RMR INVESTIGATION

Project CUY-14-6.93
PID # 104132
Garfield Heights, Cuyahoga County, Ohio

By:

Jacob W. Wingert
Environmental Scientist

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Submitted by:

HZW Environmental Consultants, LLC
1234 Weathervane Lane
Akron, Summit County, Ohio
330-208-2717

Lead Agency: Ohio Department of Transportation

December 19, 2024

OHIO DEPARTMENT OF TRANSPORTATION

SIGNATURE PAGE

GENERAL INFORMATION

Project C-R-S / Name:	Parcel 14 and Parcel 17	PID:	104132	District:	12
Report Author(s):	Jacob W. Wingert				
Report Author(s):	Kevin M. Reaman.				
Affiliation:	HZW Environmental Consultants, LLC				

CERTIFICATION *(Must be acknowledged by Prequalified Individual)*

☒	I certify that I have personally examined and am familiar with the information in this document and all attachments, and that the data collection was supervised by an individual(s) prequalified to conduct the RMR for ODOT or by trained ODOT Environmental staff. Based on my inquiry of those persons immediately responsible for obtaining the information contained herein, I believe that the information has been collected in accordance with the ODOT RMR Manual current at the time of this submittal, and is true, accurate, and complete.

Name:	Doug Wetzel	Signature:	Doug Wetzel
Title:	Group Leader, Phase II ESAs	Date:	12/19/2024
Email:	Dwetzel@hzwenv.com	Phone Number:	440-357-1260

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APPENDICES

1. EXECUTIVE SUMMARY

HZW Environmental Consultants, LLC completed an RMR Investigation in conformance with the Ohio Department of Transportation's (ODOT) Regulated Materials Review (RMR) Manual dated February 2023 for the Parcel 14 and Parcel 17 project in Newburg Township, Outlets 483, 484, 485- T-7-N and R-12W, Garfield Heights, Cuyahoga County, Ohio ("Project"). The RMR Investigation proposed to composite sample waste from a former magnesium recycler where a fire once occurred. The sampling was to ultimately determine the disposition of the material as recyclable or to be disposed.

Table 1: RMR Investigation Properties

Project CUY-14-6.93/Name: Parcel 14 and Parcel 17		PID: 104132	
Property ID# &Tenant	Tenant/Address	Current Land Use	
Parcel 14	Former Garfield Alloys, Garfield Heights, Cuyahoga County, Ohio	Vacant/Commercial/Industrial	
Parcel 17	Former Garfield Alloys, Garfield Heights, Cuyahoga County, Ohio	Vacant/Commercial/Industrial	

This RMR Investigation was conducted on November 13, 2024 and included the collection of three (3) composite waste stockpile samples from a former magnesium recycler near the trailer on Parcel 14, and six (6) composite samples from a former magnesium waste recycler beneath the bridge and under the building from Parcel 17 for laboratory analysis of aluminum, magnesium, and manganese and flashpoint. Information revealed during the RMR Investigation was used to reach the following recommendations:

Table 2: Summary of Investigation Findings & Recommendations

Project C-R-S / Name:	CUY-14-6.93/Parcel 14 and Parcel 17	PID:	104132	Project City	Garfield Heights
Property ID#, Tenant Name & Address	Findings			Next Step Recommendations	
Parcel 14	Concentrations of aluminum and manganese in the waste samples from a former magnesium recycler are below Ohio Voluntary Action Program (VAP) Generic Numerical Direct Contact Soil Standards (GNDCSS) for Commercial/Industrial land use as promulgated under 3745-300-08 of the Ohio Administrative Code (OAC). No Ohio VAP standard exists for magnesium. The material was found non-ignitable via flashpoint testing.			RM Plan Note: Recycle or Dispose Waste Material for a Former Magnesium Recycler	
Parcel 17	Concentrations of aluminum and manganese in the waste samples from a former magnesium recycler below Ohio VAP GNDCSS. No standard exists for magnesium. The material was found non-ignitable via flashpoint testing.			RM Plan Note: Recycle or Dispose Waste Material for a Former Magnesium Recycler	

**Recommendations include: RM Plan Note, Further Investigation, Remedial Action, No Further Action, or Other.*

2. INTRODUCTION

The Project is identified by ODOT as CUY-14-6.93, Parcel 14 and Parcel 17 ,Newburg Township, Outlets 483, 484, 485- T-7-N and R-12W, Garfield Heights, Cuyahoga County, Ohio. The Project site further identified as situated beneath the Broadway Avenue(State Route. 14) overpass between STA. 377+50 to STA. 382+50 and approximately 1,500 to 2,000-feet west of East 131 Street. The CUY-14-6.93, PID 104132 project is an ODOT bridge preservation project. ODOT proposes to replace the Whitehouse Crossing Bridge (SR14) over the Norfolk Southern Railroad in Garfield Heights, Cuyahoga County. The sampling was conducted from waste stockpiles left from an old magnesium recycler. **Figure 1** in **Appendix A** shows the general site location. **Figure 2** in **Appendix A** presents a site diagram of the Project, and **Figure 3** in **Appendix A** depicts the general sample locations. **Appendix B** contains site photographs. **Appendix C** contains investigation documentation (e.g., laboratory analytical results) for Parcel 14 for the metals analysis. **Appendix D** contains investigation documentation for Parcel 17 for the metals analysis. **Appendix E** contains the general plan sheets for Parcel 14 and Parcel 17.

The RMR Investigation also included surveys for asbestos, lead paint and hazardous substances and universal wastes which may have special handling needs. Each of these investigation reports are documented under separate cover.

The Properties in the following table were investigated as part of the RMR Investigation effort. The Properties are proposed for demolition, deep excavation, or some combination. The RMR Investigation was conducted to determine the recyclability of the waste material from a former magnesium recycler.

Table 3: RMR Investigation Properties Rationale for Investigation

Project C-R-S / Name:	CUY-14-6.93/Parcel 14 and Parcel 17	PID:	104132	Project City	Garfield Heights
Property ID#	Tenant Name & Address	Proposed Take Acquisition		Rationale for Investigation	
Parcel 14	Former Garfield Alloys, Garfield Heights, Cuyahoga County, Ohio	ODOT already owns		Stockpiled material is it appropriate for recycling and/or disposal	
Parcel 17	Former Garfield Alloys, Garfield Heights, Cuyahoga County, Ohio	ODOT already owns		Stockpiled material is it appropriate for recycling and/or disposal	

3. PROPERTY HISTORY

Bothe parcels of the Property appeared to be utilized as a former magnesium metal recycler. Leftover metal waste material that is stockpiled on each parcel from a former magnesium recycler. A fire did occur on the Property.

4. FIELD ACTIVITIES AND ANALYTICAL PROCEDURES

4.1 Investigation Overview and Data Gaps

The investigation only included surface composite sampling of waste materials from a former magnesium recycler from discrete stockpiles associated with Parcel 14 and Parcel 17. Specifically, this investigation included the collection of three (3) composite stockpile samples near the trailer on Parcel 14 (identified as Parcel 14-1, Parcel 14-2, and Parcel 14-3), and six (6) composite samples from beneath the bridge and under the building from Parcel 17 (identified as Parcel 17-1, Parcel 17-2, Parcel 17-3, Parcel 17-4, Parcel 17-5 and

Parcel 17-6) for laboratory analysis of aluminum, magnesium, and manganese and flashpoint. There were no data gaps associated with this Project.

The RMR Investigation also included surveys for asbestos, lead paint and hazardous substances and universal wastes which may have special handling needs. Each of these investigation reports are documented under separate cover.

4.2 Published Geologic and Hydrogeologic Information

Since geologic and hydrogeologic investigations were not conducted as part of this investigation and only surface composite samples of process waste (i.e., a former magnesium recycler) were collected for characterization, no published information review was warranted.

4.3 Field Condition Documentation and Overview

There were no unordinary field conditions at the time of the sampling effort. The sampling went according to the designed plan.

4.4 Geophysical Survey

No geophysical survey was conducted.

4.5 Sampling Effort

4.5.1 Soil Sampling

No soil samples were collected. Only composite metal samples of stockpiled material from a former magnesium recycler. **Figure 3** in **Appendix A** presents the general sample locations. Pictures depicting the material are in **Appendix B**. Samples were collected using plastic trowels decontaminated between sample locations with non-phosphatic soap and water. For Parcel 14, Samples were collected of a stockpiled material suspected of being recycled magnesium. The material consisted of a dark gray, fine, powdery substance. The stockpile near the entrance of the trailer was segregated into three (3) approximately equal areas, and a total of three (3) surface composite samples was collected. The samples were submitted to Summit Environmental Technologies (SET) to be analyzed for total aluminum, magnesium, and manganese using U.S. EPA Method SW 6010. Each of the samples was analyzed for flashpoint using U.S. EPA Method SW 1010.

Similarly, for Parcel 17, Samples were collected of a stockpiled material suspected of being recycled magnesium. The stockpiled material was present in large quantities northeast of the structure and inside the machinery. The material consisted of a white, fine, powdery substance. A total of six (6) surface composite samples were collected with one (1) sample collected from inside the structure, and the other five (5) samples collected spatially throughout the exterior stockpile. The samples were submitted to SET to be analyzed for total aluminum, magnesium, and manganese using U.S. EPA Method SW 6010. Each of the samples was analyzed for flashpoint using U.S. EPA Method SW 1010.

4.5.2 Groundwater Sampling

No groundwater monitoring well installation or sampling was conducted as part of this investigation.

4.5.3 Investigation-Derived Waste (IDW) Management

No investigative waste was generated by sampling the waste material from a former magnesium recycler.

4.6 Analytical Methods, Results, and Comparison to Regulatory Levels

As noted above, the samples from Parcel 14 and Parcel 17 were submitted to SET for analysis of total aluminum, magnesium, and manganese using U.S. EPA Method 6010. Additionally, each sample was analyzed for flashpoint using U.S. EPA Method SW 1010.

4.6.1 Metals Sample Results for Parcel14

The metals data are summarized in **Table 1** below. **Appendix C** contains the laboratory analytical reports for Parcel 14.

Table 1 Metal Sample Results for Parcel 14

Project CUY-14-6.93/Parcel 14, Former Garfield Alloys, Garfield Heights, Cuyahoga County, Ohio						
Parameter	**Ohio VAP Risk Based Standards (1)**		**Average US Soil Concentrations(4)**	**Sample Identification/Results (mg/kg)**		
	Commercial/ Industrial Direct Contact Standard	Construction Activity Direct Contact Standard		Parcel 14-1	Parcel 14-2	Parcel 14-3
Aluminum	77,000/1,100,000(2)	NA(3)	71,000	35,300	36,100	38,000
Magnesium	NA	NA	9,000	352,000	347,000	355,000
Manganese	88,000	12,000	550	7,780	7,180	6,470

Notes:
(1) Ohio VAP Risk Based Standards per Appendix A of OAC 3745-300-08 effective October 17, 2019 and/or VAP CIDARS.

(2) US EPA Regional Screening Levels (or RSLs). The value listed first is for residential land use.

(3) NA denotes not applicable, or no standard exists.
(4) The average concentrations of the metals in us soils according to the US Geological Survey Professional Paper 127, dated 1984.

A review of the tabulated data for Parcel 14 (refer to data table in **Appendix C**) indicates that aluminum, magnesium, and manganese were detected in all samples submitted for laboratory analysis. The average concentrations of the metals in US soils according to the US Geological Survey (USGS) Professional Paper 1270 entitled "*Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States*" dated 1984 are 71,000 milligrams per kilogram (mg/kg), 9,000 mg/kg, and 550 mg/kg, for aluminum, magnesium, and manganese respectively. Based on this data, both the magnesium and manganese concentrations exceed typical average US soil concentrations.

As a method of comparison, the detected compounds were evaluated to the Ohio EPA's VAP risk-based generic numerical direct contact standards (or GNDCSS) for commercial/industrial land use promulgated under the Appendix to rule 3745-300-08 of the Ohio Administrative Code (OAC) and effective October 17, 2019 as well as the Ohio EPA's Supplemental Criteria as provided in the Chemical Information Database and Applicable Regulatory Standards (or CIDARS) dated October 17, 2019. Direct contact with soil includes ingestion, dermal contact, inhalation of volatile compounds in outdoor air, and inhalation and ingestion of particulate emissions.

The GNDCSS are only available for the constituent manganese. A comparison of the laboratory analytical data to the Ohio VAP GNDCSS indicates that all manganese concentrations in the samples submitted for analysis are below the GNDCSS for commercial/industrial land use category (refer to data table in **Appendix C**). As there are no VAP GNDCSS for aluminum, the analytical results of aluminum were compared to the

U.S. EPA regional screening level (RSL) for contaminants. The RSL of aluminum for residential soil direct contact is 77,000 mg/kg, and the RSL for commercial/industrial area soil direct contact is 1,100,000 mg/kg. As depicted in the data table in **Appendix C**, the laboratory analytical results for the detected aluminum in all samples submitted fall below the RSL for commercial/industrial exposure. It should be noted that RSLs are not cleanup standards, but they provide comparison values for exposure and risk. RSLs do not exist for the compound magnesium.

In summary, based on the initial analysis, the aluminum, magnesium and manganese concentrations do not appear to present an elevated exposure risk based on the current and future intended use and activity. Magnesium has no documented risk standards pursuant to US EPA and Ohio EPA sources. If the material is to be disposed of or potentially recycled, additional analyses most likely would be required for (e.g. TCLP metals).

4.6.2 Metals Sample Results for Parcel17

The metals data are summarized in **Table 2** below. **Appendix D** contains the laboratory analytical reports for Parcel 17.

Table 2 Metal Sample Results for Parcel 17

Project CUY-14-6.93/Parcel 17, Former Garfield Alloys, Garfield Heights, Cuyahoga County, Ohio									
Parameter	**Ohio VAP Risk Based Standards (1)**		**Average US Soil Concentrations(4)**	**Sample Identification/Results (mg/kg)**					
	Commercial/ Industrial Direct Contact Standard	Construction Activity Direct Contact Standard		Parcel 17-1	Parcel 17-2	Parcel 17-3	Parcel 17-4	Parcel 17-5	Parcel 17-6
Aluminum	77,000/1,100,000(2)	NA(3)	71,000	13,200	8,640	13,300	17,000	8,750	11,600
Magnesium	NA	NA	9,000	11,000	6,780	20,300	15,300	8,030	13,600
Manganese	88,000	12,000	550	234	168	850	1,120	187	357

Notes:
(1) Ohio VAP Risk Based Standards per Appendix A of OAC 3745-300-08 effective October 17, 2019 and/or VAP CIDARS.

(2) US EPA Regional Screening Levels (or RSLs). The value listed first is for residential land use.

(3) NA denotes not applicable or non standard exists.
(4) The average concentrations of the metals in us soils according to the US Geological Survey Professional Paper 127, dated 1984

A review of the tabulated data in **Appendix D** indicates that aluminum, magnesium, and manganese were detected in all samples submitted for laboratory analysis. Based on US average soil concentrations as reported by the USGS in Paper 1270, most of the magnesium and a couple manganese concentrations exceed typical average US soil concentrations for these metals.

