Request for

Competitive Sealed Proposal

23-908 108 N. Trenton Ave. Environmental Cleanup

NIGP Commodity Code(s):

910-38 Asbestos Removal Services
910-40 Inspection, Monitoring of Insulation and Asbestos Installation and Removal
918-13 Asbestos Consulting
926-58 Lead and Asbestos Inspection Services

Submit proposals (sealed) to:
Deputy City Clerk
City of Tulsa
175 E. 2ND St.
Suite 260
Tulsa, OK 74103

CITY OF Tulsa
A New Kind of Energy

CONTENTS

I. STATEMENT OF PURPOSE:

With this Competitive Sealed Proposal (CSP) request, we are searching to secure services to remove, transport, enclose, and properly dispose regulated asbestos containing materials (RACM), lead-based paint, and potential low level radioactive materials from the city-owned Auction Site Building No.104 at 108 North Trenton, Tulsa, OK.

Building 104 at 108 North Trenton was constructed in the 1920's to serve as the headquarters for Dresser-Rand Corporation, a supplier of oil and gas drilling equipment. The facility is adjacent to the BNSF railroad mainline and in a historically live-work neighborhood. In 1993 the property was transferred to the City of Tulsa and used as overflow equipment and file storage associated with the city's Auction Site. 108 North Trenton Avenue is comprised of one 15,200 square foot (sf) two-story building with basement which is part of a larger 2.95-acre parcel of land that is used as the Tulsa Auction Site.

II. INSTRUCTIONS FOR SUBMITTING A PROPOSAL:

A. General Requirements

1. The proposal **must** be received by **5:00 p.m. on Wednesday, January 4, 2023, Central Standard Time.** Proposals must be sealed in an envelope or box clearly labeled "**CSP 23- 908 108 N. Trenton Environmental Clean-up.** Proposals arriving late will be returned unopened.

2. Proposals must be delivered sealed to:

   Deputy City Clerk
   City of Tulsa
   175 E. 2nd St.
   Suite 260
   Tulsa, OK 74103

3. All interested Respondents (Sellers) are required to register with the Project Buyer, Donny Tiemann, in order to receive updates, addenda or any additional information required. The City is not responsible for any failure to register.

4. Inquiries to the Buyer requesting clarification regarding this CSP request or the content herein must be made via e-mail and must be received prior to the end of the business day on December 22, 2022.

   Donny Tiemann, Project Buyer
   dtiemann@cityoftulsa.org

   Any questions regarding this CSP request will be handled as promptly and as directly as possible. If a question requires only clarification of CSP request instructions or specifications, it will be handled via e-mail. If any question results in material changes or additions to the CSP request, those changes or additions will be forwarded to all registered Respondents as quickly as possible by addendum.

5. Respondents shall designate a contact person, with appropriate contact information, to address any questions concerning a proposal. Respondents shall also state the name and title of individuals who will make final decisions regarding contractual commitments and have legal authority to execute a contract on the Respondent's behalf.

6. Proposals will be opened on the morning after the due date, at 8:30am, at the:

   Standards, Specifications, and Awards Committee Meeting
   175 East 2nd Street, 2nd Floor
   City Council Chamber

7. **Mandatory Pre-proposal Meeting:** Attending the pre-proposal meeting is required for a response to be considered for award. The meeting will be held at Building 108 at 108 North Trenton Ave., Tulsa, OK and include a tour of the work area.

   The meeting is scheduled for:

   Thursday, December 15, 2022, at 3:00 PM Central Standard Time.

   We will meet at Building 108 and begin our tour at the scheduled time. Please arrive early.

B. General Notifications

1. With this Competitive Sealed Proposal request, the City reserves the right to do the following:

a. To conduct oral or written discussions with Respondents, after proposals are received, concerning technical and Price aspects of the proposals and/or to allow Respondents to revise their proposals, including Price;

b. To evaluate, after proposals are received, the relative abilities of Respondents to perform, including their technical or professional experience and/or expertise;

c. To conduct a comparative evaluation, after proposals are received, of the differing Price, service, quality, contractual factors, technical content and/or technical and performance capability of the proposals;

d. To negotiate mutually agreeable terms in a contract;

2. The City notifies all possible Respondents that no person shall be excluded from participation in, denied any benefits of, or otherwise discriminated against in connection with the award and performance of any contract on the basis of race, religious creed, color, national origin, ancestry, physical disability, sex, age, ethnicity, or on any other basis prohibited by law.

3. All Respondents shall comply with all applicable laws regarding equal employment opportunity and nondiscrimination.

4. All Respondents shall comply with the Americans with Disabilities Act (ADA) and all proposals and any subsequent contract shall include the following statement:

"Contractor shall take the necessary actions to ensure its operations in performance of this contract and its employment practices are in compliance with the requirements of the Americans with Disabilities Act."

It is understood that the program of the Respondent is not a program or activity of the City of Tulsa. The Respondent agrees that its program or activity will comply with the requirements of the ADA. Any costs of such compliance will be the responsibility of the Respondent. Under no circumstances will the Respondent conduct any activity which it deems to not be in compliance with the ADA.

5. Although it is the City's intent to choose only the most qualified Respondents to interview, the City reserves the right to choose any number of qualified finalists for interview and/or final selection.

6. This Competitive Sealed Proposal request does not commit the City of Tulsa to pay any costs incurred in the submission of a proposal or the costs incurred in making necessary studies and designs for preparation thereof, or contract for service or supplies.

7. The Respondent to whom a contract is awarded will be required to furnish bonds as follows:

a. Performance Bond - A Performance Bond to the City in an amount equal to one hundred percent (100%) of the Contract price.

b. Statutory Bond – A Statutory Bond to the State of Oklahoma in the amount equal to one hundred percent (100%) of the contract price

c. Maintenance Bond – A Maintenance Bond to the City in an amount equal to one hundred percent (100%) of the contract price.

The bonds shall be executed on the forms included in the contract documents by a surety company authorized to do business in the State of Oklahoma and acceptable as Surety to the City of Tulsa.

Accompanying the bonds shall be a "Power-of-Attorney" authorizing the attorney-in-fact to bind the Surety Company and certified to include the dates of the bonds.

8. Seller and its subcontractors must obtain at Seller's expense and keep in effect during the term of the Purchase Agreement, including any renewal periods, policies of General Liability insurance in the minimum amounts set forth below and Workers' Compensation insurance in the statutory limits required by law.

Commercial Auto Liability – each occurrence	$ 1,000,000.00
Occurrence -based Commercial Liability Coverage, with no asbestos exclusions	$ 1,000,000.00
Pollution Liability Coverage	$ 1,000,000.00
Workers' Compensation	(Statutory limits)

The City will need to be included as an "additional insured" on the Commercial General Liability and the Pollution Liability policies. The vendor will need to provide a certificate of insurance to the City within 10 days following notification of award, as proof of coverage.

The City requires the insurer to provide 30 days notice of cancellation or non-renewal of the required insurance policies.

Certificate of Insurance & Notice of cancellation or nonrenewal should be sent to JAMiller@cityoftulsa.org

SELLER'S INSURER MUST BE AUTHORIZED TO TRANSACT BUSINESS IN THE STATE OF OKLAHOMA.

You will have 10 days after notification that your Bid was selected for contract award by City to provide proof of such coverage by providing the assigned Project Buyer, shown in the "INSTRUCTIONS FOR SUBMITTING A PROPOSAL" section of this document, with a Certificate of Insurance. The Certificate of Insurance must be completed with the following information:

A. Your name
B. Insurer's name and address
C. Policy number
D. Liability coverage and amounts
E. Commencement and expiration dates
F. Signature of authorized agent of insurer
G. Invitation for Bid number

The Seller shall not cause any required insurance policy to be cancelled or to permit it to lapse. It is the responsibility of Seller to notify City of any change in coverage or insurer by providing City with an updated Certificate of Liability Insurance. Failure of Seller to comply with the insurance requirements herein may be deemed a breach of the Purchase Agreement. Further, a Seller who fails to keep required insurance policies in effect may be deemed to be ineligible to bid on future projects, ineligible to respond to invitations for bid, and/or ineligible to engage in any new purchase agreements.

III. SCOPE OF SERVICES

1. All sampling and laboratory analytical work shall be performed in accordance with Appendix A - the Quality Assurance Project Plan (QAPP).
2. The Respondent shall provide labor, material, supplies, and equipment to abate asbestos, lead-based paint, and low-level radioactive materials in accordance with the Project Design and specifications provided as Appendix C to the QAPP.
3. Respondent shall obtain any additional necessary federal, state, and local permits and licenses prior to commencing work.
4. The Respondent shall conduct the work in accordance with its Site-Specific Health & Safety Plan (HASP), an example of which is provided as Exhibit B of the QAPP.
5. Work shall be conducted in compliance with Davis-Bacon wages included here as Appendix B. Reporting, including certified weekly payrolls, will be required to document compliance.
6. Work shall be conducted in compliance with federal objectives for MBE/WBE contracting. The Respondent shall document in the Bid how they intend to meet the fair share objectives in Exhibit A - the Price Summary Sheet. The fair share objectives for this Agreement are as shown below. Reporting will be required for compliance.

Service Type	MBE	WBE
Construction	11.25%	7.41%
Supplies	16.15%	16.443%
Services	9.04%	19.85%
Equipment	6.68%	12.16%

The Respondent agrees to make the following good faith efforts whenever procuring construction, equipment, services and supplies. Records documenting compliance with the good faith efforts shall be retained:

(a) Ensure DBEs are made aware of contracting opportunities to the fullest extent practicable through direct outreach. This will include placing DBEs on solicitation lists and soliciting them whenever they are potential sources.

(b) Make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process.

(c) Consider breaking activities into small subtasks suitable for subcontracting with DBEs. DBEs may be used for indirect project expenses, such as on-site sanitary services or food services.

(d) Contract with a consortium of DBEs when a contract is too large for one of these firms to handle individually.

(e) Use the services and assistance of the SBA and the Minority Business Development Agency of the Department of Commerce.

7. Before equipment and personnel are demobilized from the site, a pre-final site inspection will be performed with City of Tulsa representatives. A punch item list will be generated identifying tasks to be completed. Any identified punch list items will be immediately corrected and/or completed to the satisfaction of City of Tulsa. Assuming formal acceptance of work is granted, personnel of the Respondent will remove equipment, materials, and temporary facilities from the site. Equipment will be properly cleaned prior to demobilization from the site. Staging areas will be disassembled once no longer needed. Areas where construction activities occurred will be left in a clean and stable condition prior to fully demobilizing from the site. All required record documents and other pertinent submittals including final applications for payment/lien releases will be issued in a timely fashion after demobilization.

IV. TIME FRAME FOR REVIEW:

The evaluation committee expects the evaluation and selection process to be completed in approximately three (3) to five (5) weeks. However, this period depends on the number of participants and the complexity of the proposals.

V. DELIVERABLES:

The products, reports, and plans to be delivered to the City prior to contracting will include:

- Project Health & Safety Plan
- Respiratory Protection Program
- Proof of DOL Respondent's license and supervisor's license
- Proof of lead-based paint Respondent and supervisor's certifications
- Any ODOL or ODEQ violations in the last 3 years.

The products, reports, and plans to be delivered to the City as final documents shall include:

- Worker air monitoring records and calibration reports
- Disposal waste manifests
- Worker and supervisor licenses and proof of respirator clearances for all
- DOL and other agency inspection reports
- Area monitoring lab reports
- Daily field logs
- Davis-Bacon compliance reporting
- MBE/WBE/DBE contracting reporting

VI. RESPONDENT AND PROPOSAL REQUIREMENTS

To be considered, interested Respondents should submit or address the following:

A. One (1) unbound original and two (2) Bound copies of the proposal **plus** one electronic (1) copy on CD, DVD, or flash drive.

B. A description of the Respondent's qualifications and experience and that of or subcontractors assigned to this project. It is noted that equipment, including sanitary facilities, material and staff shall be provided by the Respondent.

A. A description of previous projects that Respondent's firm has conducted of similar size and complexity. Provide contact names and telephone numbers of references from these organizations.

B. A project schedule, identifying beginning and ending dates of work, as well as project target dates.

C. Provide a narrative describing in detail the information requested by Items B, C, and D above. Attach additional information as needed.

D. During the last five (5) years, has the Respondent had a contract for services terminated for any reason, or has the Respondent received a notice of breach, notice of default, or similar notice? If so, provide full details related to the termination or notice.

E. During the last five (5) years, describe any damages or penalties or settlements pertaining to contract disputes under any of the Contractor's existing or past contracts as it relates to services performed that are similar to the services contemplated by this CSP. If so, indicate the reason for the penalty, damages or exchange of property, goods, or services and the estimated amount of the cost of that incident to the Contractor.

F. During the last five (5) years, describe any order, judgment or decree of any Federal or State authority barring, suspending or otherwise limiting the right of the Respondent to engage in any business, practice or activity.

G. During the last five (5) years, list and summarize of all litigation, threatened litigation, administrative or regulatory proceedings, or similar matters to which the Respondent or its officers have been a party. The Respondent must also state whether it or any owners (other than general public stockholders), officers, or primary partners have ever been convicted of a felony. Failure to disclose these matters may result in rejection of the Bid Proposal or in termination of any subsequent contract. This is a continuing disclosure requirement. Any such matter commencing after submission of a Bid Proposal, and with respect to the successful Respondent after the execution of a contract, must be disclosed in a timely manner in a written statement to the Lead Agency.

H. During the last five (5) years, have any irregularities been discovered in any of the accounts maintained by the Respondent on behalf of others? If so, describe the circumstances of irregularities or variances and disposition of resolving the irregularities or variances.

I. The Bidder shall provide 4 references:

Company Name: _____
Contact Name: _____
Address: _____
Phone number: _____
Email Address: _____
Services Provided: _____

Company Name: _____
Contact Name: _____
Address: _____
Phone number: _____
Email Address: _____
Services Provided: _____

Company Name: _____
Contact Name: _____
Address: _____
Phone number: _____
Email Address: _____
Services Provided: _____

Company Name: _____
Contact Name: _____
Address: _____
Phone number: _____
Email Address: _____
Services Provided: _____

VII. EVALUATION OF PROPOSALS:

Selection shall be determined to be in the best interest of the City as evaluated by the evaluation committee. The approval of the selected Respondent will be subject to the final determination of the City and will be contingent on the successful completion of a contract between the City and the successful Respondent.

A. At the discretion of the City, one or more Respondents may be invited to be interviewed for purposes of clarification or discussion of the proposal.

B. Any expenses incurred by the Respondent(s) in appearing for an interview or in any way providing additional information as part of the response to this Competitive Sealed Proposal request are solely the responsibility of the Respondent. The City of Tulsa is not liable for any costs incurred by Respondents in the preparation of proposals or any work performed by the Respondent prior to the approval of an executed contract by the City of Tulsa. The City assumes no responsibility or liability for any costs you may incur in responding to this CSP request, including attending meetings or contract negotiations.

VIII. AWARD OF PROPOSALS:

The City evaluates proposals based on the general criteria identified in Tulsa Revised Ordinance (TRO) Title 6, Chapter 4, and listed below:

A. The total base bid submitted by the lowest responsible bidder unless otherwise directed in the form of the proposal.
B. The ability, capacity and skill of the Respondent team to perform the contract or provide the service required,
C. Whether the Respondent can perform the contract or provide the service promptly or within the time specified, without delay or interference.
D. The Respondent's plan to meet the federal objectives for MBE/WBE contracting,
E. The character, integrity, reputation, judgment, experience and efficiency of the Respondent,
F. The quality of performance by Respondent of previous contracts or services,
G. The previous and existing compliance by the Respondent with laws and ordinances relating to the contract or service,
H. The sufficiency of the financial resources and ability of the Respondent to perform the contract or provide the service,
I. The quality, availability and adaptability of the Services offered by Respondent to the particular use required,
J. The ability of the Respondent to provide future maintenance, support and service related to Respondent's offer,
K. Where an earlier delivery date would be of great benefit to the Using Department, the date and terms of delivery may be considered in the Proposal award,
L. The degree to which the Proposal submitted is complete, clear, and addresses the requirements in the CSP request specifications,

M. If a point system has been utilized in the CSP request specifications, the number of points earned by the Respondent.

N. The total cost of ownership, including the costs of supplies, materials, maintenance, and support necessary to perform the item's intended function.

O. If an evaluation committee performs the evaluation, the recommendation of such committee.

IX. MISCELLANEOUS

A. Your response to this CSP request will be considered part of the contract, if one is awarded to you.

B. All data included in this CSP request, as well as any attachments, are proprietary to the City of Tulsa.

C. The use of the City of Tulsa's name in any way as a potential customer is strictly prohibited except as authorized in writing by the City of Tulsa.

D. Your proposal must clearly indicate the name of the responding organization, including the Respondent's e-mail address and web site information, if applicable, as well as the name, address, telephone number and e-mail address of the organization's primary contact for this proposal. Your proposal must include the name, address, telephone number and e-mail address of the Respondent and/or team of Respondents assigned to the City account.

E. The City is bound to comply with Oklahoma's Open Records Act, and information submitted with your proposal, with few exceptions, is a matter of public record. For specifics on the Oklahoma Open Records Act, see the link below:

https://libraries.ok.gov/law-legislative-reference/library-laws/statutes-open-records/

The City shall not be under any obligation to return any materials submitted in response to this CSP request.

F. The City expects to enter into a written Agreement with the chosen Respondent that will incorporate this CSP request and your proposal. In addition to any terms and conditions included in this CSP request, the City may include in the Agreement the City's General Contract Terms.

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AFFIDAVIT

NON-COLLUSION, INTEREST, AND CLAIMANT

STATE OF _____)
)ss.
COUNTY OF_____)

I, _____, of lawful age, being first duly sworn, state that:
(Seller's Authorized Agent)

1. I am the Authorized Agent of Seller herein for the purposes of certifying facts pertaining to the existence of collusion between and among Bidders and municipal officials or employees, as well as facts pertaining to the giving or offering of things of value to government personnel in return for special consideration in the letting of any contract pursuant to the proposal to which this statement is attached.

2. I am fully aware of the facts and circumstances surrounding the making of Seller's Bid to which this statement is attached, and I have been personally and directly involved in the proceedings leading to the submission of such Bid; and

3. Neither the Seller nor anyone subject to the Seller's direction or control has been a party:
   a. to any collusion among Bidders in restraint of freedom of competition by agreement to respond at a fixed price or to refrain from responding,
   b. to any collusion with any municipal official or employee as to quantity, quality, or price in the prospective contract, or as to any other terms of such prospective contract, nor
   c. in any discussions between Bidders and any municipal official concerning exchange of money or other thing of value for special consideration in the letting of a contract.

4. No officer or employee of the City of Tulsa either directly or indirectly owns a five percent (5%) interest or more in the Bidders business or such a percentage that constitutes a controlling interest. Affiant further states that the following officers and/or employees of the City of Tulsa own an interest in the Bidders business, which is less than a controlling interest, either direct or indirect.

   _____

5. All invoices to be submitted pursuant to this agreement with the City of Tulsa will be true and correct.

6. That the work, services, or material furnished will be completed or supplied in accordance with the plans, specifications, orders, requests or contract furnished or executed by the affiant. Affiant further states that (s)he has made no payment directly or indirectly to any elected official, officer or employee of the City of Tulsa or of any public trust where the City of Tulsa is a beneficiary, of money or any other thing of value to obtain payment of the invoice or procure the contract or purchase order pursuant to which an invoice is submitted. Affiant further certifies that (s)he has complied with all applicable laws regarding equal employment opportunity.

By: _____
Signature
Title: _____

Subscribed and sworn to before me this _____day of _____, 20____.

_____
Notary Public

My Commission Expires: _____

Notary Commission Number: _____

The Affidavit must be signed by an Authorized Agent and notarized

RESPONDENT INFORMATION SHEET

Respondent's Legal Name: _____
(Must be Respondent's company name as reflected on its organizational documents, filed with the state in which Respondent is organized)

State of Organization: _____

Respondent's Type of Legal Entity: (check one)

☐ Sole Proprietorship
☐ Partnership
☐ Corporation
☐ Limited Liability Company
☐ Limited Partnership
☐ Limited Liability Partnership
☐ Limited Liability Limited Partnership
☐ Other: _____

Respondent's Address: _____
Street City State Zip Code

Respondent's Website Address: _____

Sales Contact:

Name: _____

Title/Position: _____

Street: _____

City: _____

State: _____

Phone: _____

Email: _____

Contact for Legal Notice:

Name: _____

Title/Position: _____

Street: _____

City: _____

State: _____

Phone: _____

Email: _____

How did you learn about this business opportunity with the City of Tulsa?

☐ Email from Assigned Buyer
☐ City of Tulsa Website
☐ Tulsa World posting
☐ Purchasing search engine
☐ Industry colleague
☐ Other: _____

Exhibit A - Price Sheet Summary

Building Clean Out	Quantity	Unit	Unit Cost	Extended Cost
Stored Material Removal & Disposal	1	LS		
Building Clean Out Subtotal		**$**		

ACM to be Abated	Quantity	Unit	Unit Cost	Extended Cost
Brown ceiling tile mastic	16,000	sf		
Tan & Green 9”x9” floor tile	16,000	sf		
Black floor tile mastic	16,000	sf		
Black wall mastic	100	sf		
Asbestos Abatement Subtotal		**$**		

LBP to be Abated	Quantity	Unit	Unit Cost	Extended Cost
Walls	15,000	sf		
Door Frames	80	sf		
Window Frames (interior only)	96	windows		
Stairs	1	staircase		
LBP Abatement Subtotal:		**$**		

Alt. A: Basement Stairwell Cleanup – non-radioactive	Quantity	Unit	Unit Cost	Extended Cost
Material Removal & Disposal	1	LS		
Alt. A Basement Stairwell Cleanup-non-radioactive Subtotal:			**$**	

Alt. B Basement Stairwell Cleanup – low level radioactive	Quantity	Unit	Unit Cost	Extended Cost
Material Removal & Disposal	1	LS		
Alt. B Basement Stairwell Cleanup – low level radioactive Subtotal:			**$**	
Total with Alternate A:		$		
Total with Alternate B:		$		

MBE/DBE Name	Activities	Estimated $ Value

Company Name: _____

Date: _____

Signature: _____

Name Printed: _____

Title: _____

It is anticipated that the City of Tulsa will enter into a contract with the selected Respondent for an initial term ending one (1) year from the date of its execution by the City's Mayor, with four (4) one-year renewals available at the option of the City. Contracts entered into by the City of Tulsa generally include, but are not limited to, the following terms:

1. **Renewals.** Seller understands and acknowledges that any future contracts or renewals are neither automatic nor implied by this Agreement. The continuing purchase by City of the Services set forth in this Agreement is subject to City's needs and to City's annual appropriation of sufficient funds in City's fiscal year (July 1st to June 30th) in which such Services are purchased. In the event City does not appropriate or budget sufficient funds to perform this Agreement, this Agreement shall be null and void without further action by City.

2. **No Indemnification or Arbitration by City.** Seller understands and acknowledges that City is a municipal corporation that is funded by its taxpayers to operate for the benefit of its citizens. Accordingly, and pursuant to Oklahoma law, City shall not indemnify nor hold Seller harmless for loss, damage, expense or liability arising from or related to this Agreement, including any attorneys' fees and costs. In addition, Seller shall not limit its liability to City for actual loss or direct damages for any claim based on a breach of this Agreement and the documents incorporated herein. City reserves the right to pursue all legal and equitable remedies to which it may be entitled. City will not agree to binding arbitration of any disputes.

3. **Intellectual Property Indemnification by Seller.** Seller agrees to indemnify, defend, and save harmless City and its officers, employees and agents from all suits and actions of every nature brought against them due to the use of patented, trademarked or copyright-protected appliances, products, materials or processes provided by Seller hereunder. Seller shall pay all royalties and charges incident to such patents, trademarks or copyrights.

4. **General Liability.** Seller shall hold City harmless from any loss, damage or claims arising from or related to the performance of the Agreement herein. Seller must exercise all reasonable and customary precaution to prevent any harm or loss to all persons and property related to this Agreement.

5. **Liens.** Pursuant to City's Charter (Art. XII, §5), no lien of any kind shall exist against any property of City. Seller agrees to indemnify and hold the City harmless from all claims, demands, causes of action or suits of whatever nature arising out of the services, labor, and material furnished by Seller or Seller's subcontractors under the scope of this Agreement.

6. **No Confidentiality.** Seller understands and acknowledges that City is subject to the Oklahoma Open Records Act (51 O.S. §24A.1 *et seq.*) and therefore cannot assure the confidentiality of contract terms or other information provided by Seller pursuant to this Agreement that would be inconsistent with City's compliance with its statutory requirements there under.

7. **Compliance with Laws.** Seller shall be responsible for complying with all applicable federal, state and local laws. Seller is responsible for any costs of such compliance. Seller shall take the necessary actions to ensure its operations in performance of this contract and its employment practices are in compliance with the requirements of the Americans with Disabilities Act. Seller certifies that it and all of its subcontractors to be used in the performance of this agreement are in compliance with 25 O.S. Sec. 1313 and participate in the Status Verification System. The Status Verification System is defined in 25 O.S. Sec. 1313 and includes, but is not limited to, the free Employee Verification Program (E-Verify) available at www.dhs.gov/E-Verify.

8. **Right to Audit.** The parties agree that books, records, documents, accounting procedures, practices, price lists or any other items related to the Services provided hereunder are subject to inspection, examination, and copying by City or its designees. Seller shall retain all records related to this Agreement for the duration of the contract term and a period of three years following completion and/or termination of the contract. If an audit, litigation or other action involving such records begins before the end of the three-year period, the records shall be maintained for three years from the date that all issues arising out of the action are resolved or until the end of the three year retention period, whichever is later.

9. **Governing Law and Venue.** This Agreement is executed in and shall be governed by and construed in accordance with the laws of the State of Oklahoma without regard to its choice of law principles, which shall be the forum for any lawsuits arising under this Agreement or incident thereto. The parties stipulate that venue is proper in a court of competent jurisdiction in Tulsa County, Oklahoma and each party waives any objection to such venue.

10. **No Waiver.** A waiver of any breach of any provision of this Agreement shall not constitute or operate as a waiver of any other provision, nor shall any failure to enforce any provision hereof operate as a waiver of the enforcement of such provision or any other provision.

11. **Entire Agreement/No Assignment.** This Agreement and any documents incorporated herein constitute the entire agreement of the parties and supersede any and all prior agreements, oral or otherwise, relating to the subject matter of this Agreement. This Agreement may only be modified or amended in writing and must be signed by both parties. Notwithstanding anything to the contrary herein, the City does not agree to the terms of any future agreements, revisions or modifications that may be required under this Agreement unless such terms, revisions or modifications have been reduced to writing and signed by both parties. Seller may not assign this Agreement or use subcontractors to provide the Goods and/or Services without City's prior written consent. Seller shall not be entitled to any claim for extras of any kind or nature.

12. **Equal Employment Opportunity**. Seller shall comply with all applicable laws regarding equal employment opportunity and nondiscrimination

The undersigned agrees to the inclusion of the above provisions, among others, in any contract with the City of Tulsa.

Company Name: _____

Date: _____

Signature: _____

Name Printed: _____

Title: _____

ACKNOWLEDGMENT OF RECEIPT OF ADDENDA/AMENDMENTS

I hereby acknowledge receipt of the following Addenda or Amendments and understand that such Addenda or amendments are incorporated into the Invitation For Bid and will become a part of any resulting contract.

List Date and Title/Number of all Addenda or Amendments: (Write “None” if applicable).

_____

_____

_____

_____

_____

_____

Sign Here ► _____

Printed Name: _____

Title: _____

Date: _____

APPENDIX A

QUALITY ASSURANCE PROJECT PLAN (QAPP)

Asbestos, Lead Based Paint, and Low-level Radioactive Materials Cleanup Tulsa Surplus Yard Office Building 104

108 North Trenton Avenue
City of Tulsa, Tulsa County, Oklahoma 74120

Original Date
March 31, 2022

Prepared For:

City of Tulsa
175 East 2nd Street, 15th Floor
Tulsa, Oklahoma 74103

Michelle Barnett, P.E.
SVP of Economic and Workforce Development
Tulsa Authority for Economic Opportunity
Email: mbarnett@cityoftulsa.org
Phone: (918) 606-4728

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Figures (See Appendix A)

Figure 1	Site Map

1.0 PROJECT TITLE AND QAPP APPROVAL

This Quality Assurance Project Plan (QAPP) will be reviewed and approved by the City of Tulsa's Quality Assurance Manager, Oklahoma Department of Environmental Quality (ODEQ) Quality Assurance (QA) Coordinator, USEPA Project Officer, and Contractor prior to implementation and commencement of project activities. Project title and approval information is provided below:

Project Title:	**Asbestos, Lead Based Paint (LBP), Low-level Radioactive Material Cleanup** at the Tulsa Surplus Yard Office Building 104 located at 103 North Trenton Avenue, City of Tulsa, Tulsa County, Oklahoma 74120	
Implementing Organization:	City of Tulsa	
QAPP Effective Date:	March 31, 2022	
Approving Officials:	- The City of Tulsa's Quality Assurance Manager will have primary responsibility for project oversight and quality assurance on behalf of the City of Tulsa. - The ODEQ's Quality Assurance Coordinator will ensure that the quality assurance, policies, goals, andobjectives of the project are achieved on behalf of the ODEQ. - USEPA's Project Officer is responsible for reviewing and approving the QAPP and other documents for this subgrant and ensuring that ODEQ meets the requirements for its BRLF grant from USEPA.	
Michelle Barnett, P.E. **City of Tulsa's Quality Assurance Manager** (print name)	Michelle Barnett **Signature**	3/31/22 **Date**
Heather Mallory **ODEQ's Quality Assurance Coordinator** (print name)	Heather Mallory **Signature**	4/01/2022 **Date**
Camisha Scott **EPA Project Officer**	Camisha Scott **Signature**	4/19/22 **Date**

2.0 QAPP DISTRIBUTION AND PROJECT ORGANIZATION

Any individual or organization participating in this project may request a copy of this QAPP. All individuals listed in Section 1.0 of this QAPP will receive a final copy of this QAPP and comprise the project organization and distribution list, as listed below:

Name	Title	Organization	Project Role
Michelle Barnett, P.E.	SVP of Economic and Workforce Development	Tulsa Authority for Economic Opportunity	Quality Assurance Manager
Heather Mallory	QA Coordinator	ODEQ	BRLF Coordinator/Quality Assurance Coordinator

It shall be the responsibility of the City's QA Manager to distribute the QAPP to the required Project Managers, Quality Assurance Managers, and any other representatives of groups involved in the project, including contractors and consultants.

3.0 INTRODUCTION

The Oklahoma Department of Environmental Quality (ODEQ) is the recipient of a Brownfields Revolving Loan Fund (BRLF) grant from the U.S. Environmental Protection Agency (USEPA). ODEQ awarded a $350,000 subgrant to the City of Tulsa from its BRLF grant to abate asbestos, lead-based paint, and low-level radiation in the Tulsa Office Building. The subgrant can pay for the abatement of asbestos, lead-based paint, and low-level radiation as well as confirmation sampling and air monitoring during that asbestos abatement.

This QAPP has been prepared to document quality assurance and quality control procedures to be implemented for the Asbestos, Lead Based Paint (LBP), Low-level Radioactive Materials Cleanup at the Tulsa Surplus Yard Office Building 104 located at 108 North Trenton Avenue, City of Tulsa, Tulsa County, Oklahoma 74120, henceforth referenced as the Site. Appendix A (Project Figures) contains a Site Map (Figure 1).

This QAPP has been written in accordance with applicable USEPA protocols outlined in the USEPA's Requirements for Quality Assurance Project Plans,USEPA QA/R-5 (EPA, 2001), and USEPA Guidance for Quality Assurance Project Plans (EPA QA/G-5) (EPA,2002).

4.0 OTHER PROJECT PLANS

This QAPP incorporates the following additional Project Plans including:

- **Project Health and Safety Plan (PHASP)** establishing the health and safety precautions, procedures, and personal protective measures/methods imposed in order to ensure the project is completed in a safe and effective manner. Appendix B contains a copy of the PHASP.
- The **Asbestos Abatement Project Design** (Appendix C) has been prepared in accordance with 29 Code of Federal Regulations (CFR) 1926.1101 (OSHA Construction Industry Asbestos Standard), 29 CFR 1910.134 (OSHA Respiratory Protection), 40 CFR 61, Subpart M (Asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP), and Oklahoma Asbestos Control Act (OAC) 380:50 with approved variances.
- The **Lead-based Paint Project Design** (Appendix C) provides direction for LBP abatement as well as information on LBP in the building.

5.0 AMENDMENTS

All amendments to this QAPP and/or associated other plans (PHSP, Project Design) will be reviewed/ approved prior to implementation by the individuals identified in Section 1.0 of this QAPP. Appendix D contains a QAPP Amendment Log Form to be completed for all such amendments. Completed Amendment Log Forms will also be kept in Appendix D and/or the appropriate appendix of the other associated plans, as appropriate.

6.0 PROBLEM DEFINITION AND BACKGROUND

In October 2018, a City of Tulsa employee reported that Building 104 had suspected radiation contamination. Tulsa Hazmat was called to the facility to test the area. They used two (2) Ludlem analyzers and one (1) Rad Seeker meter as well as one (1) Urtradiac to Sample the building for radiation. They foundan area slightly above background levels in the stairwell to the basement. The Rad seeker identifiedUranium 232. It was checked again and identified Thorium 232 and Potassium 40 in the range of 9 – 12 microrems. The bomb squad division also checked the area with their Rad Seeker and a Neutron Detector and verified radiation in the area of concern slightly above background levels. A source of the elevated levels was not determined and employee access to the area was henceforth restricted.

A Phase II TBA for asbestos, lead-based paint, and radioactive materials was completed by A&M in October 2019. Asbestos was found in floor tile and mastic, ceiling mastic, and window caulk. Lead levels of <1ppm were found in paint from walls, window frames, door frames, and stairs. Low level radiation just above background levels was found in the basement stairwell.

A radiation survey was conducted for low-level radiation by ODEQ in August 2020. Wipe samples were collected from the steps leading to the basement. Two samples were taken from each step landing, one dry and one wet sample. The laboratory used the HASL-300 (Health and Safety Laboratory) method of analysis for Gamma Emitting Radionuclides. Two dry samples exceeded the Removable Contamination Limit (RCL) levels for Radium-226; however, wet swipe samples from the same step were below the RCL. The average of the wet and dry samples on these steps are well below the RCL. ODEQ felt that low level radiation may be from radon decay.

7.0 PROJECT MANAGEMENT

Project management includes the elements and personnel in place to ensure that the project has defined goals that are understood by all participants and achieved with implementation of the designed approach. Project Managers ensure that project planning, implementation, Quality Assurance/Quality Control (QA/QC), and reporting are properly documented.

7.1 PROJECT/TASK ORGANIZATION

The individuals and organizations participating in this project along with their specific roles and responsibilities are categorized by Principal Data Users, Quality Assurance Managers, Consultants, and Key Decision Makers as described below and on the following page.

Principal Data Users

Those principal persons/representatives, companies, agencies, and/or entities that will represent principal users of the data generated during the course of this project are identified below along with their contact information:

City of Tulsa's Quality Assurance Manager	
Name:	Michelle Barnett, P.E.
Title:	SVP of Economic and Workforce Develoment
Company/Agency/Entity:	Tulsa Authority for Economic Opportunity
Mailing Address:	175 East 2nd Street, Suite 15-040, Tulsa, Oklahoma 74103
Email Address:	mbarnett@cityoftulsa.org
Phone:	(918) 805-0292
ODEQ's BRLF Coordinator/QA Coordinator	
Name:	Heather Mallory
Title:	ODEQ BRLF Coordinator/QA Coordinator
Company/Agency/Entity:	Oklahoma Department of Environmental Quality
Mailing Address:	707 N Robinson Oklahoma City, OK, 73102
Email Address:	heather.mallory@deq.ok.gov
Phone:	(405) 702-5135
EPA QA Officer	
Name:	Camisha Scott
Title:	Project Officer for the BRLF
Company/Agency/Entity:	USEPA
Mailing Address:	1201 Elm Street, Dallas, TX 75270
Email Address:	Scott.Camisha@epa.gov
Phone:	214-665-6755
Contractor's Project Manager (TBD)	
Name:	
Title:	
Company/Agency/Entity:	
Mailing Address:	
Email Address:	
Phone:	

Quality Assurance Managers

City of Tulsa's Quality Assurance Manager

The City of Tulsa's Quality Assurance Manager for this project will have primary responsibility for project oversight and quality assurance on behalf of the City of Tulsa.

Their project management responsibilities include the following:

- Overall contracting and management of the grant (as applicable) and project performance.
- Development of the QAPP and other associated project plans.
- Shared responsibility of review/approval of the QAPP and other associated project plans.
- Contractor oversight including review, evaluation and decision-making regarding the contractor's recommendations.
- Impose stop work authority, whenever necessary.

