



Reevesdale South Dip Tunnel Project
Acid mine drainage (AMD) is diverted through a limestone tunnel where the acidity of the water is decreased (pH is increased) by natural chemical reactions between the acidic water and the limestone, thus allowing metals in solution to precipitate.





The limestone tunnel discharges into the pictured wetland and the iron precipitate collects in this basin.

Note the discharge pipes on the left side of the pictures





The mine shaft opening was once beside this outcrop. It has been covered and is no longer accessible.

Wayne Lehman (right) and Bill Reichert (left) explain the workings of the Reevesdale Tunnel Project.





Flushing of the limestone drain results in iron precipitate washing into the wetland. Note the growth of the iron plume (start in the upper left corner and follow the pictures in a clockwise direction). Note also the discharge is angled toward the bank of the wetland instead of the outlet of the wetland. This allows the iron precipitate to settle to the base of the wetland and maximizes the efficiency of this wetland as a holding area for the iron precipitate.



Newkirk Tunnel Project - Similar to Reevesdale Project, in that the pH of the AMD is decreased through the use of a passive treatment system of limestone and wetland collection areas where the metals may precipitate out of solution.

Note the iron precipitate on the pipe on the right side of the holding pond





Discharge from the holding pond flows through limestone drains and into nearby wetlands. Iron precipitate collects on the rock surfaces (right) and plant life in the wetlands.



Reclaimed Strip Mine

Note ephemeral discharge from previous days' rains on bottom right





Reclaimed Strip Mine – Poplar growth on left is accelerated due to the application of biosludge which gives the trees nutrients. These trees can later be used as a renewable resource (pulp wood).



Students peer over the edge at an active strip mine at which the Mammoth coal unit is excavated.

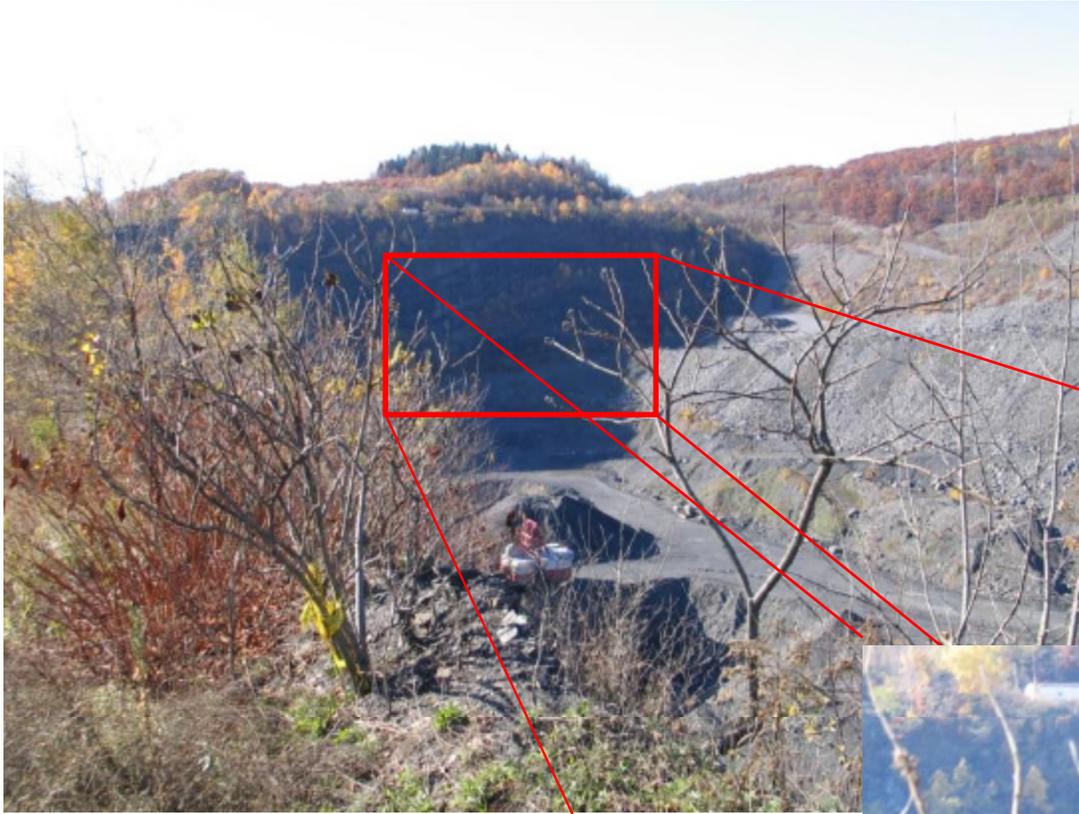




A view into the active strip mine –
from the student-filled ledge on the
previous page.

Porta-potty indicated for scale





Structural geology has a significant impact upon where coal can be found.

Fold on rock face (below)



Students and folded rocks at an active strip mine (Mammoth coal unit)

