

## **4.21 Irreversible and Irretrievable Commitment of Resources**

This section describes irreversible and irretrievable commitments of resources associated with implementation of the Proposed Action and alternatives analyzed in this EIS. A resource commitment is considered irreversible when primary or secondary impacts from its use limit future use options. Irreversible commitment applies primarily to nonrenewable resources, such as minerals or cultural resources, and to those resources that are renewable only over long time spans, such as soil productivity. A resource commitment is considered irretrievable when the use or consumption of the resource is neither renewable nor recoverable for use by future generations. Irretrievable commitment applies to the loss of production, harvest, or natural resources.

### **4.21.1 Minerals**

The removal of coal during surface mining would be an irreversible and irretrievable commitment of resources. The coal would be irreversibly committed from the geologic formations and irretrievably committed when it is burned for electrical generation.

### **4.21.2 Earth Resources**

As mentioned above, the removal of the coal resource would be both an irreversible and irretrievable commitment of the resource.

The development of Pinabete SMCRA Permit Area and the FCPP DFADAs could have an adverse impact on paleontological resources. Ground-disturbing activities associated with the Project could damage or destroy previously undiscovered paleontological resources, which would be an irreversible impact.

### **4.21.3 Cultural Resources**

Previously undiscovered cultural resources, including archaeological resources, TCPs, and human remains, could be irreversibly affected during construction of the Project.

### **4.21.4 Water Resources/Hydrology**

The loss of the coal seam aquifers would be an irreversible impact. However, coal seam aquifers are not currently used for drinking or domestic purposes because of its low quality. Hydraulic conductivity and recharge rate to groundwater would be irreversibly impacted. Because of the length of time required for aquifer recharge, this commitment would be considered irreversible and irretrievable.

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