Their quality assurance responsibilities include QA/QC oversight comprised of the following:

- Technical assistance to ensure environmental compliance.
- Shared responsibility for review/approval of the QAPP and other associated project plans including subsequent revisions.
- Maintaining the official/approved QAPP and ensuring that all involved parties have the most recent version of the QAPP and receive all amendments.
- Serve as the official QA/QC contact for all intramural and extramural QA/QC activities for the City of Tulsa.
- Report directly, as a partner, on behalf of the City of Tulsa regarding all QA/QC matters.
- Review and concur with the QAPP and submit the QAPP to the ODEQ BRLF Coordinator/QA Coordinator prior to the planned initiation of secondary environmental data review activities.
- Work with the City of Tulsa and Contractor personnel to take appropriate corrective action when, where, and however needed, during the proposed project activities.
- Impose stop work authority, whenever necessary.

ODEQs BRLF Coordinator/QA Coordinator

The ODEQ's Brownfields Revolving Loan Fund (BRLF) Coordinator/QA Coordinator will ensure that the policies, goals, and objectives of the project are achieved onbehalf of the ODEQ and implement the following:

- Assist the City of Tulsa's QA/QC staff in review of this QAPP.
- Shared responsibility for review/approval of the QAPP and other associated project plans including subsequent revisions.
- Provide overall resources to accomplish the implementation of the associated program.
- Routinely evaluate the relevant programs effectiveness.
- Impose stop work authority, whenever necessary.
- Coordinate with the EPA Project Officer for the grant.
- Send the EPA Project Officer the Community Relations Plan (CRP), Quality Assurance Project Plan (QAPP), and Analysis of Brownfields Cleanup Alternatives (ABCA) for review and share EPA's comments (if any) with the City of Tulsa's QA Manager.

When necessary, the City of Tulsa's Quality Assurance Manager and/or ODEQ's BRLF Coordinator/QA Coordinator will coordinate with all appropriate State or Federal Agencies in a manner that ensures that compliance with allapplicable State regulatory requirements are achieved. These agencies may include the Oklahoma Department of Labor (ODOL) and/or others as appropriate.

USEPA Project Officer

- Responsible for reviewing and approving the QAPP and other documents for this subgrant.
- Ensures that ODEQ meets the requirements for the BRLF grant from USEPA.

Contractor's Project Manager

The Contractor's Project Manager responsibilities include project oversight comprised of the following:

- Oversee project work and scheduling.
- Interact with City of Tulsa staff with regard to the project, provides progress reports, and participates in routine work progress meetings.
- Shared responsibility for review/acceptance of the QAPP and other associated project plans including subsequent revisions.
- Provide oversight of all project activities and assurance that compliance with the QAPP and other associated project plans is met.
- Review and submit final documents.

- Schedule, coordinate, and attend required/necessary meetings.
- Impose stop work authority, whenever necessary.

Project organization has been established in order to demonstrate overall key personnel associated with this project and provide functional overview of the team that will be used to complete the scope of work, along with lines of authority. Appendix E contains a Project Organizational Chart.

Key Decision Makers

The key decision makers for this project include the following individuals representing the identified companies/agencies/entities:

City of Tulsa's Quality Assurance Manager	
Name:	Michelle Barnett, P.E.
Title:	Deputy Chief of Economic Development
Company/Agency/Entity:	City of Tulsa
ODEQs QA Coordinator	
Name:	Heather Mallory
Title:	ODEQ BRLF Coordinator/QA Coordinator
Company/Agency/Entity:	ODEQ

7.2 PROJECT MEETINGS

Regularly scheduled teleconference meetings are planned for this project in order to ensure understanding and proper/safe implementation including a Pre-Work Meeting and Weekly Progress Meetings. Additionally, Called Meetings may be held (as necessary). A Project Close-Out Meeting will be held upon project completion.

Pre-Work Teleconference Meeting

A Pre-Work Meeting will be held via teleconference in order to review and resolve any uncertainties of the QAPP and other associated project plans prior to commencement of the work. All individuals on the project distribution list will be notified and invited to the meeting. This meeting will be organized and directed by the Contractor's Project Manager. A written record of the meeting discussions will also be kept by the Contractor's Project Manager.

Weekly Progress Teleconference Meetings

Weekly Progress Meetings will be held via teleconference in order to review progress against the planned work schedule and to discuss existing or anticipated problems. These meetings will also be utilized to provide updates on data acquisition and review, address safety issues, ensure maintenance of quality standards, discuss pending changes and substitutions, and discuss any other items that could affect timely completion of the work. All individuals on the project distribution list will be notified and invited to these meetings. These meetings will be organized and directed by the Contractor's Project Manager. A written record of themeeting discussions will also be kept by the Contractor's Project Manager.

Called Meetings

Called Meetings can be requested by any of the individuals listed on the project distribution list to discuss specific concerns, problems, or deficiencies. All individuals on the project distribution list will be notified and invited to these meetings. A written record of the meeting discussions will also be kept by the Contractor's Project Manager.

Project Close-Out Meeting

A Project Close-Out Meeting will be conducted upon completion to facilitate the collection of field data, final reports, records, invoices, and any other required documentation. All individuals on the project distributionl ist will be notified and invited to the meeting. This meeting will be organized and directed by the Contractor's Project Manager. A written record of the meeting discussions will also be kept by the Contractor's Project Manager.

7.3 PROJECT/TASK DESCRIPTION, PRE-WORK , AND SITE WALK

The project has been organized into specific tasks in order to ensure accuracy and efficiency.

Task 1 Contractor Bidding

Once the QAPP and other associated project plans have been signed by all individuals identified on the project distribution list, the Consultant will work with the City of Tulsa Quality Assurance Manager to obtain competitive bids from qualified asbestos abatement contractors. This task includes the gathering and evaluation of secondary environmental data. The Consultant will gather and evaluate existing data provided by the City of Tulsa for this project.

Task 2 Site Access Arrangements, Pre-Work, and Site Walk

The Contractor's Project Manager will arrange for Site access including all grounds, buildings, and structures with the City of Tulsa's Quality Assurance Manager. Pre-work by the Contractor will include installation of a sump pump to remove accumulated water. The Contractor will ensure that the basement remains dry for the duration of the clean-up. The sump pump is needed to drain the water from the basement, so that the low-level radiation can be cleaned up in the basement

A Site Walk of the building, including the basement, will be held in order to ensure familiarity with the Site and scope of work at hand. All individuals on the project distribution list will be invited. After attendance at the Site Walk and confirmation of Site access arrangements a date and time for mobilization will be established. All individuals on the project distribution list will be notified of the scheduled date and time.

Task 3 Abatement and Third-Party Air Monitoring

The Consultant Project and Quality Assurance Manager will provide Third-Party Air Monitoring during the Asbestos Abatement Phase as required by OAC 380:50-11-7. The Consultant Project and Quality Assurance Manager will provide project oversight on the City of Tulsa's behalf and immediately notify the City of Tulsa Quality Assurance Manager of any deviations from the approved QAPP, Project Design, or safety concerns. The Consultant Project and Quality Assurance Manager will be on-sight whenever the contractor is performing any type of asbestos abatement work activity.

Task 4 Reporting

A Final Report will be compiled by the Consultant of all work activity during the asbestos abatement. The report will include sufficient detail to meet the requirements for recordkeeping to include but not limited to: Worker licenses, worker respirator clearances, daily logs and air monitoring data, waste shipments, ODOL or USEPA inspections, etc. A single draft report will be circulated for comments. Comments will then be incorporated into a final report to be redistributed. The draft report will be provided in electronic Portable Document Format (PDF) only. The final report will be provided in both electronic PDF and hard copy.

The consultant during the project will conduct Davis Bacon wage interviews and supply the documentation with the final report as a separate document.

Task 5 Project Close-Out

A Project Close-Out Meeting will be conducted upon completion in order to confirm no outstanding items remain; to gain acknowledgment from all members of the project distribution list that the project is complete; and to facilitate invoicing. All individuals on the project distribution list will be notified and invited to the meeting.

8.0 PROJECT QUALITY OBJECTIVES, CRITERIA, AND PERFORMANCE MEASURES

In order to ensure project goals are met it is imperative that quality objectives and criteria are established and measured.

Project Quality Objectives

The data quality objectives take into account both the best practices for similar projects and the resources available for this project. If necessary, the Contractor's Project Manager will rely upon USEPA's *Generic Guide to Statistical Aspects of Developing and Environmental Results Program* (2003) for advice in making decisions related to optimizing the following aspects of data quality for this project, including:

Precision

Precision is the measurement of agreement or reproducibility among replicate samples of the same media under prescribed similar conditions. It is normally expressed as the Relative Percent Difference (RPD) between two (2) values.

Accuracy

Accuracy is a measure of the closeness of an individual measurement or the average of a number of measurements, to the true value. Bias is the systematic or persistent distortion of a measurement process that causes error in one direction. Accuracy is normally expressed as a percent recovery.

Representativeness

Representativeness is an expression of the degree to which a sample accurately and precisely represents a characteristic of a population, parameter variations at a sampling point or an environmental condition. Representativeness is a qualitative parameter, which relies upon the proper design of a sampling program and proper laboratory protocol.

Comparability

Comparability is defined as an expression of the confidence with which one data set can be compared to another. In most instances, the proficiency of field sampling efforts will be the determining factor that affects the overall comparability of environmental measurement data. To optimize the comparability of environmental measurement data, sample collection activities should always be performed using standardized procedures whenever possible. When performing a site investigation, adhering to the quality control criteria will facilitate these efforts.

Completeness

Completeness is defined as the measurement of the amount of data obtained from a measurement system compared to the amount that was expected to be obtained under correct normal conditions. Data completeness is often expressed as the percentage of valid data obtained from a given measurement system.To consider data valid, it is customary to assess if a set of data satisfies all of the specified acceptance and performance criteria (accuracy measures, precision measures, etc.) to render a determination.

Performance Measures

To the extent that performance measures rely on the generation of data, this QAPP and other associated plans seek to verify that the project quality objectives are appropriate for the regulatory and non-regulatorydecisions to be made based upon that data. Performance measures to ensure the project quality objectivesare achieved include the following:

- Protection of site workers and public.
- Protection of the environment.
- Sampling for radon through DEQ's Radon Program (not paid for by the BRLF subgrant).
- Successful completion of abatement with no visible emissions or asbestos debris left behind
- Successful control of the asbestos abatement document by air samples outside of containment less than 0.01 fibers per cubic centimeter (f/cc).
- Successful clearance of all abated spaces for re-occupancy documented by air samples outside of containment less than 0.01 f/cc.
- Confirmatory sampling of asbestos may be needed to determine if asbestos was successfully abated throughout the building.
- Confirmatory sampling of LBP with X-Ray Fluorescence (XRF) to determine if LBP was cleaned up to appropriate levels (10 ug/sf for floors and 100 uf/sf for window sills).
- Successful completion of low-level radiation abatement. The selected abatement will depend on the results of the radon test kits.

9.0 SPECIAL TRAINING/CERTIFICATIONS

All Contractor's employees assigned to Air Monitoring on this project who will be onsite will be properly trained and licensed by the ODOL. Air monitoring analysts performing on-site analysis of the collected air samples will have attended a National Institute of safety and Health (NIOSH) 582 course or an approved 582 equivalent (582e) course and will have demonstrated proficiency by successful completion in American Industrial Hygiene's (AIHA) Proficiency Analytical Program (PAT).

All asbestos Abatement Contractor's employees will hold a current ODOL asbestos worker license and be medically cleared for respirator use. All work crews will be supervised by an ODOL licensed Asbestos Abatement Supervisor. The contractor will always have a licensed supervisor onsite when asbestos work activities are being conducted. The Contractor's Supervisor will not allow anyone inside containment without proper training and licensure.

Asbestos inspectors will have current Asbestos Hazard Emergency Response Act (AHERA) asbestos inspectors and/or Management Planner training and will be licensed by the Oklahoma Department of Labor (ODOL) as an Asbestos Inspector or Management Planner. The laboratory used for analysis will be accredited by the National Voluntary Laboratory Accreditation Program (NVLAP).

The LBP inspector will have current USEPA training as an LBP Inspector and/or LBP Risk Assessor and properly licensed by the Oklahoma Department of Environmental Quality (ODEQ). The LBP Inspector and/or LBP Risk Assessor will have been trained on the use and safety requirement of an X-Ray Fluorescence (XRF) analyzer.

10.0 DOCUMENTATION AND RECORDS

Documents and records generated as a result of the Cleanup of Asbestos, Lead Based Paint (LBP) and Radioactive Material are considered quality assurance records and will be processed in accordance with the requirements of this QAPP and other project plans. Quality assurance records provide a record of events that have occurred for all aspects of the project. Their adequate generation, review, protection, and submittal are essential to the success of the process. Copies of all field generated data including daily field logs/notes and all other relevant forms and documentations will be maintained by the Contractor's Project Manager.

Records pertaining to this project and its related work tasks, including all field generated data, will be maintained by the Contractor for a minimum of five (5) years following the conclusion of work performed.

11.0 PROJECT SCHEDULE

It is anticipated that the project will begin immediately upon approval of the QAPP by all responsible parties. The total estimated project duration is thirty (30) calendar days. If necessary, time extension notices will be submitted.

After attendance at the Site Walk and confirmation of Site access, a date and time will be established for work. All individuals on the project distribution list will be notified of the scheduled date and time. Once notification has been completed and confirmed, the Contractor will mobilize and perform the work. Those individuals included on the project distribution list will be notified once all field work has been completed.

12.0 DATA SELECTION AND MANAGEMENT

Readily available data will be selected and managed in association with this project to ensure proper project knowledge and familiarity with background information.

12.1 EXISTING DATA SOURCES

The primary existing data sources for this project includes the Haz-Mat Incident Report dated November 16, 2018, Asbestos, Lead-based Paint, and Radiation Survey dated October 25, 2019, Asbestos Abatement Project Design dated June 30, 2021, Lead-Based Paint Abatement Project Design dated July 30, 2021, and DEQ Radiation Swipe Memo dated October 6, 2020. Existing Data Sources are provided as Appendix H. Project Designs are provided as Appendix B.

12.2 EXISTING DATA SOURCES INTENDED USES AND LIMITATIONS

Data from the existing Haz-Mat Incident report and the DEQ Radiation Swipe Memo will be utilized to identify the area of suspect radioactive materials. The information will guide the safety precautions needed in the area of concern.

12.3 FIELD GENERATED DATA

The project will involve the field generation of data by both the Contractor including primarily daily field logs or notes, and direct read instrument readings.

12.4 SAMPLING AND ANALYTICAL METHODS

This cleanup may include the sampling of building materials for asbestos, LBP, and low-level radiation to confirm that the abatement was successful. Radon sampling kits have been provided by ODEQ's Radon Program and are paid for through DEQ's Radon Grant.

Daily air monitoring will be conducted outside of containment at locations as identified in the Project design. Sample pump flow rates will be checked using a calibrated rotameter at the beginning and completion of the sampling period. The rotameter will be calibrated to a primary calibrator monthly as required by OAC 380:50-11-1(4). All daily air monitoring and analytical data will be entered onto an Air Monitoring Data Form. A copy of the Air Monitoring Data Form is provided in Appendix F.

Suspect asbestos containing materials identified for confirmation, will be sampled for Bulk Asbestos Analysis by Polarized Light Microscopy (PLM) using method EPA/600/R-93/116. Bulk samples will be shipped to a Third-Party Laboratory that is accredited by National Voluntary Laboratory Accreditation program (NVLAP).

Confirmatory non-destructive sampling of LBP may be performed in accordance with United States Environmental Protection Agency (USEPA) LBP guidelines to confirm that the abatement was successful. Paint is considered to be LBP if lead is present in a concentration equal or greater to one (1) milligram per square centimeter (1mg/cm^2). Surfaces to be sampled will be chosen using United States Department of Housing and Urban Development (HUD) LBP protocols. Sampling will be performed using an X-Ray Fluorescence (XRF) unit to determine concentrations and locations of lead in paint. Since this building is not a child occupied facility, cleanup goals for this project are 10 ug/sf for floors and 100 ug/sf for window sills. A copy of the LBP Sampling Form is provided in Appendix G.

Radon sampling kits have been provided by ODEQ's Radon Program and are paid for with separate funding. Radon sampling kits will be deployed in the basement as soon as the basement is fully dry. Additional screening will beperformed in the basement.

12.5 EQUIPMENT/INSTRUMENT OPERATION AND CALIBRATION

Equipment (rotameters) used for calibrating air sample flow rates will be calibrated to a primary standard on a monthly basis.

The Phase Contrast Microscopy (PCM) used for analysis of collected air samples will be checked each time it is moved using the HSE test slide and centering telescope for proper optical alignment.

All electrical equipment will be protected using Ground-Fault Circuit Interrupters (GFCI).

Field equipment used for the work may include a HUD Compliant XRF for confirmatory post-abatement screening. The XRF will be calibrated at the beginning and end of the LBP monitoring and every four (4) hours during the monitoring.

13.0 ASSESSMENT AND OVERSIGHT

Assessment and oversight procedures are in place to assess the effectiveness of project implementation and the associated QA/QC activities. The purpose of assessment is to ensure proper implementation of the QAPP and other associated project plans.

Self-assessment and performance evaluations will be conducted weekly to evaluate the effectiveness of project implementation and determine whether QAPP and other project plan procedures are being properly implemented. The self-assessments and performance evaluations will be conducted by the Contractor's Project Manager and/or Project Quality Assurance Manager, whom will have the authority to stop work in the event that non-conforming conditions are identified that cannot be remedied or resolved with immediate actions in a manner that protects the validity of the information being gathered.

The Contractor's Project Manager and/or Project Quality Assurance Manager will review the documentation required to be maintained. A record of any significant deviations from normal procedures will be documented to ensure that corrective actions are taken to correct any noted deficiencies. Minor deviation items will be corrected on the spot. Significant deviations or recurring deviations will be recorded and addressed at the Weekly Progress Meeting.

14.0 DATA REVIEW, VERIFICATION, VALIDATION, AND EVALUATION

This QAPP and other associated project plans will govern the operation of the project at all times. Each responsible party listed in the project distribution list shall adhere to the procedural requirements of the QAPP and other associated project plans and ensure that subordinate personnel do likewise.

This QAPP and other associate project plans will be reviewed at least quarterly to ensure that the project will achieve all intended purposes. All the persons listed in the distribution list shall participate in the review of the QAPP and other associated project plans. The Contractor's Project Manager and/or Project Quality Assurance Manager is responsible for determining that data are of adequate quality to support this project. The project will be modified as directed by the Contractor's Project Manager and/or Project Quality Assurance Manager. The Contractor's Project Manager and/or Project Quality Assurance Manager will be responsible for the implementation of changes to the project and shall document the effective date of all

changes made.

Initial data review, verification, and validation of all data and information acquired will be accomplished by experienced/qualified team members performing within their disciplines and practicing professional judgment. The final layer of data review, verification, and validation will be performed by the Contractor' Project Manager and Project Quality Assurance Manager during their reviews. During either phase of these reviews the data can be accepted, rejected, or qualified by any of these individuals.

15.0 USER REQUIREMENTS RECONCILIATION

The results obtained from the project will be reconciled with the requirements defined by the data user and/or decision makers. The data will be analyzed to determine possible anomalies and/or departures from any assumptions made during the planning phase. The data will be analyzed by experienced/qualified team members performing within their disciplines and practicing professional judgment initially followed by reviews performed by the Contractor's Project Manager. The decision makers will be made aware of any limitations associated with the data and/or information collected.

The work to be done on this project is fairly straightforward in that standard work procedures are to be used. No deviations from the QAPP or other associated project plans are anticipated at this time. Should unforeseen conditions arise that warrant a deviation from the QAPP or other associated project plans, the Contractor's Project Manager will notify the City of Tulsa's Quality Assurance Manager and a determination will be made regarding notification of the appropriate regulatory agencies and decision makers.

Corrective action will be taken whenever data are determined unacceptable by comparison to pre-established quality control limits. Corrective actions will be the responsibility of the Contractor's Project Manager or, in the case of Subcontractor's error, the Subcontractor's Project and Quality Assurance Manager.

- Review of raw data and calculations

Corrective action will, in general, consist of the following:

- Review of procedures to determine that appropriate sample collection and analytical methods were followed.
- Review of instrumentation operation, calibration, and maintenance.
- Other actions as deemed necessary by the USEPA.

As a result of the above, corrective action may be identified and will be pursued as necessary. This action may include:

- Recalibration of instrumentation/equipment.
- Instrumentation/equipment repairs.
- Additional training.
- Other action as deemed necessary by the USEPA.

A Deviation Record will be completed and approved by the individuals identified on the project distribution list. The final report will include a description of any deviations, assumptions, or limitations along with a summary of any associated reconciliation that occurred during the course of the project.

16.0 PROJECT COMPLETION AND REPORT

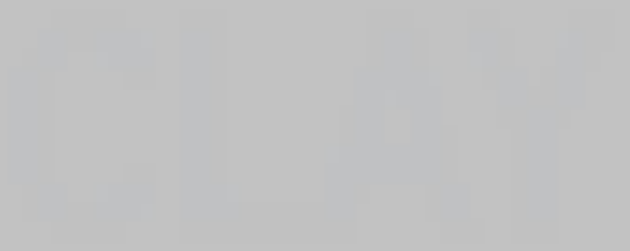
After completion of all work as outlined in this QAPP, the Contractor's Project Manager will deliver to the City of Tulsa's Quality Assurance Manager one (1) electronic PDF of the final report containing:

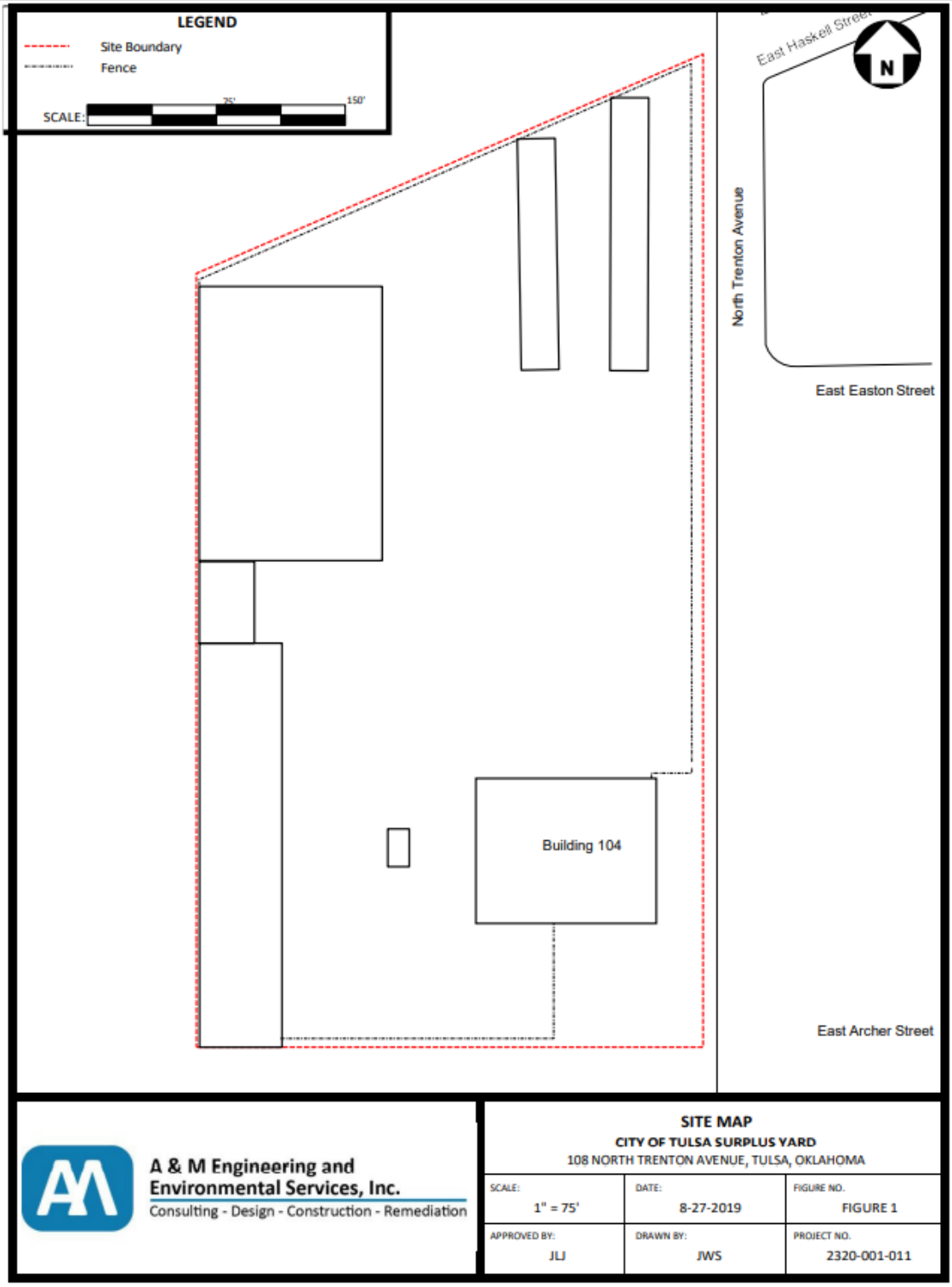
- List of any deviations, assumption, or limitations along with a summary of any associated reconciliation.
- Certification that all work specified in the QAPP has been completed.
- Summary of field activities and methodologies used.
- Overview of QA/QC procedures.
- Asbestos daily records to include notes and air monitoring data.
- ODOL inspection forms.
- ODOL's final letter documenting start and end date of the asbestos abatement and how much asbestos was removed.
- Waste disposal receipts.
- Records of the cleanup locations including mapped figures supported by field notes. Records will be in the form of narrative descriptions, tables, and drawings.
- Findings and recommendations.
- Davis Bacon Wage Weekly Payroll and at least one Davis Bacon interview must be conducted.

A Certificate of Work Completion and authorization for final payment will not be issued by the consultant representative until the documents and data are reviewed and approved by the client representatives, and the documents are submitted in satisfactory form.

Appendix A

Project Figures





A & M Engineering and Environmental Services, Inc.
Consulting - Design - Construction - Remediation

SITE MAP
CITY OF TULSA SURPLUS YARD
108 NORTH TRENTON AVENUE, TULSA, OKLAHOMA

SCALE:	DATE:	FIGURE NO.
1" = 75'	8-27-2019	FIGURE 1
APPROVED BY:	DRAWN BY:	PROJECT NO.
JLJ	JWS	2320-001-011

Appendix B

Project Health and Safety Plan (PHSP)

PROJECT HEALTH AND SAFETY PLAN (PHASP)

Cleanup of Asbestos, Lead Based Paint, Radioactive Materials
Tulsa Surplus Yard Office Building 104

108 North Trenton Avenue
City of Tulsa, Tulsa County, Oklahoma 74120

Version 1 / Revision Date – N/A

November 3, 2021

Prepared For:

City of Tulsa
175 East 2nd Street, Suite 15-040
Tulsa, Oklahoma 74103

TABLE OF CONTENTS

1.0 PROJECT TITLE AND PHASP APPROVAL

This Project Health and Safety Plan (PHASP) will be reviewed and approved by the City of Tulsa's Quality Assurance Manager, ODEQ's Quality Assurance (QA) Coordinator, Contractor's Project Manager, and Contractor's Project Quality Assurance Manager prior to implementation and commencement of project activities. Project title and approval information is provided below:

Project Title:	**Cleanup of Asbestos, Lead Based Paint, Radioactive Materials at the Tulsa Surplus Yard Office Building 104 located at 108 North Trenton Avenue, City of Tulsa, Tulsa County, Oklahoma 74120.**	
Implementing Organization:	City of Tulsa	
PHASP Effective Date:		
Approving Officials:	The City of Tulsa's Quality Assurance Manager will have primary responsibility for health and Safety on behalf of the City of Tulsa. The ODEQ's QA Coordinator will ensure that the policies, goals, and objectives of the project are achieved on behalf of the ODEQ. The Contractor will provide a Health and Safety Officer to ensure safe work practices throughout the project.	
Michelle Barnett, P.E.	Michelle Barnett	
City of Tulsa's Quality Assurance Manager (print name)	**Signature**	**Date**
Heather Mallory		
ODEQ's QA Coordinator (print name)	**Signature**	**Date**
Contractor's Project Manager (print name)	**Signature**	**Date**
Contractor's Project Health and Safety Officer (print name)	**Signature**	**Date**

2.0 PHASP DISTRIBUTION AND PROJECT ORGANIZATION

Any individual or organization participating in this project may request a copy of this HASP. All individuals listed in Section 1.0 of this PHASP will receive a final copy of this PHASP and comprise the project organization and distribution list, as listed below:

Name	Title	Company/Agency/Entity	Project Role
Michelle Barnett, P.E.	Deputy Chief of Economic Development	City of Tulsa	City of Tulsa's Quality Assurance Manager
Heather Mallory	QA Coordinator	ODEQ	BRLF Coordinator/QA Coordinator
		Contractor (TBD)	Contractor's Project Manager
		Contractor (TBD)	Contractor's Health and Safety Officer

It shall be the responsibility of the City of Tulsa QA Manager to distribute the PHASP to the required Project Managers, Quality Assurance Managers, and anyone else involved in the project.

All persons entering the project must first review this PHASP.

3.0 INTRODUCTION

This PHASP has been prepared to provide the minimum health and safety requirements to be implemented for the Cleanup of Asbestos, Lead Based Paint, and Radioactive Materials at the Tulsa Surplus Yard Office Building 104 located at 108 North Trenton Avenue, City of Tulsa, Tulsa County, Oklahoma 74120, henceforth referenced as the Site. Appendix A (Project Figures) contains a Site Map (Figure 1).

This PHASP has been developed by A & M Engineering and Environmental Services, Inc. (A & M) in accordance with applicable USEPA protocols outlined in the USEPA's Emergency Responder Health and Safety Manual (hereinafter "the manual") and Occupational Safety and Health Administration (OSHA) regulations from 29 CFR 1910 and 29 CFR 1926.

4.0 SITE BACKGROUND

A City of Tulsa employee reported that Building 104 had radiation contamination. Tulsa Hazmat was called to the facility to test the area. They used two (2) Ludlem analyzers and one (1) Rad Seeker meter as well as one (1) Urtradiac to survey the building for radiation. They found an area slightly above background levels in the stairwell to the basement. Employees from DEQ's Radiation Management Program came out and took radiation swipe samples from the basement stairs, took samples of the non-slip treads from the stairs, and took readings with a handheld radiation meter. The handheld survey meter results were far below the limits listed in 10 CFR 20.1301. Some of the individual swipe samples analyzed by the lab exceeded the removable contamination limit in Appendix B of OAC 252:410, but the average of the results is well below the limit. The non-slip strip material was below acceptable limits. DEQ's Radiation Management Program couldn't find a manmade source of radiation and suspected that it could be naturally occurring radiation in the brickwork and/or radon.

An Asbestos and Lead-Based Paint Survey was completed in 2019 which identified regulated asbestos containing building materials (ACBM) as well as lead-based paint (LBP) in locations throughout the building. The abatement of low-level radiation, ACBM, and LBP are the targets of the clean up activities.

5.0 PHASP OBJECTIVES

The **goals** of this PHASP are to ensure (1) the project is a safe and healthful working environment and (2) to prevent safety incidents and close call incidents, which harm or could harm, people, the environment, or the assets or reputation of all parties involved. These goals will be achieved by focusing on three (3) simple **objectives**: (1) pre-planning, (2) pro-active implementation, and (3) constant risk evaluation.

6.0 PROJECT/TASK ORGANIZATION

The individuals and organizations participating in this project along with their specific roles and responsibilities are fully identified in the PHASP and primary individuals contact info is provided below:

City of Tulsa's Quality Assurance Manager	
Name:	Michelle Barnett, P.E.
Title:	Deputy Chief of Economic Development
Company/Agency/Entity:	Tulsa Authority for Economic Opportunity
Mailing Address:	175 East 2nd Street, Suite 15-040, Tulsa, Oklahoma 74103
Email Address:	mbarnett@cityoftulsa.org
Phone:	(918) 596-7457
Contractor's Project Manager	
Name:	
Title:	
Company/Agency/Entity:	
Mailing Address:	
Email Address:	
Phone:	

Quality Assurance Managers

City of Tulsa's Quality Assurance Manager

The City of Tulsa's Quality Assurance Manager for this project will have primary responsibility for health and safety on behalf of the City of Tulsa including the following:

- Technical assistance to ensure health and safety goals including no accidents or near misses are met.
- Shared responsibility for review/approval of the PHASP including subsequent revisions.
- Maintaining the official/approved PHASP and ensuring that all involved parties have the most recent version of the PHASP and receive all amendments.
- Serve as the official contact for all health and safety activities for the City of Tulsa.
- Report directly, as a partner, to the City of Tulsa regarding all health and safety matters.
- Review and concur with the PHASP and submit the PHASP to the USEPA Project Officer prior to the planned initiation of secondary environmental data review activities.
- Work with the City of Tulsa personnel to take appropriate corrective action when, where, and however needed, during the proposed project activities.
- Assure that all incidents are properly documented by the Contractor and any subcontractors in strict compliance with PHASP requirements.
- Impose stop work authority, whenever necessary.

ODEQ's BRLF Coordinator/QA Coordinator

The ODEQ's BRLF Coordinator/QA Coordinator will ensure that the policies, goals, and objectives of the project are achieved onbehalf of their agency and implement the following:

- Assist the City of Tulsa's health and safety staff.
- Provide overall resources to accomplish the implementation of the associated program.
- Routinely evaluate the relevant programs effectiveness.
- Impose stop work authority, whenever necessary.
- Coordinate with the USEPA Project Officer and send them the Community Relations Plan, Quality Assurance Project Plan (QAPP), and Analysis of Brownfields Cleanup Alternatives for review and comment. Send other information to USEPA for the project as requested.

When necessary, the City of Tulsa's Quality Assurance Manager and/or ODEQ's QA Coordinator will coordinate with all appropriate State Agencies in a manner that ensures that compliance with all applicable State regulatory requirements are achieved. These agencies may include other ODEQ departments, Oklahoma Department of Labor (ODOL), and/or others, as appropriate.

Consultants

The Contractor's Project Manager designated for this project are responsible for project oversight QA/QC on behalf of the Contractor in support of a safe workplace.

Contractor's Project Manager

The Contractor's Project Manager responsibilities include project oversight comprised of the following:

- Shared responsibility for review/approval of the PHASP including subsequent revisions.
- Interact with City of Tulsa and ODEQ staff with regard to the project, provides progress reports and participates in routine work progress meetings.
- Oversee overall project work and scheduling.
- Assure compliance with the PHASP.
- Impose stop work authority, whenever necessary.

Contractor's Project Health and Safety Officer

The Contractor's Project Health and Safety Officer will work closely with the Contractor's Project Manager, City of Tulsa's Quality Assurance Manager, and Subcontractor's Project Manager to ensure adherence and compliance with the PHASP. They will be responsible for review and approval of Subcontractor work plans, safety plans, and QA/QC procedures. The Contractor's Project Health and Safety Officer shares in responsibility for review/approval of the PHASP including subsequent revisions and has stop work authority.

The Contractor's Health and Safety Officer will monitor project activities to ensure that they are performed in accordance with the Project Health and Safety Plan (PHSP) to ensure the following:

- Proper and complete implementation of the PHASP.
- Safe and healthful working environment.
- Prevent safety incidents and close call incidents, which harm or could harm, people, the environment, or the assets or reputation of all parties involved.
- Pre-planning, pro-active implementation, and constant risk evaluation.
- Stop work authority is imposed, whenever necessary.

7.0 INCIDENT REPORTING

The project is expected to be completed free of any incidents, but accident prevention requires proper pre-planning and procedures to be implemented.

A near-miss is a warning that something is off and needs to be evaluated and potential changes implemented. Near-misses are to be verbally reported the Consultants Project Health and Safety Officer within sixty (60) minutes. A Stop Work may be implemented based upon the near-miss circumstances. Written documentation will be provided to all key parties within twenty-four (24) hours.

A minor first aid only incident or equipment damage are to be verbally reported to the Contractor Health and Safety officer immediately within thirty (30) minutes. Written documentation will be provided to all key parties within twenty-four (24) hours.

All other incidents are to be verbally reported to the Consultants Project Health and Safety Officer within fifteen (15) minutes. Written documentation will be provided to all key parties within twenty-four (24) hours.

Any incident involving hospitalization or fatality will be reported immediately to all parties associated with the project and written documentation will be required within three (3) hours to allow proper regulatory reporting.

Information for the nearest medical facility is provided below:

Medical Facility	
Name:	Hillcrest Medical Center
Hours:	Open 24 hours
Mailing Address:	1120 S Utica Ave, Tulsa, OK 74104
Phone:	(918) 579-1000

A map showing the route to the Hillcrest Medical Center is included in Appendix B. An Incident Reporting Form and completed forms are provided in Appendix C. **Medical assistance can be obtained by calling 9-1-1 from any phone.**

8.0 HAZARD ASSESSMENT

Confirmatory sampling for Asbestos Containing Materials (ACM) will be conducted in accordance with Asbestos hazard Emergency response Act (AHERA) requirements to confirm that the abatement was successful. Suspect Asbestos Containing Materials (SACM) will be moistened prior to sample collection to minimize dust formation. Respiratory protection will be utilized for situations involving damaged or dusty SACM. Samples will be placed inside of a sealable sample container and assigned a unique sample identifier. Asbestos will be monitored in the air during the asbestos abatement in accordance with OAC 380:50-11-7.

