 TAV Holdings, Inc. - Atlanta, GA Samples

Hi Mike,

Please log all of the samples for TAV Holdings in as waste samples.

Thanks,

Ernie

From: Beall, Mike <Beall.Mike@epa.gov>
Sent: Wednesday, November 02, 2022 10:20 AM
To: Walton, Ernest <Walton.Ernest@epa.gov>
Cc: Trapp, Kristin <Trapp.Kristin@epa.gov>; DeJesus, Megan <DeJesus.Megan@epa.gov>
Subject: RE: 23-0046 TAV Holdings, Inc. - Atlanta, GA Samples

Great. I can wait until Thursday to log in if that is better.

From: Walton, Ernest <Walton.Ernest@epa.gov>
Sent: Wednesday, November 02, 2022 10:18 AM
To: Beall, Mike <Beall.Mike@epa.gov>
Cc: Trapp, Kristin <Trapp.Kristin@epa.gov>; DeJesus, Megan <DeJesus.Megan@epa.gov>
Subject: RE: 23-0046 TAV Holdings, Inc. - Atlanta, GA Samples

Hi Mike,

I am working from home today. I will copy this to Megan and Kristin to see if they want to take a look at them before you log them in.

Thanks,

Ernie

From: Beall, Mike <Beall.Mike@epa.gov>
Sent: Wednesday, November 02, 2022 10:16 AM

E224529

To: Walton, Ernest <Walton.Ernest@epa.gov>
Subject: FW: 23-0046 TAV Holdings, Inc. - Atlanta, GA Samples

Ernie,
Paula is in Custody Room with her samples if you want to look at them before I log.
Waste or Soil matrix?

Thanks,
Mike

From: Whiting, Paula <Whiting.Paula@epa.gov>
Sent: Wednesday, November 02, 2022 9:47 AM
To: R4SampleCustody <R4SampleCustody@epa.gov>
Cc: Beall, Mike <Beall.Mike@epa.gov>; Montalvo, Liza <Montalvo.Liza@epa.gov>
Subject: 23-0046 TAV Holdings, Inc. - Atlanta, GA Samples

Good Afternoon Mike,

Eighteen (18) 8-ounce glass bottles will be delivered this morning. Please let me know if the .xml file is accessible.

Respectfully,

Paula A Whiting
Environmental Engineer
Hazardous Waste Section
Field Service Branch
Laboratory Services & Applied Science Division
US Environmental Protection Agency - Region IV
980 College Station Road
Athens, GA 30605
Phone: 706-355-8625
EPA Cell: 706-818-5926

SAMPLE RECEIPT CHECKLIST

Project Number/Name: 23-0046 TAV HOLDINGS INC.			
Work Order (s): E224529			
Received by: [signature]		Date/Time: 11/2/22 1015	
Logged/Assisted by (if other):			
Samples shipped	UPS Fed Ex ~~Walk in~~ Other	PAULA WHITING CN	11/2/22 @ 1000
Cooler Temperature indicator bottle	Therm # 340 Cooler Temp: 1) 0.6°C ~~0.6°C~~ [initials]	Absent not required *(list reason)	
Custody Seals	Present ~~Absent~~		
Custody Seals Intact?	Yes No NA		
CoC present	~~Yes~~ No		
Ice in Cooler	~~Present~~ Absent Placed in cooler after ice removed	not required *(list reason)	HOOD
Were sample containers intact?	~~Yes~~ No		
Samples & C of C match?	~~Yes~~ No		
CoC/Labels agree	~~Yes~~ No		
All analysis specified on chain of custody?	~~Yes~~ No		

23-0046 JAN Holdings

E224529

SAMPLE RECEIPT CHECKLIST

Was XML file received?	(yes) no	
Any issues with XML file?	yes (no)	
Did Project leader need to be contacted?	yes (no)	
Was project converted from R4LIMS to Element?	(yes) no	
Were all project analyses correct/present in Element cross?	(yes) no	

Additional Notes:

11/3/22 RMB Per instructions after J. Giles and K. Trapp looked @ samples, W01 and W02 were stored in the hood and W03 – W06 were placed in the cooler overnight. After more observing of samples, it was decided to consider all as wastes instead of some as soils and some as wastes – All will be stored in hood after login.

QAM Signature (or designee):_____ Date:_____

LSASD ID: 23-0046

Final Report

44 of 93

ANALYTICAL ENVIRONMENTAL SERVICES, INC.

Analytical Environmental Services, Inc.
3080 Presidential Drive, Atlanta, GA 30340 Phone: (770)-457-8177

CHAIN OF CUSTODY

~~2211110~~ 2211113

Work Order: ~~2211108~~ MS 11/1/22

Page 1 of 1

COMPANY:	ADDRESS:
Industrial Environmental Consultants	2603 Fessey Park Rd. Nashville, TN ~~37201~~ 37204
PHONE: 615 730 5059	EMAIL: Evan@industrialconsultants.com
SAMPLED BY: Zach Watson & Tanner Mikell	SIGNATURE: Zachary A. Watson

#	SAMPLE ID	SAMPLED: DATE	SAMPLED: TIME	GRAB	COMPOSITE	MATRIX (see codes)	ANALYSIS REQUESTED: TCLP RCRA ~~8020~~	ANALYSIS REQUESTED: PCB 8082 PCB	PRESERVATION (see codes)	PRESERVATION (see codes)	REMARKS	Number of Containers
1	1	11/1/22	1115		X	O	X	X				1
2	2		1131									1
3	3		1138									1
4	4		1147									1
5	5		1155									1
6	6		1202									1
7	7		1213									1
8	8		1221									1
9	10		1230									1
10	9	11/1/22	1237		X	O	X	X				1
11	Dup	11/1/22	1200		X	O	X	X				1
12	Comp 1-10	11/1/22	1255		X	O	X	X				
13												
14												

Visit our website www.aesatlanta.com for downloadable COCs and to log in to your AESAccess account.

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
1. Zachary A. Watson	11/1 1411	1. LENIN RINCON	11/1 1411
2. LENIN RINCON	11/01/22 2:49PM	2.	11/01/22 1449
3.		3.	

SPECIAL INSTRUCTIONS/COMMENTS:
O = Automobile Shredder Residue

SHIPMENT METHOD
OUT: / / VIA:
IN: / / VIA:
Client FedEx UPS US mail courier other: _____

PROJECT INFORMATION
PROJECT NAME: TAV
PROJECT #: 22006
SITE ADDRESS: ATL, GA
SEND REPORT TO: Evan Waite (IEC)
INVOICE TO (IF DIFFERENT FROM ABOVE):
QUOTE #: K18191 PO#: _____

RECEIPT
Total # of Containers: 11

Turnaround Time (TAT) Request
- ☐ Standard
- ☐ 2 Business Day Rush
- ☒ Next Business Day Rush
- ☐ Same-Day Rush (auth req.)
- ☐ Other _____

REGULATORY PROGRAM (if any):
DATA PACKAGE: I ○ II ○ III ○ IV ○

Submission of samples to the laboratory constitutes acceptance of AES's Terms & Conditions. Client assumes sole responsibility for damage or loss of samples before we accept them. Samples received after 3PM or on Saturday are considered as received the following business day. If no TAT is marked on COC, AES will proceed with standard TAT. Samples are disposed of 30 days after completion of report unless other arrangements are made.

4.30.20_COC

Matrix Codes: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water ST=Stormwater WW = Waste Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify)

Preservative Codes: H+I – Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

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Analytical Environmental Services, Inc.
3080 Presidential Drive, Atlanta, GA 30340 Phone: (770)-457-8177

CHAIN OF CUSTODY

Work Order: _____
Page 1 of 4

COMPANY: IEC Industrial Environmental Consultants	ADDRESS: 2603 Fessey Park Rd. Nashville, TN 37204
PHONE: 615.730.5059	EMAIL: Evan@industrialenvironments.com
SAMPLED BY: ZACH WATSON, TANNER NEKELL	SIGNATURE: Zachary A. Watson, Evan White

#	SAMPLE ID	SAMPLED: DATE	SAMPLED: TIME	GRAB	COMPOSITE	MATRIX (see codes)	PRESERVATION (see codes) I	PRESERVATION (see codes) II	ANALYSIS REQUESTED: 8082 PCB	ANALYSIS REQUESTED: TCLP RCRA	REMARKS	Number of Containers
1	EQ-FB 1	11/1/22	1752	✓		O	X	X				1
2	2		1753									1
3	3		1767									1
4	4		1759									1
5	5		1802									1
6	6		1803									1
7	7		1805									1
8	8		1807									1
9	9		1808			↓	↓	↓				1
10	10	↓	1809	↓		O	X	X				1
11												
12												
13												
14												

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RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
1. Zachary A. Watson	11/2/22 10:22	1.	11/2/22 10:23
2. Evan White	11/2/22 10:09	2.	11 2 22 1109 am
3.		3.	

SPECIAL INSTRUCTIONS/COMMENTS:
O = Automatic Shredder Residue

SHIPMENT METHOD
OUT: / / VIA:
IN: / / VIA:
Client FedEx UPS US mail courier
other: _____

PROJECT INFORMATION
PROJECT NAME: TAV
PROJECT #: 22006
SITE ADDRESS: ATL, GA
SEND REPORT TO: IEC (Evan White)
INVOICE TO (IF DIFFERENT FROM ABOVE):
QUOTE #: KIS191 PO#: _____

RECEIPT
Total # of Containers: 10

Turnaround Time (TAT) Request
☐ Standard
☑ 2 Business Day Rush
NA ☒ Next Business Day Rush
☐ Same-Day Rush (auth req.)
☐ Other _____

REGULATORY PROGRAM (if any):
DATA PACKAGE: I ○ II ○ III ○ IV ○

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4.30.20_COC

Matrix Codes: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water ST=Stormwater WW = Waste Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify)

Preservative Codes: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

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Analytical Environmental Services, Inc.
3080 Presidential Drive, Atlanta, GA 30340 Phone: (770)-457-8177

CHAIN OF CUSTODY

Work Order: _____

COMPANY: INDUSTRIAL ENVIRO CONSULTANTS
ADDRESS: 2603 Fessey Park Rd. NASHVILLE, TN 37204
PHONE: 615.730.5059
EMAIL: Evan@industrialenvironmentalconsultants.com
SAMPLED BY: ZACH WASSON, TANNER MIKELL
SIGNATURE: Zachary A. Watson

#	SAMPLE ID	SAMPLED: DATE	SAMPLED: TIME	GRAB	COMPOSITE	MATRIX (see codes)	PRESERVATION (see codes) I	PRESERVATION (see codes) II	ANALYSIS REQUESTED: 8082 PCB	ANALYSIS REQUESTED: TCLP RCRA	REMARKS	Number of Containers
1	G6-H5-1	11/1/22	~~1500~~ 1700	X		O	X	X				1
2	G6-H5-2		1704	X		O						1
3	G6-H5-3		1708	X		O						1
4	G6-H5-4		1713	X		I						1
5	G6-H5-5		1716	X								1
6	G6-H5-6		1721		X							1
7	G6-H5-7		1727		X							1
8	G6-H5-8		1732	X								1
9	G6-H5-9		1737	X								1
10	G6-H5-10		1740	X								1
11	G6-H5-Dup	11/1/22	1702	X								1
12												
13												
14												

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RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
1. Zachary A. Watson	11/2/22 10:23	1. Evan Mercer	11/2/22 10:23
2. Evan Mercer	11/2/22 11:09	2. [illegible]	11 2 22 1109
3.		3.	

SPECIAL INSTRUCTIONS/COMMENTS:
O = Automobile Shredder Residue

SHIPMENT METHOD
OUT: / / VIA:
IN: / / VIA:
Client FedEx UPS US mail courier
other: _____

PROJECT INFORMATION
PROJECT NAME: ~~EAU~~ TAU
PROJECT #: 22006
SITE ADDRESS: ATL, GA
SEND REPORT TO: Evan White (IEC)
INVOICE TO (IF DIFFERENT FROM ABOVE):
QUOTE #: K18191 PO#: _____

RECEIPT
Total # of Containers: 11

Turnaround Time (TAT) Request
- ☐ Standard
- ☒ 2 Business Day Rush
- ☐ Next Business Day Rush
- ☐ Same-Day Rush (auth req.)
- ☐ Other _____

REGULATORY PROGRAM (if any):
DATA PACKAGE: I ○ II ○ III ○ IV ○

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4.30.20_COC

Matrix Codes: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water ST=Stormwater WW = Waste Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify)

Preservative Codes: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

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Analytical Environmental Services, Inc.
3080 Presidential Drive, Atlanta, GA 30340 Phone: (770)-457-8177

CHAIN OF CUSTODY

Work Order: _____

COMPANY: IEC Industrial Environmental Contractors	ADDRESS: 2603 Fessey Park Rd. Nashville, TN 37204
PHONE: 615.730.5059	EMAIL: Evan@industrialenvironmentalcontractors.com
SAMPLED BY: ~~Evan White~~ Parker Whiting & Claiborne Thornton	SIGNATURE:

#	SAMPLE ID	SAMPLED: DATE	SAMPLED: TIME	GRAB	COMPOSITE	MATRIX (see codes)	ANALYSIS REQUESTED: 8082 PCB	TCLP RCRA	RCRA Metals Total	PRESERVATION (see codes): I	I	I	REMARKS	Number of Containers
1	W-4	11/1/22	1654	X		O	X	X	X					1
2	W-5	11/1/22	1717	X		O	X	X	X					1
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														
14														

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RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
1. Zachary A. Thornton	11/2/22 10:23	1. Jamar Myers	11/2/22 10:23
2. Jamar Myers	11/2/22 11:09	2. C C OP	11222 1109
3.		3.	

