

# Environmental Assessment Report

Former St. Joseph's Community Center Property  
205 West 20<sup>th</sup> St.  
Parking Garage Structure (NE Corner of W. 20<sup>th</sup> & Reid)  
1919 & 1859 Reid Ave.  
Lorain, OH 44052



For

City of Lorain  
Sanford Washington, Safety Service Director  
200 West Erie Ave., 7<sup>th</sup> Fl.  
Lorain, OH 44052  
440-204-2011

October 25, 2021



Pardee Environmental  
47391 Garfield Road  
Oberlin, OH 44074  
440.315.2735

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## SUMMARY OF BUILDINGS AND ASBESTOS ASSESSMENT INFORMATION

Name of Facility: Former St. Joseph's Hospital  
(A.K.A. St. Joe's Community Center & South Shore Community Development)

Location: 205 West 20<sup>th</sup> St. and 1919 & 1859 Reid Ave., Lorain, OH

Building Owner: A7 Development Group, LLC

Date of Construction: Starting approximately 1900 to 1905 and continuing for several decades

Major Additions: Several

Approximate Area: 420,000 sq. ft.

Building Use: Hospital

Date of Inspection: October 6, 2021

Asbestos Inspector  
and report writer: John P. Pardee  
Ohio Asbestos Hazard Evaluation Specialist No. 3201



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John P. Pardee

## INTRODUCTION

On October 6, 2021 Pardee Environmental conducted an inspection of the structures and debris piles located at 205 W. 20<sup>th</sup> St. and 1919 and 1859 Reid Ave., Lorain, OH for asbestos-containing materials. The purpose of the assessment was to identify the types and condition of asbestos-containing materials in the buildings and the demolition debris piles to provide information to the City of Lorain regarding public health and to determine future courses of action.

The inspection was conducted in general accordance with the USEPA guidelines recommended for pre-demolition of buildings under National Emissions Standards for Hazardous Air Pollutants (NESHAPs) 40 CFR Parts 61 and 63.

## METHODOLOGY

All accessible locations were examined for suspect asbestos containing materials. All suspect asbestos containing materials (ACM) found were adequately sampled per Federal rules codified in 40 CFR Part 763.86 and samples were submitted to an accredited lab for analysis by Polarized Light Microscopy (PLM) and Point Counting where required. Sample locations were determined, where applicable, according to the random sampling grid included in the EPA document "Asbestos in Buildings Simplified Sampling Scheme for Friable Surfacing Materials", dated October, 1985.

Samples were collected in 6 mil zip-lock bags, assigned a sample number and logged into the sample chain-of-custody form. After the collection of all of the samples was completed, the samples were sealed into a plastic bag and shipped via overnight shipping to EMSL Analytical of Indianapolis, IN, a NVLAP accredited laboratory for analysis. The number of samples collected are as follows:

1919 and 1859 Reid: 21 samples

Parking Garage: 19 samples

Rubble piles site: 14 samples

The results of the analysis of these samples are contained in Attachment 3.

## SUMMARY OF FINDINGS

Below is a summary of the laboratory analysis of the samples collected followed by an interpretation and guidance for action going forward.

TABLE 1  
Asbestos Building Materials Findings Summary

Location	Description	% Asbestos	Condition	Quantity	Friable
1919 and 1859 Reid Ave.	No asbestos found	NA	NA	NA	NA
Parking garage	Asbestos rope	70% Chrysotile	Poor	Approx. 160 ln.ft.	Yes
	Floor tiles	2% Chrysotile	Fair	Undetermined	No
	Floor tile mastic	3% Chrysotile	Fair	Undetermined	No
	Sheet flooring	12% Chrysotile	Poor	>200 sq. ft.	Yes*
Slab & demolition debris pile	Floor tile	2-4% Chrysotile	Broken	Unknown	Undetermined
	Sheet flooring	12% Chrysotile	Poor	Unknown	Yes*

\*See discussion below regarding friability



## **INTERPREATION OF RESULTS AND GUIDANCE FOR ACTION**

### **1919 and 1859 Reid Ave.**

This structure is still standing and the least concerning relative to public health and regulatory enforcement. Our asbestos screening and sampling did not find any asbestos containing building materials. However, it is incumbent on the building owner to have an Ohio licensed Asbestos Hazard Evaluation Specialist (AHES) conduct a full building survey prior to demolition. It would be important to determine if this has been done and to review this report to fully determine the state of compliance with respect to the NESHAP regulations. Aside from the NESHAP compliance requirements, we did identify other items that would have to be addressed prior to demolition including; 1. The collection and proper disposal of florescent lamps and ballasts, 2. The recovery of Chlorofluorocarbons (CFC's) from Freon containing units such as refrigerators, chillers, air conditioners, drinking fountains and vending machines, 3. The recovery and recycling or lead sheeting from the 20 rooftop vent pipes and from x-ray labs (if any were present in this building) and 4. The proper collection and disposal of dielectric oil from the pad-mounted transformer if that was to be decommissioned as part of this project.

### **Parking Garage**

Our inspection and sampling of the parking garage revealed the presence of a friable asbestos containing rope packing material that would have to be removed prior to demolition. We also found asbestos containing floor tiles and related mastic on every level, and ACM sheet flooring on the first level. The floor tiles and mastic and vinyl sheet flooring are generally classified as Cat. I non-friable materials and technically are permitted to remain in a building being demolished provided they are not "Subjected to sanding, grinding, cutting or abrading" as per NESHAP 40 CFR Part 61.141 Definition of Regulated asbestos-containing material (RACM). The ACM sheet flooring found on the main floor was extensively abraded and located in an area where we found evidence to suggest these ACM's were subjected to grinding and abrading by the forces of the steel-treaded track hoe equipment that the demolition contractor used to raze the building and move the demolition debris into piles (Attachment 7). Aside from the NESHAP compliance requirements, we did identify other items that would have to be addressed prior to demolition including; 1. The collection and proper disposal of florescent lamps and ballasts and High Intensity Discharge (HID) lamps, 2. The recovery of Chlorofluorocarbons (CFC's) from Freon containing units such as refrigerators, chillers, and air conditioners and machine oil from the elevator motors.

### **Debris Piles**

Our inspection and sampling of the debris piles revealed the presence of asbestos containing floor tiles and ACM sheet flooring throughout the site. The floor tile and vinyl sheet flooring, in their original state, are generally classified as Cat. I non-friable materials and technically are permitted to remain in a building being demolished provided they are not "Subjected to sanding, grinding, cutting or abrading" as per NESHAP 40 CFR Part 61.141 Definition of Regulated Asbestos-Containing Material (RACM). However, the ACM floor tile and sheet flooring found was in a significantly damaged and eroded condition on the main floor slab and we have evidence (Attachment 7) to suggest that these ACM's were subjected to grinding and abrading by the forces of the steel-treaded track hoe equipment that the demolition contractor used to raze the building and move the demolition debris into piles.

Furthermore, it is incumbent upon the owner/operator to have these materials assessed prior to demolition to determine if: 1. They are still in an intact state prior to demolition and 2. If the planned demolition activity has the potential to render them into a friable state. A review of their EPA notice of demolition submitted by the owner/operator (Attachment 6) does not indicate that such an individual was retained (Sec. 1, Item 3) to perform this assessment. We also noted that the owner/operator failed to list or quantify the Cat. I non-friable materials to remain in the building during demolition (Sec. 2, Item D.). The Ohio EPA also requires that a copy of the pre-demolition asbestos survey be kept on site during

demolition as per OAC 3701-34-04 (C) (2). We should attempt to ascertain if such a report exists and if it was maintained on site during demolition.

#### Regulatory interpretation

I had an email exchange (Attachment 5) with Misty Whitmyer, Environmental Supervisor for the Ohio EPA, Dept. of Air Pollution Control for the Northeast District Office. My question was posed, via email, on Oct. 6<sup>th</sup> at 11:11 a.m. while on site after having observed these suspected ACM's and I asked:

*"Question, in a demolition situation on a commercial structure, do they have to remove asbestos containing floor tile prior to demolition? Also, if asbestos containing floor tile debris is found in the rubble pile is that considered RACM?"*

Her reply later that afternoon read as follows:

*"It depends on the condition. Asbestos containing (AC) Cat I floor tile can remain in place for demolition if it's in non-friable condition. If it's in friable condition it should be treated as RACM/abated prior to demolition."*

*"If AC floor tile is found in a debris pile from a building where it's condition was determined to be non-friable prior to demolition, it's considered Cat I not RACM. Conversely, if floor tile is found in a debris pile is from a building **not surveyed where prior condition is not known**, it would be considered co-mingled RACM just like **all other material in the debris pile**." (Emphasis mine)*

What Ms. Whitmyer is stating here is that it is incumbent upon the current owner/operator to have retained an AHES to assess the floor tile (and sheet flooring and asphalt roofing products) to determine their current condition and if they failed to do this and debris of these previous Cat. I non-friable materials are found comingled in the debris piles, then the entire debris field would now have to be classified as RACM and managed, handled and disposed of according to those rules outlined in the Asbestos NESHAP for RACM's. These rules include (but are not limited to) the deployment of a licensed asbestos abatement contractor who would have to create an OSHA Class I regulated area, dress their crew in full personal protective equipment (PPE) including HEPA filtered respirators, utilize wet handling methods to load and dispose of all of the rubble and debris into plastic lined dumpsters and transport and dispose of this debris, under manifest, to an EPA-approved asbestos waste landfill. My inspection of the floor tile and sheet flooring located on the main floor slab (Attachment 7) found that these materials were subjected to grinding and abrading via the metal-treaded track hoe equipment. Absent a report by an AHES retained by the owner/operator, or recently retained by the previous owner with knowledge of the planned demolition means and methods, stating something to the contrary, the City of Lorain should assume that this site is likely to become an asbestos regulated area. If this turns out to be the case, the owner/operator would need to update their notice to the Ohio EPA, DAPC-NEDO to reflect this and immediately take steps to secure and mitigate this site. This situation needs to be brought to the attention of the current owner to afford them the opportunity to respond and provide the names, licenses and reports of the professionals they relied upon to commence demolition operations. Absent a timely and satisfactory response, it would fall to the City of Lorain to notify the Ohio EPA, DAPC-NEDO of the findings of this study as this EPA office would have regulatory jurisdiction over this site.

#### Chlorofluorocarbons (CFC's)

CFC's (a.k.a. Freon) is found in most refrigerant equipment including air conditioners, refrigerators, freezers, dehumidifiers, drinking fountains and vending machines. All of the Freon containing equipment would have to have had this regulated gaseous compound recovered by an EPA [Clean Air Act Section 608](#) certified Freon Technician. These technicians would have documented each unit from which Freon was recovered and the owner/operator should have these records on file. Failure to abide by these rules could result in a \$25,000 fine per unit where the Freon was not properly recovered and allowed to be released into the atmosphere.

#### Universal and electronic waste materials

Aside from those detailed above, the EPA regulates what they classify as [universal](#), and [electronic wastes](#). The owner/operator should have documented the collection and disposal of these wastes as well any unused paints, chemical cleaners, herbicides, pesticides and/or pharmaceuticals found on site.

#### Underground Storage Tanks (UST's)

My assessment to date has yet to identify any records relating to the presence of any UST's on the property but it was not uncommon for hospitals to maintain either UST's or Aboveground Storage Tanks (AST's) to run their emergency generators and other diesel-powered equipment. I did find what appears to be product lines cut off at the surface at the southeast corner of the parking garage (Attachment 7). It is unknown at this time where those product lines go or if they were used for diesel fuel or other petroleum products. I recommend reaching out to the former facility administrators to get more information about this issue.

#### Lead-Based Paint and Fugitive Emissions

Lead-Based Paint (LBP) was used extensively up until 1978 when it was banned. LBP is permitted to stay on building components during demolition provided that the owner/operator employ effective fugitive dust control measures to prevent LBP dust from leaving the site and contaminating surrounding properties and effecting the health of neighboring residents and passersby. Based on my review of publicly available video footage, it appears that the owner/operator did not sufficiently control these emissions. I feel it would be prudent, from a public health standpoint, to try and determine if dusts found on site or that may still be collectable from adjoining public roadways or neighboring properties contain measurable amounts of lead. Included below is the Ohio Administrative Code that details the owner/operator's responsibilities under this rule. I studied the linked video footage of the demolition process and while it was clear that the contractor was aware of the rule and had deployed a fire hose during the demolition process, it appears their management of the wetting process failed to adequately control the fugitive emissions. In the drone footage linked below, there is clear evidence that the fire hose was affixed to a stationary object as a perfunctory application of this rule and the footage from the bystander on January 21<sup>st</sup>, 2021 documents the complete lack of emission suppression that resulted in a significant plume of fugitive dust.



#### Other potential environmental concerns

Below is a brief summary of potential areas of concern with respect to this demolition site beyond the asbestos assessment detailed above. Demolishing a hospital of the size, age and complexity of St. Joseph's would require the development and execution of a checklist of potential hazards and steps required to assess and manage these hazards prior to demolition. They include the following:

##### X-ray labs, equipment and wastes

Our inspection found at least three partially demolished x-ray labs (Attachments 1 and 7). We found lead sheeting in the walls at each of these sites. Lead sheeting is used to prevent x-ray radiation from leaving the labs during tests. We also found a significant amount of lead sheeting debris comingled in the debris piles (Attachment 7). Lead is one of the eight toxic metals regulated under the Resource Conservation and Recovery Act (RCRA) under 40 CFR 260 to 273. In essence, elemental lead is prohibited from being disposed of in a sanitary or construction and demolition (C&D) landfills. The owner/operator had a duty under RCRA to collect the lead sheeting prior to or during demolition and transport this material to a metals recycler or dispose of as per the RCRA rules. The evidence on site indicates that these steps were not sufficiently undertaken by the owner/operator. It is unknown at this time if there were more than the three x-ray labs on this site prior to demolition. There could have been more and I think reaching out to the previous building administrators would be helpful in further assessing this situation. Furthermore, there needs to be an accounting of the x-ray source equipment used on site to ensure that this equipment was not left on site during demolition. The previous owner should have maintained records for all of their x-ray equipment and should have maintained control of this equipment and been responsible for decommissioning this equipment prior to the property being transferred to the current owner. Lastly, radioactive wastes are oftentimes found on sites where radio isotopes were used and I believe it would be prudent to scan the site with a Geiger counter to determine if any radioactive materials (Source equipment or wastes) are currently present on this site.

##### Mercury containing equipment

Elemental mercury is also a RCRA metal and would be found extensively throughout an old hospital building. Mercury would likely be present in the blood pressure measuring devices, thermostats, manometers and gages. The building owner/operator would have to have swept the building for this equipment and carefully collected them for proper packaging and disposal prior to demolition. If a significant amount of elemental mercury was left in the building during demolition, the potential for environmental contamination is significant. I recommend that the City of Lorain determine if this import step was undertaken and if the owner/operator fully documented this process. If no records can be produced, we may wish to conduct sampling of various media on site (air, water, dirt and debris) to determine if mercury contamination may be present.

##### Polychlorinated Biphenyls (PCBs)

PCB's are a group of man-made organic chemicals that are regulated under the Toxic Substances Control Act (TSCA). They were used widely between 1929 and 1979 and can be found in electrical transformers, hydraulic and machine oils, florescent light ballasts, caulking and oil-based paints. A detailed pre-demolition review of the building should have been performed to identify and test potential PCB-containing equipment and building materials and any equipment or materials found to contain PCB's above the regulatory threshold should have been removed and disposed of following the regulatory requirements. Similar to mercury, if there does not exist significant documentation for the identification, testing, collection and disposal of PCB containing equipment and materials, I would recommend collecting and testing environmental media (water, soil and debris) for the presence of PCB's.

Fugitive dust emissions

OAC 3745-17-08 | Restriction of emission of fugitive dust

(B) No person shall cause or permit any fugitive dust source to be operated; or any materials to be handled, transported, or stored; or a building or its appurtenances or a road to be used, constructed, altered, repaired, or demolished without taking or installing reasonably available control measures to prevent fugitive dust from becoming airborne. Such reasonably available control measures shall include, but not be limited to, one or more of the following which are appropriate to minimize or eliminate visible particulate emissions of fugitive dust:

(1) The use of water or other suitable dust suppression chemicals for the control of fugitive dust from the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land.

Video from bystander on January 21<sup>st</sup>, 2021. Note the uncontrolled dust during the entire video with particular attention to the large dust plume that results at the 7:00 minute mark. Videographer at 7:38 states *"Here comes the dust. Gonna get stinky here in a minute. Already coming over us."*

Video from Worlds Above Aerial videography. Note the fixed water hose at the 3:55 and 5:05 mark and not ever at the point of demolition. Again in this video as well.



## **ATTACHMENT NO. 1**

Sketch plan showing the approximate location of  
samples and asbestos and lead-containing materials



**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>

November 15, 2021

Brent Stoll  
City of Lorain WWTP  
100 Alabama Avenue  
Lorain, OH 44052  
TEL: (440) 288-0281  
FAX:

RE: Monthly Metals

Dear Brent Stoll:

Order No.: 21110480

Summit Environmental Technologies, Inc. received 5 sample(s) on 11/5/2021 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,

*Sara Kidd*

Sara E. Kidd  
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, 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 011, 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#: 21110480

Date: 11/15/2021

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**CLIENT:** City of Lorain WWTP

**Project:** Monthly Metals

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### WorkOrder Narrative:

21110480: 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.

---

Original



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

## Workorder Sample Summary

WO#: 21110480  
15-Nov-21

**CLIENT:** City of Lorain WWTP  
**Project:** Monthly Metals

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
21110480-001	BR INF		11/4/2021 7:05:00 AM	11/5/2021 12:25:00 PM	Non-Potable Water
21110480-002	BR INF		11/4/2021 7:05:00 AM	11/5/2021 12:25:00 PM	Non-Potable Water
21110480-003	PQM INF		11/4/2021 7:30:00 AM	11/5/2021 12:25:00 PM	Non-Potable Water
21110480-004	PQM EFF		11/4/2021 7:30:00 AM	11/5/2021 12:25:00 PM	Non-Potable Water
21110480-005	Old Hospital		11/4/2021 1:20:00 PM	11/5/2021 12:25:00 PM	Non-Potable Water



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## Analytical Report

(consolidated)

WO#: 21110480

Date Reported: 11/15/2021

Lab ID: 21110480-001

Collection Date: 11/4/2021 7:05:00 AM

Client Sample ID BR INF

Matrix: NON-POTABLE WATER

Analysis	Result	MDL	PQL	Qual	Units	Dilution	Batch	Date Analyzed
<b>METALS ANALYSIS BY ICP/MS (EPA200.8)</b>					<b>EPA 200.8</b>		<b>Analyst: DNS</b>	
Cadmium(Cd)	0.000142	0.000120	0.00100	J	mg/L	1	53088	11/12/2021 11:50:00 PM
Chromium(Cr)	0.00148	0.0000769	0.00100		mg/L	1	53088	11/12/2021 11:50:00 PM
Copper(Cu)	0.0191	0.000138	0.00100		mg/L	1	53088	11/12/2021 11:50:00 PM
Lead(Pb)	0.00163	0.0000400	0.00100		mg/L	1	53088	11/12/2021 11:50:00 PM
Nickel(Ni)	0.00419	0.000177	0.00100		mg/L	1	53088	11/12/2021 11:50:00 PM
Selenium(Se)	0.000959	0.000440	0.00500	J	mg/L	1	53088	11/12/2021 11:50:00 PM
Silver(Ag)	ND	0.0000619	0.00100		mg/L	1	53088	11/12/2021 11:50:00 PM
Zinc(Zn)	0.0434	0.00227	0.00500		mg/L	1	53088	11/12/2021 11:50:00 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
	ND	Not Detected	OG1	
	P	Second column confirmation exceeds	PL	Permit Limit





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## Analytical Report

(consolidated)

WO#: 21110480

Date Reported: 11/15/2021

Lab ID: 21110480-002

Collection Date: 11/4/2021 7:05:00 AM

Client Sample ID BR INF

Matrix: NON-POTABLE WATER

Analysis	Result	MDL	PQL	Qual	Units	Dilution	Batch	Date Analyzed
<b>METALS ANALYSIS BY ICP/MS (EPA200.8)</b>					<b>EPA 200.8</b>		<b>Analyst: DNS</b>	
Cadmium(Cd)	ND	0.000120	0.00100		mg/L	1	53088	11/12/2021 11:54:59 PM
Chromium(Cr)	0.000468	0.0000769	0.00100	J	mg/L	1	53088	11/12/2021 11:54:59 PM
Copper(Cu)	0.00417	0.000138	0.00100		mg/L	1	53088	11/12/2021 11:54:59 PM
Lead(Pb)	0.000531	0.0000400	0.00100	J	mg/L	1	53088	11/12/2021 11:54:59 PM
Nickel(Ni)	0.00454	0.000177	0.00100		mg/L	1	53088	11/12/2021 11:54:59 PM
Selenium(Se)	0.000797	0.000440	0.00500	J	mg/L	1	53088	11/12/2021 11:54:59 PM
Silver(Ag)	ND	0.0000619	0.00100		mg/L	1	53088	11/12/2021 11:54:59 PM
Zinc(Zn)	0.0191	0.00227	0.00500		mg/L	1	53088	11/12/2021 11:54:59 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
	ND	Not Detected	OGI	
	P	Second column confirmation exceeds	PL	Permit Limit



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## Analytical Report

(consolidated)

WO#: 21110480

Date Reported: 11/15/2021

Lab ID: 21110480-003

Collection Date: 11/4/2021 7:30:00 AM

Client Sample ID PQM INF

Matrix: NON-POTABLE WATER

Analysis	Result	MDL	PQL	Qual	Units	Dilution	Batch	Date Analyzed
<b>METALS ANALYSIS BY ICP/MS (EPA200.8)</b>					<b>EPA 200.8</b>		<b>Analyst: JEB</b>	
Cadmium(Cd)	0.000178	0.000120	0.00100	J	mg/L	1	53052	11/11/2021 7:11:00 AM
Chromium(Cr)	0.00369	0.0000769	0.00100		mg/L	1	53052	11/11/2021 7:11:00 AM
Copper(Cu)	0.0534	0.000138	0.00100		mg/L	1	53052	11/11/2021 7:11:00 AM
Lead(Pb)	0.00147	0.0000400	0.00100		mg/L	1	53052	11/11/2021 7:11:00 AM
Nickel(Ni)	0.00605	0.000177	0.00100		mg/L	1	53052	11/11/2021 7:11:00 AM
Selenium(Se)	ND	0.000440	0.00500		mg/L	1	53052	11/12/2021 10:45:16 PM
Silver(Ag)	0.000784	0.0000619	0.00100	J	mg/L	1	53052	11/11/2021 7:11:00 AM
Zinc(Zn)	0.0777	0.00227	0.00500		mg/L	1	53052	11/11/2021 7:11:00 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
	ND	Not Detected	OG1	
	P	Second column confirmation exceeds	PL	Permit Limit



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## Analytical Report

(consolidated)

WO#: 21110480

Date Reported: 11/15/2021

Lab ID: 21110480-004

Collection Date: 11/4/2021 7:30:00 AM

Client Sample ID PQM EFF

Matrix: NON-POTABLE WATER

Analysis	Result	MDL	PQL	Qual	Units	Dilution	Batch	Date Analyzed
<b>METALS ANALYSIS BY ICP/MS (EPA200.8)</b>					<b>EPA 200.8</b>		Analyst: DNS	
Cadmium(Cd)	ND	0.000120	0.00100		mg/L	1	53052	11/12/2021 10:40:16 PM
Chromium(Cr)	0.00325	0.0000769	0.00100		mg/L	1	53052	11/12/2021 10:40:16 PM
Copper(Cu)	0.0424	0.000138	0.00100		mg/L	1	53052	11/12/2021 10:40:16 PM
Lead(Pb)	0.00126	0.0000400	0.00100		mg/L	1	53052	11/12/2021 10:40:16 PM
Nickel(Ni)	0.00515	0.000177	0.00100		mg/L	1	53052	11/12/2021 10:40:16 PM
Selenium(Se)	ND	0.000440	0.00500		mg/L	1	53052	11/12/2021 10:40:16 PM
Silver(Ag)	0.000700	0.0000619	0.00100	J	mg/L	1	53052	11/12/2021 10:40:16 PM
Zinc(Zn)	0.0707	0.00227	0.00500		mg/L	1	53052	11/12/2021 10:40:16 PM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
	ND	Not Detected	OGI	
	P	Second column confirmation exceeds	PL	Permit Limit



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## Analytical Report

(consolidated)

WO#: 21110480

Date Reported: 11/15/2021

Lab ID: 21110480-005

Collection Date: 11/4/2021 1:20:00 PM

Client Sample ID Old Hospital

Matrix: NON-POTABLE WATER

Analysis	Result	MDL	PQL	Qual	Units	Dilution	Batch	Date Analyzed
<b>METALS ANALYSIS BY ICP/MS (EPA200.8)</b>					<b>EPA 200.8</b>		<b>Analyst: JEB</b>	
Cadmium(Cd)	ND	0.000120	0.00100		mg/L	1	53052	11/11/2021 7:19:00 AM
Chromium(Cr)	0.00164	0.0000769	0.00100		mg/L	1	53052	11/11/2021 7:19:00 AM
Copper(Cu)	0.0482	0.000138	0.00100		mg/L	1	53052	11/11/2021 7:19:00 AM
Lead(Pb)	0.000513	0.0000400	0.00100	J	mg/L	1	53052	11/11/2021 7:19:00 AM
Nickel(Ni)	0.00673	0.000177	0.00100		mg/L	1	53052	11/11/2021 7:19:00 AM
Selenium(Se)	0.00141	0.000440	0.00500	J	mg/L	1	53052	11/12/2021 10:50:16 PM
Silver(Ag)	0.000122	0.0000619	0.00100	J	mg/L	1	53052	11/11/2021 7:19:00 AM
Zinc(Zn)	0.0214	0.00227	0.00500		mg/L	1	53052	11/11/2021 7:19:00 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
	ND	Not Detected	OGI	
	P	Second column confirmation exceeds	PL	Permit Limit



