

**LIMITED HAZARDOUS BUILDING MATERIALS
ASSESSMENT SURVEY
MARIE DRAKE SCHOOL
1415 GLACIER HIGHWAY
JUNEAU, ALASKA**

AMENDED - MARCH 15TH, 2012

Prepared for:
Jensen Yorba Lott
522 West 10th Street
Juneau, ALASKA

Prepared By:



Environmental Engineering & Industrial Hygiene Consultants

2400 College Road
Fairbanks, Alaska 99709
p. 907.452.5688
f. 907.452.5694

3105 Lakeshore Dr. Ste 106A
Anchorage, Alaska 99517
p. 907.222.2445
f. 907.222.0915

Managing Office
4402 Thane Road
Juneau, Alaska 99801
p: 907.586.6813
f: 907.586.6819

www.nortechengr.com

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1.0 Executive Summary

This Hazardous Materials Inspection Report has been completed by **NORTECH Environmental Engineering, Health & Safety Consultants (NORTECH)**, as an environmental consultant to Jensen Yorba Lott (JYL). This Hazardous Materials investigation has been prepared to address and identify asbestos containing building materials (ACBM) at the Marie Drake School in Juneau, Alaska and associated regulatory constraints involved with management, hazardous material abatement and/or renovation of the building.

NORTECH was retained by JYL to review past surveys of the building, provide asbestos sampling and a report of our findings of building materials in the areas of the Marie Drake School that will be affected by renovations to be designed by JYL. The Marie Drake School has planned renovation of the gymnasium, reconfiguration of the first floor south side classrooms, renovation of the two existing restrooms on each floor to meet ADA standards, and upgrades to the existing elevator. The investigation was limited primarily to these areas. The Boys and Girls locker rooms were inaccessible during the survey investigation. The only sampling performed in the basement boiler rooms were of components associated with the elevator shaft and AHU equipment servicing the school.

Based on the site inspection and sample results the following building materials of concern were identified:

Asbestos Containing Building Materials (ACBM):

- Friable, Category I
 - White cementitious pipe insulation on pipe runs, elbows and various pipe joints
 - AHU duct tape
- Non Friable, Category II
 - Residual black floor tile mastic beneath carpet
 - Grey cement asbestos board
 - Tan wall panel mastic
 - Sink Undercoating
 - Floor tile and mastics
 - Gypsum wallboard contaminated with ACM joint compound

All hazardous materials previously identified, identified during this survey, or discovered during renovation, require careful handling, appropriate work practices and proper disposal in accordance with applicable federal and state regulatory guidelines. Hazardous materials information associated with the building should be made available to employees, renovation contractors and/or the abatement workers associated with

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the renovation of the building. Project renovation specifications should include these findings and, where appropriate, require the contractor to submit a work-plan for approval.

2.0 Background

NORTECH was retained by Jensen Yorba Lott in Juneau, Alaska to complete a limited hazardous material inspection of the Marie Drake School prior to renovations. The Marie Drake School is scheduled for renovation which will include renovation of the gymnasium, reconfiguration of the first floor classrooms, renovation and addition of the ADA- compliant restrooms and upgrade of an existing elevator.

The Marie Drake building was built in 1965 as a junior high school. A library addition was completed in 1984. The building was replaced by the Dzantik’l Heeni Middle School in 1994 and has been used as overflow space for the Harborview Elementary School, the Juneau-Douglas High School, and other Juneau School District programs.

Past renovations include removal of all ACM thermal system insulation in 1988 in the first floor mechanical room, basement room 102 and 110, the equipment storage room 423 of the gymnasium, and the mechanical room off the wood shop. The Marie Drake School also had a new EPDM single-ply roofing system installed in 2002 that included removal of ACM roofing down to clean concrete deck, ADA renovations in 2004, a boiler room upgrade in 2010 that included removal of ACM boilers and most of ACM duct insulation, and replacement of exterior windows in 2011 that included removal of gypsum wallboard contaminated with asbestos joint compound at exterior walls above 34" in rooms where windows were replaced.

3.0 Scope of Work

NORTECH was retained by JYL in Juneau, Alaska to complete a limited hazardous material inspection of the areas within the Marie Drake School planned for renovation. Project scope of work included asbestos sample collection and analysis, hazardous materials inspection and reporting of inspection and sampling results. This limited inspection was to address observed hazards within areas of the school not sampled and tested for hazardous materials in previous assessment surveys. The intent of this limited assessment survey was to fill in gaps between previous documented surveys performed on the school and primarily address and/or confirm observed and documented hazards within the current planned project scope of work. **NORTECH**'s report of these current findings will be included within the school's AHERA management plan to create a more comprehensive documented assessment of school construction materials for future planned work.

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4.0 Methodology

The hazardous material survey was conducted in accordance with the requirements of the Occupational Safety and Health Administration (OSHA) found in 29 CFR 1926. These regulations state that, before authorizing or allowing any construction, demolition, renovation, or remodeling, the owner or owner's agent, or employer, must notify contractors or other persons of the location and quantities of Asbestos Containing Material (ACM) within the work area.

U.S. Environmental Protection Agency National Emissions Standards for Hazardous Air Pollutants (NESHAP) requires a thorough inspection for friable and non-friable ACM by an accredited AHERA inspector prior to any renovation or demolition activity (40 CFR 61.145). NESHAP also requires notification for removal or abatement of regulated quantities of ACM (>260 linear feet, >160 square feet, or >35 cubic feet of regulated asbestos containing material (RACM)).

The sampling collection technique used during the survey generally followed the Asbestos Hazard Emergency Response Act (AHERA) method as defined in 40 CFR 763. All samples collected for analysis were transported under a standard chain of custody. Laboratory analysis of samples was completed by IATL International Asbestos Testing Laboratories of Mt. Laurel, New Jersey, a laboratory certified through the National Voluntary Laboratory Accreditation Program to perform asbestos analysis by polarized light microscopy (PLM) according to EPA method 600/R/93/116 to determine the percent concentration by weight as required by the current OSHA standard. Building materials containing 1% or greater asbestos content are considered to be asbestos-containing materials (ACM). Asbestos inspection and sampling was completed by an individual with current EPA AHERA inspector certification.

The inspection of building materials at the Marie Drake School was performed by an experienced environmental field technician utilizing standard industrial hygiene practices dedicated to the anticipation, recognition, evaluation and control of those factors or stressors arising in or from the workplace, which may cause sickness; impaired health and well-being; or significant discomfort among workers and/or the general public. All work was reviewed and signed off by a board Certified Industrial Hygienist (CIH) or Registered Professional Engineer (PE).

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5.0 Limitations

NORTECH provides a level of service that is performed within the standard of care and competence found within this practice and the engineering profession. It must be recognized that limitations in a hazardous material inspection and assessment exist. The data presented in this report should be considered representative of only the time of our inspection and was given focus on interior materials, only, per client directive. In addition, changes in the condition of the facility can occur with the passing of time, due to natural processes and/or from human activities. **NORTECH** has performed the work, made the findings, and proposed the recommendations described in this report in accordance with generally accepted practice and technology available at the time the work was performed.

NORTECH has based its conclusions and recommendations on our current understanding of regulatory policies. The regulations concerning hazardous materials are constantly changing, including the interpretations of regulating agencies. If changes in regulations or their interpretation occur, then **NORTECH** reserves the right to amend or revise conclusions and/or recommendations.

6.0 Field Activities

On January 6 and 7, 2012, a member of **NORTECH**'s staff completed a limited hazardous material inspection of the Marie Drake School building Located in Juneau, Alaska. A **NORTECH** Hazardous Materials Specialist collected a total of 81 samples of building materials around the first and second floor South classrooms, offices and closets, as well as the elevator and gymnasium scheduled to be renovated as part of upgrades to the building for its future use as overflow for various school programs. Some of those samples were collected outside those parameters in an effort to tie in prior surveys performed by others within Marie Drake school in conjunction with the results of **NORTECH**'s recent survey investigation.

NORTECH personnel collected samples of various pipe insulation, flooring and mastics, joint compounds, gypsum wall board (GWB), carpet mastics, acoustical ceiling tile and mastics, wallboard mastics, tapes and cloths associated with air handling units, sink undercoating, insulation board, concrete finishes and interior finishes of the elevator coach. A total of 81 samples were collected during the survey and submitted for laboratory analysis by polarized light microscopic (PLM) method.

Other hazardous materials were watched for and observed during the survey investigation. A representative floor plan of the structure was provided by JYL to depict sample locations and materials quantified (see figures H1 & H2).

7.0 Sample Results

Asbestos

The summary of ACM samples, description, and results are presented in Table 1 and locations are depicted in figures H1 & H2. The following ACM were identified:

Asbestos Containing Building Materials (ACBM):

- Friable, Category I
 - White cementitious pipe insulation on pipe runs, elbows and various pipe joints
 - AHU duct tape
- Non Friable, Category II
 - Residual black floor tile mastics beneath rubber flooring and carpets
 - Grey cement asbestos board
 - Tan wall panel mastic
 - Sink Undercoating
 - Floor tile and mastics
 - Gypsum wallboard contaminated with ACM joint compound
 - Speaker boxes with ACM coating inside (Presumed ACM)

Other Hazardous materials

NORTECH found other hazardous building material components during this inspection. These components include fluorescent tube light bulbs and tubes containing mercury, emergency exit signs, emergency lighting and smoke detectors containing batteries. Speaker boxes for announcements typically containing ACM sound deadening coating inside. Smoke detectors and emergency exit signs containing radioactive material.

8.0 Analysis

Asbestos

A total of 81 suspect ACM samples were sent to IATL Laboratories in Mt. Laurel, New Jersey for PLM analysis. Laboratory analysis confirmed asbestos content greater than 1% in the following building materials.

- **Friable, Category I**
 - White cementitious pipe insulation on pipe runs, elbows and various pipe joints Unknown amount
 - AHU duct tape 400 L.F.
- **Non Friable, Category II**
 - Residual black floor mastics beneath carpet in I.T. offices 300 sq. ft.
 - Grey cement asbestos board 250 sq. ft.

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| | |
|--|-----------------|
| ▪ Tan wall panel mastic | 400 sq. ft. |
| ▪ Sink Undercoating | 20 ea. |
| ▪ Floor tile and mastics | 14,600 sq. ft. |
| ▪ Gypsum wallboard contaminated with ACM joint compound | 232,000 sq. ft. |
| ▪ Speaker boxes with ACM coating (<i>Presumed ACM</i>) | 80 ea. |

Friable ACM discovered prior to or during renovation will require removal by a certified asbestos abatement contractor using Class 1 work methods.

Non-friable category II ACBM may be removed by a certified asbestos abatement contractor using Class II work methods prior to renovation, or may remain in the building after renovation.

Lead

Previous lead paint surveys have extensively sampled each painted surface throughout the Marie Drake School with documented results. Investigation of painted surfaces of the school, compared to previous documentation, revealed no significant changes to warrant additional testing.

Other Hazardous materials

NORTECH found other hazardous building material components during this inspection. These components include 2,300 fluorescent tube light bulbs containing mercury, 16 emergency exit signs with lead-acid batteries, 11 emergency lights containing lead-acid batteries, 2 emergency exit signs containing radioactive material, 60 smoke detectors with radioactive Americium.

9.0 Conclusions and Recommendations

A visual inspection and sampling of building materials within the Marie Drake School was completed to identify ACM building materials and potential hazards prior to planned renovations.

Based on the assessment findings **NORTECH** developed the following conclusions and recommendations:

- Friable ACM, Category I pipe insulation was identified and require proper removal and disposal by a certified asbestos abatement contractor using Class 1 work methods prior to plumbing demolition, repairs and re-configuration.
- Friable ACM Category I AHU duct tape exists on mechanical room AHU ductwork and requires proper removal and disposal by a certified asbestos abatement contractor using Class 1 work methods prior to AHU demolition and reconfiguration.

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- Non-Friable ACM Category II residual black floor tile mastic exists beneath carpeting where ACM floor tiles and mastic had once been removed, these locations are throughout the Marie Drake school. Floor tiles and black mastic exists in many areas throughout the school as well. Residual mastics from ACM flooring must be watched for during removal of other non-ACM flooring during renovation. Areas where residual mastics exist in significant quantity (other than heavy staining of sub-floor surfaces) must be properly removed and disposed of by a certified asbestos abatement contractor using Class II work methods prior to renovation.
- Non-Friable ACM Category II grey cement asbestos board exists in kitchen utility/equipment room and will require proper removal and disposal by a certified asbestos abatement contractor using Class II work methods prior to renovation.
- Non-Friable ACM Category II tan wall panel mastic exists behind Marlite wall panels of the weight room/stage of the Gymnasium. Wall panels and mastic require proper removal and disposal by a certified asbestos abatement contractor using Class II work methods prior to renovation.
- Non-Friable ACM Category II black and purple sink undercoating exists beneath stainless steel sinks throughout Marie Drake school. Sinks removed during renovation must be removed and properly disposed of by a certified asbestos abatement contractor using Class II work methods prior to renovation.
- Non-Friable ACM Category II floor tile and black mastic exists throughout Marie Drake school and must be properly removed and disposed of by a certified asbestos abatement contractor using Class II work methods prior to renovation.
- Non-Friable ACM Category II gypsum wallboard contaminated with ACM joint compound exists throughout Marie Drake school. Gypsum wallboard disturbed or removed will require proper removal, handling and disposal by a certified asbestos abatement contractor using Class II work methods prior to renovation.
- (Presumed ACM) Non-Friable ACM Category II asbestos-containing sound deadening coating inside speaker boxes throughout Marie Drake school. Speaker boxes removed during demolition and not re-used within the school will require proper removal and disposal by a certified asbestos abatement contractor using Class II work methods prior to renovation.
- Fluorescent tube light bulbs contain mercury and must be disposed of as hazardous waste.
- Emergency exit signs and emergency lighting containing lead-acid batteries, if not reused in the school, must be relieved of their batteries and the batteries disposed through proper recycling protocols.
- Emergency exit signs and smoke detectors containing radioactive material that are not reused in the school must be returned to their manufacturer for proper disposal.

All information about hazardous materials associated with the building should be made available to employees and contractors with regard to the handling or renovation of the building. Project specifications should note these inspection findings, address

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concerns identified and, where appropriate, require the contractor to submit a work-plan for approval.

NORTECH did not conduct any assessment work on the facility for lead based paint, as directed.

Previous hazardous materials assessment reports for the facility prepared by others are attached as Appendix D. **NORTECH** has field verified areas of concern identified by others, and sampled areas (mechanical room and pipe insulation) to confirm where previous work ended. **NORTECH** cannot verify the validity or completeness of work prepared by others. **NORTECH's** Scope of Work was restricted to indentifying materials of concern within the 2012 Marie Drake School Renovation project.

We trust that this information is sufficient for your needs at this time. If you have any questions or comments regarding this information, please contact **NORTECH**. We appreciate the opportunity to work with you on this project and your confidence in our Firm.

10.0 SIGNATURES OF ENVIRONMENTAL PROFESSIONALS

NORTECH is a Fairbanks-based, professional consulting firm, established in 1981, offering environmental engineering, civil engineering, and industrial hygiene consulting services. **NORTECH** has offices in Fairbanks, Anchorage and Juneau and has completed numerous Phase I ESAs and other property and/or building inspections across Alaska.

We declare that, to the best of our professional knowledge and belief, we meet the definition of environmental professional as defined in §312.10 of 40 CFR 312. We have the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the site. We have developed and performed all the appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Mr. Frank White is a Hazardous Materials Specialist. He attended University of Alaska Anchorage from 1976-1977 for Civil Engineering and Survey Drafting, and the University of Puget Sound, Pacific Lutheran University, Tacoma Community Colleges from 1981-1989. Mr. White is a Certified EPA/AHERA Building Inspector; 40 Hr. HAZWOPER certified; Confined Space Entry certified; State of Alaska 40 Hr Asbestos Abatement Worker-Supervisor Certified; 30 Hr. OSHA Safety Certified; NSTC Certified; North Slope Driving certified; and NITON XRF Lead Paint Analyzer equipment trained. He is trained and experienced in performing Hazardous Materials Surveys for commercial and residential structures. He routinely performs onsite inspection and sampling for bulk asbestos, lead based paint and other hazardous materials for many

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clients across the State of Alaska. He has experience conducting project oversight involving Safety and compliance to project design specifications, Federal and State regulations; performing indoor air quality assessments; sampling for mold; noise assessments; and performing clearance air monitoring to clear commercial and public school facilities for reoccupation after abatement and renovation projects involving regulated material hazards.