Confirmatory Lead based Paint (LBP) samples will use a HUD compliant X-Ray Fluorescence (XRF) analyzer to confirm that the abatement was successful. The x- rays only penetrate a few centimeters into the substrate; however, the inspector will assure no one is on theopposite side of the wall before taking measurements.

Minimum Personal Protective Equipment (PPE) will be required and include, safety glasses with side shields and work safety shoes.

9.0 STOP WORK AUTHORITY

All employees associated with this project are given the **responsibility and authority** to stop work when they believe that a situation exists that places them, their coworker(s), contracted personnel, or the public at risk or in danger; could adversely affect the safe operation or cause damage to the facility; or result in a release of radiological or chemical effluents to the environment above regulatory requirements or approvals. This authority extends to stop work for situations where an employee believes there is a need to clarify work instructions or to propose additional controls.

If the stop work issue has not been resolved to the satisfaction of all project employees involved prior to the planned resumption of work, it is the responsibility of the concerned employee to raise the remaining issues to Contractors Project Manager and City of Tulsa Quality Assurance Manager.

10.0 MEDICAL SURVEILLANCE

OSHA requires medical evaluations and examinations when employees may be potentially exposed above published Permissible Exposure Limits (PEL), disturbing ACM, or showing symptoms of exposure to certain hazards.

Employees associated with this project will have a current medical evaluation to allow the use respiratory protection (as necessary) to protect from ACM and/or potential radionuclides.

11.0 SPECIAL TRAINING/CERTIFICATIONS

Appropriate training and state licenses for those working on the cleanup, include:

- Asbestos – Current AHERA Inspector Refresher (four (4) hour) or current AHERA Inspector/Management Planner Refresher (eight (8)-hour) class. Current within last twelve (12) months. Unexpired Asbestos Worker license from Oklahoma Department of Labor (ODOL) and medically cleared for respirator use for abatement contractors. Air monitoring technicians will have National Institute of safety and Health (NIOSH) 582 course or an approved 582 equivalent (582e) course and demonstrated proficiency by successful completion in American Industrial Hygiene's (AIHA) Proficiency Analytical Program (PAT).

- Lead Based Paint – Current LBP Inspector refresher (eight (8)-hour) or LBP Inspector/Risk Assessor Refresher (eight (8)-hour) and unexpired license from Oklahoma Department of Environmental Quality (ODEQ). The LBP inspector will have additional training in the use of XRF.

- Inspectors will have current Occupational Safety and Health Administration (OSHA) Hazardous Waste Operator (HAZWOPER) training to include current eight (8) hour refresher for this project.

Copies of relevant training documentation and licenses will be provided on request and included in the final report.

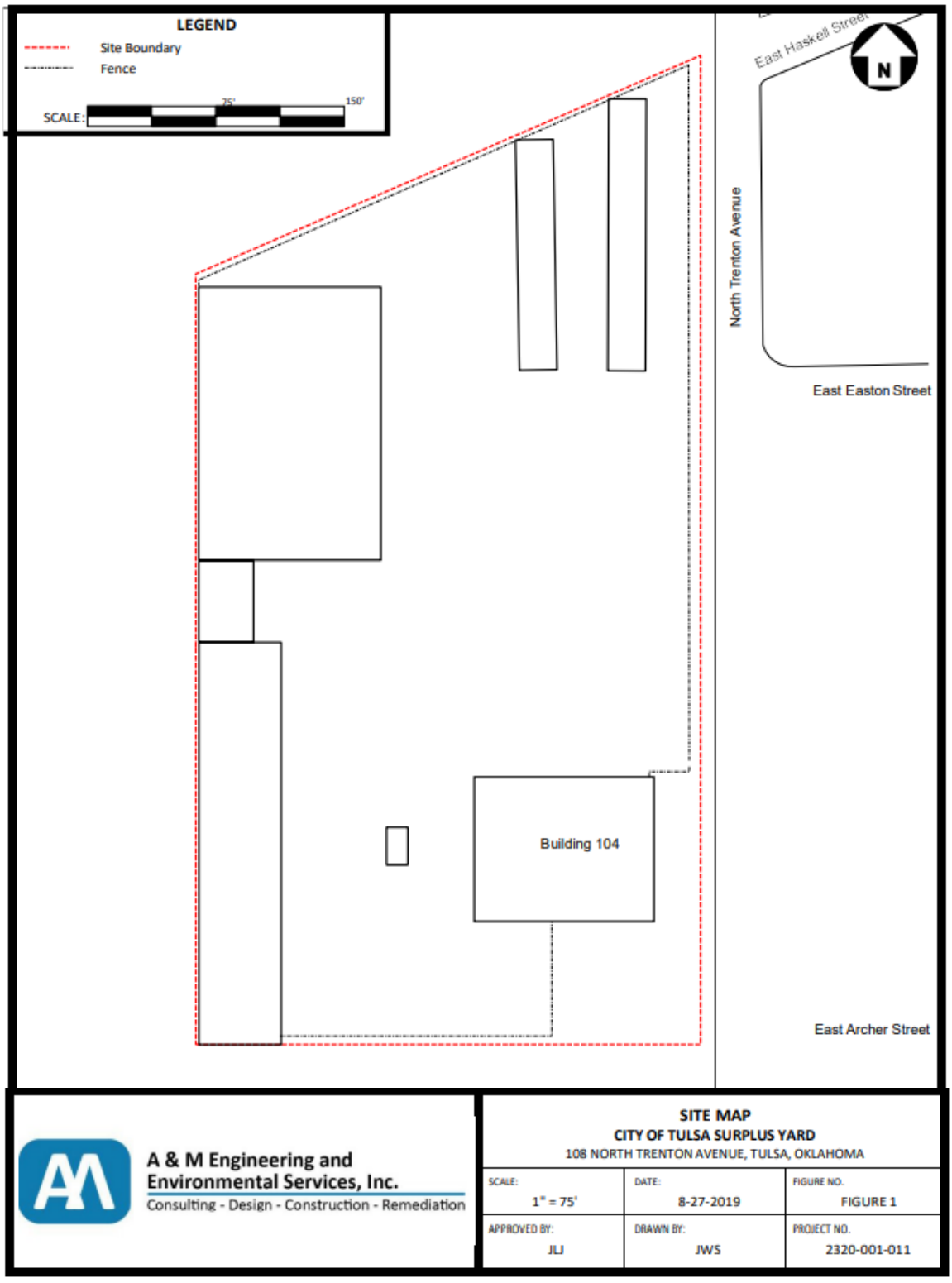
12.0 INSPECTIONS

The Contractor's Project Health and Safety Officer will conduct formal and/or informal inspections of the Site during work activity to ensure the elements of this PHASP are being utilized. Any identified deviations from the PHASP will be corrected before site-work continues.

PHASP

Appendix A

Project Figures



A & M Engineering and Environmental Services, Inc.
Consulting - Design - Construction - Remediation

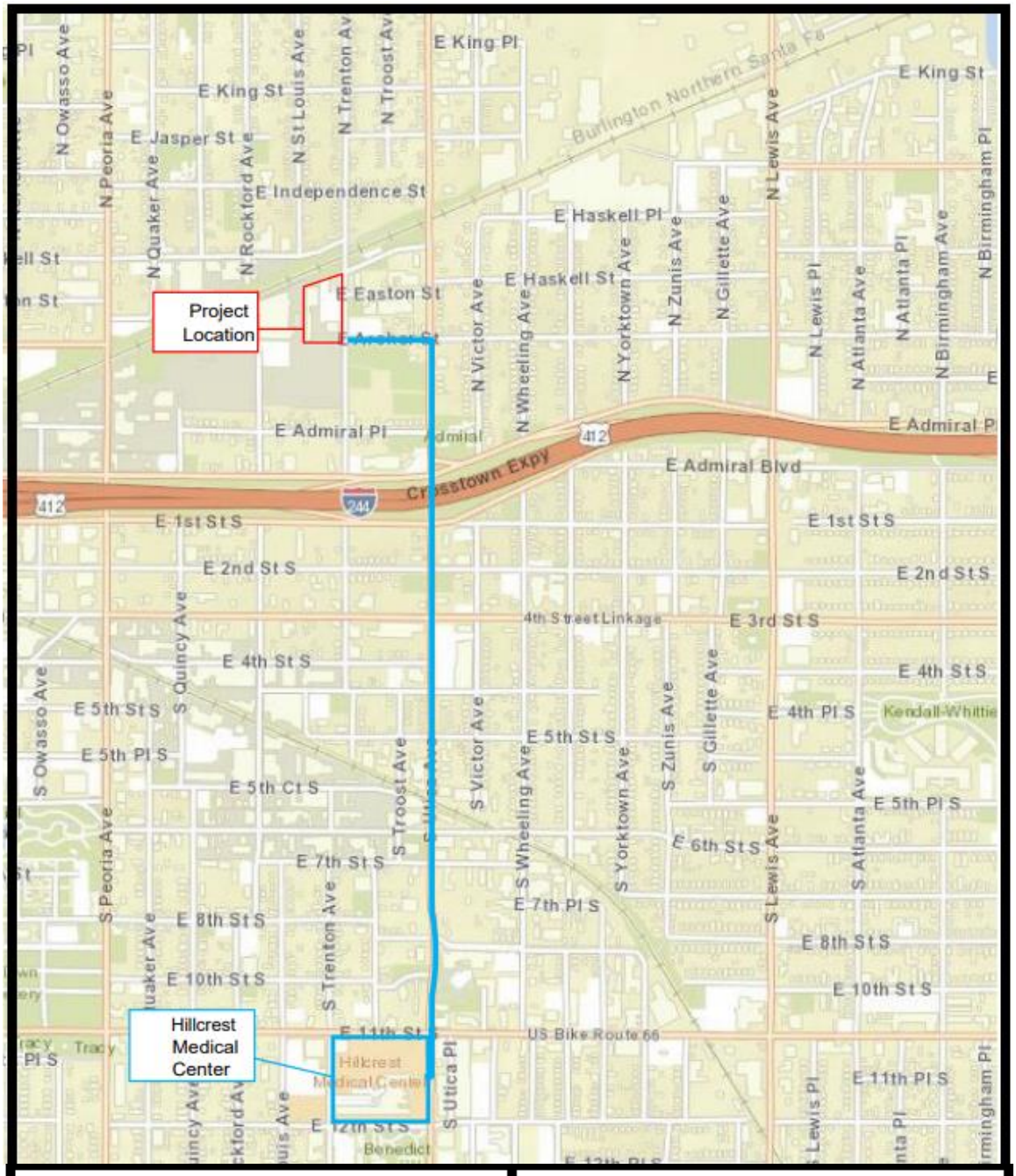
SITE MAP
CITY OF TULSA SURPLUS YARD
108 NORTH TRENTON AVENUE, TULSA, OKLAHOMA

SCALE:	DATE:	FIGURE NO.
1" = 75'	8-27-2019	FIGURE 1
APPROVED BY:	DRAWN BY:	PROJECT NO.
JLJ	JWS	2320-001-011

PHASP

Appendix B

Nearest Medical Facility Route



A & M Engineering and Environmental Services, Inc.
Consulting - Design - Construction - Remediation

ROUTE TO MEDICAL FACILITY
CITY OF TULSA SURPLUS YARD
108 NORTH TRENTON AVENUE, TULSA, OKLAHOMA

SCALE:	DATE:	FIGURE NO.
1" = 75'	8-27-2019	FIGURE 1
APPROVED BY:	DRAWN BY:	PROJECT NO.
JLJ	JWS	2320-001-011

PHASP

Appendix C

Incident Reporting Form and Completed Forms

Incident Reporting Form

Incident Information		
Incident date and time:	Date:	Time:
Work related category:	☐ Injury ☐ Illness ☐ Near Miss	
General worksite location:		
General activity involved:		
Injury, illness, or near miss incurred:		
Body part(s) affected:		
Name of Supervisor(s):		
Name of employee(s) involved:		
Name of employee(s) witnessing incident:		
Name of incident reporter:		

Specific Incident Description
Describe:

Preventative Measures and Medical Assistance Information		
What preventative measures that could have prevented the incident?		
Was medical assistance provided?	☐ Yes ☐ No	
Medical assistance information:	Clinic Name:	
	Doctor's Name:	
	Phone Number:	
	Initial Visit Date:	
	Initial Visit Time:	

Review and Approval		
Name:	Signature:	Date:
Name:	Signature:	Date:
Name:	Signature:	Date:
Name:	Signature:	Date:

QAPP

Appendix C

Project Design Documents

Stored Materials Removal and Disposal
City of Tulsa Surplus Yard, Building 104

108 North Trenton Avenue
City of Tulsa, Tulsa County, Oklahoma 74120

Version 1
August 8, 2022

Prepared For:

City of Tulsa
175 East 2nd Street, Suite 15-041
Tulsa, Oklahoma 74103

Stored Materials Removal

Over the preceding years, the Building 104 at the Tulsa Auction Site has been utilized for general storage. Many rooms and hallways are currently occupied by various materials that will need to be removed and disposed of by the selected Contractor before environmental cleanup work can occur. It is anticipated that these materials can be disposed of as general solid waste (non-putrescible).

An opportunity to review these materials will be provided during the pre-bid site walks. A determination of quantity is not included in this CSP but should be determined by Bidders based upon their own assessment and professional judgement.

Boxes of City records are also stored in Building 104. These records will be removed by the City Clerk's office prior to any site activities. Removal of these records by the City Clerk must be complete prior to the selected Contractor beginning any other materials removal and disposal activities. The City of Tulsa will provide written confirmation that records removal has been completed.

A & M Engineering and
Environmental Services, Inc.
Consulting - Design - Construction - Remediation

Asbestos Abatement Project Design
City of Tulsa Surplus Yard, Building 104

108 North Trenton Avenue
City of Tulsa, Tulsa County, Oklahoma 74120

A & M Project Number 2320-0005

Version 1

June 30, 2021

Prepared For:

CITY OF Tulsa
A New Kind of Energy.

City of Tulsa
Office of the Mayor
175 East 2nd Street, Suite 15-041
Tulsa, Oklahoma 74103
Michelle Barnett, P.E. (Deputy Chief of Economic Development)
Email: mbarnett@cityoftulsa.org
Phone: (918) 596-7457

TABLE OF CONTENTS

1.0 INTRODUCTION

This Asbestos Abatement Project Design (PD) was prepared by A & M Engineering and Environmental Services Inc. (A & M), to provide a prudent course of action for abating Asbestos-Containing Materials (ACM) associated with Building 104 at the City of Tulsa Surplus Yard. Protocols to be used for compliance with governing regulations to protect workers and the environment from incidental exposure to airborne asbestos fibers during the work being performed are included or referenced.

PROJECT INFORMATION:

Project Name:	**City of Tulsa Surplus Yard, Building 104**
Description of Work/Occupancy:	Removal of non-friable ACM (mastics, floortile)
Project Type:	Pre-renovation
Contractor:	To be determined
Owner's Environmental Representative:	A & M Engineering and Environmental Services, Inc. (A & M)
IH/Air Monitoring Firm:	A & M: All air samples will be collected by an experienced Industrial Hygiene Technician that holds a current asbestos license in Oklahoma.
Analytical Laboratory:	Laboratory: A & M: American Industrial Hygiene Association (AIHA) Proficiency Analytical (AIHA) proficiency Analytical testing (PAT) Laboratory # 272727. The Contractor is responsible for personnel samples.

2.0 BUILDING DESCRIPTION

Building 104 is a 2-story brick building with a partial basement. There are approximately twenty-eight (28) windows per side lengthwise and fourteen (14) windows on the front and back. Currently the building is used for storage of City of Tulsa surplus items that the contractor will need to move and store for the duration of the project. The items are to be replaced in the building following completion of the ACM and Lead-Based Paint (LBP) abatement.

3.0 REGULATORY COMPLIANCE

The specific governing regulations affecting this work include but are not limited to: 29 Code of Federal Regulations (CFR) 1926.1101 (OSHA Construction Industry Asbestos Standard), 29 CFR 1910.134 (OSHA Respiratory Protection), 40 CFR 61, Subpart M (Asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP), and Oklahoma Asbestos Control Act (OAC) 380:50 with approved variances. Waste transport and disposal is to be performed by an Oklahoma-licensed asbestos waste transporter with a waste disposal manifest/chain of custody signed by the receiving landfill. DOT Class 9 placards are to be displayed during transportation of asbestos waste.

The contractor shall maintain a daily log showing the number and names of workmen and supervisory personnel by craft physically on the job site each working day and a report of daily progress. The daily entries shall include a brief statement of the work in progress and a record of any accidents, injuries and/or safety meetings held on that day. All workmen must sign in and out during abatement operations and provide a brief description of operations performed. These logs shall always be available for inspection at the job site while work is in progress. A reproducible copy of these logs shall be provided to the Owner's Representative at the weekly progress meeting. All personnel entering containment must have their current asbestos licenses onsite with them.

The technicians performing on-site air monitoring must maintain an onsite daily activity log. The log shall include, but not be limited to:

- Time of on-site arrival and departure.
- Times of entrance into the regulated area to ensure sample integrity.
- Signature of on-site asbestos supervisor.
- All cassettes must be properly labeled as they are placed for sample collection.
- At least one (1) technician performing on-site air monitoring will be present at the job site while asbestos abatement work is being performed.

4.0 WORK SEQUENCING/SCHEDULING

The asbestos abatement of Building 104 is being conducted in a single Phase but may involve subsections or multiple areas. The start date will be determined after the contractor is selected through an open-bidding process. The work is to be scheduled by the Abatement Contractor in coordination with City of Tulsa and A & M. Work is expected to be conducted during normal work hours, Monday through Friday, and hours of 7:00 AM to 5:00 PM.

The building has LBP that may be abated simultaneously with the asbestos abatement. The LBP abatement is covered under a separate LBP Abatement Project Design.

5.0 EGRESS AND FIRE PROTECTION

Workers must be briefed on emergency exit procedures and the assembly point at the beginning of the work shift. In the event emergency evacuation is necessary, workers will exit immediately through the decon and to the nearest exit.

Emergency illumination shall be provided for not less than 1-1/2 hours in the event of failure of normal lighting. Emergency lighting facilities shall be arranged to provide initial illumination that is not less than an average of one (1) foot-candle (ft.-candle) and, at any point, not less than 0.1 ft.-candle, measured along the path of egress at walk surface. The emergency lighting system shall be arranged to provide the required illumination automatically in the event of any interruption of normal lighting. Where maintenance of illumination depends on changing from one (1) energy source to another, a delay of not more than ten (10) seconds shall be permitted. The Abatement Contractor will provide a minimum of one (1) ABC dry-charged fire extinguisher ten (10) pound (lb.) for every three thousand (3,000) square feet (SF) of work area and outside the decon during abatement. The fire extinguishers must have a valid inspection tag and be decontaminated upon removal from the work area.

All poly is preferred to be rated Fire Retardant Polyethylene and meet National Fire protection Association (NFPA) 701-04, American Standards for Testing and Materials (ASTM) E84, and Canvas Products Association International (CPAI) 84 or equivalent.

The Asbestos Abatement Contractor must provide appropriate and sufficient signs at the abatement-controlled access entrances to direct pedestrian traffic away from blocked entrances. Signs shall be clearly visible and readable at fifty (50) feet from the abatement work area. The contractor shall install signs at the onset of work.

6.0 MATERIALS TO BE ABATED

Table 1 lists the identified ACM that is included as part of this Asbestos Project Design.

Table 1
ACM to be Abated

Materials	Friable	Location(s) of the Homogeneous Material	Samples Collected	Asbestos Content	Quantity	Condition
Brown ceiling tile mastic	No	Throughout building	4	**10%**	16,000 SF	Intact
Tan and green 9"x9" floor tile	No	Throughout building	4	**10%**	16,000 SF	Intact
Black floor tile mastic	No	Throughout building	4	**5%**	16,000 SF	Intact
Black wall mastic	No	2nd floor hallway	2	**10%**	100 SF	Intact
NOTE: NO ROOF SAMPLES WERE OBTAINED. ALL OTHER BUILDING MATERIALS ARE CONSIDERED TO CONTAIN ASBESTOS UNTIL PROVEN OTHERWISE. No exterior work is included. SF: Square Feet; LF: Linear Feet; ND: None Detected; NQ: Not Quantified						

A copy of the laboratory analyses (A & M October 25, 2019) is provided in Appendix A.

7.0 METHOD OF ABATEMENT

Building #104 will be cleared of any movable materials prior to any preparation work being conducted. The contractor must follow OAC 380:50-17 for abatement procedures.

Containment will be established for abatement of the floor tiles , ceiling tiles (tiles are not positive but mastic is), and associated mastic abatement as well as lead-based paint abatement (covered in separate document). A remote three (3) chamber decon will be erected or a fully contained decon trailer will be placed at the building exit. Criticals will be covered using 4-mil poly sheeting.

The ceiling tiles and associated mastic will be manually removed with a drop cloth placed under the work areas.

9" by 9" vinyl floor tile will be removed using non-mechanical methods following the abatement of ceiling tiles and ceiling mastic. Although the vinyl floor tile is in good condition and not a regulated asbestos containing material (RACM), removal methods will be on the more conservative side. The criticals will remain to be covered with a minimum of 4-mil poly sheeting. The containment flooring will be removed to allow access. The negative air machines will be utilized during the floor tile removal to provide four (4) air changes per hour. A remote decon will be established near the work area either as a stand-alone 3-chamber decon or a dedicated fully equipped decon trailer parked near the building exit. A clean suit will be donned between the work area and the decon station if not located immediately near the work area exit.

Removed material will be promptly bagged in accordance with OAC 380:50-17-6.

8.0 AIR MONITORING AND RESPIRATORY PROTECTION

Daily air monitoring will be conducted in accordance with OAC 380:50-11-1 through 380:50-11-7. A minimum of one (1) area air monitor will be located:

- In each active abatement work area;
- Along the load-out path during loadout;
- Each independent exit area directly outside and adjacent to the work area;
- Immediately outside the clean room;
- At the exhaust point of each Air Filtration Device (AFD) or from a bank of AFD's (may not exceed 0.01 fibers/cubic centimeter (f/cc));

The Contractor is responsible for (may arrange with A&M to provide):

- Personal air monitor samples will be collected on one (1) out of every four (4) workers (25%); or a minimum of two (2) personal air samples per abatement crew.

All non-primary calibration devices must be calibrated to a primary calibrator within one month of use and will not include any adjustable flow restricting devices as part of its construction. Calibration records or chart must be maintained onsite.

Removal of ACM materials must be conducted in full-face APR respirators fitted with High Efficiency Particulate Air (HEPA) cartridges.

9.0 CLEARANCE SAMPLING

The work area in the building is scheduled for re-occupancy; therefore, clearance by AHERA Phase Contrast Microscopy (PCM) protocol must be conducted. A minimum of five (5) samples per /work area shall be collected. Clearance samples shall be collected following the post-abatement ODOL inspection. Clearance samples inside of full containment areas will be conducted using aggressive sampling techniques.

10.0 AIR FILTRATION

Negative Air Machines (NAM) will be utilized to provide a negative air pressure of 0.02" negative pressure (water pressure drop) through the Decon of full containments. The NAMs must be fitted with HEPA filters. Ventilation must be adequate to provide four (4) Air Changes per Hour (ACH).

There is approximately 15,000 SF per floor and a ten (10) to twelve (12) foot ceiling height. Assuming each NAM is rated at 2,000 CFM and adjusted for a 75% actual rating or 1,500 CFM. This would calculate to eight (8) NAMs per floor.

11.0 CONTAINMENT METHODS

Preparation of asbestos abatement work area will be per OAC 380:50-17-4. Critical barriers shall be utilized over openings (e.g. windows, doors, exhaust vents) where feasible and where construction of the critical barrier would not be of significant hazard. Non-moveable fixtures and equipment will be covered with a minimum single layer of 4 mil poly following pre-cleaning of surface debris prior to asbestos removal. All surfaces and equipment are to be thoroughly sprayed with a lock-down encapsulant after abatement.

12.0 DECONTAMINATION SYSTEM

Full containments will have an attached decontamination facility (decon) with the "dirty/equipment room" opening to the work area, or a self-enclosed decon trailer parked near a designated exit. The containment will be under negative pressure with make-up air flowing through the three (3) chamber decon facility. The decon unit will be established per OAC 380:50-15-7 (Clean room requirements) and OAC 380:50-15-12 (decontamination facility preparation) consisting of three (3) chambers: a clean room, a shower and a dirty room. The airlocks for the decon unit shall consist of triple six (6) mil polyethylene overlapping flaps. The decon shower shall be equipped with a five (5) micron wastewater filter, liquid cleaning agent, non-porous shower grates and a functioning in-line water heater with capacity for five (5) gallons per worker. Disposal of wastewater will be into the sanitary sewer. The temperature of the clean room and decon must be maintained above fifty (50) degrees °F during abatement activities. Decon procedures will be per OAC 380:50-15-8 (Decontamination procedures).

13.0 SOIL CONTAMINATION CLEANUP

Not Applicable.

14.0 SPECIAL MATERIALS OR METHODS

Scaffolding and Fall Protection

Work during this abatement may be conducted using ladders, man-lifts, or baker scaffolding. Fall protection must be used where appropriate. The asbestos abatement contractor will comply with 29 CFR 1926 Subpart L-Scaffolds and Subpart M-Fall Protection.

Electrical

Electric service is currently not on inside the building. It is unknown if the electric service can be safely restored. Contractor will need to plan for sufficient electrical power. If power can be safely restored, any tie-ins to the electrical service must be performed by a licensed electrician and the responsibility of the contractor. Lockout/tagout procedures must be used on all electrical circuits which penetrate the work area.

Water

Water service is currently off in the building. It is unknown if water service can be safely restored. Contractor will need to plan for sufficient water.

Heat Stress

The contractor shall monitor heat stress in general accordance with OSHA Technical Manual Section III, Chapter 4.

Sanitation Facilities

Currently the building is vacant used for storage and has the utilities off. It is unknown if the utilities can be restored; thus, the contractor will need to arrange for electric and water. Sanitation facilities in the building are not available for use. The asbestos contractor will be responsible for arranging for sanitation facilities.

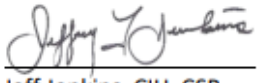
15.0 VARIANCES REQUESTED

The following variances are requested.

1. Since the building is unoccupied and no power on for the building, it is requested, request to shut down the generator no less than ½ hour after daily activities are stopped and started a minimum of ½ hour prior to anyone entering building the next day.
2. The windows will be wiped down a minimum of three times and lock down will not applied to the windows. Windows will remain to be useable following the renovation.

16.0 CERTIFICATION

This Asbestos Abatement Project Design was prepared by the undersigned for compliance with applicable federal and State regulations.



Jeff Jenkins, CIH, CSP
Asbestos Project Designer, OKPD 143988

July 30, 2021
Date

Appendix A

Laboratory Analyses Reports and Chain of Custody

PLM REPORT SUMMARY

Cates Laboratories
1339 Motor Circle
Dallas, Texas 75207 (214) 920-5006

NVLAP Lab No. 200569-0
TDSHS License No. 30-0287

Client:	A & M Engineering and Environmental Services, Inc.	Lab Job No.:	PLM-21354
Project:	City of Tulsa Surplus; 108 N. Trenton Avenue	Set No.:	31364
Project No:	2320-001-012	Report Date:	10/16/2019
Identification:	Asbestos, Bulk Sample Analysis	Sample Date:	Not Provided
Test Method:	Polarized Light Microscopy/Dispersion Staining (PLM/DS) EPA Method 600/R-93/116		

On 10/11/2019, thirty (30) bulk samples were submitted by Mr. Jeff Jenkins of A & M Engineering and Environmental Services, Inc. for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein. The results are summarized below:

Lab Sample No.	Client Field I.D.	Sample Description/Location	Asbestos Content
CL759067	1A	White Acoustic Ceiling Tile w/Brown Mastic	None Detected - Ceiling Tile None Detected - Brown Mastic
CL759068	1B	White Acoustic Ceiling Tile w/Brown Mastic	None Detected - Ceiling Tile None Detected - Brown Mastic
CL759069	1C	White Acoustic Ceiling Tile w/Brown Mastic	None Detected - Ceiling Tile None Detected - Brown Mastic
CL759070	1D	White Acoustic Ceiling Tile w/Brown Mastic	None Detected - Ceiling Tile 10% Chrysotile - Brown Mastic
CL759071	2A	White/Grey Plaster	None Detected - Paint Layer None Detected - Plaster Topcoat None Detected - Plaster
CL759072	2B	White/Grey Plaster	None Detected - Paint Layer None Detected - Plaster Topcoat None Detected - Plaster
CL759073	2C	White/Grey Plaster	None Detected - Paint Layer None Detected - Plaster Topcoat None Detected - Plaster
CL759074	2D	White/Grey Plaster	None Detected - Paint Layer None Detected - Plaster Topcoat None Detected - Plaster
CL759075	2E	White/Grey Plaster	None Detected - Paint Layer None Detected - Plaster Topcoat None Detected - Plaster
CL759076	2F	White/Grey Plaster	None Detected - Paint Layer None Detected - Plaster Topcoat None Detected - Plaster
CL759077	2G	White/Grey Plaster	None Detected - Paint Layer None Detected - Plaster Topcoat None Detected - Plaster

These samples were analyzed by layers. The overall percent asbestos for the sample is reported when relevant. The EPA considers a material to be asbestos containing only if it contains greater than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) – materials that are friable or may become friable – be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. CatesLab utilizes CVAE on a routine basis and does not include point counting unless specifically requested by the client. The results may not be reproduced except in full.

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On 10/11/2019, thirty (30) bulk samples were submitted by Mr. Jeff Jenkins of A & M Engineering and Environmental Services, Inc. for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein. The results are summarized below:

Lab Sample No.	Client Field I.D.	Sample Description/Location	Asbestos Content
CL759078	2H	White/Grey Plaster	None Detected - Paint Layer None Detected - Plaster Topcoat None Detected - Plaster
CL759079	3A	Tan/Green 9" X 9" Floor Tile w/Black Mastic	10% Chrysotile - Floor Tile 5% Chrysotile - Black Mastic
CL759080	3B	Tan/Green 9" X 9" Floor Tile w/Black Mastic	10% Chrysotile - Floor Tile 5% Chrysotile - Black Mastic
CL759081	3C	Tan/Green 9" X 9" Floor Tile w/Black Mastic	5% Chrysotile - Floor Tile None Detected - Black Mastic
CL759082	3D	Tan/Green 9" X 9" Floor Tile w/Black Mastic	5% Chrysotile - Floor Tile 5% Chrysotile - Black Mastic
CL759083	4A	Tan 12" X 12" Floor Tile w/Black Mastic	None Detected - Floor Tile None Detected - Black Mastic
CL759084	4B	Tan 12" X 12" Floor Tile w/Black Mastic	None Detected - Floor Tile None Detected - Black Mastic
CL759085	5A	White Drywall	None Detected - Paper None Detected - Wallboard Material
CL759086	5B	White Drywall	None Detected - Paper None Detected - Wallboard Material
CL759087	6A	Black Mastic	10% Chrysotile
CL759088	6B	Black Mastic	10% Chrysotile
CL759089	7A	Yellow Mastic	None Detected
CL759090	7B	Yellow Mastic	None Detected
CL759091	8A	White Window Sealant	5% Chrysotile
CL759092	8B	White Window Sealant	5% Chrysotile
CL759093	8C	White Window Sealant	5% Chrysotile

These samples were analyzed by layers. The overall percent asbestos for the sample is reported when relevant. The EPA considers a material to be asbestos containing only if it contains greater than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) – materials that are friable or may become friable – be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. CatesLab utilizes CVAE on a routine basis and does not include point counting unless specifically requested by the client. The results may not be reproduced except in full.

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Dallas, Texas 75207 (214) 920-5006

NVLAP Lab No. 200569-0
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On 10/11/2019, thirty (30) bulk samples were submitted by Mr. Jeff Jenkins of A & M Engineering and Environmental Services, Inc. for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein. The results are summarized below:

Lab Sample No.	Client Field I.D.	Sample Description/Location	Asbestos Content
CL759094	9A	White Insulation	None Detected
CL759095	9B	White Insulation	None Detected

These samples were analyzed by layers. The overall percent asbestos for the sample is reported when relevant. The EPA considers a material to be asbestos containing only if it contains greater than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) – materials that are friable or may become friable – be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. CatesLab utilizes CVAE on a routine basis and does not include point counting unless specifically requested by the client. The results may not be reproduced except in full.

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On 10/11/2019, thirty (30) bulk samples were submitted by Mr. Jeff Jenkins of A & M Engineering and Environmental Services, Inc. for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein.

STATEMENT OF LABORATORY ACCREDITATION

The samples were analyzed in general accordance with the procedures outlined in the Method for the Determination of Asbestos in Bulk Building Materials, EPA/600/R-93/116 or the U.S. Environmental Protection Agency EPA 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, by polarized light microscopy. The results of each bulk sample relate only to the material tested and the results shall not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Specific questions concerning bulk sample results shall be directed to the Laboratory Director.

Analyst: Kathy Schosek

Laboratory Director: John R. Cates, P.G.

Approved Signatory:

NVLAP LAB CODE 200569-0

CATES LABORATORIES

CHAIN OF CUSTODY

CL Project No PLM-21354
(Lab Only) SET-31364

Company: A & M Engineering and Environmental Services

Contact/Results to: Jeff Jenkins **Verbal** ☐ **Email** ☑ **Fax** ☐ (check all that apply)

Email(s): jenkins@aandmengineering.com

Telephone No.: (918) 665-6575 **Fax No.:**

Project Information

Project: City of Tulsa Surplus **Project No.:** 2320-001-012

Address: 108 N. Trenton Avenue **P.O. No.:**

Turnaround (check one)

RUSH ASAP ☐ **RUSH 24HR** ☐ **2 DAY (standard)** ☐ **3-4 DAY** ☑ **5 DAY** ☐

Testing Services (check all that apply)

Asbestos		IAQ - Mold (Non-Viable)
PLM-BULK EPA 600/R-93/116 ☑ Point Count (400) ☐	**PCM-AIR** NIOSH 7400 ☐ OSHA TWA ☐	**AIR (spore trap)** - Standard Profile (count/genus identification) ☐ **AIR (spore trap)** - Expanded Profile (w/insect parts/pollen/skin) ☐ **BULK (tape lift, swab)** - Standard Profile (genus identification) ☐

CatesLab No. Range (Lab Only): 759067 - 759095 **Sample Date:**

No of Samples 29 Positive Stop Yes ☐ No ☐

Sample No.	Sample Description/Location	Volume (air only)
1-A	White acoustic ceiling tile with brown mastic	
1-B	White acoustic ceiling tile with brown mastic	
1-C	White acoustic ceiling tile with brown mastic	
1-D	White acoustic ceiling tile with brown mastic	
2-A	White/gray plaster	
2-B	White/gray plaster	
2-C	White/gray plaster	
2-D	White/gray plaster	
2-E	White/gray plaster	
2-F	White/gray plaster	
2-G	White/gray plaster	
2-H	White/gray plaster	

Relinquished By:	Date/Time:	Received By:	Date/Time:
	10-10-19 15:55		10/11/19 1000

AF72017-09 - issued 4/3/2017 Walk-In ☐ D-Drop ☐ F-Drop ☐ FedEx ☐ UPS ☐ Lonestar ☐ USPS ☐

1339 Motor Circle, Dallas, TX 75207 * (214) 920-5006, Fax 1-972-767-0167
NVLAP Code 200569-0, TDSHS-Asbestos 30-0287, TDSHS-Mold LAB1034, AZ Lab Cert AZ0948

CATES LABORATORIES

CHAIN OF CUSTODY

CL Project No. P41-21354
(Lab Only) SET-31364

Additional Sample Page

Project Name CITY OF TULSA SURPLUS Project No. 2320-001-012

Sample No.	Sample Description/Location	Volume (air only)
3-A	Tan/green 9x9 floor tile with black mastic	
3-B	Tan/green 9x9 floor tile with black mastic	
3-C	Tan/green 9x9 floor tile with black mastic	
3-D	Tan/green 9x9 floor tile with black mastic	
4-A	Tan 12x12 floor tile with black mastic	
4-B	Tan 12x12 floor tile with black mastic	
5-A	White drywall	
5-B	White drywall	
6-A	Black mastic	
6-B	Black mastic	
7-A	Yellow mastic	
7-B	Yellow mastic	
8-A	White window sealant	
8-B	White window sealant	
8-C	White window sealant	
9-A	White insulation	
9-B	White insulation	

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	10-10-19 15:55	[signature]	10/11/19 1010

1339 Motor Circle, Dallas, TX 75207 * (214) 920-5006, Fax 1-972-767-0167
NVLAP Code 200569-0, TDSHS-Asbestos 30-0287, TDSHS-Mold LAB1034, AZ Lab Cert AZ0948

A & M Engineering and
Environmental Services, Inc.
Consulting - Design - Construction - Remediation

Lead-Based Paint Abatement Project Design
City of Tulsa Surplus Yard, Building 104

108 North Trenton Avenue
City of Tulsa, Tulsa County, Oklahoma 74120

A & M Project Number 2320-0005

Version 1

July 30, 2021

Prepared For:

CITY OF Tulsa
A New Kind of Energy.

