

AMD: Student Assessment Sheet – Suggested Answer page

The answers listed below are only suggestions or possibilities for the outcome of the debate. The answers will vary depending on the way the students represent the stakeholders.

1. List the individuals in favor of using passive treatment technology to remediate AMD sites.

Answers may include the kayaker, environmental engineer, DEP official (if concerned with initial costs), or river ecologist depending on the nature of the debate.

2. List the individuals in favor of using active treatment technology to remediate AMD sites.

Answers may include fly fisherman, coal miner, environmental engineer, DEP official (if concerned with long term maintenance)

3. List the individuals who took an alternative stance.

Possibly the coal miner, river ecologist, or environmental engineer.

4. What were the environmental concerns surrounding the issue?

- *Significant changes in pH caused by abandoned mine drainage can be detrimental to aquatic flora and fauna.*
- *Water quality may change affecting the drinking water supply.*

5. What economic concerns were identified regarding the issue?

The expenses involved in treating AMD using active technology versus passive technology. Active treatment is initially more expensive and may require repeated treatments. Passive treatment is not as expensive to implement, but may require long-term maintenance. Coal mining companies may be concerned about fees that can be incurred from failing to meet regulations.

6. List the three strongest arguments in favor of passive treatment.

- *There are a variety of techniques available to treat the specific characteristics of an AMD affected site.*

- *Passive treatment considers the long-term effects of the treatment.*
- *The natural ecosystem is used to treat the AMD affected water as much as possible and a treatment facility is avoided.*

7. List the three strongest arguments in favor of active treatment.

- *Active treatment is a well understood, effective, and proven science.*
- *Different chemicals are available to treat the specific conditions of a site.*
- *Chemical treatment can be applied at once or periodically so that continuous monitoring may not be necessary.*

8. How would you personally vote on this issue? Justify your answer.