

# Home Energy Rating Certificate

## Final Report

Rating Date: 01/31/18  
 Registry ID: 388612160  
 Rating Number: 388612160



### HERS® Index Score:

# 39

Your home's HERS score is a relative performance score. The lower the number, the more energy efficient the home. To learn more, visit [www.hersindex.com](http://www.hersindex.com)

### Annual Savings

# \$4,775

\*Relative to an average U.S. home

### Home:

6936 E Archer Pl, Denver, CO

### Builder:

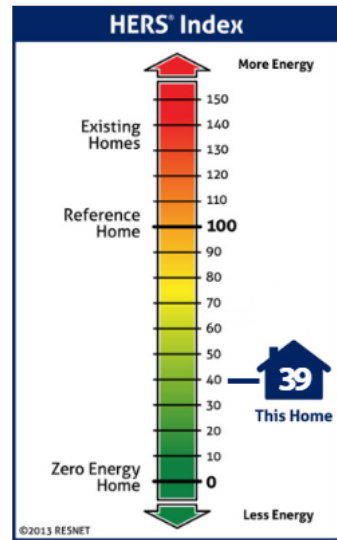
Latsis Custom Homes

### Your Home's Estimated Energy Use:

	Use [MBtu]	Annual Cost
Heating	20.7	\$736
Cooling	2.5	\$89
Hot Water	11.4	\$107
Lights/Appliances	40.2	\$1,344
Service Charges		\$0
Generation (e.g. Solar)	0.0	-\$0
<b>Total:</b>	<b>74.8</b>	<b>\$2,276</b>

### This home meets or exceeds the criteria of the following:

- Energy Star v3
- Energy Star v3.1
- 2009 International Energy Conservation Code



### Home Feature Summary:

- Home Type: Single family detached
- Conditioned Floor Area: 5,920 sq. ft.
- Number of Bedrooms: 4
- Primary Heating System: Ground Source Heat Pump • Electric • 3.8 COP
- Primary Cooling System: Ground Source Heat Pump • Electric • 18 EER
- Primary Water Heating: Water Heater • Natural Gas • 0.97 Energy Factor
- House Tightness: 1675 CFM50 (1.5 ACH50)
- Duct Leakage to Outside: 33 CFM25
- Above Grade Walls: R-23
- Ceiling: Attic, R-50
- Window Type: U-Value: 0.270, SHGC: 0.330
- Foundation Walls: R-19

### Rating Completed by:

**Energy Rater:** Aaryn Jackson  
 RESNET ID: 9064830

**Rating Company:** EnergyLogic  
 PO Box N Berthoud, CO 80513  
 (970) 556-0839

**Rating Provider:** EnergyLogic  
 PO Box N Berthoud, CO 80513  
 (970) 556-0839



Aaryn Jackson, Certified Energy Rater



Ekotrope RATER - Version: 2.2.3.1861

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

This report does not constitute any warranty or guarantee.



# ENERGY STAR® CERTIFIED NEW HOME

ENERGY STAR

**Builder Name:** Latsis Custom Homes  
**Permit Date/Number:**  
**Home Address** 6936 E Archer Pl  
Denver, CO

**Rating Company:** EnergyLogic  
**Rater ID (RTIN):** 9064830  
**Rating Date:** 01/31/18  
**Version:** 3.0

## Standard Features of an ENERGY STAR Certified New Home

Your ENERGY STAR certified new home has been designed, constructed, and independently verified to meet rigorous requirements for energy efficiency set by the U.S. Environmental Protection Agency (EPA), including:

### Thermal Enclosure System

A complete thermal enclosure system that includes comprehensive air sealing, quality-installed insulation and high-performing windows to deliver improved comfort and lower utility bills.



Air Infiltration Test: **1675 CFM50 (1.5 ACH50)**

Primary Insulation Levels:

**Ceiling: R-50**      **Floor: R-50**  
**Wall: R-23**      **Slab: R-0**

Primary Window Efficiency:

**U-Value: 0.27**      **SHGC: 0.33**

### Water Management System

A comprehensive water management system to protect roofs, walls, and foundations.



