

Prepared For:

SAMPLE

Conducted By:

SAMPLE

Test Period:

11/2/17 – 11/8/17

Monitor ID:

#XX148

Report ID:

#279XXX

This report offers recommendations so you can make informed decisions about the health, comfort and safety your building provides. Knowing what's in the air you breathe and what you can do about it has never been more important. If you have additional questions, please visit www.airadvice.com

HEALTH



Action
Necessary

Particle Allergens, Chemical Pollutants, Carbon Dioxide

Particle Allergens:

Levels are acceptable

Chemical Pollutants:

Levels are significantly elevated

Carbon Dioxide:

Stale air

- Inadequate fresh air introduction
- Build-up of chemical pollutants

- Upgrade ventilation
- Add VOC reduction device
- Remove VOC sources

COMFORT



Action
Necessary

Temperature Relative Humidity

Temperature:

Too cool

Relative Humidity:

Too moist

- Inadequate temperature setpoint or inadequate thermostat
- Inadequate dehumidification
- Setpoints out of alignment

- Check thermostat for proper setpoint and function
- Add ventilation

SAFETY



No Action
Necessary

Carbon Monoxide

Carbon Monoxide:

Levels are acceptable

- None

- No action necessary

What We Tested

What We Found

Possible Causes

Recommended Action

The Outdoor Environment

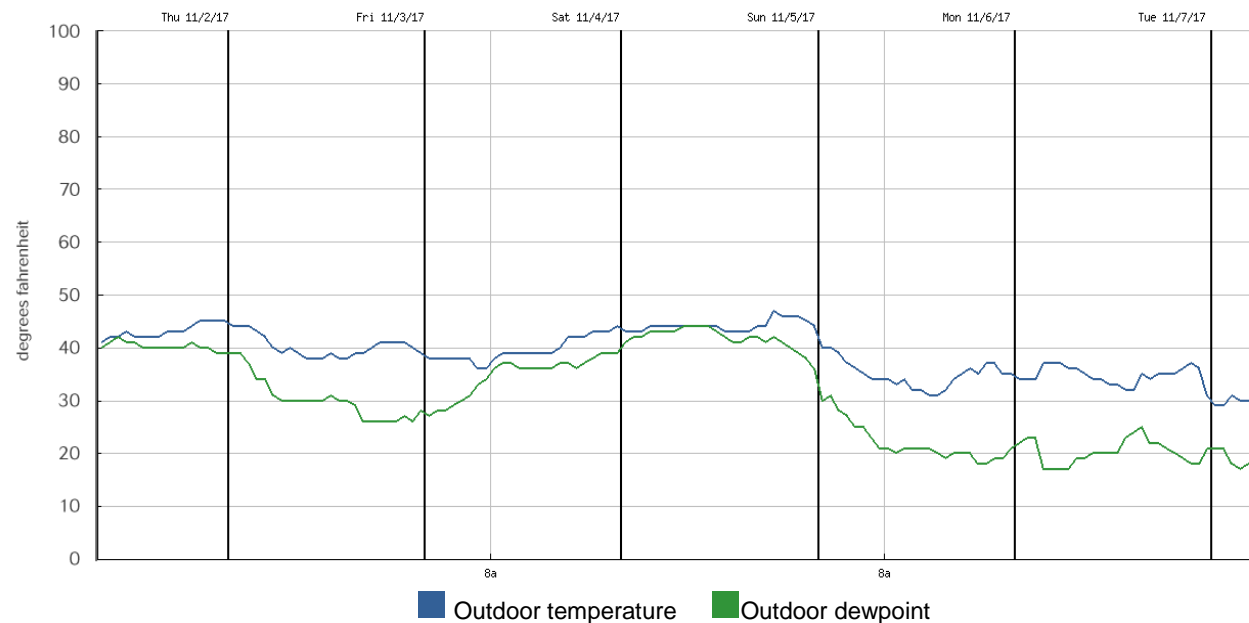
Outdoor Weather

THE ENVIRONMENT

The Outdoor Environment plays a key role in what happens in the indoor environment. For instance, the outdoor air rating provided by the ALA is a C or worse grade, a good particulate filter on your home's fresh air source would help to improve the overall levels of particulates in the home. The outdoor weather illustrates how temperature and dew point can affect the indoor temperature and relative humidity. A dew point in the range of 40 to 60 oF is ideal to maintain the optimum comfort range for relative humidity (RH) inside. A dew point above 60 oF outside would require some amount of dehumidification to maintain the optimum comfort range.

