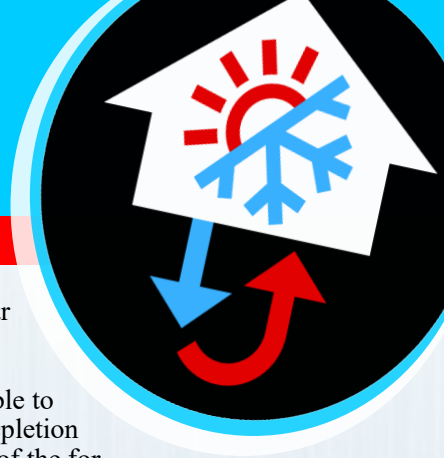




605-225-9822



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## The Impact of Refrigerants on the Ozone Layer

Since its invention in 1902, the air conditioning unit has become a staple piece of equipment in businesses, institutions and homes around the world. Air conditioners come in many sizes and configurations, from large central chiller systems to small window units. But what do they have in common? Air conditioners all use refrigerants to transfer heat to the outdoors.

### The Development of Refrigerants

In the early days of air conditioning, the options for refrigerants were ammonia, methyl chloride and Sulphur dioxide. Methyl chloride and Sulphur dioxide are both toxic and were replaced with chlorofluorocarbons (CFCs) in the 1920's. We used these for decades before discovering the drawbacks.

### A Hole in the Ozone Layer

In the 1970's, scientists discovered that the ozone layer had been experiencing an overall reduction in concentration by about 4% per decade and a severe annual springtime depletion over the polar regions. In 1985, the British Antarctic Survey thought that their instrumentation was faulty because the levels of ozone had dropped so dramatically. The main cause of this depletion was traced back to the rampant use of man-made substances containing chlorofluorocarbons (CFCs), which were released into the atmosphere from aerosols and refrigerants. CFCs break down in sunlight to release chlorine and bromine, which destroy ozone molecules.

The Polar Regions are more susceptible to ozone depletion because of the formation of "polar stratospheric clouds" caused by cold temperatures in these regions. These clouds provide the ideal conditions for the chemical reactions that break down ozone molecules. Hence their ozone levels drop to lower levels than the rest of the globe, creating "holes".

### The Montreal Protocol

On September 1987, the Montreal Protocol treaty was introduced to outline the phasing out of ozone-depleting refrigerants. This treaty defined the timeline for introducing alternatives that would not affect the ozone layer. A total of 197 states signed it, making it the most successful international treaty to date. Since then, we have moved away from refrigerants containing ozone depleting substances and, more recently, refrigerants that contribute to global warming.

### New Refrigerants

Many older residential air conditioners used a refrigerant called chlorodifluoromethane (R-22), which has a high ozone depleting potential (ODP) and global warming potential (GWP). Multiple alternatives are available but R-410A has high GWP, so other alternatives may become more common in the future. If you still have a unit using refrigerants that are destructive to the ozone layer, give us a call and we can upgrade your system.



Darrel Schulz  
\$100

**Newsletter Winners**



Sheila Anderson  
\$50



The Build Dakota Scholarship program is funded by a \$25 million donation from T. Denny Sanford and \$25 million in future funds committed by Gov. Daugaard. The scholarships cover tuition and fees, books, equipment and other related program expenses for eligible programs within eight high-need industry areas at South Dakota's four Technical Institutes.



It's your world.



Mitchell Technical Institute



Build Dakota aims to support students entering high-need workforce programs at South Dakota's technical institutes to fill the state's technical career fields with skilled professionals.

In-state and out-of-state students are eligible to apply. Scholarship applicants must be accepted into their program of interest. Recipients of the scholarship must enroll full-time and complete their educational program on schedule and commit to stay in South Dakota to work in their field of study for three years following graduation.

Visit [www.bulddakotascholarships.com](http://www.bulddakotascholarships.com) for more information.

Continued on page 3

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[www.climatecontrolprofessionals.com](http://www.climatecontrolprofessionals.com)

**SPECIAL DISCOUNT COUPON**

Cannot be combined with any other discount offer. Limit one per customer.

Save  
**\$25**  
on any repair



[www.climatecontrolprofessionals.com](http://www.climatecontrolprofessionals.com)

**SPECIAL DISCOUNT COUPON**

Cannot be combined with any other discount offer. Limit one per customer.

