



City of Cleveland
Justin M. Bibb, Mayor

Department of Finance
Division of Purchases & Supplies
601 Lakeside Avenue, Room 128
Cleveland, Ohio 44114-1080
216/664-2620 • Fax: 216/664-2177
www.cleveland-oh.gov

November 14, 2025

ADDENDUM 2

BID TITLE: File No.153-25 Central Recreation Center Expansion

BID DUE: Friday, November 21, 2025 at 12 o'clock noon (Eastern Time)

Attention Bidders:

We have been requested to issue the addendum for the following:

Please ensure that a copy of this addendum is included and returned with the bid specifications furnished to you by this office, as it will have the same force and effect as if it were part of the specifications originally issued.

1. Answers to questions received.

If you have any questions regarding the attached, please contact Purchasing & Supplies at purchasing@clevelandohio.gov. Thank you for your prompt attention and assistance in this matter. Also, please ensure that copy of this addendum is included and returned with the bid specifications furnished to you by this office, as it will have the same force and effect as if it were part of the specifications originally issued.

Signature of Potential Bidder & Name of Company

Today's Date

Thank you,

Donia Patterson, Assistant Administrator
Purchases & Supplies
CC:



CITY OF CLEVELAND

Mayor Justin M. Bibb

MAYOR'S OFFICE OF
CAPITAL PROJECTS

JAMES D. DEROSA
DIRECTOR

TO: Tiffany White Johnson, Commissioner
Division of Purchases & Supplies

FROM: Richard Seitz, Project Manager
Division of Architecture and Site Development

SUBJECT: File No. 153-25 Central Recreation Center Expansion
ADDENDUM #2

DATE: November 11, 2025

DASD request that the Division of Purchases & Supplies issue an Addendum to the above referenced public improvement. The Addendum #2 can be found attached.

THE BID DUE DATE SHALL REMAIN:
FRIDAY, NOVEMBER 21, 2025

Your assistance in this matter is greatly appreciated. If my staff can be of any further assistance, please do not hesitate to call me at x 3655.

APPROVED:

A handwritten signature in black ink, appearing to read "James D. DeRosa".

James D. DeRosa, Director
Mayor's Office of Capital Projects

cc: James DeRosa, Director, Mayor's Office of Capital Projects
Mark Duluk, Manager – DASD
Brian Avery, Section Chief – Architecture, DASD
Ricard Seitz, Chief Architect, DASD

Attachments: Addendum #2 One Hundred Fifty-Two (152) pages to follow



***** PLEASE NOTE: A TOTAL OF ONE HUNDRED FIFTY-TWO (152) PAGES OF INFORMATION
TO FOLLOW *****

ADDENDUM #2

ITB File No. 153-25 Central Recreation Center Expansion

PLEASE NOTE THE FOLLOWING **ALTERATIONS**
TO THE **CONTRACT DOCUMENTS**:

QUESTION #1

Question: Drawing E2.2, Note A6 states "existing electrical panel to be replaced like for like". Is panel A1 the only panel being replaced? What about A and C? Please advise.

Answer: Panel A shall be replaced per coded note 3 sheet ED1.1. Reference sheet E2.1 for location and E6.0 for panel characteristics. C is existing to remain. For information on electrical characteristic for panel A1 – reference sheet E6.0.

QUESTION #2

Question: Is there a geotechnical soil analysis at the expansion area?

Answer: See attached Triumph Services Subsurface Exploration and Geotechnical Engineering Report - Central Rec Center Expansion, June 5, 2023

QUESTION #3

Question: Are there any hazardous surveys for Central Recreation Center

Answer: See attached three (3) hazardous materials surveys.

1. Amianthus LLC, Bulk Sampling of Suspect Asbestos Containing Materials and Paint Chip Sampling for Lead Content - City of Cleveland Central Recreation Center Swimming Pool and Adjacent Area, April 18, 2023
2. Solar Testing Laboratories, Inc., Asbestos and Lead Paint Survey & Risk Assessment, January 30, 2019
3. AE Group, Limited Asbestos Survey with May 7, 2018 Supplemental Sampling, May 9, 2018

Addendum #2: File 153-25 Central Recreation Center Expansion



QUESTION #4

Question: Is there any on-site area that can be used for lay down, staging or materials storage.

Answer: Yes, a limited area of the park only on the east side of the building may be used for short-term (one month or less) lay-down, storage or staging before installation with the Owner's review and approval on a case-by-case basis. Long-term storage (more than one month) must be off-site at the contractor's expense. The contract required minimum six foot high temporary construction security fence (with pedestal feet) surrounding the entire construction site, including the entire recreation center building, must also enclose the park area being used. Construction activity and construction loads traversing and detrimental to the park's subsurface utility lines (water and storm/ sanitary) are not permitted unless steel plate protection is provide to traverse them at the contractor's expense. Near project completion, restoration of the park area used shall be required as prescribed by the City of Cleveland Landscape Architect using allowance funds per the Project Manual Schedule of Prices, J. Allowance #9 (At Site Area At New Building Entrance and Adjacent Park Area: Regrading, Install Topsoil, Soil Decompaction, Seeding or Reseeding Park Grass).

QUESTION #5

Question: 1. Would it be possible to request a walk-thru for the above-named project as well as 2. (provide) a bidders list?

Answer:

1. RE: Additional Site Visit: An Addendum No. 1 was issued Friday, November 1, 2025 giving notice of an additional site visit on Wednesday, November 5, 2025, 10-11 am. However, no one attended. As stated in the original invitation to bid, 'Bidders must be on the Plan-holders list to submit a bid or receive any addenda.' or continually check Purchasing's website for addenda.

2. RE: Request for Bidder List: See attached Plan-holders list.

PLEASE NOTE THE FOLLOWING **CORRECTIONS**
TO THE **CONTRACT DOCUMENTS**:

PROJECT MANUAL

CORRECTION #1

Schedule of Prices, J. Allowance #9 (At Site Area At New Building Entrance and Adjacent Park Area: Regrading, Install Topsoil, Soil Decompaction, Seeding or Reseeding Park Grass), allowance amount is revised from \$5,000.00, to revised to \$10,000.00.

Addendum #2: File 153-25 Central Recreation Center Expansion



CITY OF CLEVELAND

Mayor Justin M. Bibb

MAYOR'S OFFICE OF
CAPITAL PROJECTS

JAMES D. DEROSA
DIRECTOR

**THE BID DUE DATE REMAINS
FRIDAY, NOVEMBER 21, 2025
UNTIL 12:00 O'CLOCK NOON EST, OFFICIAL TIME**

END OF ADDENDUM #2

Addendum #2: File 153-25 Central Recreation Center Expansion

CITY OF CLEVELAND
MAYOR'S OFFICE OF CAPITAL PROJECTS

SCHEDULE OF PRICES
CENTRAL RECREATION CENTER EXPANSION

For furnishing all labor, materials, tools, and equipment required to perform and deliver all Project work in compliance with the Drawings and Project Manual:

BASE BID (GROSS PRICE):

- A. GROSS PRICE BASE BID:** \$ _____
- B. ALLOWANCE #1 (TESTING)**
For testing and miscellaneous inspections described in Part C – Supplemental General Conditions, Section C9.F.
\$ _____ **\$5,000.00**
- C. ALLOWANCE #2 (PROJECT SIGN)**
For all labor, material, and equipment required to furnish and install a 'standard' City of Cleveland construction sign specified in Part C – Supplemental General Conditions, Section C9.I, and to remove and dispose upon completion of construction.
\$ _____ **\$2,000.00**
- D. ALLOWANCE #3 (HAZARDOUS MATERIAL TESTING AND REMOVAL)**
For testing all suspected hazardous material and removal of all material determined hazardous.
\$ _____ **\$10,000.00**
- E. ALLOWANCE #4 (DOOR CORE ALLOWANCE)**
\$ _____ **\$5,000.00**
- F. ALLOWANCE #5 (PUBLIC ART INFRASTRUCTURE ALLOWANCE)**
\$ _____ **\$15,000.00**
- G. ALLOWANCE #6 (UNSUITABLE SUBSURFACE CONDITIONS)**
For replacement of unsuitable soils. Engineer soil bearing capacity testing, excavate unsuitable soil, install engineered fill, compaction and field reports.
\$ _____ **\$20,000.00**
- H. ALLOWANCE #7 (MONUMENT SIGN)**
For work related to relocating the city monument sign and any replacement or revision to the facing panels.
\$ _____ **\$6,500.00**
- I. ALLOWANCE #8 (SECURITY FENCE)**
For work to erect and maintain a security fence enclosing the entire construction area, including the entire building, starting with early commencement through final acceptance.
\$ _____ **\$5,000.00**

FIRM

ADDRESS

TELEPHONE NUMBER

SIGNATURE OF BIDDER

DATE

SCHEDULE OF PRICES
CENTRAL RECREATION CENTER EXPANSION

For site work at site area at new east building entrance and adjacent park area: regrading, install topsoil, soil decompaction and seeding, including reseeding of adjacent park grass areas due to construction impact and park possible use as a construction lay down area.

For remediation cleaning of walls, ceilings, floors and steel structure.

For unspecified pool safety equipment.

Central Recreation Center Expansion -ADDENDUM #2



Friday, November 21, 2025
FILE NO. 153-25
Central Recreation Center
Expansion

Division of Purchases & Supplies
Bidder/Plan Holders' List



Bid Opening Date: _____

Page #: _____

Addendums Issued:	Addendum 1	Addendum 2	Addendum 3	Addendum 4	Addendum 5	Bid Date Extended:	Bid Postponed Date:	Bid Cancellation Date:
Date:								

Name of Firm Business Address & Zip Code	Telephone/Fax #'s	E-mail Address	Date Plans Issued	Date Plans Returned
Builders Exchange 9555 Rockside Rd	216 393 6300	info@bxohio.com	10/22	
Rock Technologies	216-225-5635	brian@rocketdesign.com	10/23	
Sova Conet 7210 Haverford	216-883-4955	tlarshp@ameritech.net HAGS	10-23	
Prime Vendor	910-805-9630	primevendor123@gmail.com		
National Equipment & Facility Solutions	860-439-0006	tom@netafac.sales.com		



Friday, November 21, 2025
FILE NO. 153-25
Central Recreation Center
Expansion

Division of Purchases & Supplies
Bidder/Plan Holders' List



Bid Opening Date: _____

Page #: _____

Addendums Issued	Addendum 1	Addendum 2	Addendum 3	Addendum 4	Addendum 5	Bid Date Extended	Bid Postponed Date	Bid Cancellation Date
Date:								

Name of Firm Business Address & Zip Code	Telephone/Fax #'s	E-mail Address	Date Plans Issued	Date Plans Returned
Dodge Construction	1-844-326-3826	dodge.docs@construction.com		
Builders Exchange		info@bxohio.com		
Construct connect		arianq.salcido@constructconnect		
Higley Construction	216-446-5475	rob.garuccio@higleybuilds.com		
RL Hill management	440-439-0490	Kimbickel@rhillmgmt.com		



June 5, 2023

City of Cleveland
C/O Mr. Carter Edman
601 Lakeside Avenue, Room 517A
Cleveland, Ohio 44114
216.664.3577
cedman@clevelandohio.gov

Re: Subsurface Exploration and Geotechnical Engineering Report
Central Rec Center Expansion (Add Service - Geotechnical)

Mr. Edman,

Triumph Services (Consultant) has completed the subsurface exploration and analysis for the above referenced project. Our services were performed in general accordance with our Proposal No 50660222, dated April 19, 2023. This report presents our understanding of the geotechnical aspects of the project along with the results of the field exploration, laboratory testing, and our design and construction recommendations. It has been a pleasure to be of assistance to your project and look forward to its success. Should you have need during the construction phase operations for inspection of the materials placed or verify the assumptions of subsurface conditions made for this report we would be glad to continue our services. Should you have any questions concerning the information contained in this report, or if we can be of further assistance to you, please contact us.

Respectfully submitted,

Triumph Services

A handwritten signature in black ink, appearing to read 'David Blake'.

David L. Blake, P.E.
Director of Geotechnical Services
dblake@triumphservices.com



INDEX

Section	Page
Executive Summary	3
1. Introduction	5
2. Project Information	5
3. Field Exploration	7
3.4.3 Subsurface Stratification Summary	9
4. Laboratory Testing	10
4.2.2 Laboratory Testing Results	10
5. Design Recommendations	11
5.4.1 Bearing and Settlement Parameters	12
5.5.1 Retained Soil Parameters	12
5.6.1 Seismic Site Classification Reference	13
6. Site Construction Recommendations	14
7. Closing	19
Appendix	
A. Exploration Log	
B. Exploration Location Diagram	
C. Laboratory Results	



Executive Summary

The following paragraphs provide a brief overview of our findings and recommendations. The intent of the Executive Summary is not to detail every factor which will influence the success of the project as it is discussed in the complete report. To become aware of the factors of influence and our recommendations to reduce construction risk please fully read the complete report for the detailed discussion.

Triumph Services (Consultant) has completed the subsurface exploration for the proposed Central Recreation Center Expansion project along the eastern portion of the existing Central Recreation Center in Cleveland, Cuyahoga County, Ohio. The project information summarized below is based exclusively on the information made available to us by the client and their design team at the time of this report. Our Findings, conclusions, and recommendations are summarized below.

Project Information

- Site Location: South of Central Avenue on parcel 10327004 with an approximate coordinate of 41.496799°, -81.670118°
- Project Scope: New entrance addition with approximately 1,650 SF across 2 floors and a basement level. The addition will include an elevator along the exterior wall.
- Building type: Existing building was built of brick with the new addition constructed to match
- Assumed Loads: It is assumed for the design that ground based loads will not exceed 3,000 psf
- Earthwork: Grading was not yet provided as of the time of this report; however, it is expected that grading will consist of limited cuts and fills on the order of 1 to 2 ft except in the area to be excavated for the addition's basement level.

Subsurface Conditions

- Field Exploration: 2 geotechnical borings were completed
- Surface Material: Concrete and aggregate
- Existing Fill: Not encountered
- Groundwater: Encountered to a depth of 17 ft
- Refusal Materials: Auger refusal was not encountered in the depths explored.
- Mining Risk: Preliminary review of risk shows no mapped mining activity within 1.5 miles of the project site.

Resolved Geotechnical Concerns

- Settlement of existing building during post construction period.
 - The foundations of the existing building adjacent to the addition are located at the basement elevation of the existing building. The inclusion of a partial basement on the addition will allow the loads of the new addition to be located at the same elevation as the existing building or lower. See section 5.3.1 for additional notes.
- Ground water was encountered within 5 ft below the bearing elevation.
 - The net allowable bearing pressure provided in this report take into account the relatively shallow groundwater elevation. If fluctuations in the groundwater elevation or perched water levels cause groundwater to be encountered during excavation then the Geotechnical Engineer of Record should be contacted.
- Flowing sands were encountered during subsurface exploration
 - Flowing sands during a geotechnical exploration are typical when performing subsurface explorations adjacent to large bodies of water in non-cohesive soils. Based on the elevations of excavation indicated on the project plans there will be approximately 5 ft of elevation between the bottom of foundation of the addition and the encountered groundwater level.

Design & Construction Recommendations

- Foundation Systems
 - Frost Depth: minimum of 42 inches below ground surface.
 - Spread foundation with bearing on poorly graded sand.
 - Net Allowable Bearing Capacity 1,250 psf
 - Estimated Settlement 1-inch total and ½-inch differential settlement at 20 ft
 - Seismic Design Site Class "D" per IBC 2012/2015
 - Slab Subgrade Modulus 100 psi

This summary should not be considered "stand-alone" from the complete text of the report with all the qualifications and considerations mentioned herein. Details of our conclusions and recommendations are discussed in the report text.



1.0 Introduction

1.1 General

1.1.1 The purpose of this evaluation was to provide geotechnical information for controlling the construction risk of the Cleveland Central Recreation Center Addition. This structure is currently planned to have a light to moderate ground loading due to 3 story commercial construction with a full brick exterior. Relatively shallow groundwater table on the proposed site will provide a potential detriment to the bearing surface and will potentially increase the construction cost of excavation and developing below ground grade features including utility vaults, elevator sumps, and piping runs. The elevator sump is expected to be the lowest excavation in the proposed addition area and is expected to be approximately 13 ft below existing ground surface while the ground water was recorded at 17 ft below ground surface.

1.1.2 The recommendations developed for this report are based on project information supplied by the client and members of the design team. This report contains the results of our subsurface exploration, laboratory testing program, site characterization, engineering analyses, and recommendations for the design and construction of the proposed structure and are specific for use in the site referenced within this document.

1.2 Scope of Services

1.2.1 As requested, two (2) geotechnical borings were completed to evaluate the area of the planned Cleveland Central Recreation Center Addition. The subsurface exploration borings were completed by All Probe Environmental under our supervision. The borings were extended to depths up to 15 and 25 ft below the ground surface without encountering auger refusal. Appendix A, shows the stratification of the subsurface as encountered at the geotechnical borings.

1.3 Authorization

1.3.1 Our services were provided in general accordance with our Proposal, dated April 19, 2023, and approved on May 2, 2023.

2.0 Project Information

2.1 Project Location

2.1.1 The subject site is located adjacent to Cleveland Central Recreation Center, south of Central Avenue in the City of Cleveland, Cuyahoga County, Ohio. The site currently consists of a three-story brick recreation center built during multiple periods over the last century which includes an interior pool, gymnasium, mezzanine track, and community meeting rooms. The addition is along the eastern face of the building which faces the adjacent baren parcel. Refer to the below figure for an overview of the approximate site vicinity. The subsurface exploration locations are mapped on the Exploration Location Plan in Appendix B for a detailed depiction of the exploration locations.





Approximate Site Vicinity

2.2 Past Site History/Uses

2.2.1 The consultant reviewed publicly available historical aerial photographs for the site. Based on our review of the photographs, the site has historically been utilized in the same function as it currently is, with minimal grading since as far back as 1952. The adjacent property to the east of the addition was previous public housing dating between 1952 and 1962. However, this housing area was razed between 2013 and 2014 and has sat idle since. No notable geologic features were identified in the photographs reviewed.

2.3 Current Site Conditions

2.3.1 Based on our review of available aerial-views, our knowledge of the site location, site reconnaissance, and the provided property information, the site is currently maintained as an alleyway running north-south immediately east of the Cleveland Central Recreation Building.

2.4 Proposed Construction

2.4.1 Our understanding of the proposed construction is based on information provided by the Client, which did include basic site development information. The *Grading & Utilities Plan*, dated May 15, 2023, and miscellaneous email transmittals and the initial proposal phone call form the basis for the project information to which we were able to review. Following the release of the *For-Construction* drawings the Consultant should be granted the opportunity to review for

comments and determination if changes will create an impact on the herein described geotechnical recommendations. If at any point of the project any of the critical considerations in Section 5.2.2 are changed, then the Geotechnical Engineer of Record should be notified immediately for design re-evaluation.

Specific site development will include subsurface development of utility connections and excavation of an elevator sump pit and basement level. The superstructure will consist of a masonry with brick structure extending 2 stories above grade with the elevator cupola extending to a 3rd story. The exterior of the addition will include concrete stairs and handicap ramp along with a cantilevered canopy protruding from the 1st floor of the addition.

The site grading proposed has not been finalized to the Consultant but the current grading and architecture plans depict the addition matching elevation to the existing building on the first and second floors. Based on this information, the addition and existing building are denoted with a first floor elevation of plan 0'-0" while the grading plans indicate the exterior grade adjacent to the addition has a ground elevation varying between 670.75' and 673 ft. The critical structures for the addition to tie to are the existing structure so this report will utilize the convention that FFE of the existing building at the addition is 0'-0". There are no large grading slopes anticipated given the existing site grades. Earthen retaining structures are only expected at the basement of the existing and proposed structures and adjacent to the handicap ramp on the exterior of the building.

3.0 Field Exploration

3.1 Field Exploration Program

3.1.1 The field exploration program was planned with the objective of characterizing the project site in general geotechnical and geological terms and to evaluate subsequent field and laboratory data to assist in the determination of geotechnical recommendations for the proposed building.

3.1.2 Test Borings

3.1.2.1 Prior to performing the subsurface exploration, underground publicly owned utilities were located through OUPS. The subsurface conditions were explored by a single phase of field exploration. In total, two (2) geotechnical soil borings were scheduled to extend up to 25 ft below ground surface. Based on conditions encountered, the borings were terminated at their planned depths as indicated on the Exploration Logs in Appendix A.

The samples were returned to the Consultant's office upon completion of the field exploration where they were reviewed by an experienced representative of the Consultant. Refer to Appendix B for general reference to the orientation and spacing of the borings on the Exploration Location Diagram.

Representative soil samples were obtained by means of split-barrel sampling procedure in accordance with ASTM D-1586 (Standard Test Method for Standard Penetration Test (SPT) and Split-Barrel Sampling of



Soils). In this procedure, a two-inch O.D., split-spoon sampler is driven into the soil a distance of 24 inches by a 140-pound hammer falling 30 inches. The number of blows required to drive the sampler through the middle 12-inch interval, after initial setting of 6 inches, is termed the Standard Penetration Test (SPT) N-value and is indicated for each sample on the exploration logs in Appendix A. The SPT N-values can be used as a qualitative indication of the in-place relative density of cohesionless soils, and as a relative indication of consistency in cohesive soils. This indication is qualitative, since many factors can significantly affect the standard penetration resistance value and prevent a direct correlation between drill crews, drill rigs, drilling procedures, and hammer-rod-sampler assemblies. The soil test borings were completed with the following drilling and sampling equipment:

- Geoprobe 7822 track-mounted drilling rig
- 3.25 inch hollow-stem auger drilling
- Automatic hammer
- 24-inch split-spoon soil sampler

The soil boring logs indicate the field SPT N-values. The N-values reported on the exploration logs are the field SPT N-values uncorrected for N60 values. After the sampler is driven into the in-situ material and withdrawn from the drill string, each geotechnical sample, where recovered, was removed from the sampler and visually classified. Representative portions of each sample were then sealed in containers and transported to our lab in Zanesville, Ohio, for further laboratory testing. Upon completion of the drilling operations, the borehole was backfilled with auger cutting.

3.2 Site Geology

3.2.1 According to the Ohio Division of Geological Survey, the site is underlain by the Ohio Shale (Devonian). This geologic formation is described as Shale; brownish black to greenish gray, weathers brown; carbonaceous to clayey, laminated to thin bedded, fissile parting; carbonate and/or siderite concretions in lowermost 50 feet; petroliferous odor; 250 to 500+ feet thick. Includes Olentangy Shale south of central Delaware Co.

3.2.2 Mine Subsidence Risk

3.2.2.1 The project site is located in a region which is not known for historic and current mining operations. Based on the available mine mapping, the project work area is greater than 1.5 miles from the nearest mapped mining feature, both underground and surface. While having mine mapping available does reduce the potential for the presence of historic mining at the property it does not exclude the potential for historic mining occurring on site. It will be the owner's responsibility to determine if they believe there is enough risk of mine subsidence to purchase mine subsidence insurance to mitigate the risk of mining influenced damage to their structure.



3.3 Site Physiography

3.3.1 The site is situated in the Erie Lake Plain in northeast Ohio. This section is described as the edge of very low-relief (10') Ice-Age lake basin separated from modern Lake Erie by shoreline cliffs; major streams in deep gorges; elevation 570' – 800'. Pleistocene-age lacustrine sand, silt, clay, and wave-planed till over Devonian- and Mississippian-age shales and sandstones.

3.4 Subsurface Characterization

3.4.1 The subsurface conditions encountered were generally consistent with published geological mapping. The following sections provide generalized characterizations of the soil and rock strata encountered during our subsurface exploration. For subsurface information at a specific location, refer to the Exploration Logs in Appendix A.

3.4.2 Subsurface Stratification Summary

Stratum	Description	Ranges of SPT ⁽¹⁾ N-values (bpf)
Surficial Material	Approximately 5 inches of Concrete underlain by 1-2" of black aggregate and slag	N/A
I	Generally, Silty SAND (SM) - Moist - Tan to light brown	3 to 4
II	Generally, Poorly Graded SAND (SP) - Moist to wet - Red-brown - Flowing sands were noted below 18 ft	4 to 6

WOH: Weight of Hammer; REC: Rock Core Recovery; RQD: Rock Quality Designation

3.5 Groundwater Observations

3.5.1 Water levels were measured in our field exploration as noted on the exploration log in Appendix A. Observations for groundwater were made during the subsurface exploration. If no discernable ground water level is observed then the logs will reflect a Not Encountered (NE) notation. It should be generally noted that the groundwater elevation will be highly affected by precipitation; therefore, higher or lower ground water levels may be encountered depending on the time of year and recent precipitation events. Water will perch over cohesive soils, at the fill/residual soil interface, and over very dense materials or bedrock. It should be expected that water will also perch over less pervious buried obstructions.

3.5.2 The elevation which ground water and flowing sands is noted as being within 5 ft of the lowest anticipated excavation for the project. It is possible for the height of groundwater to increase on a temporary basis to the depth of excavation and due concern should be taken with regard to excavation trench safety and the recommendations in Section 6.4.4 should be heeded.



4.0 Laboratory Testing**4.1 Visual Classification**

4.1.1 An experienced member of the Consultant's team visually classified each soil sample from the test borings on the basis of texture and plasticity in accordance with the Unified Soil Classification System (USCS) and ASTM D-2488. Stratification lines designating the interface between earth materials on the exploration logs are approximate; in situ, the transitions may be gradual and vary across the site. The soil samples from the exploration will be retained in our laboratory for a period of six months after the subsurface exploration program is completed; after which they will be discarded unless other instructions are received as to their disposition.

4.2 Laboratory Testing

4.2.1 The index testing performed by the Consultant for this project consisted of selected tests performed on samples obtained during our field exploration operations. Index property tests were performed on representative soil samples in order to aid in classifying soils according to the Unified Soil Classification System (USCS) and to quantify and correlate engineering properties. The index testing program included natural moisture content tests (ASTM D-2216), particle size analysis (ASTM D-6913), and Atterberg limits tests (ASTM D-4318). The summary of Laboratory testing results are shown in the below table and included in Appendix C.

4.2.2 Laboratory Testing Results

Boring	Sample No.	Depth Range (ft)	Material Type	Moisture Content	Liquid Limit	Plasticity Index	Percent of Soil Finer than No. 200 Sieve
B-1	S-5	8.0 – 10.0	SP	10.0	NP	NP	0.5
B-2	S-7	18.0 – 20.0	SP	22.7	NP	NP	0.4

NP: Non-Plastic Result

5.0 Design Recommendations

5.1 This segment provides recommendations for the foundation design based upon the bearing elevation and conditions expected, slab on grade, and seismic design parameters. It is strongly recommended that Triumph Services is maintained as a member of the team of consultants through the design process, and is given the opportunity to review the design and construction documents which are dependent on the geotechnical recommendations and conditions.

5.2 Design Overview

5.2.1 The site currently has several reinforced concrete structures which will need to be demolished prior to the construction the new addition. The bedrock and competent bedrock on this site is unknown but based exclusively upon the preponderance of the consistency of the borings in classification and strength it is believed that bedrock will not be encountered. The expected light to moderate commercial loads of the structure provides the opportunity to bear the foundation loads for the Cleveland Central Recreation Addition directly on the soil present at bearing elevation without the need for deep foundations or ground improvement. However, if specific foundation elements become overly large due to the available net allowable bearing capacity the use of helical piles may be beneficial for constructability, budget, and schedule.



5.2.2 Critical Considerations

The Consultant has considered a large quantity of factors in the recommendations of this structure. While each factor provides a certain piece of the puzzle of a geotechnical design, the overall design cannot be successful if specific critical considerations are changed without the knowledge of the Geotechnical Engineer of Record. The following design details should not be changed without providing the Geotechnical Engineer of Record an opportunity to review the variances and their influence on the success of the previously included recommendations;

- Depth of the groundwater or flowing sands, if encountered during construction.
- Increase, or decrease, in the footprint of the structure by 30% or more.
- Increase in the expected height of the building beyond 3 stories.
- Increase in the expected ground loads beyond the provided 1,250 psf
- Tolerance to differential settlement of up to ½ inch.
- All new foundations will be below a plane which is driven from the outside corner of existing foundations upward at a 2H:1V gradient.
- Active on-site involvement of the Consultant during the design and construction to provide continuous evaluation of the conditions and recommendations for construction.

If any of the above listed items are changed and the Geotechnical Engineer of Record is not notified of the change in a critical consideration then the recommendations included in this report may be invalidated.

5.3 Foundation Workflow

In consideration of the above detailed conditions the Consultant recommends that the proposed structure be supported on a spread foundations bearing on insitu soils.

5.3.1 Bulk Excavation

The excavation to reach bearing elevation on the site will require soil excavation. It will remain the contractor's responsibility to determine their equipment to perform the excavation work, however it should be expected that a rubber tire back-hoe or track mounted excavator will be necessary to effectively excavate the soils present on site.

Due to the presence of soft sands and potentially flowing sands in excavations the contractor should be aware of the risk of rapid collapse of excavated soil walls. Please refer to Section 6.4.4 with project specific requirements for excavation safety. During excavation of the addition's basement if the new excavations are causing the existing building foundations to become undermined then work should stop, the collapsing material should be stabilized, and an underpinning plan will need to be established.

While Undocumented Debris Laden Fill (UDLF) was not encountered within the subsurface exploration there is potential that it is encountered during construction. If UDLF, slag, or coal materials are encountered during excavation they should be excavated and segregated as unsuitable material. Any manmade materials including previous foundations should be removed from the expanded footprint of the new addition.

5.3.2 Evaluation of Remaining Bearing

Upon completion of the proposed structure's bulk excavation to subgrade, the Consultant should evaluate the location, thickness, and any deficiencies such as apparent clay seams, groundwater, rock exposures, voids, or rubble zones which are visible at subgrade. The contractor may elect to place a mudmat of flowable fill to provide a smoother working surface after the Consultant's evaluation but prior to further construction efforts.

5.4 Spread Foundations

Based on the estimated structural loading, the ability to construct spread foundations on unimproved subgrade with a relatively low net allowable bearing pressure will provide significant advantages in construction schedule and economics in lieu of a comparable deep foundation or ground improvement options. With the supervision of the Consultant during the preparation of the soil subgrade, the use of spread foundations that can be founded directly on insitu soils should use the following design parameters.

5.4.1 Bearing and Settlement Parameters

Net Allowable Bearing Pressure	Total Settlement	Differential Settlement	Minimum Dimension
1.25 Kips per Square Foot	1 inch	½ inch in 20 feet	2.5 feet

The safety factor for the bearing capacity represents equal or greater than a 3.0 safety factor. The net allowable bearing pressure refers to the pressure that may be transmitted to the foundation bearing material in excess of the final surrounding overburden pressure. During construction, the bearing capacity at the final footing excavation should be documented in the field to verify the above listed conditions are documented as present.

5.5 Retained Soil Properties

Temporary and permanent structures which resist the lateral pressure of earthwork may be required to achieve the proposed site grading or below grade stories of the proposed construction. Cohesive soils should not be utilized within the retained zone of the retaining structures. In order to achieve the proposed stability of these retained soil structures it will be necessary to compute the lateral earth pressures which can use the parameters in the following table:

5.5.1 Retained Soil Parameters

Soil Profile Name	Internal Friction (°)	Cohesion (psf)	Unit Weight (pcf moist)
On Site Soils	25	N/A	115
AASHTO No. 57	40	N/A	125
Open Graded Aggregate	30	N/A	125

5.6 Seismic Site Class

The International Building Code (IBC) 2012/2015 requires site classification for seismic design based on the upper 100 feet of a soil profile. Three methods are utilized in classifying sites, namely the shear wave velocity (v_s) method; the undrained shear strength (s_u) method; and the Standard Penetration Resistance (N-value) method. The seismic site class definitions per IBC for the SPT N-value method and the shear wave velocity method in the upper 100 feet of the soil profile are shown in the following table:

5.6.1 Seismic Site Classification Reference

Site Class	Soil Profile Name	Shear Wave Velocity, V_s , (ft./s)	N value (bpf)
A	Hard Rock	$V_s > 5,000$ fps	N/A
B	Rock	$2,500 < V_s \leq 5,000$ fps	N/A
C	Very dense soil and soft rock	$1,200 < V_s \leq 2,500$ fps	> 50
D	Stiff Soil Profile	$600 \leq V_s \leq 1,200$ fps	15 to 60
E	Soft Soil Profile	$V_s < 600$ fps	< 15

The subsurface exploration at this site included drilling of borings to depths on the order of 25 feet below the existing site grades which terminated prior to refusal. The International Building Code (IBC) 2012/15 requires site classification for seismic design based on the upper 100 ft of a soil profile. Where site specific data is not available to a depth of 100 ft, appropriate soil properties are permitted to be estimated by the registered design professional preparing the soils report based on known geologic conditions.

Based on our interpretation of International Building Code and the uninterrupted transfer of loads to bedrock, the site soils can be characterized as **Seismic Site Class D, Stiff Soil Profile**.

5.7 Site Conditions**5.7.1 Expansive, Deleterious, and liquefaction Potential Material**

The greatest source of potential deleterious material on this site is from potential debris within existing backfill material on site. Based on the urban location, older construction, and presence of a basement it should be expected that there may be undocumented debris laden fill (UDLF) or urban fills. While UDLF was not encountered during the subsurface exploration there will be a significant portion of excavation occurring between the location of the subsurface exploration and the existing building. The potential for this to effect the proposed construction is limited given the excavation to basement elevation adjacent to the existing building. If during excavation UDLF is encountered, or the presence of slag or coal, then that material should be excavated and not utilized for construction purposes.

The subsurface profile consists primarily of lacustrine soils derived from the historic river and lake sedimentation. The subsurface conditions were evaluated based on the 1888 earthquake with a magnitude of 3.3 which is recorded as occurring approximately 1.1 miles west-southwest of the project site. Based on this earthquake the site has greater than a 5.0 safety factor against liquefaction. Based on this analysis it does not appear to exhibit liquefaction potential; therefore, additional investigation regarding liquefaction potential is not necessary.

