

ASBESTOS INSPECTION REPORT

INSPECTION ADDRESS:

City of Dubuque
Aluminum Furnace
501 East 15th St.
Dubuque, IA 52001
Project #: Z21714W



SUBMITTED TO:

HR Green
8710 Earhard Lane SW
Cedar Rapids, IA 52414

ASBESTOS INSPECTION

Prepared by:

A handwritten signature in black ink, appearing to read "Travis J. Haas", written over a horizontal line.

Travis J. Haas, Inspector

Date

8/15/16

16-5764

Inspector #

1/8/17

License Expiration date

Advanced Environmental Testing and Abatement

803 Ricker Street
Waterloo, Iowa 50703

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SECTION 1

INTRODUCTION

For each area of the building, the inspector performing the inspection did the following:

1. Visually inspected the area(s) to identify the locations of all suspect Asbestos Containing Building Materials.
2. Identify all homogeneous areas of friable and non-friable suspected asbestos.
3. Assume, if necessary, that some or all of the homogeneous area(s) are Asbestos Containing Material (ACM), and for each homogeneous area that is not assumed to be ACM, collect and submit bulk samples for analysis.

SECTION 2

DEFINITIONS:

HOMOGENEOUS AREA

An area which appears similar throughout in terms of color, texture, and date of material application.

SURFACING MATERIAL

Material in a building that is sprayed-on, troweled-on, or otherwise applied to surfaces, such as acoustical plaster on ceilings and fireproofing materials on structural members, or other materials on surfaces for acoustical, fireproofing, or other purposes.

THERMAL SYSTEM INSULATION

Means material applied to pipes, fittings, boilers breeching, tanks ducts, or other interior structural components to prevent heat loss or gain, or water condensation, or other purposes.

MISCELLANEOUS MATERIAL

Interior building material on structural components, structural members or fixtures, such as floor and ceiling tiles, and does not include surfacing material or thermal system insulation.

SAMPLING AND ANALYSIS

All samples to be analyzed by Polarized Light Microscopy (PLM). Analysis was performed in accordance with EPA 40 CFR, Part 763, Appendix A to Subpart F.

A homogeneous area was considered not to contain Asbestos Containing Material (ACM) only if the results of all samples collected from the area showed asbestos in the amounts of one (1) percent (%) or less ($\leq 1\%$). A homogeneous area contains ACM when one or more samples collected from that area shows greater than one (1) percent (%) asbestos ($>1\%$).

FRIABLE

Any material containing more than one (1) percent (%) asbestos that, when dry can be crumbled, pulverized, or reduced to a powder by hand pressure.

NON-FRIABLE (CATEGORY I)

Asbestos containing packings, gaskets, resilient floor covering, and asphalt roofing products, containing more than one (1) percent (%) asbestos.

NON-FRIABLE (CATEGORY II)

Any excluding Non-Friable (Category I) Asbestos Containing Material, containing more than one (1) percent (%) asbestos.

General Building Inspection Observations

The building inspection is conducted by a qualified and State of Iowa licensed Asbestos Inspector. The purpose of a building inspection is to identify existing building materials that are asbestos containing materials (ACM). If the inspection is conducted in an occupied building, the Inspector is sometimes denied accessibility to building areas and materials; i.e., the Inspector may not be allowed to cut through floor coverings or walls, remove quarry tiles, etc. There are many situations where ACM are concealed in wall cavities and other non-accessible areas, such as tunnels, crawl spaces, above ceilings, pipe chases, behind wall coverings, beneath debris piles, under various floor coverings, etc. When these situations occur in construction, renovation, and/or demolition, etc., materials in these areas shall be treated as ACM and handled as such by qualified and licensed asbestos personnel. If suspect asbestos containing material is discovered or damaged during the course of any activities, the material shall be considered and treated as ACM to diminish further fiber release. In addition, the Inspector uses an independent laboratory that analyzes the bulk building material samples using Polarized Light Microscopy (PLM). PLM analysis technique may not be as accurate as more expensive analysis techniques for certain building materials. It remains the Building Owner and/or Representative(s)' responsibility to address this issue and consider analyzing suspect building material using different analysis techniques prior to disturbing the material(s). The following are areas that may not be inspected.

