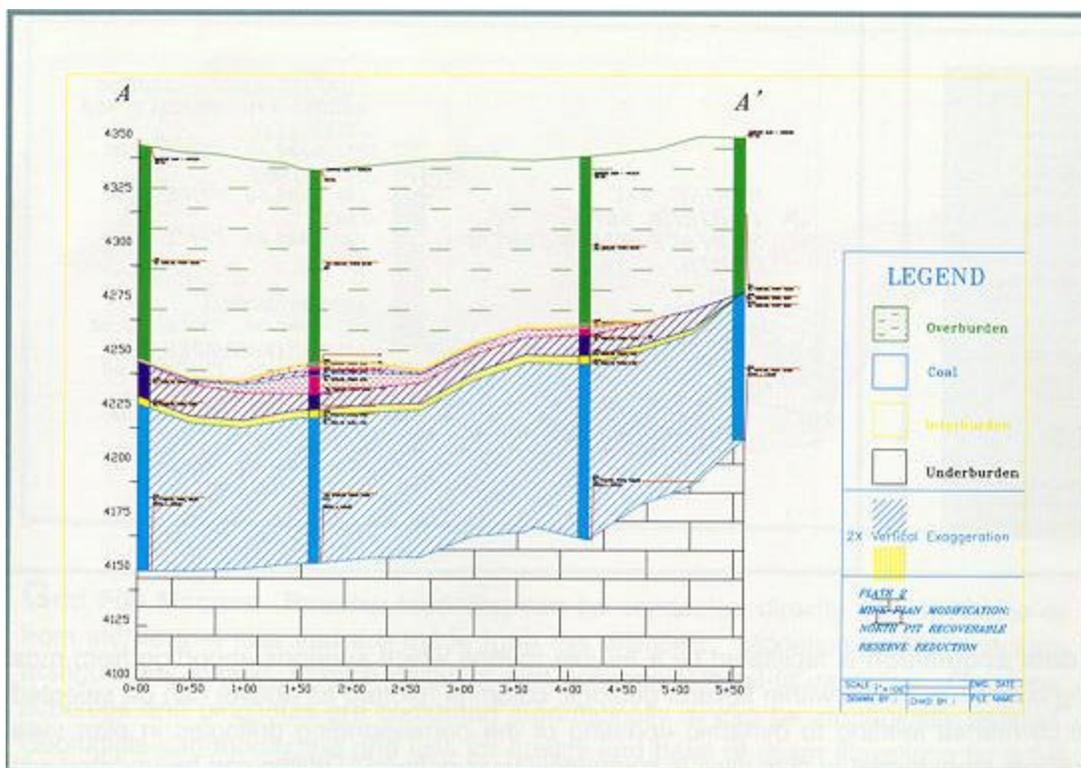


# Advanced Geology Handling

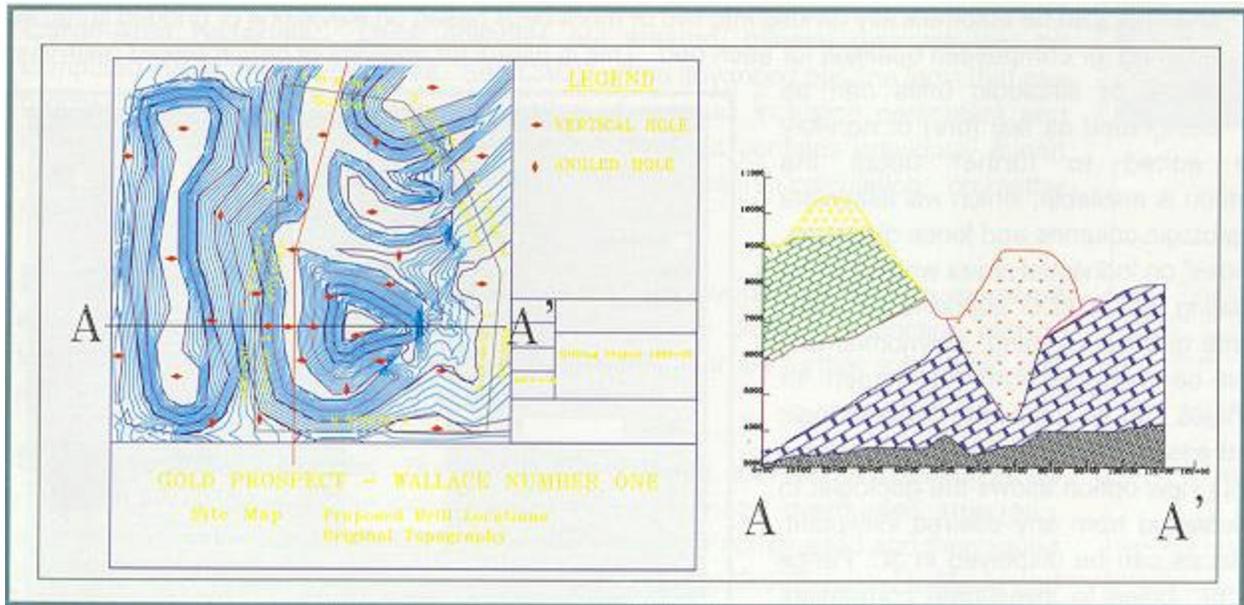
## Corehole/Geology Management

Corehole correlation and fence diagrams are readily developed with automated macros.

The ability of SurvCADD to import Mincom, Minex and over a dozen other drillhole formats allows the user to utilize almost any type of data. Quality equations of unlimited parameters coupled with unlimited grid sizes and resolutions produce a detailed model of any size. Operations such as fence and block diagramming and isopaching can be conducted from stored grid files or directly from screen-selected drillholes. Seam conformance, pinchout, faults, subcrop and parting logic are an intrinsic part of all of the major modeling techniques. Geologists can assert control over raw