5.7.2 Ground water management and under slab drainage

The evaluation of the groundwater table on the site was limited due to the depth of subsurface exploration scope and the difficulty of drilling through flowing sands. However, it should be expected that elevated moisture contents may be encountered at depths greater than 18 ft below existing FFE and above less permeable layers being encountered. During construction any water



encountered should be controlled and prevented from pooling within the excavation. Given the rapid drainage condition present within the sand subgrade it should not be expected that the proposed construction should need a perimeter drain.

If groundwater is encountered during construction the Geotechnical Engineer of Record should be notified immediately to evaluate the presence of groundwater in the excavation and provide potential recommendations to alleviate the condition. If excavations are expected to extend deeper than 18 ft below existing FFE, then there should be a construction allowance for potential dewatering measures.

5.7.3 CLSM and Over-Excavation Material

The site may encounter conditions which will require the over-excavation of material and replacement with materials which provide additional strength. The backfill may utilize on site excavated soils that are verified as compacted to at least 95% of the maximum dry density according to the Standard Proctor Test (ASTM D-698) with moisture conditioning to be within 3 percentage points of the optimum moisture content of that material.



6.0 Site Construction Recommendations**6.1 Subgrade Preparation****6.1.1 Stripping and Subgrade Preparation**

The subgrade preparation should consist of stripping all vegetation, rootmat, topsoil, any existing fill materials, surficial materials, or other soft or unsuitable materials from the 10-foot expanded building limits. Stripping limits should be extended an additional 1 foot at the structure's exterior edge for each foot of fill required to re-establish design grade. These activities should include removing soft and/or wet soils or otherwise unsuitable surface materials. The consultant should be called on to verify that unsuitable materials have been completely removed prior to the placement of structural fill or construction of structures. In the 10 foot expanded building pad limits, any concrete slabs, foundations, structures, both visible and buried, will need to be removed prior to the placement of the new foundations and building slab. Any existing underground utilities or brick structures present within the building pad limits should be removed. The area should then be re-filled in a controlled manner by using the removed allowable materials or new structural fill. If the exposed subgrade is still soft, the exposed subgrade may need to be stabilized with the use of coarse aggregate compacted into the soft soil to stiffen it, followed by geogrid and open graded aggregate. The geotechnical engineer should be onsite to evaluate the extent and/or need of aggregate and geogrid.

6.1.2 Proof Rolling

The following recommendations are intended for areas which will not bear the load of the proposed building which is evaluated by the Geotechnical Engineering of Record as detailed in Section 5 of this report. However, this procedure will be applicable for areas which are to receive surficial grading and site features such as parking, drive aisles, and general grading. After removing all unsuitable surface materials, cutting to the proposed grade, and prior to the placement of any structural fill or other construction materials, the exposed subgrade should be examined by the Geotechnical Engineer or authorized representative. The exposed subgrade should be thoroughly proofrolled with previously approved construction equipment having a minimum axle load of 10 tons (e.g. fully loaded tandem-axle dump truck). This procedure is intended to assist in identifying localized yielding materials. In the event that unstable or "pumping" subgrade is identified by the proofrolling, those areas should be marked for repair prior to the placement of any subsequent structural fill or other construction materials. Methods of repair of unstable subgrade, such as undercutting, moisture conditioning, or chemical stabilization, should be discussed with the Geotechnical Engineer of Record to determine the appropriate procedure with regard to the existing conditions causing the instability. Test pits may be excavated to explore the shallow subsurface materials in the area of the instability to help in determining the cause of the observed unstable materials and to assist in the evaluation of the appropriate remedial action to stabilize the subgrade.

6.2 Structural Fill Materials

After subgrade preparation and observation has been completed and a stable subgrade has been verified, fill placement may begin. Structural fill materials should not be placed on frozen or frost-heaved soils or soils which have not been moisture conditioned to



acceptable levels. Structural fill materials should not contain wet or frozen materials at the time of placement. Wet or frost-heaved soils should be removed prior to the placement of structural fill, granular sub-base materials, foundation/slab concrete, or paving materials. Excavated rock is generally suitable for use as backfill if the material meets the requirements of on-site manufactured structural fill (listed below), is not subject to degradation during compaction or weathering, and is approved by the Geotechnical Engineer of Record.

Materials satisfactory for use as Structural Fill should consist of inorganic soils classified as coarse grained SM, SC, SW, SP, GW, GP, GM and GC, or a combination of these group symbols, per ASTM D 2487. The materials should be free of organic matter, debris, and should contain no particle sizes greater than 4 inches in the largest dimension. Unsatisfactory structural fill materials include materials which do not satisfy the requirements for suitable materials (CL, ML), as well as topsoil and organic materials (OH, OL), elastic Silt (MH), and high plasticity Clay (CH).

Near surface materials are likely to be wet and require moisture conditioning (drying) prior to their reuse as engineered fill. In some cases, the materials might not be suitable and should be placed in non-structural areas only. We recommend that evaluation and laboratory testing be performed prior to placement as fill, to further explore the site conditions. Prior to placement of structural fill, representative bulk samples should be submitted to the Geotechnical Engineer of Record for acceptance which will include Atterberg limits, natural moisture content, grain-size analysis, and moisture-density relationships (Proctor) for compaction. Import materials should be tested prior to being hauled to the site to determine if they meet project specifications.

Structural Fill within the expanded building, pavement, and embankment limits should be placed in maximum 12-inch loose lifts, moisture conditioned as necessary to within $\pm 3\%$ of the soil's optimum moisture content, and be compacted with suitable equipment to a dry density of at least 95% of the Standard Proctor maximum dry density (ASTM D698). Consultant should be called on to document that proper fill compaction has been achieved.

The expanded limits of the proposed construction areas should be well defined, including the limits of the fill zones for buildings, pavements, and slopes, etc., at the time of fill placement. Grade controls should be maintained throughout the filling operations. All filling operations should be observed on a full-time basis by a qualified representative of the construction testing laboratory to determine that the minimum compaction requirements are being achieved. Field density testing of fills should be performed at the frequencies shown in Table 6.3.1, but not less than 1 test per lift.

Compaction equipment suitable to the soil type being compacted should be used to compact the subgrades and fill materials. Sheepsfoot compaction equipment should be suitable for the fine-grained soils (Clays and Silts). A vibratory smooth drum roller should be used for compaction of coarse-grained soils (Sands) as well as for sealing compacted surfaces. Smooth drum roller should not be used for the first pass of compaction of fine-grained soils. In confined areas such as utility trenches, portable compaction equipment and thin lifts of 3 inches to 4 inches may be required to achieve specified degrees of compaction. Where fill materials will be placed to widen existing embankment fills, or placed up against sloping ground, the soil subgrade should be scarified and the new fill benched or keyed into the existing material. Fill material should be placed in horizontal

lifts with a grade of less than 8H:1V, where steeper slopes are being built then the face of the embankment should be over built then cut back to final grade after compaction.

It should be noted that the on-site soils are highly moisture and disturbance sensitive. Due to the nature of the soils on site, approved fills or prepared subgrades should be protected from construction traffic. Previously stable subgrades will quickly degrade if exposed to moisture or construction traffic. Furthermore, at the end of each work day, all fill areas should be graded to facilitate drainage of any precipitation and the surface should be sealed by use of a smooth-drum roller to limit infiltration of surface water. During placement and compaction of new fill at the beginning of each workday, the Contractor may need to scarify existing subgrades to a depth on the order of 4 inches so that a weak plane will not be formed between the new fill and the existing subgrade soils.

It is recommended that the earthwork operations be performed during the warmer and dryer (i.e. late spring, summer, early fall) periods of the year, as drying and compaction of wet soils is typically difficult during the cold, winter months. We recommend that the grading contractor have equipment on site during earthwork for both drying and wetting fill soils. In the event that the earthwork operations are accomplished during the cooler and wetter periods of the year or even during the warmer periods where rainfall has occurred, delays, and/or additional costs should be anticipated. Proper drainage should be maintained during the earthwork phases of construction to prevent ponding of water which has a tendency to degrade subgrade soils.

6.3 Utility Installations

- 6.3.1 **Utility Subgrades:** The majority of the soils encountered in our exploration are expected to be generally suitable for support of utility pipes. Undercutting and the placement of structural fill or additional bedding stone may be required in softer subgrade areas. The pipe subgrade should be observed and, if suspect, probed for stability by CONSULTANT to evaluate the suitability of the materials encountered. Any loose or unsuitable materials encountered at the utility pipe subgrade elevation should be removed and replaced as noted. The location and invert elevations of the utilities were not known. See Section 6.4.4 for site specific trench safety requirements.
- 6.3.2 **Utility Backfilling:** The granular bedding material should be at least 4 inches thick, but not less than that specified by the project drawings and specifications. Fill placed for support of the utilities, as well as backfill over the utilities, should satisfy the requirements for Structural Fill given in this report. Compacted backfill should be free of topsoil, roots, ice, or any other material designated by CONSULTANT as unsuitable. The backfill should be moisture conditioned, placed, and compacted in accordance with the recommendations of this report. If water is entering the excavation, compaction of soil backfill will be very difficult. In these cases, AASHTO #57 can be considered as backfill to be placed at an elevation above the observed seepage elevation. Filter fabric can be placed over the stone at that point and approved structural fill placed and compacted.
- 6.3.3 **Utility Excavation Dewatering:** It is possible that perched water or permanent groundwater may be encountered by utility excavations which extend below existing grades. It is expected that removal of water which seeps into excavations could be accomplished by pumping from sumps excavated in the trench bottom and which are backfilled with AASHTO No. 57 Stone or open graded bedding



material. Should water conditions beyond the capability of sump pumping be encountered, the contractor should submit a Dewatering Plan.

6.4 General Construction Considerations

6.4.1 **Erosion Control:** Install soil erosion and sedimentation control devices, as well as temporary stormwater management facilities, as specified by Site/Civil Engineer. Maintain positive drainage conditions throughout construction, avoiding unnecessary ponding of stormwater in excavations or low areas of the site. Seal-roll exposed soil or subgrade surfaces prior to rain or snow events, and promptly remove any standing water immediately afterwards.

6.4.2 **Site Drainage and Surface Water Control:** Adequate temporary and permanent control of surface water runoff will be required in order to allow site access, grading and construction to proceed. Standing water, snow, or ice should be removed from the completed building pad and pavement subgrades as soon as practical after each precipitation event without damaging the subgrade throughout the construction period. This may include the use of temporary under-drains, sump pits and pumps, plowing, or other means. In addition, the building pad and pavement subgrades should be maintained on a regular basis to grade out any ruts or low points where water may accumulate, and to aerate and/or re-compact any areas disturbed by weather or construction activities. The responsibility for this maintenance role should be clearly defined in the contract documents.

6.4.3 **Subgrade Protection:** Measures should also be taken to limit site disturbance, especially from rubber-tired heavy construction equipment, and to control and remove surface water from development areas, including structural and pavement areas. It would be advisable to designate a haul road and construction staging area to limit the areas of disturbance and to prevent construction traffic from excessively degrading sensitive subgrade soils and existing pavement areas. Haul roads and construction staging areas could be covered with excess depths of aggregate to protect those subgrades. The aggregate can later be removed and used in pavement areas.

6.4.4 **Excavation Safety:** Cuts or excavations associated with utility excavations may require forming or bracing, slope flattening, or other physical measures to control sloughing and/or prevent slope failures. Contractors should be familiar with applicable OSHA codes to ensure that adequate protection of the excavations and trench walls is provided.

This site was observed during the subsurface exploration to be underlain by sands which exhibit little to no cohesion which may cause a rapid collapse condition of excavations. If water is observed to be entering the excavation then no souls should enter the same excavation unless under the direction of a Responsible Party which has evaluated the excavation that day for safety conditions. Notwithstanding guidance provided by OSHA in 29CFR 1926 which provides minimal requirements the excavations on this site should be sloped down to a gradient of 2H:1V or flatter as the material will support. Alternatively, the contractor may elect to utilize a shoring system which will be required on this site to be designed by the contractor's engineer and reviewed by the Geotechnical Engineer of Record.



6.5 Construction Observation and Testing

6.5.1 Regardless of the thoroughness of a geotechnical engineering study, there is always a possibility that subsurface conditions between test borings may be different from those encountered at the test boring locations, that conditions are not as anticipated by the designers, or that the demolition or construction process has altered the subsurface conditions. Therefore, geotechnical engineering construction observation should be performed under the supervision of a qualified Geotechnical Engineer who is familiar with the intent of the recommendations presented in this report. Generally there is not another firm which is more knowledgeable to the intent and content of an engineering report than the Geotechnical Engineer of Record which produced the report itself. Such observation services are recommended to evaluate whether the conditions anticipated in the design actually exist, or whether the recommendations presented in the report should be modified where necessary.

7.0 Closing

7.1 This report has been prepared for the exclusive use of City of Cleveland and their design team on the site and building explicitly described herein. Triumph Services has prepared this report as an instrument of services which describes the findings, evaluations, and recommendations to guide geotechnical-related design aspects of the project. The description of the proposed project is based on information provided to the Consultant by the Client and their design team for this project. If any of this information is inaccurate, either due to our interpretation of the documents provided, site variances, or design changes that may occur later, the Consultant should be contacted immediately in order that we can review the report in light of the changes and provide additional or alternate recommendations as may be required to reflect the proposed construction. We recommend that the Consultant be allowed to review the project's plans and specifications pertaining to our work so that we may ascertain consistency of those plans/specifications with the intent of the geotechnical report. Field observations, monitoring, and quality assurance testing during earthwork and foundation installation are an extension of and integral to the geotechnical design recommendation. The geologic conditions which will be encountered during the construction of the project have unique properties which have considerations which are difficult to fully describe within the textural limitations of a report and appendices which the Geotechnical Engineer of Record will have intimate knowledge of during the on-the-spot analysis which will be necessary during the construction and excavation of this site. We recommend that the owner continue the Consultant's Geotechnical Engineer of Record position to provide quality control services during the geotechnical construction on this project irrelevant of the organization which is performing quality assurance testing of the superstructure on this site. The Consultant is not responsible for the conclusions, opinions, misinterpretations, or recommendations of others based on the data in this report. The scope of this investigation was limited to the evaluation of the load-carrying capabilities and load stability of the soils and bedrock. Stormwater management, oil, hazardous waste, radioactivity, irritants, pollutants, radon, , et. al. or other dangerous substances and conditions were not the subject of this study. Their presence and/or absence and/or quality are not implied, inferred or suggested by this report or results of this study.

APPENDIX A



APPENDIX A



Boring ID: B-1	Triumph Services Boring Log		Page: 1 of 1
Date Started: May 16, 2023	Date Complete: May 16, 2023		Logged By: RLB
Project Name: Central Rec Center Expansion	Project Number: 50660222		
County, State: Cuyahoga, Ohio	Drill Company: All Probe Environmental		
Weather: Cloudy	Temp: 65 F	Drill Make/Model: Geoprobe 7822	
Geology: Ohio Shale (Devonian)	Drill Op/Help: Sly/Ben		
Drilling			
Tooling: 3.25 HSA	While Drilling: Not Encountered		
Boring Elev: -3 ft Relative to First Floor Elevation	Seasonal High: Not Encountered		
Auger Grinding: Not Encountered	Refusal: Not Encountered	Before Backfill: Not Encountered	
Termination: 15 ft	Bulk Sample: Not Encountered	Cave In: Not Encountered	

Depth	Sample Type	Sample No.	Pocket Pen. (Qp)	Standard Penetration Test (SPT) N-Value	SPT Blow Count	Recovery	Symbol	Lithologic Description	Comments
				0 10 20 30 40 50					
0								Surficial Material: 0.4' Concrete	EL -3 ft
1	S-1		4		3	1.7		Silty Sand	Surficial slag immediately below concrete
2					2			Moist Silty Sand, light tan	Alluvial Origin
3	S-2		3		2	1.6			
4					2				4 ft
5	S-3		5		2	1.6		Poorly Graded Sand	EL -7 ft
6					3			Moist fine grained Poorly Graded Sand, red-brown	
7	S-4		6		3	1.8		0.1' Clay seam	
8					3				
9	S-5		5		3	1.9		Medium-coarse grained	
10					3				
11									
12									
13	S-6		5		1	2.0			
14					2				
15					3				15 ft
16								Exploration Terminated at 15 ft	EL -18 ft
17									
18									
19									
20									
21									
22									
23									
24									
25									
26									
27									
28									
29									
30									

Boring ID: B-2	Triumph Services Boring Log		Page: 1 of 1
Date Started: May 16, 2023	Date Complete: May 16, 2023		Logged By: RLB
Project Name: Central Rec Center Expansion	Project Number: 50660222		
County, State: Cuyahoga, Ohio	Drill Company: All Probe Environmental		
Weather: Cloudy	Temp: 65 F	Drill Make/Model: Geoprobe 7822	
Geology: Ohio Shale (Devonian)	Drill Op/Help: Sly/Ben		
Drilling		Water	
Tooling: 3.25 HSA	While Drilling: 17'		
Boring Elev: -3 ft Relative to First Floor Elevation	Seasonal High: Not Encountered		
Auger Grinding: Not Encountered	Refusal: Not Encountered	Before Backfill: Not Encountered	
Termination: 25 ft	Bulk Sample: Not Encountered	Cave In: Not Encountered	

Depth	Sample Type	Sample No.	Pocket Pen. (Qp)	Standard Penetration Test (SPT) N-Value	SPT Blow Count	Recovery	Symbol	Lithologic Description	Comments
				0 10 20 30 40 50					
Surficial Material: 0.6' Concrete									EL -3 ft
0					2	1.5		<u>Silty Sand</u>	Surficial slag immediately below concrete
1		S-1	4		2			Moist Silty Sand, light tan	Alluvial Origin
2					3	1.3			2 ft
3		S-2	6		3			<u>Fine - Coarse Sand</u>	EL -5 ft
4					3			Moist fine grained Poorly Graded Sand, red-brown	
5		S-3	4		2	1.3			
6					2				
7		S-4	5		2	1.5			
8					3				
9		S-5	6		4	1.6			
10					2				
11					3				
12									
13		S-6	6		2	2.0			
14					3				
15					2				
16					3				
17								-Wet	
18						2.0			
19		S-7	10		3				
20					4				Flowing SANDS in augers
21					6				
22					6				
23									Augered to 25' to confirm no rock; Augers full of flowing sand couldn't drive SPT spoon.
24									
25								Exploration Terminated at 25 ft	25 ft EL -28 ft
26									
27									
28									
29									
30									

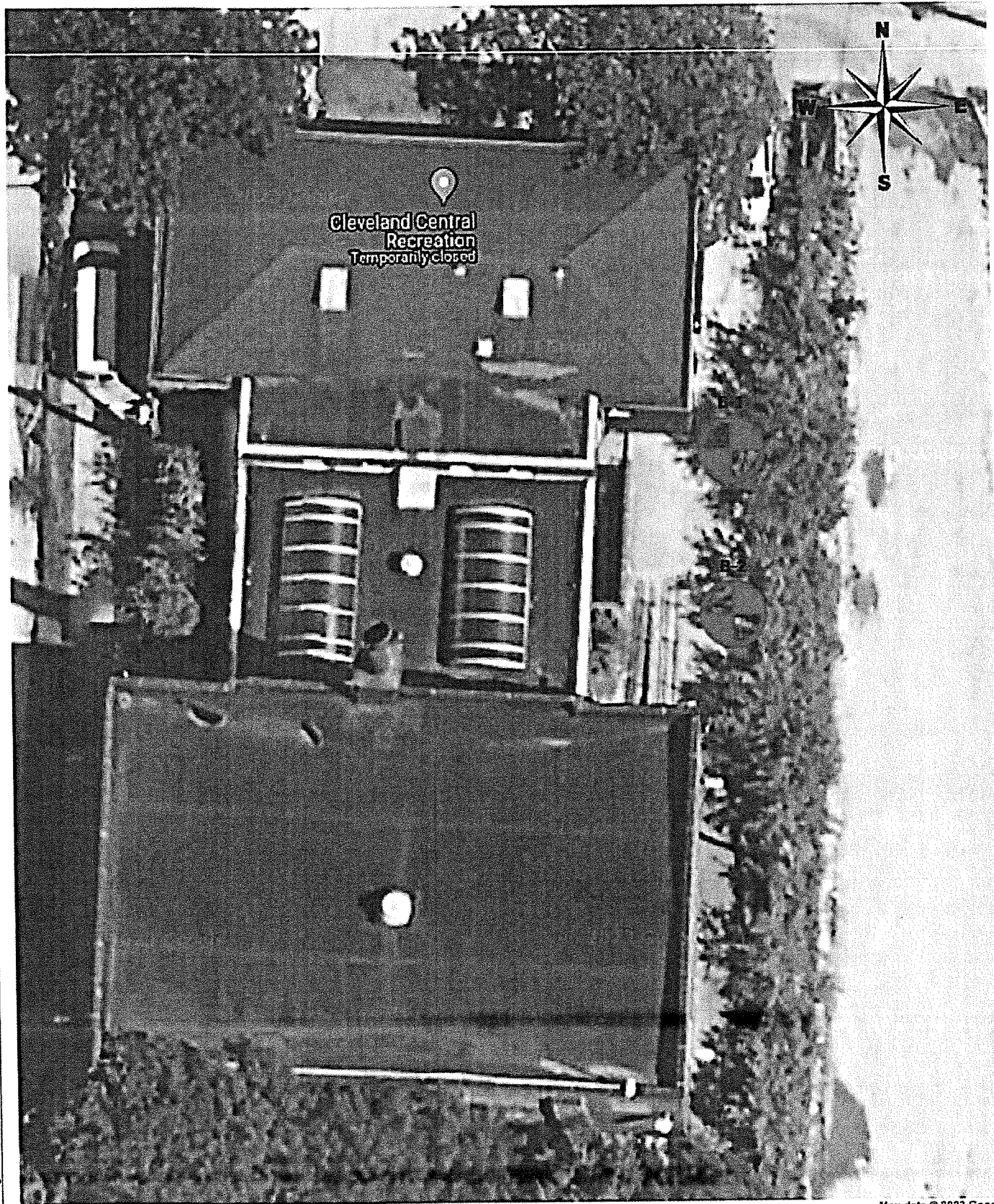
RSLog / Triumph Services Boring Log / triumph-services / admin / June 02, 2023 12:18 PM

Ti TRIUMPH

NOTES:

APPENDIX B





Map data © 2023 Google

Exploration Location Plan

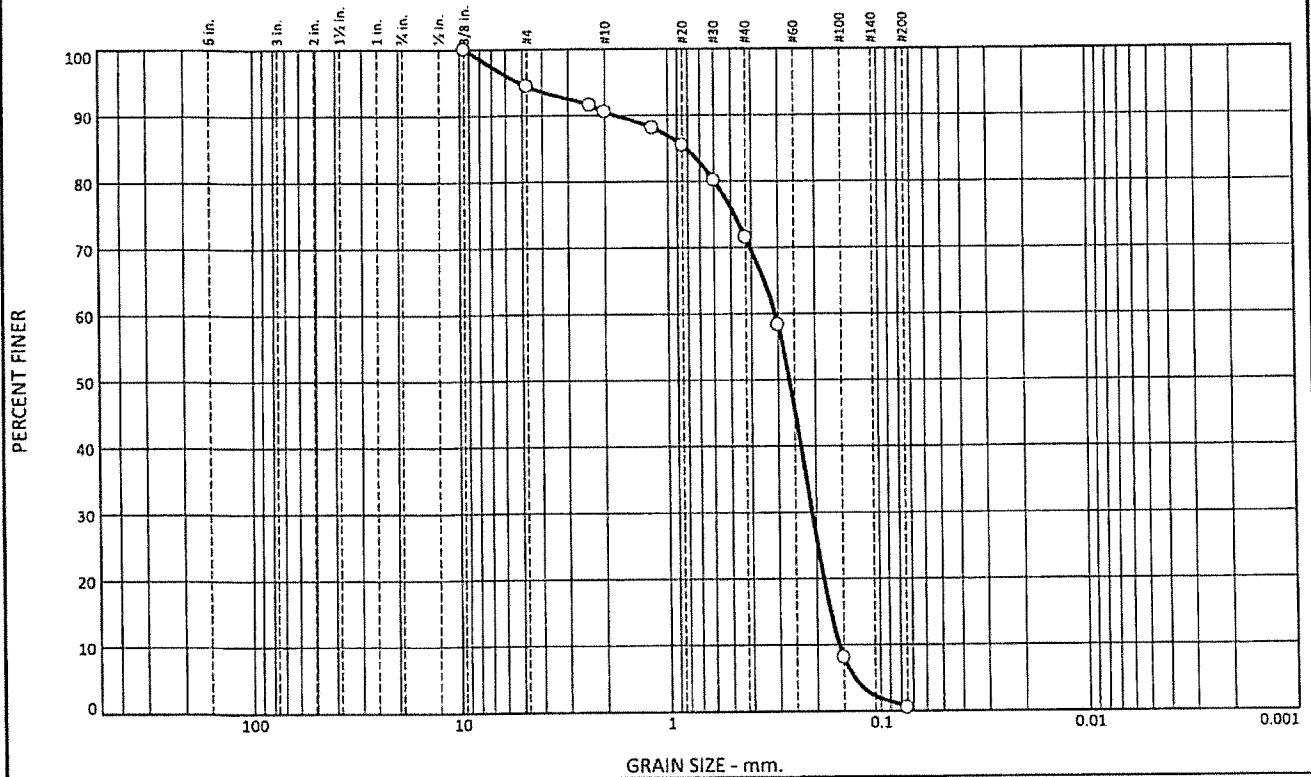
Client: City of Cleveland	Project No.: 50660222	Reviewed By:	TRIUMPH
Project: Central Rec Center Expansion	Date: 11-Dec-2022		

APPENDIX C



Particle Size Distribution Report

ASTM D6913



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	5.6	3.9	19.0	71.0	0.5	

Test Results (ASTM D6913)				
Sieve Size or Diam. (mm.)	Finer (%)	Spec. * (%)	Out of Spec. (%)	Pct. of Fines
.375	100.0			
#4	94.4			
#8	91.5			
#10	90.5			
#16	88.1			
#20	85.4			
#30	80.1			
#40	71.5			
#50	58.3			
#100	8.1			
#200	0.5			

* (no specification provided)

Material Description

B-1 - S-5: 8-10' Alluvial SAND

PL= NP Atterberg Limits LL= NV PI= NP

USCS= SP Classification AASHTO= A-3

Test Remarks
Natural Moisture: 10.0%

Sample Number: S-5 Depth: 8-10'

Sample Date: 5/16/2023

Triumph Services
1907 Linden Avenue
Zanesville, Ohio

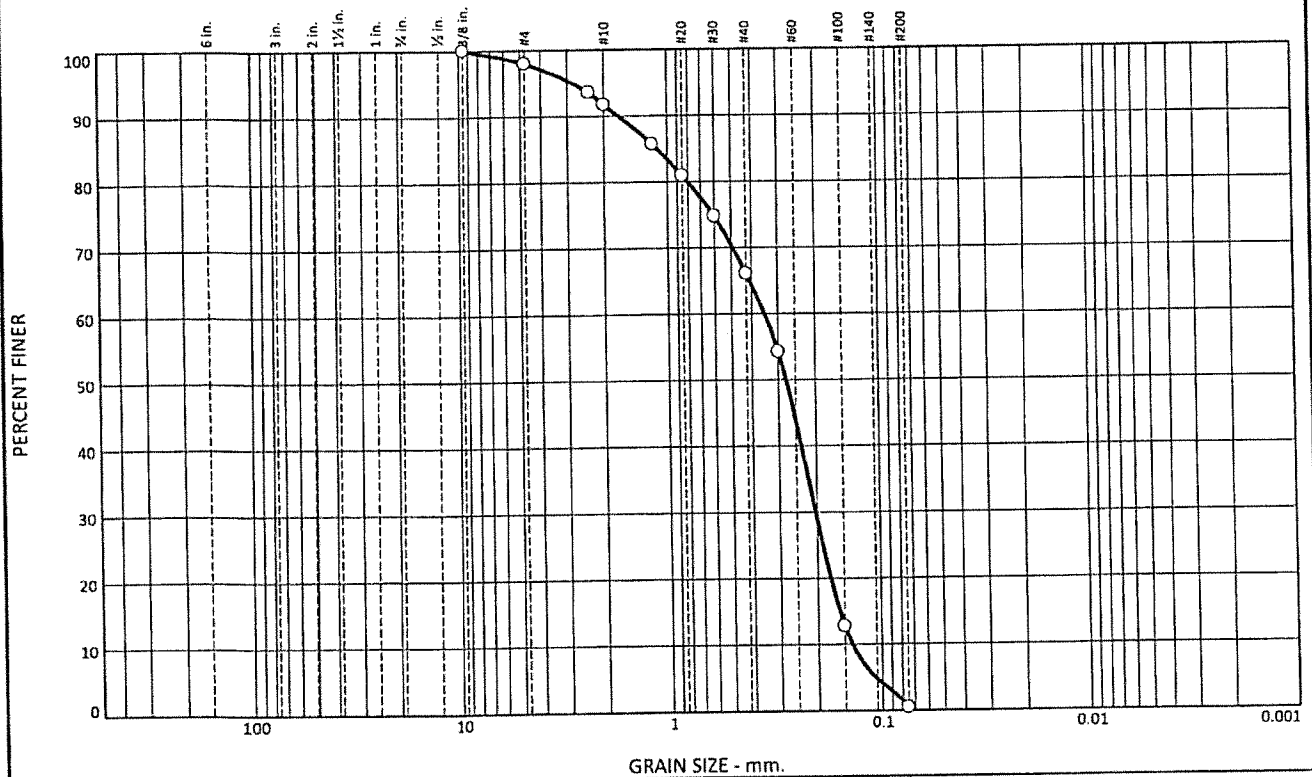
Client: City of Cleveland
Project: Central Avenue Rec. Center Expansion
Project No: 50660222

Figure

Tested By: RB Checked By: DB

Particle Size Distribution Report

ASTM D6913



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	2.0	6.3	25.7	65.6	0.4	

Test Results (ASTM D6913)				
Sieve Size or Diam. (mm.)	Finer (%)	Spec.* (%)	Out of Spec. (%)	Pct. of Fines
.375	100.0			
#4	98.0			
#8	93.6			
#10	91.7			
#16	85.7			
#20	80.9			
#30	74.7			
#40	66.0			
#50	54.2			
#100	12.8			
#200	0.4			

* (no specification provided)

Material Description

B-2 - S-7: 18-20' Alluvial SAND

PL= NP Atterberg Limits LL= NV PI= NP

USCS= SP Classification AASHTO= A-3

Test Remarks
Natural Moisture: 22.7%

Sample Number: S-7 Depth: 18-20'

Sample Date: 5/16/2023

Triumph Services
1907 Linden Avenue
Zanesville, Ohio

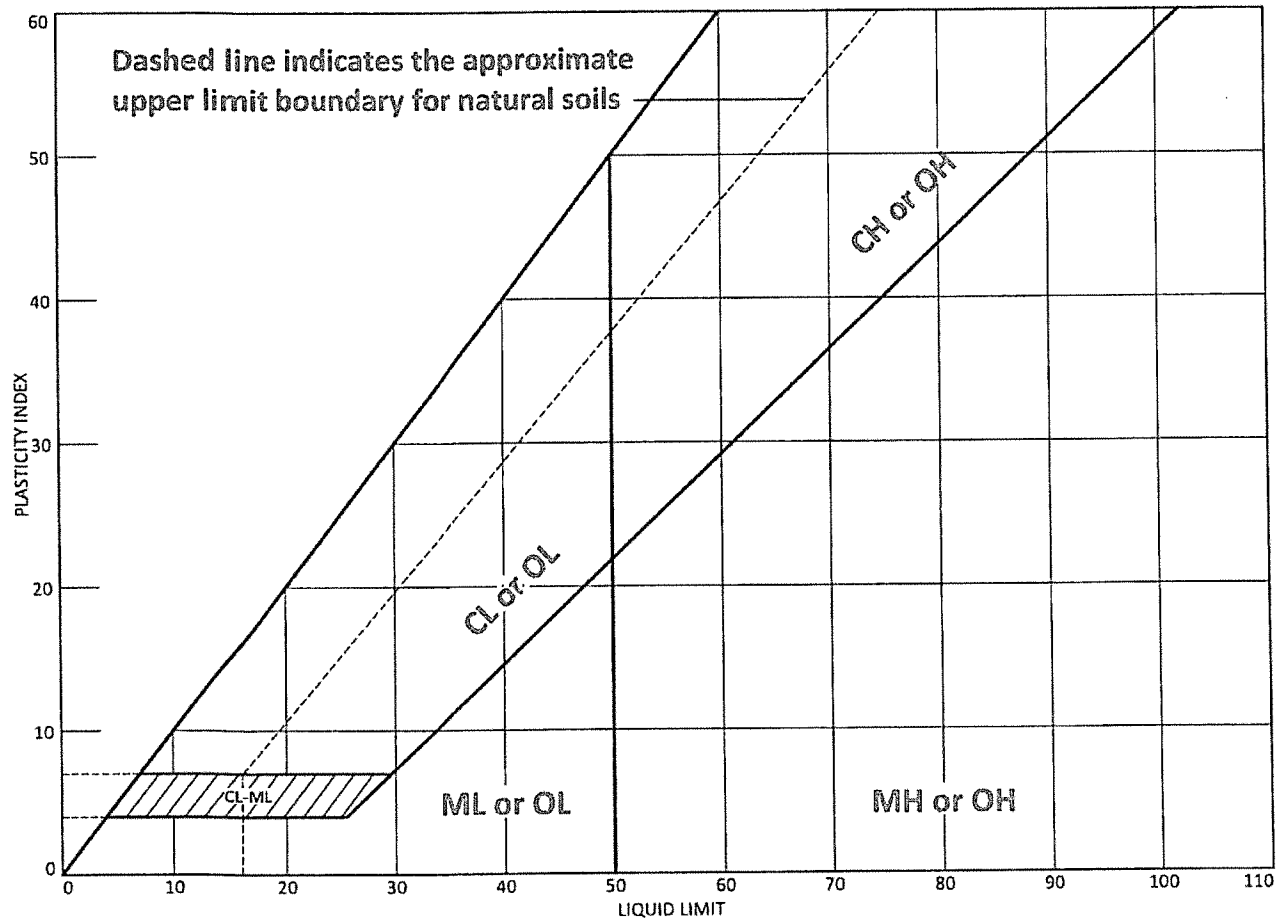
Client: City of Cleveland
Project: Central Avenue Rec. Center Expansion

Project No: 50660222

Figure

Tested By: RB Checked By: DB

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●	B-1 - S-5: 8-10': Alluvial SAND	NV	NP	NP	71.5	0.5	SP
■	B-2 - S-7: 18-20': Alluvial SAND	NV	NP	NP	66.0	0.4	SP

Project No. 50660222 Client: City of Cleveland

Project: Central Avenue Rec. Center Expansion

● Depth: 8-10' Sample Number: S-5

■ Depth: 18-20' Sample Number: S-7

Remarks:

Triumph Services
1907 Linden Avenue
Zanesville, Ohio

Figure

Tested By: RB Checked By: DB

**BULK SAMPLING of SUSPECT
ASBESTOS-CONTAINING MATERIALS and
PAINT CHIP SAMPLING for LEAD CONTENT**

**City of Cleveland Central Recreation Center
Swimming Pool Room and Adjacent Area
2526 Central Avenue
Cleveland, OH 44115**

PREPARED FOR:

M Rivera Construction Co.
Thomas Toth, Project Manager
4301 Train Avenue
Cleveland, Ohio 44115

PREPARED BY:

Amianthus
Amianthus LLC
Environmental Consulting
583 Grayton Road
Berea, Ohio 44017
216-346-7694 fax 440-891-0022

April 18, 2023

Project Number: 23-05-123

TABLE OF CONTENTS

	PAGE
PROJECT SUMMARY	1
SCOPE OF WORK	2
INSPECTIONS LIMITATIONS	2
RESULTS	2
Asbestos	2
Lead	3
RECOMMENDATIONS	4
APPENDIX A -Table 1: Suspect Asbestos-Containing Material Summary	
APPENDIX B - Asbestos Analytical Reports	
APPENDIX C - Paint Coating Analytical Reports	

PROJECT SUMMARY

Amianthus LLC performed bulk sampling of suspect asbestos-containing materials and paint chip sampling for lead content at the swimming pool room and adjacent area at the City of Cleveland Central Recreation Center at 2526 Central Avenue in Cleveland, Ohio. The bulk sampling of suspect asbestos-containing materials and paint chip sampling was performed to identify potential asbestos and lead exposure concerns prior to renovation of this area as required by the Occupational Safety and Health Administration (OSHA) and the Environmental Protection Agency (EPA) NESHAPS. Asbestos sampling was performed in accordance with AHERA 763.86 sampling protocol. This survey complies with the US EPA requirements for a thorough inspection found in 40 C.F.R. Part 61, Subpart M.

