

## GCS Home Inspections and Thermal Imaging

570-504-8393

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www.GCSHomeInspections.com

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# Infrared Thermal Survey

## *Heat Loss Survey*

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*Prepared For:*

### **My Client**

Street address

City, and State

Contact Information

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## **General Information**

**Structure Inspected:** House

**Age of Structure:** New construction approximately 1 year, original structure approximately 10 years

**Start time:** 8:45 am

**Present:** Owner

**Occupied:** Yes

**Interior Temperature:** ~69°F

**Current Weather:** Clear

**Outside Temperature:** 8°F

**Ground Condition:** Frozen

**Front of Structure Faces:** South

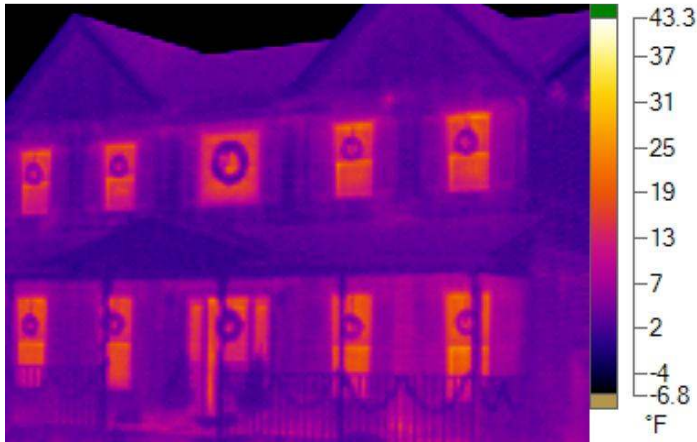
**Main Entrance Faces:** South

## **Scope**

General thermal insulation and heat loss assessment performed of this home. Property assessed for existence of exterior wall and ceiling thermal insulation and air infiltration/heat loss issues. Client indicates uncomfortable or cold feeling in new construction area particularly in the upstairs bedrooms where temperatures are significantly lower than remainder of home. This assessment does not imply a complete home inspection or conformity to current building standards with regards to construction practices and R-values of existing insulation.

## **Observations**

- Air intrusion was observed at multiple locations in and around the home. Scanning of exterior wall and ceiling/attic surfaces for areas consistent with missing or marginal insulation produced findings of the first and second living levels.
- Air infiltration was observed at exterior entrance doors, some windows, along baseboards, and one or more electrical receptacle cover plates.
- The basement area was inspected for significant contributing factors of heat loss. Minimal findings were observed. Unfinished, above grade basement walls are missing insulation although insulation is installed at rim joist areas.
- This home is constructed with several large window/glazing surfaces on east and west-facing walls. This placement combined with the orientation of the house contributes significantly to excessive heat loss and reduced energy efficiency. Many of these windows have minimal or no thermal shades installed.
- New construction is cantilevered at the east and west edges, exposing more surface area to the exterior elements; heat loss observed at isolated soffit areas but not associated around recessed lighting.
- Thermostats are installed at the first floor and second floor (zoned controlled).
- Cold air returns in the new bedrooms are located in the ceiling and each had a measured temperature of 50 and 51 degrees when furnace was not operating.



**IR001024.IS2**  
12/18/2009 8:46:59 AM



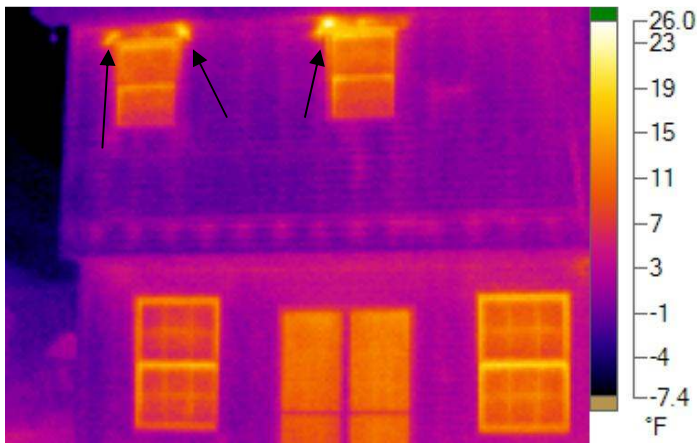
**Visible Light Image**



**IR001025.IS2**  
12/18/2009 8:49:37 AM  
Windows – typical heat loss areas



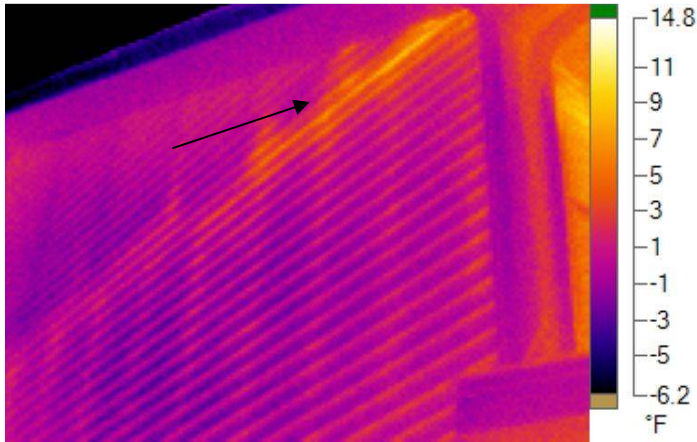
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12/18/2009 8:50:08 AM