SPECIAL INSTRUCTIONS/COMMENTS: O = Auto Shredder Residue

SHIPMENT METHOD

OUT: / / VIA:

IN: / / VIA:

Client FedEx UPS US mail courier other: _____

PROJECT INFORMATION

PROJECT NAME: TAV

PROJECT #: 22006

SITE ADDRESS: ATL, GA

SEND REPORT TO: Evan White (IEC)

INVOICE TO (IF DIFFERENT FROM ABOVE):

QUOTE #: K18191 PO#: _____

RECEIPT

Total # of Containers: 2

Turnaround Time (TAT) Request

- ☐ Standard
- ☒ 2 Business Day Rush
- ☐ Next Business Day Rush
- ☐ Same-Day Rush (auth req.)
- ☐ Other _____

REGULATORY PROGRAM (if any):

DATA PACKAGE: I ○ II ○ III ○ IV ○

Submission of samples to the laboratory constitutes acceptance of AES's Terms & Conditions. Client assumes sole responsibility for damage or loss of samples before we accept them. Samples received after 3PM or on Saturday are considered as received the following business day. If no TAT is marked on COC, AES will proceed with standard TAT. Samples are disposed of 30 days after completion of report unless other arrangements are made.

4.30.20_COC

Matrix Codes: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water ST=Stormwater WW = Waste Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify)

Preservative Codes: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

AES | ANALYTICAL ENVIRONMENTAL SERVICES, INC.

Analytical Environmental Services, Inc.
3080 Presidential Drive, Atlanta, GA 30340 Phone: (770)-457-8177

CHAIN OF CUSTODY

Work Order: _____
Page 4 of 4

COMPANY: IEC — Industrial Environmental Consultants
ADDRESS: 2603 Fessey Park RD. Nashville, TN 37204
PHONE: 615.730.5059
EMAIL: Evan@indenvconsultants.com
SAMPLED BY: ZACH WATSON, TANNER ~~HACK~~ MERELL
SIGNATURE: Zachary A. Watson — Team Member

ANALYSIS REQUESTED: 8082 PCB; TCLP RCRA

Visit our website www.aesatlanta.com for downloadable COCs and to log in to your AESAccess account.

#	SAMPLE ID	SAMPLED: DATE	SAMPLED: TIME	GRAB	COMPOSITE	MATRIX (see codes)	PRESERVATION (see codes) I	PRESERVATION (see codes) II	REMARKS	Number of Containers
1	F6-D7-1	11/1/22	1555	X		O	X	X		1
2	F6-D7-2	"	1606	X		"	"	"		1
3	F6-D7-3	"	1610	X		"	"	"		1
4	F6-D7-4	"	1615	X		"	"	"		1
5	~~F6-D7-D~~ F6-D7-5	"	1627	X		"	"	"		1
6	F6-D7-6	"	1629		X	"	"	"		1
7	F6-D7-7	"	1631		X	"	"	"		1
8	F6-D7-8	"	1634	X		"	"	"		1
9	F6-D7-9	"	1639	X		"	"	"		1
10	F6-D7-10	↓	1639	X		↓	↓	↓		1
11										
12										
13										
14										

RELINQUISHED BY:	DATE/TIME:	RECEIVED BY:	DATE/TIME:
1. Zachary A. Watson	11/2/22 10:23	1. Tanner Merrell	11/2/22 10:23
2. Tanner Merrell	11/2/22 11:09	2. Cc CP?	110222 1109
3.		3.	

SPECIAL INSTRUCTIONS/COMMENTS:
O = Auto Shredder Residue

SHIPMENT METHOD
OUT: / / VIA:
IN: / / VIA:
Client FedEx UPS US mail courier
other: _____

PROJECT INFORMATION
PROJECT NAME: TAV
PROJECT #: 22006
SITE ADDRESS: ATL, GA -
SEND REPORT TO: Evan White (IEC)
INVOICE TO (IF DIFFERENT FROM ABOVE):
QUOTE #: K18101 PO#: _____

RECEIPT
Total # of Containers: 10

Turnaround Time (TAT) Request
- ☐ Standard
- ☒ 2 Business Day Rush
- ☐ Next Business Day Rush
- ☐ Same-Day Rush (auth req.)
- ☐ Other _____

REGULATORY PROGRAM (if any):
DATA PACKAGE: I ○ II ○ III ○ IV ○

Submission of samples to the laboratory constitutes acceptance of AES's Terms & Conditions. Client assumes sole responsibility for damage or loss of samples before we accept them. Samples received after 3PM or on Saturday are considered as received the following business day. If no TAT is marked on COC, AES will proceed with standard TAT. Samples are disposed of 30 days after completion of report unless other arrangements are made.

4.30.20_COC

Matrix Codes: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water ST=Stormwater WW = Waste Water W = Water (Blanks) DW = Drinking Water (Blanks) O = Other (specify)

Preservative Codes: H+I = Hydrochloric acid + ice I = Ice only N = Nitric acid S+I = Sulfuric acid + ice S/M+I = Sodium Bisulfate/Methanol + ice O = Other (specify) NA = None

White Copy - Original; Yellow Copy - Client

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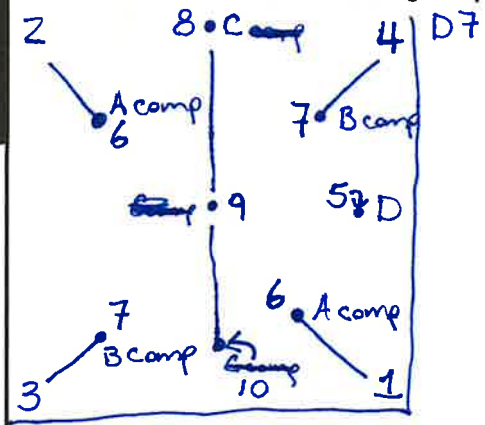

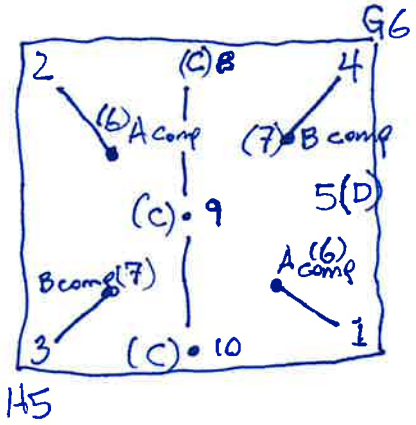

— Dup Taken @ G6-H5-4

W-4 taken @ C14
W-5 " " B12

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Appendix D – Analytical Data Reports

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 4 Laboratory Services and Applied Science Division
980 College Station Road, Athens, Georgia 30605-2700
D.A.R.T. Id: 23-0046
Project: 23-0046, TAV Holdings Inc. - Reported by Kristin Trapp

December 13, 2022

MEMORANDUM

SUBJECT: FINAL Analytical Report
Project: 23-0046, TAV Holdings Inc.

FROM: Kristin Trapp
LSB Inorganic Chemistry Section Chief

THRU: Stacie Masters, Chief
Laboratory Services Branch

TO: Paula Whiting

Attached are the final results for the analytical groups listed below. This report shall not be reproduced except in full without approval of the Region 4 laboratory. These analyses were performed in accordance with the Laboratory Services Branch's Laboratory Operations and Quality Assurance Manual (LSB LOQAM) found at www.epa.gov/region4/sesd/asbsop. Any unique project data quality objectives specified in writing by the data requestor have also been incorporated into the data unless otherwise noted in the Report Narrative. Chemistry data have been verified based on the LSB LOQAM specifications and have been qualified by this laboratory if the applicable quality control criteria were not met. Verification is defined in Chapter 5 of the LSB LOQAM. For a listing of specific data qualifiers and explanations, please refer to the Data Qualifier Definitions included in this report. The reported results are accurate within the limits of the method(s) and are representative only of the samples as received by the laboratory.

Analyses Included in this report:	Method Used:	Accreditations:
TCLP Metals (TCLPM)		
TCLP Metals	EPA 1311 (Waste)	ISO
TCLP Metals	EPA 200.8 (Waste)	ISO
TCLP Metals	EPA 6010 (Waste)	ISO
Total Metals (TMTL)		
Total Mercury	EPA 7473 (Waste)	ISO
Total Metals	EPA 200.8 (Waste)	ISO
Total Metals	EPA 6010 (Waste)	ISO

Sample Disposal Policy

Due to limited space for long term sample storage, LSB's policy is to dispose of samples on a periodic schedule. Air samples collected in summa canisters will be disposed of 30 days following the issuance of this report. All other sample media including original samples, sample extracts and or digestates will be disposed of, in accordance with applicable regulations, 60 days from the date of this report.

This sample disposal policy does not apply to criminal samples which are held until the laboratory is notified by the criminal investigators that case development and litigation are complete.

These samples may be held in the laboratory's custody for a longer period of time. If samples require storage beyond the 60-day period, please contact the Sample Control Coordinator by e-mail at R4SampleCustody@epa.gov.

SAMPLES INCLUDED IN THIS REPORT

Project: 23-0046, TAV Holdings Inc.

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
W01	E224529-01	Waste	11/1/22 11:15	11/2/22 10:15
W02	E224529-02	Waste	11/1/22 12:02	11/2/22 10:15
W03	E224529-03	Waste	11/1/22 16:10	11/2/22 10:15
W04	E224529-04	Waste	11/1/22 16:54	11/2/22 10:15
W05	E224529-05	Waste	11/1/22 17:17	11/2/22 10:15
W06	E224529-06	Waste	11/1/22 17:27	11/2/22 10:15

DATA QUALIFIER DEFINITIONS

U	The analyte was not detected at or above the reporting limit.
J	The identification of the analyte is acceptable; the reported value is an estimate.
QM-1	Matrix Spike Recovery less than method control limits
QM-2	Matrix Spike Recovery greater than method control limits
QM-3	Matrix Spike Precision outside method control limits

ACRONYMS AND ABBREVIATIONS

CAS Chemical Abstracts Service

Note: Analytes with no known CAS identifiers have been assigned codes beginning with "E", the EPA ID as assigned by the EPA Substance Registry System (www.epa.gov/srs), or beginning with "R4-", a unique identifier assigned by the EPA Region 4 laboratory.

MDL Method Detection Limit - The minimum concentration of a substance (an analyte) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero.

MRL Minimum Reporting Limit - Analyte concentration that corresponds to the lowest demonstrated level of acceptable quantitation. The MRL is sample-specific and accounts for preparation weights and volumes, dilutions, and moisture content of soil/sediments.

TIC Tentatively Identified Compound - An analyte identified based on a match with the instrument software's mass spectral library. A calibration standard has not been analyzed to confirm the compound's identification or the estimated concentration reported.

ACCREDITATIONS:

ISO Accredited to ISO/IEC 17025:2017 and accreditation requirements for Forensic Science Testing Laboratories.

Refer to the certificate and scope of accreditation FT-0330 at:
http://www.epa.gov/aboutepa/about-region-4s-science-and-ecosystem-support-division-sesd

NR Not accredited for this test.

DW Accredited for conformance with ISO/IEC 17025:2017 and testing elements in the Fifth Edition of the Manual for the Certification of Laboratories Analyzing Drinking Water, EPA 815-R-05-004, 2005.

Refer to the certificate and scope of accreditation AT-2628 at:
http://www.epa.gov/aboutepa/about-region-4s-science-and-ecosystem-support-division-sesd

ISO/DW Accredited to ISO/IEC 17025:2017 and accreditation requirements for Forensic Science Testing Labs, and conformance with ISO/IEC 17025:2017 and testing elements in the Manual for the Certification of Laboratories Analyzing Drinking Water.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 4 Laboratory Services and Applied Science Division
980 College Station Road, Athens, Georgia 30605-2700
D.A.R.T. Id: 23-0046
Project: 23-0046, TAV Holdings Inc. - Reported by Kristin Trapp

Total Metals

Project: 23-0046, TAV Holdings Inc.

Sample ID: W01 **Lab ID:** E224529-01
Station ID: W01 **Matrix:** Waste

Date Collected: 11/1/22 11:15

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7439-97-6	Mercury	0.51		mg/kg	0.022	11/25/22 13:18	11/25/22 14:00	EPA 7473
7429-90-5	Aluminum	20000		mg/kg	94	11/08/22 8:51	11/16/22 15:55	EPA 6010
7440-36-0	Antimony	32		mg/kg	0.19	11/08/22 8:58	11/16/22 10:55	EPA 200.8
7440-38-2	Arsenic	3.8		mg/kg	0.19	11/08/22 8:58	11/16/22 10:55	EPA 200.8
7440-39-3	Barium	610		mg/kg	4.7	11/08/22 8:51	11/16/22 15:55	EPA 6010
7440-41-7	Beryllium	2.8	U	mg/kg	2.8	11/08/22 8:51	11/16/22 15:55	EPA 6010
7440-43-9	Cadmium	9.4		mg/kg	0.094	11/08/22 8:58	11/16/22 10:55	EPA 200.8
7440-70-2	Calcium	14000		mg/kg	230	11/08/22 8:51	11/16/22 15:55	EPA 6010
7440-47-3	Chromium	92		mg/kg	4.7	11/08/22 8:51	11/16/22 15:55	EPA 6010
7440-48-4	Cobalt	11		mg/kg	4.7	11/08/22 8:51	11/16/22 15:55	EPA 6010
7440-50-8	Copper	4500		mg/kg	9.4	11/08/22 8:51	11/17/22 11:45	EPA 6010
7439-89-6	Iron	21000		mg/kg	94	11/08/22 8:51	11/16/22 15:55	EPA 6010
7439-92-1	Lead	1500		mg/kg	9.4	11/08/22 8:58	11/16/22 11:01	EPA 200.8
7439-95-4	Magnesium	2800		mg/kg	230	11/08/22 8:51	11/16/22 15:55	EPA 6010
7439-96-5	Manganese	510		mg/kg	4.7	11/08/22 8:51	11/16/22 15:55	EPA 6010
7439-98-7	Molybdenum	9.4	U	mg/kg	9.4	11/08/22 8:51	11/16/22 15:55	EPA 6010
7440-02-0	Nickel	100		mg/kg	9.4	11/08/22 8:51	11/16/22 15:55	EPA 6010
7440-09-7	Potassium	940	U	mg/kg	940	11/08/22 8:51	11/16/22 15:55	EPA 6010
7782-49-2	Selenium	0.37	U	mg/kg	0.37	11/08/22 8:58	11/16/22 10:55	EPA 200.8
7440-22-4	Silver	8.2		mg/kg	4.7	11/08/22 8:51	11/16/22 15:55	EPA 6010
7440-23-5	Sodium	940	U	mg/kg	940	11/08/22 8:51	11/16/22 15:55	EPA 6010
7440-24-6	Strontium	65		mg/kg	4.7	11/08/22 8:51	11/16/22 15:55	EPA 6010
7440-28-0	Thallium	0.19	U	mg/kg	0.19	11/08/22 8:58	11/16/22 10:55	EPA 200.8
7440-31-5	Tin	99		mg/kg	14	11/08/22 8:51	11/16/22 15:55	EPA 6010
7440-32-6	Titanium	150		mg/kg	4.7	11/08/22 8:51	11/16/22 15:55	EPA 6010
7440-62-2	Vanadium	9.5		mg/kg	4.7	11/08/22 8:51	11/16/22 15:55	EPA 6010
7440-65-5	Yttrium	2.8	U	mg/kg	2.8	11/08/22 8:51	11/16/22 15:55	EPA 6010
7440-66-6	Zinc	3300		mg/kg	9.4	11/08/22 8:51	11/16/22 15:55	EPA 6010

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 4 Laboratory Services and Applied Science Division
980 College Station Road, Athens, Georgia 30605-2700
D.A.R.T. Id: 23-0046
Project: 23-0046, TAV Holdings Inc. - Reported by Kristin Trapp

TCLP Metals

Project: 23-0046, TAV Holdings Inc.