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## QC SUMMARY REPORT

WO#: 21110480

15-Nov-21

Client: City of Lorain WWTP

Project: Monthly Metals

BatchID: 53052

Sample ID: 21110329-001ADUP	SampType: DUP	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/8/2021	RunNo: 136278						
Client ID: BatchQC	Batch ID: 53052	TestNo: E200.8	E200.8	Analysis Date: 11/12/2021	SeqNo: 3599233						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper(Cu)	0.334	0.00400						0.321	3.75	20	

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analy
	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response	MC	Value is below Minimum Compound
	ND	Not Detected	OGI		P	Second column confirmation exceeds
	PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Original





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## QC SUMMARY REPORT

WO#: 21110480  
15-Nov-21

Client: City of Lorain WWTP  
Project: Monthly Metals

BatchID: 53052

Sample ID: MB-53052		SampType: MBLK		TestCode: Mtl-ICPMS_N		Units: mg/L		Prep Date: 11/8/2021		RunNo: 136156			
Client ID: PBW		Batch ID: 53052		TestNo: E200.8		E200.8		Analysis Date: 11/10/2021		SeqNo: 3596000			
Analyte		Result		PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium(Cd)		ND		0.00100									
Chromium(Cr)		ND		0.00100									
Copper(Cu)		ND		0.00100									
Lead(Pb)		ND		0.00100									
Nickel(Ni)		ND		0.00100									
Selenium(Se)		ND		0.00100									
Silver(Ag)		ND		0.00100									
Zinc(Zn)		ND		0.00500									

Sample ID: LCS-53052	SampType: LCS	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/8/2021	RunNo: 136156						
Client ID: LCSW	Batch ID: 53052	TestNo: E200.8	E200.8	Analysis Date: 11/10/2021	SeqNo: 3596001						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium(Cd)	0.0538	0.00100	0.0500	0	108	85	115				
Chromium(Cr)	0.0531	0.00100	0.0500	0	106	85	115				
Copper(Cu)	0.0554	0.00100	0.0500	0	111	85	115				
Lead(Pb)	0.0528	0.00100	0.0500	0	106	85	115				
Nickel(Ni)	0.0532	0.00100	0.0500	0	106	85	115				
Selenium(Se)	0.0561	0.00100	0.0500	0	112	85	115				
Zinc(Zn)	0.0554	0.00500	0.0500	0	111	85	115				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analy  
J Analyte detected below quantitation limits M Manual Integration used to determine area response MC Value is below Minimum Compound  
ND Not Detected OGI P Second column confirmation exceeds  
PL Permit Limit R RPD outside accepted recovery limits RL Reporting Detection Limit

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## QC SUMMARY REPORT

WO#: 21110480

15-Nov-21

Client: City of Lorain WWTP  
Project: Monthly Metals

BatchID: 53052

Sample ID: LCS2-53052	SampType: LCS	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/8/2021	RunNo: 136156						
Client ID: LCSW	Batch ID: 53052	TestNo: E200.8	E200.8	Analysis Date: 11/10/2021	SeqNo: 3596002						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver(Ag)	0.0509	0.00100	0.0500	0	102	85	115				

Sample ID: 21110422-002CMS	SampType: MS	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/8/2021	RunNo: 136156						
Client ID: BatchQC	Batch ID: 53052	TestNo: E200.8	E200.8	Analysis Date: 11/11/2021	SeqNo: 3596152						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead(Pb)	0.0240	0.00100	0.0250	0.000134	95.6	70	130				

Sample ID: 21110422-002CMSD		SampType: MSD		TestCode: Mtl-ICPMS_N		Units: mg/L		Prep Date: 11/8/2021		RunNo: 136156	
Client ID: BatchQC		Batch ID: 53052		TestNo: E200.8		E200.8		Analysis Date: 11/11/2021		SeqNo: 3596153	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead(Pb)	0.0240	0.00100	0.0250	0.000134	95.3	70	130	0.0240	0.304	20	

Sample ID: 21110423-002BMS	SampType: MS	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/8/2021	RunNo: 136156						
Client ID: BatchQC	Batch ID: 53052	TestNo: E200.8	E200.8	Analysis Date: 11/11/2021	SeqNo: 3596155						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead(Pb)	0.0252	0.00100	0.0250	0.000539	98.5	70	130				

Qualifiers: B Analyte detected in the associated Method Blank  
J Analyte detected below quantitation limits  
ND Not Detected  
PL Permit Limit  
E Value above quantitation range  
M Manual Integration used to determine area response  
OGI  
R RPD outside accepted recovery limits  
H Holding times for preparation or analy  
MC Value is below Minimum Compound  
P Second column confirmation exceeds  
RL Reporting Detection Limit

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## QC SUMMARY REPORT

WO#: 21110480  
15-Nov-21

Client: City of Lorain WWTP  
Project: Monthly Metals

BatchID: 53052

Sample ID: 21110423-002BMS	SampType: MS	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/8/2021	RunNo: 136156
Client ID: BatchQC	Batch ID: 53052	TestNo: E200.8	E200.8	Analysis Date: 11/11/2021	SeqNo: 3596155
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual

Sample ID: 21110423-002BMSD	SampType: MSD	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/8/2021	RunNo: 136156
Client ID: BatchQC	Batch ID: 53052	TestNo: E200.8	E200.8	Analysis Date: 11/11/2021	SeqNo: 3596156
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Lead(Pb)	0.0252	0.00100	0.0250	0.000539	98.7 70 130 0.0252 0.199 20

Sample ID: 21110426-002CDUP	SampType: DUP	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/8/2021	RunNo: 136156
Client ID: BatchQC	Batch ID: 53052	TestNo: E200.8	E200.8	Analysis Date: 11/11/2021	SeqNo: 3596158
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
Lead(Pb)	0.000204	0.00100			0.000226 10.2 20 J

**Qualifiers:**

B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analy
J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response	MC	Value is below Minimum Compound
ND	Not Detected	OGI		P	Second column confirmation exceeds
PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

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## QC SUMMARY REPORT

WO#: 21110480  
15-Nov-21

Client: City of Lorain WWTP  
Project: Monthly Metals

BatchID: 53052

Sample ID: MB-53052	SampType: MBLK	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/8/2021	RunNo: 136087						
Client ID: PBW	Batch ID: 53052	TestNo: E200.8	E200.8	Analysis Date: 11/9/2021	SeqNo: 3593007						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium(Cd)	ND	0.00100									
Chromium(Cr)	ND	0.00100									
Lead(Pb)	ND	0.00100									
Selenium(Se)	ND	0.00500									
Silver(Ag)	ND	0.00100									

Sample ID: LCS-53052	SampType: LCS	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/8/2021	RunNo: 136087						
Client ID: LCSW	Batch ID: 53052	TestNo: E200.8	E200.8	Analysis Date: 11/9/2021	SeqNo: 3593008						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium(Cd)	0.0469	0.00100	0.0500	0	93.7	85	115				
Chromium(Cr)	0.0478	0.00100	0.0500	0	95.7	85	115				
Lead(Pb)	0.0486	0.00100	0.0500	0	97.2	85	115				
Selenium(Se)	0.0465	0.00100	0.0500	0	93.1	85	115				

Sample ID: LCS2-53052	SampType: LCS	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/8/2021	RunNo: 136087						
Client ID: LCSW	Batch ID: 53052	TestNo: E200.8	E200.8	Analysis Date: 11/9/2021	SeqNo: 3593010						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver(Ag)	0.0443	0.00100	0.0500	0	88.6	85	115				

Qualifiers: B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analy  
J Analyte detected below quantitation limits M Manual Integration used to determine area response MC Value is below Minimum Compound  
ND Not Detected OGI P Second column confirmation exceeds  
PL Permit Limit R RPD outside accepted recovery limits RL Reporting Detection Limit

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## QC SUMMARY REPORT

WO#: 21110480  
15-Nov-21

Client: City of Lorain WWTP  
Project: Monthly Metals

BatchID: 53052

Sample ID: LCS2-53052	SampType: LCS	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/8/2021	RunNo: 136087						
Client ID: LCSW	Batch ID: 53052	TestNo: E200.8	E200.8	Analysis Date: 11/9/2021	SeqNo: 3593010						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers: B Analyte detected in the associated Method Blank  
J Analyte detected below quantitation limits  
ND Not Detected  
PL Permit Limit

E Value above quantitation range  
M Manual Integration used to determine area response  
OGI  
R RPD outside accepted recovery limits

H Holding times for preparation or analy  
MC Value is below Minimum Compound  
P Second column confirmation exceeds  
RL Reporting Detection Limit

Original





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## QC SUMMARY REPORT

WO#: 21110480

15-Nov-21

Client: City of Lorain WWTP

Project: Monthly Metals

BatchID: 53088

Sample ID: MB-53088	SampType: MBLK	TestCode: Mti-ICPMS_N	Units: mg/L	Prep Date: 11/9/2021	RunNo: 136279						
Client ID: PBW	Batch ID: 53088	TestNo: E200.8	E200.8	Analysis Date: 11/12/2021	SeqNo: 3600364						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium(Cd)	ND	0.00100									
Chromium(Cr)	ND	0.00100									
Copper(Cu)	ND	0.00100									
Lead(Pb)	ND	0.00100									
Nickel(Ni)	ND	0.00100									
Selenium(Se)	ND	0.00100									
Silver(Ag)	ND	0.00100									
Zinc(Zn)	ND	0.00500									

Sample ID: LCS-53088	SampType: LCS	TestCode: Mti-ICPMS_N	Units: mg/L	Prep Date: 11/9/2021	RunNo: 136279						
Client ID: LCSW	Batch ID: 53088	TestNo: E200.8	E200.8	Analysis Date: 11/12/2021	SeqNo: 3600365						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium(Cd)	0.0495	0.00100	0.0500	0	98.9	85	115				
Chromium(Cr)	0.0477	0.00100	0.0500	0	95.3	85	115				
Copper(Cu)	0.0518	0.00100	0.0500	0	104	85	115				
Lead(Pb)	0.0508	0.00100	0.0500	0	102	85	115				
Nickel(Ni)	0.0484	0.00100	0.0500	0	96.9	85	115				
Selenium(Se)	0.0505	0.00100	0.0500	0	101	85	115				
Zinc(Zn)	0.0516	0.00500	0.0500	0	103	85	115				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analy  
J Analyte detected below quantitation limits M Manual Integration used to determine area response MC Value is below Minimum Compound  
ND Not Detected OGI RPD outside accepted recovery limits P Second column confirmation exceeds  
PL Permit Limit R Reporting Detection Limit

Original



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## QC SUMMARY REPORT

WO#: 21110480  
15-Nov-21

Client: City of Lorain WWTP  
Project: Monthly Metals

BatchID: 53088

Sample ID: LCS2-53088	SampType: LCS	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/9/2021	RunNo: 136279						
Client ID: LCSW	Batch ID: 53088	TestNo: E200.8	E200.8	Analysis Date: 11/12/2021	SeqNo: 3600366						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver(Ag)	0.0430	0.00100	0.0500	0	86.0	85	115				

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected below quantitation limits  
ND Not Detected  
PL Permit Limit  
E Value above quantitation range  
M Manual Integration used to determine area response  
OGI  
R RPD outside accepted recovery limits  
H Holding times for preparation or analy  
MC Value is below Minimum Compound  
P Second column confirmation exceeds  
RL Reporting Detection Limit

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## QC SUMMARY REPORT

WO#: 21110480

15-Nov-21

Client: City of Lorain WWTP

Project: Monthly Metals

BatchID: 53088

Sample ID: 21110115-003AMS	SampType: MS	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/9/2021	RunNo: 136278						
Client ID: BatchQC	Batch ID: 53088	TestNo: E200.8	E200.8	Analysis Date: 11/12/2021	SeqNo: 3599235						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper(Cu)	0.499	0.0100	0.0250	0.458	163	70	130				S

Sample ID: 21110115-003AMSD	SampType: MSD	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/9/2021	RunNo: 136278						
Client ID: BatchQC	Batch ID: 53088	TestNo: E200.8	E200.8	Analysis Date: 11/12/2021	SeqNo: 3599236						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper(Cu)	0.482	0.0100	0.0250	0.458	94.8	70	130	0.499	3.49	20	

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected below quantitation limits  
ND Not Detected  
PL Permit Limit  
E Value above quantitation range  
M Manual Integration used to determine area response  
OGI  
R RPD outside accepted recovery limits  
H Holding times for preparation or analy  
MC Value is below Minimum Compound  
P Second column confirmation exceeds  
RL Reporting Detection Limit

Original



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## QC SUMMARY REPORT

WO#: 21110480  
15-Nov-21

Client: City of Lorain WWTP  
Project: Monthly Metals

BatchID: 53088

Sample ID: MB-53088	SampType: MBLK	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/9/2021	RunNo: 136277						
Client ID: PBW	Batch ID: 53088	TestNo: E200.8	E200.8	Analysis Date: 11/12/2021	SeqNo: 3599195						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium(Cd)	ND	0.00100									
Chromium(Cr)	ND	0.00100									
Copper(Cu)	ND	0.00100									
Zinc(Zn)	ND	0.00500									

Sample ID: LCS-53088	SampType: LCS	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/9/2021	RunNo: 136277						
Client ID: LCSW	Batch ID: 53088	TestNo: E200.8	E200.8	Analysis Date: 11/12/2021	SeqNo: 3599196						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium(Cd)	0.0487	0.00100	0.0500	0	97.4	85	115				
Chromium(Cr)	0.0472	0.00100	0.0500	0	94.4	85	115				
Copper(Cu)	0.0504	0.00100	0.0500	0	101	85	115				
Zinc(Zn)	0.0491	0.00500	0.0500	0	98.1	85	115				

Sample ID: 21110117-001ADUP	SampType: DUP	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/9/2021	RunNo: 136277						
Client ID: BatchQC	Batch ID: 53088	TestNo: E200.8	E200.8	Analysis Date: 11/12/2021	SeqNo: 3599203						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper(Cu)	0.00571	0.00100						0.00562	1.71	20	

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analy  
J Analyte detected below quantitation limits M Manual Integration used to determine area response MC Value is below Minimum Compound  
ND Not Detected OGI P Second column confirmation exceeds  
PL Permit Limit R RPD outside accepted recovery limits RL Reporting Detection Limit

Original

## Qualifiers and Acronyms

WO#: 21110480  
Date: 11/15/2021

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

### Qualifiers

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

### Acronyms

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

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.setek.com>

## DATES REPORT

WO#: 21110480

15-Nov-21

Client: City of Lorain WWTP  
Project: Monthly Metals

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
21110480-001A	BR INF	11/4/2021 7:05:00 AM	Non-Potable Water	Metals Analysis by ICP/MS (EPA200.1		11/9/2021 1:30:00 PM	11/12/2021 11:50:00 PM
21110480-002A				Metals Analysis by ICP/MS (EPA200.1		11/9/2021 1:30:00 PM	11/12/2021 11:54:59 PM
21110480-003A	PQM INF	11/4/2021 7:30:00 AM		Metals Analysis by ICP/MS (EPA200.1		11/8/2021 2:05:00 PM	11/12/2021 10:45:16 PM
				Metals Analysis by ICP/MS (EPA200.1		11/8/2021 2:05:00 PM	11/11/2021 7:11:00 AM
21110480-004A	PQM EFF			Metals Analysis by ICP/MS (EPA200.1		11/8/2021 2:05:00 PM	11/12/2021 10:40:16 PM
				Metals Analysis by ICP/MS (EPA200.1		11/8/2021 2:05:00 PM	11/11/2021 7:15:00 AM
21110480-005A	Old Hospital	11/4/2021 1:20:00 PM		Metals Analysis by ICP/MS (EPA200.1		11/8/2021 2:05:00 PM	11/12/2021 10:50:16 PM
				Metals Analysis by ICP/MS (EPA200.1		11/8/2021 2:05:00 PM	11/11/2021 7:19:00 AM

Original



5510 Main Street,  
Coyahoga Falls, Ohio 44223  
800-278-0140

**Refer to Terms and Conditions at [www.settel.com](http://www.settel.com)**

Client Name <b>Lehigh Valley Pollution Control</b>	Client Name <b>City Lehigh</b>	City <b>Lehigh</b>	Project Identification <b>New 21 Metals</b>
Client Street Address <b>100 Atabuna Ave.</b>	Client Phone <b>440 388 0361</b>	State <b>PA</b>	Project Street Address <b></b>
City <b>Lehigh</b>	State <b>PA</b>	City <b>Lehigh</b>	State <b>PA</b>
County <b>Lehigh</b>	County <b>Lehigh</b>	County <b>Lehigh</b>	County <b>Lehigh</b>
Zip <b>18022</b>	Zip <b>18022</b>	Zip <b>18022</b>	Zip <b>18022</b>
Quote Number <b></b>	Quote Number <b></b>	Quote Number <b></b>	Quote Number <b></b>
Facility ID <b></b>	Facility ID <b></b>	Facility ID <b></b>	Facility ID <b></b>
Reporting/Accounting Requirements: <input type="checkbox"/> Other EPA PA Co <input type="checkbox"/> Other YAP <input type="checkbox"/> Debiting Water Compliance <input type="checkbox"/> Other Compliance (List State/Program):	Reporting/Accounting Requirements: <input type="checkbox"/> Other EPA PA Co <input type="checkbox"/> Other YAP <input type="checkbox"/> Debiting Water Compliance <input type="checkbox"/> Other Compliance (List State/Program):	Reporting/Accounting Requirements: <input type="checkbox"/> Other EPA PA Co <input type="checkbox"/> Other YAP <input type="checkbox"/> Debiting Water Compliance <input type="checkbox"/> Other Compliance (List State/Program):	Reporting/Accounting Requirements: <input type="checkbox"/> Other EPA PA Co <input type="checkbox"/> Other YAP <input type="checkbox"/> Debiting Water Compliance <input type="checkbox"/> Other Compliance (List State/Program):
For PAI only, return to be reported to state by PAI? If yes, has the state apply: <input type="checkbox"/> Yes <input type="checkbox"/> No	For PAI only, return to be reported to state by PAI? If yes, has the state apply: <input type="checkbox"/> Yes <input type="checkbox"/> No	For PAI only, return to be reported to state by PAI? If yes, has the state apply: <input type="checkbox"/> Yes <input type="checkbox"/> No	For PAI only, return to be reported to state by PAI? If yes, has the state apply: <input type="checkbox"/> Yes <input type="checkbox"/> No

[illegible][illegible]
$$b: 6 + 0.9 =$$



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Website: <http://www.settek.com>

## Sample Log-In Check List

Client Name: **LOR-OH-44052-A**

Work Order Number: **21110480**

RcptNo: **1**

Logged by: **Christina N. Jager** 11/5/2021 12:25:00 PM

*C. Jager*

Completed By: **Jacqueline Rasile** 11/6/2021 5:04:35 PM

*Jacqueline Rasile*

Reviewed By: **Sara E. Kidd** 11/8/2021 10:20:41 AM

*Sara Kidd*

### Chain of Custody

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

### 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  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? 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? Yes ☒ No ☐  
(Note discrepancies on chain of custody)  
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? Yes ☒ No ☐  
(If no, notify customer for authorization.)

### 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:

There are 2 BR INF samples collected 11-4-21/07:05 and there is no BR EFF bottle

### Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.5	Good	Not Present			





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November 12, 2021

Brent Stoll  
City of Lorain WWTP  
100 Alabama Avenue  
Lorain, OH 44052  
TEL: (440) 288-0281  
FAX:

RE: Old Hospital Hg + PCB

Dear Brent Stoll:

Order No.: 21110481

Summit Environmental Technologies, Inc. received 1 sample(s) on 11/5/2021 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,

*Sara Kidd*

Sara E. Kidd  
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, 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 011, 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#: 21110481

Date: 11/12/2021

---

**CLIENT:** City of Lorain WWTP  
**Project:** Old Hospital Hg + PCB

---

### WorkOrder Narrative:

21110481: 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:

21110481-001A HG-LL\_NPW(1631): Z: Method Deviation: Sample was received without an associated Field or Trip Blank for Low Level Mercury Analysis.

### Analytical Sequence QC Notes:

mblank HG-LL\_NPW(1631): Per the SOP, method blanks must be less than 0.5 with one method blank in batch being less than 0.2. This method blank meets acceptable criteria.

LCS-53091 SVOC-PCB\_NPW(608.3): RPD between confirmation column is greater than 40%.

---

Original



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*Analytical Laboratories*

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## Workorder Sample Summary

WO#: 21110481  
12-Nov-21

---

**CLIENT:** City of Lorain WWTP  
**Project:** Old Hospital Hg + PCB

---

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
21110481-001	Old Hospital		11/4/2021 1:25:00 PM	11/5/2021 12:25:00 PM	Non-Potable Water
21110481-001	Old Hospital		11/4/2021 1:25:00 PM	11/5/2021 12:25:00 PM	Non-Potable Water

---



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## Analytical Report

(consolidated)

WO#: 21110481

Date Reported: 11/12/2021

Lab ID: 21110481-001

Collection Date: 11/4/2021 1:25:00 PM

Client Sample ID Old Hospital

Matrix: NON-POTABLE WATER

Analysis	Result	MDL	PQL	Qual	Units	Dilution	Batch	Date Analyzed
<b>LOW-LEVEL MERCURY (EPA 1631)</b>					<b>EPA 1631 E</b>		Analyst: SEE	
Mercury	8.68	0.247	0.500	Z	ng/L	1	R136140	11/10/2021 1:57:38 PM

### NOTES:

Z: Method Deviation: Sample was received without an associated Field or Trip Blank for Low Level Mercury Analysis.

<b>PCB (EPA 608.3)</b>					<b>EPA 608.3</b>		Analyst: CSS	
Aroclor 1016	ND	0.000165	0.000168		mg/L	1	53091	11/11/2021 8:35:00 AM
Aroclor 1221	ND	0.0000537	0.000105		mg/L	1	53091	11/11/2021 8:35:00 AM
Aroclor 1232	ND	0.0000811	0.000105		mg/L	1	53091	11/11/2021 8:35:00 AM
Aroclor 1242	ND	0.0000316	0.000105		mg/L	1	53091	11/11/2021 8:35:00 AM
Aroclor 1248	ND	0.000135	0.000158		mg/L	1	53091	11/11/2021 8:35:00 AM
Aroclor 1254	ND	0.0000242	0.000105		mg/L	1	53091	11/11/2021 8:35:00 AM
Aroclor 1260	ND	0.000114	0.000158		mg/L	1	53091	11/11/2021 8:35:00 AM
Total PCBs	ND	0.0000200	0.000105		mg/L	1	53091	11/11/2021 8:35:00 AM
Surr: DCB	53.7	0	10-140		%Rec	1	53091	11/11/2021 8:35:00 AM
Surr: TCMX	61.5		10-140		%Rec	1	53091	11/11/2021 8:35:00 AM

<b>ORGANOCHLORINE PESTICIDES (EPA 608.3)</b>					<b>EPA 608.3</b>		Analyst: CSS	
4,4'-DDD	ND	0.00000347	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
4,4'-DDE	ND	0.00000474	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
4,4'-DDT	ND	0.00000432	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
Aldrin	ND	0.00000658	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
alpha-BHC	ND	0.00000373	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
beta-BHC	ND	0.00000363	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
Chlordane, total	ND	0.0000400	0.000526		mg/L	1	53090	11/12/2021 1:16:00 AM
delta-BHC	ND	0.00000625	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
Dieldrin	ND	0.00000671	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
Endosulfan I	ND	0.0000109	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
Endosulfan II	ND	0.00000659	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
Endosulfan sulfate	ND	0.00000516	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
Endrin	ND	0.00000668	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
Endrin aldehyde	ND	0.00000886	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
Endrin ketone	ND	0.00000560	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
gamma-BHC	ND	0.00000452	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
Heptachlor	ND	0.00000354	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
Heptachlor epoxide	ND	0.00000712	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
Methoxychlor	ND	0.00000536	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
Toxaphene	ND	0.000168	0.00105		mg/L	1	53090	11/12/2021 1:16:00 AM
Surr: DCB	32.8		10-119	m	%Rec	1	53090	11/12/2021 1:16:00 AM
Surr: TCMX	40.6		10-119		%Rec	1	53090	11/12/2021 1:16:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
	ND	Not Detected	OG1	
	P	Second column confirmation exceeds	PL	Permit Limit



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## QC SUMMARY REPORT

WO#: 21110481

12-Nov-21

Client: City of Lorain WWTP  
Project: Old Hospital Hg + PCB

BatchID: 53090

Sample ID: LCS-53090	SampType: LCS	TestCode: SVOC-PEST_	Units: mg/L		Prep Date: 11/9/2021			RunNo: 136236			
Client ID: LCSW	Batch ID: 53090	TestNo: E608	SW3510C		Analysis Date: 11/11/2021			SeqNo: 3598459			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4,4'-DDD	0.000567	0.0000500	0.000500	0	113	31	141				
4,4'-DDE	0.000536	0.0000500	0.000500	0	107	30	145				
4,4'-DDT	0.000535	0.0000500	0.000500	0	107	25	160				
Aldrin	0.000406	0.0000500	0.000500	0	81.1	42	140				
alpha-BHC	0.000448	0.0000500	0.000500	0	89.7	37	140				
beta-BHC	0.000531	0.0000500	0.000500	0	106	17	147				
delta-BHC	0.000339	0.0000500	0.000500	0	67.7	19	140				
Dieldrin	0.000536	0.0000500	0.000500	0	107	36	146				
Endosulfan I	0.000518	0.0000500	0.000500	0	104	45	153				
Endosulfan II	0.000534	0.0000500	0.000500	0	107	1	202				
Endosulfan sulfate	0.000483	0.0000500	0.000500	0	96.5	26	144				
Endrin	0.000545	0.0000500	0.000500	0	109	30	147				
Endrin aldehyde	0.000538	0.0000500	0.000500	0	108	5	199				
Endrin ketone	0.000428	0.0000500	0.000500	0	85.7	5	199				
gamma-BHC	0.000476	0.0000500	0.000500	0	95.2	32	140				
Heptachlor	0.000481	0.0000500	0.000500	0	96.2	34	140				
Heptachlor epoxide	0.000524	0.0000500	0.000500	0	105	37	142				
Methoxychlor	0.000565	0.0000500	0.000500	0	113	5	199				
Surr: DCB	0.697		1.000		69.7	10	119				
Surr: TCMX	0.678		1.000		67.8	10	119				