The average concentrations of the metals in US soils according to the US Geological Survey Professional Paper 1270 entitled "*Element Concentrations in Soils and Other Surficial Materials of the Conterminous United States*" dated 1984 are 71,000 milligrams per kilogram (mg/kg), 9,000 mg/kg, and 550 mg/kg, for aluminum, magnesium, and manganese respectively.

A comparison of the laboratory analytical data to the Ohio VAP GNDCSS indicates that all manganese concentrations in the samples submitted for analysis are below the GNDCSS for commercial/industrial land use (refer to the table in **Appendix D**). As depicted in the data table for Parcel 17 in **Appendix D**, the laboratory analytical results for the detected aluminum in all samples submitted fall below the RSL for both resident land commercial/industrial exposure. As noted, RSLs are not cleanup standards, but they provide comparison values for exposure and risk. Again, RSLs do not exist for the compound magnesium.
The data for the six (6) flashpoint samples are provided in Appendix D. The results indicated that none of the samples exceeded the >140° F threshold indicating the material does not flash.

Like Parcel 14, based on the initial analysis, the aluminum, magnesium and manganese concentrations do not appear to present an elevated exposure risk based on the current and future intended use and activity. Magnesium has no documented risk standards pursuant to US EPA and Ohio EPA sources. If the material is to be disposed of or potentially recycled, additional analyses most likely would be required for (e.g. TCLP metals).

4.6.3 Laboratory QA/QC

Since the sampling was limited and for material characteristics primarily, no blank, duplicate, etc. or other Quality Assurance/Quality Control (QA/QC) data was collected. The analytical limits were acceptable for the parameters collected. Although some inconsistencies did occur for the laboratory QA/QC these did not affect laboratory data quality. For instance, a sample for moisture content exhibited high relative percent difference (RPD) due to sample inhomogeneity. Some laboratory spikes were not accurately recovered, but overall laboratory samples demonstrated control.

For flashpoint, the qualifier: Method deviation, due to instrument/matrix limitations, could not stir to 250 RPM as required by the method. Again, this was due to sample inhomogeneity and is a frequent issue analyzing flashpoint with any solid. Multiple samples were analyzed from each parcel to account for inhomogeneity, and the data indicate that the materials are not ignitable and the data valid.

5. CONCLUSIONS & RECOMMENDATIONS

Present information revealed during the RMR Investigation used to reach the following recommendations:

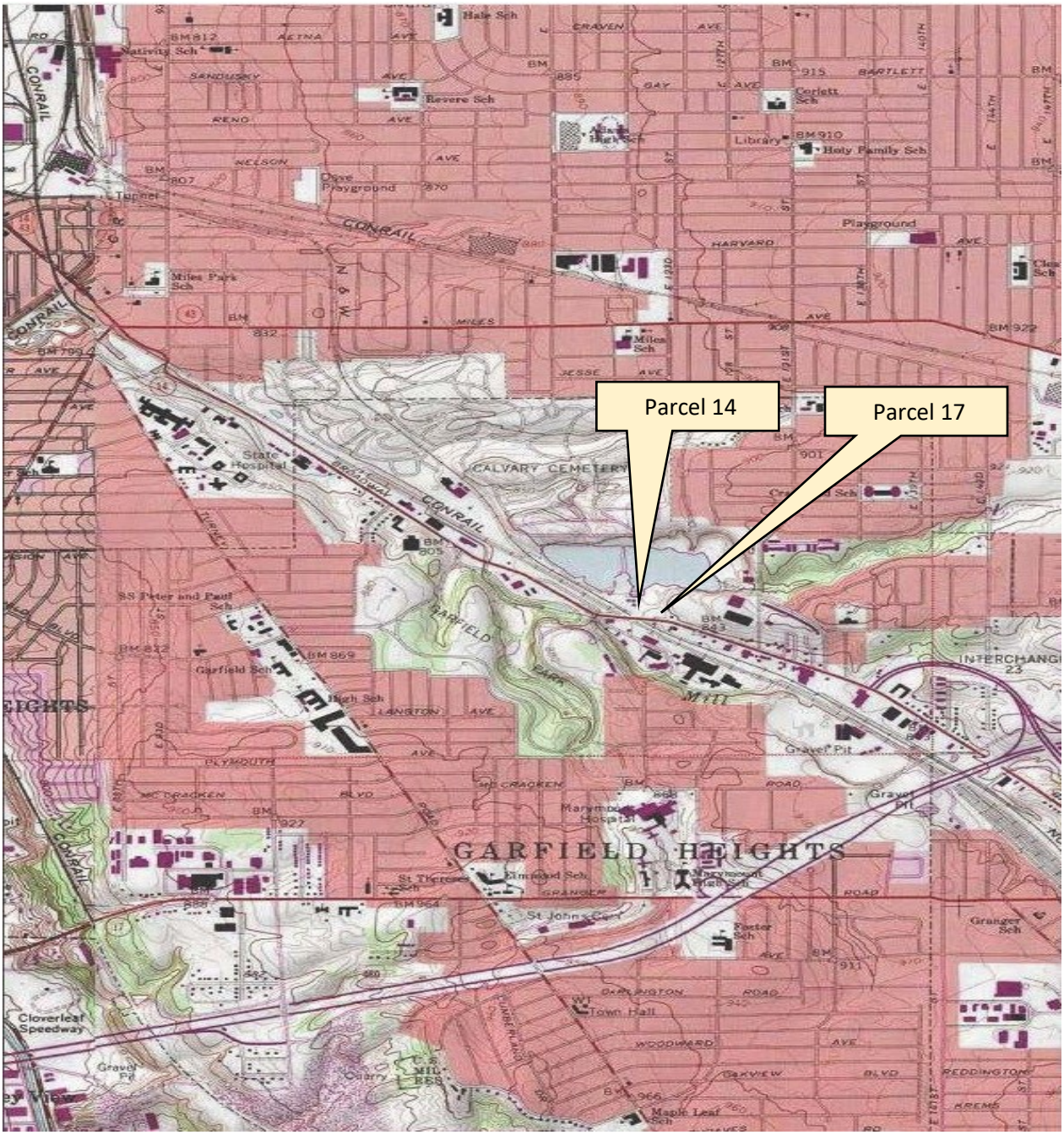
Table 7: RMR Investigation Findings & Recommendations

Project C-R-S / Name:	CUY-14-6.93/Parcel 14 and Parcel 17	PID:	104132	Project City/County	Garfield Heights, Ohio
Property ID#	Findings			Next Step Recommendations	
Parcel 17	Concentrations of aluminum and manganese in waste samples from a former magnesium recycler below Ohio VAP GNDCSS. No standard exists for magnesium. The material was found non-ignitable via flashpoint testing.			RM Plan Note: Recycle or Dispose Waste Material for a Former Magnesium Recycler	
Parcel 14	Concentrations of aluminum and manganese in waste samples from a former magnesium recycler below Ohio VAP GNDCSS. No standard exists for magnesium. The material was found non-ignitable via flashpoint testing			RM Plan Note: Recycle or Dispose Waste Material for a Former Magnesium Recycler	

**Recommendations include: RM Plan Note, Further Investigation, Remedial Action, No Further Action, or Other.*

APPENDIX A

PROJECT FIGURES



REFERENCE: USGS Topographic Map Dated: 2013
PARCEL 14 LATITUDE/LONGITUDE: 41.431617° N/-81.599643° W
PARCEL 17 LATITUDE/LONGITUDE: 41.431126° N/-81.598063° W

SCALE (ft): 0 — 1,000

HZW Environmental Consultants

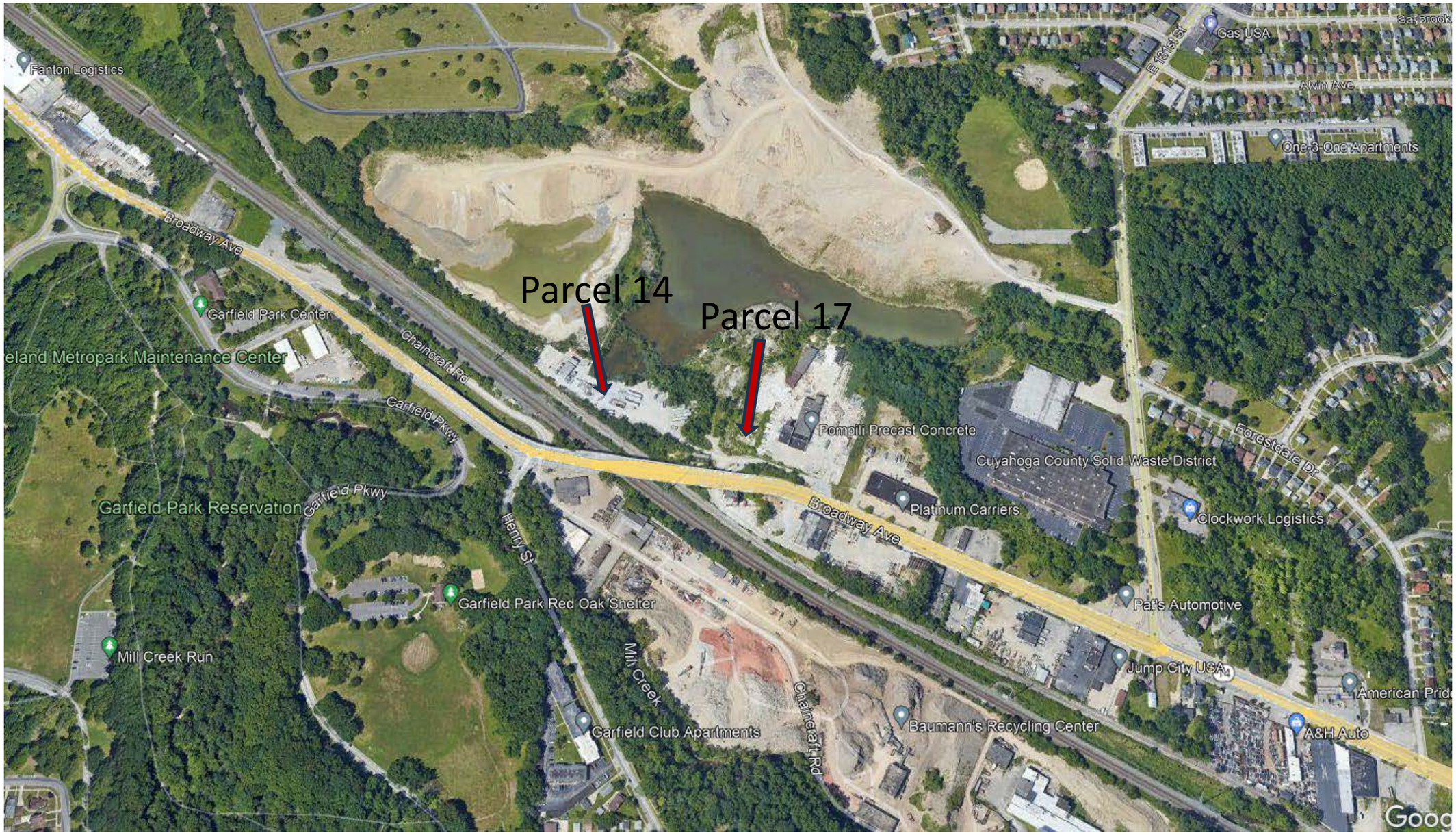
1234 Weathervane, Akron, OH 44313

FIGURE 1

SITE LOCATION MAP

PARCELS 14 & 17
GARFIELD HEIGHTS, CUYAHOGA COUNTY, OHIO

DRAWN BY:	RS
APPROVED BY:	KR
PROJECT NO.	A24035-01
DRAWING NO.: FIG1 SITE LOCATE	



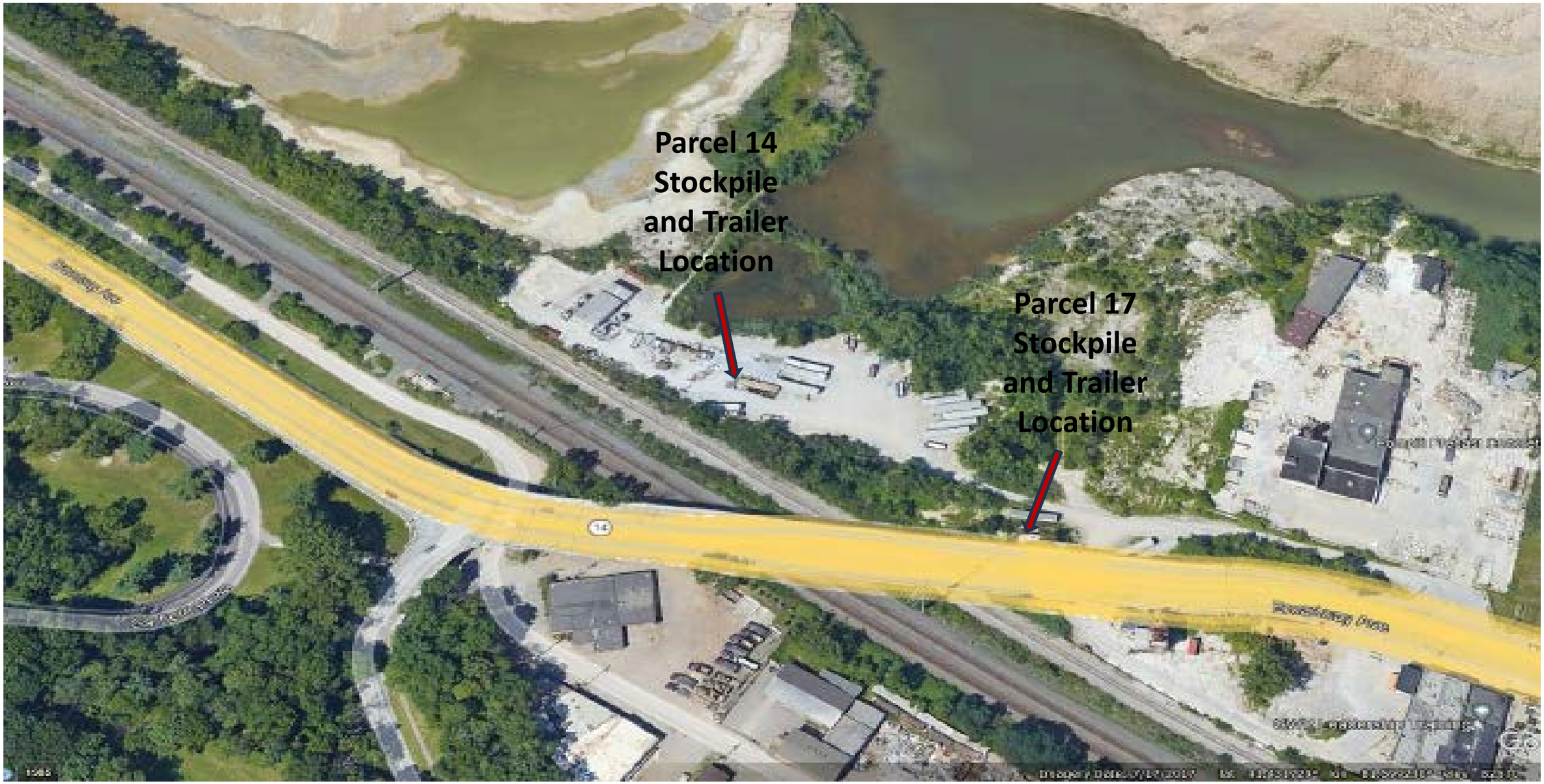
HZW Environmental Consultants

N

A24035-01

Figure 2-Site Diagram

Parcels 14 and 17 Garfield Heights, Cuyahoga County, Ohio
CUY- 14-6.93 PID 104132
ODOT District 12



HZW Environmental Consultants

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A24035-01

Figure 3-General Sample Location Diagram

Parcels 14 and 17 Garfield Heights, Cuyahoga County, Ohio
CUY- 14-6.93 PID 104132
ODOT District 12

APPENDIX B

PROJECT SITE PHOTOGRAPHS

Parcel 14

View of the entrance to the trailer with stockpiled material.

