

September 21, 2012

Mr. Thomas Touseau
SAU 26 – Merrimack School District
Facilities Director
36 McElwain Street
Merrimack, NH 03154

Asbestos, Lead Paint, Radon, Mold, PCBs
ASTM Environmental Site Assessments
EPA, OSHA & State Training Programs
Air Quality Testing & Analysis
Industrial Hygiene Services
OSHA Compliance

RE: Preliminary Infrared Screening
Special Services Building
RPF Project No. 125049

Dear Mr. Touseau:

In accordance with our term agreement for 2012, RPF Environmental Inc. (RPF) completed preliminary infrared (IR) thermography screening of select locations of the Special Services building facility located at 2 Brentwood Drive in Merrimack, New Hampshire. The preliminary screening was completed on September 5, 2012, with the assistance of your staff, by Dennis N. Francoeur Jr., CIH CSP. The day of the survey was warm and humid. The survey was limited to select exterior wall and floor surfaces of the basement as part of your investigation into the building's exterior wall conditions. The staff had recently been drying surfaces after a rain had lead to water entering the lower level of the building.

Infrared thermography is a tool for building assessments to help identify portions of a building, which may have experienced moisture intrusion events resulting in increased moisture content (water) within the insulation or building materials. The IR camera detects thermal energy, which allows the thermographer to compare relative temperature differences of various accessible surfaces. The Fluke TiR2 Flexcam IR camera does not actually measure or identify moisture or water, but the thermal capacity (temperature) of a material, which can be affected by variety of factors including moisture content of the building material.

IR Building Moisture Surveys

The IR camera measures temperature differences, which may be caused by moisture content, heat sources within the building, or differences in air flow through the building's materials. The basic principals of conducting non-destructive IR moisture surveys rely on the fact that wet building materials including wallboard, wood, and insulation, which retain water and has a higher mass, take longer to gain heat during the day and will appear cooler than dry building materials. The wet insulation or other building materials will not warm up as fast and will appear cooler than the surrounding building materials when viewed with the IR camera in the morning. Cooler areas of a building are then considered areas for further investigation to determine the actual cause for the temperature difference. Moisture content measurements are then required to confirm the actual presence or absence of moisture within the building system.

Examples of factors which may affect the building material surface temperature determinations include but are not limited to:

- Moisture within the insulation or wall space
- Variations in thickness of insulation or building materials
- Multiple layers of siding, roofing or reflective coatings
- Voids in insulation
- Construction defects
- Fasteners or connectors such as plastic or metal
- Steel beams or structures which cool or heat at different rates than surrounding surfaces
- Heat sources including boilers, hot water pipes, or space heaters
- Water puddles, dirt, debris or ballast on a roof
- Reflective surfaces
- Thermal affects of adjacent structures.

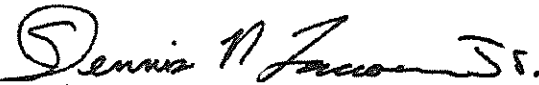
The building materials in suspect areas would need to be cut and a moisture meter or other method of testing would be required to verify if the temperature change documented is in fact water or due to other factors. Areas with temperature differentials determined with the IR camera may not be specifically due to moisture, but are areas for further investigation to determine the cause for the temperature differential.

No major areas of concern were documented in the survey beyond the water issues in the mechanical spaces, and the lower wall – floor area at the bottom of the stairs. Past water stains were present on ceiling tiles, in the area approximately under the pipe chase for the first floor bathrooms.

The results of the IR thermographs are presented in the attached pages with the approximate locations of the thermographs noted on the attached diagram with an estimation of areas for further investigation noted on the diagram. Blue colors depict cooler temperatures and red is warm, with the darker blue colder than light blues.

Representative areas which had temperature differentials where further investigation was warranted were discussed with staff on-site and are presented in the separate exploratory survey report prepared by RPF. If you have any questions or require additional information, please feel free to contact our office. Thank you for utilizing the services of RPF.

Sincerely,
RPF ENVIRONMENTAL, INC.


Dennis N. Francoeur Jr., CIH CSP
Principal

Enclosures: Appendix A: IR Thermographs
Appendix B: Limitations
125049 IR report cover

APPENDIX A



Preliminary Infrared Building Survey

SAU 26 Support Services Building

Merrimack School District - SAU 26
September 5, 2012

RPF ENVIRONMENTAL, INC.