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analy
	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response	MC	Value is below Minimum Compound
	ND	Not Detected	OGI		P	Second column confirmation exceeds
	PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Original



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## QC SUMMARY REPORT

WO#: 21110481  
12-Nov-21

Client: City of Lorain WWTP  
Project: Old Hospital Hg + PCB

BatchID: 53090

Sample ID: LCSD-53090	SampType: LCSD	TestCode: SVOC-PEST_ Units: mg/L				Prep Date: 11/9/2021			RunNo: 136236		
Client ID: LCSS02	Batch ID: 53090	TestNo: E608		SW3510C		Analysis Date: 11/12/2021			SeqNo: 3598460		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4,4'-DDD	0.000575	0.0000500	0.000500	0	115	31	141	0.000567	1.36	30	
4,4'-DDE	0.000534	0.0000500	0.000500	0	107	30	145	0.000536	0.397	30	
4,4'-DDT	0.000602	0.0000500	0.000500	0	120	25	160	0.000535	11.8	30	
Aldrin	0.000390	0.0000500	0.000500	0	78.0	42	140	0.000406	3.89	30	
alpha-BHC	0.000425	0.0000500	0.000500	0	85.0	37	140	0.000448	5.36	30	
beta-BHC	0.000516	0.0000500	0.000500	0	103	17	147	0.000531	2.98	30	
delta-BHC	0.000327	0.0000500	0.000500	0	65.5	19	140	0.000339	3.35	30	
Dieldrin	0.000525	0.0000500	0.000500	0	105	36	146	0.000536	2.21	30	
Endosulfan I	0.000504	0.0000500	0.000500	0	101	45	153	0.000518	2.59	30	
Endosulfan II	0.000541	0.0000500	0.000500	0	108	1	202	0.000534	1.34	30	
Endosulfan sulfate	0.000496	0.0000500	0.000500	0	99.3	26	144	0.000483	2.82	30	
Endrin	0.000539	0.0000500	0.000500	0	108	30	147	0.000545	1.21	30	
Endrin aldehyde	0.000549	0.0000500	0.000500	0	110	5	199	0.000538	2.04	30	
Endrin ketone	0.000476	0.0000500	0.000500	0	95.2	5	199	0.000428	10.5	30	
gamma-BHC	0.000456	0.0000500	0.000500	0	91.3	32	140	0.000476	4.27	30	
Heptachlor	0.000486	0.0000500	0.000500	0	97.1	34	140	0.000481	0.947	30	
Heptachlor epoxide	0.000511	0.0000500	0.000500	0	102	37	142	0.000524	2.51	30	
Methoxychlor	0.000586	0.0000500	0.000500	0	117	5	199	0.000565	3.58	30	
Surr: DCB	0.792		1.000		79.2	10	119		0		
Surr: TCMX	0.618		1.000		61.8	10	119		0		

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analy
	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response	MC	Value is below Minimum Compound
	ND	Not Detected	OGI		P	Second column confirmation exceeds
	PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Original



**SUMMIT**  
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Website: <http://www.settek.com>

## QC SUMMARY REPORT

WO#: 21110481

12-Nov-21

Client: City of Lorain WWTP  
Project: Old Hospital Hg + PCB

BatchID: 53090

Sample ID: MB-53090	SampType: MBLK	TestCode: SVOC-PEST_	Units: mg/L		Prep Date: 11/9/2021	RunNo: 136236					
Client ID: PBW	Batch ID: 53090	TestNo: E608	SW3510C		Analysis Date: 11/11/2021	SeqNo: 3598461					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4,4'-DDD	ND	0.0000500									
4,4'-DDE	ND	0.0000500									
4,4'-DDT	ND	0.0000500									
Aldrin	ND	0.0000500									
alpha-BHC	ND	0.0000500									
beta-BHC	ND	0.0000500									
Chlordane, total	ND	0.000500									
delta-BHC	ND	0.0000500									
Dieldrin	ND	0.0000500									
Endosulfan I	ND	0.0000500									
Endosulfan II	ND	0.0000500									
Endosulfan sulfate	ND	0.0000500									
Endrin	ND	0.0000500									
Endrin aldehyde	ND	0.0000500									
Endrin ketone	ND	0.0000500									
gamma-BHC	ND	0.0000500									
Heptachlor	ND	0.0000500									
Heptachlor epoxide	ND	0.0000500									
Methoxychlor	ND	0.0000500									
Toxaphene	ND	0.00100									
Surr: DCB	0.709		1.000		70.9	10	119				
Surr: TCMX	0.640		1.000		64.0	10	119				

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analy
	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response	MC	Value is below Minimum Compound
	ND	Not Detected	OGI		P	Second column confirmation exceeds
	PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

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## QC SUMMARY REPORT

WO#: 21110481  
12-Nov-21

Client: City of Lorain WWTP  
Project: Old Hospital Hg + PCB

BatchID: 53091

Sample ID: LCS-53091	SampType: LCS	TestCode: SVOC-PCB_T Units: mg/L				Prep Date: 11/9/2021			RunNo: 136160		
Client ID: LCSS	Batch ID: 53091	TestNo: E608		SW3510C		Analysis Date: 11/11/2021			SeqNo: 3596399		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	0.000395	0.000200	0.000500	0	79.0	55.1	130				
Aroclor 1260	0.000442	0.000200	0.000500	0	88.5	70	130				
Total PCBs	0.000837	0.000200	0.00100	0	83.7	70	130				
Surr: TCMX	0.503		1.000		50.3	35.4	130				
Surr: DCB	1.02		1.500		67.9	47.3	130				

Sample ID: LCSD-53091	SampType: LCSD	TestCode: SVOC-PCB_T	Units: mg/L	Prep Date: 11/9/2021	RunNo: 136160						
Client ID: LCSS02	Batch ID: 53091	TestNo: E608	SW3510C	Analysis Date: 11/11/2021	SeqNo: 3596400						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	0.000374	0.000200	0.000500	0	74.7	55.1	130	0.000395	5.56	0	
Aroclor 1260	0.000397	0.000200	0.000500	0	79.4	70	130	0.000442	10.9	0	
Total PCBs	0.000770	0.000200	0.00100	0	77.0	70	130	0.000837	8.33	0	
Surr: TCMX	0.479		1.000		47.9	35.4	130		0	0	
Surr: DCB	0.963		1.500		64.2	47.3	130		0	0	

Sample ID: MB-53091	SampType: MBLK	TestCode: SVOC-PCB_T	Units: mg/L	Prep Date: 11/9/2021	RunNo: 136160						
Client ID: PBS	Batch ID: 53091	TestNo: E608	SW3510C	Analysis Date: 11/11/2021	SeqNo: 3596401						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers: B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analy  
J Analyte detected below quantitation limits M Manual Integration used to determine area response MC Value is below Minimum Compound  
ND Not Detected OGI Second column confirmation exceeds  
PL Permit Limit R RPD outside accepted recovery limits RL Reporting Detection Limit

Original





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## QC SUMMARY REPORT

WO#: 21110481

12-Nov-21

Client: City of Lorain WWTP  
Project: Old Hospital Hg + PCB

BatchID: 53091

Sample ID: MB-53091		SampType: MBLK		TestCode: SVOC-PCB_T Units: mg/L		Prep Date: 11/9/2021			RunNo: 136160		
Client ID: PBS		Batch ID: 53091		TestNo: E608 SW3510C		Analysis Date: 11/11/2021			SeqNo: 3596401		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.000200									
Aroclor 1221	ND	0.000200									
Aroclor 1232	ND	0.000200									
Aroclor 1242	ND	0.000200									
Aroclor 1248	ND	0.000200									
Aroclor 1254	ND	0.000200									
Aroclor 1260	ND	0.000200									
Total PCBs	ND	0.000200									
Surr: TCMX	0.443		1.000		44.3	35.4	130				
Surr: DCB	0.955		1.500		63.7	47.3	130				

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analy
	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response	MC	Value is below Minimum Compound
	ND	Not Detected	OG1		P	Second column confirmation exceeds
	PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

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## QC SUMMARY REPORT

WO#: 21110481  
12-Nov-21

Client: City of Lorain WWTP  
Project: Old Hospital Hg + PCB

BatchID: 53091

Sample ID: LCS-53091	SampType: LCS	TestCode: SVOC-PCB_	Units: mg/L	Prep Date: 11/9/2021	RunNo: 136162						
Client ID: LCSW	Batch ID: 53091	TestNo: E608	SW3510C	Analysis Date: 11/11/2021	SeqNo: 3597744						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	0.000395	0.000200	0.000500	0	79.0	50	140				
Aroclor 1260	0.000442	0.000200	0.000500	0	88.5	8	140				
Total PCBs	0.000837	0.000200	0.00100	0	83.7	43	123				
Surr: DCB	1.02		1.500		67.9	9.98	149				
Surr: TCMX	0.503		1.000		50.3	20.7	110				

Sample ID: LCSD-53091	SampType: LCSD	TestCode: SVOC-PCB_	Units: mg/L	Prep Date: 11/9/2021	RunNo: 136162						
Client ID: LCSS02	Batch ID: 53091	TestNo: E608	SW3510C	Analysis Date: 11/11/2021	SeqNo: 3597745						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	0.000374	0.000200	0.000500	0	74.7	50	140	0.000395	5.56	20	
Aroclor 1260	0.000397	0.000200	0.000500	0	79.4	8	140	0.000442	10.9	20	
Total PCBs	0.000770	0.000200	0.00100	0	77.0	43	123	0.000837	8.33	20	
Surr: DCB	0.963		1.500		64.2	9.98	149		0	0	
Surr: TCMX	0.479		1.000		47.9	20.7	110		0	0	

Sample ID: MB-53091	SampType: MBLK	TestCode: SVOC-PCB_	Units: mg/L	Prep Date: 11/9/2021	RunNo: 136162						
Client ID: PBW	Batch ID: 53091	TestNo: E608	SW3510C	Analysis Date: 11/11/2021	SeqNo: 3597746						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers: B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analy  
J Analyte detected below quantitation limits M Manual Integration used to determine area response MC Value is below Minimum Compound  
ND Not Detected OGI P Second column confirmation exceeds  
PL Permit Limit R RPD outside accepted recovery limits RL Reporting Detection Limit

Original



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## QC SUMMARY REPORT

WO#: 21110481

12-Nov-21

Client: City of Lorain WWTP  
Project: Old Hospital Hg + PCB

BatchID: 53091

Sample ID: MB-53091		SampType: MBLK		TestCode: SVOC-PCB_		Units: mg/L		Prep Date: 11/9/2021		RunNo: 136162	
Client ID: PBW		Batch ID: 53091		TestNo: E608		SW3510C		Analysis Date: 11/11/2021		SeqNo: 3597746	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.000200									
Aroclor 1221	ND	0.000400									
Aroclor 1232	ND	0.000200									
Aroclor 1242	ND	0.000200									
Aroclor 1248	ND	0.000300									
Aroclor 1254	ND	0.000200									
Aroclor 1260	ND	0.000200									
Total PCBs	ND	0.000200									
Surr: DCB	0.955		1.500		63.7	20	117				
Surr: TCMX	0.443		1.000		44.3	20	117				

Qualifiers: B Analyte detected in the associated Method Blank  
J Analyte detected below quantitation limits  
ND Not Detected  
PL Permit Limit

E Value above quantitation range  
M Manual Integration used to determine area response  
OGI  
R RPD outside accepted recovery limits

H Holding times for preparation or analy  
MC Value is below Minimum Compound  
P Second column confirmation exceeds  
RL Reporting Detection Limit

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## QC SUMMARY REPORT

WO#: 21110481  
12-Nov-21

Client: City of Lorain WWTP  
Project: Old Hospital Hg + PCB

BatchID: R136140

Sample ID: lcs1	SampType: LCS	TestCode: HG-LL_NPW( Units: ng/L				Prep Date:			RunNo: 136140		
Client ID: LCSW	Batch ID: R136140	TestNo: E1631				Analysis Date: 11/10/2021			SeqNo: 3594863		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	42.3	0.500	50.00	0	84.6	77	123				

Sample ID: mblank	SampType: MBLK	TestCode: HG-LL_NPW(	Units: ng/L	Prep Date:	RunNo: 136140						
Client ID: PBW	Batch ID: R136140	TestNo: E1631		Analysis Date: 11/10/2021	SeqNo: 3594864						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.342	0.500									J

Sample ID: rlc	SampType: RLC	TestCode: HG-LL_NPW( Units: ng/L				Prep Date:			RunNo: 136140		
Client ID: BatchQC	Batch ID: R136140	TestNo: E1631				Analysis Date: 11/10/2021			SeqNo: 3594865		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.515	0.500	0.5000	0	103	50	150				

Sample ID: mblank	SampType: MBLK	TestCode: HG-LL_NPW(	Units: ng/L	Prep Date:	RunNo: 136140						
Client ID: PBW	Batch ID: R136140	TestNo: E1631		Analysis Date: 11/10/2021	SeqNo: 3594873						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.500									

Qualifiers: B Analyte detected in the associated Method Blank  
J Analyte detected below quantitation limits  
ND Not Detected  
PL Permit Limit  
E Value above quantitation range  
M Manual Integration used to determine area response  
OG1  
R RPD outside accepted recovery limits  
H Holding times for preparation or analy  
MC Value is below Minimum Compound  
P Second column confirmation exceeds  
RL Reporting Detection Limit

Original



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## QC SUMMARY REPORT

WO#: 21110481

12-Nov-21

Client: City of Lorain WWTP  
Project: Old Hospital Hg + PCB

BatchID: R136140

Sample ID: mblank	SampType: MBLK	TestCode: HG-LL_NPW(	Units: ng/L	Prep Date:	RunNo: 136140						
Client ID: PBW	Batch ID: R136140	TestNo: E1631		Analysis Date: 11/10/2021	SeqNo: 3594873						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: lfb	SampType: LCS	TestCode: HG-LL_NPW( Units: ng/L				Prep Date:			RunNo: 136140		
Client ID: LCSW	Batch ID: R136140	TestNo: E1631				Analysis Date: 11/10/2021			SeqNo: 3594878		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	38.9	0.500	50.00	0	77.8	77	123				

Sample ID: lfbd	SampType: LCSD	TestCode: HG-LL_NPW( Units: ng/L				Prep Date:			RunNo: 136140		
Client ID: LCSS02	Batch ID: R136140	TestNo: E1631				Analysis Date: 11/10/2021			SeqNo: 3594879		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	38.8	0.500	50.00	0	77.7	77	123	38.88	0.117	24	

Sample ID: mblank	SampType: MBLK	TestCode: HG-LL_NPW( Units: ng/L				Prep Date:				RunNo: 136140		
Client ID: PBW	Batch ID: R136140	TestNo: E1631				Analysis Date: 11/10/2021				SeqNo: 3594886		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercurv	ND	0.500										

Qualifiers: B Analyte detected in the associated Method Blank  
J Analyte detected below quantitation limits  
ND Not Detected  
PL Permit Limit  
E Value above quantitation range  
M Manual Integration used to determine area response  
OGI  
R RPD outside accepted recovery limits  
H Holding times for preparation or analy  
MC Value is below Minimum Compound  
P Second column confirmation exceeds  
RL Reporting Detection Limit

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## QC SUMMARY REPORT

WO#: 21110481  
12-Nov-21

Client: City of Lorain WWTP  
Project: Old Hospital Hg + PCB

BatchID: R136140

Sample ID: Ifb	SampType: LCS	TestCode: HG-LL_NPW( Units: ng/L				Prep Date:			RunNo: 136140		
Client ID: LCSW	Batch ID: R136140	TestNo: E1631				Analysis Date: 11/10/2021			SeqNo: 3594895		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	37.6	0.500	50.00	0	75.2	77	123				S

Sample ID: Ifbd	SampType: LCSD	TestCode: HG-LL_NPW( Units: ng/L				Prep Date:			RunNo: 136140		
Client ID: LCSS02	Batch ID: R136140	TestNo: E1631				Analysis Date: 11/10/2021			SeqNo: 3594897		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	37.7	0.500	50.00	0	75.4	77	123	38.88	3.13	24	S

Sample ID: mblank	SampType: MBLK	TestCode: HG-LL_NPW(	Units: ng/L	Prep Date:	RunNo: 136140						
Client ID: PBW	Batch ID: R136140	TestNo: E1631		Analysis Date: 11/10/2021	SeqNo: 3594899						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercurv	ND	0.500									

Sample ID: Ics2	SampType: LCS	TestCode: HG-LL_NPW(	Units: ng/L	Prep Date:	RunNo: 136140						
Client ID: LCSW	Batch ID: R136140	TestNo: E1631		Analysis Date: 11/10/2021	SeqNo: 3594901						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	38.8	0.500	50.00	0	77.5	77	123				

Qualifiers: B Analyte detected in the associated Method Blank  
J Analyte detected below quantitation limits  
ND Not Detected  
PL Permit Limit  
E Value above quantitation range  
M Manual Integration used to determine area response  
OG1  
R RPD outside accepted recovery limits  
H Holding times for preparation or analy  
MC Value is below Minimum Compound  
P Second column confirmation exceeds  
RL Reporting Detection Limit

Original





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## QC SUMMARY REPORT

WO#: 21110481

12-Nov-21

Client: City of Lorain WWTP  
Project: Old Hospital Hg + PCB

BatchID: R136140

Sample ID: lcs2	SampType: LCS	TestCode: HG-LL_NPW(	Units: ng/L	Prep Date:	RunNo: 136140						
Client ID: LCSW	Batch ID: R136140	TestNo: E1631		Analysis Date: 11/10/2021	SeqNo: 3594901						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: mblank	SampType: MBLK	TestCode: HG-LL_NPW( Units: ng/L				Prep Date:				RunNo: 136140		
Client ID: PBW	Batch ID: R136140	TestNo: E1631				Analysis Date: 11/10/2021				SeqNo: 3594911		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury	ND	0.500										

Sample ID: lfb	SampType: LCS	TestCode: HG-LL_NPW( Units: ng/L				Prep Date:				RunNo: 136140		
Client ID: LCSW	Batch ID: R136140	TestNo: E1631				Analysis Date: 11/10/2021				SeqNo: 3594918		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury	37.4	0.500	50.00	0	74.8	77	123				S	

Sample ID: lfbd	SampType: LCSD	TestCode: HG-LL_NPW( Units: ng/L				Prep Date:			RunNo: 136140		
Client ID: LCSS02	Batch ID: R136140	TestNo: E1631				Analysis Date: 11/10/2021			SeqNo: 3594919		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	36.6	0.500	50.00	0	73.1	77	123	38.88	6.16	24	S

Qualifiers: B Analyte detected in the associated Method Blank  
J Analyte detected below quantitation limits  
ND Not Detected  
PL Permit Limit  
E Value above quantitation range  
M Manual Integration used to determine area response  
OGI  
R RPD outside accepted recovery limits  
H Holding times for preparation or analy  
MC Value is below Minimum Compound  
P Second column confirmation exceeds  
RL Reporting Detection Limit

Original



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#: 21110481  
12-Nov-21

Client: City of Lorain WWTP  
Project: Old Hospital Hg + PCB

BatchID: R136140

Sample ID: mblank	SampType: MBLK	TestCode: HG-LL_NPW( Units: ng/L				Prep Date:			RunNo: 136140		
Client ID: PBW	Batch ID: R136140	TestNo: E1631				Analysis Date: 11/10/2021			SeqNo: 3594926		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.500									

Sample ID: Ifb	SampType: LCS	TestCode: HG-LL_NPW( Units: ng/L				Prep Date:			RunNo: 136140		
Client ID: LCSW	Batch ID: R136140	TestNo: E1631				Analysis Date: 11/10/2021			SeqNo: 3594935		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	34.0	0.500	50.00	0	68.0	77	123				S

Sample ID: Ifbd	SampType: LCSD	TestCode: HG-LL_NPW( Units: ng/L				Prep Date:				RunNo: 136140		
Client ID: LCSS02	Batch ID: R136140	TestNo: E1631				Analysis Date: 11/10/2021				SeqNo: 3594937		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury	32.6	0.500	50.00	0	65.3	77	123	38.88	17.4	24	S	

Qualifiers: B Analyte detected in the associated Method Blank  
J Analyte detected below quantitation limits  
ND Not Detected  
PL Permit Limit  
E Value above quantitation range  
M Manual Integration used to determine area response  
OGI  
R RPD outside accepted recovery limits  
H Holding times for preparation or analy  
MC Value is below Minimum Compound  
P Second column confirmation exceeds  
RL Reporting Detection Limit

Original

## Qualifiers and Acronyms

WO#: 21110481  
Date: 11/12/2021

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

### Qualifiers

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

### Acronyms

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

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>

## DATES REPORT

WO#: 21110481

12-Nov-21

**Client:** City of Lorain WWTP  
**Project:** Old Hospital Hg + PCB

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
21110481-001A	Old Hospital	11/4/2021 1:25:00 PM	Non-Potable Water	Low-Level Mercury (EPA 1631)			11/10/2021 1:57:38 PM
21110481-001B				Organochlorine Pesticides (EPA 608.3)		11/9/2021 3:00:00 PM	11/12/2021 1:16:00 AM
				Organochlorine Pesticides (EPA 608.3)		11/9/2021 3:00:00 PM	11/12/2021 1:16:00 AM
				PCB (EPA 608.3)		11/9/2021 3:00:00 PM	11/11/2021 8:35:00 AM
				PCB (EPA 608.3)		11/9/2021 3:00:00 PM	11/11/2021 8:35:00 AM

Original

Effective Date: 10/01/2001  
Page 1 of

Coyoteoga Falls, Ohio 44228  
800-278-7140

**Refer to Terms and Conditions at [www.setback.com](http://www.setback.com)**

<b>Client Name</b>	<b>Client Address</b>	<b>City</b>	<b>State</b>	<b>Zip</b>	<b>Project Identification</b>
Lorain Under Pollution Control	100 Mabana Ave.	City Lorain	State OH	Zip 44062	Old Hospital Hg + PCB Project Street Address
<b>Client Phone</b>	<b>Client Fax</b>	<b>Project To</b>	<b>Project From</b>		<b>Project Street Address</b>
440 398 0361		Direct Mail			
<b>Quoted Person</b>	<b>Quote Number</b>	<b>Rec'd ID</b>	<b>Project ID</b>		<b>Order Date/Completion Requested</b>
					Order VAP <input type="checkbox"/> Order EPA Pn Cn <input type="checkbox"/>
<b>Client Email Address</b>	<b>Project Description</b>	<b>Order Compliance (List State Program)</b>			
direct_mail@cityoflorain.org	Completed by (Print Name and Provide Signature) <i>[Signature]</i>	<input type="checkbox"/> Drinking Water Compliance <input type="checkbox"/> Other Compliance			
<b>Price:</b> \$705	<b>Other:</b> \$0	<b>Per 100' only, results to be reported to state by Feb? If yes, include fee per apply:</b> <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			

[illegible]

Date		Time	Carrier	Rush Requested: Must be approved by Lab Manager	Received Temp.: 1.5 °C	Sufficient volume provided to run QCT		Coolant	
Received at Summit by:						YES	NO	YES	NO
11/5/21	10:50am								
11/5/21	12:25								
C. J. JAGGERS NOV 05 2021									

$$0.6 + 0.9 =$$



Summit Environmental Technologies, Inc.  
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: **LOR-OH-44052-A**

Work Order Number: **21110481**

RcptNo: **1**

Logged by: **Christina N. Jager** **11/5/2021 12:25:00 PM**

*C. Jager*

Completed By: **Jacqueline Rasile** **11/6/2021 5:16:29 PM**

*Jacqueline Rasile*

Reviewed By: **Sara E. Kidd** **11/8/2021 10:21:56 AM**

*Sara Kidd*

### Chain of Custody

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

### 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  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? 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? Yes ☒ No ☐  
(Note discrepancies on chain of custody)  
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? Yes ☒ No ☐  
(If no, notify customer for authorization.)

### 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:

liter glass rec'd for SVOC, Pest, PCB, etc?

### Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.5	Good	Not Present			



# Table of Contents

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## **ATTACHMENT NO. 3**

EMSL Analytical  
Bulk Asbestos Sample Laboratory Reports



QUALITY CONTROL  
SAMPLE TRANSMITTAL  
CHAIN - OF - CUSTODY FORM

162123967

☒ Regular ☐ Rush Results needed by: 5-day TAT

Samples taken at: Rubble piles, 205 W. 20<sup>th</sup> St., Lorain, OH

Type of samples: Bulk Analysis requested: PLM/Point Count as per agreement

SAMPLE #	SAMPLE DESCRIPTION	SAMPLE LOCATION
B-1	Joint compound	N radiology building
B-2	Wall plaster	S radiology building
B-3	Drywall with joint compound	Rubble between radiology buildings
B-4	Sprayed on fireproofing	NE face of parking garage
B-5	Sprayed on fireproofing	S wall outside elevator
B-6	Mosaic sheet flooring	Top of main rubble pile
B-7	White floor tile	S end of main rubble pile
B-8	Mosaic sheet flooring	Flooded basement rubble
B-9	Wall plaster	Main rubble pile
B-10	Green mosaic sheet flooring	Main rubble pile
B-11	Pink sheet flooring	NW main rubble
B-12	9x9 rose floor tile	North slab
B-13	Plaster	NE basement site
B-14	Tan floor tile	NE basement site

TRANSFERAL RECORD

Relinquished by: John Pardee Relinquished to: \_\_\_\_\_ Date: 10-07-21  
 Relinquished by: \_\_\_\_\_ Relinquished to: \_\_\_\_\_ Date: \_\_\_\_\_  
 Sent by courier: FedEx (indicate type)

*Melby Wolley* 10/11/21 9:43 am  
FEX

PARDEE ENVIRONMENTAL, 47391 Garfield Road, Oberlin, Ohio 44074  
 Email: jpincenv@gmail.com || Phone: (440) 315-2735



QUALITY CONTROL  
SAMPLE TRANSMITTAL  
CHAIN - OF - CUSTODY FORM

162123963

☒ Regular ☐ Rush Results needed by: 5-day TAT

Samples taken at: Parking garage, 21<sup>st</sup> & Reid, Lorain, Ohio

Type of samples: Bulk Analysis requested: PLM/Point Count as per agreement

SAMPLE #	SAMPLE DESCRIPTION	SAMPLE LOCATION
C-1	Fire door core	1F NE side
C-2	Sprayed on fireproofing	1F NW corner
C-3	Red floor tile	1F NW corner
C-4	White floor tile	1F NW corner
C-5	Drywall with joint compound	1F restroom
C-6	Ceiling plaster	1F restroom
C-7	Drywall joint compound	1F restroom
C-8	Pipe joint insulation	1F restroom
C-9	Pipe joint insulation	1F restroom
C-10	Ceiling plaster	1F restroom
C-11	Sprayed on fireproofing	1F outside restrooms
C-12	Mosaic sheet flooring	1F SE corner
C-13	Pipe joint insulation	1F mechanical space
C-14	Rope packing	Top of core wall
C-15	1x1 white floor tile	2F elevator lobby
C-16	Wall plaster	2F elevator lobby
C-17	1x1 red floor tile	7F elevator lobby
C-18	2x4 ceiling tile	2F elevator lobby
C-19	Pipe joint insulation	2F stairwell

TRANSFERAL RECORD

Relinquished by: John Pardee Relinquished to: \_\_\_\_\_ Date: 10-07-21  
 Relinquished by: \_\_\_\_\_ Relinquished to: \_\_\_\_\_ Date: \_\_\_\_\_  
 Sent by courier: FedEx (indicate type)

*Molly Wooley 10/11/21 9:43am FedEx*

PARDEE ENVIRONMENTAL, 47391 Garfield Road, Oberlin, Ohio 44074  
 Email: jpincenv@gmail.com || Phone: (440) 315-2735



QUALITY CONTROL  
SAMPLE TRANSMITTAL  
CHAIN - OF - CUSTODY FORM

162123962

☒ Regular ☐ Rush Results needed by: 5-day TAT

Samples taken at: 1919 and 1859 Reid Ave. Lorain, Ohio

Type of samples: Bulk Analysis requested: PLM/Point Count as per agreement

SAMPLE #	SAMPLE DESCRIPTION	SAMPLE LOCATION
A-1	Efis siding	Roof
A-2	Efis siding	Roof
A-3	1x1 green floor tile	NE section
A-4	Wall plaster	Stairs to penthouse
A-5	Cement board	Exterior soffit
A-6	2x4 ceiling tile	Lobby
A-7	Drywall jointcompound	NE office
A-8	Light green sheet flooring	North central office
A-9	Drywall joint compound	North central hallway
A-10	Light green sheet flooring	Noth office
A-11	1x1 tan floor tile	North utility closet
A-12	Drywall joint compound	West hallway
A-13	Light blue fleck sheet flooring	Office north of lobby
A-14	1x1 purple floor tile	Soutwest office
A-15	Drywall joint compound	Southwest hallway
A-16	2x4 ceiling tile	Southwest hallway
A-17	Drywall joint compound	South office
A-18	2x4 ceiling tile	South office
A-19	1x1 rainbow fleck floor tile	South office by south exit
A-20	Drywall joint compound	Southeast hallway
A-21	Blue floor tile	Southeast office

TRANSFERAL RECORD

Relinquished by: John Pardee Relinquished to: \_\_\_\_\_ Date: 10-07-21  
 Relinquished by: \_\_\_\_\_ Relinquished to: \_\_\_\_\_ Date: \_\_\_\_\_  
 Sent by courier: FedEx (indicate type)

*Maley Woley 10/11/21 9:43am EFX*

PARDEE ENVIRONMENTAL, 47391 Garfield Road, Oberlin, Ohio 44074  
 Email: [jpincenv@gmail.com](mailto:jpincenv@gmail.com) || Phone: (440) 315-2735



*Former St. Joe's Hospital Environmental Site Assessment Photo Log Oct. 6, 2021*

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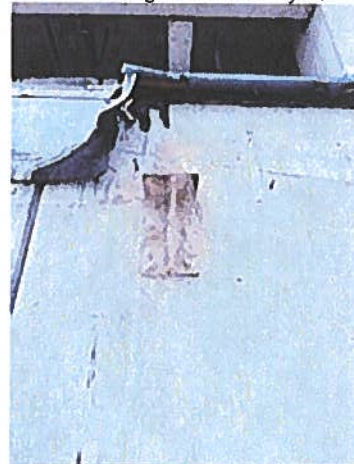
Lead sheeting in rubble of x-ray lab adjacent to parking garage



Lead sheeting in rubble of x-ray lab adjacent to parking garage



Lead sheeting in rubble of x-ray lab



Sprayed-on fire proofing that tested negative for asbestos

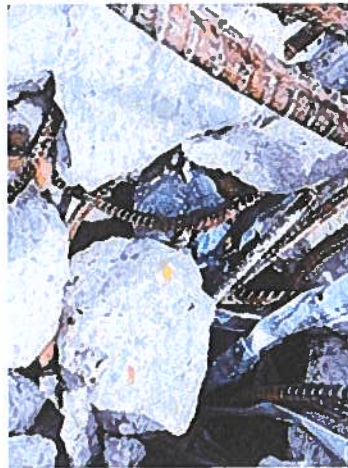


*Former St. Joe's Hospital Environmental Site Assessment Photo Log Oct. 6, 2021*

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Lead sheeting in rubble of x-ray lab



Lead sheeting in rubble of x-ray lab



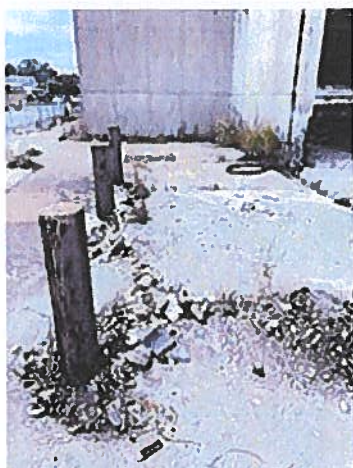
Florescent light ballast in x-ray lab debris site



Lead sheeting in rubble of x-ray lab

*Former St. Joe's Hospital Environmental Site Assessment Photo Log Oct. 6, 2021*

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Pipe bollards southeast of parking garage



View of demo site from the top of the debris pile



Severed product lines by pipe bollards



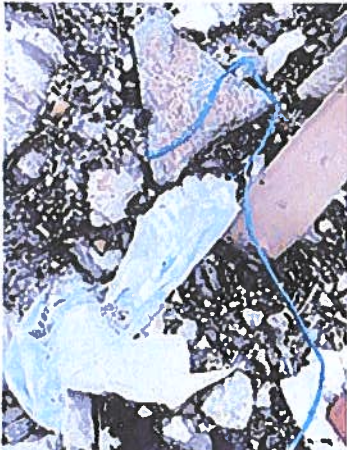
ACM "Brown mosaic sheet flooring" on debris pile



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*Former St. Joe's Hospital Environmental Site Assessment Photo Log Oct. 6, 2021*

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ACM "Brown mosaic sheet flooring" on debris pile



Lead sheeting pieces on debris pile



Lead sheeting pieces on debris pile



Floor tile and ACM sheet flooring "sandwich" in basement pit

*Former St. Joe's Hospital Environmental Site Assessment Photo Log Oct. 6, 2021*

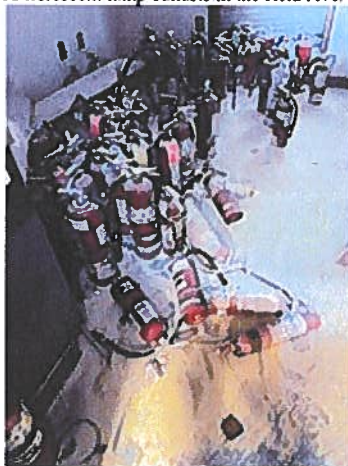
---



Collected florescent lamp ballasts in the Reid Ave. building



Asbestos work area signage in Reid Ave. building



Collection of fire extinguishers (Some discharged) in the Reid Ave. building

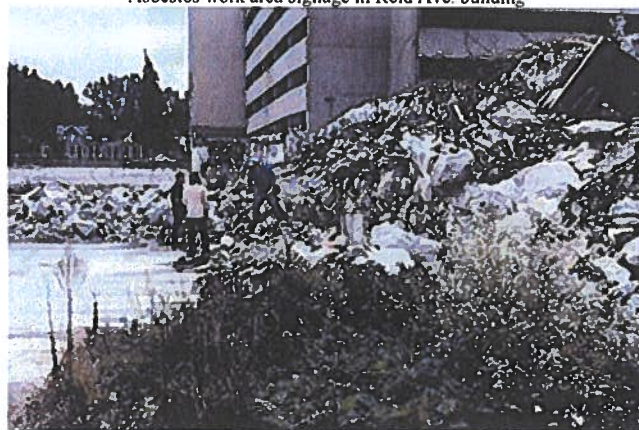


Photo taken by Morning Journal during site assessment



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*Former St. Joe's Hospital Environmental Site Assessment Photo Log Oct. 6, 2021*

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Lead sheeting pieces on debris pile



"Green mosaic" ACM sheet flooring on debris pile



"Green mosaic" ACM sheet flooring on debris pile



9x9 ACM Floor tile field on the north side of demo site



## St. Joe's demo site looking southwest



© All Pictometry

03/14/2021



## St. Joe's demo site looking northeast



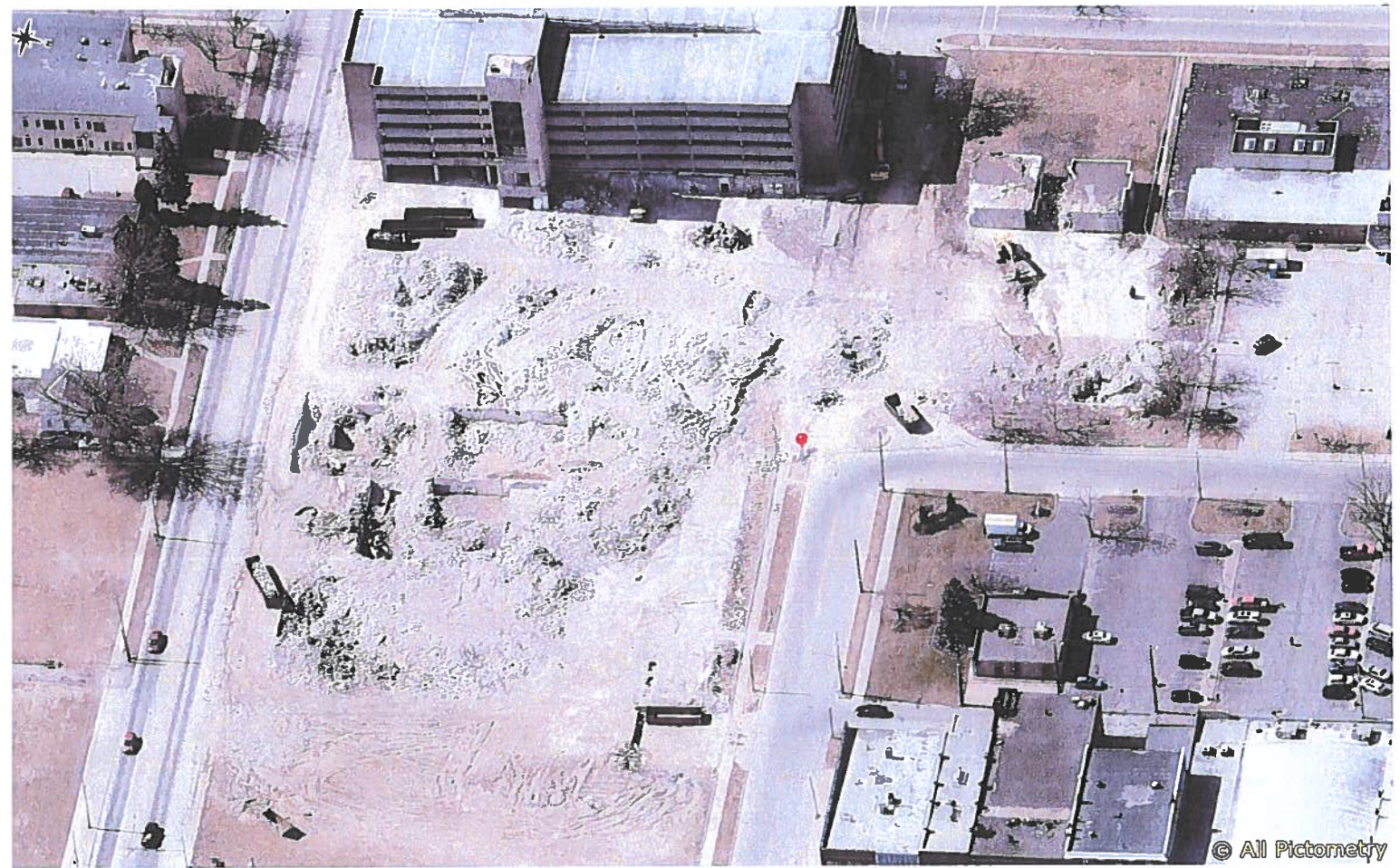
© All Pictometry

03/14/2021





## St. Joe's demo site looking west



© All Pictometry

03/14/2021



**John Pardee** <jpincenv@gmail.com>  
to Misty, Nicole ▾

Wed, Oct 6, 11:11 AM ☆ ↩

Question, in a demolition situation on a commercial structure, do they have to remove asbestos containing floor tile prior to demolition? Also, if asbestos containing floor tile debris is found in the rubble pile is that considered RACM?

...

**Misty.Whitmyer@epa.ohio.gov**  
to Douglas.Dobransky@epa.ohio.gov, me ▾

Oct 6, 2021, 4:02 PM ☆ ↩

It depends on the condition. Asbestos containing (AC) Cat I floor tile can remain in place for demolition if it's in non-friable condition. If it's in friable condition it should be treated as RACM/abated prior to demolition.

If AC floor tile is found in a debris pile from a building where it's condition was determined to be non-friable prior to demolition it's considered Cat I not RACM. Conversely, if floor tile is found in a debris pile is from a building not surveyed where prior condition is not known, it would be considered co-mingled RACM just like all other material in the debris pile.

...

*Pardee Environmental*

**ATTACHMENT NO. 5**

Q&A emails between John Pardee of Pardee Environmental and  
Misty Whitmyer of the Ohio EPA DAPC-NEDO Oct. 6<sup>th</sup>, 2021

*Pardee Environmental*

**ATTACHMENT NO. 7**

October 6<sup>th</sup>, 2021 Environmental Site Assessment Photo Log and  
aerial photos taken by the Lorain County Auditor's Office (Spring 2021)



*Former St. Joe's Hospital Environmental Site Assessment Photo Log Oct. 6, 2021*



View of demo site from top of parking garage looking northeast



Note ACM floor tile upper left and ACM sheet flooring lower right



Demo site from parking garage looking southeast (ACM sheet flooring)



Partially demolished x-ray labs from parking garage

State of Ohio  
Environmental Protection Agency  
Asbestos Program

Asbestos Hazard Evaluation Specialist

John P  
Pardee



47391 Garfield Road  
Oberlin OH 44074

Certification Number    Expiration Date  
**ES3201**                      **2/2/22**

DOB 1/11/61  
Card not Valid  
if Altered

State of Ohio  
Environmental Protection Agency  
Asbestos Program

Asbestos Hazard Abatement Project Designer

John P  
Pardee



47391 Garfield Road  
Oberlin OH 44074

Certification Number    Expiration Date  
**PD60060**                      **2/2/22**

DOB 1/11/61  
Card not Valid  
if Altered



## **ATTACHMENT NO. 4**

Ohio Asbestos Certifications for Asbestos Inspector

**EMSL Analytical, Inc.**

6340 CastlePlace Dr. Indianapolis, IN 46250

Tel/Fax: (317) 803-2997 / (317) 803-3047

<http://www.EMSL.com / indianapolislabs@emsl.com>

EMSL Order: 162123967

Customer ID: JPCI50

Customer PO:

Project ID:

**Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy**

Sample	Description	Appearance	Non-Asbestos		Asbestos % Type
			% Fibrous	% Non-Fibrous	
B-10-Mastic 162123967-0010A	Main Rubble Pile - Green Mosaic Sheet Flooring	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-11-Sheet Flooring 162123967-0011	NW Main Rubble - Pink Sheet Flooring	White/Pink Fibrous Homogeneous		88% Non-fibrous (Other)	12% Chrysotile
B-11-Mastic 162123967-0011A	NW Main Rubble - Pink Sheet Flooring	Beige Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-12-Floor Tile 162123967-0012	North Slab - 9x9 Rose Floor Tile	Pink Non-Fibrous Homogeneous		96% Non-fibrous (Other)	4% Chrysotile
B-12-Mastic 162123967-0012A	North Slab - 9x9 Rose Floor Tile	Black Non-Fibrous Homogeneous		97% Non-fibrous (Other)	3% Chrysotile
B-13-Base Coat 162123967-0013	NE Basement Site - Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-13-Finish Coat 162123967-0013A	NE Basement Site - Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-14-Floor Tile 162123967-0014	NE Basement Site - Tan Floor Tile	Tan Non-Fibrous Homogeneous		98% Non-fibrous (Other)	2% Chrysotile
B-14-Mastic 162123967-0014A	NE Basement Site - Tan Floor Tile	Black Non-Fibrous Homogeneous		97% Non-fibrous (Other)	3% Chrysotile

Analyst(s)

Peter Pulido (24)

Asbestos Laboratory Manager  
or Other Approved Signatory

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Samples analyzed by EMSL Analytical, Inc. Las Vegas, NV NVLAP Lab Code 600140-0, AZ 0953, CA 3002, NV 050132018-1

Initial report from: 10/18/2021 16:24:15

**EMSL Analytical, Inc.**

6340 CastlePlace Dr. Indianapolis, IN 46250

Tel/Fax: (317) 803-2997 / (317) 803-3047

<http://www.EMSL.com/indianapolislab@emsl.com>**EMSL Order:** 162123967**Customer ID:** JPCI50**Customer PO:****Project ID:****Attention:** John Pardee

JP ENVIRONMENTAL CONSULT, INC.

47391 Garfield Road

Oberlin, OH 44074

**Phone:** (440) 315-2735**Fax:** (440) 984-3145**Received Date:** 10/11/2021 9:43 AM**Analysis Date:** 10/18/2021**Collected Date:****Project:** Rubble Piles, 205 W. 20th St., Lorain, OH**Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy**

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
B-1 162123967-0001	N Radiology Building - Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-2-Base Coat 162123967-0002	S Radiology Building - Wall Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-2-Finish Coat 162123967-0002A	S Radiology Building - Wall Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-3-Drywall 162123967-0003	Rubble between Radiology Buildings - Drywall with Joint Compound	White Fibrous Homogeneous	8% Cellulose 2% Glass	90% Non-fibrous (Other)	None Detected
B-3-Joint Compound 162123967-0003A	Rubble between Radiology Buildings - Drywall with Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-4 162123967-0004	NE Face of Parking Garage - Sprayed-on Fireproofing	Tan Fibrous Homogeneous	35% Cellulose 10% Glass	55% Non-fibrous (Other)	None Detected
B-5 162123967-0005	S Wall outside Elevator - Sprayed-on Fireproofing	Brown Non-Fibrous Homogeneous	35% Cellulose 10% Glass	55% Non-fibrous (Other)	None Detected
B-6-Sheet Flooring 162123967-0006	Top of Main Rubble Pile - Mosaic Sheet Flooring	White Fibrous Homogeneous	25% Cellulose 5% Glass	58% Non-fibrous (Other)	12% Chrysotile
B-6-Mastic 162123967-0006A	Top of Main Rubble Pile - Mosaic Sheet Flooring	Brown Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-7-Floor Tile 162123967-0007	S End of Main Rubble Pile - White Floor Tile	White Non-Fibrous Homogeneous		97% Non-fibrous (Other)	3% Chrysotile
B-7-Mastic 162123967-0007A	S End of Main Rubble Pile - White Floor Tile	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-8-Sheet Flooring 162123967-0008	Flooded Basement Rubble - Mosaic Sheet Flooring	White Fibrous Homogeneous	25% Cellulose 5% Glass	58% Non-fibrous (Other)	12% Chrysotile
B-8-Mastic 162123967-0008A	Flooded Basement Rubble - Mosaic Sheet Flooring	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-9 162123967-0009	Main Rubble Pile - Wall Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
B-10-Sheet Flooring 162123967-0010	Main Rubble Pile - Green Mosaic Sheet Flooring	White/Green Fibrous Homogeneous		88% Non-fibrous (Other)	12% Chrysotile

Initial report from: 10/18/2021 16:24:15

**EMSL Analytical, Inc.**

6340 CastlePlace Dr. Indianapolis, IN 46250

Tel/Fax: (317) 803-2997 / (317) 803-3047

http://www.EMSL.com / indianapolislabs@emsl.com

EMSL Order: 162123963

Customer ID: JPCI50

Customer PO:

Project ID:

**Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy**

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
C-11 162123963-0011	1F Outside Restrooms - Sprayed-on Fireproofing	White Fibrous Homogeneous	40% Cellulose	60% Non-fibrous (Other)	None Detected
C-12-Vinyl Sheet Flooring 162123963-0012	1F SE Corner - Mosaic Sheet Flooring	Tan Fibrous Homogeneous		88% Non-fibrous (Other)	12% Chrysotile
C-12-Mastic 162123963-0012A	1F SE Corner - Mosaic Sheet Flooring	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
C-13 162123963-0013	1F Mechanical Space - Pipe Joint Insulation	White Fibrous Homogeneous	15% Glass	85% Non-fibrous (Other)	None Detected
C-14 162123963-0014	Top of Core Wall - Rope Packing	Gray Fibrous Homogeneous		30% Non-fibrous (Other)	70% Chrysotile
C-15-Floor Tile 162123963-0015	2F Elevator Lobby - 1x1 White Floor Tile	White Non-Fibrous Homogeneous		98% Non-fibrous (Other)	2% Chrysotile
C-15-Mastic 162123963-0015A	2F Elevator Lobby - 1x1 White Floor Tile	Black Non-Fibrous Homogeneous		98% Non-fibrous (Other)	2% Chrysotile
C-16-Base Coat 162123963-0016	2F Elevator Lobby - Wall Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
C-16-Skim Coat 162123963-0016A	2F Elevator Lobby - Wall Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
C-17 162123963-0017	7F Elevator Lobby - 1x1 Red Floor Tile	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
C-18 162123963-0018	2F Elevator Lobby - 2x4 Ceiling Tile	Gray Fibrous Homogeneous	60% Cellulose 15% Min. Wool	25% Non-fibrous (Other)	None Detected
C-19 162123963-0019	2F Stairwell - Pipe Joint Insulation	White Fibrous Homogeneous	15% Glass	85% Non-fibrous (Other)	None Detected

Analyst(s)

Liveth Escamilla (27)

Asbestos Laboratory Manager  
or Other Approved Signatory

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Samples analyzed by EMSL Analytical, Inc. Las Vegas, NV NVLAP Lab Code 600140-0, AZ 0953, CA 3002, NV 050132018-1

Initial report from: 10/18/2021 17:12:14

**EMSL Analytical, Inc.**

6340 CastlePlace Dr. Indianapolis, IN 46250

Tel/Fax: (317) 803-2997 / (317) 803-3047

<http://www.EMSL.com/indianapolislab@emsl.com>**EMSL Order:** 162123963**Customer ID:** JPCI50**Customer PO:****Project ID:****Attention:** John Pardee

JP ENVIRONMENTAL CONSULT, INC.