View of the southern side of the trailer and stockpiled material.

View of the northern side of the trailer.

View of the wood scrap, metal scrap, and fiberglass inside the trailer.

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Parcel 17

View of the entrance to the building.

View of the southern side of the building.

View of stockpiled material inside the concrete mixing machine in the building.

View of pipe wrap located in the building.

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View of stockpiled material facing west.

View of stockpiled material facing north.

View of stockpiled material facing south
with the building in the background.

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Environmental
Consultants

APPENDIX C

PARCEL 14 INVESTIGATION DOCUMENTATION

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

November 21, 2024

Kevin Reaman
HZW Environmental
1234 Weathervane Lane
Akron, OH 44313
TEL: 330-208-2717
FAX: 330-208-2799

RE: Parcel 14-Garfield Heights

Order No.: 24111046

Dear Kevin Reaman:

Summit Environmental Technologies, Inc. received 3 sample(s) on 11/14/2024 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Holly Florea

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Case Narrative

WO#: **24111046**
Date: **11/21/2024**

CLIENT: HZW Environmental
Project: Parcel 14-Garfield Heights

This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Workorder Sample Summary

WO#: **24111046**

21-Nov-24

CLIENT: HZW Environmental
Project: Parcel 14-Garfield Heights

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
24111046-001	Parcel 14-1		11/13/2024 1:00:00 PM	11/14/2024 8:20:00 AM	Solid
24111046-002	Parcel 14-2		11/13/2024 1:02:00 PM	11/14/2024 8:20:00 AM	Solid
24111046-003	Parcel 14-3		11/13/2024 1:04:00 PM	11/14/2024 8:20:00 AM	Solid

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **24111046**

Date Reported: **11/21/2024**

CLIENT: HZW Environmental **Collection Date:** 11/13/2024 1:00:00 PM

Project: Parcel 14-Garfield Heights

Lab ID: 24111046-001 **Matrix:** SOLID

Client Sample ID: Parcel 14-1

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METALS ANALYSIS (6010D)				**SW6010**	**SW3050B**	Analyst: **RJE**
Aluminum(Al)	35300	3270		mg/Kg-dry	100	11/19/2024 11:49:00 AM
Magnesium(Mg)	352000	26100		mg/Kg-dry	2000	11/20/2024 3:25:00 PM
Manganese(Mn)	7780	327		mg/Kg-dry	100	11/19/2024 11:49:00 AM
PERCENT MOISTURE BY SM2540MOD				**A2540B**		Analyst: **JPN**
Percent Moisture	27.8	0.200		%	1	11/14/2024 6:10:00 PM

Qualifiers:

E	Value above quantitation range
M	Manual Integration used to determine area response
PL	Permit Limit
RL	Reporting Detection Limit
H	Holding times for preparation or analysis exceeded
ND	Not Detected
R	RPD outside accepted recovery limits
W	Sample container temperature is out of limit as specified at testcode

Original

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **24111046**

Date Reported: **11/21/2024**

CLIENT: HZW Environmental **Collection Date:** 11/13/2024 1:02:00 PM

Project: Parcel 14-Garfield Heights

Lab ID: 24111046-002 **Matrix:** SOLID

Client Sample ID: Parcel 14-2

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METALS ANALYSIS (6010D)				**SW6010**	**SW3050B**	Analyst: **RJE**
Aluminum(Al)	36100	3020		mg/Kg-dry	100	11/19/2024 11:52:00 AM
Magnesium(Mg)	347000	24200		mg/Kg-dry	2000	11/20/2024 3:28:00 PM
Manganese(Mn)	7180	302		mg/Kg-dry	100	11/19/2024 11:52:00 AM
PERCENT MOISTURE BY SM2540MOD				**A2540B**		Analyst: **JPN**
Percent Moisture	24.8	0.200		%	1	11/14/2024 6:10:00 PM

Qualifiers:

E	Value above quantitation range
M	Manual Integration used to determine area response
PL	Permit Limit
RL	Reporting Detection Limit
H	Holding times for preparation or analysis exceeded
ND	Not Detected
R	RPD outside accepted recovery limits
W	Sample container temperature is out of limit as specified at testcode

Original

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **24111046**

Date Reported: **11/21/2024**

CLIENT: HZW Environmental **Collection Date:** 11/13/2024 1:04:00 PM

Project: Parcel 14-Garfield Heights

Lab ID: 24111046-003 **Matrix:** SOLID

Client Sample ID: Parcel 14-3

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METALS ANALYSIS (6010D)				**SW6010**	**SW3050B**	Analyst: **RJE**
Aluminum(Al)	38000	2520		mg/Kg-dry	100	11/19/2024 11:55:00 AM
Magnesium(Mg)	355000	20200		mg/Kg-dry	2000	11/20/2024 3:31:00 PM
Manganese(Mn)	6470	252		mg/Kg-dry	100	11/19/2024 11:55:00 AM
PERCENT MOISTURE BY SM2540MOD				**A2540B**		Analyst: **AAA**
Percent Moisture	17.4	0.100		%	1	11/16/2024 6:15:00 PM

Qualifiers:

E	Value above quantitation range
M	Manual Integration used to determine area response
PL	Permit Limit
RL	Reporting Detection Limit
H	Holding times for preparation or analysis exceeded
ND	Not Detected
R	RPD outside accepted recovery limits
W	Sample container temperature is out of limit as specified at testcode

Original

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **24111046**

21-Nov-24

Client: HZW Environmental
Project: Parcel 14-Garfield Heights **BatchID:** **80238**

Sample ID: **MB-80238** SampType: **MBLK** TestCode: **Mtl-ICP_S(60** Units: **mg/Kg** Prep Date: **11/15/2024** RunNo: **197202**
Client ID: **PBS** Batch ID: **80238** TestNo: **SW6010** **SW3050B** Analysis Date: **11/18/2024** SeqNo: **5333234**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum(Al)	ND	23.4									
Magnesium(Mg)	ND	9.35									
Manganese(Mn)	ND	2.34									

Sample ID: **LCS-80238** SampType: **LCS** TestCode: **Mtl-ICP_S(60** Units: **mg/Kg** Prep Date: **11/15/2024** RunNo: **197202**
Client ID: **LCSS** Batch ID: **80238** TestNo: **SW6010** **SW3050B** Analysis Date: **11/18/2024** SeqNo: **5333235**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum(Al)	192	24.5	196.1	0	98.0	80	120				
Magnesium(Mg)	197	9.80	196.1	0	101	80	120				
Manganese(Mn)	189	2.45	196.1	0	96.2	80	120				

Sample ID: **LCS-80238** SampType: **LCS** TestCode: **Mtl-ICP_S(60** Units: **mg/Kg** Prep Date: **11/15/2024** RunNo: **197202**
Client ID: **LCSS** Batch ID: **80238** TestNo: **SW6010** **SW3050B** Analysis Date: **11/18/2024** SeqNo: **5333236**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum(Al)	ND	245	196.1	0	101	80	120				
Magnesium(Mg)	205	98.0	196.1	0	104	80	120				
Manganese(Mn)	200	24.5	196.1	0	102	80	120				

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area respons
ND	Not Detected	PL	Permit Limit	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits	W	Sample container temperature is out of limit as spe

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Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **24111046**

21-Nov-24

Client: HZW Environmental
Project: Parcel 14-Garfield Heights **BatchID:** **80238**

Sample ID: **24111045-005AMS** SampType: **MS** TestCode: **Mtl-ICP_S(60** Units: **mg/Kg-dry** Prep Date: **11/15/2024** RunNo: **197202**
Client ID: **BatchQC** Batch ID: **80238** TestNo: **SW6010** **SW3050B** Analysis Date: **11/18/2024** SeqNo: **5333247**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum(Al)	7470	25.6	205.0	6283	581	75	125				ES
Magnesium(Mg)	4180	10.3	205.0	3838	165	75	125				ES
Manganese(Mn)	338	2.56	205.0	187.1	73.7	75	125				S

Sample ID: **24111045-005AMSD** SampType: **MSD** TestCode: **Mtl-ICP_S(60** Units: **mg/Kg-dry** Prep Date: **11/15/2024** RunNo: **197202**
Client ID: **BatchQC** Batch ID: **80238** TestNo: **SW6010** **SW3050B** Analysis Date: **11/18/2024** SeqNo: **5333248**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum(Al)	7170	25.2	201.5	6283	440	75	125	7473	4.14	20	ES
Magnesium(Mg)	3670	10.1	201.5	3838	-83.9	75	125	4177	13.0	20	ES
Manganese(Mn)	331	2.52	201.5	187.1	71.3	75	125	338.1	2.19	20	S

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area respons
ND	Not Detected	PL	Permit Limit	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits	W	Sample container temperature is out of limit as spe

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QC SUMMARY REPORT

WO#: **24111046**

21-Nov-24

Client: HZW Environmental
Project: Parcel 14-Garfield Heights **BatchID:** **R197076**

Sample ID: **MB-R197076** SampType: **MBLK** TestCode: **PctMoist_S(2** Units: **%** Prep Date: RunNo: **197076**
Client ID: **PBS** Batch ID: **R197076** TestNo: **A2540B** Analysis Date: **11/14/2024** SeqNo: **5330204**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	ND	0.200									

Sample ID: **24111030-003ADUP** SampType: **DUP** TestCode: **PctMoist_S(2** Units: **%** Prep Date: RunNo: **197076**
Client ID: **BatchQC** Batch ID: **R197076** TestNo: **A2540B** Analysis Date: **11/14/2024** SeqNo: **5330213**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	7.15	0.200						6.896	3.58	5	

Sample ID: **24111045-005ADUP** SampType: **DUP** TestCode: **PctMoist_S(2** Units: **%** Prep Date: RunNo: **197076**
Client ID: **BatchQC** Batch ID: **R197076** TestNo: **A2540B** Analysis Date: **11/14/2024** SeqNo: **5330223**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	15.7	0.200						14.43	8.43	5	R

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area respons
ND	Not Detected	PL	Permit Limit	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits	W	Sample container temperature is out of limit as spe

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QC SUMMARY REPORT

WO#: **24111046**

21-Nov-24

Client: HZW Environmental
Project: Parcel 14-Garfield Heights **BatchID:** **R197180**

Sample ID: **MB-R197180** SampType: **MBLK** TestCode: **PctMoist_S(2** Units: **%** Prep Date: RunNo: **197180**
Client ID: **PBS** Batch ID: **R197180** TestNo: **A2540B** Analysis Date: **11/16/2024** SeqNo: **5332781**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	ND	0.100									

Sample ID: **24111079-005ADUP** SampType: **DUP** TestCode: **PctMoist_S(2** Units: **%** Prep Date: RunNo: **197180**
Client ID: **BatchQC** Batch ID: **R197180** TestNo: **A2540B** Analysis Date: **11/16/2024** SeqNo: **5332790**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	11.8	0.100						11.52	2.01	5	

Sample ID: **24111079-014ADUP** SampType: **DUP** TestCode: **PctMoist_S(2** Units: **%** Prep Date: RunNo: **197180**
Client ID: **BatchQC** Batch ID: **R197180** TestNo: **A2540B** Analysis Date: **11/16/2024** SeqNo: **5332800**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	19.7	0.100						19.66	0.0354	5	

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area respons
ND	Not Detected	PL	Permit Limit	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits	W	Sample container temperature is out of limit as spe

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Qualifiers and Acronyms

WO#: **24111046**
Date: **11/21/2024**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

Qualifiers

U	The compound was analyzed for but was not detected.
J	The reported value is greater than the Method Detection Limit but less than the Reporting Limit.
H	The hold time for sample preparation and/or analysis was exceeded.
D	The result is reported from a dilution.
E	The result exceeded the linear range of the calibration or is estimated due to interference.
MC	The result is below the Minimum Compound Limit.
*****	The result exceeds the Regulatory Limit or Maximum Contamination Limit.
m	Manual integration was used to determine the area response.
d	Manual integration in which peak was deleted
N	The result is presumptive based on a Mass Spectral library search assuming a 1:1 response.
P	The second column confirmation exceeded 25% difference.
C	The result has been confirmed by GC/MS.
X	The result was not confirmed when GC/MS Analysis was performed.
B/MB+	The analyte was detected in the associated blank.
G	The ICB or CCB contained reportable amounts of analyte.
QC-/+	The CCV recovery failed low (-) or high (+).
R/QDR	The RPD was outside of accepted recovery limits.
QL-/+	The LCS or LCSD recovery failed low (-) or high (+).
QLR	The LCS/LCSD RPD was outside of accepted recovery limits.
QM-/+	The MS or MSD recovery failed low (-) or high (+).
QMR	The MS/MSD RPD was outside of accepted recovery limits.
QV-/+	The ICV recovery failed low (-) or high (+).
S	The spike result was outside of accepted recovery limits.
Z	Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information

Acronyms

ND	Not Detected	**RL**	Reporting Limit
QC	Quality Control	**MDL**	Method Detection Limit
MB	Method Blank	**LOD**	Level of Detection
LCS	Laboratory Control Sample	**LOQ**	Level of Quantitation
LCSD	Laboratory Control Sample Duplicate	**PQL**	Practical Quantitation Limit
QCS	Quality Control Sample	**CRQL**	Contract Required Quantitation Limit
DUP	Duplicate	**PL**	Permit Limit
MS	Matrix Spike	**RegLvl**	Regulatory Limit
MSD	Matrix Spike Duplicate	**MCL**	Maximum Contamination Limit
RPD	Relative Percent Different	**MinCL**	Minimum Compound Limit
ICV	Initial Calibration Verification	**RA**	Reanalysis
ICB	Initial Calibration Blank	**RE**	Reextraction
CCV	Continuing Calibration Verification	**TIC**	Tentatively Identified Compound
CCB	Continuing Calibration Blank	**RT**	Retention Time
RLC	Reporting Limit Check	**CF**	Calibration Factor
DF	Dilution Factor	**RF**	Response Factor

This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.