Sources: www.epa.gov and www.ashrae.com

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YOUR OUTDOOR AIR RATING*

Outdoor Air Quality Rating for:
Door County*

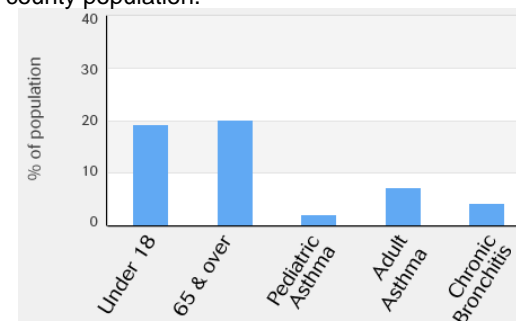
Not Enough
Data for
Your County

The American Lung Association rates each county for its outdoor air quality on a scale from 'A – F', with 'A' being the best. Outdoor air pollution varies based on city density, local industrial sources, climate, and time of year. When considering air quality, remember that outdoor air quality affects indoor quality.

* As determined by the American Lung Association®, ALA State of the Air Report 2008 (www.lungusa.org).

At Risk Groups

The following chart shows percentage of sensitive people at risk in your area (by risk group) based on total county population.




A healthy home starts here™

Health: Chemical Pollutants

TEST RESULTS

What We Found: Chemical pollutant levels were above 3000 ug/m³ for one or more days.

**Action
Necessary**

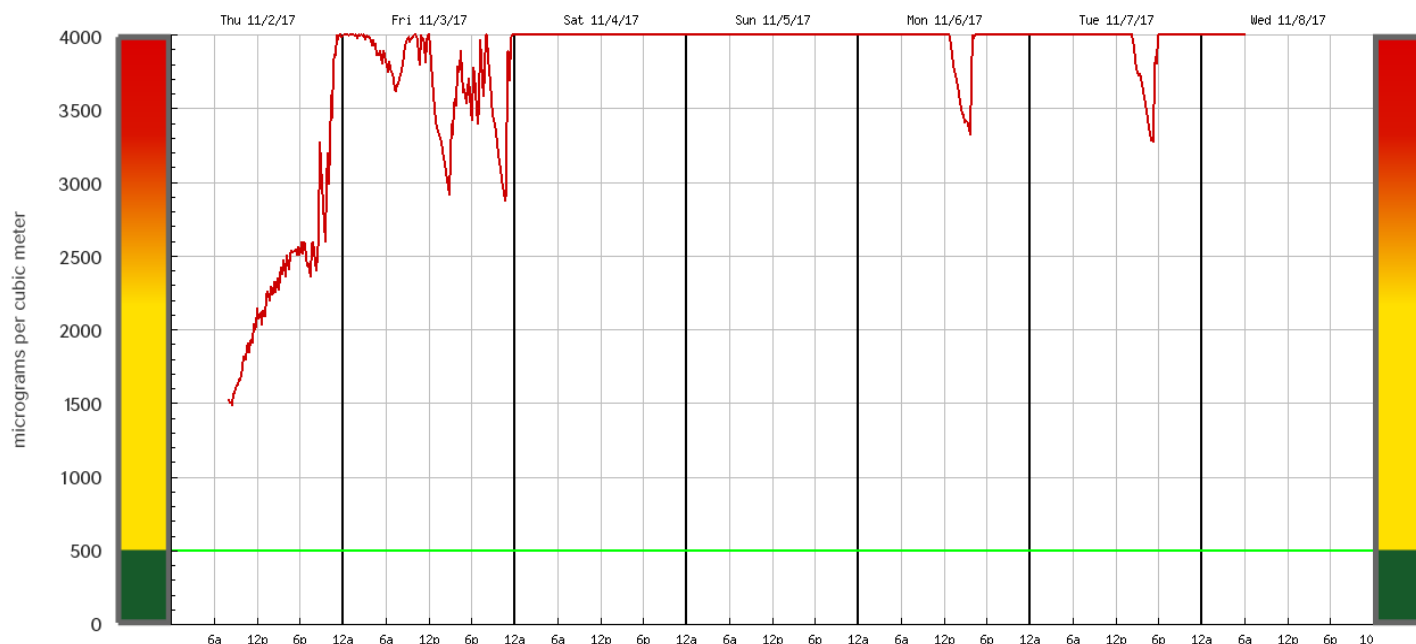
Why is action necessary?

Chemical pollutants are generally a cause for concern when daily average levels are above 500 ug/m³.

Chemical pollutants are known to trigger asthma and allergy symptoms. At moderate levels, eyes and nasal passages can be irritated. Some people can experience nausea and headaches. At very high levels, they can even affect normally healthy adults by overworking the liver and kidneys. Children, the elderly, and pregnant women are more susceptible.

