

## Analysis of Gas Usage at Stone Bank

September 12, 2023

The purpose of this analysis is to show that, even with the addition of three gas fireplaces, the project still uses far less gas than was allowed in the MVC decision for the project.

The project is permitted to have gas cooking and gas water heating. However some units have utilized electric ranges, electric water heaters and/or dual-fuel ranges (meaning the ovens are electric), resulting in less gas usage than is allowed by the decision. **This analysis measures the reduction in annual gas usage from what has been allowed, and compares it to the increase in annual usage caused by adding three gas fireplaces.** See following page for assumptions, methodology and calculations.

### Reductions:

Two Units use electric water heating	2 x 132 Therms/yr =	264 Therms/yr
Three Units use electric cooking	3 x 146 Therms/yr =	438 Therms/yr
Four Units use dual fuel ranges	4 x 62 Therms/yr =	<u>248 Therms/yr</u>

Total reduction **950 Therms/yr**

### Increases:

Three Units use gas fireplaces	3 x 108 Therms/yr =	<b>324 Therms/yr</b>
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### Net Usage Reduction:

**626 Therms/yr**

### Conclusion:

There is a significant reduction in the gas usage allowed by the MVC decision. Accordingly the energy goals of the project are still met with room to spare.



## **Facts and Assumptions**

### **Range Tops:**

The typical unit has a 30" Bosch 5-burner slide-in range. The burners use between 5,000 and 48,000 BTU depending on size. Assuming two burners using an average of 10,000 BTU for two hours per day = 40,000 BTU per day, or 0.4 Therms/day\*

$$0.4 \text{ Therms} \times 365 \text{ days} = 146 \text{ Therms/Year}$$

### **Ovens:**

A 30" Bosch Gas Oven uses 17,000 BTU. Assuming use for one hour per day = 0.17 Therms/day

$$0.17 \text{ Therms/day} \times 365 \text{ days} = 62 \text{ Therms/Year}$$

### **Water Heaters:**

The typical unit uses a Rinnai RL 94 tankless gas water heater. According to AttainableHome.com the average 2 bedroom home uses 11 Therms per month.

$$11 \text{ Therms} \times 12 \text{ months} = 132 \text{ Therms/Year}$$

### **Gas Fireplaces:**

The typical unit will use a 16" Peterson Fyre G45 gas burner. This produces a maximum of 50,000 BTU. Assume a medium usage of 30,000 BTU or 0.3 Therms, for 3 hours per day for four months of the year.

$$0.3 \text{ Therms} \times 3 \text{ hours/day} \times 120 \text{ days} = 108 \text{ Therms/Year}$$

\*One Therm = 100,000 BTU and is equivalent to One Gallon of Gas



### Stone Bank Residential Units Fireplaces and Gas Appliances

There are 9 residential units in the project. As approved all units were to have gas cooking and hot water. Four units were to have wood burning fireplaces.

As built only six of the units have gas cooking only seven have gas hot water, a reduction of five gas appliances. As built there are three additional gas fireplaces, an addition of three gas appliances.

Unit	Fireplace Status	Fireplace Fuel	Cooking Fuel	Hot Water Fuel
2 Union Court B (R-11)	None	NA	Electric	Electric
2 Union Court C (R-10)	None	NA	Electric	Electric
2 Union Court D (R-12)	Not on Plans	Gas	Gas	Gas
8 Union Court B (R-9)	Not on Plans	Gas	Gas	Gas
16 Union Court D (R-3)	Not on Plans	Wood	Gas	Gas
20 Union Court C (R-4)	On Plans	Wood	Gas	Gas
20 Union Court D (R-5)	On Plans	Wood	Electric	Gas
26 Union Court (R-7)	On Plans	Gas	Gas	Gas
30 Union Court (R-8)	On Plans	Wood	Gas	Gas



# 30" Dual Fuel Slide-in Range

Benchmark® Series – Stainless Steel HDIP056U



**HDIP056U**  
Stainless Steel

The full-depth dual fuel slide-in range fits into any freestanding range cutout, and offers a powerful dual-stacked burner.

## Features & Benefits

Genuine European Convection for even baking results on multiple racks.

Powerful 20,000 BTU dual-stacked center burner designed for faster boiling and low simmer.

Dampened hinges softly and quietly guide the QuietClose® door shut.

A full-extension telescopic rack offers safe access to the oven cavity.

The warming drawer keeps everything you cook warm and ready to serve.

