



File: (P)
Application Type: EnerGuide for New Houses

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Weather Data for EDMONTON, ALBERTA

Builder Code:

Data Entry by: Rob Withrow
Date of entry: 27/05/2013
Company: Pals Enviromatics

Client name: ,
Street address: 3 Hilbourn Cove

City: Spruce Grove
Postal code: T7X 0J2

Region: Alberta
Telephone:

Mailing address: PO Box 4077
City: Spruce Grove
Postal Code: T7X 3B3

Region: Alberta

GENERAL HOUSE CHARACTERISTICS

House type: Single Detached
Number of storeys: Two storeys
Plan shape: Other, 11 or more corners
Front orientation: Southeast
Year House Built: 2013
Wall colour: Default
Roof colour: Medium brown
Soil Condition: Normal conductivity (dry sand, loam, clay)
Water Table Level: Normal (7-10m/23-33ft)

Absorptivity: 0.40
Absorptivity: 0.84

House Thermal Mass Level: (A) Light, wood frame

Effective mass fraction 1.000

Occupants :
 2 Adults for 50.0% of the time
 2 Children for 50.0% of the time
 0 Infants for 0.0% of the time

Sensible Internal Heat Gain From Occupants: 2.40 kWh/day

HOUSE TEMPERATURES

Heating Temperatures

| | |
|--------------------------|---------|
| Main Floor: | 69.8 °F |
| Basement: | 66.2 °F |
| TEMP. Rise from 69.8 °F: | 5.0 °F |

Basement is- Heated: YES Cooled: NO Separate T/S: NO
 Fraction of internal gains released in basement : 0.150

Indoor design temperatures for equipment sizing

| | |
|----------|---------|
| Heating: | 71.6 °F |
| Cooling: | 75.2 °F |

WINDOW CHARACTERISTICS

| Label | Location | # | Overhang Width (ft) | Header Height (ft) | Tilt deg | Curtain Factor | Shutter (R) |
|------------------|-----------------|---|---------------------|--------------------|----------|----------------|-------------|
| Southeast | | | | | | | |
| Bedroom #2 | Second Exterior | 1 | 1.50 | 1.50 | 90.0 | 1.00 | 0.00 |
| Bedroom #4/3 | Second Exterior | 2 | 1.50 | 2.50 | 90.0 | 1.00 | 0.00 |
| Den | First Exterior | 1 | 6.00 | 1.50 | 90.0 | 1.00 | 0.00 |
| Walk In Closet | Second Exterior | 1 | 1.50 | 0.75 | 90.0 | 1.00 | 0.00 |
| Walk In Closet | Second Exterior | 1 | 1.50 | 4.00 | 90.0 | 1.00 | 0.00 |
| Northeast | | | | | | | |
| Bedroom #5 | Foundation | 1 | 1.50 | 20.00 | 90.0 | 1.00 | 0.00 |
| Door Lite | Nook Enrty | 1 | 18.00 | 3.50 | 90.0 | 1.00 | 0.00 |
| Door Lite | Family Room | 1 | 18.00 | 3.00 | 90.0 | 1.00 | 0.00 |
| Nook Top Trans | Nook Enrty | 1 | 18.00 | 2.50 | 90.0 | 1.00 | 0.00 |
| Pantry | First Exterior | 1 | 1.50 | 10.00 | 90.0 | 1.00 | 0.00 |
| Northwest | | | | | | | |
| Bonus Room | Second Exterior | 1 | 1.50 | 1.50 | 90.0 | 1.00 | 0.00 |
| Family Room | Foundation | 1 | 18.00 | 2.00 | 90.0 | 1.00 | 0.00 |
| Family Room | Foundation | 2 | 1.50 | 13.00 | 90.0 | 1.00 | 0.00 |
| Great Room | First Exterior | 1 | 1.50 | 10.00 | 90.0 | 1.00 | 0.00 |
| Kitchen | First Exterior | 1 | 15.00 | 2.50 | 90.0 | 1.00 | 0.00 |
| Master Bedroom | Second Exterior | 1 | 1.50 | 1.50 | 90.0 | 1.00 | 0.00 |
| Nook | First Exterior | 1 | 1.50 | 1.50 | 90.0 | 1.00 | 0.00 |
| Rec Room | Foundation | 1 | 1.50 | 20.00 | 90.0 | 1.00 | 0.00 |
| Southwest | | | | | | | |
| Door Lite | Rec Room | 1 | 1.50 | 20.00 | 90.0 | 1.00 | 0.00 |
| Ensuite | Second Exterior | 1 | 1.50 | 1.50 | 90.0 | 1.00 | 0.00 |

| Label | Type | # | Window Width (ft) | Window Height (ft) | Total Area (ft ²) | Window R | SHGC |
|------------------|-----------|---|-------------------|--------------------|-------------------------------|----------|--------|
| Southeast | | | | | | | |
| Bedroom #2 | R Picture | 1 | 5.00 | 4.00 | 20.00 | 5.041 | 0.5536 |