Flashing, a drainage plane, and site grading to move water from the roof to the ground and then away from the home.

Water-resistant materials on below-grade walls and underneath slabs to reduce the potential for water entering into the home.

Management of moisture levels in building materials during construction.

### Heating, Cooling, and Ventilation System

A high-efficiency heating, cooling system, and ventilation system that is designed and installed for optimal performance.



Total Duct Leakage:      Duct Leakage to Outdoors:  
**218 CFM25 Post-Construction**      **33 CFM25**

Primary Heating (System Type • Fuel Type • Efficiency):  
**Ground Source Heat Pump • Electric • 3.8 COP**

Primary Cooling (System Type • Fuel Type • Efficiency):  
**Ground Source Heat Pump • Electric • 18 EER**

### Energy Efficient Lighting and Appliances

Energy efficient products to help reduce utility bills, while providing high-quality performance.



ENERGY STAR Qualified Lighting: **87%**

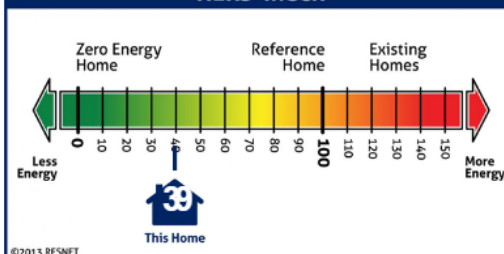
ENERGY STAR Qualified Appliances and Fans:

**Refrigerators: 2**      **Dishwashers: 1**  
**Ceiling Fans: 2**      **Exhaust Fans: 5**

Primary Water Heater (System Type • Fuel Type • Efficiency):

**Water Heater • Natural Gas • 0.97 Energy Factor**

### HERS® Index



This certificate provides a summary of the major energy efficiency and other construction features that contribute to this home earning the ENERGY STAR, including its Home Energy Rating System (HERS) score, as determined through independent inspection and verification performed by a trained professional. The Home Energy Rating System is a nationally-recognized uniform measurement of the energy efficiency of homes.

Note that when a home contains multiple performance levels for a particular feature (e.g., window efficiency or insulation levels), the predominant value is shown. Also, homes may be certified to earn the ENERGY STAR using a sampling protocol, whereby one home is randomly selected from a set of homes for representative inspections and testing. In such cases, the features found in each home within the set are intended to meet or exceed the values presented on this certificate. The actual values for your home may differ, but offer equivalent or better performance. This certificate was printed using Ekotrope™ (Version 2.2.3.1881).

Learn more at [www.energystar.gov/homefeatures](http://www.energystar.gov/homefeatures)

# IECC 2009 Performance Compliance



**Property**  
Latsis Custom Homes  
6936 E Archer Pl  
Denver, CO 80230

**Organization**  
EnergyLogic  
970-230-0630  
Aaryn Jackson

**Inspection Status**  
01/31/18  
Rater ID (RTIN): 9064830  
RESNET Confirmed

EKO Reports  
6936 E Archer Pl Latsis Custom Hon

**Builder**  
Latsis Custom Homes

## Annual Energy Cost

Design	IECC 2009 Performance	As Designed
Heating	\$1,348	\$724
Cooling	\$219	\$142
Water Heating	\$174	\$174
<b>SubTotal - Used to determine compliance</b>	<b>\$1,741</b>	<b>\$1,039</b>
Lights & Appliances	\$1,217	\$1,188
Onsite generation	\$0	\$0
<b>Total</b>	<b>\$2,958</b>	<b>\$2,227</b>

**405.3**  
Performance-based compliance passes by 40.3%



**402.4.2.1**  
Air Leakage Testing



**402.5**  
Area-weighted average fenestration SHGC



**402.5**  
Area-weighted average fenestration U-Factor



**403.2.2**  
Duct Testing



**Mandatory Checklist**



**Design exceeds requirements for IECC 2009 Performance compliance by 40.3%.**

Name: Aaryn Jackson

Organization: EnergyLogic

Signature:

