

## Geothermal Savings

An independent analysis by Caneta Energy confirms that a Hybrid Heat Pump Geothermal System installed in the Springdale Professional Building will result in 23.8% energy savings over a conventional GSHP system.

“Caneta Energy has modeled heat pump systems in a significant number of buildings over the past number of years. We have seldom seen a concept as promising as the CGC Group hybrid system particularly when used in a ground coupled system with water to water heat pumps between the building loop and ground heat exchanger. When the building is balanced thermally, the ground heat exchanger can be by-passed, to maximize heat recovery and minimize pumping. This provides the benefits of conventional water-loop and ground source concepts in one system.”

Caneta Research Inc  
R.L. Douglas Cane, P.Eng, Principal

April 24, 2007

	HVAC Only (Annually)		ENTIRE Building (Annually)	
System type	Energy Use (KWh)	Operating costs (\$)	Energy Use (KWh)	Operating costs (\$)
<b>Conventional GSHP</b>	619,963	\$55,169	1,577,827	\$143,056
<b>CGC Hybrid</b>	472,309	\$43,311	1,430,280	\$131,198
<b>Savings</b>	147,654 ( <b>23.8%</b> )	\$11,858 ( <b>21.5%</b> )	147,547 ( <b>9.4%</b> )	\$11,858 ( <b>8.3%</b> )



### Springdale Professional Building

Brampton, Ontario, 120,000 sq.ft..

113 CGC Hybrid Heat Pumps.  
8 Compax Water to Water Heat Pumps.  
Geothermal application, R-410A.  
Varizone by CGC.  
EC motors, 2 stage compressors.