

**ANALYSIS OF BROWNFIELDS CLEANUP ALTERNATIVES  
MINGO JUNCTION STEEL WORKS PARCEL A (LADLE HOUSE)  
NORTH MAIN STREET  
WEIRTON, HANCOCK COUNTY, WEST VIRGINIA**

**Prepared For:**

**BUSINESS DEVELOPMENT CORPORATION  
OF THE NORTHERN PANHANDLE  
WEIRTON, WEST VIRGINIA**

**Prepared By:**

**CIVIL & ENVIRONMENTAL CONSULTANTS, INC.  
EXPORT, PENNSYLVANIA**

**CEC Project 164-123.2H2M**

**November 2017**

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## **1.0 INTRODUCTION AND BACKGROUND**

### **1.1 INTRODUCTION**

This Analysis of Brownfields Cleanup Alternatives (ABCA) for the Mingo Junction Steel Works North Weirton Parcel A – Ladle House (Site) was prepared by Civil & Environmental Consultants, Inc. (CEC) on behalf of the current Site owner, the Business Development Corporation of the Northern Panhandle (BDC). The BDC plans to submit an application to the U.S. Environmental Protection Agency (USEPA) for a Brownfields Cleanup Grant to be used for cleanup of the Site.

### **1.2 SITE DESCRIPTION AND HISTORICAL USE**

The Site covers approximately 0.34 acres and is located along North Main Street in the City of Weirton, Hancock County, West Virginia. The Site contains the former Ladle House, a 15,000 square foot steel-framed and sided structure with concrete foundations and floors. The Site is located in a mixed-use area consisting of commercial, industrial and residential properties. The Site layout is shown on Figure 1.

The Ladle House was constructed in the early 1900s as part of the former Weirton Steel facility. The building was historically used to perform maintenance on ladles used to transport molten iron from the nearby blast furnaces to the open hearth furnace. The iron and steel making operations of the facility ceased around 2011 and the Ladle House has remained vacant since that time.

### **1.3 PREVIOUS SITE INVESTIGATION AND REMEDIATION ACTIVITIES**

CEC performed a Phase I Environmental Site Assessment (ESA) of the Site in November 2017. No Recognized Environmental Conditions (RECs) were identified. However, the Phase I ESA did identify the potential for asbestos-containing materials (ACM) given the age and construction of the building.

Mid Atlantic Environmental Consultants, Inc., a West Virginia-licensed asbestos inspector, completed an ACM survey in October 2017. Thirty five (35) samples of suspect ACM were collected and analyzed for asbestos. Asbestos was identified in 14 samples associated primarily with pipe insulation. Some of the identified ACM is friable and creates a potential health hazard. Excerpts from Mid Atlantic's ACM survey report are provided in Appendix A. This ABCA addresses the abatement of ACM that is required prior to the renovation and reuse of the building.

### **1.4 SITE RE-USE PLANS**

The BDC has been in contact with a prospective purchaser that has interest in repurposing the Site as a metal manufacturing/fabricating operation and chemical processing facility. Other potential reuses include operations to support the growing natural gas industry in the Ohio River Valley.

## **2.0 APPLICABLE REGULATIONS AND CLEANUP STANDARDS**

The asbestos removal and renovation work will be performed in accordance with the requirements of West Virginia Code 45CSR15 and 64CSR63. All required notifications will be made and the work will be performed by a West Virginia Bureau of Public Health licensed asbestos contractor. The lead-contaminated debris that will result from the demolition of the ticket booth will be disposed at an off-site permitted landfill in accordance with 40CFR260 and other applicable laws and regulations.

DRAFT

### **3.0 EVALUATION OF CLEANUP ALTERNATIVES**

#### **3.1 CLEANUP ALTERNATIVES AND ESTIMATED COSTS**

Removing the ACM prior to renovating the building is required by West Virginia law. There are no other viable alternatives (other than no action, in which case the building could not be renovated and reused according to current plans).

The estimated cost to complete the ACM removal is as follows:

Work Plan and Notifications.....	\$1,500
ACM Removal/Disposal.....	\$72,000
Third Party Air Sampling.....	\$1,000
Project Management .....	\$2,000
Total .....	\$76,500

Contractor proposals that were used as the basis for the above cost estimates are provided in Appendix B.

#### **3.2 RECOMMENDED CLEANUP ALTERNATIVE**

Again, removing the ACM prior to renovation is the only viable alternative.

#### **3.3 CONSIDERATION OF CHANGING CLIMATE**

Given the short duration and permanent nature of the project, the effects of climate change will not be a factor.