## General Properties

Cooking modes	Bake, Variable Broil (hi & low), Roast, Warm, Proof Dough, Convection Bake, Convection Broil, Convection Roast, Multi-Rack Genuine European Convection, Convection Conversion, Pizza, Temperature Probe, Fast Preheat, Sabbath
Cleaning type	Self clean
Type of grate	Cast iron
Knob material	Metal
Interior light	2
Kitchen timer	Yes
Drawer type	Warming drawer
Sealed burners	Yes

## Oven Performance

Bake / broil element watts (W)	2,400 / 3,800 W
Convection element watts (W)	2,000 W

## Burner Performance

Total cooktop burners	5
Total cooktop (NG / LP) BTU	55,000 / 48,500
Power of front left burner (NG / LP) BTU	10,000 / 8,000
Power of back left burner (NG / LP) BTU	5,000 / 5,000
Power of center burner (NG / LP) BTU	20,000 / 17,000
Power of back right burner (NG / LP) BTU	5,000 / 5,000
Power of front right burner (NG / LP) BTU	15,000 / 13,500

## Technical Details

Watts (W)	4,800 / 6,400 W
Circuit breaker (A)	30 A
Volts (V)	208 V / 240 V
Frequency (Hz)	60 Hz
Plug type	N/A
Energy source	Mixed Electric / Gas
Gas type	Natural gas 15 mbar (USA)
Alternative gas type	LP 27.5 mbar (USA)

## Dimensions & Weight

Overall appliance dimensions (HxWxD)(in.)	36 1/2"-38" x 31 1/2" x 28 7/8"
Required cutout size (HxWxD)(in.)	35 1/2"-37" x 30" x 25"
Adjustable range height (in.)	1 1/2"
Oven cavity size (cu. ft.)	4.6
Overall oven interior dimensions (HxWxD)(in.)	17 13/16" x 24 1/8" x 18"
Usable oven interior dimensions (HxWxD)(in.)	12 5/16" x 23 1/4" x 15 1/4"
Net weight (lbs)	227 lbs

## Accessories—Included

Use and care manual, installation guide, temperature probe, LP conversion kit, 2 standard racks, 1 telescopic rack

## Accessories—Optional



**HEZ298102**  
Wok ring



**HEZGR301**  
Griddle



**HDZIT301**  
Island Trim  
(stainless steel)



**HDZBS301**  
4" Low backguard  
(stainless steel)



**Accessories:** To purchase Bosch accessories, cleaners & parts please visit [www.bosch-home.com/us/store](http://www.bosch-home.com/us/store) or call 1-800-944-2904 (Mon to Fri 5 am to 6 pm PST, Sat 6 am to 3 pm PST).  
**Notes:** All height, width and depth dimensions are shown in inches. BSH reserves the absolute and unrestricted right to change product materials and specifications, at any time, without notice. Consult the product's installation instructions for final dimensional data and other details prior to making cutout.  
**Warranties:** Please see Use & Care manual or Bosch website for statement of limited warranty.

For more information on our entire line of products, go to [www.bosch-home.com/us](http://www.bosch-home.com/us) or call 1-800-944-2904

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# 30" Industrial Style Gas Range

800 Series – Stainless Steel HGS8055UC



**HGS8055UC**  
Stainless Steel

Also available in:

Black HGS8045UC  
Stainless Steel

**First 30" Bosch Industrial Style Range with double ring burner.**

## Features & Benefits

Powerful 18,000 BTU double ring burner speeds cooking time.

Dishwasher safe grates for easy cleaning.

Dampened hinges softly guide the QuietClose® door shut so the oven door never slams.

Heavy-duty metal knobs for a premium look and feel.

Continuous grate design to easily move heavy pots and pans.

## General Properties

Cooking modes	Bake, Convection Bake, Broil
Cleaning type	Catalytic clean coating
Type of grate	Cast iron
Knob material	Metal
Interior light	1
Kitchen timer	Yes
Sealed burners	Yes

## Oven Performance

Bake / broil burner power BTU	17,000 / 11,500 BTU
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## Burner Performance

Total cooktop burners	5
Total cooktop (NG / LP) BTU	48,000 / 48,000 BTU
Power of front left burner (NG / LP) BTU	5,000 / 5,000
Power of back left burner (NG / LP) BTU	10,000 / 10,000
Power of center burner (NG / LP) BTU	18,000 / 18,000
Power of back right burner (NG / LP) BTU	5,000 / 5,000
Power of front right burner (NG / LP) BTU	10,000 / 10,000

## Technical Details

Circuit breaker (A)	15 A
Volts (V)	120 V
Frequency (Hz)	60 Hz
Plug type	US 3-prong
Cord length (in.)	60" with plug
Energy source	Gas
Gas type	Natural gas 14.9 mbar (USA) [7" WC]
Alternative gas type	LP 27.4 mbar (USA)[11" WC]