Mr. Daniel C. Peders, performed an inspection of all areas on April 13, 2023. Mr. Peders identified the following:

Friable Asbestos-Containing Materials - Friable asbestos is strictly regulated and must be removed prior to building demolition and/or equipment dismantling. The following Friable asbestos materials were sampled and verified to be asbestos-containing:

- Pipe fitting insulation

Non-friable asbestos is materials that cannot be crumbled by hand pressure when dry and is divided into two categories: Category I and Category II.

Category I non-friable material is material such as floor covering and roof shingles that are not expected to release significant amounts of asbestos fibers during normal demolition activities. These materials are also strictly regulated and can remain in place as long as it will not be subjected to sanding, grinding, cutting or abrading. There were no Category I non-friable asbestos materials identified for this structure.

Category II non-friable material is material such as asbestos-cement products, drywall or plaster that is expected to release significant amounts of asbestos fibers during normal demolition activities. Depending on the potential for fiber release these materials may be required to be removed prior to demolition if the material is expected to release significant fibers. There were no Category II non-friable asbestos materials identified for this structure.

Table 1 in the report provides a summary of estimated quantities. Table 3 in Appendix A provides summary of the asbestos-containing materials and the analytical results.

Lead Based Paint: Interior paint coating on the ceiling of the closet off the swimming pool area has lead content that is greater than 0.5% and therefore considered lead-based. The interior ceiling paint in the swimming pool area has a lead content that is less than 0.5% and is not considered lead-based paint. Table 2 summarizes the paint coating results.

SCOPE OF WORK

Amianthus LLC was retained by the M Rivera Construction Co. to perform an asbestos material survey and paint chip sampling for lead content of the swimming pool room and adjacent area at the City of Cleveland Central Recreation Center at 2526 Central Avenue, Ohio. Ohio EPA Certified Asbestos Hazard Evaluation Specialist, Mr. Daniel C. Peders (CAHES #31134), visually inspected all accessible areas of these structures.

INSPECTION'S LIMITATIONS

The area to be surveyed was identified by Mr. Thomas Toth, Project Manager for M Rivera Construction Co. All areas were accessible. Additional suspect materials for both asbestos and lead may exist in areas that were outside of the scope of this sampling event.

RESULTS

Asbestos - All accessible friable and non-friable materials in the identified functional spaces were sampled and submitted for analysis. A total of 3 homogeneous materials were noted during the inspection. A total of 7 bulk samples were collected from these materials.

The bulk samples were analyzed by Amianthus Labs LLC laboratory that is enrolled in the American Industrial Hygiene Associations Bulk Asbestos Proficiency Analytical Testing (BAPAT) Program, laboratory ID number 198622, for the analysis of asbestos bulk material samples.

All samples were analyzed using Polarized Light Microscopy with Dispersion Staining (PLM/DS) techniques in accordance with the methodology approved by the U.S. Environmental Protection Agency (EPA). The percentage of asbestos present in the samples was determined on the basis of visual area estimation. As set forth in the Code of Federal Regulations, 40 CFR Part 763, Appendix A to Subpart F, Section 1.2 and 1.7.2.4, the lower limit of reliable detection for asbestos using the PLM method is approximately one percent (1%) by volume.

When "None Detected" (ND) appears in this report, it should be interpreted as meaning no asbestos was observed in the sample material above the reliable limit of detection for the PLM method (1%). Material reported to contain 1% or less of asbestos by point count analysis is not considered hazardous by U.S. EPA, and therefore, do not require removal and disposal prior to demolition or renovation.

The following table summarizes the type of ACM identified in this limited survey:

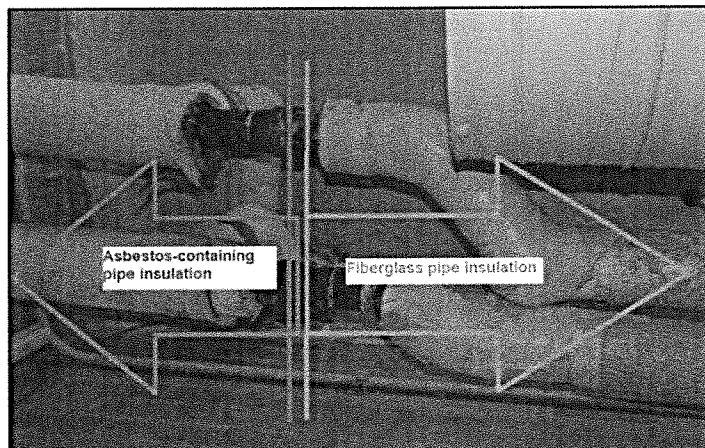
Table 1: ACM Estimated Quantity Summary

Homogeneous Group #	Material Description	Estimated Quantity
MF1	Pipe fitting insulation	6 fittings

Ftg. = Fittings

Representative Photograph

(Right) Asbestos-containing pipe fitting insulation (MF1) in the swimming pool room on pipe fittings at the ceiling along the East wall at the North end where the pipe at the East wall enters the room.



Paint Sampling and Analysis

Amianthus LLC performed paint chip sampling of the paint on the interior building components. Mr. Daniel C. Peders performed the paint chip sampling to identify potential lead hazards prior to the renovation of these areas. Mr. Peders performed the sampling on April 13, 2023.

Mr. Peders identified Two paint coatings on the interior substrates of the swimming pool area and adjacent room. These paint coatings were sampled and analyzed and the interior ceiling paint of the closet off the pool was identified as containing lead in quantities greater than the regulatory limit of lead of 0.5%. The interior paint coating on the swimming pool ceiling was identified as containing lead in quantities less than the regulatory limit of lead of 0.5%.

Analytical Method:

Two (2) paint chip samples were procured and submitted to International Asbestos Testing Laboratories, Inc., Mt. Laurel, New Jersey, an accredited laboratory recognized by the EPA National Lead Laboratory Accreditation Program (NLLAP), AIHA # 7008 for analysis by flame atomic absorption to determine concentrations of lead for interior surfaces. Table 2 summarizes these results and analytical data is provided in Appendix C. Results above 0.5 lead percent by weight is considered lead-based paint.

Table 2: Paint Coating Sample Results

Sample Number	Sample Description	Lead-Based (Y/N)	Location	Analytical Results – Concentration Lead By Weight (%)
PL-L01	White Paint	N	Pool ceiling	<0.0080
PL-L02	Off-White Paint	N	Closet off pool ceiling	33
Paint coating that contains a lead content of greater than 0.5% is considered lead-based paint				

RECOMMENDATIONS

The Environmental Protection Agency (EPA) National Emission Standards for Hazardous Air Pollutants (NESHAP) requires that Regulated Asbestos Containing Material (RACM) that will be disturbed during demolition be removed. RACM is defined as; (a) friable ACM; (b) category I non-friable ACM that has become friable; (c) category I non-friable ACM that will be or has been subjected to sanding, grinding cutting or abrading; or (d) category II non-friable ACM that has a high probability of becoming or has become crumbled, pulverized, or reduced to powder by forces expected to act on the material in the course of demolition or renovation operation.

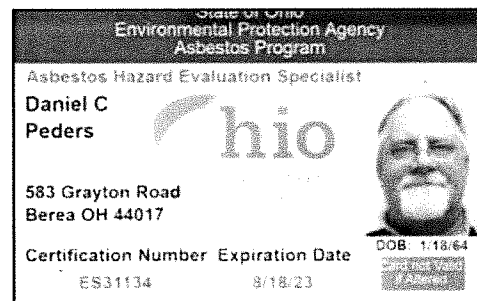
Based on the understanding that these structures will be demolished, EPA NESHAP regulation requires the removal of all RACM prior to demolition or renovation activities that may disturb these materials.

If you have any questions or concerns regarding the above information, please contact the undersigned at 216-346-7694.

Sincerely,



Daniel C. Peders
Certified Asbestos Hazard Evaluation Specialist
OEPA CAHES #33134 exp. 8-18-2023



APPENDIX A

Table 2: Asbestos-Containing Material Summary

Table 2 -- Summary of Asbestos-Containing Materials

Page 1 of 1

Sample Number	Homogeneous I.D.	Sample Description	Asbestos (Y/N)	Location	EPA Category	RACM (Y/N)*	Analytical Results
CRC-01, 02 & 03	TC1	Add-on textured coating	N	Swimming pool room ceiling on cement	NF2	N	None Detected
CRC-04, 05 & 06	PII	Straight pipe insulation, ~4" O.D. paper layered	N	Swimming pool room on pipe at ceiling along East wall at North end where the pipe at the East wall enters the room then transitions into fiberglass	F	N	None Detected
CRC-07	MF1	Mudded fitting insulation for PII	Y		F	Y	10% Chrysotile
Field Notes: Interior: The swimming pool room has brick walls and the pool is metal and the pool is being constructed and the floor around the pool is exposed gravel. Exposed metal duct at ceiling has no exterior insulation. The pipe insulation on pipes at ceiling along the East wall are mostly fiberglass straight pipe insulation and molded plastic fittings packed with fiberglass. The storage closet off the swimming pool room has cement floor and painted cement and cement block walls and painted cement at ceiling. Pipe insulation in the room at the ceiling is fiberglass.							

Asbestos as Asbestos-Containing which by definition is greater than one percent (1%) by weight as analyzed by the Point Count (PC) method.

EPA Categories: F = Friable, NF1 = Non-friable Category I, NF2 = Non-friable Category II

RACM classification is based on normal demolition procedures and does not apply if the structure will be burned intentional for live fire training or recycled.

Daniel C. Peders, Certified Asbestos Hazard Evaluation Specialist, OEPA CAHES#33134

Date: April 13, 2023

APPENDIX B

Analytical Reports



Amianthus LLC
Environmental Consulting
583 Grayton Road
Berea, Ohio 44017
216-346-7694 fax 440-891-0022

CERTIFICATE OF ANALYSIS

Client: M Rivera Construction Co.
4301 Train Avenue
Cleveland, Ohio 44115

Report Date: April 18, 2023
Project No.: 23-05-123
Log No.: 5278

BULK SAMPLE ANALYSIS SUMMARY

Sample Identification:

Seven (7) samples from the swimming pool room of the City of Cleveland Central Recreation Center at 2526 Central Avenue in Cleveland, Ohio were submitted by Daniel C. Peders.

These bulk samples were delivered to Amianthus LLC laboratory in Berea, Ohio for asbestos content determination.

Analytical Method:

Analytical procedures were performed in accordance with the U. S. Environmental Protection Agency (EPA) Recommended Method for the Determination of Asbestos in Bulk Samples by Polarized Light Microscopy and Dispersion Staining (PLM/DS) (EPA-600/M4-82-020, EPA-600/R-93-116). This report relates only to those samples actually analyzed, and may not be indicative of other similar appearing materials existing at this, or other sites.

Quantification of asbestos content was determined by Calibrated Visual Estimation.

The EPA requires that friable samples with analytical results of 10% or less asbestos, by visual estimation, be treated as asbestos-containing material unless these quantities are verified using the point counting method. The point counting method is a systematic technique for estimating concentration, also using PLM. The point counting method, however, does not increase the analyst's ability to detect fibers.

In any given material, fibers with a small diameter ($<0.25\mu\text{m}$) may not be detected by the PLM method. Floor tile and other resinously bound material may yield a false negative if the asbestos fibers are too small to be resolved using PLM. Additional analytical methods may be required.

Analysis Performed By: Daniel C. Peders
Date: April 18, 2023

Approved By:


Daniel C. Peders
Laboratory Director

AIHA PAT for Bulk Asbestos no. 198622

This confidential report relates only to those item(s) tested and does not represent an endorsement by AIHA or any agency of the U.S. Government

Analysis Method: EPA 600/R-93/116

Report Date: 04/18/2023
Project: 23-05-123
Log No.: 5278

Amianthus

Lab No.	Client No.	Description	Location	Color	Asbestos Type(s) Detected				Non-Asbestos Materials				Comments
					% Chrysotile	% Amosite	% Crocidolite	% Other	% Cellulose	% Fibrous Glass/ Mineral Wool	% Other Fibrous Materials	% Non-Fibrous Materials	
104431	CRC-01	Textured coating	Swimming pool room ceiling	White	0	0	0	0	0	0	0	100	
104432	CRC-02			White	0	0	0	0	0	0	0	100	
104433	CRC-03			White	0	0	0	0	0	0	0	100	
104434	CRC-04	Straight pipe insulation	Swimming pool room at ceiling along East wall at North end	White/Yellow	0	0	0	0	3	85	0	12	
104435	CRC-05			White/Yellow	0	0	0	0	3	85	0	12	
104436	CRC-06			White/Yellow	0	0	0	0	3	85	0	12	
104437	CRC-07	Fitting insulation		Gray	10	0	0	0	0	35	0	55	

1 of 1

AIHA PAT for Bulk Asbestos no. 198622

This confidential report relates only to those item(s) tested and does not represent an endorsement by AIHA or any agency of the U.S. Government

Analysis Method: EPA 600/R-93/116

Comments: PLM is not consistently reliable in detecting asbestos in floor coverings and similar non-friable organically bound materials. Before this material can be considered or treated as non-asbestos containing, confirmation must be made by quantitative TEM (PC) Indicates Stratified Point Count Performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limitation of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Count regimen.

Analysis Performed By: Daniel C. Peders
Date: April 18, 2023

Approved By:

Daniel C. Peders
Laboratory Director

APPENDIX C

Paint Coating Analytical Reports



9000 Commerce Parkway Suite B
Mt. Laurel, New Jersey 08054
Telephone: 856-231-9449
Email: customerservice@iatl.com

CERTIFICATE OF ANALYSIS

Client: Amianthus Labs LLC
583 Grayton
Berea OH 44017

Report Date: 4/18/2023
Report No.: 681871 - Lead Paint
Project: MRC 2526 Central Ave
Project No.: 23-05-123

Client: AMI662

LEAD PAINT SAMPLE ANALYSIS SUMMARY

Lab No.: 7602353
Client No.: PL-L01

Description: White Paint
Location: Pool Ceiling

Result (% by Weight): <0.0080
Result (ppm): <80
Comments:

Lab No.: 7602354
Client No.: PL-L02

Description: Off-White Paint
Location: Closet Off Pool Ceiling

Result (% by Weight): 33
Result (ppm): 330000
Comments:

Please refer to the Appendix of this report for further information regarding your analysis.

Date Received: 4/17/2023

Date Analyzed: 04/18/2023

Signature:

Analyst: Chad Shaffer

Approved By:

Frank E. Ehrenfeld, III
Laboratory Director

Dated : 4/18/2023 1:59:50

Page 1 of 3



9000 Commerce Parkway Suite B
Mt. Laurel, New Jersey 08054
Telephone: 856-231-9449
Email: customerservice@iatl.com

CERTIFICATE OF ANALYSIS

Client: Amsianthus Labs LLC
583 Grayton
Berea OH 44017

Client: AMI662

Report Date: 4/18/2023
Report No.: 681871 - Lead Paint
Project: MRC 2526 Central Ave
Project No.: 23-05-123

Appendix to Analytical Report:

Customer Contact: Dan Peders
Method: ASTM D3335-85a, US EPA SW846 3050B:7000B

This appendix seeks to promote greater understanding of any observations, exceptions, special instructions, or circumstances that the laboratory needs to communicate to the client concerning the above samples. The information below is used to help promote your ability to make the most informed decisions for you and your customers. Please note the following points of contact for any questions you may have.

iATL Customer Service: customerservice@iatl.com
iATL Office Manager: wthampton@iatl.com
iATL Account Representative: Shirley Clark
Sample Login Notes: See Batch Sheet Attached
Sample Matrix: Paint
Exceptions Noted: See Following Pages

General Terms, Warrants, Limits, Qualifiers:

General information about iATL capabilities and client/laboratory relationships and responsibilities are spelled out in iATL policies that are listed at www.iATL.com and in our Quality Assurance Manual per ISO 17025 standard requirements. The information therein is a representation of iATL definitions and policies for turnaround times, sample submittal, collection media, blank definitions, quantification issues and limit of detection, analytical methods and procedures, sub-contracting policies, results reporting options, fees, terms, and discounts, confidentiality, sample archival and disposal, and data interpretation.

iATL warrants the test results to be of a precision normal for the type and methodology employed for each sample submitted. iATL disclaims any other warrants, expressed or implied, including warranty of fitness for a particular purpose and warranty of merchantability. iATL accepts no legal responsibility for the purpose for which the client uses test results. Any analytical work performed must be governed by our Standard Terms and Conditions. Prices, methods and detection limits may be changed without notification. Please contact your Customer Service Representative for the most current information.

This confidential report relates only to those item(s) tested and does not represent an endorsement by NIST-NVLAP, AIHA LAP LLC, or any agency of local, state or province governments nor of any agency of the U.S. government.

This report shall not be reproduced except in full, without written approval of the laboratory.

Information Pertinent to this Report:

Analysis by ASTM D3335-85a by AA5

Certification:

- National Lead Laboratory Program (NLLAP): AIHA-LAP, LLC No. 100188
- NYSDOH-ELAP No. 11021

This report meets the standards set forth in the EPA's National Lead Laboratory Accreditation Program (NLLAP) through the Laboratory Quality System Requirements (LQSR) Revision 3.0 November 5, 2007. All Environmental Lead Proficiency Analytical Testing (ELPAT) is through the AIHA-PAT established program.

Regulatory limit is 0.5% lead by weight (EPA/HUD guidelines). Recommend multiple sampling for all samples less than regulatory limit for confirmation. All results are based on the samples as received at the lab. iATL assumes that appropriate sampling methods have been used and that the data upon which these results are based have been accurately supplied by the client.

Method Detection Limit (MDL) per EPA Method 40CFR Part 136 Appendix B.
Reporting Limit (RL) based upon Lowest Standard Determined (LSD) in accordance with AIHA-ELLAP policies.
LSD=0.2 ppm MDL=0.006% by weight. RL=0.010% by weight (based upon 100 mg sampled)

Disclaimers / Qualifiers:

There may be some samples in this project that have a "NOTE:" associated with a sample result. We use added disclaimers or qualifiers to inform the client about something that requires further explanation. Here is a complete list with highlighted disclaimers pertinent to this project. For a full explanation of these and other disclaimers, please inquire at customerservice@iatl.com.



9000 Commerce Parkway Suite B
Mt. Laurel, New Jersey 08054
Telephone: 856-231-9449
Email: customerservice@iatl.com

CERTIFICATE OF ANALYSIS

Client: Amianthus Labs LLC
583 Grayton
Berea OH 44017

Report Date: 4/18/2023
Report No.: 681871 - Lead Paint
Project: MRC 2526 Central Ave
Project No.: 23-05-123

Client: AMI662

- * Insufficient sample provided to perform QC reanalysis (<100 mg)
- ** Not enough sample provided to analyze (<50 mg)
- *** Matrix / substrate interference possible.

< less than sign, signifies none-detected below the empirical value based upon sub-sampled mass. This is often below the Reporting Limit (see above).



ECS MIDWEST, LLC

Geotechnical • Construction Materials • Environmental • Facilities

"One Firm. One Mission."

March 22, 2023

Mr. Thomas Toth
M. Rivera Construction Co.
4301 Train Ave.
Cleveland, OH 44113

ECS Project No. 53:4211

RE: Cleveland Central Recreation Center Demo Debris Characterization Testing, 2526 Central Avenue, Cleveland, OH

Dear Mr. Toth,

On March 8, 2023, ECS Midwest, LLC (ECS) received in its laboratory from your company, one demolition debris sample that was obtained from the referenced project site by the client. M. Rivera Construction Co. requested that the demolition debris sample be tested for TCLP Metals parameters to provide profiling information for waste acceptance at a properly licensed disposal facility.

Sample Preparation and Lab Analysis

On March 15, 2023, ECS submitted the sample in clean laboratory jars under chain-of-custody for environmental laboratory analysis of TCLP Metals. The sample consisted mostly of red brick fragments with some wall plaster fragments.

The environmental analysis was completed by an Ohio EPA accredited analytical laboratory - Summit Environmental Technologies laboratory in Cuyahoga Falls, Ohio. The analysis was performed on a normal 5 to 7 business day turnaround time.

Results of Lab Analysis

Based on the laboratory results, the demolition debris samples' TCLP extract did not have laboratory detections of RCRA Metals constituents above their respective TCLP toxic characteristic regulatory levels. Copies of the laboratory report and chain of custody documents are included in Appendix I.

ECS Project #53: 4211 – Cleveland Central Recreation Center Demo Debris Waste Characterization Testing,
Cleveland, OH
March 2023

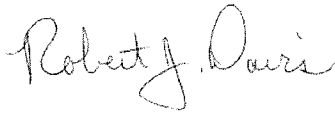
Conclusions

Based on the laboratory data, the demolition debris sample is not characteristically toxic for RCRA Metals by TCLP analysis.

If you have any questions, please do not hesitate to contact the undersigned at (216) 741-7007. Thank you for retaining ECS for this evaluation.

Respectfully Submitted,

ECS MIDWEST, LLC



Robert J. Davis, P.E., C.P.
Environmental Senior Project Engineer



Jason Warren, REM
Principal

Attachment I - Laboratory Analytical Report

<https://ecslimited365.sharepoint.com/sites/53MidwestEnvironmental/53 Data/Office 53 Environmental/Phase II/Phase II/Ohio/4211 Cleveland Central Rec Center TCLP Testing/53-4211 Central Rec Center Demo Debris Waste Character Testing.docx>

Attachment I
Laboratory Analytical Report



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>

March 21, 2023

Bob Davis
ECS Midwest LLC
1125 Valley Belt Road
Brooklyn, OH 44131
TEL: 216-741-7007
FAX:
RE: Central Rec Center

Order No.: 23031078

Dear Bob Davis:

Summit Environmental Technologies, Inc. received 1 sample(s) on 3/15/2023 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,

Jennifer Woolf
Project Manager
3310 Win St.
Cuyahoga Falls, Ohio 44223

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



SUMMIT
ENVIRONMENTAL TECHNOLOGIES, INC.
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>

Case Narrative

WO#: 23031078

Date: 3/21/2023

CLIENT: ECS Midwest LLC

Project: Central Rec Center

WorkOrder Narrative:

23031078: 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



Qualifiers and Acronyms

WO#: 23031078

Date: 3/21/2023

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

Qualifiers

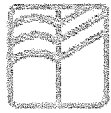
U	The compound was analyzed for but was not detected above the MDL.
J	The reported value is greater than the Method Detection Limit but less than the Reporting Limit.
H	The hold time for sample preparation and/or analysis was exceeded. Not Clean Water Act compliant.
D	The result is reported from a dilution.
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	The analyte was detected in the Method Blank at a concentration greater than the RL.
MB+	The analyte was detected in the Method Blank at a concentration greater than the MDL.
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.
W	Samples were received outside temperature limits (0° – 6° C). Not Clean Water Act compliant.
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

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>

Workorder Sample Summary

WO#: 23031078
21-Mar-23

CLIENT: ECS Midwest LLC
Project: Central Rec Center

Lab SampleID	Client Sample ID	Tag No	Date Collected	Date Received	Matrix
23031078-001	Debris		3/8/2023	3/15/2023 3:30:00 PM	Solid



SUMMIT
ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

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

DATES REPORT

WO#: 23031078
21-Mar-23

Client: ECS Midwest LLC
Project: Central Rec Center

Sample ID	Client Sample ID	Collection Date	Matrix	Test Name	Leachate Date	Prep Date	Analysis Date
23031078-001A	Debris	3/8/2023	Solid	TCLP Mercury Analysis (SW1311/7473/17/2023 4:37:00 PM	3/20/2023 2:00:00 PM	3/21/2023 9:50:00 AM	
				TCLP Metals Analysis (SW1311/6010/3/17/2023 4:37:00 PM	3/20/2023 10:40:00 AM	3/20/2023 6:42:00 PM	

Original



SUMMIT
ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

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

Analytical Report

(base report)

WO#: 23031078

Date Reported: 3/21/2023

CLIENT: ECS Midwest LLC

Tag Number:

Matrix: SOLID

Collection Date: 3/8/2023

Lab ID: 23031078-001A

Project: Central Rec Center

Client Sample ID Debris

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
TCLP METALS ANALYSIS (SW846 1311/3010/6010/7470)				SW7470A	SW7470A	Analyst: ICA
TCLP MERCURY ANALYSIS (SW1311/7470)						
TCLP Mercury	ND	0.00200		mg/L	1	3/21/2023 9:50:00 AM
TCLP METALS ANALYSIS (SW846 1311/3010/6010/7470)				SW6010	SW3010A	Analyst: RJE
TCLP METALS ANALYSIS (SW1311/6010C)						
TCLP Arsenic(As)	ND	0.100		mg/L	1	3/20/2023 6:42:00 PM
TCLP Barium(Ba)	ND	1.00		mg/L	1	3/20/2023 6:42:00 PM
TCLP Cadmium(Cd)	ND	0.100		mg/L	1	3/20/2023 6:42:00 PM
TCLP Chromium(Cr)	ND	0.200		mg/L	1	3/20/2023 6:42:00 PM
TCLP Lead(Pb)	ND	0.100		mg/L	1	3/20/2023 6:42:00 PM
TCLP Selenium(Se)	ND	0.100		mg/L	1	3/20/2023 6:42:00 PM
TCLP Silver(Ag)	ND	0.100		mg/L	1	3/20/2023 6:42:00 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	OG1	
	P	Second column confirmation exceeds	PL	Permit Limit
	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

Original



SUMMIT
ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

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

QC SUMMARY REPORT

WO#: 23031078
21-Mar-23

Client: ECS Midwest LLC
Project: Central Rec Center

BatchID: 63644

Sample ID: MB-63644		SampType: MBLK		TestCode: Mtl-TCLP-7(6)		Units: mg/L		Prep Date: 3/20/2023		RunNo: 160144	
Client ID: PBS		Batch ID: 63644		TestNo: SW6010		SW3010A		Analysis Date: 3/20/2023		SeqNo: 4256962	
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TCLP Arsenic(As)	ND	0.100									
TCLP Barium(Ba)	ND	1.00									
TCLP Cadmium(Cd)	ND	0.100									
TCLP Chromium(Cr)	ND	0.200									
TCLP Lead(Pb)	ND	0.100									
TCLP Selenium(Se)	ND	0.100									
TCLP Silver(Ag)	ND	0.100									

Sample ID: LCS-63644	SampType: LCS	TestCode: Mtl-TCLP-7(6)	Units: mg/L	Prep Date: 3/20/2023	RunNo: 160144						
Client ID: LCSS	Batch ID: 63644	TestNo: SW6010	SW3010A	Analysis Date: 3/20/2023	SeqNo: 4256963						
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual
TCLP Arsenic(As)	2.04	0.100	2.000	0	102	80	120				
TCLP Barium(Ba)	1.97	1.00	2.000	0	98.5	80	120				
TCLP Cadmium(Cd)	1.96	0.100	2.000	0	98.0	80	120				
TCLP Chromium(Cr)	2.06	0.200	2.000	0	103	80	120				
TCLP Lead(Pb)	1.99	0.100	2.000	0	99.7	80	120				
TCLP Selenium(Se)	1.87	0.100	2.000	0	93.7	80	120				
TCLP Silver(Ag)	2.03	0.100	2.000	0	102	80	120				

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	OG1		P	Second column confirmation exceeds
	PL	Permit Limit	R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
						Original

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>

QC SUMMARY REPORT

WO#: 23031078
21-Mar-23

Client: ECS Midwest LLC

Project: Central Rec Center

BatchID: 63661

Sample ID: MB-63661	SampType: MBLK	TestCode: HG_NPW(747	Units: mg/L	Prep Date: 3/20/2023	RunNo: 160223
Client ID: PBW	Batch ID: 63661	TestNo: SW7470A	SW7470A	Analysis Date: 3/21/2023	SeqNo: 4257821
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
TCLP Mercury	ND	0.000200			

Sample ID: LCS-63661	SampType: LCS	TestCode: HG_NPW(747	Units: mg/L	Prep Date: 3/20/2023	RunNo: 160223
Client ID: LCSW	Batch ID: 63661	TestNo: SW7470A	SW7470A	Analysis Date: 3/21/2023	SeqNo: 4257822
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
TCLP Mercury	0.00376	0.000200	0.00400	0	94.0 80 120

Sample ID: 23031324-002CMS	SampType: MS	TestCode: HG_NPW(747	Units: mg/L	Prep Date: 3/20/2023	RunNo: 160223
Client ID: BatchQC	Batch ID: 63661	TestNo: SW7470A	SW7470A	Analysis Date: 3/21/2023	SeqNo: 4257825
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
TCLP Mercury	0.00390	0.000200	0.00400	0	97.5 75 125

Sample ID: 23031324-002CMSD	SampType: MSD	TestCode: HG_NPW(747	Units: mg/L	Prep Date: 3/20/2023	RunNo: 160223
Client ID: BatchQC	Batch ID: 63661	TestNo: SW7470A	SW7470A	Analysis Date: 3/21/2023	SeqNo: 4257826
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC LowLimit HighLimit RPD Ref Val %RPD RPDLimit Qual
TCLP Mercury	0.00385	0.000200	0.00400	0	96.2 75 125 0.00390 1.29 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



SUMMIT
ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

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

QC SUMMARY REPORT

WO#: 23031078
21-Mar-23

Client: ECS Midwest LLC
Project: Central Rec Center

BatchID: 63661

Sample ID: 23031324-002CMSD		SampType: MSD	TestCode: HG_NPW(747	Units: mg/L	Prep Date: 3/20/2023	RunNo: 160223					
Client ID: BatchQC		Batch ID: 63661	TestNo: SW7470A	SW7470A	Analysis Date: 3/21/2023	SeqNo: 4257826					
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	RPD Ref Val	%RPD	RPDLimit	Qual

Qualifiers: J ND PL	B	Analyte detected in the associated Method Blank	E	Value above quantitation range	H	Holding times for preparation or analy	Original
	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	



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

Analysis Request / Chain of Custody

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

Client Name ECS Midwest LLC Client Street Address 1125 Valley Beth Rd. City Brooklyn Hts. OH 44134 Client Phone 216-337-4962 Contact Person Bob Davis Client Email Address kdavis@ecslimited.com Sampled by (Print Name and Provide Signature) Sign: <i>[Signature]</i> For DW only, results to be reported to state by lab? If yes, lab fee may apply: ☐ Y ☐ N		Project Identification Project Street Address 2526 Central Ave. City Cleveland OH 44115 Report to Bob Davis PO # #4211 Quote Number Facility ID Reporting/Accreditation Requirements: ☐ Ohio VAP ☐ Ohio EPA Pb, Cu ☐ Including Water Compliance ☐ Other Compliance (List State/Program):		Refer to Terms and Conditions at www.settek.com		SET WO NO.: 23031078	For Summit Environmental Technologies, Inc. use only
Analytical Parameters and Methods Requested TELP Metals							
#	Sample Point ID	Sample Identification	Date Collected	Time Collected	Composite Sample	Number of Containers per Sample	For DW Only: Special Compliance or Routine (S/R)
1	-	Debris	3-8-23		X	2	X
Retinquished by: Bob Kinsky Date: 3-8-23 Time: 4:30 PM Received by: Robert Davis Date: 3/15/23 Time: 2:45							
Received by Summit by: [Signature] Date: 3/15/23 Time: 3:26 Carrier: client							
Rush Requested: ☐ Yes ☐ No Day(s) Must be approved by Lab Manager: 3.740.1=							
Sufficient volume provided to run QC? ☒ YES ☐ NO Cooler? ☒ YES ☐ NO							
Received Temp.: 3.8 °C Other Containing: ☒ YES ☐ NO MELTED							



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: **SOL-OH-44313**

Work Order Number: **23031078**

RcptNo: **1**

Logged by: **Christina N. Gemma** 3/15/2023 3:30:00 PM

Completed By: **Christina N. Gemma** 3/15/2023 5:35:21 PM

Reviewed By: **Jennifer Woolf** 3/16/2023 1:16:55 PM

C. Gemma
C. Gemma
Jennifer Woolf

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°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)

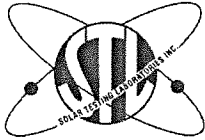
17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☒

Person Notified:		Date:	
By Whom:		Via:	☐ eMail ☐ Phone ☐ Fax ☐ In Person
Regarding:			
Client Instructions:			

18. Additional remarks:

Cooler Information

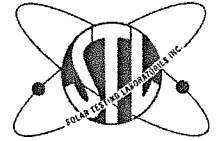
Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	3.8	Good	Not Present			



SOLAR TESTING LABORATORIES, INC.

