Jensen Elementary
6301 Aurora Avenue
Urbandale, IA 50322

REQUEST FOR PROPOSAL

Enclosed is the Project Design for an asbestos abatement project at Jensen Elementary, Urbandale, Iowa. A walk-through will be held on September 4, 2024, at 10:00 A.M. Abatement Contractors must attend the meeting to submit a proposal on the project. Questions concerning the asbestos abatement project should be directed to:

Jeff Moats
Project Coordinator
Iowa Environmental Services
11101 Aurora Avenue
Urbandale, Iowa 50322
E-mail: Jeffm@IESIOWA.com
Tele: 515-279-8042

RFPs are due by 1:00 PM on **September 11, 2024. All bids should be sealed and labeled Jensen - Asbestos Abatement**

Bids should be sent to :

Steve Richman
11152 Aurora Ave
Urbandale, Iowa 50322

Please use the attached Forms.

ASBESTOS ABATEMENT PROJECT DESIGN

Jensen Elementary School
6301 NW Aurora Ave
Urbandale, IA 50322

Prepared By:

IOWA ENVIRONMENTAL SERVICES Inc.

11101 Aurora Avenue, Urbandale Iowa 50322
PHONE: 515-279-8042 FAX: 515-279-1853
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Introduction

This Specification of Work covers only the procedures to be used for the abatement of asbestos containing material. It does not cover the following items:

1. Any work that may involve the structure or structural integrity of the building in which the abatement project takes place.
2. Specifications of any replacement fixtures for the building. These may be included in the project, but types, etc., are to be negotiated with the Owner.

This Project Design was prepared by:

Rich Soyer

PD # 23-10461

08/29/24
Date

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ASBESTOS ABATEMENT

PART 1 - GENERAL

1.01 SCOPE

A. This specification covers the removal, cleanup and disposal of asbestos containing materials (ACM) in the Jensen Elementary School. An estimate of the amount of ACM to be removed is given, however, the determination of the actual amounts, for bidding purposes, is the responsibility of the Contractor. By submitting a bid, the Contractor acknowledges that he has investigated and satisfied himself as to:
   1. The conditions affecting the work, including, but not limited to, physical conditions of the site which may affect site access, handling and storage of tools and materials, access to water, electricity or other utilities, or otherwise affect performance of required activities.
   2. The character and quantity of all surface and subsurface materials or obstacles to be encountered as far as this information is reasonably ascertainable from an inspection of the site, including exploratory work done by the Building Owner or a designated consultant, as well as information presented in drawings and specifications included with this Contract. Any failure by the Contractor to acquaint himself with available information will not relieve him from the responsibility for estimating properly the difficulty or cost of successfully performing the work. The Building Owner is not responsible for any conclusions or interpretations made by the Contractor on the basis of the information made available by the Building Owner.
   3. The ACM is in the form of floor tile, floor mastic, caulk, window glazing, adhesive and foundation waterproofing. An estimate of the amount and locations of ACM are attached to the project design:

B. Time Schedule
   Successful; contractor will coordinate schedule with the owner. This completion date includes clearance air sampling and analysis and project cleanup. The contractor must consider this when scheduling the project.

1.02 DESCRIPTION

A. The Work specified herein shall be the removal of asbestos containing materials by competent persons trained, knowledgeable and qualified in the techniques of abatement, handling and disposal of asbestos containing and asbestos contaminated materials and the subsequent cleaning of contaminated areas, who comply with all applicable Federal, State and local regulations and are capable of, and willing to perform, the Work of this Contract.
B. The Contractor shall supply all labor, materials, services, insurance, permits, licenses, patents, and equipment necessary to carry out the work in accordance with all applicable Federal, State and local regulations and these Specifications.
C. The Contractor is responsible for restoring the work area and auxiliary areas utilized during the abatement to conditions at least equal to original conditions. (This responsibility is waived for demolition projects.) Any damages caused during the performance of abatement activities shall be repaired by the Contractor (e.g., paint peeled off by barrier tape, nail holes, water damage, broken glass) at no additional expense to the Owner.

1.03 RELATED WORK

Pipe and Equipment Insulations: See 2.01 ©.

1.04 DEFINITIONS

A. Abatement - Procedures to control fiber release from asbestos containing materials. Includes removal, encapsulation, enclosure, repair, demolition and renovation activities.
B. Airlock - A system for permitting ingress and egress with minimum air movement between a contaminated area and an uncontaminated area, typically consisting of two curtained doorways separated by a distance of at least 3 feet such that one passes through one doorway into the airlock, allowing the doorway sheeting to overlap and close off the opening before proceeding through the second doorway, thereby preventing flow- through contamination.
C. Air monitoring - The process of measuring the fiber content of a known volume of air collected during a specified period of time. The procedure normally utilized for asbestos follows the NIOSH Standard Analytical Method for Asbestos in Air Method 7400. For clearance air monitoring, electron microscopy methods may be utilized for lower detectability and specific fiber identification.

D. Air sampling professional - The professional contracted or employed by the Owner to supervise and/or conduct air monitoring and analysis schemes. This individual shall not be affiliated in any way other than through this Contract with the Contractor performing the abatement work.
E. Amended water - Water to which a surfactant has been added.
F. Asbestos - The asbestiform varieties of serpentine (chrysotile), rie beckite (crocidolite), cummingtonite-grunerite (amosite), anthrophyllite, actinolite and tremolite.
G. Asbestos containing material (ACM) - Material composed of asbestos of any type and in an amount greater than 1% by weight, either alone or mixed with other fibrous or nonfibrous materials.
H. Asbestos containing waste material - asbestos containing material or asbestos contaminated objects requiring disposal.
I. Authorized visitor - The Owner, Engineer and any representative of a regulator
J. Certified Industrial Hygienist (CIH) - An industrial hygienist certified in Comprehensive Practice by the American Board of Industrial Hygiene.
K. Clean room - An uncontaminated area or room which is part of the worker decontamination enclosure system with provisions for storage of worker's street clothes and clean protective equipment.
L. Curtained doorway - A device to allow ingress or egress from one room to another while permitting minimal air movement between the rooms, typically constructed by placing two overlapping sheets of plastic over an existing or temporarily framed doorway, securing each along the top of the doorway, securing the vertical edge of one sheet along one vertical side of the doorway and securing the vertical edge of the other sheet along the opposite vertical side of the doorway. Other effective designs are permissible.
M. Decontamination enclosure system - A series of connected rooms, separated from the work area and from each other by air locks, for the decontamination of workers and equipment.
N. Encapsulant - A liquid material which can be applied to asbestos containing material which controls the possible release of asbestos fibers from the material either by creating a membrane over the surface (bridging encapsulant) or by penetrating into the material and binding its components together (penetrating encapsulant).
O. Encapsulation - The application of an encapsulant to asbestos containing materials to control the release of asbestos fibers into the air.
P. Enclosure - The construction of an air tight, impermeable, permanent barrier around asbestos containing material to control the release of asbestos fibers into the air.
Q. Equipment decontamination enclosure system - That portion of a decontamination enclosure system designed for controlled transfer of materials and equipment into or out of the work area, typically consisting of a washroom and holding area.
R. Equipment room - A contaminated area or room which is part of the worker decontamination enclosure system with provisions for storage of contaminated clothing and equipment.
S. Facility - Any institutional, commercial or industrial structure, installation or building.
T. Facility component - Any pipe, duct, boiler, tank, reactor, turbine or furnace at or in a facility or any structural member of a facility.
U. Fixed object - A piece of equipment or furniture in the work area which cannot be removed from the work area.
V. Friable asbestos - Asbestos containing material which can be crumbled to dust, when dry, under hand pressure.
W. Glovebag technique - A method with limited applications for removing small amounts of friable asbestos containing material from HVAC ducts, short piping runs, valves, joints, elbows, and other nonplanar surfaces in a noncontained (plasticized) work area. The glovebag assembly is a manufactured or fabricated device consisting of a glovebag (typically constructed of 6 mil transparent polyethylene or polyvinylchloride plastic), two inward projecting long sleeves, an internal tool pouch, and an attached, labeled receptacle for asbestos waste. The glovebag is constructed and installed in such a manner that it surrounds the object or material to be removed and contains all asbestos fibers released during the process. All workers who are permitted to use the glovebag technique must be highly trained, experienced and skilled in this method.
X. HVAC - heating, ventilation and air conditioning system.
Y. HEPA filter - A high efficiency particulate air filter capable of removing particles 0.3 microns in diameter with 99.97% efficiency.
Z. HEPA vacuum - A vacuum system equipped with HEPA filtration.
AA. Holding area - A chamber in the equipment decontamination enclosure located between the washroom and an uncontaminated area. The holding area comprises an airlock.
BB. Initial Cleaning - Preclean all surfaces in the work area using HEPA filtered vacuums and/or wet cleaning methods as appropriate. Do not use any methods that would raise dust such as dry sweeping or vacuuming with equipment not equipped with HEPA filters. Do not disturb asbestos containing materials during the precleaning phase.

Preclean all moveable objects within the work area using a HEPA filtered vacuums and/or wet cleaning methods as appropriate. After cleaning, these objects shall be removed from the work area and carefully stored in an uncontaminated location. (This includes light fixtures)

Preclean all fixed objects in the work area using HEPA filtered vacuums and/or wet cleaning techniques as appropriate. After precleaning, enclosed fixed objects in 4 mil polyethylene sheeting and seal securely in place with tape.

CC. Movable object - A piece of equipment or furniture in the work area which can be removed from the work area.

DD. Negative pressure ventilation system - A portable exhaust system equipped with HEPA filtration and capable of maintaining a constant low velocity air flow into contaminated areas from adjacent uncontaminated areas.

EE. NESHAPS - The National Emission Standards for Hazardous Air Pollutants (40 CFR Part 61).

FF. Outside air - The air outside buildings and structures.

GG. Plasticize - To cover floors and walls with plastic sheeting as herein specified.

HH. Prior experience - Experience required of the Contractor on asbestos projects of similar nature and scope to ensure capability of performing the asbestos abatement in a satisfactory manner. Similarities shall be in areas related to material composition, project size, abatement methods required, number of employees, work practice and personal protection controls required.

II. Removal - The stripping of any asbestos containing materials from surfaces or components of a facility.

JJ. Renovation - Altering in any way one or more facility components. Operations in which load supporting structural members are wrecked or taken out are excluded.

KK. Shower room - A room between the clean room and the equipment room in the worker decontamination enclosure with hot and cold or warm running water controllable at the tap and suitably arranged for complete showering during decontamination.

LL. Staging area - Either the holding area or some area near the waste transfer airlock where containerized asbestos waste has been placed prior to removal from the work area.

MM. Strip - To take off friable asbestos materials from any part of a facility.

NN. Structural member - Any load supporting member of a facility, such as beams and load supporting walls or any member which is not load supporting, such as ceilings and walls which are not load supporting.

OO. Surfactant - A chemical wetting agent added to water to improve penetration.

PP. Visible emissions - Any emissions containing particulate asbestos material that are visually detectable without the aid of instruments. This does not include condensed uncombined water vapor.

QQ. Waste transfer airlock - A decontamination system utilized for transferring containerized waste from inside to outside of the work area.

RR. Wet cleaning - The process of eliminating asbestos contamination from building surfaces and objects by using cloths, mops, or other cleaning utensils which have been dampened with water and afterwards thoroughly decontaminated or disposed of as asbestos contaminated waste.

SS. Work area - Designated rooms, spaces, or areas of the project in which asbestos abatement actions are to be undertaken or which may become contaminated as a result of such abatement actions. A contained work area is a work area which has been sealed, plasticized, and equipped with a decontamination enclosure system. A noncontained work area is an isolated or controlled access work area which has not been plasticized nor equipped with a decontamination enclosure system.

TT. Worker decontamination enclosure - A decontamination system consisting of a clean room, a shower room, and an equipment room separated from each other and from the work area by airlocks and curtained doorways. This system is used for all worker exits and exists in the work area and for equipment and waste pass out for small jobs.

1.05 APPLICABLE STANDARDS AND GUIDELINES

A. All work under this Contract shall be done in strict accordance with all applicable Federal, State, and Local regulations, standards, and codes governing asbestos abatement and any other trade work done in conjunction with the abatement.

B. The most recent edition of any relevant regulation, standard, document or code shall be in effect. Where conflict among the requirements or with these Specifications exists, the most stringent requirements shall be utilized.

C. Specific requirements:
   1. Title 29, Code of Federal Regulations, Sections 1910.1001, 1910.134, 1910.2, 1910.1200 and 1926.58. Occupational Safety and Health Administration (OSHA), U.S. Department of Labor.
   2. Title 40, Code of Federal Regulations, Part 61, Subparts A and M, National Emission Standards for Hazardous Air Pollutants. U.S. Environmental Protection Agency (EPA).
   3. Title 40, Code of Federal Regulations, Part 763, Subparts E and G, Asbestos Abatement Project.

4. Chapter 88B of the Code of Iowa, Removal or Encapsulation of Asbestos.
5. Chapter 81 of the Iowa Administrative Code, Asbestos Control Procedures, Iowa Bureau of Labor.
6. Iowa Bureau of Labor Guidelines for removal of nonfriable ACM, e.g. floor tile, roofing, etc.