Source: European Union (EU); Leadership in Energy & Environmental Design (LEED); Environmental Protection Agency at Research Triangle Park (EPA-RTP).

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Highest Daily Average: **4000 ug/m³**

Highest Hourly Average: **4000 ug/m³**

Overall Average: **3932 ug/m³**

ABOUT CHEMICAL POLLUTANTS

Levels can build up in your home's air due to usage of chemical products and heating/cooling system issues.

Sources: Off-gassing from building materials, carpeting, furniture and other synthetic materials, fuel fumes, scented products and air fresheners, personal care products, many household products such as paint, glue, and plastics.

Possible heating & cooling issues: Lack of fresh air introduced into home (either inadequate mechanical ventilation or none present), no chemical pollutant removal equipment.

RECOMMENDED ACTION

There are many steps you can take to control sources of chemical pollutants. You can:

- Add ventilation and/or VOC reduction system


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Health: Carbon Dioxide

TEST RESULTS

What We Found: Carbon Dioxide levels were above 1000 ppm for one or more days.

**Action
Necessary**

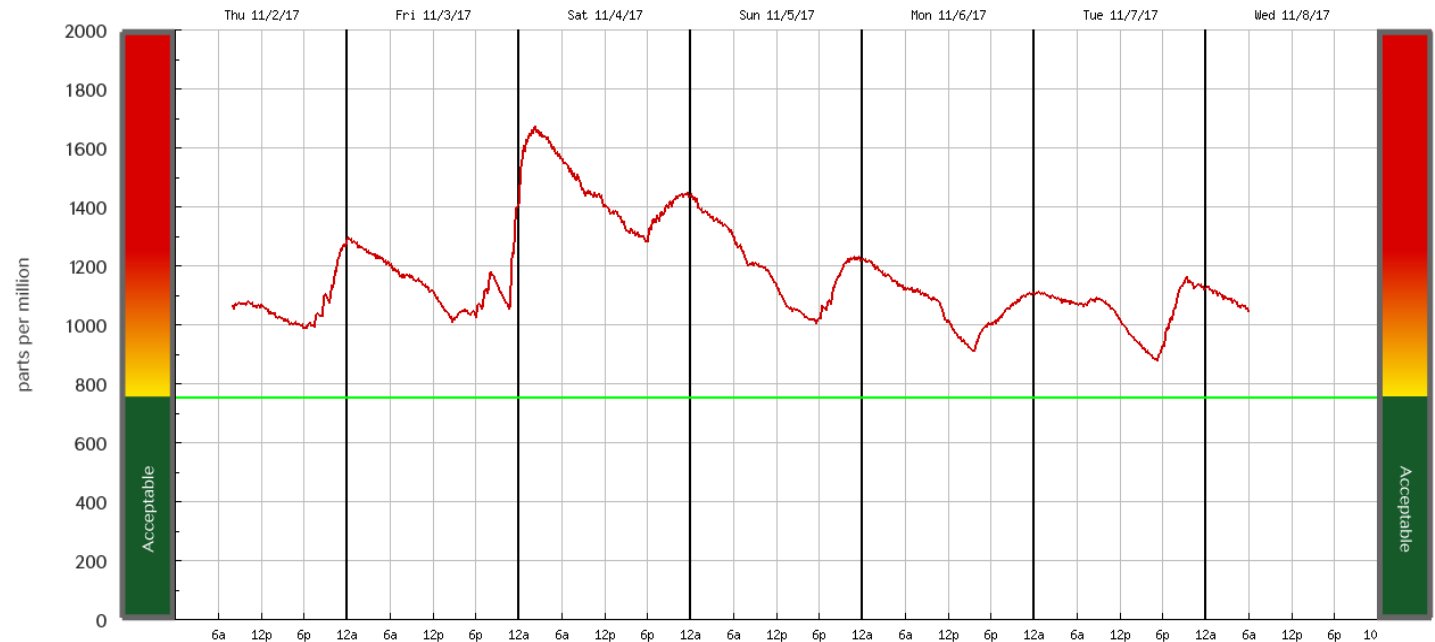
Why is action necessary?

Carbon dioxide levels are generally a cause for concern when daily average levels are above 750 ppm for sensitive individuals.

Carbon dioxide can quickly build up inside homes when people are present, causing air to feel 'stale.' If you have ever noticed persistent smells and/or wanted to crack a window in a room to get fresh air, you have experienced stale air.

Source: American Society of Heating, Refrigeration and Air Conditioning Engineers; Indoor Air Quality Association.

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Highest Daily Average: **1456 ppm**

Highest Hourly Average: **1660 ppm**

Overall Average: **1156 ppm**

ABOUT CARBON DIOXIDE

Elevated carbon dioxide levels can occur in the home due to source causes, home heating & cooling system issues, or both.