Mr. Jason Ginter is Principal and Juneau Technical Manager for **NORTECH**. He has completed various hazardous materials investigations providing professional field-screening and sampling. Mr. Ginter is a qualified ADEC field sampler, an AHERA Certified Inspector (T-20065-11607) and is HAZWOPER-certified.



Survey performed by:
Frank C. White
Hazardous Materials Specialist



Jason Ginter
Principal, Juneau Technical Manager
NORTECH Sustainable Environmental Engineering, Health & Safety



ENVIRONMENTAL ENGINEERING & INDUSTRIAL HYGIENE

Anchorage: 3105A Lakeshore Dr., #A106, 99517 907.222.2445 Fax: 222.0915

Fairbanks: 2400 College Rd, 99709 907.452.5688 Fax: 452.5694

Juneau: 119 Seward St. #10, 99801 907.586.6813 Fax: 463.2550

info@nortechengr.com

www.nortechengr.com

Appendix A
Table 1 Asbestos Results

Table 1

Summary of Suspect Asbestos Containing Materials

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| Sample Number | Material Description | % Asbestos (NAD=No Asbestos Detected) | Quantities | Location |
|---------------|---|--|----------------------------|--|
| MD1712-01 | Black wall panel mastic | NAD | NA | E. wall of Gym |
| MD1712-02 | Black wall panel mastic | NAD | NA | S. wall of Gym |
| MD1712-03 | Black wall panel mastic | NAD | NA | W. wall of exit vestibule, NW corner of Gym |
| MD1712-04 | Black wall panel mastic | NAD | NA | N. wall of Gym, next to NW exit vestibule |
| MD1712-05 | White joint compound and tape | JC= PC1.6% Chrysotile PC98.4% Non-fibrous Tape= NAD | 18,500 s.f. | Ceiling of Gym, NW corner of Gym |
| MD1712-06 | Glued on acoustical ceiling tile and mastic | NAD | NA | Ceiling of Gym, NW corner of GYM |
| MD1712-06a | White gypsum wallboard | NAD | NA | Ceiling of Gym, NW corner of Gym |
| MD1712-07 | White joint compound and tape | JC= PC1.6% Chrysotile PC98.4% Non-fibrous Tape= NAD | (Same as MD1712-05) | Ceiling of Gym, near E. wall of Gym |
| MD1712-08 | Glued on acoustical ceiling tile and mastic | NAD | NA | Ceiling of Gym, near E. wall of Gym |
| MD1712-09 | White joint compound and tape | JC= PC1.8% Chrysotile PC98.2% Non-fibrous Tape= NAD | (Same as MD1712-05) | Ceiling of Gym, W. of samples A05 & A06, NW corner of Gym |
| MD1712-10 | Glued on acoustical ceiling tile and mastic | NAD | NA | Ceiling of Gym, W. of samples |



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| Sample Number | Material Description | % Asbestos (NAD=No Asbestos Detected) | Quantities | Location |
|---------------|---|---|----------------------------|--|
| | | | | A05 & A06, NW corner of Gym |
| MD1712-11 | White gypsum wallboard | NAD | NA | E. wall of Gym's SE Janitor's storage room |
| MD1712-12 | White joint compound | JC= PC1.7% Chrysotile PC98.3% Non-Fibrous | 66,000 s.f. | NW corner of Gym's SE Janitor's storage room |
| MD1712-13 | White joint compound | JC= PC1.9% Chrysotile PC98.1% Non-fibrous | (Same as MD1712-12) | E. entrance to Coach's shower room, SW corner of Gym |
| MD1712-14 | Ceramic tile mastic | NAD | NA | E. entrance to Coach's shower room, SW corner of Gym |
| MD1712-15 | White joint compound and tape | JC= PC1.7% Chrysotile PC98.7% Non-fibrous Tape=NAD | 5,500 s.f. | Ceiling of corridor outside Gym's SE exit |
| MD1712-16 | White gypsum wallboard | NAD | NA | Ceiling of corridor outside Gym's SE exit |
| MD1712-17 | Glued on acoustical ceiling tile mastic | NAD | NA | Ceiling of corridor outside Gym's SE exit |
| MD1712-18 | Cove base mastic | NAD | NA | E. wall of corridor outside Gym's SE exit |
| MD1712-19 | Black wall panel mastic | NAD | NA | E. wall of Janitor's storage room, S. corridor to Girl's locker room |
| MD1712-20 | White gypsum wallboard | NAD | NA | E. wall of Janitor's storage room, S. corridor to Girl's locker room |
| MD1712-21 | White joint compound | PC1.6% Chrysotile PC98.4% | (Same as MD1712-12) | N. wall of Janitor's storage room, |



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| Sample Number | Material Description | % Asbestos (NAD=No Asbestos Detected) | Quantities | Location |
|---------------|----------------------------------|--|-----------------|--|
| | | Non-fibrous | | S. corridor to Girl's locker room |
| MD1712-22 | Cove base mastic | NAD | NA | S. wall of corridor to Girl's locker room |
| MD1712-23 | Cove base mastic | NAD | NA | N. wall of Janitor's storage room, S. corridor to Girl's locker room |
| MD1712-24 | White gypsum wallboard | NAD | NA | S. wall of storage room N. of weight room at Gym |
| MD1712-25 | White wall texturing compound | NAD | NA | E. wall of storage room, N. of weight room at Gym |
| MD1712-26 | White wall texturing compound | NAD | NA | N. wall of storage room, N. of weight room at Gym |
| MD1712-27 | White joint compound | NAD | NA | NE exit of storage room, N. of weight room at Gym |
| MD1712-28 | Cove base mastic | NAD | NA | S. wall of storage room, N. of weight room at Gym |
| MD1712-29 | "Tektum" acoustical ceiling tile | NAD | NA | NW corner of storage room, N. of weight room at Gym |
| MD1712-30 | Tan wall panel mastic | PC2.5% Chrysotile PC97.5% Non-fibrous | 400 s.f. | N. wall of Gym stage |
| MD1712-31 | White gypsum wallboard | NAD | NA | S. wall of NE boy's restroom |
| MD1712-32 | Ceramic tile mastic | NAD | NA | N. wall of NE boy's restroom |
| MD1712-33 | Rubber flooring and mastic | NAD | NA | N. corridor leading to shop |
| MD1712-34 | White joint compound | NAD | NA | N. wall of |



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| Sample Number | Material Description | % Asbestos (NAD=No Asbestos Detected) | Quantities | Location |
|------------------|--|--|----------------------------|---|
| | | | | corridor leading to shop |
| MD1712-35 | Tan wall panel mastic | NAD | NA | N. wall of corridor leading to shop |
| MD1712-36 | White joint compound | NAD | NA | SE corner of IT room |
| MD1712-37 | Sheet vinyl and mastic | NAD | NA | SE corner of IT, inside entrance |
| MD1712-38 | Sheet vinyl and astic (Note: <i>astic</i> is residual floor tile <i>astic</i> left over from previous floor tiles) | SV= NAD Mast= PC1.5% Chrysotile PC98.5% Non-fibrous | 300 s.f. | Entrance to Office #1, IT room |
| MD1712-39 | Carpet astic (Note: <i>astic</i> is residual floor tile <i>astic</i> left over from previous floor tiles) | PC1.7% Chrysotile PC98.3% Non-fibrous | (Same as MD1712-38) | Entrance to Office #1, IT room |
| MD1712-40 | Wall carpet mastic | NAD | NA | E. wall, entrance to IT |
| MD1712-41 | Cove base mastic | NAD | NA | E. storage room of Shop |
| MD1712-42 | "Tektum" acoustical ceiling tile | NAD | NA | Ceiling, middle of Shop |
| MD1712-43 | White gypsum wallboard | NAD | NA | S. half of Music Room |
| MD1712-44 | White wall texturing compound | NAD | NA | S. half of Music Room |
| MD1712-45 | White wall texturing compound, white joint compound, wall carpet mastic | NAD | NA | N. wall of Music Room |
| MD1712-46 | Black wall panel mastic | NAD | NA | N. wall of NE Janitor's storage room |
| MD1712-47 | White cementitious pipe insulation | 10% Chrysotile Trace Cellulose 15% Fiberglass 75% Non-fibrous | 15 – 20 pipe joints | Above ceiling of NE Janitor's storage room on 2" elbow |
| MD1712-48 | White cementitious pipe insulation | 10% Chrysotile Trace Cellulose 15% Fiberglass 75% Non-fibrous | (Same as MD1712-47) | Above ceiling of NE Janitor's storage room on 4" elbow |



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| Sample Number | Material Description | % Asbestos (NAD=No Asbestos Detected) | Quantities | Location |
|---------------|---|--|------------|---|
| MD1712-49 | Grey cement board | 20% Chrysotile 80% Non-fibrous | 250 s.f. | E. wall of NE Equipment room at end of corridor behind Kitchen |
| MD1712-50 | Sheet vinyl and mastic | NAD | NA | Room 220, SW corner of room, near entrance. 1 st Floor |
| MD1712-51 | White joint compound | NAD | NA | Room 220, SW corner, near entrance. 1 st Floor |
| MD1712-52 | Purple sink undercoating | PC4.4% Chrysotile PC95.6% Non-fibrous | 14 sinks | Storage room off Intensive "I" classroom, SE corner of storage room. 1 st Floor |
| MD1712-53 | Cove base mastic | NAD | NA | Storage room off Intensive "I" classroom, SE corner of storage room. 1 st Floor |
| MD1712-54 | Glued on acoustical ceiling tile mastic | NAD | NA | Storage room ceiling, off Intensive "I" classroom, SW corner of storage room. 1 st Floor |
| MD1712-55 | White leveling compound | NAD | NA | Entrance to elevator. 1 st Floor |
| MD1712-56 | Floor tile and mastic | FT= PC2.5% Chrysotile PC97.5% Non-fibrous Mast= PC1.8% Chrysotile PC98.2% Non-fibrous | 5,600 s.f. | Janitor's storage room next to elevator, 1 st Floor |
| MD1712-57 | AHU duct tape | 60% Chrysotile 20% Cellulose 20% Non- | 150 L.F. | Mechanical room behind Janitor's |



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| Sample Number | Material Description | % Asbestos (NAD=No Asbestos Detected) | Quantities | Location |
|---------------|---|--|--------------------------|---|
| | | fibrous | | storage room by elevator. 1 st Floor |
| MD1712-58 | AHU duct tape | 50% Chrysotile 30% Cellulose 20% Non-fibrous | (Same as MD1712-57) | Mechanical room behind Janitor's storage room by elevator. 1 st Floor |
| MD1712-59 | Fibrous wallboard | NAD | NA | Mechanical room behind Janitor's storage room by elevator. 1 st Floor |
| MD1712-60 | AHU flex cloth | NAD | NA | Mechanical room behind Janitor's storage room by elevator. 1 st Floor |
| MD1712-61 | AHU flex cloth | NAD | NA | Mechanical room behind Janitor's storage room by elevator. 1 st Floor |
| MD1712-62 | White joint compound | NAD | NA | Room 229, SW corner, 1 st Floor |
| MD1712-63 | White leveling compound and carpet mastic | NA | NA | Room 229, S. middle of room, 1 st Floor |
| MD1712-64 | White gypsum wallboard | NA | NA | Behind heat register, Room 232, NW corner, exterior wall. 1 st Floor |
| MD1712-65 | White joint compound | NAD | NA | Below window of room 232, NW corner above heat register, exterior wall. 1 st Floor |
| MD1712-66 | White chalky pipe insulation | 10% Chrysotile 15% Fiberglass 75% Non- | (Estimate un-determined) | N. wall of room 232 at pipe access panel. |



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| Sample Number | Material Description | % Asbestos (NAD=No Asbestos Detected) | Quantities | Location |
|---------------|--------------------------------------|--|----------------------------|--|
| | | fibrous | | 1st Floor |
| MD1712-67 | Floor tile and mastic | FT= PC1.2% Chrysotile PC98.8% Non-fibrous Mast= PC3.5% Chrysotile PC96.5% Non-fibrous | (Same as MD1712-56) | Room 232, NE corner near entrance. 1st Floor |
| MD1712-68 | Floor tile and mastic | FT= PC1.4% Chrysotile PC98.6% Non-fibrous Mast= PC3.7% Chrysotile PC96.3% Non-fibrous | (Same as MD1712-56) | SE office off S. end of Room 232. 1st Floor |
| MD1712-69 | Purple sink undercoating | PC4.1% Chrysotile PC95.9% Non-fibrous | (Same as MD1712-52) | SE office off S. end of Room 232, 1st Floor |
| MD1712-70 | Black sink undercoating | PC2.5% Chrysotile PC97.5% Non-fibrous | (Same as MD1712-52) | Room 236, E. wall. 1st Floor |
| MD1712-71 | Ceramic tile and mastic | NAD | NA | Boys restroom, 1st Floor |
| MD1712-72 | Floor tile | PC1.3% Chrysotile PC98.7% Non-fibrous | (Same as MD1712-56) | Room 242, S. middle. 1st Floor |
| MD1712-72a | White wall texturing compound | NAD | NA | Room 230, S. wall next to hallway. 1st Floor |
| MD1712-73 | Wall panel finish surface | NAD | NA | Elevator Coach, Basement |
| MD1712-74 | Ceiling panel finish surface | NAD | NA | Elevator Coach, Basement |
| MD1712-75 | Carpet mastic | NAD | NA | Elevator Coach, Basement |
| MD1712-76 | Cement surface coat | NAD | NA | Elevator shaft, Basement |
| MD1712-77 | AHU duct tape | 60% Chrysotile 20% Cellulose 20% Non-fibrous | 150L.F. | Maintenance room nearest to elevator shaft, |



Environmental Engineering & Industrial Hygiene Consultants

J Yorba Lot, Architect
Marie Drake School Juneau, AK
February, 2012

| Sample Number | Material Description | % Asbestos (NAD=No Asbestos Detected) | Quantities | Location |
|---------------|---|--|----------------------------|---|
| MD1712-78 | Sheet vinyl and maстic (Note: <i>maстic</i> is residual floor tile <i>maстic</i> left over from previous floor tiles) | SV= NAD Mast= PC0.75% Chrysotile 15% Fiberglass 85% Non-fibrous | 6,500 s.f. | Basement Room 309, NE corner near entrance, 2nd Floor |
| MD1712-79 | Black sink undercoating | PC2.3% Chrysotile PC97.7% Non-fibrous | 6 sinks | Room 311, S. wall, 2nd Floor |
| MD1712-80 | Floor tile and mastic | FT= PC1.5% Chrysotile PC98.5% Non-fibrous Mast= PC3.6% Chrysotile PC96.4% Non-fibrous | (Same as MD1712-78) | NE corner of Janitor's storage room near elevator, 2nd Floor |