TESTING AND CONSULTING SERVICES

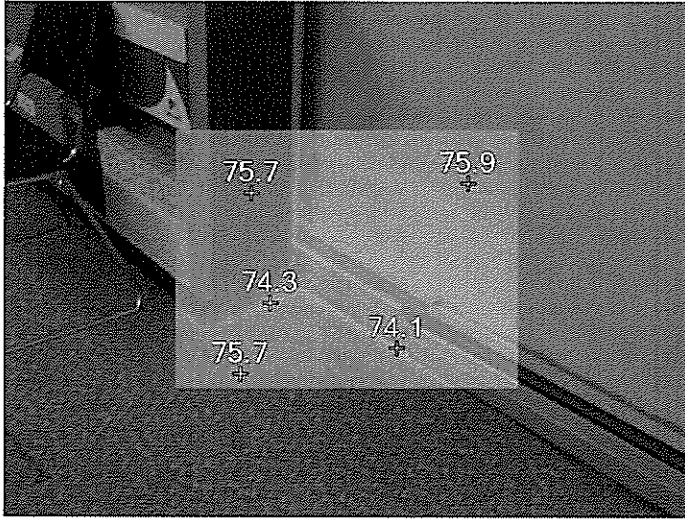
Phone: (603) 942-5432 Fax: (603) 942-5300
320 1st NH Turnpike, Northwood, NH 03261

RPF Project 125049

Table Of Contents

| | |
|--------------------------------------------------------------------|----|
| Basement near stairway | 3 |
| Basement near stair way | 4 |
| Basement area above door | 5 |
| Basement corner with cool spot | 6 |
| Basement corner | 7 |
| Basement floor under table, hot spot is electrical outlet and cord | 8 |
| Basement exterior wall near ceiling | 9 |
| Basement exterior wall under table, end of building | 10 |
| Basement exterior wall in front of stairway | 11 |
| Basement storage room | 12 |
| Mechanical room wall - foundation | 13 |
| Basement main room floor with carpet | 14 |
| First Floor Fireplace crack in masonry | 15 |
| First Floor Fireplace with water staining | 16 |
| First Floor Fireplace area with water stained board | 17 |

Basement near stairway



IR20120905_0121.is2

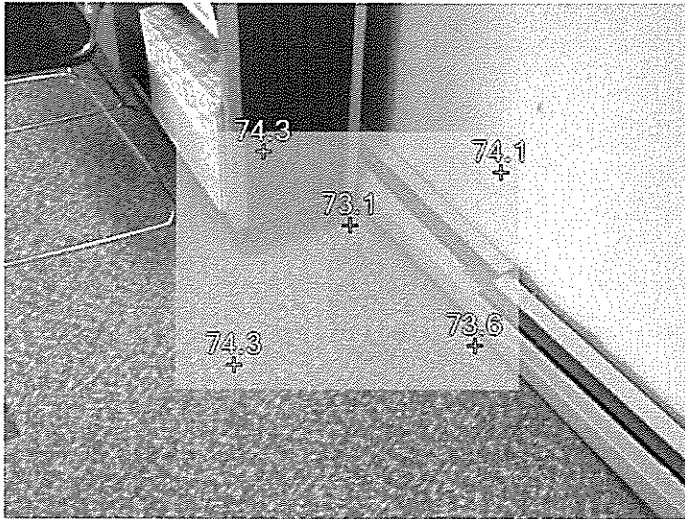
9/5/2012 11:46:46 AM

Cool areas near edge indicating an area for further investigation.

Image Info

| | |
|------------------------|----------------------|
| Background temperature | 66.7°F |
| Average Temperature | 75.4°F |
| Image Range | 74.1°F to 76.3°F |
| Camera Model | TiR2FT |
| IR Sensor Size | 160 x 120 |
| Camera serial number | 0710159 |
| Lens serial number | 40948-6655 |
| Image Time | 9/5/2012 11:46:46 AM |