1.1 QUALITY ASSURANCE

A. Bidders must be licensed as required by the Iowa Bureau of Labor and the Iowa Department of Education for the purpose of removal, encapsulation, enclosure, demolition, and maintenance of structures or components covered by or composed of asbestos containing materials.

B. Bidders shall demonstrate prior experience on asbestos abatement projects of similar nature and scope through the submission of letters of reference from the Owners including the name, address, and telephone numbers of contact person (someone specifically familiar with the Contractor's work) for at least three (3) previous users of service.

C. Bidders shall submit a notarized statement, signed by an officer of the Company, containing the following information:
   1. A record of any citations issued by Federal, State, or Local regulatory agencies relating to asbestos abatement activity. Include projects, dates, and resolutions.
   2. A list of penalties incurred through noncompliance with asbestos abatement project specifications including liquidated damages, overruns in schedule time limitations, and resolutions.
   3. Situations in which an asbestos related contract has been terminated including projects, dates, and reasons for terminations.
   4. A listing of any asbestos related legal proceedings/ claims in which the Contractor (or employees scheduled to participate in this project) have participated or are currently involved. Include descriptions of role, issue and resolution to date.
   5. The Owner reserves the right to reject bids for any reason that serves the best interests of the Owner or building occupants. The Owner also reserves the right to waive any technicality or irregularity in a bid. Failure to submit requested information/documentation can result in automatic disqualification of bid package.

1.2 SUBMITTALS AND NOTICES

A. Preabatement
   1. Provide owner with a copy of written notification to Federal and State agencies.
   2. Submit the location of the landfill to be used for disposal of the ACM.
   3. Submit a list of all personnel who will be involved in the abatement activity including, supervisors, workers, and any other personnel or agent who may be responsible for any aspect of the abatement activities. The list shall include all personnel's Asbestos Abatement Certification numbers and expiration date. No personnel may be on-site if not certified.
   4. Submit documentation from a physician that all employees or agents have been medically monitored to determine whether they are physically capable of working while wearing the respirator required without suffering adverse health effects.
   5. Submit documentation of respirator fit testing for all employees and agents who must enter the work area. Document NIOSH approval of all respiratory protective devices utilized on-site.
   6. Submit shop drawings for layout and construction of decontamination enclosure systems and barriers for isolation of the work areas detailed in this Specification and required by applicable regulations if necessary.
   7. Submit a list of equipment for this project available for asbestos work.
   8. With the Owner or Owner's representative, inspect the premises wherein all abatement and abatement related activities will occur and submit a statement signed by both, agreeing on building and fixture condition prior to the commencement of the work.
   9. Submit manufacturer's certification that HEPA vacuums, negative pressure ventilation units, and other local exhaust ventilation equipment conform to ANSI Z9.2-79.
   10. When rental equipment is to be used in abatement areas or to transport asbestos contaminated waste, a written notification concerning intended use of the rental equipment must be provided to the rental agency with a copy submitted to the Owner.

B. During abatement activities:
   1. Submit, as required by the Owner, job progress reports detailing abatement activities.
   2. Submit copies of all transport manifests, trip tickets and disposal receipts for all asbestos waste materials removed from the work area during the abatement process.

3. Submit daily copies of work site entry log books with information on worker and visitor access. This must include the names and certification numbers and an outline of work accomplished by those who enter.
4. Submit a signed certificate stating where initial cleaning was completed as required in this specification.
5. Submit logs documenting filter changes on respirators, HEPA vacuums, negative pressure ventilation units, and other engineering controls.
6. Submit results of materials testing conducted during the abatement for purposes of utilization during abatement activities (e.g., testing of encapsulant for depth of penetration, testing of substitute materials for adherence to encapsulated surfaces).
7. Submit analysis results of personal air samples taken in the work area. The Contractor is responsible for collecting the air samples, both 8 hour TWA and 30 minute excursion, and the cost of sample analysis.
8. Post in the clean room area of the worker decontamination enclosure:
9. A list containing the names, addresses, and telephone numbers of the Contractor, the Owner, the Engineer, the General Superintendent, the Air Sampling Professionals, the testing laboratory and any other personnel who may be required to assist during abatement activities.
10. A copy of all applicable asbestos regulations.
11. A log book to record names of all personnel who enter the work area.
12. A copy of emergency procedures.
13. Telephone numbers of all emergency personnel and principals for this abatement project.

- The project will not be considered completed until all submittals are received by the owner. This will affect payment for the project.

1.3 SITE SECURITY

A. The work area is to be restricted only to authorized, trained, and protected personnel. These may include the Contractor's employees, employees of Subcontractors, Owner employees and representatives, state and local inspectors and any other designated individuals.
B. Entry into the work area by unauthorized individuals shall be reported immediately to the Owner by the Contractor.
C. A log book shall be maintained in the clean room area of the worker decontamination system. Anyone who enters the work area must record name, affiliation, time in and time out for each entry.
D. Access to the work area shall be through a single worker decontamination system. All other means of access (doors, windows, hallways, etc.) shall be blocked or locked so as to prevent entry to or exit from the work area. The only exceptions for this rule are the waste pass out airlock which shall be sealed except during the removal of containerized asbestos waste from the work area, and emergency exits in case of fire or accident. Emergency exits shall not be locked from the inside, however, they shall be sealed with polyethylene sheeting and tape until needed.
E. The Contractor shall have control of site security during abatement operations whenever possible, in order to protect work efforts and equipment.
F. Contractor will have Owner's assistance in notifying building occupants of impending activity and enforcement of restricted access by Owner's employees.

1.4 EMERGENCY PLANNING

A. Emergency planning shall be developed prior to abatement initiation and agreed to by Contractor and Owner.
B. Everyone prior to entering the work area must read and sign these procedures to acknowledge receipt and understanding of work site layout, location of emergency exits and emergency procedures.
C. Emergency planning shall include written notification of police, fire, and emergency medical personnel of planned abatement activities, work schedule, and layout of work area, particularly barriers that may affect response capabilities.
D. Emergency planning shall include considerations of fire, explosion, toxic atmospheres, electrical hazards, slips, trips and falls, confined spaces, and heat related injury. Written procedures shall be developed and employee training in procedures shall be provided.
E. Employees shall be trained in evacuation procedures in the event of work place emergencies.
    1. For nonlife threatening situations - Employees injured or otherwise incapacitated shall decontaminate following normal procedures with assistance from fellow workers if necessary, before exiting the work place to obtain proper medical treatment.
    2. For life threatening injury or illness - *worker decontamination shall take least priority after measures to stabilize the injured worker, remove him from the work place, and secure proper medical treatment.

PART 2 - MATERIALS AND EQUIPMENT

2.01 MATERIALS

A. General
   1. Deliver all materials in the original packages, containers, or bundles bearing the name of the manufacturer and the brand name.
   2. Store all materials subject to damage off the ground, away from wet or damp surfaces, and under cover sufficient enough to prevent damage or contamination.
   3. Damaged, deteriorating or previously used materials shall not be used and shall be removed from the work site and disposed of properly.
   4. Polyethylene sheeting for walls and stationary objects shall be a minimum of 4 mil thick. For floors and all other sheeting of at least 6 mil thickness shall be used in widths selected to minimize the frequency of joints.
   5. Tape - Duct, glass fiber, or other type capable of sealing adjacent sheets of polyethylene and capable of sealing polyethylene to dissimilar finished or unfinished surfaces under both wet and dry conditions including the use of amended water.
   6. Polyethylene sheeting utilized for worker decontam- ination enclosure shall be opaque white or black in color.
   7. Disposal bags shall be of 6 mil polyethylene, preprinted with labels as required by EPA or OSHA.
   8. Disposal drums shall be metal or fiberboard with locking ring tops.
   9. Stick on labels as per EPA or OSHA requirements.
   10. Warning signs as required by OSHA.

B. Removal
   1. Surfactant (wetting agent) shall be a 50/50 mixture of polyoxyethylene ether and polyoxyethylene ester, or equivalent, mixed in a proportion of 1 fluid ounce to 5 gallons of water or as specified by manufacturer. Where work area temperature may cause freezing of the amended water solution, the addition of ethylene glycol in amounts sufficient to prevent freezing is permitted.
   2. Encapsulates shall be bridging or penetrant types. The encapsulant shall not be solvent based or utilize a vehicle consisting of hydrocarbons. The material shall not be flammable.

C. Replacement materials
   1. Reinsulation - all materials used to reinsulate must be asbestos free. The actual material used must be arranged with the Owner.

2.02 EQUIPMENT

A. General
   1. A sufficient quantity of negative pressure ventilation units equipped with HEPA filtration and operated in accordance with ANSI 29.2-79 (local exhaust ventilation requirements) and EPA guidance document EPA 560/5-85-024 Guidance for Controlling Asbestos containing Materials in Buildings, Appendix J: "Recommended Specifications and Operating Procedures for the Use of Negative Pressure Systems for Asbestos Abatement," shall be utilized to provide one work place air change every 15 minutes or a static pressure within the work area of at least -0.02 inches of water. These ventilation units must be commercially produced units and not self manufactured.

B. The Contractor shall furnish a copy of their calculations to obtain this air flow or static pressure if requested by the Owner.

C. If air-supplied respirators are utilized, estimate the volume of supplied air and add to work place air volume when calculating ventilation requirements. For small enclosures a HEPA filtered vacuum system may be utilized to provide negative air pressure.
   1. Powered air purifying respirators equipped with HEPA filters and full facepieces or respirators with a higher NIOSH assigned protection factor will be required. A sufficient supply of charged replacement batteries and filters and a flow test meter shall be available in the clean change area for use with powered air purifying respirators. Air purifying respirators with dual high efficiency (HEPA) filters may be utilized during work area preparation activities. Spectacle kits and eyeglasses must be provided for employees who wear glasses and who must wear full facepiece respirators. Respirators shall be provided that have been tested and approved by the National Institute of Occupational Safety and Health for use in asbestos contaminated atmospheres.

2. Type “C” air-supplied respirators in positive pressure or pressure demand mode with full facepieces and HEPA filtered disconnect protection are recommended by the U.S. EPA for all full shift abatement work until the successful completion of final clearance air monitoring. Compressed air systems shall be designed to provide air volumes and pressures to accommodate respirator manufacturer’s specifications. The compressed air systems shall have a receiver of adequate capacity to allow escape of all respirator wearers from contaminated areas in the event of compressor failure.

D. Full body disposable protective clothing, including head, body and foot coverings (unless using footwear as described in Section 2.02 (A)(6) consisting of material impenetrable by asbestos fibers (Tyvek or equivalent) shall be provided to all workers and authorized visitors in sizes adequate to accommodate movement without tearing.
   1. Additional safety equipment (e.g., hard hats, eye protection, safety shoes meeting the applicable ANSI Standard, disposable PVC gloves) as necessary, shall be provided to all workers and authorized visitors.
   2. Nonskid footwear shall be provided to all abatement workers. Disposable clothing shall be adequately sealed to the footwear to prevent body contamination.
   3. If launderable clothing is to be worn underneath disposable protective clothing, it shall be provided by the Contractor to all abatement workers.
   4. A sufficient supply of disposable mops, rags and sponges for work area decontamination shall be available.
   5. Mobile radios, telephones, etc. as required by the project will be provided by the contractor.

E. Removal Equipment
   1. Sufficient supply of scaffolds, ladders, lifts and hand tools shall be provided as needed.
   2. Sprayers with pumps capable of providing 500 pounds per square inch (psi) at the nozzle tip at a flow rate of 2 gallons per minute for spraying amended water.
   3. Rubber dustpans and rubber squeegees shall be provided for cleanup.
   4. Brushes utilized for removing loose asbestos containing material shall have nylon or fiber bristles, not metal.
   5. A sufficient supply of HEPA filtered vacuum systems shall be available during cleanup.

PART 3 - EXECUTION

3.01 PREPARATION

A. General
1. Post caution signs meeting the specifications of OSHA 29 CFR 1910.1001 (j)(1)(ii) at any location and approaches to a location where airborne concentrations of asbestos may exceed ambient background levels. Signs shall be posted at a distance sufficiently far enough away from the work area to permit an employee to read the sign and take the necessary protective measures to avoid exposure. Additional signs may need to be posted following construction of workplace enclosure barriers.
2. Shut down and lock out electric power to all work areas. Provide temporary power and lighting. Ensure safe installation (including ground faulting) of temporary power sources and equipment by compliance with all applicable electrical code requirements and OSHA requirements for temporary electrical systems.
3. Shut down and lock out all heating, cooling and air conditioning system (HVAC) components that are in, supply or pass through the work area. Seal all intake and exhaust vents in the work area with tape and 6 mil polyethylene. Also seal any seams in system components that pass through the work area. Remove all HVAC system filters and place in labeled 6 mil polyethylene bags for staging and eventual disposal as asbestos contaminated waste.
4. The Contractor shall provide sanitary facilities for abatement personnel outside of the enclosed work area and maintain them in a clean and sanitary condition throughout the Project.
5. The Owner will provide water hook up for construction purposes. Contractor shall connect to existing Owner system.
6. Initial Cleaning - Preclean all surfaces in the work area using HEPA filtered vacuums and/or wet cleaning methods as appropriate. Do not use any methods that would raise dust such as dry sweeping or vacuuming with equipment not equipped with HEPA filters. Do not disturb asbestos containing materials during the precleaning phase.
7. Preclean all moveable objects within the work area using a HEPA filtered vacuums and/or wet cleaning methods as appropriate. After cleaning, these objects shall be removed from the work area and carefully stored in an uncontaminated location. (This includes light fixtures)
8. Preclean all fixed objects in the work area using HEPA filtered vacuums and/or wet cleaning techniques as appropriate. After precleaning, enclosed fixed objects in 4 mil polyethylene sheeting and seal securely in place with tape.Seal off all windows, doorways, elevator openings, corridor entrances, drains, ducts, grills, grates, diffusers, skylights, and any other openings between the work area and uncontaminated areas outside of the work area with 4 mil polyethylene sheeting and tape.