City of Tulsa
Office of the Mayor
175 East 2nd Street, Suite 15-041
Tulsa, Oklahoma 74103
Michelle Barnett, P.E. (Deputy Chief of Economic Development)
Email: mbarnett@cityoftulsa.org
Phone: (918) 596-7457

A & M Engineering and Environmental Services, Inc.
Consulting - Design - Construction - Remediation

July 30, 2021

Ms. Michelle Barnett, P.E.
Deputy Chief of Economic Development
City of Tulsa
Office of the Mayor
175 East 2nd Street, Suite 15-041
Tulsa, Oklahoma 74103

A & M Project Number 2320-0005

Email: mbarnett@cityoftulsa.org
Phone: (918) 596-7457

REF: Lead-Based Paint Abatement Project Design (PD) for Asbestos Abatement at the City of Tulsa Surplus Yard, Building 104 located at 108 North Trenton Avenue, City of Tulsa, Tulsa County, Oklahoma 74120.

Dear Ms. Barnett:

A & M Engineering and Environmental Services, Inc. (A & M) has prepared the enclosed Asbestos Abatement Project Design (PD) for **Lead-Based Paint Abatement** to be performed at the above referenced site.

Thank you for choosing A & M. If you have any questions, feel free to contact us at (918) 665-6575 or via email.

Respectfully,
A & M Engineering and Environmental Services, Inc.

Jeff Jenkins, CIH, CSP
Senior Industrial Hygienist
ODOL Project Designer
jjenkins@aandmengineering.com
Enclosure (1)

Jeff Elbert
Director of Compliance
jelbert@aandmengineering.com

TABLE OF CONTENTS

1.0 INTRODUCTION

This Lead-Based Paint (LBP) Abatement Project Design (PD) was prepared by A & M Engineering and Environmental Services Inc. (A & M), to provide a prudent course of action for abating LBP associated with Building 104 at the City of Tulsa Surplus Yard. Protocols to be used for compliance with governing regulations to protect workers and the environment from incidental exposure to Lead dusts during the work being performed are included or referenced.

PROJECT INFORMATION:

Project Name:	**City of Tulsa Surplus Yard, Building 104**
Description of Work/Occupancy:	Removal of Lead Based Paint
Project Type:	Pre-renovation
Contractor:	To be determined
Owner's Environmental Representative:	A & M Engineering and Environmental Services, Inc. (A & M)
IH/Clearance Monitoring Firm:	A & M: All clearance samples will be collected by an experienced Industrial Hygiene Technician that holds a current LBP Risk Assessor license in Oklahoma.
Analytical Laboratory:	Laboratory: Quantem Laboratories in Oklahoma City, Oklahoma.

The building is not slated for use that qualifies as a child-occupied facility.

2.0 BUILDING DESCRIPTION

Building 104 is a 2-story brick building with a partial basement. There are approximately twenty-eight (28) windows per side lengthwise and fourteen (14) windows on the front and back. Currently the building is used for storage of City of Tulsa surplus items that the contractor will need to move and store for the duration of the project. The items are to be replaced in the building following completion of the ACM and Lead-Based Paint (LBP) abatement.

3.0 REGULATORY COMPLIANCE

Specific governing regulations affecting this work include but are not limited to: 29 Code of Federal Regulations (CFR) 1926.1101 (OSHA Construction Industry Asbestos Standard), 29 CFR 1910.134 (OSHA Respiratory Protection), 40 CFR 61, Subpart M (Asbestos National Emission Standards for Hazardous Air Pollutants (NESHAP), and Oklahoma Asbestos Control Act (OAC) 380:50 with approved variances. All LBP Abatement waste will be tested for Toxicity Leaching Characteristic Procedure (TCLP) prior to removal from the site and disposal. Waste that fails the TCLP will be handled as a hazardous waste.

The contractor shall maintain a daily log showing the number and names of workmen and supervisory personnel by craft physically on the job site each working day and a report of daily progress. The daily entries shall include a brief statement of the work in progress and a record of any accidents, injuries and/or safety meetings held on

that day. All workmen must sign in and out during abatement operations and provide a brief description of operations performed. These logs shall always be available for inspection at the job site while work is in progress.

4.0 WORK SEQUENCING/SCHEDULING

The LBP abatement of Building 104 is being conducted in a single Phase but may involve subsections or multiple areas. The start date will be determined after the contractor is selected through an open-bidding process. The work is to be scheduled by the Abatement Contractor in coordination with City of Tulsa and A & M. Work is expected to be conducted during normal work hours, Monday through Friday, and hours of 7:00 AM to 5:00 PM.

The building has LBP that may be abated simultaneously with the asbestos abatement.

5.0 EGRESS AND FIRE PROTECTION

Workers must be briefed on emergency exit procedures and the assembly point at the beginning of the work shift. In the event emergency evacuation is necessary, workers will exit immediately through the decon and to the nearest exit.

Emergency illumination shall be provided for not less than 1-1/2 hours in the event of failure of normal lighting. Emergency lighting facilities shall be arranged to provide initial illumination that is not less than an average of one (1) foot-candle (ft.-candle) and, at any point, not less than 0.1 ft.-candle, measured along the path of egress at walk surface. The emergency lighting system shall be arranged to provide the required illumination automatically in the event of any interruption of normal lighting. Where maintenance of illumination depends on changing from one (1) energy source to another, a delay of not more than ten (10) seconds shall be permitted. The Abatement Contractor will provide a minimum of one (1) ABC dry-charged fire extinguisher ten (10) pound (lb.) for every three thousand (3,000) square feet (SF) of work area and outside the decon during abatement. The fire extinguishers must have a valid inspection tag and be decontaminated upon removal from the work area.

All poly is preferred to be rated Fire Retardant Polyethylene and meet National Fire protection Association (NFPA) 701-04, American Standards for Testing and Materials (ASTM) E84, and Canvas Products Association International (CPAI) 84 or equivalent.

The LBP Abatement Contractor must provide appropriate and sufficient signs at the abatement-controlled access entrances to direct pedestrian traffic away from blocked entrances. Signs shall be clearly visible and readable at fifty (50) feet from the abatement work area. The contractor shall install signs at the onset of work.

6.0 MATERIALS TO BE ABATED

Table 1 lists the identified LBP that is included as part of this Lead Based Paint Project Design.

Table 1
LBP to be Abated

Materials	Color	Location(s) of the Homogeneous Material	Substrate	Lead Content	Quantity
Walls	White	Interior Only Throughout Bldg.	Concrete/Plaster	**> 1%**	15,000 SF
Door Frames	White	Entrance	Wood	**> 1%**	80 SF
Window Frames	White	Interior Only Throughout Bldg.	Metal	**> 1%**	96 Windows
Stairs	White	1st Floor Stairs	Concrete/Plaster	**> 1%**	1 staircase

No exteriors are to be abated. A copy of the XRF printout (A & M October 25, 2019) is provided in Appendix A.

7.0 METHOD OF ABATEMENT

The LBP will be abated by removing the paint from the surfaces. The abatement will be conducted with preventing migration to already cleaned areas by installing 4-mil plastic sheeting to cover pass-through doors and covering all air duct vents.

Plastic sheeting will be placed on the floor to collect as much dust as possible.

Mechanical equipment used for abatement shall be equipped with dust ventilation and dust control through a HEPA filter.

The use of paint strippers will be non-methylene chloride (dichloromethane) and Safety Data Sheets for all chemicals used in the process must be submitted for approval. Corrosive paint strippers such as Sherwin Williams "Peel Away" product or equivalent are corrosive and will require proper Personal Protective Equipment to include eye protection and suitable gloves.

Low-Temp (less than 1,100 degrees Fahrenheit) heat guns with manual scraping may be utilized. Operating a heat gun on painted surfaces at temperatures greater than 1,100 degrees Fahrenheit is prohibited. Additional, forbidden methods of removal include open flame burning or torching, machine sanding without a HEPA attachment, abrasive blasting, and power washing without a means to trap water and paint chips.

All workers will wear suitable protective equipment to prevent spreading lead dust throughout the building or to the outside.

Removed material will be promptly bagged.

The work area will be wiped down and/or mopped twice in preparation for clearance testing. An EPA study (March 1997, EPA #747-R-97-002; Laboratory Study of Lead-cleaning Efficacy, the EPA recommends that either a general all-purpose cleaner or a cleaner made specifically for lead should be used for both general cleaning and for post-intervention cleaning. Household cleaning using one of these cleaning agents is likely to remove more leaded soil and dust than does water alone. Finally, the study indicates that the effort put into the cleaning may be more important than the choice of cleaner.

Waste from the LBP abatement will be tested for TCLP – metals prior to disposal.

8.0 AIR MONITORING AND RESPIRATORY PROTECTION

Daily air monitoring is not required provided the abatement contractor has a Negative Exposure Assessment (NEA) conducted on a similar project within the previous twelve (12) months.

In the absence of a NEA, personnel monitoring will be conducted on all work activities where employees may exceed the Lead Action Level for three non-consecutive days. A minimum of two (2) personal air samples per abatement crew will be collected during the NEA.

All non-primary calibration devices must be calibrated to a primary calibrator within one month of use and will not include any adjustable flow restricting devices as part of its construction. Calibration records or chart must be maintained onsite.

Removal of LBP materials must be conducted in half-face or full-face APR respirators fitted with High Efficiency Particulate Air (HEPA) cartridges.

9.0 CLEARANCE SAMPLING

Clearance samples will be collected following the LBP abatement and cleaning. Clearance samples will be collected using floor wipe samples and a 12 inch (") by 12" template and a back and forth "S" curve wiping motion. Window seal or trough clearance samples will be collected using floor wipe samples and a 2 inch (") by 12" template and a back and forth "S" curve wiping motion.

Samples will be collected from each room where abatement activities occurred.

Clearance sample results will need to meet EPA's new clearance levels, which are 10 micrograms (µg) of lead in dust per square foot (ft2) for floor dust and 100 µg/ft2 for windowsill dust.

10.0 AIR FILTRATION

Negative Air Machines (NAM) will be utilized to provide a negative air pressure of 0.02" negative pressure (water pressure drop) through the Decon of full containments. The NAMs must be fitted with HEPA filters. Ventilation must be adequate to provide four (4) Air Changes per Hour (ACH).

There is approximately 15,000 SF per floor and a ten (10) to twelve (12) foot ceiling height. Assuming each NAM is rated at 2,000 CFM and adjusted for a 75% actual rating or 1,500 CFM. This would calculate to eight (8) NAMs per floor.

11.0 CONTAINMENT METHODS

The abatement will be conducted with preventing migration to already cleaned areas by installing 4-mil plastic sheeting to cover pass-through doors and covering all air duct vents.

Plastic sheeting will be placed on the floor to collect as much dust as possible.

12.0 DECONTAMINATION SYSTEM

The work area must have an attached decontamination facility (decon) with the "dirty/equipment room" opening to the work area, or a self-enclosed decon trailer parked near a designated exit. The containment will be under negative pressure with make-up air flowing through the three (3) chamber decon facility. The decon unit should be constructed with three (3) chambers: a clean room, a shower and a dirty room. The airlocks for the decon unit shall consist of triple six (6) mil polyethylene overlapping flaps. The decon shower shall be equipped with a five (5) micron wastewater filter, liquid cleaning agent, non-porous shower grates and a functioning in-line water heater with capacity for five (5) gallons per worker. Disposal of wastewater will be into the sanitary sewer. The temperature of the clean room and decon must be maintained above fifty (50) degrees °F during abatement activities. A decon suitable for the asbestos abatement will suffice for the LBP abatement.

13.0 SOIL CONTAMINATION CLEANUP

Not Applicable.

14.0 SPECIAL MATERIALS OR METHODS

Scaffolding and Fall Protection

Work during this abatement may be conducted using ladders, man-lifts, or baker scaffolding. Fall protection must be used where appropriate. The LBP abatement contractor will comply with 29 CFR 1926 Subpart L-Scaffolds and Subpart M-Fall Protection.

Electrical

Electric service is currently not on inside the building. It is unknown if the electric service can be safely restored. Contractor will need to plan for sufficient electrical power. If power can be safely restored, any tie-ins to the electrical service must be performed by a licensed electrician and the responsibility of the contractor. Lockout/tagout procedures must be used on all electrical circuits which penetrate the work area.

Water

Water service is currently off in the building. It is unknown if water service can be safely restored. Contractor will need to plan for sufficient water.

Heat Stress

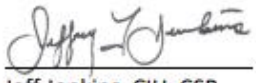
The contractor shall monitor heat stress in general accordance with OSHA Technical Manual Section III, Chapter 4.

Sanitation Facilities

Currently the building is vacant used for storage and has the utilities off. It is unknown if the utilities can be restored; thus, the contractor will need to arrange for electric and water. Sanitation facilities in the building are not available for use. The asbestos contractor will be responsible for arranging for sanitation facilities.

15.0 CERTIFICATION

This Lead-Based Paint Abatement Project Design was prepared by the undersigned for compliance with applicable federal and State regulations.



Jeff Jenkins, CIH, CSP
Asbestos Project Designer, OKPD 143988

July 30, 2021
Date

Appendix A

XRF Data

Reading	Mode	Date	Time	Building	Room	Side	Component	Substrate	Color	Pb	LiveTime	Pass Fail Standard	
	Standardization	10-Oct-19	12:42:32	Tulsa surplus Yard							49.74	PASS	
1	Calibration - 0.00	10-Oct-19	9:39:46	Tulsa surplus Yard						0	49.09		
2	Calibration - 0.00	10-Oct-19	9:43:14	Tulsa surplus Yard						0	7.33		
3	Calibration - 0.00	10-Oct-19	9:43:53	Tulsa surplus Yard						0	7.29		
4	Calibration - 1.04	10-Oct-19	9:44:33	Tulsa surplus Yard						0.99	22.87		
5	Calibration - 1.04	10-Oct-19	9:45:23	Tulsa surplus Yard						1.05	22.8		
6	Calibration -1.04	10-Oct-19	9:46:10	Tulsa surplus Yard						0.98	1.56		
7	Calibration - 1.04	10-Oct-19	9:46:35	Tulsa surplus Yard						0.98	14.08		
8	Calibration -0.31	10-Oct-19	9:47:23	Tulsa surplus Yard						0.29	6.19		
9	Calibration - 0.71	10-Oct-19	9:47:43	Tulsa surplus Yard						0.62	6.12		
10	Calibration - 1.53	10-Oct-19	9:48:09	Tulsa surplus Yard						1.41	2.72		
11	Calibration - 1.53	10-Oct-19	9:48:29	Tulsa surplus Yard						1.38	7.11		
12	Calibration - 3.58	10-Oct-19	9:48:56	Tulsa surplus Yard						3.75	3.73		
13	Calibration - 0.00	10-Oct-19	9:49:37	Tulsa surplus Yard						0	6.15		
14		10-Oct-19	9:53:30	Tulsa surplus Yard	Entry	A	Wall	Wood	White	0.11	6.29	Negative	
15		10-Oct-19	9:54:21	Tulsa surplus Yard	Entry	A	Door	Wood	Brown	0.01	7.09	Negative	
16		10-Oct-19	9:55:03	Tulsa surplus Yard	Entry	B	Wall	Concrete	White	1	4.4	Positive	
17		10-Oct-19	9:55:35	Tulsa surplus Yard	Entry	D	Wall	Concrete	White	0.05	3.13	Negative	
18		10-Oct-19	9:56:40	Tulsa surplus Yard	Entry	D	Wall	Concrete	White	1	5.68	Negative	
19		10-Oct-19	9:57:12	Tulsa surplus Yard	Entry	C	Door Frame	Wood	White	1	5.69	Positive	
20		10-Oct-19	9:58:11	Tulsa surplus Yard	Entry	C	Door	Wood	White	0.09	6.39	Negative	
21		10-Oct-19	9:58:41	Tulsa surplus Yard	Room #101	D	Wall	Concrete	White	0.05	7.7	Negative	
22		10-Oct-19	10:00:02	Tulsa surplus Yard	Room #101	A	Wall	Concrete	White	1	4.4	Positive	
23		10-Oct-19	10:00:43	Tulsa surplus Yard	Room #101	B	Wall	Concrete	White	1	5.62	Positive	
24		10-Oct-19	10:01:38	Tulsa surplus Yard	Room #101	C	Wall	Concrete	White	1	6.92	Positive	C
25		10-Oct-19	10:02:28	Tulsa surplus Yard	Room #101	C	Wall	Concrete	White	1	5.43	Positive	
26		10-Oct-19	10:02:56	Tulsa surplus Yard	Room #101	C	Wall	Concrete	White	0.24	3.04	Negative	
27		10-Oct-19	10:03:31	Tulsa surplus Yard	Room #101	B	Window Ledge	Wood	White	1	3.07	Positive	
28		10-Oct-19	10:04:08	Tulsa surplus Yard	Room #101	B	Window Frame	Metal	White	0.1	24.27	Negative	
29		10-Oct-19	10:05:09	Tulsa surplus Yard	Room #101	D	Door Frame	Wood	White	1.45	25.6	Positive	C
30		10-Oct-19	10:06:19	Tulsa surplus Yard	Room #101	D	Door Jamb	Wood	White	0.03	6.31	Negative	
31		10-Oct-19	10:06:55	Tulsa surplus Yard	Room #102	A	Wall	Concrete	White	0.07	6.43	Negative	
32		10-Oct-19	10:07:43	Tulsa surplus Yard	Room #102	B	Wall	Concrete	White	1	5.64	Positive	C
33		10-Oct-19	10:08:46	Tulsa surplus Yard	Room #102	C	Wall	Drywall	White	0.16	0	Negative	
34		10-Oct-19	10:09:01	Tulsa surplus Yard	Room #102	D	Wall	Concrete	White	0.15	25.45	Negative	
35		10-Oct-19	10:10:07	Tulsa surplus Yard	Room #102	D	Door Frame	Wood	White	0.11	3.1	Negative	
36		10-Oct-19	10:11:34	Tulsa surplus Yard	Room #102	D	Door	Wood	White	0.14	24.16	Negative	
37		10-Oct-19	10:12:34	Tulsa surplus Yard	Room #102	B	Window Ledge	Wood	White	0.12	23.89	Negative	
38		10-Oct-19	10:13:32	Tulsa surplus Yard	Room #103 A	A	Wall	Concrete	White	0.05	23.86	Negative	
39		10-Oct-19	10:19:52	Tulsa surplus Yard	Room #103 A	B	Wall	Drywall	White	1	6.86	Positive	
40		10-Oct-19	10:21:02	Tulsa surplus Yard	Room #103 A	C	Wall	Drywall	White	0	8.08	Negative	
41		10-Oct-19	10:21:23	Tulsa surplus Yard	Room #103 A	D	door trim	Wood	White	0	25.19	Negative	
42		10-Oct-19	10:22:18	Tulsa surplus Yard	Room #103 A	D	Door Frame	Wood	White	0	23.27	Negative	
43		10-Oct-19	10:23:18	Tulsa surplus Yard	Room #103 A	D	Window Ledge	Wood	White	0	23.4	Negative	
44		10-Oct-19	10:24:21	Tulsa surplus Yard	Room #103 A	B	Window Ledge	Metal	White	0.1	21.69	Negative	
45		10-Oct-19	10:24:58	Tulsa surplus Yard	Room #103 A	B	Window Frame	Metal	White	1	5.62	Positive	
46		10-Oct-19	10:26:30	Tulsa surplus Yard	Room #103 B	A	Wall	Drywall	White	0.05	25.47	Negative	
47		10-Oct-19	10:27:12	Tulsa surplus Yard	Room #103 B	B	Wall	Drywall	White	0	15.29	Negative	
48		10-Oct-19	10:27:47	Tulsa surplus Yard	Room #103 B	C	Wall	Drywall	White	0	25.56	Negative	
49		10-Oct-19	10:28:53	Tulsa surplus Yard	Room #103 B	C	Door trim	Wood	White	0	23.62	Negative	
50		10-Oct-19	10:36:01	Tulsa surplus Yard	Room #104 A	A	Wall	Drywall	White	0	20.56	Negative	
51		10-Oct-19	10:36:45	Tulsa surplus Yard	Room #104 A	B	Wall	Concrete	White	1	5.69	Positive	
52		10-Oct-19	10:37:21	Tulsa surplus Yard	Room #104 A	C	Wall	Drywall	White	0	24.71	Negative	
53		10-Oct-19	10:38:03	Tulsa surplus Yard	Room #104 A	D	Wall	Drywall	White	0	25.05	Negative	
54		10-Oct-19	10:39:02	Tulsa surplus Yard	Room #104 A	B	Window Ledge	Wood	White	0.01	24.03	Negative	
55		10-Oct-19	10:39:44	Tulsa surplus Yard	Room #104 A	B	Window Frame	Metal	White	3.21	25.96	Positive	
56		10-Oct-19	10:40:51	Tulsa surplus Yard	Room #104 A	D	Door Frame	Wood	White	0	23.71	Negative	
57		10-Oct-19	10:42:15	Tulsa surplus Yard	Room #104 B	A	Wall	Drywall	White	0	25.78	Negative	
58		10-Oct-19	10:42:53	Tulsa surplus Yard	Room #104 B	B	Wall	Drywall	White	0	25.26	Negative	
59		10-Oct-19	10:43:40	Tulsa surplus Yard	Room #104 B	C	Wall	Drywall	White	0	15.53	Negative	
60		10-Oct-19	10:44:27	Tulsa surplus Yard	Room #104 B	D	Door Frame	Wood	White	0.06	24.39	Negative	
61		10-Oct-19	10:45:09	Tulsa surplus Yard	Room #104 B	D	Door	Wood	White	0.03	4.08	Negative	
62		10-Oct-19	10:46:58	Tulsa surplus Yard	Room #105 A	A	Wall	Drywall	White	0	25.36	Negative	
63		10-Oct-19	10:47:39	Tulsa surplus Yard	Room #105 A	B	Wall	Drywall	White	0	25.34	Negative	
64		10-Oct-19	10:48:45	Tulsa surplus Yard	Room #105 A	C	Wall	Concrete	White	0.03	25.53	Negative	
65		10-Oct-19	10:50:05	Tulsa surplus Yard	Room #105 B	D	Wall	Drywall	White	0	25.56	Negative	
66		10-Oct-19	10:50:47	Tulsa surplus Yard	Room #107	A	Wall	Plaster	White	0	25.51	Negative	
67		10-Oct-19	10:58:57	Tulsa surplus Yard	Room #107	B	Wall	Plaster	White	0.04	25.26	Negative	
68		10-Oct-19	11:00:01	Tulsa surplus Yard	Room #107	C	Wall	Concrete	White	1	11.89	Positive	
69		10-Oct-19	11:00:35	Tulsa surplus Yard	Room #107	D	Wall	Concrete	White	0.2	4.36	Negative	
70		10-Oct-19	11:01:49	Tulsa surplus Yard	Room #107	D	Partition	Wood	White	0.28	0	Negative	
71		10-Oct-19	11:02:18	Tulsa surplus Yard	Room #108	A	Wall	Drywall	White	1	3.1	Negative	
72		10-Oct-19	11:02:57	Tulsa surplus Yard	Room #108	B	Wall	Drywall	White	0.04	24.34	Negative	
73		10-Oct-19	11:04:40	Tulsa surplus Yard	Room #108	C	Wall	Drywall	White	0.06	5.54	Negative	
74		10-Oct-19	11:05:12	Tulsa surplus Yard	Room #108	D	Wall	Concrete	White	0	21.44	Negative	
75		10-Oct-19	11:05:49	Tulsa surplus Yard	Stairs		Post	Metal	Brown	0.11	3.07	Negative	
76		10-Oct-19	11:06:45	Tulsa surplus Yard	Stairs		Rails	Wood	Brown	0.12	2.90	Negative	
77		10-Oct-19	11:08:29	Tulsa surplus Yard	Stairs		Inside side Wall	Concrete	White	1	2.08	Positive	
78		10-Oct-19	11:09:49	Tulsa surplus Yard	Stairs		Outside Side Wall	Wood	Brown	0.01	16.99	Negative	
79		10-Oct-19	11:10:37	Tulsa surplus Yard	Room #110	A	Wall	Plaster	White	0.13	25.86	Negative	
80		10-Oct-19	11:11:45	Tulsa surplus Yard	Room #110	B	Wall	Plaster	White	0.16	3.2	Negative	
81		10-Oct-19	11:12:16	Tulsa surplus Yard	Room #110	C	Wall	Plaster	White	0.1	26.34	Negative	

82		10-Oct-19	11:14:48	Tulsa surplus Yard	Room #110	D	Wall	Plaster	White	1	3.07	Positive	
83		10-Oct-19	11:15:40	Tulsa surplus Yard	Room #110	B	Cabinet Door	Wood	White	0.25	25.99	Negative	
84		10-Oct-19	11:16:35	Tulsa surplus Yard	Room #110	D	Window Sill	Wood	White	0.01	25.25	Negative	
85		10-Oct-19	11:17:20	Tulsa surplus Yard	Room #110	C	Door	Metal	White	0.16	25.97	Negative	C
86		10-Oct-19	11:18:33	Tulsa surplus Yard		A	Wall	Plaster	White	0.13	2.99	Negative	
87		10-Oct-19	11:22:27	Tulsa surplus Yard		B	Wall	Plaster	White	0.13	24.29	Negative	
88		10-Oct-19	12:08:08	Tulsa surplus Yard		C	Wall	Plaster	White	0	22.58	Negative	
89		10-Oct-19	12:10:09	Tulsa surplus Yard		D	Wall	Plaster	White	0.14	3.11	Negative	
90		10-Oct-19	12:11:09	Tulsa surplus Yard		A	Wall	Plaster	White	0.1	25.62	Negative	
91		10-Oct-19	12:11:54	Tulsa surplus Yard		B	Wall	Plaster	White	0.1	3.14	Negative	
92		10-Oct-19	12:12:56	Tulsa surplus Yard		C	Wall	Plaster	White	0.21	4.37	Negative	
93		10-Oct-19	12:14:25	Tulsa surplus Yard		D	Door	Plaster	Brown	0.07	23.17	Negative	
94		10-Oct-19	12:15:03	Tulsa surplus Yard		A	Door Trim	Wood	Brown	0.06	23.33	Negative	
95		10-Oct-19	12:15:55	Tulsa surplus Yard		A	Chair Rail	Wood	Brown	0.02	23.1	Negative	
96		10-Oct-19	12:17:07	Tulsa surplus Yard		D	Window Sill	Wood	Brown	0.06	3.87	Negative	
97		10-Oct-19	12:17:24	Tulsa surplus Yard		D	Window Frame	Metal	White	5	10.6	Positive	C
98	Calibration - 0.00	10-Oct-19	12:32:31	Tulsa surplus Yard						0	22.87		
99	Calibration - 0.00	10-Oct-19	12:33:12	Tulsa surplus Yard						0	23.11		
100	Calibration - 0.00	10-Oct-19	12:33:53	Tulsa surplus Yard						0	23.15		
101	Calibration - 1.04	10-Oct-19	12:35:11	Tulsa surplus Yard						1.04	22.78		
102	Calibration - 1.04	10-Oct-19	12:35:53	Tulsa surplus Yard						0.98	22.85		
103	Calibration - 1.04	10-Oct-19	12:36:39	Tulsa surplus Yard						0.96	22.92		
104	Standardization	10-Oct-19	12:42:32	Tulsa surplus Yard							49.74	PASS	
105	Calibration - 0.00	10-Oct-19	12:43:52	Tulsa surplus Yard						0	23.48		
106	Calibration - 0.00	10-Oct-19	12:44:42	Tulsa surplus Yard						0	23.39		
107	Calibration - 0.00	10-Oct-19	12:45:24	Tulsa surplus Yard						0	1.59		
108	Calibration - 0.00	10-Oct-19	12:45:32	Tulsa surplus Yard						0	23.32		
109	Calibration - 1.04	10-Oct-19	12:46:13	Tulsa surplus Yard						0.96	2.62		
110	Calibration - 1.04	10-Oct-19	12:46:29	Tulsa surplus Yard						0.99	23.13		
111	Calibration - 1.04	10-Oct-19	12:47:18	Tulsa surplus Yard						1.04	19.83		
112	Calibration - 1.04	10-Oct-19	12:47:57	Tulsa surplus Yard						0.97	20.85		
113		10-Oct-19	12:52:41	Tulsa surplus Yard	Room #214	A	Wall	Plaster	White	1	5.62	Positive	
114		10-Oct-19	12:54:18	Tulsa surplus Yard	Room #214	B	Wall	Plaster	White	1	5.69	Positive	
115		10-Oct-19	12:55:21	Tulsa surplus Yard	Room #214	C	Wall	Plaster	White	0.02	25.93	Negative	
116		10-Oct-19	12:56:09	Tulsa surplus Yard	Room #214	D	Wall	Plaster	White	0.25	26.31	Negative	
117		10-Oct-19	12:56:55	Tulsa surplus Yard	Room #214	D	Door Frame	Wood	White	0.03	24.09	Negative	
118		10-Oct-19	12:57:54	Tulsa surplus Yard	Room #214	D	Door Jamb	Wood	White	0.05	23.53	Negative	
119		10-Oct-19	12:58:46	Tulsa surplus Yard	Room #214	B	Window Sill	Wood	Brown	0.1	24.24	Negative	
120		10-Oct-19	12:59:42	Tulsa surplus Yard	Room #214	B	Window Frame	Metal	White	0.19	26.24	Negative	
121		10-Oct-19	13:03:02	Tulsa surplus Yard	Room #216	A	Wall	Plaster	White	1	6.65	Positive	C
122		10-Oct-19	13:04:21	Tulsa surplus Yard	Room #216	B	Wall	Plaster	White	1	8.19	Positive	
123		10-Oct-19	13:05:38	Tulsa surplus Yard	Room #216	C	Wall	Plaster	White	0.25	25.75	Negative	
124		10-Oct-19	13:06:25	Tulsa surplus Yard	Room #216	D	Wall	Drywall	White	0.01	25.14	Negative	
125		10-Oct-19	13:07:14	Tulsa surplus Yard	Room #216	C	Window Sill	Wood	White	0.08	17.14	Negative	
126		10-Oct-19	13:07:51	Tulsa surplus Yard	Room #216	C	Window Frame	Metal	White	3.12	9.29	Positive	C
127		10-Oct-19	13:08:40	Tulsa surplus Yard	Room #216	A	Partition	Wood	White	0.08	24.23	Negative	
128		10-Oct-19	13:11:11	Tulsa surplus Yard	Room #202	A	Wall	Wood	White	0.02	0		
129		10-Oct-19	13:11:36	Tulsa surplus Yard	Room #202	B	Wall	Wood	White	1	6.76	Positive	
130		10-Oct-19	13:12:46	Tulsa surplus Yard	Room #202	C	Wall	Wood	White	0.06	3.08	Negative	
131		10-Oct-19	13:13:53	Tulsa surplus Yard	Room #202	D	Wall	Wood	White	0	25.54	Negative	
132		10-Oct-19	13:14:43	Tulsa surplus Yard	Room #202	D	Window Sill	Wood	White	0.48	23.92	Negative	
133		10-Oct-19	13:15:27	Tulsa surplus Yard	Room #202	D	Window Frame	Wood	White	2.06	26.16	Positive	
134		10-Oct-19	13:17:02	Tulsa surplus Yard	Room #210	B	Wall	Plaster	White	0.13	4.39	Negative	
135		10-Oct-19	13:18:16	Tulsa surplus Yard	Room #210	D	Wall	Plaster	White	1	4.3	Negative	
136		10-Oct-19	13:19:15	Tulsa surplus Yard	Room #210	C	Wall	Plaster	White	1	3	Positive	
137		10-Oct-19	13:20:14	Tulsa surplus Yard	Room #210	A	Wall	Plaster	White	1	3.07	Negative	
138		10-Oct-19	13:21:26	Tulsa surplus Yard	Room #210		Door Trim	Wood	Brown	0.06	23	Negative	
139		10-Oct-19	13:22:07	Tulsa surplus Yard	Room #210		Door Frame	Wood	Brown	0.04	3.86	Insufficient Test Time	
140		10-Oct-19	13:22:18	Tulsa surplus Yard	Basement	A	Cabinet Door	Wood	Red	0.09	11.41	Negative	
141		10-Oct-19	13:41:13	Tulsa surplus Yard	Basement	south	Plywood - Electrical	Wood	silver	0.03	23.49	Negative	
142	Calibration - 0.00	10-Oct-19	13:42:06							0	23.61	Negative	
143	Calibration - 0.00	10-Oct-19	13:43:52							0	23.47	Negative	
144	Calibration - 0.00	10-Oct-19	13:45:17							0	22.69	Negative	
145	Calibration - 0.00	10-Oct-19	13:45:57							0	7.29	Negative	
146	Calibration - 1.04	10-Oct-19	13:46:16							1.03	3.89	Positive	
147	Calibration - 1.04	10-Oct-19	13:46:33							0.93	3.75	Positive	
148	Calibration - 1.04	10-Oct-19	13:46:48							0.96	12.99	Positive	
149	Calibration - 1.04	10-Oct-19	13:47:29							1.18	3.92	Positive	
150	Calibration - 1.04	10-Oct-19	13:47:48							1.05	16.37	Positive	

Basement Stairwell Cleanup
City of Tulsa Surplus Yard, Building 104

108 North Trenton Avenue
City of Tulsa, Tulsa County, Oklahoma 74120

Version 1
August 8, 2022

Prepared For:

City of Tulsa
175 East 2nd Street, Suite 15-041
Tulsa, Oklahoma 74103

Basement Stairwell Cleanup

After the City of Tulsa's acquisition of the site, a fire department call to the building identified low-levels of radiation in the basement stairwell. A follow-up environmental survey from October 2019 included assessment for radioactive materials. The 2019 survey found background radiation to be higher on the basement stair treads. Luminescent (glow in the dark) tape strips used on the basement steps were identified as the potential source of low-level radiation in the October 2019 survey.

Further sampling by the ODEQ Radiation Management Office in 2020 found that the elevated background radiation levels were limited to two of the basement stair treads. As a result of this sampling event, ODEQ determined that radiation levels in the basement stairway averaged within the Removal Contamination Limit (RCL), or cleanup target levels, found in OAC 252:410 Appendix B. A copy of the ODEQ Memo follows.

The 2020 ODEQ memo also recommended that radon sampling be conducted as a confirmatory measure. In 2022, sampling for radon, a naturally occurring radioactive gas that is emitted from certain soils and rocks, was conducted on behalf of the City of Tulsa. Samplers were placed in the basement as well as the basement stairway. Radon was found to be below detection limits in all samples.

Further coordination with ODEQ in July 2022 concluded that cleanup limited to the basement stairs, would be conducted. This cleanup shall consist of

- removal and disposal of the luminescent strips from each basement stair tread;
- General sweep down of basement stairwell walls, treads, and floor to removal dust, dirt, and other accumulated loose material, including trash

to remove any perceived barriers to reuse on the part of potential occupants. Removed materials will be assessed and disposed of appropriately upon conclusion of cleanup efforts.

MEMORANDUM

DATE: October 6, 2020

TO: Tulsa Office Building File

THROUGH: Aron Samwel, Brownfields Manager

FROM: Heather Mallory, Brownfields Revolving Loan Fund Coordinator

RE: Tulsa Office Building, 108 N Trenton Ave, Tulsa, OK

On August 21, 2020, Jennifer McAllister of DEQ's Radiation Management Program collected swipe samples from the stairs leading from the 1st floor to the basement in the Office Building at 108 N Trenton Avenue in Tulsa, Oklahoma. The Office Building is currently vacant and will be redeveloped as city offices following cleanup in the Brownfields Revolving Loan Fund (BRLF) Program.

Swipe samples were collected from the steps leading to the basement. Swipe samples on steps were taken from a 100 cm^2 area on the landing of each of the steps listed in table below. Two samples were taken from each step landing, one dry and one wet sample. No samples were collected from the walls or sides of the steps. A loose piece of non-skid material, formerly attached to the steps, was also collected. The laboratory used the HASL-300 (Health and Safety Laboratory) method of analysis for Gamma Emitting Radionuclides. Laboratory results are attached.

		Sample Type		
Sample Description	**Removable Contamination Limit (dpm/100 cm^2)[1]**	**Wet**	**Dry**	**Result (dpm)**
Step – Top	20		X	34.4
Top Step	20	X		8.45
Step #5	20		X	6.67
Step #6	20	X		0
Step #8	20		X	0
Step #8	20	X		5.12
Step #9	20		X	42.4
Step #9	20	X		0
Step #10	20		X	0
Step #10	20	X		0
Non-Skid Material	20		X	16.1

1 - Removal Contamination Limits found in OAC 252:410 Appendix B

Yellow highlighted results in the table above are exceedances. Dry samples from the Top Step and Step 9 exceeded the Removable Contamination Limit (RCL) levels for Radium-226; however, wet swipe samples from the same step were below the RCL. The average of the wet and dry samples on these steps are well below the RCL.

The DEQ Radiation Management Program could not find a man-made radiation source on the steps leading to the basement, and suspects that the radiation is naturally occurring in the bricks, possibly augmented by radon decay. They advise the owners of the building that natural radiation levels are higher than is typical, but they do not constitute a concern based on meeting the standards and short residence times in the stairwell of building occupants. DEQ Radiation Management recommends taking radon measurements in the building when ventilation is as it would be when occupied.