Basement near stair way



IR20120905_0122.is2

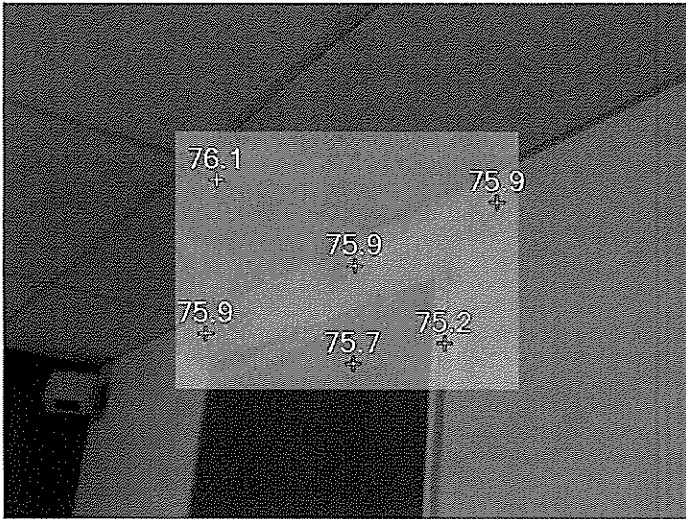
9/5/2012 11:47:28 AM

Cooler area along edges indicating an area for further investigation

Image Info

| | |
|------------------------|----------------------|
| Background temperature | 66.7°F |
| Average Temperature | 73.9°F |
| Image Range | 32.0°F to 74.8°F |
| Camera Model | TiR2FT |
| IR Sensor Size | 160 x 120 |
| Camera serial number | 0710159 |
| Lens serial number | 40948-6655 |
| Image Time | 9/5/2012 11:47:28 AM |

Basement area above door



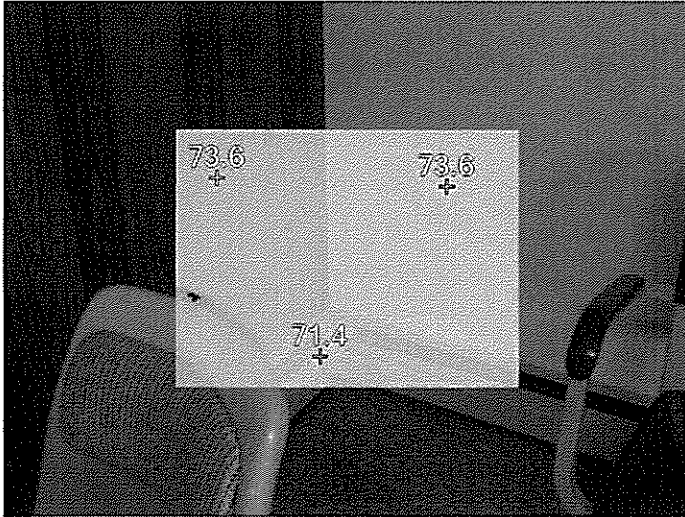
IR20120905_0123.is2

9/5/2012 11:49:08 AM

Image Info

| | |
|------------------------|----------------------|
| Background temperature | 66.7°F |
| Average Temperature | 75.8°F |
| Image Range | 75.2°F to 76.3°F |
| Camera Model | TiR2FT |
| IR Sensor Size | 160 x 120 |
| Camera serial number | 0710159 |
| Lens serial number | 40948-6655 |
| Image Time | 9/5/2012 11:49:08 AM |

Basement corner with cool spot



IR20120905_0124.is2

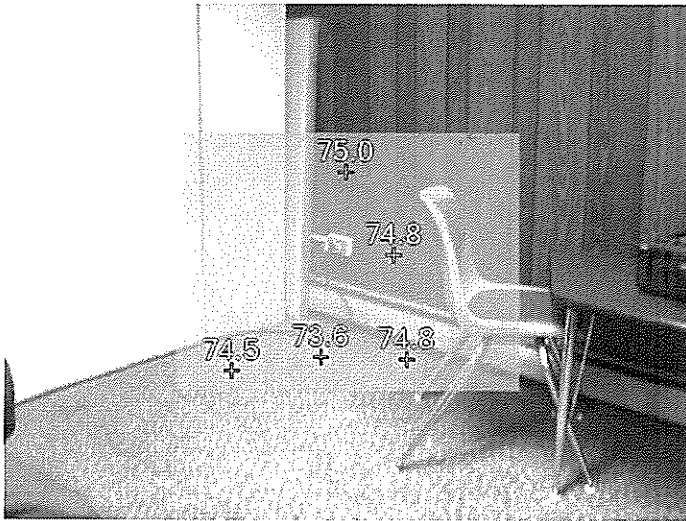
9/5/2012 11:49:58 AM

Cooler in corner, may be due to water content, lack of insulation or draft, indicating areas for further investigation.