Sources: 'Tight' (well weatherized and energy-efficient) home construction without adequate ventilation, common human & household activity (breathing, and burning candles, gas, wood, or other combustion).

Possible heating & cooling issues: Lack of supplied fresh air (no ventilation), malfunctioning ventilation, ventilation shut off by occupant, HVAC equipment needs repair or service. equipment needs repair or service.

RECOMMENDED ACTION

There are many steps you can take to control the carbon dioxide levels of your home. You can:

- Add Ventilation

Comfort: Temperature

TEST RESULTS

What We Found: The temperature level was below 68 for the entire test.

**Action
Necessary**

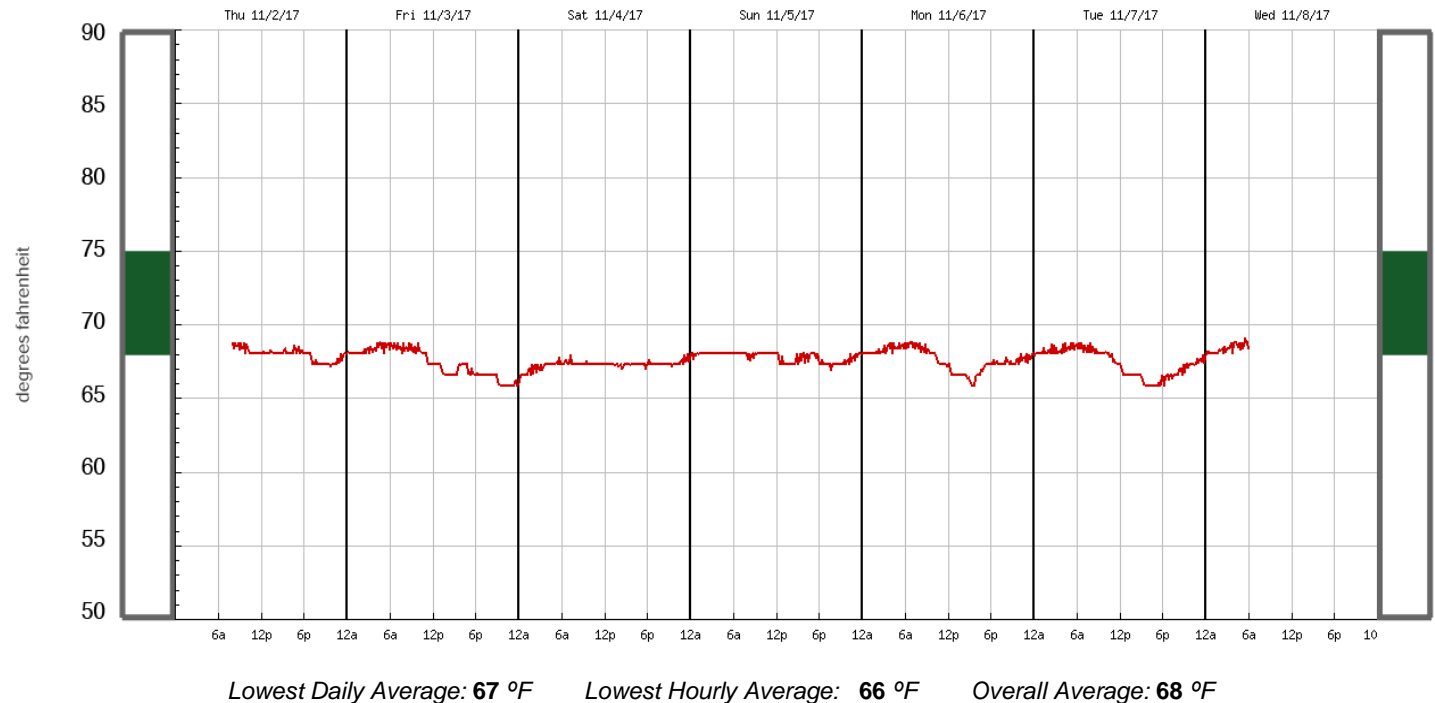
Why is action necessary?

Comfortable temperatures fall within the range of 68F and 75F. In addition temperatures are most comfortable when steady, with fluctuations less than 1-1/2 degrees.

Ideally, temperature should be constant between all areas of the home. People experience a chilling or 'goose bump' sensation when temperatures are uneven and when air blows quickly across the surface of the skin.

Source: American Society of Heating, Refrigeration and Air Conditioning Engineers.

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ABOUT TEMPERATURE

Fluctuating and/or low and high temperatures can occur due to structural causes and/or home heating & cooling system issues.