| | | | | | | | |
|-----------------------|-------------------------------|---|-------|------|-------|-------|--------|
| Bedroom #4/3 | R Hinged | 2 | 5.00 | 4.00 | 40.00 | 5.113 | 0.5536 |
| Den | R Hinged | 1 | 5.00 | 6.00 | 30.00 | 5.149 | 0.5656 |
| Walk In Closet | R Picture | 1 | 2.00 | 4.00 | 8.00 | 4.888 | 0.5109 |
| Walk In Closet | R Picture | 1 | 5.00 | 4.00 | 20.00 | 5.041 | 0.5536 |
| Northeast | | | | | | | |
| Bedroom #5 | R Slider | 1 | 5.00 | 2.00 | 10.00 | 4.941 | 0.5042 |
| Door Lite | DG 13mm Arg Ins Vinyl Picture | 1 | 2.33 | 5.00 | 11.67 | 2.954 | 0.5996 |
| Door Lite | DG 13mm Arg Ins Vinyl Picture | 1 | 2.00 | 5.00 | 10.00 | 2.927 | 0.5873 |
| Nook Top Trans | DG 13mm Arg Ins Vinyl Picture | 1 | 2.67 | 1.00 | 2.67 | 2.720 | 0.4777 |
| Pantry | R Hinged | 1 | 4.00 | 1.33 | 5.33 | 4.902 | 0.4753 |
| Northwest | | | | | | | |
| Bonus Room | R Picture | 1 | 10.00 | 4.00 | 40.00 | 5.094 | 0.5678 |
| Family Room | R Picture | 1 | 7.50 | 6.00 | 45.00 | 5.128 | 0.5753 |
| Family Room | R Hinged | 2 | 2.50 | 6.00 | 30.00 | 5.059 | 0.5365 |
| Great Room | R Picture | 1 | 7.50 | 6.00 | 45.00 | 5.128 | 0.5753 |
| Kitchen | R Picture | 1 | 6.00 | 3.33 | 20.00 | 5.029 | 0.5511 |
| Master Bedroom | R Hinged | 1 | 10.00 | 5.00 | 50.00 | 5.178 | 0.5752 |
| Nook | R Picture | 1 | 7.50 | 6.00 | 45.00 | 5.128 | 0.5753 |
| Rec Room | R Picture | 1 | 7.50 | 6.00 | 45.00 | 5.128 | 0.5753 |
| Southwest | | | | | | | |
| Door Lite | DG 13mm Arg Ins Vinyl Picture | 1 | 2.00 | 5.00 | 10.00 | 2.927 | 0.5873 |
| Ensuite | R Hinged | 1 | 2.50 | 3.33 | 8.33 | 5.019 | 0.5183 |

WINDOW CODE SCHEDULE

| Name | Internal Code | Description (Glazings, Coatings, Fill, Spacer, Type, Frame) |
|-------------------------------|---------------|--|
| DG 13mm Arg Ins Vinyl Picture | 233204 | Double/double with 1 coat, Low-E .20 (hard1), 13 mm Argon, Insulating, Picture, Vinyl, RE* = 3.320, Eff. RSI= 3.00 |

* Window Standard Energy Rating estimated for assumed dimensions, and Air tightness type: CSA - A3; Leakage rate = 0.550 m³/hr/m

USER-DEFINED WINDOW CODES SCHEDULE

| Code | Description | Window Type |
|---------------|--------------------|-------------|
| 0R Picture | R Picture | Picture |
| 0R Hinged | Copy of R Slider-2 | Hinged |
| 0R Slider | HS3A slider | Slider/sash |

USER-DEFINED WINDOW CODES: DATA

| Code | RSI - Centre of Glass | RSI - Edge of Glass | RSI - Frame | Frame Ht mm | Centre of Glass SHGC |
|---------------|--------------------------------|---------------------------|----------------|----------------|-------------------------------|
| 0R Picture | 0.940 | 0.660 | 1.057 | 38.1 | 0.620 |
| 0R Hinged | 0.940 | 0.704 | 1.057 | 38.1 | 0.620 |
| 0R Slider | 0.940 | 0.704 | 1.057 | 38.1 | 0.620 |

BUILDING PARAMETER DETAILS**CEILING COMPONENTS**

| | Construction Type | Code Type | Roof Slope | Heel Ht.(ft) | Section Area (ft ²) | R. Value (R) |
|------------|----------------------|--------------|------------|--------------|------------------------------------|--------------------|
| Fireplace | Attic/hip | 24038F1000 | 5.004/12 | 1.00 | 10.02 | 47.38 |
| Main Upper | Attic/hip | 22138F1000 | 6.000/12 | 1.00 | 1462.00 | 64.26 |
| Nook | Attic/hip | 24038F1000 | 5.004/12 | 1.00 | 39.00 | 56.17 |

CEILING CODE SCHEDULE

| Name | Internal Code | Description (Structure, typ/size, Spacing, Insull, 2, Int., Sheathing, Exterior, Studs) |
|------------|------------------|---|
| 24038F1000 | 24038F1000 | Truss, 38x89 mm (2x4 in) Attic truss, 600 mm (24 in), RSI 9.0 (R 51) Blown cellulose, N/A, 12 mm (0.5 in) gypsum board, N/A, N/A, N/A |
| 22138F1000 | 22138F1000 | Wood frame, 38x140 mm (2x6 in), 600 mm (24 in), RSI 9.0 (R 51) Blown cellulose, N/A, 12 mm (0.5 in) gypsum board, N/A, N/A, N/A |

MAIN WALL COMPONENTS

| Label | Lintel Type | Fac. Dir | Number of Corn. | Number of Inter. | Height (ft) | Perim. (ft) | Area (ft ²) | R. Value (R) |
|---|----------------|-------------|--------------------|---------------------|----------------|----------------|-------------------------|--------------------|
| First Exterior Type: W 2x6 16oc SpFm | 101 | N/A | 12 | 2 | 9.08 | 111.00 | 1007.88 | 20.08 |

