



# Facts about the Proposed KGHM/Ajax Open-Pit Mine

JUNE 2014

We have been asked by our patients if this mine will affect their **health and the health of their children.**

We have also been asked why we aren't waiting for the "studies" from KGHM to be completed before forming an opinion.

**We want people to understand the facts already available - before it's too late.**

**#1**

*It is known for certain that:*  
**Mines produce enormous amounts of airborne particulates.**

Particles less than 2.5 micrometers (PM2.5) in size are of particular concern with regards to health.

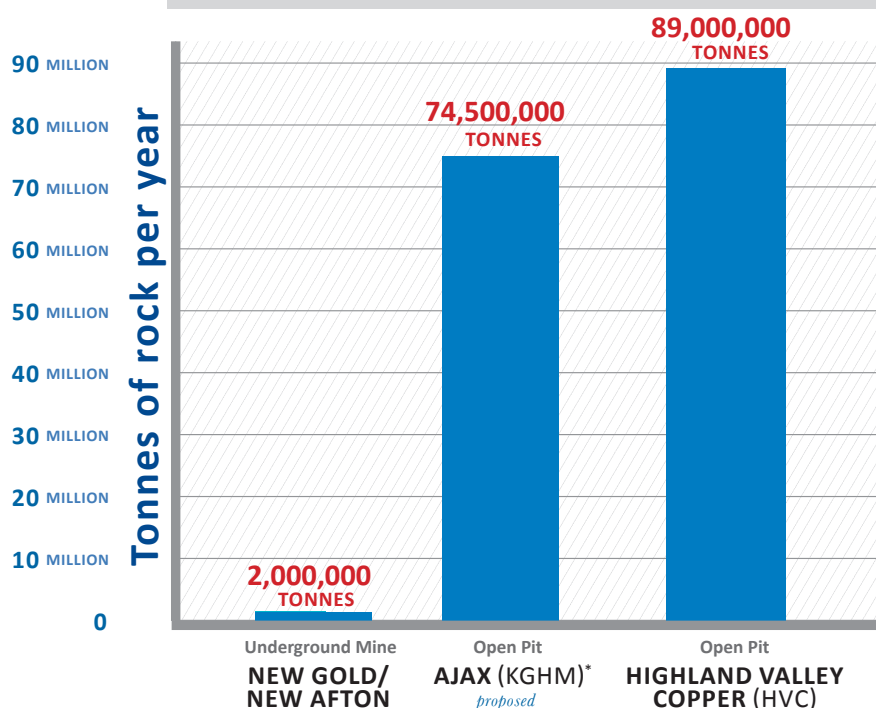
The upper graph demonstrates the similarities in scale with regard to ore and waste rock removed. KGHM/Ajax copper-gold mine can reasonably be expected to produce similar amounts of PM2.5 as these currently operational local mines.

The lower graph shows the annual production of these particles by Highland Valley Copper (HVC) and New Gold's New Afton mine (NG/NA).

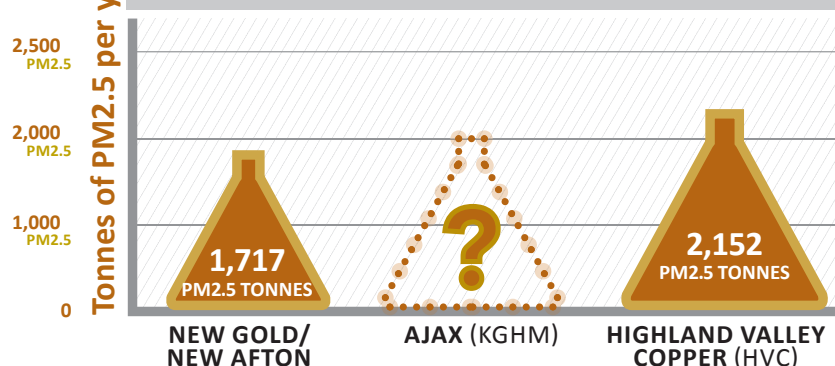
\* Based on Abacus Mining & Exploration Corp. Ajax Copper/Gold Project – Kamloops, BC Feasibility Study Technical Report January 6, 2012

>> TO LEARN MORE ABOUT PM2.5  
GO TO [www.kphe.ca](http://www.kphe.ca)