ENVIRONMENTAL ENGINEERING & INDUSTRIAL HYGIENE

Anchorage: 3105A Lakeshore Dr., #A106, 99517 907.222.2445 Fax: 222.0915

Fairbanks: 2400 College Rd, 99709 907.452.5688 Fax: 452.5694

Juneau: 119 Seward St. #10, 99801 907.586.6813 Fax: 463.2550

info@nortechengr.com

www.nortechengr.com

Appendix B

Sample Location Drawings

A ASBESTOS SAMPLE LOCATIONS - FLOOR 1

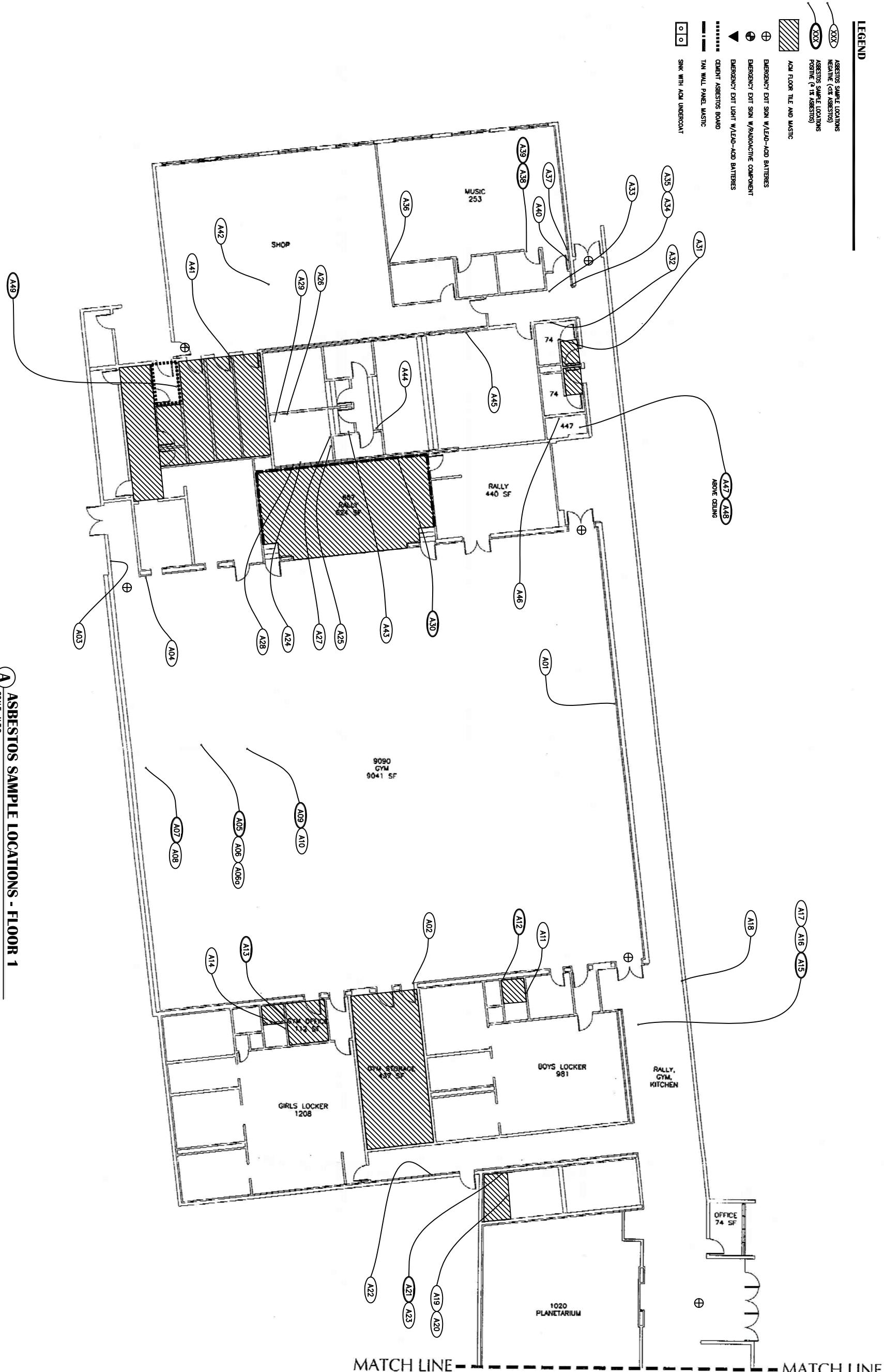
SCALE: N.T.S.

JUNEAU SCHOOL DISTRICT
MARIE DRAKE ELEMENTARY SCHOOL
JUNEAU, ALASKA

| | |
|------------------|------------------------|
| DATE: 02/17/2012 | SCALE: N.T.S. |
| PROJ MGR: FCW | PROJECT: 12-1002J |
| DRAWN: FCW | DWG. NO.: 12-1002J.DWG |

FIGURE

H-1





ENVIRONMENTAL ENGINEERING & INDUSTRIAL HYGIENE

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Fairbanks: 2400 College Rd, 99709 907.452.5688 Fax: 452.5694

Juneau: 119 Seward St. #10, 99801 907.586.6813 Fax: 463.2550

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Appendix C

Laboratory Results

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-----------------------------|---------------------|---------------------------|
| Client: | Nortech Env'l & Engineering | Report Date: | 1/18/2012 |
| | 2400 College Rd | Report No.: | 261447 |
| Fairbanks | AK | Project: | Maire Drake Middle School |
| | | Project No.: | 12-1002J |

BULK SAMPLE ANALYSIS SUMMARY

| | | | |
|--------------------|---------------|--|--------------------------|
| Lab No.: | 4530362 | Description / Location: | Black Mastic; Wall Panel |
| Client No.: | MD1712-A01 | | East Wall Of Gymnasium |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type |
| None Detected | None Detected | None Detected | None Detected |
| | | | 100 |

| | | | |
|--------------------|---------------|--|--------------------------|
| Lab No.: | 4530363 | Description / Location: | Black Mastic; Wall Panel |
| Client No.: | MD1712-A02 | | South Wall Of Gymnasium |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type |
| None Detected | None Detected | None Detected | None Detected |
| | | | 100 |

| | | | |
|--------------------|---------------|--|---|
| Lab No.: | 4530364 | Description / Location: | Black Mastic; Wall Panel; WestWall Of ExitVestibule,NW Corner Of Gymnasium |
| Client No.: | MD1712-A03 | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type |
| None Detected | None Detected | None Detected | None Detected |
| | | | 100 |

| | | | |
|--------------------|---------------|--|--|
| Lab No.: | 4530365 | Description / Location: | Black Mastic; Wall Panel; North Wall Of Gymnasium,Next To NW Exit Vestibule |
| Client No.: | MD1712-A04 | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type |
| None Detected | None Detected | None Detected | None Detected |
| | | | 100 |

Accreditations:

NIST-NVLAP No. 101165-0**NY-DOH No. 11021****AIHA-LAP, LLC No. 100188**

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Analytical Method

EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: L. Solebello

Approved By: _____

Date: 1/17/2012

Frank E. Ehrenfeld, III
Laboratory Director

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-----------------------------|---------------------|---------------------------|
| Client: | Nortech Env'l & Engineering | Report Date: | 1/18/2012 |
| | 2400 College Rd | Report No.: | 261447 |
| Fairbanks | AK | Project: | Maire Drake Middle School |
| | | Project No.: | 12-1002J |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|------------|--|---|-------------------------------|
| Lab No.: | 4530366 | Description / Location: | Off-White Joint Compound; Ceiling Of Gymnasium,NW Corner Of Gymnasium | |
| Client No.: | MD1712-A05 | | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |

| | | | | |
|--------|------------|---------------|---------------|---------|
| PC 1.6 | Chrysotile | None Detected | None Detected | PC 98.4 |
|--------|------------|---------------|---------------|---------|

| | | | | |
|--------------------|------------|--|----------------------------------|-------------------------------|
| Lab No.: | 4530366 | Description / Location: | Tan Paper | Layer No.: 2 |
| Client No.: | MD1712-A05 | | Gymnasium,NW Corner Of Gymnasium | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |

| | | | | |
|---------------|---------------|----|-----------|---|
| None Detected | None Detected | 95 | Cellulose | 5 |
|---------------|---------------|----|-----------|---|

| | | | | |
|--------------------|------------|--|----------------------------------|-------------------------------|
| Lab No.: | 4530367 | Description / Location: | Off-White Ceiling Tile | |
| Client No.: | MD1712-A06 | | Gymnasium,NW Corner Of Gymnasium | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |

| | | | | |
|---------------|---------------|----|---------------|----|
| None Detected | None Detected | 60 | Fibrous Glass | 40 |
|---------------|---------------|----|---------------|----|

| | | | | |
|--------------------|------------|--|----------------------------------|-------------------------------|
| Lab No.: | 4530367 | Description / Location: | Brown Mastic | Layer No.: 2 |
| Client No.: | MD1712-A06 | | Gymnasium,NW Corner Of Gymnasium | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |

| | | | | |
|---------------|---------------|-------|-------|-----|
| None Detected | None Detected | Trace | Other | 100 |
|---------------|---------------|-------|-------|-----|

Accreditations:

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA-LAP, LLC No. 100188

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Analytical Method

EPA 600/R-93/116

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Analysis Performed By: L. Solebello

Date: 1/17/2012

CERTIFICATE OF ANALYSIS

| | | | | | |
|----------------|-----------------------------|----|-------|---------------------|---------------------------|
| Client: | Nortech Env'l & Engineering | | | Report Date: | 1/18/2012 |
| | 2400 College Rd | | | Report No.: | 261447 |
| | Fairbanks | AK | 99709 | Project: | Maire Drake Middle School |
| | | | | Project No.: | 12-1002J |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | | |
|--------------------|---------------|--------------------------------|--|--|---------------|
| Lab No.: | 4530368 | Description / Location: | Off-White Sheetrock; Ceiling Of Gymnasium,NW Corner Of Gymnasium | | |
| Client No.: | MD1712-A06a | % Asbestos | Type | % Non-Asbestos Fibrous Material | Type |
| None Detected | None Detected | | | 5 | Fibrous Glass |
| | | | | Trace | Cellulose |
| | | | | | 95 |

| | | | | | |
|--------------------|------------|--------------------------------|--|--|---------------|
| Lab No.: | 4530369 | Description / Location: | Off-White Joint Compound; Ceiling Of Gymnasium,Near East Wall Of Gymnasium | | |
| Client No.: | MD1712-A07 | % Asbestos | Type | % Non-Asbestos Fibrous Material | Type |
| PC 1.6 | Chrysotile | | | None Detected | None Detected |
| | | | | | PC 98.4 |

| | | | | | | | |
|--------------------|---------------|--|---------------------------------------|-------------------------------|-----------|-------------------|---|
| Lab No.: | 4530369 | Description / Location: | Tan Paper | | | Layer No.: | 2 |
| Client No.: | MD1712-A07 | | Gymnasium,Near East Wall Of Gymnasium | | | | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type | % Non-Fibrous Material | | | |
| None Detected | None Detected | | | 95 | Cellulose | | |
| | | | | | | | 5 |

Accreditations:

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA-LAP, LLC No. 100188

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Analytical Method

EPA 600/R-93/116

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Analysis Performed By: L. Solebello

Date: 1/17/2012

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|--|---------------------|---------------------------|
| Client: | Nortech Env'l & Engineering 2400 College Rd | Report Date: | 1/18/2012 |
| | Fairbanks AK 99709 | Report No.: | 261447 |
| | | Project: | Maire Drake Middle School |
| | | Project No.: | 12-1002J |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|---|-------------------------------|
| Lab No.: | 4530370 | Description / Location: | Off-White Ceiling Tile Gymnasium,Near East Wall Of Gymnasium | |
| Client No.: | MD1712-A08 | | | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type | % Non-Fibrous Material |
| None Detected | None Detected | 60 | Cellulose Fibrous Glass | 40 |

| | | | | |
|--------------------|---------------|--|---|-------------------------------|
| Lab No.: | 4530370 | Description / Location: | Brown Mastic Gymnasium,Near East Wall Of Gymnasium | Layer No.: 2 |
| Client No.: | MD1712-A08 | | | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type | % Non-Fibrous Material |
| None Detected | None Detected | 2 | Other | 98 |

| | | | | |
|--------------------|------------|--|---|-------------------------------|
| Lab No.: | 4530371 | Description / Location: | Off-White Joint Compound; Ceiling Of Gymnasium,WOfSamplesA05&A06,NW Corner | |
| Client No.: | MD1712-A09 | | | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type | % Non-Fibrous Material |
| PC 1.8 | Chrysotile | None Detected | None Detected | PC 98.2 |

| | | | | |
|--------------------|---------------|--|--|-------------------------------|
| Lab No.: | 4530371 | Description / Location: | Brown Paper Gymnasium,WOfSamplesA05&A06,NW Corner | Layer No.: 2 |
| Client No.: | MD1712-A09 | | | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type | % Non-Fibrous Material |
| None Detected | None Detected | 95 | Cellulose | 5 |

Accreditations:

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA-LAP, LLC No. 100188

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Analytical Method

EPA 600/R-93/116

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Analysis Performed By: L. SolebelloDate: 1/17/2012

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-----------------------------|---------------------|---------------------------|
| Client: | Nortech Env'l & Engineering | Report Date: | 1/18/2012 |
| | 2400 College Rd | Report No.: | 261447 |
| Fairbanks | AK | Project: | Maire Drake Middle School |
| | | Project No.: | 12-1002J |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|---------------------------------------|-------------------------------|
| Lab No.: | 4530372 | Description / Location: | Off-White Ceiling Tile; Gym | |
| Client No.: | MD1712-A10 | | WestOfSamplesA05&A06,NW Corner Of Gym | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 60 | Fibrous Glass | 40 |

| | | | | |
|--------------------|---------------|--|--------------|-------------------------------|
| Lab No.: | 4530372 | Description / Location: | Brown Mastic | Layer No.: 2 |
| Client No.: | MD1712-A10 | WestOfSamplesA05&A06,NW Corner Of Gym | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 2 | Other | 98 |

| | | | | |
|--------------------|---------------|--|--|-------------------------------|
| Lab No.: | 4530373 | Description / Location: | Off-White/Tan Sheetrock; East Wall | |
| Client No.: | MD1712-A11 | | Of Gymnasium's SE Janitor's Storage Room | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 7 | Cellulose | 90 |
| | | 3 | Fibrous Glass | |

| | | | | |
|--------------------|------------|--|--|-------------------------------|
| Lab No.: | 4530374 | Description / Location: | Off-White Joint Compound; NW Corner | |
| Client No.: | MD1712-A12 | | Of Gymnasium's SE Janitor's Storage Room | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |
| PC 1.7 | Chrysotile | None Detected | None Detected | PC 98.3 |

Accreditations:

NIST-NVLAP No. 101165-0**NY-DOH No. 11021****AIHA-LAP, LLC No. 100188**

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Analytical Method

EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: L. SolebelloDate: 1/17/2012

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|--|---------------------|---------------------------|
| Client: | Nortech Env'l & Engineering 2400 College Rd | Report Date: | 1/18/2012 |
| | Fairbanks AK 99709 | Report No.: | 261447 |
| | | Project: | Maire Drake Middle School |
| | | Project No.: | 12-1002J |

BULK SAMPLE ANALYSIS SUMMARY

| | | | |
|--------------------|------------|--|---|
| Lab No.: | 4530375 | Description / Location: | Off-White Joint Compound; East Entrance To Coach's Shower Room, SW Corner of Gymnasium |
| Client No.: | MD1712-A13 | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type |
| PC 1.9 | Chrysotile | None Detected | None Detected |
| | | | PC 8.1 |

| | | | |
|--------------------|---------------|--|--|
| Lab No.: | 4530376 | Description / Location: | Brown Ceramic Tile Mastic; East Entrance To Coach's Shower Room, SW Corner of Gymnasium |
| Client No.: | MD1712-A14 | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type |
| None Detected | None Detected | None Detected | None Detected |
| | | | 100 |

| | | | |
|--------------------|------------|--|--|
| Lab No.: | 4530377 | Description / Location: | Off-White Joint Compound; Ceiling Of Corridor Outside Gymnasium's SE Exit |
| Client No.: | MD1712-A15 | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type |
| PC 1.7 | Chrysotile | None Detected | None Detected |
| | | | PC 98.3 |

| | | | | |
|--------------------|---------------|--|---|-------------------------------|
| Lab No.: | 4530377 | Description / Location: | Tan Paper | Layer No.: 2 |
| Client No.: | MD1712-A15 | | Of Corridor Outside Gymnasium's SE Exit | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 95 | Cellulose | 5 |