The Tulsa Office Building will receive a subgrant from the BRLF, and these results and recommendations will be used to determine if cleanup or mitigation is needed to address the low-level radiation in the basement of the building. It is possible that no cleanup or mitigation will be needed.

QAPP Amendment Log Form and

Completed Log Forms

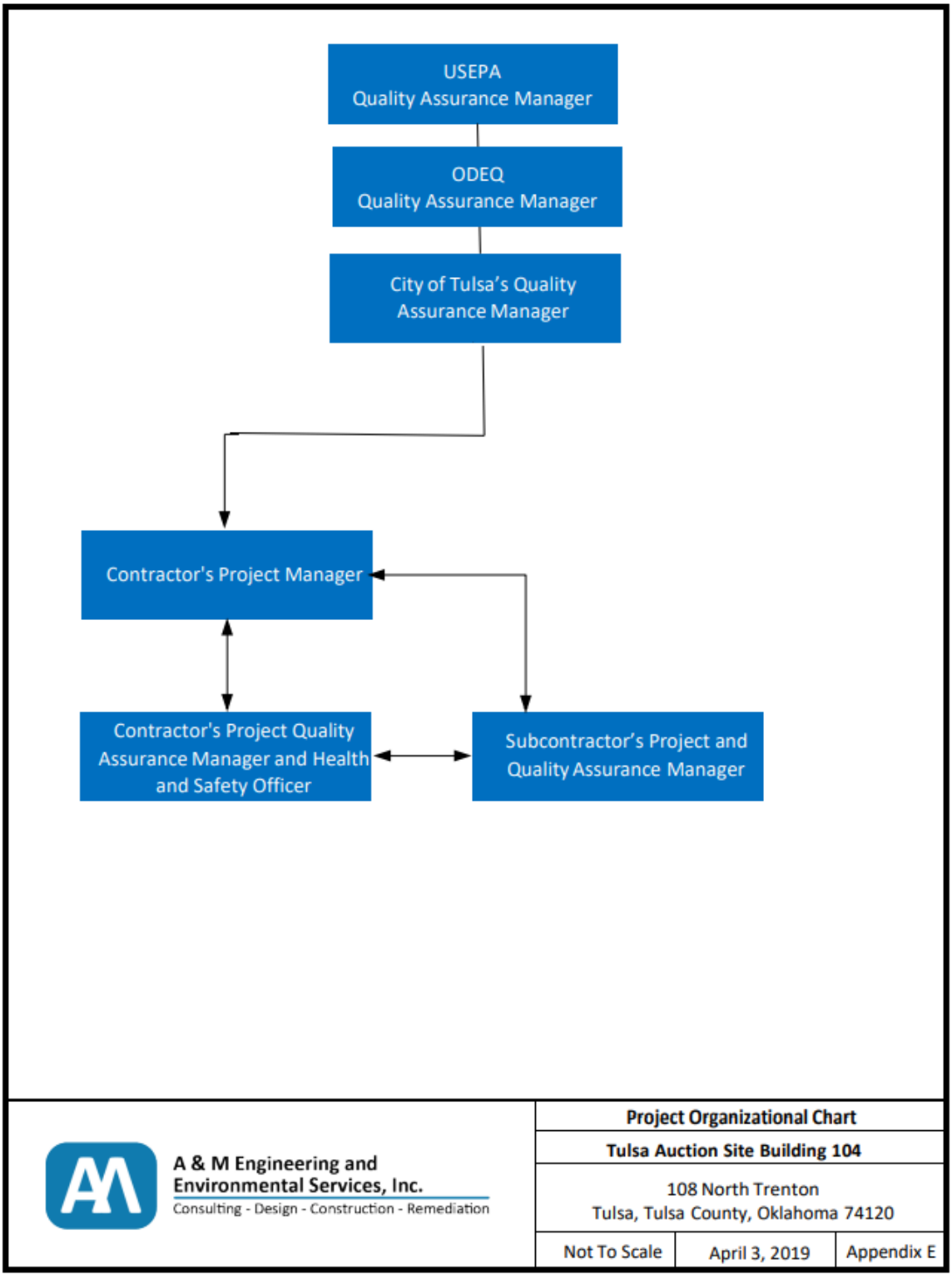
QAPP Amendment Log Form

Number	Dates Completed	Descriptions	Amended By (Names)	Sections Affected	Approved by all Project Distribution Listed Individuals
1					☐ Yes
2					☐ Yes
3					☐ Yes
4					☐ Yes
5					☐ Yes
6					☐ Yes
7					☐ Yes

Please attach amendment support documentation, as necessary.

Appendix E

Project Organizational Chart



A & M Engineering and Environmental Services, Inc.
Consulting - Design - Construction - Remediation

Project Organizational Chart

Tulsa Auction Site Building 104

108 North Trenton
Tulsa, Tulsa County, Oklahoma 74120

Not To Scale	April 3, 2019	Appendix E

Appendix F

Asbestos Sampling Form

Project: | T | Conc. Dia = | | | | PF = | 10 | Field of View = | | | Pg. | | OF | |

Pump Number	Sample Number	Date Sampled	Time 1 On-Off	Time 2 On-Off	Collection Information	Y P	Perc Exp.	Flow Rate (L/M) Pre	Post	Avg.	Fiber Count	Field Count	Ttl. Time (Min.)	Volume (Liters)	Fiber Density	Fibers Per CC	Det. Limit	LCL	UCL

I hereby certify that the above samples were collected and analyzed in compliance with applicable standards and regulations.

ANALYST PARTICIPATING IN LAB AIHA-101532

NC = Not Counted. Reasons: 1. Overload; 2. Damaged Filter; 3. Pump Failure; 4. Missing Filter

Rotometer Number:

Calibration Date:

NIOSH 7400 METHOD 7/1/2010

Name Signature

Location:

Contractor:

Project Number:

Appendix G

Confirmation Sampling Forms

Asbestos Sampling Data **Sample Date:**

Client:	**Project:**
Location:	**Laboratory:**
Industrial Hygienist:	**Date Sent to Lab:**

Sample ID	Description	Friable (Y/N)	Asbestos (Y/N)	Est Quantity (SF/LF)	Potential to Contact (low/moderate/high)	Potential for Vibration (low/moderate/high)	Potential for Air Erosion (low/moderate/high)	Condition (Good/Damaged/Significantly Damaged)	Photo (Y/N)

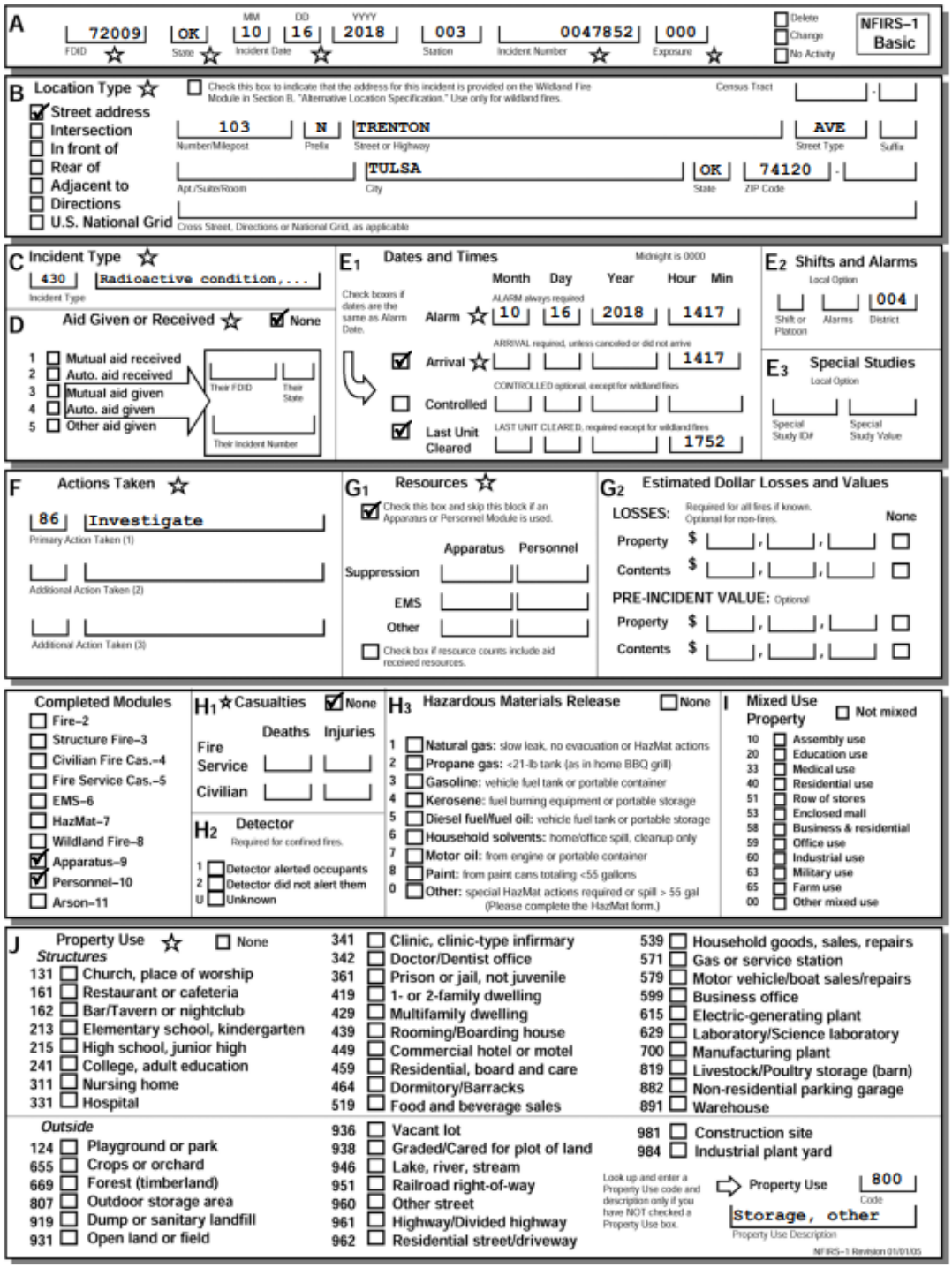
Facility: Tulsa Surplus Yard
Location: Tulsa, OK

Project #:
Sampler/Company:
Date:

Reading #	Room	Side	Description	Substrate	Color	Lead Conc. (ug/cm^2)

Appendix H

Existing Data Sources



A

FDID	State	Incident Date (MM DD YYYY)	Station	Incident Number	Exposure
72009	OK	10 16 2018	003	0047852	000

☐ Delete ☐ Change ☐ No Activity — NFIRS–1 Basic

B Location Type ☆

☐ Check this box to indicate that the address for this incident is provided on the Wildland Fire Module in Section B, "Alternative Location Specification." Use only for wildland fires.

Census Tract: ____ - ____

☑ Street address
☐ Intersection
☐ In front of
☐ Rear of
☐ Adjacent to
☐ Directions
☐ U.S. National Grid

Number/Milepost	Prefix	Street or Highway	Street Type	Suffix
103	N	TRENTON	AVE	

Apt./Suite/Room	City	State	ZIP Code
	TULSA	OK	74120 -

Cross Street, Directions or National Grid, as applicable:

C Incident Type ☆

430 Radioactive condition,...

Incident Type

D Aid Given or Received ☆ ☑ None

1 ☐ Mutual aid received
2 ☐ Auto. aid received
3 ☐ Mutual aid given
4 ☐ Auto. aid given
5 ☐ Other aid given

Their FDID | Their State | Their Incident Number

E1 Dates and Times — Midnight is 0000

Check boxes if dates are the same as Alarm Date.

	Month	Day	Year	Hour	Min
Alarm ☆ (ALARM always required)	10	16	2018	1417	
☑ Arrival ☆ (ARRIVAL required, unless canceled or did not arrive)				1417	
☐ Controlled (CONTROLLED optional, except for wildland fires)					
☑ Last Unit Cleared (LAST UNIT CLEARED, required except for wildland fires)				1752	

E2 Shifts and Alarms — Local Option

Shift or Platoon	Alarms	District
		004

E3 Special Studies — Local Option

Special Study ID#	Special Study Value

F Actions Taken ☆

86 Investigate — Primary Action Taken (1)

Additional Action Taken (2)

Additional Action Taken (3)

G1 Resources ☆

☑ Check this box and skip this block if an Apparatus or Personnel Module is used.

	Apparatus	Personnel
Suppression		
EMS		
Other		

☐ Check box if resource counts include aid received resources.

G2 Estimated Dollar Losses and Values

LOSSES: (Required for all fires if known. Optional for non-fires.)	$	None
Property	$,,	☐
Contents	$,,	☐
PRE-INCIDENT VALUE: Optional		
Property	$,,	☐
Contents	$,,	☐

Completed Modules

☐ Fire–2
☐ Structure Fire–3
☐ Civilian Fire Cas.–4
☐ Fire Service Cas.–5
☐ EMS–6
☐ HazMat–7
☐ Wildland Fire–8
☑ Apparatus–9
☑ Personnel–10
☐ Arson–11

H1 ☆ Casualties ☑ None

	Deaths	Injuries
Fire Service		
Civilian		

H2 Detector — Required for confined fires.

1 ☐ Detector alerted occupants
2 ☐ Detector did not alert them
U ☐ Unknown

H3 Hazardous Materials Release ☐ None

1 ☐ **Natural gas:** slow leak, no evacuation or HazMat actions
2 ☐ **Propane gas:** <21-lb tank (as in home BBQ grill)
3 ☐ **Gasoline:** vehicle fuel tank or portable container
4 ☐ **Kerosene:** fuel burning equipment or portable storage
5 ☐ **Diesel fuel/fuel oil:** vehicle fuel tank or portable storage
6 ☐ **Household solvents:** home/office spill, cleanup only
7 ☐ **Motor oil:** from engine or portable container
8 ☐ **Paint:** from paint cans totaling <55 gallons
0 ☐ **Other:** special HazMat actions required or spill > 55 gal (Please complete the HazMat form.)

I Mixed Use Property ☐ Not mixed

10 ☐ Assembly use
20 ☐ Education use
33 ☐ Medical use
40 ☐ Residential use
51 ☐ Row of stores
53 ☐ Enclosed mall
58 ☐ Business & residential
59 ☐ Office use
60 ☐ Industrial use
63 ☐ Military use
65 ☐ Farm use
00 ☐ Other mixed use

J Property Use ☆ ☐ None

Structures

131 ☐ Church, place of worship
161 ☐ Restaurant or cafeteria
162 ☐ Bar/Tavern or nightclub
213 ☐ Elementary school, kindergarten
215 ☐ High school, junior high
241 ☐ College, adult education
311 ☐ Nursing home
331 ☐ Hospital
341 ☐ Clinic, clinic-type infirmary
342 ☐ Doctor/Dentist office
361 ☐ Prison or jail, not juvenile
419 ☐ 1- or 2-family dwelling
429 ☐ Multifamily dwelling
439 ☐ Rooming/Boarding house
449 ☐ Commercial hotel or motel
459 ☐ Residential, board and care
464 ☐ Dormitory/Barracks
519 ☐ Food and beverage sales
539 ☐ Household goods, sales, repairs
571 ☐ Gas or service station
579 ☐ Motor vehicle/boat sales/repairs
599 ☐ Business office
615 ☐ Electric-generating plant
629 ☐ Laboratory/Science laboratory
700 ☐ Manufacturing plant
819 ☐ Livestock/Poultry storage (barn)
882 ☐ Non-residential parking garage
891 ☐ Warehouse

Outside

124 ☐ Playground or park
655 ☐ Crops or orchard
669 ☐ Forest (timberland)
807 ☐ Outdoor storage area
919 ☐ Dump or sanitary landfill
931 ☐ Open land or field
936 ☐ Vacant lot
938 ☐ Graded/Cared for plot of land
946 ☐ Lake, river, stream
951 ☐ Railroad right-of-way
960 ☐ Other street
961 ☐ Highway/Divided highway
962 ☐ Residential street/driveway
981 ☐ Construction site
984 ☐ Industrial plant yard

Look up and enter a Property Use code and description only if you have NOT checked a Property Use box.

Property Use: 800 (Code)

Storage, other (Property Use Description)

NFIRS–1 Revision 01/01/05

Printed 13:35 08/09/2019

K1 Person/Entity Involved

Local Option

Business Name (if applicable) | Area Code | Phone Number

☐ Check this box if same address as incident location (Section B). Then skip the three duplicate address lines.

Mr., Ms., Mrs. | First Name | MI | Last Name | Suffix

Number | Prefix | Street or Highway | Street Type | Suffix

Post Office Box | Apt./Suite/Room | City

State | ZIP Code

☐ More people involved? Check this box and attach Supplemental Forms (NFIRS–1S) as necessary.

K2 Owner

Local Option

☐ Same as person involved? Then check this box and skip the rest of this block.

Business Name (if applicable) | Area Code | Phone Number

☐ Check this box if same address as incident location (Section B). Then skip the three duplicate address lines.

Mr., Ms., Mrs. | First Name | MI | Last Name | Suffix

Number | Prefix | Street or Highway | AVE | Suffix

Post Office Box | Apt./Suite/Room | City

State | ZIP Code

L Remarks:

GEORGE HARRIS
October 19,2018 20:33:44

HAZMAT WAS CALLED TO THE CITY OF TULSA SURPLUS YARD AT THIS ADDRESS TO CHECK FOR ANY RADIATION IN ONE OF THEIR STORAGE BUILDINGS. A PERSON WORKING FOR THE CITY TOLD THE PERSONELL AT THE SURPLUS YARD THAT THIS BUILDING HAD RADIATION CONTANIMATION. WE USED TWO LUDLEMS AND ONE RAD SEEKER AND ONE URTRADIAC. WE WENT THROUGH THE WHOLE BUILDING AND THE ONLY ELEVATED LEVELS WERE ABOUT 5 STEPS DOWN THE STAIRWELL TO THE BASEMENT. THIS WAS ABOUT 3 TIMES BACKGROUND WHICH WAS RUNNING 3 TO 4 MICROREMS. THE RADSEEKER HAD A HIT OF URANIUM 232 THE FIRST TIME. PAUL ATOR WAS CALLED AND HE RESPONDED TO THE SCENE. WE CHECKED THE AREA AGAIN AND ONY GOT AN IDENTIFIER OF THORIUM 232 AND POTASIUM 4O AT 9 TO 12 MICROREMS. PAUL HAD A BOMB SQUAD MEMBER BRING THEIR RADSEEKER AND A NEUTRON DETECTOR TO BACK UP WHAT OUR RADSEEKER WAS DETECTING. IT WAS VERIFIED, BUT A SOURCE WAS NOT LOCATED. WE TOLD PERSONELL THAT THIS PART OF THE BUILDING CLOSED AND NOT USED. AND TOM CHANDLER OVER CITY MAINTENENCE BE NOTIFIED TO DETERMINE WHAT THE NEXT STEP WOULD BE.

☐ More remarks? Check this box and attach Supplemental Forms (NFIRS–1S) as necessary.

M Authorization

Officer in charge ID	Signature	Position or rank	Assignment	Month	Day	Year
118311		FD02				

Check box if same as Officer in charge. ⇨ ☑

Member making report ID	Signature	Position or rank	Assignment	Month	Day	Year
118311		FD02				

Printed 13:35 08/09/2019

A

FDID	State	MM Incident Date	DD Incident Date	YYYY Incident Date	Station	Incident Number	Exposure	
72009 ☆	OK ☆	10	16	2018 ☆	003	0047852 ☆	000 ☆	☐ Delete ☐ Change ☐ No Activity

ESO-1 Non-NFIRS Fields

E1 Additional Incident Times

	Month	Day	Year	Hour Min
PSAP Recieved	10	16	2018	1417
Dispatch Notified	10	16	2018	1417

B Apparatus or Resources — Dates and Times (Midnight is 0000)

	ID / Type	En Route (Month Day Year Hour/Min)	District (Month Day Year)	ID / Type	En Route	District
1		10 16 2018 1420	10 16 2018	6		
2		10 16 2018 1417	10 16 2018	7		
3				8		
4				9		
5						

MEMORANDUM

DATE: October 6, 2020

TO: Tulsa Office Building File

THROUGH: Aron Samwel, Brownfields Manager

FROM: Heather Mallory, Brownfields Revolving Loan Fund Coordinator

RE: Tulsa Office Building, 108 N Trenton Ave, Tulsa, OK

On August 21, 2020, Jennifer McAllister of DEQ's Radiation Management Program collected swipe samples from the stairs leading from the 1st floor to the basement in the Office Building at 108 N Trenton Avenue in Tulsa, Oklahoma. The Office Building is currently vacant and will be redeveloped as city offices following cleanup in the Brownfields Revolving Loan Fund (BRLF) Program.

Swipe samples were collected from the steps leading to the basement. Swipe samples on steps were taken from a 100 cm^2 area on the landing of each of the steps listed in table below. Two samples were taken from each step landing, one dry and one wet sample. No samples were collected from the walls or sides of the steps. A loose piece of non-skid material, formerly attached to the steps, was also collected. The laboratory used the HASL-300 (Health and Safety Laboratory) method of analysis for Gamma Emitting Radionuclides. Laboratory results are attached.

		Sample Type		
Sample Description	**Removable Contamination Limit (dpm/100 cm^2)[1]**	**Wet**	**Dry**	**Result (dpm)**
Step – Top	20		X	34.4
Top Step	20	X		8.45
Step #5	20		X	6.67
Step #6	20	X		0
Step #8	20		X	0
Step #8	20	X		5.12
Step #9	20		X	42.4
Step #9	20	X		0
Step #10	20		X	0
Step #10	20	X		0
Non-Skid Material	20		X	16.1

1 - Removal Contamination Limits found in OAC 252:410 Appendix B

Yellow highlighted results in the table above are exceedances. Dry samples from the Top Step and Step 9 exceeded the Removable Contamination Limit (RCL) levels for Radium-226; however, wet swipe samples from the same step were below the RCL. The average of the wet and dry samples on these steps are well below the RCL.

The DEQ Radiation Management Program could not find a man-made radiation source on the steps leading to the basement, and suspects that the radiation is naturally occurring in the bricks, possibly augmented by radon decay. They advise the owners of the building that natural radiation levels are higher than is typical, but they do not constitute a concern based on meeting the standards and short residence times in the stairwell of building occupants. DEQ Radiation Management recommends taking radon measurements in the building when ventilation is as it would be when occupied.

The Tulsa Office Building will receive a subgrant from the BRLF, and these results and recommendations will be used to determine if cleanup or mitigation is needed to address the low-level radiation in the basement of the building. It is possible that no cleanup or mitigation will be needed.

A & M Engineering and
Environmental Services, Inc.
Consulting - Design - Construction - Remediation

ASBESTOS, LEAD-BASED PAINT, AND RADIATION

CITY OF TULSA SURPLUS BUILDING

108 North Trenton Avenue
Building 104
Tulsa, Oklahoma 74120

A & M Project Number 2320-001-012

October 25, 2019

Prepared For:

CITY OF Tulsa
A New Kind of Energy.

City of Tulsa – Office of the Mayor
175 East 2nd Street, Suite 15-041
Tulsa, Oklahoma 74103
Attention: K. Michelle Barnett, P. E. – Deputy Chief of Economic Development
Email: mbarnett@cityoftulsa.org
Phone: (918) 596-7457

A & M Engineering and Environmental Services, Inc.
Consulting - Design - Construction - Remediation

October 25, 2019

K. Michelle Barnett, P.E.
Deputy Chief of Economic Development
City of Tulsa
175 East 2nd Street, Suite 15-041
Tulsa, Oklahoma 74103

A & M Project Number 2320-001-012

Phone: (918) 596-7457
Email: mbarnett@cityoftulsa.org

REF: Asbestos, Lead Based Paint, and Radiation Survey of the City of Tulsa Surplus Building located at 108 North Trenton Avenue (Building 104), Tulsa, Oklahoma 74120.

Dear Ms. Barnett:

A & M Engineering and Environmental Services, Inc. (A & M) performed an Asbestos and Lead-Based Paint Survey at the above referenced facility on October 10, 2019. Please find enclosed our report providing our findings and recommendations.

Thank you for choosing A & M. If you have any questions, please feel free to contact us at (918) 665-6575 or via email.

Respectfully,
A & M Engineering and Environmental Services, Inc.

Jeffrey Jenkins
Senior Industrial Hygienist
jjenkins@aandmengineering.com

Justin Scott
Environmental Specialist
jscott@aandmengineering.com

Enclosure (1)

TABLE OF CONTENTS

EXECUTIVE SUMMARY

A & M Engineering and Environmental Services, Inc. (A & M) completed an Asbestos, Lead-Based Paint (LBP), and Radiation Survey (Survey) in Building 104 at the Tulsa Surplus Yard located at 108 North Trenton Avenue, Tulsa, Oklahoma. The Survey was to identify any Asbestos Containing Materials (ACM), LBP, and Radiation at the above referenced site.

The asbestos survey was conducted in accordance with the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Asbestos (40 CFR Part 61, Subpart M). The following is a summary of the asbestos findings:

Materials	Asbestos Content	Quantity
Brown ceiling tile mastic	10% Chrysotile	16,000 SF[1]
Tan and green 9"x9" floor tile	10% Chrysotile	16,000 SF
Black floor tile mastic	5% Chrysotile	16,000 SF
Black wall mastic	10% Chrysotile	100 SF
White window sealant	5% Chrysotile	1,000 LF[2]

[1]SF = Square Feet
[2]LF = Linear Feet

Lead Based Paint (LBP) regulations are provided by the United States Environmental Protection Agency (EPA), and Department of Housing and Urban Development (HUD). The EPA and HUD regulated LBP in what is defined as target Housing and Child Occupied Facilities. The Occupational Safety and Health Administration (OSHA) regulates lead from a worker exposure position. A & M conducted an LBP survey to determine if LBP existed in the facility. The following is a summary of the lead findings:

Building Component	Color	Substrate	Location	Conc. Lead (ppm)	Quantity	Condition
Walls	White	Concrete/Plaster	Building Wide	> 1	15,000 SF	Poor
Door Frame	White	Wood	Entrances	> 1	80 LF	Poor
Window Frames	White	Metal	Building Wide	> 1	96 Windows	Poor
Stairs	White	Concrete/Plaster	Stairs	> 1	1 staircase	Poor
SF: Square Feet; LF: Linear Feet; ND: None Detected; NQ: Not Quantified						

Radiation was identified just slightly above background levels on the non-slip tread strips attached to the edge of the basement stairs. It is believed these non-slip tread strips at one time contained a luminesce agent.

Recommended actions in preparation for interior and exterior renovation activities:

- **Select and contract with an Oklahoma-licensed asbestos abatement contractor and third-party air monitoring firm to perform necessary abatement. Floor tile and mastic can be managed in place under an Operations and Management (O&M) Plan. If floor tile and mastic are to be removed, manual methods must be used.**
- **File NESHAP notification with the Oklahoma Department of Environmental Quality if more than 260 LF or 160 SF of friable materials are to be disturbed during renovation.**
- **File project notification with the Oklahoma Department of Labor.**
- **Lead Based Paint will need to be removed from the walls, windows, doors, etc. by a contractor using safe lead practices. Safe lead practices will be used to prevent lead dust from migrating out of the immediate work area. Contractor workers will need to follow 29 CFR 1926.62.**
- **The debris from lead abatement will need to be tested for TCLP – Lead prior to disposal.**

1.0 ASBESTOS

A & M completed an Asbestos Survey (Survey) on October 10th, 2019 to identify Asbestos Containing Materials (ACM) in the Surplus Building owned by the City of Tulsa at 108 North Trenton Avenue in Tulsa, Oklahoma, in accordance with the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for Asbestos (40 CFR Part 61, Subpart M). The following table summarizes the findings of this Survey:

Table 1 (below) provides a summary of the samples that were collected for asbestos analysis.

Table 1
Asbestos Sampling Results

Materials	Friable	Location(s) of the Homogeneous Material	Samples Collected	Asbestos Content	Quantity	Condition
White acoustic ceiling tile	Yes	Throughout building	4	ND	NQ	Damaged
Brown ceiling tile mastic	No	Throughout building	4	**10%**	16,000 SF	Intact
White/gray plaster	No	Throughout building	8	ND	NQ	Intact
Tan and green 9"x9" floor tile	No	Throughout building	4	**10%**	16,000 SF	Intact
Black floor tile mastic	No	Throughout building	4	**5%**	16,000 SF	Intact
Tan 12" x 12" floor tile	No	Room 110	2	ND	80 SF	Intact
White drywall	Yes	Room 110; 2nd Floor	2	ND	NQ	Intact
Black wall mastic	No	2nd floor hallway	2	**10%**	100 SF	Intact
Yellow wainscoting mastic	No	2nd Floor offices	2	ND	NQ	Intact
White window sealant	Yes	Exterior windows	3	**5%**	1,000 LF	Damaged
White insulation	No	2nd Floor Ceiling	2	ND	8,000 SF	Damaged
NOTE: NO ROOF SAMPLES WERE OBTAINED. ALL OTHER BUILDING MATERIALS ARE CONSIDERED TO CONTAIN ASBESTOS UNTIL PROVEN OTHERWISE. SF: Square Feet; LF: Linear Feet; ND: None Detected; NQ: Not Quantified						

Sampling Strategy, Protocols and Limitations

Samples were collected in accordance with the Asbestos Hazard Emergency Response Act (AHERA) sampling protocol by Justin Scott, an AHERA accredited Asbestos Inspector. A visual inspection of the boiler room was conducted and Homogeneous Areas (HAs) of suspect ACM were identified and listed. Photographs of each HA sampled are provided in Appendix B. A copy of asbestos accreditations and certifications are provided in Appendix C.

A physical assessment was performed for each HA identified during the visual inspection. This physical assessment evaluated the condition (intact, damaged, or significantly damaged), friability, and potential for disturbance of each suspect ACM. "Friable Materials" are defined as those materials that can be

crumbled or reduced to powder by hand pressure alone. Each suspect ACM was further classified into one of the following three (3) categories:

Surfacing Materials: Spray- or trowel-applied surfaces such as plaster ceilings and walls, fireproofing, textured paints, textured plasters, and spray-applied acoustical surfaces.

Thermal System Insulation: Insulation used to inhibit heat gain or loss on pipes, boilers, tanks, ducts, and other building components.

Miscellaneous Materials: Friable and non-friable materials that do not fit in any of the above two categories such as resilient floor covering, baseboards, mastics, adhesives, roofing materials, caulking, glazing, and siding.

Twenty-nine (29) samples were collected from nine (9) HAs. Samples were placed in uniquely marked, individual, airtight containers. Notations documenting each HA and each sample location were made at the time of the Survey. A site map documenting the sample locations and locations of positive ACM is attached in Appendix D.

Samples were shipped under chain-of-custody protocol to Cates Laboratory, a National Voluntary Laboratory Accreditation Program (NVLAP)- accredited laboratory, to be analyzed by Polarized Light Microscopy (PLM) according to US Environmental Protection Agency (EPA) Method 600/M4-82-020. Due to multiple layers in some samples, a total of fifty-seven (57) analyses were performed. A copy of Cates Laboratories' accreditation is provided in Appendix C.

No roofing materials were sampled as part of this Survey.

2.0 LEAD-BASED PAINT

Lead Based Paint (LBP) regulations are provided by the United States Environmental Protection Agency (EPA), and Department of Housing and Urban Development (HUD). The EPA and HUD regulated LBP in what is defined as target Housing and Child Occupied Facilities. The Occupational Safety and Health Administration (OSHA) regulates lead from a worker exposure position. LBP is defined as paint containing more than 1.0 milligram/square centimeter (mg/cm^2) or 600 parts per million (ppm).

The LBP survey was conducted by Jeff Jenkins, an Oklahoma Department of Environmental Quality licensed LBP Inspector/Risk Assessor, on October 10th, 2019. Copies of the LBP license and certification are provided in Appendix G. The survey was conducted using an X-Ray Fluorescence (XRF) unit, model Innov-X, 6000 Alpha. The XRF was calibrated prior to use, midday, and at the end of the survey to Standard Reference Materials (SRM) provided by the National Institute of Standards and technology. SRM 2570 (0.00 mg/cm^2) and SRM 2573 (1.04 mg/cm^2) were the predominant SRMs used. Paint chip samples were collected to verify select positive XRF readings and for substrate correction, if needed. The paint chip samples were submitted to Quantem Laboratories. A copy of the XRF data is provided in Appendix E and the Quantem Laboratory Report is provided in Appendix F.

Table 2
Confirmed Lead-Based Paint Results

Building component	Color	Substrate	Location	Conc. Lead (ppm)	Quantity	Condition
Walls	White	Concrete/Plaster	Building Wide	> 1	15,000 SF	Poor
Door Frame	White	Wood	Entrances	> 1	80 LF	Poor
Window Frames	White	Metal	Building Wide	> 1	96 Windows	Poor
Stairs	White	Concrete/Plaster	Stairs	> 1	1 staircase	Poor
SF: Square Feet; LF: Linear Feet; ND: None Detected; NQ: Not Quantified						

Lead Based Paint contains more than 1 mg/cm^2 when tested by an XRF or 600 ppm lead when paint chips are collected and analyzed. Confirmation results are summarized in Table 3 below:

Table 3
Paint Chip Lead-Based Paint Results

Sample Reading #	Building component	Substrate	XRF Result (mg/cm^2)	Paint chip Results (ppm)
24	Wall	Concrete/Plaster	> 1	1,60
29	Door Frame	Wood	1.45	10,000
33	Wall	Concrete/Plaster	> 1	2,400
85	Wall	Concrete/Plaster	0.13	1,800
97	Window Frame	Metal	5	41,000
121	Wall	Concrete/Plaster	> 1	1,200
126	Window Frame	Metal	3.12	33,000

3.0 RADIATION

A Ludlum Model 3 Meter with a Model 44-89 pancake-type detector was used to scan surfaces for radiation. The meter was checked for proper operation prior to use with a reference source of cesium - 137 at 1 microcurie obtained from Spectrum Technologies. The meter was placed in operation outside of the building to determine background levels which was roughly 1K counts per minute (cpm).

Measurements in the basement stairs were approximately equal to background levels; however, when placed on the edge of the concrete stairs we obtained levels slightly above background levels at 2.5K to 3.4K cpm. Further investigation with the detector on the concrete portions of the steps, we saw background levels. The step edges had stick down non-slip tread strips. The non-slip treads appeared to be the cause of the slightly above background levels. The treads are assumed to have had a luminescent component at one time. Luminescent paint typically contains low levels of radioactive materials.

4.0 LIMITATIONS

The information provided in this report are representative of the conditions present on the day of monitoring. Changes in any of these conditions may affect the findings and recommendations. Although, unlikely there may be materials hidden in the walls, floors, etc. that were not accessible and thus not sampled. Any materials found will need to be assumed to be asbestos containing until tested and proven otherwise.

5.0 FINDINGS AND RECOMMENDATIONS

Findings

The asbestos sampling and analysis **identified the following ACM:**

Materials	Asbestos Content	Quantity
Brown ceiling tile mastic	10% Chrysotile	16,000 SF[1]
Tan and green 9"x9" floor tile	10% Chrysotile	16,000 SF
Black floor tile mastic	5% Chrysotile	16,000 SF
Black wall mastic	10% Chrysotile	100 SF
White window sealant	5% Chrysotile	1,000 LF[2]

[1]SF = Square Feet
[2]LF = Linear Feet

The white/cream colored paint throughout the building on concrete or plaster walls was predominantly lead-based paint. White/cream paint on interior plywood cubicle walls was generally negative. The brown, red, and green colored paint was negative.

Recommendations

Recommended actions in preparation for interior and exterior renovation activities:

- **Select and contract with an Oklahoma-licensed asbestos abatement contractor and third-party air monitoring firm to perform necessary abatement. Floor tile and mastic can be managed in place under an Operations and Management (O&M) Plan. If floor tile and mastic are to be removed, manual methods must be used.**
- **File NESHAP notification with the Oklahoma Department of Environmental Quality if more than 260 LF or 160 SF of friable materials are to be disturbed during renovation.**
- **File project notification with the Oklahoma Department of Labor.**
- **Lead Based Paint will need to be removed from the walls, windows, doors, etc. by a contractor using safe lead practices. Safe lead practices will be used to prevent lead dust from migrating out of the immediate work area. Contractor workers will need to follow 29 CFR 1926.62.**
- **The debris from lead abatement will need to be tested for TCLP – Lead prior to disposal.**

6.0 DISCLAIMERS

The asbestos, lead-based paint, and radiation results identified herein apply only to the building tested. The survey was conducted in accordance with standard industrial hygiene practices and the requirements of the regulations. A & M Engineering and Environmental Services, Inc. does not make any warranty regarding the materials or conditions not evaluated or sampled as identified in this report.

The materials and/or surfaces that did not contain asbestos above 1% or paint that was not above 1.0 mg/cm^2 or 600 ppm may still pose a hazard if disturbed and be subject to OSHA regulations for employee (worker) safety.