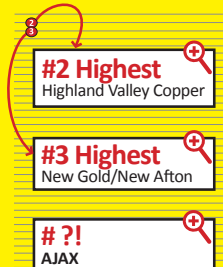
## Total Rock Removed



## PM2.5 Produced



## PM2.5 Emission Rank in Canada 2012



All other industries in Canada

**TOTAL:**  
**3,893**  
Facilities Reporting Pollutants in Canada

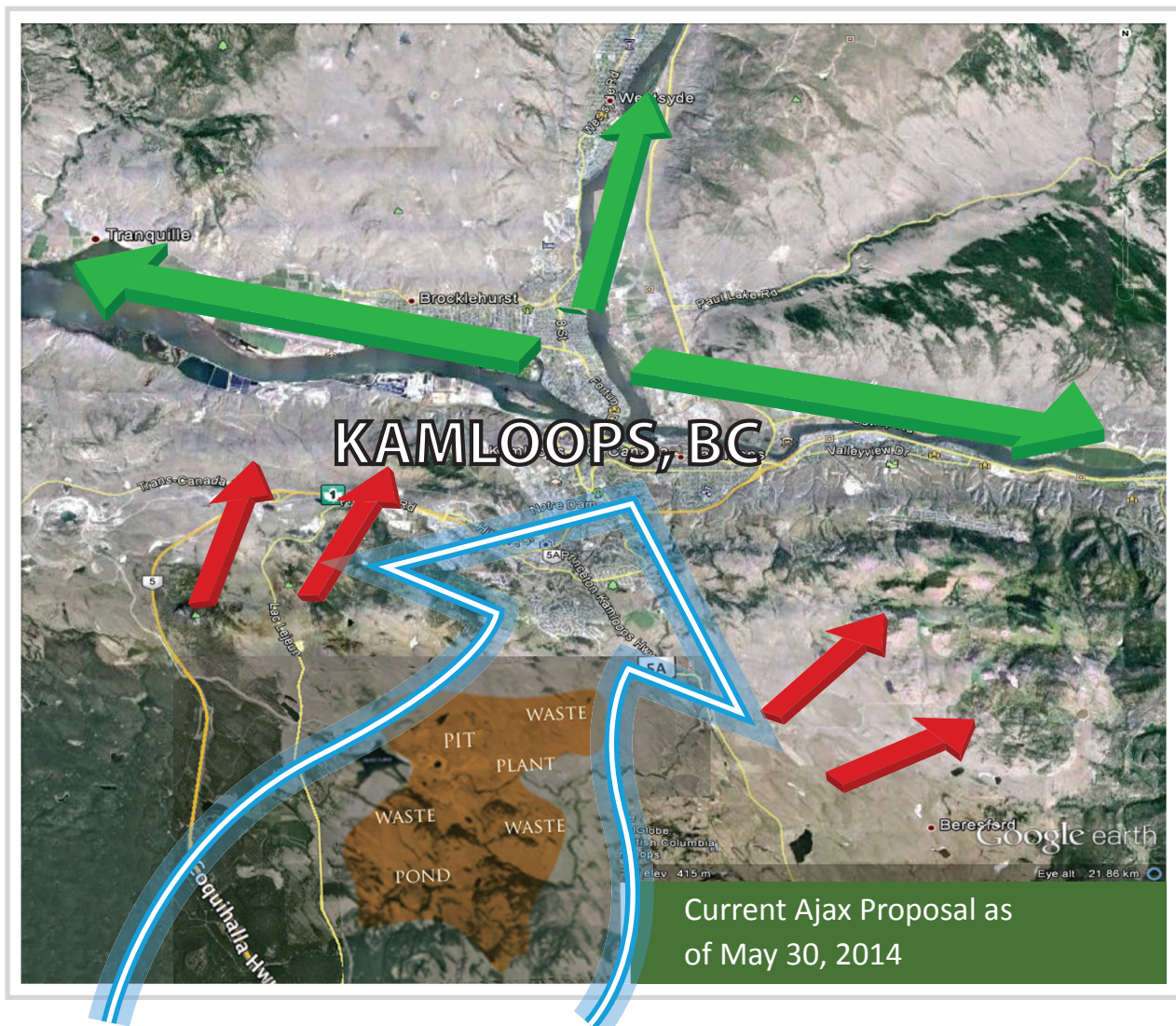
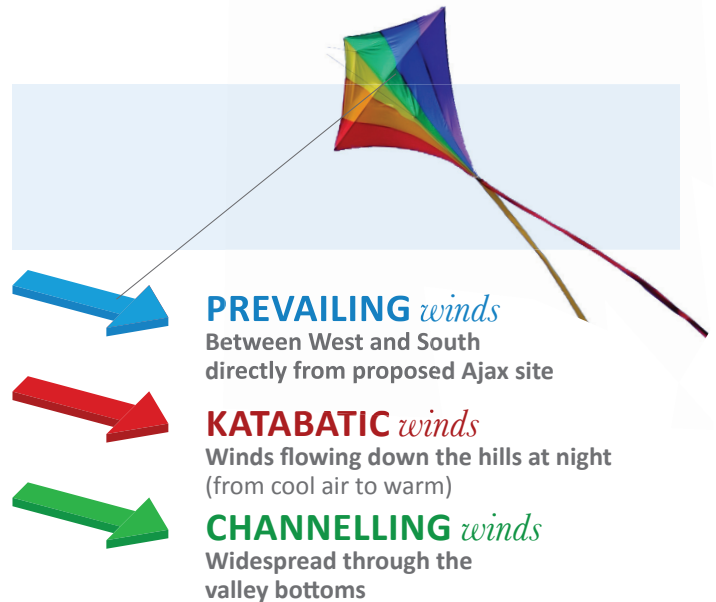
*It is known for certain that:* **Airborne particles from KGHM/Ajax will move over the City of Kamloops.**