Image Info

| | |
|------------------------|----------------------|
| Background temperature | 66.7°F |
| Average Temperature | 73.3°F |
| Image Range | 32.0°F to 75.0°F |
| Camera Model | TiR2FT |
| IR Sensor Size | 160 x 120 |
| Camera serial number | 0710159 |
| Lens serial number | 40948-6655 |
| Image Time | 9/5/2012 11:49:58 AM |

Basement corner



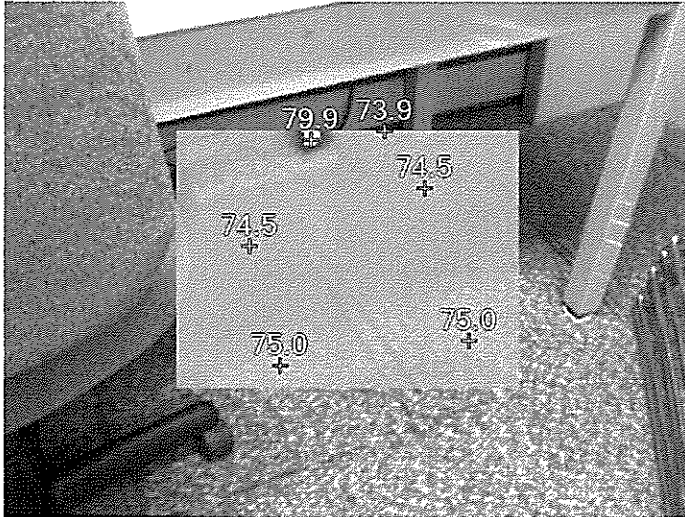
IR20120905_0125.is2

9/5/2012 11:50:47 AM

Image Info

| | |
|------------------------|----------------------|
| Background temperature | 66.7°F |
| Average Temperature | 74.8°F |
| Image Range | 32.0°F to 75.4°F |
| Camera Model | TiR2FT |
| IR Sensor Size | 160 x 120 |
| Camera serial number | 0710159 |
| Lens serial number | 40948-6655 |
| Image Time | 9/5/2012 11:50:47 AM |

Basement floor under table, hot spot is electrical outlet and cord



IR20120905_0127.is2

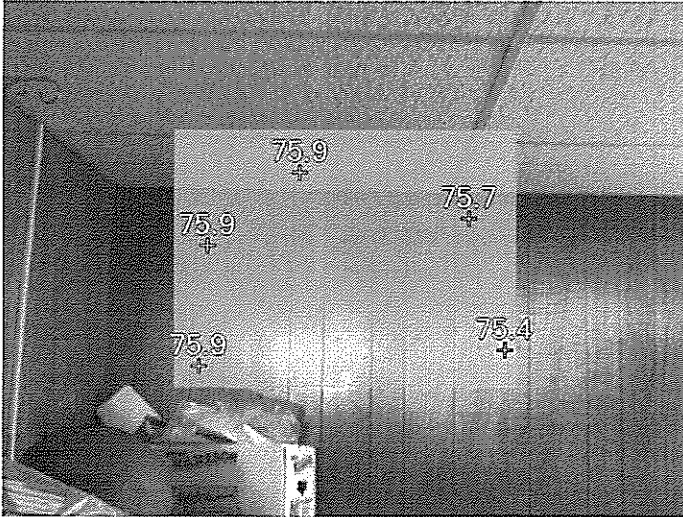
9/5/2012 11:53:30 AM

Hot spot due to electrical outlet and plug.

Image Info

| | |
|------------------------|----------------------|
| Background temperature | 66.7°F |
| Average Temperature | 74.7°F |
| Image Range | 73.9°F to 79.9°F |
| Camera Model | TiR2FT |
| IR Sensor Size | 160 x 120 |
| Camera serial number | 0710159 |
| Lens serial number | 40948-6655 |
| Image Time | 9/5/2012 11:53:30 AM |

Basement exterior wall near ceiling



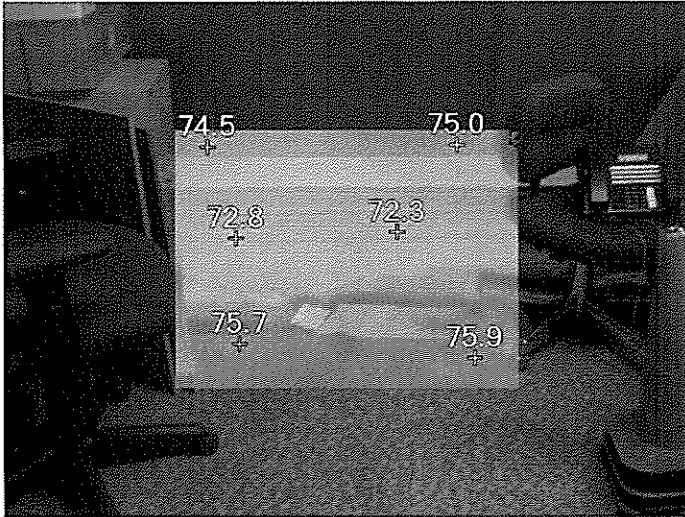
IR20120905_0128.is2

9/5/2012 11:55:19 AM

Image Info

| | |
|------------------------|----------------------|
| Background temperature | 66.7°F |
| Average Temperature | 75.8°F |
| Image Range | 32.0°F to 76.1°F |
| Camera Model | TiR2FT |
| IR Sensor Size | 160 x 120 |
| Camera serial number | 0710159 |
| Lens serial number | 40948-6655 |
| Image Time | 9/5/2012 11:55:19 AM |

