

Building Energy Efficiency Standard (BEES) Certification
★★★★★Home Energy Rated Method★★★★★

I. Owner of record: Steven Pavish

Building is located at: 49268 S. Denali View Drive, Willow, AK 99688
(Street) (City)

Legal Description Is: L5B2 The Bluff on Susitna Phase I

Palmer Recording District (Include recording district).

II. RATING COMPLIANCE: Region property is located in: 1 ☐ 2 G ☐ 2 A ☒ 3 ☐ 4 ☐ 5 ☐

Software program used: ☒ AKWarm ☐ Other*: (Identify)

*NOTE: Only those software programs independently tested and approved by AHFC are acceptable.

Home Energy Rating: 5 Star★

Date Construction Started¹¹:

¹¹Note: Defined as installation of the foundation

Rater # 61

Rater's Name: William H. Bruu
(Please type or print legibly)

III. VENTILATION COMPLIANCE STATEMENT: Construction on the above legally described property meets the ventilation requirements as set forth in the Building Energy Efficiency Standard (BEES) under Option I or Option II.

IV. COMPLIANCE STATEMENT: (This statement applies only to Section III Ventilation).

- A. ☒ I hereby Certify that I am eligible under the provisions of 15 AAC 155.030(a)(2) to certify compliance with BEES ventilation requirements and that I am a licensed architect, engineer or ICBO certified building inspector, and have taken the Alaska Craftsman Home Program or other comparable building course specifically approved in writing.
- B. ☐ I hereby Certify that I am the contractor of the building and eligible to self certify compliance with BEES ventilation requirements under the provision of AS 18.56.096 and that I have taken the Alaska Craftsman Home program or other comparable building course specifically approved in writing by AHFC.
- C. ☐ I hereby Certify that I am the owner of the building and eligible to self certify compliance with BEES ventilation requirements under the provision of AS 18.56.096 and that I have taken the Alaska Craftsman Home Program or other comparable building course specifically approved in writing by AHFC.

TO BE COMPLETED ONLY IF BOX A OR B ABOVE IS MARKED

Name: William H. Bruu

Signature: William H. Bruu

License or Certification # and Type: ICBO 865499-55

Date: 12/12/01

V. By my signature below I hereby certify that AS 18.56.096(c) has been met and that the building meets or exceeds the Standard set forth under AS 18.56.096(c).

Builder/Owners Name _____ Signature _____

Address _____

City State _____

Zip _____

Date _____

ENERGY COST AND FEATURES REPORT

Property: Steve Pavish
49268 S Denali View Drive
Willow, Alaska

Rater: William H. Bruu
Ti-Le-An Management, Inc.
165 E Parks Hwy, Suite 207
Wasilla, Ak 99654

House: Single Family
Living Floor Area: 905 square feet
1-Car Attached Garage

Rating: BEES
ID: 201353

The measured air tightness of this home indicates that it may not provide sufficient ventilation air (for acceptable indoor quality) as defined by ASHRAE 62-89, without adequate mechanical ventilation equipment. If whole house mechanical ventilation equipment has been installed, it is recommended that it be properly maintained and operated. If no whole house mechanical ventilation equipment has been installed, it is strongly recommended that the homeowner consider an investment in this improvement. (A test of the building's ventilation air rate would help determine the importance of a mechanical ventilation system in this home.)

ENERGY FEATURES

Envelope Efficiency

Floor Insulation	R-23 *
Wall/Door Insulation	R-19.8
Ceiling Insulation	R-40
Window R-Value	R-3.1
Window to Wall Ratio, Living Space	12.7%
South Facing Window Area	20 square feet
Air Leakage	2.8 Air Changes per Hour at 50 Pascals 0.17 Air Changes per Hour Natural

* Includes the insulating value of the ground in contact with these envelope components.

Space Heating System

System Efficiency	82%
Fuel Type	#1 Oil
Supplemental Fuel	Birch Wood
Thermostat Setting	70.0 degrees F
Setback Thermostat	Yes, Controls Entire Home

Water Heater

Efficiency	72%
Location	Conditioned Space
Fuel Type	Propane

Ventilation

System Type	Heat Recovery Ventilator
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Other

Number of Occupants	3
Clothes Dryer Fuel	None
Cooking Range Fuel	Propane
Miscellaneous Lights/Appliances Use	Low

ESTIMATED ENERGY USE

Space Heating		\$457
Water Heating		\$358
Lights and Appliances		\$428

Space Heating	126 kWh of Electricity, 294 gallons of #1 Oil, 0.74 cords of Birch Wood
Water Heating	243 gallons of Propane
Lights and Appliances	2,869 kWh of Electricity, 56 gallons of Propane

Actual use and costs may vary from these estimates depending upon weather conditions, occupant life styles and utility rates currently in effect.

RATER NOTES

Structure is off the electrical grid. Power is self generated.

ver. 1.03, library: 12/31/00

AIR LEAKAGE TEST RESULTS

Date of Test: 12/12/01 Test File: 201353b

Test Performed For: Steve Pavish
PO Box 1075
Willow, AK 99688
(907) 354-0737

Measured Leakage: 29 sq. in. (595 CFM @ 50 Pa)

This leakage area represents the cumulative size of all holes and cracks in the exterior of your house through which unconditioned outside air enters your home and conditioned air escapes.

Est. Annual Air Change Rate: 0.24 air changes/hour (17.4 CFM/person) *

Est. Cost of Air Leakage: \$ 10 per year (heating) *

Ventilation Guideline:

National ventilation guidelines recommend that houses have an effective hourly air change rate of 0.35 (or 15 CFM per person) to maintain acceptable indoor air quality.

We estimate that a minimum leakage area of 41 sq. in. for your house will lead to an average annual ventilation rate that is equal to this minimum requirement, if you rely solely on air leakage for ventilation. Because actual ventilation rates vary greatly with weather conditions, most experts agree that mechanical ventilation is the best method for maintaining appropriate ventilation levels. *

Additional Information:

If some of the the house leakage is located in the forced air duct system, both the leakage rate and energy costs will tend to be higher than reported above. Duct leaks result in much greater air leakage because they are subjected to much higher pressures than typical house leaks. Duct leaks can also seriously degrade indoor air quality.

Many factors contribute to indoor air quality including ventilation rates, sources and locations of pollutants, proper operation of combustion appliances and occupant behavior. Additional testing is needed to fully evaluate the air quality in your house.

* The estimated annual air change rate is based on ASHRAE Standard 163-93 and assumes no mechanical ventilation. Ventilation guidelines are based on ASHRAE Standard 62-89. Many assumptions went into these estimates. Actual air change rates and costs may differ from these estimates by a factor of 2 or more.