



## ENERGY STAR HOME REPORT

Date: June 19, 2009 Rating No.:

Building Name: Kuhns Bros Log Home Rating Org.: ENERGY AUDITORS

Owner's Name: Phone No.: 717-943-2582

Property: Climate Zone 5 Rater's Name: Stan Kuhn

Address: Huntingdon County, Pa Rater's No.: PA-314

Builder's Name: Kuhns Bros Rating Type: Projected Rating

Weather Site: Harrisburg, PA Rating Date: 11-21-2008

File Name: Kuhns Bros - print.blg

### Normalized, Modified End-Use Loads (MMBtu/year)

|                        | ENERGY STAR | As Designed |
|------------------------|-------------|-------------|
| Heating:               | 32.4        | 23.7        |
| Cooling:               | 17.8        | 8.0         |
| Water heating:         | 9.8         | 10.9        |
| Lighting & Appliances: | 21.2        | 23.6        |
| Total:                 | 81.2        | 66.3        |
| <b>HERS Index:</b>     | <b>85</b>   | <b>66</b>   |

### ENERGY STAR Mandatory Requirements

- |                                                                           |                                                                    |
|---------------------------------------------------------------------------|--------------------------------------------------------------------|
| <input checked="" type="checkbox"/> Thermal Bypass Inspection Checklist * | <input checked="" type="checkbox"/> ENERGY STAR Products *         |
| <input checked="" type="checkbox"/> Ductwork Requirements                 | <input checked="" type="checkbox"/> ENERGY STAR Scoring Exceptions |

\* Thermal Bypass Checklist and ENERGY STAR Products are not checked in REM/Rate at this time.

**This home MEETS OR EXCEEDS the energy efficiency requirements for designation as an EPA ENERGY STAR Qualified Home.**

### Pollution Prevented

| Type of Emissions     | Reduction (lb/year) |
|-----------------------|---------------------|
| Carbon Dioxide (CO2)  | 5912.5              |
| Sulfur Dioxide (SO2)  | 45.7                |
| Nitrogen Oxides (NOx) | 9.2                 |

### Energy Cost Savings (\$/year)

|                      |       |
|----------------------|-------|
| Heating:             | \$229 |
| Cooling:             | \$106 |
| Water Heating:       | \$21  |
| Lights & Appliances: | \$33  |
| Total:               | \$388 |

The energy savings and pollution prevented are calculated by comparing the Rated Home to the Reference Home as defined in the "Mortgage Industry National Home Energy Rating Systems Standards" as promulgated by the Residential Energy Services Network (RESNET). In accordance with these guidelines, building inputs affecting setpoints, infiltration rates, window shading and the existence of mechanical systems may have been changed prior to calculating loads.

### REM/Rate - Residential Energy Analysis and Rating Software v12.6

This information does not constitute any warranty of energy cost or savings.  
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## ENERGY STAR HOME VERIFICATION SUMMARY

|                 |                        |               |                  |
|-----------------|------------------------|---------------|------------------|
| Date:           | June 19, 2009          | Rating No.:   |                  |
| Building Name:  | Kuhns Bros Log Home    | Rating Org.:  | ENERGY AUDITORS  |
| Owner's Name:   |                        | Phone No.:    | 717-943-2582     |
| Property:       | Climate Zone 5         | Rater's Name: | Stan Kuhn        |
| Address:        | Huntingdon County, Pa  | Rater's No.:  | PA-314           |
| Builder's Name: | Kuhns Bros             | Rating Type:  | Projected Rating |
| Weather Site:   | Harrisburg, PA         | Rating Date:  | 11-21-2008       |
| File Name:      | Kuhns Bros - print.blg |               |                  |

### Building Information

|                                |       |                  |                        |
|--------------------------------|-------|------------------|------------------------|
| Conditioned Area (sq ft):      | 1977  | Housing Type:    | Single-family detached |
| Conditioned Volume (cubic ft): | 23600 | Foundation Type: | Unconditioned basement |
| Insulated Shell Area (sq ft):  | 4763  | HERS Index:      | 66 *****+              |
| Number of Bedrooms:            | 3     |                  |                        |

### Building Shell

|                        |                            |                        |                           |
|------------------------|----------------------------|------------------------|---------------------------|
| Ceiling w/Attic:       | None                       | Window/Wall Ratio:     | 0.19                      |
| Vaulted Ceiling:       | R-38, Vaulted* U=0.030     | Window Type:           | Anderson 200*             |
| Above Grade Walls:     | 5.5 in log* U=0.099        | Window U-Value:        | 0.280                     |
| Found. Walls (Cond):   | None                       | Window SHGC:           | 0.430                     |
| Found. Walls (Uncond): | R-12.5 cont. rigid* R=12.5 | Infiltration:          | Htg: 1950 Clg: 1950 CFM50 |
| Frame Floors:          | R-19** U=0.054             | Measured Duct Leakage: | 45.00 CFM25               |
| Slab Floors:           | None                       | Leakage to Outside:    | 45.00 CFM                 |

### Mechanical Systems

GSHP: Htg: 83.1 kBtuh, 5.0 COP. Clg: 49.0 kBtuh, 30.0 EER.  
Water Heating: Conventional, Elec, 0.95 EF.  
Programmable Thermostat: Heat=No; Cool=No

Note: Where feature level varies in home, the dominant value is shown.