47391 Garfield Road

Oberlin, OH 44074

**Phone:** (440) 315-2735**Fax:** (440) 984-3145**Received Date:** 10/11/2021 9:43 AM**Analysis Date:** 10/18/2021**Collected Date:****Project:** Parking Garage, 21st & Reid, Lorain, OH**Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy**

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
C-1 162123963-0001	1F NE Side - Fire Door Core	White Fibrous Homogeneous	15% Cellulose	85% Non-fibrous (Other)	None Detected
C-2 162123963-0002	1F NW Corner - Sprayed-on Fireproofing	White Fibrous Homogeneous	40% Cellulose	60% Non-fibrous (Other)	None Detected
C-3-Floor Tile 162123963-0003	1F NW Corner - Red Floor Tile	Red Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
C-3-Mastic 162123963-0003A	1F NW Corner - Red Floor Tile	Black Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
C-4-Floor Tile 162123963-0004	1F NW Corner - White Floor Tile	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
C-4-Mastic 162123963-0004A	1F NW Corner - White Floor Tile	Black Non-Fibrous Homogeneous		97% Non-fibrous (Other)	3% Chrysotile
C-5-Drywall 162123963-0005	1F Restroom - Drywall with Joint Compound	Gray Fibrous Homogeneous	10% Cellulose <1% Glass	90% Non-fibrous (Other)	None Detected
C-5-Joint Compound 162123963-0005A	1F Restroom - Drywall with Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
C-5-Tape 162123963-0005B	1F Restroom - Drywall with Joint Compound	Tan/White Fibrous Homogeneous	95% Cellulose	5% Non-fibrous (Other)	None Detected
C-5-Texture 162123963-0005C	1F Restroom - Drywall with Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
C-6 162123963-0006	1F Restroom - Ceiling Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
C-7 162123963-0007 Drywall not present.	1F Restroom - Drywall Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
C-8 162123963-0008	1F Restroom - Pipe Joint Insulation	White Fibrous Homogeneous	15% Glass	85% Non-fibrous (Other)	None Detected
C-9 162123963-0009	1F Restroom - Pipe Joint Insulation	White Fibrous Homogeneous	15% Glass	85% Non-fibrous (Other)	None Detected
C-10 162123963-0010	1F Restroom - Ceiling Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 10/18/2021 17:12:14



**EMSL Analytical, Inc.**

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Tel/Fax: (317) 803-2997 / (317) 803-3047

<http://www.EMSL.com/indianapolislaboratory@emsl.com>

EMSL Order: 162123962

Customer ID: JPCI50

Customer PO:

Project ID:

**Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized Light Microscopy**

Sample	Description	Appearance	Non-Asbestos		Asbestos % Type
			% Fibrous	% Non-Fibrous	
A-14-Floor Tile 162123962-0014	Southwest Office - 1x1 Purple Floor Tile	Purple Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-14-Mastic 162123962-0014A	Southwest Office - 1x1 Purple Floor Tile	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-15 162123962-0015 Drywall not present within sample.	Southwest Hallway - Drywall Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-16 162123962-0016	Southwest Hallway - 2x4 Ceiling Tile	White Fibrous Homogeneous	40% Cellulose 30% Glass	30% Non-fibrous (Other)	None Detected
A-17 162123962-0017 Drywall not present within sample.	South Office - Drywall Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-18 162123962-0018	South Office - 2x4 Ceiling Tile	Gray/White Fibrous Homogeneous	40% Cellulose 20% Glass	40% Non-fibrous (Other)	None Detected
A-19-Floor Tile 162123962-0019	South Office by South Exit - 1x1 Rainbow Fleck Floor Tile	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-19-Mastic 162123962-0019A	South Office by South Exit - 1x1 Rainbow Fleck Floor Tile	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-20 162123962-0020 Drywall not present within sample.	Southeast Hallway - Drywall Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-21-Floor Tile 162123962-0021	Southeast Office - Blue Floor Tile	Blue Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-21-Mastic 162123962-0021A	Southeast Office - Blue Floor Tile	Brown/Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Analyst(s)

Lori Grenier (26)

Asbestos Laboratory Manager  
or Other Approved Signatory

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Samples analyzed by EMSL Analytical, Inc. Las Vegas, NV NVLAP Lab Code 600140-0, AZ 0953, CA 3002, NV 050132018-1

Initial report from: 10/18/2021 16:22:09

**EMSL Analytical, Inc.**

6340 CastlePlace Dr. Indianapolis, IN 46250

Tel/Fax: (317) 803-2997 / (317) 803-3047

<http://www.EMSL.com/indianapolislaboratory@emsl.com>**EMSL Order:** 162123962**Customer ID:** JPCI50**Customer PO:****Project ID:**

**Attention:** John Pardee  
 JP ENVIRONMENTAL CONSULT, INC.  
 47391 Garfield Road  
 Oberlin, OH 44074

**Phone:** (440) 315-2735  
**Fax:** (440) 984-3145  
**Received Date:** 10/11/2021 9:43 AM  
**Analysis Date:** 10/18/2021  
**Collected Date:**

**Project:** 1919 and 1859 Reid Ave. Lorain, OH

**Test Report: Asbestos Analysis of Bulk Materials via EPA 600/R-93/116 Method using Polarized  
 Light Microscopy**

Sample	Description	Appearance	Non-Asbestos		Asbestos
			% Fibrous	% Non-Fibrous	% Type
A-1 162123962-0001	Roof - EFIS Siding	Gray/Tan Non-Fibrous Homogeneous	5% Glass	95% Non-fibrous (Other)	None Detected
A-2 162123962-0002	Roof - EFIS Siding	Gray/Tan Non-Fibrous Homogeneous	5% Glass	95% Non-fibrous (Other)	None Detected
A-3 162123962-0003	NE Section - 1x1 Green Floor Tile	Green Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-4-Skim Coat 162123962-0004	Stairs to Penthouse - Wall Plaster	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-4-Base Coat 162123962-0004A	Stairs to Penthouse - Wall Plaster	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-5 162123962-0005	Exterior Soffit - Cement Board	Gray Fibrous Homogeneous	65% Cellulose	35% Non-fibrous (Other)	None Detected
A-6 162123962-0006	Lobby - 2x4 Ceiling Tile	White Fibrous Homogeneous	40% Cellulose 30% Glass	30% Non-fibrous (Other)	None Detected
A-7 162123962-0007	NE Office - Drywall Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
Drywall not present within sample.					
A-8 162123962-0008	North Central Office - Light Green Sheet Flooring	Green Fibrous Homogeneous	10% Glass	90% Non-fibrous (Other)	None Detected
A-9 162123962-0009	North Central Hallway - Drywall Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
Drywall not present within sample.					
A-10 162123962-0010	North Office - Light Green Sheet Flooring	Tan/Green Fibrous Homogeneous	8% Glass	92% Non-fibrous (Other)	None Detected
A-11-Floor Tile 162123962-0011	North Utility Closet - 1x1 Tan Floor Tile	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-11-Mastic 162123962-0011A	North Utility Closet - 1x1 Tan Floor Tile	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
A-12 162123962-0012	West Hallway - Drywall Joint Compound	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
Drywall not present within sample.					
A-13 162123962-0013	Office North of Lobby - Light Blue Fleck Sheet Flooring	Tan/Blue/Yellow Fibrous Homogeneous	10% Synthetic	90% Non-fibrous (Other)	None Detected

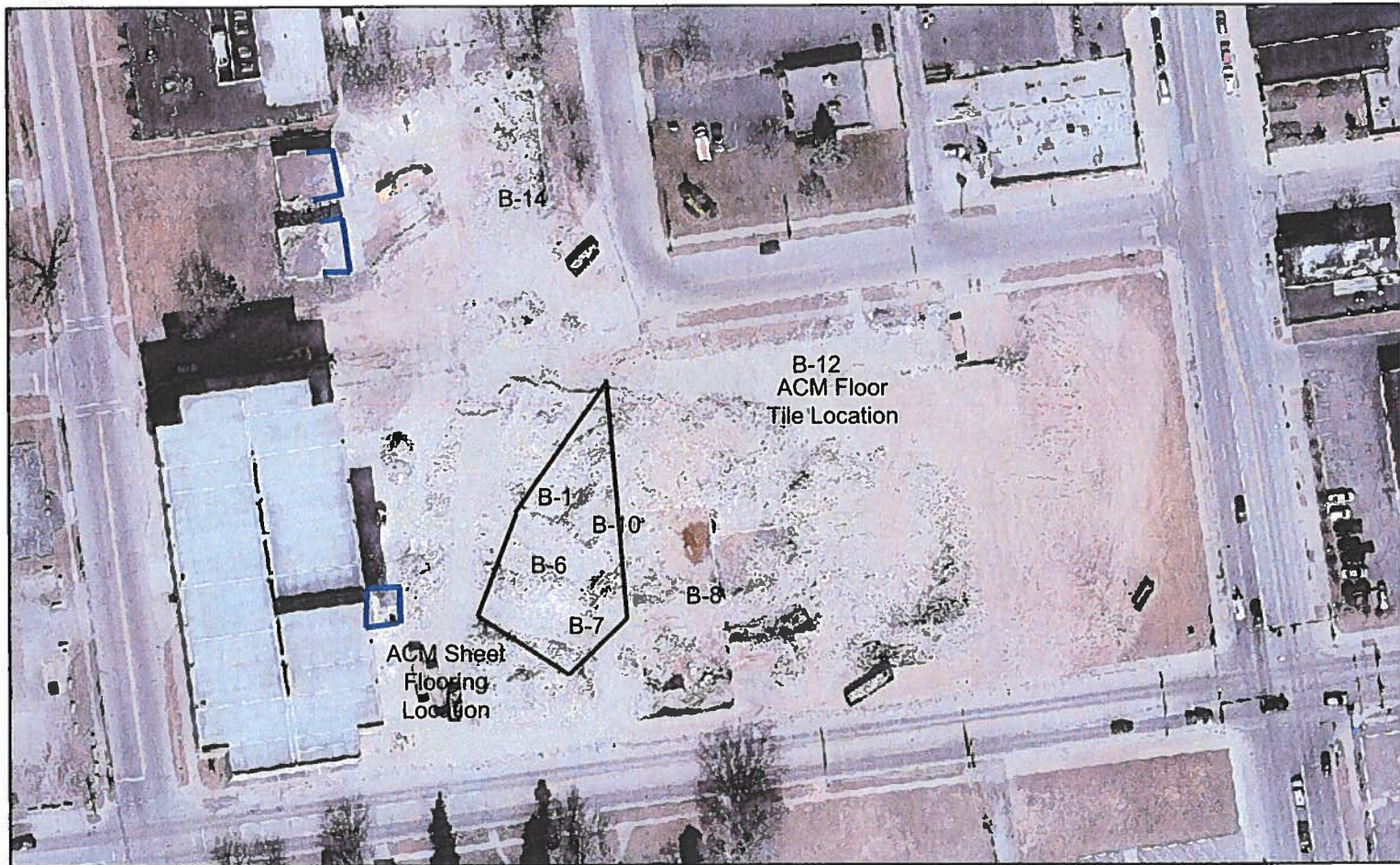
Initial report from: 10/18/2021 16:22:09





**J. Craig Snodgrass, CPA, CGFM**  
**Lorain County Auditor**

**2021 Aerial**



- Lead sheeting
- Debris pile outline
- B-"x" Positive Asbestos Debris samples



1 inch = 94 feet  
0 50 100 200

## **ATTACHMENT NO. 2**

Bulk Sample Logs







Environment Testing  
America

## ANALYTICAL REPORT

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

Laboratory Job ID: 240-159597-1  
Client Project/Site: St. Joe's Hospital

For:  
Pardee Environmental  
47391 Garfield Road  
Oberlin, Ohio 44074

Attn: John Pardee

Authorized for release by:  
11/15/2021 3:18:33 PM

Nicole Kalis, Project Manager I  
(330)497-9396  
Nicole.Kalis@Eurofinset.com

### LINKS

Review your project  
results through  
**TotalAccess**

Have a Question?



Visit us at:

[www.eurofinsus.com/Env](http://www.eurofinsus.com/Env)

*This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.*

*Results relate only to the items tested and the sample(s) as received by the laboratory.*



## Eurofins TestAmerica Canton Sample Receipt Form/Narrative

Login # : 159597

Canton Facility

Client Pardee Env.

Site Name \_\_\_\_\_

Cooler unpacked by: [Signature]Cooler Received on 11-8-21Opened on 11-8-21FedEx: 1<sup>st</sup> Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other \_\_\_\_\_

Receipt After-hours: Drop-off Date/Time \_\_\_\_\_

Storage Location \_\_\_\_\_

TestAmerica Cooler # 1A Foam Box Client Cooler Box Other \_\_\_\_\_Packing material used: Bubble Wrap Foam Plastic Bag None Other \_\_\_\_\_COOLANT: Wet Ice Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt

IR GUN# IR-14 (CF +0.1 °C) Observed Cooler Temp. 1.2 °C Corrected Cooler Temp. 1.3 °C

IR GUN #IR-15 (CF +0.2°C) Observed Cooler Temp. \_\_\_\_\_ °C Corrected Cooler Temp. \_\_\_\_\_ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity \_\_\_\_\_

-Were the seals on the outside of the cooler(s) signed &amp; dated?

-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?

-Were tamper/custody seals intact and uncompromised?

3. Shippers' packing slip attached to the cooler(s)?

4. Did custody papers accompany the sample(s)?

5. Were the custody papers relinquished &amp; signed in the appropriate place?

6. Was/were the person(s) who collected the samples clearly identified on the COC?

7. Did all bottles arrive in good condition (Unbroken)?

8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?

9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?

10. Were correct bottle(s) used for the test(s) indicated?

11. Sufficient quantity received to perform indicated analyses?

12. Are these work share samples and all listed on the COC?

If yes, Questions 13-17 have been checked at the originating laboratory.

13. Were all preserved sample(s) at the correct pH upon receipt?

14. Were VOAs on the COC?

15. Were air bubbles >6 mm in any VOA vials? Yes Larger than this.

16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # \_\_\_\_\_

17. Was a LL Hg or Me Hg trip blank present? \_\_\_\_\_

Yes No

Yes No NA

Yes No NA

Yes No NA

Yes No

Yes No

Yes No

Yes No

Yes No

Yes No

Yes No

Yes No

Yes No

Yes No

Yes No

Yes No NA

Yes No NA

Yes No NA

Yes No

Yes No

Tests that are not  
checked for pH by  
Receiving:VOAs  
Oil and Grease  
TOCpH Strip Lot# HC157842

Contacted PM \_\_\_\_\_ Date \_\_\_\_\_ by \_\_\_\_\_ via Verbal Voice Mail Other \_\_\_\_\_

Concerning \_\_\_\_\_

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by: \_\_\_\_\_

## 19. SAMPLE CONDITION

Sample(s) \_\_\_\_\_ were received after the recommended holding time had expired.

Sample(s) \_\_\_\_\_ were received in a broken container.

Sample(s) \_\_\_\_\_ were received with bubble &gt;6 mm in diameter. (Notify PM)

## 20. SAMPLE PRESERVATION

Sample(s) \_\_\_\_\_ were further preserved in the laboratory.

Time preserved: \_\_\_\_\_ Preservative(s) added/Lot number(s): \_\_\_\_\_

VOA Sample Preservation - Date/Time VOAs Frozen: \_\_\_\_\_





○  
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○  
☆



Environment Testin  
TestAmerica

**Address:**

Regulatory Program: <input checked="" type="checkbox"/> RCRA <input type="checkbox"/> Other: <input type="checkbox"/>		DW		NPDES		Site Contact: <input type="checkbox"/> RCRA <input type="checkbox"/> Other: <input type="checkbox"/>	
Client Contact		Project Manager: John Pardee		Site Contact: <input type="checkbox"/> RCRA <input type="checkbox"/> Other: <input type="checkbox"/>		Date: _____	
Company Name: Pardee Environmental		Tel/Email: jpardee@gmail.com		Lab Contact: _____		COC No. _____	
Address: 47341 Garfield Rd.		Analysis Turnaround Time		Carrier: _____		COCs _____	
City/State/Zip: Dublin, OH		WORKING DAYS		Sampler: _____		For Lab Use Only:	
Phone: 440-315-2735		TAT if different from Below		Perform MS/MSD (Y/N)		Walk-in Client: _____	
Fax: _____		1 week		Filtered Sample (Y/N)		Lab Sampling: _____	
Project Name: St. Joe's Hospital		2 days		RCRA Metals TCLP		Job / SDG No.: _____	
Site: 205 W. 20th St. Laramie, OH		1 day		RCRA Metals TCLP		Sample Specific Notes: _____	
PO # _____		Sample Date		Sample Type (C=Comp, G=Grab)		Matrix	
Sample Identification		Sample Time		# of Cont.		Sample Specific Notes: _____	
L1 East side of Debris Pile		11-5-21 12:00 p		G		Metals 1	
L2 Center of Debris Pile		11-5-21 12:10 p		G		Metals 1	
L3 X-ray lab east of parking garage		11-5-21 12:15 p		G		Metals 1	
L4 North most X-ray Lab		11-5-21 12:25 p		G		Metals 1	
Preservation Used: 1= Ice, 2= HCl, 3= H2SO4, 4= HNO3, 5= NaOH, 6= Other		Possible Hazard Identification:		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)		Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)	
Are any samples from a listed EPA Hazardous Waste? Please List any EPA Waste Codes for the sample in the Comments Section if the lab is to dispose of the sample.		Comments Section if the lab is to dispose of the sample.		Return to Client		Archive for _____ Months	
Special Instructions/QC Requirements & Comments:		Custody Seal No. _____		Received by: _____		Therm ID No. _____	
Relinquished by: _____		Company: Pardee Env.		Date/Time: 11/18/15 1:50		Date/Time: 11/18/15 1:50	
Relinquished by: _____		Company: Pardee Env.		Date/Time: 11/18/15 1:50		Date/Time: 11/18/15 1:50	
Relinquished by: _____		Company: Pardee Env.		Date/Time: 11/18/15 1:50		Date/Time: 11/18/15 1:50	



## Sample Login Acknowledgement

## Job 240-159597-1

<b>Client Job Description:</b>	St. Joe's Hospital	<b>Report To:</b>	Cash in Advance (Canton)
<b>Purchase Order #:</b>	Pay by Credit Card		John Pardee
<b>Work Order #:</b>			47391 Garfield Road
<b>Project Manager:</b>	Nicole A Kalis		Oberlin, OH 44074
<b>Job Due Date:</b>	11/15/2021		
<b>Job TAT:</b>	5 Day RUSH		
<b>Max Deliverable Level:</b>	II	<b>Bill To:</b>	Cash in Advance (Canton)
			John Pardee
<b>Earliest Deliverable Due:</b>	11/15/2021		47391 Garfield Road
			Oberlin, OH 44074

## Login 240-159597

<b>Sample Receipt:</b>	11/8/2021 3:30:00 PM	<b>Number of Coolers:</b>	1
<b>Method of Delivery:</b>	Lab Courier	<b>Cooler Temperature(s) (C°):</b>	1.3;

Lab Sample #	Client Sample ID	Date Sampled	Matrix	Rpt Basis	Dry / Wet **
Method	Method Description / Work Location				
240-159597-1	L1 EASTSIDE OF DEBRIS PILE	11/5/2021 12:00:00 PM	Solid		
6010D	TCLP RCRA Metals / In-Lab			TCLP	Wet
	<b>Analytes:</b>				
	Ag, As, Ba, Cd, Cr, Pb, Se				
6010D	Total RCRA Metals / In-Lab			Total	Wet
	<b>Analytes:</b>				
	Ag, As, Ba, Cd, Cr, Pb, Se				
7470A	TCLP Mercury / In-Lab			TCLP	Wet
	<b>Analytes:</b>				
	Hg				
7471B	Mercury / In-Lab			Total	Wet
	<b>Analytes:</b>				
	Hg				
240-159597-2	L2 CENTER OF DEBRIS PILE	11/5/2021 12:10:00 PM	Solid		
6010D	TCLP RCRA Metals / In-Lab			TCLP	Wet
	<b>Analytes:</b>				
	Ag, As, Ba, Cd, Cr, Pb, Se				
6010D	Total RCRA Metals / In-Lab			Total	Wet
	<b>Analytes:</b>				
	Ag, As, Ba, Cd, Cr, Pb, Se				
7470A	TCLP Mercury / In-Lab			TCLP	Wet
	<b>Analytes:</b>				
	Hg				
7471B	Mercury / In-Lab			Total	Wet
	<b>Analytes:</b>				
	Hg				
240-159597-3	L3 X-RAY LAB EAST OF PARKING GARAGE	11/5/2021 12:15:00 PM	Solid		
6010D	TCLP RCRA Metals / In-Lab			TCLP	Wet
	<b>Analytes:</b>				
	Ag, As, Ba, Cd, Cr, Pb, Se				
6010D	Total RCRA Metals / In-Lab			Total	Wet
	<b>Analytes:</b>				
	Ag, As, Ba, Cd, Cr, Pb, Se				
7470A	TCLP Mercury / In-Lab			TCLP	Wet
	<b>Analytes:</b>				
	Hg				
7471B	Mercury / In-Lab			Total	Wet
	<b>Analytes:</b>				
	Hg				

\* Method on-hold

\*\* Wet/Dry indicates whether the reported results will be corrected for moisture content, and based on sample Wet weight or Dry weight.



# Notification of Demolition and Renovation/Abatement

## Section 2: Project Address Specific Information

Division of Air Pollution Control

Please complete Section 2 for the address included with this notification. If the project is an "Installation" per OAC 3745-20, complete a separate Section 2 page for each address associated with this notification.

Ohio EPA Use Only Project ID #: 150933 - 1

### A. Facility Description

Revised? ☐

Building Name (if applicable): Saint Joseph Hospital		Site Location (specific): Property bound by W20th St., Broadway, 21st St., Reid Ave	
Address: 205 W20th Street,			
City: Lorain	State: OH	Zip: 44052	
Building Size (square feet): 420000.0	No. of Floors: 5	Age (years): 100.0	
Present Use: Abandoned building	Prior Use: Hospice center, VA center, nursing college, hospital		

### B. Type of Operation (check all that apply)

Revised? ☐

<input checked="" type="checkbox"/> Demolition	<input type="checkbox"/> Renovation / Abatement - Type: <input type="checkbox"/> Removal <input type="checkbox"/> Repair <input type="checkbox"/> Encapsulation <input type="checkbox"/> Enclosure
--	--

### C. Asbestos Present? (check one)

Revised? ☐

<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> No, previously abated	Year Abated: 2013
------------------------------	--	--	-------------------

### D. Approximate Amount of Asbestos Containing Materials (complete table below and Section 1 #6 if asbestos is present)

Revised? ☐

	RACM	Material to be Removed		Material NOT to be Removed	
		Non-friable Asbestos-Containing Material		Non-friable Asbestos-Containing Material	
		Category I	Category II	Category I	Category II
Pipes (linear feet)	0.0	0.0	0.0	0.0	0.0
Surface area on other facility components (ft <sup>2</sup> )	0.0	0.0	0.0	0.0	0.0
Volume if length or area cannot be measured (ft <sup>3</sup> )	0.0				

### E. Asbestos Abatement Schedule and Abatement Specialist (original notification is required 10 working days prior to the start of work)

Revised? ☐

Setup Date: Abatement Date: Complete Date:

### F. Demolition Contractor (if applicable)

Revised? ☐

Name: The Earth Exchange, Inc.		
Address: 800 Turnpike Street, Suite 300,		Contact Person: Karl Youkstetter
City: North Andover	State: MASSACHUSETTS	Zip: 01845
Email: karl@theearthexchange.com	Phone: (774) 275-1433	Fax: () -

### G. Demolition Schedule (original notification is required 10 working days prior to the start of work)

Revised? ☐

Start Date: 11/6/2020	Complete Date: 4/30/2021
-----------------------	--------------------------

### H. Project Hold

Revised? ☐

Asbestos Offsite/On Hold as of Date:	Asbestos On Site/Off Hold, Work Resume Date:
Demolition Offsite/On Hold as of Date:	Demolition On Site/Off Hold, Work Resume Date:



# Notification of Demolition and Renovation/Abatement

## Section 1: General Information

Division of Air Pollution Control

### 6. Asbestos Description and Engineering Controls (if asbestos is being abated)

Revised? ☐

For the material listed in each project, describe the type(s) of ACM to be abated, engineering controls and work practices to be used to minimize emissions and ensure proper waste handling:

Type of ACM to be abated:	<input type="checkbox"/> Surfacing	<input type="checkbox"/> Mechanical	<input type="checkbox"/> Other:		
Engineering Controls:	<input type="checkbox"/> Wet Methods	<input type="checkbox"/> Glove Bag	<input type="checkbox"/> NPE	<input type="checkbox"/> AFD	<input type="checkbox"/> Other:
Work Practices:	<input type="checkbox"/> Intact Removal	<input type="checkbox"/> Manual	<input type="checkbox"/> Mechanical	<input type="checkbox"/> Other:	

### 7. Asbestos Waste Transporter (if applicable)

Revised? ☐

### 8. Asbestos Waste Disposal Site (if applicable)

Revised? ☐

Name:		
Address:		Contact Person:
City:	State:	Zip:
Email:	Phone: () -	Fax: () -

### 9. Emergency Demolition (complete if you checked "Emergency" above and "Demolition" for any project)

Revised? ☐

A copy of the issued order, including the following information, **must be attached** to this notification.

Government Official Issuing Order:	Title:
Agency:	Authority of Order (Citation of Code):
Date of Order:	Demolition Date:
Issued Order Document:	

### 10. Emergency Renovation/Abatement (complete if you checked "Emergency" above and "Renovation/Abatement" for any project)

Revised? ☐

Date of Emergency:	Time of Emergency:
Description of Sudden, Unexpected Event:	
Explanation of how the event caused unsafe conditions or equipment damage:	
General Notification Attachments:	

### 11. Attestation

In accordance with Ohio Administrative Code rule 3745 20 03 (A)(4)(p), I certify that at least one person trained as required by paragraph (B) of rule 37452004 of the Administrative Code will supervise the stripping and removal described by this notification. I acknowledge that the submission of false or misleading statements is prohibited by law and I certify that facts contained in this notification are true, accurate, and complete.	
Signature: Submitted Online via eBiz	Date: 10/15/2020
Name: Karl Youkstetter	Title: President
Organization: The Earth Exchange, Inc.	