Date: Feb 13, 2018

# 6936 E Archer Pl

Denver, CO 80230

Latsis Custom Homes


**THIS HOME IS CERTIFIED TO MEET THE  
2009 INTERNATIONAL ENERGY CONSERVATION CODE**

## Building Features

Ceiling Attic, R-50	Duct Supply R-0.0, Return R-0.0
Above Grade Walls R-23	Duct Leakage to Outside 33.0 CFM @ 25 Pa
Foundation Walls R-19	Total Duct Leakage 218.0 CFM @ 25 Pa
Framed Floor R-50	Heating Ground Source Heat Pump • Electric • 3.8 COP
Slab R-0.0 Perimeter, R-0.0 Under	Cooling Ground Source Heat Pump • Electric • 18 EER
Infiltration 1675 CFM50 (1.5 ACH50)	Water Heating Water Heater • Natural Gas • 0.97 Energy Factor
Window U-Value: 0.27 SHGC: 0.33	

The organization below certifies that the proposed building design described herein is consistent with the building plans, specifications, and other calculations submitted with the permit application. The proposed building has been designed to meet the 2009 IECC requirements in compliance with Chapter 4 based on Climate Zone 5 and with all mandatory requirements.

Name: Aaryn Jackson  
Organization: EnergyLogic

Signature:   
Date: Feb 13, 2018

Ekotrope RATER - Version 2.2.3.1861

No version of this software has been reviewed or approved by ICC or its affiliates.  
The 2009 International Energy Conservation Code is a registered trademark of the International Code Council, Inc. (ICC).  
This software is a RESNET Accredited HERS Rating Tool.

## IECC 2009 Label

*6936 E Archer Pl*

HERS® Index Score: 39

### Building Envelope Specs

Ceiling: R-50

Above Grade Walls: R-23

Foundation Walls: R-19

Exposed Floor: R-50

Slab: R-0

Infiltration: 1675 CFM50 (1.5 ACH50)

Duct Insulation: R-0

Duct Leakage: 33 CFM25

### Window & Door Specs

Window: U = 0.270, SHGC = 0.330

Door: R-7

### Mechanical Equipment Specs

Heating: Ground Source Heat Pump • Electric •  
3.8 COP

Cooling: Ground Source Heat Pump • Electric • 18  
EER

Hot Water: Water Heater • Natural Gas • 0.97

Energy Factor

### Builder or Design Professional

Signature: \_\_\_\_\_



# 2005 EAct Energy Efficient Home Tax Credit (13-001)

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6936 E Archer Pl  
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**Organization**

EnergyLogic  
970-230-0630  
Aaryn Jackson

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6936 E Archer Pl Latsis Custom Hon

**Builder**

Latsis Custom Homes

## RESNET Confirmed Rating.

**Normalized Modified End-Use Loads (MBtu / year)**

Category	2006 IECC 50%	As Designed
	Target	
Heating	60.4	27.9
Cooling	10.2	7.2
<b>Total</b>	<b>70.6</b>	<b>35.1</b>

**Envelope Loads (MBtu / year)**

Category	2006 IECC	As Designed
	90% Target	
Heating	108.8	70.2
Cooling	18.4	13.7
<b>Total</b>	<b>127.2</b>	<b>83.9</b>

**Building Features**

Ceiling U: 0.020  
Wall U: 0.054  
Framed Floor U: 0.024  
Slab R: 0.0  
Window U: 0.270

Window Combined SHGC: 0.2  
Heating System: COP = 3.8  
Cooling System: EER = 18  
Duct Leakage to Outside: 33.0 CFM25

This home meets the requirements for the residential energy efficiency tax credit under section 1332, Credit for Construction of New Energy Efficient Homes, of the Energy Policy Act of 2005. This tax credit has been extended through the year 2017.