B. Floors
1. Cover floors in the work area with polyethylene sheeting if necessary.
2. Floor shall be covered with at least two layers of 6 mil (minimum) sheeting if necessary.
3. Plastic shall be sized to minimize seams. If the floor area necessitates seams, those on successive layers of sheeting shall be staggered to reduce the potential for water to penetrate to the flooring material. A distance of at least 6 feet between seams is sufficient. Do not locate any seams at wall/floor joints.
4. Floor sheeting shall extend at least 12” up the side walls of the work area.
5. Sheeting shall be installed in a fashion so as to prevent slippage between successive layers of materials.
6. Where indicated on the Plans, provide additional floor protection such as plywood, canvas or additional polyethylene as required.

C. Walls
1. Cover walls in the work area with polyethylene sheeting if necessary.
2. Walls shall be covered with two layers of 4 mil polyethylene sheeting if necessary.
3. Plastic shall be sized to minimize seams. Seams shall be staggered and separated by a distance of at least 6 feet.
4. Wall sheeting shall overlap floor sheeting by at least 12” beyond the wall/floor joint to provide a better seal against water damage and for negative pressure.
5. Wall sheeting shall be secured adequately to prevent it from falling away from the walls.

D. Worker Decontamination Enclosure System
   1. Worker decontamination enclosure systems shall be provided at all locations where workers will enter or exit the work area.
   2. Plans for construction, including materials and layout, shall be submitted as shop drawings and approved in writing by the Owner prior to work initiation. Worker decontamination enclosure systems constructed at the work site shall utilize 6 mil opaque white or black polyethylene sheeting or other acceptable materials for privacy. Detailed descriptions of portable, prefabricated units, if used, must be submitted for the Owner's approval. Plans must include floor plan with dimensions, materials, size, thickness, plumbing, and electrical utilities.
   3. The worker decontamination enclosure system shall consist of at least a clean room a shower room, and an equipment room, each separated from each other and from the work area by airlocks if space permits.
   4. Entry and exit from all airlocks and decontamination enclosure system chambers shall be through curtained doorways consisting of two sheets of overlapping polyethylene sheeting. If space will not permit airlocks between chambers, three overlapping doorways shall be used between each chamber. One sheet shall be secured at the top and left side, the other sheet at the top and right side. Both sheets shall have weights attached to the bottom to ensure that they hang straight and maintain a seal over the doorway when not in use. Doorway designs, providing equivalent or better protection, such as the Brand system, and approved by the Engineer may be utilized.
   5. Access between any two rooms in the decontamination enclosure system shall be through an airlock, if space permits, with at least 3 feet separating each doorway. Pathways into (from clean to contaminated) and out from (contaminated to clean) the work area shall be clearly designated.
   6. The clean room shall be sized to adequately accommodate the work crew. Benches shall be provided as well as hooks for hanging up street clothes. Shelves for storing respirators shall also be provided in this area. Clean work clothes, clean disposable clothing, replacement filters for respirators, towels, and other necessary items shall be provided in adequate supply in the clean room. A location for postings shall also be provided in this area. Whenever possible, a lockable door shall be used to permit access into the clean room from outside the work area. Lighting, heat, and electricity shall be provided as necessary for comfort. This space shall not be used for storage of tools, equipment or materials, or as an office space.
   7. The shower room shall contain one or more showers as necessary to adequately accommodate workers. Each shower head shall be supplied with hot and cold water adjustable at the tap. The shower enclosure shall be constructed to ensure against leakage of any kind. An adequate supply of soap, shampoo, and towels shall be supplied by the Contractor and available at all times. Shower water shall be drained, collected, and filtered through a system with at least 0.5-1.0 micron particle size collection capability.
   8. The equipment room shall be used for storage of equipment and tools at the end of a shift after they have been decontaminated using a HEPA filtered vacuum and/or wet cleaning techniques as appropriate. Replacement filters (in sealed containers until used) for HEPA vacuums and negative pressure ventilation equipment, extra tools, containers of surfactant and other materials, and equipment that may be required during the abatement may also be stored here as needed. A walk off pan shall be located in the work area just outside the equipment room for workers to clean off foot coverings after leaving the work area and prevent excessive contamination of the worker decontamination enclosure system. A drum lined with a labeled 6 mil polyethylene bag for collection of disposable clothing shall be located in this room. Contaminated footwear (e.g., rubber boots, other reusable footwear) shall be stored in this area for reuse the following work day.

E. Waste Container Pass Out Airlock
   1. The waste container pass out airlock shall be constructed at some location away from the worker decontamination enclosure system. Wherever possible, this shall be located where there is direct access from the work area to the outside of the building. When not in use this airlock system should be sealed.
   2. This airlock system shall consist of an airlock, a container staging area, and another airlock with access to outside the work area.
   3. The waste container pass out airlock shall be constructed in similar fashion to the worker decontamination enclosure system using similar materials and airlock and curtain doorway designs.
   4. This airlock system shall not be used to enter or exit the work site.

F. Emergency Exits
   1. Emergency exits shall be established and clearly marked with duct tape arrows or other effective designations to permit easy identification from anywhere within the work area. They shall be secured to prevent access from uncontaminated areas and still permit emergency exiting. These exits shall be properly sealed with polyethylene sheeting which can be cut to permit egress if needed. These exits may be the worker decontamination enclosure, the waste pass out airlock and/or other alternative exits satisfactory to fire officials.

3.03 ISOLATION OF THE WORK PLACE

A. Construction
   1. The contaminated work area shall be separated from uncontaminated, occupied areas of the building by the construction of air tight barriers.
   2. Walls shall be constructed of wood or metal framing to support barriers in all openings larger than 4' x 8'.
   3. A sheathing material (plywood, drywall) of at least 3/8" thickness shall be applied to work side of barrier.
   4. Cover both sides of partition with a double layer of 6 mil polyethylene sheeting with staggered joints and seal in place.
   5. Caulk edges of partition at floor, ceiling, walls and fixtures to form an air tight seal.

B. Maintenance of Enclosure Systems
   1. Following completion of the construction of all polyethylene barriers and decontamination system enclosures, allow overnight settling to ensure that barriers will remain intact and secured to walls and fixtures before beginning actual abatement activities.
   2. All polyethylene barriers inside the workplace, in the worker decontamination enclosure system, in the waste container pass out airlock and at partitions constructed to isolate the work area from occupied areas shall be inspected at least twice daily, once prior to the start of each day's abatement activities. Document inspections and observations in the daily Project log.
   3. Damage and defects in the enclosure system are to be repaired immediately upon discovery.
   4. Monitor negative pressure with a continuous reading device if available. A record of this shall be furnished to the Owner. Use smoke tubes to test the effectiveness of the barrier system when directed by the Owner.
   5. At any time during the abatement activities after barriers have been erected, if visible material is observed outside of the work area or if damage occurs to barriers, work shall immediately stop, repairs be made to barriers, and debris/residue cleaned up using appropriate HEPA vacuuming and wet mopping procedures.
   6. If air samples collected outside of the work area during abatement activities indicate airborne fiber concentrations greater than 0.1 f/cc or premeasured background levels (whichever is lower) work shall immediately stop for inspection and repair of barriers. Cleanup of surfaces outside of the work area using HEPA vacuums or wet cleaning techniques may be necessary.
   7. Install and initiate operation of negative pressure ventilation equipment as needed to provide one air change in the work area every 15 minutes or produce a static pressure of -0.02 inches of water. (See Section 2.02 (A)(1)) Openings made in the enclosure system to accommodate these units shall be made air tight with tape and/or caulking as needed. If more than one unit is installed, they should be turned on one at a time, checking the integrity of wall barriers for secure attachment and the need for additional reinforcement. Ensure that adequate power supply is available to satisfy the requirements of the ventilating units. Negative pressure ventilation units shall be exhausted to the outside of the building whenever feasible. Additional negative pressure ventilation units may be exhausted inside the work area to provide continuous air cleaning. They shall not be exhausted into occupied areas of the building. Twelve inch extension ducting shall be used to reach from the work area to the outside when required. Careful installation, air monitoring and daily inspections shall be done to ensure that the ducting does not release fibers into uncontaminated building areas. Once constructed and reinforced as necessary, with negative pressure ventilation units in operation as required, test enclosure for leakage utilizing smoke tubes. Repair or reconstruct as needed.

3.04 WORK PLACE ENTRY AND EXIT PROCEDURES

A. Personnel Entry and Exit
   1. All workers and authorized personnel shall enter the work area through the worker decontamination enclosure system. Workers shall not eat, chew, or smoke once they have entered the work area. Eating may take place just outside the clean room. Smoking, at any time during the project, is not recommended, but if need be, smoking may take place outside the building the project is located in.
   2. All personnel who enter the work area must sign the entry log, located in the clean room, upon entry and exit.
   3. All personnel, before entering the work area, shall read and be familiar with all posted regulations, personal protection requirements (including workplace entry and exit procedures) and emergency procedures. A sign off sheet shall be used to acknowledge that these procedures have been reviewed and understood by all personnel prior to entry.
   4. All personnel shall proceed first to the clean room, remove all street clothes and appropriately don respiratory protection and launderable and/or disposable coveralls, head covering, and foot covering. Hard hats, eye protection, and gloves shall also be utilized if required. Clean respirators and protective clothing shall be provided and utilized by each person for each separate entry into the work area.
   5. Personnel wearing designated personal protective equipment shall proceed from the clean room through the shower room and equipment room to the main work area.
   6. Before leaving the work area all personnel shall remove gross contamination from the outside of respirators and protective clothing by brushing and/or wet wiping procedures. Each person shall clean bottoms of protective footwear in the walk off pan just prior to entering the equipment room.
   7. Personnel shall proceed to equipment room where they remove all protective equipment except respirators. Deposit disposable and/or launderable clothing into appropriately labeled containers for disposal and/or laundering.
   8. Reusable, contaminated footwear shall be stored in the equipment room when not in use in the work area. Upon completion of abatement it shall be disposed of as asbestos contaminated waste. Rubber boots may be decontaminated at the completion of the abatement project for reuse.
   9. Still wearing respirators, personnel shall proceed to the shower area, clean the outside of the respirators and the exposed face area under running water prior to removal of respirator, and shower and shampoo to remove residual asbestos contamination. Various types of respirators will require slight modification of these procedures.
   10. After showering and drying off, proceed to the clean room and don clean disposable and/or launderable clothing if there will be later reentry into the work area or street clothes if it is the end of the work shift.
   11. These procedures shall be posted in the clean room and equipment room.

B. Waste Container Pass Out Procedures
   1. Asbestos contaminated waste that has been containerized shall be transported out of the work area through the waste container pass out airlock or through the worker decontamination enclosure if a separate airlock has not been construction.
   2. Waste pass out procedures shall utilize two teams of workers, an “inside” team and an “outside” team.
   3. The inside team wearing appropriate protective clothing and respirators for inside the work area shall clean the outside, including bottoms, of properly labeled containers (bags, drums, or wrapped components) using HEPA vacuums and wet wiping techniques and transport them into the waste container pass out airlock. No worker from the inside team shall further exit the work area through this airlock.
   4. The outside team wearing appropriately assigned respirators, shall enter the airlock from the outside of the work area, enclose the drums in clean, labeled, 6 mil polyethylene bags and remove them from the airlock to the outside. No worker from the outside team shall further enter the work area through this airlock. The exit from this airlock shall be secured when not in use to prevent unauthorized entry.

3.05 PERSONNEL PROTECTION REQUIREMENTS

A. Training
   1. Prior to commencement of abatement activities the Contractor shall have one person designated as a competent supervisor as defined in 29CFR 1926.58. This person shall be on-site at all times.
   2. Prior to commencement of abatement activities all Contractor personnel who will be required to enter the work area, handle containerized asbestos containing materials, or transport ACM must have a current State of Iowa Asbestos Abatement Certificate.
   3. Special on-site training on equipment and procedures unique to this job site shall be performed as required.
   4. Training in emergency response and evaluation procedures shall be provided.