Dry 3/8" HV

| | | | | | | | | |
|---|-----|-----|----|---|------|--------|---------|-------|
| Second Exterior Type: W 2x6 16oc SpFm Dry 3/8" HV | 101 | N/A | 12 | 4 | 8.00 | 168.00 | 1344.00 | 20.78 |
| Shared Garage Type: User specified | 101 | N/A | 4 | 4 | 9.08 | 28.00 | 254.24 | 26.35 |
| Second Header Type: Spray Foam With Vinyl Siding | | N/A | 4 | 4 | 1.00 | 115.50 | 115.50 | 29.99 |

EXPOSED FLOORS

| Label | Floor Code Type | Area (ft ²) | R. Value (R) |
|----------------|--------------------------|-------------------------|--------------|
| Fireplace | CWJ 11" 24oc SpFm Wood | 10.02 | 30.25 |
| Master Bedroom | CWJ 11" 24oc SpFm Carpet | 12.00 | 34.17 |
| Over Garage | User specified | 335.00 | 36.77 |
| Walk In Closet | CWJ 11" 24oc SpFm Carpet | 8.50 | 34.29 |

DOORS

| Label | Type | Height (ft) | Width (ft) | Gross Area (ft ²) | R. Value (R) |
|------------------------------------|------------------------------|-------------|------------|-------------------------------|--------------|
| Family Room Loc: Foundation | Fibreglass polyurethane core | 6.67 | 2.67 | 17.78 | 5.57 |
| Garage Entry Loc: Shared Garage | Fibreglass polyurethane core | 6.67 | 2.67 | 17.78 | 5.57 |
| Main Entry Loc: First Exterior | Fibreglass polyurethane core | 8.00 | 3.00 | 24.00 | 5.57 |
| Nook Enrtry Loc: First Exterior | Fibreglass polyurethane core | 7.67 | 2.67 | 20.44 | 5.57 |
| Rec Room Loc: Foundation | Fibreglass polyurethane core | 6.67 | 2.67 | 17.78 | 5.57 |

USER-DEFINED STRUCTURE CODES SCHEDULE

| Name | Description |
|-------------------------------------|-------------|
| 11W 2x6 16oc SpFm Dry 3/8" HV | |
| 11Spray Foam With Vinyl Siding | |
| 31CWJ 11" 24oc SpFm Wood | |
| 31CWJ 11" 24oc SpFm Carpet | |

FOUNDATIONS

| | | | |
|---------------------------|------------|-------------------------------|-------------------------|
| Foundation Name: | Foundation | Volume: | 6278.0 ft ³ |
| Foundation Type: | Basement | Opening to Main Floor: | 0.00 ft ² |
| Data Type: | Library | | |
| Total Wall Height: | 5.84 ft | Non-Rectangular | |
| Depth Below Grade: | 5.83 ft | Floor Perimeter: | 140.75 ft |
| | | Floor Area: | 1075.00 ft ² |

| | | | |
|-----------------------------|---------------------------|-----------------|---------|
| Interior wall type: | 311WK1 | R-value: | 29.17 R |
| Exterior wall type: | User specified | R-Value: | 0.00 R |
| Number of corners : | 11 | | |
| Lintel type: | L101 | | |
| Added to slab type : | User specified | R-Value: | 7.97 R |
| Floors Above Found.: | CWJ 11 24oc Wood 5/8" OSB | R-Value: | 4.29 R |

Exposed areas for: Foundation
Exposed Perimeter: 140.75 ft

Configuration: BCIB_1
- concrete walls and floor
- interior surface of wall insulated over full-height
- sub-surface of floor slab fully insulated but no insulation under footings
- any first storey construction type

FOUNDATION CODE SCHEDULE

Added To Slab

| Name | Code | Description (Framing, Spacing, Insulation, Int., Sheathing) |
|---------------------|-------|--|
| 50 mm EPS II (2 in) | 00F00 | None, 305 mm (12 in), N/A, None, None |

Interior Wall

| Name | Code | Description (Fram., Spac., Studs, Ins/fram., Xtra ins, Int) |
|--------|--------|---|
| 311WK1 | 311WK1 | 38x140 mm (2x6 in) wood, 400 mm (16 in), 3 studs, N/A, N/A, 12 mm (0.5 in) gypsum board |

Floors Above Foundation

| Name | Internal Code | Description (Structure, typ/size, Spacing, Insul1, 2, Int., Sheathing, Exterior, Drop Framing) |
|---------------------------|---------------|--|
| CWJ 11 24oc Wood 5/8" OSB | 4513006300 | Composite wood joist, 38x302 mm (2x11.875 in), 600 mm (24 in), None, None, Wood, Waferboard/OSB 15.9 mm (5/8 in), None, No |

PONY WALL COMPONENTS

| Label | Lintel Type | Fac. Dir | Number of Corn. | Number of Inter. | Height (ft) | Perim. (ft) | Area (ft ²) | R. Value (R) |
|--------------------------------|-------------|----------|-----------------|------------------|-------------|-------------|-------------------------|--------------|
| Foundation Type: 1211WF1131 | 101 | N/A | 11 | 2 | 2.91 | 140.75 | 409.58 | 31.07 |

Pony Wall Code Schedule

| Name | Internal Code | Description (Structure, typ/size, Spacing, Insul1, 2, Int., Sheathing, Exterior, Studs) |
|------------|---------------|---|
| 1211WF1131 | 1211WF1131 | 38x89 mm (2x4 in) wood, 400 mm (16 in), 3 studs, N/A, N/A, 12 mm (0.5 in) gypsum board, N/A, Insul. metal/vinyl cladding, N/A |