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Website: http://www.settek.com

DATES REPORT

WO#: **24111046**

21-Nov-24

Client: HZW Environmental

Project: Parcel 14-Garfield Heights

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
24111046-001A	Parcel 14-1	11/13/2024 1:00:00 PM	Solid	Metals Analysis (6010D)		11/15/2024 9:00:00 AM	11/20/2024 3:25:00 PM
				Metals Analysis (6010D)		11/15/2024 9:00:00 AM	11/19/2024 11:49:00 AM
				Metals Analysis (6010D)		11/15/2024 9:00:00 AM	11/18/2024 11:10:00 AM
				Percent Moisture by SM2540Mod			11/14/2024 6:10:00 PM
24111046-002A	Parcel 14-2	11/13/2024 1:02:00 PM		Metals Analysis (6010D)		11/15/2024 9:00:00 AM	11/20/2024 3:28:00 PM
				Metals Analysis (6010D)		11/15/2024 9:00:00 AM	11/19/2024 11:52:00 AM
				Metals Analysis (6010D)		11/15/2024 9:00:00 AM	11/18/2024 11:16:00 AM
				Percent Moisture by SM2540Mod			11/14/2024 6:10:00 PM
24111046-003A	Parcel 14-3	11/13/2024 1:04:00 PM		Metals Analysis (6010D)		11/15/2024 9:00:00 AM	11/20/2024 3:31:00 PM
				Metals Analysis (6010D)		11/15/2024 9:00:00 AM	11/19/2024 11:55:00 AM
				Metals Analysis (6010D)		11/15/2024 9:00:00 AM	11/18/2024 11:20:00 AM
				Percent Moisture by SM2540Mod			11/16/2024 6:15:00 PM

Original

DC-QACOC338 Rev. 4.4

Effective Date: 10/12/2023

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
3310 Win Street
Cuyahoga Falls, Ohio 44223
800-278-0140

Analysis Request / Chain of Custody

Refer to Terms and Conditions at www.settek.com

SET WO NO.: For Summit Environmental Technologies, Inc. use only 24110446

Client Name: HZW	Project Identification: Parcel 14- Garfield Heights
Client Street Address: 1234 Weathervane Ln	Project Street Address: Garfield Hts, OH 44125
City: Akron State: OH Zip: 44333	City: State: Zip:
Client Phone: (330) 208-2717	Report To: Kevin Reaman
Contact Person: Kevin Reaman	PO #: A240350 1 Quote Number:
Client Email Address: KreaMan@hzwenv.com	PWS ID: Facility ID:
Sampled By (Print Name and Provide Signature) Print: Sign: Jacob Wright	Reporting/Accreditation Requirements: ☐ Ohio VAP ☐ Ohio EPA Pb, Cu ☐ Drinking Water Compliance ☐ Other Compliance (List State/ Program):
For DW only, results to be reported to state by lab? If yes, lab fee may apply: ☐Y ☐N	

Analytical Parameters and Methods Requested

#	Sample Point ID	Sample Identification	Date Collected	Time Collected	Grab Sample	Composite Sample	Matrix: S = Solid, SL = Sludge, L = Liquid, O = Oil, A = Air, NPW = Non-Potable Water, DW = Drinking Water	Preservation: 1) HNO3; 2) H2SO4; 3) HCl; 4) Zinc Acetate; 5) NaOH; 6) EDA; 7) none; 8) other (specify in comments)	Number of Containers per Sample	Total Aluminum	Magnesium	Manganese	For DW Only: Special Compliance or Routine (S/R)
1		Parcel 14-1	11/13/24	13:00		X	S	7	1	X	X	X	
2		Parcel 14-2	11/13/24	13:02		X	S	7	1	X	X	X	
3		Parcel 14-3	11/13/24	13:04		X	S	7	1	X	X	X	

Relinquished by:	Date	Time	Received by:	Date	Time
Jacob Wright	11/14/24	8:18			

Notes / Comments:
Standard turn
Dry weight analysis

Sufficient volume provided to run QC? ☐YES ☐NO Cooler? ☐YES ☐NO

Received at Summit by:	Date	Time	Carrier
[illegible]	11/14/24	0820	Client

Rush Requested: _____Day(s)
Must be approved by Lab Manager

Received Temp.: 5.2 °C
Cooler Seals? ☐PRESENT ☐NOT PRESENT ☐N/A
Ice Present? ☐YES ☐NO ☐MELTED

5.3-0.1=

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Sample Log-In Check List

Client Name: HZW-OH-44313 Work Order Number: 24111046 RcptNo: 1

Logged by:	Christina N. Gemma	11/14/2024 8:20:00 AM	C. Gemma
Completed By:	Christina N. Gemma	11/14/2024 4:25:51 PM	C. Gemma
Reviewed By:	Holly Florea	11/15/2024 11:14:25 AM	Holly Florea

Chain of Custody

1.	Is Chain of Custody complete?	Yes	☑	No ☐	Not Present	☐
2.	How was the sample delivered?	Client				

Log In

3.	Coolers are present?	Yes	☑	No ☐	NA	☐
4.	Shipping container/cooler in good condition?	Yes	☑	No ☐		
	Custody seals intact on shipping container/cooler?	Yes	☐	No ☐	Not Present	☑
	No. Seal Date: Signed By:					
5.	Was an attempt made to cool the samples?	Yes	☑	No ☐	NA	☐
6.	Were all samples received at a temperature of >0° C to 6.0°C	Yes	☑	No ☐	NA	☐
7.	Sample(s) in proper container(s)?	Yes	☑	No ☐		
8.	Sufficient sample volume for indicated test(s)?	Yes	☑	No ☐		
9.	Are samples (except VOA and ONG) properly preserved?	Yes	☑	No ☐		
10.	Was preservative added to bottles?	Yes	☐	No ☑	NA	☐
11.	Is the headspace in the VOA vials less than 1/4 inch or 6 mm?	Yes	☐	No ☐	No VOA Vials	☑
12.	Were any sample containers received broken?	Yes	☐	No ☑		
13.	Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes	☑	No ☐		
14.	Are matrices correctly identified on Chain of Custody?	Yes	☑	No ☐		
15.	Is it clear what analyses were requested?	Yes	☑	No ☐		
16.	Were all holding times able to be met? (If no, notify customer for authorization.)	Yes	☑	No ☐		

Special Handling (if applicable)

17.	Was client notified of all discrepancies with this order?	Yes	☐	No ☐	NA	☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

18. Additional remarks:

Cooler Information

Cooler No	Temp ºC	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.2	Good	Not Present			

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December 12, 2024

Kevin Reaman
HZW Environmental
1234 Weathervane Lane
Akron, OH 44313
TEL: 330-208-2717
FAX: 330-208-2799

RE: Parcel 14-Garfield Heights

Order No.: 24120365

Dear Kevin Reaman:

Summit Environmental Technologies, Inc. received 3 sample(s) on 12/6/2024 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Holly Florea

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

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Case Narrative

WO#: **24120365**
Date: **12/12/2024**

CLIENT: HZW Environmental
Project: Parcel 14-Garfield Heights

WorkOrder Narrative:
This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

 The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

Analytical Sequence Sample Notes:
24120365-001, 002, 003 FlashPt_S(1010): Z = Method deviation, due to sample matrix could not stir to 250 RPM as required by the method.

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Workorder Sample Summary

WO#: **24120365**

12-Dec-24

CLIENT: HZW Environmental
Project: Parcel 14-Garfield Heights

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
24120365-001	Parcel 14-1		11/13/2024 1:00:00 PM	11/14/2024 8:20:00 AM	Solid
24120365-002	Parcel 14-2		11/13/2024 1:02:00 PM	11/14/2024 8:20:00 AM	Solid
24120365-003	Parcel 14-3		11/13/2024 1:04:00 PM	11/14/2024 8:20:00 AM	Solid

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Analytical Report

(consolidated)

WO#: **24120365**

Date Reported: **12/12/2024**

CLIENT: HZW Environmental **Collection Date:** 11/13/2024 1:00:00 PM

Project: Parcel 14-Garfield Heights

Lab ID: 24120365-001 **Matrix:** SOLID

Client Sample ID: Parcel 14-1

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
FLASHPOINT DETERMINATION (1010)				**SW1010**		Analyst: **TAH**
Flashpoint (140°F)	>140		Z	°F	1	12/11/2024 4:41:44 PM

NOTES:

Z = Method deviation, due to sample matrix could not stir to 250 RPM as required by the method.

Qualifiers:				
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	ND	Not Detected	PL	Permit Limit
	RL	Reporting Detection Limit	W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(consolidated)

WO#: **24120365**

Date Reported: **12/12/2024**

CLIENT: HZW Environmental **Collection Date:** 11/13/2024 1:02:00 PM

Project: Parcel 14-Garfield Heights

Lab ID: 24120365-002 **Matrix:** SOLID

Client Sample ID: Parcel 14-2

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
FLASHPOINT DETERMINATION (1010)				**SW1010**		Analyst: **TAH**
Flashpoint (140°F)	>140		Z	°F	1	12/11/2024 4:41:44 PM

NOTES:

Z = Method deviation, due to sample matrix could not stir to 250 RPM as required by the method.

Qualifiers:				
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	ND	Not Detected	PL	Permit Limit
	RL	Reporting Detection Limit	W	Sample container temperature is out of limit as specified at testcode

Original

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **24120365**

Date Reported: **12/12/2024**

CLIENT: HZW Environmental **Collection Date:** 11/13/2024 1:04:00 PM

Project: Parcel 14-Garfield Heights

Lab ID: 24120365-003 **Matrix:** SOLID

Client Sample ID: Parcel 14-3

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
FLASHPOINT DETERMINATION (1010)				**SW1010**		Analyst: **TAH**
Flashpoint (140°F)	>140		Z	°F	1	12/11/2024 4:41:44 PM

NOTES:

Z = Method deviation, due to sample matrix could not stir to 250 RPM as required by the method.

Qualifiers:				
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	ND	Not Detected	PL	Permit Limit
	RL	Reporting Detection Limit	W	Sample container temperature is out of limit as specified at testcode

Original

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QC SUMMARY REPORT

WO#: **24120365**

12-Dec-24

Client: HZW Environmental

Project: Parcel 14-Garfield Heights **BatchID:** **R198624**

Sample ID: **LCS-R198624** SampType: **LCS** TestCode: **FlashPt_S(10** Units: **°F** Prep Date: RunNo: **198624**

Client ID: **BatchQC** Batch ID: **R198624** TestNo: **SW1010** Analysis Date: **12/11/2024** SeqNo: **5370199**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Flashpoint (140°F)	140		140.0	0	100	99	103				Z

NOTES:
Z = Method deviation, due to instrument/matrix limitations, could not stir to 250 RPM as required by the methoD

Sample ID: **LCSD-R198624** SampType: **LCSD** TestCode: **FlashPt_S(10** Units: **°F** Prep Date: RunNo: **198624**

Client ID: **BatchQC** Batch ID: **R198624** TestNo: **SW1010** Analysis Date: **12/11/2024** SeqNo: **5370200**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Flashpoint (140°F)	142		140.0	0	101	99	103	140.1	1.35	20	Z

NOTES:
Z = Method deviation, due to instrument/matrix limitations, could not stir to 250 RPM as required by the methoD

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response	ND	Not Detected
PL	Permit Limit	RL	Reporting Detection Limit	W	Sample container temperature is out of limit as spec

Original

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Cuyahoga Falls, Ohio 4422
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Website: http://www.settek.co

Qualifiers and Acronyms

WO#: **24120365**
Date: **12/12/2024**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

Qualifiers

U	The compound was analyzed for but was not detected.
J	The reported value is greater than the Method Detection Limit but less than the Reporting Limit.
H	The hold time for sample preparation and/or analysis was exceeded.
D	The result is reported from a dilution.
E	The result exceeded the linear range of the calibration or is estimated due to interference.
MC	The result is below the Minimum Compound Limit.
*****	The result exceeds the Regulatory Limit or Maximum Contamination Limit.
m	Manual integration was used to determine the area response.
d	Manual integration in which peak was deleted
N	The result is presumptive based on a Mass Spectral library search assuming a 1:1 response.
P	The second column confirmation exceeded 25% difference.
C	The result has been confirmed by GC/MS.
X	The result was not confirmed when GC/MS Analysis was performed.
B/MB+	The analyte was detected in the associated blank.
G	The ICB or CCB contained reportable amounts of analyte.
QC-/+	The CCV recovery failed low (-) or high (+).
R/QDR	The RPD was outside of accepted recovery limits.
QL-/+	The LCS or LCSD recovery failed low (-) or high (+).
QLR	The LCS/LCSD RPD was outside of accepted recovery limits.
QM-/+	The MS or MSD recovery failed low (-) or high (+).
QMR	The MS/MSD RPD was outside of accepted recovery limits.
QV-/+	The ICV recovery failed low (-) or high (+).
S	The spike result was outside of accepted recovery limits.
Z	Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information

Acronyms

ND	Not Detected	**RL**	Reporting Limit
QC	Quality Control	**MDL**	Method Detection Limit
MB	Method Blank	**LOD**	Level of Detection
LCS	Laboratory Control Sample	**LOQ**	Level of Quantitation
LCSD	Laboratory Control Sample Duplicate	**PQL**	Practical Quantitation Limit
QCS	Quality Control Sample	**CRQL**	Contract Required Quantitation Limit
DUP	Duplicate	**PL**	Permit Limit
MS	Matrix Spike	**RegLvl**	Regulatory Limit
MSD	Matrix Spike Duplicate	**MCL**	Maximum Contamination Limit
RPD	Relative Percent Different	**MinCL**	Minimum Compound Limit
ICV	Initial Calibration Verification	**RA**	Reanalysis
ICB	Initial Calibration Blank	**RE**	Reextraction
CCV	Continuing Calibration Verification	**TIC**	Tentatively Identified Compound
CCB	Continuing Calibration Blank	**RT**	Retention Time
RLC	Reporting Limit Check	**CF**	Calibration Factor
DF	Dilution Factor	**RF**	Response Factor

This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.