B. Respiratory Protection
   1. All respiratory protection shall be provided to workers in accordance with the written respiratory protection program, which includes all items in OSHA 29 CFR 1910.134 (b)(1-11). This program shall be posted in the clean room of the worker decontamination enclosure system.
   2. Workers shall be provided with personally issued, individually identified respirators.
   3. Respirator types shall be utilized according to the following schedule:
      1. Air purifying respirators with dual HEPA filters shall be utilized by workers only during preabatement operations.
      2. Powered air purifying respirators equipped with HEPA filters shall be used during abatement activities where the concentration of asbestos fibers does not exceed 25 times the permissible limit as set forth in 29 CFR 1910.1001b.
      3. Type "C" supplied air respirators is recommended during all abatement activities except as indicated in Section 3.05 (B)(3)(a) and Section 3.05 (B)(3)(b) above.

C. Fit Testing
   1. Workers must perform positive and negative air pressure fit tests each time a respirator is put on, wherever the respirator design so permits. Powered air purifying respirators shall be tested for adequate flow as specified by the manufacturer.
   2. Workers shall be given a qualitative fit test in accordance with procedures detailed in the OSHA Lead Standard (29 CFR 1910.1025, Appendix D, Qualitative Fit Test Protocols) for all respirators to be used on this abatement Project. An appropriate administered quantitative fit test may be substituted for the qualitative fit test.
   3. Documentation of adequate respirator fit must be provided to the Owner.
   4. No one wearing a beard shall be permitted to don a respirator and enter the work area.
   5. Additional respirators (minimum of 2 of each type) and training on their donning and use must be available at the work site for authorized visitors who may be required to enter the work area.

D. Protective Clothing
   1. Disposable clothing including head, foot, and full body protection shall be provided in sufficient quantities and adequate sizes for all workers and authorized visitors.
   2. Launderable clothing, if required, shall be provided in sufficient quantities and adequate sizes for all workers and authorized visitors.
   3. Hard hats, protective eyewear, gloves, rubber boots, and/or other footwear shall be provided as required for workers and authorized visitors. Safety shoes may be required for some activities.

3.06 COMMENCEMENT OF WORK

A. Enclosure systems have been constructed and tested.
B. Negative pressure ventilation systems are functioning adequately.
C. All preabatement submissions, notifications, postings, and permits have been provided and are satisfactory to the Owner (see Section 1.2).
D. All equipment for abatement, cleanup, and disposal are on hand.
E. All worker training and certification is completed.
F. Contractor receives written permission from the Owner to commence abatement.

3.07 REMOVAL PROCEDURES

A. General Asbestos containing Materials
   1. Clean and isolate the work area in accordance with Section 3.01.
   2. Wet all asbestos containing material with an amended water solution using equipment capable of providing a fine spray mist, in order to reduce airborne fiber concentrations when the material is disturbed. Saturate the material, however, do not allow excessive water to accumulate in the work area. Keep all removed material wet enough to prevent fiber release until it can be containerized for disposal. Maintain a high humidity in the work area by misting or spraying to assist in fiber settling and reduce airborne concentrations. Wetting procedures are not equally effective on all types of asbestos containing materials but shall be used in all cases.
   3. Saturated asbestos containing material shall be removed in manageable sections. Removed material should be containerized before moving to a new location for continuance of work. Surrounding areas shall be periodically sprayed and maintained in a wet condition until visible material is cleaned up.

4. Material removed from building structures or components shall not be dropped or thrown to the floor. Material should be removed as intact sections or components whenever possible and carefully lowered to the floor. If this cannot be done for materials greater than 50 feet above the floor, a dust tight chute shall be constructed to transport the material to containers on the floor or the material may be containerized at elevated levels (e.g., on scaffolds) and carefully lowered to the ground by mechanical means. Materials between 15 and 50 feet above the ground, may be containerized at elevated levels or dropped onto inclined chutes or scaffolding for subsequent collection and containerization.
5. Containers (6 mil polyethylene bags) shall be sealed when full. Bags shall not be overfilled. They should be securely sealed to prevent accidental opening and leakage by tying tops of bags in an overhead knot or by taping in gooseneck fashion. Do not seal bags with wire or cord. Bags shall be decontaminated on exterior surfaces by wet cleaning and HEPA vacuuming.
6. Large components removed intact may be wrapped in 2 layers of 6 mil Polyethylene sheeting secured with tape for transport to the landfill.
7. Asbestos containing waste with sharp edged components (e.g., nails, screws, metal lath, tin sheeting) will tear the polyethylene bags and sheet and shall be reinforces with extra bags or wrapping.
8. After completion of all stripping work, surfaces from which asbestos containing materials have been removed shall be wet brushed and sponged or cleaned by some equivalent method to remove all visible residue.
9. Special circumstances (e.g., live electrical equipment, high amosite content of material, materials previously coated with an encapsulant or paint) may prohibit the adequate use of wet methods to reduce fiber concentrations. For these situations, a dry removal may be required. The Contractor will have to acquire special permits, different from those mentioned herein from the NESHAPS enforcement agency.
10. In areas with dirt floors that may be contaminated with asbestos, pickup all visible suspected asbestos and other debris and seal in 6 mil plastic bags. Wet the asbestos before picking it up. After all visible suspected asbestos has been removed, the dirt floor will be vacuumed or manually cleaned. If the floor is manually cleaned, all loose material and one inch of soil should be removed (see Section 3.07 ©(5)). If a vacuum device is used, it must be capable of removing all loose material from the dirt floor and transporting it to drums outside the work area. The vacuum device must be sealed and use HEPA filters prior to it's exhaust port. All floor cleaning must take place with enclosures, barriers, and negative air in place. If ACM is no longer present, the dirt floor will be encapsulated. Concrete or an equivalent method will be used as an encapsulating agent. In some cases, if concrete is used, the dirt floors will have to be leveled and more dirt may have to be removed to accommodate the concrete. The concrete cover should be at least three and one half inches (3.5") thick. Final inspection and testing as described will then proceed.

B. Specific Asbestos Materials

1. Asbestos containing floor tile - If floor tile is present in an area requiring full enclosure abatement it should be removed like other ACM in that enclosure. The area will not be considered fully abated until tile is removed. If the floor tile is present in areas other than full enclosure areas and will become friable during removal, the following procedures must be used:
   a. Seal off work area to other personnel.
   b. Install negative air.
   c. Use water to control fibers at the point of removal.
   d. Place floor tile in appropriately marked bags immediately after removal and dispose of with other ACM.
   e. Wear respirator and protective suit while removing tile.
   f. Exit work area into small chamber, HEPA vacuum protective suit, remove suit and dispose of in plastic bag.
   g. Perform clearance sampling.
2. Floor Tile Mastic - If floor tile mastic is present in area requiring full enclosure abatement, it should be removed like other ACM in the enclosure. If floor tile mastic is present in areas other than full enclosure areas, use the procedure outlined in Sections 3.07 (b)(9)(a-g) except for the following:
   a. If a solvent is used to soften the mastic, appropriate solvent respirators must be worn.
   b. If a blast machine is used, the dust must be controlled with water either by the machine or manually.
3. Foundation Waterproofing – Following the removal of upper structure the Demo contractor will work with the abatement contractor to remove the exterior foundation coated with black water proofing. The material must be placed in lined dumpster, properly manifested and disposed of as asbestos contaminated waste.
4. Miscellaneous Materials (wallboard compound, mirror mastics, etc.) - Spray asbestos containing materials with a fine mist of amended water or removal encapsulant. Allow time for the amended water or removal

encapsulant to saturate the material (if applicable). Carefully scrap ACM from substrate while applying mist. For remainder of procedure follow instructions presented in Section 3.07 (A & B).

C. Glovebags, Minienclosures, Removal of Entire Structures
   1. The above removal methods may only be used if approved by the Project Engineer. The contractor must verbally or pictorially show that the method to be used will contain the asbestos. Proper procedures for using these removal methods are outlined in 40CFR Part 763 Subpart E, Appendix B and 29CFR Part 1926.58 Appendix G. Preparation of the work area will be the same as outlined in Sections 3.01 (A) (1-7). Cleanup procedures will be the same as outlined in Sections 3.08 (B)(F)(G)(I). Clearance air sampling shall be the same as outlined in Sections 3.09 (A-H). In all cases negative air will be used in conjunction with the above methods.

3.08 CLEANUP PROCEDURE

A. Remove and containerize all visible accumulations of asbestos containing material and asbestos contaminated debris utilizing rubber dust pans, rubber squeegees, HEPA vacuums, etc. This includes debris found on tunnel, floors, and walls. Do not use metal shovels to pick up or move accumulated waste. Special care shall be taken to minimize damage to floor sheeting.
B. If a drop cloth layer was used remove it. Wet clean the primary plastic layer. Wait 24 hours. Wet clean and HEPA vacuum the primary plastic layer a second time and remove and dispose. Leave all critical barriers in place.
C. Immediately HEPA vacuum and wet clean all building surfaces in the work area.
D. Remove all containerized waste from the work area and waste container pass out airlock.
E. Decontaminate all tools and equipment and remove at the appropriate time in the cleaning sequence.
F. Inspect the work area for visible residue. If any accumulation of residue is observed, it will be assumed to be asbestos and the work area must be recleaned.
G. The work area shall be cleaned until it is in compliance with state and local requirements and any more stringent criteria agreed upon by the Contractor and Owner prior to initiation of abatement activities.
H. Following satisfactory completion of clearance air monitoring, a thin coat of encapsulating agent shall be applied to all surfaces which previously had asbestos containing surface materials. The Contractor shall verify the compatibility of any encapsulating agent with later applied insulation of acoustical materials.
I. Following the satisfactory completion of clearance air monitoring remaining barriers may be removed and properly disposed of. A final visual inspection by the Owner shall ensure that no contamination remains in the work area. Unsatisfactory conditions may require additional cleaning and air monitoring (see Section 3.11, Reestablishment of the Work Area).

3.09 CLEARANCE AIR MONITORING

A. Following the completion of cleanup operations, the Contractor shall notify the Owner that work areas are ready for clearance air monitoring.
B. The Owner shall then arrange for an Air Monitoring Professional to sample the air in the work area for airborne fiber concentrations.
C. Air sampling shall be initiated only after the humidity level within the room reaches preabatement levels.
D. The air sampling shall otherwise be conducted using sampling pumps calibrated at a flow rate of at least 2 and not more than 8 liters per minute using collection media and procedures in accordance with NIOSH Standard Analytical Method 7400 for PCM samples. Air volumes shall be sufficient to provide reliable results down to a concentration of 0.005 fibers per cubic centimeter of air (f/cc) or lower, at a 95% upper confidence limit.
E. The number of samples and the specific locations where they shall be taken should be established by the Engineer in conjunction with an Air Monitoring Professional.
F. Aggressive sampling shall be performed with portable fans circulating air in the work area to stimulate actual use conditions. Negative pressure ventilation units shall not be utilized for this purpose.
G. If PCM is used, all samples at all locations shall indicate concentrations of airborne fibers less than 0.005 f/cc at a 95% upper confidence limit for release of the work area.
H. Areas exceeding these levels shall be recleaned using procedures in Section 3.08 and retested until satisfactory levels are obtained. The Owner will pay for clearance samples that pass the above stated criteria. Clearance samples that fail the above stated criteria will be paid for by the Contractor. If additional sample analysis costs are incurred, e.g. “rush” samples, additional samples, the cost will be charged to the party requesting the cost.

3.10 DISPOSAL PROCEDURES

A. General
   1. As the work progresses, to prevent exceeding available storage capacity on-site, sealed and labeled containers of asbestos containing waste shall be removed and transported to the prearranged disposal location.
   2. Disposal must occur at an authorized site in accordance with regulatory requirements of NESHAPS and applicable state and local guidelines and regulations.
   3. All Waste Shipment Records shall be delivered to the Owner. A recommended record keeping format utilizes the Waste Shipment Record (WSR) (Figure 1) which includes the names and addresses of the Generator (Owner), Contractor, Transporter, and Disposal Site, the estimated quantity of the asbestos waste and the type of containers used. The form should be signed by the Contractor, the Transporter and the Disposal Site Operator, as the responsibility for the material changes hands. Instructions can be found with the Waste Shipment Records.
   4. The Contractor and Transporter should retain a copy of the WSR upon completing their portion of it. The Disposal Site Operator should retain a copy and return a completed copy to the Generator within 45 days of the ACM leaving the abatement site.

B. Transportation to the Landfill
   1. All ACM that is readied for transport must be labeled with the name of the waste generator and the location at which the waste was generated. The contractor is responsible for providing the label.
   2. Once drums, bags and wrapped components have been removed from the work area, they shall be loaded into an enclosed truck for transportation.
   3. The enclosed cargo area of the truck shall be free of debris and lined with 6 mil polyethylene sheeting to prevent contamination from leaking or spilled containers. Floor sheeting shall be installed first and extend up the side walls. Wall sheeting shall be overlapped and taped into place.

