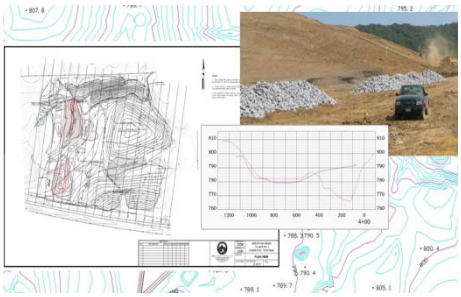

Carlson Mining

TIPS provides Carlson Software's AutoCAD-based "Carlson Mining" engineering design package which consists of several modules. When taken together, the modules cover a wide array of areas in civil engineering/site design, mining engineering, and surveying.

Overview

Carlson's products customize AutoCAD for earthmoving and engineering design. They enable a user to model surface topography and reclamation design, calculate volumes for soil piles or pond capacity, design post-mine topography, and create maps.

Modules that TIPS provides:

- **Survey & Civil Modules –** Surveying, contouring, volume calculation, sections, profiles, road design.
- **Hydrology –** Provides full 3D road and lot design feeding directly into flow calculations and drainage design. Track runoff and analyze watersheds, design ponds, culverts, channels and outlets.
- **Basic Mining –** A basic module for drillhole entry, reserve calculations and fence diagrams, underground mine mapping, layout and quantities.
- **Surface Mining –** This module includes tools for creating pit layouts, calculating reserves, cross-sectional designs, dragline range diagrams and 3D pit and fill design routines.
- **Underground Mining –** Provides tools for designing and scheduling the mine projections and mapping surveyed areas of a mine.
- **Geology –** Models drillholes and strata structures and attributes, allowing 3D viewing of drillholes and blocks, cross sections and queries to accurately represent any ore body.
- **Field –** Take Carlson and AutoCAD to the field for data collection and stakeout with total stations and GPS receivers.
- **Natural Regrade –** Designs stable land surfaces that follow natural hydrologic and geomorphic principles.

SOFTWARE:
Carlson Mining/Civil Suite

SMCRA USES:

- Import Company provided data to produce a base map for field and office use.
- Produce maps and cross-sections.
- Calculate volumes of stockpiles, soil piles, and pond capacity.
- Design post-mine topography and create a map.
- Design drainage areas and drainage structures.
- Calculate volumes of soil material for soil substitution and soil replacement.

TIPS TRAINING CLASSES:
CAD201: Carlson Mining; Site Design for Permitting and Reclamation

CAD301: Carlson Mining; Field, Hydrology, and Natural Regrade for Permitting and Reclamation

NEED HELP????
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