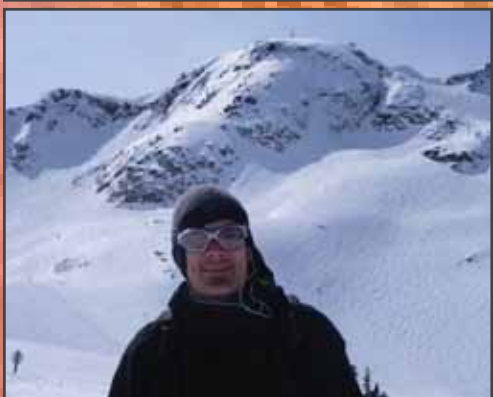




Jason R. Martin

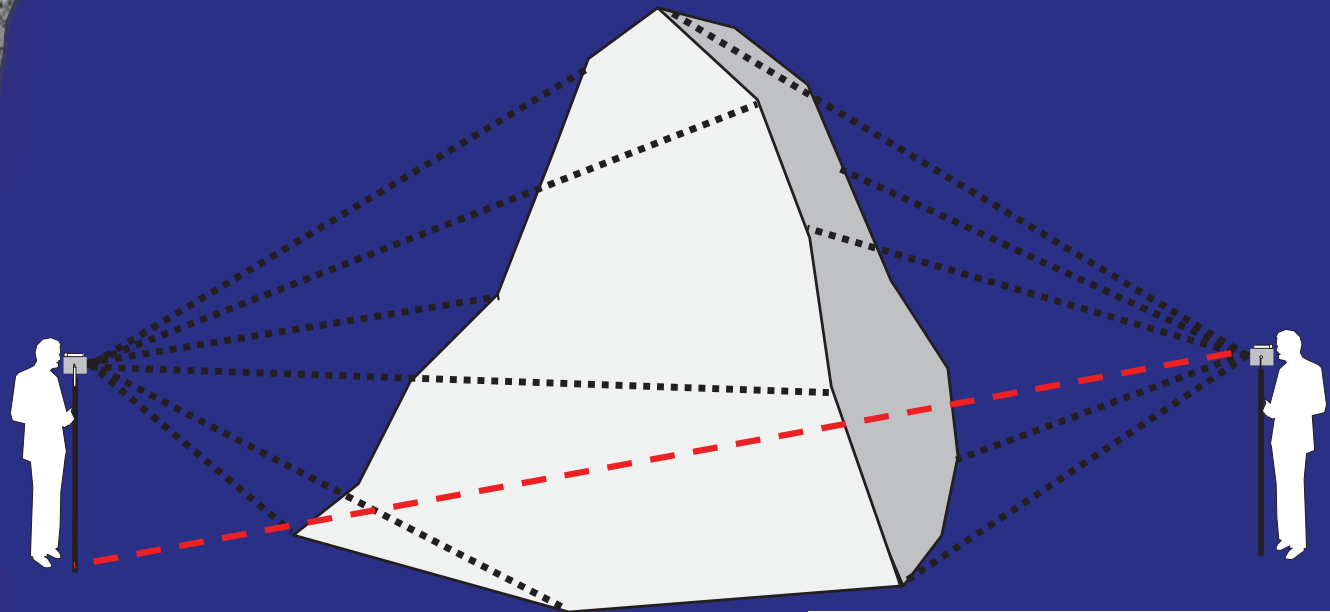


MapSmart



Mapping for the Non-Surveyor

Stockpile Volume Calculation
Software



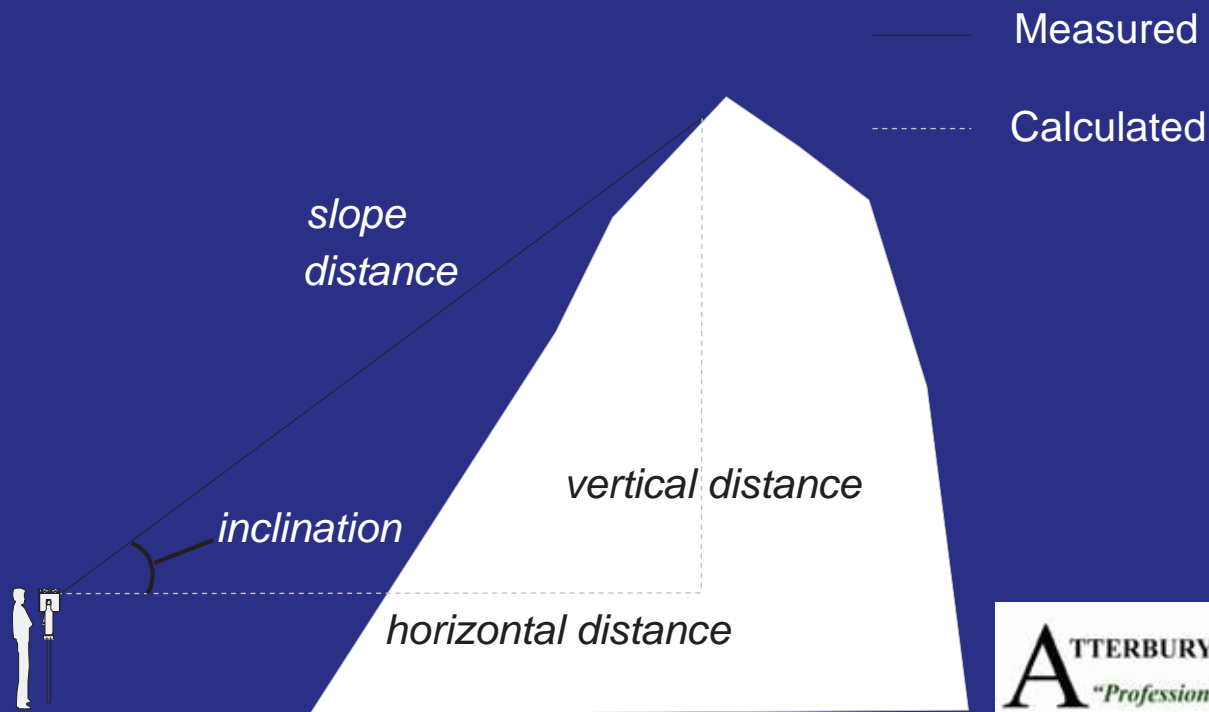
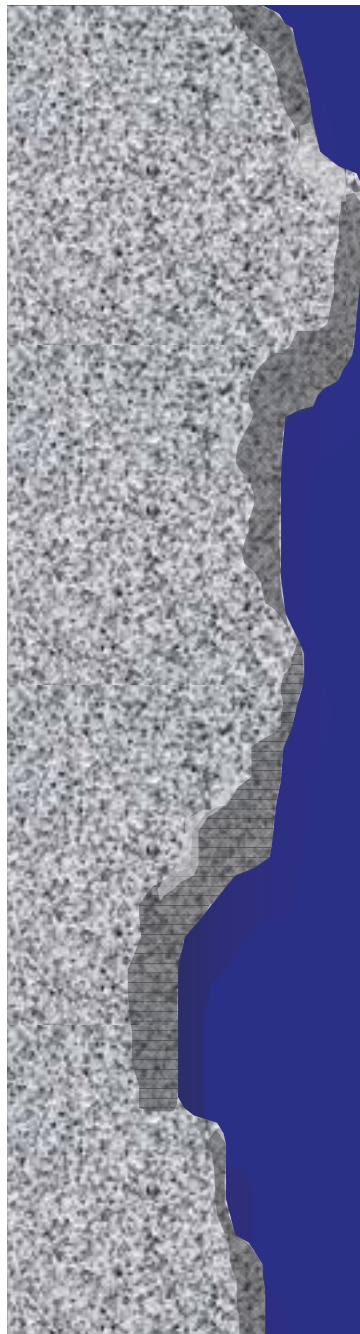
Stockpile Survey Overview

- Why use a pulse laser positioning system?
- Reporting Options
- Increase Accuracy
- Decrease Costs
- Improve Safety



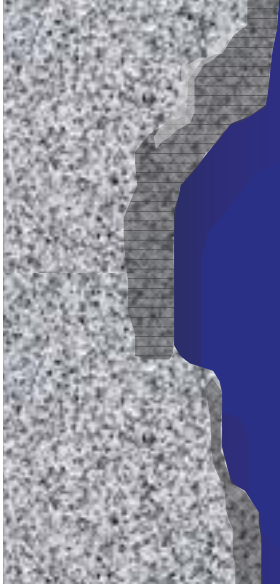
Well-built and Robust