**This home MEETS OR EXCEEDS the EPA's requirements for an ENERGY STAR Home.**



## An ENERGY STAR<sup>®</sup> Qualified Home

This home built at

### Huntingdon County, Pa

by Kuhns Bros

has been verified by ENERGY AUDITORS, an independent professional or organization,  
to meet or exceed strict energy efficiency guidelines  
set by the U.S. Environmental Protection Agency.

HERS Index: 66

11-21-2008

A handwritten signature in black ink, appearing to read "David Lee".

David Lee  
Chief  
ENERGY STAR Residential Branch

A handwritten signature in black ink, appearing to read "Sam Rashkin".

Sam Rashkin  
National Director  
ENERGY STAR for Homes

[www.energystar.gov](http://www.energystar.gov)

# Home Energy Rating Certificate

Kuhns Bros Log Home  
Huntingdon County, Pa



**5 Stars Plus  
Projected Rating**

## Uniform Energy Rating System

|         |             |         |              |         |              |         |              |         |              |
|---------|-------------|---------|--------------|---------|--------------|---------|--------------|---------|--------------|
| 1 Star  | 1 Star Plus | 2 Stars | 2 Stars Plus | 3 Stars | 3 Stars Plus | 4 Stars | 4 Stars Plus | 5 Stars | 5 Stars Plus |
| 500-401 | 400-301     | 300-251 | 250-201      | 200-151 | 150-101      | 100-91  | 90-86        | 85-71   | 70 or Less   |

## Energy Efficient

**HERS Index: 66**      **Efficient Home Comparison: 34% Better**

### General Information

Conditioned Area: 1977 sq. ft.      HouseType: Single-family detached  
 Conditioned Volume: 23600 cubic ft.      Foundation: Unconditioned basement  
 Bedrooms: 3

### Mechanical Systems Features

Ground-source heat pump: Electric, Htg: 5.0 COP. Clg: 30.0 EER.  
 Water Heating: Conventional, Electric, 0.95 EF, 50.0 Gal.  
 Duct Leakage to Outside: 45.00 CFM.  
 Ventilation System: None  
 Programmable Thermostat: Heating: No      Cooling: No

### Building Shell Features

Ceiling Flat: NA      Exposed Floor: R-19  
 Vaulted Ceiling: R-38      Window Type: Anderson 200\*  
 Above Grade Walls: R-7      **Infiltration:**  
 Foundation Walls: R-12.5      Rate: Htg: 1950 Clg: 1950 CFM50  
 Slab: None      Method: Blower door test

### Lights and Appliance Features

Percent Fluorescent Pin-Based: 0.00      Clothes Dryer Fuel: Electric  
 Percent Fluorescent CFL: 75.00      Range/Oven Fuel: Electric  
 Refrigerator (kWh/yr): 500.00      Ceiling Fan (cfm/Watt): 0.00  
 Dishwasher Energy Factor: 0.46

The Home Energy Rating Standard Disclosure for this home is available from the rating provider.

### REM/Rate - Residential Energy Analysis and Rating Software v12.6

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## Rating Number:

Certified Energy Rater: Stan Kuhn  
 Rating Date: 11-21-2008  
 Rating Ordered For: Kuhns Bros.

## Estimated Annual Energy Cost

| Use               | Projected Rating |               |             |
|-------------------|------------------|---------------|-------------|
|                   | MMBtu            | Cost          | Percent     |
| Heating           | 16.0             | \$375         | 29%         |
| Cooling           | 2.7              | \$63          | 5%          |
| Hot Water         | 12.2             | \$285         | 22%         |
| Lights/Appliances | 21.1             | \$495         | 39%         |
| Photovoltaics     | -0.0             | \$-0          | -0%         |
| Service Charges   |                  | \$60          | 5%          |
| <b>Total</b>      |                  | <b>\$1278</b> | <b>100%</b> |

**This home meets or exceeds the minimum  
criteria for all of the following:**

## TITLE

## Company

Address  
 City, State, Zip  
 Phone #  
 Fax #

Certified Energy Rater