Structural causes: Poor insulation, inadequate weatherization (for example, poorly sealed windows and doors create drafts).

Possible heating & cooling issues: Thermostat poorly located (in an area where air supply falsely influences readings), uneven heating or cooling from room to room due to imbalanced ductwork or inadequate or poorly sized equipment.

RECOMMENDED ACTION

There are many steps you can take to control the temperature levels of your home. You can:

- Check thermostat & upgrade if needed


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Comfort: Relative Humidity

TEST RESULTS

What We Found: The overall average for relative humidity levels were above 55 for the test.

**Action
Necessary**

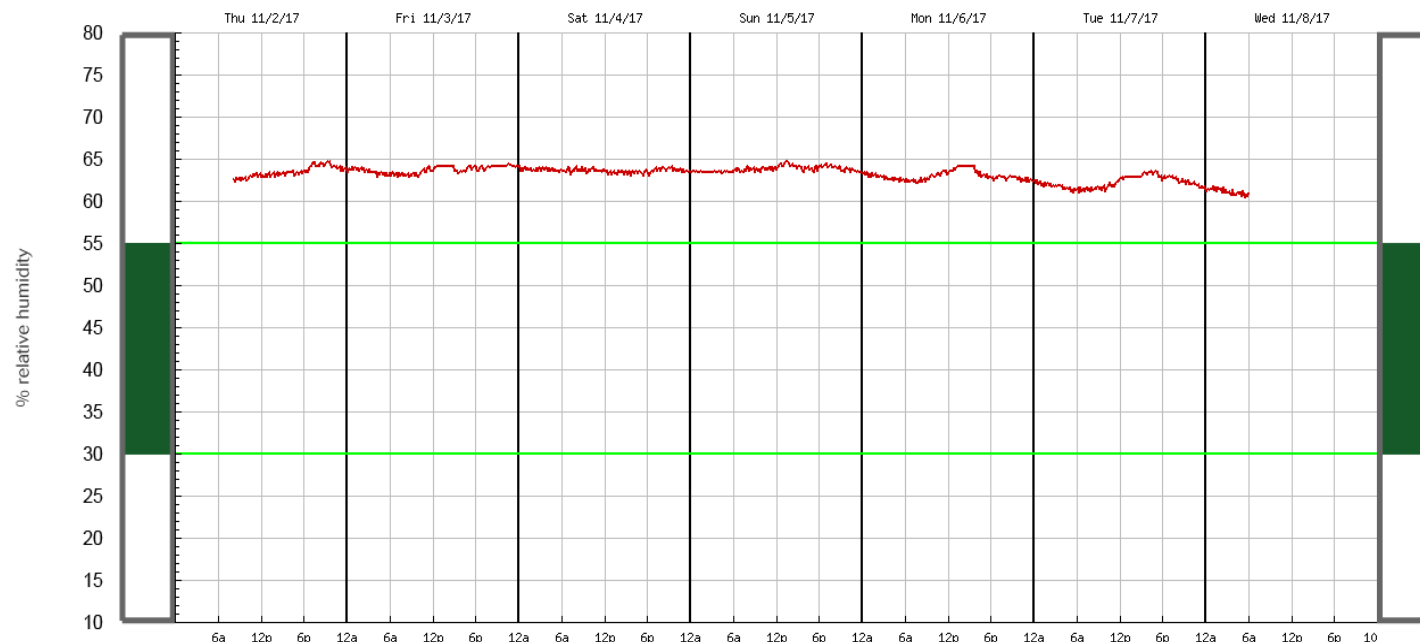
Why is action necessary?

Comfortable relative humidity levels fall within the range of 30% to 55%. Ideally according to the ALA the relative humidity should be 50%, with levels in the 40-50% range offering the most comfort possible.

The amount of moisture in the air influences both health and comfort. When air is too dry in the winter, people typically feel colder. Also, respiratory passages can become irritated and prone to infection.

Source: American Society of Heating, Refrigeration and Air Conditioning Engineers; Health Canada; Washington Department of Health.

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Highest Daily Average: 64 % Highest Hourly Average: 64 % Overall Average: 63 %

ABOUT RELATIVE HUMIDITY

Structural causes: Standing water in basement or other areas, leaky pipes/faucets, inadequate ventilation in winter (causes moisture build-up inside), and home is under "negative pressure" (pulls dry or moist air in from outside).

Possible heating & cooling system issues: No or inadequate humidification, no or inadequate ventilation, improperly sized cooling system (prevents dehumidification), HVAC equipment needs repair (condensate drain or coil malfunctioning).

RECOMMENDED ACTION

There are many steps you can take to control the humidity of your home. You can:

- Install a dehumidification system
- Use bathroom fan during showers
- Use stove fan during cooking


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Safety: Carbon Monoxide

TEST RESULTS

What We Found:

Carbon Monoxide levels were below 5 ppm.