Basement exterior wall under table, end of building



IR20120905_0129.is2

9/5/2012 11:57:04 AM

Image Info

| | |
|------------------------|----------------------|
| Background temperature | 66.7°F |
| Average Temperature | 74.6°F |
| Image Range | 32.0°F to 76.3°F |
| Camera Model | TiR2FT |
| IR Sensor Size | 160 x 120 |
| Camera serial number | 0710159 |
| Lens serial number | 40948-6655 |
| Image Time | 9/5/2012 11:57:04 AM |

Basement exterior wall in front of stairway



IR20120905_0130.is2

9/5/2012 11:57:26 AM

Image Info

| | |
|------------------------|----------------------|
| Background temperature | 66.7°F |
| Average Temperature | 75.0°F |
| Image Range | 32.0°F to 76.8°F |
| Camera Model | TiR2FT |
| IR Sensor Size | 160 x 120 |
| Camera serial number | 0710159 |
| Lens serial number | 40948-6655 |
| Image Time | 9/5/2012 11:57:26 AM |

Basement storage room



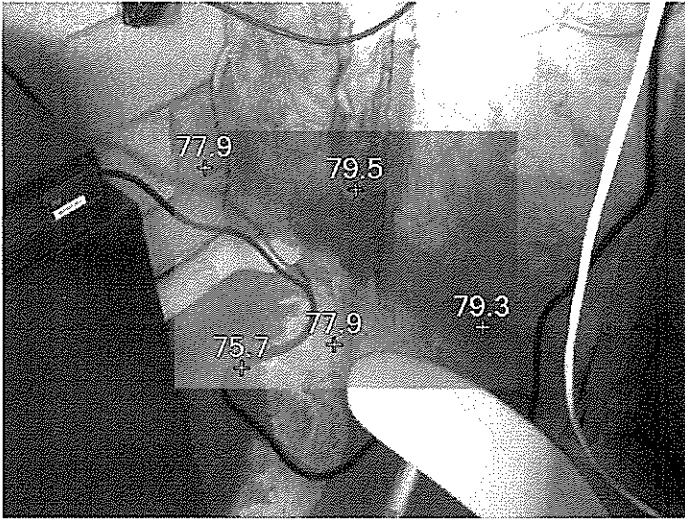
IR20120905_0131.is2

9/5/2012 11:59:04 AM

Image Info

| | |
|------------------------|----------------------|
| Background temperature | 66.7°F |
| Average Temperature | 83.8°F |
| Image Range | 78.1°F to 86.0°F |
| Camera Model | TiR2FT |
| IR Sensor Size | 160 x 120 |
| Camera serial number | 0710159 |
| Lens serial number | 40948-6655 |
| Image Time | 9/5/2012 11:59:04 AM |

Mechanical room wall - foundation



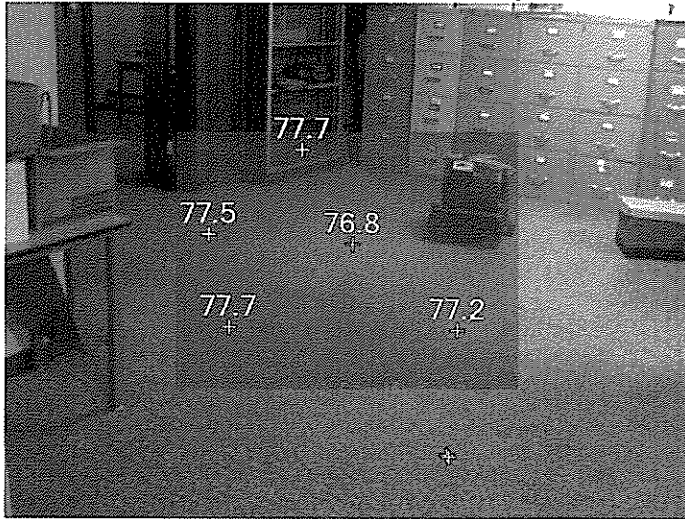
IR20120905_0132.is2

9/5/2012 11:59:52 AM

Image Info

| | |
|------------------------|----------------------|
| Background temperature | 66.7°F |
| Average Temperature | 78.5°F |
| Image Range | 75.7°F to 83.1°F |
| Camera Model | TiR2FT |
| IR Sensor Size | 160 x 120 |
| Camera serial number | 0710159 |
| Lens serial number | 40948-6655 |
| Image Time | 9/5/2012 11:59:52 AM |