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DATES REPORT

WO#: **24120365**

12-Dec-24

Client: HZW Environmental

Project: Parcel 14-Garfield Heights

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
24120365-001A	Parcel 14-1	11/13/2024 1:00:00 PM	Solid	Flashpoint Determination (1010)			12/11/2024 4:41:44 PM
24120365-002A	Parcel 14-2	11/13/2024 1:02:00 PM		Flashpoint Determination (1010)			12/11/2024 4:41:44 PM
24120365-003A	Parcel 14-3	11/13/2024 1:04:00 PM		Flashpoint Determination (1010)			12/11/2024 4:41:44 PM

Original

DC-QACOC338 Rev. 4.4

Effective Date: 10/12/2023

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
3310 Win Street
Cuyahoga Falls, Ohio 44223
800-278-0140

Analysis Request / Chain of Custody

Refer to Terms and Conditions at www.settek.com

SET WO NO.: For Summit Environmental Technologies, Inc. use only 24110460

Client Name: HZW	Project Identification: Parcel 14- Garfield Heights
Client Street Address: 1234 Weathervane Ln	Project Street Address: Garfield Hts, OH 44125
City: Akron State: OH Zip: 44333	City State Zip
Client Phone: (330) 208-2717	Report To: Kevin Reaman
Contact Person: Kevin Reaman	PO #: A2403501 Quote Number
Client Email Address: KreaMan@hzwenv.com	PWS ID Facility ID
Sampled By (Print Name and Provide Signature) Print: Jacob Wingert Sign:	Reporting/Accreditation Requirements: ☐ Ohio VAP ☐ Ohio EPA Pb, Cu ☐ Drinking Water Compliance ☐ Other Compliance (List State/ Program):
For DW only, results to be reported to state by lab? If yes, lab fee may apply: ☐Y ☐N	

Analytical Parameters and Methods Requested

#	Sample Point ID	Sample Identification	Date Collected	Time Collected	Grab Sample	Composite Sample	Matrix: S = Solid, SL = Sludge, L = Liquid, O = Oil, A = Air, NPW = Non-Potable Water, DW = Drinking Water	(Preservation: 1) HNO3; 2) H2SO4; 3) HCl; 4) Zinc Acetate; 5) NaOH; 6) EDA; 7) none; 8) other (specify in comments)	Number of Containers per Sample	Total Aluminum	Magnesium	Manganese	For DW Only: Special Compliance or Routine (S/R)
1		Parcel 14-1	11/13/24	13:00		X	S	7	1	X	X	X	
2		Parcel 14-2	11/13/24	13:02		X	S	7	1	X	X	X	
3		Parcel 14-3	11/13/24	13:04		X	S	7	1	X	X	X	

Relinquished by:	Date	Time	Received by:	Date	Time
Jacob Wingert	11/14/24	8:18			

Received at Summit by:	Date	Time	Carrier
[illegible]	11/14/24	0820	Client

Rush Requested: _____ Day(s) Must be approved by Lab Manager

Notes / Comments:
Standard turn
Dry weight analysis

Sufficient volume provided to run QC? ☐YES ☑NO Cooler? ☑YES ☐NO

Received Temp.: 5.2 °C

Cooler Seals? ☐PRESENT ☐NOT PRESENT ☐N/A

Ice Present? ☑YES ☐NO ☐MELTED

5.3-0.1=

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Website: http://www.settek.com

Sample Log-In Check List

Client Name: HZW-OH-44313 Work Order Number: 24120365 RcptNo: 1

Logged by:	Christina N. Gemma	12/6/2024	C. Gemma
Completed By:	Christina N. Gemma	12/6/2024 2:21:39 PM	C. Gemma
Reviewed By:	Holly Florea	12/6/2024 3:32:43 PM	Holly Florea

Chain of Custody

1.	Is Chain of Custody complete?	Yes	☑	No ☐	Not Present	☐
2.	How was the sample delivered?	Client				

Log In

3.	Coolers are present?	Yes	☑	No ☐	NA	☐
4.	Shipping container/cooler in good condition?	Yes	☑	No ☐		
	Custody seals intact on shipping container/cooler?	Yes	☐	No ☐	Not Present	☑
	No. Seal Date: Signed By:					
5.	Was an attempt made to cool the samples?	Yes	☑	No ☐	NA	☐
6.	Were all samples received at a temperature of >0° C to 6.0°C	Yes	☑	No ☐	NA	☐
7.	Sample(s) in proper container(s)?	Yes	☑	No ☐		
8.	Sufficient sample volume for indicated test(s)?	Yes	☑	No ☐		
9.	Are samples (except VOA and ONG) properly preserved?	Yes	☑	No ☐		
10.	Was preservative added to bottles?	Yes	☐	No ☑	NA	☐
11.	Is the headspace in the VOA vials less than 1/4 inch or 6 mm?	Yes	☐	No ☐	No VOA Vials	☑
12.	Were any sample containers received broken?	Yes	☐	No ☑		
13.	Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes	☑	No ☐		
14.	Are matrices correctly identified on Chain of Custody?	Yes	☑	No ☐		
15.	Is it clear what analyses were requested?	Yes	☑	No ☐		
16.	Were all holding times able to be met? (If no, notify customer for authorization.)	Yes	☑	No ☐		

Special Handling (if applicable)

17.	Was client notified of all discrepancies with this order?	Yes	☐	No ☐	NA	☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

18. Additional remarks:

Cooler Information

Cooler No	Temp ºC	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.2	Good	Not Present			

APPENDIX D

PARCEL 17 INVESTIGATION DOCUMENTATION

Summit Environmental Technologies, Inc.
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November 19, 2024

Kevin Reaman
HZW Environmental
1234 Weathervane Lane
Akron, OH 44313
TEL: 330-208-2717
FAX: 330-208-2799

RE: Parcel 17-Garfield Heights

Dear Kevin Reaman:

Order No.: 24111045

Summit Environmental Technologies, Inc. received 6 sample(s) on 11/14/2024 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Holly Florea

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

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Website: http://www.settek.com

Case Narrative

WO#: **24111045**
Date: **11/19/2024**

CLIENT: HZW Environmental
Project: Parcel 17-Garfield Heights

WorkOrder Narrative:
This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

The information contained in this analytical report is the sole property of Summit Environmental Technologies, Inc. and that of the customer. It cannot be reproduced in any form without the consent of Summit Environmental Technologies, Inc. or the customer for which this report was issued. The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

Analytical Sequence Sample Notes:
24111045-005A PctMoist_S(2540): Parent sample and DUP exhibited high RPD due to suspected sample inhomogeneity.

24111045-005A Mtl-ICP_S(6010D): Corresponding MS/MSD spike recoveries unable to be accurately resolved due to parent sample concentration. LCS demonstrates control.

Summit Environmental Technologies, Inc.
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Workorder Sample Summary

WO#: **24111045**

19-Nov-24

CLIENT: HZW Environmental
Project: Parcel 17-Garfield Heights

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
24111045-001	Parcel 17-1		11/13/2024 12:30:00 PM	11/14/2024 8:20:00 AM	Solid
24111045-002	Parcel 17-2		11/13/2024 12:32:00 PM	11/14/2024 8:20:00 AM	Solid
24111045-003	Parcel 17-3		11/13/2024 12:34:00 PM	11/14/2024 8:20:00 AM	Solid
24111045-004	Parcel 17-4		11/13/2024 12:36:00 PM	11/14/2024 8:20:00 AM	Solid
24111045-005	Parcel 17-5		11/13/2024 12:38:00 PM	11/14/2024 8:20:00 AM	Solid
24111045-006	Parcel 17-6		11/13/2024 12:40:00 PM	11/14/2024 8:20:00 AM	Solid

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Analytical Report

(consolidated)

WO#: **24111045**

Date Reported: **11/19/2024**

CLIENT: HZW Environmental **Collection Date:** 11/13/2024 12:30:00 PM

Project: Parcel 17-Garfield Heights

Lab ID: 24111045-001 **Matrix:** SOLID

Client Sample ID: Parcel 17-1

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METALS ANALYSIS (6010D)				**SW6010**	**SW3050B**	Analyst: **RJE**
Aluminum(Al)	13200	2540		mg/Kg-dry	100	11/19/2024 11:15:00 AM
Magnesium(Mg)	11000	1020		mg/Kg-dry	100	11/19/2024 11:15:00 AM
Manganese(Mn)	234	2.54		mg/Kg-dry	1	11/18/2024 10:32:00 AM
PERCENT MOISTURE BY SM2540MOD				**A2540B**		Analyst: **JPN**
Percent Moisture	4.43	0.200		%	1	11/14/2024 6:10:00 PM

Qualifiers:

E	Value above quantitation range
M	Manual Integration used to determine area response
PL	Permit Limit
RL	Reporting Detection Limit
H	Holding times for preparation or analysis exceeded
ND	Not Detected
R	RPD outside accepted recovery limits
W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(consolidated)

WO#: **24111045**

Date Reported: **11/19/2024**

CLIENT: HZW Environmental **Collection Date:** 11/13/2024 12:32:00 PM

Project: Parcel 17-Garfield Heights

Lab ID: 24111045-002 **Matrix:** SOLID

Client Sample ID: Parcel 17-2

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METALS ANALYSIS (6010D)				**SW6010**	**SW3050B**	Analyst: **RJE**
Aluminum(Al)	8640	2470		mg/Kg-dry	100	11/19/2024 11:25:00 AM
Magnesium(Mg)	6780	989		mg/Kg-dry	100	11/19/2024 11:25:00 AM
Manganese(Mn)	168	2.47		mg/Kg-dry	1	11/18/2024 10:35:00 AM
PERCENT MOISTURE BY SM2540MOD				**A2540B**		Analyst: **JPN**
Percent Moisture	11.3	0.200		%	1	11/14/2024 6:10:00 PM

Qualifiers:

E	Value above quantitation range
M	Manual Integration used to determine area response
PL	Permit Limit
RL	Reporting Detection Limit
H	Holding times for preparation or analysis exceeded
ND	Not Detected
R	RPD outside accepted recovery limits
W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(consolidated)

WO#: **24111045**

Date Reported: **11/19/2024**

CLIENT: HZW Environmental **Collection Date:** 11/13/2024 12:34:00 PM

Project: Parcel 17-Garfield Heights

Lab ID: 24111045-003 **Matrix:** SOLID

Client Sample ID: Parcel 17-3

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METALS ANALYSIS (6010D)				**SW6010**	**SW3050B**	Analyst: **RJE**
Aluminum(Al)	13300	494		mg/Kg-dry	20	11/19/2024 11:32:00 AM
Magnesium(Mg)	20300	988		mg/Kg-dry	100	11/19/2024 11:28:00 AM
Manganese(Mn)	850	49.4		mg/Kg-dry	20	11/19/2024 11:32:00 AM
PERCENT MOISTURE BY SM2540MOD				**A2540B**		Analyst: **JPN**
Percent Moisture	2.70	0.200		%	1	11/14/2024 6:10:00 PM

Qualifiers:

E	Value above quantitation range
M	Manual Integration used to determine area response
PL	Permit Limit
RL	Reporting Detection Limit
H	Holding times for preparation or analysis exceeded
ND	Not Detected
R	RPD outside accepted recovery limits
W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(consolidated)

WO#: **24111045**

Date Reported: **11/19/2024**

CLIENT: HZW Environmental **Collection Date:** 11/13/2024 12:36:00 PM

Project: Parcel 17-Garfield Heights

Lab ID: 24111045-004 **Matrix:** SOLID

Client Sample ID: Parcel 17-4

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METALS ANALYSIS (6010D)				**SW6010**	**SW3050B**	Analyst: **RJE**
Aluminum(Al)	17000	447		mg/Kg-dry	20	11/19/2024 11:39:00 AM
Magnesium(Mg)	15300	894		mg/Kg-dry	100	11/19/2024 11:35:00 AM
Manganese(Mn)	1120	44.7		mg/Kg-dry	20	11/19/2024 11:39:00 AM
PERCENT MOISTURE BY SM2540MOD				**A2540B**		Analyst: **JPN**
Percent Moisture	1.90	0.200		%	1	11/14/2024 6:10:00 PM

Qualifiers:

E	Value above quantitation range
M	Manual Integration used to determine area response
PL	Permit Limit
RL	Reporting Detection Limit
H	Holding times for preparation or analysis exceeded
ND	Not Detected
R	RPD outside accepted recovery limits
W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(consolidated)

WO#: **24111045**

Date Reported: **11/19/2024**

CLIENT: HZW Environmental **Collection Date:** 11/13/2024 12:38:00 PM

Project: Parcel 17-Garfield Heights

Lab ID: 24111045-005 **Matrix:** SOLID

Client Sample ID: Parcel 17-5

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METALS ANALYSIS (6010D)				**SW6010**	**SW3050B**	Analyst: **RJE**
Aluminum(Al)	8750	2480		mg/Kg-dry	100	11/19/2024 11:42:00 AM
Magnesium(Mg)	8030	990		mg/Kg-dry	100	11/19/2024 11:42:00 AM
Manganese(Mn)	187	2.48	QM-	mg/Kg-dry	1	11/18/2024 10:45:00 AM
PERCENT MOISTURE BY SM2540MOD				**A2540B**		Analyst: **JPN**
Percent Moisture	14.4	0.200	QDR	%	1	11/14/2024 6:10:00 PM

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
M	Manual Integration used to determine area response	ND	Not Detected
PL	Permit Limit	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(consolidated)

WO#: **24111045**

Date Reported: **11/19/2024**

CLIENT: HZW Environmental **Collection Date:** 11/13/2024 12:40:00 PM

Project: Parcel 17-Garfield Heights

Lab ID: 24111045-006 **Matrix:** SOLID

Client Sample ID: Parcel 17-6

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
METALS ANALYSIS (6010D)				**SW6010**	**SW3050B**	Analyst: **RJE**
Aluminum(Al)	11600	2500		mg/Kg-dry	100	11/19/2024 11:45:00 AM
Magnesium(Mg)	13600	1000		mg/Kg-dry	100	11/19/2024 11:45:00 AM
Manganese(Mn)	357	2.50		mg/Kg-dry	1	11/18/2024 10:55:00 AM
PERCENT MOISTURE BY SM2540MOD				**A2540B**		Analyst: **JPN**
Percent Moisture	1.09	0.200		%	1	11/14/2024 6:10:00 PM

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
M	Manual Integration used to determine area response	ND	Not Detected
PL	Permit Limit	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	W	Sample container temperature is out of limit as specified at testcode

Original

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

Summit Environmental Technologies, Inc.
3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **24111045**

19-Nov-24

Client: HZW Environmental
Project: Parcel 17-Garfield Heights **BatchID:** **80238**

Sample ID: **MB-80238**	SampType: **MBLK**	TestCode: **Mtl-ICP_S(60**	Units: **mg/Kg**	Prep Date: **11/15/2024**	RunNo: **197202**
Client ID: **PBS**	Batch ID: **80238**	TestNo: **SW6010**	**SW3050B**	Analysis Date: **11/18/2024**	SeqNo: **5333234**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum(Al)	ND	23.4									
Magnesium(Mg)	ND	9.35									
Manganese(Mn)	ND	2.34									

Sample ID: **LCS-80238**	SampType: **LCS**	TestCode: **Mtl-ICP_S(60**	Units: **mg/Kg**	Prep Date: **11/15/2024**	RunNo: **197202**
Client ID: **LCSS**	Batch ID: **80238**	TestNo: **SW6010**	**SW3050B**	Analysis Date: **11/18/2024**	SeqNo: **5333235**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum(Al)	192	24.5	196.1	0	98.0	80	120				
Magnesium(Mg)	197	9.80	196.1	0	101	80	120				
Manganese(Mn)	189	2.45	196.1	0	96.2	80	120				