Geotechnical and Environmental Engineering, Materials Testing, and Construction Inspection

1125 Valley Belt Road, Brooklyn Heights, Ohio 44131
Phone (216) 741-7007 • Fax (216) 741-7011
www.stloho.com



Asbestos and Lead Paint Survey & Risk Assessment Report

Cleveland Central Recreation Center Building

2526 Central Avenue

Cleveland, Ohio

Prepared For:

The City of Cleveland

and

Mr. Chuck Collings

Richard L. Bowen & Associates

13000 Shaker Blvd.

Cleveland, OH 44120

STL Project No. S018623x21

January 30, 2019

Certified Small Business Enterprise

Central Recreation Center Expansion -ADDENDUM #2

Table of Contents

1.0 Introduction.....	Page 1
2.0 Asbestos Containing Material Survey	Page 2
3.0 Lead Paint Survey	Page 3
4.0 Lead Paint Hazard Risk Assessment.....	Page 3
5.0 Conclusions and Recommendations.....	Page 4

Appendices

- A. Suspect Asbestos Sample Location Maps
Lead Paint Sampling Location Maps
- B. Sample Data Summary Tables
 - Table 1 – Asbestos Data Summary
 - Table 2 – Lead Paint Sample Data Summary
- C. Lead Paint Hazard Risk Assessment and Quantities Table
- D. Asbestos and Lead Paint Sample Laboratory Analytical Reports

1.0 Introduction

On January 10, 2019 and January 25, 2019, Solar Testing Laboratories, Inc. (STL) completed survey work and sampling for its Asbestos and Lead Paint Survey and Lead Paint Risk Assessment of the Cleveland Central Recreation Center located at 2526 Central Avenue in Cleveland, Ohio. The survey work covered the entire interior of the existing referenced building. The survey included sampling suspect asbestos containing building materials and suspect lead paint, submitting these samples for laboratory analysis, recording paint conditions, data evaluation, and performing a lead paint risk assessment of confirmed lead paints within the subject building that met the hazard criteria for lead-based paint.

The asbestos survey was conducted pursuant to USEPA's National Emission Standards for Hazardous Air Pollutants (NESHAP): Asbestos (40 CFR Part 61, Subpart; Revised November 20, 1990) and current Ohio EPA's Asbestos Rules. These rules state that if a facility is demolished and/or renovated, all regulated asbestos-containing materials (RACM) including friable asbestos-containing material, Category II non-friable ACM that will become friable during disturbance activities, and Category I non-friable ACM that will become friable by sanding, grinding, sawing or abrading, must be removed prior to demolition and/or renovation in accordance with NESHAP and Ohio EPA's asbestos work rules.

The lead paint survey followed EPA's definition of lead-based paint as paint with lead concentrations equal to or exceeding 1.0 mg/cm^2 or 0.5% by weight. Lead-based paint is considered to be a hazard to building occupants and construction workers if this paint is disturbed or is in poor condition and peeling. The action level of 0.5% by weight was used in this survey as the criteria for lead based paint presenting a hazard.

2.0 Asbestos Containing Material Survey

The asbestos survey was completed on the interior of the subject building on January 10, 2019 by identifying suspect asbestos-containing materials within the structure, and sampling and quantifying these materials. STL limited the survey to only those materials that are currently accessible. If during renovation activities suspect asbestos containing materials are uncovered behind walls or above ceilings it is recommended that these materials be sampled and quantified prior to disturbance. For each homogeneous material group, a minimum of three samples were typically collected for surfacing material, and a minimum of two samples were collected for miscellaneous materials. These samples were submitted to the laboratory for polarized light microscopy (PLM) analysis to determine asbestos content. PLM analysis was stopped at the first positive detection of asbestos (containing greater than 1% asbestos by PLM) for each homogeneous material sampled and by layer of each of the materials. In addition, Point Count Analysis was conducted on some of the samples that had a PLM bulk result of <1% asbestos. See Table 1 in Appendix B for the list of suspect asbestos materials sampled. See Appendix A for the suspect asbestos sample location maps for the subject building.

Solar Testing Laboratories, Inc. (STL) collected a total of fifty-eight (58) samples from eighteen (18) suspect asbestos containing homogeneous materials from this building. None of these materials were confirmed as asbestos containing materials. See Appendix B, Table 1 – Asbestos Data Summary. Also, see Appendix D, Asbestos Sample Laboratory Analytical Report.

3.0 Lead Paint Survey

On January 10, 2019, STL identified and obtained paint chip samples from all the suspect lead-based paints that were accessible on interior surfaces within the subject building. These samples were placed in sealed ziploc bags and identified. See Table 2 in Appendix B for the list of the paint types, their substrate materials, and their location descriptions sampled. See Appendix A for the lead paint sampling location maps. All these paint chip samples were submitted to the laboratory for Lead in Paint Chip analysis (by EPA Method SW846-7420).

Upon receipt of the lead laboratory data, results were compared to EPA's lead paint hazard criteria of 0.5% lead concentration by weight. Seventeen (17) of thirty-eight (38) paint types sampled within the building were confirmed to have a lead concentration of greater than 0.5% by weight. See Appendix B, Table 2 – Lead Paint Sample Data Summary for the list of lead paints that were confirmed as hazardous within the building. Also, see Appendix D, Lead Paint Sample Laboratory Analytical Report.

4.0 Lead Paint Hazard Risk Assessment

On January 25, 2019, STL completed a lead paint hazard risk assessment and quantified all confirmed lead paints existing on accessible interior surfaces within the subject building. See Appendix C, Lead Paint Hazard Risk Assessment and Quantities Table for the list of these confirmed lead paints existing within the subject building that were assessed.

For the risk assessment, each confirmed lead paint type was evaluated for human exposure based on potential for contact either by falling paint flakes from peeling or by touch. A high contact potential represented potential for touching the paint. A medium contact potential represented contact by falling paint flakes, for example, from ceilings. A low contact potential represented a low probability of touching the paint, because the paint surface was inaccessible or was enclosed by another building structural component. High risk potential was assigned to the lead paints in the building that are exposed, in poor condition, and have a potential for children to pick up and ingest peeling paint particles. Medium risk potential was assigned to lead paints that were encapsulated under another building material like a skim coat plaster layer. Low risk potential was assigned to lead paints in good condition, or they were inaccessible or enclosed by another building structural component.

5.0 Conclusions and Recommendations

Based on the asbestos containing material survey, there were no asbestos containing building materials confirmed existing within the accessible interior part of the subject building. However, if during the course of future renovation, inaccessible parts of the building are accessed and further suspect asbestos materials are revealed, it is recommended that STL's asbestos evaluation specialist obtain samples of these materials for asbestos PLM analysis to confirm or negate the asbestos content of these materials.

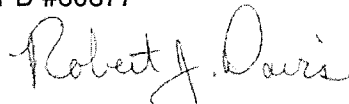
Based on the lead-based paint survey, a number of lead-based paints were confirmed to exist on accessible interior surfaces within the subject building. See Table 2 in Appendix B. At a minimum, if no renovation is planned, a lead abatement project is recommended where lead-based paints within the subject building that are in poor (peeling) condition and have a high contact – high risk potential shall be removed by a certified Lead Abatement Contractor in accordance with local, state, and federal regulations. A lead abatement plan shall be prepared. If these lead paints are disturbed or removed in a proposed renovation, then Lead safe renovation shall be performed by a certified Lead Safe Renovator contractor. Also, OSHA lead in construction rules (OSHA rule 29 CFR 1926.62) will have to be followed in order to protect construction workers. Under these rules, lead air monitoring for determination of employee exposure is required based on work practice disturbing the lead-based paints. Personal protective equipment (for example, respiratory protection) may be needed. Also, medical screening of construction workers is required to ensure that the workers lead blood levels do not exceed the requirement under this OSHA rule.

It was a pleasure working with you on this project. If you have any questions, please feel free to contact the undersigned.

SOLAR TESTING LABORATORIES, INC.



Brian Bostaph
Environmental Geologist, AHES #34832,
AHPD #60877



Robert J. Davis, P.E., C.P.
Director - Environmental Engineering, AHES #33192,
AHAS #26976

RJD
Appendices

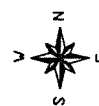
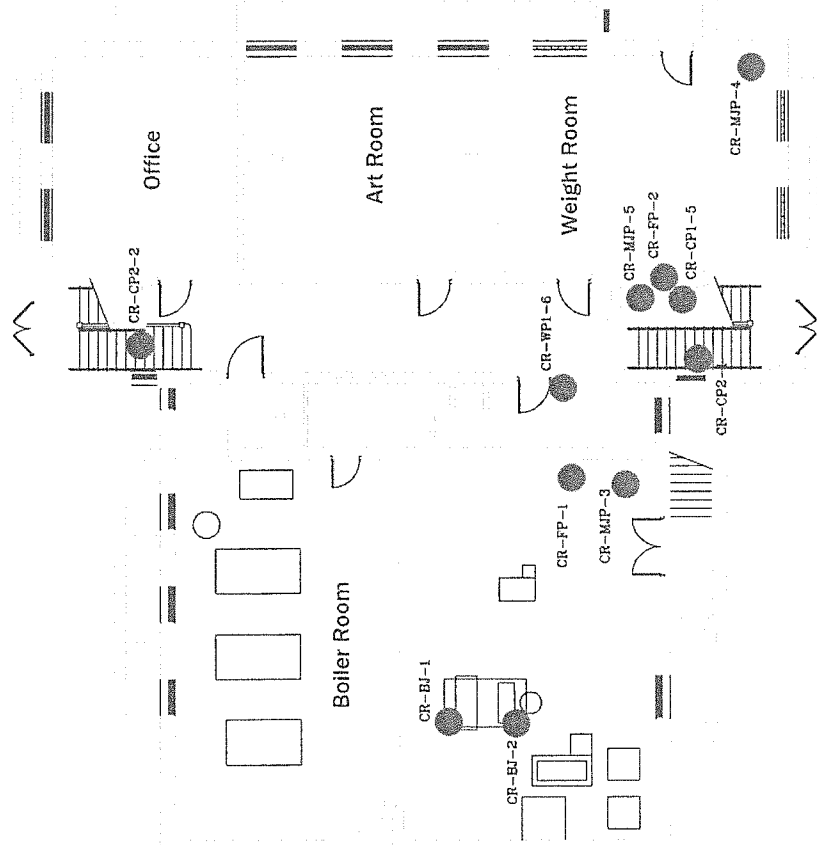
APPENDIX A

Suspect Asbestos Sample Location Maps

Lead Paint Sampling Location Maps

Legend

● Bulk Sample Location



Drawing Not to Scale

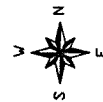
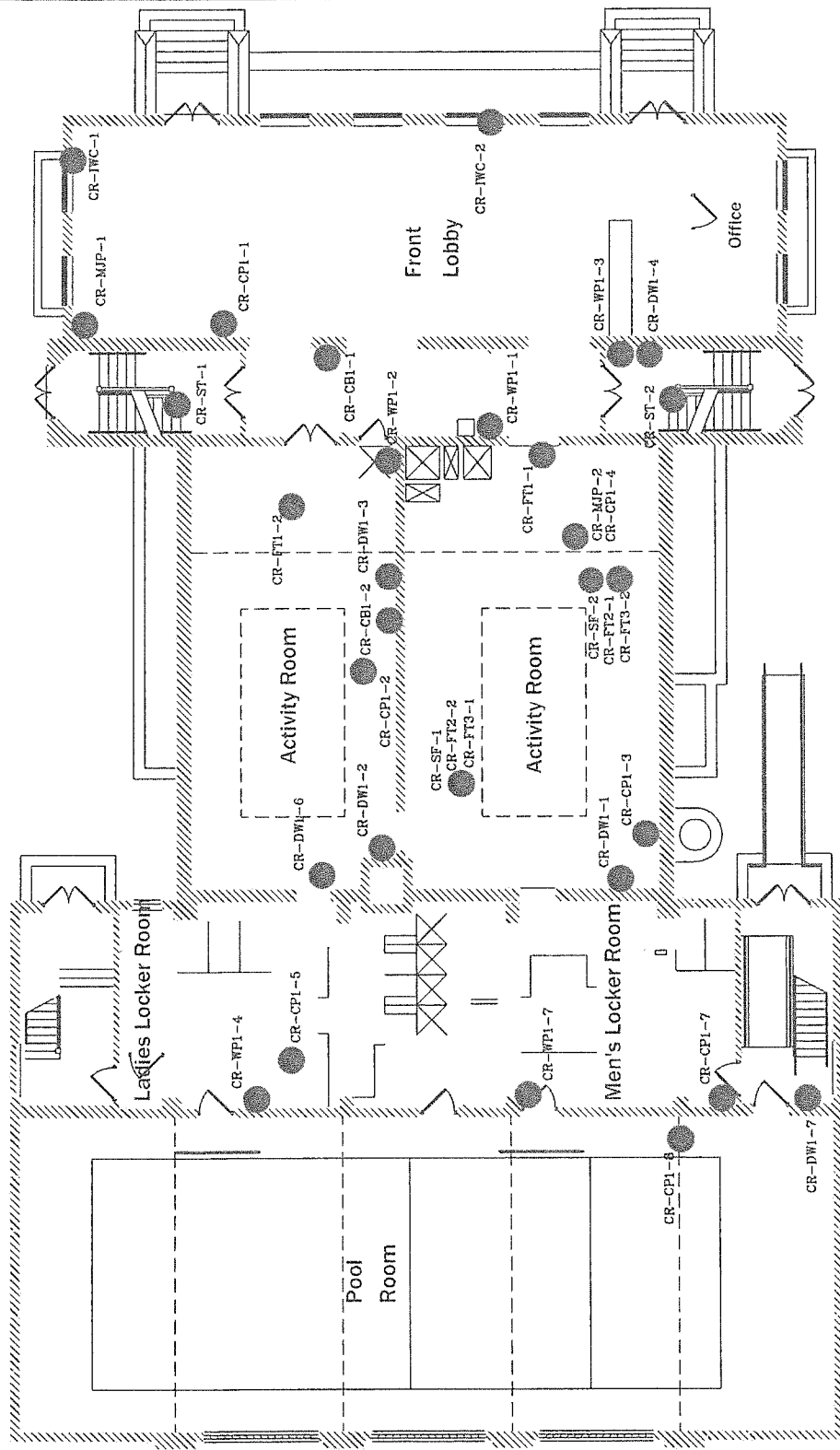
Cleveland Central Recreation Center
Basement of Building
Asbestos Bulk Sampling
Location Map
2528 Central Avenue
Cleveland, Ohio

Prepared For:
City of Cleveland

Prepared By:
SOLAR TESTING
LABORATORIES, INC.

1/24/2019

Bulk Sample Location



Drawing Not to Scale

**Cleveland Central Recreation Center
First Floor of Building
Asbestos Bulk Sampling
Location Map
2526 Central Avenue**

Prepared For:

City of Cleveland

Prepared By:

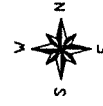
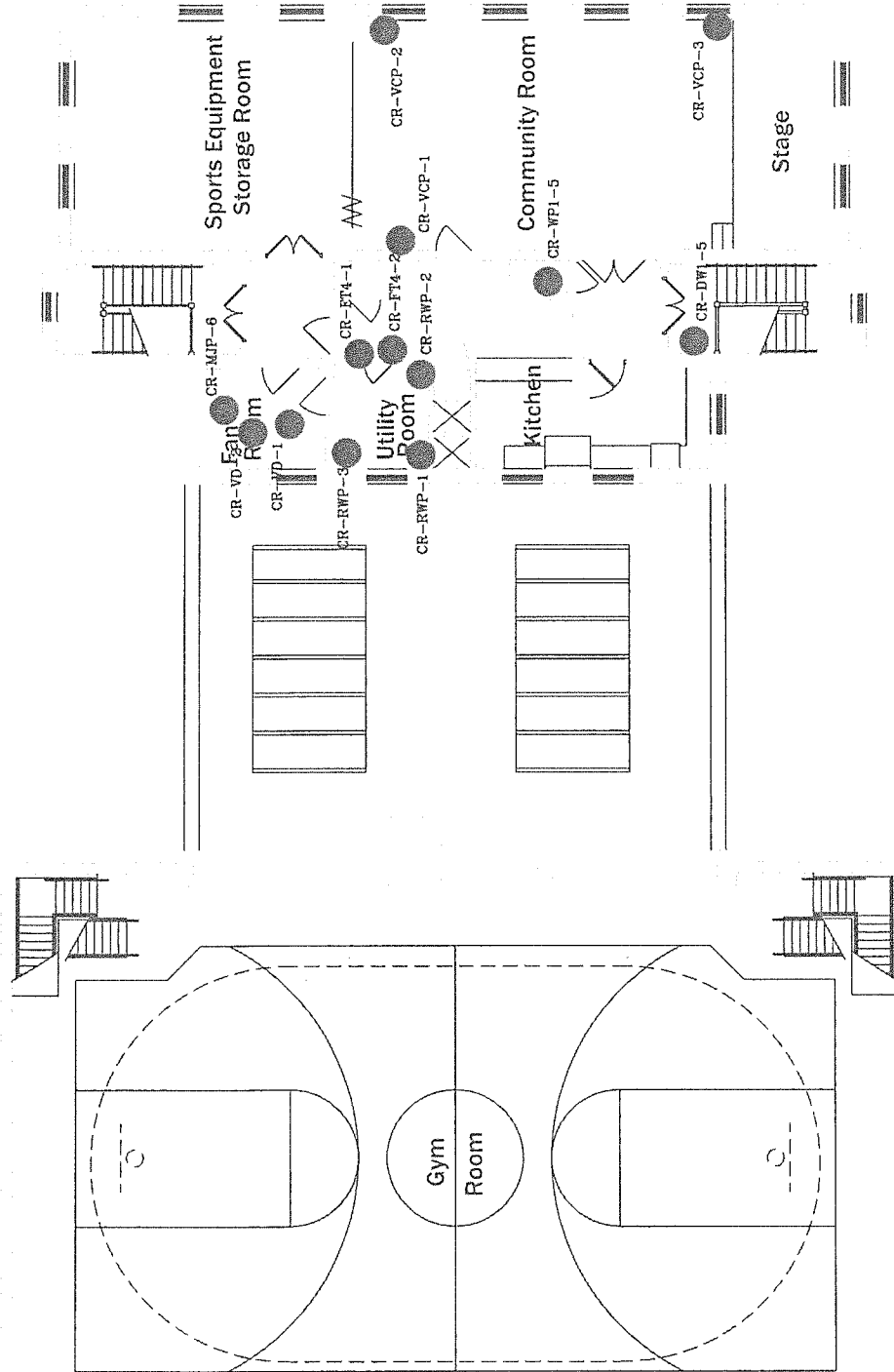


**SOLAR TESTING
LABORATORIES, INC.**

1/24/2019

Legend

● Bulk Sample Location



Drawing Not to Scale

Cleveland Central Recreation Center
Second Floor of Building
Asbestos Bulk Sampling
Location Map
2528 Central Avenue
Cleveland, Ohio

Prepared For:

City of Cleveland

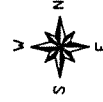
Prepared By:



1/24/2019

Legend

● Bulk Sample Location



Drawing Not to Scale

Cleveland Central Recreation Center
Third Floor of Building
Asbestos Bulk Sampling
Location Map
2525 Central Avenue
Cleveland, Ohio

Prepared For:

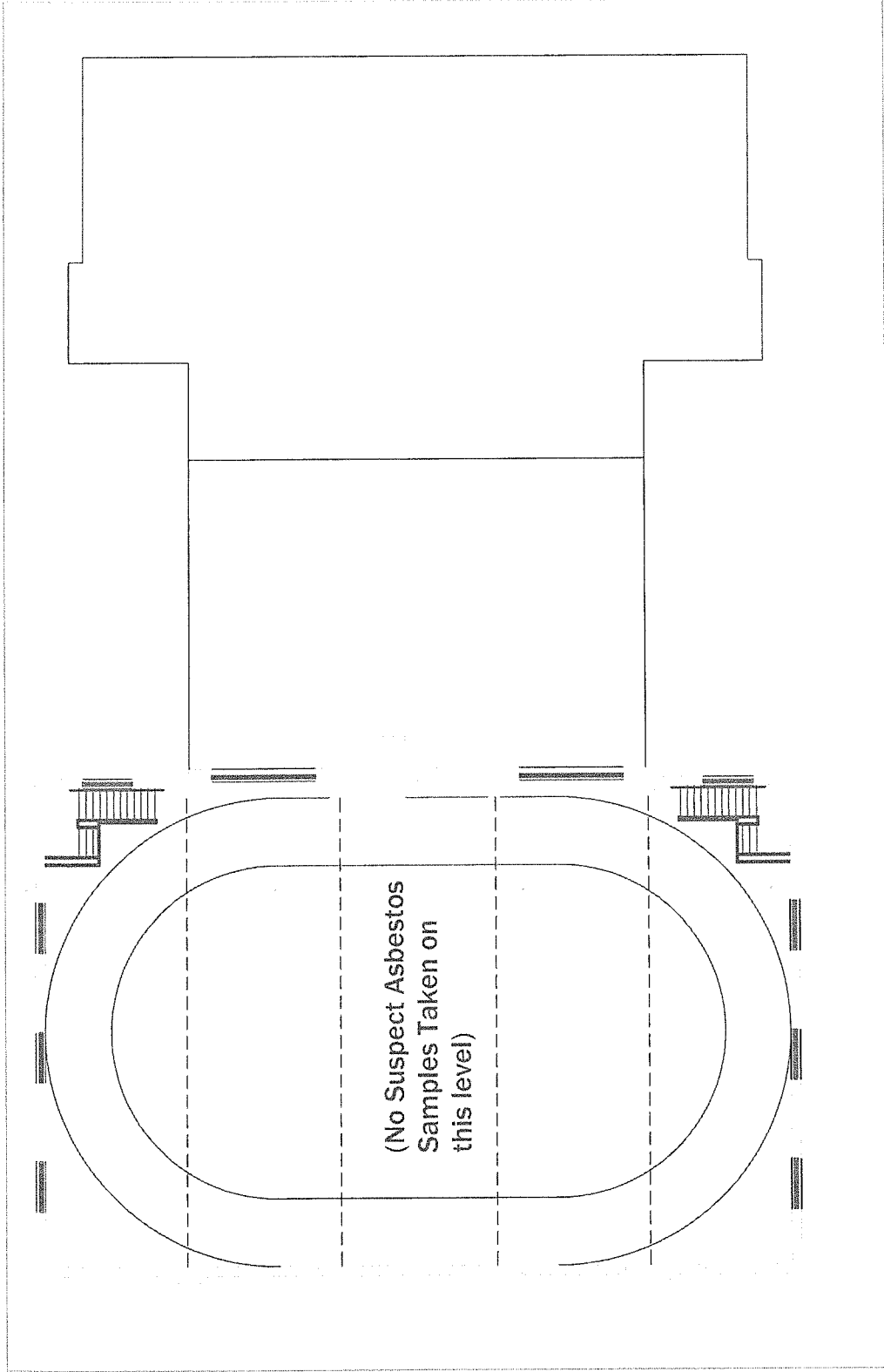
City of Cleveland

Prepared By:



SOLAR TESTING
LABORATORIES, INC.

1/24/2019

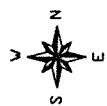
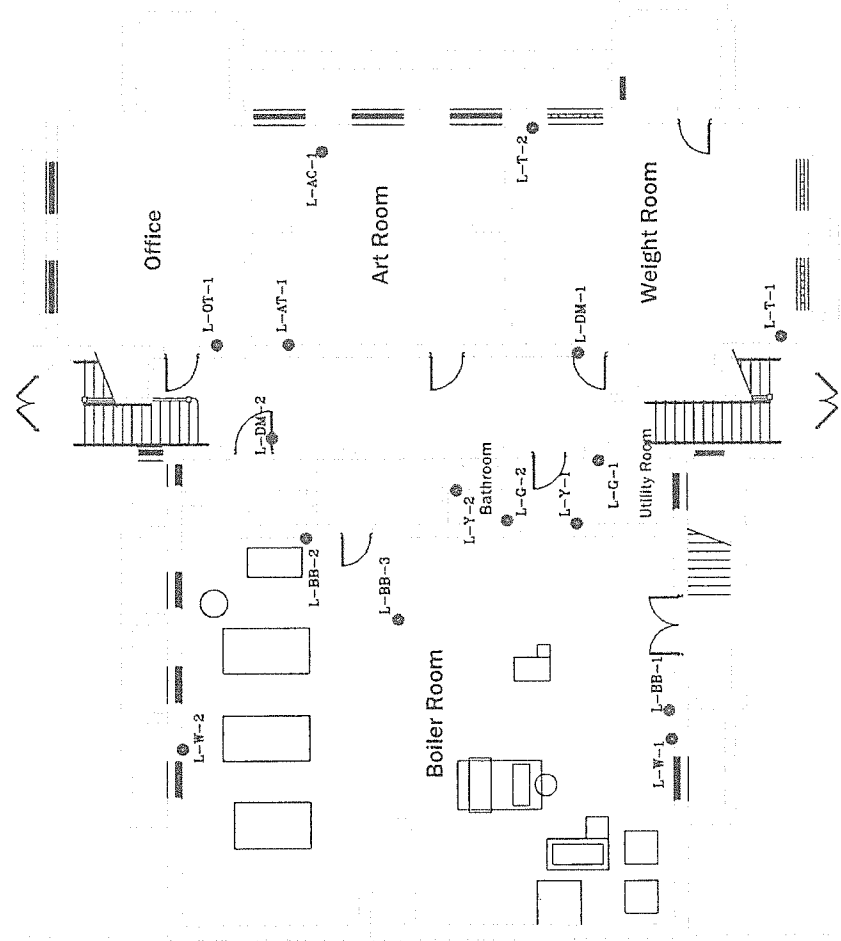


Legend

L-AB-1

Paint Chip Sample

Location & Identification



Drawing Not to Scale

Cleveland Central Recreation Center
Basement of Building
Lead Paint Sampling
Location Map
2528 Central Avenue
Cleveland, Ohio

Prepared For:

City of Cleveland

Prepared By:



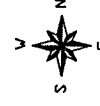
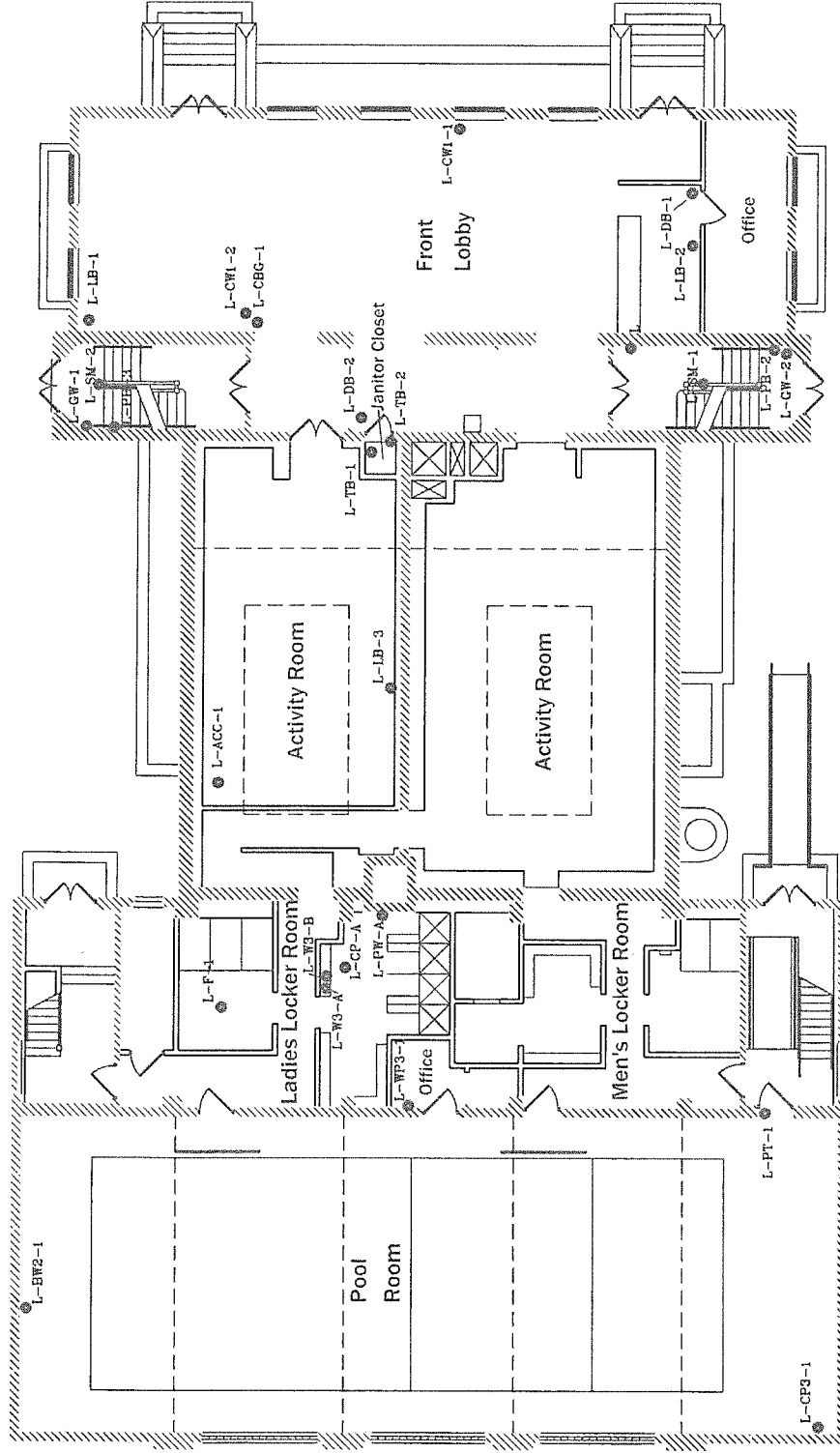
**SOLAR TESTING
LABORATORIES, INC.**

1/24/2019

Legend

● L-AB-1

Paint Chip Sample
Location & Identification



Drawing Not to Scale

Cleveland Central Recreation Center
First Floor of Building
Lead Paint Sampling
Location Map
2326 Central Avenue
Cleveland, Ohio

Prepared For:
City of Cleveland

Prepared By:



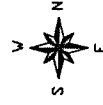
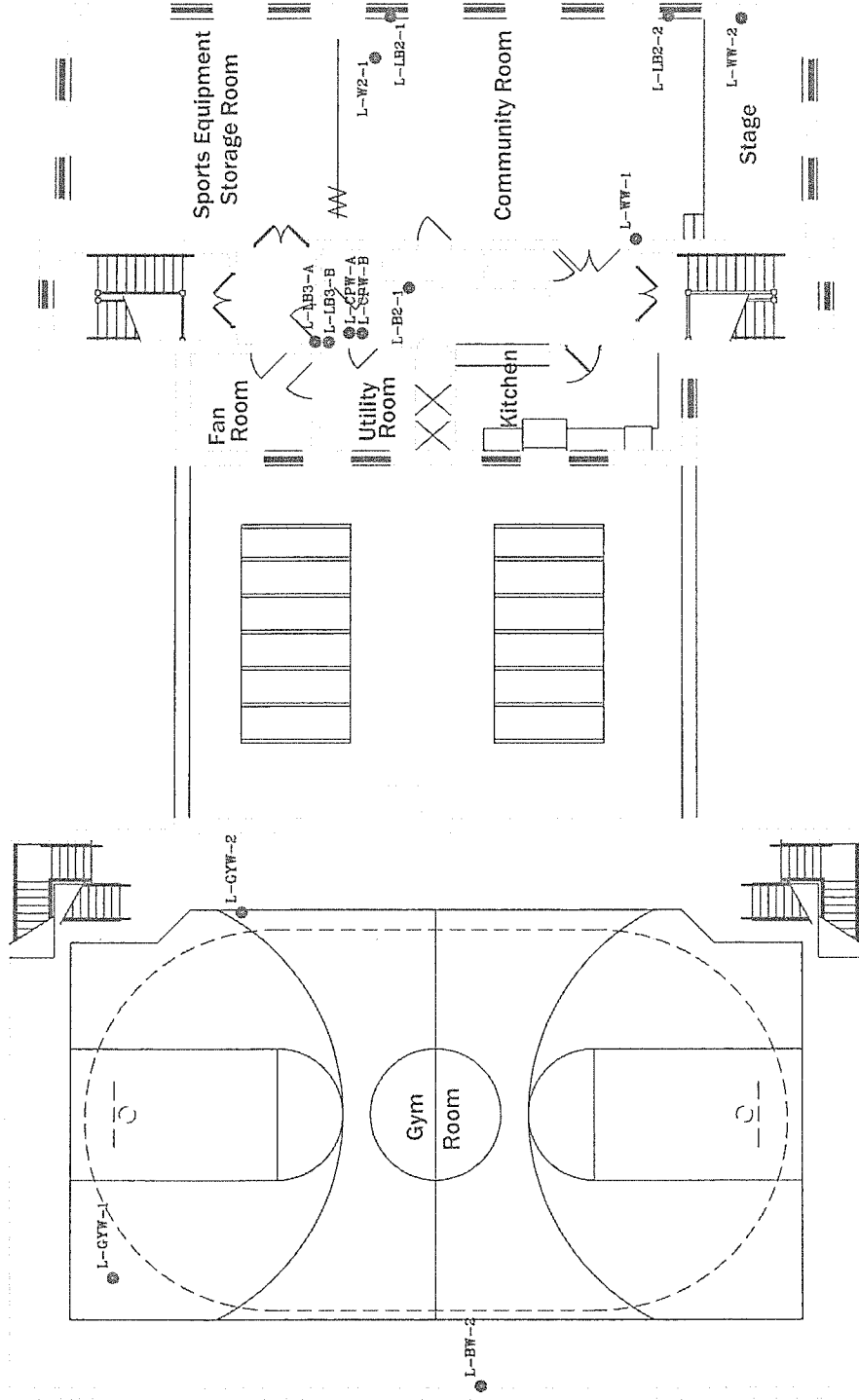
12/4/2019

Legend

L-AB-1

Paint Chip Sample

Location & Identification



Drawing Not to Scale

Cleveland Central Recreation Center
Second Floor of Building
Lead Paint Sampling
Location Map
256 Central Avenue
Cleveland, Ohio

Prepared For:

City of Cleveland

Prepared By:



SOLAR TESTING
LABORATORIES, INC.