Accreditations: **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**
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Analytical Method EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: L. Solebello

Date: 1/17/2012

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|--|---------------------|---------------------------|
| Client: | Nortech Env'l & Engineering 2400 College Rd | Report Date: | 1/18/2012 |
| | Fairbanks AK 99709 | Report No.: | 261447 |
| | | Project: | Maire Drake Middle School |
| | | Project No.: | 12-1002J |

BULK SAMPLE ANALYSIS SUMMARY

| | | | |
|--------------------|---------------|--|---|
| Lab No.: | 4530378 | Description / Location: | Off-White Sheetrock; Ceiling Of Corridor Outside Gymnasium's SE Exit |
| Client No.: | MD1712-A16 | | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type |
| None Detected | None Detected | 2 | Cellulose |
| | | 3 | Fibrous Glass |
| | | | 95 |

| | | | |
|--------------------|---------------|--|--|
| Lab No.: | 4530379 | Description / Location: | Off-White Ceiling Tile Corridor Outside Gymnasium's SE Exit |
| Client No.: | MD1712-A17 | | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type |
| None Detected | None Detected | Trace | Cellulose |
| | | 60 | Fibrous Glass |
| | | | 40 |

| | | | | |
|--------------------|---------------|--|--|-------------------------------|
| Lab No.: | 4530379 | Description / Location: | Brown Mastic Corridor Outside Gymnasium's SE Exit | Layer No.: 2 |
| Client No.: | MD1712-A17 | | | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type | % Non-Fibrous Material |
| None Detected | None Detected | 2 | Other | 98 |

Accreditations:

NIST-NVLAP No. 101165-0**NY-DOH No. 11021****AIHA-LAP, LLC No. 100188**

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Analytical Method

EPA 600/R-93/116

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Analysis Performed By: L. SolebelloDate: 1/17/2012

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|--|---------------------|---------------------------|
| Client: | Nortech Env'l & Engineering 2400 College Rd | Report Date: | 1/18/2012 |
| | Fairbanks AK 99709 | Report No.: | 261447 |
| | | Project: | Maire Drake Middle School |
| | | Project No.: | 12-1002J |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|------------|--|--|-------------------------------|
| Lab No.: | 4530380 | Description / Location: | Black Cove Base; East Wall Of Corridor Outside Gymnasium's SE Exit | |
| Client No.: | MD1712-A18 | | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |

| | | | | |
|---------------|---------------|---------------|---------------|-----|
| None Detected | None Detected | None Detected | None Detected | 100 |
|---------------|---------------|---------------|---------------|-----|

| | | | | |
|--------------------|------------|--|--------------------------------------|-------------------------------|
| Lab No.: | 4530380 | Description / Location: | Yellow Mastic | Layer No.: 2 |
| Client No.: | MD1712-A18 | | Corridor Outside Gymnasium's SE Exit | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |

| | | | | |
|---------------|---------------|---------------|---------------|-----|
| None Detected | None Detected | None Detected | None Detected | 100 |
|---------------|---------------|---------------|---------------|-----|

| | | | | |
|--------------------|------------|--|--------------------------------------|-------------------------------|
| Lab No.: | 4530380 | Description / Location: | Brown Mastic | Layer No.: 3 |
| Client No.: | MD1712-A18 | | Corridor Outside Gymnasium's SE Exit | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |

| | | | | |
|---------------|---------------|---------------|---------------|-----|
| None Detected | None Detected | None Detected | None Detected | 100 |
|---------------|---------------|---------------|---------------|-----|

| | | | | |
|--------------------|------------|--|---|-------------------------------|
| Lab No.: | 4530381 | Description / Location: | Black Wall PanelMastic;E.WallOfJanitor's StorageRm,S.CorridorToGirl'sLockerRm | |
| Client No.: | MD1712-A19 | | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |

| | | | | |
|---------------|---------------|---------------|---------------|-----|
| None Detected | None Detected | None Detected | None Detected | 100 |
|---------------|---------------|---------------|---------------|-----|

Accreditations:

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA-LAP, LLC No. 100188

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Analytical Method

EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: L. Solebello

Date: 1/17/2012

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|--|---------------------|---------------------------|
| Client: | Nortech Env'l & Engineering 2400 College Rd | Report Date: | 1/18/2012 |
| | Fairbanks AK 99709 | Report No.: | 261447 |
| | | Project: | Maire Drake Middle School |
| | | Project No.: | 12-1002J |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|--|-------------------------------|
| Lab No.: | 4530382 | Description / Location: | Off-White Sheetrock; E.WallOfJanitor's StorageRm,S.CorridorToGirl'sLockerRm | |
| Client No.: | MD1712-A20 | | | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type | % Non-Fibrous Material |
| None Detected | None Detected | Trace 5 | Cellulose Fibrous Glass | 95 |

| | | | | |
|--------------------|-------------|--|--|-------------------------------|
| Lab No.: | 4530383 | Description / Location: | Off-WhiteJointCompound;N.WallOfJanitor's StorageRm,S.CorridorToGirl'sLockerRm | |
| Client No.: | MD1712-A21 | | | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type | % Non-Fibrous Material |
| PC 1.6 | Chrysotile | None Detected | None Detected | PC 98.4 |

| | | | | |
|--------------------|---------------|--|--|-------------------------------|
| Lab No.: | 4530384 | Description / Location: | Brown Cove Base Mastic S.Wall Of Corridor To Girl's Locker Rm | |
| Client No.: | MD1712-A22 | | | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type | % Non-Fibrous Material |
| None Detected | None Detected | Trace | Wollastonite | 100 |

Accreditations:

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA-LAP, LLC No. 100188

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Analytical Method

EPA 600/R-93/116

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Analysis Performed By: L. SolebelloDate: 1/17/2012

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|--|---------------------|---------------------------|
| Client: | Nortech Env'l & Engineering 2400 College Rd | Report Date: | 1/18/2012 |
| | Fairbanks AK 99709 | Report No.: | 261447 |
| | | Project: | Maire Drake Middle School |
| | | Project No.: | 12-1002J |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | | |
|--------------------|---------------|--|--|--|-------------------------------|
| Lab No.: | 4530385 | Description / Location: | Tan Cove Base; N.Wall Of Janitor's StorageRm,S.CorridorTo Girl's Locker Rm | | |
| Client No.: | MD1712-A23 | | | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | | 100 |

| | | | | | |
|--------------------|---------------|--|---------------|--|-------------------------------|
| Lab No.: | 4530385 | Description / Location: | Brown Mastic | | |
| Client No.: | MD1712-A23 | | | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | | 100 |

| | | | | | |
|--------------------|---------------|--|--|--|-------------------------------|
| Lab No.: | 4530386 | Description / Location: | Off-White Sheetrock; S.Wall Of Storage Rm N. Of Weight Rm At Gymnasium | | |
| Client No.: | MD1712-A24 | | | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | Trace | Cellulose | | 95 |
| | | 5 | Fibrous Glass | | |

| | | | | | |
|--------------------|---------------|--|--|--|-------------------------------|
| Lab No.: | 4530387 | Description / Location: | White Wall Texture; E.Wall Of Storage Rm, N. Of Weight Rm At Gymnasium | | |
| Client No.: | MD1712-A25 | | | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | | 100 |

Accreditations:

NIST-NVLAP No. 101165-0**NY-DOH No. 11021****AIHA-LAP, LLC No. 100188**

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Analytical Method

EPA 600/R-93/116

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Analysis Performed By: L. SolebelloDate: 1/17/2012

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|--|---------------------|---------------------------|
| Client: | Nortech Env'l & Engineering 2400 College Rd | Report Date: | 1/18/2012 |
| | Fairbanks AK 99709 | Report No.: | 261447 |
| | | Project: | Maire Drake Middle School |
| | | Project No.: | 12-1002J |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--------------------------------|--|--|
| Lab No.: | 4530388 | Description / Location: | White Wall Texture; N.Wall Of Storage Rm, N. Of Weight Rm At Gymnasium | |
| Client No.: | MD1712-A26 | % Asbestos | Type | % Non-Asbestos Fibrous Material |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--------------------------------|--|-------------------------------|
| Lab No.: | 4530389 | Description / Location: | White Joint Compound; NE Exit Of StorageRm, N. Of Weight Rm At Gymnasium | |
| Client No.: | MD1712-A27 | % Asbestos | Type | % Non-Fibrous Material |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|---|-------------------------------|
| Lab No.: | 4530389 | Description / Location: | White Texture | Layer No.: 2 |
| Client No.: | MD1712-A27 | | StorageRm, N. Of Weight Rm At Gymnasium | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type | % Non-Fibrous Material |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--------------------------------|--|-------------------------------|
| Lab No.: | 4530390 | Description / Location: | Tan Cove Base Mastic; S. Wall Of StorageRm, N. Of Weight Rm At Gymnasium | |
| Client No.: | MD1712-A28 | % Asbestos | Type | % Non-Fibrous Material |
| None Detected | None Detected | None Detected | None Detected | 100 |

Accreditations: **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method

EPA 600/R-93/116

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Analysis Performed By: L. Solebello

Date: 1/17/2012

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|--|---------------------|---------------------------|
| Client: | Nortech Env'l & Engineering 2400 College Rd | Report Date: | 1/18/2012 |
| | Fairbanks AK 99709 | Report No.: | 261447 |
| | | Project: | Maire Drake Middle School |
| | | Project No.: | 12-1002J |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|------------|--------------------------------|--|--|
| Lab No.: | 4530391 | Description / Location: | Off-White Ceiling Tile; NW Corner Of StorageRm, N. Of Weight Rm At Gymnasium | |
| Client No.: | MD1712-A29 | % Asbestos | Type | % Non-Asbestos Fibrous Material |
| | | None Detected | None Detected | 50 |
| | | | | Type Cellulose |
| | | | | 50 |

| | | | | |
|--------------------|-------------|--|-------------------------|-------------------------------|
| Lab No.: | 4530392 | Description / Location: | Tan Wall Panel Mastic | |
| Client No.: | MD1712-A30 | | North Wall Of Gymnasium | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type | % Non-Fibrous Material |
| PC 2.5 | Chrysotile | None Detected | None Detected | PC 97.5 |

| | | | | |
|--------------------|---------------|--|-------------|-------------------------------|
| Lab No.: | 4530392 | Description / Location: | Tan Paper | Layer No.: 2 |
| Client No.: | MD1712-A30 | North Wall Of Gymnasium | | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type | % Non-Fibrous Material |
| None Detected | None Detected | 90 | Cellulose | 10 |

| | | | | |
|--------------------|---------------|--|---------------------------------|-------------------------------|
| Lab No.: | 4530393 | Description / Location: | White/Tan Sheetrock | |
| Client No.: | MD1712-A31 | | South Wall Of NE Boy's Restroom | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type | % Non-Fibrous Material |
| None Detected | None Detected | 2 | Cellulose | 95 |
| | | 3 | Fibrous Glass | |

Accreditations:

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA-LAP, LLC No. 100188

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Analytical Method

EPA 600/R-93/116

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Analysis Performed By: L. SolebelloDate: 1/17/2012

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|--|---------------------|---------------------------|
| Client: | Nortech Env'l & Engineering 2400 College Rd | Report Date: | 1/18/2012 |
| | Fairbanks AK 99709 | Report No.: | 261447 |
| | | Project: | Maire Drake Middle School |
| | | Project No.: | 12-1002J |

BULK SAMPLE ANALYSIS SUMMARY

| | | | |
|--------------------|------------|--|---|
| Lab No.: | 4530394 | Description / Location: | Yellow/Tan Ceramic Tile Mastic North Wall Of NE Boy's Restroom |
| Client No.: | MD1712-A32 | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type |

| | | | | |
|---------------|---------------|---------------|---------------|-----|
| None Detected | None Detected | None Detected | None Detected | 100 |
|---------------|---------------|---------------|---------------|-----|

| | | | |
|--------------------|------------|--|---|
| Lab No.: | 4530395 | Description / Location: | Grey Rubber North Corridor Leading To Shop |
| Client No.: | MD1712-A33 | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type |

| | | | | |
|---------------|---------------|---------------|---------------|-----|
| None Detected | None Detected | None Detected | None Detected | 100 |
|---------------|---------------|---------------|---------------|-----|

| | | | | |
|--------------------|------------|--|---|-------------------------------|
| Lab No.: | 4530395 | Description / Location: | Yellow Mastic North Corridor Leading To Shop | Layer No.: 2 |
| Client No.: | MD1712-A33 | | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |

| | | | | |
|---------------|---------------|---------------|---------------|-----|
| None Detected | None Detected | None Detected | None Detected | 100 |
|---------------|---------------|---------------|---------------|-----|

| | | | |
|--------------------|------------|--|--|
| Lab No.: | 4530396 | Description / Location: | Off-White Joint Compound North Wall Of Corridor Leading To Shop |
| Client No.: | MD1712-A34 | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type |

| | | | | |
|---------------|---------------|---------------|---------------|-----|
| None Detected | None Detected | None Detected | None Detected | 100 |
|---------------|---------------|---------------|---------------|-----|

Accreditations:

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA-LAP, LLC No. 100188

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Analytical Method

EPA 600/R-93/116

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Analysis Performed By: L. Solebello

Date: 1/17/2012

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-----------------------------|---------------------|---------------------------|
| Client: | Nortech Env'l & Engineering | Report Date: | 1/18/2012 |
| | 2400 College Rd | Report No.: | 261447 |
| Fairbanks | AK | Project: | Maire Drake Middle School |
| | | Project No.: | 12-1002J |

BULK SAMPLE ANALYSIS SUMMARY

| | | | |
|--------------------|---------------|--|--------------------------|
| Lab No.: | 4530397 | Description / Location: | Yellow Wall Panel Mastic |
| Client No.: | MD1712-A35 | North Wall Of Corridor Leading To Shop | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type |
| None Detected | None Detected | None Detected | None Detected |
| | | | 100 |

| | | | |
|--------------------|---------------|--|----------------------|
| Lab No.: | 4530398 | Description / Location: | White Joint Compound |
| Client No.: | MD1712-A36 | SE Corner Of IT Room | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type |
| None Detected | None Detected | None Detected | None Detected |
| | | | 100 |

| | | | |
|--------------------|---------------|--|-------------------------------------|
| Lab No.: | 4530399 | Description / Location: | Off-White/Grey Vinyl Sheet Flooring |
| Client No.: | MD1712-A37 | SE Corner Of IT Inside Entrance | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type |
| None Detected | None Detected | 5 | Fibrous Glass |
| | | 5 | Synthetic |
| | | | 90 |

Accreditations:

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

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Analytical Method

EPA 600/R-93/116

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Analysis Performed By: L. Solebello

Date: 1/17/2012

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-----------------------------|---------------------|---------------------------|
| Client: | Nortech Env'l & Engineering | Report Date: | 1/18/2012 |
| | 2400 College Rd | Report No.: | 261447 |
| Fairbanks | AK | Project: | Maire Drake Middle School |
| | | Project No.: | 12-1002J |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | | |
|--------------------|---------------|--|---|-------------------------------|--|
| Lab No.: | 4530400 | Description / Location: | Off-White/Grey Vinyl Sheet Flooring Entrance To Office #1, IT Room | | |
| Client No.: | MD1712-A38 | | | | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type | % Non-Fibrous Material | |
| None Detected | None Detected | 5 | Fibrous Glass | 90 | |
| | | 5 | Synthetic | | |

| | | | | | |
|--------------------|-------------|--|---|-------------------------------|--|
| Lab No.: | 4530400 | Description / Location: | Yellow/Black Mastic Entrance To Office #1, IT Room | | |
| Client No.: | MD1712-A38 | | | | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type | % Non-Fibrous Material | |
| PC 1.5 | Chrysotile | None Detected | None Detected | PC 98.5 | |

| | | | | | |
|--------------------|---------------|--|--|-------------------------------|--|
| Lab No.: | 4530401 | Description / Location: | Tan Carpet Entrance To Office #1, IT Room | | |
| Client No.: | MD1712-A39 | | | | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type | % Non-Fibrous Material | |
| None Detected | None Detected | 95 | Synthetic | 5 | |

| | | | | | |
|--------------------|-------------|--|---|-------------------------------|--|
| Lab No.: | 4530401 | Description / Location: | Yellow/Black Mastic Entrance To Office #1, IT Room | | |
| Client No.: | MD1712-A39 | | | | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type | % Non-Fibrous Material | |
| PC 1.7 | Chrysotile | None Detected | None Detected | PC 98.3 | |