BASEMENT FLOOR HEADER COMPONENTS

| Label | Lintel Type | Fac. Dir | Number of Corn. | Number of Inter. | Height (ft) | Perim. (ft) | Area (ft ²) | R. Value (R) |
|-------------|-------------|----------|-----------------|------------------|-------------|-------------|-------------------------|--------------|
| Main Header | | | | | | | | |

| | | | | | | | | |
|------------------------------------|-----|-----|---|---|------|--------|--------|-------|
| Type: Spray Foam With Vinyl Siding | N/A | N/A | 4 | 4 | 1.00 | 105.00 | 105.00 | 29.97 |
| Shared Header Type: User specified | N/A | N/A | 4 | 4 | 1.00 | 28.00 | 28.00 | 31.89 |

Basement Floor Header Code Schedule

| Name | Internal Code | Description (Structure, typ/size, Spacing, Insul1, 2, Int., Sheathing, Exterior, Studs) |
|------------------------------|--------------------------------|--|
| Spray Foam With Vinyl Siding | 11Spray Foam With Vinyl Siding | N/A, N/A, N/A, N/A, N/A, N/A, N/A, N/A, N/A |

Lintel Code Schedule

| Name | Code | Description (Type, Material, Insulation) |
|------|------|---|
| 101 | 101 | Double, Wood, Same as wall framing cavity |
| L101 | 101 | Double, Wood, Same as wall framing cavity |

ROOF CAVITY INPUTS

| | | | |
|-----------------------------|-----------------------------------|--------------------------|-------------------------|
| Gable Ends | | Total Area: | 0.00 ft ² |
| Sheathing Material | Plywood/Part. bd 9.5 mm (3/8 in) | | 0.47 R |
| Exterior Material: | Hollow metal/vinyl cladding | | 0.62 R |
| Sloped Roof | | Total Area: | 1687.68 ft ² |
| Sheathing Material | Plywood/Part. bd 12.7 mm (1/2 in) | | 0.63 R |
| Exterior Material: | Asphalt shingles | | 0.44 R |
| Total Cavity Volume: | 5728.8 ft ³ | Ventilation Rate: | 0.50 ACH/hr |

BUILDING ASSEMBLY DETAILS

| Label | Construction Code | Nominal (R) | System (R) | Effective (R) |
|-------------------------------|------------------------------|-------------|------------|---------------|
| CEILING COMPONENTS | | | | |
| Fireplace | 24038F1000 | 68.84 | 68.97 | 47.38 |
| Main Upper | 22138F1000 | 68.84 | 68.59 | 64.26 |
| Nook | 24038F1000 | 68.84 | 69.12 | 56.17 |
| MAIN WALL COMPONENTS | | | | |
| First Exterior | W 2x6 16oc SpFm Dry 3/8" HV | 32.44 | 20.05 | 20.08 |
| Second Exterior | W 2x6 16oc SpFm Dry 3/8" HV | 32.44 | 20.77 | 20.78 |
| Second Header | Spray Foam With Vinyl Siding | 29.49 | 29.99 | 29.99 |
| EXPOSED FLOORS | | | | |
| Fireplace | CWJ 11" 24oc SpFm Wood | 26.55 | 30.25 | 30.25 |
| Master Bedroom | CWJ 11" 24oc SpFm Carpet | 29.49 | 34.17 | 34.17 |
| Walk In Closet | CWJ 11" 24oc SpFm Carpet | 29.49 | 34.29 | 34.29 |
| FLOORS ABOVE BASEMENTS | | | | |
| Foundation | CWJ 11 24oc Wood 5/8" OSB | 0.00 | 4.29 | 4.29 |

BUILDING PARAMETERS SUMMARY**ZONE 1 : Above Grade**

| Component | Area ft ² Gross | Area ft ² Net | Effective (R) | Heat Loss Mil.BTU | % Annual Heat Loss |
|-----------------------|-------------------------------|-----------------------------|------------------|----------------------|-----------------------|
| Ceiling | 1511.02 | 1511.02 | 63.88 | 5.47 | 4.85 |
| Main Walls | 2721.62 | 2327.73 | 21.30 | 30.00 | 26.63 |
| Doors | 62.22 | 47.89 | 5.57 | 2.52 | 2.24 |
| Exposed floors | 365.52 | 365.52 | 36.40 | 2.73 | 2.42 |
| Southeast Windows | 118.00 | 118.00 | 5.08 | 6.80 | 6.04 |
| Northeast Windows | 19.67 | 19.67 | 3.27 | 1.76 | 1.56 |
| Northwest Windows | 200.00 | 200.00 | 5.12 | 11.43 | 10.15 |
| Southwest Windows | 8.33 | 8.33 | 5.02 | 0.49 | 0.43 |
| ZONE 1 Totals: | | | | 61.20 | 54.33 |

INTER-ZONE Heat Transfer : Floors Above Basement

| Area ft ² Gross | Area ft ² Net | Effective (R) | Heat Loss Mil.BTU |
|-------------------------------|-----------------------------|------------------|----------------------|
| 1075.00 | 1075.00 | 4.292 | 6.44 |

ZONE 2 : Basement

| Component | Area ft ² Gross | Area ft ² Net | Effective (R) | Heat Loss Mil.BTU | % Annual Heat Loss |
|-----------------------|-------------------------------|-----------------------------|------------------|----------------------|-----------------------|
| Walls above grade | 1.41 | 1.41 | - | 0.01 | 0.01 |
| Doors | 35.56 | 15.56 | 5.57 | 0.75 | 0.66 |
| Northeast windows | 20.00 | 20.00 | 3.68 | 1.46 | 1.29 |
| Northwest windows | 120.00 | 120.00 | 5.11 | 6.29 | 5.59 |
| Southwest windows | 10.00 | 10.00 | 2.93 | 0.92 | 0.81 |
| Basement floor header | 133.00 | 133.00 | 30.36 | 1.24 | 1.10 |

| | | | | | |
|-------------------------------|---------|-----------------------|-------|--------------|--------------|
| Pony walls | 409.58 | 244.03 | 31.07 | 2.22 | 1.97 |
| Below grade foundation | 1895.57 | 1895.57 | - | 15.87 | 14.09 |
| | | ZONE 2 Totals: | | 28.77 | 25.54 |