Sample ID: W01 **Lab ID:** E224529-01

Station ID: W01 **Matrix:** Waste

Date Collected: 11/1/22 11:15

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7440-36-0	Antimony	0.20	U	mg/L	0.20	12/07/22 11:20	12/12/22 14:41	EPA 200.8
7440-38-2	Arsenic	0.20	U	mg/L	0.20	12/07/22 11:20	12/12/22 14:41	EPA 200.8
7440-39-3	Barium	3.1		mg/L	0.10	12/07/22 11:17	12/13/22 12:06	EPA 6010
7440-41-7	Beryllium	0.060	U	mg/L	0.060	12/07/22 11:17	12/13/22 12:06	EPA 6010
7440-43-9	Cadmium	0.12		mg/L	0.10	12/07/22 11:20	12/12/22 14:41	EPA 200.8
7440-47-3	Chromium	0.10	U	mg/L	0.10	12/07/22 11:17	12/13/22 12:06	EPA 6010
7439-92-1	Lead	6.1		mg/L	0.20	12/07/22 11:20	12/12/22 14:41	EPA 200.8
7440-02-0	Nickel	0.20	U	mg/L	0.20	12/07/22 11:17	12/13/22 12:06	EPA 6010
7782-49-2	Selenium	0.40	U	mg/L	0.40	12/07/22 11:20	12/12/22 14:41	EPA 200.8
7440-22-4	Silver	0.10	U	mg/L	0.10	12/07/22 11:17	12/13/22 12:06	EPA 6010
7440-28-0	Thallium	0.20	U	mg/L	0.20	12/07/22 11:20	12/12/22 14:41	EPA 200.8
7440-62-2	Vanadium	0.10	U	mg/L	0.10	12/07/22 11:17	12/13/22 12:06	EPA 6010
7440-66-6	Zinc	14		mg/L	0.20	12/07/22 11:17	12/13/22 12:06	EPA 6010

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 4 Laboratory Services and Applied Science Division
980 College Station Road, Athens, Georgia 30605-2700
D.A.R.T. Id: 23-0046
Project: 23-0046, TAV Holdings Inc. - Reported by Kristin Trapp

Total Metals

Project: 23-0046, TAV Holdings Inc.

Sample ID: W02 **Lab ID:** E224529-02
Station ID: W02 **Matrix:** Waste

Date Collected: 11/1/22 12:02

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7439-97-6	Mercury	0.97		mg/kg	0.033	11/25/22 13:18	11/25/22 14:11	EPA 7473
7429-90-5	Aluminum	8300		mg/kg	75	11/08/22 8:51	11/16/22 15:58	EPA 6010
7440-36-0	Antimony	45		mg/kg	1.9	11/08/22 8:58	11/16/22 12:57	EPA 200.8
7440-38-2	Arsenic	2.0		mg/kg	0.19	11/08/22 8:58	11/16/22 11:08	EPA 200.8
7440-39-3	Barium	470		mg/kg	3.7	11/08/22 8:51	11/16/22 15:58	EPA 6010
7440-41-7	Beryllium	2.2	U	mg/kg	2.2	11/08/22 8:51	11/16/22 15:58	EPA 6010
7440-43-9	Cadmium	3.3		mg/kg	0.093	11/08/22 8:58	11/16/22 11:08	EPA 200.8
7440-70-2	Calcium	9100		mg/kg	190	11/08/22 8:51	11/16/22 15:58	EPA 6010
7440-47-3	Chromium	58		mg/kg	3.7	11/08/22 8:51	11/16/22 15:58	EPA 6010
7440-48-4	Cobalt	3.7	U	mg/kg	3.7	11/08/22 8:51	11/16/22 15:58	EPA 6010
7440-50-8	Copper	3800		mg/kg	7.5	11/08/22 8:51	11/17/22 11:48	EPA 6010
7439-89-6	Iron	8900		mg/kg	75	11/08/22 8:51	11/16/22 15:58	EPA 6010
7439-92-1	Lead	580		mg/kg	1.9	11/08/22 8:58	11/16/22 12:57	EPA 200.8
7439-95-4	Magnesium	1200		mg/kg	190	11/08/22 8:51	11/16/22 15:58	EPA 6010
7439-96-5	Manganese	300		mg/kg	3.7	11/08/22 8:51	11/16/22 15:58	EPA 6010
7439-98-7	Molybdenum	7.5	U	mg/kg	7.5	11/08/22 8:51	11/16/22 15:58	EPA 6010
7440-02-0	Nickel	36		mg/kg	7.5	11/08/22 8:51	11/16/22 15:58	EPA 6010
7440-09-7	Potassium	750	U	mg/kg	750	11/08/22 8:51	11/16/22 15:58	EPA 6010
7782-49-2	Selenium	0.37	U	mg/kg	0.37	11/08/22 8:58	11/16/22 11:08	EPA 200.8
7440-22-4	Silver	3.7	U	mg/kg	3.7	11/08/22 8:51	11/16/22 15:58	EPA 6010
7440-23-5	Sodium	750	U	mg/kg	750	11/08/22 8:51	11/16/22 15:58	EPA 6010
7440-24-6	Strontium	37		mg/kg	3.7	11/08/22 8:51	11/16/22 15:58	EPA 6010
7440-28-0	Thallium	0.19	U	mg/kg	0.19	11/08/22 8:58	11/16/22 11:08	EPA 200.8
7440-31-5	Tin	53		mg/kg	11	11/08/22 8:51	11/16/22 15:58	EPA 6010
7440-32-6	Titanium	55		mg/kg	3.7	11/08/22 8:51	11/16/22 15:58	EPA 6010
7440-62-2	Vanadium	5.8		mg/kg	3.7	11/08/22 8:51	11/16/22 15:58	EPA 6010
7440-65-5	Yttrium	2.2	U	mg/kg	2.2	11/08/22 8:51	11/16/22 15:58	EPA 6010
7440-66-6	Zinc	1100		mg/kg	7.5	11/08/22 8:51	11/16/22 15:58	EPA 6010

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D.A.R.T. Id: 23-0046
Project: 23-0046, TAV Holdings Inc. - Reported by Kristin Trapp

TCLP Metals

Project: 23-0046, TAV Holdings Inc.

Sample ID: W02 **Lab ID:** E224529-02

Station ID: W02 **Matrix:** Waste

Date Collected: 11/1/22 12:02

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7440-36-0	Antimony	0.20	U	mg/L	0.20	12/07/22 11:20	12/12/22 14:48	EPA 200.8
7440-38-2	Arsenic	0.20	U	mg/L	0.20	12/07/22 11:20	12/12/22 14:48	EPA 200.8
7440-39-3	Barium	3.4		mg/L	0.10	12/07/22 11:17	12/13/22 12:08	EPA 6010
7440-41-7	Beryllium	0.060	U	mg/L	0.060	12/07/22 11:17	12/13/22 12:08	EPA 6010
7440-43-9	Cadmium	0.13		mg/L	0.10	12/07/22 11:20	12/12/22 14:48	EPA 200.8
7440-47-3	Chromium	0.10	U	mg/L	0.10	12/07/22 11:17	12/13/22 12:08	EPA 6010
7439-92-1	Lead	4.6		mg/L	0.20	12/07/22 11:20	12/12/22 14:48	EPA 200.8
7440-02-0	Nickel	0.20	U	mg/L	0.20	12/07/22 11:17	12/13/22 12:08	EPA 6010
7782-49-2	Selenium	0.40	U	mg/L	0.40	12/07/22 11:20	12/12/22 14:48	EPA 200.8
7440-22-4	Silver	0.10	U	mg/L	0.10	12/07/22 11:17	12/13/22 12:08	EPA 6010
7440-28-0	Thallium	0.20	U	mg/L	0.20	12/07/22 11:20	12/12/22 14:48	EPA 200.8
7440-62-2	Vanadium	0.10	U	mg/L	0.10	12/07/22 11:17	12/13/22 12:08	EPA 6010
7440-66-6	Zinc	13		mg/L	0.20	12/07/22 11:17	12/13/22 12:08	EPA 6010

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Region 4 Laboratory Services and Applied Science Division
980 College Station Road, Athens, Georgia 30605-2700
D.A.R.T. Id: 23-0046
Project: 23-0046, TAV Holdings Inc. - Reported by Kristin Trapp

Total Metals

Project: 23-0046, TAV Holdings Inc.

Sample ID: W03 **Lab ID:** E224529-03
Station ID: W03 **Matrix:** Waste

Date Collected: 11/1/22 16:10

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7439-97-6	Mercury	1.3		mg/kg	0.049	11/25/22 13:18	11/25/22 14:39	EPA 7473
7429-90-5	Aluminum	23000		mg/kg	83	11/08/22 8:51	11/16/22 16:05	EPA 6010
7440-36-0	Antimony	22		mg/kg	0.17	11/08/22 8:58	11/16/22 11:21	EPA 200.8
7440-38-2	Arsenic	3.2		mg/kg	0.17	11/08/22 8:58	11/16/22 11:21	EPA 200.8
7440-39-3	Barium	270		mg/kg	4.1	11/08/22 8:51	11/16/22 16:05	EPA 6010
7440-41-7	Beryllium	2.5	U	mg/kg	2.5	11/08/22 8:51	11/16/22 16:05	EPA 6010
7440-43-9	Cadmium	14		mg/kg	0.083	11/08/22 8:58	11/16/22 11:21	EPA 200.8
7440-70-2	Calcium	22000		mg/kg	210	11/08/22 8:51	11/16/22 16:05	EPA 6010
7440-47-3	Chromium	120		mg/kg	4.1	11/08/22 8:51	11/16/22 16:05	EPA 6010
7440-48-4	Cobalt	14		mg/kg	4.1	11/08/22 8:51	11/16/22 16:05	EPA 6010
7440-50-8	Copper	5000		mg/kg	8.3	11/08/22 8:51	11/17/22 11:51	EPA 6010
7439-89-6	Iron	24000		mg/kg	83	11/08/22 8:51	11/16/22 16:05	EPA 6010
7439-92-1	Lead	2300		mg/kg	8.3	11/08/22 8:58	11/16/22 11:27	EPA 200.8
7439-95-4	Magnesium	4300		mg/kg	210	11/08/22 8:51	11/16/22 16:05	EPA 6010
7439-96-5	Manganese	870		mg/kg	4.1	11/08/22 8:51	11/16/22 16:05	EPA 6010
7439-98-7	Molybdenum	8.3	U	mg/kg	8.3	11/08/22 8:51	11/16/22 16:05	EPA 6010
7440-02-0	Nickel	130		mg/kg	8.3	11/08/22 8:51	11/16/22 16:05	EPA 6010
7440-09-7	Potassium	830	U	mg/kg	830	11/08/22 8:51	11/16/22 16:05	EPA 6010
7782-49-2	Selenium	0.33	U	mg/kg	0.33	11/08/22 8:58	11/16/22 11:21	EPA 200.8
7440-22-4	Silver	9.2		mg/kg	4.1	11/08/22 8:51	11/16/22 16:05	EPA 6010
7440-23-5	Sodium	830	U	mg/kg	830	11/08/22 8:51	11/16/22 16:05	EPA 6010
7440-24-6	Strontium	84		mg/kg	4.1	11/08/22 8:51	11/16/22 16:05	EPA 6010
7440-28-0	Thallium	0.17	U	mg/kg	0.17	11/08/22 8:58	11/16/22 11:21	EPA 200.8
7440-31-5	Tin	120		mg/kg	12	11/08/22 8:51	11/16/22 16:05	EPA 6010
7440-32-6	Titanium	160		mg/kg	4.1	11/08/22 8:51	11/16/22 16:05	EPA 6010
7440-62-2	Vanadium	14		mg/kg	4.1	11/08/22 8:51	11/16/22 16:05	EPA 6010
7440-65-5	Yttrium	2.5	U	mg/kg	2.5	11/08/22 8:51	11/16/22 16:05	EPA 6010
7440-66-6	Zinc	4100		mg/kg	8.3	11/08/22 8:51	11/16/22 16:05	EPA 6010

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 4 Laboratory Services and Applied Science Division
980 College Station Road, Athens, Georgia 30605-2700
D.A.R.T. Id: 23-0046
Project: 23-0046, TAV Holdings Inc. - Reported by Kristin Trapp

TCLP Metals

Project: 23-0046, TAV Holdings Inc.