Basement main room floor with carpet



IR20120905_0133.is2

9/5/2012 12:01:40 PM

Image Info

| | |
|------------------------|----------------------|
| Background temperature | 66.7°F |
| Average Temperature | 77.4°F |
| Image Range | 32.0°F to 77.9°F |
| Camera Model | TiR2FT |
| IR Sensor Size | 160 x 120 |
| Camera serial number | 0710159 |
| Lens serial number | 40948-6655 |
| Image Time | 9/5/2012 12:01:40 PM |

First Floor Fireplace crack in masonry



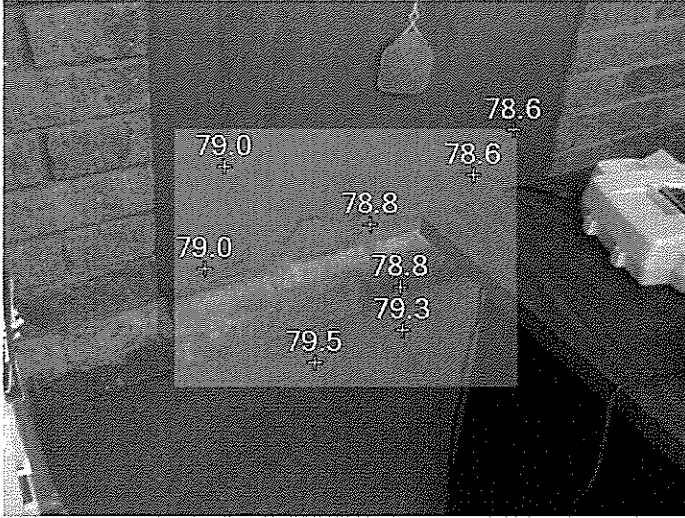
IR20120905_0134.is2

9/5/2012 12:02:57 PM

Image Info

| | |
|------------------------|----------------------|
| Background temperature | 66.7°F |
| Average Temperature | 79.1°F |
| Image Range | 32.0°F to 79.5°F |
| Camera Model | TiR2FT |
| IR Sensor Size | 160 x 120 |
| Camera serial number | 0710159 |
| Lens serial number | 40948-6655 |
| Image Time | 9/5/2012 12:02:57 PM |

First Floor Fireplace with water staining



IR20120905_0135.is2

9/5/2012 12:03:10 PM

Image Info

| | |
|------------------------|----------------------|
| Background temperature | 66.7°F |
| Average Temperature | 79.0°F |
| Image Range | 32.0°F to 80.4°F |
| Camera Model | TiR2FT |
| IR Sensor Size | 160 x 120 |
| Camera serial number | 0710159 |
| Lens serial number | 40948-6655 |
| Image Time | 9/5/2012 12:03:10 PM |

First Floor Fireplace area with water stained board



IR20120905_0136.is2

9/5/2012 12:03:29 PM

Image Info

| | |
|------------------------|----------------------|
| Background temperature | 66.7°F |
| Average Temperature | 78.9°F |
| Image Range | 32.0°F to 79.7°F |
| Camera Model | TiR2FT |
| IR Sensor Size | 160 x 120 |
| Camera serial number | 0710159 |
| Lens serial number | 40948-6655 |
| Image Time | 9/5/2012 12:03:29 PM |