Accreditations: **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method **EPA 600/R-93/116**

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Analysis Performed By: L. Solebello

Date: 1/17/2012

CERTIFICATE OF ANALYSIS

| | | | | | |
|----------------|-----------------------------|----|-------|---------------------|---------------------------|
| Client: | Nortech Env'l & Engineering | | | Report Date: | 1/18/2012 |
| | 2400 College Rd | | | Report No.: | 261447 |
| | Fairbanks | AK | 99709 | Project: | Maire Drake Middle School |
| | | | | Project No.: | 12-1002J |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | | |
|--------------------|---------------|--|--|-------------------------------|--|
| Lab No.: | 4530402 | Description / Location: | Tan Carpet Mastic East Wall, Entrance To IT | | |
| Client No.: | MD1712-A40 | | | | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type | % Non-Fibrous Material | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

| | | | | | |
|--------------------|---------------|--|---|-------------------------------|---------------------|
| Lab No.: | 4530402 | Description / Location: | White Joint Compound East Wall, Entrance To IT | | |
| Client No.: | MD1712-A40 | | | | Layer No.: 2 |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type | % Non-Fibrous Material | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

Accreditations:**NIST-NVLAP No. 101165-0****NY-DOH No. 11021****AIHA-LAP, LLC No. 100188**

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Analytical Method

EPA 600/R-93/116

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Analysis Performed By: L. Solebello**Date:** 1/17/2012

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|--|---------------------|---------------------------|
| Client: | Nortech Env'l & Engineering 2400 College Rd | Report Date: | 1/18/2012 |
| | Fairbanks AK 99709 | Report No.: | 261447 |
| | | Project: | Maire Drake Middle School |
| | | Project No.: | 12-1002J |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|---------------------------|-------------------------------|
| Lab No.: | 4530403 | Description / Location: | Grey Cove Base | |
| Client No.: | MD1712-A41 | | East Storage Room Of Shop | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type | % Non-Fibrous Material |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|---------------------------|-------------------------------|
| Lab No.: | 4530403 | Description / Location: | Brown Mastic | Layer No.: 2 |
| Client No.: | MD1712-A41 | | East Storage Room Of Shop | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type | % Non-Fibrous Material |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|---------------------------|-------------------------------|
| Lab No.: | 4530403 | Description / Location: | White Joint Compound | Layer No.: 3 |
| Client No.: | MD1712-A41 | | East Storage Room Of Shop | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type | % Non-Fibrous Material |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|------------------------|-------------------------------|
| Lab No.: | 4530404 | Description / Location: | Off-White Ceiling Tile | |
| Client No.: | MD1712-A42 | | Middle Of Shop | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type | % Non-Fibrous Material |
| None Detected | None Detected | 50 | Cellulose | 50 |

Accreditations:

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA-LAP, LLC No. 100188

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Analytical Method

EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: L. SolebelloDate: 1/17/2012

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|--|---------------------|---------------------------|
| Client: | Nortech Env'l & Engineering 2400 College Rd | Report Date: | 1/18/2012 |
| | Fairbanks AK 99709 | Report No.: | 261447 |
| | | Project: | Maire Drake Middle School |
| | | Project No.: | 12-1002J |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|--------------------------|-------------------------------|
| Lab No.: | 4530405 | Description / Location: | White Wall Texture | |
| Client No.: | MD1712-A43 | | South Half Of Music Room | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|--------------------------|-------------------------------|
| Lab No.: | 4530406 | Description / Location: | White Sheetrock | |
| Client No.: | MD1712-A44 | | South Half Of Music Room | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | Trace | Cellulose | 95 |
| | | 5 | Fibrous Glass | |

| | | | | |
|--------------------|---------------|--|--------------------------|-------------------------------|
| Lab No.: | 4530407 | Description / Location: | White Wall Texture | |
| Client No.: | MD1712-A45 | | North Wall Of Music Room | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|---------------|-------------------------------|
| Lab No.: | 4530407 | Description / Location: | Yellow Mastic | Layer No.: 2 |
| Client No.: | MD1712-A45 | Layer No.: 2 | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

Accreditations:

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA-LAP, LLC No. 100188

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Analytical Method

EPA 600/R-93/116

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Analysis Performed By: L. SolebelloDate: 1/17/2012

CERTIFICATE OF ANALYSIS

Client: Nortech Env'l & Engineering
 2400 College Rd
 Fairbanks AK 99709

Report Date: 1/18/2012
Report No.: 261447
Project: Maire Drake Middle School
Project No.: 12-1002J

BULK SAMPLE ANALYSIS SUMMARY

| | | | |
|--------------------|---------------|--|-------------------------|
| Lab No.: | 4530408 | Description / Location: | Black Wall Panel Mastic |
| Client No.: | MD1712-A46 | North Wall Of NE Janitor's Storage Rm | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type |
| None Detected | None Detected | None Detected | None Detected |
| | | | 100 |

| | | | |
|--------------------|------------|--|--|
| Lab No.: | 4530409 | Description / Location: | Off-White Insulation; Above Ceiling Of |
| Client No.: | MD1712-A47 | NE Janitor's Storage Rm 2" Pipe Elbow | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type |
| 10 | Chrysotile | Trace | Cellulose |
| | | 15 | Fibrous Glass |
| | | | 75 |

| | | | |
|--------------------|------------|--|--|
| Lab No.: | 4530410 | Description / Location: | Off-White Insulation; Above Ceiling Of |
| Client No.: | MD1712-A48 | NE Janitor's Storage Rm 4" Pipe Elbow | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type |
| 10 | Chrysotile | Trace | Cellulose |
| | | 15 | Fibrous Glass |
| | | | 75 |

| | | | |
|--------------------|------------|--|------------------------------------|
| Lab No.: | 4530411 | Description / Location: | Grey Transite; E.Wall Of Equipment |
| Client No.: | MD1712-A49 | Room At End Of Corridor Behind Kitchen | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type |
| 20 | Chrysotile | None Detected | None Detected |
| | | | 80 |

Accreditations:

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NY-DOH No. 11021

AIHA-LAP, LLC No. 100188

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Analytical Method

EPA 600/R-93/116

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Analysis Performed By: L. Solebello

Date: 1/17/2012

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-----------------------------|---------------------|---------------------------|
| Client: | Nortech Env'l & Engineering | Report Date: | 1/18/2012 |
| | 2400 College Rd | Report No.: | 261447 |
| Fairbanks | AK | Project: | Maire Drake Middle School |
| | | Project No.: | 12-1002J |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | | |
|--------------------|---------------|--|---|-------------------------------|-----|
| Lab No.: | 4530412 | Description / Location: | Tan Vinyl Sheet Flooring; Room 220 SW Corner Of Room,NearEntrance,1stFloor | | |
| Client No.: | MD1712-A50 | | | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | | 100 |

| | | | | | |
|--------------------|---------------|--|---|-------------------------------|---------------------|
| Lab No.: | 4530412 | Description / Location: | Yellow Mastic | | Layer No.: 2 |
| Client No.: | MD1712-A50 | | SW Corner Of Room,NearEntrance,1stFloor | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | | 100 |

| | | | | | |
|--------------------|---------------|--|---|-------------------------------|---------------------|
| Lab No.: | 4530413 | Description / Location: | White Joint Compound; Room 220 | | Layer No.: 2 |
| Client No.: | MD1712-A51 | | SW Corner Of Room,NearEntrance,1stFloor | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | | 100 |

| | | | | | |
|--------------------|------------|--|---------------------------------------|-------------------------------|---------------------|
| Lab No.: | 4530414 | Description / Location: | Pink Mastic; StorageRoomOff Intensive | | Layer No.: 2 |
| Client No.: | MD1712-A52 | | IClassroom,SECornerOfStorageRm,1stFl | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> | |
| PC 4.4 | Chrysotile | None Detected | None Detected | | PC 95.6 |

Accreditations:

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA-LAP, LLC No. 100188

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Analytical Method

EPA 600/R-93/116

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Analysis Performed By: L. SolebelloDate: 1/17/2012

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|--|---------------------|---------------------------|
| Client: | Nortech Env'l & Engineering 2400 College Rd | Report Date: | 1/18/2012 |
| | Fairbanks AK 99709 | Report No.: | 261447 |
| | | Project: | Maire Drake Middle School |
| | | Project No.: | 12-1002J |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | | |
|--------------------|---------------|--|--|-------------------------------|-----|
| Lab No.: | 4530415 | Description / Location: | Tan Mastic; StorageRoomOff Intensive IClassroom,SECornerOfStorageRm,1stFl | | |
| Client No.: | MD1712-A53 | | | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | | 100 |

| | | | | | |
|--------------------|---------------|--|--|-------------------------------|----|
| Lab No.: | 4530416 | Description / Location: | Brown Mastic; StorageRmCeilingOff IntensiveIClassroom,SWCornerOfStorageRm | | |
| Client No.: | MD1712-A54 | | | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | 2 | Other | | 98 |

| | | | | | |
|--------------------|---------------|--|--|-------------------------------|-----|
| Lab No.: | 4530417 | Description / Location: | White Leveling Compound Entrance To Elevator, 1st Floor | | |
| Client No.: | MD1712-A55 | | | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | | 100 |

| | | | | | |
|--------------------|---------------|--|--|-------------------------------|-----|
| Lab No.: | 4530417 | Description / Location: | Yellow/Black Mastic Entrance To Elevator, 1st Floor | | |
| Client No.: | MD1712-A55 | | | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | | 100 |

Accreditations: **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**
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Analytical Method EPA 600/R-93/116

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Analysis Performed By: L. Solebello

Date: 1/17/2012

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-----------------------------|---------------------|---------------------------|
| Client: | Nortech Env'l & Engineering | Report Date: | 1/18/2012 |
| | 2400 College Rd | Report No.: | 261447 |
| Fairbanks | AK | Project: | Maire Drake Middle School |
| | | Project No.: | 12-1002J |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | | |
|--------------------|------------|--|--|-------------------------------|---------|
| Lab No.: | 4530418 | Description / Location: | Lt.Grey Floor Tile; Janitor's Storage Room Next To Elevator, 1st Floor | | |
| Client No.: | MD1712-A56 | | | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> | |
| PC 2.5 | Chrysotile | None Detected | None Detected | | PC 97.5 |

| | | | | | |
|--------------------|------------|--|----------------------------------|-------------------------------|---------------------|
| Lab No.: | 4530418 | Description / Location: | Yellow/Black Mastic | | Layer No.: 2 |
| Client No.: | MD1712-A56 | | Room Next To Elevator, 1st Floor | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> | |
| PC 1.8 | Chrysotile | None Detected | None Detected | | PC 98.2 |

| | | | | | |
|--------------------|------------|--|--|-------------------------------|---------------------|
| Lab No.: | 4530419 | Description / Location: | Grey Insulation; Mechanical Rm Behind Janitor'sStorageRmBy Elevator, 1st Floor | | Layer No.: 2 |
| Client No.: | MD1712-A57 | | | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> | |
| 60 | Chrysotile | 20 | Cellulose | | 20 |

| | | | | | |
|--------------------|------------|--|--|-------------------------------|---------------------|
| Lab No.: | 4530420 | Description / Location: | Grey Insulation; Mechanical Rm Behind Janitor'sStorageRmBy Elevator, 1st Floor | | Layer No.: 2 |
| Client No.: | MD1712-A58 | | | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> | |
| 50 | Chrysotile | 30 | Cellulose | | 20 |

Accreditations: **NIST-NVLAP No. 101165-0** **NY-DOH No. 11021** **AIHA-LAP, LLC No. 100188**

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Analytical Method

EPA 600/R-93/116

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Analysis Performed By: L. Solebello

Date: 1/18/2012

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|--|---------------------|---------------------------|
| Client: | Nortech Env'l & Engineering 2400 College Rd | Report Date: | 1/18/2012 |
| | Fairbanks AK 99709 | Report No.: | 261447 |
| | | Project: | Maire Drake Middle School |
| | | Project No.: | 12-1002J |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|--|-------------------------------|
| Lab No.: | 4530421 | Description / Location: | Black/Brown Fibrous;Mechanical Rm Behin | |
| Client No.: | MD1712-A59 | | Janitor'sStorageRmBy Elevator, 1st Floor | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 75 | Cellulose | 25 |

| | | | | |
|--------------------|---------------|--|--|-------------------------------|
| Lab No.: | 4530422 | Description / Location: | Grey Fibrous;Mechanical Rm Behind | |
| Client No.: | MD1712-A60 | | Janitor'sStorageRmBy Elevator, 1st Floor | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 60 | Fibrous Glass | 40 |

| | | | | |
|--------------------|---------------|--|--|-------------------------------|
| Lab No.: | 4530423 | Description / Location: | Black Fibrous;Mechanical Rm Behind | |
| Client No.: | MD1712-A61 | | Janitor'sStorageRmBy Elevator, 1st Floor | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 50 | Fibrous Glass | 50 |

| | | | | |
|--------------------|---------------|--|--------------------------------|-------------------------------|
| Lab No.: | 4530424 | Description / Location: | White Joint Compound | |
| Client No.: | MD1712-A62 | | Room 229, SW Corner, 1st Floor | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

Accreditations:

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA-LAP, LLC No. 100188

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Analytical Method

EPA 600/R-93/116

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Analysis Performed By: L. SolebelloDate: 1/18/2012

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-----------------------------|---------------------|---------------------------|
| Client: | Nortech Env'l & Engineering | Report Date: | 1/18/2012 |
| | 2400 College Rd | Report No.: | 261447 |
| Fairbanks | AK | Project: | Maire Drake Middle School |
| | | Project No.: | 12-1002J |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|--|-------------------------------|
| Lab No.: | 4530425 | Description / Location: | White Leveling Compound | |
| Client No.: | MD1712-A63 | | Room 229, South Middle Of Rm229, 1st Floor | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|---------------|-------------------------------|
| Lab No.: | 4530425 | Description / Location: | Yellow Mastic | Layer No.: 2 |
| Client No.: | MD1712-A63 | Room 229, South Middle Of Rm229, 1st Floor | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|--|-------------------------------|
| Lab No.: | 4530426 | Description / Location: | Off-White Sheetrock; Behind Heat Register | |
| Client No.: | MD1712-A64 | | Rm232, NW Corner, 1st Fl(Exterior Wall) 1st Fl | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 3 | Cellulose | 95 |
| | | 2 | Fibrous Glass | |

| | | | | |
|--------------------|---------------|--|--|-------------------------------|
| Lab No.: | 4530427 | Description / Location: | White Joint Compound; Below Window Of | |
| Client No.: | MD1712-A65 | | Rm232, NW Corner, Above Heat Register Ext Wall | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

Accreditations:

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA-LAP, LLC No. 100188

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Analytical Method

EPA 600/R-93/116

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Analysis Performed By: L. Solebello