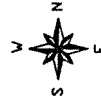
1/24/2019

Legend

L-AB-1

● Paint Chip Sample

○ Location & Identification



Drawing Not to Scale

Cleveland Central Recreation Center
Third Floor of Building
Lead Paint Sampling
Location Map
2526 Central Avenue
Cleveland, Ohio

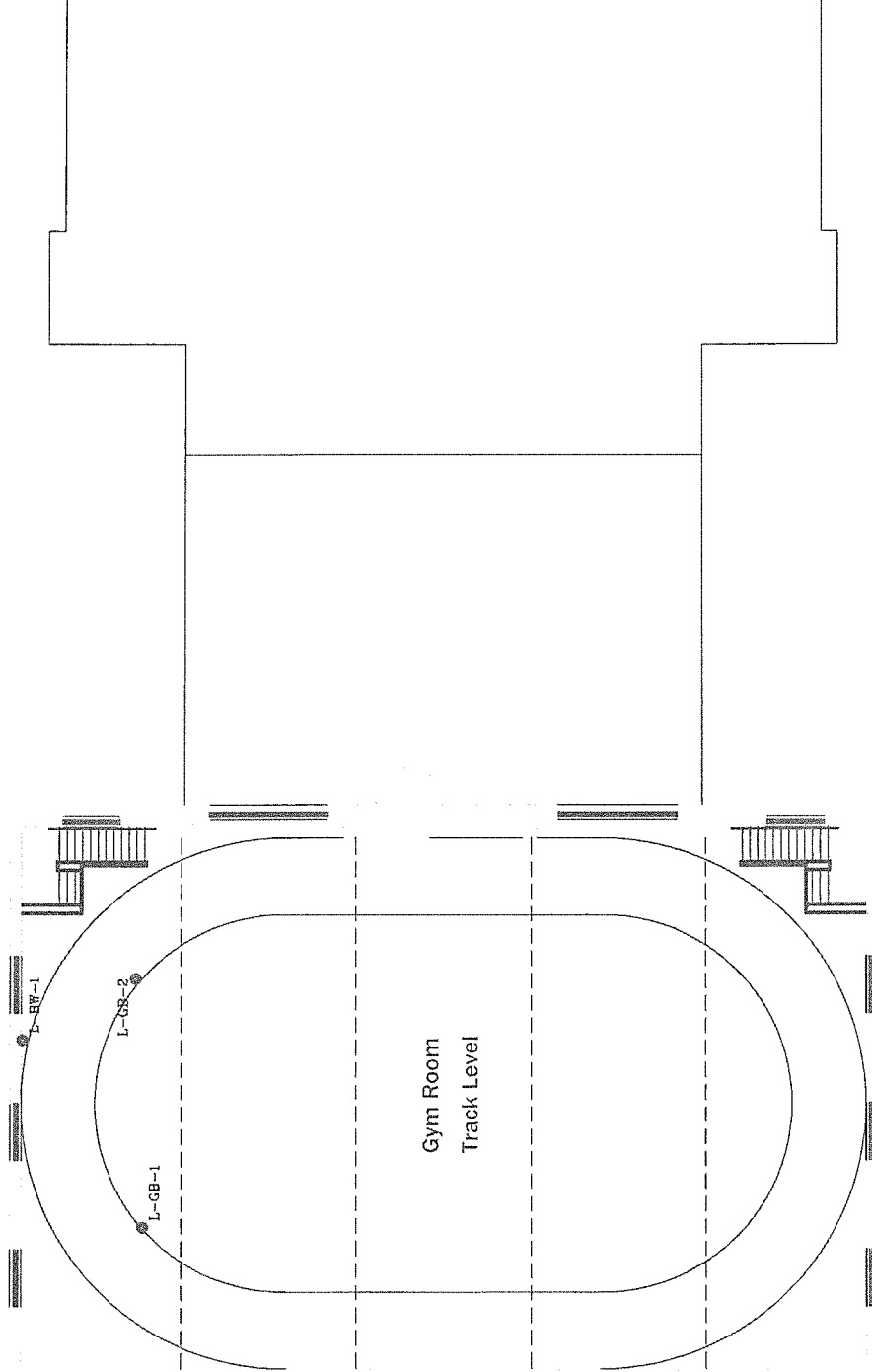
Prepared For:
City of Cleveland

Prepared By:



SOLAR TESTING
LABORATORIES, INC.

1/24/2015



APPENDIX B

Sample Data Summary Tables

Table 1 – Asbestos Data Summary

Table 2 – Lead Paint Sample Data Summary

TABLE 1

CLEVELAND CENTRAL REC CENTER - CLEVELAND, OH
ASBESTOS DATA SUMMARY

Project No. S018623x21

Homog. Mat'l #	Homogeneous Material Type	Sample ID #	Location	P.L.M. Asbestos Content, %	Point Count	Asbestos Category Classification	Friability	Quantity of Material (approximate)	Qty. Unit
1	Hardwall Plaster					Non Asbestos	NF	-----	sf
		CR-WP1-1	First Floor Lobby Hallway	0					
		CR-WP1-2-Finish	First Floor Lobby Closet	0					
		CR-WP1-2-Base	First Floor Lobby Closet	0					
		CR-WP1-3-Finish	East Stairwell	0					
		CR-WP1-3-Base	East Stairwell	0					
		CR-WP1-4-Finish	Girls Locker Room	0					
		CR-WP1-4-Base	Girls Locker Room	0					
		CR-WP1-5-Finish	2nd Floor Closet	0					
		CR-WP1-5-Base	2nd Floor Closet	0					
		CR-WP1-6-Finish	Boiler Room Entryway	0					
		CR-WP1-6-Base	Boiler Room Entryway	0					
		CR-WP1-7	Pool Office	0					
2	Textured Ceiling Plaster					Non Asbestos	NF	-----	sf
		CR-CP1-1-Texture	Front Lobby	0					
		CR-CP1-1-Base Coat	Front Lobby	0					
		CR-CP1-2-Texture	Activity & Dining Room	0					
		CR-CP1-2-Base Coat	Activity & Dining Room	0					
		CR-CP1-3-Texture	Game Room	0					
		CR-CP1-3-Base Coat	Game Room	0					
		CR-CP1-4-Texture	Game Room	0					
		CR-CP1-4-Base Coat	Game Room	0					
		CR-CP1-5-Finish	Basement Weight Room	0					
		CR-CP1-5-Base Coat	Basement Weight Room	0					
		CR-CP1-6-Texture	Girls Locker Room	0					
		CR-CP1-6-Base Coat	Girls Locker Room	0					
		CR-CP1-7-Texture	Hallway	0					
		CR-CP1-7-Finish	Hallway	0					
		CR-CP1-7-Base Coat	Hallway	0					
		CR-CP1-8-Texture	Pool Area	0					
		CR-CP1-8-Base Coat	Pool Area	0					
3	Floor tile & Mastic - Dark blue w/ Gray-tan mastic					Non Asbestos	NF	-----	sf
		CR-FT1-1-Floor Tile	Game Room	0					
		CR-FT1-1-Mastic	Game Room	0					
		CR-FT1-2-Floor Tile	Front Lobby	0					
		CR-FT1-2-Mastic	Front Lobby	0					
4	Stair Treads					Non Asbestos	NF	-----	each
		CR-ST-1	West Stairwell	0					
		CR-ST-2-Stair Tread	East Stairwell	0					
		CR-ST-2-Mastic	East Stairwell	0					
5	Mud Joint Packing					Non Asbestos	NF	-----	each
		CR-MJP-1-Mud	Front Lobby	0					
		CR-MJP-1-Wrap	Front Lobby	0					
		CR-MJP-2-Mud	Game Room	0					

TSI: Thermal System Insulation

RACM: Regulated Asbestos Material

Cat. I: Category I asbestos containing material

Cat. II: Category II asbestos containing material

na: not analyzed

lf: linear ft.

sf: square ft.

F: friable / NF: non-friable

TABLE 1

CLEVELAND CENTRAL REC CENTER - CLEVELAND, OH
ASBESTOS DATA SUMMARY

Project No. S018623x21

Homog. Mat'l #	Homogeneous Material Type	Sample ID #	Location	P.L.M. Asbestos Content, %	Point Count	Asbestos Category Classification	Friability	Quantity of Material (approximate)	Qty. Unit
6	Floor Tile- Light Blue tile w/ yellow mastic	CR-MJP-2-Wrap	Game Room	0					
		CR-MJP-3-Mud	Weight Room	0					
		CR-MJP-3-Wrap	Weight Room	0					
		CR-MJP-4-Mud	Weight Room	0					
		CR-MJP-4-Wrap	Weight Room	0					
		CR-MJP-5-Mud	Utility Room	0					
		CR-MJP-5-Wrap	Utility Room	0					
		CR-MJP-6-Mud	2nd Floor Air Handling Room	0					
		CR-MJP-6-Wrap	2nd Floor Air Handling Room	0					
						Non-Asbestos	NF	-----	sf
7	Floor Tile- Bright Blue floor tile w/ yellow mastic	CR-FT2-1-Floor Tile	Game Room	0					
		CR-FT2-1-Leveler	Game Room	0					
		CR-FT2-2-Floor Tile	Game Room	0					
		CR-FT2-2-Mastic	Game Room	0					
		CR-FT2-2-Leveler	Game Room	0					
8	Drywall System	CR-FT3-1-Floor Tile	Game Room	0					
		CR-FT3-1-Mastic	Game Room	0					
		CR-FT3-2-Floor Tile	Game Room	0					
		CR-FT3-2-Mastic	Game Room	0					
						Non-Asbestos	NF	-----	sf
		CR-DW1-1-Drywall	Game Room	0					
		CR-DW1-1-Joint Compound	Game Room	0					
		CR-DW1-2-Drywall	Hallway to Ladies Locker Room	0					
		CR-DW2-2-Joint Compound	Hallway to Ladies Locker Room	0					
		CR-DW1-3-Drywall	Activity & Dining Room	0					
9	Subfloor Plaster	CR-DW1-3-Joint Compound	Activity & Dining Room	0					
		CR-DW1-4-Drywall	Activity & Dining Room	0					
		CR-DW1-4-Joint Compound	Activity & Dining Room	0					
		CR-DW1-5-Drywall	East Stairwell	0					
		CR-DW1-5-Joint Compound	East Stairwell	0					
		CR-DW1-6-Drywall	Hallway to Ladies Locker Room	0					
		CR-DW1-6-Joint Compound	Hallway to Ladies Locker Room	0					
		CR-DW1-7-Drywall	East Stairwell near Men's Locker Room	0					
		CR-DW1-7-Joint Compound	East Stairwell near Men's Locker Room	0					
						Non-Asbestos	NF	-----	sf
9	Subfloor Plaster	CR-SF-1-Plaster	Game Room	0					
		CR-SF-1-Leveler	Game Room	0					
		CR-SF-2	Game Room	0					

TSI: Thermal System Insulation
 RACM: Regulated Asbestos Material
 Cat. I: Category I asbestos containing material
 Cat. II: Category II asbestos containing material

na: not analyzed
 lf: linear ft.
 sf: square ft.
 F: friable / NF: non-friable

TABLE 1

CLEVELAND CENTRAL REC CENTER - CLEVELAND, OH
ASBESTOS DATA SUMMARY

Project No. S018623x21

Homog. Mat'l #	Homogeneous Material Type	Sample ID #	Location	P.L.M. Asbestos Content, %	Point Count	Asbestos Category Classification	Friability	Quantity of Material (approximate)	Qty. Unit
10	Cove Base Material	CR-CB1-1-Cove CR-CB1-1-Mastic CR-CB1-2-Cove CR-CB1-2-Mastic	First Floor Hallway First Floor Hallway First Floor Hallway First Floor Hallway	0 0 0 0		Non-Asbestos	NF	-----	sf
11	Ceiling Plaster	CR-CP2-1-Finish Coat CR-CP2-1-Base Coat CR-CP2-2	Boys' Locker Room/Stairwells East only Boys' Locker Room/Stairwells East only Boys' Locker Room/Stairwells East only	0 0 0		Non-Asbestos	NF	-----	sf
12	Boiler Jacket Plaster	CR-BJ-1 CR-BJ-2	Boiler Room Boiler Room	0 0		Non-Asbestos	NF	-----	sf
13	Fiberglass TSI Plaster	CR-FP-1 CR-FP-2	Boiler Room Boiler Room	0 0		Non-Asbestos	NF	-----	sf
14	Vibration Damper	CR-VD-1 CR-VD-2	2nd Floor Air Handling Room, West 2nd Floor Air Handling Room, West	0 0		Non-Asbestos	NF	-----	sf
15	Vaulted Ceiling Plaster	CR-VCP-1-Finish CR-VCP-1-Base Coat CR-VCP-2-Finish CR-VCP-2-Base Coat CR-VCP-3-Finish CR-VCP-3-Base Coat	2nd Floor Meeting Room 2nd Floor Meeting Room 2nd Floor Meeting Room 2nd Floor Meeting Room 2nd Floor Meeting Room 2nd Floor Meeting Room	0 0 0 0 0 0		Non-Asbestos	NF	-----	sf
16	Rough Textured Wall Plaster	CR-RWP-1-Texture CR-RWP-1-Base Coat CR-RWP-2-Texture CR-RWP-2-Base Coat CR-RWP-3-Texture CR-RWP-3-Base Coat	2nd Floor Office 2nd Floor Office 2nd Floor Office 2nd Floor Office 2nd Floor Office 2nd Floor Office	0 0 0 0 0 0		Non-Asbestos	NF	-----	sf
17	Red Floor Tile and Mastic	CR-FT4-1 CR-FT4-2	2nd Floor Hallway 2nd Floor Hallway	0 0		Non-Asbestos	NF	-----	sf
18	Window Caulk	CR-IWC-1 CR-IWC-2	First Floor Window Frames First Floor Window Frames	0 0		Non-Asbestos	NF	-----	lf

TSI: Thermal System Insulation

RACM: Regulated Asbestos Material

Cat. I: Category I asbestos containing material

Cat. II: Category II asbestos containing material

na: not analyzed

lf: linear ft.

sf: square ft.

F: friable / NF: non-friable

TABLE 2

Cleveland Central Recreation Center - 2526 Central Avenue, Cleveland, OH						
Lead Paint Sample Data Summary						
SAMPLE ID#	LOCATION	SUBSTRATE	COLOR	CONDITION	LEAD CONCENTRATION % WEIGHT	
FIRST FLOOR - ORIGINAL RECREATION BUILDING						
L-CW1-1	Front Lobby Ceiling & Ceiling Beams	New Skim Plaster Coat	White	Fair to Poor (peeling)	<0.0087	
L-CW1-2	Front Lobby Ceiling & Ceiling Beams	New Skim Plaster Coat	White	Fair to Poor (peeling)	<0.0087	
L-CBG-1	Front Lobby Ceiling Beams	Original Plaster Coat	Light Green	Fair	0.22	
L-LB-1	Lobby Walls	Drywall	Light Blue	Good	<0.0088	
L-LB-2	Lobby Walls	Drywall	Light Blue	Good	<0.0093	
L-DB-1	Doors, Windows, and Frame Trim	Metal	Dark Blue	Good	<0.022	
L-DB-2	Doors, Windows, and Frame Trim	Metal	Dark Blue	Good	<0.029	
L-TB-1	Janitor Closet Walls	Original Plaster	Tan & Brown	Poor (peeling)	0.58	
L-TB-2	Janitor Closet Walls	Original Plaster	Tan & Brown	Poor (peeling)	0.37	
FIRST FLOOR - ACTIVITY ROOMS (WITH SKYLIGHTS)						
L-LB-3	Activity Room Walls	Drywall	Light Blue	Good	<0.0087	
L-ACC-1	Activity Room Ceilings	Original Plaster (under New Skim Coat Plaster)	White & Aqua underlayer	Fair	15	
STAIRWELLS - ORIGINAL RECREATION BUILDING						
L-GW-1	Stairwell Drywall Walls	Drywall	Grayish White	Good	<0.0086	
L-GW-2	Stairwell Drywall Walls	Drywall	Grayish White	Good	<0.0082	
L-PB-1	Stairwell Original Plaster Walls	Plaster	White, Blue, or Light Blue	Fair	25	
L-PB-2	Stairwell Original Plaster Walls	Plaster	White, Blue, or Light Blue	Fair	11	
L-PB-3	Stairwell Original Plaster Walls	Plaster	White, Blue, or Light Blue	Fair	7	
L-SM-1	Staircase Rails and Base	Wood and Metal	Maroon	Fair	14	
L-SM-2	Staircase Rails and Base	Wood and Metal	Maroon	Fair	7.5	
BASEMENT - ORIGINAL RECREATION BUILDING						
L-T-1	Weight Room Walls	Skim Plaster	Tan	Fair	<0.0087	
L-T-2	Weight Room Walls	Skim Plaster	Tan	Fair	<0.0092	
L-AT-1	Art Room Walls	Plaster	Tan & unknown underlayer	Poor (peeling)	17	
L-AC-1	Art Room Ceiling	Plaster	White & Light Blue underlayer	Poor (peeling)	27	
L-OT-1	Office Walls & Ceiling	Plaster	Tan (& unknown underlayer)	Poor (peeling)	17	
L-DM-1	Doors and Frame Trim	Wood and Metal	Maroon	Fair to Poor (peeling)	7	
L-DM-2	Doors and Frame Trim	Wood and Metal	Maroon	Fair to Poor (peeling)	19	
L-W-1	Boiler Room Walls	Brick	White	Poor (peeling)	<0.0089	

All highlighted analytical results exceed lead based paint hazard criteria of 0.5% and disturbance activities must follow EPA Lead Abatement or Renovation/Repair Rules and OSHA Lead in Construction Rules.

TABLE 2

Cleveland Central Recreation Center - 2526 Central Avenue, Cleveland, OH

Lead Paint Sample Data Summary

SAMPLE ID#	LOCATION	SUBSTRATE	COLOR	CONDITION	LEAD CONCENTRATION % WEIGHT
L-W-2	Boiler Room Walls	Brick	White	Poor (peeling)	0.011
L-BB-1	Boiler Room Walls	Brick	Brown-Black	Poor (peeling)	0.085
L-BB-2	Boiler Room Walls	Brick	Brown-Black	Poor (peeling)	0.087
L-BB-3	Boiler Room Concrete Columns	Concrete	Brown-Black	Poor (peeling)	0.17
L-Y-1	Boiler Utility Room and Bathroom Walls & Ceiling	Plaster	Yellow	Poor (peeling)	30
L-Y-2	Boiler Utility Room and Bathroom Walls & Ceiling	Plaster	Yellow	Poor (peeling)	21
L-G-1	Boiler Utility Room and Bathroom Walls	Plaster	Grayish Green	Poor (peeling)	26
L-G-2	Boiler Utility Room and Bathroom Walls	Plaster	Grayish Green	Poor (peeling)	24
SECOND FLOOR - ORIGINAL RECREATION BUILDING					
L-WW-1	Community Room Wall Paneling	Wood Paneling	White	Good	0.016
L-WW-2	Community Room Wall Paneling	Wood Paneling	White	Good	<0.0092
L-W2-1	Community Room Ceiling	Plaster	White	Good	<0.0089
L-LB2-1	Community Room Window Frames	Wood	Light Blue	Good	<0.0086
L-LB2-2	Community Room Window Frames	Wood	Light Blue	Good	0.32
L-CPW-A	Hallway Ceiling	Plaster	White	Fair to Poor (peeling)	0.73
L-CPW-B	Hallway Ceiling	Plaster	Aqua	Fair to Poor (peeling)	14
L-LB3-A	Hallway Walls	Skim Plaster	Light Blue	Good	0.093
L-LB3-B	Hallway Walls	Original Plaster (underneath)	Dark Blue	Fair	6.3
L-B2-1	Hallway Door Trim and Base Moulding	Wood	Blue	Good	0.45
FIRST FLOOR - LADIES LOCKER ROOM					
L-F-1	Bathroom Floor Coating	Plaster or Skim Grout	Blue	Fair	<0.0094
L-W3-A	Locker Room Walls	Cinder Block	White	Good	0.054
L-W3-B	Locker Room Walls	Cinder Block	Tan	Good	<0.0085
L-PW-A	Locker Room Original Wall	Plaster	White & Aqua underlayer	Poor (peeling)	18
L-CP-A	Locker Room Original Ceiling Beam	Plaster	Tan & unknown underlayer	Poor (peeling)	21
SECOND & THIRD FLOOR - GYM ROOM					
L-GYW-1	Track Overhang Facing Underneath	Concrete	Light Greenish-White	Poor (peeling)	0.066
L-GYW-2	Track Overhang Facing Underneath	Concrete	Light Greenish-White	Poor (peeling)	0.19
L-GB-1	Track Railing & Base and Stairs & Railings	Metal	Blue	Fair	7.6
L-GB-2	Track Railing & Base and Stairs & Railings	Metal	Blue	Fair	5.1
L-BW-1	Gym Room Walls	Brick	White	Fair	0.013

All highlighted analytical results exceed lead based paint hazard criteria of 0.5% and disturbance activities must follow EPA Lead Abatement or Renovation/Repair Rules and OSHA Lead in Construction Rules.

TABLE 2

Cleveland Central Recreation Center - 2526 Central Avenue, Cleveland, OH						
Lead Paint Sample Data Summary						
SAMPLE ID#	LOCATION	SUBSTRATE	COLOR	CONDITION	LEAD CONCENTRATION % WEIGHT	
L-BW-2	Gym Room Walls	Brick	White	Fair	<0.0086	
FIRST FLOOR - POOL ROOM						
L-PT-1	Pool Room Doors and Frame Trim	Metal	Light Tan	Fair	0.025	
L-BW2-1	Pool Room West Wall	Brick	White	Good	<0.0089	
L-CP3-1	Pool Room Ceiling	Skim Plaster	Tan	Poor (peeling)	<0.0085	
L-WP3-1	Pool Office - Original Plaster Walls	Plaster	Tan & Dark Blue underlayer	Poor (peeling)	10	

All highlighted analytical results exceed lead based paint hazard criteria of 0.5% and disturbance activities must follow EPA Lead Abatement or Renovation/Repair Rules and OSHA Lead in Construction Rules.

APPENDIX C

Lead Paint Hazard Risk Assessment and Quantities Table

Cleveland Central Recreation Center - 2526 Central Avenue, Cleveland, OH							Page 1
Lead Paint Hazard Risk Assessment and Quantities (accessible areas)							
LOCATION	SUBSTRATE	PAIN T COLOR	CONDIT ION	EXISTING EXPOSURE POTENTIAL & RISK	APPROX. SURFACE AREA, SF (or # items)		
FIRST FLOOR - LOBBY AREA - ORIGINAL RECREATION BUILDING							
Janitor Closet Walls	Original Plaster	Tan & Brown	Poor (Peeling)	high contact - high risk		180	
FIRST FLOOR - ACTIVITY ROOMS (WITH SKYLIGHTS)							
Activity Room Ceilings	Original Plaster (under Newer Skim Plaster Coat)	White & Aqua underlayer	Fair	medium contact-medium risk (under skim coat layer)		1,740	
*Note: The original walls behind drywall in the activity rooms were not investigated for lead paint (not accessible-they would be low contact-low risk, because they are enclosed)							
FIRST FLOOR - LADIES' AND MEN'S LOCKER ROOM							
Locker Room Orig. Walls (exposed)	Plaster	Tan (& unknown underlayer)	Poor (peeling)	high contact - high risk		1,140	
Locker Room Orig. Ceiling & Beams (exposed)	Plaster	Tan (& unknown underlayer)	Poor (peeling)	medium contact - high risk		1,625	
FIRST FLOOR - POOL ROOM							
Pool Office - Original Walls	Plaster	Tan & Dark Blue underlayer	Poor (peeling)	high contact - high risk		85	
Pool Office - Original Ceiling & Beams	Plaster	Tan (& unknown underlayer)	Poor (peeling)	medium contact - high risk		85	
STAIRWELLS - ORIGINAL RECREATION BUILDING							
Stairwell Original Plaster Walls	Plaster	White, Blue, or Light Blue	Fair	low contact - low risk (enclosed behind drywall)		undetermined	
Staircase Rails and Base	Wood and Metal	Maroon	Fair to Poor (peeling)	high contact - high risk		285	
BASEMENT - ORIGINAL RECREATION BUILDING							
Doors	Wood and Metal	Maroon	Fair to Poor (peeling)	high contact - high risk		170 (7 doors)	
Doors Frame Trim	Wood and Metal	Maroon	Fair to Poor (peeling)	high contact - high risk		60 (7 door frames)	
Boiler Utility Room and Bathroom Walls & Ceiling	Plaster	Yellow	Poor (Peeling)	high contact - high risk		400	
Boiler Utility Room and Bathroom Walls	Plaster	Grayish Green	Poor (Peeling)	high contact - high risk		290	
Art Room Walls	Plaster	Tan (& unknown underlayer)	Poor (Peeling)	high contact - high risk		820	
Art Room Ceiling	Plaster	White & Light Blue underlayer	Poor (Peeling)	medium contact - high risk		460	
Office Walls & Ceiling	Plaster	Tan (& unknown underlayer)	Poor (Peeling)	medium & high contact - high risk		1,070	
SECOND FLOOR - ORIGINAL RECREATION BUILDING							
Hallway Ceiling	Plaster	White & Aqua	Fair to Poor (Peeling)	medium contact - high risk		265	
Fan Room, Closets & Utility Room Ceilings	Plaster	Various	Fair to Poor (Peeling)	medium contact - high risk		235	
Hallway Walls	Original Plaster (underneath skim plaster)	Dark Blue	Fair	high contact - medium risk (under skim coat layer)		1,090	
Fan Room, Closets, & Utility Room Walls	Plaster	Various	Fair to Poor (Peeling)	high contact - high risk		1,275	

Cleveland Central Recreation Center - 2526 Central Avenue, Cleveland, OH						Page 2
Lead Paint Hazard Risk Assessment and Quantities (accessible areas)						
LOCATION	SUBSTRATE	PAINT COLOR	CONDITION	EXISTING EXPOSURE POTENTIAL & RISK	APPROX. SURFACE AREA, SF (or # Items)	
SECOND & THIRD FLOOR - GYM ROOM						
Track Railing, Base, and Tie-Back Rods	Metal	Blue	Fair to Poor (peeling)	high contact - high risk	600	
Handrails, Staircase Rails, Base, and Stairs	Metal	Blue	Fair to Poor (peeling)	high contact - high risk	1,450	
Wood Flooring (Track Level)	Wood	Blue	Fair to Poor (peeling)	high contact - high risk	450	

APPENDIX D

Asbestos and Lead Paint Sample Laboratory Analytical Reports



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: 161900711

Customer ID: STLI93

Customer PO: bmb-11119

Project ID:

Attention: Brian Bostaph

Solar Testing Laboratories, Inc.