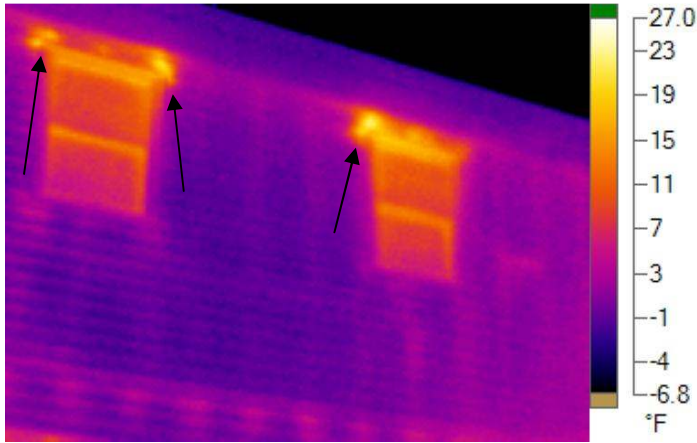
**Visible Light Image**



Visible Light Image

**IR001027.IS2**

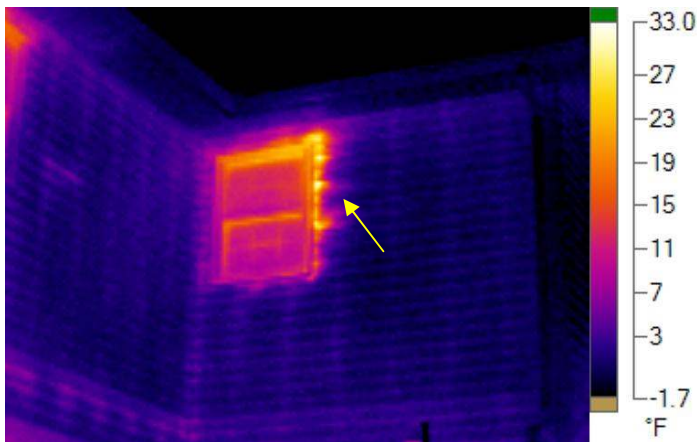
12/18/2009 8:51:25 AM  
Heat loss behind siding



Visible Light Image

**IR001028.IS2**

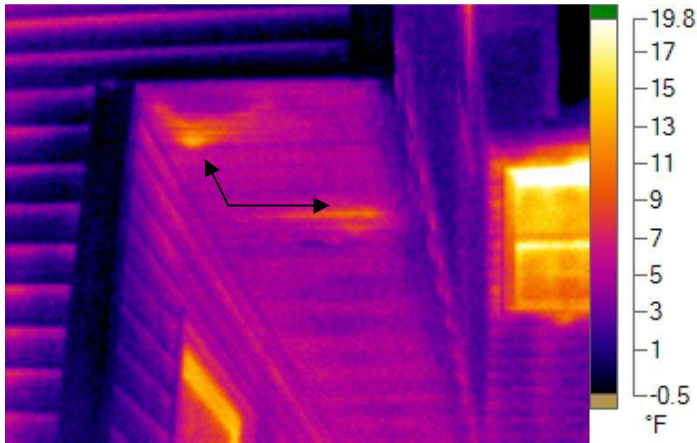
12/18/2009 8:52:05 AM  
Heat loss at window corners



Visible Light Image

**IR001029.IS2**

12/18/2009 8:52:18 AM  
Heat loss at window edge



**Visible Light Image**

**IR001030.IS2**  
12/18/2009 8:52:32 AM  
Heat loss



**Visible Light Image**

**IR001031.IS2**  
12/18/2009 8:52:48 AM  
Heat loss



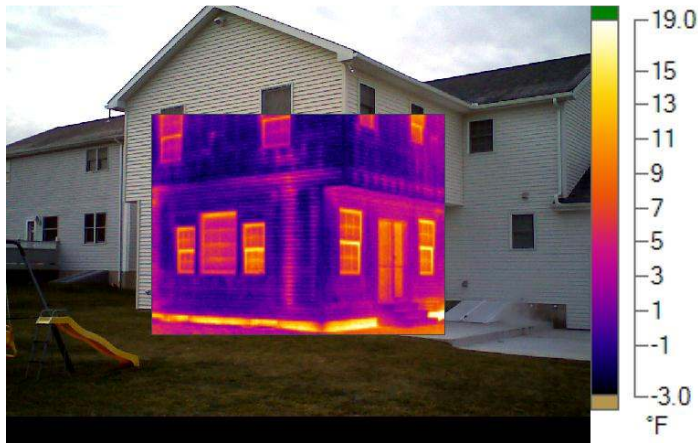
**IR001032.IS2**

12/18/2009 8:53:19 AM

Heat loss at window corners



**Visible Light Image**



**IR001033.IS2**

12/18/2009 8:53:36 AM

Heat loss at basement exterior wall



**Visible Light Image**

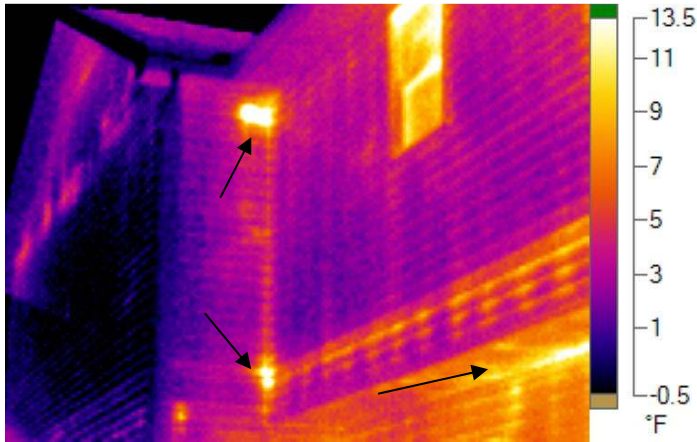


**IR001034.IS2**

12/18/2009 8:54:48 AM



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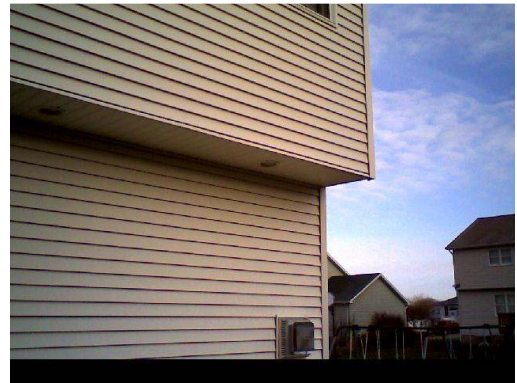
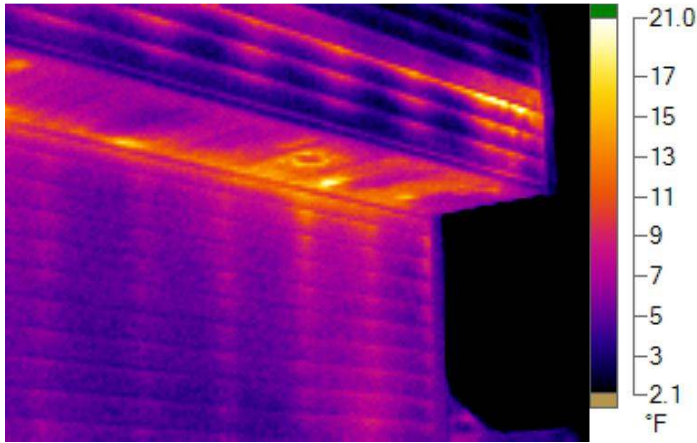