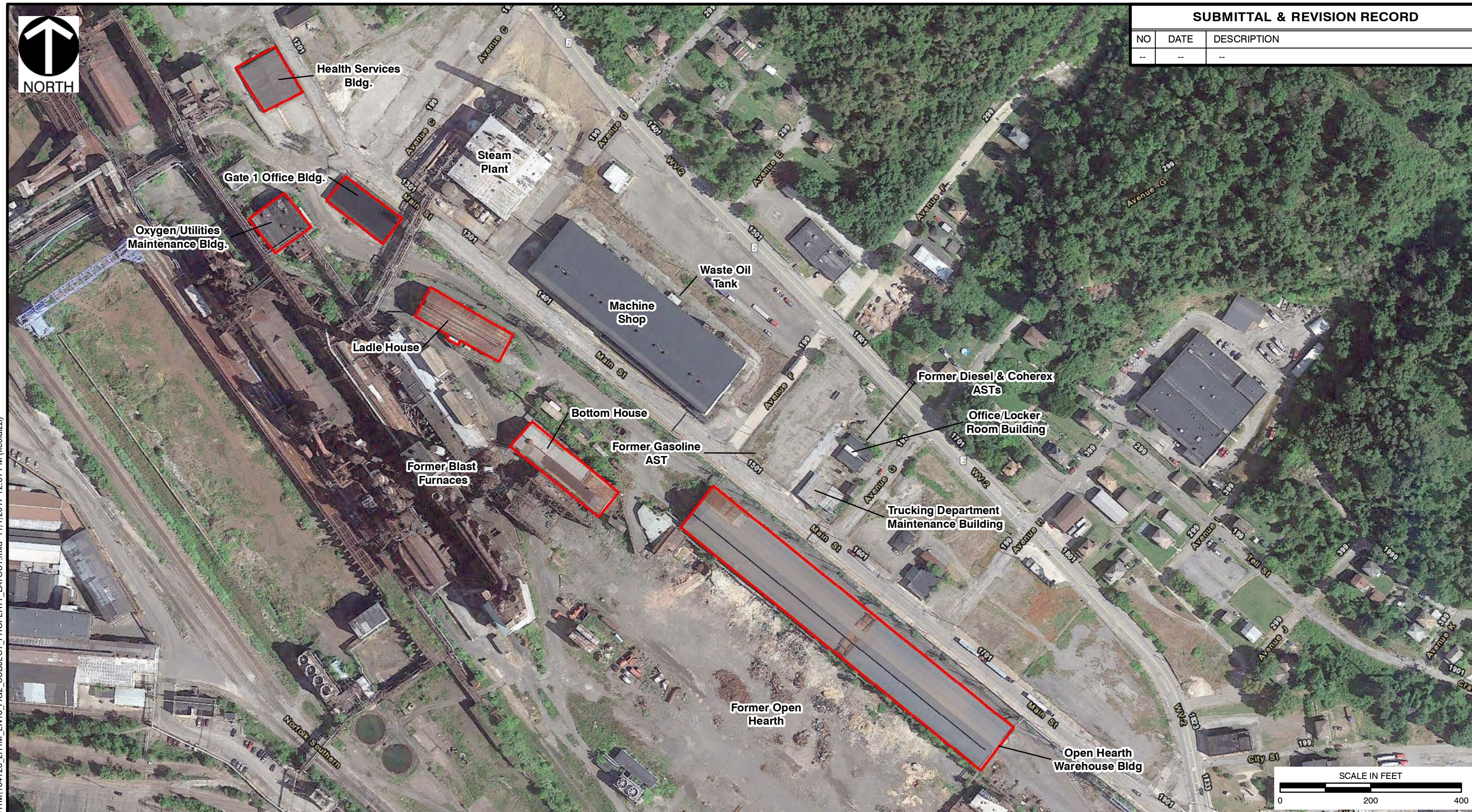
**FIGURE**





SUBMITTAL & REVISION RECORD

NO	DATE	DESCRIPTION
--	--	--



LEGEND



APPROXIMATE SUBJECT PROPERTY

REFERENCE

1. AERIAL PHOTOGRAPHY COPYRIGHT  
GOOGLE EARTH PRO, EXPORTED 02/16/2017  
IMAGERY DATE 08/21/2015.



**Civil & Environmental Consultants, Inc.**

4000 Triangle Lane, Suite 200 - Export, PA 15632

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www.cecinc.com

BUSINESS DEVELOPMENT CORPORATION OF  
THE NORTHERN PANHANDLE  
WEIRTON NORTH PROPERTY  
WEIRTON, HANCOCK COUNTY, WEST VIRGINIA

SUBJECT PROPERTY LAYOUT MAP

DRAWN BY:

KMC

CHECKED BY:

EAS

APPROVED BY:

DRAFT\*

FIGURE NO:  
\* Hand signature  
on file

2

DATE:

11/01/2017

SCALE:

1" = 200'

PROJECT NO:

164-123.2H1M



DRAFT

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**APPENDIX A**

**EXCERPT FROM ASBESTOS SURVEY REPORT**

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MINGO JUNCTION STEEL WORKS  
NORTH END BUILDINGS  
LADLE HOUSE  
WEIRTON, WEST VIRGINIA  
( HANCOCK COUNTY )



ASBESTOS SURVEY REPORT

MID ATLANTIC JOB NUMBER: CEC-17-21

OCTOBER 2017

*PREPARED FOR:*

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.  
4000 TRIANGLE LANE  
SUITE 200  
EXPORT, PA 15632

*PREPARED BY:*

MID ATLANTIC ENVIRONMENTAL CONSULTANTS, INC.  
5320 N. PIONEER ROAD  
GIBSONIA, PA 15044  
(724) 444-3460 – OFFICE  
(724) 444-3463 – FAX  
[midatlantic@zoominternet.net](mailto:midatlantic@zoominternet.net) – EMAIL



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Gibsonia, PA 15044  
Phone: 724-444-3460  
Fax: 724-444-3463  
Email: [midatlantic@zoominternet.net](mailto:midatlantic@zoominternet.net)

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November 2, 2017

Civil & Environmental Consultants  
4000 Triangle Lane  
Suite 200  
Export, PA 15632

Attn: Mr. Dave Olson

**Re: Summary of Asbestos Building Survey – Ladle House Building**

To Whom It May Concern:

On Thursday, October 19<sup>th</sup>, 2017, Mid Atlantic Environmental Consultants, Inc. mobilized and implemented an asbestos demolition survey of the Former Ladle House Building located at the Mingo Junction Steel Facility (North End Buildings) in Weirton, West Virginia. The purpose of this survey was to identify any asbestos containing building materials that may impact the potential future demolition of the building. All visible and accessible suspect asbestos containing building materials were retrieved and analyzed by Polarized Light Microscopy (PLM) with dispersion staining techniques. An asbestos inspection report indicating the results of the survey is enclosed. Mr. Edgar King, an EPA / West Virginia Certified Asbestos Inspector, conducted all survey work. This survey and report are for informational purposes only and are based on the best available information at the time of the survey. The information is intended to provide a basis to solicit bids and develop a plan for abatement work. Additional ACMs may be present which are not able to be identified during the survey. Once abatement and / or demolition activities begin and areas are exposed, additional ACMs may be discovered. A change in the scope of services to identify and categorize additional ACMs may be required.

We appreciate the opportunity to assist Civil & Environmental Consultants, Inc. with this project and look forward to assisting you on future assignments. Should you have any further questions or concerns do not hesitate to contact us at (724) 444-3460 or by e-mail at [midatlantic@zoominternet.net](mailto:midatlantic@zoominternet.net).

Sincerely,

A handwritten signature in blue ink, appearing to read 'Edgar J. King'.

Edgar J. King  
Asbestos Building Inspector  
WV License # AI009156

A handwritten signature in blue ink, appearing to read 'Tim Daniels'.

Timothy E. Daniels  
Managing Partner  
WV License #: AD003952

## North End Buildings - Former Ladle House Building

Mid Atlantic Environmental Consultants, Inc. (MAEC) was retained by Civil & Environmental Consultants, Inc. to conduct an asbestos demolition survey at the Former Ladle House Building located at the Mingo Junction Steel Facility (North End Buildings) in Weirton, West Virginia (Hancock County). Mid Atlantic representative Mr. Edgar King, accompanied by Mr. Dennis Smith, performed the visual inspection and collection of suspect asbestos containing building materials. Mr. King is an EPA / West Virginia Certified Asbestos Inspector (License #: AI009156).

At the time of Mid Atlantic's on-site investigation / asbestos survey, the Former Ladle House Building was un-occupied and in poor condition. There was no access to the rooftop at the time of this survey although it visually appeared to be the same metal as the rest of the building with no visible signs of caulking or tar. The building has been vacant for a number of years and some delamination of the existing building structure has occurred. MAEC's survey team, to the best of their ability, performed this asbestos survey for due diligence purposes given the existing conditions of the building. The purpose of this survey was to identify any suspect asbestos containing building materials that may impact planned future demolition of the building.

Bulk samples of suspect asbestos containing building materials were collected throughout the building. A total of eighteen (18) samples, (35) including splits were collected at this time. Of those samples, fourteen (14) were identified as being ACM. An asbestos containing material is defined as any material containing greater than one percent (>1%) asbestos. For a summary of all identified ACM, refer to Table 1—Asbestos Containing Materials. The complete listing of materials sampled is indicated in Appendix A—Building Inspection Results. Refer to Appendix B- for Sample Location Diagrams.

TABLE 1—ASBESTOS CONTAINING MATERIALS

MATERIAL	LOCATION	APPROX. QUANTITY	FRIABLE / NON-FRIABLE	ASBESTOS CONTENT
Black Wrap	Ladle House Inside 4" Pipe Left Side High Line	160 Ln Ft	Non-Friable	70-80 % Chrysotile
Black Wrap	Ladle House Inside 4" Pipe Left Side High Line	160 Ln Ft	Non-Friable	80 % Chrysotile
Black Wrap	Ladle House Inside 6" Pipe Left Side High Line	160 Ln Ft	Non-Friable	40-70 % Chrysotile
White TSI	Ladle House Inside 4" Pipe Right Side	170 Ln Ft	Friable	10% Amosite
White TSI	Ladle House Inside 6" Pipe Right Side	170 Ln Ft	Friable	2% Chrysotile 20% Amosite
Black Wrap	Ladle House Inside 6" Pipe Right Side	170 Ln Ft	Non-Friable	40-50 % Chrysotile



## **North End Buildings - Former Ladle House Building**

AmeriSci Laboratories of Richmond, Virginia analyzed the bulk samples by Polarized Light Microscopy (PLM) methods. PLM analysis utilizes dispersion staining techniques as described by the Environmental Protection Agency (EPA) Method 600/M4-82-020. Refer to Appendix C for laboratory analysis results.

All asbestos abatement work should be conducted by a licensed asbestos abatement contractor prior to implementing any demolition activity procedures. Prior to the initiation of any asbestos abatement work, ensure that all of the delegated state and local pollution control agencies in the area and / or the EPA regional office are notified.

Refer to appendices for further information.

Appendix A—Building Inspection Results

Appendix B—Sample Location Diagram

Appendix C—Laboratory Analysis Results

Appendix D—Accreditation

*Should you have any further questions, feel free to contact our office at (724) 444-3460.*

## DISCLAIMER

DATE OF ISSUE— November 2, 2017

This asbestos survey report was prepared by Mid Atlantic Environmental Consultants, Inc. The purpose of this survey is to provide general information for the potential upcoming demolition project related to the Former Ladle House Building located at the Mingo Junction Steel Facility (North End Buildings) in Weirton, West Virginia regarding the presence of accessible and / or exposed building materials (including the rooftop) that commonly contain asbestos. There is the distinct possibility that conditions exist which could not be identified within the scope of the study or which were not apparent during the site visit. Unexposed and / or physically inaccessible areas are not warranted in regards to this specific asbestos survey. No warranties expressed or implied are made by Mid Atlantic or its employees, as to the use of any information, apparatus, product or process, disclosed in this report. If project bidding is to be performed in regards to asbestos abatement, it is recommended that all potential abatement contractors re-quantify all given quantities provided in this report. All given quantities of building materials are approximations only. This report is provided for the sole purpose of identifying visible / accessible asbestos containing building materials as outlined herein.