1125 Valley Belt Road

Brooklyn Heights, OH 44131

Phone: (216) 741-7007

Fax: (216) 741-7011

Received Date: 01/14/2019 9:15 AM

Analysis Date: 01/18/2019 - 01/19/2019

Collected Date: 01/10/2019

Project: Cleveland Central Rec Center

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
CR - WP1 - 1 161900711-0001	THROUGHOUT - HARDWALL PLASTER	Gray Non-Fibrous Homogeneous	<1% Hair	20% Quartz 80% Non-fibrous (Other)	None Detected
CR - WP1 - 2-Finish Coat 161900711-0002	THROUGHOUT - HARDWALL PLASTER	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CR - WP1 - 2-Base Coat 161900711-0002A	THROUGHOUT - HARDWALL PLASTER	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
CR - WP1 - 3-Finish Coat 161900711-0003	THROUGHOUT - HARDWALL PLASTER	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CR - WP1 - 3-Base Coat 161900711-0003A	THROUGHOUT - HARDWALL PLASTER	Gray Non-Fibrous Homogeneous	<1% Hair	20% Quartz 80% Non-fibrous (Other)	None Detected
CR - WP1 - 4-Finish Coat 161900711-0004	THROUGHOUT - HARDWALL PLASTER	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CR - WP1 - 4-Base Coat 161900711-0004A	THROUGHOUT - HARDWALL PLASTER	Gray Non-Fibrous Homogeneous	<1% Hair	20% Quartz 80% Non-fibrous (Other)	None Detected
CR - WP1 - 5-Finish Coat 161900711-0005	THROUGHOUT - HARDWALL PLASTER	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CR - WP1 - 5-Base Coat 161900711-0005A	THROUGHOUT - HARDWALL PLASTER	Gray Non-Fibrous Homogeneous	<1% Hair	20% Quartz 80% Non-fibrous (Other)	None Detected
CR - WP1 - 6-Finish Coat 161900711-0006	THROUGHOUT - HARDWALL PLASTER	White Non-Fibrous Homogeneous		10% Quartz 90% Non-fibrous (Other)	None Detected
CR - WP1 - 6-Base Coat 161900711-0006A	THROUGHOUT - HARDWALL PLASTER	Gray Non-Fibrous Homogeneous		10% Perlite 90% Non-fibrous (Other)	None Detected
CR - WP1 - 7 161900711-0007	THROUGHOUT - HARDWALL PLASTER	Gray Non-Fibrous Homogeneous	<1% Hair	20% Quartz 80% Non-fibrous (Other)	None Detected
CR - CP1 - 1-Texture 161900711-0008	THROUGHOUT - TEXTURED CEILING PLASTER	White Non-Fibrous Homogeneous		10% Quartz 90% Non-fibrous (Other)	None Detected

Inseparable paint / coating layer included in analysis

Initial report from: 01/21/2019 06:55:58



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: 161900711

Customer ID: STLI93

Customer PO: bmb-11119

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
CR - CP1 - 1-Base Coat 161900711-0008A	THROUGHOUT - TEXTURED CEILING PLASTER	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
CR - CP1 - 2-Texture 161900711-0009 <i>Inseparable paint / coating layer included in analysis</i>	THROUGHOUT - TEXTURED CEILING PLASTER	White Non-Fibrous Homogeneous		10% Quartz 90% Non-fibrous (Other)	None Detected
CR - CP1 - 2-Base Coat 161900711-0009A	THROUGHOUT - TEXTURED CEILING PLASTER	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
CR - CP1 - 3-Texture 161900711-0010 <i>Inseparable paint / coating layer included in analysis</i>	THROUGHOUT - TEXTURED CEILING PLASTER	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CR - CP1 - 3-Base Coat 161900711-0010A	THROUGHOUT - TEXTURED CEILING PLASTER	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
CR - CP1 - 4-Texture 161900711-0011 <i>Inseparable paint / coating layer included in analysis</i>	THROUGHOUT - TEXTURED CEILING PLASTER	White Non-Fibrous Homogeneous		10% Quartz 90% Non-fibrous (Other)	None Detected
CR - CP1 - 4-Base Coat 161900711-0011A	THROUGHOUT - TEXTURED CEILING PLASTER	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
CR - CP1 - 5-Finish Coat 161900711-0012 <i>Inseparable paint / coating layer included in analysis</i>	THROUGHOUT - TEXTURED CEILING PLASTER	White Non-Fibrous Homogeneous		10% Quartz 90% Non-fibrous (Other)	None Detected
CR - CP1 - 5-Base Coat 161900711-0012A	THROUGHOUT - TEXTURED CEILING PLASTER	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
CR - CP1 - 6-Texture 161900711-0013 <i>Inseparable paint / coating layer included in analysis</i>	THROUGHOUT - TEXTURED CEILING PLASTER	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CR - CP1 - 6-Base Coat 161900711-0013A	THROUGHOUT - TEXTURED CEILING PLASTER	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
CR - CP1 - 7-Texture 161900711-0014	THROUGHOUT - TEXTURED CEILING PLASTER	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CR - CP1 - 7-Finish Coat 161900711-0014A	THROUGHOUT - TEXTURED CEILING PLASTER	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CR - CP1 - 7-Base Coat 161900711-0014B	THROUGHOUT - TEXTURED CEILING PLASTER	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
CR - CP1 - 8-Texture 161900711-0015	THROUGHOUT - TEXTURED CEILING PLASTER	White Non-Fibrous Homogeneous		10% Quartz 90% Non-fibrous (Other)	None Detected
CR - CP1 - 8-Base Coat 161900711-0015A	THROUGHOUT - TEXTURED CEILING PLASTER	Gray Non-Fibrous Homogeneous		10% Perlite 90% Non-fibrous (Other)	None Detected
CR - FT1 - 1-Floor Tile 161900711-0016	ACTIVITIES ROOM - DARK BLUE FLOOR TILE + MASTIC	Blue Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 01/21/2019 06:55:58

**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: 161900711

Customer ID: STLI93

Customer PO: bmb-11119

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
CR - FT1 - 1-Mastic 161900711-0016A	ACTIVITIES ROOM - DARK BLUE FLOOR TILE + MASTIC	Gray/Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CR - FT1 - 2-Floor Tile 161900711-0017	ACTIVITIES ROOM - DARK BLUE FLOOR TILE + MASTIC	Blue Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CR - FT1 - 2-Mastic 161900711-0017A	ACTIVITIES ROOM - DARK BLUE FLOOR TILE + MASTIC	Gray/Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CR - ST - 1 161900711-0018	STAIRWELLS - STAIR TREADS	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CR - ST - 2-Stair Tread 161900711-0019	STAIRWELLS - STAIR TREADS	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CR - ST - 2-Mastic 161900711-0019A	STAIRWELLS - STAIR TREADS	Tan Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CR - MJP - 1-Mud 161900711-0020	THROUGHOUT - MUD JOINT PACKING	Gray Fibrous Homogeneous	40% Min. Wool	60% Non-fibrous (Other)	None Detected
CR - MJP - 1-Wrap 161900711-0020A	THROUGHOUT - MUD JOINT PACKING	White Fibrous Homogeneous	60% Cellulose	40% Non-fibrous (Other)	None Detected
CR - MJP - 2-Mud 161900711-0021	THROUGHOUT - MUD JOINT PACKING	Gray Fibrous Homogeneous	40% Min. Wool	60% Non-fibrous (Other)	None Detected
CR - MJP - 2-Wrap 161900711-0021A	THROUGHOUT - MUD JOINT PACKING	White Fibrous Homogeneous	60% Cellulose	40% Non-fibrous (Other)	None Detected
CR - MJP - 3-Mud 161900711-0022	THROUGHOUT - MUD JOINT PACKING	Gray Fibrous Homogeneous	40% Min. Wool	60% Non-fibrous (Other)	None Detected
CR - MJP - 3-Wrap 161900711-0022A	THROUGHOUT - MUD JOINT PACKING	White Fibrous Homogeneous	60% Cellulose	40% Non-fibrous (Other)	None Detected
CR - MJP - 4-Mud 161900711-0023	THROUGHOUT - MUD JOINT PACKING	Gray Fibrous Homogeneous	40% Min. Wool	60% Non-fibrous (Other)	None Detected
CR - MJP - 4-Wrap 161900711-0023A	THROUGHOUT - MUD JOINT PACKING	White Fibrous Homogeneous	60% Cellulose	40% Non-fibrous (Other)	None Detected
CR - MJP - 5-Mud 161900711-0024	THROUGHOUT - MUD JOINT PACKING	Gray Fibrous Homogeneous	30% Min. Wool	70% Non-fibrous (Other)	None Detected
CR - MJP - 5-Wrap 161900711-0024A	THROUGHOUT - MUD JOINT PACKING	White Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (Other)	None Detected
CR - MJP - 6-Mud 161900711-0025	THROUGHOUT - MUD JOINT PACKING	Gray Fibrous Homogeneous	5% Cellulose 30% Min. Wool	65% Non-fibrous (Other)	None Detected
CR - MJP - 6-Wrap 161900711-0025A	THROUGHOUT - MUD JOINT PACKING	White Fibrous Homogeneous	80% Cellulose	20% Non-fibrous (Other)	None Detected
CR - FT2 - 1-Floor Tile 161900711-0026	ACTIVITIES ROOM - LIGHT BLUE FLOOR TILE + MASTIC	Blue Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 01/21/2019 06:55:58

**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: 161900711

Customer ID: STLI93

Customer PO: bmb-11119

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
CR - FT2 - 1-Leveler 161900711-0026A	ACTIVITIES ROOM - LIGHT BLUE FLOOR TILE + MASTIC	Gray/Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CR - FT2 - 2-Floor Tile 161900711-0027	ACTIVITIES ROOM - LIGHT BLUE FLOOR TILE + MASTIC	Blue Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CR - FT2 - 2-Mastic 161900711-0027A	ACTIVITIES ROOM - LIGHT BLUE FLOOR TILE + MASTIC	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CR - FT2 - 2-Leveler 161900711-0027B	ACTIVITIES ROOM - LIGHT BLUE FLOOR TILE + MASTIC	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
CR - FT3 - 1-Floor Tile 161900711-0028	ACTIVITIES ROOM - BRIGHT BLUE FLOOR TILE + MASTIC	Blue Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CR - FT3 - 1-Mastic 161900711-0028A	ACTIVITIES ROOM - BRIGHT BLUE FLOOR TILE + MASTIC	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CR - FT3 - 2-Floor Tile 161900711-0029	ACTIVITIES ROOM - BRIGHT BLUE FLOOR TILE + MASTIC	Blue Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CR - FT3 - 2-Mastic 161900711-0029A	ACTIVITIES ROOM - BRIGHT BLUE FLOOR TILE + MASTIC	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CR - DW1 - 1-Drywall 161900711-0030	THROUGHOUT - DRYWALL + JOINT COMPOUND	Brown/White Fibrous Heterogeneous	20% Cellulose	70% Gypsum 10% Non-fibrous (Other)	None Detected
CR - DW1 - 1-Joint Compound 161900711-0030A <i>Inseparable paint / coating layer included in analysis</i>	THROUGHOUT - DRYWALL + JOINT COMPOUND	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CR - DW1 - 2-Drywall 161900711-0031	THROUGHOUT - DRYWALL + JOINT COMPOUND	Brown/White Fibrous Heterogeneous	20% Cellulose 2% Glass	70% Gypsum 8% Non-fibrous (Other)	None Detected
CR - DW1 - 2-Joint Compound 161900711-0031A <i>Inseparable paint / coating layer included in analysis</i>	THROUGHOUT - DRYWALL + JOINT COMPOUND	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CR - DW1 - 3-Drywall 161900711-0032	THROUGHOUT - DRYWALL + JOINT COMPOUND	Brown/White Fibrous Heterogeneous	20% Cellulose 2% Glass	70% Gypsum 8% Non-fibrous (Other)	None Detected
CR - DW1 - 3-Joint Compound 161900711-0032A <i>Inseparable paint / coating layer included in analysis</i>	THROUGHOUT - DRYWALL + JOINT COMPOUND	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CR - DW1 - 4-Drywall 161900711-0033	THROUGHOUT - DRYWALL + JOINT COMPOUND	Brown/White Fibrous Heterogeneous	20% Cellulose 2% Glass	70% Gypsum 8% Non-fibrous (Other)	None Detected

Initial report from: 01/21/2019 06:55:58



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: 161900711

Customer ID: STLI93

Customer PO: bmb-11119

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
CR - DW1 - 4-Joint Compound	THROUGHOUT - DRYWALL + JOINT COMPOUND	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
161900711-0033A Inseparable paint / coating layer included in analysis					
CR - DW1 - 5-Drywall	THROUGHOUT - DRYWALL + JOINT COMPOUND	Brown/White Fibrous Heterogeneous	20% Cellulose 2% Glass	70% Gypsum 8% Non-fibrous (Other)	None Detected
161900711-0034					
CR - DW1 - 5-Joint Compound	THROUGHOUT - DRYWALL + JOINT COMPOUND	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
161900711-0034A Inseparable paint / coating layer included in analysis					
CR - DW1 - 6-Drywall	THROUGHOUT - DRYWALL + JOINT COMPOUND	Brown/White Fibrous Heterogeneous	20% Cellulose 2% Glass	70% Gypsum 8% Non-fibrous (Other)	None Detected
161900711-0035					
CR - DW1 - 6-Joint Compound	THROUGHOUT - DRYWALL + JOINT COMPOUND	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
161900711-0035A					
CR - DW1 - 7-Drywall	THROUGHOUT - DRYWALL + JOINT COMPOUND	Brown/Tan Fibrous Heterogeneous	20% Cellulose 2% Glass	70% Gypsum 8% Non-fibrous (Other)	None Detected
161900711-0036					
CR - DW1 - 7-Joint Compound	THROUGHOUT - DRYWALL + JOINT COMPOUND	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
161900711-0036A					
CR - SF - 1-Plaster	ACTIVITIES ROOM - SUBFLOOR PLASTER	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
161900711-0037					
CR - SF - 1-Leveler	ACTIVITIES ROOM - SUBFLOOR PLASTER	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
161900711-0037A					
CR - SF - 2	ACTIVITIES ROOM - SUBFLOOR PLASTER	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
161900711-0038					
CR - CB1 - 1-Cove Base	1ST FLOOR AREA - COVE BASE MATERIAL	Blue Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
161900711-0039					
CR - CB1 - 1-Mastic	1ST FLOOR AREA - COVE BASE MATERIAL	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
161900711-0039A					
CR - CB1 - 2-Cove Base	1ST FLOOR AREA - COVE BASE MATERIAL	Blue Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
161900711-0040					
CR - CB1 - 2-Mastic	1ST FLOOR AREA - COVE BASE MATERIAL	Yellow Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
161900711-0040A					
CR - CP2 - 1-Finish Coat	STAIRWELL CEILING - SMOOTH TEXTURED CEILING PLASTER	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
161900711-0041 Inseparable paint / coating layer included in analysis					
CR - CP2 - 1-Base Coat	STAIRWELL CEILING - SMOOTH TEXTURED CEILING PLASTER	Gray Non-Fibrous Homogeneous		20% Perlite 80% Non-fibrous (Other)	None Detected
161900711-0041A					

Initial report from: 01/21/2019 06:55:58



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: 161900711

Customer ID: STLI93

Customer PO: bmb-11119

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
CR - CP2 - 2 161900711-0042	STAIRWELL CEILING - SMOOTH TEXTURED CEILING PLASTER	White Non-Fibrous Homogeneous		10% Quartz 90% Non-fibrous (Other)	None Detected
CR - BJ - 1 161900711-0043 <i>Inseparable paint / coating layer included in analysis</i>	BOILER ROOM - BOILER JACKET PLASTER	Gray Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CR - BJ - 2 161900711-0044	BOILER ROOM - BOILER JACKET PLASTER	Gray Fibrous Homogeneous	20% Min. Wool	80% Non-fibrous (Other)	None Detected
CR - FP - 1 161900711-0045	BOILER ROOM - FIBERGLASS TSI PLASTER	White/Silver Fibrous Homogeneous	40% Cellulose 10% Glass	50% Non-fibrous (Other)	None Detected
CR - FP - 2 161900711-0046	BOILER ROOM - FIBERGLASS TSI PLASTER	White/Silver Fibrous Homogeneous	40% Cellulose 10% Glass	50% Non-fibrous (Other)	None Detected
CR - VD - 1 161900711-0047	2ND FLOOR AIR HANDLING ROOM - VIBRATION DAMPENER	White/Black Fibrous Homogeneous	80% Glass	20% Non-fibrous (Other)	None Detected
CR - VD - 2 161900711-0048	2ND FLOOR AIR HANDLING ROOM - VIBRATION DAMPENER	White/Black Fibrous Homogeneous	80% Glass	20% Non-fibrous (Other)	None Detected
CR - VCP - 1-Finish Coat 161900711-0049 <i>Inseparable paint / coating layer included in analysis</i>	2ND FLOOR MEETING ROOM - VAULTED CEILING PLASTER	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CR - VCP - 1-Base Coat 161900711-0049A	2ND FLOOR MEETING ROOM - VAULTED CEILING PLASTER	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
CR - VCP - 2-Finish Coat 161900711-0050 <i>Inseparable paint / coating layer included in analysis</i>	2ND FLOOR MEETING ROOM - VAULTED CEILING PLASTER	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CR - VCP - 2-Base Coat 161900711-0050A	2ND FLOOR MEETING ROOM - VAULTED CEILING PLASTER	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
CR - VCP - 3-Finish Coat 161900711-0051	2ND FLOOR MEETING ROOM - VAULTED CEILING PLASTER	White Non-Fibrous Homogeneous		10% Quartz 90% Non-fibrous (Other)	None Detected
CR - VCP - 3-Base Coat 161900711-0051A	2ND FLOOR MEETING ROOM - VAULTED CEILING PLASTER	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
CR - RWP - 1-Texture 161900711-0052	2ND FLOOR OFFICE - ROUGH TEXTURED WALL PLASTER	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Initial report from: 01/21/2019 06:55:58

**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: 161900711

Customer ID: STLI93

Customer PO: bmb-11119

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
CR - RWP - 1-Base Coat 161900711-0052A	2ND FLOOR OFFICE - ROUGH TEXTURED WALL PLASTER	Gray Non-Fibrous Homogeneous	<1% Hair	20% Quartz 80% Non-fibrous (Other)	None Detected
CR - RWP - 2-Texture 161900711-0053	2ND FLOOR OFFICE - ROUGH TEXTURED WALL PLASTER	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CR - RWP - 2-Base Coat 161900711-0053A	2ND FLOOR OFFICE - ROUGH TEXTURED WALL PLASTER	Gray Non-Fibrous Homogeneous	<1% Hair	20% Quartz 80% Non-fibrous (Other)	None Detected
CR - RWP - 3-Texture 161900711-0054	2ND FLOOR OFFICE - ROUGH TEXTURED WALL PLASTER	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CR - RWP - 3-Base Coat 161900711-0054A	2ND FLOOR OFFICE - ROUGH TEXTURED WALL PLASTER	Gray Non-Fibrous Homogeneous		20% Quartz 80% Non-fibrous (Other)	None Detected
CR - FT4 - 1 161900711-0055	2ND FLOOR HALLWAY - RED FLOOR TILE + MASTIC	Red Non-Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
CR - FT4 - 2 161900711-0056	2ND FLOOR HALLWAY - RED FLOOR TILE + MASTIC	Red Non-Fibrous Homogeneous	10% Cellulose	90% Non-fibrous (Other)	None Detected
CR - IWC - 1 161900711-0057	WINDOW FRAMES - WINDOW CAULK	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected
CR - IWC - 2 161900711-0058	WINDOW FRAMES - WINDOW CAULK	White Non-Fibrous Homogeneous		100% Non-fibrous (Other)	None Detected

Analyst(s)

Jadda Moffett (65)

Paul Rihm (38)

Richard Harding, Laboratory Manager
or Other Approved Signatory

EMSL maintains liability limited to cost of analysis. The above analyses were performed in general compliance with Appendix E to Subpart E of 40 CFR (previously EPA 600/M4-82-020 "Interim Method"), but augmented with procedures outlined in the 1993 ("final") version of the method. This report relates only to the samples reported above, and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities or analytical method limitations. Interpretation and use of test results are the responsibility of the client. All samples received in acceptable condition unless otherwise noted. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the federal government. EMSL recommends gravimetric reduction for all non-friable organically bound materials prior to analysis. Estimation of uncertainty is available on request.

Samples analyzed by EMSL Analytical, Inc. Indianapolis, IN NVLAP Lab Code 200188-0, AZ0939, CA 2575, CO AL-15132, TX 300262, LA 04135

Initial report from: 01/21/2019 06:55:58

EMSL ANALYTICAL, INC.
LABORATORY PRODUCTS TRAININGAsbestos Bulk Building Material
Chain of Custody

EMSL Order Number (Lab Use Only):

161900711

6340 Castleplace Dr.

Indianapolis, IN 46250

PHONE: (317) 803-2997

FAX: (317) 803-3047

Company: Solar Testing Laboratories, Inc.		EMSL-Bill to: ☒ Same ☐ Different If Bill to is Different note instructions in Comments**	
Street: 1125 Valley Belt Road		Third Party Billing requires written authorization from third party	
City: Brooklyn Heights	State/Province: OH	Zip/Postal Code: 44131	Country: US
Report To (Name): Brian Bostaph		Telephone #: 2167417007	
Email Address: bmb@stloho.com		Fax #:	Purchase Order: bmb-11119
Project Name/Number: Cleveland Central Rec Center		Please Provide Results: ☐ Fax ☒ Email ☐ Mail	
U.S. State Samples Taken: OH		CT Samples: ☐ Commercial/Taxable ☐ Residential/Tax Exempt	
Turnaround Time (TAT) Options* - Please Check			
☐ 3 Hour ☐ 6 Hour ☐ 24 Hour ☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week			
*For TEM Air 3 hr through 6 hr, please call ahead to schedule. *There is a premium charge for 3 Hour TEM AHERA or EPA Level II TAT. You will be asked to sign an authorization form for this service. Analysis completed in accordance with EMSL's Terms and Conditions located in the Analytical Price Guide.			
PLM - Bulk (reporting limit)		TEM - Bulk	
☒ PLM EPA 600/R-93/116 (<1%) ☐ PLM EPA NOB (<1%) Point Count ☐ 400 (<0.25%) ☐ 1000 (<0.1%) Point Count w/Gravimetric ☐ 400 (<0.25%) ☐ 1000 (<0.1%) ☐ NIOSH 9002 (<1%) ☐ NY ELAP Method 198.1 (friable in NY) ☐ NY ELAP Method 198.6 NOB (non-friable-NY) ☐ OSHA ID-191 Modified ☐ Standard Addition Method		☐ TEM EPA NOB - EPA 600/R-93/116 Section 2.5.5.1 ☐ NY ELAP Method 198.4 (TEM) ☐ Chatfield Protocol (semi-quantitative) ☐ TEM % by Mass - EPA 600/R-93/116 Section 2.5.5.2 ☐ TEM Qualitative via Filtration Prep Technique ☐ TEM Qualitative via Drop Mount Prep Technique	
		Other	
		☐	
☐ Check For Positive Stop - Clearly Identify Homogenous Group		Date Sampled: 1/10/19	
Samplers Name:		Samplers Signature:	
Sample #	HA #	Sample Location	Material Description
CR-WPI-1	1	1st Floor Hallway Throughout	Hand wall Plaster
CR-WPI-2	1	↓	↓
CR-WPI-3	1		
CR-WPI-4	1		
CR-WPI-5	1		
CR-WPI-6	1		
CR-WPI-7	1		
CR-WPI-8	1		
CR-CPI-1	2		Textured Ceiling Plaster
CR-CPI-2	2	Throughout	↓
Client Sample # (s): CR-WPI-1		- CR-IWL-2	Total # of Samples: 57 com 58
Relinquished (Client):		Date: 1/11/19	Time: 4:15PM
Received (Lab):		Date: 1-14-19	Time: 9:15 a/x
Comments/Special Instructions:			



EMSL ANALYTICAL, INC.
LABORATORY PRODUCTS TRAINING

Asbestos Bulk Building Material Chain of Custody

EMSL Order Number (Lab Use Only):

161900711

6340 Castleplace Dr.

Indianapolis, IN 46250

PHONE: (317) 803-2997

FAX: (317) 803-3047

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	HA #	Sample Location	Material Description
CR-CPI-3	2	Throughat	Textured Ceiling Plaster
CR-CPI-4	2	↓	↓
CR-CPI-5	2	↓	↓
CR-CPI-6	2	↓	↓
CR-CPI-7	2	↓	↓
CR-CPI-8	2	↓	↓
CR-FTI-1	3	Activities Room	Dark Blue Floor Tile + Mastic
CR-FTI-2	3	↓	↓
CR-ST-1	4	Stairwells	Stair Treads
CR-ST-2	4	↓	↓
CR-MJP-1	5	Through out	Mud Joint Packing
CR-MJP-2	5	↓	↓
CR-MJP-3	5	↓	↓
CR-MJP-4	5	↓	↓
CR-MJP-5	5	↓	↓
CR-MJP-6	5	↓	↓
CR-FT2-1	6	Activity Room	Light Blue Floor Tile + Mastic
CR-FT2-2	6	↓	↓
CR-FT3-1	7	Activities Room	Bright Blue Floor Tile + Mastic
CR-FT3-2	7	↓	↓
CR-DWI-1	8	Throughat	Drywall + Joint Compound
CR-DWI-2	8	↓	↓
CR-DWI-3	8	↓	↓
CR-DWI-4	8	↓	↓
*Comments/Special Instructions:			

24



EMSL ANALYTICAL, INC.
LABORATORY PRODUCTS TRAINING

Asbestos Bulk Building Material Chain of Custody

EMSL Order Number (Lab Use Only):

161900711

6340 Castleplace Dr.

Indianapolis, IN 46250

PHONE: (317) 803-2997

FAX: (317) 803-3047

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	HA #	Sample Location	Material Description
CR-DWI-5	8	Throughout	Drywall & Joint Compound
CR-DWI-6	8	↓	↓
CR-DWI-7	8	↓	↓
CR-SF-1	9	Activities Room	Subfloor Plaster
CR-SF-2	9	↓	↓
CR-CBI-1	10	1 st Floor Area	Covebase Material
CR-CBI-2	10	↓	↓
CR-CP-1	11	Stairwell Ceiling	Smooth Textured Ceiling Plaster
CR-CP-2	11	↓	
CR-BJ-1	12	Boiler Room	Boiler Jacket Plaster
CR-BJ-2	12	↓	↓
CR-FP-1	13	Boiler Room	Fiberglass TSI Paper
CR-FP-2	13	↓	↓
CR-VD-1	14	2 nd Floor Air Handling Room	Vibration Damper
CR-VD-2	14	↓	↓
CR-VCP-1	15	2 nd Floor Meeting Room	Vaulted Ceiling Plaster
CR-VCP-2	15	↓	↓
CR-VCP-3	15	↓	↓
CR-RWP-1	16	2 nd Floor Office	Rough Textured Wall Plaster
CR-RWP-2	16	↓	↓
CR-RWP-3	16	↓	↓
CR-FT4-1	17	2 nd Floor Hallway	Red Floor Tile + Mortar
CR-FT4-2	17	↓	↓
CR-IWC-1	18	Window Frame	Window Caulk

*Comments/Special Instructions:

161900711

FAX: (317) 803-3047

**EMSL Analytical, Inc.**

6340 CastlePlace Dr., Indianapolis, IN 46250

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

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

EMSL Order: 161900694
CustomerID: STLI93
CustomerPO: RJD - 011119
ProjectID:

Attn: **Robert Davis**
Solar Testing Laboratories, Inc.
1125 Valley Belt Road
Brooklyn Heights, OH 44131

Phone: (216) 741-7007
Fax: (216) 741-7011
Received: 01/14/19 9:15 AM
Collected: 1/10/2019

Project: **Cleve. Central Rec. Center****Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)***

<i>Client SampleDescription</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Weight</i>	<i>RDL</i>	<i>Lead Concentration</i>
L - CWI - 1 161900694-0001	1/10/2019 Site: 1ST FLOOR LOBBY CEILING	1/17/2019	0.2301 g	0.0087 % wt	<0.0087 % wt
L - CWI - 2 161900694-0002	1/10/2019 Site: 1ST FLOOR LOBBY CEILING	1/17/2019	0.2284 g	0.0088 % wt	<0.0088 % wt
L - CBG - 1 161900694-0003	1/10/2019 Site: 1ST FLOOR LOBBY CEILING BEAM	1/17/2019	0.2199 g	0.0091 % wt	0.22 % wt
L - LB - 1 161900694-0004	1/10/2019 Site: 1ST FLOOR LOBBY WALL	1/17/2019	0.2278 g	0.0088 % wt	<0.0088 % wt
L - LB - 2 161900694-0005	1/10/2019 Site: 1ST FLOOR LOBBY WALL	1/17/2019	0.2147 g	0.0093 % wt	<0.0093 % wt
L - LB - 3 161900694-0006	1/10/2019 Site: 1ST FLOOR ACTIVITY RM. WALL	1/17/2019	0.2311 g	0.0087 % wt	<0.0087 % wt
L - DB - 1 161900694-0007	1/10/2019 Site: 1ST FLOOR DOOR + WINDOW + TRIM	1/17/2019	0.0929 g	0.022 % wt	<0.022 % wt
L - DB - 2 161900694-0008	1/10/2019 Site: 1ST FLOOR DOOR + WINDOW + TRIM	1/17/2019	0.0694 g	0.029 % wt	<0.029 % wt
L - TB - 1 161900694-0009	1/10/2019 Site: 1ST FLOOR - JANITOR CLOSET	1/17/2019	0.2452 g	0.20 % wt	0.58 % wt
L - TB - 2 161900694-0010	1/10/2019 Site: 1ST FLOOR - JANITOR CLOSET	1/17/2019	0.2233 g	0.0090 % wt	0.37 % wt
L - T - 1 161900694-0011	1/10/2019 Site: BASEMENT WEIGHT RM WALLS	1/17/2019	0.2299 g	0.0087 % wt	<0.0087 % wt

Doug Wiegand, Laboratory Manager
or other approved signatory

*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.010 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities. Samples received in good condition unless otherwise noted. "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements unless specifically indicated otherwise. Definitions of modifications are available upon request.

Samples analyzed by EMSL Analytical, Inc. Indianapolis, IN AIHA-LAP, LLC--ELLAP 157245, OH E10040

Initial report from 01/17/2019 16:32:06

**EMSL Analytical, Inc.**

6340 CastlePlace Dr., Indianapolis, IN 46250

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

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

EMSL Order: 161900694

CustomerID: STL193

CustomerPO: RJD - 011119

ProjectID:

Attn: **Robert Davis**
Solar Testing Laboratories, Inc.
1125 Valley Belt Road
Brooklyn Heights, OH 44131

Phone: (216) 741-7007
Fax: (216) 741-7011
Received: 01/14/19 9:15 AM
Collected: 1/10/2019

Project: **Cleve. Central Rec. Center****Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)***

<i>Client SampleDescription</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Weight</i>	<i>RDL</i>	<i>Lead Concentration</i>
L - T - 2 161900694-0012	1/10/2019	1/17/2019 Site: BASEMENT WEIGHT RM WALLS	0.2183 g	0.0092 % wt	<0.0092 % wt
L - DM - 1 161900694-0013	1/10/2019	1/17/2019 Site: BASEMENT LEVEL DOORS + TRIM	0.1415 g	0.35 % wt	7.0 % wt
L - DM - 2 161900694-0014	1/10/2019	1/17/2019 Site: BASEMENT LEVEL DOORS + TRIM	0.2367 g	0.42 % wt	19 % wt
L - PB - 1 161900694-0015	1/10/2019	1/17/2019 Site: STAIRWELL ORIG. PLASTER WALLS	0.2149 g	0.47 % wt	25 % wt
L - PB - 2 161900694-0016	1/10/2019	1/17/2019 Site: STAIRWELL ORIG. PLASTER WALLS	0.2487 g	0.40 % wt	11 % wt
L - PB - 3 161900694-0017	1/10/2019	1/17/2019 Site: STAIRWELL ORIG. PLASTER WALLS	0.2242 g	0.22 % wt	7.0 % wt
L - SM - 1 161900694-0018	1/10/2019	1/17/2019 Site: STAIRWELL STAIRCASE RAILS	0.2343 g	0.43 % wt	14 % wt
L - SM - 2 161900694-0019	1/10/2019	1/17/2019 Site: STAIRWELL STAIRCASE RAILS	0.2393 g	0.21 % wt	7.5 % wt
L - GW - 1 161900694-0020	1/10/2019	1/17/2019 Site: STAIRWELL DRYWALL WALLS	0.2321 g	0.0086 % wt	<0.0086 % wt
L - GW - 2 161900694-0021	1/10/2019	1/17/2019 Site: STAIRWELL DRYWALL WALLS	0.2438 g	0.0082 % wt	<0.0082 % wt
L - W - 1 161900694-0022	1/10/2019	1/17/2019 Site: BASEMENT BOILER RM. BRICK WALLS	0.2255 g	0.0089 % wt	<0.0089 % wt

Doug Wiegand, Laboratory Manager
or other approved signatory

*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.010 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities. Samples received in good condition unless otherwise noted. "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements unless specifically indicated otherwise. Definitions of modifications are available upon request.

Samples analyzed by EMSL Analytical, Inc. Indianapolis, IN AIHA-LAP, LLC--ELLAP 157245, OH E10040

Initial report from 01/17/2019 16:32:06

**EMSL Analytical, Inc.**

6340 CastlePlace Dr., Indianapolis, IN 46250

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

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

EMSL Order: 161900694
CustomerID: STLI93
CustomerPO: RJD - 011119
ProjectID:

Attn: **Robert Davis**
Solar Testing Laboratories, Inc.
1125 Valley Belt Road
Brooklyn Heights, OH 44131

Phone: (216) 741-7007
Fax: (216) 741-7011
Received: 01/14/19 9:15 AM
Collected: 1/10/2019

Project: **Cleve. Central Rec. Center****Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)***

<i>Client SampleDescription</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Weight</i>	<i>RDL</i>	<i>Lead Concentration</i>
L - W - 2 161900694-0023	1/10/2019	1/17/2019 Site: BASEMENT BOILER RM. BRICK WALLS	0.2276 g	0.0088 % wt	0.011 % wt
L - BB - 1 161900694-0024	1/10/2019	1/17/2019 Site: BASEMENT BOILER RM. CONCRETE COLUMN	0.2419 g	0.0083 % wt	0.085 % wt
L - BB - 2 161900694-0025	1/10/2019	1/17/2019 Site: BASEMENT BOILER RM. CONCRETE COLUMN	0.2413 g	0.0083 % wt	0.087 % wt
L - BB - 3 161900694-0026	1/10/2019	1/17/2019 Site: BASEMENT BOILER RM. CONCRETE COLUMN	0.2214 g	0.0090 % wt	0.17 % wt
L - Y - 1 161900694-0027	1/10/2019	1/17/2019 Site: BASEMENT BOILER UTILITY + BATHROOM	0.2314 g	0.86 % wt	30 % wt
L - Y - 2 161900694-0028	1/10/2019	1/17/2019 Site: BASEMENT BOILER UTILITY + BATHROOM	0.2421 g	0.41 % wt	21 % wt
L - G - 1 161900694-0029	1/10/2019	1/17/2019 Site: BASEMENT BOILER UTILITY + BATHROOM	0.2464 g	0.81 % wt	26 % wt
L - G - 2 161900694-0030	1/10/2019	1/17/2019 Site: BASEMENT BOILER UTILITY + BATHROOM	0.2256 g	0.44 % wt	24 % wt
L - WW - 1 161900694-0031	1/10/2019	1/17/2019 Site: BASEMENT BOILER UTILITY + BATHROOM	0.1612 g	0.012 % wt	0.016 % wt
L - WW - 2 161900694-0032	1/10/2019	1/17/2019 Site: 2ND FLOOR COMMUNITY ROOM	0.2168 g	0.0092 % wt	<0.0092 % wt
L - W2 - 1 161900694-0033	1/10/2019	1/17/2019 Site: 2ND FLOOR COMMUNITY ROOM	0.2247 g	0.0089 % wt	<0.0089 % wt

Doug Wiegand, Laboratory Manager
or other approved signatory

*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.010 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities. Samples received in good condition unless otherwise noted. "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements unless specifically indicated otherwise. Definitions of modifications are available upon request.

Samples analyzed by EMSL Analytical, Inc. Indianapolis, IN AIHA-LAP, LLC-ELLAP 157245, OH E10040

Initial report from 01/17/2019 16:32:06

**EMSL Analytical, Inc.**

6340 CastlePlace Dr., Indianapolis, IN 46250

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

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

EMSL Order: 161900694

CustomerID: STLI93

CustomerPO: RJD - 011119

ProjectID:

Attn: **Robert Davis**
Solar Testing Laboratories, Inc.
1125 Valley Belt Road
Brooklyn Heights, OH 44131

Phone: (216) 741-7007
Fax: (216) 741-7011
Received: 01/14/19 9:15 AM
Collected: 1/10/2019

Project: **Cleve. Central Rec. Center****Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)***

<i>Client Sample Description</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Weight</i>	<i>RDL</i>	<i>Lead Concentration</i>
L - LB2 - 1 161900694-0034	1/10/2019	1/17/2019 Site: 2ND FLOOR COMM. RM. CEILING	0.2339 g	0.0086 % wt	<0.0086 % wt
L - LB2 - 2 161900694-0035	1/10/2019	1/17/2019 Site: 2ND FLOOR COMM. RM. WINDOW FRAME	0.2388 g	0.0084 % wt	0.32 % wt
L - CPW - A 161900694-0036	1/10/2019	1/17/2019 Site: 2ND FLOOR HALLWAY CEILING FINISH ORIGINAL	0.2255 g	0.22 % wt	0.73 % wt
L - CPW - B 161900694-0037	1/10/2019	1/17/2019 Site: 2ND FLOOR HALLWAY CEILING FINISH ORIGINAL	0.2339 g	0.43 % wt	14 % wt
L - LB3 - A 161900694-0038	1/10/2019	1/17/2019 Site: 2ND FLOOR HALLWAY WALL PLASTER	0.2326 g	0.0086 % wt	0.093 % wt
L - LB3 - B 161900694-0039	1/10/2019	1/17/2019 Site: 2ND FLOOR HALLWAY WALL PLASTER	0.1775 g	0.28 % wt	6.3 % wt
L - B2 - 1 161900694-0040	1/10/2019	1/17/2019 Site: 2ND FLOOR HALLWAY TRIM BOARD	0.2226 g	0.0090 % wt	0.45 % wt
L - W3 - A 161900694-0041	1/10/2019	1/17/2019 Site: 1ST LEVEL LOCKER RM. WALLS	0.0424 g	0.047 % wt	0.054 % wt
L - W3 - B 161900694-0042	1/10/2019	1/17/2019 Site: 1ST LEVEL LOCKER RM. WALLS	0.2341 g	0.0085 % wt	<0.0085 % wt
L - PW - A 161900694-0043	1/10/2019	1/17/2019 Site: 1ST LEVEL LOCKER RM ORIG WALL	0.2485 g	0.40 % wt	18 % wt
L - CP - A 161900694-0044	1/10/2019	1/17/2019 Site: 1ST LEVEL LOCKER RM ORIG CEILING BEAM	0.2341 g	0.43 % wt	21 % wt

Doug Wiegand, Laboratory Manager
or other approved signatory

*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.010 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities. Samples received in good condition unless otherwise noted. "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements unless specifically indicated otherwise. Definitions of modifications are available upon request.