*Pardee Environmental*

**ATTACHMENT NO. 6**

EPA Notice of Demolition generated by the Owner/Operator



# Notification of Demolition and Renovation/Abatement

## Section 1: General Information

Division of Air Pollution Control

Work on projects cannot begin until 10 working days after a COMPLETE original notification form, **including payment**, is submitted to Ohio EPA. Instructions and a worksheet for fee calculation are available at [epa.ohio.gov/asbestos](http://epa.ohio.gov/asbestos). This form can be completed, and payment made, at [ebiz.epa.ohio.gov](http://ebiz.epa.ohio.gov). Questions? [asbestos@epa.ohio.gov](mailto:asbestos@epa.ohio.gov) or 614-466-0061

Ohio EPA Use Only	Notification #: 150933	Postmarked:	Received: 10/15/2020	<input type="checkbox"/> Hand-Delivered
-------------------	------------------------	-------------	----------------------	---

### 1. Notification Information (Check all that apply)

<input checked="" type="checkbox"/> Original	<input type="checkbox"/> Revision # (count): 0	<input checked="" type="checkbox"/> Installation	<input type="checkbox"/> Emergency	<input type="checkbox"/> Annual	<input type="checkbox"/> Cancellation	Project County: LORAIN
<input type="checkbox"/> NESHAP Residential Exemption						

### 2. Owner, Asbestos Abatement Contractor, Billing, and Fire Department Information

Revised? ☐

Owner Name: A7 Development Group, Inc.		Is this a company? <input checked="" type="checkbox"/> Yes	
Address: 800 Turnpike Street, Suite 300,		Contact Person: Karl Youkstetter	
City: North Andover	State: MASSACHUSETTS	Zip: 01845	
Email: karl@theearthexchange.com	Phone: (774) 275-1433	Fax: () -	

#### Asbestos Abatement Contractor (if applicable)

Name	License #:	Expiration Date:
Address:		Contact Person:
City:	State:	Zip:
Email:	Phone: () -	Fax: () -

#### Billing Contact (Entity paying for original notification)

Is this contact associated with the <input type="checkbox"/> Owner, <input type="checkbox"/> Asbestos Abatement Contractor, or <input checked="" type="checkbox"/> Demolition Contractor (if not installation)?		
Address: 800 TURNPIKE STREET, SUITE 300,		Contact Person: Karl Youkstetter
City: NORTH ANDOVER	State: MASSACHUSETTS	Zip: 01854
Email: karl@theearthexchange.com	Phone: (774) 275-1433	Fax: () -

#### Fire Department (if applicable)

Name: City of Lorain Fire Department		
Address: 1350 Broadway,		Contact Person: Greg Neal
City: Lorain	State: OHIO	Zip: 44052
Email: greg_neal@cityoflorain.org	Phone: (440) 204-2204	Fax: () -

### 3. Ohio Asbestos Hazard Evaluation Specialist and Evaluation Procedure

Revised? ☐

Evaluation Specialist:	Certification #:	Expiration Date:
Procedure, including analytical methods, employed to detect the presence of and to estimate the quantity of regulated asbestoscontaining material (RACM) and Category I and Category II non-friable asbestoscontaining material: <input type="checkbox"/> PLM <input type="checkbox"/> Point Count <input type="checkbox"/> TEM <input type="checkbox"/> Other Method (Explain Below):		

### 4. Procedures to be followed should unexpected RACM be discovered (check all that apply)

Revised? ☐

<input checked="" type="checkbox"/> Stop Work and Keep Wet	<input type="checkbox"/> Evacuate area	<input type="checkbox"/> Demarcate area	<input checked="" type="checkbox"/> Contact licensed abatement contractor	<input type="checkbox"/> Contact district office/local air authority
<input type="checkbox"/> Other (Explain):				

### 5. Planned Demolition (check all that apply)

Revised? ☐

Describe demolition work to be performed and method(s) to be employed, including demolition techniques to be used:	
<input type="checkbox"/> Implosion <input type="checkbox"/> Fire Training <input type="checkbox"/> Wet Methods <input type="checkbox"/> Manual Demolition <input checked="" type="checkbox"/> Mechanical Demolition <input type="checkbox"/> Other (Explain):	
Description of affected facility components (include attachment if necessary): St. Joseph Hospital will be mechanical razed with slabs and foundations to remain.	
Demolition Attachment:	



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Summit Environmental Technologies, Inc.  
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: **LOR-OH-44052-A**

Work Order Number: **21110481**

RcptNo: **1**

Logged by: **Christina N. Jager** **11/5/2021 12:25:00 PM**

*C. Jager*

Completed By: **Jacqueline Rasile** **11/6/2021 5:16:29 PM**

*Jacqueline Rasile*

Reviewed By: **Sara E. Kidd** **11/8/2021 10:21:56 AM**

*Sara Kidd*

### Chain of Custody

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

### 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  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? 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? Yes ☒ No ☐  
(Note discrepancies on chain of custody)  
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? Yes ☒ No ☐  
(If no, notify customer for authorization.)

### 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:

liter glass rec'd for SVOC, Pest, PCB, etc?

### Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.5	Good	Not Present			





**SUMMIT**  
ENVIRONMENTAL TECHNOLOGIES, INC.

3310 Main Street  
Cuyahoga Falls, Ohio 44223  
800-278-6140

### Analysis Request / Chain of Custody

**Refer to Terms and Conditions at [www.setack.com](http://www.setack.com)**

Effective Date: 10/01/2011  
Page 1 of

[illegible]



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

## DATES REPORT

WO#: 21110481

12-Nov-21

Client: City of Lorain WWTP  
Project: Old Hospital Hg + PCB

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
21110481-001A	Old Hospital	11/4/2021 1:25:00 PM	Non-Potable Water	Low-Level Mercury (EPA 1631)			11/10/2021 1:57:38 PM
21110481-001B				Organochlorine Pesticides (EPA 608.3)		11/9/2021 3:00:00 PM	11/12/2021 1:16:00 AM
				Organochlorine Pesticides (EPA 608.3)		11/9/2021 3:00:00 PM	11/12/2021 1:16:00 AM
				PCB (EPA 608.3)		11/9/2021 3:00:00 PM	11/11/2021 8:35:00 AM
				PCB (EPA 608.3)		11/9/2021 3:00:00 PM	11/11/2021 8:35:00 AM

Original



Summit Environmental Technologies, Inc.  
3310 Win S  
Cuyahoga Falls, Ohio 4422  
TEL: (330) 253-8211 FAX: (330) 253-446  
Website: <http://www.settek.co>

## Qualifiers and Acronyms

WO#: 21110481  
Date: 11/12/2021

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.

Original



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## QC SUMMARY REPORT

WO#: 21110481  
12-Nov-21

Client: City of Lorain WWTP  
Project: Old Hospital Hg + PCB

BatchID: R136140

Sample ID: mblank	SampType: MBLK	TestCode: HG-LL_NPW( Units: ng/L				Prep Date:				RunNo: 136140		
Client ID: PBW	Batch ID: R136140	TestNo: E1631				Analysis Date: 11/10/2021				SeqNo: 3594926		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual	
Mercury	ND	0.500										

Sample ID: lfb	SampType: LCS	TestCode: HG-LL_NPW( Units: ng/L				Prep Date:			RunNo: 136140		
Client ID: LCSW	Batch ID: R136140	TestNo: E1631				Analysis Date: 11/10/2021			SeqNo: 3594935		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	34.0	0.500	50.00	0	68.0	77	123				S

Sample ID: lfbd	SampType: LCSD	TestCode: HG-LL_NPW( Units: ng/L				Prep Date:			RunNo: 136140		
Client ID: LCSS02	Batch ID: R136140	TestNo: E1631				Analysis Date: 11/10/2021			SeqNo: 3594937		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	32.6	0.500	50.00	0	65.3	77	123	38.88	17.4	24	S

Qualifiers: B Analyte detected in the associated Method Blank  
J Analyte detected below quantitation limits  
ND Not Detected  
PL Permit Limit  
E Value above quantitation range  
M Manual Integration used to determine area response  
OGI  
R RPD outside accepted recovery limits  
H Holding times for preparation or analy  
MC Value is below Minimum Compound  
P Second column confirmation exceeds  
RL Reporting Detection Limit

Original



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Website: <http://www.settek.com>

## QC SUMMARY REPORT

WO#: 21110481  
12-Nov-21

Client: City of Lorain WWTP  
Project: Old Hospital Hg + PCB

BatchID: R136140

Sample ID: lcs2	SampType: LCS	TestCode: HG-LL_NPW( Units: ng/L				Prep Date:				RunNo: 136140			
Client ID: LCSW	Batch ID: R136140	TestNo: E1631				Analysis Date: 11/10/2021				SeqNo: 3594901			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual		

Sample ID: <b>mblank</b>	SampType: <b>MBLK</b>	TestCode: <b>HG-LL_NPW(</b>	Units: <b>ng/L</b>	Prep Date:	RunNo: <b>136140</b>						
Client ID: <b>PBW</b>	Batch ID: <b>R136140</b>	TestNo: <b>E1631</b>		Analysis Date: <b>11/10/2021</b>	SeqNo: <b>3594911</b>						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.500									

Sample ID: lfb	SampType: LCS	TestCode: HG-LL_NPW(	Units: ng/L		Prep Date:			RunNo: 136140			
Client ID: LCSW	Batch ID: R136140	TestNo: E1631				Analysis Date: 11/10/2021			SeqNo: 3594918		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	37.4	0.500	50.00	0	74.8	77	123				S

Sample ID: lfbd	SampType: LCSD	TestCode: HG-LL_NPW(	Units: ng/L	Prep Date:	RunNo: 136140						
Client ID: LCSS02	Batch ID: R136140	TestNo: E1631		Analysis Date: 11/10/2021	SeqNo: 3594919						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	36.6	0.500	50.00	0	73.1	77	123	38.88	6.16	24	S

Qualifiers: B Analyte detected in the associated Method Blank  
J Analyte detected below quantitation limits  
ND Not Detected  
PL Permit Limit  
E Value above quantitation range  
M Manual Integration used to determine area response  
OGI  
R RPD outside accepted recovery limits  
H Holding times for preparation or analy  
MC Value is below Minimum Compound  
P Second column confirmation exceeds  
RL Reporting Detection Limit

Original





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TEL: (330) 253-8211 FAX: (330) 253-4489  
Website: <http://www.settek.com>

## QC SUMMARY REPORT

WO#: 21110481  
12-Nov-21

Client: City of Lorain WWTP  
Project: Old Hospital Hg + PCB

BatchID: R136140

Sample ID: Ifb	SampType: LCS	TestCode: HG-LL_NPW(	Units: ng/L	Prep Date:	RunNo: 136140						
Client ID: LCSW	Batch ID: R136140	TestNo: E1631		Analysis Date: 11/10/2021	SeqNo: 3594895						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	37.6	0.500	50.00	0	75.2	77	123				S

Sample ID: Ifbd	SampType: LCSD	TestCode: HG-LL_NPW( Units: ng/L				Prep Date:			RunNo: 136140		
Client ID: LCSS02	Batch ID: R136140	TestNo: E1631				Analysis Date: 11/10/2021			SeqNo: 3594897		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	37.7	0.500	50.00	0	75.4	77	123	38.88	3.13	24	S

Sample ID: mblank	SampType: MBLK	TestCode: HG-LL_NPW(	Units: ng/L	Prep Date:	RunNo: 136140						
Client ID: PBW	Batch ID: R136140	TestNo: E1631		Analysis Date: 11/10/2021	SeqNo: 3594899						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.500									

Sample ID: lcs2	SampType: LCS	TestCode: HG-LL_NPW(	Units: ng/L			Prep Date:			RunNo: 136140		
Client ID: LCSW	Batch ID: R136140	TestNo: E1631				Analysis Date: 11/10/2021			SeqNo: 3594901		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	38.8	0.500	50.00	0	77.5	77	123				

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analy
	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response	MC	Value is below Minimum Compound
	ND	Not Detected	OGI		P	Second column confirmation exceeds
	PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Original



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

## QC SUMMARY REPORT

WO#: 21110481  
12-Nov-21

Client: City of Lorain WWTP  
Project: Old Hospital Hg + PCB

BatchID: R136140

Sample ID: mblank	SampType: MBLK	TestCode: HG-LL_NPW(	Units: ng/L	Prep Date:	RunNo: 136140						
Client ID: PBW	Batch ID: R136140	TestNo: E1631		Analysis Date: 11/10/2021	SeqNo: 3594873						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: Ifb	SampType: LCS	TestCode: HG-LL_NPW(	Units: ng/L	Prep Date:	RunNo: 136140						
Client ID: LCSW	Batch ID: R136140	TestNo: E1631		Analysis Date: 11/10/2021	SeqNo: 3594878						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	38.9	0.500	50.00	0	77.8	77	123				

Sample ID: Ifbd	SampType: LCSD	TestCode: HG-LL_NPW( Units: ng/L				Prep Date:			RunNo: 136140		
Client ID: LCSS02	Batch ID: R136140	TestNo: E1631				Analysis Date: 11/10/2021			SeqNo: 3594879		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	38.8	0.500	50.00	0	77.7	77	123	38.88	0.117	24	

Sample ID: <b>mblank</b>	SampType: <b>MBLK</b>	TestCode: <b>HG-LL_NPW(</b>	Units: <b>ng/L</b>		Prep Date:				RunNo: <b>136140</b>		
Client ID: <b>PBW</b>	Batch ID: <b>R136140</b>	TestNo: <b>E1631</b>	Analysis Date: <b>11/10/2021</b>				SeqNo: <b>3594886</b>				
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.500									

Qualifiers: B Analyte detected in the associated Method Blank  
J Analyte detected below quantitation limits  
ND Not Detected  
PL Permit Limit  
E Value above quantitation range  
M Manual Integration used to determine area response  
OGI  
R RPD outside accepted recovery limits  
H Holding times for preparation or analy  
MC Value is below Minimum Compound  
P Second column confirmation exceeds  
RL Reporting Detection Limit

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## QC SUMMARY REPORT

WO#: 21110481  
12-Nov-21

Client: City of Lorain WWTP  
Project: Old Hospital Hg + PCB

BatchID: R136140

Sample ID: lcs1	SampType: LCS	TestCode: HG-LL_NPW(	Units: ng/L	Prep Date:	RunNo: 136140						
Client ID: LCSW	Batch ID: R136140	TestNo: E1631		Analysis Date: 11/10/2021	SeqNo: 3594863						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	42.3	0.500	50.00	0	84.6	77	123				

Sample ID: mblank	SampType: MBLK	TestCode: HG-LL_NPW(	Units: ng/L	Prep Date:	RunNo: 136140						
Client ID: PBW	Batch ID: R136140	TestNo: E1631		Analysis Date: 11/10/2021	SeqNo: 3594864						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.342	0.500									J

Sample ID: rlc	SampType: RLC	TestCode: HG-LL_NPW(	Units: ng/L	Prep Date:	RunNo: 136140						
Client ID: BatchQC	Batch ID: R136140	TestNo: E1631		Analysis Date: 11/10/2021	SeqNo: 3594865						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	0.515	0.500	0.5000	0	103	50	150				

Sample ID: mblank	SampType: MBLK	TestCode: HG-LL_NPW(	Units: ng/L	Prep Date:	RunNo: 136140						
Client ID: PBW	Batch ID: R136140	TestNo: E1631		Analysis Date: 11/10/2021	SeqNo: 3594873						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Mercury	ND	0.500									

Qualifiers: B Analyte detected in the associated Method Blank  
J Analyte detected below quantitation limits  
ND Not Detected  
PL Permit Limit  
E Value above quantitation range  
M Manual Integration used to determine area response  
OGI  
R RPD outside accepted recovery limits  
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## QC SUMMARY REPORT

WO#: 21110481  
12-Nov-21

Client: City of Lorain WWTP  
Project: Old Hospital Hg + PCB

BatchID: 53091

Sample ID: MB-53091	SampType: MBLK	TestCode: SVOC-PCB_	Units: mg/L	Prep Date: 11/9/2021	RunNo: 136162						
Client ID: PBW	Batch ID: 53091	TestNo: E608	SW3510C	Analysis Date: 11/11/2021	SeqNo: 3597746						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	ND	0.000200									
Aroclor 1221	ND	0.000400									
Aroclor 1232	ND	0.000200									
Aroclor 1242	ND	0.000200									
Aroclor 1248	ND	0.000300									
Aroclor 1254	ND	0.000200									
Aroclor 1260	ND	0.000200									
Total PCBs	ND	0.000200									
Surr: DCB	0.955		1.500		63.7	20	117				
Surr: TCMX	0.443		1.000		44.3	20	117				

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected below quantitation limits  
ND Not Detected  
PL Permit Limit  
E Value above quantitation range  
M Manual Integration used to determine area response  
OGI  
R RPD outside accepted recovery limits  
H Holding times for preparation or analy  
MC Value is below Minimum Compound  
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## QC SUMMARY REPORT

WO#: 21110481  
12-Nov-21

Client: City of Lorain WWTP  
Project: Old Hospital Hg + PCB

BatchID: 53091

Sample ID: LCS-53091	SampType: LCS	TestCode: SVOC-PCB_	Units: mg/L	Prep Date: 11/9/2021	RunNo: 136162						
Client ID: LCSW	Batch ID: 53091	TestNo: E608	SW3510C	Analysis Date: 11/11/2021	SeqNo: 3597744						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	0.000395	0.000200	0.000500	0	79.0	50	140				
Aroclor 1260	0.000442	0.000200	0.000500	0	88.5	8	140				
Total PCBs	0.000837	0.000200	0.00100	0	83.7	43	123				
Surr: DCB	1.02		1.500		67.9	9.98	149				
Surr: TCMX	0.503		1.000		50.3	20.7	110				

Sample ID: LCSD-53091	SampType: LCSD	TestCode: SVOC-PCB_	Units: mg/L	Prep Date: 11/9/2021	RunNo: 136162						
Client ID: LCSS02	Batch ID: 53091	TestNo: E608	SW3510C	Analysis Date: 11/11/2021	SeqNo: 3597745						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	0.000374	0.000200	0.000500	0	74.7	50	140	0.000395	5.56	20	
Aroclor 1260	0.000397	0.000200	0.000500	0	79.4	8	140	0.000442	10.9	20	
Total PCBs	0.000770	0.000200	0.00100	0	77.0	43	123	0.000837	8.33	20	
Surr: DCB	0.963		1.500		64.2	9.98	149		0	0	
Surr: TCMX	0.479		1.000		47.9	20.7	110		0	0	

Sample ID: MB-53091	SampType: MBLK	TestCode: SVOC-PCB_	Units: mg/L	Prep Date: 11/9/2021	RunNo: 136162						
Client ID: PBW	Batch ID: 53091	TestNo: E608	SW3510C	Analysis Date: 11/11/2021	SeqNo: 3597746						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers: B Analyte detected in the associated Method Blank  
J Analyte detected below quantitation limits  
ND Not Detected  
PL Permit Limit  
E Value above quantitation range  
M Manual Integration used to determine area response  
OGI  
R RPD outside accepted recovery limits  
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MC Value is below Minimum Compound  
P Second column confirmation exceeds  
RL Reporting Detection Limit

Original





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## QC SUMMARY REPORT

WO#: 21110481  
12-Nov-21

Client: City of Lorain WWTP  
Project: Old Hospital Hg + PCB

BatchID: 53091

Sample ID: MB-53091		SampType: MBLK		TestCode: SVOC-PCB_T Units: mg/L		Prep Date: 11/9/2021			RunNo: 136160			
Client ID: PBS		Batch ID: 53091		TestNo: E608 SW3510C		Analysis Date: 11/11/2021			SeqNo: 3596401			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016		ND	0.000200									
Aroclor 1221		ND	0.000200									
Aroclor 1232		ND	0.000200									
Aroclor 1242		ND	0.000200									
Aroclor 1248		ND	0.000200									
Aroclor 1254		ND	0.000200									
Aroclor 1260		ND	0.000200									
Total PCBs		ND	0.000200									
Surr: TCMX		0.443		1.000		44.3	35.4	130				
Surr: DCB		0.955		1.500		63.7	47.3	130				

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analy
	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response	MC	Value is below Minimum Compound
	ND	Not Detected	OGI		P	Second column confirmation exceeds
	PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

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## QC SUMMARY REPORT

WO#: 21110481  
12-Nov-21

Client: City of Lorain WWTP  
Project: Old Hospital Hg + PCB

BatchID: 53091

Sample ID: LCS-53091	SampType: LCS	TestCode: SVOC-PCB_T	Units: mg/L	Prep Date: 11/9/2021	RunNo: 136160						
Client ID: LCSS	Batch ID: 53091	TestNo: E608	SW3510C	Analysis Date: 11/11/2021	SeqNo: 3596399						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	0.000395	0.000200	0.000500	0	79.0	55.1	130				
Aroclor 1260	0.000442	0.000200	0.000500	0	88.5	70	130				
Total PCBs	0.000837	0.000200	0.00100	0	83.7	70	130				
Surr: TCMX	0.503		1.000		50.3	35.4	130				
Surr: DCB	1.02		1.500		67.9	47.3	130				

Sample ID: LCSD-53091		SampType: LCSD	TestCode: SVOC-PCB_T Units: mg/L			Prep Date: 11/9/2021			RunNo: 136160		
Client ID: LCSS02		Batch ID: 53091	TestNo: E608		SW3510C	Analysis Date: 11/11/2021			SeqNo: 3596400		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Aroclor 1016	0.000374	0.000200	0.000500	0	74.7	55.1	130	0.000395	5.56	0	
Aroclor 1260	0.000397	0.000200	0.000500	0	79.4	70	130	0.000442	10.9	0	
Total PCBs	0.000770	0.000200	0.00100	0	77.0	70	130	0.000837	8.33	0	
Surr: TCMX	0.479		1.000		47.9	35.4	130		0	0	
Surr: DCB	0.963		1.500		64.2	47.3	130		0	0	

Sample ID: MB-53091	SampType: MBLK	TestCode: SVOC-PCB_T	Units: mg/L	Prep Date: 11/9/2021	RunNo: 136160						
Client ID: PBS	Batch ID: 53091	TestNo: E608	SW3510C	Analysis Date: 11/11/2021	SeqNo: 3596401						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers: B Analyte detected in the associated Method Blank  
J Analyte detected below quantitation limits  
ND Not Detected  
PL Permit Limit  
E Value above quantitation range  
M Manual Integration used to determine area response  
OGI  
R RPD outside accepted recovery limits  
H Holding times for preparation or analy  
MC Value is below Minimum Compound  
P Second column confirmation exceeds  
RL Reporting Detection Limit

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## QC SUMMARY REPORT

WO#: 21110481  
12-Nov-21

Client: City of Lorain WWTP  
Project: Old Hospital Hg + PCB

BatchID: 53090

Sample ID: MB-53090	SampType: MBLK	TestCode: SVOC-PEST_	Units: mg/L		Prep Date: 11/9/2021				RunNo: 136236		
Client ID: PBW	Batch ID: 53090	TestNo: E608	SW3510C		Analysis Date: 11/11/2021				SeqNo: 3598461		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4,4'-DDD	ND	0.0000500									
4,4'-DDE	ND	0.0000500									
4,4'-DDT	ND	0.0000500									
Aldrin	ND	0.0000500									
alpha-BHC	ND	0.0000500									
beta-BHC	ND	0.0000500									
Chlordane, total	ND	0.0000500									
delta-BHC	ND	0.0000500									
Dieldrin	ND	0.0000500									
Endosulfan I	ND	0.0000500									
Endosulfan II	ND	0.0000500									
Endosulfan sulfate	ND	0.0000500									
Endrin	ND	0.0000500									
Endrin aldehyde	ND	0.0000500									
Endrin ketone	ND	0.0000500									
gamma-BHC	ND	0.0000500									
Heptachlor	ND	0.0000500									
Heptachlor epoxide	ND	0.0000500									
Methoxychlor	ND	0.0000500									
Toxaphene	ND	0.00100									
Surr: DCB	0.709		1.000		70.9	10	119				
Surr: TCMX	0.640		1.000		64.0	10	119				

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analy
	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response	MC	Value is below Minimum Compound
	ND	Not Detected	OGI		P	Second column confirmation exceeds
	PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Original



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## QC SUMMARY REPORT

WO#: 21110481

12-Nov-21

Client: City of Lorain WWTP  
Project: Old Hospital Hg + PCB

BatchID: 53090

Sample ID: LCSD-53090		SampType: LCSD		TestCode: SVOC-PEST_ Units: mg/L		Prep Date: 11/9/2021			RunNo: 136236		
Client ID: LCSS02		Batch ID: 53090		TestNo: E608 SW3510C		Analysis Date: 11/12/2021			SeqNo: 3598460		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4,4'-DDD	0.000575	0.0000500	0.000500	0	115	31	141	0.000567	1.36	30	
4,4'-DDE	0.000534	0.0000500	0.000500	0	107	30	145	0.000536	0.397	30	
4,4'-DDT	0.000602	0.0000500	0.000500	0	120	25	160	0.000535	11.8	30	
Aldrin	0.000390	0.0000500	0.000500	0	78.0	42	140	0.000406	3.89	30	
alpha-BHC	0.000425	0.0000500	0.000500	0	85.0	37	140	0.000448	5.36	30	
beta-BHC	0.000516	0.0000500	0.000500	0	103	17	147	0.000531	2.98	30	
delta-BHC	0.000327	0.0000500	0.000500	0	65.5	19	140	0.000339	3.35	30	
Dieldrin	0.000525	0.0000500	0.000500	0	105	36	146	0.000536	2.21	30	
Endosulfan I	0.000504	0.0000500	0.000500	0	101	45	153	0.000518	2.59	30	
Endosulfan II	0.000541	0.0000500	0.000500	0	108	1	202	0.000534	1.34	30	
Endosulfan sulfate	0.000496	0.0000500	0.000500	0	99.3	26	144	0.000483	2.82	30	
Endrin	0.000539	0.0000500	0.000500	0	108	30	147	0.000545	1.21	30	
Endrin aldehyde	0.000549	0.0000500	0.000500	0	110	5	199	0.000538	2.04	30	
Endrin ketone	0.000476	0.0000500	0.000500	0	95.2	5	199	0.000428	10.5	30	
gamma-BHC	0.000456	0.0000500	0.000500	0	91.3	32	140	0.000476	4.27	30	
Heptachlor	0.000486	0.0000500	0.000500	0	97.1	34	140	0.000481	0.947	30	
Heptachlor epoxide	0.000511	0.0000500	0.000500	0	102	37	142	0.000524	2.51	30	
Methoxychlor	0.000586	0.0000500	0.000500	0	117	5	199	0.000565	3.58	30	
Surr: DCB	0.792		1.000		79.2	10	119		0		
Surr: TCMX	0.618		1.000		61.8	10	119		0		

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analy
	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response	MC	Value is below Minimum Compound
	ND	Not Detected	OGI		P	Second column confirmation exceeds
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## QC SUMMARY REPORT

WO#: 21110481

12-Nov-21

Client: City of Lorain WWTP  
Project: Old Hospital Hg + PCB

BatchID: 53090

Sample ID: LCS-53090	SampType: LCS	TestCode: SVOC-PEST_	Units: mg/L	Prep Date: 11/9/2021	RunNo: 136236						
Client ID: LCSW	Batch ID: 53090	TestNo: E608	SW3510C	Analysis Date: 11/11/2021	SeqNo: 3598459						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
4,4'-DDD	0.000567	0.0000500	0.000500	0	113	31	141				
4,4'-DDE	0.000536	0.0000500	0.000500	0	107	30	145				
4,4'-DDT	0.000535	0.0000500	0.000500	0	107	25	160				
Aldrin	0.000406	0.0000500	0.000500	0	81.1	42	140				
alpha-BHC	0.000448	0.0000500	0.000500	0	89.7	37	140				
beta-BHC	0.000531	0.0000500	0.000500	0	106	17	147				
delta-BHC	0.000339	0.0000500	0.000500	0	67.7	19	140				
Dieldrin	0.000536	0.0000500	0.000500	0	107	36	146				
Endosulfan I	0.000518	0.0000500	0.000500	0	104	45	153				
Endosulfan II	0.000534	0.0000500	0.000500	0	107	1	202				
Endosulfan sulfate	0.000483	0.0000500	0.000500	0	96.5	26	144				
Endrin	0.000545	0.0000500	0.000500	0	109	30	147				
Endrin aldehyde	0.000538	0.0000500	0.000500	0	108	5	199				
Endrin ketone	0.000428	0.0000500	0.000500	0	85.7	5	199				
gamma-BHC	0.000476	0.0000500	0.000500	0	95.2	32	140				
Heptachlor	0.000481	0.0000500	0.000500	0	96.2	34	140				
Heptachlor epoxide	0.000524	0.0000500	0.000500	0	105	37	142				
Methoxychlor	0.000565	0.0000500	0.000500	0	113	5	199				
Surr: DCB	0.697		1.000		69.7	10	119				
Surr: TCMX	0.678		1.000		67.8	10	119				

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analy
	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response	MC	Value is below Minimum Compound
	ND	Not Detected	OGI		P	Second column confirmation exceeds
	PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Original





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#: 21110481

Date Reported: 11/12/2021

Lab ID: 21110481-001

Collection Date: 11/4/2021 1:25:00 PM

Client Sample ID Old Hospital

Matrix: NON-POTABLE WATER

Analysis	Result	MDL	PQL	Qual	Units	Dilution	Batch	Date Analyzed
<b>LOW-LEVEL MERCURY (EPA 1631)</b>					<b>EPA 1631 E</b>		<b>Analyst: SEE</b>	
Mercury	8.68	0.247	0.500	Z	ng/L	1	R136140	11/10/2021 1:57:38 PM

### NOTES:

Z: Method Deviation: Sample was received without an associated Field or Trip Blank for Low Level Mercury Analysis.