## Appendix A – Building Inspection Results



Mid Atlantic Environmental Consultants, Inc.  
 5320 N. Pioneer Road  
 Gibsonia, PA 15044  
 (724) 444-3460 Phone (724) 444-3463 Fax  
 Email: [midatlantic@zoominternet.net](mailto:midatlantic@zoominternet.net)

## Building Inspection Results

Client: Civil & Environmental Consultants, Inc. Date: October 19, 2017  
 Project: Mingo Junction Steel Works – North End Buildings Inspector: Edgar King  
 Ladle House – Weirton, West Virginia EPA / West Virginia Lic. No: AI009156  
 Job Number: CEC-17-21

SAMPLE	LOCATION	DESCRIPTION	APPROX QUANTITY	CONDITION	POTENTIAL FOR DAMAGE	ASBESTOS CONTENT
01A	Ladle House Inside 4" Pipe Left Side Low Line	White TSI	150 Ln Ft (A)	Poor	High	None
01B	Ladle House Inside 4" Pipe Left Side Low Line	Black Tar	(A)	Poor	High	None
02A	Ladle House Inside 4" Pipe Left Side Low Line	White TSI	(A)	Poor	High	None
02B	Ladle House Inside 4" Pipe Left Side Low Line	Black Tar	(A)	Poor	High	None
03A	Ladle House Inside 4" Pipe Left Side Low Line	White TSI	(A)	Poor	High	None
03B	Ladle House Inside 4" Pipe Left Side Low Line	Black Tar	(A)	Poor	High	None
04A	Ladle House Inside 4" Pipe Left Side High Line	Black / Brown TSI	160 Ln Ft (B)	Poor	High	None
04B	Ladle House Inside 4" Pipe Left Side High Line	Black Wrap	(B)	Poor	High	80 %
05A	Ladle House Inside 4" Pipe Left Side High Line	Black / Brown TSI	160 Ln Ft (C)	Poor	High	None
05B	Ladle House Inside 4" Pipe Left Side High Line	Black Wrap	(C)	Poor	High	80 %

Please be advised that the letter / symbol under the approximate quantities column denotes approximate duplicate quantities through-out this survey for that particular material.

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Client: Civil & Environmental Consultants, Inc. Date: October 19, 2017  
 Project: Mingo Junction Steel Works – North End Buildings Inspector: Edgar King  
 Ladle House – Weirton, West Virginia EPA / West Virginia Lic. No: AI009156  
 Job Number: CEC-17-21

SAMPLE	LOCATION	DESCRIPTION	APPROX QUANTITY	CONDITION	POTENTIAL FOR DAMAGE	ASBESTOS CONTENT
06A	Ladle House Inside 4" Pipe Left Side High Line	Black / Brown TSI	( B )	Poor	High	None
06B	Ladle House Inside 4" Pipe Left Side High Line	Black Wrap	( B )	Poor	High	80 %
07A	Ladle House Inside 4" Pipe Left Side High Line	Black / Brown TSI	( C )	Poor	High	None
07B	Ladle House Inside 4" Pipe Left Side High Line	Black Wrap	( C )	Poor	High	80 %
08A	Ladle House Inside 4" Pipe Left Side High Line	Black / Brown TSI	( B )	Poor	High	None
08B	Ladle House Inside 4" Pipe Left Side High Line	Black Wrap	( B )	Poor	High	70 %
09A	Ladle House Inside 4" Pipe Left Side High Line	Black / Brown TSI	( C )	Poor	High	None
09B	Ladle House Inside 4" Pipe Left Side High Line	Black Wrap	( C )	Poor	High	80 %
10A	Ladle House Inside 6" Pipe Left Side High Line	Black / Brown TSI	160 Ln Ft ( D )	Poor	High	None
10B	Ladle House Inside 6" Pipe Left Side High Line	Black Wrap	( D )	Poor	High	40 %

Please be advised that the letter / symbol under the approximate quantities column denotes approximate duplicate quantities through-out this survey for that particular material.

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## Building Inspection Results

Client: Civil & Environmental Consultants, Inc. Date: October 19, 2017  
 Project: Mingo Junction Steel Works – North End Buildings Inspector: Edgar King  
 Ladle House – Weirton, West Virginia EPA / West Virginia Lic. No: AI009156  
 Job Number: CEC-17-21

SAMPLE	LOCATION	DESCRIPTION	APPROX QUANTITY	CONDITION	POTENTIAL FOR DAMAGE	ASBESTOS CONTENT
11A	Ladle House Inside 6" Pipe Left Side High Line	Black / Brown TSI	(D )	Poor	High	None
11B	Ladle House Inside 6" Pipe Left Side High Line	Black Wrap	(D )	Poor	High	70 %
12A	Ladle House Inside 6" Pipe Left Side High Line	Black / Brown TSI	(D )	Poor	High	None
12B	Ladle House Inside 6" Pipe Left Side High Line	Black Wrap	(D )	Poor	High	50 %
13	Ladle House Inside 4" Pipe Right Side	White TSI	170 Ln Ft (E )	Poor	High	10 %
14A	Ladle House Inside 6" Pipe Right Side	White TSI	170 Ln Ft (F )	Poor	High	22 %
14B	Ladle House Inside 6" Pipe Right Side	Black Wrap	(F )	Poor	High	50 %
15A	Ladle House Inside 4" Pipe Right Side	White TSI	(E )	Poor	High	None
15B	Ladle House Inside 4" Pipe Right Side	Black Tar	(E )	Poor	High	None

Please be advised that the letter / symbol under the approximate quantities column denotes approximate duplicate quantities through-out this survey for that particular material.