**\$50**  
for Radon Testing

## What is Dust Control?

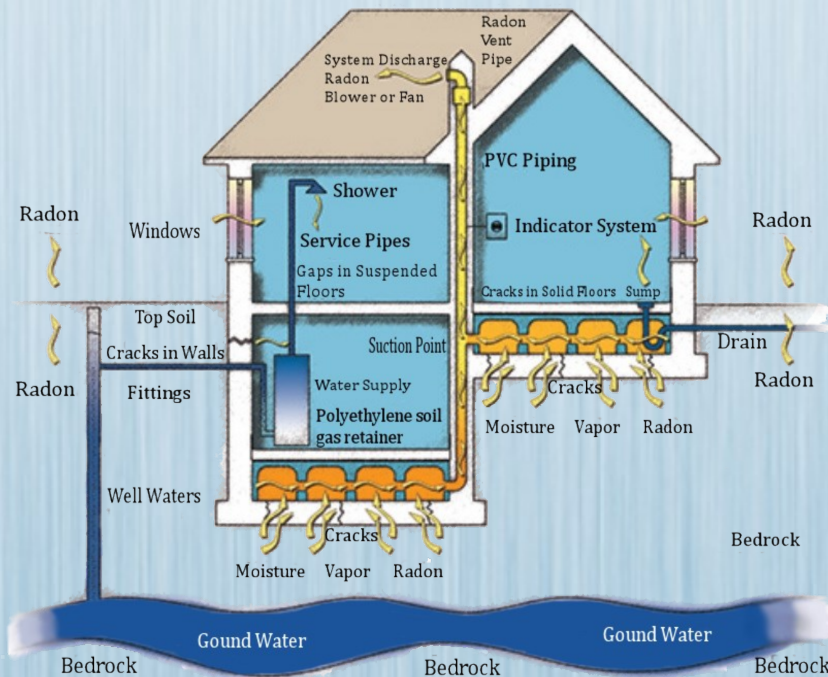
If you live on a gravel road or run a business with a gravel parking lot, you know how inconvenient road dust can be. Your neighbors at Climate Control know firsthand so we offer the industry-best solution for South and North Dakota dust control.

RoadSaver is a safe option for dust suppression that is applied over gravel to achieve road dust control. It is formulated with magnesium chloride which the US Department of Agriculture classifies as the least harmful dust suppressant to vegetation and groundwater.

RoadSaver is a liquid dust control that works by keeping fine particles on the road which limits the dust in the air and offers the secondary benefit of improving road quality and providing erosion control.

Call 605-225-9822 for a quote or more information!

## How Does Radon get in Your Home?





Climate Control is partnering with Build Dakota and sponsoring our first student in the fall of 2019. Sam Mesmer came to us from a referral, after he spent some time visiting about different opportunities and what we do. He took an interest in the Heating and Cooling (HVAC/R) side of things and wanted a career in the industry. Sam worked with Climate Control to enroll at Mitchell Tech with a full scholarship and guaranteed job placement at Climate Control.



Sam will be starting school this fall at Mitchell Tech.

These are programs that Climate Control sponsors that are Eligible for the Build Dakota Scholarship.

- Electrical Trades
- HVAC/R Technology
- Mechanical Systems
- Plumbing Technology
- Residential Heating & Air Conditioning Technology

To see the full list of programs available at each tech school, visit [BuildDakotaScholarships.com](http://BuildDakotaScholarships.com) and see what you need to do to qualify.