Samples analyzed by EMSL Analytical, Inc. Indianapolis, IN AIHA-LAP, LLC--ELLAP 157245, OH E10040

Initial report from 01/17/2019 16:32:06

**EMSL Analytical, Inc.**

6340 CastlePlace Dr., Indianapolis, IN 46250

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

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

EMSL Order: 161900694

CustomerID: STLI93

CustomerPO: RJD - 011119

ProjectID:

Attn: **Robert Davis**
Solar Testing Laboratories, Inc.
1125 Valley Belt Road
Brooklyn Heights, OH 44131

Phone: (216) 741-7007
Fax: (216) 741-7011
Received: 01/14/19 9:15 AM
Collected: 1/10/2019

Project: **Cleve. Central Rec. Center****Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)***

<i>Client SampleDescription</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Weight</i>	<i>RDL</i>	<i>Lead Concentration</i>
L - GYW - 1 161900694-0045	1/10/2019	1/17/2019 Site: GYM TRACK UNDERNEATH	0.2275 g	0.0088 % wt	0.066 % wt
L - GYW - 2 161900694-0046	1/10/2019	1/17/2019 Site: GYM TRACK UNDERNEATH	0.2347 g	0.0085 % wt	0.19 % wt
L - GB - 1 161900694-0047	1/10/2019	1/17/2019 Site: GYM TRACK RAILING + BASE	0.2266 g	0.22 % wt	7.6 % wt
L - GB - 2 161900694-0048	1/10/2019	1/17/2019 Site: GYM TRACK RAILING + BASE	0.2268 g	0.22 % wt	5.1 % wt
L - BW - 1 161900694-0049	1/10/2019	1/17/2019 Site: GYM WALL BRICK	0.2312 g	0.0087 % wt	0.013 % wt
L - BW - 2 161900694-0050	1/10/2019	1/17/2019 Site: GYM WALL BRICK	0.2338 g	0.0086 % wt	<0.0086 % wt
L - F - 1 161900694-0051	1/10/2019	1/17/2019 Site: LOCKER ROOM FLOOR COATING	0.2132 g	0.0094 % wt	<0.0094 % wt
L - PT - 1 161900694-0052	1/10/2019	1/17/2019 Site: POOL ROOM DOORS + TRIM	0.147 g	0.014 % wt	0.025 % wt
L - BW2 - 1 161900694-0053	1/10/2019	1/17/2019 Site: POOL ROOM WEST WALL BRICK	0.2235 g	0.0089 % wt	<0.0089 % wt
L - CP3 - 1 161900694-0054	1/10/2019	1/17/2019 Site: POOL ROOM CEILING SKIM PLASTER	0.2342 g	0.0085 % wt	<0.0085 % wt
L - WP3 - 1 161900694-0055	1/10/2019	1/17/2019 Site: POOL OFFICE ORIG. PLASTER WALL	0.2319 g	0.22 % wt	10 % wt

Doug Wiegand, Laboratory Manager
or other approved signatory

*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.010 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities. Samples received in good condition unless otherwise noted. "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements unless specifically indicated otherwise. Definitions of modifications are available upon request.

Samples analyzed by EMSL Analytical, Inc. Indianapolis, IN AIHA-LAP, LLC--ELLAP 157245, OH E10040

Initial report from 01/17/2019 16:32:06



EMSL ANALYTICAL, INC.
LABORATORY PRODUCTS TRAINING
LABORATORY PRODUCTS TRAINING

Lead (Pb) Chain of Custody

EMSL Order ID (Lab Use Only):

161900694

EMSL Analytical, Inc.
6340 Castleplace Dr.

Indianapolis, IN 46250
PHONE: (317) 803-2997
FAX: (317) 803-3047

Company: Solar Testing Laboratories, Inc.		EMSL-Bill to: ☐ Same ☒ Different If Bill to is Different note instructions in Comments**	
Street: 1125 Valley Belt Road		Third Party Billing requires written authorization from third party	
City: Brooklyn Heights	State/Province: OH	Zip/Postal Code: 44131	Country: US
Report To (Name): Robert Davis		Telephone #: 216-741-7007	
Email Address: rjd@stloho.com		Fax #:	Purchase Order: RJD-011119
Project Name/Number: Cleve. Central Rec. Center		Please Provide Results: ☐ Fax ☒ Email	
U.S. State Samples Taken: OH		CT Samples: ☐ Commercial/Taxable ☐ Residential/Tax Exempt	
Turnaround Time (TAT) Options* - Please Check			
☐ 3 Hour	☐ 6 Hour	☐ 24 Hour	☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☒ 1 Week ☐ 2 Week
*Analysis completed in accordance with EMSL's Terms and Conditions located in the Price Guide			
Matrix	Method	Instrument	Reporting Limit
Chips ☒ % by wt. ☒ mg/cm ² ☐ ppm (mg/kg)	SW846-7000B	Flame Atomic Absorption	0.01%
Air	NIOSH 7082	Flame Atomic Absorption	4 µg/filter
	NIOSH 7105	Graphite Furnace AA	0.03 µg/filter
	NIOSH 7300M/NIOSH 7303	ICP-OES	0.5 µg/filter
Wipe* ☐ ASTM non ASTM ☐	SW846-7000B	Flame Atomic Absorption	10 µg/wipe
*If no box checked, non-ASTM Wipe assumed	SW846-6010B or C	ICP-OES	1.0 µg/wipe
TCLP	SW846-1311/7000B/SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)
	SW846-1311/SW846-6010B or C	ICP-OES	0.1 mg/L (ppm)
SPLP	SW846-1312/7000B/SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)
	SW846-1312/SW846-6010B or C	ICP-OES	0.1 mg/L (ppm)
TTLc	22 CCR App. II, 7000B/7420	Flame Atomic Absorption	40 mg/kg (ppm)
	22 CCR App. II, SW846-6010B or C	ICP-OES	2 mg/kg (ppm)
STLC	22 CCR App. II, 7000B/7420	Flame Atomic Absorption	0.4 mg/L (ppm)
	22 CCR App. II, SW846-6010B or C	ICP-OES	0.1 mg/L (ppm)
Soil	SW846-7000B	Flame Atomic Absorption	40 mg/kg (ppm)
	SW846-6010B or C	ICP-OES	2 mg/kg (ppm)
Wastewater Unpreserved ☐	SM3111B/SW846-7000B	Flame Atomic Absorption	0.4 mg/L (ppm)
Preserved with HNO ₃ pH < 2 ☐	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)
	EPA 200.7	ICP-OES	0.020 mg/L (ppm)
Drinking Water Unpreserved ☐	EPA 200.8	ICP-MS	0.001 mg/L (ppm)
Preserved with HNO ₃ pH < 2 ☐	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)
	EPA 200.5	ICP-OES	0.003 mg/L (ppm)
TSP/SPM Filter	40 CFR Part 50	ICP-OES	12 µg/filter
	40 CFR Part 50	Graphite Furnace AA	3.6 µg/filter
Other:			
Name of Sampler: Robert Davis		Signature of Sampler: Robert Davis	
Sample #	Location	Volume/Area	Date/Time Sampled
L-CW1-1	1st Floor Lobby Ceiling	—	1-10-19
L-CW1-2	↓	—	↓ ↓
Client Sample #s	L-CW1-1 → L-WP3-1		Total # of Samples: 55
Relinquished (Client): Robert Davis	Date: 1-11-19	Time: 5:00 pm	FED EX Box
Received (Lab): J. Brown	Date: 1-14-19	Time: 9:15 am	9/15
Comments: Bill To: Solar Testing Laboratories, Inc., 1125 Valley Belt Road, Brooklyn Heights, OH, 44131, US Attention: Angela Biddlecombe Phone: 216-741-7007 Email: amb@stloho.com Purchase Order: RJD-011119			

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAININGEMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

LEAD (Pb) CHAIN OF CUSTODY

EMSL ORDER ID (Lab Use Only):

161900694

Indianapolis, IN 46250

PHONE: (317) 803-2997

FAX: (317) 803-3047

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Location	Volume/Area	Date/Time Sampled
L-CBG-1	1st Floor Lobby Ceiling Beam	—	1-10-19
L-LB-1	1st Floor Lobby Wall	—	
L-LB-2	↓ ↓	—	
L-LB-3	1st Floor Activity Rm. Wall	—	
L-DB-1	1st Floor Door & Window & Trim	—	
L-DB-2	↓ ↓	—	
L-TB-1	1st Floor - Janitor Closet	—	
L-TB-2	↓ ↓	—	
L-T-1	Basement Weight Rm Walls	—	
L-T-2	↓ ↓	—	
L-DM-1	Basement level Doors & Trim	—	
L-DM-2	↓ ↓	—	
L-PB-1	Stairwell Orig. Plaster Walls	—	
L-PB-2	↓ ↓	—	
L-PB-3	↓ ↓	—	
L-SM-1	Stairwell Staircase Rails	—	
L-SM-2	↓ ↓	—	
L-GW-1	Stairwell Drywall Walls	—	
L-GW-2	↓ ↓	—	✓

Comments/Special Instructions:

Bill To: Solar Testing Laboratories, Inc., 1125 Valley Belt Road, Brooklyn Heights, OH, 44131, US
Attention: Angela Biddlecombe Phone: 216-741-7007 Email: amb@stloho.com Purchase Order: RJD-011119

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAININGEMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Cleveland Central Rec. Center

LEAD (Pb) CHAIN OF CUSTODY

EMSL ORDER ID (Lab Use Only):

161900694

EMSL Analytical, Inc.
6340 Castleplace Dr.

Indianapolis, IN 46250

PHONE: (317) 803-2997

FAX: (317) 803-3047

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Location	Volume/Area	Date/Time Sampled
L-W-1	Basement Boiler Rm. Brick Walls	—	1/18/19
L-W-2	↓ ↓	—	↓
L-BB-1	Basement Boiler Rm Wall Base	—	↓
L-BB-2	↓ ↓	—	↓
L-BB-3	Basement Boiler Rm. Concrete Column	—	↓
L-Y-1	Basement Boiler Utility & Bathroom	—	↓
L-Y-2	↓ ↓	—	↓
L-G-1	↓ ↓	—	↓
L-G-2	↓ ↓	—	↓
L-WW-1	2nd Floor Community Room	—	↓
L-WW-2	↓ ↓	—	↓
L-W2-1	2nd Floor Comm. Rm. Ceiling	—	↓
L-LB2-1	2nd Floor Comm. Rm. Window Frame	—	↓
L-LB2-2	↓ ↓	—	↓
L-CPW-A	2nd Floor Hallway Ceiling Finish	—	↓
L-CPW-B	↓ ↓ ↓ Original	—	↓
L-LB3-A	2nd Floor Hallway Wall Plaster	—	↓
L-LB3-B	↓ ↓ ↓	—	↓
Comments/Special Instructions:			
BillTo: Solar Testing Laboratories, Inc., 1125 Valley Belt Road, Brooklyn Heights, OH, 44131, US Attention: Angela Biddlecombe Phone: 216-741-7007 Email: amb@stloho.com Purchase Order: RJD-011119			



EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

Cleveland Central Rec. Center

LEAD (Pb) CHAIN OF CUSTODY

EMSL ORDER ID (Lab Use Only):

161900694

EMSL Analytical, Inc.
6340 Castleplace Dr.

Indianapolis, IN 46250

PHONE: (317) 803-2997

FAX: (317) 803-3047

Additional Pages of the Chain of Custody are only necessary if needed for additional sample information

Sample #	Location	Volume/Area	Date/Time Sampled
L-BZ-1	2nd Floor Hallway Trim Board	—	1/16/19
L-W3-A	1st Level Locker Rm. Walls	—	
L-W3-B	↓ ↓	—	
L-PW-A	1st Level Locker Rm. Orig Wall	—	
L-CP-A	1st Level Locker Rm Orig Ceiling Beam	—	
L-GYW-1	Gym Track Underneath	—	
L-GYW-2	↓ ↓	—	
L-GB-1	Gym Track Railing + Base	—	
L-GB-2	↓ ↓	—	
L-BW-1	Gym Wall Brick	—	
L-BW-2	↓ ↓	—	
L-F-1	Locker Room Floor Coating	—	
L-PT-1	Pool Room Doors + Trim	—	
L-BW2-1	Pool Room West Wall Brick	—	
L-CP3-1	Pool Room Ceiling Skim Plaster	—	
L-WP3-1	Pool Office Orig. Plaster Wall	—	↓

Comments/Special Instructions:

Bill To: Solar Testing Laboratories, Inc., 1125 Valley Belt Road, Brooklyn Heights, OH, 44131, US
Attention: Angela Biddlecombe Phone: 216-741-7007 Email: amb@stloho.com Purchase Order: RJD-011119

**EMSL Analytical, Inc.**

6340 CastlePlace Dr., Indianapolis, IN 46250

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

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

EMSL Order: 161901477

CustomerID: STLI93

CustomerPO: bmb-1251

ProjectID:

Attn: **Brian Bostaph**
Solar Testing Laboratories, Inc.
1125 Valley Belt Road
Brooklyn Heights, OH 44131

Phone: (216) 741-7007
Fax: (216) 741-7011
Received: 01/28/19 9:10 AM
Collected: 1/25/2019

Project: CLE Central Rec Center

Test Report: Lead in Paint Chips by Flame AAS (SW 846 3050B/7000B)*

<i>Client SampleDescription</i>	<i>Collected</i>	<i>Analyzed</i>	<i>Weight</i>	<i>RDL</i>	<i>Lead Concentration</i>
L - AT - 1 161901477-0001	1/25/2019	1/28/2019 Site: ART ROOM WALL	0.2266 g	0.44 % wt	17 % wt
L - ACC - 1 161901477-0002	1/25/2019	1/28/2019 Site: ART-ROOM-CEILING ACTIVITY ROOM CEILING	0.2284 g	0.44 % wt	15 % wt
L - AC - 1 161901477-0003	1/25/2019	1/28/2019 Site: ACTIVITY-ROOM-CEILING ART ROOM CEILING	0.2368 g	0.84 % wt	27 % wt
L - OT - 1 161901477-0004	1/25/2019	1/28/2019 Site: BASEMENT OFFICE WALL	0.2254 g	0.44 % wt	17 % wt

Doug Wiegand, Laboratory Manager
or other approved signatory

*Analysis following Lead in Paint by EMSL SOP/Determination of Environmental Lead by FLAA. Reporting limit is 0.010 % wt based on the minimum sample weight per our SOP. Unless noted, results in this report are not blank corrected. This report relates only to the samples reported above and may not be reproduced, except in full, without written approval by EMSL. EMSL bears no responsibility for sample collection activities. Samples received in good condition unless otherwise noted. "<" (less than) result signifies that the analyte was not detected at or above the reporting limit. Measurement of uncertainty is available upon request. The QC data associated with the sample results included in this report meet the recovery and precision requirements unless specifically indicated otherwise. Definitions of modifications are available upon request.

Samples analyzed by EMSL Analytical, Inc. Indianapolis, IN AIHA-LAP, LLC--ELLAP 157245, OH E10040

Initial report from 01/28/2019 17:06:00

Test Report PB w/RDL-7.32.3 Printed: 1/28/2019 5:06:00 PM



EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING
LABORATORY • PRODUCTS • TRAINING

Lead (Pb) Chain of Custody

EMSL Order ID (Lab Use Only):

161901477

EMSL Analytical, Inc.
200 Route 130 North

Cinnaminson, NJ 08077
PHONE: 1-800-220-3675
FAX: (856) 786-5974

Company: Solar Testing Laboratories, Inc.		EMSL-Bill to: ☒ Same ☐ Different If Bill to is Different note instructions in Comments**		
Street: 1125 Valley Belt Road		Third Party Billing requires written authorization from third party		
City: Brooklyn Heights	State/Province: OH	Zip/Postal Code: 44131	Country: US	
Report To (Name): Brian Bostaph		Telephone #: 2167417007		
Email Address: bmb@stloho.com		Fax #:	Purchase Order: bmb-1251	
Project Name/Number: CLE Central Rec Center		Please Provide Results: ☐ Fax ☒ Email		
U.S. State Samples Taken: OH		CT Samples: ☐ Commercial/Taxable ☐ Residential/Tax Exempt		
Turnaround Time (TAT) Options* - Please Check				
☐ 3 Hour	☐ 6 Hour	☒ 24 Hour	☐ 48 Hour ☐ 72 Hour ☐ 96 Hour ☐ 1 Week ☐ 2 Week	
*Analysis completed in accordance with EMSL's Terms and Conditions located in the Price Guide				
Matrix	Method	Instrument	Reporting Limit	Check
Chips ☒ % by wt. ☒ mg/cm ² ☐ ppm (mg/kg)	SW846-7000B	Flame Atomic Absorption	0.01%	☒
Air	NIOSH 7082	Flame Atomic Absorption	4 µg/filter	☐
	NIOSH 7105	Graphite Furnace AA	0.03 µg/filter	☐
	NIOSH 7300M/NIOSH 7303	ICP-OES	0.5 µg/filter	☐
Wipe* ☐ ASTM non ASTM ☐ *If no box checked, non-ASTM Wipe assumed	SW846-7000B	Flame Atomic Absorption	10 µg/wipe	☐
	SW846-6010B or C	ICP-OES	1.0 µg/wipe	☐
TCLP	SW846-1311/7000B/SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	SW846-1311/SW846-6010B or C	ICP-OES	0.1 mg/L (ppm)	☐
SPLP	SW846-1312/7000B/SM 3111B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	SW846-1312/SW846-6010B or C	ICP-OES	0.1 mg/L (ppm)	☐
TTLC	22 CCR App. II, 7000B/7420	Flame Atomic Absorption	40 mg/kg (ppm)	☐
	22 CCR App. II, SW846-6010B or C	ICP-OES	2 mg/kg (ppm)	☐
STLC	22 CCR App. II, 7000B/7420	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	22 CCR App. II, SW846-6010B or C	ICP-OES	0.1 mg/L (ppm)	☐
Soil	SW846-7000B	Flame Atomic Absorption	40 mg/kg (ppm)	☐
	SW846-6010B or C	ICP-OES	2 mg/kg (ppm)	☐
Wastewater Unpreserved ☐ Preserved with HNO ₃ pH < 2 ☐	SM3111B/SW846-7000B	Flame Atomic Absorption	0.4 mg/L (ppm)	☐
	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)	☐
	EPA 200.7	ICP-OES	0.020 mg/L (ppm)	☐
Drinking Water Unpreserved ☐ Preserved with HNO ₃ pH < 2 ☐	EPA 200.8	ICP-MS	0.001 mg/L (ppm)	☐
	EPA 200.9	Graphite Furnace AA	0.003 mg/L (ppm)	☐
	EPA 200.5	ICP-OES	0.003 mg/L (ppm)	☐
TSP/SPM Filter	40 CFR Part 50	ICP-OES	12 µg/filter	☐
	40 CFR Part 50	Graphite Furnace AA	3.6 µg/filter	☐
Other:				☐
Name of Sampler: Brian Bostaph / Bob Davis		Signature of Sampler: <i>[Signature]</i>		
Sample #	Location	Volume/Area	Date/Time Sampled	
L-AT-1	Art Room Wall		1-25-14	
L-ACC-1	Art Room Ceiling		1-25-14	
Client Sample #s: L-AT-1 - L-OT-1		Total # of Samples:		
Relinquished (Client): <i>[Signature]</i>	Date: 1-25-14	Time:		
Received (Lab): <i>[Signature]</i>	Date: 1/28/14	Time: 9:10 AM		
Comments:				



EMSL ANALYTICAL, INC.
LABORATORY • PRODUCTS • TRAINING

161901477

FAX: (856) 786-5974

[illegible]



EA GROUP

Environmental Analysis
and Management

May 9, 2018

Mr. Sandy Kaplan
McPhillips Plumbing, Heating & Air Conditioning
16115 Waterloo Road
Cleveland, Ohio 44110

RE: **Limited Asbestos Survey with May 7, 2018 Supplemental Sampling**
Cleveland Central Recreation Center, 2526 Central Avenue, Cleveland, Ohio
OH41751

Description of Work

EA Group, Mentor, Ohio was contracted by McPhillips Plumbing, Heating & Air Conditioning to conduct a limited asbestos survey of suspect asbestos-containing materials (ACMs) in designated areas of the Cleveland Central Recreation Center at 2526 Central Avenue in Cleveland, Ohio. Sampling activities were performed by EA Group representative Craig Brown on February 28, 2018. Sampling in the first floor stair landing had been limited to wall and ceiling plasters but the ceiling also contained a drywall system, which had been installed on metal sleepers below the plaster ceiling. It was later determined that this suspect material would also be affected by renovations, and supplemental sampling was conducted on May 7, 2018. This report provides the results of the original and supplemental sampling and supersedes all prior reports.

Asbestos Survey

EA Group's licensed Asbestos Hazard Evaluation Specialist Craig Brown, ES35176, developed a sampling strategy and procured bulk samples of designated suspect ACMs in the designated areas on February 28, 2018, with supplemental sampling of additional suspect ACM on May 7, 2018. Homogeneous areas of suspect ACM are identified on the *Asbestos Inspection Data Sheet* forms in Appendix A. General sampling locations are identified on Figure 1R2, also in Appendix A. Classification of any positively identified ACM has been made per National Emission Standard for Hazardous Air Pollutants (NESHAP) regulations, with additional notations for Occupational Safety and Health Administration (OSHA) compliance purposes.

Objective and Limitations of the Inspection

The objective of this limited asbestos survey was to sample and analyze designated suspect ACMs in designated areas of the Cleveland Central Recreation Center in Cleveland, Ohio, pursuant to NESHAPs and OSHA regulations. Sampling was *strictly limited* to the designated materials in the designated areas. No other areas were evaluated, and other suspect materials may exist in areas that have not been included.

Central Recreation Center Expansion -ADDENDUM #2



May 9, 2018

McPhillips Plumbing, Heating & Air Conditioning

Limited Asbestos Survey with May 7, 2018 Supplemental Sampling
Cleveland Central Recreation Center, 2526 Central Avenue, Cleveland, Ohio
OH41751

Page 2

Sampling of suspect insulation behind the exterior skin of the boilers could not be performed without causing unacceptable damage. Until such time that the insulation can be accessed for sampling and analysis, the insulation is considered assumed ACM.

GENERAL LIMITATIONS

1. EA Group cannot guarantee that all ACM has been identified by this survey. The survey was *strictly limited* to designated areas.
2. Additional asbestos materials, not previously identified or quantified, are frequently encountered during renovation or demolition.
3. Actual quantities of asbestos material may vary from any estimates provided in EA Group's report due to identification of additional materials and difficulties in quantifying hidden or inaccessible materials.
4. Prior to demolition or renovation of any structure or equipment, suspect materials that were previously inaccessible or excluded from sampling should be sampled and analyzed for asbestos.

Asbestos Analysis

The bulk samples were analyzed by polarized light microscopy for asbestos content at or through the Laboratory Division of EA Group, which is accredited by the National Institute of Standards and Technology – National Voluntary Laboratory Accreditation Program. The United States Environmental Protection Agency requires all materials containing greater than one percent asbestos by weight to be considered asbestos-containing materials. Composite or layered analyses were performed, depending on the nature of the material, with additional analysis (point-counting) if an initial analysis indicated a trace amount (< 10%) asbestos. Analytical results are provided in Appendix A.

Results

The materials that were sampled as suspect are identified in Table 1. As indicated in Table 1, and detailed in the laboratory reports, all of the materials that were sampled were determined to be non-ACM, at least by EPA definition. The boiler insulation, which could not be sampled, is also listed in Table 1, as an assumed ACM [based on an estimated quantity of the insulation, removal cost is estimated to be in the range of \$1500 to \$2500].



May 9, 2018

McPhillips Plumbing, Heating & Air Conditioning

Limited Asbestos Survey with May 7, 2018 Supplemental Sampling

Cleveland Central Recreation Center, 2526 Central Avenue, Cleveland, Ohio

OH41751

Page 3

It is noted that, although the ceiling plaster [Group G] was determined to be non-ACM by EPA's definition, all of the samples that were analyzed were determined to contain trace amounts ($\leq 1\%$) of asbestos, following point-counting. Because OSHA regulates potential employee exposure to any amount of asbestos, including "trace" concentrations, renovation activities that would affect this specific plaster material would still be governed under OSHA regulations, requiring appropriate worker protection and procedures when handling the materials, but would not be regulated under other EPA regulations, and any waste generated would not be considered asbestos-containing waste.

Once access to the boiler insulation is available, it should be sampled to determine appropriate handling procedures.

If you have any questions or concerns regarding the above information, please contact the undersigned. Thank you for consulting EA Group.

Sincerely,

EA Group

A handwritten signature in cursive script that reads "Timothy S. Bowen".

Timothy S. Bowen,
Vice President/Technical Director

A handwritten signature in cursive script that reads "Craig Brown".

Craig Brown,
ES35176

Table 1 Summary of Results - Cleveland Central Recreation Center

Group	ID # OH41751	MATERIAL DESCRIPTION	Material Type	RESULT
A	01	Hard Fitting on Fiberglass Line	T	0
A	02	Hard Fitting on Fiberglass Line	T	0
A	03	Hard Fitting on Fiberglass Line	T	0
B	04	Fibrous Debris Pile	M	0
B	05	Fibrous Debris Pile	M	0
B	06	Fibrous Debris Pile	M	0
C	07	Tank Insulation; Ends	T	0
C	08	Tank Insulation; Ends	T	0
C	09	Tank Insulation; Ends	T	0
D	Assumed	Interior Boiler Insulation	T	[+]
E	10	Hard Fitting on Fiberglass Line	T	0
E	11	Hard Fitting on Fiberglass Line	T	0
E	12	Hard Fitting on Fiberglass Line	T	0
G	13	Textured Plaster; Ceiling	M/NF2	0,B
G	14	Textured Plaster; Ceiling	M/NF2	0,B
G	15	Textured Plaster; Ceiling	M/NF2	0,B
F	16	Textured Plaster; Wall	M/NF2	0
F	17	Textured Plaster; Wall	M/NF2	0
F	18	Textured Plaster; Wall	M/NF2	0
H	19	Drywall System; Ceiling	M/NF2	0
H	20	Drywall System; Ceiling	M/NF2	0

Group = Homogeneous Group identification

Material Type: S = Surfacing

T = Thermal System Insulation

M = Miscellaneous

NF1 = Non-Friable Category I

NF2 = Non-Friable Category II

Result: 0 = non-ACM

[+] = ACM

B = verified by layering & point-counting

0,B = trace asbestos; non-ACM by EPA but OSHA may apply

Group H, Sample 20 also contained ceiling plaster (Group G) [0,B]

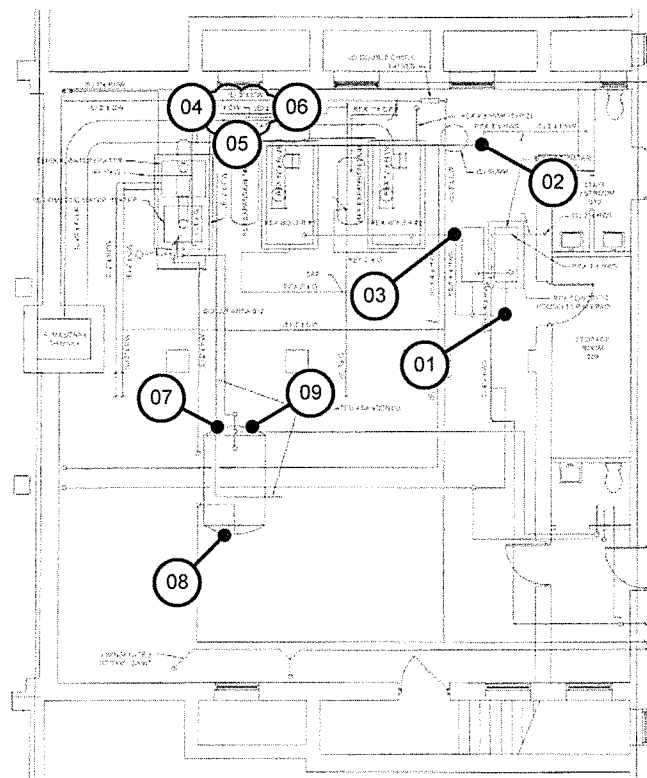


APPENDIX A

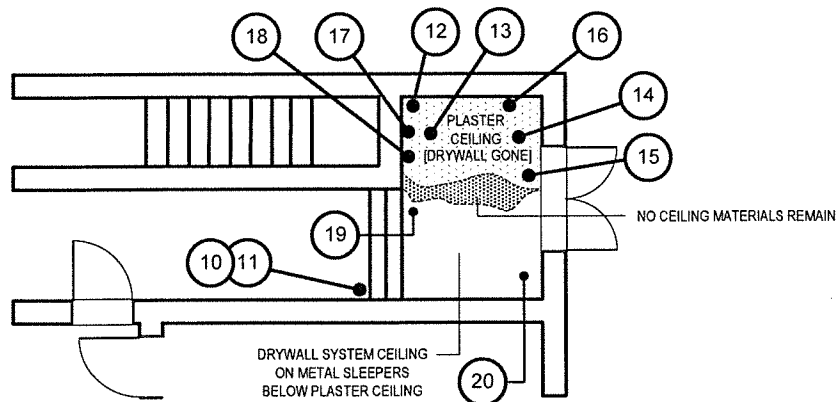
Asbestos Inspection Data Sheet(s),
Schematic(s) of Sample Locations,
and
Laboratory Analytical Report(s)

ASBESTOS INSPECTION DATA SHEET KEY

Client and Project	Information provided by either Work Order or Scope of Work		
Building -	Name and address of building.		
Functional Space -	A room, group of rooms, or homogeneous area designated by the inspector to prepare management plans, design abatement projects, or conduct response actions.		
Group No. -	An arbitrary number/letter assigned to each homogeneous material (material that is uniform in color and texture, serves the same function, and was installed at the same time) encountered during sampling.		
ID # -	A sample number assigned by the inspector which begins with the work order number (OH XXXXX) at the top of the column and then a unique sample number for each sample.		
Material Description -	Distinguishing characteristics that may include system type, function, size, color, shape etc.		
Location -	Location of homogeneous material being sampled or occurrence of homogeneous material.		
Quantity -	Defined as linear footage (LF), square footage (SF), or number of fittings or miscellaneous items, each (EA)		
Material Type -	Abbreviations provided on the form as: S - Surfacing Material (troweled or sprayed-on) T - Thermal System Insulation M - Miscellaneous		
		NF1 - Non-friable Category I NF2 - Non-friable Category II	
Material Condition	ND - No Damage. The material is in visibly good condition with no apparent damage. D - Damage. Material that has "Damage" is defined as damage to less than 10% of the entire homogeneous group or less than 25% of a localized section of the homogeneous group. SD - Significant Damage. Material that is "Significantly Damaged" is defined as damage to greater than 10% of the entire homogeneous group or greater than 25% of a localized section of the homogeneous group.		
Cause of Damage -	P - Physical. Vandalism or accidental damage W - Water. Water damage	D - Deterioration from age Other - Additional influences that may cause damage	
Present Disturbance Factors -	Visible, Accessible, Air Movement, Activity, and Friable		
	Visible - Can it be seen; Yes or No Accessible - Yes - The material is accessible to both the occupants of the building and custodial and maintenance personnel. No - The material is not easily accessible to people; i.e., crawl spaces, pipe tunnels, pipe chases, etc. Air Movement - Low - No air flow/plenum; air flow not recognizable to human touch. Medium - Air flow/plenum present; noticeable air flow; recognizable to human touch. High - Air flow/plenum/air handling unit/fan present; steady to gusty air flow; air flow obvious to human touch. Activity - Low - No traffic/vibrations. Medium - Moderate traffic and/or vibration. High - High traffic and/or continuous vibration. Friable - A material is considered friable if, when dry, it may be crumbled, pulverized, or reduced to powder by hand pressure.		
Present Potential for Damage -	Low Potential for Damage - Accessibility, Influence for Vibration and Air Erosion must be no, low or insignificant. Potential for Damage - Accessible with any combination of low or medium ratings in the Influence for Vibration and Air Erosion categories Potential for Significant Damage - Accessible with any combination with a high rating in Influence of Vibration and Air Erosion categories.		
Hazard Assessment -	Abbreviations provided on the form: PD = Potential for Damage; PSD = Potential for Significant Damage; 0 and Alphabetical abbreviations will be provided during reporting.		