Sample ID: **LCS-80238**	SampType: **LCS**	TestCode: **Mtl-ICP_S(60**	Units: **mg/Kg**	Prep Date: **11/15/2024**	RunNo: **197202**
Client ID: **LCSS**	Batch ID: **80238**	TestNo: **SW6010**	**SW3050B**	Analysis Date: **11/18/2024**	SeqNo: **5333236**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum(Al)	ND	245	196.1	0	101	80	120				
Magnesium(Mg)	205	98.0	196.1	0	104	80	120				
Manganese(Mn)	200	24.5	196.1	0	102	80	120				

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area respons
ND	Not Detected	PL	Permit Limit	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits	W	Sample container temperature is out of limit as spe

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Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **24111045**

19-Nov-24

Client: HZW Environmental
Project: Parcel 17-Garfield Heights **BatchID:** **80238**

Sample ID: **24111045-005AMS** SampType: **MS** TestCode: **Mtl-ICP_S(60** Units: **mg/Kg-dry** Prep Date: **11/15/2024** RunNo: **197202**
Client ID: **Parcel 17-5** Batch ID: **80238** TestNo: **SW6010** **SW3050B** Analysis Date: **11/18/2024** SeqNo: **5333247**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum(Al)	7470	25.6	205.0	6283	581	75	125				ES
Magnesium(Mg)	4180	10.3	205.0	3838	165	75	125				ES
Manganese(Mn)	338	2.56	205.0	187.1	73.7	75	125				S

Sample ID: **24111045-005AMSD** SampType: **MSD** TestCode: **Mtl-ICP_S(60** Units: **mg/Kg-dry** Prep Date: **11/15/2024** RunNo: **197202**
Client ID: **Parcel 17-5** Batch ID: **80238** TestNo: **SW6010** **SW3050B** Analysis Date: **11/18/2024** SeqNo: **5333248**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aluminum(Al)	7170	25.2	201.5	6283	440	75	125	7473	4.14	20	ES
Magnesium(Mg)	3670	10.1	201.5	3838	-83.9	75	125	4177	13.0	20	ES
Manganese(Mn)	331	2.52	201.5	187.1	71.3	75	125	338.1	2.19	20	S

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area respons
ND	Not Detected	PL	Permit Limit	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits	W	Sample container temperature is out of limit as spe

Original

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QC SUMMARY REPORT

WO#: **24111045**

19-Nov-24

Client: HZW Environmental
Project: Parcel 17-Garfield Heights **BatchID:** **R197076**

Sample ID: **MB-R197076** SampType: **MBLK** TestCode: **PctMoist_S(2** Units: **%** Prep Date: RunNo: **197076**
Client ID: **PBS** Batch ID: **R197076** TestNo: **A2540B** Analysis Date: **11/14/2024** SeqNo: **5330204**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	ND	0.200									

Sample ID: **24111030-003ADUP** SampType: **DUP** TestCode: **PctMoist_S(2** Units: **%** Prep Date: RunNo: **197076**
Client ID: **BatchQC** Batch ID: **R197076** TestNo: **A2540B** Analysis Date: **11/14/2024** SeqNo: **5330213**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	7.15	0.200						6.896	3.58	5	

Sample ID: **24111045-005ADUP** SampType: **DUP** TestCode: **PctMoist_S(2** Units: **%** Prep Date: RunNo: **197076**
Client ID: **Parcel 17-5** Batch ID: **R197076** TestNo: **A2540B** Analysis Date: **11/14/2024** SeqNo: **5330223**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Percent Moisture	15.7	0.200						14.43	8.43	5	R

Qualifiers:

E	Value above quantitation range	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area respons
ND	Not Detected	PL	Permit Limit	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits	W	Sample container temperature is out of limit as spe

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Qualifiers and Acronyms

WO#: **24111045**
Date: **11/19/2024**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

Qualifiers

U	The compound was analyzed for but was not detected.
J	The reported value is greater than the Method Detection Limit but less than the Reporting Limit.
H	The hold time for sample preparation and/or analysis was exceeded.
D	The result is reported from a dilution.
E	The result exceeded the linear range of the calibration or is estimated due to interference.
MC	The result is below the Minimum Compound Limit.
*****	The result exceeds the Regulatory Limit or Maximum Contamination Limit.
m	Manual integration was used to determine the area response.
d	Manual integration in which peak was deleted
N	The result is presumptive based on a Mass Spectral library search assuming a 1:1 response.
P	The second column confirmation exceeded 25% difference.
C	The result has been confirmed by GC/MS.
X	The result was not confirmed when GC/MS Analysis was performed.
B/MB+	The analyte was detected in the associated blank.
G	The ICB or CCB contained reportable amounts of analyte.
QC-/+	The CCV recovery failed low (-) or high (+).
R/QDR	The RPD was outside of accepted recovery limits.
QL-/+	The LCS or LCSD recovery failed low (-) or high (+).
QLR	The LCS/LCSD RPD was outside of accepted recovery limits.
QM-/+	The MS or MSD recovery failed low (-) or high (+).
QMR	The MS/MSD RPD was outside of accepted recovery limits.
QV-/+	The ICV recovery failed low (-) or high (+).
S	The spike result was outside of accepted recovery limits.
Z	Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information

Acronyms

ND	Not Detected	**RL**	Reporting Limit
QC	Quality Control	**MDL**	Method Detection Limit
MB	Method Blank	**LOD**	Level of Detection
LCS	Laboratory Control Sample	**LOQ**	Level of Quantitation
LCSD	Laboratory Control Sample Duplicate	**PQL**	Practical Quantitation Limit
QCS	Quality Control Sample	**CRQL**	Contract Required Quantitation Limit
DUP	Duplicate	**PL**	Permit Limit
MS	Matrix Spike	**RegLvl**	Regulatory Limit
MSD	Matrix Spike Duplicate	**MCL**	Maximum Contamination Limit
RPD	Relative Percent Different	**MinCL**	Minimum Compound Limit
ICV	Initial Calibration Verification	**RA**	Reanalysis
ICB	Initial Calibration Blank	**RE**	Reextraction
CCV	Continuing Calibration Verification	**TIC**	Tentatively Identified Compound
CCB	Continuing Calibration Blank	**RT**	Retention Time
RLC	Reporting Limit Check	**CF**	Calibration Factor
DF	Dilution Factor	**RF**	Response Factor

This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.

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DATES REPORT

WO#: **24111045**

19-Nov-24

Client: HZW Environmental

Project: Parcel 17-Garfield Heights

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
24111045-001A	Parcel 17-1	11/13/2024 12:30:00 PM	Solid	Metals Analysis (6010D)		11/15/2024 9:00:00 AM	11/19/2024 11:15:00 AM
				Metals Analysis (6010D)		11/15/2024 9:00:00 AM	11/18/2024 10:32:00 AM
				Percent Moisture by SM2540Mod			11/14/2024 6:10:00 PM
24111045-002A	Parcel 17-2	11/13/2024 12:32:00 PM		Metals Analysis (6010D)		11/15/2024 9:00:00 AM	11/18/2024 10:35:00 AM
				Metals Analysis (6010D)		11/15/2024 9:00:00 AM	11/19/2024 11:25:00 AM
				Percent Moisture by SM2540Mod			11/14/2024 6:10:00 PM
24111045-003A	Parcel 17-3	11/13/2024 12:34:00 PM		Metals Analysis (6010D)		11/15/2024 9:00:00 AM	11/19/2024 11:32:00 AM
				Metals Analysis (6010D)		11/15/2024 9:00:00 AM	11/18/2024 10:38:00 AM
				Metals Analysis (6010D)		11/15/2024 9:00:00 AM	11/19/2024 11:28:00 AM
				Percent Moisture by SM2540Mod			11/14/2024 6:10:00 PM
24111045-004A	Parcel 17-4	11/13/2024 12:36:00 PM		Metals Analysis (6010D)		11/15/2024 9:00:00 AM	11/19/2024 11:35:00 AM
				Metals Analysis (6010D)		11/15/2024 9:00:00 AM	11/19/2024 11:39:00 AM
				Metals Analysis (6010D)		11/15/2024 9:00:00 AM	11/18/2024 10:42:00 AM
				Percent Moisture by SM2540Mod			11/14/2024 6:10:00 PM
24111045-005A	Parcel 17-5	11/13/2024 12:38:00 PM		Metals Analysis (6010D)		11/15/2024 9:00:00 AM	11/18/2024 10:45:00 AM
				Metals Analysis (6010D)		11/15/2024 9:00:00 AM	11/19/2024 11:42:00 AM
				Percent Moisture by SM2540Mod			11/14/2024 6:10:00 PM
24111045-006A	Parcel 17-6	11/13/2024 12:40:00 PM		Metals Analysis (6010D)		11/15/2024 9:00:00 AM	11/18/2024 10:55:00 AM
				Metals Analysis (6010D)		11/15/2024 9:00:00 AM	11/19/2024 11:45:00 AM
				Percent Moisture by SM2540Mod			11/14/2024 6:10:00 PM

Original

Rev. 4.4

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
3310 Win Street
Cuyahoga Falls, Ohio 44223
800-278-0140

Analysis Request / Chain of Custody

Refer to Terms and Conditions at www.settek.com

Effective Date: 10/12/2023

SET WO NO.: For Summit Environmental Technologies, Inc. use only 2411045

Client Name: HZW	Project Identification: Parcel 17- Garfield Heights
Client Street Address: 1234 Weathervane Ln	Project Street Address: Garfield Hts, OH 44125
City: Akron State: OH Zip: 44313	City State Zip
Client Phone: (330) 208-2717	Report To: Kevin Reaman
Contact Person: Kevin Reaman	PO #: A2403501 Quote Number
Client Email Address: KReaman@hzwenv.com	PWS ID Facility ID
Sampled By (Print Name and Provide Signature) Print: Jacob Wyatt Sign:	Reporting/Accreditation Requirements: ☐ Ohio VAP ☐ Ohio EPA Pb, Cu ☐ Drinking Water Compliance ☐ Other Compliance (List State/ Program):
For DW only, results to be reported to state by lab? If yes, lab fee may apply: ☐Y ☐N	

Analytical Parameters and Methods Requested

#	Sample Point ID	Sample Identification	Date Collected	Time Collected	Grab Sample	Composite Sample	Matrix: S = Solid, SL = Sludge, L = Liquid, O = Oil, A = Air, NPW = Non-Potable Water, DW = Drinking Water	Preservation: 1) HNO3; 2) H2SO4; 3) HCl; 4) Zinc Acetate; 5) NaOH; 6) EDA; 7) none; 8) other (specify in comments)	Number of Containers per Sample	Total aluminum	Magnesium	Manganese	For DW Only: Special Compliance or Routine (S/R)
1		Parcel 17 - 1	11/13/24	12:30		X	S	7	1	X	X	X	
2		Parcel 17 - 2		12:32		X	S	7	1	X	X	X	
3		Parcel 17 - 3		12:34		X	S	7	1	X	X	X	
4		Parcel 17 -4		12:36		X	S	7	1	X	X	X	
5		Parcel 17 -5		12:38		X	S	7	1	X	X	X	
6		Parcel 17 -6		12:40		X	S	7	1	X	X	X	

Relinquished by:	Date	Time	Received by:	Date	Time
	11/14/24	8:18			
Received at Summit by:	**Date**	**Time**	**Carrier**	**Rush Requested: _____Day(s) Must be approved by Lab Manager**	
	11/14/24	0820	Client		

Notes / Comments: Standard turn
Dry weight analysis

Sufficient volume provided to run QC? ☐YES ☐NO Cooler? ☐YES ☐NO

Received Temp.: 5.2 °C

Cooler Seals? ☐PRESENT ☐NOT PRESENT ☐N/A

Ice Present? ☐YES ☐NO ☐MELTED

5-3-0.1=

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Website: http://www.settek.com

Sample Log-In Check List

Client Name: HZW-OH-44313 Work Order Number: 24111045 RcptNo: 1

Logged by:	Christina N. Gemma	11/14/2024 8:20:00 AM	C. Gemma
Completed By:	Christina N. Gemma	11/14/2024 4:07:05 PM	C. Gemma
Reviewed By:	Holly Florea	11/15/2024 10:57:33 AM	Holly Florea

Chain of Custody

1.	Is Chain of Custody complete?	Yes	☑	No ☐	Not Present	☐
2.	How was the sample delivered?	Client				

Log In

3.	Coolers are present?	Yes	☑	No ☐	NA	☐
4.	Shipping container/cooler in good condition?	Yes	☑	No ☐		
	Custody seals intact on shipping container/cooler?	Yes	☐	No ☐	Not Present	☑
	No. Seal Date: Signed By:					
5.	Was an attempt made to cool the samples?	Yes	☑	No ☐	NA	☐
6.	Were all samples received at a temperature of >0° C to 6.0°C	Yes	☑	No ☐	NA	☐
7.	Sample(s) in proper container(s)?	Yes	☑	No ☐		
8.	Sufficient sample volume for indicated test(s)?	Yes	☑	No ☐		
9.	Are samples (except VOA and ONG) properly preserved?	Yes	☑	No ☐		
10.	Was preservative added to bottles?	Yes	☐	No ☑	NA	☐
11.	Is the headspace in the VOA vials less than 1/4 inch or 6 mm?	Yes	☐	No ☐	No VOA Vials	☑
12.	Were any sample containers received broken?	Yes	☐	No ☑		
13.	Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes	☑	No ☐		
14.	Are matrices correctly identified on Chain of Custody?	Yes	☑	No ☐		
15.	Is it clear what analyses were requested?	Yes	☑	No ☐		
16.	Were all holding times able to be met? (If no, notify customer for authorization.)	Yes	☑	No ☐		

Special Handling (if applicable)

17.	Was client notified of all discrepancies with this order?	Yes	☐	No ☐	NA	☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

18. Additional remarks:

Cooler Information

Cooler No	Temp ºC	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.2	Good	Not Present			

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December 12, 2024

Kevin Reaman
HZW Environmental
1234 Weathervane Lane
Akron, OH 44313
TEL: 330-208-2717
FAX: 330-208-2799

RE: Parcel 17-Garfield Heights

Dear Kevin Reaman:

Order No.: 24120367

Summit Environmental Technologies, Inc. received 6 sample(s) on 12/6/2024 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative.

Quality control data is within laboratory defined or method specified acceptance limits except where noted.

If you have any questions regarding these tests results, please feel free to call the laboratory.