   4. Drums shall be placed on level surfaces in the cargo area and packed tightly together to prevent shifting and tipping. Large structural components shall be secured to prevent shifting and bags placed on top. Do not throw containers into truck cargo area.
   5. Personnel loading asbestos containing waste shall be protected by disposable clothing including head, body and foot protection and at a minimum, half face, air purifying, dual cartridge respirators equipped with high efficiency filters.
   6. Any debris or residue observed on containers or surfaces outside of the work area resulting from cleanup or disposal activities shall be immediately cleaned up using HEPA filtered vacuum equipment and/or wet methods as appropriate.
   7. Large metal dumpsters are sometimes used for asbestos waste disposal. These should have doors or tops that can be closed and locked to prevent vandalism or other disturbance of the bagged asbestos debris and wind dispersion of asbestos fibers. Unbagged material shall not be placed in these containers, nor shall they be used for nonasbestos waste. Bags shall be placed, not thrown, into these containers to avoid splitting.

C. Disposal at the Landfill
   1. Upon reaching the landfill, trucks are to approach the dump location as closely as possible for unloading of the asbestos containing waste.
   2. Bags, drums, and components shall be inspected as they are off loaded at the disposal site. Material in damaged containers shall be repacked in empty drums or bags as necessary. Waste containers shall be placed on the ground at the disposal site, not pushed or thrown out of the trucks.
   3. Personnel off loading containers at the disposal site shall wear protective equipment consisting of disposable head, body, and foot protection and, at a minimum, half face, air purifying, dual cartridge respirators equipped with high efficiency filters.
   4. Following the removal of all containerized waste, the truck cargo area shall be decontaminated using HEPA vacuums and/or wet methods to meet the no visible residue criteria. Polyethylene sheeting shall be removed and discarded along with contaminated cleaning materials and protective clothing, in bags or drums at the disposal site.
   5. If landfill personnel are not provided with personal protective equipment for the compaction operation by the landfill operator, Contractor shall supply protective clothing and respiratory protection for the duration of this operation.

3.11 REESTABLISHMENT OF THE WORK AREA AND SYSTEMS

A. Reestablishment of the work area shall only occur following the completion of cleanup procedures and after clearance air monitoring has been performed and documented to the satisfaction of the Owner.
B. Polyethylene barriers shall be removed from walls and floors at this time, maintaining decontamination enclosure systems and barriers over doors, windows, etc., as required.
C. The Contractor and Owner shall visually inspect the work area for any remaining visible residue. Evidence of contamination will necessitate additional cleaning requirements in accordance with Section 3.07.
D. Additional air monitoring shall be performed in accordance with Section 3.09 if additional cleanup is necessary.
E. Following satisfactory clearance of the work area, remaining polyethylene barriers may be removed and disposed of as asbestos contaminated waste.
F. At the discretion of the Contractor, mandatory requirements for personal protective equipment may be waived following the removal of all barriers.
G. Re-secure mounted objects removed from their former positions during area preparation activities.
H. Relocate objects that were removed to temporary locations back to their original positions.
I. Reestablish HVAC, mechanical and electrical systems in proper working order. Remove contaminated HVAC system filters and dispose of as asbestos contaminated waste. Decontaminate filter assembly using HEPA vacuums and wet cleaning techniques. Install new filters in HVAC systems. Dispose of old filters.
J. Repair all areas of damage that occurred as a result of abatement activities.
K. Proceed with installation of replacement materials.

Existing ACM

Jensen Elementary

Location	Material Description	Friable	Sq. Ft	Lineal Ft	Ftg
003					
	Brown Glus Spots	N	132	0	0
004					
	Brown Glus Spots	N	180	0	0
007 I-Beam					
	Brown Glue	N	26	0	0
008					
	Brown Glus Spots	N	132	0	0
009					
	Brown Glus Spots	N	132	0	0
010					
	Brown Glus Spots	N	132	0	0
011					
	Brown Glus Spots	N	132	0	0
013					
	Brown Glus Spots	N	160	0	0
015					
	Brown Glus Spots	N	172	0	0
018					
	Brown Glus Spots	N	32	0	0
019					
	Brown Glus Spots	N	168	0	0
020					
	Brown Glus Spots	N	40	0	0
021					
	Brown Glus Spots	N	160	0	0
022					
	Brown Glus Spots	N	8	0	0
023					
	Brown Glus Spots	N	8	0	0
024					
	Brown Glus Spots	N	160	0	0
025					
	Brown Glus Spots	N	80	0	0
Exterior - East Side Foundation					
	Foundation Black Tar	N	3840	0	0
Exterior - North Side Foundation					
	Foundation Black Tar	N	0	0	0
Exterior Wallsand Corner Expansion Joints					
	Tan Expansion Joint Caulk	N	0	1210	0
Gym To SE Roof Deck					
	Roof Deck	N	480	0	0

Existing ACM

Jensen Elementary

Location	Material Description	Friable	Sq. Ft	Lineal Ft	Ftg
Gymnasium Storage Room					
	12" Tan Floor Tile/Mastic	N	240	0	0
Hallway By 018 Wall					
	Brown Glus Spots	N	24	0	0
Multipurpose Room					
	12" Tan Floor Tile/Mastic	N	2400	0	0
Multipurpose Room Entrance					
	12" Tan Floor Tile/Mastic	N	230	0	0
N-S Hallway I-Beam					
	Brown Glue	N	26	0	0
Windows & Doors through Out					
	Exterior Tan Caulk	N	0	1235	0

Asbestos Sampling Summary
Jensen Elementary

Material Description	Date	Location	Friable	Sample	% Asb
12" Tan Floor Tile/Mastic	7/30/2024	Gymnasium Storage Room	N		
	7/30/2024	Multipurpose Room	N	AHERA	5%
	7/30/2024	Multipurpose Room Entrance	N		
12" Tan w/Brown & White Flakes Floor Tile/Mastic	7/30/2024	012-025 Hallways And Entry Floor	N	188072	ND
	7/30/2024	By 021 Floor	N	188073	ND
12" White Floor Tile/Mastic	7/30/2024	002 Floor	N	188032	ND
	7/30/2024	005B, 006 Floor	N		
	7/30/2024	Concession Stand Floor	N	188033	ND
	7/30/2024	N-S Hallway Floor	N		
2X2 White Ceiling Tile	7/30/2024	002 Ceiling	Y		
	7/30/2024	005,007,008 Ceiling	Y	188052	ND
	7/30/2024	006-011 Ceiling	Y		
	7/30/2024	007, 008, 010 Restrooms Ceiling	Y		
	7/30/2024	012 Ceiling	Y	188064	ND
	7/30/2024	012-025 Hallways And Entry Ceiling	Y		
	7/30/2024	013-025 Ceiling	Y	188026	ND
	7/30/2024	014 Ceiling	Y	188028	ND
	7/30/2024	Boys And Girls Restrooms By 104 Ceiling	Y		
	7/30/2024	Hallway Restrooms By 003 Ceiling	Y		
	7/30/2024	Multi Purpose Room Ceiling	Y	188025	ND
	7/30/2024	N-S Hallway Ceiling	Y	188027	ND
	7/30/2024	Staff Restroom By 015 Ceiling	Y		
2X4 White Ceiling Tile	7/30/2024	017 Ceiling	Y	188071	ND
Black Caulk	7/30/2024	014 Glass Windows	N	188068	ND
Black Rubber Floor	7/30/2024	015 Floor	N	188070	ND
Blue Carpet Glue	7/30/2024	002 Floor	N	188031	ND
	7/30/2024	006 Floor	N		

Asbestos Sampling Summary
Jensen Elementary

Material Description	Date	Location	Friable	Sample	% Asb
Blue Carpet Glue	7/30/2024	012-025 Hallways And Entry Floor	N		
	7/30/2024	N-S Hallway Floor	N		
Brown Glue	7/30/2024	007 I-Beam	N	188059	3%
	7/30/2024	N-S Hallway I-Beam	N		
Brown Glus Spots	7/30/2024	003	N	188040	ND
	7/30/2024	004	N	188041	ND
	7/30/2024	008	N	188043	ND
	7/30/2024	009	N	188039	3%
	7/30/2024	010	N		
	7/30/2024	011	N		
	7/30/2024	013	N		
	7/30/2024	015	N		
	7/30/2024	018	N		
	7/30/2024	019	N		
	7/30/2024	020	N		
	7/30/2024	021	N		
	7/30/2024	022	N		
	7/30/2024	023	N		
	7/30/2024	024	N		
	7/30/2024	025	N		
	7/30/2024	Hallway By 018 Wall	N	188042	ND
Brown/Yellow Glue	7/30/2024	002 Mopboard	N		
	7/30/2024	003, 004 Mopboard	N		
	7/30/2024	005-011 Mopboard	N		
	7/30/2024	012-025 Hallways And Entry Mopboard	N		
	7/30/2024	012-025 Mopboard	N	188024	ND
	7/30/2024	1st And 2nd Floor Multi Purpose Room Mopboard	N	188023	ND
	7/30/2024	Boys And Girls Restroom By 104 Mopboard	N		
	7/30/2024	N-S Hallway Mopboard	N		

Asbestos Sampling Summary
Jensen Elementary

Material Description	Date	Location	Friable	Sample	% Asb
Clear Caulk	7/30/2024	003, 004 Sink Counter	N	188035	ND
	7/30/2024	005-011 Sink Counter	N		
	7/30/2024	012-025 Hallways And Entry Room Signs	N		
	7/30/2024	013-025 Counter	N		
Dark Gray Sealer	7/30/2024	005-011 Sink Bottom	N	188053	ND
	7/30/2024	013-025 Sink Bottom	N	188054	ND
	7/30/2024	Sink Bottom	N	188055	ND
Drywall	7/30/2024	005-011 Walls	N		
	7/30/2024	014-025 Walls	N	188019	ND
	7/30/2024	1st And 2nd Floor Multi Purpose Room Walls	N	188018	ND
	7/30/2024	By 025 Walls	N	188021	ND
	7/30/2024	Concession-Walls	N	188020	ND
	7/30/2024	Walls	N	188022	ND
Exterior Tan Caulk	7/30/2024	Windows & Doors through Out	N	188036	3%
Foundation Black Tar	7/30/2024	Exterior - East Side Foundation	N	188088	10%
	7/30/2024	Exterior - North Side Foundation	N	188086	10%
	7/30/2024	Exterior - North Side Foundation	N	188087	10%
Gray Caulk	7/30/2024	002 Exit Door	N		
	7/30/2024	012-025 Hallways And Entry Doors	N		
	7/30/2024	012-025 Windows And Doors	N	188065	ND
	7/30/2024	Gym To SE Roof Flashing	N	188094	ND
	7/30/2024	Mechanical Room By 016 Doors	N		
	7/30/2024	Multi Purpose Room Exit Door	N	188029	ND
	7/30/2024	Outside East Side Windows And Doors	N	188080	ND
	7/30/2024	Outside E-W Building East Side Door	N	188089	ND
	7/30/2024	Outside Gym Metal Above Stacks	N	188082	ND

Asbestos Sampling Summary
Jensen Elementary

Material Description	Date	Location	Friable	Sample	% Asb
Gray Caulk	7/30/2024	Outside Gym SW Entry Doors	N	188078	ND
	7/30/2024	Outside Gym Walls On Brick	N	188077	ND
	7/30/2024	Outside Sidewalk To Building	N	188076	ND
	7/30/2024	Outside South Side E-W Building Doors	N	188083	ND
	7/30/2024	Outside South Side E-W Building Windows	N	188079	ND
	7/30/2024	Restrooms By 019 Doors	N		
	7/30/2024	Restrooms By 021 Doors	N		
	7/30/2024	Restrooms By 024 Doors	N		
	7/30/2024	South Side Walls, Corners And Expansion Joints	N	188063	ND
	7/30/2024	Staff Restroom By 015 Doors	N		
Gray Sealer	7/30/2024	003, 004 Sink Bottom	N	188034	ND
	7/30/2024	003-009 Ducts	N		
	7/30/2024	012-025 Hallways And Entry Ducts	N		
	7/30/2024	012-025 Ducts	N	188005	ND
	7/30/2024	2nd Multi Purpose Room Mechnical Ducts	N	188004	ND
Grout/Mortar In Tile	7/30/2024	Hallway Restrooms By 003 Walls	N		
	7/30/2024	003-009 Walls	N	188044	ND
	7/30/2024	005-011 Walls	N		
	7/30/2024	007, 008, 010 Restrooms Walls	N		
	7/30/2024	Boys And Girls Restroom By 104 Walls	N		
	7/30/2024	Mechanical Room By 105B Walls	N		
	7/30/2024	N-S Hallway Walls	N		
	7/30/2024	Staff Restroom By 015 Walls	N		
Grout/Mortar In Bricks	7/30/2024	002 Walls	N	188030	ND
	7/30/2024	006 Walls	Y		

