



419 Old Clyde Park Rd.
Livingston, MT 59047
(406) 223-5652
sjbrainerd@ycsi.net

Client: Sample Report
Subject Property: 123 Main Street
Anytown, MT
Date: March 23, 2007

Infrared Survey Report

Scope of the Survey

The scope of the inspection and report is a limited, qualitative infrared survey of the thermal patterns detected on the surfaces in your building. It uses a subjective evaluation to help you understand the conditions encountered at the time of the inspection.

The inspection will be performed in compliance with generally accepted standards of practice, a copy of which is available upon request.

How Infrared Thermography Works

All objects give off heat in the form of thermal radiation. At normal temperatures (below 600° C) the thermal energy emitted by a body is not visible because most of the energy is concentrated in the infrared spectrum. At temperatures higher than 600° C there is enough energy given off in the visible spectrum that the object glows a dull red, and at still higher temperatures the object becomes bright red or even "white-hot".

Infrared imagers "see" the heat radiated from the surfaces of objects such as the surfaces in your building in real time, just like a video camera sees visible light. In black and white thermograms (pictures of heat), white is hot and black is cold unless stated otherwise. When thermograms are in color, the colors in the image are matched to the reference bar. Colors appearing closer to the top or right of the reference bar indicate higher temperatures. Colors appearing closer to the bottom or left of the reference bar indicate lower temperatures.

Equipment Used

The inspection was performed using a FLIR B-Cam Western, S/N 278004390, with a 25° lens. The emissivity was set to 1.0 throughout the inspection to indicate that this was a qualitative inspection. It is the difference in relative temperatures that is important in a qualitative inspection so no attempt was made to correct for emissivity.



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Certified Infrared Thermographer
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Conditions at The Time of the Inspection

Start Time: 8:25	
Outside Temperature: 37°	Inside Temperature: 69°
Weather Conditions: Dry	
Humidity: 18%	
Building Construction: Log	
Positive/Negative Pressure in Building: Depressurized with fans	
Other:	

Present During the Inspection

Name	Position
Sally J. Brainerd	Certified Infrared Inspector



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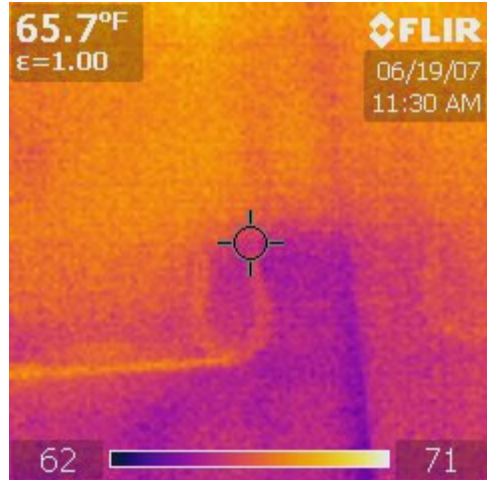


Image Location

Downstairs Bathroom - Looking south at the towel bar

Description

This area of the wall shows damage to the plaster behind and around the towel bar. The infrared image shows a cool area below and to the right of the towel bar suggesting moisture infiltration. The presence of moisture was confirmed with a moisture meter.