Sincerely,

Holly Florea

Project Manager

3310 Win St.
Cuyahoga Falls, Ohio 44223

Arkansas 88-0735, California 2943, Colorado, Connecticut PH-0108, Florida NELAC E87688, Idaho OH00923, Illinois 200061, Indiana C-OH-13, ISO/IEC 17025:2017 119125 L22-544, Kansas E-10347, Kentucky (Underground Storage Tank) 3, Kentucky 90146, Maryland 339, Michigan 9988, Minnesota 1780279, Nevada OH009232020-1, New Hampshire 2996, New Jersey OH006, New York 11777, North Carolina 39705 and 631, North Dakota R-201, Ohio DW, Ohio VAP CL0052, Oklahoma 2019-155, Oregon OH200001, Pennsylvania 68-01335, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

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Case Narrative

WO#: **24120367**
Date: **12/12/2024**

CLIENT: HZW Environmental
Project: Parcel 17-Garfield Heights

WorkOrder Narrative:
This report in its entirety consists of the following documents: Cover Letter, Case Narrative, Analytical Results, QC Summary Report, Applicable Accreditation Information, Chain-of-Custody, Cooler Receipt Form, and other applicable forms as necessary. All documents contain the Summit Environmental Technologies, Inc., Work Order Number assigned to this report.

Summit Environmental Technologies, Inc., holds the accreditations/certifications listed at the bottom of the cover letter that may or may not pertain to this report. Please refer to the "Accreditation Program Analytes Report" for accredited analytes list.

 The results contained in this report are only representative of the samples received. Conditions can vary at different times and at different sampling conditions. Summit Environmental Technologies, Inc. is not responsible for use or interpretation of the data included herein.

All results for Solid Samples are reported on an "as received" or "wet weight" basis unless indicated as "dry weight" using the "-dry" designation on the reporting units.

This report is believed to meet all of the requirements of the accrediting agency, where applicable. Any comments or problems with the analytical events associated with this report are noted below.

Analytical Sequence Sample Notes:
24120367-001 through 006 FlashPt_S(1010): Z = Method deviation, due to sample matrix could not stir to 250 RPM as required by the method.

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Workorder Sample Summary

WO#: **24120367**

12-Dec-24

CLIENT: HZW Environmental
Project: Parcel 17-Garfield Heights

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
24120367-001	Parcel 17-1		11/13/2024 12:30:00 PM	11/14/2024 8:20:00 AM	Solid
24120367-002	Parcel 17-2		11/13/2024 12:32:00 PM	11/14/2024 8:20:00 AM	Solid
24120367-003	Parcel 17-3		11/13/2024 12:34:00 PM	11/14/2024 8:20:00 AM	Solid
24120367-004	Parcel 17-4		11/13/2024 12:36:00 PM	11/14/2024 8:20:00 AM	Solid
24120367-005	Parcel 17-5		11/13/2024 12:38:00 PM	11/14/2024 8:20:00 AM	Solid
24120367-006	Parcel 17-6		11/13/2024 12:40:00 PM	11/14/2024 8:20:00 AM	Solid

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Analytical Report

(consolidated)

WO#: **24120367**

Date Reported: **12/12/2024**

CLIENT: HZW Environmental **Collection Date:** 11/13/2024 12:30:00 PM

Project: Parcel 17-Garfield Heights

Lab ID: 24120367-001 **Matrix:** SOLID

Client Sample ID: Parcel 17-1

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
FLASHPOINT DETERMINATION (1010)				**SW1010**		Analyst: **TAH**
Flashpoint (140°F)	>140		Z	°F	1	12/11/2024 4:41:44 PM

NOTES:

Z = Method deviation, due to sample matrix could not stir to 250 RPM as required by the method.

Qualifiers:				
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	ND	Not Detected	PL	Permit Limit
	RL	Reporting Detection Limit	W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Report

(consolidated)

WO#: **24120367**

Date Reported: **12/12/2024**

CLIENT: HZW Environmental **Collection Date:** 11/13/2024 12:32:00 PM

Project: Parcel 17-Garfield Heights

Lab ID: 24120367-002 **Matrix:** SOLID

Client Sample ID: Parcel 17-2

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
FLASHPOINT DETERMINATION (1010)				**SW1010**		Analyst: **TAH**
Flashpoint (140°F)	>140		Z	°F	1	12/11/2024 4:41:44 PM

NOTES:

Z = Method deviation, due to sample matrix could not stir to 250 RPM as required by the method.

Qualifiers:				
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	ND	Not Detected	PL	Permit Limit
	RL	Reporting Detection Limit	W	Sample container temperature is out of limit as specified at testcode

Original

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Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **24120367**

Date Reported: **12/12/2024**

CLIENT: HZW Environmental **Collection Date:** 11/13/2024 12:34:00 PM

Project: Parcel 17-Garfield Heights

Lab ID: 24120367-003 **Matrix:** SOLID

Client Sample ID: Parcel 17-3

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
FLASHPOINT DETERMINATION (1010)				**SW1010**		Analyst: **TAH**
Flashpoint (140°F)	>140		Z	°F	1	12/11/2024 4:41:44 PM

NOTES:

Z = Method deviation, due to sample matrix could not stir to 250 RPM as required by the method.

Qualifiers:				
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	ND	Not Detected	PL	Permit Limit
	RL	Reporting Detection Limit	W	Sample container temperature is out of limit as specified at testcode

Original

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

Summit Environmental Technologies, Inc.
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Cuyahoga Falls, Ohio 44223
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Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **24120367**

Date Reported: **12/12/2024**

CLIENT: HZW Environmental **Collection Date:** 11/13/2024 12:36:00 PM

Project: Parcel 17-Garfield Heights

Lab ID: 24120367-004 **Matrix:** SOLID

Client Sample ID: Parcel 17-4

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
FLASHPOINT DETERMINATION (1010)				**SW1010**		Analyst: **TAH**
Flashpoint (140°F)	>140		Z	°F	1	12/11/2024 4:41:44 PM

NOTES:

Z = Method deviation, due to sample matrix could not stir to 250 RPM as required by the method.

Qualifiers:				
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	ND	Not Detected	PL	Permit Limit
	RL	Reporting Detection Limit	W	Sample container temperature is out of limit as specified at testcode

Original

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Analytical Laboratories

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Cuyahoga Falls, Ohio 44223
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Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **24120367**

Date Reported: **12/12/2024**

CLIENT: HZW Environmental **Collection Date:** 11/13/2024 12:38:00 PM

Project: Parcel 17-Garfield Heights

Lab ID: 24120367-005 **Matrix:** SOLID

Client Sample ID: Parcel 17-5

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
FLASHPOINT DETERMINATION (1010)				**SW1010**		Analyst: **TAH**
Flashpoint (140°F)	>140		Z	°F	1	12/11/2024 4:41:44 PM

NOTES:

Z = Method deviation, due to sample matrix could not stir to 250 RPM as required by the method.

Qualifiers:				
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	ND	Not Detected	PL	Permit Limit
	RL	Reporting Detection Limit	W	Sample container temperature is out of limit as specified at testcode

Original

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

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Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Analytical Report

(consolidated)

WO#: **24120367**

Date Reported: **12/12/2024**

CLIENT: HZW Environmental **Collection Date:** 11/13/2024 12:40:00 PM

Project: Parcel 17-Garfield Heights

Lab ID: 24120367-006 **Matrix:** SOLID

Client Sample ID: Parcel 17-6

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
FLASHPOINT DETERMINATION (1010)				**SW1010**		Analyst: **TAH**
Flashpoint (140°F)	>140		Z	°F	1	12/11/2024 4:41:44 PM

NOTES:

Z = Method deviation, due to sample matrix could not stir to 250 RPM as required by the method.

Qualifiers:				
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	ND	Not Detected	PL	Permit Limit
	RL	Reporting Detection Limit	W	Sample container temperature is out of limit as specified at testcode

Original

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

Summit Environmental Technologies, Inc.
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Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

QC SUMMARY REPORT

WO#: **24120367**

12-Dec-24

Client: HZW Environmental

Project: Parcel 17-Garfield Heights **BatchID:** **R198624**

Sample ID: **LCS-R198624** SampType: **LCS** TestCode: **FlashPt_S(10** Units: **°F** Prep Date: RunNo: **198624**

Client ID: **BatchQC** Batch ID: **R198624** TestNo: **SW1010** Analysis Date: **12/11/2024** SeqNo: **5370199**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Flashpoint (140°F)	140		140.0	0	100	99	103				Z

NOTES:
Z = Method deviation, due to instrument/matrix limitations, could not stir to 250 RPM as required by the methoD

Sample ID: **LCSD-R198624** SampType: **LCSD** TestCode: **FlashPt_S(10** Units: **°F** Prep Date: RunNo: **198624**

Client ID: **BatchQC** Batch ID: **R198624** TestNo: **SW1010** Analysis Date: **12/11/2024** SeqNo: **5370200**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Flashpoint (140°F)	142		140.0	0	101	99	103	140.1	1.35	20	Z

NOTES:
Z = Method deviation, due to instrument/matrix limitations, could not stir to 250 RPM as required by the methoD

Qualifiers:

H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response	ND	Not Detected
PL	Permit Limit	RL	Reporting Detection Limit	W	Sample container temperature is out of limit as spec

Original

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC
Analytical Laboratories

Summit Environmental Technologies, In
3310 Win S
Cuyahoga Falls, Ohio 4422
TEL: (330) 253-8211 FAX: (330) 253-448
Website: http://www.settek.co

Qualifiers and Acronyms

WO#: **24120367**
Date: **12/12/2024**

These commonly used Qualifiers and Acronyms may or may not be present in this report.

Qualifiers

U	The compound was analyzed for but was not detected.
J	The reported value is greater than the Method Detection Limit but less than the Reporting Limit.
H	The hold time for sample preparation and/or analysis was exceeded.
D	The result is reported from a dilution.
E	The result exceeded the linear range of the calibration or is estimated due to interference.
MC	The result is below the Minimum Compound Limit.
*****	The result exceeds the Regulatory Limit or Maximum Contamination Limit.
m	Manual integration was used to determine the area response.
d	Manual integration in which peak was deleted
N	The result is presumptive based on a Mass Spectral library search assuming a 1:1 response.
P	The second column confirmation exceeded 25% difference.
C	The result has been confirmed by GC/MS.
X	The result was not confirmed when GC/MS Analysis was performed.
B/MB+	The analyte was detected in the associated blank.
G	The ICB or CCB contained reportable amounts of analyte.
QC-/+	The CCV recovery failed low (-) or high (+).
R/QDR	The RPD was outside of accepted recovery limits.
QL-/+	The LCS or LCSD recovery failed low (-) or high (+).
QLR	The LCS/LCSD RPD was outside of accepted recovery limits.
QM-/+	The MS or MSD recovery failed low (-) or high (+).
QMR	The MS/MSD RPD was outside of accepted recovery limits.
QV-/+	The ICV recovery failed low (-) or high (+).
S	The spike result was outside of accepted recovery limits.
Z	Deviation; A deviation from the method was performed; Please refer to the Case Narrative for additional information

Acronyms

ND	Not Detected	**RL**	Reporting Limit
QC	Quality Control	**MDL**	Method Detection Limit
MB	Method Blank	**LOD**	Level of Detection
LCS	Laboratory Control Sample	**LOQ**	Level of Quantitation
LCSD	Laboratory Control Sample Duplicate	**PQL**	Practical Quantitation Limit
QCS	Quality Control Sample	**CRQL**	Contract Required Quantitation Limit
DUP	Duplicate	**PL**	Permit Limit
MS	Matrix Spike	**RegLvl**	Regulatory Limit
MSD	Matrix Spike Duplicate	**MCL**	Maximum Contamination Limit
RPD	Relative Percent Different	**MinCL**	Minimum Compound Limit
ICV	Initial Calibration Verification	**RA**	Reanalysis
ICB	Initial Calibration Blank	**RE**	Reextraction
CCV	Continuing Calibration Verification	**TIC**	Tentatively Identified Compound
CCB	Continuing Calibration Blank	**RT**	Retention Time
RLC	Reporting Limit Check	**CF**	Calibration Factor
DF	Dilution Factor	**RF**	Response Factor

This list of Qualifiers and Acronyms reflects the most commonly utilized Qualifiers and Acronyms for reporting. Please refer to the Analytical Notes in the Case Narrative for any Qualifiers or Acronyms that do not appear in this list or for additional information regarding the use of these Qualifiers on reported data.

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
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TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

DATES REPORT

WO#: **24120367**

12-Dec-24

Client: HZW Environmental

Project: Parcel 17-Garfield Heights

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
24120367-001A	Parcel 17-1	11/13/2024 12:30:00 PM	Solid	Flashpoint Determination (1010)			12/11/2024 4:41:44 PM
24120367-002A	Parcel 17-2	11/13/2024 12:32:00 PM		Flashpoint Determination (1010)			12/11/2024 4:41:44 PM
24120367-003A	Parcel 17-3	11/13/2024 12:34:00 PM		Flashpoint Determination (1010)			12/11/2024 4:41:44 PM
24120367-004A	Parcel 17-4	11/13/2024 12:36:00 PM		Flashpoint Determination (1010)			12/11/2024 4:41:44 PM
24120367-005A	Parcel 17-5	11/13/2024 12:38:00 PM		Flashpoint Determination (1010)			12/11/2024 4:41:44 PM
24120367-006A	Parcel 17-6	11/13/2024 12:40:00 PM		Flashpoint Determination (1010)			12/11/2024 4:41:44 PM

Original

Rev. 4.4

SUMMIT ENVIRONMENTAL TECHNOLOGIES, INC.
3310 Win Street
Cuyahoga Falls, Ohio 44223
800-278-0140

Analysis Request / Chain of Custody

Refer to Terms and Conditions at www.settek.com

Effective Date: 10/12/2023
Page 1 of 1

SET WO NO.: For Summit Environmental Technologies, Inc. use only 24111045

Client Name: HZW	Project Identification: Parcel 17- Garfield Heights
Client Street Address: 1234 Weathervane Ln	Project Street Address: Garfield Hts, OH 44125
City: Avon State: OH Zip: 44311	City State Zip
Client Phone: (330) 208-2717	Report To: Kevin Reaman
Contact Person: Kevin Reaman	PO #: A2403501 Quote Number
Client Email Address: kreaman@hzwenv.com	PWS ID Facility ID
Sampled By (Print Name and Provide Signature) Print: Jacob Wyatt Sign:	Reporting/Accreditation Requirements: ☐ Ohio VAP ☐ Ohio EPA Pb, Cu ☐ Drinking Water Compliance ☐ Other Compliance (List State/ Program):
For DW only, results to be reported to state by lab? If yes, lab fee may apply: ☐Y ☐N	

