

# Thermal Imaging Report



123 Renovation Street  
Manalapan, NJ 07726

Prepared for: Mr. and Mrs. Homeowner

Prepared by: A Full House Inspection Co. LLC

530 Prospect Avenue

Little Silver, NJ 07739

Prepared by Peter W. Bennett

Certified Thermographer No. 7406

Date:12/22/08

Time of Day:5:30 pm

Ambient Temperature:25 Deg. F

Wind Speed:10-12 mph

Relative Humidity:n/a

**Infrared Thermal Imaging Report****AN INTRODUCTION TO INFRARED THERMAL IMAGING (ITI) TECHNOLOGY**

ITI technology has the potential to help you save hundreds, or even thousands, of dollars per year by identifying moisture, HVAC, insulation, plumbing, electrical, structural issues before they pose a bigger risk to your fiscal or physical well-being.

**What is Infrared Thermal Imaging?**

With ITI technology, we can detect, display, and document thermal patterns across a surface of the scanned item. The inspector is conducting a qualitative survey only, meaning that he is searching for differences in the thermal patterns displayed on the camera. Quantitative thermography, recording and interpreting of temperatures, is not conducted, and beyond the scope of level one thermography. The camera can detect light beyond the spectrum of "natural light" (which is the light that bounces off all objects we can see under the sun or under a light bulb), and measure the temperature variances of a surface to determine where heat, cold, moisture and even mold can be occurring in undesirable places. Because everything has a surface temperature, ITI technology allows the thermographer to see the variances in those surface temperatures. The variances are represented by different color tones with the color black representing the coldest temperatures and the color white representing the hottest temperatures. Any color in the red, orange and yellow hues represents warmth while color in the green, purple and blue hues represents cooler temperatures.

**Why is Infrared Thermal Imaging vital to your home inspection?**

As human beings, we are limited to seeing light only in the visible spectrum called white light. This is the light that bounces off everyday objects whether that light is being emitted by our Sun or an artificial source such as a light bulb. Without assistance from technology, we are unable to see surface temperature variances, and with the technology, is the ability to see these variances that allows us to more-accurately identify potential, and immediate, problems in your home that would have otherwise been undetected. The unique aspect of seeing surface temperature variances is that such variances can be caused by issues that may lie below the surface of a floor, behind a wall, or above a ceiling - places that are "out of sight" and are thus out-of-mind. Also, surface temperature variances can be caused by airflow such as cold air seeping through walls, ceilings, under a door or air leaking from central air ducts. The air itself changes the surface temperature of objects that come in contact with the air. Surface temperatures can also be changed by living organisms such as mold, mildew and household pests. Because these organisms often thrive in places that cannot be seen by the naked eye (such as behind walls), the use of ITI technology allows us to pinpoint exactly where a problem area is in your home without the need for any immediate invasive damage to the structure of your home.

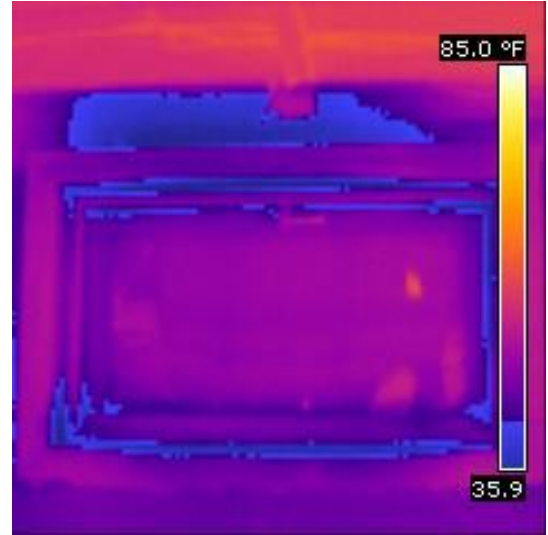
Finally, thermal imaging technology allows us to more-accurately identify damage to your home's electrical systems. By being able to pinpoint "hot spots" in electrical panels/load centers/fuse boxes and household wiring, we can provide you and your electrician with detailed imagery that will help the electrician to identify unsafe defects and make repairs more quickly to save you money.

In short, ITI technology is purposefully designed to provide you with a level of service that increases the speed by which many household problems can be identified, reduces the collateral damage required to fix those problems, increases the accuracy rate of correctly identifying problems, and helps you to catch small problems sooner so that don't become expensive or unmanageable problems that can affect your family's health and your financial well being. The US Department of Energy recommends the use of thermography to assist homeowners:

[http://www.eere.energy.gov/consumer/your\\_home/energy\\_audits/index.cfm/mytopic=11200](http://www.eere.energy.gov/consumer/your_home/energy_audits/index.cfm/mytopic=11200)

**Limitations:** Neither the cameras nor the thermographer have x-ray vision. Thermography is not a "magic bullet" but is used in conjunction with other technology, experience and other qualified specialists to help identify issues and concerns during the survey process. The thermographer is not qualified to determine the cause of any apparent problems and or conditions related to the desired survey(s) requested in the pre-inspection agreement. Even through infrared thermal imaging utilizes advance diagnostic equipment, there is no guarantee, neither express nor implied, of accuracy. There are limitations to performing thermography, including, but not limited to, weather, camera limitations, emissivity, on-site conditions and viewing angle. A direct line of sight is required for a reliable survey. The thermal imaging camera does not "see" through surfaces, walls, windows, doors, floors, components or anything in its field of view. Without a direct line of sight and viewing angle, the apparent findings may be less accurate. Conditions may change and cause the apparent findings revealed on thermal images to be different at any given time. The infrared thermal imaging camera does not completely remove the risks of concealed damage. Stored items, windows, floor and wall coverings and other conditions may prevent accurate assessment of these areas. The Company does not remove obstructions, including but not limited to: floor and wall coverings nor move furniture, open walls, ceilings, panels, hatches, covers, stored items, appliances. The infrared survey is not a mold survey. Infrared surveys can be used to find moisture which is a necessary element for mold growth to occur but will not directly detect the presence of mold. Additional photos and comments will be provided if you order the thermal imaging services.

## Infrared Thermal Imaging Report



Location Floor: Basement  
Location Direction: Right Side Wall

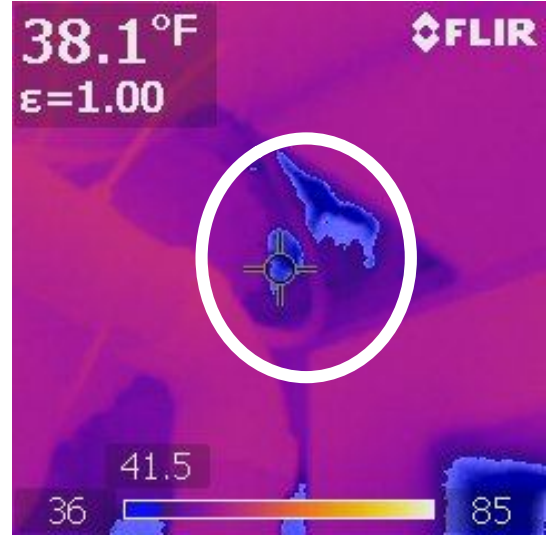
**Observations:**  
Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.



Location Floor: Crawlspace

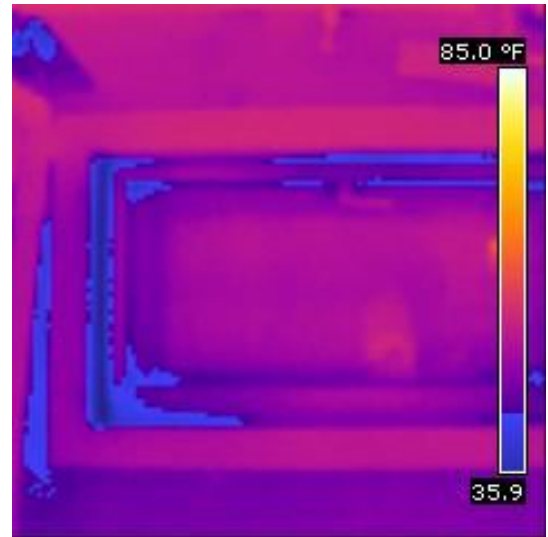
**Observations:**  
Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.

## Infrared Thermal Imaging Report



Location Floor: Basement  
Location Direction: Right Rear Corner

**Observations:**  
Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.



Location Floor: Basement  
Location Direction: Right Side Wall

**Observations:**  
Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.

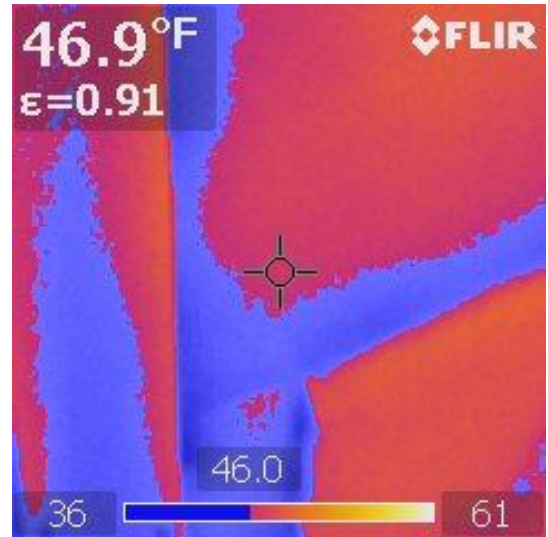


## Infrared Thermal Imaging Report



Location Floor: Basement  
Location Direction: Right Side Wall

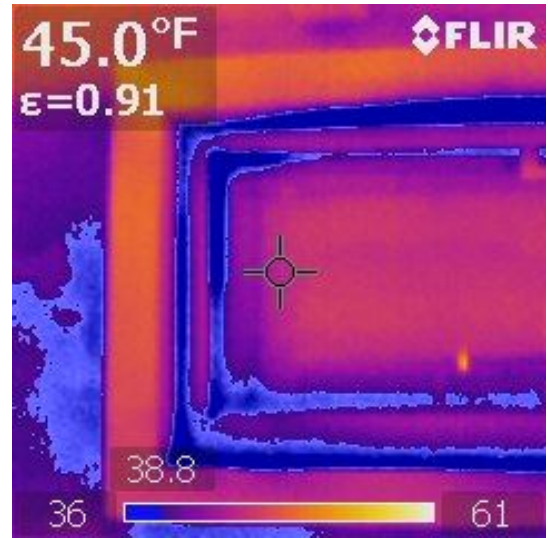
**Observations:**  
Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.



Location Floor: First Floor  
Location Direction: Right Side Wall Under Stairs

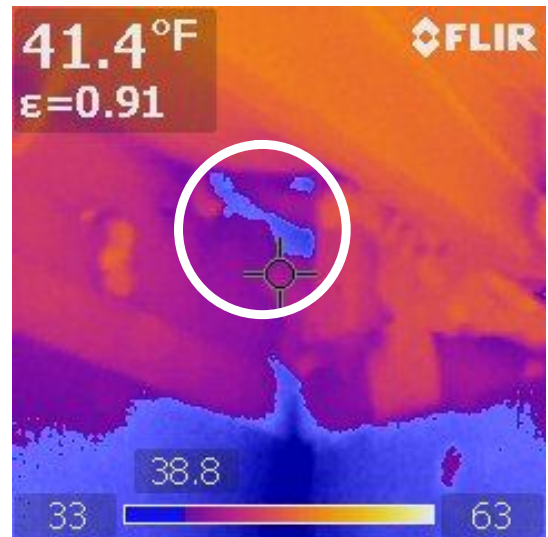
**Observations:**  
Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.

## Infrared Thermal Imaging Report



Location Floor: Basement  
Location Direction: Right Side Wall

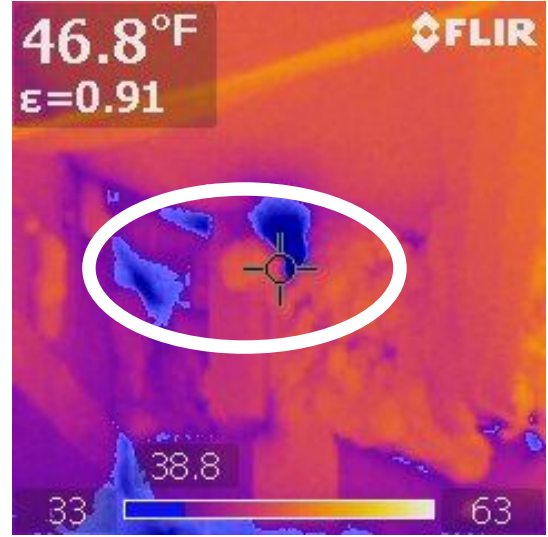
**Observations:**  
Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.



Location Floor: Basement  
Location Direction: Right Front Corner

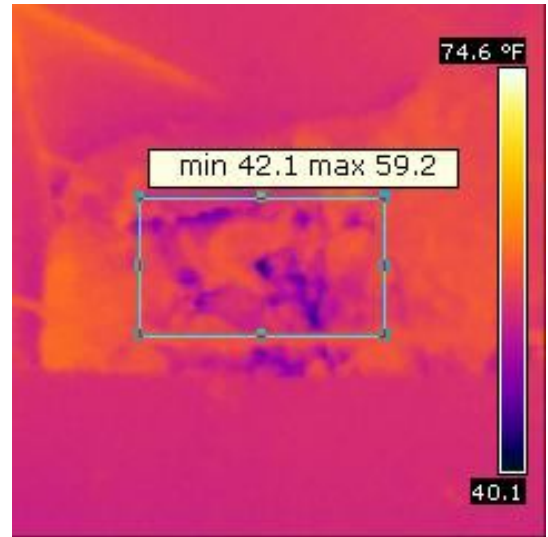
**Observations:**  
Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.

## Infrared Thermal Imaging Report



Location Floor: Basement  
 Location Direction: Front Wall

**Observations:**  
 Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.

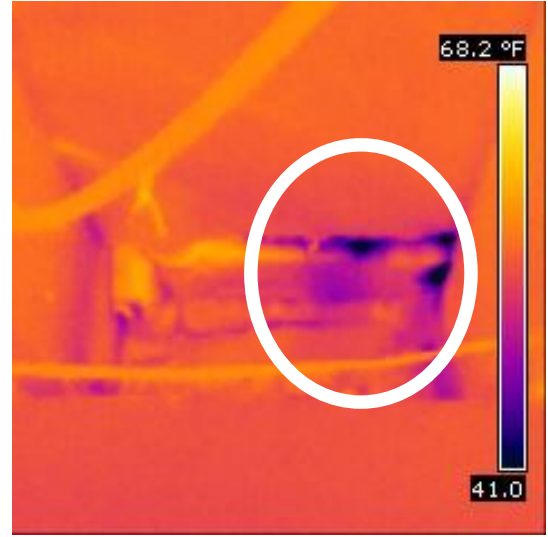


Location Floor: Basement  
 Location Direction: Front Wall

**Observations:**  
 Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.

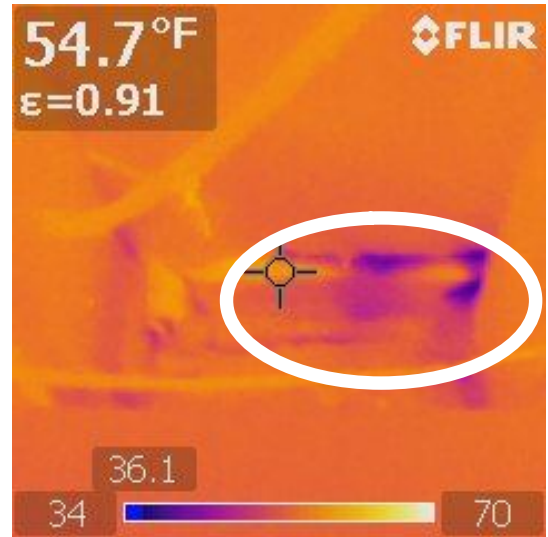


## Infrared Thermal Imaging Report



Location Floor: Basement  
Location Direction: Front Wall

**Observations:**  
Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.

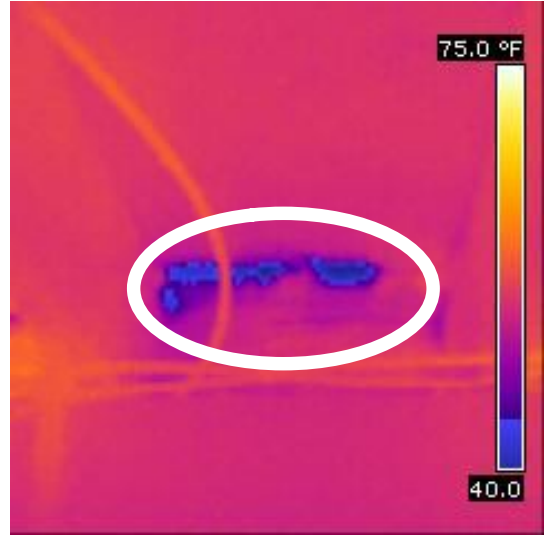


Location Floor: Basement  
Location Direction: Front Wall

**Observations:**  
Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.

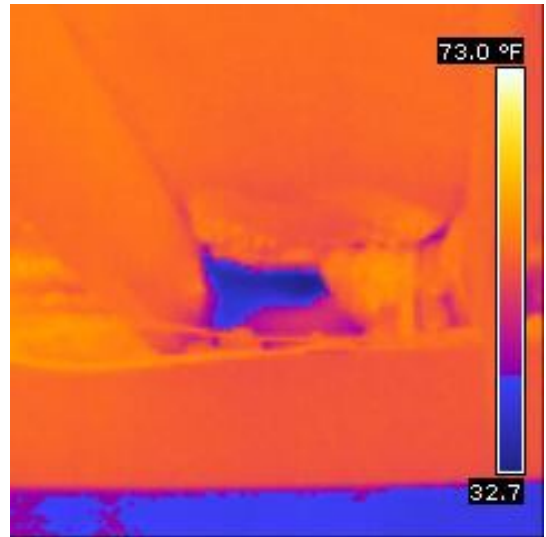


## Infrared Thermal Imaging Report



Location Floor: Basement  
Location Direction: Front Wall

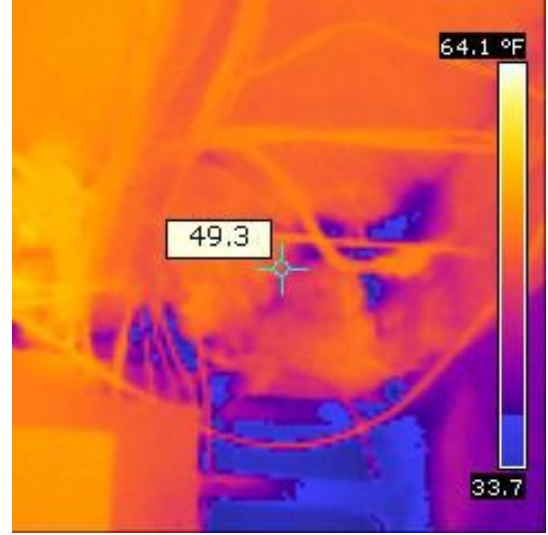
**Observations:**  
Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.



Location Floor: Basement  
Location Direction: Front Wall

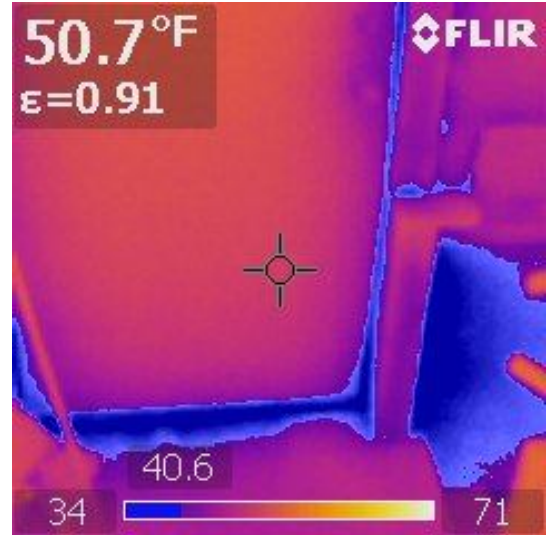
**Observations:**  
Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.

## Infrared Thermal Imaging Report



Location Floor: Basement  
Location Direction: Left Front Corner

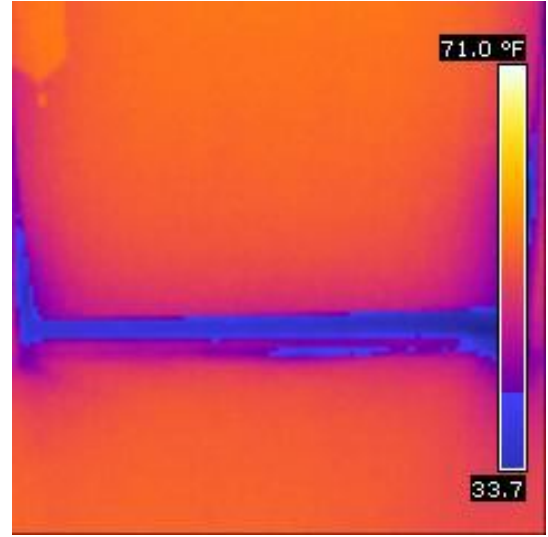
**Observations:**  
Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.



Location Floor: First Floor  
Location Direction: Right Side Wall

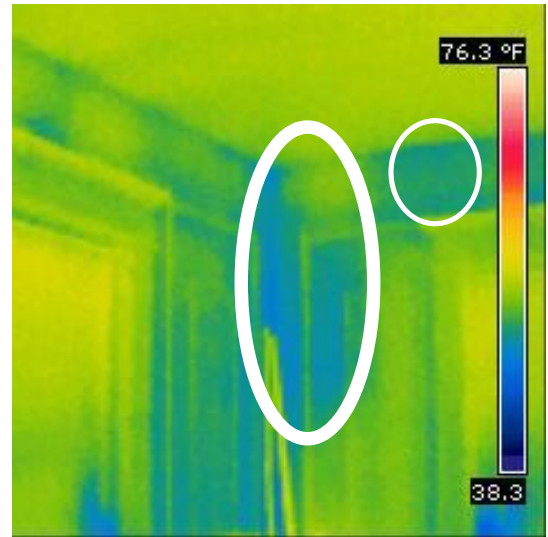
**Observations:**  
Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.

## Infrared Thermal Imaging Report



Location Floor: First Floor  
Location Room: Living

**Observations:**  
Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.

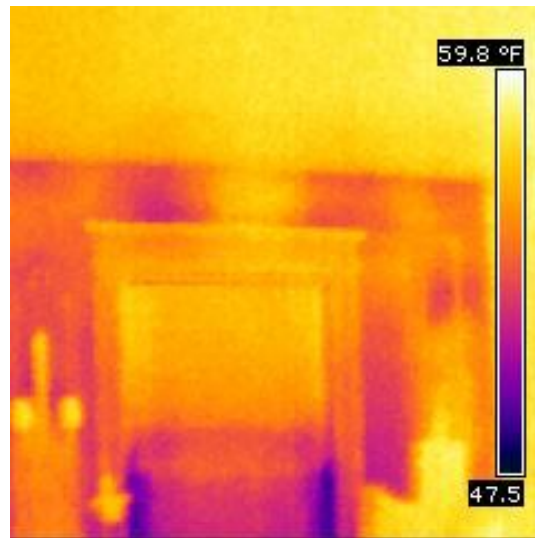


Location Floor: First Floor  
Location Direction: Left Front Corner

**Observations:**  
Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.

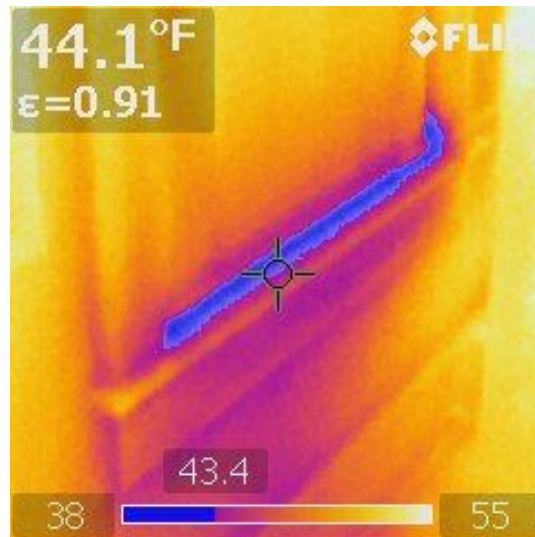
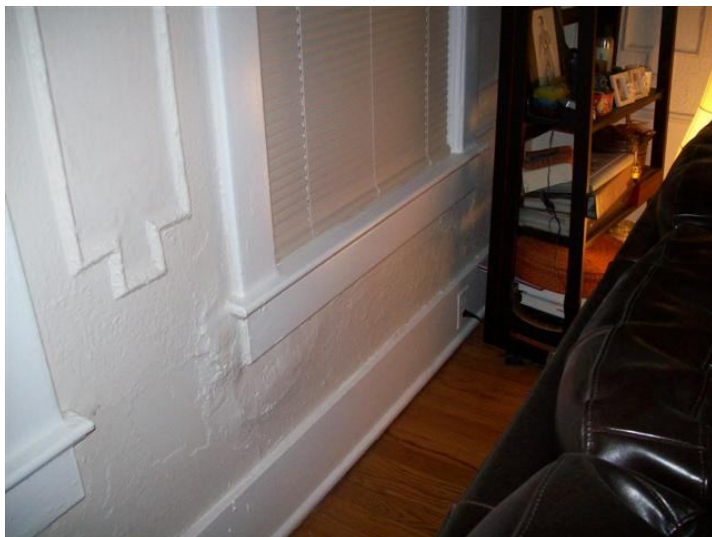


## Infrared Thermal Imaging Report



Location Floor: First  
 Location Room: Living  
 Location Direction: Left Side Wall

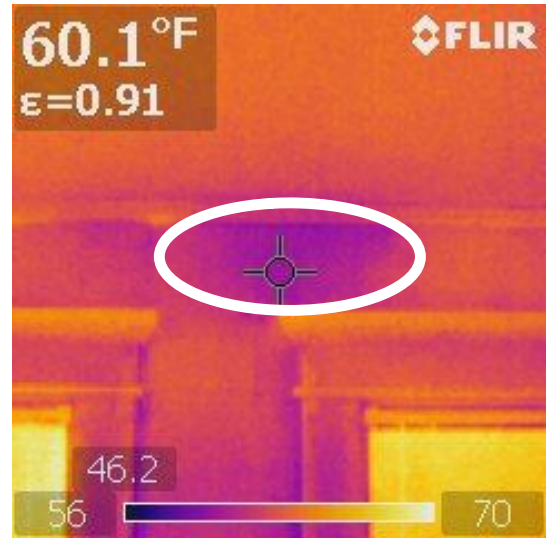
**Observations:**  
 Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.



Location Floor: First  
 Location Room: Living  
 Location Direction: Left Side Wall

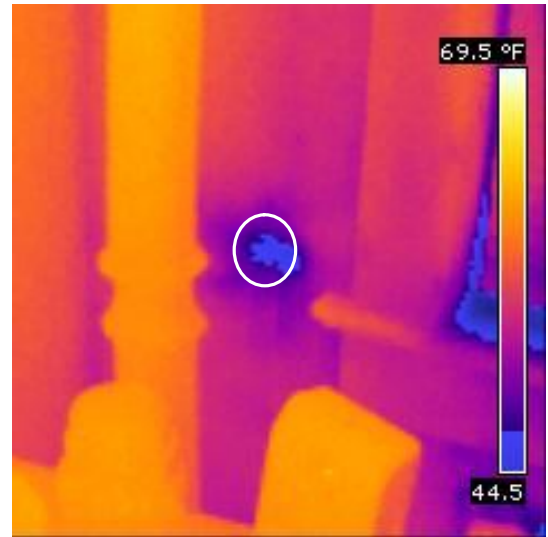
**Observations:**  
 Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.

## Infrared Thermal Imaging Report



Location Floor: First  
 Location Room: Living

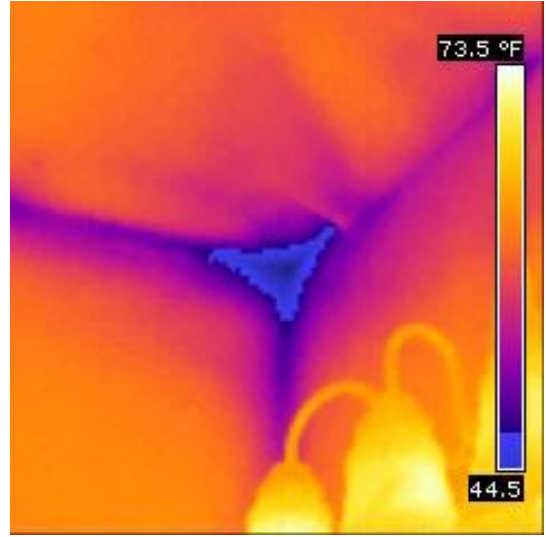
**Observations:**  
 Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.



Location Floor: First  
 Location Room: Family  
 Location Direction: Left Side Wall

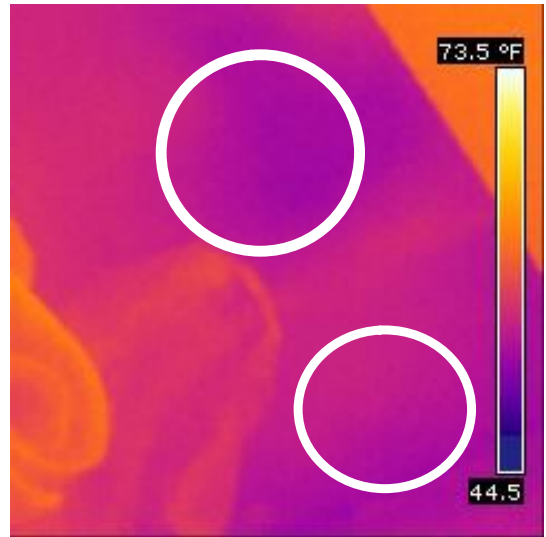
**Observations:**  
 Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.

## Infrared Thermal Imaging Report



Location Floor: First  
Location Room: Bathroom

**Observations:**  
Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.

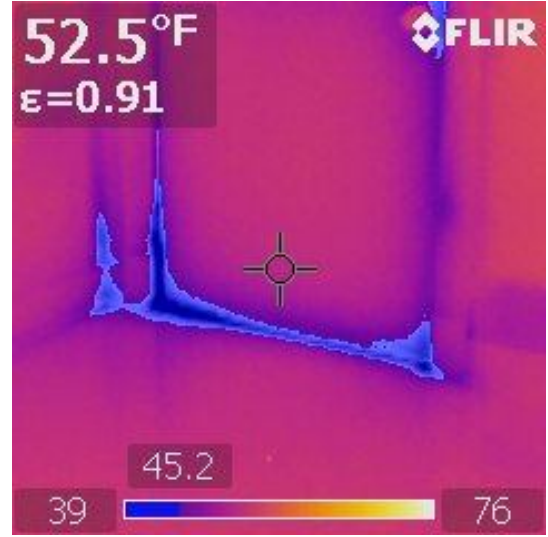


Location Floor: First  
Location Room: Bathroom  
Location Direction: Closet

**Observations:**  
Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.



## Infrared Thermal Imaging Report



Location Floor: First  
 Location Room: Breakfast  
 Location Direction: Rear

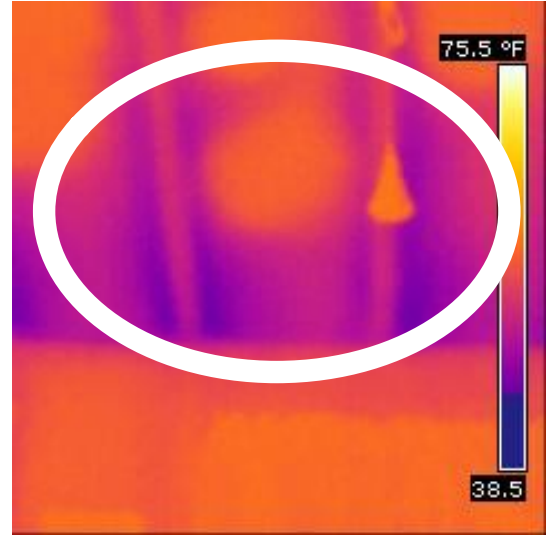
**Observations:**  
 Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.



Location Floor: First Floor  
 Location Room: Breakfast

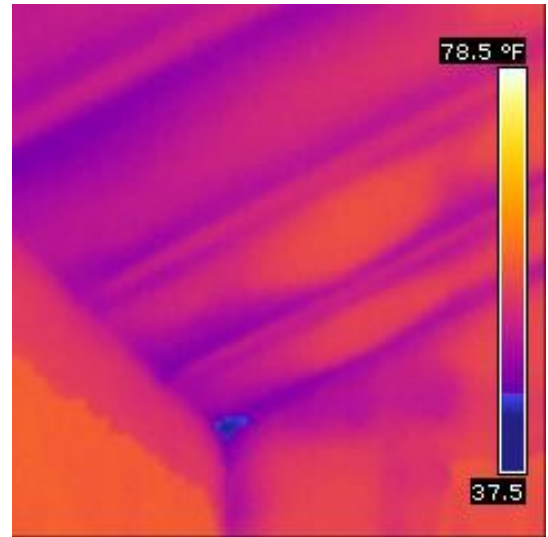
**Observations:**  
 Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.

## Infrared Thermal Imaging Report



Location Floor: First  
Location Room: Breakfast

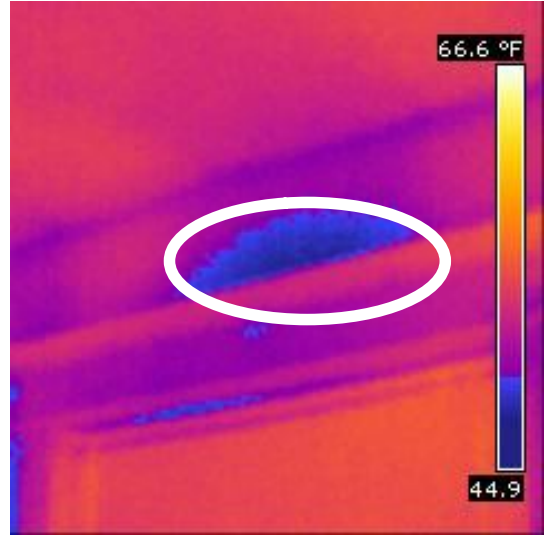
**Observations:**  
Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.



Location Floor: First Floor  
Location Room: Breakfast

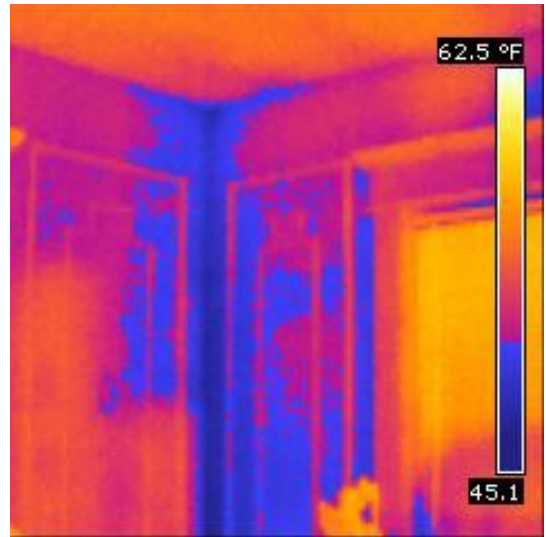
**Observations:**  
Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.

## Infrared Thermal Imaging Report



Location Floor: First  
Location Room: Living  
Location Direction: Right Front Corner

**Observations:**  
Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.



Location Floor: First  
Location Room: Living  
Location Direction: Right Front Corner

**Observations:**  
Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.

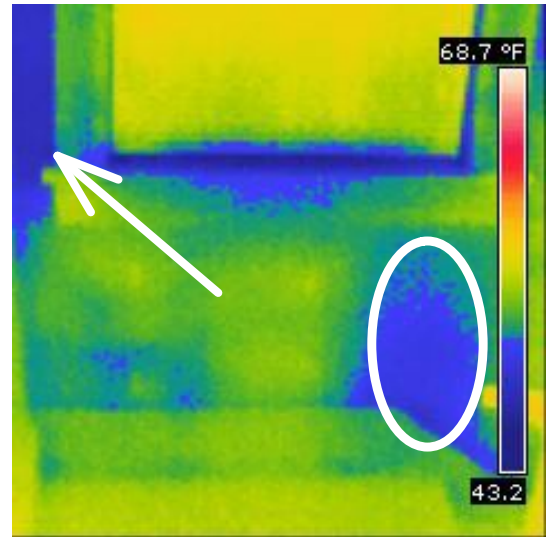


## Infrared Thermal Imaging Report



Location Floor: First  
 Location Room: Living  
 Location Direction: Right Front Wall

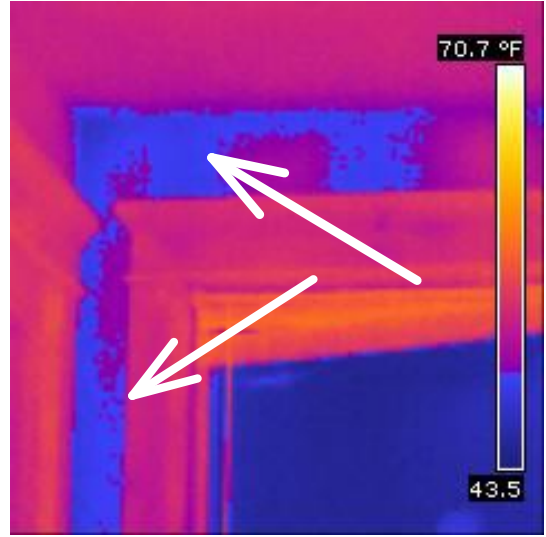
**Observations:**  
 Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.



Location Floor: Second Floor  
 Location Room: Stairs  
 Location Direction: Right Side Wall

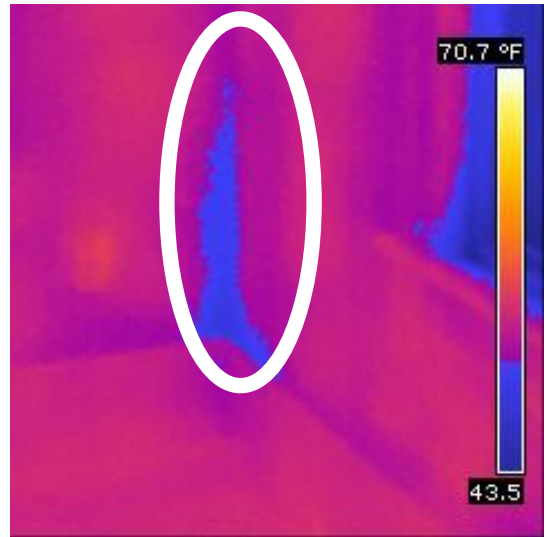
**Observations:**  
 Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.

## Infrared Thermal Imaging Report



Location Floor: Second  
Location Room: Right Front Bedroom

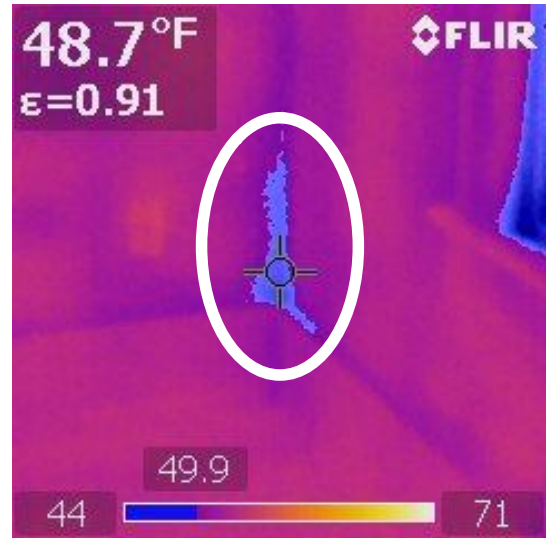
**Observations:**  
Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.



Location Floor: Second  
Location Room: Right Front

**Observations:**  
Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.

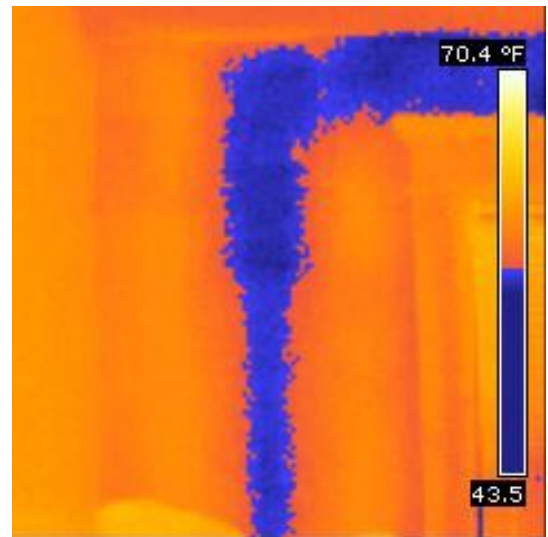
## Infrared Thermal Imaging Report



Location Floor: Second  
Location Room: Bathroom

### Observations:

Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.



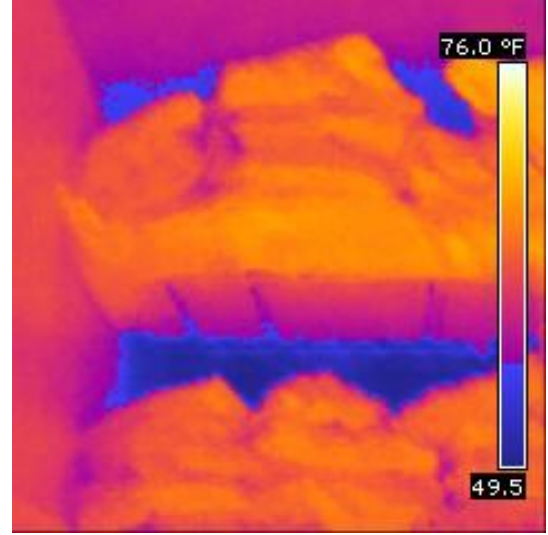
Location Floor: Second  
Location Room: Bathroom  
Location Direction: Right Side Wall

### Observations:

Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.

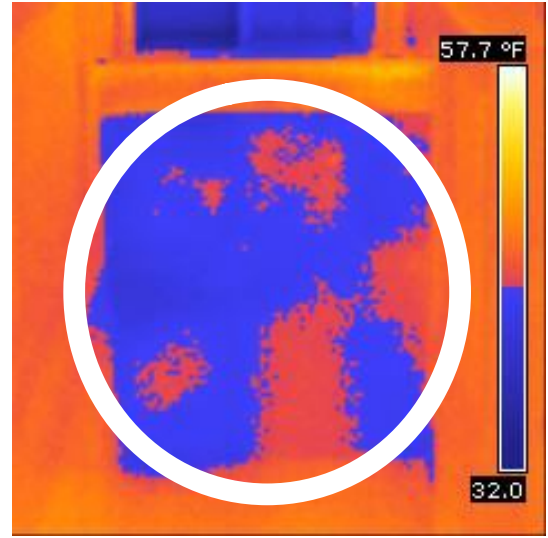


## Infrared Thermal Imaging Report



Location Floor: Second Floor

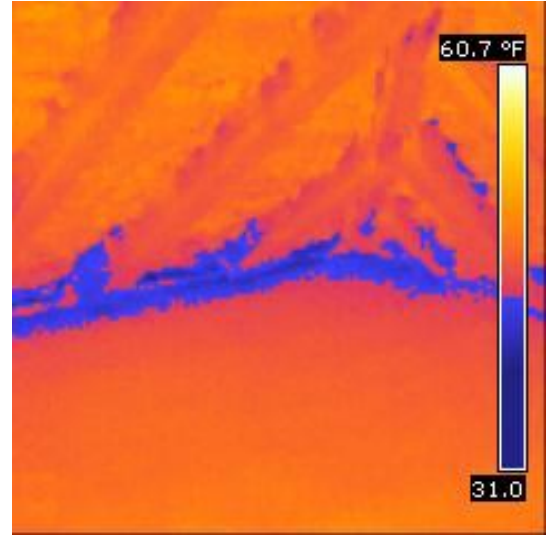
**Observations:**  
Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.



Location Floor: Attic

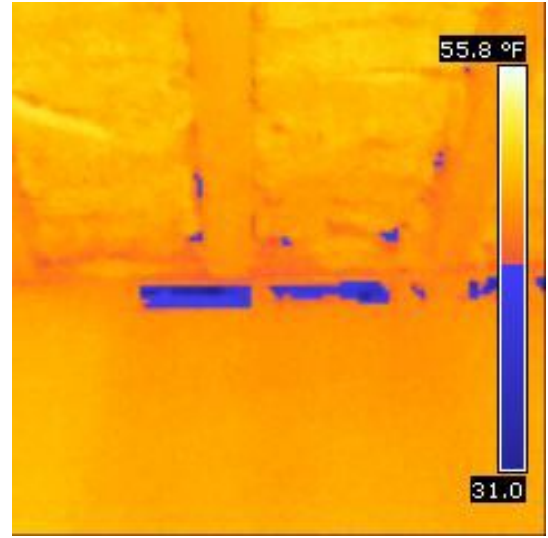
**Observations:**  
Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.

## Infrared Thermal Imaging Report



Location Floor: Attic  
 Location Direction: Right Front Corner

**Observations:**  
 Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.

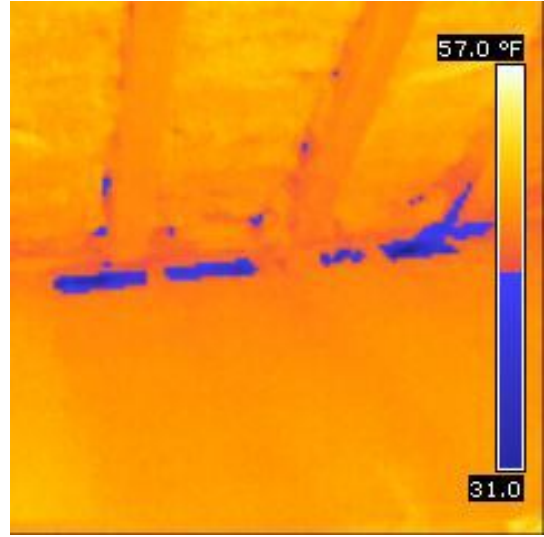


Location Floor: Attic  
 Location Direction: Front

**Observations:**  
 Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.

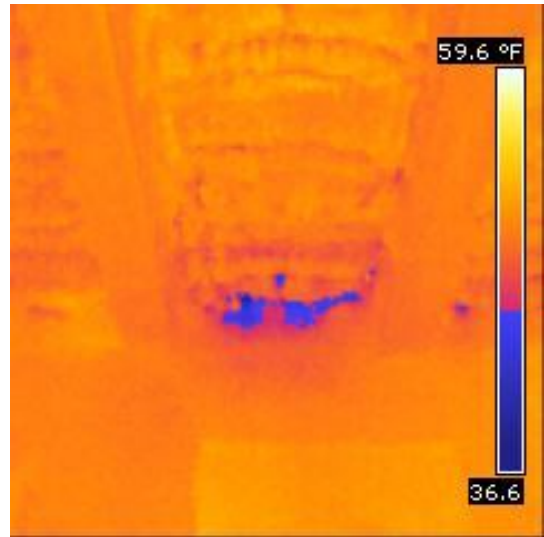


## Infrared Thermal Imaging Report



Location Floor: Attic

**Observations:**  
Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.

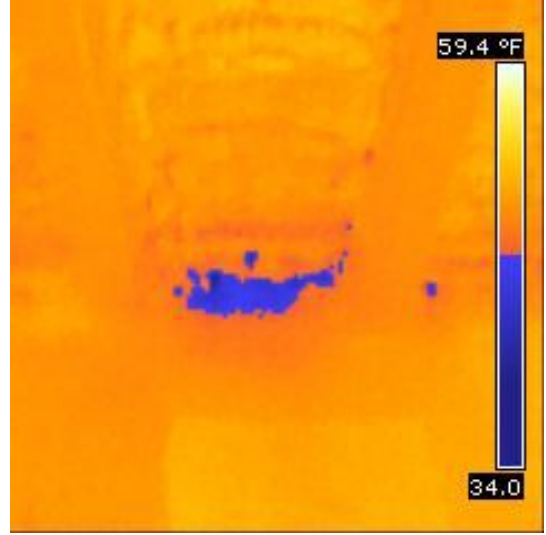


Location Floor: Attic  
Location Direction: Front

**Observations:**  
Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.

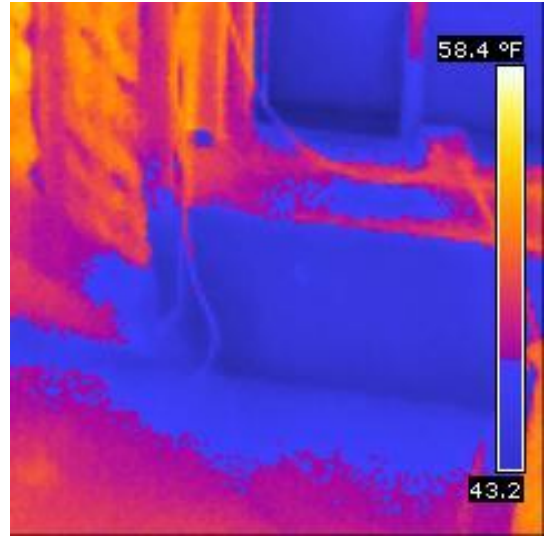


## Infrared Thermal Imaging Report



Location Floor: Attic

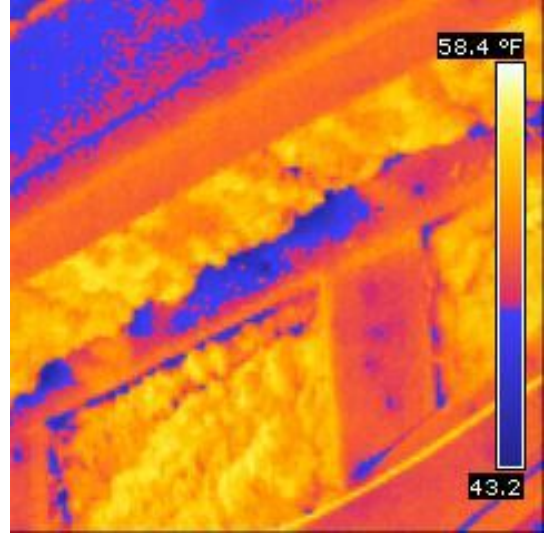
**Observations:**  
Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.



Location Floor: Attic  
Location Direction: Right Front Wall

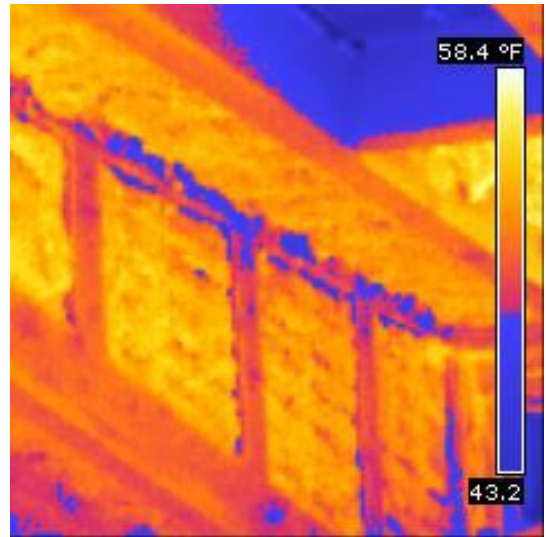
**Observations:**  
Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.

## Infrared Thermal Imaging Report



Location Floor: Attic

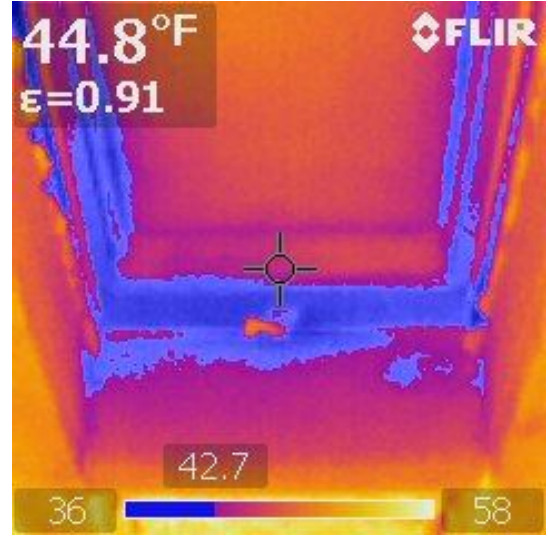
**Observations:**  
Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.



