

TA3120 Mining Engineering II
Final Exam, April 19th, 2006
Open Pit Section – Time 1.5 hours

Answer any three of the following five questions. All questions are of equal value.

1. A. Outline a classification system for Mineral Resources and Mineral Reserves, the level of information required for each to be valid, and any relationship which exists between the various categories.
 B. Describe a person or persons who would be considered qualified under the Canadian 43-101 regulations to develop a mineral reserve for an epithermal gold deposit.

2. A. What would you consider to be the five most important factors to be considered in establishing a drilling and sampling program for a near surface orebody and why?
 B. Discuss briefly the problems associated with developing a revenue projection for a polymetallic orebody and how these problems might be solved. .

3. Discuss the concept of cut-off grade and how different cut-off grades may apply at various stages of the design, planning and operating phases of an open pit mine.

4. A. Describe the process of establishing a final pit limit using a computer assisted method and discuss the implications of this design to the project economics.
 B Describe how intermediate pit expansion phases are established and discuss briefly the stripping and grade control strategies which might be used to optimize a mining plan.

5. Answer 5 of the following short questions on the environmental aspects of mining:
 - A. Define acid mine drainage and describe some ways to prevent it
 - B. Define the Precautionary Principle and provide a simple example
 - C. Describe the difference between compliance monitoring and effects monitoring and the importance of each
 - D. Define environmental bonding and discuss the potential problems associated with the process
 - E. Define environmental assessment and describe its importance in developing an environmental management plan
 - F. Discuss some important factors required to develop a successful remediation plan