



## Typical Compositional Analysis of Canadian Wollastonite

- 44% **Wollastonite** is  $\text{CaSiO}_3$  and consists of 48.3 % CaO and 51.7%  $\text{SiO}_2$ . It forms when impure limestone is subjected to high pressure and temperature.
- 31% **Diopside** is  $\text{MgCaSi}_2\text{O}_6$  - similar in nature to Wollastonite except it includes Magnesium.
- 17% **Feldspars** are K, Na, Ca Silica based minerals – can be a source of Potassium
- 6% **Quartz** is primarily Silica
- 2% **Calcite, Sulphides, and other minor mineral species**

### Typical Geochemistry of Canadian Wollastonite

	<u>%</u>		<u>%</u>		<u>%</u>
Silicon ( $\text{SiO}_2$ )	55.20%	Nitrogen (N)	0.11%	Iron ( $\text{Fe}_2\text{O}_3$ )	2.23%
Calcium (CaO)	26.50%	Phosphorous ( $\text{P}_2\text{O}_5$ )	0.06%	Titanium ( $\text{TiO}_2$ )	0.24%
Magnesium (MgO)	6.62%	Potassium ( $\text{K}_2\text{O}$ )	1.55%	Sodium ( $\text{Na}_2\text{O}$ )	1.44%
Aluminum ( $\text{Al}_2\text{O}_3$ )	4.39%	Sulfur ( $\text{SO}_2$ )	1.66%		

	<u>ppm</u>		<u>ppm</u>		<u>ppm</u>
Antimony (Sb)	0.07	Hafnium (Hf)	0.93	Silver (Ag)	<0.02
Arsenic (As)	<1.00	Indium (In)	0.03	Strontium (Sr)	1201
Barium (Ba)	287	Lanthanium (La)	9.4	Tantalum (Ta)	0.39
Beryllium (Be)	1.1	Lead (Pb)	3.5	Tellurium (Te)	<0.05
Bismuth (Bi)	0.15	Lithium (Li)	10.5	Terbium (Tb)	0.36
Cadmium (Cd)	0.04	Lutetium (Lu)	0.22	Thallium (Tl)	0.12
Caesium (Cs)	<1.00	Manganese (Mn)	324	Tin (Sn)	1.3
Cerium (Ce)	19.7	Mercury (Hg)	<0.05	Thorium (Th)	0.9
Cobalt (Co)	7.2	Molybdenum (Mo)	2.18	Uranium (U)	0.44
Chromium (Cr)	81	Niobium (Nb)	4.1	Vanadium (V)	61
Copper (Cu)	13.1	Nickel (Ni)	98.5	Tungsten (W)	0.3
Erbium (Er)	3.4	Rubidium (Rb)	49.8	Ytterbium (Yb)	1.3
Europium (Eu)	4.8	Scandium (Sc)	4.9	Yttrium (Y)	14
Gallium (Ga)	6.5	Selenium (Se)	<2	Zinc (Zn)	19.5
				Zirconium (Zr)	24.9

### Calculated into Elemental Analysis from Oxide State

<i>Silicon (Si)</i>	25.80%	<i>Nitrogen (N)</i>	0.11%	<i>Iron (Fe)</i>	1.56%
<i>Calcium (Ca)</i>	18.94%	<i>Phosphorous (P)</i>	0.02%	<i>Titanium (Ti)</i>	0.14%
<i>Magnesium (Mg)</i>	3.99%	<i>Potassium (K)</i>	1.29%	<i>Sodium (Na)</i>	1.06%
<i>Aluminum (Al)</i>	2.32%	<i>Sulfur (S)</i>	0.83%		