Asbestos Sampling Summary
Jensen Elementary

Material Description	Date	Location	Friable	Sample	% Asb
Grout/Mortar In Bricks	7/30/2024	012-015 Walls	Y		
Grout/Mortar In Concrete Block	7/30/2024	002 Walls	N		
	7/30/2024	006 Walls	N		
	7/30/2024	012-025 Hallways And Entry Walls	N		
	7/30/2024	012-025 Walls	N		
	7/30/2024	1st And 2nd Floor Multi Purpose Room Walls	N	188017	ND
	7/30/2024	Mechanical Room By 016 Walls	N		
	7/30/2024	Outside Gym Walls	N		
	7/30/2024	Restrooms By 019 Walls	N		
	7/30/2024	Restrooms By 021 Walls	N		
	7/30/2024	Restrooms By 024 Walls	N		
Grout/Mortar In Red Brick	7/30/2024	Outside Gym Walls	N	188084	ND
Kiln Bricks	7/30/2024	006 Kiln	N	188057	ND
Light Weight Concrete	7/30/2024	003-009 Ceiling Deck	N	188046	ND
	7/30/2024	005-011 Ceiling Deck	N		
	7/30/2024	Boys And Girls Restroom By 104 Ceiling Deck	N		
	7/30/2024	Mechanical Room By 105B Ceiling Deck	N		
	7/30/2024	N-S Hallway Ceiling Deck	N		
Mud Fitting	7/30/2024	002 Pipes	Y		
	7/30/2024	003, 004 Pipes	Y	188013	ND
	7/30/2024	005-011 Pipes	Y		
	7/30/2024	012-025 Hallways And Entry Pipes	Y		
	7/30/2024	012-025 Pipes	Y	188016	ND
	7/30/2024	2nd Multi Purpose Room Pipes	Y	188012	ND
	7/30/2024	Boys And Girls Restroom By 104 Pipes	Y		
	7/30/2024	Hallway Restrooms By 003 Pipes	Y		
	7/30/2024	Mechanical Room By 016 Pipes	Y		

Asbestos Sampling Summary
Jensen Elementary

Material Description	Date	Location	Friable	Sample	% Asb
Mud Fitting	7/30/2024	Mechanical Room By 105B Pipes	Y	188014	ND
	7/30/2024	N-S Hallway Pipes	Y	188015	ND
	7/30/2024	Restrooms By 019 Pipes	Y		
	7/30/2024	Restrooms By 021 Pipes	Y		
	7/30/2024	Restrooms By 024 Pipes	Y		
	7/30/2024	Staff Restroom By 005 Pipes	Y		
Off White Linoleum	7/30/2024	007, 010 Restrooms Floor	N		
	7/30/2024	008 Restroom Floor	N		
	7/30/2024	Boys And Girls Restroom By 004 Floor	N	188050	ND
	7/30/2024	Hallway Restrooms By 003 Floor	N		
	7/30/2024	Restrooms By 019 Floor	N	188051	ND
	7/30/2024	Restrooms By 021 Floor	N		
	7/30/2024	Restrooms By 024 Floor	N		
	7/30/2024	Staff Restroom By 015 Floor	N		
Panel Insulation	7/30/2024	003,006 Ceiling Deck	Y	188045	ND
	7/30/2024	005-011 Ceiling Deck	Y		
	7/30/2024	Boys And Girls Restroom By 104 Ceiling Deck	Y		
	7/30/2024	Mechanical Room By 105B Ceiling Deck	Y		
	7/30/2024	N-S Hallway Ceiling Deck	Y		
Pipe Wrap	7/30/2024	002 Pipes	Y		
	7/30/2024	003, 004 Pipes	Y	188008	ND
	7/30/2024	005-011 Pipes	Y		
	7/30/2024	012-025 Hallways And Entry Pipes	Y		
	7/30/2024	012-025 Pipes	Y	188011	ND
	7/30/2024	2nd Multi Purpose Room Pipes	Y	188007	ND
	7/30/2024	Boys And Girls Restroom By 104 Pipes	Y		

Asbestos Sampling Summary
Jensen Elementary

Material Description	Date	Location	Friable	Sample	% Asb
Pipe Wrap	7/30/2024	Hallway Restrooms By 003 Pipes	Y		
	7/30/2024	Mechanical Room By 016 Pipes	Y		
	7/30/2024	Mechanical Room By 105B Pipes	Y	188009	ND
	7/30/2024	N-S Hallway Pipes	Y	188010	ND
	7/30/2024	Restrooms By 019 Pipes	Y		
	7/30/2024	Restrooms By 021 Pipes	Y		
	7/30/2024	Restrooms By 024 Pipes	Y		
	7/30/2024	Staff Restroom By 005 Pipes	Y		
Red Caulk	7/30/2024	012-025 Hallways And Entry Through Wall	N		
	7/30/2024	016 Through Wall	N		
	7/30/2024	Mechanical Room By 105B Through Wall	N	188061	ND
	7/30/2024	N-S Hallway Through Wall	N		
Roof Deck	7/30/2024	Gym Roof Deck	N	188092	ND
	7/30/2024	Gym To SE Roof Deck	N	188093	10%
	7/30/2024	Lower Roof By Raised Roof Deck	N	188099	ND
	7/30/2024	Raised Roof By Metal	N	188097	ND
	7/30/2024	West Middle Roof Deck	N	188102	ND
	7/30/2024	West North Roof Deck	N	188104	ND
	7/30/2024	West Roof Deck	N	188095	ND
Roof Flashing	7/30/2024	West Middle Roof Flashing	N	188101	ND
	7/30/2024	West North Roof Flashing	N	188103	ND
	7/30/2024	West Roof Deck	N	188096	ND
Roofing Shingle	7/30/2024	East Middle Roof Caps	N	188100	ND
	7/30/2024	Outside North Shed West Side Roof	N	188090	ND
	7/30/2024	Outside South Shed Roof	N	188091	ND
Silver/Insulation	7/30/2024	003, 004 Ducts	Y	188037	ND
	7/30/2024	005, 011 Ducts	Y		

Asbestos Sampling Summary
Jensen Elementary

Material Description	Date	Location	Friable	Sample	% Asb
Silver/Insulation	7/30/2024	012, 025 Ducts	Y	188038	ND
Stucco	7/30/2024	Outside	N	188081	ND
Tan Expansion Joint Caulk	7/30/2024	Exterior Wallsand Corner Expansion Joints	N	188062	3%
Tan Glue	7/30/2024	015 Plastic Panel	N	188069	ND
Tan/Gray Strawboard	7/30/2024	012-025 Ceiling Deck	Y	188066	ND
	7/30/2024	012-025 Hallways And Entry Ceiling Deck	Y		
	7/30/2024	Mechanical Room By 016 Ceiling Deck	Y		
	7/30/2024	Restrooms By 019 Ceiling Deck	Y		
	7/30/2024	Restrooms By 021 Ceiling Deck	Y		
	7/30/2024	Restrooms By 024 Ceiling Deck	Y		
	7/30/2024	Staff Restroom By 015 Ceiling Deck	Y		
Vibration Gasket	7/30/2024	005-006 Ducts	Y		
	7/30/2024	012-025 Ducts	Y		
	7/30/2024	2nd Multi Purpose Room Mechnical Ducts	Y	188006	ND
White Caulk	7/30/2024	014-025 Counter	N	188067	ND
	7/30/2024	Concession Stand Counter	N	188075	ND
	7/30/2024	Hallway By 003 Edge Floor And Sinks	N	188060	ND
	7/30/2024	Outside West Side Corner And Expansion Joint	N	188085	ND
	7/30/2024	Raised Roof By Metal Roof Seams	N	188098	ND
	7/30/2024	Restrooms By 019 Toilets	N		
	7/30/2024	Restrooms By 021 Toilets	N		
	7/30/2024	Restrooms By 024 Toilets	N		
White Mud	7/30/2024	006 Ducts	N	188056	ND
White/Gray Caulk	7/30/2024	Roof Vents, Penetrations And Seams	N	188105	ND
Yellow Carpet Glue	7/30/2024	003, 004 Floor	N	188047	ND

Asbestos Sampling Summary
Jensen Elementary

Material Description	Date	Location	Friable	Sample	% Asb
Yellow Carpet Glue	7/30/2024	005-011 Floor	N	188049	ND
	7/30/2024	012-025 Floor	N	188048	ND
	7/30/2024	Boys And Girls Restroom By 104 Floor	N		
Yellow Glue	7/30/2024	007 Wall Board	N	188058	ND
	7/30/2024	Concession Stand Walls	N	188074	ND
	7/30/2024	Mechanical Room By 105B Wall	N		

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Lab Id #: 117298
Project No:

Sample Description: **Client #** 188004

Jensen Elem.-Misc. A

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	2
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	98

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/30/2024

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Lab Id #: 117299
Project No:

Sample Description: **Client #** 188005

Jensen Elem.-Misc. A

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components

Cellulose:	3
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	97

Analyst Notes:

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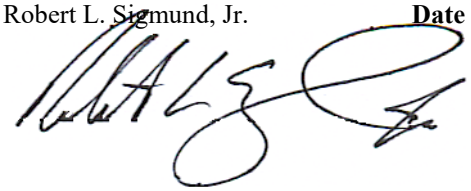
Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/30/2024



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Lab Id #: 117300
Project No:

Sample Description: **Client #** 188006

Jensen Elem.-Misc. B

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Black

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND
Other Components	
Cellulose:	ND
Fibrous Glass:	40
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	60

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/30/2024

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Lab Id #: 117301
Project No:

Sample Description: **Client #** 188007

Jensen Elem.-Thermal Pipe A

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: White/Silver/Yellow

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	10
Fibrous Glass:	80
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	10

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/30/2024

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Lab Id #: 117302
Project No:

Sample Description: **Client #** 188008

Jensen Elem.-Thermal Pipe A

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: White/Silver/Yellow

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	10
Fibrous Glass:	80
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	10

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/30/2024

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Lab Id #: 117303
Project No:

Sample Description: **Client #** 188009

Jensen Elem.-Thermal Pipe A

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: White/Silver/Yellow

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	10
Fibrous Glass:	80
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	10

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/30/2024

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Urbandale, IA 50322

Lab Id #: 117304
Project No:

Sample Description: **Client #** 188010

Jensen Elem.-Thermal Pipe A

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: White/Silver/Yellow

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	10
Fibrous Glass:	80
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	10

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/30/2024

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Lab Id #: 117305
Project No:

Sample Description: **Client #** 188011

Jensen Elem.-Thermal Pipe A

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Silver/Tan/Yellow

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	10
Fibrous Glass:	80
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	10

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/30/2024

ANALYTICAL REPORT

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Urbandale Community School Dist.
6200 Aurora Avenue
Urbandale, IA 50322

Lab Id #: 117306
Project No:

Sample Description: **Client #** 188012

Jensen Elem.-Thermal Pipe B

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: White

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND
Other Components	
Cellulose:	2
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	98

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/30/2024

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Lab Id #: 117307
Project No:

Sample Description: **Client #** 188013

Jensen Elem.-Thermal Pipe B

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: White

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND
Other Components	
Cellulose:	2
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	98

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/30/2024

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Lab Id #: 117308
Project No:

Sample Description: **Client #** 188014

Jensen Elem.-Thermal Pipe B

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: White

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND
Other Components	
Cellulose:	2
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	98

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/30/2024

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Lab Id #: 117309
Project No:

Sample Description: **Client #** 188015

Jensen Elem.-Thermal Pipe B

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: White

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND
Other Components	
Cellulose:	2
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	98

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/30/2024

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Lab Id #: 117310
Project No:

Sample Description: **Client #** 188016

Jensen Elem.-Thermal Pipe B

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: White

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	2
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	98

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/30/2024

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Lab Id #: 117311
Project No:

Sample Description: **Client #** 188017

Jensen Elem.-Misc. C

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	1
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	99

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/30/2024

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Lab Id #: 117312
Project No:

Sample Description: **Client #** 188018

Jensen Elem.-Misc. D

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: White

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND
Other Components	
Cellulose:	20
Fibrous Glass:	5
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	75

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/30/2024

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Urbandale, IA 50322

Lab Id #: 117313
Project No:

Sample Description: **Client #** 188019

Jensen Elem.-Misc. D

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: White

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND
Other Components	
Cellulose:	20
Fibrous Glass:	5
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	75

Analyst Notes:

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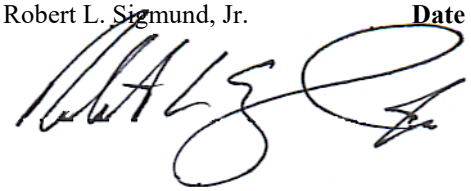
Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/30/2024



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Lab Id #: 117314
Project No:

Sample Description: **Client #** 188020

Jensen Elem.-Misc. D

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: White

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND
Other Components	
Cellulose:	20
Fibrous Glass:	5
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	75

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/30/2024

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Lab Id #: 117315
Project No:

Sample Description: **Client #** 188021

Jensen Elem.-Misc. D

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: White

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND
Other Components	
Cellulose:	20
Fibrous Glass:	5
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	75

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/30/2024

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Urbandale, IA 50322

Lab Id #: 117316
Project No:

Sample Description: **Client #** 188022

Jensen Elem.-Misc. D

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: White

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND
Other Components	
Cellulose:	20
Fibrous Glass:	5
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	75

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/30/2024

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Lab Id #: 117317
Project No:

Sample Description: **Client #** 188023

Jensen Elem.-Misc. E

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Brown

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	2
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	98

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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Urbandale Community School Dist.
6200 Aurora Avenue
Urbandale, IA 50322

Lab Id #: 117318
Project No:

Sample Description: **Client #** 188024

Jensen Elem.-Misc. E

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Yellow

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	1
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	99

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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6200 Aurora Avenue
Urbandale, IA 50322

Lab Id #: 117319
Project No:

Sample Description: **Client #** 188025

Jensen Elem.-Misc. F

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	45
Fibrous Glass:	20
Synthetics	ND
Perlite:	20
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	15

Analyst Notes:

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

ANALYTICAL REPORT

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6200 Aurora Avenue
Urbandale, IA 50322

Lab Id #: 117320
Project No:

Sample Description: **Client #** 188026

Jensen Elem.-Misc. F

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

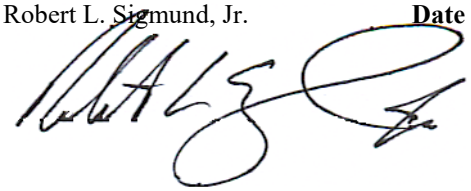
Sample Color: Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	45
Fibrous Glass:	20
Synthetics	ND
Perlite:	20
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	15

Analyst Notes:

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024



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Urbandale Community School Dist.
6200 Aurora Avenue
Urbandale, IA 50322

Lab Id #: 117321
Project No:

Sample Description: **Client #** 188027

Jensen Elem.-Misc. F

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	45
Fibrous Glass:	20
Synthetics	ND
Perlite:	20
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	15

Analyst Notes:

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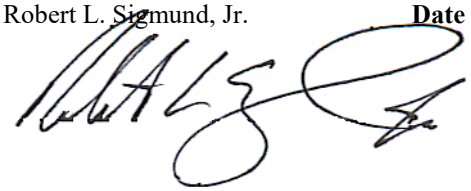
Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024



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11101 Aurora Avenue, Urbandale, Iowa 50322
Phone: 515-279-8042 Fax: 515-279-1853

Urbandale Community School Dist.
6200 Aurora Avenue
Urbandale, IA 50322

Lab Id #: 117322
Project No:

Sample Description: **Client #** 188028

Jensen Elem.-Misc. F

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Gray

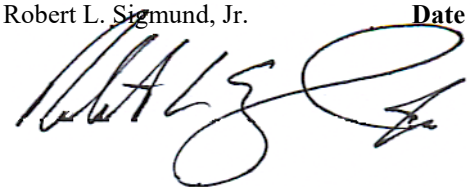
Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	45
Fibrous Glass:	20
Synthetics	ND
Perlite:	20
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	15

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024



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Urbandale, IA 50322

Lab Id #: 117323
Project No:

Sample Description: **Client #** 188029

Jensen Elem.-Misc. G

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	3
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	97

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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Urbandale, IA 50322

Lab Id #: 117324
Project No:

Sample Description: **Client #** 188030

Jensen Elem.-Misc. H

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	1
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	99

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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Lab Id #: 117325
Project No:

Sample Description: **Client #** 188031

Jensen Elem.-Misc. I

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Blue/Clear

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	1
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	99

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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Urbandale, IA 50322

Lab Id #: 117326
Project No:

Sample Description: **Client #** 188032

Jensen Elem.-Misc. J

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: White

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components

Cellulose:	2
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	25
Other Fibrous Component	ND
Nonfibrous	73

Analyst Notes: No asbestos detected in mastic

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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Urbandale, IA 50322

Lab Id #: 117327
Project No:

Sample Description: **Client #** 188033

Jensen Elem.-Misc. J

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: White

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

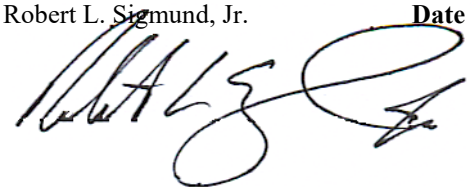
Other Components

Cellulose:	2
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	25
Other Fibrous Component	ND
Nonfibrous	73

Analyst Notes: No asbestos detected in mastic

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024



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Urbandale, IA 50322

Lab Id #: 117328
Project No:

Sample Description: **Client #** 188034

Jensen Elem.-Misc. K

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	5
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	95

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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Urbandale, IA 50322

Lab Id #: 117329
Project No:

Sample Description: **Client #** 188035

Jensen Elem.-Misc. L

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Clear

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	1
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	99

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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6200 Aurora Avenue
Urbandale, IA 50322

Lab Id #: 117330
Project No:

Sample Description: **Client #** 188036

Jensen Elem.-Misc. M

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Tan

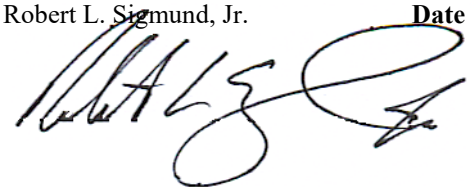
Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	3
Crocidolite:	ND
Total Asbestiforms:	3

Other Components	
Cellulose:	ND
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	97

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024



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Urbandale, IA 50322

Lab Id #: 117331
Project No:

Sample Description: **Client #** 188037

Jensen Elem.-Misc. N

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Silver/Tan/Yellow

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	10
Fibrous Glass:	80
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	10

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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6200 Aurora Avenue
Urbandale, IA 50322

Lab Id #: 117332
Project No:

Sample Description: **Client #** 188038

Jensen Elem.-Misc. N

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Silver/Tan/Yellow

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	10
Fibrous Glass:	80
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	10

Analyst Notes:

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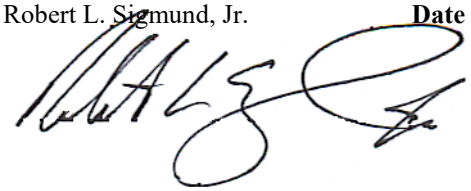
Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024



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6200 Aurora Avenue
Urbandale, IA 50322

Lab Id #: 117333
Project No:

Sample Description: **Client #** 188039

Jensen Elem.-Misc. O

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Tan

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	3
Crocidolite:	ND
Total Asbestiforms:	3

Other Components

Cellulose:	ND
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	97

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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Urbandale, IA 50322

Lab Id #: 117334
Project No:

Sample Description: **Client #** 188040

Jensen Elem.-Misc. O

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Brown

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	2
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	98

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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6200 Aurora Avenue
Urbandale, IA 50322

Lab Id #: 117335
Project No:

Sample Description: **Client #** 188041

Jensen Elem.-Misc. O

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Brown

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	2
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	98

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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Urbandale Community School Dist.
6200 Aurora Avenue
Urbandale, IA 50322

Lab Id #: 117336
Project No:

Sample Description: **Client #** 188042

Jensen Elem.-Misc. O

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Brown

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	2
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	98

Analyst Notes:

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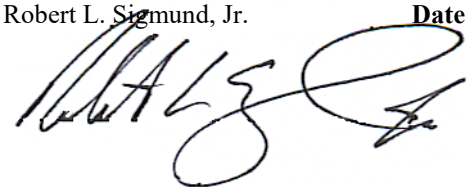
Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024



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Urbandale Community School Dist.
6200 Aurora Avenue
Urbandale, IA 50322

Lab Id #: 117337
Project No:

Sample Description: **Client #** 188043

Jensen Elem.-Misc. O

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Brown

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	2
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	98

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

ANALYTICAL REPORT

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Urbandale Community School Dist.
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Urbandale, IA 50322

Lab Id #: 117338
Project No:

Sample Description: **Client #** 188044

Jensen Elem.-Misc. P

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	1
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	99

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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Urbandale, IA 50322

Lab Id #: 117339
Project No:

Sample Description: **Client #** 188045

Jensen Elem.-Misc. Q

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: White/Yellow

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	ND
Fibrous Glass:	95
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	5

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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Urbandale, IA 50322

Lab Id #: 117340
Project No:

Sample Description: **Client #** 188046

Jensen Elem.-Misc. R

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: White

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND
Other Components	
Cellulose:	5
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	95

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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Urbandale, IA 50322

Lab Id #: 117341
Project No:

Sample Description: **Client #** 188047

Jensen Elem.-Misc. S

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Yellow

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	3
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	97

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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Urbandale, IA 50322

Lab Id #: 117342
Project No:

Sample Description: **Client #** 188048

Jensen Elem.-Misc. S

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Yellow

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND
Other Components	
Cellulose:	3
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	97

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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Lab Id #: 117343
Project No:

Sample Description: **Client #** 188049

Jensen Elem.-Misc. S

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Yellow

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	3
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	97

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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Lab Id #: 117344
Project No:

Sample Description: **Client #** 188050

Jensen Elem.-Misc. T

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND
Other Components	
Cellulose:	15
Fibrous Glass:	15
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	70

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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Lab Id #: 117345
Project No:

Sample Description: **Client #** 188051

Jensen Elem.-Misc. T

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	15
Fibrous Glass:	15
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	70

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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6200 Aurora Avenue
Urbandale, IA 50322

Lab Id #: 117346
Project No:

Sample Description: **Client #** 188052

Jensen Elem.-Misc. U

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	45
Fibrous Glass:	20
Synthetics	ND
Perlite:	20
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	15

Analyst Notes:

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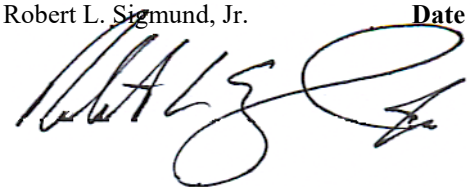
Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024



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Lab Id #: 117347
Project No:

Sample Description: **Client #** 188053

Jensen Elem.-Misc. V

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	5
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	95

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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Urbandale, IA 50322

Lab Id #: 117348
Project No:

Sample Description: **Client #** 188054

Jensen Elem.-Misc. V

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	5
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	95

Analyst Notes:

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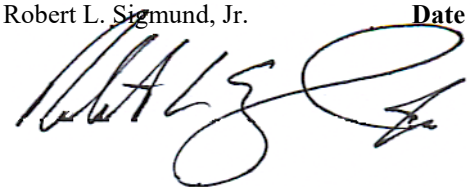
Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024



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Urbandale, IA 50322

Lab Id #: 117349
Project No:

Sample Description: **Client #** 188055

Jensen Elem.-Misc. V

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	5
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	95

Analyst Notes:

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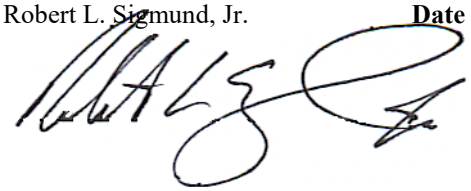
Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024



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Urbandale, IA 50322

Lab Id #: 117350
Project No:

Sample Description: **Client #** 188056

Jensen Elem.-Misc. W

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Silver/White

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	35
Fibrous Glass:	15
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	50

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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Urbandale, IA 50322

Lab Id #: 117351
Project No:

Sample Description: **Client #** 188057

Jensen Elem.-Misc. X

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Tan

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	1
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	99

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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Urbandale, IA 50322

Lab Id #: 117352
Project No:

Sample Description: **Client #** 188058

Jensen Elem.-Misc. Y

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Yellow

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	1
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	99

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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Urbandale, IA 50322

Lab Id #: 117353
Project No:

Sample Description: **Client #** 188059

Jensen Elem.-Misc. Z

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Brown

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	3
Crocidolite:	ND
Total Asbestiforms:	3
Other Components	
Cellulose:	ND
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	97

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

ANALYTICAL REPORT

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Urbandale Community School Dist.
6200 Aurora Avenue
Urbandale, IA 50322

Lab Id #: 117354
Project No:

Sample Description: **Client #** 188060

Jensen Elem.-Misc. AA

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: White

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	2
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	98

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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Urbandale, IA 50322

Lab Id #: 117355
Project No:

Sample Description: **Client #** 188061

Jensen Elem.-Misc. BB

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Red/Brown

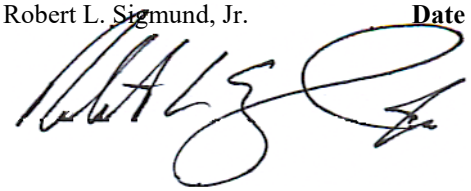
Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	5
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	95

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024



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Lab Id #: 117356
Project No:

Sample Description: **Client #** 188062

Jensen Elem.-Misc. CC

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Tan

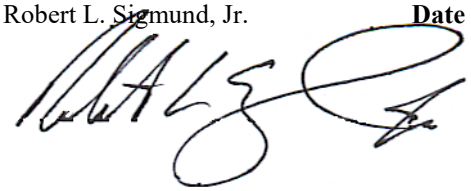
Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	3
Crocidolite:	ND
Total Asbestiforms:	3

Other Components	
Cellulose:	ND
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	97

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024



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Urbandale, IA 50322

Lab Id #: 117357
Project No:

Sample Description: **Client #** 188063

Jensen Elem.-Misc. DD

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	2
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	98

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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Lab Id #: 117358
Project No:

Sample Description: **Client #** 188064

Jensen Elem.-Misc. EE

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: White

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND
Other Components	
Cellulose:	ND
Fibrous Glass:	85
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	15

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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Lab Id #: 117359
Project No:

Sample Description: **Client #** 188065

Jensen Elem.-Misc. FF

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	2
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	98