Ventilation

| | House Volume | Air Change | Heat Loss Mil.BTU | % Annual Heat Loss |
|--|--------------------------|-------------------|------------------------------|-------------------------------|
| | 32804.02 ft ³ | 0.194 ACH | 22.676 | 20.13 |

AIR LEAKAGE AND VENTILATION

Building Envelope Surface Area: 7037.72 ft²

Air Tightness Level is Energy tight (1.5 ACH @ 50 Pa)

| Terrain Description | Height | ft |
|--|---------------|-----------|
| @ Weather Station : Open flat terrain, grass | Anemometer | 32.8 |
| @ Building site : Suburban, forest | Bldg. Eaves | 21.0 |

Local Shielding:

| | |
|---------------|-------|
| Walls: | Heavy |
| Flue : | Light |

Leakage Fractions- **Ceiling:** 0.200 **Walls:** 0.650 **Floors:** 0.150

| | |
|--|---|
| Estimated Equivalent Leakage Area @ 10 Pa: | 77.74 in ² |
| Normalized Leakage Area @ 10 Pa: | 0.0110 in ² /ft ² |
| Estimated Airflow to cause a 5 Pa Pressure Difference: | 68 RSI |
| Estimated Airflow to cause a 10 Pa Pressure Difference: | 106 RSI |
| ELA used to calculate Estimated Airflows: | 31.09 in ² |

F326 VENTILATION REQUIREMENTS

| | |
|-----------------------------------|------------------------------|
| Kitchen, Living Room, Dining Room | 3 rooms @ 2.4 RSI: 31.8 RSI |
| Utility Room | 1 rooms @ 2.4 RSI: 10.6 RSI |
| Bedroom | 1 rooms @ 4.7 RSI: 21.2 RSI |
| Bedroom | 1 rooms @ 10.6 RSI: 10.6 RSI |
| Bathroom | 1 rooms @ 2.4 RSI: 10.6 RSI |
| Basement Rooms | : 21.2 RSI |

CENTRAL VENTILATION SYSTEM

| | |
|----------------------|-------------------|
| System Type: | HVI Certified HRV |
| Manufacturer: | Fantech |
| Model Number: | VHR1405R |

| | |
|--|--------------|
| Fan and Preheater Power at 32.0 °F: | 118 Watts |
| Fan and Preheater Power at -13.0 °F: | 118 Watts |
| Preheater Capacity: | 0 Watts |
| Sensible Heat Recovery Efficiency at 32.0 °F | 70% |
| Sensible Heat Recovery Efficiency at -13.0 °F | 72% |
| Total Heat Recovery Efficiency in Cooling Mode | 25% |
| Low Temperature Ventilation Reduction: | 0% |
| Low Temperature Ventilation Reduction: Airflow Adjustment | 0 RSI (0.0%) |

Vented combustion appliance depressurization limit: 5.00 Pa.

Ventilation Supply Duct

| | | | |
|--------------------|------------|---------------------------------|----------|
| Location: | Main floor | Type: | Flexible |
| Length: | 4.9 ft | Diameter: | 6.0 in |
| Insulation: | 4.0 Watts | Sealing Characteristics: | Sealed |

Ventilation Exhaust Duct

| | | | |
|--------------------|------------|---------------------------------|----------|
| Location: | Main floor | Type: | Flexible |
| Length: | 4.9 ft | Diameter: | 6.0 in |
| Insulation: | 4.0 Watts | Sealing Characteristics: | Sealed |

Operating schedule for

| Month | % of Time | Added Vent. Rate (RSI) | Month | % of Time | Added Vent. Rate (RSI) |
|-------|-----------|------------------------|-------|-----------|------------------------|
| Jan | 82.21 | 103.03 | Jul | 0.00 | 0.00 |
| Feb | 85.51 | 107.16 | Aug | 0.00 | 0.00 |
| Mar | 91.42 | 114.56 | Sep | 0.00 | 0.00 |
| Apr | 99.40 | 124.57 | Oct | 100.00 | 125.32 |
| May | 0.00 | 0.00 | Nov | 90.45 | 113.35 |
| Jun | 0.00 | 0.00 | Dec | 84.55 | 105.95 |

SECONDARY FANS & OTHER EXHAUST APPLIANCES

| | Control | Supply (RSI) | Exhaust (RSI) |
|-------------------|------------|--------------|---------------|
| Other Fans | Continuous | 0.00 | 25.00 |
| Dryer | Continuous | - | 2.54 |

Dryer is vented outdoors

Rated Fan Power 25.00 Watts

AIR LEAKAGE AND VENTILATION SUMMARY

| | |
|--|------------------------|
| F326 Required continuous ventilation: | 105.944 RSI (0.19 ACH) |
| Central Ventilation Supply Rate (): | 125.320 RSI (0.23 ACH) |
| Other Continuous Supply Flow Rates: | 0.000 RSI (0.00 ACH) |
| Other Continuous Exhaust Flow Rates: | 25.000 RSI (0.05 ACH) |
| Total house ventilation is Balanced | |
| Gross Air Leakage and Ventilation Energy Load: | 40.160 Mil.BTU |
| Seasonal Heat Recovery Ventilator Efficiency: | 69.480 % |
| Estimated Ventilation Electrical Load: Heating Hours: | 1.858 Mil.BTU |
| Estimated Ventilation Electrical Load: Non-Heating Hours: | 0.001 Mil.BTU |
| Net Air Leakage and Ventilation Load: | 23.605 Mil.BTU |

SPACE HEATING SYSTEM

Primary Heating Fuel: Natural Gas
Equipment: Condensing furnace/boiler
Manufacturer: Trane
Model: TUHV 120
Calculated* Output Capacity: 52888.18 BTU/hr
 * Design Heat loss X 1.10 + 0.5 kW

AFUE: 96.70
Steady State Efficiency: 97.61
Fan Mode: Auto
ECM Motor: Yes
Low Speed Fan Power: 0 watts
High Speed Fan Power: 186 watts

DOMESTIC WATER HEATING SYSTEM

Primary Water Heating Fuel: Natural gas
Water Heating Equipment: Direct vent (sealed)
Energy Factor: 0.620
Manufacturer: Bradford White
Model: PDX250

| | | | |
|------------------------|-------------|--------------------------------|----------|
| Tank Capacity = | 50.00 kWh | Tank Blanket Insulation | 0.00 R |
| Tank Location: | Basement | Flue Diameter | 0.00 RSI |
| Pilot Energy = | 0.00 (18 C) | | |

ANNUAL DOMESTIC WATER HEATING SUMMARY

| | |
|---|-----------|
| Daily Hot Water Consumption: | 59.44 kWh |
| Hot Water Temperature: | 131.00 °F |
| Estimated Domestic Water Heating Load: | 16 /m3 |
| Primary Domestic Water Heating Energy Consumption: | 25.99 /m3 |
| Primary System Seasonal Efficiency: | 63.37% |

ANNUAL SPACE HEATING SUMMARY

| | |
|--|-------------|
| Design Heat Loss at -29.20 °F (1.45 MJ / mm): | 47623.13 MJ |
| Gross Space Heat Loss: | 112.64 /m3 |
| Gross Space Heating Load: | 107.84 /m3 |
| Usable Internal Gains: | 26.24 /m3 |
| Usable Internal Gains Fraction: | 23.29 % |
| Usable Solar Gains: | 25.68 /m3 |
| Usable Solar Gains Fraction: | 22.80 % |

| | |
|---|-----------|
| Auxiliary Energy Required: | 55.93 /m3 |
| Space Heating System Load: | 55.93 /m3 |
| Furnace/Boiler Seasonal efficiency: | 97.64 % |
| Furnace/Boiler Annual Energy Consumption: | 56.62 /m3 |

BASE LOADS SUMMARY

| | kwh/day | Annual kWh |
|--------------------------------------|----------------|-------------------|
| Interior Lighting | 3.40 | 1241.00 |
| Appliances | 9.00 | 3285.00 |
| Other | 7.60 | 2774.00 |
| Exterior Use | 4.00 | 1460.00 |
| HVAC Fans | | |
| HRV/Exhaust | 1.49 | 544.89 |
| Space Heating | 0.53 | 193.86 |
| Space Cooling | 0.00 | 0.00 |
| Total Average Electrical Load | 26.02 | 9498.74 |

EnerGuide Energy Credits

| | |
|--------------------|----------------|
| Ventilation system | |
| Other Credits 1 | 420 kWh |
| Total | 827 kWh |

FAN OPERATION SUMMARY (kWh)

| Hours | HRV/Exhaust Fans | Space Heating | Space Cooling |
|--------------|-------------------------|----------------------|----------------------|
| Heating | 544.5 | 193.9 | 0.0 |
| Neither | 0.4 | 0.0 | 0.0 |
| Cooling | 0.0 | 0.0 | 0.0 |
| Total | 544.9 | 193.9 | 0.0 |

ENERGUIDE FOR HOUSES ENERGY CONSUMPTION SUMMARY REPORT

| | | |
|--|--------------------------|-----------------------|
| Estimated Annual Space Heating Energy Consumption | = 60437.95 MJ | = 16788.32 kWh |
| Ventilator Electrical Consumption: Heating Hours | = 1960.07 MJ | = 544.46 kWh |
| Estimated Annual DHW Heating Energy Consumption | = 27421.39 MJ | = 7617.05 kWh |
| ESTIMATED ANNUAL SPACE + DHW ENERGY CONSUMPTION | = 89819.41 MJ | = 24949.84 kWh |
| ENERGUIDE RATING (0 to 100) | 83 | |
| EnerGuide Required Ventilation Capacity | 125.32 RSI | |
| Estimated Greenhouse Gas Emissions | 9.088 tonnes/year | |

ESTIMATED ANNUAL FUEL CONSUMPTION SUMMARY

| Fuel | Space Heating | Space Cooling | DHW Heating | Appliance | Total |
|----------------------|---------------|---------------|-------------|-----------|---------|
| Natural Gas (Litres) | 56.62 | 0.00 | 25.99 | 0.00 | 82.61 |
| Electricity (m3) | 738.32 | 0.00 | 0.00 | 8760.42 | 9498.74 |

ESTIMATED ANNUAL FUEL CONSUMPTION COSTS

Fuel Costs Library = Embedded

| RATE | Electricity (Region 1) | Natural Gas (AB-North) | Oil (Oil) | Propane (Propane) | Wood (Wood) | Total |
|------|---------------------------|---------------------------|--------------|----------------------|----------------|---------|
| \$ | 1128.26 | 1064.58 | 0.00 | 0.00 | 0.00 | 2192.84 |

Fuel Costs Library Listing

Filename = Embedded

Record # 1 Fuel:
Electricity

Rate ID = Red Deer,
Region 1 Calgary

| Rate Block | Dollars | Charge |
|------------|---------|---------------|
| | kWhr | Per kWhr (\$) |
| Minimum | 0.0 | 17.240 |
| 1 | 99999.0 | 0.0970 |

Record # 2 Fuel:
Natural Gas

Rate ID = Ft.M, PcRv,
AB-North Edm,
Cmros,
RkyMt

| Rate Block | Dollars | Charge |
|------------|---------|-------------|
| | GJ | Per GJ (\$) |
| Minimum | 0.0 | 24.070 |

1 99999.0 8.9000

Record # 3 Fuel: Oil

Rate ID = Oil Rate
Oil Block

| | | | |
|------------|-------|-----------|--------|
| Rate Block | | Dollars | Charge |
| | Litre | Per Litre | (\$) |
| Minimum | 0.0 | | 10.000 |

1 99999.0 0.4055

Record # 4 Fuel: Propane

Rate ID = Propane
Propane Rate Block

| | | | |
|------------|-------|-----------|--------|
| Rate Block | | Dollars | Charge |
| | Litre | Per Litre | (\$) |
| Minimum | 0.0 | | 0.000 |

1 99999.0 0.4500

Record # 5 Fuel: Wood

Rate ID = Wood
Wood Cord Rate

| | | | |
|------------|------|----------|--------|
| Rate Block | | Dollars | Charge |
| | Cord | Per Cord | (\$) |
| Minimum | 0.0 | | 0.000 |

1 99999.0 210.0000

MONTHLY ENERGY PROFILE

| Month | Energy Load (/m3) | Internal Gains (/m3) | Solar Gains (/m3) | Aux. Energy (/m3) | HRV Eff. % |
|-------|-------------------|----------------------|-------------------|-------------------|------------|
| Jan | 17.7 | 2.5 | 2.3 | 12.9 | 69.9 |
| Feb | 14.5 | 2.2 | 3.1 | 9.2 | 69.7 |
| Mar | 12.9 | 2.5 | 4.4 | 6.0 | 69.4 |
| Apr | 8.3 | 2.4 | 3.4 | 2.5 | 69.3 |
| May | 5.2 | 2.5 | 2.5 | 0.2 | 0.0 |
| Jun | 2.0 | 1.5 | 0.5 | 0.0 | 0.0 |
| Jul | 1.4 | 1.3 | 0.2 | 0.0 | 0.0 |
| Aug | 2.0 | 1.6 | 0.5 | 0.0 | 0.0 |
| Sep | 5.2 | 2.4 | 2.2 | 0.6 | 0.0 |
| Oct | 8.7 | 2.5 | 2.5 | 3.8 | 69.3 |
| Nov | 13.2 | 2.4 | 2.3 | 8.5 | 69.4 |
| Dec | 16.6 | 2.5 | 1.9 | 12.2 | 69.7 |
| Ann | 107.8 | 26.2 | 25.7 | 55.9 | 69.5 |

FOUNDATION ENERGY PROFILE

| Month | Heat Loss (/m3) | | | | Total |
|-------|-----------------|------|----------|---------|-------|
| | Crawl Space | Slab | Basement | Walkout | |
| Jan | 0.0 | 0.0 | 2.1 | 0.0 | 2.1 |
| Feb | 0.0 | 0.0 | 1.5 | 0.0 | 1.5 |
| Mar | 0.0 | 0.0 | 1.0 | 0.0 | 1.0 |
| Apr | 0.0 | 0.0 | 0.4 | 0.0 | 0.4 |
| May | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Jun | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Jul | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Aug | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sep | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 |
| Oct | 0.0 | 0.0 | 0.6 | 0.0 | 0.6 |
| Nov | 0.0 | 0.0 | 1.4 | 0.0 | 1.4 |
| Dec | 0.0 | 0.0 | 1.9 | 0.0 | 1.9 |
| Ann | 0.0 | 0.0 | 8.9 | 0.0 | 8.9 |

FOUNDATION TEMPERATURES & VENTILATION PROFILE

| Month | Temperature (Deg °F) | | | Air Change Rate | | Heat Loss (/m3) |
|-------|----------------------|----------|---------|-----------------|-------|-----------------|
| | Crawl Space | Basement | Walkout | Natural | Total | |
| Jan | 0.0 | 66.0 | 0.0 | 0.107 | 0.300 | 4.4 |
| Feb | 0.0 | 66.1 | 0.0 | 0.099 | 0.300 | 3.5 |
| Mar | 0.0 | 66.7 | 0.0 | 0.086 | 0.300 | 2.9 |
| Apr | 0.0 | 66.7 | 0.0 | 0.067 | 0.300 | 1.6 |
| May | 0.0 | 67.9 | 0.0 | 0.053 | 0.058 | 0.5 |
| Jun | 0.0 | 69.2 | 0.0 | 0.041 | 0.045 | 0.3 |
| Jul | 0.0 | 69.7 | 0.0 | 0.032 | 0.037 | 0.2 |

| | | | | | | |
|-----|-----|------|-----|-------|-------|------|
| Aug | 0.0 | 68.8 | 0.0 | 0.034 | 0.039 | 0.2 |
| Sep | 0.0 | 66.5 | 0.0 | 0.050 | 0.055 | 0.5 |
| Oct | 0.0 | 65.9 | 0.0 | 0.066 | 0.300 | 1.7 |
| Nov | 0.0 | 66.0 | 0.0 | 0.088 | 0.300 | 3.0 |
| Dec | 0.0 | 66.0 | 0.0 | 0.102 | 0.300 | 4.0 |
| Ann | 0.0 | 67.1 | 0.0 | 0.069 | 0.194 | 22.7 |

SPACE HEATING SYSTEM PERFORMANCE

| Month | Space Heating Load (/m3) | Furnace Input (/m3) | Pilot Light (/m3) | Indoor Fans (/m3) | Heat Pump Input (/m3) | Total Input (/m3) | System Cop |
|-------|--------------------------|---------------------|-------------------|-------------------|-----------------------|-------------------|------------|
| Jan | 12.9 | 13.1 | 0.0 | 0.2 | 0.0 | 13.2 | 1.0 |
| Feb | 9.2 | 9.3 | 0.0 | 0.1 | 0.0 | 9.4 | 1.0 |
| Mar | 6.0 | 6.1 | 0.0 | 0.1 | 0.0 | 6.2 | 1.0 |
| Apr | 2.5 | 2.6 | 0.0 | 0.0 | 0.0 | 2.6 | 1.0 |
| May | 0.2 | 0.2 | 0.0 | 0.0 | 0.0 | 0.2 | 1.0 |
| Jun | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Jul | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Aug | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Sep | 0.6 | 0.6 | 0.0 | 0.0 | 0.0 | 0.6 | 1.0 |
| Oct | 3.8 | 3.8 | 0.0 | 0.0 | 0.0 | 3.8 | 1.0 |
| Nov | 8.5 | 8.7 | 0.0 | 0.1 | 0.0 | 8.8 | 1.0 |
| Dec | 12.2 | 12.3 | 0.0 | 0.1 | 0.0 | 12.4 | 1.0 |
| Ann | 55.9 | 56.6 | 0.0 | 0.7 | 0.0 | 57.3 | 1.0 |

MONTHLY ESTIMATED ENERGY CONSUMPTION BY DEVICE (Mil.BTU)

| Month | Space Heating | | DHW Heating | | Lights & Appliances | HRV & FANS | Air Conditioner |
|-------|---------------|-----------|-------------|-----------|---------------------|------------|-----------------|
| | Primary | Secondary | Primary | Secondary | | | |
| Jan | 13.076 | 0.000 | 2.288 | 0.000 | 2.539 | 0.400 | 0.000 |
| Feb | 9.285 | 0.000 | 2.077 | 0.000 | 2.293 | 0.340 | 0.000 |
| Mar | 6.106 | 0.000 | 2.283 | 0.000 | 2.539 | 0.346 | 0.000 |
| Apr | 2.567 | 0.000 | 2.178 | 0.000 | 2.457 | 0.319 | 0.000 |
| May | 0.215 | 0.000 | 2.198 | 0.000 | 2.539 | 0.003 | 0.000 |
| Jun | 0.000 | 0.000 | 2.095 | 0.000 | 2.457 | 0.000 | 0.000 |
| Jul | 0.000 | 0.000 | 2.132 | 0.000 | 2.539 | 0.000 | 0.000 |
| Aug | 0.000 | 0.000 | 2.120 | 0.000 | 2.539 | 0.000 | 0.000 |
| Sep | 0.611 | 0.000 | 2.061 | 0.000 | 2.457 | 0.007 | 0.000 |
| Oct | 3.805 | 0.000 | 2.167 | 0.000 | 2.539 | 0.345 | 0.000 |
| Nov | 8.653 | 0.000 | 2.139 | 0.000 | 2.457 | 0.364 | 0.000 |
| Dec | 12.306 | 0.000 | 2.255 | 0.000 | 2.539 | 0.398 | 0.000 |
| Ann | 56.623 | 0.000 | 25.990 | 0.000 | 29.890 | 2.521 | 0.000 |

ESTIMATED FUEL COSTS (Dollars)

| Month | Electricity | Natural Gas | Oil | Propane | Wood | Total |
|-------|-------------|-------------|------|---------|------|---------|
| Jan | 100.77 | 168.33 | 0.00 | 0.00 | 0.00 | 269.10 |
| Feb | 92.10 | 130.76 | 0.00 | 0.00 | 0.00 | 222.86 |
| Mar | 99.24 | 102.84 | 0.00 | 0.00 | 0.00 | 202.08 |
| Apr | 96.14 | 68.62 | 0.00 | 0.00 | 0.00 | 164.77 |
| May | 89.48 | 46.73 | 0.00 | 0.00 | 0.00 | 136.21 |
| Jun | 87.08 | 43.74 | 0.00 | 0.00 | 0.00 | 130.82 |
| Jul | 89.41 | 44.09 | 0.00 | 0.00 | 0.00 | 133.49 |
| Aug | 89.41 | 43.97 | 0.00 | 0.00 | 0.00 | 133.38 |
| Sep | 87.28 | 49.15 | 0.00 | 0.00 | 0.00 | 136.44 |
| Oct | 99.21 | 80.14 | 0.00 | 0.00 | 0.00 | 179.35 |
| Nov | 97.43 | 125.41 | 0.00 | 0.00 | 0.00 | 222.83 |
| Dec | 100.71 | 160.80 | 0.00 | 0.00 | 0.00 | 261.51 |
| Ann | 1128.26 | 1064.58 | 0.00 | 0.00 | 0.00 | 2192.84 |

The calculated heat losses and energy consumptions are only estimates, based upon the data entered and assumptions within the program. Actual energy consumption and heat losses will be influenced by construction practices, localized weather, equipment characteristics and the lifestyle of the occupants.