1. **Tunnels and Crawl Spaces:** During the inspection process, the Inspector attempts to check tunnels and crawl spaces for ACM and the degree of damage to the materials. In most cases, quantification of ACM in these areas is impossible due to the inaccessibility to these areas. In addition, these areas may fall under: "Confined Space Regulations". Due to the congestion in tunnels and crawl spaces, obtaining an accurate quantification for mudded joints, pipe wrap, etc. is almost impossible. The Inspector will quantify ACM only in accessible tunnels and crawl spaces, and estimate the quantities in the inaccessible areas. Some reasons for inaccessibility are as follows: flooded areas, pipe congestion, asbestos and other debris, electrical hazards, confined spaces, unknown gas emissions, low ceilings, etc.
2. **Boilers and Thermal System Insulation:** Interior portions of boilers, heaters, storage tanks, etc. are not always accessible. Materials in these areas will be treated as ACM. Areas of concern are packing inside boiler doors and liners. Use extreme care and properly trained personnel when handling these types of materials. Some boilers have insulated metal jackets over fiberglass or ACM. Thermal system insulation can be found in many different forms; i.e., air cell, preformed magnesium block, millboard, etc. All fiberglass materials are excluded as suspect ACM.

3. Advanced Environmental Testing and Abatement, Inc. in general did not conduct destructive samples. Examples include behind finished surfaces (plaster, drywall, paneling, hard pan ceilings) inside mechanical chases, under ceramic tile, or any area inaccessible. Any and all material not listed on the sample inventory list are assumed positive unless tested.
4. **Electrical systems:** Samples of electrical systems should be assumed positive unless listed on the sample inventory list. Sampling will be completed if power is off and the system does not present a hazard to the inspector.
5. **Debris:** In areas where damaged ACM may be found there may and usually will be ACM debris in the general area of the damaged material. These areas shall be treated with the utmost care even during the inspection and quantification process. The Inspector considers any exposure to this type of material as a health threat.
6. **State of Quantification:** As a general rule, individual rooms or areas of estimation contain inherently more probability of an error than those groups of rooms or areas or an entire building. In other words, the aggregate tends to be more accurate than the sums of the individual parts. Therefore, when designing response actions (measurements, air samples, etc.), the project designer and the asbestos abatement contractor's attention shall be given to ensure that quantification of materials and proper methods are followed through careful analysis of the site. If materials are quantified, the asbestos abatement contractor or owner, owner representatives or third parties are responsible for verifying the quantities.
7. **The Inspector** may take some latitude in the presentation of the Inspection Report. When the Inspector has found floor tiles, linoleum, and/or carpeting listed he/she may or may not have adhesives listed. Adhesives have been known to contain asbestos and therefore, although not mentioned, it may be presumed to be ACM, listed or not. Testing of the adhesive prior to disturbing is recommended. The same is true for adhesives or mastics used to adhere linoleum to floors or counter tops. All troweled-on and/or sprayed-on surfacing materials; i.e., floor mastics, wall and ceiling surfacings, etc. are either suspected or presumed ACM unless sampled and analyzed to indicate that they are not ACM.
8. **In the Inspection Report,** certain items such as mudded joints (MJ) or metal doors (MD), etc. are listed as units or number of units; i.e. 10 MJ, 3 Damaged, which is an indication of count rather than square feet or linear feet. Most materials listed in the assessment are either listed as square feet or linear feet with these noted exceptions.
9. **In the Assessment Process,** there are additional codes such as ME and MG; ME representing miscellaneous electrical and MG representing miscellaneous gasket materials. Both of these codes are used to indicate materials that are unusual to the normal course of an assessment of the building. Miscellaneous electrical materials include old electrical wiring, switchboards, transite panels, etc. Miscellaneous gasket materials can be found between (thermal) valves, on boiler doors, between fittings, between molds, etc. These codes give the Inspector the ability to qualify materials, which sometimes may not be considered as ACM.