Date: 1/18/2012

CERTIFICATE OF ANALYSIS

| | | | | | |
|----------------|-----------------------------|----|-------|---------------------|---------------------------|
| Client: | Nortech Env'l & Engineering | | | Report Date: | 1/18/2012 |
| | 2400 College Rd | | | Report No.: | 261447 |
| | Fairbanks | AK | 99709 | Project: | Maire Drake Middle School |
| | | | | Project No.: | 12-1002J |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | | |
|--------------------|------------|--|---|-------------------------------|--|
| Lab No.: | 4530428 | Description / Location: | Off-White Insulation; North Wall Of Rm 232, At Pipe Access Panel,1st Floor | | |
| Client No.: | MD1712-A66 | | | | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type | % Non-Fibrous Material | |
| 10 | Chrysotile | 15 | Fibrous Glass | 75 | |

| | | | | | |
|--------------------|---------------|--|--|-------------------------------|---|
| Lab No.: | 4530428 | Description / Location: | Grey Wrap | Layer No.: | 2 |
| Client No.: | MD1712-A66 | | Rm 232, At Pipe Access Panel,1st Floor | | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type | % Non-Fibrous Material | |
| None Detected | None Detected | 80 | Cellulose | 20 | |

Accreditations:**NIST-NVLAP No. 101165-0****NY-DOH No. 11021****AIHA-LAP, LLC No. 100188**

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Analytical Method

EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: L. Solebello

Date: 1/18/2012

CERTIFICATE OF ANALYSIS

| | | | | | |
|----------------|-----------------------------|----|-------|---------------------|---------------------------|
| Client: | Nortech Env'l & Engineering | | | Report Date: | 1/18/2012 |
| | 2400 College Rd | | | Report No.: | 261447 |
| | Fairbanks | AK | 99709 | Project: | Maire Drake Middle School |
| | | | | Project No.: | 12-1002J |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | | |
|--------------------|---------------|--|--|-------------------------------|---|
| Lab No.: | 4530429 | Description / Location: | Lt.Grey Floor Tile Room 232,NE CornerNearEntrance,1st Floor | | |
| Client No.: | MD1712-A67 | | | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> | |
| PC 1.2 | Chrysotile | None Detected | None Detected | PC 98.8 | |
| Lab No.: | 4530429 | Description / Location: | Black Mastic | Layer No.: | 2 |
| Client No.: | MD1712-A67 | | Room 232,NE CornerNearEntrance,1st Floor | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> | |
| PC 3.5 | Chrysotile | None Detected | None Detected | PC 96.5 | |
| Lab No.: | 4530429 | Description / Location: | Yellow Mastic | Layer No.: | 3 |
| Client No.: | MD1712-A67 | | Room 232,NE CornerNearEntrance,1st Floor | | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> | |
| None Detected | None Detected | None Detected | None Detected | 100 | |

Accreditations:**NIST-NVLAP No. 101165-0****NY-DOH No. 11021****AIHA-LAP, LLC No. 100188**

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Analytical Method

EPA 600/R-93/116

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Analysis Performed By: L. Solebello**Date:** 1/18/2012

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-----------------------------|---------------------|---------------------------|
| Client: | Nortech Env'l & Engineering | Report Date: | 1/18/2012 |
| | 2400 College Rd | Report No.: | 261447 |
| Fairbanks | AK | Project: | Maire Drake Middle School |
| | | Project No.: | 12-1002J |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|------------|--|--|-------------------------------|
| Lab No.: | 4530430 | Description / Location: | Off-White/Grey Floor Tile | |
| Client No.: | MD1712-A68 | | SE Office Off South EndOfRm232,1st Floor | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type | % Non-Fibrous Material |
| PC 1.4 | Chrysotile | None Detected | None Detected | PC 98.6 |

| | | | | |
|--------------------|------------|--|---------------|-------------------------------|
| Lab No.: | 4530430 | Description / Location: | Black Mastic | Layer No.: 2 |
| Client No.: | MD1712-A68 | SE Office Off South EndOfRm232,1st Floor | | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type | % Non-Fibrous Material |
| PC 3.7 | Chrysotile | None Detected | None Detected | PC 96.3 |

| | | | | |
|--------------------|------------|--|--|-------------------------------|
| Lab No.: | 4530431 | Description / Location: | Pink/Grey Mastic | |
| Client No.: | MD1712-A69 | | SE Office Off South EndOfRm232,1st Floor | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type | % Non-Fibrous Material |
| PC 4.1 | Chrysotile | None Detected | None Detected | PC 95.9 |

| | | | | |
|--------------------|------------|--|--------------------------------|-------------------------------|
| Lab No.: | 4530432 | Description / Location: | Black Mastic | |
| Client No.: | MD1712-A70 | | Room 236, East Wall, 1st Floor | |
| % Asbestos | Type | % Non-Asbestos Fibrous Material | Type | % Non-Fibrous Material |
| PC 2.5 | Chrysotile | None Detected | None Detected | PC 97.5 |

Accreditations:

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA-LAP, LLC No. 100188

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Analytical Method

EPA 600/R-93/116

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Analysis Performed By: L. Solebello

Date: 1/18/2012

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-----------------------------|---------------------|---------------------------|
| Client: | Nortech Env'l & Engineering | Report Date: | 1/18/2012 |
| | 2400 College Rd | Report No.: | 261447 |
| Fairbanks | AK | Project: | Maire Drake Middle School |
| | | Project No.: | 12-1002J |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|--------------------------|-------------------------------|
| Lab No.: | 4530433 | Description / Location: | Yellow Mastic | |
| Client No.: | MD1712-A71 | | Boys Restroom, 1st Floor | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|---------------|--|--------------------------|-------------------------------|
| Lab No.: | 4530433 | Description / Location: | White Ceramic Tile | Layer No.: 2 |
| Client No.: | MD1712-A71 | | Boys Restroom, 1st Floor | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

| | | | | |
|--------------------|------------|--|-----------------------------------|-------------------------------|
| Lab No.: | 4530434 | Description / Location: | White/Grey Floor Tile | |
| Client No.: | MD1712-A72 | | Room 242, South Middle, 1st Floor | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |
| PC 1.3 | Chrysotile | None Detected | None Detected | PC 98.7 |

| | | | | |
|--------------------|---------------|--|--------------------------|-------------------------------|
| Lab No.: | 4530435 | Description / Location: | White/Tan Fibrous | |
| Client No.: | MD1712-A73 | | Elevator Coach, Basement | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 80 | Cellulose | 20 |

Accreditations:

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA-LAP, LLC No. 100188

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Analytical Method

EPA 600/R-93/116

Comments: (PC) Indicates Stratified Point Count Method performed. Method not performed unless stated. Quantification at <0.25% by volume is possible with this method. (PC-Trace) represents this limit of quantitation. (PC-Trace) means that asbestos was detected but is not quantifiable under the Point Counting regimen. Analysis includes all distinct separable layers in accordance with EPA 600 Method. If not reported or otherwise noted, layer is either not present or the client has specifically requested that it not be analyzed. Small asbestos fibers may be missed by PLM due to resolution limitations of the optical microscope. Therefore, negative PLM results cannot be guaranteed. Electron Microscopy can be used as a confirming technique. Regulatory Limit is based upon the sample matrix.

Analysis Performed By: L. SolebelloDate: 1/18/2012

CERTIFICATE OF ANALYSIS

Client: Nortech Env'l & Engineering
 2400 College Rd
 Fairbanks AK 99709

Report Date: 1/18/2012
Report No.: 261447
Project: Maire Drake Middle School
Project No.: 12-1002J

BULK SAMPLE ANALYSIS SUMMARY

| | | | |
|--------------------|---------------|--|-------------------|
| Lab No.: | 4530436 | Description / Location: | White/Tan Fibrous |
| Client No.: | MD1712-A74 | Elevator Coach, Basement | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type |
| None Detected | None Detected | 80 | Cellulose |
| | | | 20 |

| | | | |
|--------------------|---------------|--|--------------------------|
| Lab No.: | 4530437 | Description / Location: | Yellow/Tan Carpet Mastic |
| Client No.: | MD1712-A75 | Elevator Coach, Basement | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type |
| None Detected | None Detected | None Detected | None Detected |
| | | | 100 |

| | | | |
|--------------------|---------------|--|-------------------|
| Lab No.: | 4530438 | Description / Location: | Grey Cementitious |
| Client No.: | MD1712-A76 | Elevator Shaft, Basement | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type |
| None Detected | None Detected | None Detected | None Detected |
| | | | 100 |

| | | | |
|--------------------|------------|--|-----------------------------------|
| Lab No.: | 4530439 | Description / Location: | Grey Insulation; Maintenance Room |
| Client No.: | MD1712-A77 | Nearest To Elevator Shaft, Basement | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type |
| 60 | Chrysotile | 20 | Cellulose |
| | | | 20 |

Accreditations:

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA-LAP, LLC No. 10018

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Analysis Performed By: L. Solebello

Date: 1/18/2012

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-----------------------------|---------------------|---------------------------|
| Client: | Nortech Env'l & Engineering | Report Date: | 1/18/2012 |
| | 2400 College Rd | Report No.: | 261447 |
| Fairbanks | AK | Project: | Maire Drake Middle School |
| | | Project No.: | 12-1002J |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|---------------|--|---|-------------------------------|
| Lab No.: | 4530440 | Description / Location: | Off-White/Tan Vinyl Sheet Flooring | |
| Client No.: | MD1712-A78 | | Room 309,NE Corner Near Entrance,2ndFlr | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | 20 | Cellulose | 20 |

| | | | | |
|--------------------|------------|--|---|-------------------------------|
| Lab No.: | 4530440 | Description / Location: | Yellow/Black Mastic | Layer No.: 2 |
| Client No.: | MD1712-A78 | | Room 309,NE Corner Near Entrance,2ndFlr | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |
| PC 0.75 | Chrysotile | 15 | Fibrous Glass | 85 |

| | | | | |
|--------------------|------------|--|---------------------------------|-------------------------------|
| Lab No.: | 4530441 | Description / Location: | Black Mastic | |
| Client No.: | MD1712-A79 | | Room 311, South Wall, 2nd Floor | |
| <u>% Asbestos</u> | Type | <u>% Non-Asbestos Fibrous Material</u> | Type | <u>% Non-Fibrous Material</u> |
| PC 2.3 | Chrysotile | None Detected | None Detected | PC 97.7 |

Accreditations:

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA-LAP, LLC No. 100188

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Analytical Method

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Analysis Performed By: L. Solebello

Date: 1/18/2012

CERTIFICATE OF ANALYSIS

| | | | |
|----------------|-----------------------------|---------------------|---------------------------|
| Client: | Nortech Env'l & Engineering | Report Date: | 1/18/2012 |
| | 2400 College Rd | Report No.: | 261447 |
| Fairbanks | AK | Project: | Maire Drake Middle School |
| | | Project No.: | 12-1002J |

BULK SAMPLE ANALYSIS SUMMARY

| | | | | |
|--------------------|-------------|--|--|-------------------------------|
| Lab No.: | 4530442 | Description / Location: | Off-White/Grey; NE Corner Of | |
| Client No.: | MD1712-A80 | | Janitor'sStorageRmNearElevator,2nd Floor | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 1.5 | Chrysotile | None Detected | None Detected | PC 98.5 |

| | | | | |
|--------------------|-------------|--|--|-------------------------------|
| Lab No.: | 4530442 | Description / Location: | Black Mastic | Layer No.: 2 |
| Client No.: | MD1712-A80 | | Janitor'sStorageRmNearElevator,2nd Floor | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| PC 3.6 | Chrysotile | None Detected | None Detected | PC 96.4 |

| | | | | |
|--------------------|---------------|--|----------------------------|-------------------------------|
| Lab No.: | 4530443 | Description / Location: | White Wall Texture | |
| Client No.: | MD1712-A72 | | Additional Sample Received | |
| <u>% Asbestos</u> | <u>Type</u> | <u>% Non-Asbestos Fibrous Material</u> | <u>Type</u> | <u>% Non-Fibrous Material</u> |
| None Detected | None Detected | None Detected | None Detected | 100 |

Accreditations:

NIST-NVLAP No. 101165-0

NY-DOH No. 11021

AIHA-LAP, LLC No. 100188

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Analysis Performed By: L. Solebello

Date: 1/18/2012



ENVIRONMENTAL ENGINEERING & INDUSTRIAL HYGIENE

Anchorage: 3105A Lakeshore Dr., #A106, 99517 907.222.2445 Fax: 222.0915

Fairbanks: 2400 College Rd, 99709 907.452.5688 Fax: 452.5694

Juneau: 119 Seward St. #10, 99801 907.586.6813 Fax: 463.2550

info@nortechengr.com

www.nortechengr.com

Appendix D

Previous Assessment Work by Others

DEPARTMENT OF EDUCATION

OFFICE OF THE COMMISSIONER

100 E. PIONEER PLACE
811 WEST 10TH STREET
P.O. BOX F
JUNEAU, ALASKA 99811-2500

March 13, 1989

Lon Hadfield
Juneau School District
10014 Crazy Horse Drive
Juneau, Alaska 99801

Dear Mr. Hadfield:

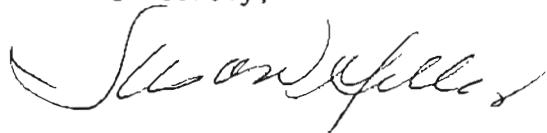
The Department of Education has reviewed the Management Plan submitted by the Juneau School District for Marie Drake School for compliance with the regulations of the Asbestos Hazard Emergency Response Act (AHERA). The Department finds this report to be complete under the requirements of AHERA and, therefore; finds no reason to disapprove the plan as submitted.

You should be aware that this action does not absolve the Juneau School District from it's responsibility under AHERA. The Environmental Protection Agency or other State and/or Federal Agencies with jurisdiction over this program may still determine, through on site or other investigative processes, that the LEA is violating the AHERA regulations. It will be the responsibility of the Juneau School District to correct any violations of AHERA that may be discovered at that time.

This action only applies to compliance with the technical requirements of AHERA. It does not imply that the Department will endorse or support any of the recommended response actions.

If you have any questions or need further information, please do not hesitate to contact me at 465-2865.

Sincerely,



Susan Miller
Project Assistant
Facilities

cc: Tom Carson, Management Planner

SCHOOL MANAGEMENT PLAN

ASBESTOS HAZARD EMERGENCY RESPONSE ACT

MARIE DRAKE MIDDLE SCHOOL

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SECTION I
COVER SHEET TRANSMITTAL FORM

SECTION I

COVER SHEET TRANSMITTAL FORM

1.1 Date: October 12, 1988

1.2 Approval Deadline Date: October 12, 1988

1.3 School

Type of LEA: Public
Name: Marie Drake Middle School
District: Juneau School District
County: City and Borough of Juneau
Address: 10014 Crazy Horse Drive
City: Juneau
State: Alaska
Zip: 99801

1.4 Superintendent

Name: Dr. Bruce Johnson
Address: 10014 Crazy Horse Drive
City: Juneau
State: Alaska
Zip: 99801
Telephone: 907-586-2303

1.5 Principal

Name: Sharla Wright
Address: 1415 Glacier Avenue
City: Juneau
State: Alaska
Zip: 99801
Telephone: 586-3780

1.6 Enrollment/Staff

Students: 427
Faculty/Administration: 36
Custodial Staff: 4
Maintenance Staff: 17 People District Wide

1.7 Building Inspector

Name: Thomas G. Carson
Business Affiliation: Consultant - James M. Montgomery
Consulting Engineers
Address: 712 W. 12th Street
City: Juneau
State: Alaska
Zip: 99801

: Tufts University
(#8807-02-009)
Date of Accreditation: January 14, 1988
State/EPA Approval: Massachusetts/Approved for Alaska
Refresher Course: Current Accreditation expires Jan. 13,
1989

1.8 Management Planner

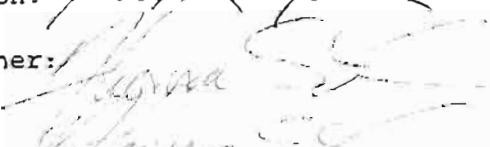
Name: Thomas G. Carson
Business Affiliation: Consultant - James M. Montgomery
Consulting Engineers
Address: 712 W. 12th Street
City: Juneau
State: Alaska
Zip: 99801
Accreditation Course: Tufts Univ., Boston (#8807-02-092)
Date of Accreditation: Jan. 14, 1988
State/EPA Approval: Massachusetts/Approved for Alaska
Refresher Course: Current Accreditation expires Jan. 13,
1989
Telephone: 907-586-4447

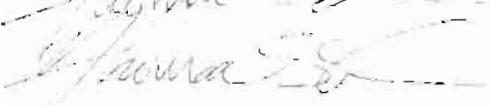
1.9 Signature Page

Superintendent: 

Principal: 

Designated Person: 

Management Planner: 

Inspector: 

1.10 Certification Statement

For persons who performed inspections, and recommend(ed) design, or carry out response actions (except for operations and maintenance) the local education agency used or will use persons who have been accredited by a state which has adopted a contractor accreditation plan under section 206(b) of Title II of the Act or is accredited by an EPA-approved course under section 206(c) of Title II of the Act. In addition, the LEA has considered whether any conflict of interest may arise from the interrelationship among accredited personnel, such as abatement activities performed by an inspector or management planner, and whether that should influence the selection of accredited personnel to perform activities under this AHERA program.