BASEMENT BOILER ROOM



FIRST FLOOR STAIR LANDING

**DRAWING FOR GENERAL REFERENCE PURPOSES ONLY.
ACTUAL ROOM CONFIGURATIONS MAY DIFFER FROM
THOSE SHOWN; ANNOTATIONS BY EA GROUP.
REFER TO SURVEY FOR DETAILS.
NO SCALE.**



**General Sampling Locations for
February 28, 2018 Asbestos Survey
w/ Supplemental Sampling May 7, 2018
Cleveland Central Recreation, Cleveland, Ohio**

EAG No. OH41751

Date: May 9, 2018

Figure 1 R2

ASB\OH41751.MCPHILLIPS.DWG, REV2.VSD

ASBESTOS INSPECTION DATA SHEET

Client: McPhillips Plumbing, Heating & Air Conditioning				Building: Cleveland Central Recreation Center							
Project: Suspect ACM Sampling & Analysis				Functional Space: Boiler Room							
LOCATION	Group	ID #	MATERIAL DESCRIPTION	Quantity	Material		NOTES				
					Type	Cond					
Boiler Room	A	01	Hard Fitting on Fiberglass Line				0				
	A	02	Hard Fitting on Fiberglass Line				0				
	A	03	Hard Fitting on Fiberglass Line				0				
	B	04	Fibrous Debris Pile				0				
	B	05	Fibrous Debris Pile				0				
	B	06	Fibrous Debris Pile				0				
	C	07	Tank Insulation; Ends				0				
	C	08	Tank Insulation; Ends				0				
	C	09	Tank Insulation; Ends				0				
		D	Assumed	Interior Boiler Insulation	100 [2 EA]	T		[+]			
MATERIALS: TYPE: S - Surfacing T - Thermal M - Miscellaneous NF1 - Non-friable Cat. I NF2 - Non-friable Cat. II N/S = not suspect CONDITION: [if relevant] ND - No Damage D - Damage SD - Significant Damage EA GROUP 7118 Industrial Park Blvd. Mentor, OH 44060-5314 (440) 951-3514				QUANTITY = Square Feet unless noted LF = Linear Feet; EA = each FRIABLE: Y = Regulated ACM (RACM) by definition N = not RACM by definition NF1/NF2 may be friable due to condition or may become friable during reno/demo RESULT: 0 - Non-ACM [+] = ACM [no other assessment required] B = Verified by layering/point counting				COMMENTS: 0, B = trace asbestos; non-ACM by EPA but OSHA may apply			
EAG Technician(s): Craig Brown				ES 35176							
Survey Date(s): February 28, 2018				EAG OH41751							
				Page 1 of 2							

ASBESTOS INSPECTION DATA SHEET

Client: McPhillips Plumbing, Heating & Air Conditioning				Building: Cleveland Central Recreation Center					
Project: Suspect ACM Sampling & Analysis				Functional Space: First Floor Stair Landing					
LOCATION	Group	ID #	MATERIAL DESCRIPTION	Quantity	Material		NOTES		
					Type	Cond			
First Floor Stair Landing	E	10	Hard Fitting on Fiberglass Line				0		
	E	11	Hard Fitting on Fiberglass Line				0		
	E	12	Hard Fitting on Fiberglass Line				0		
	F	16	Textured Plaster; Wall				0		
	F	17	Textured Plaster; Wall				0		
	F	18	Textured Plaster; Wall				0		
	H	19	Drywall System; Ceiling				0 [on metal sleepers, below Group G]		
	H	20	Drywall System; Ceiling				0		
	G	13	Textured Plaster; Ceiling				0,B [above Group H]		
	G	14	Textured Plaster; Ceiling				0,B		
G	15	Textured Plaster; Ceiling				0,B			
MATERIALS: TYPE: S - Surfacing T - Thermal M - Miscellaneous NF1 - Non-friable Cat. I NF2 - Non-friable Cat. II N/S = not suspect CONDITION: [if relevant] ND - No Damage D - Damage SD - Significant Damage EA GROUP 7118 Industrial Park Blvd. Mentor, OH 44060-5314 (440) 951-3514				QUANTITY = Square Feet unless noted LF = Linear Feet; EA = each FRIABLE: Y = Regulated ACM (RACM) by definition N = not RACM by definition NF1/NF2 may be friable due to condition or may become friable during reno/demo RESULT: 0 - Non-ACM [*] = ACM [no other assessment required] B = Verified by layering/point counting				COMMENTS: 0, B = trace asbestos; non-ACM by EPA but OSHA may apply	
				EAG Technician(s): Craig Brown					
				ES 35176					
				EAG OH41751					
				Survey Date(s): February 28, 2018; May 7, 2018					
				Page 2 of 2					
				REV. 05/09/2018					



EA GROUP

Environmental Analysis
and Management

McPhillips Plumbing, Heating
16115 Waterloo Road
Cleveland, OH 44110
Sandy Kaplan

Client Project: Limited Asbestos Survey

EA Group Workorder Number: 180200325

Received on February 28, 2018

The following analytical report contains results as requested for samples submitted to EA Group. The results included in this report have been reviewed for compliance with the analytical methods indicated in this report. All data has been found to be compliant with accepted laboratory protocol, except as noted in the QC narrative. Industrial hygiene reports, air and/or surface concentrations results are based upon sampling information provided by the client. Industrial hygiene results will not be blank corrected. Analyst initials of REF indicate analysis performed at a subcontract facility.

If you have questions, comments or require further assistance regarding this report, please contact your client services representative or one of the individuals listed below.

Data or reporting:

Debbie Lauer - Lab Manager
dlauer@eagroupohio.com

Mike Herbert - General Manager
mherbert@eagroupohio.com

Sample tracking, supplies:

Linetta Brown - Sample Control
sreceiving@eagroupohio.com

Invoice Related:

Bonnie Renbarger - Office Manager
brenbarger@eagroupohio.com

Reproduction of this report is prohibited except in its entirety. Unless noted, soil, sludge and sediment results are reported on dry weight basis. The "Sample Reporting Limit" is based on the method used for analysis and does not refer to any regulatory limit. These results relate only to the items tested.



EA GROUP

Environmental Analysis
and Management

Laboratory Analytical Report

McPhillips Plumbing, Heating

16115 Waterloo Road

Cleveland, OH 44110

Attention:
Sandy Kaplan

Project Identification

Limited Asbestos Survey

OH41751

Purchase Order:

EA Group

Order Number

1802-00325

Carl R. Eggebraaten
Microscopist

Deborah L. Lauer
Laboratory Manager

March 5, 2018



Project Summary

The following analytical report contains the results as requested for samples submitted to EA Group. The results included in this report have been reviewed for compliance with the analytical methods indicated in this report. All data have been found to be compliant with accepted laboratory protocol. Exceptions, if any, are noted below.

Sample Summary

Sample Receive Date: 2/28/2018

EAG	Client	EAG	Client
<u>Sample Identification</u>	<u>Sample Identification</u>	<u>Sample Identification</u>	<u>Sample Identification</u>
180200325-01A	OH41751-01	180200325-01B	OH41751-01
180200325-02A	OH41751-02	180200325-02B	OH41751-02
180200325-03A	OH41751-03	180200325-03B	OH41751-03
180200325-04A	OH41751-04	180200325-05A	OH41751-05
180200325-06A	OH41751-06	180200325-07A	OH41751-07
180200325-07B	OH41751-07	180200325-08A	OH41751-08
180200325-08B	OH41751-08	180200325-09A	OH41751-09
180200325-09B	OH41751-09	180200325-10A	OH41751-10
180200325-10B	OH41751-10	180200325-11A	OH41751-11
180200325-11B	OH41751-11	180200325-12A	OH41751-12
180200325-12B	OH41751-12	180200325-13A	OH41751-13
180200325-13B	OH41751-13	180200325-14A	OH41751-14
180200325-14B	OH41751-14	180200325-15A	OH41751-15
180200325-15B	OH41751-15	180200325-16A	OH41751-16
180200325-16B	OH41751-16	180200325-16C	OH41751-16
180200325-17A	OH41751-17	180200325-17B	OH41751-17
180200325-17C	OH41751-17	180200325-18A	OH41751-18
180200325-18B	OH41751-18	180200325-18C	OH41751-18

Quality Control Narrative

Reproduction of this report is prohibited except in its entirety. Unless noted, soil, sludge, and sediment results are reported on dry weight basis. The "Sample Reporting Limit" is based on the method used for analysis and does not refer to any regulatory limit.

Workorder: 1802-00325

Page: 1

EAG ID: 1802-00325-01A Client ID: OH41751-01 Matrix: Bulk
Date Sampled: 02/28/2018 Date Received: 02/28/2018 Date Analyzed: 03/02/2018 Analyst: CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description: White woven material w/yellow coating	

EAG ID: 1802-00325-01B Client ID: OH41751-01 Matrix: Bulk
Date Sampled: 02/28/2018 Date Received: 02/28/2018 Date Analyzed: 03/02/2018 Analyst: CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description: Gray fibrous mud-type material	

EAG ID: 1802-00325-02A Client ID: OH41751-02 Matrix: Bulk
Date Sampled: 02/28/2018 Date Received: 02/28/2018 Date Analyzed: 03/02/2018 Analyst: CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description: White woven material w/yellow coating	

EAG ID: 1802-00325-02B Client ID: OH41751-02 Matrix: Bulk
Date Sampled: 02/28/2018 Date Received: 02/28/2018 Date Analyzed: 03/02/2018 Analyst: CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description: Gray fibrous mud-type material	

Workorder: 1802-00325

Page: 2

EAG ID: 1802-00325-03A **Client ID:** OH41751-03 **Matrix:** Bulk
Date Sampled: 02/28/2018 **Date Received:** 02/28/2018 **Date Analyzed:** 03/02/2018 **Analyst:** CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description:	White woven material w/yellow coating

EAG ID: 1802-00325-03B **Client ID:** OH41751-03 **Matrix:** Bulk
Date Sampled: 02/28/2018 **Date Received:** 02/28/2018 **Date Analyzed:** 03/02/2018 **Analyst:** CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description:	Gray fibrous mud-type material

EAG ID: 1802-00325-04A **Client ID:** OH41751-04 **Matrix:** Bulk
Date Sampled: 02/28/2018 **Date Received:** 02/28/2018 **Date Analyzed:** 03/02/2018 **Analyst:** CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description:	Yellowish mud-type material

EAG ID: 1802-00325-05A **Client ID:** OH41751-05 **Matrix:** Bulk
Date Sampled: 02/28/2018 **Date Received:** 02/28/2018 **Date Analyzed:** 03/02/2018 **Analyst:** CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description:	Yellowish mud-type material

Workorder: 1802-00325

Page: 3

EAG ID: 1802-00325-06A **Client ID:** OH41751-06 **Matrix:** Bulk
Date Sampled: 02/28/2018 **Date Received:** 02/28/2018 **Date Analyzed:** 03/02/2018 **Analyst:** CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description:	Yellowish mud-type material

EAG ID: 1802-00325-07A **Client ID:** OH41751-07 **Matrix:** Bulk
Date Sampled: 02/28/2018 **Date Received:** 02/28/2018 **Date Analyzed:** 03/02/2018 **Analyst:** CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description:	Gray fibrous mud-type material

EAG ID: 1802-00325-07B **Client ID:** OH41751-07 **Matrix:** Bulk
Date Sampled: 02/28/2018 **Date Received:** 02/28/2018 **Date Analyzed:** 03/02/2018 **Analyst:** CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description:	Yellow fibrous glass

EAG ID: 1802-00325-08A **Client ID:** OH41751-08 **Matrix:** Bulk
Date Sampled: 02/28/2018 **Date Received:** 02/28/2018 **Date Analyzed:** 03/02/2018 **Analyst:** CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description:	Gray fibrous mud-type material

Workorder: 1802-00325

Page: 4

EAG ID: 1802-00325-08B **Client ID:** OH41751-08 **Matrix:** Bulk
Date Sampled: 02/28/2018 **Date Received:** 02/28/2018 **Date Analyzed:** 03/02/2018 **Analyst:** CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description:	Yellow fibrous glass

EAG ID: 1802-00325-09A **Client ID:** OH41751-09 **Matrix:** Bulk
Date Sampled: 02/28/2018 **Date Received:** 02/28/2018 **Date Analyzed:** 03/02/2018 **Analyst:** CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description:	Gray fibrous mud-type material

EAG ID: 1802-00325-09B **Client ID:** OH41751-09 **Matrix:** Bulk
Date Sampled: 02/28/2018 **Date Received:** 02/28/2018 **Date Analyzed:** 03/02/2018 **Analyst:** CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description:	Yellow fibrous glass

EAG ID: 1802-00325-10A **Client ID:** OH41751-10 **Matrix:** Bulk
Date Sampled: 02/28/2018 **Date Received:** 02/28/2018 **Date Analyzed:** 03/02/2018 **Analyst:** CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description:	Black and white woven material w/gray surfacing

Workorder: 1802-00325

Page: 5

EAG ID: 1802-00325-10B **Client ID:** OH41751-10 **Matrix:** Bulk
Date Sampled: 02/28/2018 **Date Received:** 02/28/2018 **Date Analyzed:** 03/02/2018 **Analyst:** CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description:	Gray fibrous mud-type material

EAG ID: 1802-00325-11A **Client ID:** OH41751-11 **Matrix:** Bulk
Date Sampled: 02/28/2018 **Date Received:** 02/28/2018 **Date Analyzed:** 03/02/2018 **Analyst:** CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description:	White woven material w/gray surfacing

EAG ID: 1802-00325-11B **Client ID:** OH41751-11 **Matrix:** Bulk
Date Sampled: 02/28/2018 **Date Received:** 02/28/2018 **Date Analyzed:** 03/02/2018 **Analyst:** CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description:	Gray fibrous mud-type material

EAG ID: 1802-00325-12A **Client ID:** OH41751-12 **Matrix:** Bulk
Date Sampled: 02/28/2018 **Date Received:** 02/28/2018 **Date Analyzed:** 03/02/2018 **Analyst:** CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description:	White woven material w/gray surfacing

EAG ID: 1802-00325-12B	Client ID: OH41751-12	Matrix: Bulk
Date Sampled: 02/28/2018	Date Received: 02/28/2018	Date Analyzed: 03/02/2018
		Analyst: CRE
<u>Parameter</u>	<u>Result</u>	
Asbestos Analysis - Bulk		
% Chrysotile Asbestos	ND	
% Amosite Asbestos	ND	
% Crocidolite Asbestos	ND	
% Other Asbestos Fibers	ND	
% Other Non-Asbestos Mat'ls	100	
Analysis Comments	NA	
Sample Physical Description:	Gray fibrous mud-type material	

EAG ID: 1802-00325-13A	Client ID: OH41751-13	Matrix: Bulk
Date Sampled: 02/28/2018	Date Received: 02/28/2018	Date Analyzed: 03/02/2018
		Analyst: CRE
<u>Parameter</u>	<u>Result</u>	
Asbestos Analysis - Bulk		
% Chrysotile Asbestos	ND	
% Amosite Asbestos	ND	
% Crocidolite Asbestos	ND	
% Other Asbestos Fibers	ND	
% Other Non-Asbestos Mat'ls	100	
Analysis Comments	NA	
Sample Physical Description:	White texture material w/glue	

EAG ID: 1802-00325-13B	Client ID: OH41751-13	Matrix: Bulk
Date Sampled: 02/28/2018	Date Received: 02/28/2018	Date Analyzed: 03/02/2018
		Analyst: CRE
<u>Parameter</u>	<u>Result</u>	
Asbestos Analysis - Bulk		
% Chrysotile Asbestos	Trace (<0.25)	
% Amosite Asbestos	ND	
% Crocidolite Asbestos	ND	
% Other Asbestos Fibers	ND	
% Other Non-Asbestos Mat'ls	100	
Analysis Comments	* see note on last page	
Sample Physical Description:	Gray and brown plaster	

EAG ID: 1802-00325-14A	Client ID: OH41751-14	Matrix: Bulk
Date Sampled: 02/28/2018	Date Received: 02/28/2018	Date Analyzed: 03/02/2018
		Analyst: CRE
<u>Parameter</u>	<u>Result</u>	
Asbestos Analysis - Bulk		
% Chrysotile Asbestos	ND	
% Amosite Asbestos	ND	
% Crocidolite Asbestos	ND	
% Other Asbestos Fibers	ND	
% Other Non-Asbestos Mat'ls	100	
Analysis Comments	NA	
Sample Physical Description:	White texture material w/glue	



Environmental Analysis
and Management

Workorder: 1802-00325

Page: 7

EAG ID: 1802-00325-14B **Client ID:** OH41751-14 **Matrix:** Bulk
Date Sampled: 02/28/2018 **Date Received:** 02/28/2018 **Date Analyzed:** 03/02/2018 **Analyst:** CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	Trace (0.25)
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	*
Sample Physical Description:	Gray and brown plaster

EAG ID: 1802-00325-15A **Client ID:** OH41751-15 **Matrix:** Bulk
Date Sampled: 02/28/2018 **Date Received:** 02/28/2018 **Date Analyzed:** 03/05/2018 **Analyst:** CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description:	White texture material w/glue

EAG ID: 1802-00325-15B **Client ID:** OH41751-15 **Matrix:** Bulk
Date Sampled: 02/28/2018 **Date Received:** 02/28/2018 **Date Analyzed:** 03/05/2018 **Analyst:** CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	Trace (<0.25)
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	*
Sample Physical Description:	Gray and brown plaster

EAG ID: 1802-00325-16A **Client ID:** OH41751-16 **Matrix:** Bulk
Date Sampled: 02/28/2018 **Date Received:** 02/28/2018 **Date Analyzed:** 03/05/2018 **Analyst:** CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description:	White plaster

Workorder: 1802-00325

Page: 8

EAG ID: 1802-00325-16B **Client ID:** OH41751-16 **Matrix:** Bulk
Date Sampled: 02/28/2018 **Date Received:** 02/28/2018 **Date Analyzed:** 03/05/2018 **Analyst:** CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description:	Lt. gray plaster

EAG ID: 1802-00325-16C **Client ID:** OH41751-16 **Matrix:** Bulk
Date Sampled: 02/28/2018 **Date Received:** 02/28/2018 **Date Analyzed:** 03/05/2018 **Analyst:** CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description:	Lt. brown plaster

EAG ID: 1802-00325-17A **Client ID:** OH41751-17 **Matrix:** Bulk
Date Sampled: 02/28/2018 **Date Received:** 02/28/2018 **Date Analyzed:** 03/05/2018 **Analyst:** CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description:	White plaster

EAG ID: 1802-00325-17B **Client ID:** OH41751-17 **Matrix:** Bulk
Date Sampled: 02/28/2018 **Date Received:** 02/28/2018 **Date Analyzed:** 03/05/2018 **Analyst:** CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description:	Lt. gray plaster

Workorder: 1802-00325

Page: 9

EAG ID: 1802-00325-17C **Client ID:** OH41751-17 **Matrix:** Bulk
Date Sampled: 02/28/2018 **Date Received:** 02/28/2018 **Date Analyzed:** 03/05/2018 **Analyst:** CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA

Sample Physical Description: Gray plaster

EAG ID: 1802-00325-18A **Client ID:** OH41751-18 **Matrix:** Bulk
Date Sampled: 02/28/2018 **Date Received:** 02/28/2018 **Date Analyzed:** 03/05/2018 **Analyst:** CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA

Sample Physical Description: White plaster

EAG ID: 1802-00325-18B **Client ID:** OH41751-18 **Matrix:** Bulk
Date Sampled: 02/28/2018 **Date Received:** 02/28/2018 **Date Analyzed:** 03/05/2018 **Analyst:** CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA

Sample Physical Description: Lt. gray plaster

EAG ID: 1802-00325-18C **Client ID:** OH41751-18 **Matrix:** Bulk
Date Sampled: 02/28/2018 **Date Received:** 02/28/2018 **Date Analyzed:** 03/05/2018 **Analyst:** CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA

Sample Physical Description: Gray plaster



Workorder: 180200325

These samples were analyzed as received for percentage composition of Asbestos and Non-Asbestos materials by Method(s)
EPA-600/M4-82-020, December 1982 and/or EPA/600/R 93/116 July 1993, which have Detection Limits of less than 1% Asbestos.

The measurement of asbestos percentage is determined by visual estimation. Uncertainty is calculated quarterly in accordance with NISTIR 5951 by Verkouteren and Duewer. Please contact EA Group for the most recent information.

Asbestos Containing Materials (ACM) and Presumed Asbestos Containing Materials (PACM) are regulated by several different governmental regulatory agencies.

EPA NESHAP regulations cover certain buildings that are to be renovated or demolished. NESHAP regulations require that when a sample (or layer of a multi-layered sample) is analyzed and found to contain asbestos at a concentration of less than 10% by a method other than point counting by Polarized Light Microscopy (PLM), the owner/operator has the option of:

- 1) Assuming the amount to be greater than 1% and treating the material as regulated ACM.
- OR
- 2) Requesting verification of the amount by point counting.

Building owners/operators covered by NESHAP should review the following for the full and specific regulations:

- 1) Federal Register, Vol. 55, No. 224, Tuesday, November 20, 1990
- 2) Clarification of NESHAP requirement to perform point counting, May 8, 1991
- 3) Federal Register, Vol. 59, No. 3, Wednesday, January 5, 1994
- 4) Federal Register, Vol. 59, No. 146, Monday, August 1, 1994
- 5) Federal Register, Vol. 60, No. 243, Tuesday, December 19, 1995

Building owners/operators and employers covered by OSHA regulations also have specific requirements regarding ACM and PACM. Those who may be covered by these regulations should review 29 CFR 1910.1001 and 29 CFR 1926.1101 for specific requirements.

FLOOR TILES: PLM should only be considered a screening method for floor tile analysis. Any floor tile with a result of one percent or less asbestos by PLM should be assumed positive for asbestos until the sample is re-analyzed by Analytical Electron Microscopy.

Other difficult matrices (such as bituminous, organically bound, and cementitious materials) may obscure very small asbestos fibers. Some samples may also contain asbestos fibers with diameters below the limit of resolution of the optical microscopes used in typical PLM analysis. Therefore, negative results by PLM on these materials should be confirmed by Analytical Electron Microscopy.

EA Group has a sample retention policy of at least 30 days. After that time, the samples will be disposed of unless the client has requested that they be returned. The client will be charged a shipping and handling fee associated with returned samples only.

Key to analysis comments (if noted on samples):

- * Asbestos content in this sample has been verified by the Chalkley point counting procedure.
- ** The client has the option of requesting verification of this analytical result by point counting as specified by the NESHAP standards.
- *** Insufficient sample amount for quantitation and/or performing Quality Control functions.
- **** Due to the nature of the sample (dust, debris, soil, or vacuum), percentages for the constituents could not be assigned.
- + After gravimetric reduction, the residue has been visually estimated as at least 10% asbestos. Therefore, point counting is not required to satisfy NESHAP requirements.
- ++ Contains fibers that may be an asbestos mineral but could not be positively identified by PLM. Analysis by Transmission Electron Microscopy (TEM) is recommended.
- +++ See additional comment under Quality Control Narrative.
- # This sample contains vermiculite mineral. It is not vermiculite attic insulation.

ND	None Detected
Trace	Observed but less than 1%
NH	Non-Homogeneous sample, the result reflects the average.
Und. non-asb	Undetermined non-asbestos fibers

This report applies only to sample(s) analyzed and may not be used by the client to claim product certification, approval, or endorsement by NVLAP or any agency of the U.S. Government.

325

FIELD REQUEST FOR LABORATORY ANALYSIS

Company Name: McPhillips Plumbing, Heating & Air Conditioning
Address: 16115 Waterloo Road
Cleveland, OH 44110
Attention: Sandy Kaplan
Results Needed By: 3-7-18
Normal: ☒ RUSH: ☐
Priority: (confirm w/ lab)
Date: Time:
Customer Number: 0202338

Telephone:

Fax No:

e-mail:

Sampled by:

C. Brown

Project Name:

Limited Asbestos Survey

Project Number OH

41751

Rush Authorized by:

Project Category: ASB

Special Billing/Reporting:

Is this a VAP project requiring VAP lab analysis?

Yes ☐No ☒

Internal Contact: Bowen

CHAIN OF CUSTODY

Relinquished by

Received by

Name

Date/Time

Name

Date/Time

Craig M

2-28-18 1030

LB

2-28-18

1030

Page of

Sample No.	Homog. Group	1	2
OH41751- G1	A	X	
-02	↓		
-03	B		
-04	↓		
-05	C		
-06	↓		
-07	E		
-08	↓		
-09	F		
-10	↓		
-11			
-12			
-13			
-14			
-15	G		
-16	↓		
-17			
-18			

[illegible][illegible]

(enter # or circle ALL)

ALL

10

Point Count:

2 PLM (full)

1 PLM (standard)

Analytes:

Hygienist:

360

Sampling Date:

81-12-2

Comments:



McPhillips Plumbing, Heating
16115 Waterloo Road
Cleveland, OH 44110
Sandy Kaplan

Client Project: Limited ASB Survey
EA Group Workorder Number: 180500106
Received on May 7, 2018

The following analytical report contains results as requested for samples submitted to EA Group. The results included in this report have been reviewed for compliance with the analytical methods indicated in this report. All data has been found to be compliant with accepted laboratory protocol, except as noted in the QC narrative. Industrial hygiene reports, air and/or surface concentrations results are based upon sampling information provided by the client. Industrial hygiene results will not be blank corrected. Analyst initials of REF indicate analysis performed at a subcontract facility.

If you have questions, comments or require further assistance regarding this report, please contact your client services representative or one of the individuals listed below.

Data or reporting:

Debbie Lauer - Lab Manager
dlauer@eagroupohio.com

Mike Herbert - General Manager
mherbert@eagroupohio.com

Sample tracking, supplies:

Linetta Brown - Sample Control
sreceiving@eagroupohio.com

Invoice Related:

Bonnie Renbarger - Office Manager
brenbarger@eagroupohio.com

Reproduction of this report is prohibited except in its entirety. Unless noted, soil, sludge and sediment results are reported on dry weight basis. The "Sample Reporting Limit" is based on the method used for analysis and does not refer to any regulatory limit. These results relate only to the items tested.



EA GROUP

Environmental Analysis
and Management

Laboratory Analytical Report

McPhillips Plumbing, Heating

16115 Waterloo Road

Cleveland, OH 44110

Attention:
Sandy Kaplan

Project Identification

Limited ASB Survey

OH41751

Purchase Order:

EA Group

Order Number

1805-00106

Carl R. Eggebraaten
Microscopist

Deborah L. Lauer
Laboratory Manager

May 8, 2018



Project Summary

The following analytical report contains the results as requested for samples submitted to EA Group. The results included in this report have been reviewed for compliance with the analytical methods indicated in this report. All data have been found to be compliant with accepted laboratory protocol. Exceptions, if any, are noted below.

Sample Summary

Sample Receive Date: 5/ 7/2018

EAG	Client	EAG	Client
<u>Sample Identification</u>	<u>Sample Identification</u>	<u>Sample Identification</u>	<u>Sample Identification</u>
180500106-01A	OH41751-19	180500106-01B	OH41751-19
180500106-01C	OH41751-19	180500106-02A	OH41751-20
180500106-02B	OH41751-20	180500106-02C	OH41751-20
180500106-02D	OH41751-20	180500106-02E	OH41751-20

Quality Control Narrative

Reproduction of this report is prohibited except in its entirety. Unless noted, soil, sludge, and sediment results are reported on dry weight basis. The "Sample Reporting Limit" is based on the method used for analysis and does not refer to any regulatory limit.

Workorder: 1805-00106

EAG ID: 1805-00106-01A Client ID: OH41751-19 Matrix: Bulk
Date Sampled: 05/07/2018 Date Received: 05/07/2018 Date Analyzed: 05/08/2018 Analyst: CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description:	Pale yellow texture material

EAG ID: 1805-00106-01B Client ID: OH41751-19 Matrix: Bulk
Date Sampled: 05/07/2018 Date Received: 05/07/2018 Date Analyzed: 05/08/2018 Analyst: CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description:	White joint compound/mesh

EAG ID: 1805-00106-01C Client ID: OH41751-19 Matrix: Bulk
Date Sampled: 05/07/2018 Date Received: 05/07/2018 Date Analyzed: 05/08/2018 Analyst: CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description:	Lt. gray drywall w/glue surfacing

EAG ID: 1805-00106-02A Client ID: OH41751-20 Matrix: Bulk
Date Sampled: 05/07/2018 Date Received: 05/07/2018 Date Analyzed: 05/08/2018 Analyst: CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description:	Off-white texture material

Workorder: 1805-00106

Page: 2

EAG ID: 1805-00106-02B Client ID: OH41751-20 Matrix: Bulk
Date Sampled: 05/07/2018 Date Received: 05/07/2018 Date Analyzed: 05/08/2018 Analyst: CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description: White plaster	

EAG ID: 1805-00106-02C Client ID: OH41751-20 Matrix: Bulk
Date Sampled: 05/04/2018 Date Received: 05/07/2018 Date Analyzed: 05/08/2018 Analyst: CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	Trace (0.25)
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	* see note on last page
Sample Physical Description: Gray plaster	

EAG ID: 1805-00106-02D Client ID: OH41751-20 Matrix: Bulk
Date Sampled: 05/07/2018 Date Received: 05/07/2018 Date Analyzed: 05/08/2018 Analyst: CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description: White joint compound/mesh	

EAG ID: 1805-00106-02E Client ID: OH41751-20 Matrix: Bulk
Date Sampled: 05/07/2018 Date Received: 05/07/2018 Date Analyzed: 05/08/2018 Analyst: CRE

<u>Parameter</u>	<u>Result</u>
Asbestos Analysis - Bulk	
% Chrysotile Asbestos	ND
% Amosite Asbestos	ND
% Crocidolite Asbestos	ND
% Other Asbestos Fibers	ND
% Other Non-Asbestos Mat'ls	100
Analysis Comments	NA
Sample Physical Description: Lt. gray drywall w/glue surfacing	



Workorder: 180500106

These samples were analyzed as received for percentage composition of Asbestos and Non-Asbestos materials by Method(s)
EPA-600/M4-82-020, December 1982 and/or EPA/600/R-93/116 July 1993, which have Detection Limits of less than 1% Asbestos.

The measurement of asbestos percentage is determined by visual estimation. Uncertainty is calculated quarterly in accordance with NISTIR 5951 by Verkouteren and Duewer. Please contact EA Group for the most recent information.

Asbestos Containing Materials (ACM) and Presumed Asbestos Containing Materials (PACM) are regulated by several different governmental regulatory agencies.

EPA NESHAP regulations cover certain buildings that are to be renovated or demolished. NESHAP regulations require that when a sample (or layer of a multi-layered sample) is analyzed and found to contain asbestos at a concentration of less than 10% by a method other than point counting by Polarized Light Microscopy (PLM), the owner/operator has the option of:

- 1) Assuming the amount to be greater than 1% and treating the material as regulated ACM.
- OR
- 2) Requesting verification of the amount by point counting.

Building owners/operators covered by NESHAP should review the following for the full and specific regulations:

- 1) Federal Register, Vol. 55, No. 224, Tuesday, November 20, 1990
- 2) Clarification of NESHAP requirement to perform point counting, May 8, 1991
- 3) Federal Register, Vol. 59, No. 3, Wednesday, January 5, 1994
- 4) Federal Register, Vol. 59, No. 146, Monday, August 1, 1994
- 5) Federal Register, Vol. 60, No. 243, Tuesday, December 19, 1995

Building owners/operators and employers covered by OSHA regulations also have specific requirements regarding ACM and PACM. Those who may be covered by these regulations should review 29 CFR 1910.1001 and 29 CFR 1926.1101 for specific requirements.

FLOOR TILES: PLM should only be considered a screening method for floor tile analysis. Any floor tile with a result of one percent or less asbestos by PLM should be assumed positive for asbestos until the sample is re-analyzed by Analytical Electron Microscopy.

Other difficult matrices (such as bituminous, organically bound, and cementitious materials) may obscure very small asbestos fibers. Some samples may also contain asbestos fibers with diameters below the limit of resolution of the optical microscopes used in typical PLM analysis. Therefore, negative results by PLM on these materials should be confirmed by Analytical Electron Microscopy.

EA Group has a sample retention policy of at least 30 days. After that time, the samples will be disposed of unless the client has requested that they be returned. The client will be charged a shipping and handling fee associated with returned samples only.

Key to analysis comments (if noted on samples):

- * Asbestos content in this sample has been verified by the Chalkley point counting procedure.
- ** The client has the option of requesting verification of this analytical result by point counting as specified by the NESHAP standards.
- *** Insufficient sample amount for quantitation and/or performing Quality Control functions.
- **** Due to the nature of the sample (dust, debris, soil, or vacuum), percentages for the constituents could not be assigned.
- + After gravimetric reduction, the residue has been visually estimated as at least 10% asbestos. Therefore, point counting is not required to satisfy NESHAP requirements.
- ++ Contains fibers that may be an asbestos mineral but could not be positively identified by PLM. Analysis by Transmission Electron Microscopy (TEM) is recommended.
- +++ See additional comment under Quality Control Narrative.
- # This sample contains vermiculite mineral. It is not vermiculite attic insulation.

ND	None Detected
Trace	Observed but less than 1%
NH	Non-Homogeneous sample, the result reflects the average.
Und. non-asb	Undetermined non-asbestos fibers

This report applies only to sample(s) analyzed and may not be used by the client to claim product certification, approval, or endorsement by NVLAP or any agency of the U.S. Government.

FIELD REQUEST FOR LABORATORY ANALYSIS

Company Name: McPhillips Plumbing, Heating & AC Results Needed By: 5-7-18^{VMS}
 Address: 16115 Waterloo Road Normal: ☒ RUSH: ☒
Cleveland, OH 44110 Priority: _____ (confirm w/ lab)
 Attention: Sandy Kaplan Date: _____ Time: _____
 Customer Number: 0202338

Telephone: _____ Fax No: _____
 e-mail: _____

Sampled by: C. Brown

Project Name: Limited Ash Survey Project Number OH 41751

Rush Authorized by: _____ Project Category: ASB

Special Billing/Reporting: _____

Is this a VAP project requiring VAP lab analysis? Yes _____ No ☒

Internal Contact: Bowen

CHAIN OF CUSTODY

Relinquished byReceived by

Name	Date/Time	Name	Date/Time
<u>Craig M</u>	<u>5-7-18^{VMS}</u> <u>5-4-18 1300</u>	<u>LB</u>	<u>5-7-18 1300</u>
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

Page of

[illegible][illegible][illegible]

Analytes: 1 PLM (standard) 2 PLM (full) Point Count: _____ or ALL (enter # or circle ALL)

AL

10

Point Count:

2 PLM (full)

1 PLM (standard)

Analytes:

5-7-18^{WV}

445

Sampling Date:

✓

Hygienist.

Comments: