

ME571/Geol571 Advanced Topics—Geology and Economics of Strategic and Critical Minerals Spring 2017

Final Examination, Take-home exam

Due in McLemore mailbox or e-mail virginia.mclemore@nmt.edu by 5 pm on May 12

1. All minerals and mineral products could be or could become critical to some degree, depending on their importance and availability. Explain this statement. Provide an example. 10%
2. Define the minerals life cycle. Provide an example (commodity). 10%
3. Discuss one of the other students' oral reports in class by subject, information given, strong points, weak points and delivery. How would you do it better? 10%
4. How would you convince a mining company to use sustainability development principles in developing a critical or strategic minerals commodity? Discuss in terms of the Seven Questions. 10%
5. What are REE and why are they critical and strategic minerals? Are all of them critical and strategic minerals? 10%
6. What must be considered in developing/mining a critical and strategic minerals deposit? 10%
7. What other minerals could be considered critical and strategic in the United States that we did not cover in class? Why? 10%
8. Describe how the physical or chemical characteristics of a critical or strategic mineral allow for that commodity to be used by society. For example; diamond is used in drill bits because of its hardness. 10%
9. Why is the BreX scandal so important to the minerals industry? 5%
10. What is the greatest invention of all time and what minerals are used to manufacture it? Are any of these minerals critical and strategic? Could any of these minerals become critical and strategic? 10%
11. Why isn't tellurium being produced at the Cripple Creek and Victor Gold Mining Company mine? 5%

Be sure to cite your references and sources. You may work together on this Final but each student is responsible for answering these questions in their own words