## Dimensions & Weight

Overall appliance dimensions (HxWxD)(in.)	36" x 29 15/16" x 24 15/16" (26 1/2" with bull nose)
Required cutout size (HxWxD)(in.)	36" x 30" x 25"
Adjustable range height (in.)	35 3/8" Min. 36 5/8" Max.
Oven cavity size (cu. ft.)	3.6
Overall oven interior dimensions (HxWxD)(in.)	17 3/8" x 24 1/3" x 18 3/8"
Usable oven interior dimensions (HxWxD)(in.)	17" x 24 3/16" x 17 5/32"
Net weight (lbs)	193 lbs

## Accessories—Included

Use and care manual, installation guide, LP conversion kit, 2 standard racks

## Accessories—Optional



**HEZ9GR41UC**  
Griddle



**HEZ9GW23UC**  
Wok Ring



**HEZ9YZ30UC**  
30" Low Backguard  
Stainless Steel



**HEZ9ZZ30UC**  
30" Rear Vent Trim Extension  
Stainless Steel



**HEZ9YZ04UC**  
Side Panel Extension Kit  
Stainless Steel



**HEZ9TK30UC**  
30" Range Toe Kick  
Stainless Steel



**HEZ9LLUC**  
Metal Pedestal Feet, Set of 4  
Stainless Steel



**Accessories:** To purchase Bosch accessories, cleaners & parts please visit [www.bosch-home.com/us/store](http://www.bosch-home.com/us/store) or call 1-800-944-2904 (Mon to Fri 5 am to 6 pm PST, Sat 6 am to 3 pm PST).  
**Notes:** All height, width and depth dimensions are shown in inches. BSH reserves the absolute and unrestricted right to change product materials and specifications, at any time, without notice. Consult the product's installation instructions for final dimensional data and other details prior to making cutout.  
**Warranties:** Please see Use & Care manual or Bosch website for statement of limited warranty.

**For more information on our entire line of products, go to [www.bosch-home.com/us](http://www.bosch-home.com/us) or call 1-800-944-2904**

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**Type of Appliance**

- Temperature controlled, continuous flow, gas hot water system
- Certified for installation in manufactured (mobile) homes
- Forced combustion / Direct vent
- Energy Star qualified

**Rinnai Model Number**

REU-VC2837FFUD-US

**Minimum/Maximum Gas Rate (Input)**

10,300 - 199,000 BTU/h

**Electrical**

Appliance: AC 120 Volts - 60 Hz  
 Controller: DC 12 Volts

**Electrical Consumption**

Normal: 97 w Standby: 2 w Anti-frost protection: 120 w

**Ignition System**

Direct electronic ignition

**Hot Water Capacity**

Minimum flow rate: 0.26 GPM  
 Minimum activation flow rate: 0.4 GPM  
 Maximum flow rate: 9.8 GPM

**Temperature**

98° - 120° F (factory default) Maximum temperature is selectable at 120° F or at 140° F; 98° - 185° F available with the MCC-91-2 controller for commercial and hydronic applications

**Temperature (without remote)**

120° F (factory default) or 140° F

**Installation**

Indoor only

**Energy Factor**

Natural Gas: 0.82 Propane: 0.82

**Service Connections**

Gas supply: 3/4 inch MNPT Cold water inlet: 3/4 inch MNPT  
 Hot water outlet: 3/4 inch MNPT

**Isolation & Pressure Relief Valves Included**

Heavy duty forged brass Webstone Isolator valves EXP E2, certified to NSF/ANSI 61-8 for potable water

**Water Flow Control**

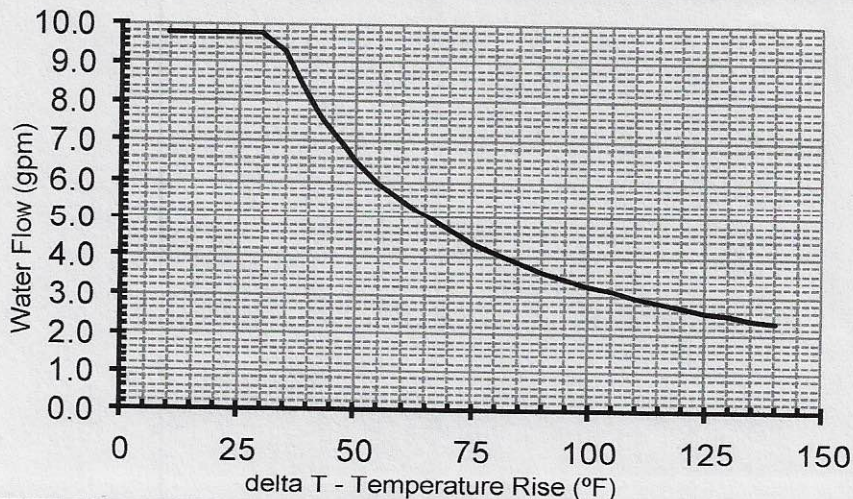
Water flow sensor, electronic water control device and by-pass

