

CONTENT GUIDE FOR EOSC118

Gold in the Canadian Shield

Joyce, D.K. (2006). *Rocks & Minerals*, Vol. 81, No. 2, pp 100-113.

This 14 page document reviews the geology and geography of the most prolific gold producing region of Canada: The Canadian Shield. These very old rocks range back billions of years and have very complex geological histories. You'll notice that where significant gold discoveries occurred early in the century is where many remote towns still exist today, as these mining ventures would often spur economic growth of the communities.

Use the discussion board on Connect to pose questions, since questions that you have are probably being thought by another one of your fellow students.

Use the following questions to help you through the article:

1. How old are the oldest rocks in the Canadian Shield? 3.962 billion years ago
2. How many troy ounces of gold have been pulled from the Shield? 313 million
3. What rocks do the lode gold deposits usually occur within? orogenic?
4. In figure 3, how large is the sphalerite crystal? What is the chemistry of sphalerite? 110cm accross
5. What happen to a fluid's ability to dissolve rocks when it is heated up? increases
6. How do fluids flow through rocks? migrate through cracks to open spaces
7. What prompts dissolved components to precipitate out of the fluids as minerals? lower pressure
8. Are placer deposits important on the shield? Why or why not? no, mostly in sand above
9. What were some of the more significant mines near Timmins? Croesus mine, Hollinger mine, Swastika mine
10. What area nearby to Timmins was also successful in developing gold mines? Kirkland lake, Swastika and Larder Lake areas
11. Which is the most prominent historical gold mine in Quebec?
12. What is significant about Goldcorp's Red Lake mine? a large, high-grade orebody was discovered in 1990
13. What is the most significant gold mine in the area? What is its current status? Giant mine - all companies are bankrupt now
14. The Hemlo Camp was discovered in what year? What mines exist there?

early 1980s
- The Golden Giant mine
-Page-Williams mine
-David Bell mine