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**IR001035.IS2**

12/18/2009 8:55:08 AM

Heat loss at corner and under soffit



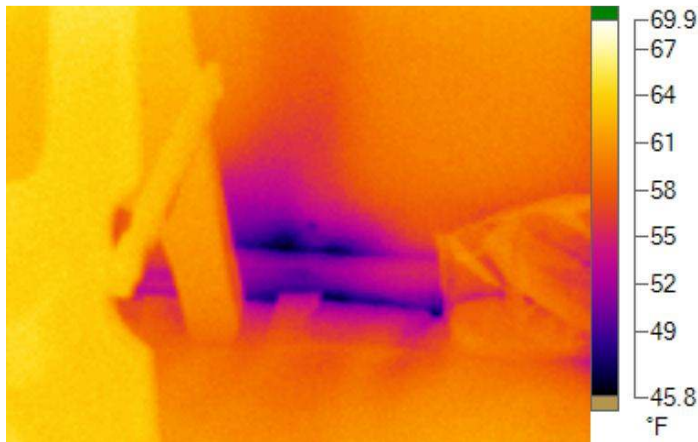
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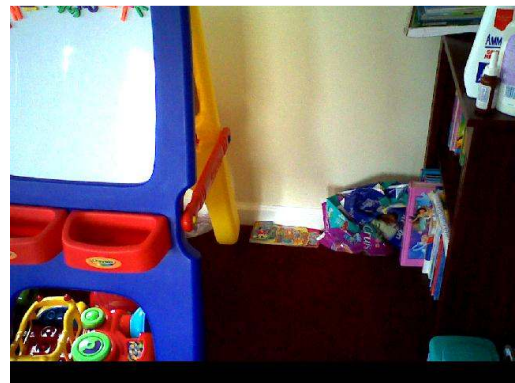
12/18/2009 8:55:58 AM

Heat loss under soffit and at siding

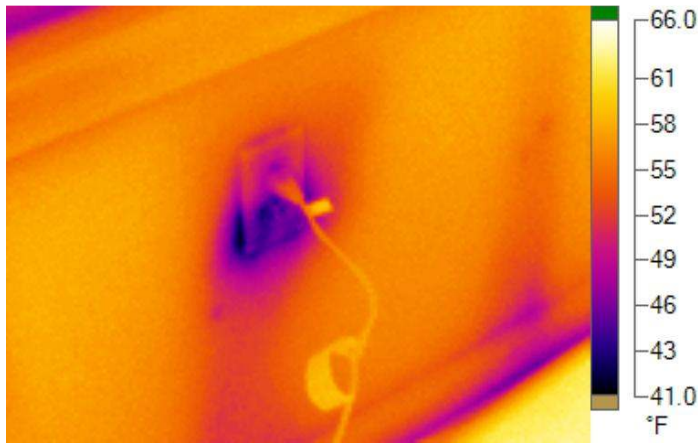




**IR001037.IS2**  
12/18/2009 9:07:57 AM  
Air infiltration at wall



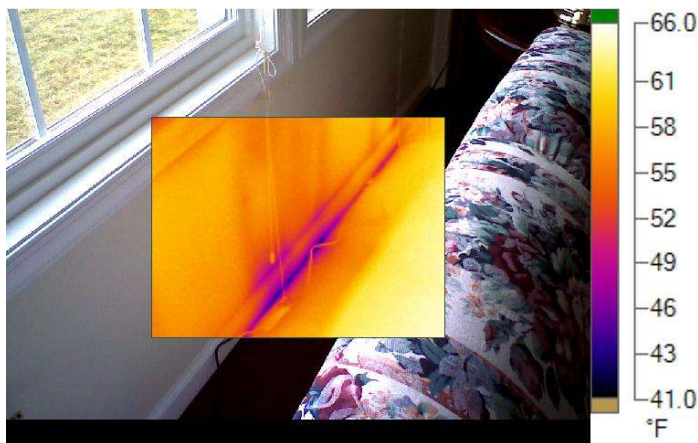
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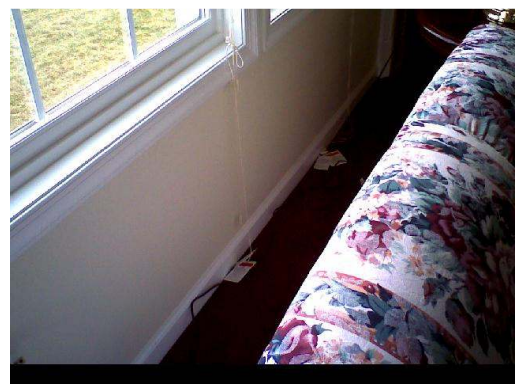
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Air infiltration at electrical receptacle



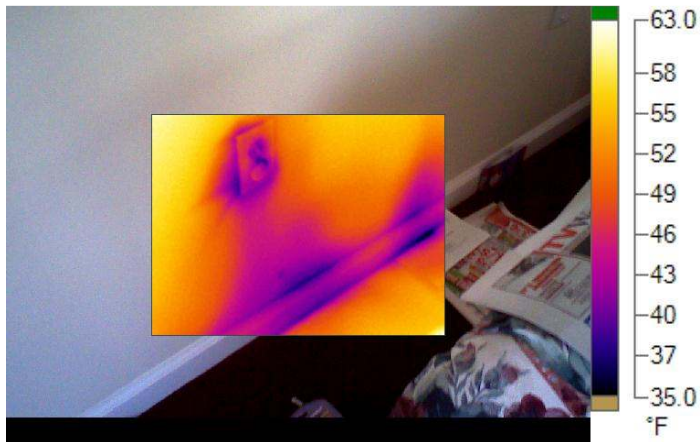
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12/18/2009 9:10:02 AM



**Visible Light Image**



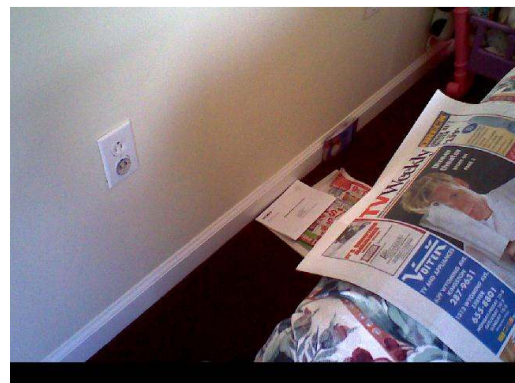
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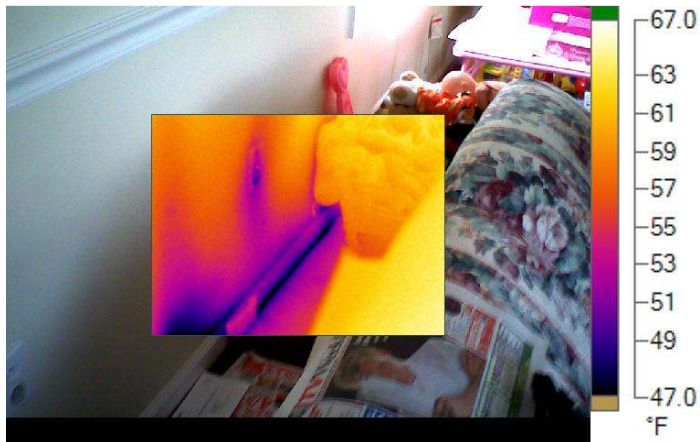
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**IR001041.IS2**  
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Air infiltration along baseboard



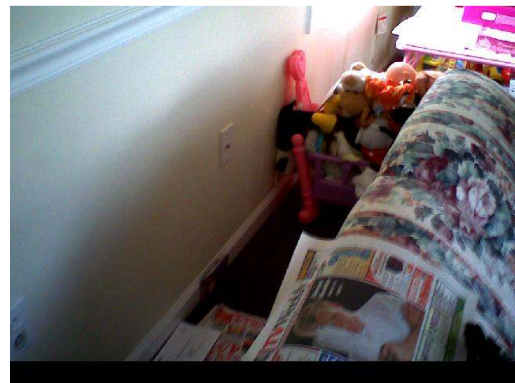
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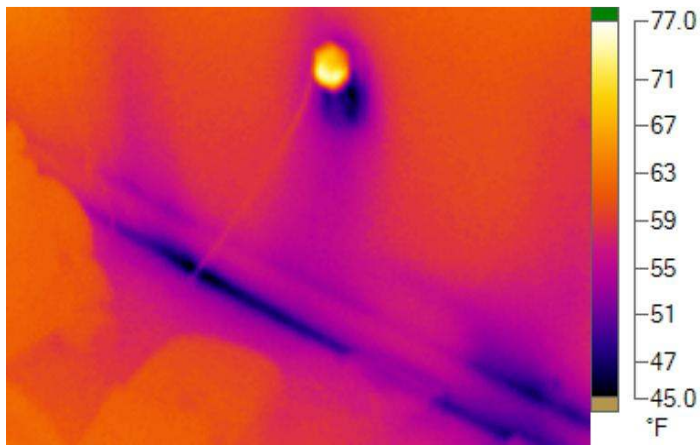
**IR001042.IS2**

12/18/2009 9:19:51 AM

Air infiltration along baseboard



**Visible Light Image**



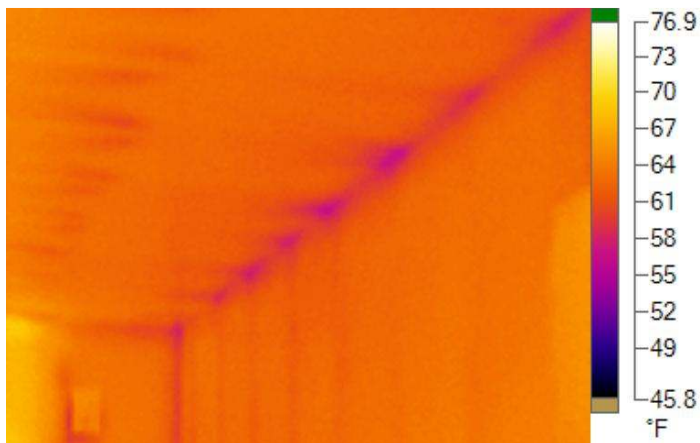
**IR001043.IS2**

12/18/2009 9:20:24 AM

Air infiltration at electrical receptacle and along baseboard



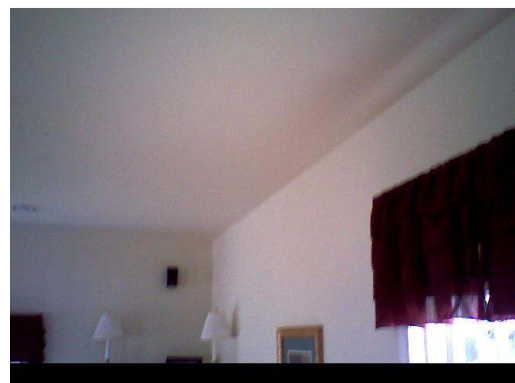
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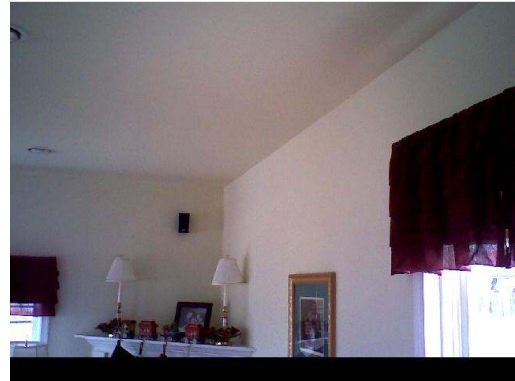
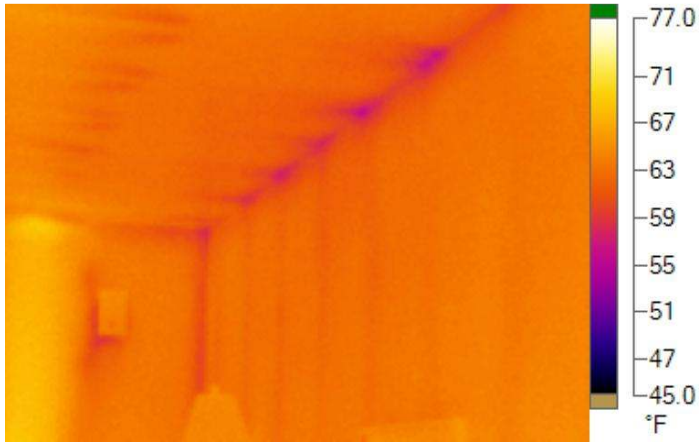
**IR001045.IS2**

12/18/2009 9:21:04 AM

Air infiltration at wall



**Visible Light Image**



**Visible Light Image**

**IR001046.IS2**

12/18/2009 9:23:36 AM

Air infiltration at wall

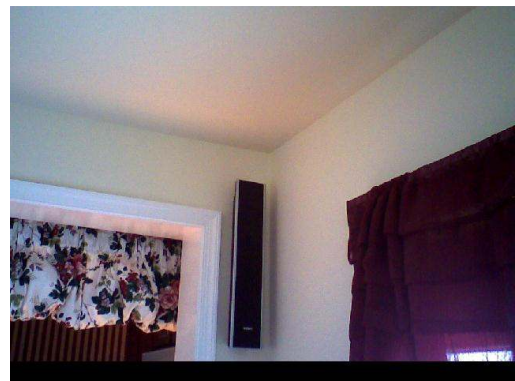
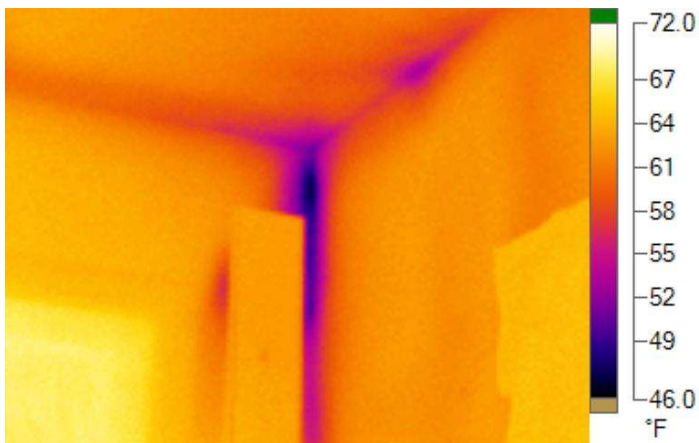


**Visible Light Image**

**IR001047.IS2**

12/18/2009 9:24:43 AM

Air infiltration at French doors

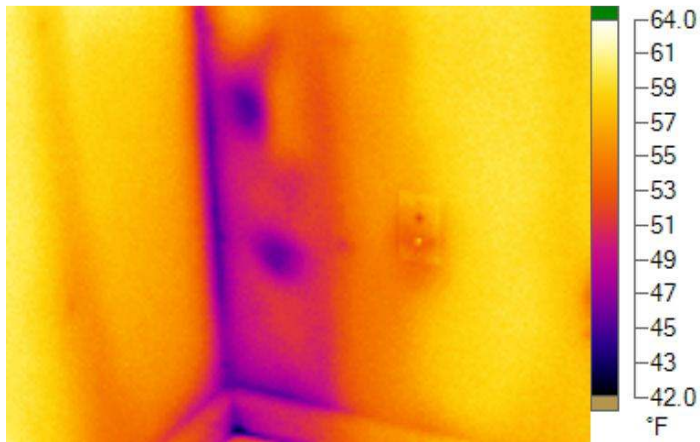


**Visible Light Image**

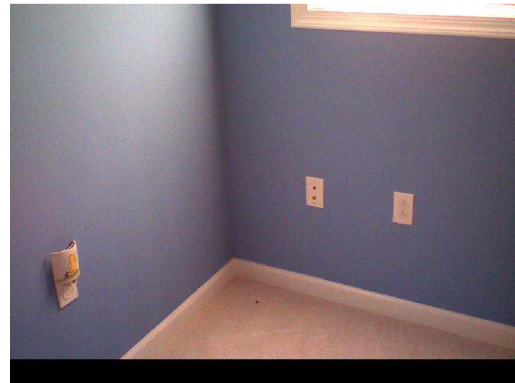
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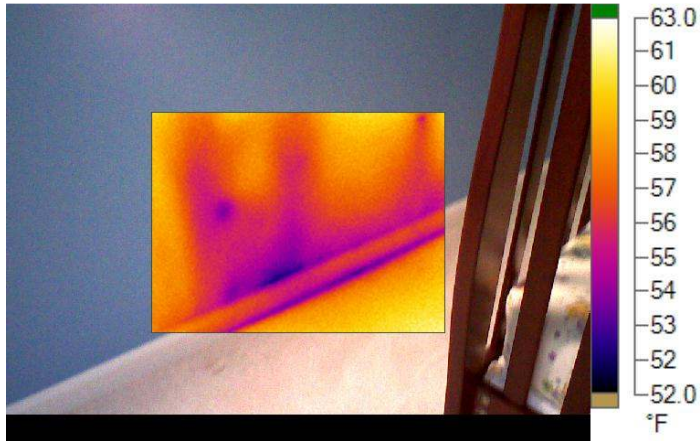
Air infiltration at wall



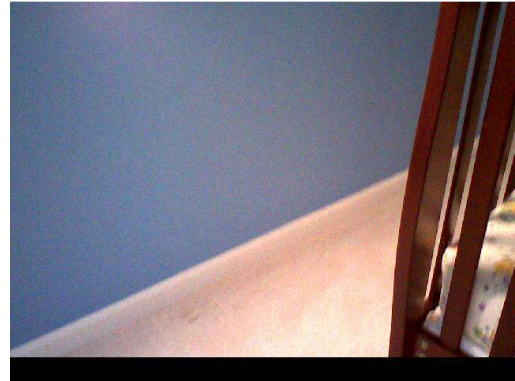
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Air infiltration at wall



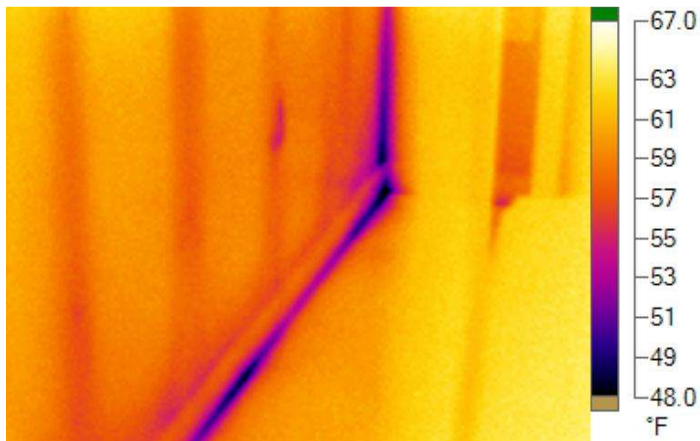
**Visible Light Image**



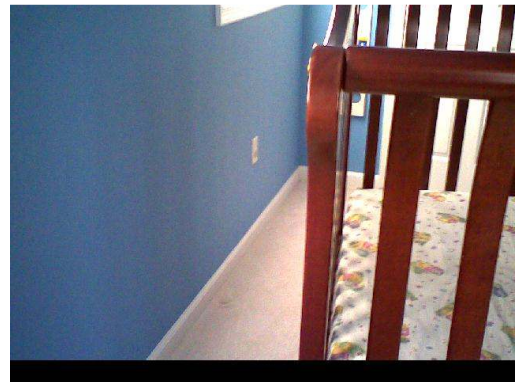
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Air infiltration at wall



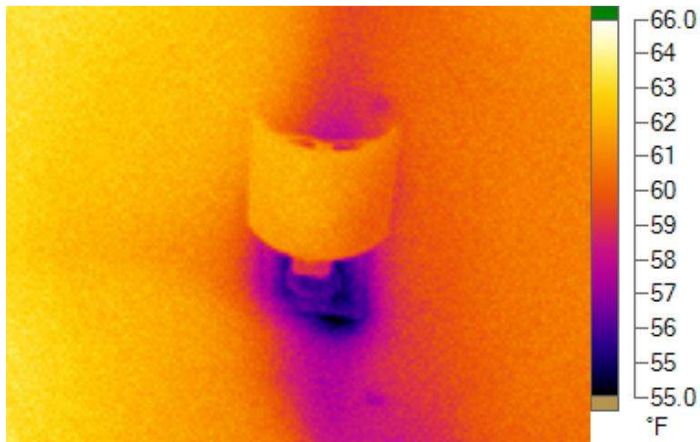
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**Visible Light Image**

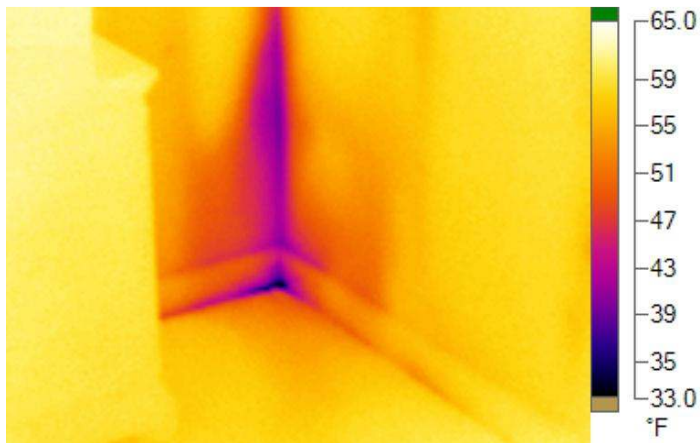


**Visible Light Image**

**IR001052.IS2**

12/18/2009 9:37:09 AM

Air infiltration at outlet

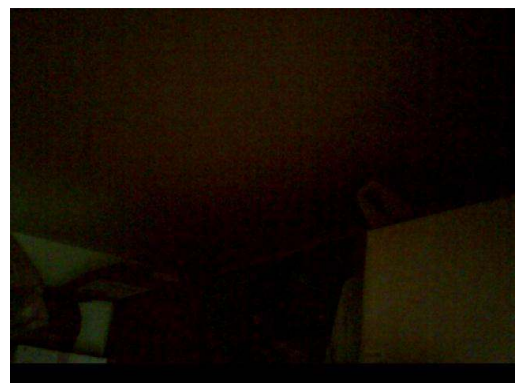
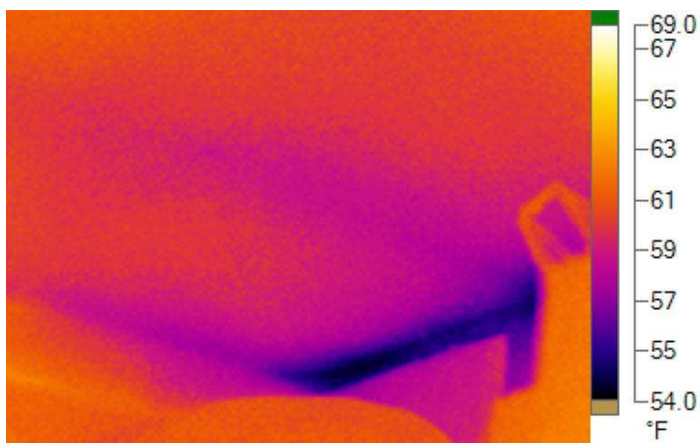


**Visible Light Image**

**IR001053.IS2**

12/18/2009 9:38:43 AM

Cold plum in corner

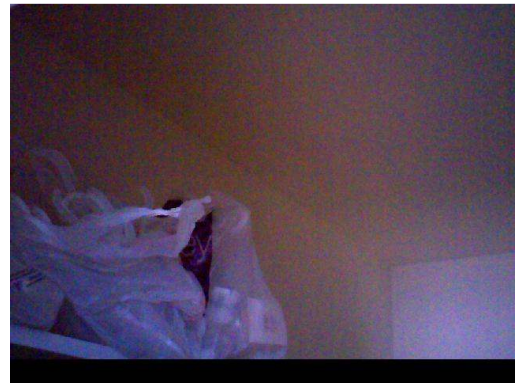
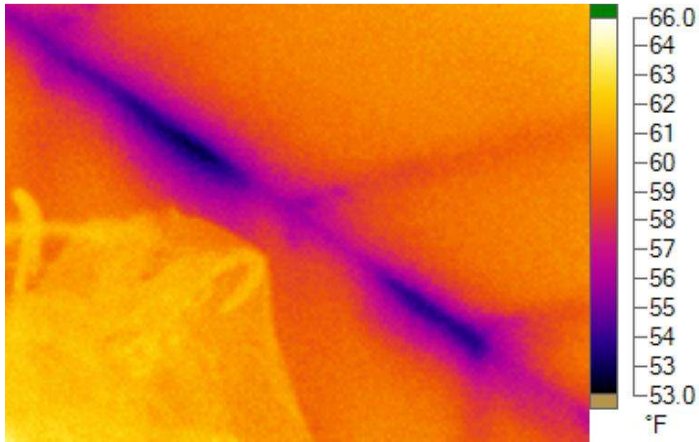


**Visible Light Image**

Closet

**IR001054.IS2**

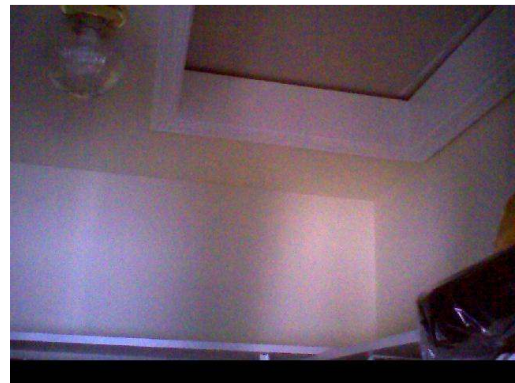
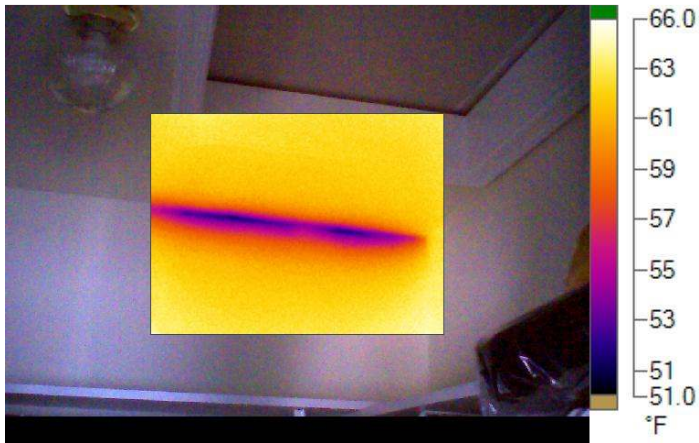
12/18/2009 9:42:24 AM



**Visible Light Image**

**IR001055.IS2**

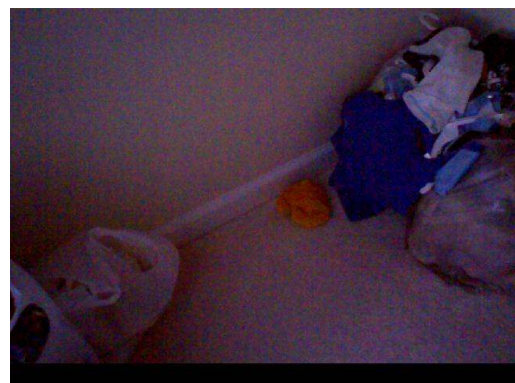
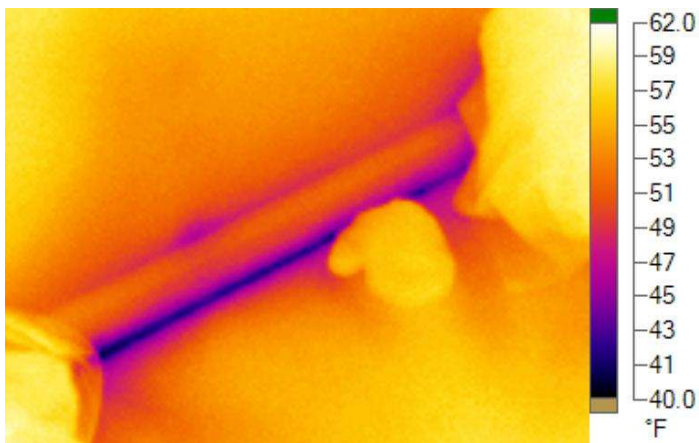
12/18/2009 9:54:43 AM



**Visible Light Image**

**IR001056.IS2**

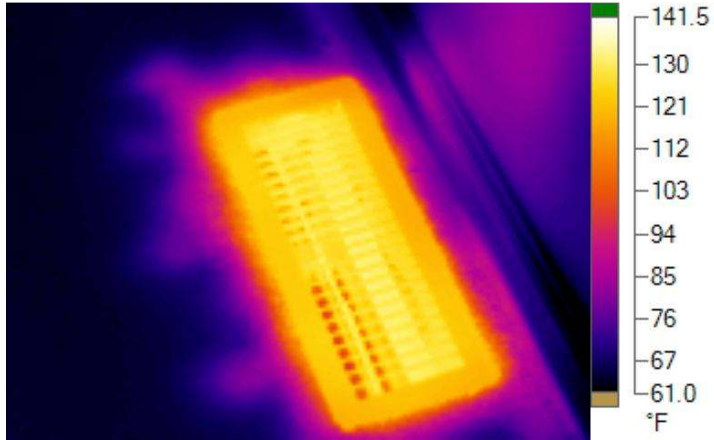
12/18/2009 9:55:00 AM



**Visible Light Image**

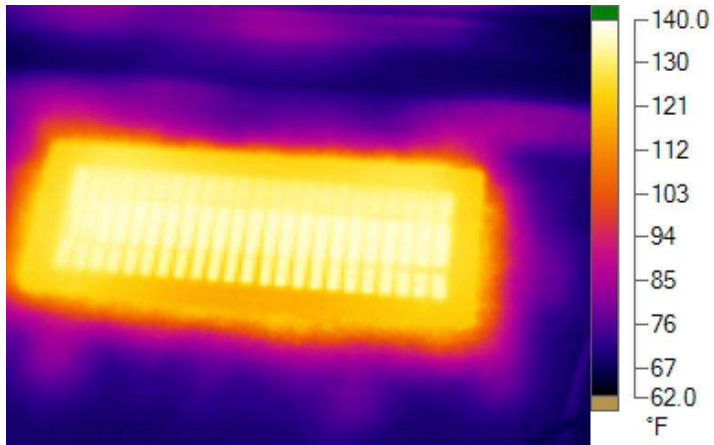
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12/18/2009 9:55:11 AM