Sample ID: W03 **Lab ID:** E224529-03
Station ID: W03 **Matrix:** Waste

Date Collected: 11/1/22 16:10

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7440-36-0	Antimony	0.20	U	mg/L	0.20	12/07/22 11:20	12/12/22 14:54	EPA 200.8
7440-38-2	Arsenic	0.20	U	mg/L	0.20	12/07/22 11:20	12/12/22 14:54	EPA 200.8
7440-39-3	Barium	0.79		mg/L	0.10	12/07/22 11:17	12/13/22 12:11	EPA 6010
7440-41-7	Beryllium	0.060	U	mg/L	0.060	12/07/22 11:17	12/13/22 12:11	EPA 6010
7440-43-9	Cadmium	0.12		mg/L	0.10	12/07/22 11:20	12/12/22 14:54	EPA 200.8
7440-47-3	Chromium	0.10	U	mg/L	0.10	12/07/22 11:17	12/13/22 12:11	EPA 6010
7439-92-1	Lead	2.3		mg/L	0.20	12/07/22 11:20	12/12/22 14:54	EPA 200.8
7440-02-0	Nickel	0.20	U	mg/L	0.20	12/07/22 11:17	12/13/22 12:11	EPA 6010
7782-49-2	Selenium	0.40	U	mg/L	0.40	12/07/22 11:20	12/12/22 14:54	EPA 200.8
7440-22-4	Silver	0.10	U	mg/L	0.10	12/07/22 11:17	12/13/22 12:11	EPA 6010
7440-28-0	Thallium	0.20	U	mg/L	0.20	12/07/22 11:20	12/12/22 14:54	EPA 200.8
7440-62-2	Vanadium	0.10	U	mg/L	0.10	12/07/22 11:17	12/13/22 12:11	EPA 6010
7440-66-6	Zinc	21		mg/L	0.20	12/07/22 11:17	12/13/22 12:11	EPA 6010

Total Metals

Project: 23-0046, TAV Holdings Inc.

Sample ID: W04 **Lab ID:** E224529-04

Station ID: W04 **Matrix:** Waste

Date Collected: 11/1/22 16:54

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7439-97-6	Mercury	0.67		mg/kg	0.044	11/25/22 13:18	11/25/22 14:47	EPA 7473
7429-90-5	Aluminum	25000		mg/kg	97	11/08/22 8:51	11/16/22 16:08	EPA 6010
7440-36-0	Antimony	21		mg/kg	0.14	11/08/22 8:58	11/16/22 11:34	EPA 200.8
7440-38-2	Arsenic	2.9		mg/kg	0.14	11/08/22 8:58	11/16/22 11:34	EPA 200.8
7440-39-3	Barium	270		mg/kg	4.8	11/08/22 8:51	11/16/22 16:08	EPA 6010
7440-41-7	Beryllium	2.9	U	mg/kg	2.9	11/08/22 8:51	11/16/22 16:08	EPA 6010
7440-43-9	Cadmium	18		mg/kg	0.069	11/08/22 8:58	11/16/22 11:34	EPA 200.8
7440-70-2	Calcium	21000		mg/kg	240	11/08/22 8:51	11/16/22 16:08	EPA 6010
7440-47-3	Chromium	120		mg/kg	4.8	11/08/22 8:51	11/16/22 16:08	EPA 6010
7440-48-4	Cobalt	14		mg/kg	4.8	11/08/22 8:51	11/16/22 16:08	EPA 6010
7440-50-8	Copper	5600		mg/kg	9.7	11/08/22 8:51	11/17/22 11:55	EPA 6010
7439-89-6	Iron	21000		mg/kg	97	11/08/22 8:51	11/16/22 16:08	EPA 6010
7439-92-1	Lead	1800		mg/kg	6.9	11/08/22 8:58	11/16/22 11:53	EPA 200.8
7439-95-4	Magnesium	3900		mg/kg	240	11/08/22 8:51	11/16/22 16:08	EPA 6010
7439-96-5	Manganese	840		mg/kg	4.8	11/08/22 8:51	11/16/22 16:08	EPA 6010
7439-98-7	Molybdenum	9.7	U	mg/kg	9.7	11/08/22 8:51	11/16/22 16:08	EPA 6010
7440-02-0	Nickel	130		mg/kg	9.7	11/08/22 8:51	11/16/22 16:08	EPA 6010
7440-09-7	Potassium	970	U	mg/kg	970	11/08/22 8:51	11/16/22 16:08	EPA 6010
7782-49-2	Selenium	0.28	U	mg/kg	0.28	11/08/22 8:58	11/16/22 11:34	EPA 200.8
7440-22-4	Silver	9.9		mg/kg	4.8	11/08/22 8:51	11/16/22 16:08	EPA 6010
7440-23-5	Sodium	970	U	mg/kg	970	11/08/22 8:51	11/16/22 16:08	EPA 6010
7440-24-6	Strontium	78		mg/kg	4.8	11/08/22 8:51	11/16/22 16:08	EPA 6010
7440-28-0	Thallium	0.14	U	mg/kg	0.14	11/08/22 8:58	11/16/22 11:34	EPA 200.8
7440-31-5	Tin	90		mg/kg	15	11/08/22 8:51	11/16/22 16:08	EPA 6010
7440-32-6	Titanium	150		mg/kg	4.8	11/08/22 8:51	11/16/22 16:08	EPA 6010
7440-62-2	Vanadium	13		mg/kg	4.8	11/08/22 8:51	11/16/22 16:08	EPA 6010
7440-65-5	Yttrium	2.9	U	mg/kg	2.9	11/08/22 8:51	11/16/22 16:08	EPA 6010
7440-66-6	Zinc	3500		mg/kg	9.7	11/08/22 8:51	11/16/22 16:08	EPA 6010

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Project: 23-0046, TAV Holdings Inc. - Reported by Kristin Trapp

TCLP Metals

Project: 23-0046, TAV Holdings Inc.

Sample ID: W04 **Lab ID:** E224529-04

Station ID: W04 **Matrix:** Waste

Date Collected: 11/1/22 16:54

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7440-36-0	Antimony	0.20	U	mg/L	0.20	12/07/22 11:20	12/12/22 15:27	EPA 200.8
7440-38-2	Arsenic	0.20	U	mg/L	0.20	12/07/22 11:20	12/12/22 15:27	EPA 200.8
7440-39-3	Barium	0.81		mg/L	0.10	12/07/22 11:17	12/13/22 12:20	EPA 6010
7440-41-7	Beryllium	0.060	U	mg/L	0.060	12/07/22 11:17	12/13/22 12:20	EPA 6010
7440-43-9	Cadmium	0.17		mg/L	0.10	12/07/22 11:20	12/12/22 15:27	EPA 200.8
7440-47-3	Chromium	0.10	U	mg/L	0.10	12/07/22 11:17	12/13/22 12:20	EPA 6010
7439-92-1	Lead	3.5		mg/L	0.20	12/07/22 11:20	12/12/22 15:27	EPA 200.8
7440-02-0	Nickel	0.20	U	mg/L	0.20	12/07/22 11:17	12/13/22 12:20	EPA 6010
7782-49-2	Selenium	0.40	U	mg/L	0.40	12/07/22 11:20	12/12/22 15:27	EPA 200.8
7440-22-4	Silver	0.10	U	mg/L	0.10	12/07/22 11:17	12/13/22 12:20	EPA 6010
7440-28-0	Thallium	0.20	U	mg/L	0.20	12/07/22 11:20	12/12/22 15:27	EPA 200.8
7440-62-2	Vanadium	0.10	U	mg/L	0.10	12/07/22 11:17	12/13/22 12:20	EPA 6010
7440-66-6	Zinc	26		mg/L	0.20	12/07/22 11:17	12/13/22 12:20	EPA 6010

Total Metals

Project: 23-0046, TAV Holdings Inc.

Sample ID: W05 **Lab ID:** E224529-05

Station ID: W05 **Matrix:** Waste

Date Collected: 11/1/22 17:17

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7439-97-6	Mercury	2.1		mg/kg	0.033	11/25/22 13:18	11/25/22 14:56	EPA 7473
7429-90-5	Aluminum	19000		mg/kg	89	11/08/22 8:51	11/16/22 16:11	EPA 6010
7440-36-0	Antimony	21		mg/kg	0.15	11/08/22 8:58	11/16/22 12:00	EPA 200.8
7440-38-2	Arsenic	4.3		mg/kg	0.15	11/08/22 8:58	11/16/22 12:00	EPA 200.8
7440-39-3	Barium	220		mg/kg	4.5	11/08/22 8:51	11/16/22 16:11	EPA 6010
7440-41-7	Beryllium	2.7	U	mg/kg	2.7	11/08/22 8:51	11/16/22 16:11	EPA 6010
7440-43-9	Cadmium	20		mg/kg	0.074	11/08/22 8:58	11/16/22 12:00	EPA 200.8
7440-70-2	Calcium	21000		mg/kg	220	11/08/22 8:51	11/16/22 16:11	EPA 6010
7440-47-3	Chromium	120		mg/kg	4.5	11/08/22 8:51	11/16/22 16:11	EPA 6010
7440-48-4	Cobalt	14		mg/kg	4.5	11/08/22 8:51	11/16/22 16:11	EPA 6010
7440-50-8	Copper	3700		mg/kg	8.9	11/08/22 8:51	11/17/22 11:58	EPA 6010
7439-89-6	Iron	30000		mg/kg	89	11/08/22 8:51	11/16/22 16:11	EPA 6010
7439-92-1	Lead	2800		mg/kg	15	11/08/22 8:58	11/16/22 12:07	EPA 200.8
7439-95-4	Magnesium	4200		mg/kg	220	11/08/22 8:51	11/16/22 16:11	EPA 6010
7439-96-5	Manganese	1100		mg/kg	4.5	11/08/22 8:51	11/16/22 16:11	EPA 6010
7439-98-7	Molybdenum	8.9	U	mg/kg	8.9	11/08/22 8:51	11/16/22 16:11	EPA 6010
7440-02-0	Nickel	130		mg/kg	8.9	11/08/22 8:51	11/16/22 16:11	EPA 6010
7440-09-7	Potassium	890	U	mg/kg	890	11/08/22 8:51	11/16/22 16:11	EPA 6010
7782-49-2	Selenium	0.30	U	mg/kg	0.30	11/08/22 8:58	11/16/22 12:00	EPA 200.8
7440-22-4	Silver	11		mg/kg	4.5	11/08/22 8:51	11/16/22 16:11	EPA 6010
7440-23-5	Sodium	890	U	mg/kg	890	11/08/22 8:51	11/16/22 16:11	EPA 6010
7440-24-6	Strontium	81		mg/kg	4.5	11/08/22 8:51	11/16/22 16:11	EPA 6010
7440-28-0	Thallium	0.15	U	mg/kg	0.15	11/08/22 8:58	11/16/22 12:00	EPA 200.8
7440-31-5	Tin	100		mg/kg	13	11/08/22 8:51	11/16/22 16:11	EPA 6010
7440-32-6	Titanium	190		mg/kg	4.5	11/08/22 8:51	11/16/22 16:11	EPA 6010
7440-62-2	Vanadium	17		mg/kg	4.5	11/08/22 8:51	11/16/22 16:11	EPA 6010
7440-65-5	Yttrium	2.7	U	mg/kg	2.7	11/08/22 8:51	11/16/22 16:11	EPA 6010
7440-66-6	Zinc	5600		mg/kg	8.9	11/08/22 8:51	11/16/22 16:11	EPA 6010

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Region 4 Laboratory Services and Applied Science Division
980 College Station Road, Athens, Georgia 30605-2700
D.A.R.T. Id: 23-0046
Project: 23-0046, TAV Holdings Inc. - Reported by Kristin Trapp

TCLP Metals

Project: 23-0046, TAV Holdings Inc.

Sample ID: W05 **Lab ID:** E224529-05
Station ID: W05 **Matrix:** Waste

Date Collected: 11/1/22 17:17

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7440-36-0	Antimony	0.20	U	mg/L	0.20	12/07/22 11:20	12/12/22 15:33	EPA 200.8
7440-38-2	Arsenic	0.20	U	mg/L	0.20	12/07/22 11:20	12/12/22 15:33	EPA 200.8
7440-39-3	Barium	0.72		mg/L	0.40	12/07/22 11:17	12/13/22 12:23	EPA 6010
7440-41-7	Beryllium	0.24	U	mg/L	0.24	12/07/22 11:17	12/13/22 12:23	EPA 6010
7440-43-9	Cadmium	0.66		mg/L	0.10	12/07/22 11:20	12/12/22 15:33	EPA 200.8
7440-47-3	Chromium	0.40	U	mg/L	0.40	12/07/22 11:17	12/13/22 12:23	EPA 6010
7439-92-1	Lead	34		mg/L	0.20	12/07/22 11:20	12/12/22 15:33	EPA 200.8
7440-02-0	Nickel	0.80	U	mg/L	0.80	12/07/22 11:17	12/13/22 12:23	EPA 6010
7782-49-2	Selenium	0.40	U	mg/L	0.40	12/07/22 11:20	12/12/22 15:33	EPA 200.8
7440-22-4	Silver	0.40	U	mg/L	0.40	12/07/22 11:17	12/13/22 12:23	EPA 6010
7440-28-0	Thallium	0.20	U	mg/L	0.20	12/07/22 11:20	12/12/22 15:33	EPA 200.8
7440-62-2	Vanadium	0.40	U	mg/L	0.40	12/07/22 11:17	12/13/22 12:23	EPA 6010
7440-66-6	Zinc	130		mg/L	0.80	12/07/22 11:17	12/13/22 12:23	EPA 6010

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Project: 23-0046, TAV Holdings Inc. - Reported by Kristin Trapp

Total Metals

Project: 23-0046, TAV Holdings Inc.