**Minimum/Maximum Water Supply Pressure**

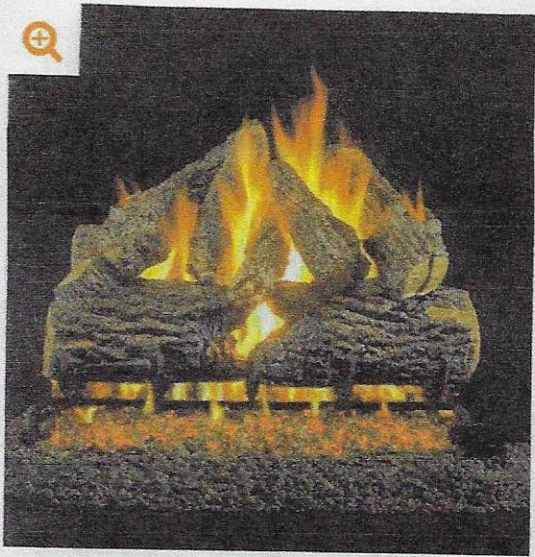
20 - 150 PSI (recommended 30-80 PSI for maximum performance)

*Rinnai is continually updating and improving products; therefore, specifications are subject to change without prior notice. Local, state, provincial and federal codes must be adhered to prior to installation.*

**FLOW TABLE**







# Peterson Real Fyre Charred Oak Vented Gas Log Set

by *Real Fyre*

Item # M25400169

★★★★★ (43) [Reviews](#) | [FAQs](#)

BUILD YOUR PRODUCT:

1. Fuel Type \*

[Need help?](#)

Natural Gas

Propane  
+\$186.30



2. **Hearth Kit \***  
The industry's leading  
fire knowledge base



**Free Ground Shipping**  
on this product

3. Ignition \*

[LEARN MORE ONLINE](#)

[HOW SHIPPING WORKS](#)

4. Size \*

5. Accessories

Configure product for shipping information

**FREE** Ground Shipping

**\$578.70** QTY -  +

**CONFIGURE TO PURCHASE**



SHARE:



NFI Certified Experts  
on staff to assist you

[CALL: 888.317.4380](tel:888.317.4380)



## PRODUCT DETAILS

Bring the beauty of nature to your home with the **PETERSON REAL FYRE CHARRED OAK VENTED GAS LOG SET!** Crafted from real wood samples to meticulously recreate the look of a real wood burning fire, the Charred Oak Log Set will add a beautiful accent to your hearth with its rustic details. Each burner kit comes complete with your choice of burner style and ignition system, a custom grate, sand or vermiculite, burner clips, damper clamp, and connector kit. The gas line will connect to the hearth kit on the right side of the unit, but the burner can also accommodate a left-hand gas inlet with the purchase of a flex line.

**PETERSON REAL FYRE CHARRED OAK VENTED GAS LOGS** are constructed of superior refractory ceramics to ensure they retain their strength, even at high temperatures. Steel reinforcement rods are inserted into each log to maximize durability and prevent cracking over time. Due to their ceramic construction, Charred Oak Vented Gas Logs will provide you with plenty of radiant heat during use, and long after the fire has been turned off.

### FEATURES:

- Realistic Charred Oak appearance
- Crafted from superior refractory ceramics
- Available in 16", 18", 19", 24", and 30" sizes
- Compatible with Natural Gas and Liquid Propane
- Choose between three burner styles and four ignition systems
- Gas line connects to the right side of the unit. For left-hand gas inlet, you'll need to purchase a flex line

**PLEASE NOTE: FINAL PRODUCT APPEARANCE MAY BE DIFFERENT DEPENDING ON LOG SET SIZE.**



Eligible for a Product Warranty  
[Read the Details >](#)

### SPECIFICATIONS

Type: Gas Log Set	Log Set Width: 16"   18"   19"   24"   30"	Location: Indoor
Fuel Type: Natural Gas   Propane	Ignition: Electronic   Manual Safety Pilot   Match Lit	Material: Refractory Cement
Style: Charred Oak	Venting Type: Vented	Heat Output: 50,000 BTUs   65,000 BTUs   75,000 BTUs   90,000 BTUs
Overall Width: 16"   18"   19"   24"   30"		Overall Depth: 11"   14"   15"