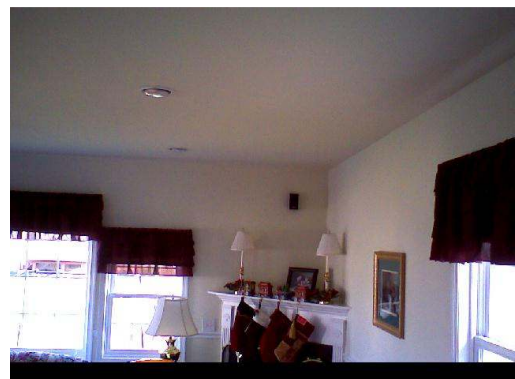
Visible Light Image

**IR001059.IS2**  
12/18/2009 10:12:00 AM



Visible Light Image

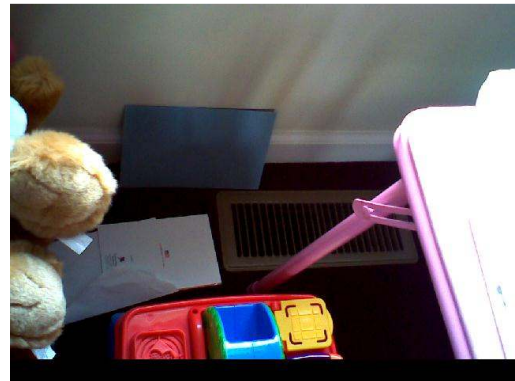
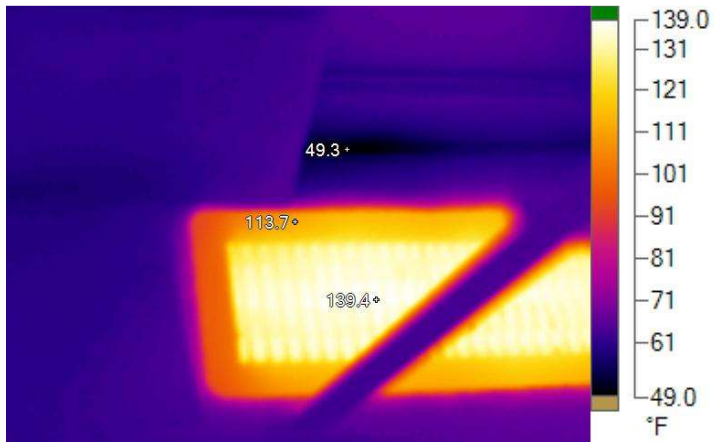
**IR001060.IS2**  
12/18/2009 10:12:20 AM  
Strong flow of hot air to upstairs bedrooms



Visible Light Image

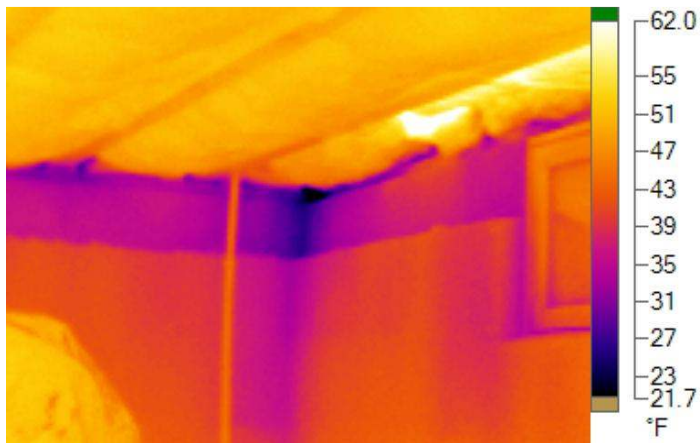
**IR001061.IS2**  
12/18/2009 10:16:45 AM  
Image displays heating duct in wall to bedroom





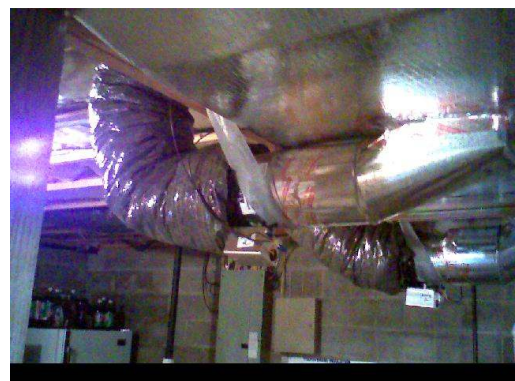
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12/18/2009 10:19:09 AM



**IR001063.IS2**

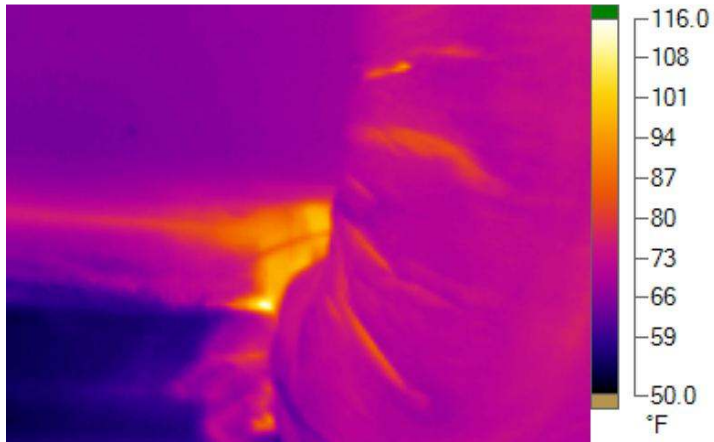
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**IR001064.IS2**

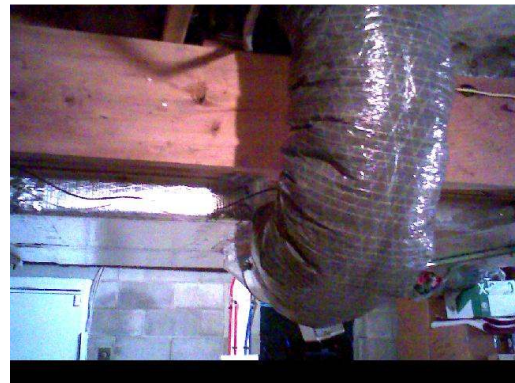
12/18/2009 10:27:26 AM

No insulation on duct joint can decrease efficiency



**IR001065.IS2**

12/18/2009 10:28:56 AM



**Visible Light Image**

## **Recommendations:**

Removed for sample report

## **Implementation and Contractors:**

Removed for sample report

*Thank you for choosing GCS Home Inspections and Thermal Imaging. Should you have additional questions or concerns, please feel free to contact us at 570-504-8393 or email at <mailto:Greg@GCSHomeInspections.com>. We are more than happy to talk with you and explain our recommendations in further detail if necessary!*

## **Client's Notes:**