Sample ID: W06 **Lab ID:** E224529-06
Station ID: W06 **Matrix:** Waste

Date Collected: 11/1/22 17:27

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7439-97-6	Mercury	1.1		mg/kg	0.048	11/25/22 13:18	11/25/22 15:04	EPA 7473
7429-90-5	Aluminum	26000		mg/kg	85	11/08/22 8:51	11/16/22 16:15	EPA 6010
7440-36-0	Antimony	22		mg/kg	0.14	11/08/22 8:58	11/16/22 12:13	EPA 200.8
7440-38-2	Arsenic	2.5	J, QM-1	mg/kg	0.14	11/08/22 8:58	11/16/22 12:13	EPA 200.8
7440-39-3	Barium	260	J, QM-3	mg/kg	4.2	11/08/22 8:51	11/16/22 16:15	EPA 6010
7440-41-7	Beryllium	2.5	U, J, QM-1, QM-3	mg/kg	2.5	11/08/22 8:51	11/16/22 16:15	EPA 6010
7440-43-9	Cadmium	13	J, QM-2	mg/kg	0.071	11/08/22 8:58	11/16/22 12:13	EPA 200.8
7440-70-2	Calcium	23000		mg/kg	210	11/08/22 8:51	11/16/22 16:15	EPA 6010
7440-47-3	Chromium	110	J, QM-1, QM-2	mg/kg	4.2	11/08/22 8:51	11/16/22 16:15	EPA 6010
7440-48-4	Cobalt	14	J, QM-1	mg/kg	4.2	11/08/22 8:51	11/16/22 16:15	EPA 6010
7440-50-8	Copper	5100		mg/kg	8.5	11/08/22 8:51	11/17/22 12:05	EPA 6010
7439-89-6	Iron	24000		mg/kg	85	11/08/22 8:51	11/16/22 16:15	EPA 6010
7439-92-1	Lead	2200		mg/kg	7.1	11/08/22 8:58	11/16/22 12:20	EPA 200.8
7439-95-4	Magnesium	4600		mg/kg	210	11/08/22 8:51	11/16/22 16:15	EPA 6010
7439-96-5	Manganese	910	J, QM-1	mg/kg	4.2	11/08/22 8:51	11/16/22 16:15	EPA 6010
7439-98-7	Molybdenum	8.5	U, J, QM-1, QM-3	mg/kg	8.5	11/08/22 8:51	11/16/22 16:15	EPA 6010
7440-02-0	Nickel	120	J, QM-2	mg/kg	8.5	11/08/22 8:51	11/16/22 16:15	EPA 6010
7440-09-7	Potassium	850	U, J, QM-1	mg/kg	850	11/08/22 8:51	11/16/22 16:15	EPA 6010
7782-49-2	Selenium	0.28	U, J, QM-1	mg/kg	0.28	11/08/22 8:58	11/16/22 12:13	EPA 200.8
7440-22-4	Silver	11	J, QM-1	mg/kg	4.2	11/08/22 8:51	11/16/22 16:15	EPA 6010
7440-23-5	Sodium	850	U, J, QM-1	mg/kg	850	11/08/22 8:51	11/16/22 16:15	EPA 6010
7440-24-6	Strontium	91	J, QM-1, QM-2, QM-3	mg/kg	4.2	11/08/22 8:51	11/16/22 16:15	EPA 6010
7440-28-0	Thallium	0.14	U	mg/kg	0.14	11/08/22 8:58	11/16/22 12:13	EPA 200.8
7440-31-5	Tin	90	J, QM-2, QM-3	mg/kg	13	11/08/22 8:51	11/16/22 16:15	EPA 6010
7440-32-6	Titanium	160		mg/kg	4.2	11/08/22 8:51	11/16/22 16:15	EPA 6010
7440-62-2	Vanadium	14	J, QM-1, QM-3	mg/kg	4.2	11/08/22 8:51	11/16/22 16:15	EPA 6010

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Total Metals

Project: 23-0046, TAV Holdings Inc.

Sample ID: W06 **Lab ID:** E224529-06
Station ID: W06 **Matrix:** Waste

Date Collected: 11/1/22 17:27

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7440-65-5	Yttrium	2.5	U, J, QM-1, QM-3	mg/kg	2.5	11/08/22 8:51	11/16/22 16:15	EPA 6010
7440-66-6	Zinc	4600		mg/kg	8.5	11/08/22 8:51	11/16/22 16:15	EPA 6010

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TCLP Metals

Project: 23-0046, TAV Holdings Inc.

Sample ID: W06 **Lab ID:** E224529-06
Station ID: W06 **Matrix:** Waste

Date Collected: 11/1/22 17:27

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
7440-36-0	Antimony	0.20	U	mg/L	0.20	12/07/22 11:20	12/12/22 15:40	EPA 200.8
7440-38-2	Arsenic	0.20	U	mg/L	0.20	12/07/22 11:20	12/12/22 15:40	EPA 200.8
7440-39-3	Barium	1.6		mg/L	0.30	12/07/22 11:17	12/13/22 12:28	EPA 6010
7440-41-7	Beryllium	0.18	U	mg/L	0.18	12/07/22 11:17	12/13/22 12:28	EPA 6010
7440-43-9	Cadmium	0.42		mg/L	0.10	12/07/22 11:20	12/12/22 15:40	EPA 200.8
7440-47-3	Chromium	0.30	U	mg/L	0.30	12/07/22 11:17	12/13/22 12:28	EPA 6010
7439-92-1	Lead	16		mg/L	0.20	12/07/22 11:20	12/12/22 15:40	EPA 200.8
7440-02-0	Nickel	0.60	U	mg/L	0.60	12/07/22 11:17	12/13/22 12:28	EPA 6010
7782-49-2	Selenium	0.40	U	mg/L	0.40	12/07/22 11:20	12/12/22 15:40	EPA 200.8
7440-22-4	Silver	0.30	U	mg/L	0.30	12/07/22 11:17	12/13/22 12:28	EPA 6010
7440-28-0	Thallium	0.20	U	mg/L	0.20	12/07/22 11:20	12/12/22 15:40	EPA 200.8
7440-62-2	Vanadium	0.30	U	mg/L	0.30	12/07/22 11:17	12/13/22 12:28	EPA 6010
7440-66-6	Zinc	68		mg/L	0.60	12/07/22 11:17	12/13/22 12:28	EPA 6010

Total Metals (TMTL) - Quality Control

US-EPA, Region 4, LSASD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2211021 - M 200.2 Metals Waste										
Blank (2211021-BLK1)				Prepared: 11/08/22 Analyzed: 11/16/22						
EPA 6010										
Aluminum	U	5.0	mg/kg							U
Barium	U	0.25	"							U
Beryllium	U	0.15	"							U
Calcium	U	12	"							U
Chromium	U	0.25	"							U
Cobalt	U	0.25	"							U
Copper	U	0.50	"							U
Iron	U	5.0	"							U
Magnesium	U	12	"							U
Manganese	U	0.25	"							U
Molybdenum	U	0.50	"							U
Nickel	U	0.50	"							U
Potassium	U	50	"							U
Silver	U	0.25	"							U
Sodium	U	50	"							U
Strontium	U	0.25	"							U
Tin	U	0.75	"							U
Titanium	U	0.25	"							U
Vanadium	U	0.25	"							U
Yttrium	U	0.15	"							U
Zinc	U	0.50	"							U
Blank (2211021-BLK2)				Prepared: 11/08/22 Analyzed: 11/17/22						
EPA 6010										
Copper	U	0.50	mg/kg							U
LCS (2211021-BS1)				Prepared: 11/08/22 Analyzed: 11/16/22						
EPA 6010										
Aluminum	250.51	5.0	mg/kg	250.00		100	85-115			
Barium	25.401	0.25	"	25.000		102	85-115			
Beryllium	10.124	0.15	"	10.000		101	85-115			
Calcium	250.34	12	"	250.00		100	85-115			
Chromium	24.746	0.25	"	25.000		99.0	85-115			
Cobalt	24.484	0.25	"	25.000		97.9	85-115			
Copper	14.908	0.50	"	15.000		99.4	85-115			
Iron	259.09	5.0	"	250.00		104	85-115			
Magnesium	261.87	12	"	250.00		105	85-115			
Manganese	263.99	0.25	"	250.00		106	85-115			

Total Metals (TMTL) - Quality Control

US-EPA, Region 4, LSASD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2211021 - M 200.2 Metals Waste										
LCS (2211021-BS1)				Prepared: 11/08/22 Analyzed: 11/16/22						
Molybdenum	15.287	0.50	mg/kg	15.000		102	85-115			
Nickel	33.794	0.50	"	35.000		96.6	85-115			
Potassium	504.96	50	"	500.00		101	85-115			
Silver	4.9617	0.25	"	5.0000		99.2	85-115			
Sodium	518.26	50	"	500.00		104	85-115			
Strontium	20.524	0.25	"	20.000		103	85-115			
Tin	50.469	0.75	"	50.000		101	85-115			
Titanium	25.261	0.25	"	25.000		101	85-115			
Vanadium	19.330	0.25	"	20.000		96.6	85-115			
Yttrium	14.909	0.15	"	15.000		99.4	85-115			
Zinc	49.292	0.50	"	50.000		98.6	85-115			
LCS (2211021-BS2)				Prepared: 11/08/22 Analyzed: 11/17/22						
EPA 6010										
Copper	14.786	0.50	mg/kg	15.000		98.6	85-115			
Matrix Spike (2211021-MS1)	**Source: E224529-06**			Prepared: 11/08/22 Analyzed: 11/16/22						
EPA 6010										
Aluminum	26291	76	mg/kg	127.19	25629	520	75-125			XM-1
Barium	245.03	3.8	"	12.719	264.27	-151	75-125			QM-3, XM-1
Beryllium	3.5233	2.3	"	5.0875	0.25059	64.3	75-125			QM-1, QM-3
Calcium	22999	190	"	127.19	23304	-240	75-125			XM-1
Chromium	118.83	3.8	"	12.719	110.12	68.5	75-125			QM-1
Cobalt	23.445	3.8	"	12.719	13.984	74.4	75-125			QM-1
Iron	23302	76	"	127.19	23607	-240	75-125			XM-1
Magnesium	4654.2	190	"	127.19	4637.6	13.1	75-125			XM-1
Manganese	979.44	3.8	"	127.19	908.70	55.6	75-125			QM-1
Molybdenum	5.9988	7.6	"	7.6313	3.5437	32.2	75-125			QM-1, QM-3, U
Nickel	133.00	7.6	"	17.806	116.33	93.6	75-125			
Potassium	599.93	760	"	254.38	470.60	50.8	75-125			QM-1, U
Silver	13.316	3.8	"	2.5438	11.417	74.7	75-125			QM-1
Sodium	743.98	760	"	254.38	593.22	59.3	75-125			QM-1, U
Strontium	96.596	3.8	"	10.175	90.555	59.4	75-125			QM-1
Tin	123.20	11	"	25.438	90.214	130	75-125			QM-2, QM-3
Titanium	175.13	3.8	"	12.719	164.82	81.0	75-125			QM-3, XM-1

Total Metals (TMTL) - Quality Control

US-EPA, Region 4, LSASD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2211021 - M 200.2 Metals Waste										
Matrix Spike (2211021-MS1)	**Source: E224529-06**			Prepared: 11/08/22 Analyzed: 11/16/22						
Vanadium	19.899	3.8	mg/kg	10.175	13.985	58.1	75-125			QM-1, QM-3
Yttrium	6.4634	2.3	"	7.6313	1.7473	61.8	75-125			QM-1, QM-3
Zinc	4764.8	7.6	"	25.438	4648.1	459	75-125			XM-1
Matrix Spike (2211021-MS2)	**Source: E224529-06RE1**			Prepared: 11/08/22 Analyzed: 11/17/22						
EPA 6010										
Copper	4728.0	7.6	mg/kg	7.6313	5143.2	-5440	75-125			XM-1
Matrix Spike Dup (2211021-MSD1)	**Source: E224529-06**			Prepared: 11/08/22 Analyzed: 11/16/22						
EPA 6010										
Aluminum	27914	95	mg/kg	158.16	25629	1440	75-125	5.99	20	XM-1
Barium	482.77	4.7	"	15.816	264.27	1380	75-125	65.3	20	QM-3, XM-1
Beryllium	4.6892	2.8	"	6.3263	0.25059	70.2	75-125	28.4	20	QM-1, QM-3
Calcium	25094	240	"	158.16	23304	1130	75-125	8.71	20	XM-1
Chromium	137.33	4.7	"	15.816	110.12	172	75-125	14.4	20	QM-2
Cobalt	26.169	4.7	"	15.816	13.984	77.0	75-125	11.0	20	
Iron	27528	95	"	158.16	23607	2480	75-125	16.6	20	XM-1
Magnesium	5180.3	240	"	158.16	4637.6	343	75-125	10.7	20	XM-1
Manganese	1105.8	4.7	"	158.16	908.70	125	75-125	12.1	20	
Molybdenum	11.626	9.5	"	9.4895	3.5437	85.2	75-125	63.9	20	QM-3
Nickel	145.89	9.5	"	22.142	116.33	133	75-125	9.24	20	QM-2
Potassium	716.89	950	"	316.32	470.60	77.9	75-125	17.8	20	U
Silver	14.918	4.7	"	3.1632	11.417	111	75-125	11.3	20	
Sodium	855.47	950	"	316.32	593.22	82.9	75-125	13.9	20	U
Strontium	110.64	4.7	"	12.653	90.555	159	75-125	13.6	20	QM-2
Tin	166.92	14	"	31.632	90.214	243	75-125	30.1	20	QM-2, QM-3
Titanium	216.68	4.7	"	15.816	164.82	328	75-125	21.2	20	QM-3, XM-1
Vanadium	24.522	4.7	"	12.653	13.985	83.3	75-125	20.8	20	QM-3
Yttrium	8.2764	2.8	"	9.4895	1.7473	68.8	75-125	24.6	20	QM-1, QM-3
Zinc	5081.1	9.5	"	31.632	4648.1	1370	75-125	6.42	20	XM-1