10. **An Asbestos Code Sheet** is included with the Inspector's inspection report, which informs the client as to the Homogeneous Codes used during the inspection process.
11. **Caution-** Regarding Inspection results- Floor tiles, adhesives, and drywall (mud) found to not contain asbestos should be re-analyzed under the "Chatfield Method" of TEM analysis. Many times the results from having these materials analyzed under PLM results in false positives or false negatives. After reviewing your report, please notify the inspector if you want these samples analyzed under the "Chatfield Method".
12. Any sample less than 10% asbestos may be Point Counted. Point counting is a more accurate method of analyzing of bulk samples. The results of the point counting are the results that will determine if the material will be treated as asbestos.
13. Asbestos inspections are performed based on current understanding of the regulations. As new interpretations of the regulations are made aware of by the EPA, DNR or IOSHA, Advanced Environmental Testing and Abatement Inc. will adapt their inspections to comply with these new procedures. If additional sampling is required by the different agencies, Advanced Environmental will do the additional sampling. The owner is responsible for the additional cost for these samples as well as labor.
14. Advanced Environmental Testing and Abatement, Inc. shall not be responsible for any cost of abating any additional asbestos discovered in any renovation or demolition activities. Any additional items discovered shall be tested when they become accessible. For example, old adhesive may be under new floor tiles and adhesive. Additional materials may be concealed in walls, under multi layers of flooring, etc.
15. All amounts listed are estimates. It is up to other contractors to field verify any amounts that are listed within this report.
16. All material that looks similar should be treated as asbestos containing materials.
17. Asbestos Material containing <1%. Some material tested for asbestos may contain trace amounts of asbestos and be below the threshold for asbestos contain material according to both the Iowa Department of Natural Resources and the Iowa Division of Labor. However, both the State of Iowa Division of Labor (Occupational Safety and Health Administration) and the Federal Occupational Safety and Health Administration still have some regulations that contractors must follow under 29 CFR 1926.1101. Contractors working with asbestos material with <1% asbestos must still produce a negative and initial exposure assessment, completed by a "competent person". Contractors must follow 29 CFR 1926. 1101 (g)(1)(ii) and (iii) and 29 CFR 1926. 1101(g)(3)(i), (ii), and (iv). Please contact Advanced Environmental Testing and Abatement, Inc. for consultation on how to handle material with <1% asbestos.
18. Flat roofs: If any layer of a flat roof tests positive for asbestos, all layers should be considered asbestos and removed as such. Advanced Environmental Testing and Abatement, Inc. makes every effort to core roof samples through all layers.

ASBESTOS CODES

A = Assumed	MJ = Mudded Joint
ADH = Adhesive	NC = Nose Cap
APW = Air Cell Pipe Wrap	NF = Non Friable
BP = Boiler Plaster	NSM = Not Suspect Material
C = Ceiling	P or PH = Previous History
CAPS = Stair Treads	PP = Patched Plaster/Drywall
CQ = Can't Quantify	PSA = Sand Plaster
CT = Ceiling Tiles	PSM = Smooth Plaster
CT/12 = 12" Ceiling Tiles	S = Sample/Samples/Sampled
DAM. = Damaged	SCT = Suspended Ceiling Tile
DEB = Debris	SR = Sample Result
DW = Drywall	ST = Storage Tank
F = Friable	SUR = Surfacing
FE = Furnace Exhaust	T = Thermal
FT = Floor Tiles	Thermal Pipe Measurement = Linear Feet
GASK = Gaskets	TR = Transite
GYM = Gypsum	TSI = Thermal System Insulation
HOMO = Homogeneous	VC = Vibration Cloth
LINO = Linoleum	VDW = Vinyl Covered Drywall
MISC = Miscellaneous Non Friable	W = Walls
MAC = Metal Asbestos Chimney	WD = Wood Door
MATL DESC = Material Description	N = North
MD = Metal Door	S = South
ME = Miscellaneous Electrical	E = East
MF = Miscellaneous Friable	W = West

1. All Metal Doors are listed by quantities, example 3 = 3 metal doors.
2. All Mudded Joints are listed by quantities of MJ, not sizes.
3. All Pipe Wrap materials are listed in linear feet.
4. All other measurements are square feet unless stated elsewhere.
5. Sample Results:
 - N = Not Considered Asbestos Containing Material
 - Y = Considered Asbestos Containing Material
 - P or PH = Previous History
 - N/A = Not Analyzed
 - <1% = Contains less than 1% Asbestos Containing Material
 - >1% = Contains more than 1% Asbestos Containing Material
6. All Adhesives are considered Asbestos Containing Material (ACM) which can't be quantified - Non Friable ACM.
7. All Seals and Gaskets are considered Asbestos Containing Material (ACM) which can't be quantified – Non Friable ACM.