drillhole data by specifying strata limit lines for subcrops and outcrops, and by designating "3D polylines" for strata bottom elevations. In this way, highwall, pit and underground mine survey information can be translated into more accurate structure modeling.

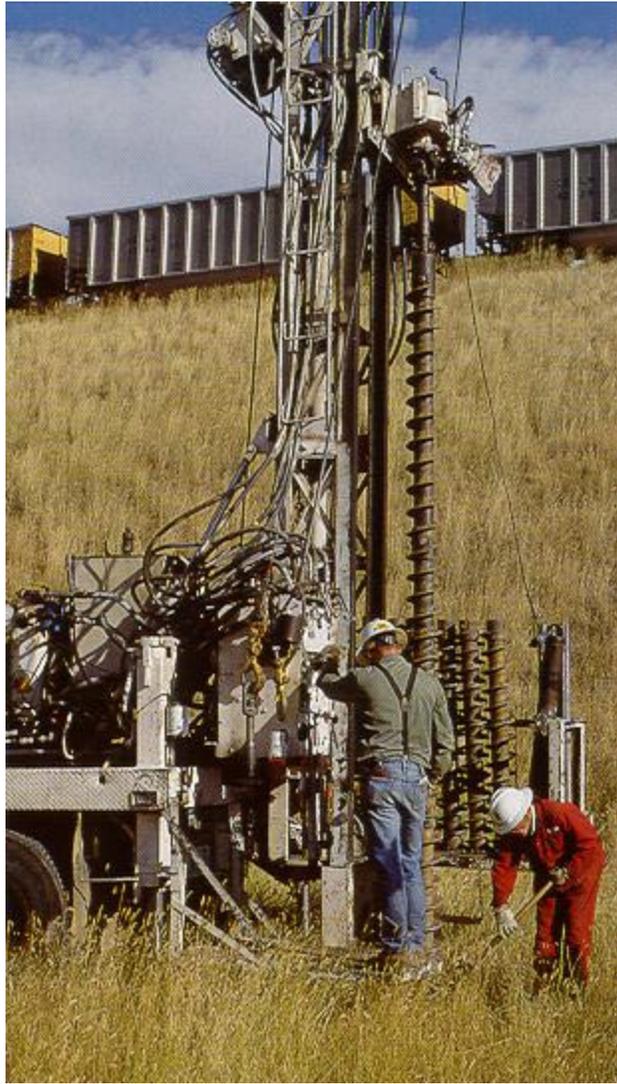


The geologic model accepts channel samples and outcrop samples. Corehole correlation and fence diagrams are readily developed with automated macros. Macros will update entire sets of grid files when new drillholes are added. Grid history is accessible for review as necessary. All major geological modeling techniques are supported by SurvCADD, including geostatistics. Grid file utilities allow quick and flexible modification of gridded surfaces within defined areas, including grid-to-grid algebraic operations.