The signatories below certify that the general local education agency responsibilities, as stipulated by Part 763.84 have been met or will be met.

Signature: Joseph K. Moller Joseph K. Moller Date: 2/16/89
LEA AHERA Designee Typed Name

Signature: Grace F. Johnson Grace F. Johnson Date: 3/13/89
LEA Superintendent Typed Name

Tufts University

Thomas G. Carson

Has attended and satisfactorily passed
an examination covering the contents of the course:

“Asbestos Awareness for Management Planners”

conducted by the

Asbestos Information Center
Center for Environmental Management

8807-02-092
Certificate Number

January 14-15, 1988
Date of Course

January 15, 1989
Expiration Date



Barbara Cole

Training and Education Coordinator

Anthony J. Cotter

Director
Center For Environmental Management

Quill University
Thomas G. Carson

Has attended and satisfactorily passed
an examination covering the contents of the course:

“Asbestos Abatement
for Inspectors”

conducted by the

Asbestos Information Center
Center for Environmental Management

8801-02-009
Certificate Number

January 17-13, 1988
Date of Course

January 13, 1989
Expiration Date



James Cole

Training and Education Coordinator

Anthony D. Costa

Director
Center For Environmental Management

SECTION II

LEA DESIGNATED PERSON TRAINING DOCUMENTATION

SECTION II

LEA DESIGNATED PERSON TRAINING DOCUMENTATION

2.1 LEA Designated Person

Name and Title: Joe Mueller
Address: 10014 Crazy Horse Drive
City: Juneau
State: Alaska
Zip: 99801
Telephone: 907-789-7001

2.2 Asbestos Training

Course Name: Asbestos Abatement
Dates of Training: May 3-6, 1985
Hours of Training: 32 Hours
Training Verification: Copy of Course Purchase Order
Attached
Other Related Courses: ---

2.3 Official Notification - Copies Attached



JUNEAU SCHOOL DISTRICT

CITY AND BOROUGH OF JUNEAU

10014 CRAZY HORSE DRIVE • JUNEAU, ALASKA 99801-8529 • (907) 586-2303

MEMORANDUM

TO: Joe Mueller, Senior Maintenance Mechanic
FROM: Lon Hadfield, Maintenance Supervisor *lh*
SUBJECT: Asbestos
DATE: September 20, 1988

The Juneau School District is required to come into compliance with the Asbestos Hazard Emergency Response Act. A portion of this act requires that each educational institution appoint a person to oversee the initial development of a management plan and its implementation, educate and train maintenance and custodial personnel, and see that the School District stays in compliance with all aspects of the A.H.E.R.A. Regulation.

You have been selected to carry out these responsibilities. We will be looking at your job description as things develop and reassign some of your current responsibilities.

I am confident that you will find this assignment a challenge and I look forward to working with you in developing a management plan.

cc: Bruce Johnson
Laraine Glenn
Personnel File *✓*

PURCHASE ORDER

CITY & BOROUGH OF JUNEAU SCHOOL DISTRICT
10014 CRAZY HORSE DRIVE
JUNEAU, ALASKA 99801

THIS NUMBER MUST
APPEAR ON YOUR INVOICE

No. P0

189

| |
|------------|
| VENDOR NO. |
| 212000 |

TO: UNIVERSITY OF ALASKA
ATTN: CASHIER/BUSINESS OFFICE
11100 GLACIER DR.
JUNEAU, AK 99801

SHIP TO: MAINTENANCE
ATTN: LOR HATFIELD
JUNEAU SCHOOL DISTRICT
10014 CRAZY HORSE DR.
JUNEAU, AK 99801
(907) 789-7000

P/D Date: 4/28/86 Received: 4/28/86 Ref #: SEMINAR Req #: 000006775

| QUANTITY | U/M DESCRIPTION / PART NUMBER | DISCOUNT | UNIT PRICE | TOTAL |
|----------|--|----------|------------|--------|
| 3 | EX. MAINTENANCE PERSONNEL ATTENDING COURSE "ASBESTOS ABATEMENT" AT MARINE TECH. BUILDING, ROOM #217 & #218. FOUR TOTAL DAYS ON MAY 3, 4, 5, & 6. 8:30 A.M. THROUGH 4:30 P.M. EMPLOYEES ATTENDING: SCOTT BAILEY FRED WILSON JOE MUELLER | | 490.00 | 1470.0 |
| | | | TOTAL | 1470.0 |

| | |
|-------------------|----------|
| ACCOUNT | AMOUNT |
| 01-98-600-000-446 | 1,470.00 |

APPROVED FOR
PAYMENT

EX EXEMPT. PER CITY & BOROUGH OF JUNEAU
LASKA CHARTER. CHAPTER & SECTION 69.05.040
Exempt No. 92-6000101

Terms and Conditions of Purchase Attached

[Signature]
AUTHORIZING SIGNATURE

SECTION III

SCHOOL BUILDINGS

SECTION III

SCHOOL BUILDINGS

3.1 Building Identification

Owner: Juneau School District
Building Name: Marie Drake Middle School
Building Number: ---
Street Address: 1415 Glacier Avenue
City: Juneau
State: Alaska
Zip: 99801
Grade Span: 6-8
Building Size (Total Gross Square Feet): 72,134 SF
Year Built/Added to/Modernized: Originally built 1968,
 Library Addition and Classroom Renovation 1985.
Principal Name: Sharla Wright
Building Telephone Number: 907-586-3780
Friable and/or Suspect Friable ACM Present in Building: NO
Non-Friable and/or Suspect Non-Friable ACM Present in
 Building: YES

SECTION IV

PRIOR INSPECTIONS

SECTION IV

PRIOR INSPECTIONS (PRE 14 DEC 1987)

4.1 School: Marie Drake Middle School

4.2 Date of Most Recent Inspection: November 1984

4.3 Inspector(s), Previous

Name: The Pickering Firm
Business Affiliation: Consultant
Address: 821 S. Barksdale
City: Memphis
State: Tennessee
Zip: 38114
Telephone: 901-726-0810
Accreditation: ---

4.4 Scope of Inspection

Friable ACM only

4.5 Inspection Results

Attached at the end of this section is an excerpt from the Pickering Report pertaining to the school complete with applicable backup such as summary sheets, cost estimates and lab results as performed by McCrone Environmental Services.

4.6 Response Actions

An abatement project was completed by Asbestos Removal Specialists of Alaska between June and October 1988 primarily in response to the Pickering Report.

As part of that project, the following was accomplished:

- a) Boiler Room: All thermal system and miscellaneous ACM removed and replaced.
- b) Kitchen: All exposed thermal system ACM was removed.
- c) Basement area other than Boiler Room: All thermal system ACM in the basement was removed except:
 - 1) Maintenance Store room to left of stairs (Room 110) - no abatement occurred in this space.
 - 2) Custodial Store room to right of stairs (Room 102) - a pipe chase in the ceiling serving the Boys Restroom above was not abated. All other thermal system ACM in this space was removed.

Attached at the end of this section is a summary of this entire project complete with air sampling results.

PICKERING REPORT EXCERPT

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Exposure risks are to students, teachers, and maintenance personnel. The Pickering Firm, Inc. recommends removal of all identified asbestos materials from Harborview Elementary School.

JUNEAU DOUGLAS HIGH SCHOOL

Asbestos-containing ceiling materials are located in the restrooms near Room B108; the restroom near Room A120; the restrooms near student commons; the restrooms near Room A217 and the old elevator shaft near Room C126. Asbestos pipe insulation is located in a utility tunnel of which most appears to be abandoned. Exposure risks are to maintenance personnel, teachers and students. The Pickering Firm, Inc. recommends removal of all asbestos materials from Juneau Douglas High School.

MARIE DRAKE JR. HIGH SCHOOL

Asbestos pipe insulation is located in the following areas: boiler room, Room 227, Room 223, Room 425, Room 110, Room 102 and Room 111. Cement asbestos board is utilized as a wall material in Room 435. In it's present form, no exposure problem is occurring, however, if sawing or breaking of the wall board takes place, as exposure hazard occurs. Asbestos boiler and tank insulation is located in the boiler room. There are two (2) boilers measuring approximately 8' tall X 10' long X 6' wide with one (1) tank measuring approximately 6' diameter by 12' tall. The Pickering Firm, Inc. recommends removal of all asbestos materials located in Marie Drake Jr. High School.

MENDEHNALL RIVER ELEMENTARY SCHOOL

No suspect materials were observed at this school.

**JUNEAU MUNICIPAL DISTRICT
FINDINGS AND RECOMMENDATIONS CHART**

| SAMPLE NUMBER | SCHOOL | SAMPLE LOCATION | MATERIAL SAMPLED | SAMPLE ANALYSIS | RECOMMENDATION |
|---------------|-------------|---------------------|-------------------|-------------------------------|--------------------|
| JK31 | Harborview | Mechanical Room #19 | Pipe Fittings | Negative | No Action Required |
| JK32 | Marie Drake | Boiler Room | Boiler Insulation | 7% Chrysotile 30% Amosite | Removal |
| JK33 | Marie Drake | Boiler Room | Boiler Insulation | 3% Chrysotile 40% Amosite | Removal |
| JK34 | Marie Drake | Boiler Room | Tank Insulation | 4% Chrysotile 32% Amosite | Removal |
| JK35 | Marie Drake | Boiler Room | Tank Insulation | 8% Chrysotile 25% Amosite | Removal |
| JK36 | Marie Drake | Boiler Room | Pipe Run | 10% Chrysotile 35% Amosite | Removal |
| JK37 | Marie Drake | Boiler Room | Pipe Run | 8% Chrysotile 26% Amosite | Removal |
| JK38 | Marie Drake | Boiler Room | Pipe Fittings | 25% Chrysotile 20% Amosite | Removal |
| JK39 | Marie Drake | Boiler Room | Pipe Fittings | 20% Chrysotile 15% Amosite | Removal |
| JK40 | Marie Drake | Boiler Room | Valve Insulation | 20% Chrysotile 25% Amosite | Removal |

JUNEAU DISTRICT
FINDINGS AND RECOMMENDATIONS CHART

| SAMPLE NUMBER | SCHOOL | SAMPLE LOCATION | MATERIAL SAMPLED | SAMPLE ANALYSIS | RECOMMENDATION |
|---------------|----------------|-----------------------------------|----------------------|---|--------------------|
| JK41) | Marie Drake | Room #425 | Pipe Fittings | 12% Chrysotile | Removal |
| JK42 | Marie Drake | Room #425 | Pipe Fittings | 25% Chrysotile | Removal |
| JK43 | Juneau Douglas | Vestibule near Room A120 | Ceiling Plaster | Negative | No Action Required |
| JK44 | Juneau Douglas | Storage Area near Room C120 | Fire Proofing | Negative | No Action Required |
| JK45 | Juneau Douglas | Storage Area near Room C120 | Fire Proofing | Negative | No Action Required |
| JK46) | Juneau Douglas | Old Elevator Shaft near Room C126 | Acoustical Plaster | 4% Chrysotile | Removal |
| JK47 | Juneau Douglas | Tunnel | Pipe Fittings | 5% Chrysotile 30% Amosite 10% Crocidolite | Removal |
| JK48 | Juneau Douglas | Tunnel | Pipe Run (Abandoned) | 22% Chrysotile 23% Amosite | Removal |
| JK49 | Juneau Douglas | Room B113 | Tank Insulation | Negative | No Action Required |
| JK50 | Juneau Douglas | Room B113 | Pipe Run | Negative | No Action Required |

Gastineau Elementary School (Con't)Replacement Cost

| | | |
|--------------------------------|---|--------------------|
| 371 S.F. tank insulation @ | = | 8,904.00 |
| \$24.00/S.F. | = | 4,914.00 |
| 117 pipe fittings @ \$42.00/ea | = | |
| Total Replacement Cost | = | <u>\$13,818.00</u> |

Glacier Valley

| | | |
|--|---|--------------------|
| 1 type "C" @ \$12,000.00/ea | = | \$12,000.00 |
| 214 S.F. tank insulation @ \$42.00/S.F. | = | 8,988.00 |
| 2904/S.F. ceiling removal @ \$15.00/S.F. | = | 43,560.00 |
| 340 fittings @ \$42.00/ea | = | 14,280.00 |
| Total Removal Cost | = | <u>\$78,828.00</u> |

Replacement Cost

| | | |
|--|---|--------------------|
| 214 S.F. tank insulation @ \$24.00/S.F. | = | \$ 5,136.00 |
| 2904/S.F. ceiling material @ \$4.50/S.F. | = | 13,068.00 |
| 340 fittings @ \$42.00/ea | = | 14,280.00 |
| Total Replacement Cost | = | <u>\$32,484.00</u> |

Marie Drake Jr. High School

| | | |
|--|---|--------------------|
| 1 type "C" @ \$12,000.00 | = | \$12,000.00 |
| 283 S.F. tank removal @ \$42.00/S.F. | = | 11,886.00 |
| 560 S.F. boiler removal @ \$42.00/S.F. | = | 23,520.00 |
| 488 L.F. Pipe runs @ \$22.50/L.F. | = | 10,980.00 |
| 358 pipe fittings @ \$42.00/ea | = | 15,036.00 |
| 8 (4'X8') sheets C.A.B. @ \$48.00/ea. | = | 384.00 |
| Total Removal Cost | = | <u>\$73,806.00</u> |

Replacement Cost

| | | |
|---|---|--------------------|
| 283 S.F. tank insulation @ \$24.00/S.F. | = | \$ 6,792.00 |
| 560 S.F. boiler insulation @ \$24.00/S.F. | = | 13,440.00 |
| 488 L.F. pipe insulation @ \$22.50/L.F. | = | 10,980.00 |
| 358 Pipe fittings @ \$42.00/ea | = | 15,036.00 |
| 256 S.F. wallboard @ \$4.50/S.F. | = | 1,152.00 |
| Total Replacement Cost | = | <u>\$47,400.00</u> |

ESTIMATED BUDGET TOTALS

| SCHOOL | REMOVAL | REPLACEMENT | ESTIMATED AIR MONITORING FEES SEE NOTE 1 | ENGINEERING FEES SEE NOTE 2 | SCHOOL TOTAL |
|----------------|--------------|--------------|---|--------------------------------|--------------|
| Auke Bay | \$ 30,639.00 | \$ 17,448.00 | \$ 4,500.00 | \$ 5,258.70 | \$ 57,845.70 |
| Capitol | \$ 19,542.00 | \$ 4,524.00 | \$ 2,500.00 | \$ 2,656.60 | \$ 29,222.60 |
| Floyd Dryden | \$ 33,450.00 | \$ 14,154.00 | \$ 5,000.00 | \$ 5,260.40 | \$ 57,864.40 |
| Gastineau | \$ 32,496.00 | \$ 13,818.00 | \$ 5,000.00 | \$ 5,131.40 | \$ 56,445.40 |
| Glacier Valley | \$ 78,828.00 | \$ 32,484.00 | \$10,000.00 | \$12,131.20 | \$133,443.20 |
| Marie Drake | \$ 73,806.00 | \$ 47,400.00 | \$ 9,000.00 | \$13,020.60 | \$143,226.60 |
| Harborview | \$ 39,342.00 | \$ 39,726.00 | \$ 5,000.00 | \$ 8,406.80 | \$ 92,474.80 |
| Juneau Douglas | \$ 90,090.00 | \$ 10,152.00 | \$11,500.00 | \$11,174.20 | \$122,916.20 |
| Project Totals | \$398,193.00 | \$179,706.00 | \$52,500.00 | \$63,039.90 | \$693,438.90 |

NOTE 1: Air Monitoring costs are based on an industry average of \$500.00/day of construction.