<b>PCB (EPA 608.3)</b>					<b>EPA 608.3</b>		<b>Analyst: CSS</b>	
Aroclor 1016	ND	0.000165	0.000168		mg/L	1	53091	11/11/2021 8:35:00 AM
Aroclor 1221	ND	0.0000537	0.000105		mg/L	1	53091	11/11/2021 8:35:00 AM
Aroclor 1232	ND	0.0000811	0.000105		mg/L	1	53091	11/11/2021 8:35:00 AM
Aroclor 1242	ND	0.0000316	0.000105		mg/L	1	53091	11/11/2021 8:35:00 AM
Aroclor 1248	ND	0.000135	0.000158		mg/L	1	53091	11/11/2021 8:35:00 AM
Aroclor 1254	ND	0.0000242	0.000105		mg/L	1	53091	11/11/2021 8:35:00 AM
Aroclor 1260	ND	0.000114	0.000158		mg/L	1	53091	11/11/2021 8:35:00 AM
Total PCBs	ND	0.0000200	0.000105		mg/L	1	53091	11/11/2021 8:35:00 AM
Surr: DCB	53.7	0	10-140		%Rec	1	53091	11/11/2021 8:35:00 AM
Surr: TCMX	61.5		10-140		%Rec	1	53091	11/11/2021 8:35:00 AM

<b>ORGANOCHLORINE PESTICIDES (EPA 608.3)</b>					<b>EPA 608.3</b>		<b>Analyst: CSS</b>	
4,4'-DDD	ND	0.00000347	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
4,4'-DDE	ND	0.00000474	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
4,4'-DDT	ND	0.00000432	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
Aldrin	ND	0.00000658	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
alpha-BHC	ND	0.00000373	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
beta-BHC	ND	0.00000363	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
Chlordane, total	ND	0.0000400	0.000526		mg/L	1	53090	11/12/2021 1:16:00 AM
delta-BHC	ND	0.00000625	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
Dieldrin	ND	0.00000671	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
Endosulfan I	ND	0.0000109	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
Endosulfan II	ND	0.00000659	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
Endosulfan sulfate	ND	0.00000516	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
Endrin	ND	0.00000668	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
Endrin aldehyde	ND	0.00000886	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
Endrin ketone	ND	0.00000560	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
gamma-BHC	ND	0.00000452	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
Heptachlor	ND	0.00000354	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
Heptachlor epoxide	ND	0.00000712	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
Methoxychlor	ND	0.00000536	0.0000526		mg/L	1	53090	11/12/2021 1:16:00 AM
Toxaphene	ND	0.000168	0.00105		mg/L	1	53090	11/12/2021 1:16:00 AM
Surr: DCB	32.8		10-119	m	%Rec	1	53090	11/12/2021 1:16:00 AM
Surr: TCMX	40.6		10-119		%Rec	1	53090	11/12/2021 1:16:00 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
	ND	Not Detected	OG1	
	P	Second column confirmation exceeds	PL	Permit Limit



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## Workorder Sample Summary

WO#: 21110481

12-Nov-21

**CLIENT:** City of Lorain WWTP  
**Project:** Old Hospital Hg + PCB

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
21110481-001	Old Hospital		11/4/2021 1:25:00 PM	11/5/2021 12:25:00 PM	Non-Potable Water
21110481-001	Old Hospital		11/4/2021 1:25:00 PM	11/5/2021 12:25:00 PM	Non-Potable Water



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Website: <http://www.settek.com>

## Case Narrative

WO#: 21110481  
Date: 11/12/2021

---

**CLIENT:** City of Lorain WWTP  
**Project:** Old Hospital Hg + PCB

---

### WorkOrder Narrative:

21110481: 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:

21110481-001A HG-LL\_NPW(1631): Z: Method Deviation: Sample was received without an associated Field or Trip Blank for Low Level Mercury Analysis.

### Analytical Sequence QC Notes:

mblank HG-LL\_NPW(1631): Per the SOP, method blanks must be less than 0.5 with one method blank in batch being less than 0.2. This method blank meets acceptable criteria.

LCS-53091 SVOC-PCB\_NPW(608.3): RPD between confirmation column is greater than 40%.

---

Original



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November 12, 2021

Brent Stoll  
City of Lorain WWTP  
100 Alabama Avenue  
Lorain, OH 44052  
TEL: (440) 288-0281  
FAX:

RE: Old Hospital Hg + PCB

Dear Brent Stoll:

Order No.: 21110481

Summit Environmental Technologies, Inc. received 1 sample(s) on 11/5/2021 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,

*Sara Kidd*

Sara E. Kidd  
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, 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 011, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C



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## Sample Log-In Check List

Client Name: **LOR-OH-44052-A**

Work Order Number: **21110480**

RcptNo: **1**

Logged by: **Christina N. Jager** **11/5/2021 12:25:00 PM**

*C. Jager*

Completed By: **Jacqueline Rasile** **11/6/2021 5:04:35 PM**

*Jacqueline Rasile*

Reviewed By: **Sara E. Kidd** **11/8/2021 10:20:41 AM**

*Sara Kidd*

### Chain of Custody

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

### 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  $>0^{\circ}\text{C}$  to  $6.0^{\circ}\text{C}$ ? 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:

There are 2 BR INF samples collected 11-4-21/07:05 and there is no BR EFF bottle

### Cooler Information

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.5	Good	Not Present			





**SUMMIT**  
ENVIRONMENTAL TECHNOLOGIES, INC.

3310 W. Street  
Cuyahoga Falls, Ohio 44223  
800-276-0140

# Analysis Request / Chain of Custody

Effective Date: 10/01/2019  
Page 1 of 1

Refer to Terms and Conditions at [www.setck.com](http://www.setck.com)

<b>Client Name</b> Lorain Water Pollution Control		<b>Project Identification</b> Nov. 21 Metals	
<b>Client Street Address</b> 100 Alabama Ave.		<b>Client Street Address</b> 	
<b>City</b> Lorain	<b>State</b> OH	<b>Zip</b> 44053	<b>Zip</b> 
<b>Client Phone</b> 440 388 0361		<b>Report To</b> Fred Stoll	
<b>Client Email Address</b> Fred.Stoll@cityoflorain.org		<b>Quote Number</b> 	
<b>Facility ID</b> 		<b>Facility ID</b> 	
<b>Reporting/Accreditation Requirements:</b> <input type="checkbox"/> Ohio VAP <input type="checkbox"/> Drinking Water Compliance <input type="checkbox"/> Other Compliance (List State/Program):		<input type="checkbox"/> Ohio EPA Pb, Cu <input type="checkbox"/> Other Compliance (List State/Program):	
For DW only, refer to be reported to state by job? If yes, job fee may apply: <input type="checkbox"/> Y <input checked="" type="checkbox"/> N			
<b>Signature</b> [Signature]			
<b>Date</b> 11/15/21			
<b>Received at Summit by:</b> [Signature]			
<b>Date</b> NOV 05 2021 12:25			
<b>Carrier</b> SET			
<b>Received at Summit by:</b> [Signature]			
<b>Date</b> 11/15/21 10:52AM			
<b>Time</b> 10:52			
<b>Notes / Comments:</b> 0.6 + 0.9 =			



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## DATES REPORT

WO#: 21110480  
15-Nov-21

Client: City of Lorain WWTP  
Project: Monthly Metals

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
21110480-001A	BR INF	11/4/2021 7:05:00 AM	Non-Potable Water	Metals Analysis by ICP/MS (EPA200.1		11/9/2021 1:30:00 PM	11/12/2021 11:50:00 PM
21110480-002A				Metals Analysis by ICP/MS (EPA200.1		11/9/2021 1:30:00 PM	11/12/2021 11:54:59 PM
21110480-003A	PQM INF	11/4/2021 7:30:00 AM		Metals Analysis by ICP/MS (EPA200.1		11/8/2021 2:05:00 PM	11/12/2021 10:45:16 PM
				Metals Analysis by ICP/MS (EPA200.1		11/8/2021 2:05:00 PM	11/11/2021 7:11:00 AM
21110480-004A	PQM EFF			Metals Analysis by ICP/MS (EPA200.1		11/8/2021 2:05:00 PM	11/12/2021 10:40:16 PM
				Metals Analysis by ICP/MS (EPA200.1		11/8/2021 2:05:00 PM	11/11/2021 7:15:00 AM
21110480-005A	Old Hospital	11/4/2021 1:20:00 PM		Metals Analysis by ICP/MS (EPA200.1		11/8/2021 2:05:00 PM	11/12/2021 10:50:16 PM
				Metals Analysis by ICP/MS (EPA200.1		11/8/2021 2:05:00 PM	11/11/2021 7:19:00 AM

Original



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## Qualifiers and Acronyms

WO#: 21110480  
Date: 11/15/2021

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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## QC SUMMARY REPORT

WO#: 21110480  
15-Nov-21

Client: City of Lorain WWTP  
Project: Monthly Metals

BatchID: 53088

Sample ID: MB-53088	SampType: MBLK	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/9/2021	RunNo: 136277						
Client ID: PBW	Batch ID: 53088	TestNo: E200.8	E200.8	Analysis Date: 11/12/2021	SeqNo: 3599195						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium(Cd)	ND	0.00100									
Chromium(Cr)	ND	0.00100									
Copper(Cu)	ND	0.00100									
Zinc(Zn)	ND	0.00500									

Sample ID: LCS-53088	SampType: LCS	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/9/2021	RunNo: 136277						
Client ID: LCSW	Batch ID: 53088	TestNo: E200.8	E200.8	Analysis Date: 11/12/2021	SeqNo: 3599196						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium(Cd)	0.0487	0.00100	0.0500	0	97.4	85	115				
Chromium(Cr)	0.0472	0.00100	0.0500	0	94.4	85	115				
Copper(Cu)	0.0504	0.00100	0.0500	0	101	85	115				
Zinc(Zn)	0.0491	0.00500	0.0500	0	98.1	85	115				

Sample ID: 21110117-001ADUP	SampType: DUP	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/9/2021	RunNo: 136277						
Client ID: BatchQC	Batch ID: 53088	TestNo: E200.8	E200.8	Analysis Date: 11/12/2021	SeqNo: 3599203						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper(Cu)	0.00571	0.00100						0.00562	1.71	20	

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected below quantitation limits  
ND Not Detected  
PL Permit Limit  
E Value above quantitation range  
M Manual Integration used to determine area response  
OGI  
R RPD outside accepted recovery limits  
H Holding times for preparation or analy  
MC Value is below Minimum Compound  
P Second column confirmation exceeds  
RL Reporting Detection Limit

Original



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## QC SUMMARY REPORT

WO#: 21110480  
15-Nov-21

Client: City of Lorain WWTP  
Project: Monthly Metals

BatchID: 53088

Sample ID: 21110115-003AMS	SampType: MS	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/9/2021	RunNo: 136278						
Client ID: BatchQC	Batch ID: 53088	TestNo: E200.8	E200.8	Analysis Date: 11/12/2021	SeqNo: 3599235						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper(Cu)	0.499	0.0100	0.0250	0.458	163	70	130				S

Sample ID: 21110115-003AMSD		SampType: MSD		TestCode: Mtl-ICPMS_N		Units: mg/L		Prep Date: 11/9/2021		RunNo: 136278	
Client ID: BatchQC		Batch ID: 53088		TestNo: E200.8		E200.8		Analysis Date: 11/12/2021		SeqNo: 3599236	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper(Cu)	0.482	0.0100	0.0250	0.458	94.8	70	130	0.499	3.49	20	

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected below quantitation limits  
ND Not Detected  
PL Permit Limit  
E Value above quantitation range  
M Manual Integration used to determine area response  
OGI  
R RPD outside accepted recovery limits  
H Holding times for preparation or analy  
MC Value is below Minimum Compound  
P Second column confirmation exceeds  
RL Reporting Detection Limit

Original





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## QC SUMMARY REPORT

WO#: 21110480  
15-Nov-21

Client: City of Lorain WWTP  
Project: Monthly Metals

BatchID: 53088

Sample ID: LCS2-53088	SampType: LCS	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/9/2021	RunNo: 136279						
Client ID: LCSW	Batch ID: 53088	TestNo: E200.8	E200.8	Analysis Date: 11/12/2021	SeqNo: 3600366						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver(Ag)	0.0430	0.00100	0.0500	0	86.0	85	115				

**Qualifiers:** B Analyte detected in the associated Method Blank  
J Analyte detected below quantitation limits  
ND Not Detected  
PL Permit Limit  
E Value above quantitation range  
M Manual Integration used to determine area response  
OGI  
R RPD outside accepted recovery limits  
H Holding times for preparation or analy  
MC Value is below Minimum Compound  
P Second column confirmation exceeds  
RL Reporting Detection Limit

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## QC SUMMARY REPORT

WO#: 21110480  
15-Nov-21

Client: City of Lorain WWTP  
Project: Monthly Metals

BatchID: 53088

Sample ID: MB-53088	SampType: MBLK	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/9/2021	RunNo: 136279						
Client ID: PBW	Batch ID: 53088	TestNo: E200.8	E200.8	Analysis Date: 11/12/2021	SeqNo: 3600364						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium(Cd)	ND	0.00100									
Chromium(Cr)	ND	0.00100									
Copper(Cu)	ND	0.00100									
Lead(Pb)	ND	0.00100									
Nickel(Ni)	ND	0.00100									
Selenium(Se)	ND	0.00100									
Silver(Ag)	ND	0.00100									
Zinc(Zn)	ND	0.00500									

Sample ID: LCS-53088	SampType: LCS	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/9/2021	RunNo: 136279						
Client ID: LCSW	Batch ID: 53088	TestNo: E200.8	E200.8	Analysis Date: 11/12/2021	SeqNo: 3600365						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium(Cd)	0.0495	0.00100	0.0500	0	98.9	85	115				
Chromium(Cr)	0.0477	0.00100	0.0500	0	95.3	85	115				
Copper(Cu)	0.0518	0.00100	0.0500	0	104	85	115				
Lead(Pb)	0.0508	0.00100	0.0500	0	102	85	115				
Nickel(Ni)	0.0484	0.00100	0.0500	0	96.9	85	115				
Selenium(Se)	0.0505	0.00100	0.0500	0	101	85	115				
Zinc(Zn)	0.0516	0.00500	0.0500	0	103	85	115				

**Qualifiers:** B Analyte detected in the associated Method Blank E Value above quantitation range H Holding times for preparation or analy  
J Analyte detected below quantitation limits M Manual Integration used to determine area response MC Value is below Minimum Compound  
ND Not Detected OGI P Second column confirmation exceeds  
PL Permit Limit R RPD outside accepted recovery limits RL Reporting Detection Limit

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## QC SUMMARY REPORT

WO#: 21110480  
15-Nov-21

Client: City of Lorain WWTP  
Project: Monthly Metals

BatchID: 53052

Sample ID: LCS2-53052	SampType: LCS	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/8/2021	RunNo: 136087						
Client ID: LCSW	Batch ID: 53052	TestNo: E200.8	E200.8	Analysis Date: 11/9/2021	SeqNo: 3593010						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers: B Analyte detected in the associated Method Blank  
J Analyte detected below quantitation limits  
ND Not Detected  
PL Permit Limit

E Value above quantitation range  
M Manual Integration used to determine area response  
OGI  
R RPD outside accepted recovery limits

H Holding times for preparation or analy  
MC Value is below Minimum Compound  
P Second column confirmation exceeds  
RL Reporting Detection Limit

Original



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## QC SUMMARY REPORT

WO#: 21110480  
15-Nov-21

Client: City of Lorain WWTP  
Project: Monthly Metals

BatchID: 53052

Sample ID: MB-53052	SampType: MBLK	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/8/2021	RunNo: 136087						
Client ID: PBW	Batch ID: 53052	TestNo: E200.8	E200.8	Analysis Date: 11/9/2021	SeqNo: 3593007						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium(Cd)	ND	0.00100									
Chromium(Cr)	ND	0.00100									
Lead(Pb)	ND	0.00100									
Selenium(Se)	ND	0.00500									
Silver(Ag)	ND	0.00100									

Sample ID: LCS-53052	SampType: LCS	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/8/2021	RunNo: 136087						
Client ID: LCSW	Batch ID: 53052	TestNo: E200.8	E200.8	Analysis Date: 11/9/2021	SeqNo: 3593008						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium(Cd)	0.0469	0.00100	0.0500	0	93.7	85	115				
Chromium(Cr)	0.0478	0.00100	0.0500	0	95.7	85	115				
Lead(Pb)	0.0486	0.00100	0.0500	0	97.2	85	115				
Selenium(Se)	0.0465	0.00100	0.0500	0	93.1	85	115				

Sample ID: LCS2-53052	SampType: LCS	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/8/2021	RunNo: 136087						
Client ID: LCSW	Batch ID: 53052	TestNo: E200.8	E200.8	Analysis Date: 11/9/2021	SeqNo: 3593010						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver(Ag)	0.0443	0.00100	0.0500	0	88.6	85	115				

Qualifiers: B Analyte detected in the associated Method Blank  
J Analyte detected below quantitation limits  
ND Not Detected  
PL Permit Limit  
E Value above quantitation range  
M Manual Integration used to determine area response  
OGI  
R RPD outside accepted recovery limits  
H Holding times for preparation or analy  
MC Value is below Minimum Compound  
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RL Reporting Detection Limit

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## QC SUMMARY REPORT

WO#: 21110480  
15-Nov-21

Client: City of Lorain WWTP  
Project: Monthly Metals

BatchID: 53052

Sample ID: 21110423-002BMS	SampType: MS	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/8/2021	RunNo: 136156						
Client ID: BatchQC	Batch ID: 53052	TestNo: E200.8	E200.8	Analysis Date: 11/11/2021	SeqNo: 3596155						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Sample ID: 21110423-002BMSD		SampType: MSD		TestCode: Mtl-ICPMS_N		Units: mg/L		Prep Date: 11/8/2021		RunNo: 136156	
Client ID: BatchQC		Batch ID: 53052		TestNo: E200.8		E200.8		Analysis Date: 11/11/2021		SeqNo: 3596156	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead(Pb)	0.0252	0.00100	0.0250	0.000539	98.7	70	130	0.0252	0.199	20	

Sample ID: 21110426-002CDUP	SampType: DUP	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/8/2021	RunNo: 136156						
Client ID: BatchQC	Batch ID: 53052	TestNo: E200.8	E200.8	Analysis Date: 11/11/2021	SeqNo: 3596158						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead(Pb)	0.000204	0.00100						0.000226	10.2	20	J

Qualifiers: B Analyte detected in the associated Method Blank  
J Analyte detected below quantitation limits  
ND Not Detected  
PL Permit Limit  
E Value above quantitation range  
M Manual Integration used to determine area response  
OGI  
R RPD outside accepted recovery limits  
H Holding times for preparation or analy  
MC Value is below Minimum Compound  
P Second column confirmation exceeds  
RL Reporting Detection Limit

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## QC SUMMARY REPORT

WO#: 21110480  
15-Nov-21

Client: City of Lorain WWTP  
Project: Monthly Metals

BatchID: 53052

Sample ID	LCS2-53052	SampType: LCS	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/8/2021	RunNo: 136156					
Client ID	LCSW	Batch ID: 53052	TestNo: E200.8	E200.8	Analysis Date: 11/10/2021	SeqNo: 3596002					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Silver(Ag)	0.0509	0.00100	0.0500	0	102	85	115				

Sample ID: 21110422-002CMS	SampType: MS	TestCode: Mtl-JCPMS_N	Units: mg/L	Prep Date: 11/8/2021	RunNo: 136156						
Client ID: BatchQC	Batch ID: 53052	TestNo: E200.8	E200.8	Analysis Date: 11/11/2021	SeqNo: 3596152						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead(Pb)	0.0240	0.00100	0.0250	0.000134	95.6	70	130				

Sample ID: 21110422-002CMSD		SampType: MSD		TestCode: Mtl-ICPMS_N		Units: mg/L		Prep Date: 11/8/2021		RunNo: 136156	
Client ID: BatchQC		Batch ID: 53052		TestNo: E200.8		E200.8		Analysis Date: 11/11/2021		SeqNo: 3596153	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead(Pb)	0.0240	0.00100	0.0250	0.000134	95.3	70	130	0.0240	0.304	20	

Sample ID: 21110423-002BMS	SampType: MS	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/8/2021	RunNo: 136156						
Client ID: BatchQC	Batch ID: 53052	TestNo: E200.8	E200.8	Analysis Date: 11/11/2021	SeqNo: 3596155						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Lead(Pb)	0.0252	0.00100	0.0250	0.000539	98.5	70	130				

Qualifiers: B Analyte detected in the associated Method Blank  
J Analyte detected below quantitation limits  
ND Not Detected  
PL Permit Limit  
E Value above quantitation range  
M Manual Integration used to determine area response  
OGI  
R RPD outside accepted recovery limits  
H Holding times for preparation or analy  
MC Value is below Minimum Compound  
P Second column confirmation exceeds  
RL Reporting Detection Limit

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## QC SUMMARY REPORT

WO#: 21110480

15-Nov-21

Client: City of Lorain WWTP  
Project: Monthly Metals

BatchID: 53052

Sample ID: MB-53052	SampType: MBLK	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/8/2021	RunNo: 136156						
Client ID: PBW	Batch ID: 53052	TestNo: E200.8	E200.8	Analysis Date: 11/10/2021	SeqNo: 3596000						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium(Cd)	ND	0.00100									
Chromium(Cr)	ND	0.00100									
Copper(Cu)	ND	0.00100									
Lead(Pb)	ND	0.00100									
Nickel(Ni)	ND	0.00100									
Selenium(Se)	ND	0.00100									
Silver(Ag)	ND	0.00100									
Zinc(Zn)	ND	0.00500									

Sample ID: LCS-53052	SampType: LCS	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/8/2021	RunNo: 136156						
Client ID: LCSW	Batch ID: 53052	TestNo: E200.8	E200.8	Analysis Date: 11/10/2021	SeqNo: 3596001						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Cadmium(Cd)	0.0538	0.00100	0.0500	0	108	85	115				
Chromium(Cr)	0.0531	0.00100	0.0500	0	106	85	115				
Copper(Cu)	0.0554	0.00100	0.0500	0	111	85	115				
Lead(Pb)	0.0528	0.00100	0.0500	0	106	85	115				
Nickel(Ni)	0.0532	0.00100	0.0500	0	106	85	115				
Selenium(Se)	0.0561	0.00100	0.0500	0	112	85	115				
Zinc(Zn)	0.0554	0.00500	0.0500	0	111	85	115				

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analy
	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response	MC	Value is below Minimum Compound
	ND	Not Detected	OGI		P	Second column confirmation exceeds
	PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

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## QC SUMMARY REPORT

WO#: 21110480  
15-Nov-21

Client: City of Lorain WWTP  
Project: Monthly Metals

BatchID: 53052

Sample ID: 21110329-001ADUP	SampType: DUP	TestCode: Mtl-ICPMS_N	Units: mg/L	Prep Date: 11/8/2021	RunNo: 136278						
Client ID: BatchQC	Batch ID: 53052	TestNo: E200.8	E200.8	Analysis Date: 11/12/2021	SeqNo: 3599233						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
Copper(Cu)	0.334	0.00400						0.321	3.75	20	

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analy
	J	Analyte detected below quantitation limits	M	Manual Integration used to determine area response	MC	Value is below Minimum Compound
	ND	Not Detected	OGI		P	Second column confirmation exceeds
	PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

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## Analytical Report

(consolidated)

WO#: 21110480

Date Reported: 11/15/2021

Lab ID: 21110480-005

Collection Date: 11/4/2021 1:20:00 PM

Client Sample ID Old Hospital

Matrix: NON-POTABLE WATER

Analysis	Result	MDL	PQL	Qual	Units	Dilution	Batch	Date Analyzed
<b>METALS ANALYSIS BY ICP/MS (EPA200.8)</b>					<b>EPA 200.8</b>		<b>Analyst: JEB</b>	
Cadmium(Cd)	ND	0.000120	0.00100		mg/L	1	53052	11/11/2021 7:19:00 AM
Chromium(Cr)	0.00164	0.0000769	0.00100		mg/L	1	53052	11/11/2021 7:19:00 AM
Copper(Cu)	0.0482	0.000138	0.00100		mg/L	1	53052	11/11/2021 7:19:00 AM
Lead(Pb)	0.000513	0.0000400	0.00100	J	mg/L	1	53052	11/11/2021 7:19:00 AM
Nickel(Ni)	0.00673	0.000177	0.00100		mg/L	1	53052	11/11/2021 7:19:00 AM
Selenium(Se)	0.00141	0.000440	0.00500	J	mg/L	1	53052	11/12/2021 10:50:16 PM
Silver(Ag)	0.000122	0.0000619	0.00100	J	mg/L	1	53052	11/11/2021 7:19:00 AM
Zinc(Zn)	0.0214	0.00227	0.00500		mg/L	1	53052	11/11/2021 7:19:00 AM