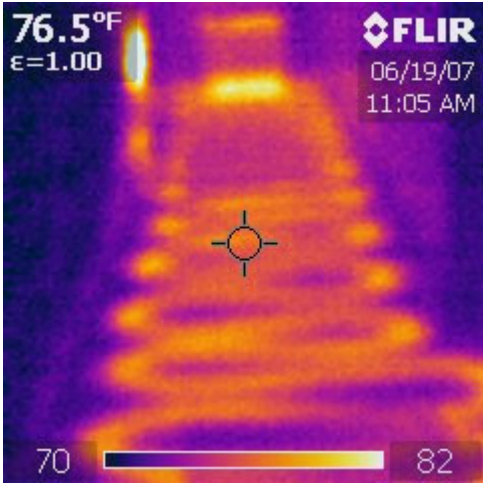


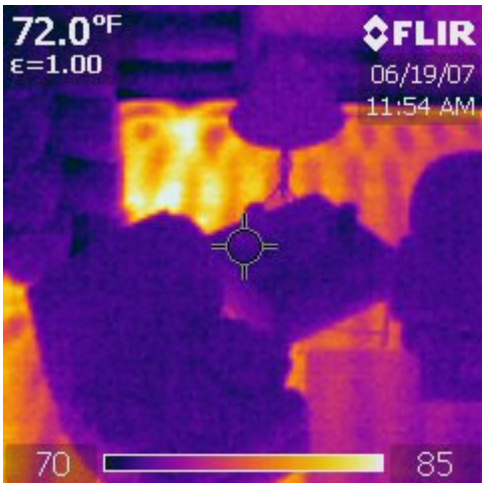
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	Image Location Main floor hallway - looking east.
	Description The infrared image shows the loops of the in floor radiant heat. It is typical of what was seen throughout the house.

	Image Location Living room - looking down from the upstairs hallway.
	Description The infrared image shows the loops of the in floor radiant heat. It is typical of what was seen throughout the house. The furnishings in the room show up in as colder (darker) areas.



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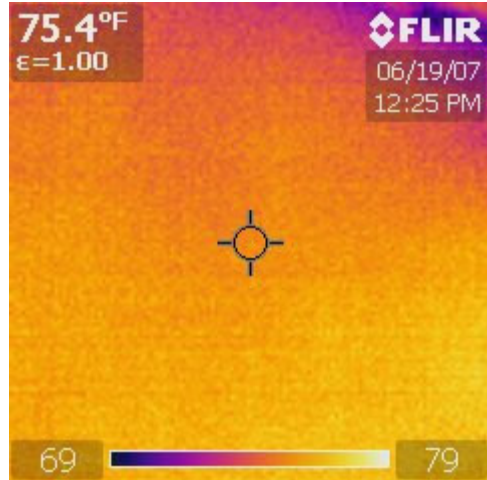


Image Location

Master bedroom floor - looking north

Description

The radiant floor heating in the bedroom appeared to be inoperative. This can be seen in the infrared image, which shows uniform temperatures (uniform color). This is in distinct contrast to the thermal images of the other floors in the house.



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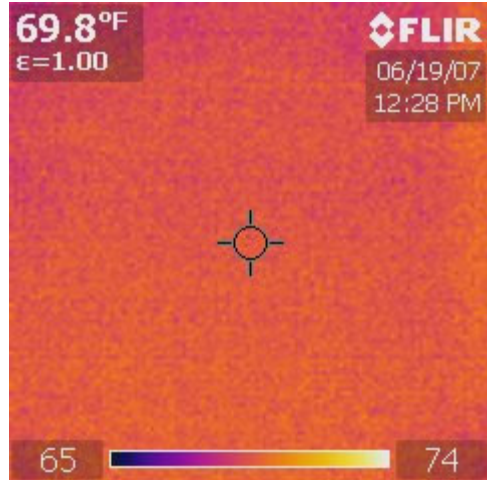


Image Location

Upstairs bathroom - looking south.

Description

The radiant floor heating in the upstairs bathroom appeared inoperative. This can be seen in the infrared image, which shows uniform temperatures (uniform color). This is in distinct contrast to the thermal images of the other floors in the house. Carpet has a tendency to obscure the thermal patterns seen with radiant heating, but since the other rooms in the upstairs were on the same circuit as the bath, it is likely the heating in these rooms was also inoperative during this inspection.



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Image Location
 Living room west wall, ceiling intersection showing the main ridge beam. Taken from upstairs hallway.

Description
 The infrared image clearly shows air infiltration around the beam. Solar heating on the roof was such that the air infiltrating was warmer than the interior air at this time in the inspection. This warmer air shows up as yellow and white on the scale. The elongated fingers of different temperature are typical of what is seen with air infiltration as seen with a thermal imager. The kitchen and bathroom fans were used to evacuate the interior air creating negative pressure in the house. Exterior air will then infiltrate through cracks, poorly caulked seals, and areas of missing insulation.