Total Metals (TMTL) - Quality Control

US-EPA, Region 4, LSASD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2211021 - M 200.2 Metals Waste										
Matrix Spike Dup (2211021-MSD2)	**Source: E224529-06RE1**			Prepared: 11/08/22 Analyzed: 11/17/22						
EPA 6010										
Copper	4612.2	9.5	mg/kg	9.4895	5143.2	-5600	75-125	2.48	20	XM-1
MRL Verification (2211021-PS1)				Prepared: 11/08/22 Analyzed: 11/16/22						
EPA 6010										
Aluminum	5.6614	5.0	mg/kg	5.0000		113	70-130			MRL-6
Barium	0.24468	0.25	"	0.25000		97.9	70-130			MRL-6, U
Beryllium	0.15182	0.15	"	0.15000		101	70-130			MRL-6
Calcium	12.867	12	"	12.500		103	70-130			MRL-6
Chromium	0.25059	0.25	"	0.25000		100	70-130			MRL-6
Cobalt	0.25249	0.25	"	0.25000		101	70-130			MRL-6
Copper	0.52160	0.50	"	0.50000		104	70-130			MRL-6
Iron	5.2537	5.0	"	5.0000		105	70-130			MRL-6
Magnesium	13.302	12	"	12.500		106	70-130			MRL-6
Manganese	0.27290	0.25	"	0.25000		109	70-130			MRL-6
Molybdenum	0.51034	0.50	"	0.50000		102	70-130			MRL-6
Nickel	0.52054	0.50	"	0.50000		104	70-130			MRL-6
Potassium	50.125	50	"	50.000		100	70-130			MRL-6
Silver	0.24497	0.25	"	0.25000		98.0	70-130			MRL-6, U
Sodium	49.892	50	"	50.000		99.8	70-130			MRL-6, U
Strontium	0.26891	0.25	"	0.25000		108	70-130			MRL-6
Tin	0.81172	0.75	"	0.75000		108	70-130			MRL-6
Titanium	0.26895	0.25	"	0.25000		108	70-130			MRL-6
Vanadium	0.24522	0.25	"	0.25000		98.1	70-130			MRL-6, U
Yttrium	0.14758	0.15	"	0.15000		98.4	70-130			MRL-6, U
Zinc	0.50224	0.50	"	0.50000		100	70-130			MRL-6
MRL Verification (2211021-PS2)				Prepared: 11/08/22 Analyzed: 11/17/22						
EPA 6010										
Copper	0.51507	0.50	mg/kg	0.50000		103	70-130			MRL-6

Total Metals (TMTL) - Quality Control
US-EPA, Region 4, LSASD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2211022 - M 200.2 Metals Waste										
Blank (2211022-BLK1)				Prepared: 11/08/22 Analyzed: 11/16/22						
EPA 200.8										
Antimony	U	0.050	mg/kg							U
Arsenic	U	0.050	"							U
Cadmium	U	0.025	"							U
Lead	U	0.050	"							U
Selenium	U	0.10	"							U
Thallium	U	0.050	"							U
LCS (2211022-BS1)				Prepared: 11/08/22 Analyzed: 11/16/22						
EPA 200.8										
Antimony	10.395	0.25	mg/kg	10.000		104	85-115			
Arsenic	25.190	0.25	"	25.000		101	85-115			
Cadmium	9.8695	0.12	"	10.000		98.7	85-115			
Lead	34.609	0.25	"	35.000		98.9	85-115			
Selenium	52.806	0.50	"	50.000		106	85-115			
Thallium	9.9796	0.25	"	10.000		99.8	85-115			
Matrix Spike (2211022-MS1)		**Source: E224529-06**		Prepared: 11/08/22 Analyzed: 11/16/22						
EPA 200.8										
Antimony	24.510	0.13	mg/kg	5.0875	22.422	41.0	70-130			XM-1
Arsenic	8.1846	0.13	"	12.719	2.4668	45.0	70-130			QM-1
Cadmium	17.800	0.064	"	5.0875	12.950	95.3	70-130			
Selenium	4.6573	0.25	"	25.438	U	18.3	70-130			QM-1
Thallium	3.8024	0.13	"	5.0875	0.080161	73.2	70-130			
Matrix Spike (2211022-MS2)		**Source: E224529-06RE1**		Prepared: 11/08/22 Analyzed: 11/16/22						
EPA 200.8										
Lead	2204.0	13	mg/kg	17.806	2192.1	67.1	70-130			XM-1
Matrix Spike Dup (2211022-MSD1)		**Source: E224529-06**		Prepared: 11/08/22 Analyzed: 11/16/22						
EPA 200.8										
Antimony	28.857	0.16	mg/kg	6.3263	22.422	102	70-130	16.3	20	XM-1
Arsenic	14.530	0.16	"	15.816	2.4668	76.3	70-130	55.9	20	QM-3
Cadmium	21.873	0.079	"	6.3263	12.950	141	70-130	20.5	20	QM-2, QM-3
Selenium	12.223	0.32	"	31.632	U	38.6	70-130	89.6	20	QM-1, QM-3
Thallium	4.5978	0.16	"	6.3263	0.080161	71.4	70-130	18.9	20	

Total Metals (TMTL) - Quality Control

US-EPA, Region 4, LSASD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2211022 - M 200.2 Metals Waste										
Matrix Spike Dup (2211022-MSD2)	**Source: E224529-06RE1**			Prepared: 11/08/22 Analyzed: 11/16/22						
EPA 200.8										
Lead	2333.9	16	mg/kg	22.142	2192.1	640	70-130	5.72	20	XM-1
MRL Verification (2211022-PS1)				Prepared: 11/08/22 Analyzed: 11/16/22						
EPA 200.8										
Antimony	0.021472	0.050	mg/kg	0.025000		85.9	65-135			MRL-6, U
Arsenic	0.064354	0.050	"	0.050000		129	65-135			MRL-6
Cadmium	0.025300	0.025	"	0.025000		101	65-135			MRL-6
Lead	0.051169	0.050	"	0.050000		102	65-135			MRL-6
Selenium	0.10358	0.10	"	0.10000		104	65-135			MRL-6
Thallium	0.026198	0.050	"	0.025000		105	65-135			MRL-6, U
Batch 2211053 - M 7473 Hg-Direct										
Blank (2211053-BLK1)				Prepared & Analyzed: 11/25/22						
EPA 7473										
Mercury	U	0.050	mg/kg							U
LCS (2211053-BS1)				Prepared & Analyzed: 11/25/22						
EPA 7473										
Mercury	1.0102	0.050	mg/kg	1.0000		101	80-120			
LCS Dup (2211053-BSD1)				Prepared & Analyzed: 11/25/22						
EPA 7473										
Mercury	1.0114	0.050	mg/kg	1.0000		101	80-120	0.121	20	
Matrix Spike (2211053-MS1)	**Source: E224529-02**			Prepared & Analyzed: 11/25/22						
EPA 7473										
Mercury	3.3162	0.029	mg/kg	0.57372	0.96805	409	80-120			QM-2
Matrix Spike (2211053-MS2)	**Source: E224529-06**			Prepared & Analyzed: 11/25/22						
EPA 7473										
Mercury	1.9631	0.049	mg/kg	0.98814	1.1082	86.5	80-120			

Total Metals (TMTL) - Quality Control

US-EPA, Region 4, LSASD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2211053 - M 7473 Hg-Direct										
Matrix Spike Dup (2211053-MSD1)	**Source: E224529-02**			Prepared & Analyzed: 11/25/22						
EPA 7473										
Mercury	3.0854	0.032	mg/kg	0.63694	0.96805	332	80-120	7.21	20	QM-2
Matrix Spike Dup (2211053-MSD2)	**Source: E224529-06**			Prepared & Analyzed: 11/25/22						
EPA 7473										
Mercury	1.9283	0.049	mg/kg	0.97466	1.1082	84.1	80-120	1.79	20	
MRL Verification (2211053-PS1)				Prepared & Analyzed: 11/25/22						
EPA 7473										
Mercury	6.2440		ng Hg	5.0000		125	70-130			MRL-6

TCLP Metals (TCLPM) - Quality Control

US-EPA, Region 4, LSASD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2212005 - M 200.2 TCLP										
Blank (2212005-BLK4)				Prepared: 12/07/22 Analyzed: 12/13/22						
EPA 6010										
Barium	U	0.020	mg/L							U
Beryllium	U	0.012	"							U
Chromium	U	0.020	"							U
Nickel	U	0.040	"							U
Silver	U	0.020	"							U
Vanadium	U	0.020	"							U
Zinc	U	0.040	"							U
Blank (2212005-BLK5)				Prepared: 12/07/22 Analyzed: 12/13/22						
EPA 6010										
Barium	U	0.020	mg/L							U
Beryllium	U	0.012	"							U
Chromium	U	0.020	"							U
Nickel	U	0.040	"							U
Silver	U	0.020	"							U
Vanadium	U	0.020	"							U
Zinc	U	0.040	"							U
Blank (2212005-BLK6)				Prepared: 12/07/22 Analyzed: 12/13/22						
EPA 6010										
Barium	U	0.0050	mg/L							U
Beryllium	U	0.0030	"							U
Chromium	U	0.0050	"							U
Nickel	U	0.010	"							U
Silver	U	0.0050	"							U
Vanadium	U	0.0050	"							U
Zinc	U	0.010	"							U
LCS (2212005-BS2)				Prepared: 12/07/22 Analyzed: 12/13/22						
EPA 6010										
Barium	4.98	0.015	mg/L	5.0000		99.6	85-115			
Beryllium	0.965	0.0090	"	1.0000		96.5	85-115			
Chromium	4.91	0.015	"	5.0000		98.3	85-115			
Nickel	1.03	0.030	"	1.0000		103	85-115			
Silver	0.101	0.015	"	0.10000		101	85-115			
Vanadium	0.969	0.015	"	1.0000		96.9	85-115			
Zinc	1.00	0.030	"	1.0000		100	85-115			

TCLP Metals (TCLPM) - Quality Control

US-EPA, Region 4, LSASD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2212005 - M 200.2 TCLP										
Matrix Spike (2212005-MS2)	**Source: E224529-03RE1**			Prepared: 12/07/22 Analyzed: 12/13/22						
EPA 6010										
Barium	20.8	0.10	mg/L	20.000	0.787	100	75-125			
Beryllium	4.04	0.060	"	4.0000	0.00960	101	75-125			
Chromium	19.1	0.10	"	20.000	U	95.7	75-125			
Nickel	4.03	0.20	"	4.0000	0.0836	98.6	75-125			
Silver	0.439	0.10	"	0.40000	U	110	75-125			
Vanadium	3.88	0.10	"	4.0000	U	97.1	75-125			
Zinc	25.5	0.20	"	4.0000	21.2	108	75-125			
Matrix Spike Dup (2212005-MSD2)	**Source: E224529-03RE1**			Prepared: 12/07/22 Analyzed: 12/13/22						
EPA 6010										
Barium	21.0	0.10	mg/L	20.000	0.787	101	75-125	0.647	25	
Beryllium	4.03	0.060	"	4.0000	0.00960	101	75-125	0.283	25	
Chromium	19.2	0.10	"	20.000	U	95.9	75-125	0.253	25	
Nickel	4.01	0.20	"	4.0000	0.0836	98.1	75-125	0.558	25	
Silver	0.437	0.10	"	0.40000	U	109	75-125	0.479	25	
Vanadium	3.85	0.10	"	4.0000	U	96.3	75-125	0.844	25	
Zinc	25.3	0.20	"	4.0000	21.2	103	75-125	0.751	25	
MRL Verification (2212005-PS2)				Prepared: 12/07/22 Analyzed: 12/13/22						
EPA 6010										
Barium	0.00440	0.0050	mg/L	0.0050000		88.0	70-130			MRL-9, U
Beryllium	0.00329	0.0030	"	0.0030000		110	70-130			MRL-9
Chromium	0.00510	0.0050	"	0.0050000		102	70-130			MRL-9
Nickel	0.0102	0.010	"	0.010000		102	70-130			MRL-9
Silver	0.00519	0.0050	"	0.0050000		104	70-130			MRL-9
Vanadium	0.00514	0.0050	"	0.0050000		103	70-130			MRL-9
Zinc	0.00978	0.010	"	0.010000		97.8	70-130			MRL-9, U
Batch 2212006 - M 200.2 TCLP										
Blank (2212006-BLK1)				Prepared: 12/07/22 Analyzed: 12/12/22						
EPA 200.8										
Antimony	U	0.0040	mg/L							U
Arsenic	U	0.0040	"							U
Cadmium	U	0.0020	"							U
Lead	U	0.0040	"							U
Selenium	U	0.0080	"							U

TCLP Metals (TCLPM) - Quality Control

US-EPA, Region 4, LSASD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2212006 - M 200.2 TCLP										
Blank (2212006-BLK1)				Prepared: 12/07/22 Analyzed: 12/12/22						
Thallium	U	0.0040	mg/L							U
Blank (2212006-BLK2)				Prepared: 12/07/22 Analyzed: 12/12/22						
EPA 200.8										
Antimony	U	0.0040	mg/L							U
Arsenic	U	0.0040	"							U
Cadmium	U	0.0020	"							U
Lead	U	0.0040	"							U
Selenium	U	0.0080	"							U
Thallium	U	0.0040	"							U
Blank (2212006-BLK3)				Prepared: 12/07/22 Analyzed: 12/12/22						
EPA 200.8										
Antimony	U	0.00050	mg/L							U
Arsenic	U	0.00050	"							U
Cadmium	U	0.00025	"							U
Lead	U	0.00050	"							U
Selenium	U	0.0010	"							U
Thallium	U	0.00050	"							U
LCS (2212006-BS1)				Prepared: 12/07/22 Analyzed: 12/12/22						
EPA 200.8										
Antimony	0.994	0.050	mg/L	1.0000		99.4	85-115			
Arsenic	4.78	0.050	"	5.0000		95.6	85-115			
Cadmium	1.01	0.025	"	1.0000		101	85-115			
Lead	5.06	0.050	"	5.0000		101	85-115			
Selenium	1.02	0.10	"	1.0000		102	85-115			
Thallium	0.199	0.050	"	0.20000		99.6	85-115			
Matrix Spike (2212006-MS1)		**Source: E224529-03**		Prepared: 12/07/22 Analyzed: 12/12/22						
EPA 200.8										
Antimony	4.04	0.20	mg/L	4.0000	0.0386	100	70-130			
Arsenic	19.4	0.20	"	20.000	U	97.1	70-130			
Cadmium	4.15	0.10	"	4.0000	0.122	101	70-130			
Lead	22.2	0.20	"	20.000	2.25	99.8	70-130			
Selenium	3.73	0.40	"	4.0000	0.163	89.2	70-130			
Thallium	0.788	0.20	"	0.80000	U	98.5	70-130			

TCLP Metals (TCLPM) - Quality Control

US-EPA, Region 4, LSASD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2212006 - M 200.2 TCLP										
Matrix Spike Dup (2212006-MSD1)	**Source: E224529-03**			Prepared: 12/07/22 Analyzed: 12/12/22						
EPA 200.8										
Antimony	4.22	0.20	mg/L	4.0000	0.0386	105	70-130	4.39	20	
Arsenic	19.9	0.20	"	20.000	U	99.6	70-130	2.53	20	
Cadmium	4.13	0.10	"	4.0000	0.122	100	70-130	0.497	20	
Lead	22.8	0.20	"	20.000	2.25	102	70-130	2.38	20	
Selenium	4.16	0.40	"	4.0000	0.163	100	70-130	10.9	20	
Thallium	0.810	0.20	"	0.80000	U	101	70-130	2.68	20	
MRL Verification (2212006-PS1)				Prepared: 12/07/22 Analyzed: 12/12/22						
EPA 200.8										
Antimony	0.000551	0.00050	mg/L	0.00050000		110	65-135			MRL-9
Arsenic	0.00107	0.00050	"	0.0010000		107	65-135			MRL-9
Cadmium	0.000531	0.00025	"	0.00050000		106	65-135			MRL-9
Lead	0.00103	0.00050	"	0.0010000		103	65-135			MRL-9
Selenium	0.00190	0.0010	"	0.0020000		95.1	65-135			MRL-9
Thallium	0.000503	0.00050	"	0.00050000		101	65-135			MRL-9

Notes and Definitions for QC Samples

U	The analyte was not detected at or above the reporting limit.
MRL-6	MRL verification for Waste matrix
MRL-9	MRL verification for TCLP matrix
QM-1	Matrix Spike Recovery less than method control limits
QM-2	Matrix Spike Recovery greater than method control limits
QM-3	Matrix Spike Precision outside method control limits
XM-1	Sample background/spike ratio higher than method evaluation criteria

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 4 Laboratory Services and Applied Science Division
980 College Station Road, Athens, Georgia 30605-2700
D.A.R.T. Id: 23-0046
Project: 23-0046, TAV Holdings Inc. - Reported by Floyd Wellborn

December 5, 2022

MEMORANDUM

SUBJECT: FINAL Analytical Report
Project: 23-0046, TAV Holdings Inc.