Analytical Parameters and Methods Requested

#	Sample Point ID	Sample Identification	Date Collected	Time Collected	Grab Sample	Composite Sample	Matrix: S = Solid, SL = Sludge, L = Liquid, O = Oil, A = Air, NPW = Non-Potable Water, DW = Drinking Water	Preservation: 1) HNO3; 2) H2SO4; 3) HCl; 4) Zinc Acetate; 5) NaOH; 6) EDA; 7) none; 8) other (specify in comments)	Number of Containers per Sample	Total aluminum	Magnesium	Manganese									For DW Only: Special Compliance or Routine (S/R)
1		Parcel 17 - 1	11/13/24	12:30		X	S	7	1	X	X	X									
2		Parcel 17 - 2		12:32		X	S	7	1	X	X	X									
3		Parcel 17 - 3		12:34		X	S	7	1	X	X	X									
4		Parcel 17 - 4		12:36		X	S	7	1	X	X	X									
5		Parcel 17 - 5		12:38		X	S	7	1	X	X	X									
6		Parcel 17 - 6		12:40		X	S	7	1	X	X	X									

Relinquished by:	Date	Time	Received by:	Date	Time
Jacob Wyatt	11/14/24	8:18			

Received at Summit by:	Date	Time	Carrier
C. Lee	11/14/24	0820	Client

Rush Requested: _____ Day(s)
Must be approved by Lab Manager

Notes / Comments:
Standard turn
Dry weight analysis

Sufficient volume provided to run QC? ☐YES ☑NO
Cooler? ☐YES ☐NO
Received Temp.: 5.2 °C
Cooler Seals? ☐PRESENT ☐NOT PRESENT ☐N/A
Ice Present? ☐YES ☐NO ☐MELTED

5-3-01

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Analytical Laboratories

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3310 Win St.
Cuyahoga Falls, Ohio 44223
TEL: (330) 253-8211 FAX: (330) 253-4489
Website: http://www.settek.com

Sample Log-In Check List

Client Name: HZW-OH-44313 Work Order Number: 24120367 RcptNo: 1

Logged by:	Christina N. Gemma	12/6/2024	C. Gemma
Completed By:	Christina N. Gemma	12/6/2024 2:21:55 PM	C. Gemma
Reviewed By:	Holly Florea	12/6/2024 3:33:01 PM	Holly Florea

Chain of Custody

1.	Is Chain of Custody complete?	Yes	☑	No ☐	Not Present	☐
2.	How was the sample delivered?	Client				

Log In

3.	Coolers are present?	Yes	☑	No ☐	NA	☐
4.	Shipping container/cooler in good condition?	Yes	☑	No ☐		
	Custody seals intact on shipping container/cooler?	Yes	☐	No ☐	Not Present	☑
	No. Seal Date: Signed By:					
5.	Was an attempt made to cool the samples?	Yes	☑	No ☐	NA	☐
6.	Were all samples received at a temperature of >0° C to 6.0°C	Yes	☑	No ☐	NA	☐
7.	Sample(s) in proper container(s)?	Yes	☑	No ☐		
8.	Sufficient sample volume for indicated test(s)?	Yes	☑	No ☐		
9.	Are samples (except VOA and ONG) properly preserved?	Yes	☑	No ☐		
10.	Was preservative added to bottles?	Yes	☐	No ☑	NA	☐
11.	Is the headspace in the VOA vials less than 1/4 inch or 6 mm?	Yes	☐	No ☐	No VOA Vials	☑
12.	Were any sample containers received broken?	Yes	☐	No ☑		
13.	Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes	☑	No ☐		
14.	Are matrices correctly identified on Chain of Custody?	Yes	☑	No ☐		
15.	Is it clear what analyses were requested?	Yes	☑	No ☐		
16.	Were all holding times able to be met? (If no, notify customer for authorization.)	Yes	☑	No ☐		

Special Handling (if applicable)

17.	Was client notified of all discrepancies with this order?	Yes	☐	No ☐	NA	☑

Person Notified: Date:

By Whom: Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding:

Client Instructions:

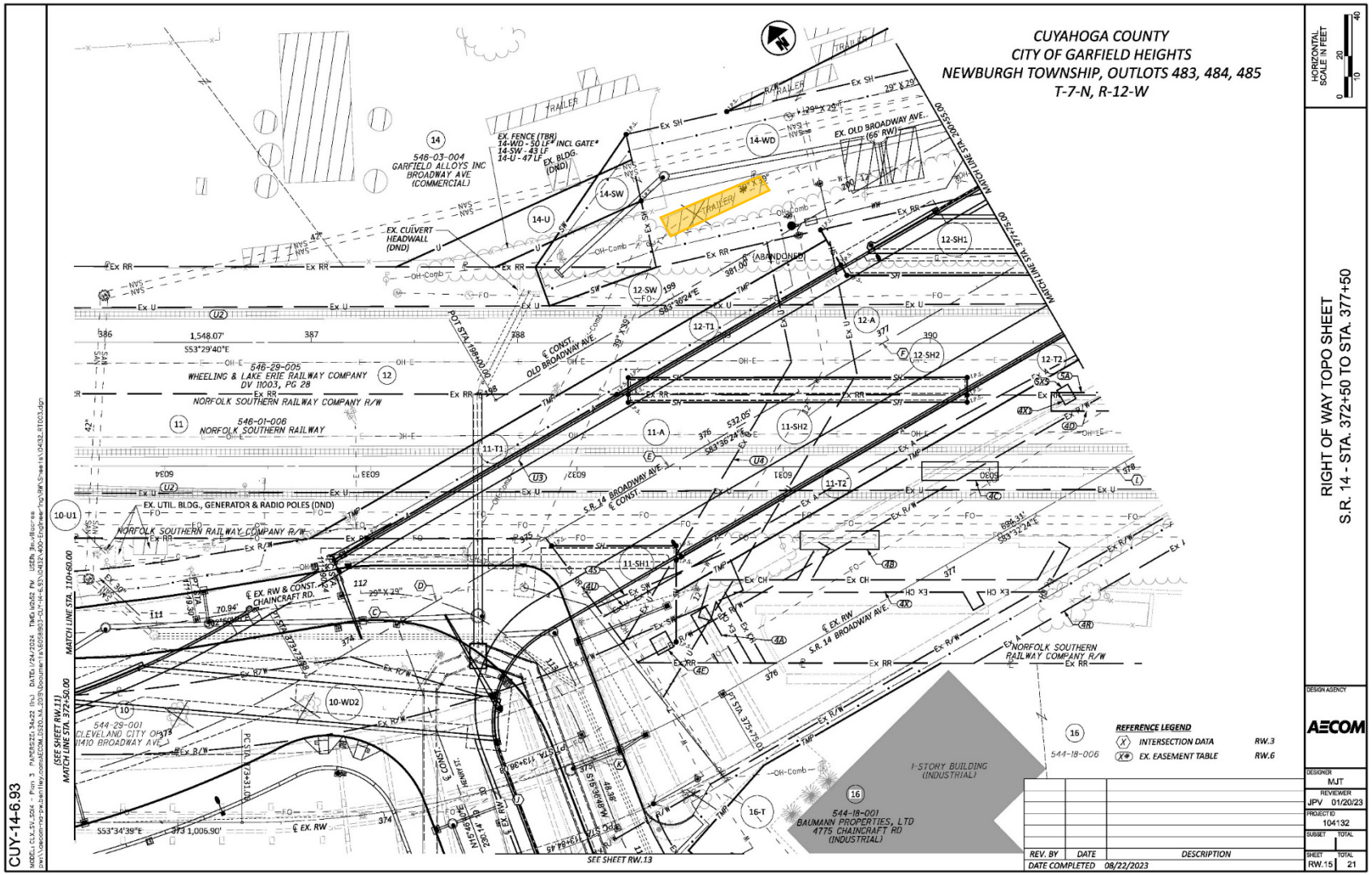
18. Additional remarks:

Cooler Information

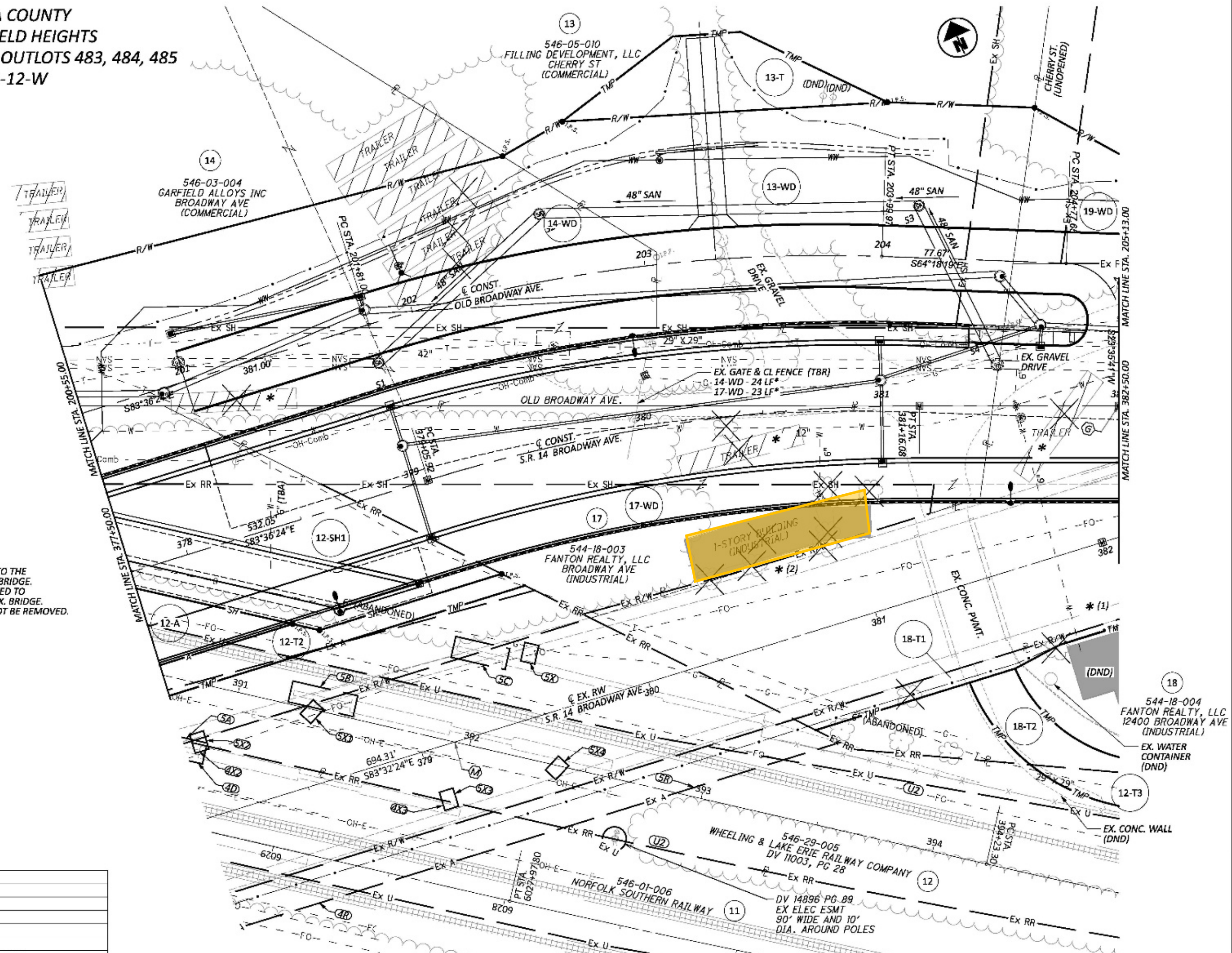
Cooler No	Temp ºC	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	5.2	Good	Not Present			

APPENDIX E

PROJECT PLAN SHEETS


CUYAHOGA COUNTY
CITY OF GARFIELD HEIGHTS
NEWBURGH TOWNSHIP, OUTLOTS 483, 484, 485
T-7-N, R-12-W
546-03-004
GARFIELD ALLOYS INC
BROADWAY AVE
(COMMERCIAL)
EX. FENCE (TBR)
14-WD - 50 LF* INCL GATE*
14-SW - 43 LF
14-U - 47 LF
EX. BLDG. (DND)
EX. CULVERT HEADWALL (DND)
EX. OLD BROADWAY AVE. (66' RW)
MATCH LINE STA. 369+52.00
MATCH LINE STA. 371+25.00
546-29-005
WHEELING & LAKE ERIE RAILWAY COMPANY
DV 11003, PG 28
NORFOLK SOUTHERN RAILWAY COMPANY R/W
546-01-006
NORFOLK SOUTHERN RAILWAY
℄ CONST. OLD BROADWAY AVE.
POT STA 199+00.00
S53°29'40"E
1,548.07'
S53°36'24"E
532.05'
EX. UTIL. BLDG., GENERATOR & RADIO POLES (DND)
℄ EX. RW & CONST. CHAINCRAFT RD.
℄ EX. RW
℄ CONST. S.R. 14 BROADWAY AVE.
℄ EX. RW S.R. 14 BROADWAY AVE.
NORFOLK SOUTHERN RAILWAY COMPANY R/W
544-29-001
CLEVELAND CITY OF
1410 BROADWAY AVE
544-18-006
1-STORY BUILDING (INDUSTRIAL)
544-18-001
BAUMANN PROPERTIES, LTD
4775 CHAINCRAFT RD
(INDUSTRIAL)
MATCH LINE STA. 372+50.00
SEE SHEET RW.11
SEE SHEET RW.13
S53°34'39"E
1,006.90'
REFERENCE LEGEND
(X) INTERSECTION DATA RW.3
(X*) EX. EASEMENT TABLE RW.6
HORIZONTAL SCALE IN FEET
0 10 20 40
RIGHT OF WAY TOPO SHEET
S.R. 14 - STA. 372+50 TO STA. 377+50
CUY-14-6.93
DESIGN AGENCY
AECOM
DESIGNER MJT
REVIEWER JPV 01/20/23
PROJECT ID 104132
SUBSET TOTAL
SHEET RW.15 TOTAL 21
REV. BY DATE DESCRIPTION
DATE COMPLETED 08/22/2023

CUYAHOGA COUNTY
CITY OF GARFIELD HEIGHTS
NEWBURGH TOWNSHIP, OUTLOTS 483, 484, 485
T-7-N, R-12-W



* (1) PORTIONS OF EQUIPMENT ATTACHED TO THE EX. BUILDING EXTEND UNDER THE EX. BRIDGE. SOME ITEMS WILL NEED TO BE REMOVED TO COMPLETE THE DEMOLITION OF THE EX. BRIDGE. THE EX. BUILDING STRUCTURE WILL NOT BE REMOVED.

* (2) EX. 1 STORY METAL BLDG. DOES NOT APPEAR OPERATIONAL (TBR)

REFERENCE LEGEND

(X)	INTERSECTION DATA	RW.3
(X#)	EX. EASEMENT TABLE	RW.6

REV. BY	DATE	DESCRIPTION

DATE COMPLETED 08/22/2023

CUY-14-6.93

HORIZONTAL SCALE IN FEET 0 10 20 40

RIGHT OF WAY TOPO SHEET
S.R. 14 - STA. 377+50 TO STA. 382+50

DESIGN AGENCY: AECOM

DESIGNER: MJT

REVIEWER: JPV 01/20/23

PROJECT ID: 104132

SUBSET / TOTAL

SHEET: RW.17 TOTAL: 21