APPENDIX B

LIMITATIONS

1. The observations and conclusions presented in the Report were based solely upon the services described herein, and not on scientific tasks or procedures beyond the RPF Environmental, Inc. Scope of Work (SOW) as discussed in the proposal and/or agreement. The conclusions and recommendations are based on visual observations and testing, limited as indicated in the Report, and were arrived at in accordance with generally accepted standards of industrial hygiene practice and asbestos professionals. The nature of this survey or monitoring service was limited as indicated herein and in the report or letter of findings. Further testing, survey, and analysis is required to provide more definitive results and findings.
2. For site survey work, observations were made of the designated accessible areas of the site as indicated in the Report. While it was the intent of RPF to conduct a survey to the degree indicated, it is important to note that not all suspect ACM material in the designated areas were specifically assessed and visibility was limited, as indicated, due to the presence of furnishings, equipment, solid walls and solid or suspended ceilings throughout the facility and/or other site conditions. Asbestos or hazardous material may have been used and may be present in areas where detection and assessment is difficult until renovation and/or demolition proceeds. Access and observations relating to electrical and mechanical systems within the building were restricted or not feasible to prevent damage to the systems and minimize safety hazards to the survey team.
3. Although assumptions may have been stated regarding the potential presence of inaccessible or concealed asbestos and other hazardous material, full inspection findings for all asbestos and other hazardous material requires the use of full destructive survey methods to identify possible inaccessible suspect material and this level of survey was not included in the SOW for this project. For preliminary survey work, sampling and analysis as applicable was limited and a full survey throughout the site was not performed. Only the specific areas and/or materials indicated in the report were included in the SOW. This inspection did not include a full hazard assessment survey, full testing or bulk material, or testing to determine current dust concentrations of asbestos in and around the building. Inspection results should not be used for compliance with current EPA and State asbestos in renovation/demolition requirements unless specifically stated as intended for this use in the RPF report and considering the limitations as stated therein and within this limitations document.
4. Where access to portions of the surveyed area was unavailable or limited, RPF renders no opinion of the condition and assessment of these areas. The survey results only apply to areas specifically accessed by RPF during the survey. Interiors of mechanical equipment and other building or process equipment may also have asbestos and other hazardous material present and were not included in this inspection. For renovation and demolition work, further inspection by qualified personnel will be required during the course of construction activity to identify suspect material not previously documented at the site or in this survey report. Bordering properties were not investigated and comprehensive file review and research was not performed.
5. For lead in paint, observations were made of the designated accessible areas of the site as indicated in the Report. Limited testing may have been performed to the extent indicated in the text of the report. In order to conduct thorough hazard assessments for lead exposures, representative surface dust testing, air monitoring and other related testing throughout the building, should be completed. This type of in depth testing and analysis was beyond the scope of services for the initial inspection. For lead surveys with XRF readings, it is recommended that surfaces found to have LBP or trace amount of lead detected with readings of less than 4 mg/cm² be confirmed using laboratory analysis if more definitive results are required. Substrate corrections involving destructive sampling or damage to existing surfaces (to minimize XRF read-through) were not completed. In some instances, destructive testing may be required for more accurate results. In addition, depending on the specific thickness of the paint films on different areas of a building component, differing amounts of wear, and other factors, XRF readings can vary slightly, even on the same building component. Unless otherwise specifically stated in the scope of services and final report, lead testing performed is not intended to comply with other state and federal regulations pertaining to childhood lead poisoning regulations.

6. Air testing is to be considered a “snap shot” of conditions present on the day of the survey with the understanding that conditions may differ at other times or dates or operational conditions for the facility. Results are also limited based on the specific analytical methods utilized. For phase contrast microscopy (PCM) total airborne fiber testing, more sensitive asbestos-specific analysis using transmission electron microscopy (TEM) can be performed upon request.
7. For asbestos bulk and dust testing, although polarize light microscopy (PLM) is the method currently recognized in State and federal regulations for asbestos identification in bulk samples, some industry studies have found that PLM may not be sensitive enough to detect all of the asbestos fibers in certain nonfriable material, vermiculate type insulation, soils, surface dust, and other materials requiring more sensitive analysis to identify possible asbestos fibers. In the event that more definitive results are requested, RPF recommends that confirmation testing be completed using TEM methods or other analytical methods as may be applicable to the material. Detection of possible asbestos fibers may be made more difficult by the presence of other non-asbestos fibrous components such as cellulose, fiber glass, etc., by binder/matrix materials which may mask or obscure fibrous components, and/or by exposure to conditions capable of altering or transforming asbestos. PLM can show significant bias leading to false negatives and false positives for certain types of materials. PLM is limited by the visibility of the asbestos fibers. In some samples the fibers may be reduced to a diameter so small or masked by coatings to such an extent that they cannot be reliably observed or identified using PLM.
8. For hazardous building material inspection or survey work, RPF followed applicable industry standards; however, RPF does not warrant or certify that all asbestos or other hazardous materials in or on the building has been identified and included in this report. Various assumptions and limitations of the methods can result in missed materials or misidentification of materials due to several factors including but not limited to: inaccessible space due to physical or safety constraints, space that is difficult to reach to fully inspect, assumptions regarding the determination of homogenous groups of suspect material, assumptions regarding attempts to conduct representative sampling, and potential for varying mixtures and layers of material sampled not being representative of all areas of similar material.
9. Full assessments often requires multiple rounds of sampling over a period of time for air, bulk material, surface dust and water. Such comprehensive testing was beyond the scope of RPF services. In addition clearance testing for abatement, as applicable, was based on the visual observations and limited ambient area air testing as indicated in the report and in accordance with applicable state and federal regulations. The potential exists that microscopic surface dust remains with contaminant present even in the event that the clearance testing meets the state and federal requirements. Likewise for building surveys, visual observations are not sufficient alone to detect possible contaminant in settled dust. Unless otherwise specifically indicated in the report, surface dust testing was not included in the scope of the RPF services.
10. For abatement or remediation monitoring services: RPF is not responsible for observations and test for specific periods of work that RPF did not perform full shift monitoring of construction, abatement or remediation activity. In the event that problems occurred or concerns arouse regarding contamination, safety or health hazards during periods RPF was not onsite, RPF is not responsible to provide documentation or assurances regarding conditions, safety, air testing results and other compliance issues. RPF may have provided recommendations to the Client, as needed, pertaining to the Client's Contractor compliance with the technical specifications, schedules, and other project related issues as agreed and based on results of RPF monitoring work. However, actual enforcement, or waiving of, contract provisions and requirements as well as regulatory liabilities shall be the responsibility of Client and Client's Contractor(s). Off-site abatement activities, such as waste transportation and disposal, were not monitored or inspected by RPF.
11. For services limited to clearance testing following abatement or remediation work by other parties: The testing was limited to clearance testing only and as indicated in the report and a site assessment for possible environmental health and safety hazards was not performed as part of the scope of this testing. Client, or Client's abatement contractor as applicable, was responsible for performing visual inspections

