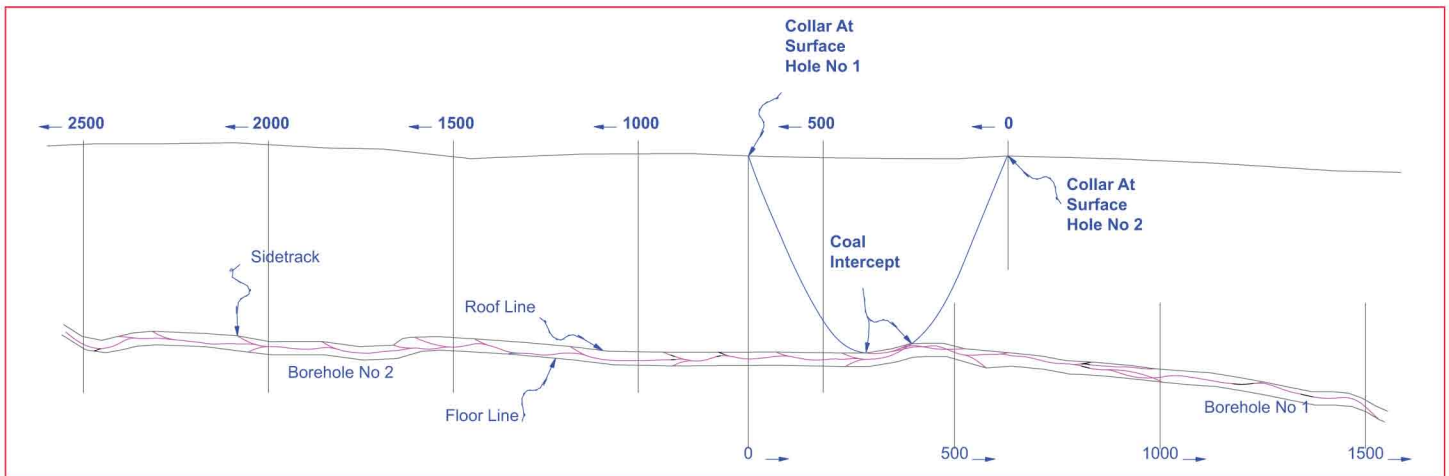


Surface Slanthole Old Works

Old Works Verification Surface Slant Boreholes (Slantholes)

If coalbeds are not too far below the surface, a borehole or boreholes can be drilled from the surface on a "slant" between vertical and horizontal and then turned and continue in a horizontal direction once it encounters the coalbed to define a path of "solid coal" or "coal in-place" (no workings of the abandoned mine) or to probe into the abandoned mine at one or more locations to more accurately define its location and workings.

- Criss-crossed slantholes prove "coal in place"
- Slantholes collared at the surface can access areas that cannot be reached with bore holes drilled underground
- Drilling can be completed well in advance of mining and without interfering with mining
- Slanted boreholes can be steered to horizontal when intercepting the coal seam
- Horizontal legs drilled in-seam



Old Works or Abandoned Mine Verification (AMV) Boreholes

- Slantholes drilled from the surface to access the coal seam
- Crossed slantholes used to verify coal in both directions
- Horizontal boreholes directionally drilled in coal seam to prove "coal in place"