Appendix A

Laboratory Analyses Reports and Chain of Custody

PLM REPORT SUMMARY

Cates Laboratories
1339 Motor Circle
Dallas, Texas 75207 (214) 920-5006

NVLAP Lab No. 200569-0
TDSHS License No. 30-0287

Client:	A & M Engineering and Environmental Services, Inc.	Lab Job No.:	PLM-21354
Project:	City of Tulsa Surplus; 108 N. Trenton Avenue	Set No.:	31364
Project No:	2320-001-012	Report Date:	10/16/2019
Identification:	Asbestos, Bulk Sample Analysis	Sample Date:	Not Provided
Test Method:	Polarized Light Microscopy/Dispersion Staining (PLM/DS) EPA Method 600/R-93/116		

On 10/11/2019, thirty (30) bulk samples were submitted by Mr. Jeff Jenkins of A & M Engineering and Environmental Services, Inc. for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein. The results are summarized below:

Lab Sample No.	Client Field I.D.	Sample Description/Location	Asbestos Content
CL759067	1A	White Acoustic Ceiling Tile w/Brown Mastic	None Detected - Ceiling Tile None Detected - Brown Mastic
CL759068	1B	White Acoustic Ceiling Tile w/Brown Mastic	None Detected - Ceiling Tile None Detected - Brown Mastic
CL759069	1C	White Acoustic Ceiling Tile w/Brown Mastic	None Detected - Ceiling Tile None Detected - Brown Mastic
CL759070	1D	White Acoustic Ceiling Tile w/Brown Mastic	None Detected - Ceiling Tile 10% Chrysotile - Brown Mastic
CL759071	2A	White/Grey Plaster	None Detected - Paint Layer None Detected - Plaster Topcoat None Detected - Plaster
CL759072	2B	White/Grey Plaster	None Detected - Paint Layer None Detected - Plaster Topcoat None Detected - Plaster
CL759073	2C	White/Grey Plaster	None Detected - Paint Layer None Detected - Plaster Topcoat None Detected - Plaster
CL759074	2D	White/Grey Plaster	None Detected - Paint Layer None Detected - Plaster Topcoat None Detected - Plaster
CL759075	2E	White/Grey Plaster	None Detected - Paint Layer None Detected - Plaster Topcoat None Detected - Plaster
CL759076	2F	White/Grey Plaster	None Detected - Paint Layer None Detected - Plaster Topcoat None Detected - Plaster
CL759077	2G	White/Grey Plaster	None Detected - Paint Layer None Detected - Plaster Topcoat None Detected - Plaster

These samples were analyzed by layers. The overall percent asbestos for the sample is reported when relevant. The EPA considers a material to be asbestos containing only if it contains greater than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) – materials that are friable or may become friable – be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. CatesLab utilizes CVAE on a routine basis and does not include point counting unless specifically requested by the client. The results may not be reproduced except in full.

PLM REPORT SUMMARY

Cates Laboratories
1339 Motor Circle
Dallas, Texas 75207 (214) 920-5006

NVLAP Lab No. 200569-0
TDSHS License No. 30-0287

Client:	A & M Engineering and Environmental Services, Inc.	Lab Job No.:	PLM-21354
Project:	City of Tulsa Surplus; 108 N. Trenton Avenue	Set No.:	31364
Project No:	2320-001-012	Report Date:	10/16/2019
Identification:	Asbestos, Bulk Sample Analysis	Sample Date:	Not Provided
Test Method:	Polarized Light Microscopy/Dispersion Staining (PLM/DS) EPA Method 600/R-93/116		

On 10/11/2019, thirty (30) bulk samples were submitted by Mr. Jeff Jenkins of A & M Engineering and Environmental Services, Inc. for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein. The results are summarized below:

Lab Sample No.	Client Field I.D.	Sample Description/Location	Asbestos Content
CL759078	2H	White/Grey Plaster	None Detected - Paint Layer None Detected - Plaster Topcoat None Detected - Plaster
CL759079	3A	Tan/Green 9" X 9" Floor Tile w/Black Mastic	10% Chrysotile - Floor Tile 5% Chrysotile - Black Mastic
CL759080	3B	Tan/Green 9" X 9" Floor Tile w/Black Mastic	10% Chrysotile - Floor Tile 5% Chrysotile - Black Mastic
CL759081	3C	Tan/Green 9" X 9" Floor Tile w/Black Mastic	5% Chrysotile - Floor Tile None Detected - Black Mastic
CL759082	3D	Tan/Green 9" X 9" Floor Tile w/Black Mastic	5% Chrysotile - Floor Tile 5% Chrysotile - Black Mastic
CL759083	4A	Tan 12" X 12" Floor Tile w/Black Mastic	None Detected - Floor Tile None Detected - Black Mastic
CL759084	4B	Tan 12" X 12" Floor Tile w/Black Mastic	None Detected - Floor Tile None Detected - Black Mastic
CL759085	5A	White Drywall	None Detected - Paper None Detected - Wallboard Material
CL759086	5B	White Drywall	None Detected - Paper None Detected - Wallboard Material
CL759087	6A	Black Mastic	10% Chrysotile
CL759088	6B	Black Mastic	10% Chrysotile
CL759089	7A	Yellow Mastic	None Detected
CL759090	7B	Yellow Mastic	None Detected
CL759091	8A	White Window Sealant	5% Chrysotile
CL759092	8B	White Window Sealant	5% Chrysotile
CL759093	8C	White Window Sealant	5% Chrysotile

These samples were analyzed by layers. The overall percent asbestos for the sample is reported when relevant. The EPA considers a material to be asbestos containing only if it contains greater than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) – materials that are friable or may become friable – be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. CatesLab utilizes CVAE on a routine basis and does not include point counting unless specifically requested by the client. The results may not be reproduced except in full.

PLM REPORT SUMMARY

Cates Laboratories
1339 Motor Circle
Dallas, Texas 75207 (214) 920-5006

NVLAP Lab No. 200569-0
TDSHS License No. 30-0287

Client:	A & M Engineering and Environmental Services, Inc.	Lab Job No.:	PLM-21354
Project:	City of Tulsa Surplus; 108 N. Trenton Avenue	Set No.:	31364
Project No:	2320-001-012	Report Date:	10/16/2019
Identification:	Asbestos, Bulk Sample Analysis	Sample Date:	Not Provided
Test Method:	Polarized Light Microscopy/Dispersion Staining (PLM/DS) EPA Method 600/R-93/116		

On 10/11/2019, thirty (30) bulk samples were submitted by Mr. Jeff Jenkins of A & M Engineering and Environmental Services, Inc. for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein. The results are summarized below:

Lab Sample No.	Client Field I.D.	Sample Description/Location	Asbestos Content
CL759094	9A	White Insulation	None Detected
CL759095	9B	White Insulation	None Detected

These samples were analyzed by layers. The overall percent asbestos for the sample is reported when relevant. The EPA considers a material to be asbestos containing only if it contains greater than one percent asbestos by Calibrated Visual Area Estimation (CVAE). EPA regulations also indicate that Regulated Asbestos Containing Materials (RACM) – materials that are friable or may become friable – be further analyzed by point counting when the results indicate less than ten percent asbestos by CVAE. CatesLab utilizes CVAE on a routine basis and does not include point counting unless specifically requested by the client. The results may not be reproduced except in full.

PLM REPORT SUMMARY

Cates Laboratories
1339 Motor Circle
Dallas, Texas 75207 (214) 920-5006

NVLAP Lab No. 200569-0
TDSHS License No. 30-0287

Client:	A & M Engineering and Environmental Services, Inc.	Lab Job No.:	PLM-21354
Project:	City of Tulsa Surplus; 108 N. Trenton Avenue	Set No.:	31364
Project No:	2320-001-012	Report Date:	10/16/2019
Identification:	Asbestos, Bulk Sample Analysis	Sample Date:	Not Provided
Test Method:	Polarized Light Microscopy/Dispersion Staining (PLM/DS) EPA Method 600/R-93/116		

On 10/11/2019, thirty (30) bulk samples were submitted by Mr. Jeff Jenkins of A & M Engineering and Environmental Services, Inc. for asbestos analysis by PLM/DS. Copies of the lab data sheets are attached; additional information may be found therein.

STATEMENT OF LABORATORY ACCREDITATION

The samples were analyzed in general accordance with the procedures outlined in the Method for the Determination of Asbestos in Bulk Building Materials, EPA/600/R-93/116 or the U.S. Environmental Protection Agency EPA 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples, by polarized light microscopy. The results of each bulk sample relate only to the material tested and the results shall not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Specific questions concerning bulk sample results shall be directed to the Laboratory Director.

Analyst: Kathy Schosek

Laboratory Director: John R. Cates, P.G.

Approved Signatory:

NVLAP LAB CODE 200569-0

Bulk Asbestos Analysis Sheet

Cates Laboratories
1339 Motor Circle
Dallas, Texas 75207 (214) 920-5006

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0
TDSHS License No. 30-0287

Client: **A & M Engineering and Environmental Services, Inc.**
Project: **City of Tulsa Surplus; 108 N. Trenton Avenue**
Project #: **2320-001-012**
Field ID #: **1A**
Sample Description: **White Acoustic Ceiling Tile w/Brown Mastic**

Lab Proj #: **PLM-21354**
Set #: **31364**
Sample #: **CL759067**

Layer 1 **Ceiling Tile**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Tan/White	Fibrous	Yes	85	ND	90

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	85		ribbons				high		
Binders / Paint	15		Non-fibrous						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Layer 2 **Brown Mastic**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Lt. Brown	Hard	Yes	ND	ND	10

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Glue Binders	100		Non-fibrous						

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **10/15/2019**

Lab Job #: **PLM-21354** Sample #: **CL759067**

Bulk Asbestos Analysis Sheet

Cates Laboratories
1339 Motor Circle
Dallas, Texas 75207 (214) 920-5006

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0
TDSHS License No. 30-0287

Client: **A & M Engineering and Environmental Services, Inc.**
Project: **City of Tulsa Surplus; 108 N. Trenton Avenue**
Project #: **2320-001-012**
Field ID #: **1B**
Sample Description: **White Acoustic Ceiling Tile w/Brown Mastic**

Lab Proj #: **PLM-21354**
Set #: **31364**
Sample #: **CL759068**

Layer 1 **Ceiling Tile**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Tan/White	Fibrous	Yes	85	ND	90

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	85		ribbons				high		
Binders / Paint	15		Non-fibrous						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Layer 2 **Brown Mastic**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Brown	Hard	Yes	ND	ND	10

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Glue Binders	100		Non-fibrous						

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **10/15/2019**

Lab Job #: **PLM-21354** Sample #: **CL759068**

Bulk Asbestos Analysis Sheet

Cates Laboratories
1339 Motor Circle
Dallas, Texas 75207 (214) 920-5006

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0
TDSHS License No. 30-0287

Client: **A & M Engineering and Environmental Services, Inc.**
Project: **City of Tulsa Surplus; 108 N. Trenton Avenue**
Project #: **2320-001-012**
Field ID #: **1C**
Sample Description: **White Acoustic Ceiling Tile w/Brown Mastic**

Lab Proj #: **PLM-21354**
Set #: **31364**
Sample #: **CL759069**

Layer 1 **Ceiling Tile**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Tan/White	Fibrous	Yes	85	ND	90

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	85		ribbons				high		
Binders / Paint	15		Non-fibrous						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Layer 2 **Brown Mastic**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Brown	Hard	Yes	ND	ND	10

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Glue Binders	100		Non-fibrous						

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **10/15/2019**

Lab Job #: **PLM-21354** Sample #: **CL759069**

Bulk Asbestos Analysis Sheet

Cates Laboratories
1339 Motor Circle
Dallas, Texas 75207 (214) 920-5006

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0
TDSHS License No. 30-0287

Client: **A & M Engineering and Environmental Services, Inc.**
Project: **City of Tulsa Surplus; 108 N. Trenton Avenue**
Project #: **2320-001-012**
Field ID #: **1D**
Sample Description: **White Acoustic Ceiling Tile w/Brown Mastic**

Lab Proj #: **PLM-21354**
Set #: **31364**
Sample #: **CL759070**

Layer 1 **Ceiling Tile**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Tan/White	Fibrous	Yes	85	ND	90

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	85		ribbons				high		
Binders / Paint	15		Non-fibrous						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Layer 2 **Brown Mastic**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Dk. Brown	Hard	Yes	ND	ND	10

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Chrysotile	10	5	Silky / Wavy	None	1.556	1.549	low	Parallel	+
Glue Binders	90		Non-fibrous						

Prep/treatment: **heat / melt**

Asbestos Content: **10% Chrysotile**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **10/15/2019**

Lab Job #: **PLM-21354**
Sample #: **CL759070**

Bulk Asbestos Analysis Sheet

Cates Laboratories
1339 Motor Circle
Dallas, Texas 75207 (214) 920-5006

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0
TDSHS License No. 30-0287

Client: **A & M Engineering and Environmental Services, Inc.**
Project: **City of Tulsa Surplus; 108 N. Trenton Avenue**
Project #: **2320-001-012**
Field ID #: **2A**
Sample Description: **White/Grey Plaster**

Lab Proj #: **PLM-21354**
Set #: **31364**
Sample #: **CL759071**
Page 1 of 1

Layer 1 Paint Layer

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Hard	Yes	ND	ND	3

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Paint	100		Non-fibrous						

Prep/treatment: **heat / melt**
Asbestos Content: **None Detected**

Layer 2 Plaster Topcoat

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Hard / Blocky	Yes	ND	ND	7

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Binders	100		Non-fibrous						

Prep/treatment: **mechanical separation**
Asbestos Content: **None Detected**

Layer 3 Plaster

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Tan-Grey	Hard / Blocky	Yes	<1	ND	90

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	<1		ribbons				high		
Aggregate/Binders	100		Non-fibrous						

Prep/treatment: **mechanical separation**
Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **10/15/2019**

Lab Job #: **PLM-21354**
Sample #: **CL759071**

Bulk Asbestos Analysis Sheet

Cates Laboratories
1339 Motor Circle
Dallas, Texas 75207 (214) 920-5006

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0
TDSHS License No. 30-0287

Client: **A & M Engineering and Environmental Services, Inc.**
Project: **City of Tulsa Surplus; 108 N. Trenton Avenue**
Project #: **2320-001-012**
Field ID #: **2B**
Sample Description: **White/Grey Plaster**

Lab Proj #: **PLM-21354**
Set #: **31364**
Sample #: **CL759072**
Page 1 of 1

Layer 1 Paint Layer

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Hard	Yes	ND	ND	3

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Paint	100		Non-fibrous						

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Layer 2 Plaster Topcoat

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Hard / Blocky	Yes	ND	ND	7

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Binders	100		Non-fibrous						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Layer 3 Plaster

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Tan-Grey	Hard / Blocky	Yes	<1	ND	90

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	<1		ribbons				high		
Aggregate/Binders	100		Non-fibrous						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **10/15/2019**

Lab Job #: **PLM-21354**
Sample #: **CL759072**

Bulk Asbestos Analysis Sheet

Cates Laboratories
1339 Motor Circle
Dallas, Texas 75207 (214) 920-5006

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0
TDSHS License No. 30-0287

Client: **A & M Engineering and Environmental Services, Inc.**
Project: **City of Tulsa Surplus; 108 N. Trenton Avenue**
Project #: **2320-001-012**
Field ID #: **2C**
Sample Description: **White/Grey Plaster**

Lab Proj #: **PLM-21354**
Set #: **31364**
Sample #: **CL759073**

Layer 1 **Paint Layer**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Hard	Yes	ND	ND	3

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Paint	100		Non-fibrous						

Prep/treatment: **heat / melt**
Asbestos Content: **None Detected**

Layer 2 **Plaster Topcoat**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Hard / Blocky	Yes	ND	ND	7

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Binders	100		Non-fibrous						

Prep/treatment: **mechanical separation**
Asbestos Content: **None Detected**

Layer 3 **Plaster**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Tan-Grey	Hard / Blocky	Yes	<1	ND	90

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	<1		ribbons				high		
Aggregate/Binders	100		Non-fibrous						

Prep/treatment: **mechanical separation**
Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **10/15/2019**

Lab Job #: **PLM-21354** Sample #: **CL759073**

Bulk Asbestos Analysis Sheet

Cates Laboratories
1339 Motor Circle
Dallas, Texas 75207 (214) 920-5006

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0
TDSHS License No. 30-0287

Client: **A & M Engineering and Environmental Services, Inc.**
Project: **City of Tulsa Surplus; 108 N. Trenton Avenue**
Project #: **2320-001-012**
Field ID #: **2D**
Sample Description: **White/Grey Plaster**

Lab Proj #: **PLM-21354**
Set #: **31364**
Sample #: **CL759074**

Layer 1 Paint Layer

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Hard	Yes	ND	ND	3

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Paint	100		Non-fibrous						

Prep/treatment: **heat / melt**
Asbestos Content: **None Detected**

Layer 2 Plaster Topcoat

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Hard / Blocky	Yes	ND	ND	7

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Binders	100		Non-fibrous						

Prep/treatment: **mechanical separation**
Asbestos Content: **None Detected**

Layer 3 Plaster

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Tan-Grey	Hard / Blocky	Yes	<1	ND	90

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	<1		ribbons				high		
Aggregate/Binders	100		Non-fibrous						

Prep/treatment: **mechanical separation**
Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **10/16/2019**

Lab Job #: **PLM-21354** Sample #: **CL759074**

Bulk Asbestos Analysis Sheet

Cates Laboratories
1339 Motor Circle
Dallas, Texas 75207 (214) 920-5006

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0
TDSHS License No. 30-0287

Client: **A & M Engineering and Environmental Services, Inc.**
Project: **City of Tulsa Surplus; 108 N. Trenton Avenue**
Project #: **2320-001-012**
Field ID #: **2E**
Sample Description: **White/Grey Plaster**

Lab Proj #: **PLM-21354**
Set #: **31364**
Sample #: **CL759075**

Layer 1 Paint Layer

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Hard	Yes	ND	ND	3

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Paint	100		Non-fibrous						

Prep/treatment: **heat / melt**
Asbestos Content: **None Detected**

Layer 2 Plaster Topcoat

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Hard / Blocky	Yes	ND	ND	7

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Binders	100		Non-fibrous						

Prep/treatment: **mechanical separation**
Asbestos Content: **None Detected**

Layer 3 Plaster

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Tan-Grey	Hard / Blocky	Yes	<1	ND	90

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	<1		ribbons				high		
Aggregate/Binders	100		Non-fibrous						

Prep/treatment: **mechanical separation**
Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **10/16/2019**

Lab Job #: **PLM-21354** Sample #: **CL759075**

Bulk Asbestos Analysis Sheet

Cates Laboratories
1339 Motor Circle
Dallas, Texas 75207 (214) 920-5006

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0
TDSHS License No. 30-0287

Client: **A & M Engineering and Environmental Services, Inc.**
Project: **City of Tulsa Surplus; 108 N. Trenton Avenue**
Project #: **2320-001-012**
Field ID #: **2F**
Sample Description: **White/Grey Plaster**

Lab Proj #: **PLM-21354**
Set #: **31364**
Sample #: **CL759076**

Layer 1 Paint Layer

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Hard	Yes	ND	ND	3

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Paint	100		Non-fibrous						

Prep/treatment: **heat / melt**
Asbestos Content: **None Detected**

Layer 2 Plaster Topcoat

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Hard / Blocky	Yes	ND	ND	7

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Binders	100		Non-fibrous						

Prep/treatment: **mechanical separation**
Asbestos Content: **None Detected**

Layer 3 Plaster

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Tan-Grey	Hard / Blocky	Yes	<1	ND	90

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	<1		ribbons				high		
Aggregate/Binders	100		Non-fibrous						

Prep/treatment: **mechanical separation**
Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **10/16/2019**

Lab Job #: **PLM-21354**
Sample #: **CL759076**

Bulk Asbestos Analysis Sheet

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EPA Method 600/R-93/116

NVLAP Lab No. 200569-0
TDSHS License No. 30-0287

Client: **A & M Engineering and Environmental Services, Inc.**
Project: **City of Tulsa Surplus; 108 N. Trenton Avenue**
Project #: **2320-001-012**
Field ID #: **2G**
Sample Description: **White/Grey Plaster**

Lab Proj #: **PLM-21354**
Set #: **31364**
Sample #: **CL759077**

Layer 1 Paint Layer

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Hard	Yes	ND	ND	3

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Paint	100		Non-fibrous						

Prep/treatment: heat / melt

Asbestos Content: None Detected

Layer 2 Plaster Topcoat

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Hard / Blocky	Yes	ND	ND	7

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Binders	100		Non-fibrous						

Prep/treatment: mechanical separation

Asbestos Content: None Detected

Layer 3 Plaster

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Tan-Grey	Hard / Blocky	Yes	<1	ND	90

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	<1		ribbons				high		
Aggregate/Binders	100		Non-fibrous						

Prep/treatment: mechanical separation

Asbestos Content: None Detected

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **10/16/2019**

Lab Job #: **PLM-21354**
Sample #: **CL759077**

Bulk Asbestos Analysis Sheet

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NVLAP Lab No. 200569-0
TDSHS License No. 30-0287

Client: **A & M Engineering and Environmental Services, Inc.**
Project: **City of Tulsa Surplus; 108 N. Trenton Avenue**
Project #: **2320-001-012**
Field ID #: **2H**
Sample Description: **White/Grey Plaster**

Lab Proj #: **PLM-21354**
Set #: **31364**
Sample #: **CL759078**
Page 1 of 1

Layer 1 Paint Layer

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Hard	Yes	ND	ND	3

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Paint	100		Non-fibrous						

Prep/treatment: **heat / melt**
Asbestos Content: **None Detected**

Layer 2 Plaster Topcoat

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Hard / Blocky	Yes	ND	ND	7

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Binders	100		Non-fibrous						

Prep/treatment: **mechanical separation**
Asbestos Content: **None Detected**

Layer 3 Plaster

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Tan-Grey	Hard / Blocky	Yes	<1	ND	90

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	<1		ribbons				high		
Aggregate/Binders	100		Non-fibrous						

Prep/treatment: **mechanical separation**
Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **10/16/2019**

Lab Job #: **PLM-21354** Sample #: **CL759078**

Bulk Asbestos Analysis Sheet

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NVLAP Lab No. 200569-0
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Client: **A & M Engineering and Environmental Services, Inc.**
Project: **City of Tulsa Surplus; 108 N. Trenton Avenue**
Project #: **2320-001-012**
Field ID #: **3A**
Sample Description: **Tan/Green 9" X 9" Floor Tile w/Black Mastic**

Lab Proj #: **PLM-21354**
Set #: **31364**
Sample #: **CL759079**
Page 1 of 1

Layer 1 **Floor Tile**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Green	Hard	Yes	ND	ND	99

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Chrysotile	10	5	Silky / Wavy	None	1.556	1.549	low	Parallel	+
Aggregate/Vinyl Binders	90		Non-fibrous						

Prep/treatment: **heat / melt**

Asbestos Content: **10% Chrysotile**

Layer 2 **Black Mastic**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Black	Asphaltic	Yes	ND	ND	1

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+
Tar Binders	95		Non-fibrous						

Prep/treatment: **heat / melt**

Asbestos Content: **5% Chrysotile**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **10/16/2019**

Lab Job #: **PLM-21354** Sample #: **CL759079**

Bulk Asbestos Analysis Sheet

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Client: **A & M Engineering and Environmental Services, Inc.**
Project: **City of Tulsa Surplus; 108 N. Trenton Avenue**
Project #: **2320-001-012**
Field ID #: **3B**
Sample Description: **Tan/Green 9" X 9" Floor Tile w/Black Mastic**

Lab Proj #: **PLM-21354**
Set #: **31364**
Sample #: **CL759080**

Layer 1 Floor Tile

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Green	Hard	Yes	ND	ND	99

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Chrysotile	10	5	Silky / Wavy	None	1.556	1.549	low	Parallel	+
Aggregate/Vinyl Binders	90		Non-fibrous						

Prep/treatment: **heat / melt**

Asbestos Content: **10% Chrysotile**

Layer 2 Black Mastic

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Black	Asphaltic	Yes	ND	ND	1

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+
Tar Binders	95		Non-fibrous						

Prep/treatment: **heat / melt**

Asbestos Content: **5% Chrysotile**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **10/16/2019**

Lab Job #: **PLM-21354** Sample #: **CL759080**

Bulk Asbestos Analysis Sheet

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Client: **A & M Engineering and Environmental Services, Inc.**
Project: **City of Tulsa Surplus; 108 N. Trenton Avenue**
Project #: **2320-001-012**
Field ID #: **3C**
Sample Description: **Tan/Green 9" X 9" Floor Tile w/Black Mastic**

Lab Proj #: **PLM-21354**
Set #: **31364**
Sample #: **CL759081**

Layer 1 **Floor Tile**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Black	Hard	Yes	ND	ND	99

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+
Aggregate/Vinyl Binders	95		Non-fibrous						

Prep/treatment: **heat / melt**

Asbestos Content: **5% Chrysotile**

Layer 2 **Black Mastic**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Black	Asphaltic	Yes	ND	ND	1

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Tar Binders	100		Non-fibrous						

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **10/16/2019**

Lab Job #: **PLM-21354** Sample #: **CL759081**

Bulk Asbestos Analysis Sheet

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Client: **A & M Engineering and Environmental Services, Inc.**
Project: **City of Tulsa Surplus; 108 N. Trenton Avenue**
Project #: **2320-001-012**
Field ID #: **3D**
Sample Description: **Tan/Green 9" X 9" Floor Tile w/Black Mastic**

Lab Proj #: **PLM-21354**
Set #: **31364**
Sample #: **CL759082**

Layer 1 Floor Tile

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Tan	Hard	Yes	ND	ND	95

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+
Aggregate/Vinyl Binders	95		Non-fibrous						

Prep/treatment: **heat / melt**

Asbestos Content: **5% Chrysotile**

Layer 2 Black Mastic

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Black	Asphaltic	Yes	ND	ND	5

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+
Aggregate/Tar Binders	95		Non-fibrous						

Prep/treatment: **heat / melt**

Asbestos Content: **5% Chrysotile**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **10/16/2019**

Lab Job #: **PLM-21354** Sample #: **CL759082**

Bulk Asbestos Analysis Sheet

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Client: **A & M Engineering and Environmental Services, Inc.**
Project: **City of Tulsa Surplus; 108 N. Trenton Avenue**
Project #: **2320-001-012**
Field ID #: **4A**
Sample Description: **Tan 12" X 12" Floor Tile w/Black Mastic**

Lab Proj #: **PLM-21354**
Set #: **31364**
Sample #: **CL759083**

Layer 1 **Floor Tile**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Tan	Hard	Yes	ND	ND	98

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Vinyl Binders	100		Non-fibrous						

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Layer 2 **Black Mastic**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Black	Asphaltic	Yes	ND	ND	2

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Tar Binders	100		Non-fibrous						

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **10/16/2019**

Lab Job #: **PLM-21354** Sample #: **CL759083**

Bulk Asbestos Analysis Sheet

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Client: **A & M Engineering and Environmental Services, Inc.**
Project: **City of Tulsa Surplus; 108 N. Trenton Avenue**
Project #: **2320-001-012**
Field ID #: **4B**
Sample Description: **Tan 12" X 12" Floor Tile w/Black Mastic**

Lab Proj #: **PLM-21354**
Set #: **31364**
Sample #: **CL759084**
Page 1 of 1

Layer 1 Floor Tile

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Tan	Hard	Yes	ND	ND	98

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Vinyl Binders	100		Non-fibrous						

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Layer 2 Black Mastic

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Black	Asphaltic	Yes	ND	ND	2

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Aggregate/Tar Binders	100		Non-fibrous						

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **10/16/2019**

Lab Job #: **PLM-21354**
Sample #: **CL759084**

Bulk Asbestos Analysis Sheet

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Client: **A & M Engineering and Environmental Services, Inc.**
Project: **City of Tulsa Surplus; 108 N. Trenton Avenue**
Project #: **2320-001-012**
Field ID #: **5A**
Sample Description: **White Drywall**

Lab Proj #: **PLM-21354**
Set #: **31364**
Sample #: **CL759085**

Layer 1 Paper

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Tan	Fibrous	Yes	100	ND	10

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	100		ribbons				high		

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Layer 2 Wallboard Material

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Blocky	Yes	1	ND	90

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	1		ribbons				high		
Aggregate	4		Non-fibrous						
Gypsum Binders	95		Non-fibrous						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **10/16/2019**

Lab Job #: **PLM-21354** Sample #: **CL759085**

Bulk Asbestos Analysis Sheet

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Client: **A & M Engineering and Environmental Services, Inc.**
Project: **City of Tulsa Surplus; 108 N. Trenton Avenue**
Project #: **2320-001-012**
Field ID #: **5B**
Sample Description: **White Drywall**

Lab Proj #: **PLM-21354**
Set #: **31364**
Sample #: **CL759086**

Layer 1 **Paper**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Tan	Fibrous	Yes	100	ND	10

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	100		ribbons				high		

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Layer 2 **Wallboard Material**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Blocky	Yes	1	ND	90

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Cellulose Fibers	1		ribbons				high		
Aggregate	4		Non-fibrous						
Gypsum Binders	95		Non-fibrous						

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **10/16/2019**

Lab Job #: **PLM-21354** Sample #: **CL759086**

Bulk Asbestos Analysis Sheet

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Client: **A & M Engineering and Environmental Services, Inc.**
Project: **City of Tulsa Surplus; 108 N. Trenton Avenue**
Project #: **2320-001-012**
Field ID #: **6A**
Sample Description: **Black Mastic**

Lab Proj #: **PLM-21354**
Set #: **31364**
Sample #: **CL759087**

Layer 1 **Black Mastic**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Black	Hard	Yes	ND	ND	100

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Chrysotile	10	5	Silky / Wavy	None	1.556	1.549	low	Parallel	+
Binders / Fillers	90		Non-fibrous						

Prep/treatment: **heat / melt**

Asbestos Content: **10% Chrysotile**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **10/16/2019**

Lab Job #: **PLM-21354**
Sample #: **CL759087**

Bulk Asbestos Analysis Sheet

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Client: **A & M Engineering and Environmental Services, Inc.**
Project: **City of Tulsa Surplus; 108 N. Trenton Avenue**
Project #: **2320-001-012**
Field ID #: **6B**
Sample Description: **Black Mastic**

Lab Proj #: **PLM-21354**
Set #: **31364**
Sample #: **CL759088**
Page 1 of 1

Layer 1 **Black Mastic**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Black	Hard	Yes	ND	ND	100

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Chrysotile	10	5	Silky / Wavy	None	1.556	1.549	low	Parallel	+
Binders / Fillers	90		Non-fibrous						

Prep/treatment: **heat / melt**

Asbestos Content: **10% Chrysotile**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **10/16/2019**

Lab Job #: **PLM-21354** Sample #: **CL759088**

Bulk Asbestos Analysis Sheet

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Client: **A & M Engineering and Environmental Services, Inc.**
Project: **City of Tulsa Surplus; 108 N. Trenton Avenue**
Project #: **2320-001-012**
Field ID #: **7A**
Sample Description: **Yellow Mastic**

Lab Proj #: **PLM-21354**
Set #: **31364**
Sample #: **CL759089**
Page 1 of 1

Layer 1 **Yellow Mastic**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Yellow-Tan	Rubbery	Yes	ND	ND	100

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Glue Binders	100		Non-fibrous						

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **10/16/2019**

Lab Job #: **PLM-21354** Sample #: **CL759089**

Bulk Asbestos Analysis Sheet

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Client: **A & M Engineering and Environmental Services, Inc.**
Project: **City of Tulsa Surplus; 108 N. Trenton Avenue**
Project #: **2320-001-012**
Field ID #: **7B**
Sample Description: **Yellow Mastic**

Lab Proj #: **PLM-21354**
Set #: **31364**
Sample #: **CL759090**
Page 1 of 1

Layer 1 **Yellow Mastic**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
Yellow-Tan	Rubbery	Yes	ND	ND	100

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Glue Binders	100		Non-fibrous						

Prep/treatment: **heat / melt**

Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **10/16/2019**

Lab Job #: **PLM-21354**
Sample #: **CL759090**

Bulk Asbestos Analysis Sheet

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TDSHS License No. 30-0287

Client: **A & M Engineering and Environmental Services, Inc.**
Project: **City of Tulsa Surplus; 108 N. Trenton Avenue**
Project #: **2320-001-012**
Field ID #: **8A**
Sample Description: **White Window Sealant**

Lab Proj #: **PLM-21354**
Set #: **31364**
Sample #: **CL759091**
Page 1 of 1

Layer 1 **White Sealant**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Hard	Yes	<1	<1	100

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+
Aggregate/Binders	95		Non-fibrous						

Prep/treatment: **mechanical separation**

Asbestos Content: **5% Chrysotile**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **10/16/2019**

Lab Job #: **PLM-21354** Sample #: **CL759091**

Bulk Asbestos Analysis Sheet

Cates Laboratories
1339 Motor Circle
Dallas, Texas 75207 (214) 920-5006

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0
TDSHS License No. 30-0287

Client: **A & M Engineering and Environmental Services, Inc.**
Project: **City of Tulsa Surplus; 108 N. Trenton Avenue**
Project #: **2320-001-012**
Field ID #: **8B**
Sample Description: **White Window Sealant**

Lab Proj #: **PLM-21354**
Set #: **31364**
Sample #: **CL759092**

Layer 1 **White Sealant**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Hard	Yes	<1	<1	100

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+
Aggregate/Binders	95		Non-fibrous						

Prep/treatment: **mechanical separation**

Asbestos Content: **5% Chrysotile**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **10/16/2019**

Lab Job #: **PLM-21354**
Sample #: **CL759092**

Bulk Asbestos Analysis Sheet

Cates Laboratories
1339 Motor Circle
Dallas, Texas 75207 (214) 920-5006

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0
TDSHS License No. 30-0287

Client: **A & M Engineering and Environmental Services, Inc.**
Project: **City of Tulsa Surplus; 108 N. Trenton Avenue**
Project #: **2320-001-012**
Field ID #: **8C**
Sample Description: **White Window Sealant**

Lab Proj #: **PLM-21354**
Set #: **31364**
Sample #: **CL759093**

Layer 1 **White Sealant**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Hard	Yes	<1	<1	100

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Chrysotile	5	4	Silky / Wavy	None	1.556	1.549	low	Parallel	+
Aggregate/Binders	95		Non-fibrous						

Prep/treatment: **mechanical separation**

Asbestos Content: **5% Chrysotile**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **10/16/2019**

Lab Job #: **PLM-21354**
Sample #: **CL759093**

Bulk Asbestos Analysis Sheet

Cates Laboratories
1339 Motor Circle
Dallas, Texas 75207 (214) 920-5006

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0
TDSHS License No. 30-0287

Client: **A & M Engineering and Environmental Services, Inc.**
Project: **City of Tulsa Surplus; 108 N. Trenton Avenue**
Project #: **2320-001-012**
Field ID #: **9A**
Sample Description: **White Insulation**

Lab Proj #: **PLM-21354**
Set #: **31364**
Sample #: **CL759094**

Layer 1 **Insulation**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Fibrous	Yes	100	ND	100

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Glass Wool Fibers	100		Rods				0		

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **10/16/2019**

Lab Job #: **PLM-21354**
Sample #: **CL759094**

Bulk Asbestos Analysis Sheet

Cates Laboratories
1339 Motor Circle
Dallas, Texas 75207 (214) 920-5006

EPA Method 600/R-93/116

NVLAP Lab No. 200569-0
TDSHS License No. 30-0287

Client: **A & M Engineering and Environmental Services, Inc.**
Project: **City of Tulsa Surplus; 108 N. Trenton Avenue**
Project #: **2320-001-012**
Field ID #: **9B**
Sample Description: **White Insulation**

Lab Proj #: **PLM-21354**
Set #: **31364**
Sample #: **CL759095**
Page 1 of 1

Layer 1 **Insulation**

Stereoscopic Examination

Color	Texture	Homogeneous?	% Fibrous	% Asbestos	% of Sample
White	Fibrous	Yes	100	ND	100

PLM Examination:

Components	%	+/-	Morphology	Color/ Pleochroism	Parallel Ref. Index	Perpendicular Ref. Index	Biref	Extinction Angle	Sign of Elongation
Glass Wool Fibers	100		Rods				0		

Prep/treatment: **mechanical separation**

Asbestos Content: **None Detected**

Comments:

Analyst: **Kathy Schosek**
Date Analyzed: **10/16/2019**

Lab Job #: **PLM-21354** Sample #: **CL759095**

CATES LABORATORIES

CHAIN OF CUSTODY

CL Project No (Lab Only) PLM-21354 SEM-31364

Company: A & M Engineering and Environmental Services

Contact/Results to: Jeff Jenkins Verbal ☐ Email ☑ Fax ☐ (check all that apply)

Email(s): jenkins@aandmengineering.com

Telephone No.: (918) 665-6575 Fax No.:

Project Information

Project: City of Tulsa Surplus Project No.: 2320-001-012

Address: 108 N. Trenton Avenue P.O. No.:

Turnaround (check one)

RUSH ASAP ☐ RUSH 24HR ☐ 2 DAY (standard) ☐ 3-4 DAY ☑ 5 DAY ☐

Testing Services (check all that apply)

Asbestos		IAQ - Mold (Non-Viable)
PLM-BULK EPA 600/R-93/116 ☑ Point Count (400) ☐	**PCM-AIR** NIOSH 7400 ☐ OSHA TWA ☐	AIR (spore trap) - Standard Profile (count/genus identification) ☐ AIR (spore trap) - Expanded Profile (w/insect parts/pollen/skin) ☐ BULK (tape lift, swab) - Standard Profile (genus identification) ☐

CatesLab No. Range (Lab Only): 759067 - 759093 Sample Date:

No of Samples 30 Positive Stop Yes ☐ No ☐

Sample No.	Sample Description/Location	Volume (air only)
1-A	White acoustic ceiling tile with brown mastic	
1-B	White acoustic ceiling tile with brown mastic	
1-C	White acoustic ceiling tile with brown mastic	
1-D	White acoustic ceiling tile with brown mastic	
2-A	White/gray plaster	
2-B	White/gray plaster	
2-C	White/gray plaster	
2-D	White/gray plaster	
2-E	White/gray plaster	
2-F	White/gray plaster	
2-G	White/gray plaster	
2-H	White/gray plaster	

Relinquished By:	Date/Time:	Received By:	Date/Time:
	10-10-19 15:55		10/11/19 1010

AF72017-09 - issued 4/3/2017 Walk-In ☐ D-Drop ☐ F-Drop ☐ FedEx ☐ UPS ☐ Lonestar ☐ USPS ☐

1339 Motor Circle, Dallas, TX 75207 * (214) 920-5006, Fax 1-972-767-0167
NVLAP Code 200569-0, TDSHS-Asbestos 30-0287, TDSHS-Mold LAB1034, AZ Lab Cert AZ0948

1 of 2

CATES LABORATORIES

CHAIN OF CUSTODY

CL Project No PLM-21354
(Lab Only) BET-31364

Additional Sample Page

Project Name CITY OF TULSA SURPLUS Project No. 2320-001-012

Sample No.	Sample Description/Location	Volume (air only)
3-A	Tan/green 9x9 floor tile with black mastic	
3-B	Tan/green 9x9 floor tile with black mastic	
3-C	Tan/green 9x9 floor tile with black mastic	
3-D	Tan/green 9x9 floor tile with black mastic	
4-A	Tan 12x12 floor tile with black mastic	
4-B	Tan 12x12 floor tile with black mastic	
5-A	White drywall	
5-B	White drywall	
6-A	Black mastic	
6-B	Black mastic	
7-A	Yellow mastic	
7-B	Yellow mastic	
8-A	White window sealant	
8-B	White window sealant	
8-C	White window sealant	
9-A	White insulation	
9-B	White insulation	

Relinquished By:	Date/Time:	Received By:	Date/Time:
[signature]	10-10-19 15:55	[signature]	10/11/19 1010

Appendix B

Photographs

PHOTO 1

HA-1: White ceiling tile with brown mastic.