NOTE 2: Engineering fees are calculated to be approximately ten (10%) percent of construction costs including air monitoring.

McCRONE ENVIRONMENTAL SERVICES, INC.
200 Oakbrook Business Center
5500 Oakbrook Parkway
Norcross, GA 30093 (404) 449-8461

BULK SAMPLE ANALYSIS

Project Number : ME-1361 Date analyzed : 12/05/84

Project Name : Juneau AK Samples/Juneau AK

Client : thru The Pickering Firm/Memphis TN

Client's Sample I.D. : JK 32 M.E. Sample I.D. No. : 8847

Gross Visual Description : Grey Powdery and Fibrous Material

ASBESTOS MINERALS: Estimated Percentage

| | | | | | | |
|--------------------------|---|---|---|---|---|----------------|
| 1 . Chrysotile | - | - | - | - | - | 7 |
| 2 . Amosite | - | - | - | - | - | 30 |
| 3 . Crocidolite | | | | | | |
| 4 . Anthophyllite | | | | | | |
| 5 . Tremolite/Actinolite | | | | | | |
| | | | | | | Asbestos Total |
| | | | | | | 37 |

| | | | | | | |
|-------------------|---|---|---|---|---|---|
| Cellulose | | | | | | |
| Paper/Wood Fibers | - | - | - | - | - | 3 |

| | | | | | | |
|---------------------|---|---|---|---|---|----|
| Glass Fibers | | | | | | |
| Mineral Wool Fibers | | | | | | |
| Perlite | | | | | | |
| Mica | | | | | | |
| Binders | - | - | - | - | - | 58 |
| Others | | | | | | |
| Granular Minerals | - | - | - | - | - | 2 |

| | | | | | | |
|--|--|--|--|--|--|-------|
| | | | | | | Total |
| | | | | | | 100 |

Comments :

Microscopist : Thomas G. Laubenthal

McCRONE ENVIRONMENTAL SERVICES, INC.
200 Oakbrook Business Center
5500 Oakbrook Parkway
Norcross, GA 30093 (404) 449-8461

BULK SAMPLE ANALYSIS

Project Number : ME-1361

Date analyzed : 12/05/84

Project Name : Juneau AK Samples/Juneau AK

Client : thru The Pickering Firm/Memphis TN

Client's Sample I.D. : JK 33

M.E. Sample I.D. No. : 8848

Gross Visual Description : Brownish Fibrous Powder

| ASBESTOS MINERALS: | Estimated Percentage |
|--------------------|----------------------|
|--------------------|----------------------|

| | | | | | | |
|--------------------------|---|---|---|---|---|----------------|
| 1 . Chrysotile | - | - | - | - | - | 3 |
| 2 . Amosite | - | - | - | - | - | 40 |
| 3 . Crocidolite | | | | | | |
| 4 . Anthophyllite | | | | | | |
| 5 . Tremolite/Actinolite | | | | | | |
| | | | | | | Asbestos Total |
| | | | | | | 43 |

Cellulose

Paper/Wood Fibers

Glass Fibers

Mineral Wool Fibers

Perlite

Mica

Binders

Others

Opaques

| | | | | | | |
|---|---|---|---|---|---|----|
| - | - | - | - | - | - | 54 |
| - | - | - | - | - | - | 3 |

Total 100

Comments :

Microscopist : Jeremy A. Armstrong

McCRONE ENVIRONMENTAL SERVICES, INC.
200 Oakbrook Business Center
5500 Oakbrook Parkway
Norcross, GA 30093 (404) 449-8461

BULK SAMPLE ANALYSIS

Project Number : ME-1361 Date analyzed : 12/05/84
Project Name : Juneau AK Samples/Juneau AK
Client : thru The Pickering Firm/Memphis TN
Client's Sample I.D. : JK 34 M.E. Sample I.D. No. : 8849
Gross Visual Description : White, Fluffy, Fibrous Material

| ASBESTOS MINERALS: | Estimated Percentage |
|--------------------------------|----------------------|
| 1 . Chrysotile | - - - - - 4 |
| 2 . Amosite | - - - - - 32 |
| 3 . Crocidolite | |
| 4 . Anthophyllite | |
| 5 . Tremolite/Actinolite | |
| | Asbestos Total 36 |
| Cellulose Paper/Wood Fibers | - - - - - 6 |
| Glass Fibers | |
| Mineral Wool Fibers | |
| Perlite | |
| Mica | |
| Binders | - - - - - 58 |
| Others | |
| | Total 100 |

Comments :

Microscopist : Zachary S. Cowan III

MCCRONE ENVIRONMENTAL SERVICES, INC.
200 Oakbrook Business Center
5500 Oakbrook Parkway
Norcross, GA 30093 (404) 449-8461

BULK SAMPLE ANALYSIS

Project Number : ME-1361

Date analyzed : 12/05/84

Project Name : Juneau AK Samples/Juneau AK

Client : thru The Pickering Firm/Memphis TN

Client's Sample I.D. : JK 35 M.E. Sample I.D. No. : 8850

Gross Visual Description : White Fibrous Material

ASBESTOS MINERALS: Estimated Percentage

| | | | | | | | |
|-----|----------------------|----------------|---|---|---|---|----|
| 1 . | Chrysotile | - | - | - | - | - | 8 |
| 2 . | Amosite | - | - | - | - | - | 25 |
| 3 . | Crocidolite | | | | | | |
| 4 . | Anthophyllite | | | | | | |
| 5 . | Tremolite/Actinolite | | | | | | |
| | | Asbestos Total | | | | | 33 |

| | | | | | | | |
|--------------------------------|---|---|---|---|---|---|----|
| Cellulose Paper/Wood Fibers | - | - | - | - | - | - | 15 |
|--------------------------------|---|---|---|---|---|---|----|

| | | | | | | | |
|-------------------------------------|---|---|---|---|---|---|----|
| Glass Fibers Mineral Wool Fibers | - | - | - | - | - | - | 15 |
|-------------------------------------|---|---|---|---|---|---|----|

| | | | | | | | |
|--------------------------------------|---|---|---|---|---|---|----|
| Perlite Mica Binders Others | - | - | - | - | - | - | 37 |
|--------------------------------------|---|---|---|---|---|---|----|

Total 100

Comments :

Microscopist : Jeremy A. Armstrong

McCRONE ENVIRONMENTAL SERVICES, INC.
200 Oakbrook Business Center
5500 Oakbrook Parkway
Norcross, GA 30093 (404) 449-8461

BULK SAMPLE ANALYSIS

Project Number : ME-1361 Date analyzed : 12/05/84
Project Name : Juneau AK Samples/Juneau AK
Client : thru The Pickering Firm/Memphis TN
Client's Sample I.D. : JK 36 M.E. Sample I.D. No. : 8851
Cross Visual Description : Off-White Fibrous and Powdery Material

ASBESTOS MINERALS: Estimated Percentage

| | | | | | | |
|--------------------------|---|---|---|---|---|----------------|
| 1 . Chrysotile | - | - | - | - | - | 10 |
| 2 . Amosite | - | - | - | - | - | 35 |
| 3 . Crocidolite | | | | | | |
| 4 . Anthophyllite | | | | | | |
| 5 . Tremolite/Actinolite | | | | | | |
| | | | | | | Asbestos Total |
| | | | | | | 45 |

Cellulose
Paper/Wood Fibers - - - - - 10

Glass Fibers
Mineral Wool Fibers
Perlite
Mica
Binders - - - - - 45
Others

Total 100

Comments :

Microscopist : Thomas G. Laubenthal

McCRONE ENVIRONMENTAL SERVICES, INC.
200 Oakbrook Business Center
5500 Oakbrook Parkway
Norcross, GA 30093 (404) 449-8461

BULK SAMPLE ANALYSIS

Project Number : ME-1361

Date analyzed : 12/05/84

Object Name : Juneau AK Samples/Juneau AK

Client : thru The Pickering Firm/Memphis TN

Client's Sample I.D. : JK 37

M.E. Sample I.D. No. : 8852

Cross Visual Description : Light Grey, Fluffy, Fibrous Material

ASBESTOS MINERALS: Estimated Percentage

| | | | | | | | |
|-----|----------------------|----------------|---|---|---|---|----|
| 1 . | Chrysotile | - | - | - | - | - | 8 |
| 2 . | Amosite | - | - | - | - | - | 26 |
| 3 . | Crocidolite | | | | | | |
| 4 . | Anthophyllite | | | | | | |
| 5 . | Tremolite/Actinolite | | | | | | |
| | | Asbestos Total | | | | | 34 |

Cellulose

Paper/Wood Fibers

Glass Fibers

Mineral Wool Fibers

Perlite

Mica

Binders

Others

| | | | | | | |
|---|---|---|---|---|---|----|
| - | - | - | - | - | - | 66 |
|---|---|---|---|---|---|----|

Total 100

Comments :

Microscopist : Zachary S. Cowan III

McCRONE ENVIRONMENTAL SERVICES, INC.
200 Oakbrook Business Center
5500 Oakbrook Parkway
Norcross, GA 30093 (404) 449-8461

BULK SAMPLE ANALYSIS

Project Number : ME-1361 Date analyzed : 12/05/84

Project Name : Juneau AK Samples/Juneau AK

Client : thru The Pickering Firm/Memphis TN

Client's Sample I.D. : JK 38 M.E. Sample I.D. No. : 8853

Cross Visual Description : Off-White Powder

ASBESTOS MINERALS: Estimated Percentage

| | | | | | | |
|--------------------------|---|---|---|---|----------------|----|
| 1 . Chrysotile | - | - | - | - | - | 25 |
| 2 . Amosite | - | - | - | - | - | 20 |
| 3 . Crocidolite | | | | | | |
| 4 . Anthophyllite | | | | | | |
| 5 . Tremolite/Actinolite | | | | | | |
| | | | | | Asbestos Total | 45 |

Cellulose
Paper/Wood Fibers - - - - - 10

Glass Fibers
Mineral Wool Fibers - - - - - - 15

Perlite
Mica
Binders
Others - - - - - 30

Total 100

Comments :

Microscopist : Jeremy A. Armstrong

McCRONE ENVIRONMENTAL SERVICES, INC.
200 Oakbrook Business Center
5500 Oakbrook Parkway
Norcross, GA 30093 (404) 449-8461

BULK SAMPLE ANALYSIS

Project Number : ME-1361 Date analyzed : 12/06/84

Project Name : Juneau AK Samples/Juneau AK

Client : thru The Pickering Firm/Memphis TN

Client's Sample I.D. : JK 39 M.E. Sample I.D. No. : 8854

Obs Visual Description : Off-White Powdery and Fibrous Material

| ASBESTOS MINERALS: | Estimated Percentage |
|--------------------|----------------------|
|--------------------|----------------------|

| | | | | | | |
|--------------------------|---|---|---|---|----------------|----|
| 1 . Chrysotile | - | - | - | - | - | 20 |
| 2 . Amosite | - | - | - | - | - | 15 |
| 3 . Crocidolite | | | | | | |
| 4 . Anthophyllite | | | | | | |
| 5 . Tremolite/Actinolite | | | | | | |
| | | | | | Asbestos Total | 35 |

| | | | | | | |
|-------------------|---|---|---|---|---|---|
| Cellulose | | | | | | |
| Paper/Wood Fibers | - | - | - | - | - | 5 |

| | | | | | | |
|---------------------|---|---|---|---|---|----|
| Glass Fibers | | | | | | |
| Mineral Wool Fibers | - | - | - | - | - | 30 |

| | | | | | | |
|---------|---|---|---|---|---|----|
| Perlite | | | | | | |
| Mica | | | | | | |
| Binders | - | - | - | - | - | 30 |
| Others | | | | | | |

| | | |
|--|-------|-----|
| | Total | 100 |
|--|-------|-----|

Comments :

Microscopist : Thomas G. Laubenthal

McCRONE ENVIRONMENTAL SERVICES, INC.
200 Oakbrook Business Center
5500 Oakbrook Parkway
Norcross, GA 30093 (404) 449-8461

BULK SAMPLE ANALYSIS

Project Number : ME-1361 Date analyzed : 12/06/84
Object Name : Juneau AK Samples/Juneau AK
Client : thru The Pickering Firm/Memphis TN
Client's Sample I.D. : JK 40 M.E. Sample I.D. No. : 8855
ross Visual Description : Light Grey Fibrous Powder

ASBESTOS MINERALS: Estimated Percentage

| | | | | | | |
|--------------------------|---|---|---|---|----------------|----|
| 1 . Chrysotile | - | - | - | - | - | 20 |
| 2 . Amosite | - | - | - | - | - | 25 |
| 3 . Crocidolite | | | | | | |
| 4 . Anthophyllite | | | | | | |
| 5 . Tremolite/Actinolite | | | | | | |
| | | | | | Asbestos Total | 45 |

Cellulose
Paper/Wood Fibers
Glass Fibers
Mineral Wool Fibers - - - - - 20

Perlite
Mica
Binders
Others - - - - - 35

Total 100

Comments :

Microscopist : Jeremy A. Armstrong

200 Oakbrook Business Center
5500 Oakbrook Parkway
Norcross, GA 30093 (404) 449-8461

BULK SAMPLE ANALYSIS

Project Number : ME-1361 Date analyzed : 12/06/84

Project Name : Juneau AK Samples/Juneau AK

Client : thru The Pickering Firm/Memphis TN

Client's Sample I.D. : JK 41 M.E. Sample I.D. No. : 8856

Gross Visual Description : Off-White, Fluffy, Fibrous Material

| ASBESTOS MINERALS: | Estimated Percentage |
|--------------------------|----------------------|
| 1 . Chrysotile | - - - - - 12 |
| 2 . Amosite | |
| 3 . Crocidolite | |
| 4 . Anthophyllite | |
| 5 . Tremolite/Actinolite | |
| | Asbestos Total 12 |
| Cellulose | |
| Paper/Wood Fibers | - - - - - 7 |
| Glass Fibers | |
| Mineral Wool Fibers | - - - - - 28 |
| Perlite | |
| Mica | |
| Binders | - - - - - 53 |
| Others | |
| | Total 100 |

Comments :

Microscopist : Zachary S. Cowan III

ROCKLINE ENVIRONMENTAL SERVICES, INC.
200 Oakbrook Business Center
5500 Oakbrook Parkway
Norcross, GA 30093 (404) 449-8461

BULK SAMPLE ANALYSIS

Project Number : ME-1361 Date analyzed : 12/05/84
Project Name : Juneau AK Samples/Juneau AK
Client : thru The Pickering Firm/Memphis TN
Client's Sample I.D. : JK 42 M.E. Sample I.D. No. : 8857
Cross Visual Description : Grey Fibrous Powder

| ASBESTOS MINERALS: | Estimated Percentage |
|--------------------------|----------------------|
| 1 . Chrysotile | - - - - - 25 |
| 2 . Amosite | |
| 3 . Crocidolite | |
| 4 . Anthophyllite | |
| 5 . Tremolite/Actinolite | |
| | Asbestos Total 25 |
| Cellulose | |
| Paper/Wood Fibers | - - - - - 8 |
| Glass Fibers | |
| Mineral Wool Fibers | - - - - - 12 |
| Perlite | |
| Mica | |
| Binders | - - - - - 55 |
| Others | |
| | Total 100 |

Comments :

Microscopist : Jeremy A. Armstrong