Mid Atlantic Environmental Consultants, Inc.  
 5320 N. Pioneer Road  
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 Email: [midatlantic@zoominternet.net](mailto:midatlantic@zoominternet.net)

## Building Inspection Results

Client: Civil & Environmental Consultants, Inc. Date: October 19, 2017  
 Project: Mingo Junction Steel Works – North End Buildings Inspector: Edgar King  
 Ladle House – Weirton, West Virginia EPA / West Virginia Lic. No: AI009156  
 Job Number: CEC-17-21

SAMPLE	LOCATION	DESCRIPTION	APPROX QUANTITY	CONDITION	POTENTIAL FOR DAMAGE	ASBESTOS CONTENT
16A	Ladle House Inside 6" Pipe Right Side	White TSI	(F)	Poor	High	None
16B	Ladle House Inside 6" Pipe Right Side	Black Tar	(F)	Poor	High	None
17A	Ladle House Inside 4" Pipe Right Side	White TSI	(E)	Poor	High	None
17B	Ladle House Inside 4" Pipe Right Side	Black tar	(E)	Poor	High	None
18A	Ladle House Inside 6" Pipe Right Side	White TSI	(F)	Poor	High	20 %
18B	Ladle House Inside 6" Pipe Right Side	Black Wrap	(F)	Poor	High	40 %

*Please be advised that the letter / symbol under the approximate quantities column denotes approximate duplicate quantities through-out this survey for that particular material.*

## ASBESTOS INSPECTION QUESTIONNAIRE

DATE of inspection: 10-19-17 INSPECTOR: Eddy or Kries

CLIENT: CEC

LOCATION: Mingo Junction North End Bldgs. (Ladle House)

ADDRESS: Warton W.V.

COUNTY: Hancock

Please circle one—

Purpose of survey: Demolition Renovation Real estate transaction Other  
If other, explain \_\_\_\_\_

This survey is Complete Limited  
If limited, explain NO FOOT ACCESS BUT USUALLY LOOKS LIKE METAL

The building is currently Occupied Unoccupied

The general condition of the building is Good Fair Poor

Number of buildings included in the survey 1

Number of floors in the building 1

Main exterior building component (i.e. yellow brick, concrete block, etc...) metal siding

Please answer yes or no.

Was the basement included? NA Was the attic included? NA

Was the roof included? NO ACCESS Is a map included? yes

Were any areas inaccessible? yes If yes, explain Roof

Were you accompanied by anyone yes If yes, who Dennis Smith

Were any commonly found materials, not present? (Floor tile, plaster, window caulking, etc...)? yes If yes, list and explain NO plaster, Tile, caulking, Glazing

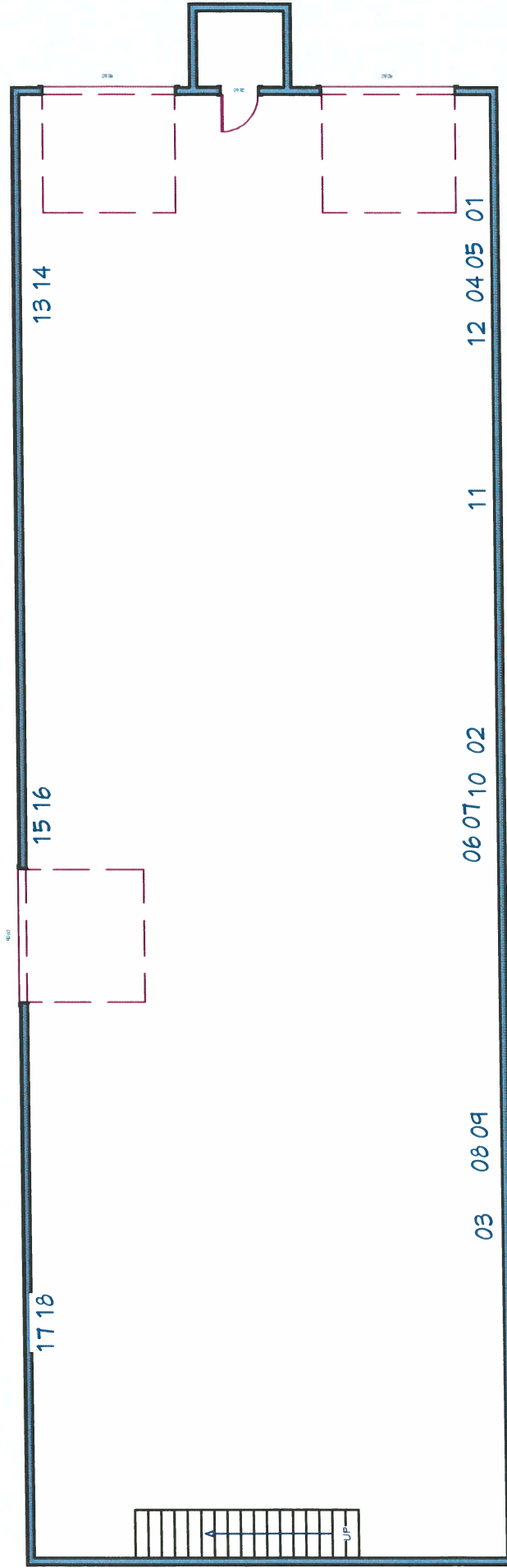
Any other important / relevant observations:



## Appendix B – Sample Location Diagram



Mingo Junction Steel  
Ladle House Building



## Appendix C – Laboratory Analysis Results



5320 N. Pioneer Road  
Gibsonia, PA 15044  
Phone: 724-444-3460 Fax: 724-444-3463

117101881

Chain of Custody Form

SAMPLE	LAB ID NUMBER	TYPE OF ANALYSIS	TURNAROUND TIME
01		PLM Asbestos	standard
18			

Project Site: Mingo Junction Steel weirton Leake House Sampler Signature: [Signature] JN# CEC-17-21

Client / Address: LEC Phone: \_\_\_\_\_ Fax: \_\_\_\_\_

Relinquished By: Edgar King Date: 10-20-17 Time: 0600

Relinquished By: Shelley Burch Date: 10/20/17 Time: 8:06am

Received By ( AmeriSci ) \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

Additional Information:

- Please indicate Mid Atlantic's job # on all results and invoices
- Email results to [midatlantic@zoominternet.net](mailto:midatlantic@zoominternet.net)

RECEIVED

OCT 23 2017

By aru





**AmeriSci Richmond**  
13635 GENITO ROAD  
MIDLOTHIAN, VIRGINIA 23112  
TEL: (804) 763-1200 • FAX: (804) 763-1800

## PLM Bulk Asbestos Report

Mid Atlantic Environmental Consultants,  
Attn: Tim Daniels  
5320 North Pioneer Road  
Gibsonia, PA 15044

**Date Received** 10/23/17  
**Date Examined** 10/27/17

**AmeriSci Job #** 117101881  
**P.O. #**  
**Page** 1 of 7

**RE:** CEC-17-21; CEC; Mingo Junction Steel Weirton Ladle House

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
01	117101881-01.1	No	NAD
Location: Ladle House Inside 4" Pipe Left Side Low Line			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: White, Heterogeneous, Non-Fibrous, Insulation			
Asbestos Types:			
Other Material: Cellulose 20 %, Non-fibrous 80 %			
01	117101881-01.2	No	NAD
Location: Ladle House Inside 4" Pipe Left Side Low Line			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: Black, Heterogeneous, Non-Fibrous, Tar			
Asbestos Types:			
Other Material: Cellulose 3 %, Non-fibrous 97 %			
02	117101881-02.1	No	NAD
Location: Ladle House Inside 4" Pipe Left Side Low Line			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: White, Heterogeneous, Non-Fibrous, Insulation			
Asbestos Types:			
Other Material: Cellulose 20 %, Non-fibrous 80 %			
02	117101881-02.2	No	NAD
Location: Ladle House Inside 4" Pipe Left Side Low Line			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: Black, Heterogeneous, Non-Fibrous, Tar			
Asbestos Types:			
Other Material: Cellulose 5 %, Non-fibrous 95 %			
03	117101881-03.1	No	NAD
Location: Ladle House Inside 4" Pipe Left Side Low Line			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: White, Heterogeneous, Non-Fibrous, Insulation			
Asbestos Types:			
Other Material: Cellulose 20 %, Non-fibrous 80 %			

Client Name: Mid Atlantic Environmental Consultants, Inc

**PLM Bulk Asbestos Report**

CEC-17-21; CEC; Mingo Junction Steel Weirton Ladle House

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
03	117101881-03.2	No	NAD
Location: Ladle House Inside 4" Pipe Left Side Low Line			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: Black, Heterogeneous, Non-Fibrous, Tar			
Asbestos Types:			
Other Material: Cellulose 5 %, Non-fibrous 95 %			
04	117101881-04.1	No	NAD
Location: Ladle House Inside 4" Pipe Left Side High Lines			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: Black/Brown, Heterogeneous, Fibrous, Insulation			
Asbestos Types:			
Other Material: Animal hair 85 %, Non-fibrous 15 %			
04	117101881-04.2	Yes	80 %
Location: Ladle House Inside 4" Pipe Left Side High Lines			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: Black, Heterogeneous, Fibrous, Wrap			
Asbestos Types: Chrysotile 80.0 %			
Other Material: Non-fibrous 20 %			
05	117101881-05.1	No	NAD
Location: Ladle House Inside 4" Pipe Left Side High Lines			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: Black/Brown, Heterogeneous, Fibrous, Insulation			
Asbestos Types:			
Other Material: Animal hair 90 %, Non-fibrous 10 %			
05	117101881-05.2	Yes	80 %
Location: Ladle House Inside 4" Pipe Left Side High Lines			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: Black, Heterogeneous, Fibrous, Wrap			
Asbestos Types: Chrysotile 80.0 %			
Other Material: Non-fibrous 20 %			
06	117101881-06.1	No	NAD
Location: Ladle House Inside 4" Pipe Left Side High Lines			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: Black/Brown, Heterogeneous, Fibrous, Insulation			
Asbestos Types:			
Other Material: Animal hair 90 %, Non-fibrous 10 %			