PHOTO 2

HA-2: White plaster.

PHOTO 3

HA-3: Tan and green floor tile with black mastic.

PHOTO 4

HA-4: Tan floor tile with black mastic.

PHOTO 5

HA-5: White drywall.

PHOTO 6

HA-6: Black mastic.

A & M Engineering and Environmental Services, Inc.
Consulting - Design - Construction - Remediation

ASBESTOS PHOTO LOG
CITY OF TULSA – SURPLUS YARD
108 NORTH TRENTON AVENUE
TULSA, OKLAHOMA

DATE: 10/15/2019

PROJECT NO. 2320-001-012

PHOTO 7

HA-7: Yellow wainscoting mastic.

PHOTO 8

HA-8: White window sealant.

PHOTO 9

PHOTO 10

PHOTO 11

PHOTO 12

A & M Engineering and Environmental Services, Inc.
Consulting - Design - Construction - Remediation

ASBESTOS PHOTO LOG
CITY OF TULSA – SURPLUS YARD
108 NORTH TRENTON AVENUE
TULSA, OKLAHOMA

DATE: 10/15/2019

PROJECT NO. 2320-001-012

PHOTO 13

Typical view of deteriorating paint on 1st floor.

PHOTO 14

2nd floor showing deteriorating paint and office cubicles.

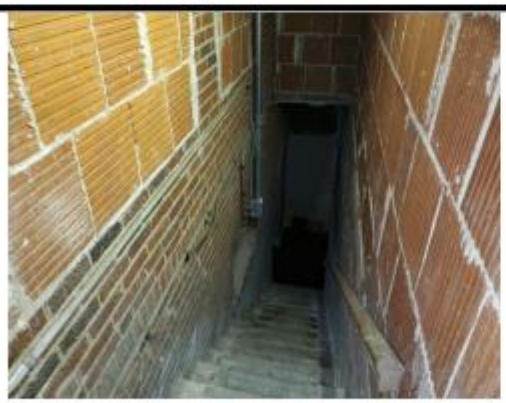
PHOTO 15

Deteriorating paint in SE corner of 2nd floor.

PHOTO 16

Stairwell from 2nd floor.

PHOTO 17



Basement stairs.

PHOTO 18

Ludlum Meter showing slightly above background levels on non-slip tread strips.

A & M Engineering and Environmental Services, Inc.
Consulting - Design - Construction - Remediation

LEAD BASED PAINT PHOTO LOG
CITY OF TULSA – SURPLUS YARD
108 NORTH TRENTON AVENUE
TULSA, OKLAHOMA

DATE: 10/15/2019

PROJECT NO. 2320-001-012

PHOTO 19

View of basement.

PHOTO 20

View of basement.

PHOTO 21

Uninsulated pipes at crawl space in basement.

PHOTO 22

Ludlum meter reading background levels on concrete steps.

PHOTO 23

PHOTO 24

A & M Engineering and Environmental Services, Inc.
Consulting - Design - Construction - Remediation

LEAD BASED PAINT PHOTO LOG
CITY OF TULSA – SURPLUS YARD
108 NORTH TRENTON AVENUE
TULSA, OKLAHOMA

DATE: 10/15/2019

PROJECT NO. 2320-001-012

Appendix C

Asbestos Certifications and Licenses

Oklahoma Department of Labor

Asbestos License

This certifies that Justin Scott

has successfully met the certification requirements under the Oklahoma Asbestos Control Act 40 O.S. § 450, et seq. Abatement of Friable Asbestos Material Rules OAC 380:50 in the following:

Inspector

Leslie Osborn
Labor Commissioner

License # : 159757

Expires : 01/02/2020

Issued : 05/13/201

Not intended for identification purposes

Oklahoma Department of Labor

Jeffrey Jenkins

has filed in the office of the Commissioner of Labor of the State of Oklahoma
an application for a Limited Asbestos Contractor's license for

AHERA MANAGEMENT PLANNER

Now, therefore, The Commissioner of Labor of the State of Oklahoma, by virtue of
the power vested in her by law hereby issues to the applicant license
No. OK-MP133987.

Melissa McLawhorn Houston
Commissioner of Labor

January 28, 2019
Date of Issuance

EXPIRES: January 02, 2020

Oklahoma Department of Labor

Jeffrey Jenkins

has filed in the office of the Commissioner of Labor of the State of Oklahoma
an application for a Limited Asbestos Contractor's license for

AHERA PROJECT DESIGNER

Now, therefore, The Commissioner of Labor of the State of Oklahoma, by virtue of
the power vested in her by law hereby issues to the applicant license
No. OK-PD143988.

Melissa McLawhorn Houston
Commissioner of Labor

January 28, 2019
Date of Issuance

EXPIRES: January 04, 2020

United States Department of Commerce
National Institute of Standards and Technology

NVLAP®

Certificate of Accreditation to ISO/IEC 17025:2005

NVLAP LAB CODE: 200569-0

Cates Laboratories, Inc.
Dallas, TX

is accredited by the National Voluntary Laboratory Accreditation Program for specific services, listed on the Scope of Accreditation, for:

Asbestos Fiber Analysis

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communique dated January 2009).

2019-04-01 through 2020-03-31
Effective Dates

For the National Voluntary Laboratory Accreditation Program

National Voluntary Laboratory Accreditation Program

SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

Cates Laboratories, Inc.
1339 Motor Circle
Dallas, TX 75207
Mr. John R. Cates
Phone: 214-920-5006 Fax: 1-972-767-0167
Email: jrcates@cateslab.com
http://www.cateslab.com

ASBESTOS FIBER ANALYSIS **NVLAP LAB CODE 200569-0**

Bulk Asbestos Analysis

Code	*Description*
18/A01	EPA -- 40 CFR Appendix E to Subpart E of Part 763, Interim Method of the Determination of Asbestos in Bulk Insulation Samples
18/A03	EPA 600/R-93/116: Method for the Determination of Asbestos in Bulk Building Materials

For the National Voluntary Laboratory Accreditation Program

Effective 2019-04-01 through 2020-03-31

Texas Historically Underutilized Business (HUB) Certificate

HUB
Statewide Historically Underutilized Business Program

Certificate/VID Number:	1680562697100
File/Vendor Number:	049981
Approval Date:	27-FEB-2019
Scheduled Expiration Date:	27-FEB-2023

The Texas Comptroller of Public Accounts (CPA), hereby certifies that

CATES LABORATORIES, INC.

has successfully met the established requirements of the State of Texas Historically Underutilized Business (HUB) Program to be recognized as a HUB. This certificate printed 01-MAR-2019, supersedes any registration and certificate previously issued by the HUB Program. If there are any changes regarding the information (i.e., business structure, ownership, day-to-day management, operational control, business location) provided in the submission of the business' application for registration/certification as a HUB, you must immediately (within 30 days of such changes) notify the HUB Program in writing. The CPA reserves the right to conduct a compliance review at any time to confirm HUB eligibility. HUB certification may be suspended or revoked upon findings of ineligibility.

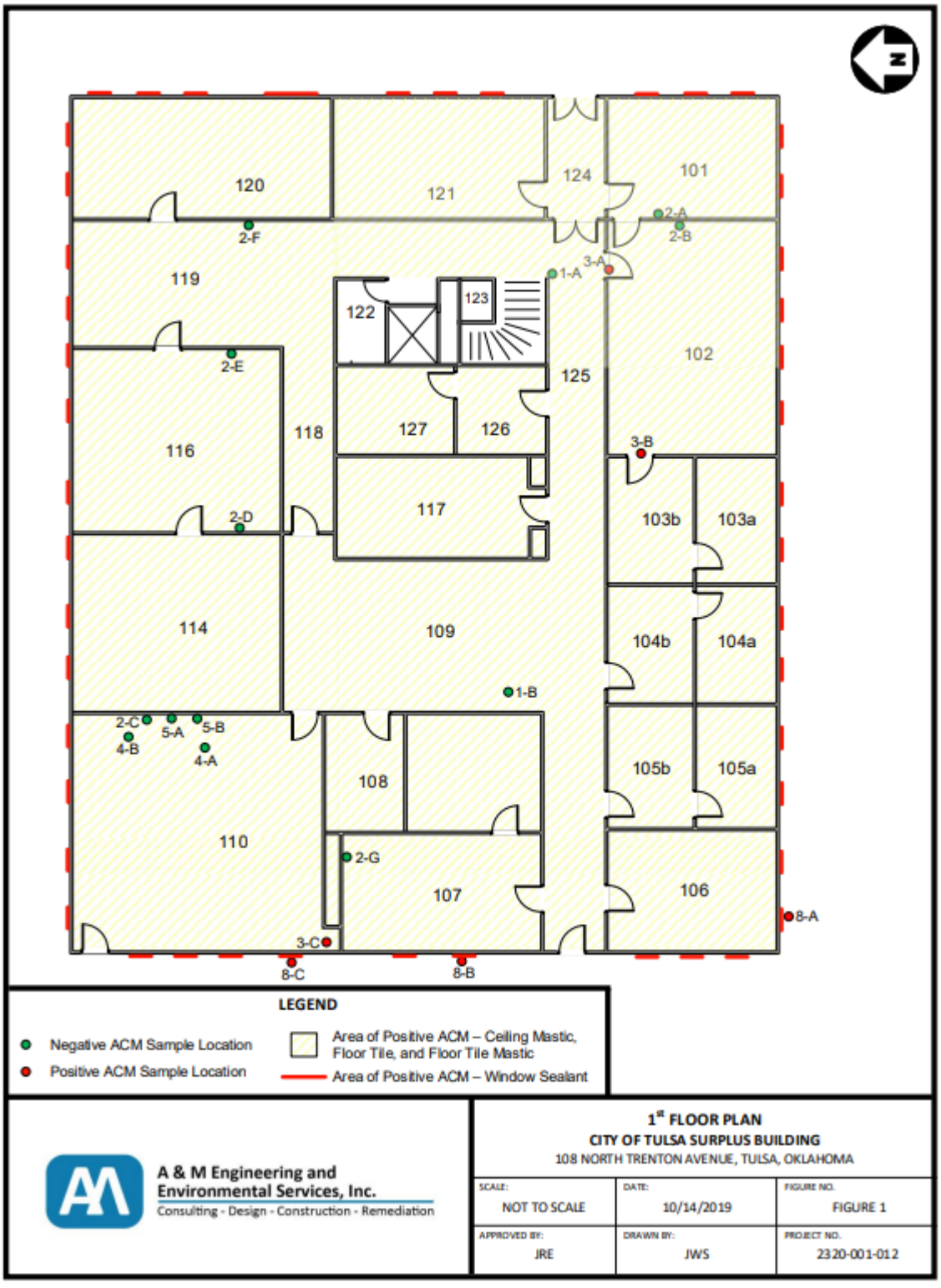
Laura Cagle-Hinojosa, Statewide HUB Program Manager
Statewide Support Services Division

Note: In order for State agencies and institutions of higher education (universities) to be credited for utilizing this business as a HUB, they must award payment under the Certificate/VID Number identified above. Agencies, universities and prime contractors are encouraged to verify the company's HUB certification prior to issuing a notice of award by accessing the Internet (**https://mycpa.cpa.state.tx.us/tpasscmblsearch/index.jsp**) or by contacting the HUB Program at **512-463-5872** or toll-free in Texas at **1-888-863-5881**.

Rev. 06/16

Appendix D

Asbestos Sample Locations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120
121
124
101
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2-A
2-B
3-A
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119
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123
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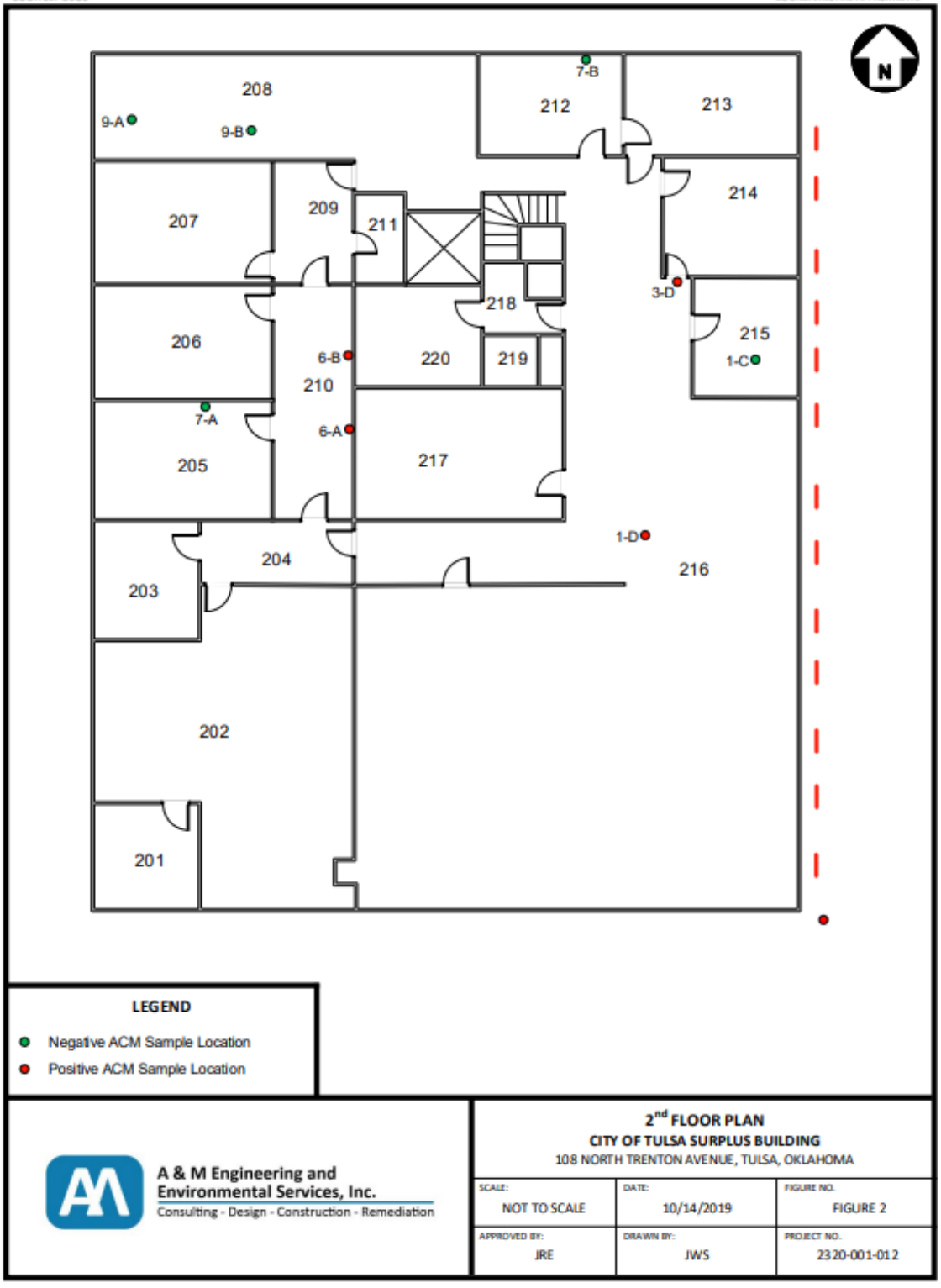
127
126
3-B
116
117
2-D
103b
103a
114
109
104b
104a
1-B
2-C
5-A
5-B
4-B
4-A
108
105b
105a
110
2-G
107
106
8-A
3-C
8-C
8-B
LEGEND
Negative ACM Sample Location
Positive ACM Sample Location
Area of Positive ACM – Ceiling Mastic, Floor Tile, and Floor Tile Mastic
Area of Positive ACM – Window Sealant
A & M Engineering and Environmental Services, Inc.
Consulting - Design - Construction - Remediation
1ST FLOOR PLAN
CITY OF TULSA SURPLUS BUILDING
108 NORTH TRENTON AVENUE, TULSA, OKLAHOMA
SCALE: NOT TO SCALE
DATE: 10/14/2019
FIGURE NO. FIGURE 1
APPROVED BY: JRE
DRAWN BY: JWS
PROJECT NO. 2320-001-012

SOURCE: USGS

BOUNDARIES ARE APPROXIMATE



A & M Engineering and Environmental Services, Inc.
Consulting - Design - Construction - Remediation

2nd FLOOR PLAN
CITY OF TULSA SURPLUS BUILDING
108 NORTH TRENTON AVENUE, TULSA, OKLAHOMA

SCALE:	DATE:	FIGURE NO.
NOT TO SCALE	10/14/2019	FIGURE 2
APPROVED BY:	DRAWN BY:	PROJECT NO.
JRE	JWS	2320-001-012

Appendix E

XRF Data

Reading	Mode	Date	Time	Building	Room	Side	Component	Substrate	Color	Pb	LiveTime	Pass Fail	Standard
	Standardization	10-Oct-19	12:42:32	Tuha surplus Yard							49.74	PASS	
1	Calibration - 0.00	10-Oct-19	9:39:46	Tuha surplus Yard						0	49.09		
2	Calibration - 0.00	10-Oct-19	9:43:14	Tuha surplus Yard						0	7.33		
3	Calibration - 0.00	10-Oct-19	9:43:53	Tuha surplus Yard						0	7.29		
4	Calibration - 1.04	10-Oct-19	9:44:33	Tuha surplus Yard						0.99	22.87		
5	Calibration - 1.04	10-Oct-19	9:45:23	Tuha surplus Yard						1.05	22.8		
6	Calibration -1.04	10-Oct-19	9:46:10	Tuha surplus Yard						0.98	1.56		
7	Calibration - 1.04	10-Oct-19	9:46:35	Tuha surplus Yard						0.98	14.08		
8	Calibration -0.31	10-Oct-19	9:47:23	Tuha surplus Yard						0.29	6.19		
9	Calibration - 0.71	10-Oct-19	9:47:43	Tuha surplus Yard						0.62	6.12		
10	Calibration - 1.53	10-Oct-19	9:48:09	Tuha surplus Yard						1.41	2.72		
11	Calibration - 1.53	10-Oct-19	9:48:29	Tuha surplus Yard						1.38	7.11		
12	Calibration - 3.58	10-Oct-19	9:48:56	Tuha surplus Yard						3.75	3.73		
13	Calibration - 0.00	10-Oct-19	9:49:37	Tuha surplus Yard						0	6.15		
14		10-Oct-19	9:53:30	Tuha surplus Yard	Entry	A	Wall	Wood	White	0.11	6.29	Negative	
15		10-Oct-19	9:54:21	Tuha surplus Yard	Entry	A	Door	Wood	Brown	0.01	7.09	Negative	
16		10-Oct-19	9:55:03	Tuha surplus Yard	Entry	B	Wall	Concrete	White	1	4.4	Positive	
17		10-Oct-19	9:55:35	Tuha surplus Yard	Entry	D	Wall	Concrete	White	0.05	3.13	Negative	
18		10-Oct-19	9:56:40	Tuha surplus Yard	Entry	D	Wall	Concrete	White	1	5.68	Negative	
19		10-Oct-19	9:57:12	Tuha surplus Yard	Entry	C	Door frame	Wood	White	1	5.69	Positive	
20		10-Oct-19	9:58:11	Tuha surplus Yard	Entry	C	Door	Wood	White	0.09	6.39	Negative	
21		10-Oct-19	9:58:41	Tuha surplus Yard	Room #101	D	Wall	Concrete	White	0.05	7.7	Negative	
22		10-Oct-19	10:00:02	Tuha surplus Yard	Room #101	A	Wall	Concrete	White	1	4.4	Positive	
23		10-Oct-19	10:00:43	Tuha surplus Yard	Room #101	B	Wall	Concrete	White	1	5.62	Positive	
24		10-Oct-19	10:01:38	Tuha surplus Yard	Room #101	C	Wall	Concrete	White	1	6.92	Positive	C
25		10-Oct-19	10:02:28	Tuha surplus Yard	Room #101	C	Wall	Concrete	White	1	5.43	Positive	
26		10-Oct-19	10:02:56	Tuha surplus Yard	Room #101	C	Wall	Concrete	White	0.24	3.04	Negative	
27		10-Oct-19	10:03:31	Tuha surplus Yard	Room #101	B	Window Ledge	Wood	White	1	3.07	Positive	
28		10-Oct-19	10:04:08	Tuha surplus Yard	Room #101	B	Window Frame	Metal	White	0.1	24.27	Negative	
29		10-Oct-19	10:05:09	Tuha surplus Yard	Room #101	D	Door frame	Wood	White	1.45	25.6	Positive	C
30		10-Oct-19	10:06:19	Tuha surplus Yard	Room #101	D	Door Jamb	Wood	White	0.03	6.31	Negative	
31		10-Oct-19	10:06:55	Tuha surplus Yard	Room #102	A	Wall	Concrete	White	0.07	6.43	Negative	
32		10-Oct-19	10:07:43	Tuha surplus Yard	Room #102	B	Wall	Concrete	White	1	5.64	Positive	C
33		10-Oct-19	10:08:46	Tuha surplus Yard	Room #102	C	Wall	Drywall	White	0.16	0	Negative	
34		10-Oct-19	10:09:01	Tuha surplus Yard	Room #102	D	Wall	Concrete	White	0.15	25.45	Negative	
35		10-Oct-19	10:10:07	Tuha surplus Yard	Room #102	D	Door frame	Wood	White	0.11	3.1	Negative	
36		10-Oct-19	10:11:34	Tuha surplus Yard	Room #102	D	Door	Wood	White	0.14	24.16	Negative	
37		10-Oct-19	10:12:34	Tuha surplus Yard	Room #102	B	Window Ledge	Wood	White	0.12	23.89	Negative	
38		10-Oct-19	10:13:32	Tuha surplus Yard	Room #103 A	A	Wall	Concrete	White	0.05	23.86	Negative	
39		10-Oct-19	10:19:52	Tuha surplus Yard	Room #103 A	B	Wall	Drywall	White	1	6.86	Positive	
40		10-Oct-19	10:21:02	Tuha surplus Yard	Room #103 A	C	Wall	Drywall	White	0	8.08	Negative	
41		10-Oct-19	10:21:23	Tuha surplus Yard	Room #103 A	D	door trim	Wood	White	0	25.19	Negative	
42		10-Oct-19	10:22:18	Tuha surplus Yard	Room #103 A	D	Door frame	Wood	White	0	23.27	Negative	
43		10-Oct-19	10:23:18	Tuha surplus Yard	Room #103 A	D	Window Ledge	Wood	White	0	23.4	Negative	
44		10-Oct-19	10:24:21	Tuha surplus Yard	Room #103 A	B	Window Ledge	Metal	White	0.1	21.69	Negative	
45		10-Oct-19	10:24:58	Tuha surplus Yard	Room #103 A	B	Window Frame	Metal	White	1	5.62	Positive	
46		10-Oct-19	10:26:30	Tuha surplus Yard	Room #103 B	A	Wall	Drywall	White	0.05	25.47	Negative	
47		10-Oct-19	10:27:12	Tuha surplus Yard	Room #103 B	B	Wall	Drywall	White	0	15.29	Negative	
48		10-Oct-19	10:27:47	Tuha surplus Yard	Room #103 B	C	Wall	Drywall	White	0	25.56	Negative	
49		10-Oct-19	10:28:53	Tuha surplus Yard	Room #103 B	C	Door trim	Wood	White	0	23.62	Negative	
50		10-Oct-19	10:36:01	Tuha surplus Yard	Room #104 A	A	Wall	Drywall	White	0	20.56	Negative	
51		10-Oct-19	10:36:45	Tuha surplus Yard	Room #104 A	B	Wall	Concrete	White	1	5.69	Positive	
52		10-Oct-19	10:37:21	Tuha surplus Yard	Room #104 A	C	Wall	Drywall	White	0	24.71	Negative	
53		10-Oct-19	10:38:03	Tuha surplus Yard	Room #104 A	D	Wall	Drywall	White	0	25.05	Negative	
54		10-Oct-19	10:39:02	Tuha surplus Yard	Room #104 A	B	Window Ledge	Wood	White	0.01	24.03	Negative	
55		10-Oct-19	10:39:44	Tuha surplus Yard	Room #104 A	B	Window Frame	Metal	White	3.21	25.96	Positive	
56		10-Oct-19	10:40:51	Tuha surplus Yard	Room #104 A	D	Door frame	Wood	White	0	23.71	Negative	
57		10-Oct-19	10:42:15	Tuha surplus Yard	Room #104 B	A	Wall	Drywall	White	0	25.78	Negative	
58		10-Oct-19	10:42:53	Tuha surplus Yard	Room #104 B	B	Wall	Drywall	White	0	25.26	Negative	
59		10-Oct-19	10:43:40	Tuha surplus Yard	Room #104 B	C	Wall	Drywall	White	0	15.53	Negative	
60		10-Oct-19	10:44:27	Tuha surplus Yard	Room #104 B	D	Door frame	Wood	White	0.06	24.39	Negative	
61		10-Oct-19	10:45:09	Tuha surplus Yard	Room #104 B	D	Door	Wood	White	0.03	4.08	Negative	
62		10-Oct-19	10:46:58	Tuha surplus Yard	Room #105 A	A	Wall	Drywall	White	0	25.36	Negative	
63		10-Oct-19	10:47:39	Tuha surplus Yard	Room #105 A	B	Wall	Drywall	White	0	25.34	Negative	
64		10-Oct-19	10:48:45	Tuha surplus Yard	Room #105 A	C	Wall	Concrete	White	0.03	25.53	Negative	
65		10-Oct-19	10:50:05	Tuha surplus Yard	Room #105 B	D	Wall	Drywall	White	0	25.56	Negative	
66		10-Oct-19	10:50:47	Tuha surplus Yard	Room #107	A	Wall	Plaster	White	0	25.51	Negative	
67		10-Oct-19	10:58:57	Tuha surplus Yard	Room #107	B	Wall	Plaster	White	0.04	25.26	Negative	
68		10-Oct-19	11:00:01	Tuha surplus Yard	Room #107	C	Wall	Concrete	White	1	11.89	Positive	
69		10-Oct-19	11:00:35	Tuha surplus Yard	Room #107	D	Wall	Concrete	White	0.2	4.36	Negative	
70		10-Oct-19	11:01:49	Tuha surplus Yard	Room #107	D	Partition	Wood	White	0.28	0	Negative	
71		10-Oct-19	11:02:18	Tuha surplus Yard	Room #108	A	Wall	Drywall	White	1	3.1	Negative	
72		10-Oct-19	11:02:57	Tuha surplus Yard	Room #108	B	Wall	Drywall	White	0.04	24.34	Negative	
73		10-Oct-19	11:04:40	Tuha surplus Yard	Room #108	C	Wall	Drywall	White	0.06	5.54	Negative	
74		10-Oct-19	11:05:12	Tuha surplus Yard	Room #108	D	Wall	Concrete	White	0	21.44	Negative	
75		10-Oct-19	11:05:49	Tuha surplus Yard	Stairs		Post	Metal	Brown	0.11	3.07	Negative	
76		10-Oct-19	11:06:45	Tuha surplus Yard	Stairs		Rails	Wood	Brown	0.12	2.98	Negative	
77		10-Oct-19	11:08:39	Tuha surplus Yard	Stairs		Inside side Wall	Concrete	White	1	3.08	Positive	
78		10-Oct-19	11:09:49	Tuha surplus Yard	Stairs		Outside Side Wall	Wood	Brown	0.01	16.99	Negative	
79		10-Oct-19	11:10:37	Tuha surplus Yard	Room #110	A	Wall	Plaster	White	0.13	25.86	Negative	
80		10-Oct-19	11:11:45	Tuha surplus Yard	Room #110	B	Wall	Plaster	White	0.16	3.2	Negative	
81		10-Oct-19	11:12:16	Tuha surplus Yard	Room #110	C	Wall	Plaster	White	0.1	26.34	Negative	

82		10-Oct-19	11:14:48	Tulsa surplus Yard	Room #110	D	Wall	Plaster	White	1	3.07	Positive	
83		10-Oct-19	11:15:40	Tulsa surplus Yard	Room #110	B	Cabinet Door	Wood	White	0.25	25.99	Negative	
84		10-Oct-19	11:16:35	Tulsa surplus Yard	Room #110	D	Window Sill	Wood	White	0.01	25.25	Negative	
85		10-Oct-19	11:17:20	Tulsa surplus Yard	Room #110	C	Door	Metal	White	0.16	25.97	Negative	C
86		10-Oct-19	11:18:33	Tulsa surplus Yard		A	Wall	Plaster	White	0.13	2.99	Negative	
87		10-Oct-19	11:22:27	Tulsa surplus Yard		B	Wall	Plaster	White	0.13	24.29	Negative	
88		10-Oct-19	12:08:08	Tulsa surplus Yard		C	Wall	Plaster	White	0	22.58	Negative	
89		10-Oct-19	12:10:09	Tulsa surplus Yard		D	Wall	Plaster	White	0.14	3.11	Negative	
90		10-Oct-19	12:11:09	Tulsa surplus Yard		A	Wall	Plaster	White	0.1	25.62	Negative	
91		10-Oct-19	12:11:54	Tulsa surplus Yard		B	Wall	Plaster	White	0.1	3.14	Negative	
92		10-Oct-19	12:12:56	Tulsa surplus Yard		C	Wall	Plaster	White	0.21	4.37	Negative	
93		10-Oct-19	12:14:25	Tulsa surplus Yard		D	Door	Plaster	Brown	0.07	23.17	Negative	
94		10-Oct-19	12:15:03	Tulsa surplus Yard		A	Door Trim	Wood	Brown	0.06	23.33	Negative	
95		10-Oct-19	12:15:55	Tulsa surplus Yard		A	Chair Rail	Wood	Brown	0.02	23.1	Negative	
96		10-Oct-19	12:17:07	Tulsa surplus Yard		D	Window Sill	Wood	Brown	0.06	3.87	Negative	
97		10-Oct-19	12:17:24	Tulsa surplus Yard		D	Window Frame	Metal	White	5	10.6	Positive	C
98	Calibration - 0.00	10-Oct-19	12:32:31	Tulsa surplus Yard						0	22.87		
99	Calibration - 0.00	10-Oct-19	12:33:12	Tulsa surplus Yard						0	23.11		
100	Calibration - 0.00	10-Oct-19	12:33:53	Tulsa surplus Yard						0	23.15		
101	Calibration - 1.04	10-Oct-19	12:35:11	Tulsa surplus Yard						1.04	22.78		
102	Calibration - 1.04	10-Oct-19	12:35:53	Tulsa surplus Yard						0.98	22.85		
103	Calibration - 1.04	10-Oct-19	12:36:39	Tulsa surplus Yard						0.96	22.92		
104	Standardization	10-Oct-19	12:42:32	Tulsa surplus Yard							49.74	PASS	
105	Calibration - 0.00	10-Oct-19	12:43:52	Tulsa surplus Yard						0	23.48		
106	Calibration - 0.00	10-Oct-19	12:44:42	Tulsa surplus Yard						0	23.39		
107	Calibration - 0.00	10-Oct-19	12:45:24	Tulsa surplus Yard						0	1.59		
108	Calibration - 0.00	10-Oct-19	12:45:32	Tulsa surplus Yard						0	23.32		
109	Calibration - 1.04	10-Oct-19	12:46:13	Tulsa surplus Yard						0.96	2.62		
110	Calibration - 1.04	10-Oct-19	12:46:29	Tulsa surplus Yard						0.99	23.13		
111	Calibration - 1.04	10-Oct-19	12:47:18	Tulsa surplus Yard						1.04	19.83		
112	Calibration - 1.04	10-Oct-19	12:47:57	Tulsa surplus Yard						0.97	20.85		
113		10-Oct-19	12:52:41	Tulsa surplus Yard	Room #214	A	Wall	Plaster	White	1	5.62	Positive	
114		10-Oct-19	12:54:18	Tulsa surplus Yard	Room #214	B	Wall	Plaster	White	1	5.69	Positive	
115		10-Oct-19	12:55:21	Tulsa surplus Yard	Room #214	C	Wall	Plaster	White	0.02	25.93	Negative	
116		10-Oct-19	12:56:09	Tulsa surplus Yard	Room #214	D	Wall	Plaster	White	0.25	26.31	Negative	
117		10-Oct-19	12:56:55	Tulsa surplus Yard	Room #214	D	Door Frame	Wood	White	0.03	24.09	Negative	
118		10-Oct-19	12:57:54	Tulsa surplus Yard	Room #214	D	Door Jamb	Wood	White	0.05	23.53	Negative	
119		10-Oct-19	12:58:46	Tulsa surplus Yard	Room #214	B	Window Sill	Wood	Brown	0.1	24.24	Negative	
120		10-Oct-19	12:59:42	Tulsa surplus Yard	Room #214	B	Window Frame	Metal	White	0.19	26.24	Negative	
121		10-Oct-19	13:03:02	Tulsa surplus Yard	Room #216	A	Wall	Plaster	White	1	6.65	Positive	C
122		10-Oct-19	13:04:21	Tulsa surplus Yard	Room #216	B	Wall	Plaster	White	1	8.19	Positive	
123		10-Oct-19	13:05:38	Tulsa surplus Yard	Room #216	C	Wall	Plaster	White	0.25	25.75	Negative	
124		10-Oct-19	13:06:25	Tulsa surplus Yard	Room #216	D	Wall	Drywall	White	0.01	25.14	Negative	
125		10-Oct-19	13:07:14	Tulsa surplus Yard	Room #216	C	Window Sill	Wood	White	0.08	17.14	Negative	
126		10-Oct-19	13:07:51	Tulsa surplus Yard	Room #216	C	Window Frame	Metal	White	3.12	9.29	Positive	C
127		10-Oct-19	13:08:40	Tulsa surplus Yard	Room #216	A	Partition	Wood	White	0.08	24.23	Negative	
128		10-Oct-19	13:11:11	Tulsa surplus Yard	Room #202	A	Wall	Wood	White	0.02	0		
129		10-Oct-19	13:11:36	Tulsa surplus Yard	Room #202	B	Wall	Wood	White	1	6.76	Positive	
130		10-Oct-19	13:12:46	Tulsa surplus Yard	Room #202	C	Wall	Wood	White	0.06	3.08	Negative	
131		10-Oct-19	13:13:53	Tulsa surplus Yard	Room #202	D	Wall	Wood	White	0	25.54	Negative	
132		10-Oct-19	13:14:43	Tulsa surplus Yard	Room #202	D	Window Sill	Wood	White	0.48	23.92	Negative	
133		10-Oct-19	13:15:27	Tulsa surplus Yard	Room #202	D	Window Frame	Wood	White	2.06	26.16	Positive	
134		10-Oct-19	13:17:02	Tulsa surplus Yard	Room #210	B	Wall	Plaster	White	0.13	4.39	Negative	
135		10-Oct-19	13:18:16	Tulsa surplus Yard	Room #210	D	Wall	Plaster	White	1	4.3	Negative	
136		10-Oct-19	13:19:15	Tulsa surplus Yard	Room #210	C	Wall	Plaster	White	1	3	Positive	
137		10-Oct-19	13:20:14	Tulsa surplus Yard	Room #210	A	Wall	Plaster	White	1	3.07	Negative	
138		10-Oct-19	13:21:26	Tulsa surplus Yard	Room #210		Door Trim	Wood	Brown	0.06	23	Negative	
139		10-Oct-19	13:22:07	Tulsa surplus Yard	Room #210		Door Frame	Wood	Brown	0.04	3.86	Insufficient Test Time	
140		10-Oct-19	13:22:18	Tulsa surplus Yard	Basement	A	Cabinet Door	Wood	Red	0.09	11.41	Negative	
141		10-Oct-19	13:41:13	Tulsa surplus Yard	Basement	south	Plywood - Electrical p	Wood	silver	0.03	23.49	Negative	
142	Calibration - 0.00	10-Oct-19	13:42:06							0	23.61	Negative	
143	Calibration - 0.00	10-Oct-19	13:43:52							0	23.47	Negative	
144	Calibration - 0.00	10-Oct-19	13:45:17							0	22.69	Negative	
145	Calibration - 0.00	10-Oct-19	13:45:57							0	7.29	Negative	
146	Calibration - 1.04	10-Oct-19	13:46:16							1.03	3.89	Positive	
147	Calibration - 1.04	10-Oct-19	13:46:33							0.93	3.75	Positive	
148	Calibration - 1.04	10-Oct-19	13:46:48							0.96	12.99	Positive	
149	Calibration - 1.04	10-Oct-19	13:47:29							1.18	3.92	Positive	
150	Calibration - 1.04	10-Oct-19	13:47:48							1.05	16.37	Positive	

Appendix F

Quantem Laboratory Lead Report

2033 Heritage Park Dr, Oklahoma City, OK 73120 | 1.800.822.1650

Environmental Chemistry Analysis Report

QuanTEM Set ID: 315649
Date Received: 10/11/19
Received By: Christiana Younge
Date Sampled:
Time Sampled:
Analyst: CA
Date of Report: 10/15/19

AIHA-LAP, LLC: 101352

Client: A&M Engineering & Environmental Serv.
10010 E. 16th Street
Tulsa, OK 74128

Acct. No.: A501

Project: Tulsa Surplus Yard
Location: Tulsa, OK
Project No.: 2320-001-012

QuanTEM ID	Client ID	Matrix	Parameter	Results	Reporting Limits	Units	Date/Time Analyzed	Method
001	PB #24	Paint	Lead	1,600	50	ppm	10/14/19 14:28	P EPA 7000B (1)
002	PB #29	Paint	Lead	10,000	50	ppm	10/14/19 14:28	P EPA 7000B (1)
003	PB #33	Paint	Lead	2,400	50	ppm	10/14/19 14:28	P EPA 7000B (1)
004	PB #85	Paint	Lead	1,800	50	ppm	10/14/19 14:28	P EPA 7000B (1)
005	PB #97	Paint	Lead	41,000	50	ppm	10/14/19 14:28	P EPA 7000B (1)
006	PB #121	Paint	Lead	1,200	50	ppm	10/14/19 14:28	P EPA 7000B (1)
007	PB #126	Paint	Lead	33,000	50	ppm	10/14/19 14:28	P EPA 7000B (1)

Authorized Signature: Chanell Alaniz

Chanell Alaniz, Chemist

Note: Sample results have not been corrected for blank values.

