Quarry Mapping

Participants:

Geologitis & Production Engineers

Course contents:

I) MAPPING INTRODUCTION

1) Map Basics
   a) Some Types of maps
   b) Contour maps
   c) Geologic maps
   d) Mining maps
   d) Political maps
2) Map Components
   a) Title
   b) Legend
   c) North arrow (True north, Magnetic north and Grid north)
   d) Latitudes and longitudes
   e) symbols
3) Types of map scales

I) QUARRYING TOPOGRAPHIC MAPS

1) Contour lines
2) Characteriscs of contour lines
3) Topographic Features
4) Profile line
5) Sowa re applicaon of topographic maps

II) QUARRYING GEOLOGIC MAPS

1) Rock outcrops (Igneous, metamorphic and sedimentary)
2) Horizontal beds
3) Map Index
4) Depth to horizontal beds from surface
5) Geologic cross secon for horizontal beds
6) Inclined (Dipping) beds
7) Strike line
8) Dip
9) True thickness
10) Vercal thickness

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11) Basics of drawing the outcrops for dipping layers
12) Depth to dipping layers
13) Map drawing for the dipping layers
    a) By knowing part of outcropping layer
    b) By knowing point elevation and true dip
    c) By Knowing point elevation and two apparent dips
    d) By Knowing point three (two points at the same elevation
    e) By knowing three points on different elevation

III) QUARRYING GEOLOGIC STRUCTURES

1) Folding Structures
    a) Definition
    b) Types
        b1) Synclines, anclines , monocline, etc
        b2) Symmetrical and A symmetrical
        b3) Plunging and non plunging
2) Faulng Structures
    a) Definition
    b) Types of faults
        b1) Normal, reverse, strike slip
        b2) Horst and graben
        b3) Diagonal faults
    c) Joints
3) Unconformity Structures
    a) Definition
    b) Types of unconformities (Angular, disconformities , non conformity...etc.)

IV) SOFTWARE APPLICATION FOR DIFFERENT MAPS

1) Surfer program
2) Map Source Program
3) GPS Global Positioning system lab and application
4) Google Earth

(V) ONE DAY FIELD WORK (GEOLOGIC FIELD TRIP)