See Reporting notes on last page

Client Name: Mid Atlantic Environmental Consultants, Inc

**PLM Bulk Asbestos Report**

CEC-17-21; CEC; Mingo Junction Steel Weirton Ladle House

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
06	117101881-06.2	Yes	80 %
Location: Ladle House Inside 4" Pipe Left Side High Lines			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: Black, Heterogeneous, Fibrous, Wrap			
Asbestos Types: Chrysotile 80.0 %			
Other Material: Non-fibrous 20 %			
07	117101881-07.1	No	NAD
Location: Ladle House Inside 4" Pipe Left Side High Lines			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: Black/Brown, Heterogeneous, Fibrous, Insulation			
Asbestos Types:			
Other Material: Animal hair 90 %, Non-fibrous 10 %			
07	117101881-07.2	Yes	80 %
Location: Ladle House Inside 4" Pipe Left Side High Lines			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: Black, Heterogeneous, Fibrous, Wrap			
Asbestos Types: Chrysotile 80.0 %			
Other Material: Non-fibrous 20 %			
08	117101881-08.1	No	NAD
Location: Ladle House Inside 4" Pipe Left Side High Lines			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: Black/Brown, Heterogeneous, Fibrous, Insulation			
Asbestos Types:			
Other Material: Animal hair 90 %, Non-fibrous 10 %			
08	117101881-08.2	Yes	70 %
Location: Ladle House Inside 4" Pipe Left Side High Lines			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: Black, Heterogeneous, Fibrous, Wrap			
Asbestos Types: Chrysotile 70.0 %			
Other Material: Non-fibrous 30 %			
09	117101881-09.1	No	NAD
Location: Ladle House Inside 4" Pipe Left Side High Lines			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: Black/Brown, Heterogeneous, Fibrous, Insulation			
Asbestos Types:			
Other Material: Animal hair 90 %, Non-fibrous 10 %			



Client Name: Mid Atlantic Environmental Consultants, Inc

**PLM Bulk Asbestos Report**

CEC-17-21; CEC; Mingo Junction Steel Weirton Ladle House

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
09	117101881-09.2	Yes	80 %
Location: Ladle House Inside 4" Pipe Left Side High Lines			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: Black, Heterogeneous, Fibrous, Wrap			
Asbestos Types: Chrysotile 80.0 %			
Other Material: Non-fibrous 20 %			
10	117101881-10.1	No	NAD
Location: Ladle House Inside 4" Pipe Left Side High Lines			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: Black/Brown, Heterogeneous, Fibrous, Insulation			
Asbestos Types:			
Other Material: Animal hair 90 %, Non-fibrous 10 %			
10	117101881-10.2	Yes	40 %
Location: Ladle House Inside 4" Pipe Left Side High Lines			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: Black, Heterogeneous, Fibrous, Wrap			
Asbestos Types: Chrysotile 40.0 %			
Other Material: Cellulose 30 %, Non-fibrous 30 %			
11	117101881-11.1	No	NAD
Location: Ladle House Inside 4" Pipe Left Side High Lines			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: Black/Brown, Heterogeneous, Fibrous, Insulation			
Asbestos Types:			
Other Material: Animal hair 90 %, Non-fibrous 10 %			
11	117101881-11.2	Yes	70 %
Location: Ladle House Inside 4" Pipe Left Side High Lines			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: Black, Heterogeneous, Fibrous, Wrap			
Asbestos Types: Chrysotile 70.0 %			
Other Material: Non-fibrous 30 %			
12	117101881-12.1	No	NAD
Location: Ladle House Inside 4" Pipe Left Side High Lines			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: Black/Brown, Heterogeneous, Fibrous, Insulation			
Asbestos Types:			
Other Material: Animal hair 90 %, Non-fibrous 10 %			

See Reporting notes on last page

Client Name: Mid Atlantic Environmental Consultants, Inc

**PLM Bulk Asbestos Report**

CEC-17-21; CEC; Mingo Junction Steel Weirton Ladle House

Client No. / HGA	Lab No.	Asbestos Present	Total % Asbestos
12	117101881-12.2	Yes	50 %
Location: Ladle House Inside 4" Pipe Left Side High Lines			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: Black, Heterogeneous, Fibrous, Wrap			
Asbestos Types: Chrysotile 50.0 %			
Other Material: Cellulose 10 %, Non-fibrous 40 %			
13	117101881-13	Yes	10 %
Location: Ladle House Inside 4" Pipe Right Side			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: White, Heterogeneous, Non-Fibrous, Bulk Material			
Asbestos Types: Amosite 10.0 %			
Other Material: Non-fibrous 90 %			
14	117101881-14.1	Yes	22 %
Location: Ladle House Inside 4" Pipe Right Side			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: White, Heterogeneous, Non-Fibrous, Insulation			
Asbestos Types: Chrysotile 2.0 %, Amosite 20.0 %			
Other Material: Non-fibrous 78 %			
14	117101881-14.2	Yes	50 %
Location: Ladle House Inside 4" Pipe Right Side			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: Black, Heterogeneous, Non-Fibrous, Wrap			
Asbestos Types: Chrysotile 50.0 %			
Other Material: Cellulose 20 %, Non-fibrous 30 %			
15	117101881-15.1	No	NAD
Location: Ladle House Inside 4" Pipe Right Side			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: White, Heterogeneous, Non-Fibrous, Insulation			
Asbestos Types:			
Other Material: Cellulose 20 %, Non-fibrous 80 %			
15	117101881-15.2	No	NAD
Location: Ladle House Inside 4" Pipe Right Side			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: Black, Heterogeneous, Non-Fibrous, Tar			
Asbestos Types:			
Other Material: Cellulose 10 %, Non-fibrous 90 %			