This report applies only to the standards or procedures indicated and to the specific samples tested. It is not indicative of the qualities of apparently identical or similar products or procedures, nor does it represent an ongoing assurance program unless so noted. These reports are for the exclusive use of the client and are not to be reproduced without specific written permission. QuanTEM is not responsible for user-supplied data used in calculations. Customer provided data such as volumes, areas, etc., cannot be verified by QuanTEM Laboratories, LLC.

Unless otherwise noted, upon receipt the condition of the sample was acceptable for analysis.

Wipe materials must meet ASTM E1792 criteria. Method detection limits and resultant reporting limits may not be valid for non-ASTM E1792 wipe material.

EPA Method 7000B (1) = EPA 600/R-93/200 Preparation Modified. EPA 7000B Analysis Modified

EPA Method 7082 (2) = EPA 600/R-93/200 Preparation Modified. EPA 7082 Analysis Modified

QAQC Results

QA ID: 17988 **Date:** 10/14/2019 **Approved By:** Chanell Alaniz

Test: Lead **Matrix:** Paint **Date Approved:** 10/14/2019

Notes: Rec: Statistical Anomaly

Blank Data:

Type of Blank	Blank Value
FCB	0
ICB	0
Matrix Blank	0

Samples:

315631-001	315631-002
315631-003	315631-004
315631-005	315631-006
315631-007	315631-008
315631-009	315631-010
315631-011	315649-001
315649-002	315649-003
315649-004	315649-005
315649-006	315649-007
315665-001	LCS-P1
MB-P1	RLVS-P

Standards Data:

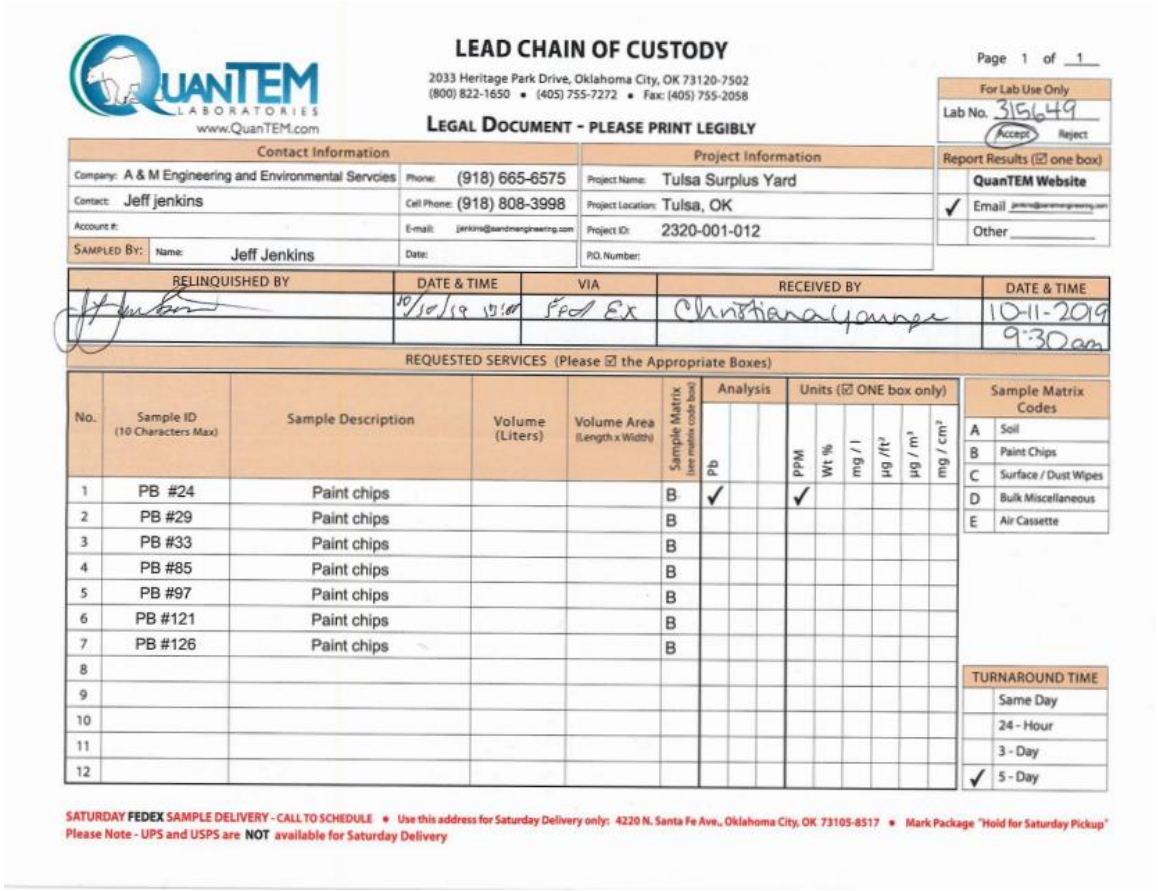
Standard	Low Limit	Obtained	High Limit
CCV	4.5	4.7	5.5
FCV	4.5	2.6	5.5
RLVS	0.05	0.06	0.15

Duplicate Data:

Sample Number	Result	Duplicate	% RPD
315631-001	2.172	0.000	200.0

Recovery Data:

Sample Number	Result	Spike Level	Result + Spike	% Recovery	Dup. Result + Spike	% Dup. Recovery	% Spike RPD
LCS-P1	0.000	1.992	1.798	90.3	1.657	83.2	8.2
315631-001	2.172	2.000	3.037	43.2			



QUANTEM LABORATORIES
www.QuanTEM.com

LEAD CHAIN OF CUSTODY

2033 Heritage Park Drive, Oklahoma City, OK 73120-7502
(800) 822-1650 • (405) 755-7272 • Fax: (405) 755-2058

LEGAL DOCUMENT - PLEASE PRINT LEGIBLY

Page 1 of 1

For Lab Use Only
Lab No. 315649
Accept Reject

Contact Information			Project Information	
Company: A & M Engineering and Environmental Servcies	Phone: (918) 665-6575		Project Name: Tulsa Surplus Yard	
Contact: Jeff jenkins	Cell Phone: (918) 808-3998		Project Location: Tulsa, OK	
Account #:	E-mail: jenkins@amengineering.com		Project ID: 2320-001-012	
SAMPLED BY: Name: Jeff Jenkins	Date:		P.O. Number:	

Report Results (☑ one box)
- ☐ QuanTEM Website
- ✓ Email jenkins@amengineering.com
- ☐ Other _____

RELINQUISHED BY	DATE & TIME	VIA	RECEIVED BY	DATE & TIME
	10/10/19 13:00	Fed Ex	Christiana Younger	10-11-2019 9:30am

REQUESTED SERVICES (Please ☑ the Appropriate Boxes)

No.	Sample ID (10 Characters Max)	Sample Description	Volume (Liters)	Volume Area (Length x Width)	Sample Matrix (see matrix code box)	Analysis: Pb	Units (☑ ONE box only): PPM	Wt %	mg / l	µg /ft²	µg / m³	mg / cm²
1	PB #24	Paint chips			B	✓	✓					
2	PB #29	Paint chips			B							
3	PB #33	Paint chips			B							
4	PB #85	Paint chips			B							
5	PB #97	Paint chips			B							
6	PB #121	Paint chips			B							
7	PB #126	Paint chips			B							
8												
9												
10												
11												
12												

Sample Matrix Codes

A	Soil
B	Paint Chips
C	Surface / Dust Wipes
D	Bulk Miscellaneous
E	Air Cassette

TURNAROUND TIME

☐	Same Day
☐	24 - Hour
☐	3 - Day
✓	5 - Day

SATURDAY FEDEX SAMPLE DELIVERY - CALL TO SCHEDULE • Use this address for Saturday Delivery only: 4220 N. Santa Fe Ave., Oklahoma City, OK 73105-8517 • Mark Package "Hold for Saturday Pickup"
Please Note - UPS and USPS are NOT available for Saturday Delivery

Appendix G

Lead Based Paint Certifications and Licenses

Department of Environmental Quality

This is to Certify That

A&M ENGINEERING & ENVIRONMENTAL SERVICES

has met the specifications of the Oklahoma Lead-Based Paint Management Act and is certified as a Lead-Based Paint

FIRM

Certification #: OKFIRM11301

This certificate is valid from the date of issuance and expires as prescribed by law.

Issued on: 4/1/2019 Expires on: 3/31/2020

Division Director
Air Quality Division

Environmental Programs Manager
Air Quality Division

Department of Environmental Quality

This is to Certify That

JEFFREY JENKINS

has met the specifications of the Oklahoma Lead-Based Paint Management Act and is certified as a Lead-Based Paint

INSPECTOR/RISK ASSESSOR

Certification #: OKRASR13417

This certificate is valid from the date of issuance and expires as prescribed by law.

Issued on: 4/1/2019 Expires on: 3/31/2020

Division Director
Air Quality Division

Environmental Programs Manager
Air Quality Division

September 29, 2017

Laboratory ID: 101352

Jeffrey Miekush
QuanTEM Laboratories
2033 Heritage Park Drive
Oklahoma City, OK 73120

Dear Mr. Miekush:

Congratulations! The AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC's Analytical Accreditation Board (AAB) has approved QuanTEM Laboratories as an accredited Industrial Hygiene, Environmental Lead and Environmental Microbiology laboratory.

Accreditation documentation includes the IHLAP, ELLAP and EMLAP accreditation certificate, scope of accreditation document and a copy of the current AIHA-LAP, LLC license agreement (if your completed agreement is not on file at AIHA-LAP, LLC). The accreditation symbol has been designed for use by all AIHA-LAP, LLC accredited laboratories. If your laboratory chooses to use the symbol in its advertising the laboratory's accreditation, you must complete and return the AIHA-LAP, LLC license agreement to a Laboratory Accreditation Specialist. Once submitted, an electronic copy of the accreditation symbol will be sent to you. Please inform us if your laboratory does not wish to use the symbol in advertising.

Laboratory accreditation shall be maintained by continued compliance with IHLAP, ELLAP and EMLAP requirements *(see Policy Modules 2B, 2C, 2D and 6),* which includes proficient participation in AIHA-LAP, LLC approved proficiency testing, demonstration of competency, or round robin program as indicated on the AIHA-LAP "Approved PT and Round Robin" webpage, its associated Scope/PT table, and as required in Policy Module 6, for all Fields of Testing (FoTs) for which the laboratory is accredited. An accredited laboratory that wishes to expand into a new FoT must submit an updated accreditation application to AIHA-LAP, LLC for review by the AAB.

Any changes in ownership, laboratory location, personnel, FoTs/Methods, or significant procedural changes shall be reported to AIHA-LAP, LLC in writing within twenty (20) business days of the change.

The accreditation certificate is the property of AIHA-LAP, LLC and must be returned to us should your laboratory withdraw or be removed from the IHLAP, ELLAP and EMLAP.

Again, congratulations. If you have any questions, please contact Lauren Schnack, Senior Specialist, Quality and Accreditation, at (703) 846-0716.

Sincerely,

Cheryl O. Morton

Cheryl O. Morton
Managing Director
AIHA Laboratory Accreditation Programs, LLC

AIHA Laboratory Accreditation Programs, LLC
3141 Fairview Park Drive, Suite 777, Falls Church, VA 22042 USA
main +1 703-846-0736 *fax* +1 703-207-8558
Twitter: @AIHA_LAP_LLC

AIHA Laboratory Accreditation Programs, LLC

acknowledges that

QuanTEM Laboratories

2033 Heritage Park Drive, Oklahoma City, OK 73120

Laboratory ID: 101352

along with all premises from which key activities are performed, as listed above, has fulfilled the requirements of the AIHA Laboratory Accreditation Programs (AIHA-LAP), LLC accreditation to the ISO/IEC 17025:2005 international standard, *General Requirements for the Competence of Testing and Calibration Laboratories* in the following:

LABORATORY ACCREDITATION PROGRAMS

✓	**INDUSTRIAL HYGIENE**	Accreditation Expires: October 01, 2019
✓	**ENVIRONMENTAL LEAD**	Accreditation Expires: October 01, 2019
✓	**ENVIRONMENTAL MICROBIOLOGY**	Accreditation Expires: October 01, 2019
☐	**FOOD**	Accreditation Expires:
☐	**UNIQUE SCOPES**	Accreditation Expires:

Specific Field(s) of Testing (FoT)/Method(s) within each Accreditation Program for which the above named laboratory maintains accreditation is outlined on the attached **Scope of Accreditation**. Continued accreditation is contingent upon successful on-going compliance with ISO/IEC 17025:2005 and AIHA-LAP, LLC requirements. This certificate is not valid without the attached **Scope of Accreditation**. Please review the AIHA-LAP, LLC website (www.aihaaccreditedlabs.org) for the most current Scope.

William Walsh, CIH
Chairperson, Analytical Accreditation Board

Cheryl O. Morton
Managing Director, AIHA Laboratory Accreditation Programs, LLC

Revision 15: 03/30/2016

Date Issued: 09/29/2017

AIHA Laboratory Accreditation Programs, LLC
SCOPE OF ACCREDITATION

QuanTEM Laboratories
2033 Heritage Park Drive, Oklahoma City, OK 73120

Laboratory ID: **101352**
Issue Date: 09/29/2017

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Industrial Hygiene Laboratory Accreditation Program (IHLAP)

Initial Accreditation Date: 07/01/2011

IHLAP Scope Category	**Field of Testing (FoT)** (FoTs cover all relevant IH matrices)	**Technology sub-type/ Detector**	**Published Reference Method/Title of In-house Method**	**Method Description or Analyte** *(for internal methods only)*
Asbestos/Fiber Microscopy Core	Phase Contrast Microscopy (PCM)		NIOSH 7400	

A complete listing of currently accredited Industrial Hygiene laboratories is available on the AIHA-LAP, LLC website at: http://www.aihaaccreditedlabs.org

AIHA Laboratory Accreditation Programs, LLC
SCOPE OF ACCREDITATION

QuanTEM Laboratories
2033 Heritage Park Drive, Oklahoma City, OK 73120

Laboratory ID: **101352**
Issue Date: 09/29/2017

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

The EPA recognizes the AIHA-LAP, LLC ELLAP program as meeting the requirements of the National Lead Laboratory Accreditation Program (NLLAP) established under Title X of the Residential Lead-Based Paint Hazard Reduction Act of 1992 and includes paint, soil and dust wipe analysis. Air and composited wipes analyses are not included as part of the NLLAP.

Environmental Lead Laboratory Accreditation Program (ELLAP)

Initial Accreditation Date: 01/31/1995

Field of Testing (FoT)	Technology sub-type/ Detector	Method	Method Description *(for internal methods only)*
Paint		EPA SW-846 7000B	
		EPA/600/R-93/200	
Soil		EPA 600/R-93/200	
		EPA SW-846 7000B	
Settled Dust by Wipe		EPA/600/R-93/200	
		NIOSH 9100	
Airborne Dust		EPA/600/R-93/200	
		NIOSH 7082	

A complete listing of currently accredited Environmental Lead laboratories is available on the AIHA-LAP, LLC website at: http://www.aihaaccreditedlabs.org

AIHA Laboratory Accreditation Programs, LLC
SCOPE OF ACCREDITATION

QuanTEM Laboratories
2033 Heritage Park Drive, Oklahoma City, OK 73120

Laboratory ID: **101352**
Issue Date: 09/29/2017

The laboratory is approved for those specific field(s) of testing/methods listed in the table below. Clients are urged to verify the laboratory's current accreditation status for the particular field(s) of testing/Methods, since these can change due to proficiency status, suspension and/or withdrawal of accreditation.

Environmental Microbiology Laboratory Accreditation Program (EMLAP)

Initial Accreditation Date: 09/01/2006

EMLAP Category	Field of Testing (FoT)	Method	Method Description *(for internal methods only)*
Fungal	Air - Direct Examination	MM001	Analysis of Spore Trap Cassettes
	Bulk - Direct Examination	MM005	Analysis of Non-Culturable Bulk Samples
	Surface - Direct Examination	MM002	Microscopic Analysis of Tape-Lift Samples
		MM003	Microscopic Analysis of Non-Culturable Swab Samples

A complete listing of currently accredited Environmental Microbiology laboratories is available on the AIHA-LAP, LLC website at: http://www.aihaaccreditedlabs.org

MEMORANDUM

DATE: October 6, 2020

TO: Tulsa Office Building File

THROUGH: Aron Samwel, Brownfields Manager

FROM: Heather Mallory, Brownfields Revolving Loan Fund Coordinator

RE: Tulsa Office Building, 108 N Trenton Ave, Tulsa, OK

On August 21, 2020, Jennifer McAllister of DEQ's Radiation Management Program collected swipe samples from the stairs leading from the 1st floor to the basement in the Office Building at 108 N Trenton Avenue in Tulsa, Oklahoma. The Office Building is currently vacant and will be redeveloped as city offices following cleanup in the Brownfields Revolving Loan Fund (BRLF) Program.

Swipe samples were collected from the steps leading to the basement. Swipe samples on steps were taken from a 100 cm^2 area on the landing of each of the steps listed in table below. Two samples were taken from each step landing, one dry and one wet sample. No samples were collected from the walls or sides of the steps. A loose piece of non-skid material, formerly attached to the steps, was also collected. The laboratory used the HASL-300 (Health and Safety Laboratory) method of analysis for Gamma Emitting Radionuclides. Laboratory results are attached.

		Sample Type		
Sample Description	**Removable Contamination Limit (dpm/100 cm^2)[1]**	**Wet**	**Dry**	**Result (dpm)**
Step – Top	20		X	34.4
Top Step	20	X		8.45
Step #5	20		X	6.67
Step #6	20	X		0
Step #8	20		X	0
Step #8	20	X		5.12
Step #9	20		X	42.4
Step #9	20	X		0
Step #10	20		X	0
Step #10	20	X		0
Non-Skid Material	20		X	16.1

1 - Removal Contamination Limits found in OAC 252:410 Appendix B

Yellow highlighted results in the table above are exceedances. Dry samples from the Top Step and Step 9 exceeded the Removable Contamination Limit (RCL) levels for Radium-226; however, wet swipe samples from the same step were below the RCL. The average of the wet and dry samples on these steps are well below the RCL.

The DEQ Radiation Management Program could not find a man-made radiation source on the steps leading to the basement, and suspects that the radiation is naturally occurring in the bricks, possibly augmented by radon decay. They advise the owners of the building that natural radiation levels are higher than is typical, but they do not constitute a concern based on meeting the standards and short residence times in the stairwell of building occupants. DEQ Radiation Management recommends taking radon measurements in the building when ventilation is as it would be when occupied.

The Tulsa Office Building will receive a subgrant from the BRLF, and these results and recommendations will be used to determine if cleanup or mitigation is needed to address the low-level radiation in the basement of the building. It is possible that no cleanup or mitigation will be needed.

APPENDIX B

Davis Bacon Compliance

This project incorporates Davis Bacon rules and regulations. The following guidelines apply:

During construction

- Post the Wage Decision and Notice to All Employees. The current Davis Bacon wage determination(s) follow as part of the Bid documents.
- Poster. The Contractor is required to display a copy of the applicable wage decision and Davis-Bacon Poster at the job site. If there is no clear "job site", the poster and wage determination can be posted at the construction trailer or any general location where workers could see it. The poster is provided online at https://www.dol.gov/agencies/whd/posters/dbra.
- Davis Bacon wages. The Contractor will ensure Davis Bacon wages (base and fringe) are paid to all skilled trades and laborers working at the job site by collecting and reviewing weekly payrolls. It is the responsibility of the Contractor's compliance monitor to confirm that the proper wages are paid to all covered workers on the project.
- Provide Weekly Payrolls for all Contractors and Subcontractors. Contractors and subcontractors are required to pay covered workers weekly and submit weekly certified payroll records to the City of Tulsa's Project Manager. DOL has a sample payroll form, but any payroll form can be used as long as it shows the same information. Davis-Bacon wages are minimums; contractors can pay their workers more. It is beneficial if the contractor numbers payrolls with the last payroll identified as final. If there will be a gap of time between weeks on site, contractors should either send a statement noting the time they'll be off-site or send a payroll stating "no work" and document the dates.
- Interview. At least one Davis-Bacon interview will be conducted by the City of Tulsa or its representative in coordination with the Contractor.

After Construction

- Retention Schedule - The City of Tulsa and Contractor are responsible for maintaining the project records and payrolls for three years following the completion of the entire project. Sub-contractors must retain their own personnel files for three years.
- Inspections - The Contractor or subcontractors shall make these required records available for inspection, copying, or transcription by authorized representatives of the City of Tulsa, Environmental Protection Agency or the Department of Labor.

Resources: Basic DOL Davis Bacon information is available online at https://www.dol.gov/agencies/whd/government-contracts/construction

MEMORANDUM

Date: January 31, 2022

To: The Tulsa Office Building File

Through: Aron Samwel, Brownfields Manager A. S.

From: Heather Mallory, Environmental Programs Specialist IV

RE: Davis-Bacon Wage Rates for Tulsa Office Building

The purpose of this memo is to document how I determined the Davis-Bacon wage rates for the Tulsa Office Building (108 N Trenton, Tulsa, OK) asbestos abatement laborers and other applicable laborers or mechanics necessary for the cleanup. I started by searching the U.S. Department of Labor (DOL) website to find wage determinations for asbestos abatement, and none were found. Fortunately, I have a wage decision for asbestos and lead abatement laborers for Oklahoma County from 2017 (Attachment 1). I consulted EPA's Interim Davis Bacon Act Guidance, which prompted me to put together this memo in order to seek EPA approval on the wage rates listed below.

In the attached General Decision Number (OK20220053) for Tulsa County, Oklahoma dated January 7, 2021; the U.S. Department of Labor put several different wages and fringes together for many different classes or laborers (Attachment 2). I have a wage decision for asbestos/lead abatement/remediation laborers of $13.80 per hour with no fringe benefits for the First National Center in Oklahoma County from July 31, 2017 (Attachment 1). Additionally, the International Agreement for Removal of Asbestos-Containing Materials indicates that DOL classifies asbestos abatement laborers as "workers who remove asbestos for the purpose of scrapping" and considers them "laborers" (Attachment 3).

I believe the wage rate of $13.80 per hour for asbestos/lead abatement laborers is still valid, because it is higher than the wage rate for common laborers listed in General Decision Number OK20220053. I found the other wage rates below in the General Decision Number OK20220053 for Tulsa County dated January 7, 2021 (Attachment 2).

The following wage rates were put together for the Tulsa Office Building. It should be noted that some of these laborers may not be needed for the Tulsa Office Building abatement of asbestos, lead-based paint, and low-level radiation. General Decision Number OK20220053 (Attachment 2) contains many more wages and fringes for various laborers, so it will be consulted for other wage rates as needed for the project.

Prevailing wage rates for laborers at Tulsa Office Building in Tulsa, Oklahoma:

Classification	Hourly Rate/	Fringes
Laborer: Asbestos/Lead Abatement/Remediation	$13.80/	$0.00
Laborer: Electrician (excludes low voltage wiring and installation of alarms, sound, & communication systems)	$32.38/	7%+$10.15
Laborer: Electrician (low voltage wiring)	$20.65/	$3.06
Laborer: Common or General	$12.44/	$2.71

Attachments:

1) U.S. Department of Labor First National Center Wage Decision
2) U.S. Department of Labor General Decision Number OK20220053
3) U.S. Department of Labor International Agreement

ATTACHMENT 1

U.S. Department of Labor

Wage and Hour Division
Washington, D.C. 20210

JUL 31 2017

Ms. Mary Kemp
Team Leader
EPA Region 6
Fountain Place 12th Floor, Suite 1200
1445 Ross Avenue
Dallas, TX 75202-2733
Kemp.mary@Epa.gov
dchesnut@environmentalactioninc.com

RE: Project: First National Center
Wage Decision No.: OK170049 MOD 5
Location: Oklahoma County, Oklahoma
WHD Number: 5545

Dear Ms. Kemp:

This is in response to your request proposing the addition of a classification and wage rate to the above wage decision in accordance with 29 CFR 5.5(a)(1)(ii).

Proposed Classification	Proposed Hourly Rate	Fringe Benefits
Laborer: Asbestos/Lead Abatement/Remediation	$13.80	$0.00

The above conformed classification and wage rate is approved and shall be paid to all workers performing work in this classification under this contract from the first day on which work is performed.

If you have any questions or concerns regarding this conformance request, please contact Ms. Jamie Conyers at (202) 693-0400 or conyers.jamie@dol.gov.

Sincerely,

Amanda Herrmann

Amanda Herrmann
Section Chief
Branch of Construction Wage Determinations
202-693-0158
Herrmann.amanda@dol.gov

ATTACHMENT 2

Firefox

"General Decision Number: OK20220053 01/07/2022

Superseded General Decision Number: OK20210053

State: Oklahoma

Construction Type: Building
Building Construction -does not include residential construction consisting of single family homes and apartments up to and including 4 stories. (Including building projects on industrial sites and treatment plants)

County: Tulsa County in Oklahoma.

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022, Executive Order 14026 generally applies to the contract. The contractor must pay all covered workers at least $15.00 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2022.

If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022, Executive Order 13658 generally applies to the contract. The contractor must pay all covered workers at least $11.25 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2022.

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker

1 of 8

protections under the Executive Orders is available at
www.dol.gov/whd/govcontracts.

Modification Number | Publication Date
0 | 01/07/2022

BROK0005-004 06/01/2021

	Rates	Fringes
BRICKLAYER	$ 25.92	11.89

ELEC0584-006 06/01/2021

	Rates	Fringes
ELECTRICIAN (Excludes Low Voltage Wiring and Installation of Alarms and Sound and Communication Systems)	$ 32.38	7%+10.15

ELEV0083-003 01/01/2021

	Rates	Fringes
ELEVATOR MECHANIC	$ 43.43	35.83

PAID HOLIDAYS:

a. New Year's Day, Memorial Day, Independence Day, Labor Day, Veteran's Day, Thanksgiving Day, the Friday after Thanksgiving, and Christmas Day.

b. Employer contributes 8% of regular hourly rate to vacation pay credit for employee who has worked in business more than 5 years; 6% for less than 5 years' service.

* ENGI0627-020 10/15/2021

	Rates	Fringes
POWER EQUIPMENT OPERATOR:		
Group 1	$ 32.05	14.30
Group 2	$ 30.35	14.30
Group 3	$ 29.80	14.30
Group 4	$ 29.00	14.30

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     Group 8.....................$ 24.45            14.30
     Group10.....................$ 23.00            14.30

POWER EQUIPMENT OPERATOR
  GROUP 1: All Crane Type Equipment 200 ton and larger and
  including 400 ton capacity cranes. All Tower Cranes.

  GROUP 2: All Crane Type Equipment 100 ton capacity and larger
  cranes, and less than 200 ton capacity.

  GROUP 3: All Crane Type Equipment 50 ton capacity and larger
  cranes, and less than 100 ton capacity. Crane Equipment (as
  rated by mfg.) 3 cu. yd. and over Guy derrick Whirley Power
  Driven Hole Digger (with 30' and longer mast).

  GROUP 4: CRANES with Boom Incl. Jib less than 100 ft and less
  than 3 cu. Yd.; Overhead Monorail Crane

GROUP 8: FORK-LIFT
GROUP 10:OILER; SEMI-TRAILER TRUCK DRIVER

----------------------------------------------------------------
 IRON0584-025 06/01/2019

                                  Rates          Fringes

IRONWORKER (Ornamental,
Reinforcing and Structural)......$ 26.00            15.35
----------------------------------------------------------------
 PLUM0430-010 07/01/2021

                                  Rates          Fringes

PLUMBER (Excludes HVAC Pipe
and Unit Installation)...........$ 32.85            14.08
----------------------------------------------------------------
 PLUM0430-019 10/01/2020

                                  Rates          Fringes

HVAC MECHANIC (Installation
of HVAC Unit Only, Excludes
Installation of HVAC Pipe and
Duct)............................$ 32.25            13.98
----------------------------------------------------------------
 PLUM0430-020 07/01/2021

                                  Rates          Fringes
```

PIPEFITTER (Including HVAC
Pipe Installation, excluding
HVAC Unit Installation).....$ 32.85 14.08

ROOF0143-001 07/01/2021

	Rates	Fringes
ROOFER	$ 22.65	9.30

SHEE0270-006 06/01/2020

	Rates	Fringes
SHEET METAL WORKER (HVAC Duct Installation Only)	$ 35.49	14.60

SUOK2012-033 07/30/2012

	Rates	Fringes
CARPENTER (Drywall Hanging Only)	$ 15.08	1.21
CARPENTER, Excludes Drywall Hanging, and Form Work	$ 14.96	1.55
CAULKER	$ 20.00	1.61
CEMENT MASON/CONCRETE FINISHER	$ 13.72	1.27
DRYWALL FINISHER/TAPER	$ 13.00	0.00
ELECTRICIAN (Alarm Installation)	$ 19.48	3.34
ELECTRICIAN (Low Voltage Wiring)	$ 20.65	3.06
ELECTRICIAN (Sound and Communications Systems Installation)	$ 21.11	2.47
FORM WORKER	$ 12.69	0.38
LABORER: Common or General	$ 12.44	2.71
LABORER: Mason Tender - Brick	$ 12.43	0.00

LABORER: Mason Tender -
Cement/Concrete.....$ 13.00 1.91

LABORER: Pipelayer.....$ 12.39 0.00

OPERATOR: Asphalt Paver.....$ 16.25 0.00

OPERATOR:
Backhoe/Excavator/Trackhoe.....$ 16.96 4.22

OPERATOR: Bulldozer.....$ 21.07 2.48

OPERATOR: Grader/Blade.....$ 14.28 1.70

OPERATOR: Loader (Front End)....$ 16.18 0.00

PAINTER: Brush, Roller and
Spray, Excludes Drywall
Finishing/Taping.....$ 12.22 0.00

SHEET METAL WORKER, Excludes
HVAC Duct Installation.....$ 22.11 4.93

SPRINKLER FITTER (Fire
Sprinklers).....$ 21.86 1.19

TRUCK DRIVER: Dump and
Flatbed Truck.....$ 11.00 0.00

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

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Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic

violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of ""identifiers"" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union, which prevailed in the survey for this classification, which in this example would be Plumbers 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all

rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

* an existing published wage determination
* a survey underlying a wage determination
* a Wage and Hour Division letter setting forth a position on a wage determination matter
* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Division National Office Branch of Wage Surveys. If the response from this initial contact is not satisfactory, then

the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION"

ATTACHMENT 3

U. S. Department of Labor
Employment Standards Administration
Wage and Hour Division
525. S. Griffin Street, Suite 800
Dallas, TX 75202-5007
FAX: 972 850 2601

DATE: 15 Mar 2012 Fax Number: 405 702 5101

TO: Savannah Richards
Phone: 405 702 5134

FROM: RACHEL GUERRERO Phone No. 972 850 2625

Sorry for the delay.

Attached is letter regarding work of removal of asbestos –containing materials.

For future submissions of conformances, the analyst that would receive request in Washington, D. C.: Marcel Lorincz 202 693 1187

INTERNATIONAL AGREEMENT
FOR REMOVAL OF ASBESTOS-CONTAINING MATERIALS

This Agreement is entered into between the International Association of Heat and Frost Insulators and Asbestos Workers and the Laborers' International Union of North America, to prevent jurisdictional disputes with reference to the removal of all asbestos-containing materials and to insure that both trades receive their fair equity of this type of work.

It is expressly understood and agreed that this Agreement will be applicable only within the jurisdiction of the two signatory International Unions.

It is mutually agreed that in accordance with this Memorandum of Understanding, the work listed below shall be performed accordingly:

1. The removal of all insulation materials, whether they contain asbestos or not, from mechanical systems (pipes, boilers, ducts, flues, breechings, etc.) is recognized as being the exclusive work of the Asbestos Workers.

2. On all mechanical systems (pipes, boilers, ducts, flues, breechings, etc.) that are going to be scrapped, the removal of all insulating materials whether they contain asbestos or not shall be the exclusive work of the Laborers.

3. The removal of all asbestos-containing materials from walls, ceilings, floors, columns and all other non-mechanical structures and surfaces, etc., is recognized as being the exclusive work of the Laborers.

4. The term "removal" as used in this Agreement shall not include the sealing, labeling and dropping of scrap material into the appropriate containers. After drop, final disposal shall be the work of the Laborers.

5. The loading at the designated area of all materials that have been removed, bagged and tagged, as well as cleanup and all unloading, burying and other work required at the disposal site is recognized as being the exclusive work of the Laborers.

Any dispute or controversy arising out of the application or interpretation of this Agreement shall be settled as follows:

1. The Local Union Business Representatives of the respective organizations shall use every effort to arrive at an equitable settlement at the jobsite.

2. Failing to resolve the dispute as described in the above Section 1, both Local Union Business Representatives shall state their positions and claims in writing to their respective International Unions, which shall promptly assign International Representatives to investigate and resolve the dispute in accordance with this Agreement.

3. If International Representatives fail to adjust any dispute in accordance with this Agreement, said dispute shall be referred to the offices of the General Presidents.

There shall be no work stoppage on the job, either prior to or during the period awaiting a settlement.

SIGNED AND AGREED UPON on this 17 day of APR., 1985.

FOR: INTERNATIONAL ASSOCIATION OF HEAT AND FROST INSULATORS AND ASBESTOS WORKERS

Andrew T. Haas

ANDREW T. HAAS, GENERAL PRESIDENT

William B. Bernard

WILLIAM BERNARD, GENERAL SECRETARY-TREASURER

FOR: LABORERS' INTERNATIONAL UNION OF NORTH AMERICA

Angelo Fosco

ANGELO FOSCO, GENERAL PRESIDENT

Arthur E. Cola

ARTHUR E. COLA, GENERAL SECRETARY-TREASURER