SECTION 4

State of Iowa Asbestos Inspector License

TRAVIS HAAS

DOB: 01/09/1982

Issued: 01/15/2016



This person is licensed to perform asbestos work in the State of Iowa. ID card is intended for official use only and must be present on jobsite.

License type

INSPECTOR

Number Expires

16-5764

01-08-2017



ASBESTOS

**Michael A. Mauro
Labor Commissioner**

SECTION 5

Asbestos Inspector Certificate

2016



OCCUPATIONAL TRAINING & SUPPLY, INC.

7233 S. Adams Street ♦ Willowbrook, IL 60527 ♦ (630) 655-3900

Asbestos Building Inspector Refresher

Occupational Training & Supply, Inc. certifies that

Travis Haas

has successfully completed the Asbestos Building Inspector Refresher course and has passed the competency exam with a minimum score of 70%. The course is accredited by the Wisconsin Department of Health Services for purposes of accreditation in accordance with requirements listed under CH.DHS159, Wisconsin Administrative Code; EPA 40 CFR 763, Asbestos Hazard Emergency Response Act (AHERA) and TSCA Title II.

Location: 12304 75th Street Kenosha, WI 53142

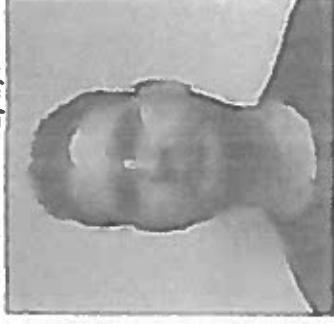
Certificate Number: BIRWI1601080068

Course Date: 1/8/2016

Exam Date: 1/8/2016

Expiration Date: 1/8/2017

Issue Date: 1/8/2016



Kathy DeSalvo, Director

SECTION 6

REPORT DATA

BUILDING NAME: Aluminum furnace

INSPECTION AREAS: Limited interior samples

CLIENT CONTRACT: Emily Smart: 319-331-1577

METHOD:

All samples are sent to EMC LABS, INC in Phoenix, Arizona. EMC LABS is accredited by the National Institute for Standards and Technology for Polarized Light Microscopy analysis under their NVLAP accreditation (NVLAP #: 101926-0). Sampling was completed by a State of Iowa licensed asbestos inspector, licensed with the Iowa Division of Labor. Sampling methods were based on National Emission Standards for Hazardous Air Pollutants (NESHAPS) protocols. Bulk samples of suspect asbestos containing material were analyzed by Polarized Light Microscopy (PLM).

OVERVIEW:

A partial asbestos inspection was conducted on August 9th, 2016 at the property located at the above address. Sampling was conducted on the interior refractory cement inside an aluminum furnace located on the property above. Samples were taken from the front and rear of the furnace. Samples were taken of accessible materials. If any additional suspect materials are found during demolition of the furnace, demolition should stop and additional samples should be taken. Five samples were taken inside the furnace. Samples can be categorized by miscellaneous, surfacing, and thermal. The following samples were taken of each:

Miscellaneous samples tested include:

Surfacing samples included:

Thermal samples include:

Refractory brick

Refractory cement

SECTION 7

PROJECT SUMMARY

POSITIVE SAMPLE RESULTS:

The following samples tested positive (>1%) for asbestos:

No positive materials

The purpose of this inspection was to identify asbestos containing materials prior to demolition. The inspection entailed a visual assessment of the property for suspect asbestos containing materials, collection, and submittal of bulk samples for analysis.

In Iowa, asbestos activities are controlled by the Iowa Department of Natural Resources and Iowa Workforce Development Division of Labor.

Questions about testing and removal can be answered by:

Tom Wuehr: Iowa Department of Natural Resources, Air Quality Division: 515-281-8212:

Jeff Ellis: Iowa Workforce Development Division of labor at 515-281-5557

NOTES:

#1: Only accessible materials were tested.

SEE NEXT PAGE

EMC LABS, INC.

