The following lists a minimum of 13 required (for a coal project) maps, logs and sections in **bold type**. Additional maps may be needed depending on customer requirements and the type of deposit. Non-coal projects will be assigned on an individual basis. This data and map library forms the basis for the next course MinE 484 Mine Design – Report.

All maps will include a line border 3/4” inside the paper edge, a title block, legend, scale bar, project boundary, coordinate grid lines and North arrow. Map name and title block will be visible when the map is folded. **Font and text size must be legible at the map scale printed.**

1. **Regional Transportation** - showing major city, state lines, interstate highways, rail or barge routes serving the project.

2. **Mine Location** – show the project boundary on a USGS topographic base map with planographics and major surface elevation contours or similar base map. Oil and gas wells, public water supplies, population centers, railroads, major roads, power lines, pipelines and rivers should be identified. A state line inset map helps to locate the project.

3. **Drill or core hole posting** - all sample data points are identified by symbol and name, and posted at their proper locations (may be combined with other maps) with general mine area features that are shown on all mine maps to easily orient the reader.

4. **Overburden depth** from surface generated from a grid of the surface elevation contours and grid of the seam Structure.

5. **Structure**, bottom and/or top of seam elevation for bedded deposits, ore body vertical and horizontal extent for replacement and vein deposits. Faulting, folding, washouts, intrusions, horizontal stress directions and outcrops or subcrops may be included on this map or individual maps. Other mine works are often included on this and other maps.

6. **Seam thickness** or ore body dimensions in plan view.

7. **Quality parameters** such as the following for a coal property (**Ash**, **Sulfur**, **Btu**, **Yield**, **SO2/mmBtu**, **Moisture**, **Reflectance**, methane content, etc.)

8. One or two annotated **Geologic Columns** or bore hole stratigraphic (strip) logs of the seam and immediate roof and floor chosen in typical and non-typical areas (a coal project may show –10’ below and +50’ above the seam). Note the vertical and horizontal scales. Typical scale is 1”=10’ vertical scale with the column at least 1” wide.

9. Two **Cross Sections** (or fence diagrams) through the reserve area showing the seam or ore body, roof and floor material (back and foot wall) and major strata groups from the bottom of the hole to the surface. North-South and East-West sections are often used. Many more sections may be needed for an irregular or non-bedded deposit. Larger vertical scale cross sections (e.g. 1”=5” or 50’v = 1000’h) showing only the immediate roof and floor may be needed for the ground control section of the MinE 484 report. Surface projects may need regularly spaced sections.

10. **Reserve Classification** – Since sample spacing is a measure of geologic and quality spatial uncertainty, a map showing the USGS Circular 891, Coal Resource Classification System or other documented spacing criteria, as Measured, Indicated and Inferred areas are required.

11. At least one **page size** (8.5” x 11” to 11” x 17” paper) map to orient the reader to the project and **one full size** map must be included in the report. These maps will be selected by the student for significance to the project and the part of the report in which it is used. Typically one map is included with the **Executive Summary**. Page size maps, up to 11”x17” fold out maps, may be bound into the report text which aids the reader with limited space who can’t unfold large maps.