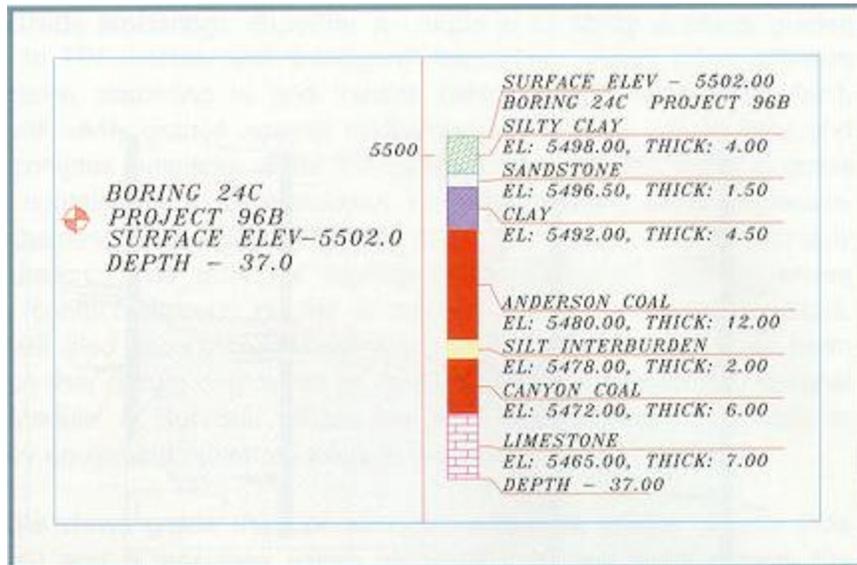


## Coreholes

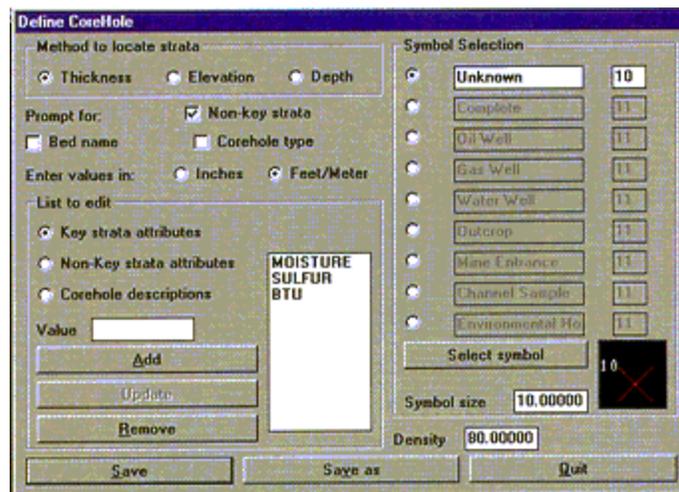
Corehole data acquisition is facilitated by a flexible routine which supports importing from most major mining software. Strata within several geologic columns (plotted as above) can be selected, named and correlated leading to dynamic updating of the corresponding drillholes in plan view. Even the drillhole label format in plan view is completely user-defined. Drilling can be updated with a powerful corehole data management spreadsheet which allows the user to encode strata and bed data along with lithologic information and unlimited quality parameters. Not only can strata within a bed be composited for quality, but beds can be subdivided.



A 50-foot ore body or coal seam, for example, can be automatically divided into 2 or more beds based on elevations or gridded surfaces, allowing for composited qualities for each bed. This is useful for analysis of bench-based reserves. Strata or lithologic units can be designated as key (ore) or non-key (waste) during setup and can later be edited to further detail the geologic model.



The popular Fern Code designation is available, which will associate the proper hatch pattern with each Fern Code in geologic columns and fence diagrams. The routine also supports user-defined "horizon codes" on individual strata which can be used to select or deselect specific data for modeling. SurvCADD supports all major modeling techniques including triangulation, inverse distance, kriging, polynomial and geostatistical estimators.



Individual drillholes can be selected from the screen for straight forward edits or updates. Queries on coreholes can be done with Boolean logic and drillhole statistics can be reported quickly and easily. Interrogation of the geologic model is facilitated with 2D or 3D diagrams. The 3D view option allows the geologist to see the borehole lithology and downhole data displayed from any desired viewpoint. Likewise, triangulated, contoured or gridded surfaces can be displayed in 3D. Fence diagrams can be constructed between a series of holes to investigate correlation.