Name: Aaryn Jackson

Organization: EnergyLogic

Signature: 

Date: Feb 13, 2018

# Air Leakage Report

**Property**

Latsis Custom Homes  
6936 E Archer Pl  
Denver, CO 80230

**Organization**

EnergyLogic  
970-230-0630  
Aaryn Jackson

**Inspection Status**

01/31/18  
Rater ID (RTIN): 9064830  
RESNET Confirmed

**EKO Reports**

6936 E Archer Pl Latsis Custom Hon

**Builder**

Latsis Custom Homes

## Air Leakage

Measurement Unit	CFM at 50 Pa
Measured Infiltration	1675
ACH50 (Calculated)	1.5
ELA [sq. in.] (Calculated)	92.1
CFM50 (Calculated)	1675

## Duct Leakage

Number of Duct Systems	1 System(s)
Leakage to Outdoors [CFM @ 25 Pa]	33.0
Leakage to Outdoors [CFM25 / 100 s.f.]	0.6
Leakage to Outdoors [CFM25 / CFA]	0.006
Total Leakage Test Type	Post-Construction
Total Leakage [CFM @ 25 Pa]	218.0
Total Leakage [CFM25 / 100 s.f.]	3.7
Total Leakage [CFM25 / CFA]	0.037

## Mechanical Ventilation

Rate [CFM]	133.0
Hours per day	8.0
Fan Watts	37.0
Recovery Efficiency %	70.0
Runs at least once every 3 hrs?	true
Average Rate [CFM]	44.3
2010 ASHRAE 62.2 Req. Cont. Ventilation	96.7

# RESNET HOME ENERGY RATING Standard Disclosure



For home(s) located at: 6936 E Archer Pl , Denver, CO

Check the applicable disclosure(s) in accordance with the instructions on the reverse of this page:

- 1. The Rater or the Rater's employer is receiving a fee for providing the rating on this home.
- 2. In addition to the rating, the Rater or Rater's employer has also provided the following consulting services for this home:

- A. Mechanical system design
- B. Moisture control or indoor air quality consulting
- C. Performance testing and/or commissioning other than required for the rating itself
- D. Training for sales or construction personnel
- E. Other(specify)

- 3. The Rater of the Rater's employee is:
  - A. The seller of this home or their agent
  - B. The mortgagor for some portion of the financed payments on this home
  - C. An employee, contractor, or consultant of the electric and/or natural gas utility serving this home

<input type="checkbox"/> 4. The Rater or Rater's employer is a supplier or installer of products, which may include:			
Products	Installed in this home by	OR is in the business of	
HVAC systems	<input type="checkbox"/> Rater <input type="checkbox"/> Employer	<input type="checkbox"/> Rater	<input type="checkbox"/> Employer
Thermal insulation systems	<input type="checkbox"/> Rater <input type="checkbox"/> Employer	<input type="checkbox"/> Rater	<input type="checkbox"/> Employer
Air sealing of envelope or duct systems	<input type="checkbox"/> Rater <input type="checkbox"/> Employer	<input type="checkbox"/> Rater	<input type="checkbox"/> Employer
Energy efficient appliances	<input type="checkbox"/> Rater <input type="checkbox"/> Employer	<input type="checkbox"/> Rater	<input type="checkbox"/> Employer
Construction (builder, developer, construction contractor, etc)	<input type="checkbox"/> Rater <input type="checkbox"/> Employer	<input type="checkbox"/> Rater	<input type="checkbox"/> Employer
Other (specify): <input type="text"/>	<input type="checkbox"/> Rater <input type="checkbox"/> Employer	<input type="checkbox"/> Rater	<input type="checkbox"/> Employer

- 5. This home has been verified under the provisions of Chapter 6, Section 603 "Technical Requirements for Sampling" of the Mortgage Industry National Home Energy Rating Standard as set forth by the Residential Energy Services Network (RESNET). Rater Certification #: 9064830

Name: Aaryn Jackson

Signature:

Organization: EnergyLogic

Date: Feb 13, 2018

I attest that the above information is true and correct to the best of my knowledge. As a Rater or Rating Provider I abide by the rating quality control provisions of the Mortgage Industry National Home Energy Rating Standard as set forth by the Residential Energy Services Network(RESNET). The national rating quality control provisions of the rating standard are contained in Chapter One 4.C.8. of the standard and are posted at [http://resnet.us/standards/RESNET\\_Mortgage\\_Industry\\_National\\_HERS\\_Standards.pdf](http://resnet.us/standards/RESNET_Mortgage_Industry_National_HERS_Standards.pdf)

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