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• Reading Comprehension 5 Level 10

Directions: *Read the passage. Then answer the questions below.*

The destructive process of mountaintop removal mining (MTR) has caused permanent damage to Appalachia. Although the law requires that mining companies restore the mountaintops after the mining has been completed, the 1.5 million acres of mountains that have already been removed cannot be re-grown, re-built, or replaced. The companies do secure the rock formations to prevent erosion and landslides, but their efforts cannot recreate the once-beautiful mountain landscape. Furthermore, while companies are usually vigilant about securing the rock formations, they seem less interested in restoring the native vegetation. MTR operations clear enormous tracts of forest; some experts estimate that over 2000 square miles of forests in the Appalachian region will have been razed by mining companies by 2012. Instead of replanting the native trees and shrubs that have been cleared, many companies opt to plant cheap, fast-growing, non-native plants, such as *Lespedeza cuneata*, which is officially classified by the USDA as an invasive weed.

Environmental hazards are not only created in preparing a mountaintop for mining, they also continue once the coal has been extracted. After the blast, the excess mountaintop—which miners refer to as "overburden"—is usually dumped into nearby valleys or streams. The overburden contains a variety of toxic substances, including explosive residue, silica, and coal dust. These substances are filled with sulfur, lead, mercury, and other chemicals. Over 700 miles of streams in Appalachia have been contaminated by this dumping. Although the mining companies have built structures known as "sludge dams" that are intended to contain the toxic runoff, these dams can burst or leak, sending thousands of gallons of toxic chemicals into municipal drinking water.

While the Endangered Species Act, the Clean Water Act, and other environmental protection bills can theoretically be enforced to protect Appalachia, local lawmakers have been reluctant to take action for fear of upsetting those who believe that the jobs created by MTR are vital to the community. However, instead of bringing jobs and prosperity to poor Appalachian communities, MTR companies actually bring destruction and poverty. MTR does not involve the amount of human labor required by traditional sub-surface mining. Despite the fact that coal production has increased between 1950 and 2004, the human labor force working in these mines has drastically decreased. In the 1950's, there were approximately 130,000 people employed by the mining companies; by 2004, that number had dwindled to 16,000. Moreover, while the coal companies may make enormous profits from MTR, Appalachian communities located near the mines suffer increased rates of kidney cancer, brain cancer, lung cancer, chronic pulmonary disorders, hypertension, and vision problems. A variety of studies published in top medical journals link these health problems to the fact that the victims lived in close proximity to the mines.

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Questions

1) This passage would most likely be found in

A. the introduction to a larger work on the history of Appalachia
B. the conclusion to a study on the links between coal mining and health problems
C. a chapter of a coal miner's autobiography
D. a section providing supporting evidence in a larger work on MTR
E. a section evaluating the results of a previously proposed course of action in a larger work on MTR

2) As used in paragraph 1, which is the best antonym for **vigilant**?

A. cowardly
B. frustrated
C. displeased
D. careless
E. annoyed

3) Based on information in the passage, it can be inferred that the author

A. used to be employed by an MTR company, but left because he or she was frustrated with its environmental practices
B. is more concerned about the environment than he or she is about human lives
C. believes that MTR companies care little for the environment or for the Appalachian community
D. works for an environmental protection group or agency
E. thinks that the United States should stop relying on coal power as a source of energy

4) Which of the following statements from the passage represents an opinion, as opposed to a fact?

A. "Although the mining companies have built structures known as 'sludge dams' that are intended to contain the toxic runoff, these dams can burst or leak, sending thousands of gallons of toxic chemicals into municipal drinking water."
B. "However, instead of bringing jobs and prosperity to poor Appalachian communities, MTR companies actually bring destruction and poverty."
C. "The overburden contains a variety of toxic substances, including explosive residue, silica, and coal dust."
D. "While the coal companies may make enormous profits from MTR, Appalachian communities located near the mines suffer increased rates of kidney cancer, brain cancer, lung cancer, chronic pulmonary disorders, hypertension, and vision problems."
E. "MTR operations clear enormous tracts of forest; some experts estimate that over 2000 square miles of forests in the Appalachian region will have been razed by mining companies by 2012."

5) In paragraph 1, the author mentions *Lespedeza cuneata* in order to

A. provide an example of the natural vegetation that grew on the mountains before MTR companies cleared the forests
B. identify one type of plant that is likely to flourish on the newly-blasted mountaintops
C. justify the reasoning behind the MTR companies' decision to plant a non-native species where the forests once were
D. convince readers that the MTR companies' attempts at replanting the forests may not be perfect, but they do represent a respectable effort
E. argue that the MTR companies are more interested in saving money than addressing the damage they have caused to the environment

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6) According to the passage, the way in which MTR companies dispose of the overburden is hazardous because

I. the mining companies continue extracting coal from the overburden, thus putting additional pressure on the environment
II. the sludge dams are not a failsafe containment system
III. MTR companies often dump toxic waste directly into the municipal water supply

A. I only
B. II only
C. I and II only
D. II and III only
E. I, II, and III

7) Which piece of evidence, if true, would best strengthen the author's argument in the final paragraph?

A. Mining counties in West Virginia are some of the poorest in the nation.
B. Less than 8% of the coal produced in the United States of America comes from MTR operations in the Appalachian Mountains. More than 400 mountaintops in Appalachia have been destroyed for this coal.
C. MTR is a wholly unsustainable process; the reserves of coal located in the Appalachian Mountains will likely last less than 20 more years.
D. The Appalachian forests are home to one of the highest concentrations of biodiversity in North America; animals that call Appalachia home include flying squirrels, freshwater mussels, and more different types of salamanders than can be found in one place anywhere else on earth.
E. Explosives detonated at strategic points along the summit can remove up to 400 vertical feet of mountain tops to reveal the rich coal seams below.

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