Client Name: Mid Atlantic Environmental Consultants, Inc

**PLM Bulk Asbestos Report**

CEC-17-21; CEC; Mingo Junction Steel Weirton Ladle House

<b>Client No. / HGA</b>	<b>Lab No.</b>	<b>Asbestos Present</b>	<b>Total % Asbestos</b>
16	117101881-16.1	No	NAD
Location: Ladle House Inside 4" Pipe Right Side			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: White, Heterogeneous, Non-Fibrous, Insulation			
Asbestos Types:			
Other Material: Cellulose 20 %, Non-fibrous 80 %			
16	117101881-16.2	No	NAD
Location: Ladle House Inside 4" Pipe Right Side			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: Black, Heterogeneous, Non-Fibrous, Tar			
Asbestos Types:			
Other Material: Cellulose 15 %, Non-fibrous 85 %			
17	117101881-17.1	No	NAD
Location: Ladle House Inside 4" Pipe Right Side			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: White, Heterogeneous, Non-Fibrous, Insulation			
Asbestos Types:			
Other Material: Cellulose 20 %, Non-fibrous 80 %			
17	117101881-17.2	No	NAD
Location: Ladle House Inside 4" Pipe Right Side			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: Black, Heterogeneous, Non-Fibrous, Tar			
Asbestos Types:			
Other Material: Cellulose 15 %, Non-fibrous 85 %			
18	117101881-18.1	Yes	20 %
Location: Ladle House Inside 4" Pipe Right Side			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: White, Heterogeneous, Non-Fibrous, Insulation			
Asbestos Types: Amosite 20.0 %			
Other Material: Non-fibrous 80 %			
18	117101881-18.2	Yes	40 %
Location: Ladle House Inside 4" Pipe Right Side			(by CVES) by Jean L. Mayes on 10/27/17
Analyst Description: Black, Heterogeneous, Fibrous, Wrap			
Asbestos Types: Chrysotile 40.0 %			
Other Material: Cellulose 40 %, Non-fibrous 20 %			

See Reporting notes on last page



Client Name: Mid Atlantic Environmental Consultants, Inc

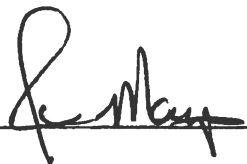
## PLM Bulk Asbestos Report

CEC-17-21; CEC; Mingo Junction Steel Weirton Ladle House

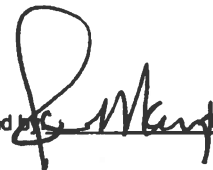
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### Reporting Notes:

Analyzed by: Jean L. Mayes



Date: 10/27/2017 Reviewed by:



\*NAD = no asbestos detected, Detection Limit <1%, Reporting Limits: CVES = 1%, 400 Pt Ct = 0.25%, 1000 Pt Ct = 0.1%; "Present" or NVA = "No Visible Asbestos" are observations made during a qualitative analysis; NA = not analyzed; NA/PS = not analyzed / positive stop; PLM Bulk Asbestos Analysis by EPA 600/R-93/116 per 40 CFR 763 (NVLAP Lab Code 101904-0) and ELAP PLM Analysis Protocol 198.1 for New York friable samples which includes quantitation of any vermiculite observed (198.6 for NOB samples) or EPA 400 pt ct by EPA 600/M4-82-020 (NYSDOH ELAP Lab # 10984); CA ELAP Lab # 2508; Note: PLM is not consistently reliable in detecting asbestos in floor coverings and similar NOB materials. NAD or Trace results by PLM are inconclusive, TEM is currently the only method that can be used to determine if this material can be considered or treated as non-asbestos-containing in New York State (also see EPA Advisory for floor tile, FR 59, 146, 38970, 8/1/94). NIST Accreditation requirements mandate that this report must not be reproduced except in full without the approval of the laboratory. This PLM report relates ONLY to the items tested.

## Appendix D – Accreditation



## WEST VIRGINIA

Asbestos Program

**Edgar J. King**

IS LICENSED AS AN  
**ASBESTOS INSPECTOR**

License # A1009156

Issued: 3/13/2017

Expires: 3/31/2018

*Walter M. Arvey*

Director  
WV OEHS





## WEST VIRGINIA

Asbestos Program

Timothy E. Daniels

License # AD003952

Issued: 10/10/2017

Expires: 10/31/2018

IS LICENSED AS AN  
**ASBESTOS PROJECT  
DESIGNER**

*Walter M. Avery*

Director  
WV OEHS



**WEST VIRGINIA**

Asbestos Program

Mid-Atlantic Environmental  
Consultants, Inc.

IS LICENSED AS AN

**ASBESTOS LABORATORY -  
AIR AND BULK**

License # LT000563

Issued: 5/31/2017

Expires: 5/31/2018

Director  
WV OEHS

*Walter M. Arvey*



# *State of West Virginia*

Bureau for Public Health  
Office of Environmental Health Services  
Radiation, Toxics and Indoor Air Division

This is to certify that

## **Mid-Atlantic Environmental Consultants**

**5320 N. Pioneer Road**

**Gibsonia, PA 15044**

Has complied with Chapter 16, Article 32, of the Asbestos Abatement Licensing Rules and Regulations and is hereby licensed as an Asbestos Air and Bulk Sample Analytical Laboratory.

Asbestos Laboratory License Number:

**LT0000563**

**Issued: 5/31/2017**

**Expires: 5/31/2018**

*Walter M. Ivey*

Walter M. Ivey, Director  
Office of Environmental Health Services

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**APPENDIX B**

**CONTRACTOR COST ESTIMATES**

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