FROM: Floyd Wellborn
LSB Organic Chemistry Section Chief

THRU: Stacie Masters, Chief
Laboratory Services Branch

TO: Paula Whiting

Attached are the final results for the analytical groups listed below. This report shall not be reproduced except in full without approval of the Region 4 laboratory. These analyses were performed in accordance with the Laboratory Services Branch's Laboratory Operations and Quality Assurance Manual (LSB LOQAM) found at www.epa.gov/region4/sesd/asbsop. Any unique project data quality objectives specified in writing by the data requestor have also been incorporated into the data unless otherwise noted in the Report Narrative. Chemistry data have been verified based on the LSB LOQAM specifications and have been qualified by this laboratory if the applicable quality control criteria were not met. Verification is defined in Chapter 5 of the LSB LOQAM. For a listing of specific data qualifiers and explanations, please refer to the Data Qualifier Definitions included in this report. The reported results are accurate within the limits of the method(s) and are representative only of the samples as received by the laboratory.

Analyses Included in this report:	Method Used:	Accreditations:
PCB Aroclors (PCBA)		
PCB aroclors	EPA 8082 (Waste)	ISO

Sample Disposal Policy

Due to limited space for long term sample storage, LSB's policy is to dispose of samples on a periodic schedule. Air samples collected in summa canisters will be disposed of 30 days following the issuance of this report. All other sample media including original samples, sample extracts and or digestates will be disposed of, in accordance with applicable regulations, 60 days from the date of this report.

This sample disposal policy does not apply to criminal samples which are held until the laboratory is notified by the criminal investigators that case development and litigation are complete.

These samples may be held in the laboratory's custody for a longer period of time. If samples require storage beyond the 60-day period, please contact the Sample Control Coordinator by e-mail at R4SampleCustody@epa.gov.

SAMPLES INCLUDED IN THIS REPORT

Project: 23-0046, TAV Holdings Inc.

Sample ID	Laboratory ID	Matrix	Date Collected	Date Received
W01	E224529-01	Waste	11/1/22 11:15	11/2/22 10:15
W02	E224529-02	Waste	11/1/22 12:02	11/2/22 10:15
W03	E224529-03	Waste	11/1/22 16:10	11/2/22 10:15
W04	E224529-04	Waste	11/1/22 16:54	11/2/22 10:15
W05	E224529-05	Waste	11/1/22 17:17	11/2/22 10:15
W06	E224529-06	Waste	11/1/22 17:27	11/2/22 10:15

DATA QUALIFIER DEFINITIONS

U	The analyte was not detected at or above the reporting limit.
I-5	Mixture of Aroclors in sample; predominant Aroclors reported
J	The identification of the analyte is acceptable; the reported value is an estimate.
QL-1	Laboratory Control Spike Recovery less than method control limits
QL-3	Laboratory Control Spike Precision outside method control limits

ACRONYMS AND ABBREVIATIONS

CAS Chemical Abstracts Service

Note: Analytes with no known CAS identifiers have been assigned codes beginning with "E", the EPA ID as assigned by the EPA Substance Registry System (www.epa.gov/srs), or beginning with "R4-", a unique identifier assigned by the EPA Region 4 laboratory.

MDL Method Detection Limit - The minimum concentration of a substance (an analyte) that can be measured and reported with a 99% confidence that the analyte concentration is greater than zero.

MRL Minimum Reporting Limit - Analyte concentration that corresponds to the lowest demonstrated level of acceptable quantitation. The MRL is sample-specific and accounts for preparation weights and volumes, dilutions, and moisture content of soil/sediments.

TIC Tentatively Identified Compound - An analyte identified based on a match with the instrument software's mass spectral library. A calibration standard has not been analyzed to confirm the compound's identification or the estimated concentration reported.

ACCREDITATIONS:

ISO Accredited to ISO/IEC 17025:2017 and accreditation requirements for Forensic Science Testing Laboratories.

Refer to the certificate and scope of accreditation FT-0330 at:
http://www.epa.gov/aboutepa/about-region-4s-science-and-ecosystem-support-division-sesd

NR Not accredited for this test.

DW Accredited for conformance with ISO/IEC 17025:2017 and testing elements in the Fifth Edition of the Manual for the Certification of Laboratories Analyzing Drinking Water, EPA 815-R-05-004, 2005.

Refer to the certificate and scope of accreditation AT-2628 at:
http://www.epa.gov/aboutepa/about-region-4s-science-and-ecosystem-support-division-sesd

ISO/DW Accredited to ISO/IEC 17025:2017 and accreditation requirements for Forensic Science Testing Labs, and conformance with ISO/IEC 17025:2017 and testing elements in the Manual for the Certification of Laboratories Analyzing Drinking Water.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Region 4 Laboratory Services and Applied Science Division
980 College Station Road, Athens, Georgia 30605-2700
D.A.R.T. Id: 23-0046
Project: 23-0046, TAV Holdings Inc. - Reported by Floyd Wellborn

PCB Aroclors

Project: 23-0046, TAV Holdings Inc.

Sample ID: W01 **Lab ID:** E224529-01
Station ID: W01 **Matrix:** Waste

Date Collected: 11/1/22 11:15

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
12674-11-2	PCB-1016 (Aroclor 1016)	8.9	J, QL-1, QL-3, I-5	mg/kg	1.2	11/09/22 8:35	11/22/22 17:10	EPA 8082
11104-28-2	PCB-1221 (Aroclor 1221)	9.0	U, J, QL-1, QL-3	mg/kg	9.0	11/09/22 8:35	11/22/22 17:10	EPA 8082
11141-16-5	PCB-1232 (Aroclor 1232)	9.0	U, J, QL-1, QL-3	mg/kg	9.0	11/09/22 8:35	11/22/22 17:10	EPA 8082
53469-21-9	PCB-1242 (Aroclor 1242)	9.0	U, J, QL-1, QL-3	mg/kg	9.0	11/09/22 8:35	11/22/22 17:10	EPA 8082
12672-29-6	PCB-1248 (Aroclor 1248)	9.0	U, J, QL-1, QL-3	mg/kg	9.0	11/09/22 8:35	11/22/22 17:10	EPA 8082
11097-69-1	PCB-1254 (Aroclor 1254)	9.0	U, J, QL-1, QL-3	mg/kg	9.0	11/09/22 8:35	11/22/22 17:10	EPA 8082
11096-82-5	PCB-1260 (Aroclor 1260)	9.0	U, J, QL-1, QL-3	mg/kg	9.0	11/09/22 8:35	11/22/22 17:10	EPA 8082
37324-23-5	PCB-1262 (Aroclor 1262)	9.0	U, J, QL-1, QL-3	mg/kg	9.0	11/09/22 8:35	11/22/22 17:10	EPA 8082
11100-14-4	PCB-1268 (Aroclor 1268)	9.0	U, J, QL-1, QL-3	mg/kg	9.0	11/09/22 8:35	11/22/22 17:10	EPA 8082

PCB Aroclors

Project: 23-0046, TAV Holdings Inc.

Sample ID: W02 **Lab ID:** E224529-02

Station ID: W02 **Matrix:** Waste

Date Collected: 11/1/22 12:02

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
12674-11-2	PCB-1016 (Aroclor 1016)	8.1	J, QL-1, QL-3, I-5	mg/kg	1.1	11/09/22 8:35	11/22/22 17:27	EPA 8082
11104-28-2	PCB-1221 (Aroclor 1221)	8.2	U, J, QL-1, QL-3	mg/kg	8.2	11/09/22 8:35	11/22/22 17:27	EPA 8082
11141-16-5	PCB-1232 (Aroclor 1232)	8.2	U, J, QL-1, QL-3	mg/kg	8.2	11/09/22 8:35	11/22/22 17:27	EPA 8082
53469-21-9	PCB-1242 (Aroclor 1242)	8.2	U, J, QL-1, QL-3	mg/kg	8.2	11/09/22 8:35	11/22/22 17:27	EPA 8082
12672-29-6	PCB-1248 (Aroclor 1248)	8.2	U, J, QL-1, QL-3	mg/kg	8.2	11/09/22 8:35	11/22/22 17:27	EPA 8082
11097-69-1	PCB-1254 (Aroclor 1254)	8.2	U, J, QL-1, QL-3	mg/kg	8.2	11/09/22 8:35	11/22/22 17:27	EPA 8082
11096-82-5	PCB-1260 (Aroclor 1260)	8.2	U, J, QL-1, QL-3	mg/kg	8.2	11/09/22 8:35	11/22/22 17:27	EPA 8082
37324-23-5	PCB-1262 (Aroclor 1262)	8.2	U, J, QL-1, QL-3	mg/kg	8.2	11/09/22 8:35	11/22/22 17:27	EPA 8082
11100-14-4	PCB-1268 (Aroclor 1268)	8.2	U, J, QL-1, QL-3	mg/kg	8.2	11/09/22 8:35	11/22/22 17:27	EPA 8082

PCB Aroclors

Project: 23-0046, TAV Holdings Inc.

Sample ID: W03 **Lab ID:** E224529-03

Station ID: W03 **Matrix:** Waste

Date Collected: 11/1/22 16:10

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
12674-11-2	PCB-1016 (Aroclor 1016)	2.8	J, QL-1, QL-3, I-5	mg/kg	0.25	11/09/22 8:35	11/22/22 17:44	EPA 8082
11104-28-2	PCB-1221 (Aroclor 1221)	2.9	U, J, QL-1, QL-3	mg/kg	2.9	11/09/22 8:35	11/22/22 17:44	EPA 8082
11141-16-5	PCB-1232 (Aroclor 1232)	2.9	U, J, QL-1, QL-3	mg/kg	2.9	11/09/22 8:35	11/22/22 17:44	EPA 8082
53469-21-9	PCB-1242 (Aroclor 1242)	2.9	U, J, QL-1, QL-3	mg/kg	2.9	11/09/22 8:35	11/22/22 17:44	EPA 8082
12672-29-6	PCB-1248 (Aroclor 1248)	2.9	U, J, QL-1, QL-3	mg/kg	2.9	11/09/22 8:35	11/22/22 17:44	EPA 8082
11097-69-1	PCB-1254 (Aroclor 1254)	2.9	U, J, QL-1, QL-3	mg/kg	2.9	11/09/22 8:35	11/22/22 17:44	EPA 8082
11096-82-5	PCB-1260 (Aroclor 1260)	2.9	U, J, QL-1, QL-3	mg/kg	2.9	11/09/22 8:35	11/22/22 17:44	EPA 8082
37324-23-5	PCB-1262 (Aroclor 1262)	2.9	U, J, QL-1, QL-3	mg/kg	2.9	11/09/22 8:35	11/22/22 17:44	EPA 8082
11100-14-4	PCB-1268 (Aroclor 1268)	2.9	U, J, QL-1, QL-3	mg/kg	2.9	11/09/22 8:35	11/22/22 17:44	EPA 8082

PCB Aroclors

Project: 23-0046, TAV Holdings Inc.

Sample ID: W04 **Lab ID:** E224529-04

Station ID: W04 **Matrix:** Waste

Date Collected: 11/1/22 16:54

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
12674-11-2	PCB-1016 (Aroclor 1016)	1.4	J, QL-3, QL-1, I-5	mg/kg	0.25	11/09/22 8:35	11/22/22 18:02	EPA 8082
11104-28-2	PCB-1221 (Aroclor 1221)	1.5	U, J, QL-3, QL-1	mg/kg	1.5	11/09/22 8:35	11/22/22 18:02	EPA 8082
11141-16-5	PCB-1232 (Aroclor 1232)	1.5	U, J, QL-3, QL-1	mg/kg	1.5	11/09/22 8:35	11/22/22 18:02	EPA 8082
53469-21-9	PCB-1242 (Aroclor 1242)	1.5	U, J, QL-3, QL-1	mg/kg	1.5	11/09/22 8:35	11/22/22 18:02	EPA 8082
12672-29-6	PCB-1248 (Aroclor 1248)	1.5	U, J, QL-3, QL-1	mg/kg	1.5	11/09/22 8:35	11/22/22 18:02	EPA 8082
11097-69-1	PCB-1254 (Aroclor 1254)	1.5	U, J, QL-3, QL-1	mg/kg	1.5	11/09/22 8:35	11/22/22 18:02	EPA 8082
11096-82-5	PCB-1260 (Aroclor 1260)	1.5	U, J, QL-3, QL-1	mg/kg	1.5	11/09/22 8:35	11/22/22 18:02	EPA 8082
37324-23-5	PCB-1262 (Aroclor 1262)	1.5	U, J, QL-3, QL-1	mg/kg	1.5	11/09/22 8:35	11/22/22 18:02	EPA 8082
11100-14-4	PCB-1268 (Aroclor 1268)	1.5	U, J, QL-3, QL-1	mg/kg	1.5	11/09/22 8:35	11/22/22 18:02	EPA 8082

PCB Aroclors

Project: 23-0046, TAV Holdings Inc.