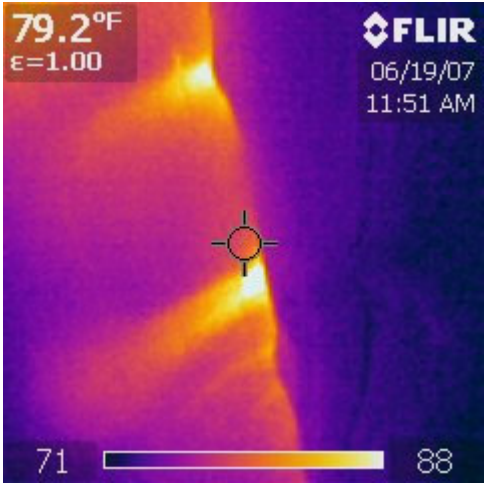


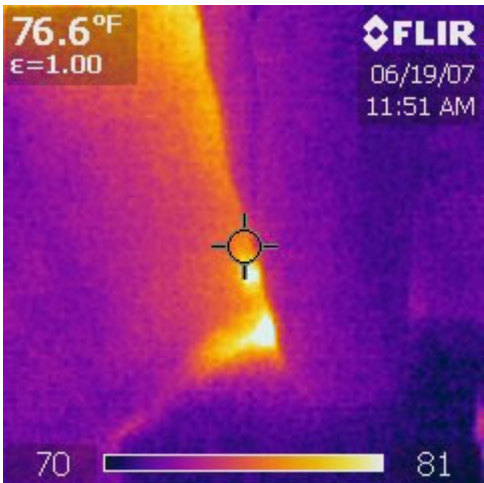
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	Image Location Main ridge beam - looking east.
	Description The infrared image clearly shows air infiltration around the beam. Solar heating on the roof was such that the air infiltrating was warmer than the interior air at this point in the inspection. This warmer air shows up as yellow and white on the scale. The elongated fingers of different temperature are typical of what is seen with air infiltration as seen with a thermal imager.

	Image Location Ridge beam - rock fireplace intersection on the north side.
	Description The infrared image clearly shows air infiltration around the beam. Solar heating on the roof was such that the air infiltrating was warmer than the interior air at this point in the inspection. This warmer air shows up as yellow and white on the scale. The elongated fingers of different temperature are typical of what is seen with air infiltration as seen with a thermal imager.



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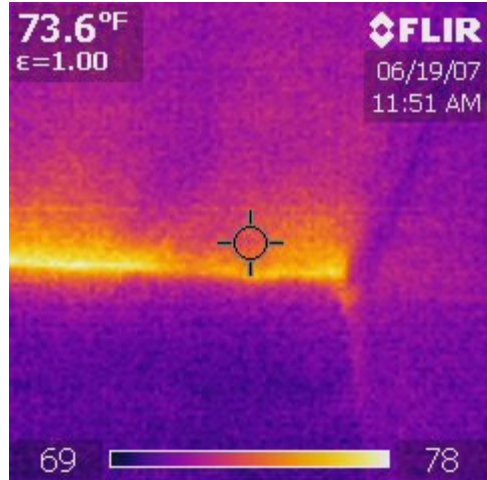


Image Location

Ceiling chimney intersection - looking north from the upstairs hall.

Description

The infrared image clearly shows air infiltration from behind the rock. Solar heating on the roof was such that the air infiltrating was warmer than the interior air at this point in the inspection. This warmer air infiltrating around the beam behind the rockwork shows up as yellow and white on the scale.



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Conclusions and Recommendations

The in floor radiant heat appeared serviceable throughout the house with the noted exceptions of the master bedroom and the upstairs bedrooms and bath. A qualified heating contractor needs to evaluate the cause of the inoperative heating systems.

There is considerable air infiltration around the main ridge beam in the living room. This area should be resealed to prevent air infiltration.

There was damage from suspected moisture infiltration in the downstairs bath, which could be seen both visually and on the infrared thermal image. The underlying cause for the suspected moisture damage is probably related to the negative grade on the west side of the home. Adding rain gutters and downspouts may mitigate the condition, but regarding the area may be needed.

Other Comments:



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Conclusions and Recommendations



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