Qualifiers:	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
	ND	Not Detected	OG1	
	P	Second column confirmation exceeds	PL	Permit Limit



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## Analytical Report

(consolidated)

WO#: 21110480

Date Reported: 11/15/2021

Lab ID: 21110480-004

Collection Date: 11/4/2021 7:30:00 AM

Client Sample ID PQM EFF

Matrix: NON-POTABLE WATER

Analysis	Result	MDL	PQL	Qual	Units	Dilution	Batch	Date Analyzed
<b>METALS ANALYSIS BY ICP/MS (EPA200.8)</b>					<b>EPA 200.8</b>		<b>Analyst: DNS</b>	
Cadmium(Cd)	ND	0.000120	0.00100		mg/L	1	53052	11/12/2021 10:40:16 PM
Chromium(Cr)	0.00325	0.0000769	0.00100		mg/L	1	53052	11/12/2021 10:40:16 PM
Copper(Cu)	0.0424	0.000138	0.00100		mg/L	1	53052	11/12/2021 10:40:16 PM
Lead(Pb)	0.00126	0.0000400	0.00100		mg/L	1	53052	11/12/2021 10:40:16 PM
Nickel(Ni)	0.00515	0.000177	0.00100		mg/L	1	53052	11/12/2021 10:40:16 PM
Selenium(Se)	ND	0.000440	0.00500		mg/L	1	53052	11/12/2021 10:40:16 PM
Silver(Ag)	0.000700	0.0000619	0.00100	J	mg/L	1	53052	11/12/2021 10:40:16 PM
Zinc(Zn)	0.0707	0.00227	0.00500		mg/L	1	53052	11/12/2021 10:40:16 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
	ND	Not Detected	OG1	
	P	Second column confirmation exceeds	PL	Permit Limit





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## Analytical Report

(consolidated)

WO#: 21110480

Date Reported: 11/15/2021

Lab ID: 21110480-003

Collection Date: 11/4/2021 7:30:00 AM

Client Sample ID PQM INF

Matrix: NON-POTABLE WATER

Analysis	Result	MDL	PQL	Qual	Units	Dilution	Batch	Date Analyzed
<b>METALS ANALYSIS BY ICP/MS (EPA200.8)</b>					<b>EPA 200.8</b>		<b>Analyst: JEB</b>	
Cadmium(Cd)	0.000178	0.000120	0.00100	J	mg/L	1	53052	11/11/2021 7:11:00 AM
Chromium(Cr)	0.00369	0.0000769	0.00100		mg/L	1	53052	11/11/2021 7:11:00 AM
Copper(Cu)	0.0534	0.000138	0.00100		mg/L	1	53052	11/11/2021 7:11:00 AM
Lead(Pb)	0.00147	0.0000400	0.00100		mg/L	1	53052	11/11/2021 7:11:00 AM
Nickel(Ni)	0.00605	0.000177	0.00100		mg/L	1	53052	11/11/2021 7:11:00 AM
Selenium(Se)	ND	0.000440	0.00500		mg/L	1	53052	11/12/2021 10:45:16 PM
Silver(Ag)	0.000784	0.0000619	0.00100	J	mg/L	1	53052	11/11/2021 7:11:00 AM
Zinc(Zn)	0.0777	0.00227	0.00500		mg/L	1	53052	11/11/2021 7:11:00 AM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
	ND	Not Detected	OGI	
	P	Second column confirmation exceeds	PL	Permit Limit



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## Analytical Report

(consolidated)

WO#: 21110480

Date Reported: 11/15/2021

Lab ID: 21110480-002

Collection Date: 11/4/2021 7:05:00 AM

Client Sample ID BR INF

Matrix: NON-POTABLE WATER

Analysis	Result	MDL	PQL	Qual	Units	Dilution	Batch	Date Analyzed
<b>METALS ANALYSIS BY ICP/MS (EPA200.8)</b>					<b>EPA 200.8</b>		<b>Analyst: DNS</b>	
Cadmium(Cd)	ND	0.000120	0.00100		mg/L	1	53088	11/12/2021 11:54:59 PM
Chromium(Cr)	0.000468	0.0000769	0.00100	J	mg/L	1	53088	11/12/2021 11:54:59 PM
Copper(Cu)	0.00417	0.000138	0.00100		mg/L	1	53088	11/12/2021 11:54:59 PM
Lead(Pb)	0.000531	0.0000400	0.00100	J	mg/L	1	53088	11/12/2021 11:54:59 PM
Nickel(Ni)	0.00454	0.000177	0.00100		mg/L	1	53088	11/12/2021 11:54:59 PM
Selenium(Se)	0.000797	0.000440	0.00500	J	mg/L	1	53088	11/12/2021 11:54:59 PM
Silver(Ag)	ND	0.0000619	0.00100		mg/L	1	53088	11/12/2021 11:54:59 PM
Zinc(Zn)	0.0191	0.00227	0.00500		mg/L	1	53088	11/12/2021 11:54:59 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
	ND	Not Detected	OG1	
	P	Second column confirmation exceeds	PL	Permit Limit



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## Analytical Report

(consolidated)

WO#: 21110480

Date Reported: 11/15/2021

Lab ID: 21110480-001

Collection Date: 11/4/2021 7:05:00 AM

Client Sample ID BR INF

Matrix: NON-POTABLE WATER

Analysis	Result	MDL	PQL	Qual	Units	Dilution	Batch	Date Analyzed
<b>METALS ANALYSIS BY ICP/MS (EPA200.8)</b>					<b>EPA 200.8</b>		<b>Analyst: DNS</b>	
Cadmium(Cd)	0.000142	0.000120	0.00100	J	mg/L	1	53088	11/12/2021 11:50:00 PM
Chromium(Cr)	0.00148	0.0000769	0.00100		mg/L	1	53088	11/12/2021 11:50:00 PM
Copper(Cu)	0.0191	0.000138	0.00100		mg/L	1	53088	11/12/2021 11:50:00 PM
Lead(Pb)	0.00163	0.0000400	0.00100		mg/L	1	53088	11/12/2021 11:50:00 PM
Nickel(Ni)	0.00419	0.000177	0.00100		mg/L	1	53088	11/12/2021 11:50:00 PM
Selenium(Se)	0.000959	0.000440	0.00500	J	mg/L	1	53088	11/12/2021 11:50:00 PM
Silver(Ag)	ND	0.0000619	0.00100		mg/L	1	53088	11/12/2021 11:50:00 PM
Zinc(Zn)	0.0434	0.00227	0.00500		mg/L	1	53088	11/12/2021 11:50:00 PM

<b>Qualifiers:</b>	B	Analyte detected in the associated Method Blank	E	Value above quantitation range
	H	Holding times for preparation or analysis exceeded	M	Manual Integration used to determine area response
	MC	Value is below Minimum Compound Limit.	N	Tentatively identified compounds
	ND	Not Detected	OG1	
	P	Second column confirmation exceeds	PL	Permit Limit



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#: 21110480

15-Nov-21

**CLIENT:** City of Lorain WWTP

**Project:** Monthly Metals

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
21110480-001	BR INF		11/4/2021 7:05:00 AM	11/5/2021 12:25:00 PM	Non-Potable Water
21110480-002	BR INF		11/4/2021 7:05:00 AM	11/5/2021 12:25:00 PM	Non-Potable Water
21110480-003	PQM INF		11/4/2021 7:30:00 AM	11/5/2021 12:25:00 PM	Non-Potable Water
21110480-004	PQM EFF		11/4/2021 7:30:00 AM	11/5/2021 12:25:00 PM	Non-Potable Water
21110480-005	Old Hospital		11/4/2021 1:20:00 PM	11/5/2021 12:25:00 PM	Non-Potable Water



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## Case Narrative

WO#: 21110480  
Date: 11/15/2021

---

**CLIENT:** City of Lorain WWTP  
**Project:** Monthly Metals

---

### WorkOrder Narrative:

21110480: 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.

---

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>

November 15, 2021

Brent Stoll  
City of Lorain WWTP  
100 Alabama Avenue  
Lorain, OH 44052  
TEL: (440) 288-0281  
FAX:

RE: Monthly Metals

Dear Brent Stoll:

Order No.: 21110480

Summit Environmental Technologies, Inc. received 5 sample(s) on 11/5/2021 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,

*Sara Kidd*

Sara E. Kidd  
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, 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 011, Rhode Island LA000317, South Carolina 92016001, Texas T104704466-19-16, Utah OH009232020-12, Virginia VELAP 10381, West Virginia 9957C

## **ATTACHMENT NO. 1**

Sketch plan showing the approximate location of  
samples and asbestos and lead-containing materials

**Fugitive dust emissions**

OAC 3745-17-08 | Restriction of emission of fugitive dust

(B) No person shall cause or permit any fugitive dust source to be operated; or any materials to be handled, transported, or stored; or a building or its appurtenances or a road to be used, constructed, altered, repaired, or demolished without taking or installing reasonably available control measures to prevent fugitive dust from becoming airborne. Such reasonably available control measures shall include, but not be limited to, one or more of the following which are appropriate to minimize or eliminate visible particulate emissions of fugitive dust:

(1) The use of water or other suitable dust suppression chemicals for the control of fugitive dust from the demolition of existing buildings or structures, construction operations, the grading of roads or the clearing of land.

[Video from bystander on January 21<sup>st</sup>, 2021.](#) Note the uncontrolled dust during the entire video with particular attention to the large dust plume that results at the 7:00 minute mark. Videographer at 7:38 states *"Here comes the dust. Gonna get stinky here in a minute. Already coming over us."*

[Video from Worlds Above Aerial](#) videography. Note the fixed water hose at the 3:55 and 5:05 mark and not ever at the point of demolition. Again in [this video](#) as well.

#### Other potential environmental concerns

Below is a brief summary of potential areas of concern with respect to this demolition site beyond the asbestos assessment detailed above. Demolishing a hospital of the size, age and complexity of St. Joseph's would require the development and execution of a checklist of potential hazards and steps required to assess and manage these hazards prior to demolition. They include the following:

##### X-ray labs, equipment and wastes

Our inspection found at least three partially demolished x-ray labs (Attachments 1 and 7). We found lead sheeting in the walls at each of these sites. Lead sheeting is used to prevent x-ray radiation from leaving the labs during tests. We also found a significant amount of lead sheeting debris comingled in the debris piles (Attachment 7). Lead is one of the eight toxic metals regulated under the Resource Conservation and Recovery Act (RCRA) under 40 CFR 260 to 273. In essence, elemental lead is prohibited from being disposed of in a sanitary or construction and demolition (C&D) landfills. The owner/operator had a duty under RCRA to collect the lead sheeting prior to or during demolition and transport this material to a metals recycler or dispose of as per the RCRA rules. The evidence on site indicates that these steps were not sufficiently undertaken by the owner/operator. It is unknown at this time if there were more than the three x-ray labs on this site prior to demolition. There could have been more and I think reaching out to the previous building administrators would be helpful in further assessing this situation. Furthermore, there needs to be an accounting of the x-ray source equipment used on site to ensure that this equipment was not left on site during demolition. The previous owner should have maintained records for all of their x-ray equipment and should have maintained control of this equipment and been responsible for decommissioning this equipment prior to the property being transferred to the current owner. Lastly, radioactive wastes are oftentimes found on sites where radio isotopes were used and I believe it would be prudent to scan the site with a Geiger counter to determine if any radioactive materials (Source equipment or wastes) are currently present on this site.

##### Mercury containing equipment

Elemental mercury is also a RCRA metal and would be found extensively throughout an old hospital building. Mercury would likely be present in the blood pressure measuring devices, thermostats, manometers and gages. The building owner/operator would have to have swept the building for this equipment and carefully collected them for proper packaging and disposal prior to demolition. If a significant amount of elemental mercury was left in the building during demolition, the potential for environmental contamination is significant. I recommend that the City of Lorain determine if this import step was undertaken and if the owner/operator fully documented this process. If no records can be produced, we may wish to conduct sampling of various media on site (air, water, dirt and debris) to determine if mercury contamination may be present.

##### Polychlorinated Biphenyls (PCBs)

PCB's are a group of man-made organic chemicals that are regulated under the Toxic Substances Control Act (TSCA). They were used widely between 1929 and 1979 and can be found in electrical transformers, hydraulic and machine oils, florescent light ballasts, caulking and oil-based paints. A detailed pre-demolition review of the building should have been performed to identify and test potential PCB-containing equipment and building materials and any equipment or materials found to contain PCB's above the regulatory threshold should have been removed and disposed of following the regulatory requirements. Similar to mercury, if there does not exist significant documentation for the identification, testing, collection and disposal of PCB containing equipment and materials, I would recommend collecting and testing environmental media (water, soil and debris) for the presence of PCB's.

## *Pardee Environmental*

### Chlorofluorocarbons (CFC's)

CFC's (a.k.a. Freon) is found in most refrigerant equipment including air conditioners, refrigerators, freezers, dehumidifiers, drinking fountains and vending machines. All of the Freon containing equipment would have to have had this regulated gaseous compound recovered by an EPA [Clean Air Act Section 608](#) certified Freon Technician. These technicians would have documented each unit from which Freon was recovered and the owner/operator should have these records on file. Failure to abide by these rules could result in a \$25,000 fine per unit where the Freon was not properly recovered and allowed to be released into the atmosphere.

### Universal and electronic waste materials

Aside from those detailed above, the EPA regulates what they classify as [universal](#), and [electronic wastes](#). The owner/operator should have documented the collection and disposal of these wastes as well any unused paints, chemical cleaners, herbicides, pesticides and/or pharmaceuticals found on site.

### Underground Storage Tanks (UST's)

My assessment to date has yet to identify any records relating to the presence of any UST's on the property but it was not uncommon for hospitals to maintain either UST's or Aboveground Storage Tanks (AST's) to run their emergency generators and other diesel-powered equipment. I did find what appears to be product lines cut off at the surface at the southeast corner of the parking garage (Attachment 7). It is unknown at this time where those product lines go or if they were used for diesel fuel or other petroleum products. I recommend reaching out to the former facility administrators to get more information about this issue.

### Lead-Based Paint and Fugitive Emissions

Lead-Based Paint (LBP) was used extensively up until 1978 when it was banned. LBP is permitted to stay on building components during demolition provided that the owner/operator employ effective fugitive dust control measures to prevent LBP dust from leaving the site and contaminating surrounding properties and effecting the health of neighboring residents and passersby. Based on my review of publicly available video footage, it appears that the owner/operator did not sufficiently control these emissions. I feel it would be prudent, from a public health standpoint, to try and determine if dusts found on site or that may still be collectable from adjoining public roadways or neighboring properties contain measurable amounts of lead. Included below is the Ohio Administrative Code that details the owner/operator's responsibilities under this rule. I studied the linked video footage of the demolition process and while it was clear that the contractor was aware of the rule and had deployed a fire hose during the demolition process, it appears their management of the wetting process failed to adequately control the fugitive emissions. In the drone footage linked below, there is clear evidence that the fire hose was affixed to a stationary object as a perfunctory application of this rule and the footage from the bystander on January 21<sup>st</sup>, 2021 documents the complete lack of emission suppression that resulted in a significant plume of fugitive dust.



demolition as per OAC 3701-34-04 (C) (2). We should attempt to ascertain if such a report exists and if it was maintained on site during demolition.

**Regulatory interpretation**

I had an email exchange (Attachment 5) with Misty Whitmyer, Environmental Supervisor for the Ohio EPA, Dept. of Air Pollution Control for the Northeast District Office. My question was posed, via email, on Oct. 6<sup>th</sup> at 11:11 a.m. while on site after having observed these suspected ACM's and I asked:

*"Question, in a demolition situation on a commercial structure, do they have to remove asbestos containing floor tile prior to demolition? Also, if asbestos containing floor tile debris is found in the rubble pile is that considered RACM?"*

Her reply later that afternoon read as follows:

*"It depends on the condition. Asbestos containing (AC) Cat I floor tile can remain in place for demolition if it's in non-friable condition. If it's in friable condition it should be treated as RACM/abated prior to demolition."*

*"If AC floor tile is found in a debris pile from a building where it's condition was determined to be non-friable prior to demolition, it's considered Cat I not RACM. Conversely, if floor tile is found in a debris pile is from a building **not surveyed where prior condition is not known**, it would be considered co-mingled RACM just like **all other material in the debris pile.**" (Emphasis mine)*

What Ms. Whitmyer is stating here is that it is incumbent upon the current owner/operator to have retained an AHES to assess the floor tile (and sheet flooring and asphalt roofing products) to determine their current condition and if they failed to do this and debris of these previous Cat. I non-friable materials are found comingled in the debris piles, then the entire debris field would now have to be classified as RACM and managed, handled and disposed of according to those rules outlined in the Asbestos NESHAP for RACM's. These rules include (but are not limited to) the deployment of a licensed asbestos abatement contractor who would have to create an OSHA Class I regulated area, dress their crew in full personal protective equipment (PPE) including HEPA filtered respirators, utilize wet handling methods to load and dispose of all of the rubble and debris into plastic lined dumpsters and transport and dispose of this debris, under manifest, to an EPA-approved asbestos waste landfill. My inspection of the floor tile and sheet flooring located on the main floor slab (Attachment 7) found that these materials were subjected to grinding and abrading via the metal-treaded track hoe equipment. Absent a report by an AHES retained by the owner/operator, or recently retained by the previous owner with knowledge of the planned demolition means and methods, stating something to the contrary, the City of Lorain should assume that this site is likely to become an asbestos regulated area. If this turns out to be the case, the owner/operator would need to update their notice to the Ohio EPA, DAPC-NEDO to reflect this and immediately take steps to secure and mitigate this site. This situation needs to be brought to the attention of the current owner to afford them the opportunity to respond and provide the names, licenses and reports of the professionals they relied upon to commence demolition operations. Absent a timely and satisfactory response, it would fall to the City of Lorain to notify the Ohio EPA, DAPC-NEDO of the findings of this study as this EPA office would have regulatory jurisdiction over this site.

## INTERPREATION OF RESULTS AND GUIDANCE FOR ACTION

### 1919 and 1859 Reid Ave.

This structure is still standing and the least concerning relative to public health and regulatory enforcement. Our asbestos screening and sampling did not find any asbestos containing building materials. However, it is incumbent on the building owner to have an Ohio licensed Asbestos Hazard Evaluation Specialist (AHES) conduct a full building survey prior to demolition. It would be important to determine if this has been done and to review this report to fully determine the state of compliance with respect to the NESHAP regulations. Aside from the NESHAP compliance requirements, we did identify other items that would have to be addressed prior to demolition including; 1. The collection and proper disposal of florescent lamps and ballasts, 2. The recovery of Chlorofluorocarbons (CFC's) from Freon containing units such as refrigerators, chillers, air conditioners, drinking fountains and vending machines, 3. The recovery and recycling or lead sheeting from the 20 rooftop vent pipes and from x-ray labs (if any were present in this building) and 4. The proper collection and disposal of dielectric oil from the pad-mounted transformer if that was to be decommissioned as part of this project.

### Parking Garage

Our inspection and sampling of the parking garage revealed the presence of a friable asbestos containing rope packing material that would have to be removed prior to demolition. We also found asbestos containing floor tiles and related mastic on every level, and ACM sheet flooring on the first level. The floor tiles and mastic and vinyl sheet flooring are generally classified as Cat. I non-friable materials and technically are permitted to remain in a building being demolished provided they are not "Subjected to sanding, grinding, cutting or abrading" as per NESHAP 40 CFR Part 61.141 Definition of Regulated asbestos-containing material (RACM). The ACM sheet flooring found on the main floor was extensively abraded and located in an area where we found evidence to suggest these ACM's were subjected to grinding and abrading by the forces of the steel-treaded track hoe equipment that the demolition contractor used to raze the building and move the demolition debris into piles (Attachment 7). Aside from the NESHAP compliance requirements, we did identify other items that would have to be addressed prior to demolition including; 1. The collection and proper disposal of florescent lamps and ballasts and High Intensity Discharge (HID) lamps, 2. The recovery of Chlorofluorocarbons (CFC's) from Freon containing units such as refrigerators, chillers, and air conditioners and machine oil from the elevator motors.

### Debris Piles

Our inspection and sampling of the debris piles revealed the presence of asbestos containing floor tiles and ACM sheet flooring throughout the site. The floor tile and vinyl sheet flooring, in their original state, are generally classified as Cat. I non-friable materials and technically are permitted to remain in a building being demolished provided they are not "Subjected to sanding, grinding, cutting or abrading" as per NESHAP 40 CFR Part 61.141 Definition of Regulated Asbestos-Containing Material (RACM). However, the ACM floor tile and sheet flooring found was in a significantly damaged and eroded condition on the main floor slab and we have evidence (Attachment 7) to suggest that these ACM's were subjected to grinding and abrading by the forces of the steel-treaded track hoe equipment that the demolition contractor used to raze the building and move the demolition debris into piles.

Furthermore, it is incumbent upon the owner/operator to have these materials assessed prior to demolition to determine if: 1. They are still in an intact state prior to demolition and 2. If the planned demolition activity has the potential to render them into a friable state. A review of their EPA notice of demolition submitted by the owner/operator (Attachment 6) does not indicate that such an individual was retained (Sec. 1, Item 3) to perform this assessment. We also noted that the owner/operator failed to list or quantify the Cat. I non-friable materials to remain in the building during demolition (Sec. 2, Item D.). The Ohio EPA also requires that a copy of the pre-demolition asbestos survey be kept on site during

## INTRODUCTION

On October 6, 2021 Pardee Environmental conducted an inspection of the structures and debris piles located at 205 W. 20<sup>th</sup> St. and 1919 and 1859 Reid Ave., Lorain, OH for asbestos-containing materials. The purpose of the assessment was to identify the types and condition of asbestos-containing materials in the buildings and the demolition debris piles to provide information to the City of Lorain regarding public health and to determine future courses of action.

The inspection was conducted in general accordance with the USEPA guidelines recommended for pre-demolition of buildings under National Emissions Standards for Hazardous Air Pollutants (NESHAPs) 40 CFR Parts 61 and 63.

## METHODOLOGY

All accessible locations were examined for suspect asbestos containing materials. All suspect asbestos containing materials (ACM) found were adequately sampled per Federal rules codified in 40 CFR Part 763.86 and samples were submitted to an accredited lab for analysis by Polarized Light Microscopy (PLM) and Point Counting where required. Sample locations were determined, where applicable, according to the random sampling grid included in the EPA document "Asbestos in Buildings Simplified Sampling Scheme for Friable Surfacing Materials", dated October, 1985.

Samples were collected in 6 mil zip-lock bags, assigned a sample number and logged into the sample chain-of-custody form. After the collection of all of the samples was completed, the samples were sealed into a plastic bag and shipped via overnight shipping to EMSL Analytical of Indianapolis, IN, a NVLAP accredited laboratory for analysis. The number of samples collected are as follows:

1919 and 1859 Reid: 21 samples

Parking Garage: 19 samples

Rubble piles site: 14 samples

The results of the analysis of these samples are contained in Attachment 3.

## SUMMARY OF FINDINGS

Below is a summary of the laboratory analysis of the samples collected followed by an interpretation and guidance for action going forward.

TABLE 1  
Asbestos Building Materials Findings Summary

Location	Description	% Asbestos	Condition	Quantity	Friable
1919 and 1859 Reid Ave.	No asbestos found	NA	NA	NA	NA
Parking garage	Asbestos rope	70% Chrysotile	Poor	Approx. 160 ln.ft.	Yes
	Floor tiles	2% Chrysotile	Fair	Undetermined	No
	Floor tile mastic	3% Chrysotile	Fair	Undetermined	No
	Sheet flooring	12% Chrysotile	Poor	>200 sq. ft.	Yes*
Slab & demolition debris pile	Floor tile	2-4% Chrysotile	Broken	Unknown	Undetermined
	Sheet flooring	12% Chrysotile	Poor	Unknown	Yes*

\*See discussion below regarding friability

## **SUMMARY OF BUILDINGS AND ASBESTOS ASSESSMENT INFORMATION**

Name of Facility: Former St. Joseph's Hospital  
(A.K.A. St. Joe's Community Center & South Shore Community Development)

Location: 205 West 20<sup>th</sup> St. and 1919 & 1859 Reid Ave., Lorain, OH

Building Owner: A7 Development Group, LLC

Date of Construction: Starting approximately 1900 to 1905 and continuing for several decades

Major Additions: Several

Approximate Area: 420,000 sq. ft.

Building Use: Hospital

Date of Inspection: October 6, 2021

Asbestos Inspector  
and report writer: John P. Pardee  
Ohio Asbestos Hazard Evaluation Specialist No. 3201



---

John P. Pardee



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Table 1: Asbestos Building Materials Findings Summary Tables

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- Attachment 2: Sample chains of custody
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- Attachment 5: EPA email detailing proper handling and reporting of Cat. I non-friable ACM's
- Attachment 6: EPA Demolition Notification prepared by Owner/Operator
- Attachment 7: Site photographs and aerial photos



# Environmental Assessment Report

Former St. Joseph's Community Center Property  
205 West 20<sup>th</sup> St.  
Parking Garage Structure (NE Corner of W. 20<sup>th</sup> & Reid)  
1919 & 1859 Reid Ave.  
Lorain, OH 44052



For

City of Lorain  
Sanford Washington, Safety Service Director  
200 West Erie Ave., 7<sup>th</sup> Fl.  
Lorain, OH 44052  
440-204-2011

October 25, 2021



Pardee Environmental  
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Oberlin, OH 44074  
440.315.2735