**No Action
Necessary**

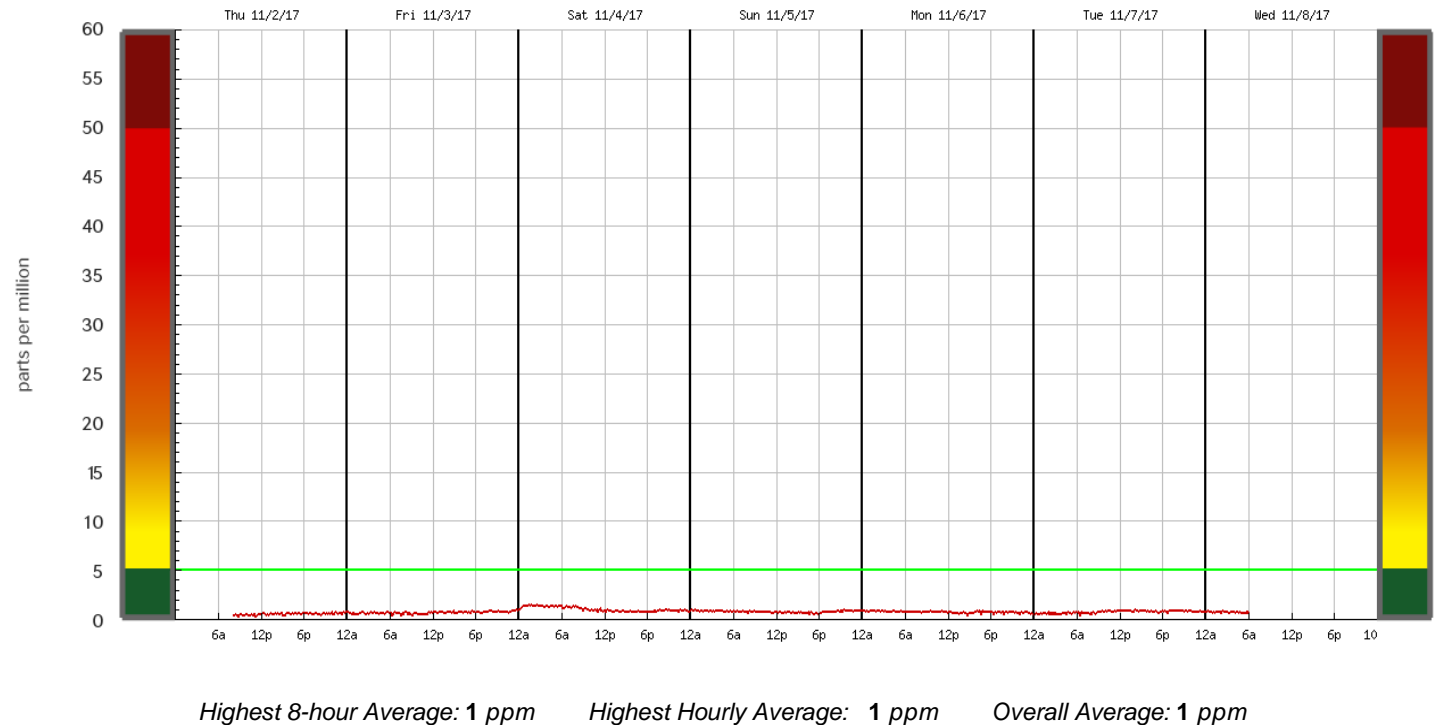
Why is no action necessary?

Carbon monoxide levels are a cause for concern when average levels are above 5 ppm (8-hour average). When levels (8-hour average) are above 20 ppm, immediate action should be considered.

Carbon monoxide is a colorless, odorless, poisonous gas produced by combustion. When people are exposed to relatively low levels (for an 8 hour period or more), it can cause headaches and nausea. At relatively high levels it can cause memory problems and ultimately death.

Source: US Environmental Protection Agency; World Health Organization (WHO); Indoor Air Quality Association (IAQA).

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ABOUT CARBON MONOXIDE

Elevated carbon monoxide levels in the home are a cause for concern. They can occur due to source causes, home heating & cooling system issues, or both.

Sources: Fireplaces, cooking, combustion appliances (water heater, gas dryer, stove), vehicles running in attached garage.