Sample ID: W05 **Lab ID:** E224529-05

Station ID: W05 **Matrix:** Waste

Date Collected: 11/1/22 17:17

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
12674-11-2	PCB-1016 (Aroclor 1016)	0.96	J, QL-1, QL-3, I-5	mg/kg	0.25	11/09/22 8:35	11/22/22 18:19	EPA 8082
11104-28-2	PCB-1221 (Aroclor 1221)	0.97	U, J, QL-1, QL-3	mg/kg	0.97	11/09/22 8:35	11/22/22 18:19	EPA 8082
11141-16-5	PCB-1232 (Aroclor 1232)	0.97	U, J, QL-1, QL-3	mg/kg	0.97	11/09/22 8:35	11/22/22 18:19	EPA 8082
53469-21-9	PCB-1242 (Aroclor 1242)	0.97	U, J, QL-1, QL-3	mg/kg	0.97	11/09/22 8:35	11/22/22 18:19	EPA 8082
12672-29-6	PCB-1248 (Aroclor 1248)	0.97	U, J, QL-1, QL-3	mg/kg	0.97	11/09/22 8:35	11/22/22 18:19	EPA 8082
11097-69-1	PCB-1254 (Aroclor 1254)	0.97	U, J, QL-1, QL-3	mg/kg	0.97	11/09/22 8:35	11/22/22 18:19	EPA 8082
11096-82-5	PCB-1260 (Aroclor 1260)	0.97	U, J, QL-1, QL-3	mg/kg	0.97	11/09/22 8:35	11/22/22 18:19	EPA 8082
37324-23-5	PCB-1262 (Aroclor 1262)	0.97	U, J, QL-1, QL-3	mg/kg	0.97	11/09/22 8:35	11/22/22 18:19	EPA 8082
11100-14-4	PCB-1268 (Aroclor 1268)	0.97	U, J, QL-1, QL-3	mg/kg	0.97	11/09/22 8:35	11/22/22 18:19	EPA 8082

PCB Aroclors

Project: 23-0046, TAV Holdings Inc.

Sample ID: W06 **Lab ID:** E224529-06

Station ID: W06 **Matrix:** Waste

Date Collected: 11/1/22 17:27

CAS Number	Analyte	Results	Qualifiers	Units	MRL	Prepared	Analyzed	Method
12674-11-2	PCB-1016 (Aroclor 1016)	2.0	J, QL-3, QL-1, I-5	mg/kg	0.24	11/09/22 8:35	11/22/22 18:37	EPA 8082
11104-28-2	PCB-1221 (Aroclor 1221)	2.1	U, J, QL-1, QL-3	mg/kg	2.1	11/09/22 8:35	11/22/22 18:37	EPA 8082
11141-16-5	PCB-1232 (Aroclor 1232)	2.1	U, J, QL-3, QL-1	mg/kg	2.1	11/09/22 8:35	11/22/22 18:37	EPA 8082
53469-21-9	PCB-1242 (Aroclor 1242)	2.1	U, J, QL-3, QL-1	mg/kg	2.1	11/09/22 8:35	11/22/22 18:37	EPA 8082
12672-29-6	PCB-1248 (Aroclor 1248)	2.1	U, J, QL-3, QL-1	mg/kg	2.1	11/09/22 8:35	11/22/22 18:37	EPA 8082
11097-69-1	PCB-1254 (Aroclor 1254)	2.1	U, J, QL-3, QL-1	mg/kg	2.1	11/09/22 8:35	11/22/22 18:37	EPA 8082
11096-82-5	PCB-1260 (Aroclor 1260)	2.1	U, J, QL-3, QL-1	mg/kg	2.1	11/09/22 8:35	11/22/22 18:37	EPA 8082
37324-23-5	PCB-1262 (Aroclor 1262)	2.1	U, J, QL-3, QL-1	mg/kg	2.1	11/09/22 8:35	11/22/22 18:37	EPA 8082
11100-14-4	PCB-1268 (Aroclor 1268)	2.1	U, J, QL-3, QL-1	mg/kg	2.1	11/09/22 8:35	11/22/22 18:37	EPA 8082

PCB Aroclors (PCBA) - Quality Control

US-EPA, Region 4, LSASD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2211023 - E 3580										
Blank (2211023-BLK1)				Prepared: 11/09/22 Analyzed: 11/22/22						
EPA 8082										
PCB-1016 (Aroclor 1016)	U	0.25	mg/kg							U
PCB-1016 (Aroclor 1016) [2C]	U	0.25	"							U
PCB-1221 (Aroclor 1221)	U	0.50	"							U
PCB-1221 (Aroclor 1221) [2C]	U	0.50	"							U
PCB-1232 (Aroclor 1232)	U	0.25	"							U
PCB-1232 (Aroclor 1232) [2C]	U	0.25	"							U
PCB-1242 (Aroclor 1242)	U	0.25	"							U
PCB-1242 (Aroclor 1242) [2C]	U	0.25	"							U
PCB-1248 (Aroclor 1248)	U	0.25	"							U
PCB-1248 (Aroclor 1248) [2C]	U	0.25	"							U
PCB-1254 (Aroclor 1254)	U	0.25	"							U
PCB-1254 (Aroclor 1254) [2C]	U	0.25	"							U
PCB-1260 (Aroclor 1260)	U	0.25	"							U
PCB-1260 (Aroclor 1260) [2C]	U	0.25	"							U
PCB-1262 (Aroclor 1262)	U	0.25	"							U
PCB-1262 (Aroclor 1262) [2C]	U	0.25	"							U
PCB-1268 (Aroclor 1268)	U	0.25	"							U
PCB-1268 (Aroclor 1268) [2C]	U	0.25	"							U
LCS (2211023-BS1)				Prepared: 11/09/22 Analyzed: 11/22/22						
EPA 8082										
PCB-1016 (Aroclor 1016)	4.2912	0.25	mg/kg	5.0000		85.8	70-130			
PCB-1016 (Aroclor 1016) [2C]	4.0390	0.25	"	5.0000		80.8	70-130			
PCB-1221 (Aroclor 1221)	U	0.50	"				70-130			U
PCB-1221 (Aroclor 1221) [2C]	U	0.50	"				70-130			U
PCB-1232 (Aroclor 1232)	U	0.25	"				70-130			U
PCB-1232 (Aroclor 1232) [2C]	U	0.25	"				70-130			U
PCB-1242 (Aroclor 1242)	U	0.25	"				70-130			U
PCB-1242 (Aroclor 1242) [2C]	U	0.25	"				70-130			U
PCB-1248 (Aroclor 1248)	U	0.25	"				70-130			U
PCB-1248 (Aroclor 1248) [2C]	U	0.25	"				70-130			U
PCB-1254 (Aroclor 1254)	U	0.25	"				44-155			U
PCB-1254 (Aroclor 1254) [2C]	U	0.25	"				44-155			U
PCB-1260 (Aroclor 1260)	3.5488	0.25	"	5.0000		71.0	44-155			
PCB-1260 (Aroclor 1260) [2C]	3.7444	0.25	"	5.0000		74.9	44-155			
PCB-1262 (Aroclor 1262)	U	0.25	"				44-155			U
PCB-1262 (Aroclor 1262) [2C]	U	0.25	"				44-155			U
PCB-1268 (Aroclor 1268)	U	0.25	"				44-155			U
PCB-1268 (Aroclor 1268) [2C]	U	0.25	"				44-155			U

PCB Aroclors (PCBA) - Quality Control

US-EPA, Region 4, LSASD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2211023 - E 3580										
LCS (2211023-BS1)				Prepared: 11/09/22 Analyzed: 11/22/22						
LCS Dup (2211023-BSD1)				Prepared: 11/09/22 Analyzed: 11/22/22						
EPA 8082										
PCB-1016 (Aroclor 1016)	2.2714	0.25	mg/kg	5.0000		45.4	70-130	61.6	30	QL-1, QL-3
PCB-1016 (Aroclor 1016) [2C]	2.1461	0.25	"	5.0000		42.9	70-130	61.2	30	QL-1, QL-3
PCB-1221 (Aroclor 1221)	U	0.50	"				70-130		30	U
PCB-1221 (Aroclor 1221) [2C]	U	0.50	"				70-130		30	U
PCB-1232 (Aroclor 1232)	U	0.25	"				70-130		30	U
PCB-1232 (Aroclor 1232) [2C]	U	0.25	"				70-130		30	U
PCB-1242 (Aroclor 1242)	U	0.25	"				70-130		30	U
PCB-1242 (Aroclor 1242) [2C]	U	0.25	"				70-130		30	U
PCB-1248 (Aroclor 1248)	U	0.25	"				70-130		30	U
PCB-1248 (Aroclor 1248) [2C]	U	0.25	"				70-130		30	U
PCB-1254 (Aroclor 1254)	U	0.25	"				44-155		30	U
PCB-1254 (Aroclor 1254) [2C]	U	0.25	"				44-155		30	U
PCB-1260 (Aroclor 1260)	1.8200	0.25	"	5.0000		36.4	44-155	64.4	30	QL-1, QL-3
PCB-1260 (Aroclor 1260) [2C]	1.8682	0.25	"	5.0000		37.4	44-155	66.9	30	QL-1, QL-3
PCB-1262 (Aroclor 1262)	U	0.25	"				44-155		30	U
PCB-1262 (Aroclor 1262) [2C]	U	0.25	"				44-155		30	U
PCB-1268 (Aroclor 1268)	U	0.25	"				44-155		30	U
PCB-1268 (Aroclor 1268) [2C]	U	0.25	"				44-155		30	U
Duplicate (2211023-DUP1)				**Source: E224529-03** Prepared: 11/09/22 Analyzed: 11/22/22						
EPA 8082										
PCB-1016 (Aroclor 1016)	2.9321	0.26	mg/kg		3.0980			5.50	30	I-5
PCB-1016 (Aroclor 1016) [2C]	2.5857	0.26	"		2.7778			7.16	30	I-5
PCB-1221 (Aroclor 1221)	U	3.0	"		U				30	U
PCB-1221 (Aroclor 1221) [2C]	U	2.7	"		U				30	U
PCB-1232 (Aroclor 1232)	U	3.0	"		U				30	U
PCB-1232 (Aroclor 1232) [2C]	U	2.7	"		U				30	U
PCB-1242 (Aroclor 1242)	U	3.0	"		U				30	U
PCB-1242 (Aroclor 1242) [2C]	U	2.7	"		U				30	U
PCB-1248 (Aroclor 1248)	U	3.0	"		U				30	U
PCB-1248 (Aroclor 1248) [2C]	U	2.7	"		U				30	U
PCB-1254 (Aroclor 1254)	U	3.0	"		U				30	U
PCB-1254 (Aroclor 1254) [2C]	U	2.7	"		U				30	U
PCB-1260 (Aroclor 1260)	2.3124	3.0	"		2.2552			2.50	30	U

PCB Aroclors (PCBA) - Quality Control

US-EPA, Region 4, LSASD

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 2211023 - E 3580										
Duplicate (2211023-DUP1)		**Source: E224529-03**		Prepared: 11/09/22 Analyzed: 11/22/22						
PCB-1260 (Aroclor 1260) [2C]	1.4854	2.7	mg/kg		1.6248			8.96	30	U
PCB-1262 (Aroclor 1262)	U	3.0	"		U				30	U
PCB-1262 (Aroclor 1262) [2C]	U	2.7	"		U				30	U
PCB-1268 (Aroclor 1268)	U	0.26	"		U				30	U
PCB-1268 (Aroclor 1268) [2C]	U	0.26	"		U				30	U
MRL Verification (2211023-PS1)				Prepared: 11/09/22 Analyzed: 11/22/22						
EPA 8082										
PCB-1016 (Aroclor 1016)	0.21227	0.25	mg/kg	0.25000		84.9	50-150			MRL-6, U
PCB-1016 (Aroclor 1016) [2C]	0.19949	0.25	"	0.25000		79.8	50-150			MRL-6, U
PCB-1221 (Aroclor 1221)	U	0.50	"				50-150			U
PCB-1221 (Aroclor 1221) [2C]	U	0.50	"				50-150			U
PCB-1232 (Aroclor 1232)	U	0.25	"				50-150			U
PCB-1232 (Aroclor 1232) [2C]	U	0.25	"				50-150			U
PCB-1242 (Aroclor 1242)	U	0.25	"				50-150			U
PCB-1242 (Aroclor 1242) [2C]	U	0.25	"				50-150			U
PCB-1248 (Aroclor 1248)	U	0.25	"				50-150			U
PCB-1248 (Aroclor 1248) [2C]	U	0.25	"				50-150			U
PCB-1254 (Aroclor 1254)	U	0.25	"				24-175			U
PCB-1254 (Aroclor 1254) [2C]	U	0.25	"				24-175			U
PCB-1260 (Aroclor 1260)	0.21515	0.25	"	0.25000		86.1	24-175			MRL-6, U
PCB-1260 (Aroclor 1260) [2C]	0.17707	0.25	"	0.25000		70.8	24-175			MRL-6, U
PCB-1262 (Aroclor 1262)	U	0.25	"				24-175			U
PCB-1262 (Aroclor 1262) [2C]	U	0.25	"				24-175			U
PCB-1268 (Aroclor 1268)	U	0.25	"				24-175			U
PCB-1268 (Aroclor 1268) [2C]	U	0.25	"				24-175			U

Notes and Definitions for QC Samples

U	The analyte was not detected at or above the reporting limit.
I-5	Mixture of Aroclors in sample; predominant Aroclors reported
MRL-6	MRL verification for Waste matrix
QL-1	Laboratory Control Spike Recovery less than method control limits
QL-3	Laboratory Control Spike Precision outside method control limits

END OF REPORT