- of the work area to determine completeness of work prior to air clearance testing by RPF.
12. For site work, including but not limited to air clearance testing services, in which RPF did not provide full site safety and health oversight, abatement design, full shift monitoring of all site activity, RPF expresses no warranties, guarantees or certifications of the abatement work conducted by the Client or other employers at the job site(s), conditions during the work, or regulatory compliance, with the exception of the specific airborne concentrations as indicated by the air clearance test performed by RPF during the conditions present for the clearance testing. Unless otherwise specifically noted in the RPF Report, visual inspections and air clearance testing results apply only to the specific work area and conditions present during the testing. RPF did not perform visual inspections of surfaces not accessible in the work area due to the presence of containment barriers or other obstructions. In these instances, some contamination may be present following RPF clearance testing and such contamination may be exposed during and after removal of the containment barriers or other obstructions following RPF testing services. Client or Client's Contractor is responsible for using appropriate care and inspection to identify potential hazards and to remediate such hazards as necessary to ensure compliance and a safe environment.
 13. The survey was limited to the material and/or areas as specifically designated in the report and a site assessment for other possible environmental health and safety hazards or subsurface pollution was not performed as part of the scope of this site inspection. Typically, hazardous building materials such as asbestos, lead paint, PCBs, mercury, refrigerants, hydraulic fluids and other hazardous product and materials may be present in buildings. The survey performed by RPF only addresses the specific items as indicated in the Report.
 14. For mold and moisture survey services, RPF services did not include design or remediation of moisture intrusion. Some level of mold will remain at the site regardless of RPF testing and Contractor or Client cleaning efforts. RPF testing associated with mold remediation and assessments is limited and may or may not be representative of other surfaces and locations at the site. Mold growth will occur if moisture intrusion deficiencies have not been fully remedied and if the site or work areas are not maintained in a sufficiently dry state. Porous surfaces in mold contaminated areas which are not removed and disposed of will likely result in future spore release, allergen sources, or mold contamination.
 15. Existing reports, drawings, and analytical results provided by the Client to RPF, as applicable, were not verified and, as such, RPF has relied upon the data provided as indicated, and has not conducted an independent evaluation of the reliability of these data.
 16. Where sample analyses were conducted by an outside laboratory, RPF has relied upon the data provided, and has not conducted an independent evaluation of the reliability of this data.
 17. All hazard communication and notification requirements, as required by U.S. OSHA regulation 29 CFR Part 1926, 29 CFR Part 1910, and other applicable rules and regulations, by and between the Client, general contractors, subcontractors, building occupants, employees and other affected persons were the responsibility of the Client and are not part of the RPF SOW.
 18. The applicability of the observations and recommendations presented in this report to other portions of the site was not determined. Many accidents, injuries and exposures and environmental conditions are a result of individual employee/employer actions and behaviors, which will vary from day to day, and with operations being conducted. Changes to the site and work conditions that occur subsequent to the RPF inspection may result in conditions which differ from those present during the survey and presented in the findings of the report.