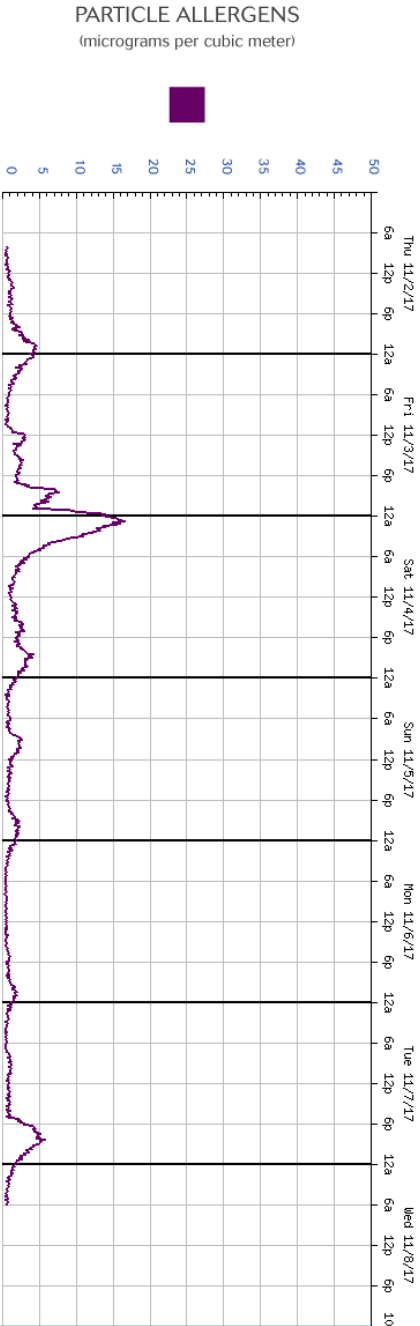
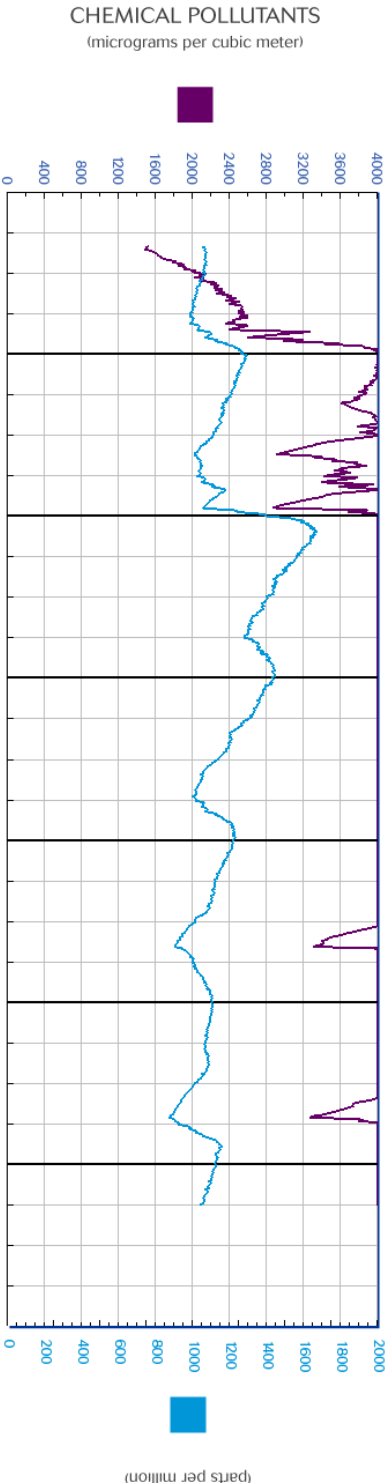
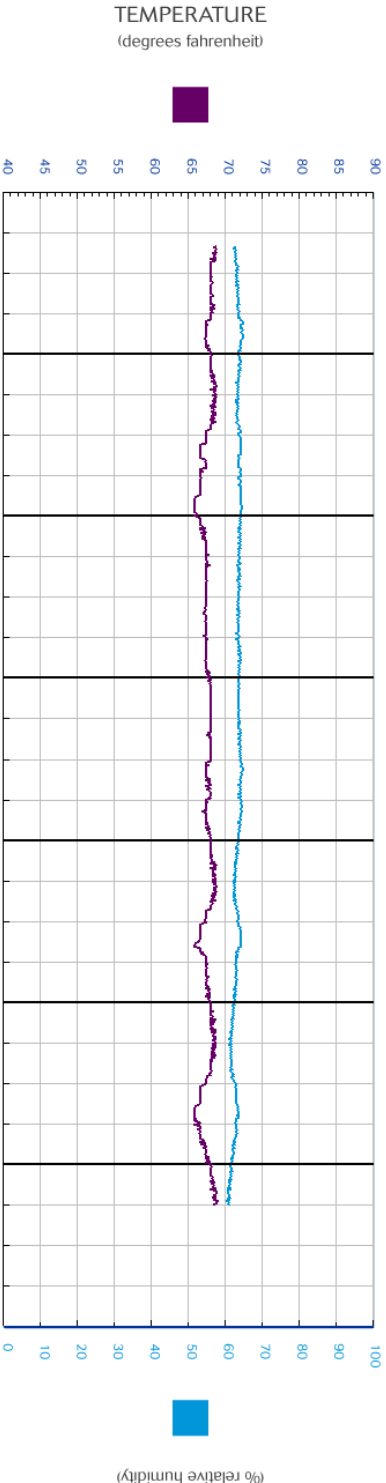
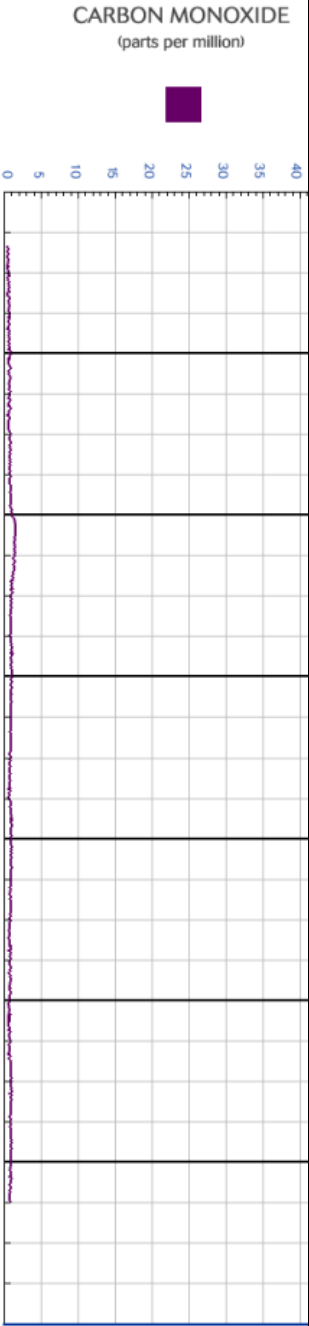
Possible heating & cooling system issues: Cracked heat exchanger on furnace, leaking chimney or vent, inadequate exhausting of a combustion appliance (water heater, gas dryer, stove).