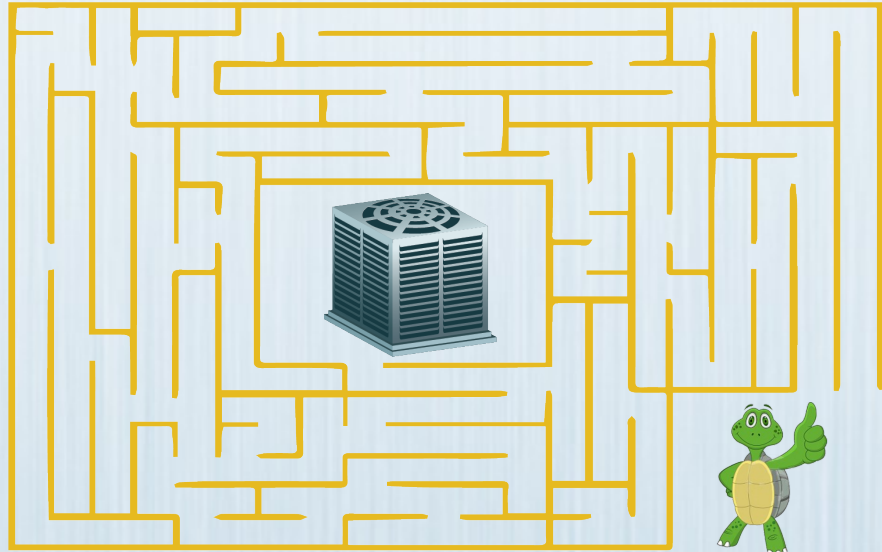


Get your schooling paid for and a guaranteed position after you graduate!



## Trusty's Maze

Help Trusty find the air conditioner to fix the problem!



# CHA-CHING.

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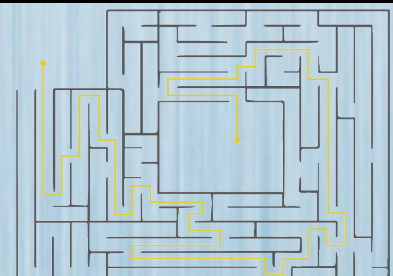
UP TO **\$1,050** IN REBATES  
OR **0% FINANCING** FOR 60 MONTHS

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CALL TODAY!  
**605-225-9822**

“Behold the turtle.  
He only makes progress when  
he sticks his neck out.”

James Bryant Conant, Harvard President



Answer Key:



**CLIMATE CONTROL**

1910 130th St NW  
Aberdeen, SD 57401

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**Al drew the short straw and this was his prize for the day!**

## WIN \$100 WITH CLIMATE CONTROL

Limit 1 entry per person. No purchase necessary. A purchase will not improve your chances of winning. Winner will be selected at random within 30 days of entry deadline. All decisions are final. All entrants agree to contest rules, which require winner to sign a prize and publicity release unless precluded by law. Must be 18 to enter. Failure to comply results in disqualification. Entries void if incomplete or illegible. No responsibility is assumed for lost, late, or illegible entries. Company employees and family members are ineligible. Odds depend on the number of entries received. Acceptance of the prize implies consent to use name and image in promotional material with the prize as compensation. All taxes are the responsibility of the winner.

Complete and return for a chance to win \$100 cash. If you correctly answer the three questions below, we'll enter you in a drawing for \$100 cash. Second prize will be \$50 cash. All entries must be received by 8/31/2019 Mail to: Climate Control, 1910 130th St. NW, Aberdeen, SD 57401 or scan and email to [info@climatecontrolprofessionals.com](mailto:info@climatecontrolprofessionals.com)

1.) The formation of \_\_\_\_\_ make the Polar Regions more susceptible to ozone depletion.

2.) How many programs does Climate Control sponsor through the Build Dakota Scholarship?

A. 1                      B. 7                      C. 5

3.) The Build Dakota Scholarship fund is helping to fill the state's \_\_\_\_\_ fields with skilled professionals.

### Please Contact me about:

- |  |   |
|--|---|
| <input type="checkbox"/> Service Maintenance Agreement       | <input type="checkbox"/> Air Filtration                   |
| <input type="checkbox"/> Upgrading Heating/Cooling Equipment | <input type="checkbox"/> UV Light                         |
| <input type="checkbox"/> Dehumidifier                        | <input type="checkbox"/> Water Softeners                  |
| <input type="checkbox"/> Humidifier                          | <input type="checkbox"/> Water Heaters                    |
| <input type="checkbox"/> All Types of Boilers                | <input type="checkbox"/> Fire Pits                        |
| <input type="checkbox"/> Air Quality/Mold Testing            | <input type="checkbox"/> Fireplaces (wood, gas, electric) |
| <input type="checkbox"/> Radon Testing/Removal               | <input type="checkbox"/> Pool Heaters                     |
|  | <input type="checkbox"/> Dust Control                     |
|  | <input type="checkbox"/> Ice Melt                         |
|  | <input type="checkbox"/> Electrical                       |

Name: \_\_\_\_\_

Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip: \_\_\_\_\_

Email: \_\_\_\_\_

Phone: \_\_\_\_\_