MinE 306 Mining Exploration and Evaluation


Homework 3a Assignment:

From Chapter 2, Reserve Calculation Methods, pages 17-22

Q1: Using the Coal Seam Reserve Map in Plate 2, page 19, with three added outcrop samples, show how the reserve classification lines change. USE THE USGS/USBM GEOLOGIC CONFIDENCE INTERVALS FOR THE DISTANCES BETWEEN MEASUREMENTS.

Q2: Using a second copy of Plate 2, construct a lineal interpolation between data points and draw the isopach contour lines for 30”, 36”, 42” and 48” coal seam thicknesses. (HINT: assume valleys are not eroded away when drawing isopach lines).

Q3: Using a third copy of Plate 2, construct POLYGONS around each data point. The polygons are created using perpendicular bisectors. Assume that the outcrop and the figure boundary form the outer edge of the polygons.

Suggestion: Draw your construction lines in pencil. Color your final boundaries and isopach lines. Show in a legend what you have done and want me to understand.

Read SME Handbook Chapter 5.6.8.1-4 and 7-8 Resource Estimation

If you are a member of SME you may read it on the web at this URL.

http://books.smenet.org/Min_Eng_Hndbk/meh2-toc.cfm
HW #3a, Plate 2

- Use legend from Textbook Plate 2, page 19.
- Outcrop measurements of total mineable seam thickness are data added for this problem only
- Scale is approximately 1” = ½ mile