RECOMMENDED ACTION

None -- no action necessary. For more information on indoor air quality, see:

- www.airadvice.com

Combined Test Results



Assessment Parameters



Listed below are the parameters that were used to run your Indoor Air Quality report. These parameters were used to formulate specific recommendations based upon your unique air quality test results.

GENERAL INFORMATION	
Room Monitor Placed In:	Not specified
Sq. Ft. of Living Space:	Not specified
Year Building Built:	Not specified
No. Bedrooms:	Not specified
Attached Garage:	Not specified
Sensitive Population:	Not specified

SYSTEM INFORMATION	
Occupied Temperature Setting:	70
Type of Thermostat:	Not specified
Fresh Air Intake:	Not specified
Type of Heating System:	Not specified
Heating Fuel Type:	Not specified
Heating System Age:	Not specified
Heating System Size (BTUs/KW):	Not specified
AFUE:	Not specified
Type of Cooling System:	Not specified
Cooling System Age:	Not specified
Cooling System Size (BTUs/KW)::	Not specified
SEER:	Not specified
Duct Work Sealed (if Forced Air):	Not specified
Duct Work Clean (if Forced Air):	Not specified
Carbon Monoxide (CO) Detector:	Not specified

ENERGY COSTS	
Therm of Gas:	Not specified
Gallon of #2 Fuel Oil:	Not specified
Kilowatt Hour:	Not specified
Gallon of Propane:	Not specified
Heating Hours per Year:	Not specified
Cooling Hours per Year:	Not specified

FILTRATION	
Type of Air Filtration	Not specified
PCO/VOC Reduction:	Not specified
In-room HEPA Filter(s)	Not specified

VENTILATION	
ERV/HRV:	Not specified
Fan to Outside in All Bathrooms:	Not specified
Stove Exhaust Fan to Outdoors:	Not specified

PURIFICATION	
In-Room Purifier(s):	Not specified

HUMIDIFICATION	
Central Humidifier:	Not specified
Central Dehumidifier:	Not specified
In-room Humidifier(s):	Not specified
In-room Dehumidifier(s):	Not specified

POSSIBLE POLLUTANTS	
Anyone Smoke in Home/Garage:	Not specified
Candles/Incense:	Not specified
Wood Burning Appliance(s):	Not specified
Gas Appliance(s):	Not specified
Air Freshener(s):	Not specified
Recent Remodeling/New Furniture:	Not specified
Pets in Home:	Not specified