Location Floor: Attic

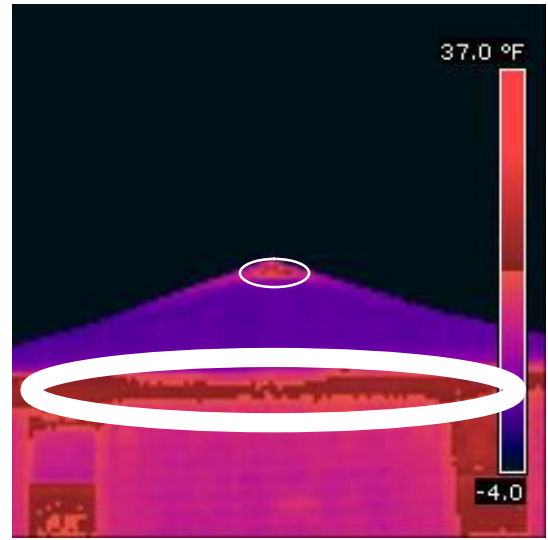
**Observations:**  
Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.

## Infrared Thermal Imaging Report



Location Floor: Attic

**Observations:**  
 Dark blue thermal patterns indicative of cold air infiltration. Correction is recommended to reduce energy loss and utility bills.

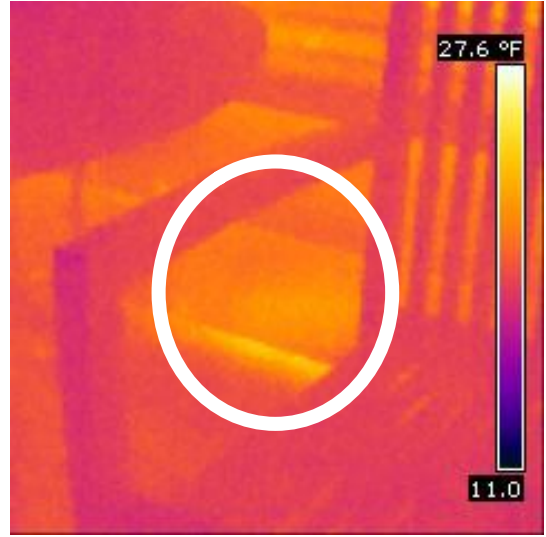


Location Direction: Front

**Observations:**  
 Dark Red thermal patterns indicative of energy loss. Correction is recommended to reduce energy loss and utility bills.

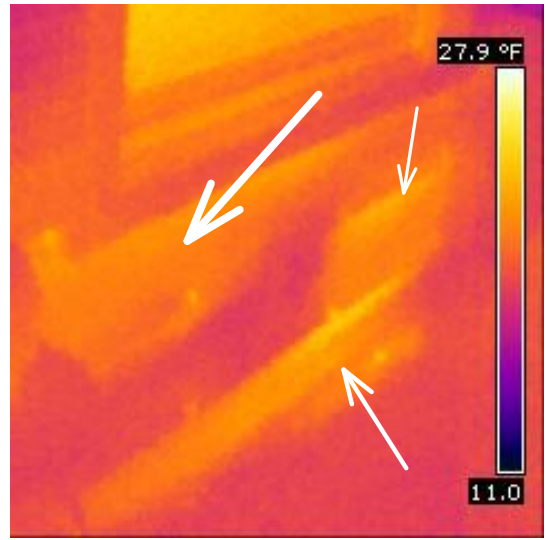


## Infrared Thermal Imaging Report



Location Direction: Front Porch

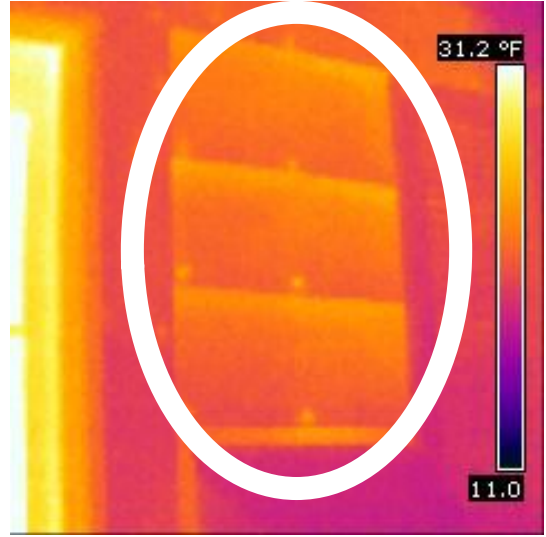
**Observations:**  
 Dark Red thermal patterns indicative of energy loss. Correction is recommended to reduce energy loss and utility bills.



Location Direction: Front Porch

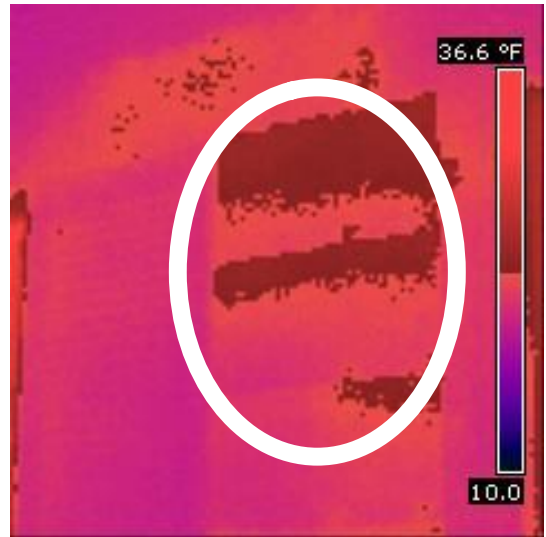
**Observations:**  
 Dark Red thermal patterns indicative of energy loss. Correction is recommended to reduce energy loss and utility bills.

## Infrared Thermal Imaging Report



Location Direction: Front Porch

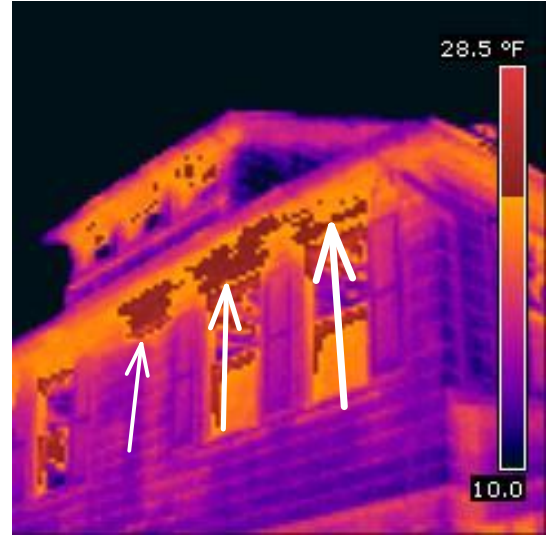
**Observations:**  
 Dark Red thermal patterns indicative of energy loss. Correction is recommended to reduce energy loss and utility bills.



Location Direction: Front Porch

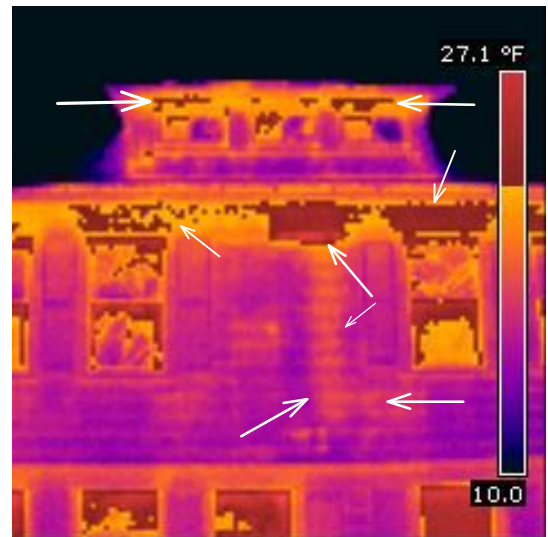
**Observations:**  
 Dark Red thermal patterns indicative of energy loss. Correction is recommended to reduce energy loss and utility bills.

## Infrared Thermal Imaging Report



Location Direction: Left Front Corner

**Observations:**  
Red thermal patterns indicative of energy loss. Correction is recommended to reduce energy loss and utility bills.

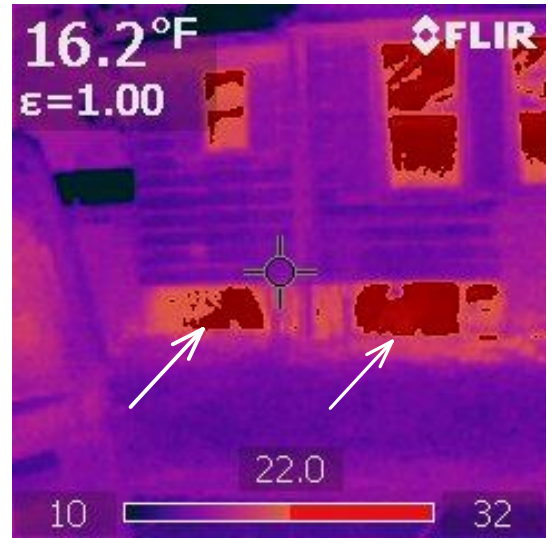


Location Direction: Left Side Wall

**Observations:**  
Dark Red thermal patterns indicative of energy loss. Correction is recommended to reduce energy loss and utility bills.