The proposed mine will be on the plateau at the southwest edge of the city. The wind in that area is mostly between the west and south. In the valley bottom, wind is channeled into westerly and easterly directions.

This means that airborne particles produced by the mine will be blown down the hills into the city and then dispersed throughout the urban area. One of the mechanisms for this movement of particles is the drainage of air downslope by katabatic winds, which are common in Kamloops.

We are all wise enough to not sit downwind of a campfire. **We should also avoid being downwind of an open-pit mine.**

Generally, other open-pit mines in Canada are located much farther from large cities than KGHM/Ajax mine would be from Kamloops.





*It is known for certain that:* **Additional particles in the air will reduce air quality monitored by the Province of British Columbia.**

If more particles are added to the air in Kamloops, then the concentrations of these particles will increase. This is basic science and common sense.

Fine particles in the air in Kamloops ALREADY EXCEED provincial guidelines and goals. In 2012 the annual average of PM2.5 in Kamloops was at the Provincial Guideline maximum (8 ug/m<sup>3</sup>) and in 2013 the guideline was exceeded (8.9 ug/m<sup>3</sup>). In 2013, Environment Canada stated that "exposure to even low concentrations for pollutants like O<sub>3</sub> [Ozone] and PM2.5 has been linked to a number of adverse effects on health..."