9830 S. 51st Street, Suite B109, Phoenix, AZ 85044
Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report
0174396

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	ADVANCED ENVIRONMENTAL	Job# / P.O. #:	Z21714W
Address:	803 RICKER ST	Date Received:	08/11/2016
	WATERLOO IA 50703	Date Analyzed:	08/12/2016
Collected:	08/10/2016	Date Reported:	08/12/2016
Project Name:	HR GREEN (CITY OF DUBUQUE)	EPA Method:	EPA 600/R-93/116
Address:		Submitted By:	TRAVIS HAAS
		Collected By:	

Lab ID Client ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0174396-001 R-1	REFRACTORY CEMENT FROM CORNER	Refractory Cement, Lt. Gray/Tan	No	None Detected	Cellulose Fiber <1%
					Gypsum Quartz Binder/Filler 99%
0174396-002 R-2	REFRACTORY BRICK FRONT RIGHT	LAYER 1	No	None Detected	Cellulose Fiber <1%
		Refractory Brick, Off White			Gypsum Quartz Binder/Filler 99%
		LAYER 2	No	None Detected	Cellulose Fiber <1%
		Refractory Mortar, Lt. Gray			Gypsum Mica Binder/Filler 99%
0174396-003 R-3	REFRACTORY CEMENT FLOOR, FRONT AREA	Refractory Cement, Lt. Gray	No	None Detected	Gypsum Binder/Filler 100%
0174396-004 R-4	REFRACTORY CEMENT REAR OPENING	Refractory Cement, Lt. Gray	No	None Detected	Cellulose Fiber <1%
					Gypsum Mica Binder/Filler 99%

EMC LABS, INC.

9830 S. 51st Street, Suite B109, Phoenix, AZ 85044
Phone: 800-362-3373 or 480-940-5294 - Fax: (480) 893-1726

Laboratory Report
0174396

Bulk Asbestos Analysis by Polarized Light Microscopy

NVLAP#101926-0

Client:	ADVANCED ENVIRONMENTAL	Job# / P.O. #:	Z21714W
Address:	803 RICKER ST	Date Received:	08/11/2016
	WATERLOO IA 50703	Date Analyzed:	08/12/2016
Collected:	08/10/2016	Date Reported:	08/12/2016
Project Name:	HR GREEN (CITY OF DUBUQUE)	EPA Method:	EPA 600/R-93/116
Address:		Submitted By:	TRAVIS HAAS
		Collected By:	

Lab ID	Sample Location	Layer Name / Sample Description	Asbestos Detected	Asbestos Type (%)	Non-Asbestos Constituents
0174396-005	INSULATION POUR SPOUT RIGHT REAR SIDE	LAYER 1 Insulation, Lt. Gray/Yellow	No	None Detected	Fibrous Glass 80% Cellulose Fiber 2%
R-5		LAYER 2 Pour Spout, Dk. Gray	No	None Detected	Gypsum 18% Carbonates Binder/Filler Cellulose Fiber <1% Gypsum Quartz Binder/Filler 99%



Analyst - Paul Hofer



Signatory - Lab Director - Kurt Kettler

Distinctly stratified, easily separable layers of samples are analyzed as subsamples of the whole and are reported separately for each discernible layer. All analyses are derived from calibrated visual estimate and measured in area percent unless otherwise noted. The report applies to the standards or procedures identified and to the sample(s) tested. The test results are not necessarily indicative or representative of the qualities of the lot from which the sample was taken or of apparently identical or similar products, nor do they represent an ongoing quality assurance program unless so noted. These reports are for the exclusive use of the addressed client and that they will not be reproduced wholly or in part for advertising or other purposes over our signature or in connection with our name without special written permission. The report shall not be reproduced except in full, without written approval by our laboratory. The samples not destroyed in testing are retained a maximum of thirty days. The laboratory measurement of uncertainty for the test method is approximately less than 1 by area percent. Accredited by the National Institute of Standards and Technology, Voluntary Laboratory Accreditation Program for selected test method for asbestos. The accreditation or any reports generated by this laboratory in no way constitutes or implies product certification, approval, or endorsement by the National Institute of Standards and Technology. The 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. Polarized Light Microscopy may not be consistently reliable in detecting asbestos in floor coverings and similar non-fibrous organically bound materials.

JOB#:

Z21714W

NAME:

City of Dubuque



Sample R-1: Taken from front Right Corner, replacement refractory cement.



Sample R-2: Refractory brick and mortar, taken from front right side of furnace.



R-3: Refractory cement taken from front floor.



R-4: Refractory cement taken from rear door.



R-5: Insulation taken from pour spout right rear side of furnace.