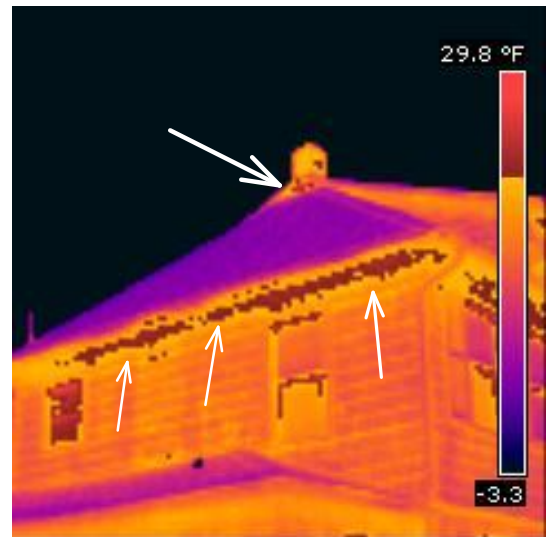
## Infrared Thermal Imaging Report



Location Direction: Rear Wall

### Observations:

Red thermal patterns indicative of energy loss. Correction is recommended to reduce energy loss and utility bills.

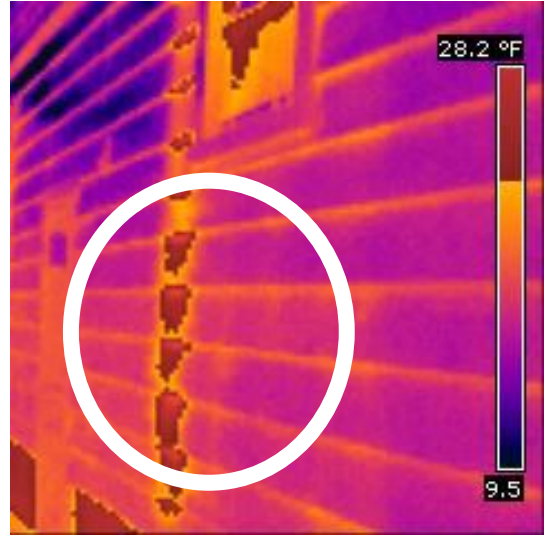


Location Direction: Rear

### Observations:

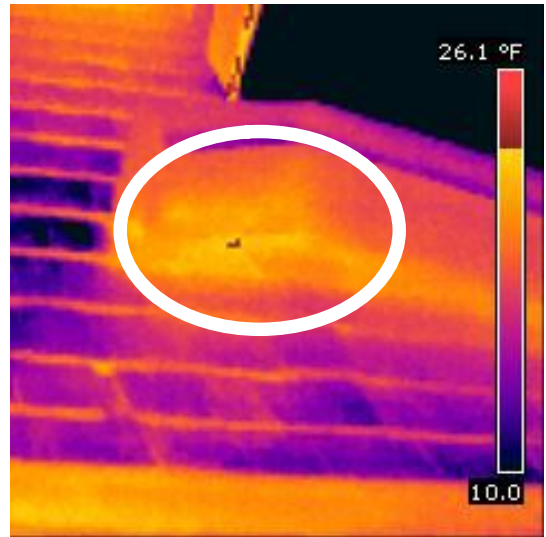
Dark Red thermal patterns indicative of energy loss. Correction is recommended to reduce energy loss and utility bills.

## Infrared Thermal Imaging Report



Location Direction: Right Side Wall

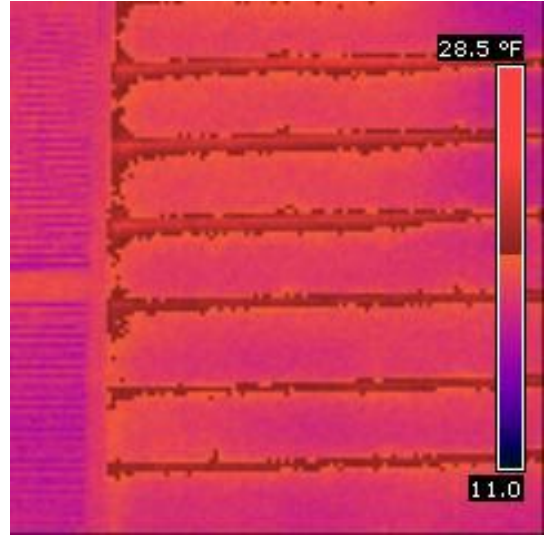
**Observations:**  
Dark Red thermal patterns indicative of energy loss. Correction is recommended to reduce energy loss and utility bills.



Location Direction: Right Side Wall

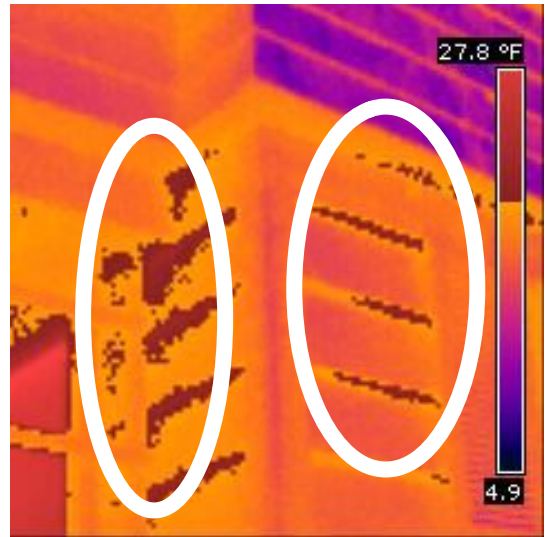
**Observations:**  
Dark Red thermal patterns indicative of energy loss. Correction is recommended to reduce energy loss and utility bills.

## Infrared Thermal Imaging Report



Location Direction: Right Side Wall at Stairs

Observations:  
Dark Red thermal patterns indicative of energy loss. Correction is recommended to reduce energy loss and utility bills.



Location Direction: Right Front Corner

Observations:  
Dark Red thermal patterns indicative of energy loss. Correction is recommended to reduce energy loss and utility bills.



**Infrared Thermal Imaging Report**

Congratulations on taking a successful step to save energy and reduce your energy bills.

Thank you for requesting an Infrared thermal imaging survey of your residence. We are proud of our service, and trust that you will be happy with the quality of our report. We have made every effort to provide you with an accurate assessment of the condition of the property and its components and to alert you to any significant defects or adverse conditions. Therefore, you should not regard our inspection as conferring a guarantee or warranty. It does not. It is simply a report on the general condition of a particular property at a given point in time. Furthermore, as a homeowner, you should expect problems to occur. Roofs will leak, drain lines will become blocked, and components and systems will fail without warning. For these reasons, you should take into consideration the age of the house and its components and keep a comprehensive insurance policy current. If you have been provided with a home protection policy, read it carefully. Such policies may only cover insignificant costs, such as that of roofer service, and the representatives of some insurance companies may deny coverage on the grounds that a given condition was preexisting or not covered because of a code violation or manufacture's defect. Therefore, you should read such policies very carefully, and depend upon our company for any consultation that you may need.

Thank you for taking the time to read this report, and call us if you have any questions or observations whatsoever. We are always attempting to improve the quality of our service and our report, and we will continue to adhere to the highest standards of the industry and to treat everyone with kindness, courtesy, and respect.

ITI Scan Results: The residence was surveyed for energy loss and insulation defects. The left front bedroom scan was not reliable due to recent renovations. Thermal images show exceptions as noted in the reports. Suspect insulation conditions ( missing, voids, damaged) are apparent, unless otherwise noted.

**REPORT CONCLUSION****Service Recommendations:**

Photos and images are a combination of specific and representative examples of issues detected during the inspection. The findings in the report should be evaluated and corrected by a qualified and competent contractor who may discover additional repairs during the evaluation.

Yours truly,

Peter W. Bennett

State of New Jersey Home Inspector License # 24GI00037100

<http://www.state.nj.us/lps/ca/pels/inspectors.htm>

Certified Infrared Level One Thermographer No.7406

NJ DEP Radon License # MET11140

FREA Membership Certificate # ZFREI 03-3918 <http://frea.com/>

Certified Member of American Society of Home Inspectors # 205748 <http://www.ashi.org/>

Graduate of Middlesex County Vocational & Technical School - Home Inspection Program

Licensed Member of New Jersey - ALPHI (Association of Licensed Professional Home Inspectors)

<http://www.njalphi.com/index.htm>

Member of NACHI (National Association of Certified Home Inspectors) NACHI05031062

Member of the United States Chamber of Commerce