*We should not tolerate additional pollution in Kamloops.*

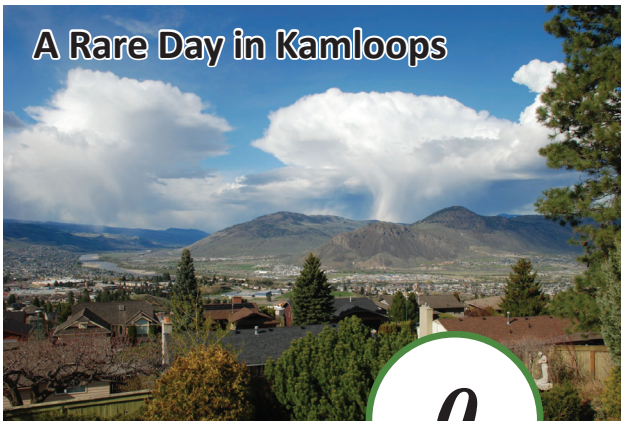
*No room to pollute.*

### Annual Average PM2.5 in Kamloops

Federal Building Monitor, Downtown Kamloops



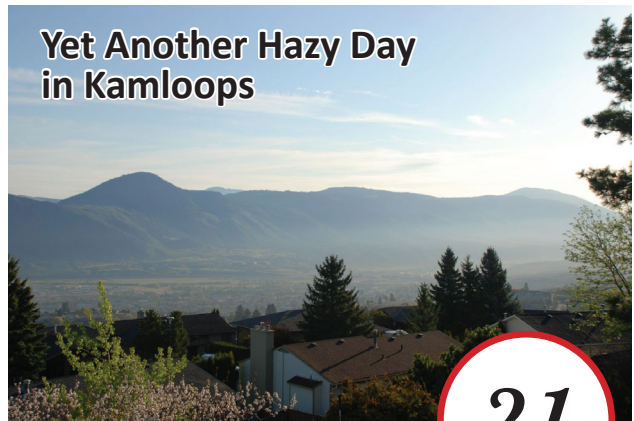
### A Rare Day in Kamloops



PM2.5 SCALE =  
April 27, 2014 Kamloops

0  
ug/m<sup>3</sup>

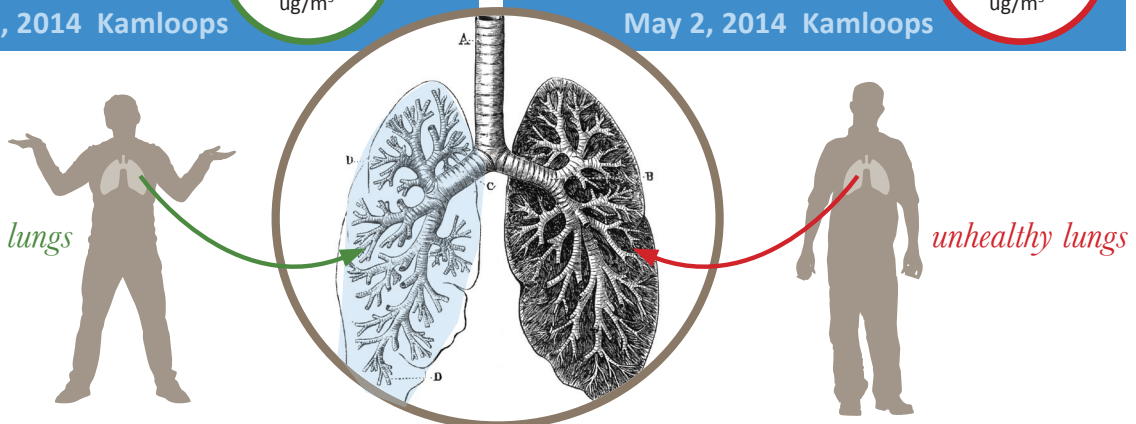
### Yet Another Hazy Day in Kamloops



PM2.5 SCALE =  
May 2, 2014 Kamloops

21  
ug/m<sup>3</sup>

healthy lungs



unhealthy lungs



## #4

*It is known for certain that:* **Higher levels of PM2.5 and PM10 in the Kamloops' air will lead to ill health for more people and more premature deaths.**

There are many studies that demonstrate that increased pollution leads to more health problems and more premature deaths. For example, Dockery (2012) looked at the findings linking the effects of particulate matter on human health and quoted the US Environmental Protection Agency, "Inhalation of fine particles is causally associated with premature death at concentrations near those experienced by most Americans on a daily basis."

In 2014, the World Health Organization stated that: "convincing evidence also indicates a relationship between cardiovascular, respiratory and lung cancer mortality and PM2.5 exposure..." and "...several cohort studies reported effects on mortality at PM2.5 concentrations well below an annual average of 10 ug/m3." The evidence is overwhelming and compelling.

### BLASTING + TAILINGS POND + TRUCKS = PARTICULATES = POOR HEALTH

*Finely ground waste*

*Diesel and dust*

*Finer than sand or talcum*

*Our concern*



## CONCLUSION

**These are obvious conclusions based on existing science, good medical knowledge and experience from existing mines.**

We know right now that operating an immense open-pit mine on the southwest edge of the city will:

- 1) produce more fine particulates;
- 2) they will be blown into the city;
- 3) they will increase the concentrations of these particles in the air;
- 4) and they will result in serious health problems.

We do not have to wait for measurements to be made after the mine is approved in order to know this. It is not fear-mongering to state this. This is preventative medicine. This is common sense.

Our time would be better spent working to clean our existing air, not fighting to prevent even more particulate matter being allowed into our city and into the lungs of our families.



*Educate Yourself. Learn about the Science.  
Spread the Word. **BEFORE IT'S TOO LATE.***

View our references and sources for this brochure in our Fact Sheet at [www.kphe.ca](http://www.kphe.ca)



### Kamloops Physicians for a Healthy Environment Society ©

Our Mission: Kamloops Physicians for a Healthy Environment is dedicated to protecting the health and well-being of the citizens of Kamloops by promoting health education and science-based interventions that result in maintaining and improving the environment.

*LEARN HOW THE ENVIRONMENT AFFECTS YOUR HEALTH. LEARN HOW TO HELP.*

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