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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Lab Id #: 117360
Project No:

Sample Description: **Client #** 188066

Jensen Elem.-Misc. GG

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Tan

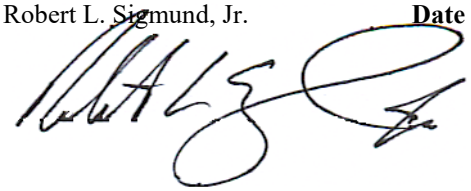
Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	90
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	10

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024



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Urbandale, IA 50322

Lab Id #: 117361
Project No:

Sample Description: **Client #** 188067

Jensen Elem.-Misc. HH

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: White

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	2
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	98

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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Urbandale, IA 50322

Lab Id #: 117362
Project No:

Sample Description: **Client #** 188068

Jensen Elem.-Misc. II

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Black

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	2
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	98

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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Urbandale, IA 50322

Lab Id #: 117363
Project No:

Sample Description: **Client #** 188069

Jensen Elem.-Misc. JJ

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Tan

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	2
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	98

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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Urbandale, IA 50322

Lab Id #: 117364
Project No:

Sample Description: **Client #** 188070

Jensen Elem.-Misc. KK

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Black

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND
Other Components	
Cellulose:	ND
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	100

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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6200 Aurora Avenue
Urbandale, IA 50322

Lab Id #: 117365
Project No:

Sample Description: **Client #** 188071

Jensen Elem.-Misc. LL

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	50
Fibrous Glass:	35
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	15

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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Urbandale, IA 50322

Lab Id #: 117366
Project No:

Sample Description: **Client #** 188072

Jensen Elem.-Misc. MM

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: White

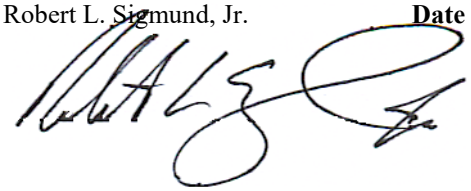
Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	2
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	25
Other Fibrous Component	ND
Nonfibrous	73

Analyst Notes: No asbestos detected in mastic

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024



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6200 Aurora Avenue
Urbandale, IA 50322

Lab Id #: 117367
Project No:

Sample Description: **Client #** 188073

Jensen Elem.-Misc. MM

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: White

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components

Cellulose:	2
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	25
Other Fibrous Component	ND
Nonfibrous	73

Analyst Notes: No asbestos detected in mastic

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 7/31/2024

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Urbandale Community School Dist.
6200 Aurora Avenue
Urbandale, IA 50322

Lab Id #: 117368
Project No:

Sample Description: **Client #** 188074

Jensen Elem.-Misc. NN

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Yellow

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND
Other Components	
Cellulose:	2
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	98

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/1/2024

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Urbandale Community School Dist.
6200 Aurora Avenue
Urbandale, IA 50322

Lab Id #: 117369
Project No:

Sample Description: **Client #** 188075

Jensen Elem.-Misc. OO

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: White

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	1
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	99

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/1/2024

ANALYTICAL REPORT

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Urbandale Community School Dist.
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Urbandale, IA 50322

Lab Id #: 117370
Project No:

Sample Description: **Client #** 188076

Jensen Elem.-Misc. PP

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	1
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	99

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/1/2024

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Urbandale Community School Dist.
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Urbandale, IA 50322

Lab Id #: 117371
Project No:

Sample Description: **Client #** 188077

Jensen Elem.-Misc. QQ

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	1
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	99

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/1/2024

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Lab Id #: 117372
Project No:

Sample Description: **Client #** 188078

Jensen Elem.-Misc. RR

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	1
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	99

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/1/2024

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Lab Id #: 117373
Project No:

Sample Description: **Client #** 188079

Jensen Elem.-Misc. RR

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components

Cellulose:	3
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	97

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/1/2024

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Lab Id #: 117374
Project No:

Sample Description: **Client #** 188080

Jensen Elem.-Misc. RR

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	1
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	99

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/1/2024

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Lab Id #: 117375
Project No:

Sample Description: **Client #** 188081

Jensen Elem.-Misc. SS

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	2
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	98

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/1/2024

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Lab Id #: 117376
Project No:

Sample Description: **Client #** 188082

Jensen Elem.-Misc. TT

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	1
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	99

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/1/2024

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Urbandale, IA 50322

Lab Id #: 117377
Project No:

Sample Description: **Client #** 188083

Jensen Elem.-Misc. TT

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	1
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	99

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/1/2024

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6200 Aurora Avenue
Urbandale, IA 50322

Lab Id #: 117378
Project No:

Sample Description: **Client #** 188084

Jensen Elem.-Misc. UU

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	1
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	99

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/1/2024

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Urbandale, IA 50322

Lab Id #: 117379
Project No:

Sample Description: **Client #** 188085

Jensen Elem.-Misc. VV

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND
Other Components	
Cellulose:	1
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	99

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/1/2024

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Urbandale, IA 50322

Lab Id #: 117380
Project No:

Sample Description: **Client #** 188086

Jensen Elem.-Misc. WW

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Black

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	10
Crocidolite:	ND
Total Asbestiforms:	10
Other Components	
Cellulose:	ND
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	90

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/1/2024

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Urbandale, IA 50322

Lab Id #: 117381
Project No:

Sample Description: **Client #** 188087

Jensen Elem.-Misc. WW

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Black

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	10
Crocidolite:	ND
Total Asbestiforms:	10

Other Components	
Cellulose:	ND
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	90

Analyst Notes:

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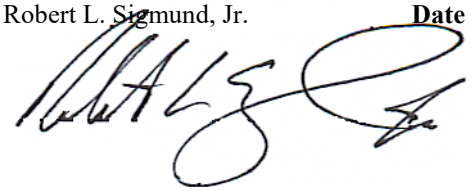
Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/1/2024



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Lab Id #: 117382
Project No:

Sample Description: **Client #** 188088

Jensen Elem.-Misc. WW

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Black

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	10
Crocidolite:	ND
Total Asbestiforms:	10

Other Components	
Cellulose:	ND
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	90

Analyst Notes:

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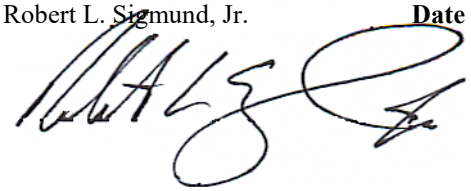
Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/1/2024



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Urbandale, IA 50322

Lab Id #: 117383
Project No:

Sample Description: **Client #** 188089

Jensen Elem.-Misc. XX

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	3
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	97

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/1/2024

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6200 Aurora Avenue
Urbandale, IA 50322

Lab Id #: 117384
Project No:

Sample Description: **Client #** 188090

Jensen Elem.-Misc. YY

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Black

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND
Other Components	
Cellulose:	ND
Fibrous Glass:	25
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	75

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/1/2024

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Urbandale Community School Dist.
6200 Aurora Avenue
Urbandale, IA 50322

Lab Id #: 117385
Project No:

Sample Description: **Client #** 188091

Jensen Elem.-Misc. ZZ

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Black

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND
Other Components	
Cellulose:	20
Fibrous Glass:	20
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	60

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/1/2024

ANALYTICAL REPORT

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Urbandale Community School Dist.
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Urbandale, IA 50322

Lab Id #: 117391
Project No:

Sample Description: **Client #** 188092

Jensen Elem.-Misc. AAA

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Black

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND
Other Components	
Cellulose:	35
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	65

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/1/2024

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Lab Id #: 117392
Project No:

Sample Description: **Client #** 188093

Jensen Elem.-Misc. BBB

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Black

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	10
Crocidolite:	ND
Total Asbestiforms:	10
Other Components	
Cellulose:	30
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	60

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/1/2024

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Lab Id #: 117393
Project No:

Sample Description: **Client #** 188094

Jensen Elem.-Misc. CCC

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	1
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	99

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/1/2024

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Lab Id #: 117394
Project No:

Sample Description: **Client #** 188095

Jensen Elem.-Misc. DDD

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Black

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND
Other Components	
Cellulose:	30
Fibrous Glass:	10
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	60

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/1/2024

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Lab Id #: 117395
Project No:

Sample Description: **Client #** 188096

Jensen Elem.-Misc. EEE

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Black

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND
Other Components	
Cellulose:	30
Fibrous Glass:	5
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	65

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/1/2024

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Lab Id #: 117396
Project No:

Sample Description: **Client #** 188097

Jensen Elem.-Misc. FFF

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Black/Gray/White

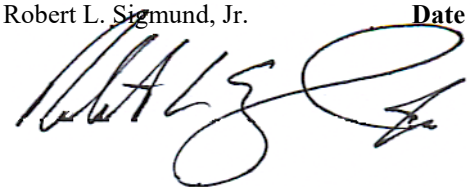
Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	75
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	25

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/1/2024



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Lab Id #: 117397
Project No:

Sample Description: **Client #** 188098

Jensen Elem.-Misc. GGG

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: White

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	1
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	99

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/1/2024

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Lab Id #: 117398
Project No:

Sample Description: **Client #** 188099

Jensen Elem.-Misc. HHH

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Black/Yellow

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND
Other Components	
Cellulose:	45
Fibrous Glass:	5
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	50

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/1/2024

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Lab Id #: 117399
Project No:

Sample Description: **Client #** 188100

Jensen Elem.-Misc. III

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Black

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	30
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	70

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/1/2024

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Urbandale, IA 50322

Lab Id #: 117400
Project No:

Sample Description: **Client #** 188101

Jensen Elem.-Misc. JJJ

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Black

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND
Other Components	
Cellulose:	30
Fibrous Glass:	10
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	60

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/1/2024

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Urbandale, IA 50322

Lab Id #: 117401
Project No:

Sample Description: **Client #** 188102

Jensen Elem.-Misc. KKK

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Black

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND
Other Components	
Cellulose:	30
Fibrous Glass:	10
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	60

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/1/2024

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Lab Id #: 117402
Project No:

Sample Description: **Client #** 188103

Jensen Elem.-Misc. LLL

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Black

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND
Other Components	
Cellulose:	30
Fibrous Glass:	10
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	60

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/1/2024

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6200 Aurora Avenue
Urbandale, IA 50322

Lab Id #: 117403
Project No:

Sample Description: **Client #** 188104

Jensen Elem.-Misc. MMM

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: Black

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND
Other Components	
Cellulose:	30
Fibrous Glass:	5
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	65

Analyst Notes:

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Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/1/2024

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Lab Id #: 117404
Project No:

Sample Description: **Client #** 188105

Jensen Elem.-Misc. NNN

Date Taken: 7/30/2024 **Date Received:** 7/30/2024

Asbestos Identification

Sample Color: White/Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND
Other Components	
Cellulose:	1
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	99

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/1/2024

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6200 Aurora Avenue
Urbandale, IA 50322

Lab Id #: 117527
Project No:

Sample Description: **Client #** 188204

Jensen Elem.-Room 021 Door Caulk

Date Taken: 8/8/2024 **Date Received:** 8/8/2024

Asbestos Identification

Sample Color: Beige/Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	2
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	98

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/9/2024

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Urbandale Community School Dist.
6200 Aurora Avenue
Urbandale, IA 50322

Lab Id #: 117528
Project No:

Sample Description: **Client #** 188205

Jensen Elem.-Room 021 Block Wall Caulk

Date Taken: 8/8/2024 **Date Received:** 8/8/2024

Asbestos Identification

Sample Color: Beige/Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	ND
Crocidolite:	ND
Total Asbestiforms:	ND

Other Components	
Cellulose:	1
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	99

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/9/2024

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Urbandale, IA 50322

Lab Id #: 117531
Project No:

Sample Description: **Client #** 188283

Jensen Elem.-North Entry Ceiling-Transite

Date Taken: 8/12/2024 **Date Received:** 8/12/2024

Asbestos Identification

Sample Color: Gray

Fibrous Asbestiforms	**Estimated % by volume**
Actinolite/Tremolite:	ND
Amosite:	ND
Anthophylite:	ND
Chrysotile:	15
Crocidolite:	ND
Total Asbestiforms:	15
Other Components	
Cellulose:	ND
Fibrous Glass:	ND
Synthetics	ND
Perlite:	ND
Horse Hair:	ND
Quartz:	ND
Other Fibrous Component	ND
Nonfibrous	85

Analyst Notes:

All analysis are performed by polarized light microscopy using the EPA 600/R-93-116 Method. Disclaimer: PLM has been know to miss asbestos in a small percentage of samples reported which contain asbestos. Thus negative results cannot be guarantee Iowa Environmental Services, Inc. suggest that samples reported as <1% or nondetected to be tested with either SEM or TEM. above analytical report relates only to the sample submitted for analysis. This report may not be reproduced, except in full witho written approval of Iowa Environmental Services, Inc. This laboratory is not responsible for the accuracy of results when request to physically separate and analyse layered samples. Member of the American Industrial Hygiene Association(AIHA) Bulk Quality Assurance Program, Laboratory ID: 101039

Analyzed By: Robert L. Sigmund, Jr. **Date Analyzed:** 8/12/2024