- Records azimuth, inclination and distance to each point, generating a 3-dimensional surface
- High Repeatability and **Relative Accuracy**
- Store thousands of points
- Error-free electronic data capture and download



Equipment List

- TruPulse 360 and Data Collector
- MapStar AE, TruPulse or Impulse 200 and Data Collector
- TruAngle, TruPulse or Impulse 200 and Data Collector
- Staff or Tri-pod
- Target (reflective cones)
 - for instrument positions
- One Operator



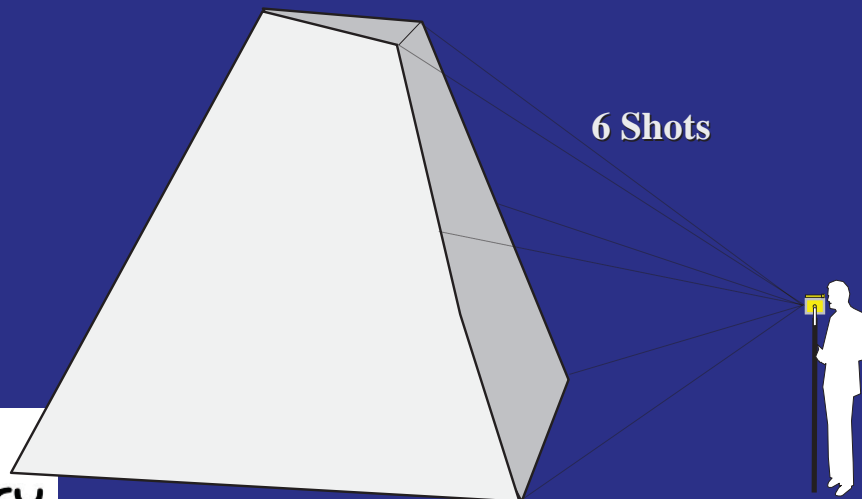
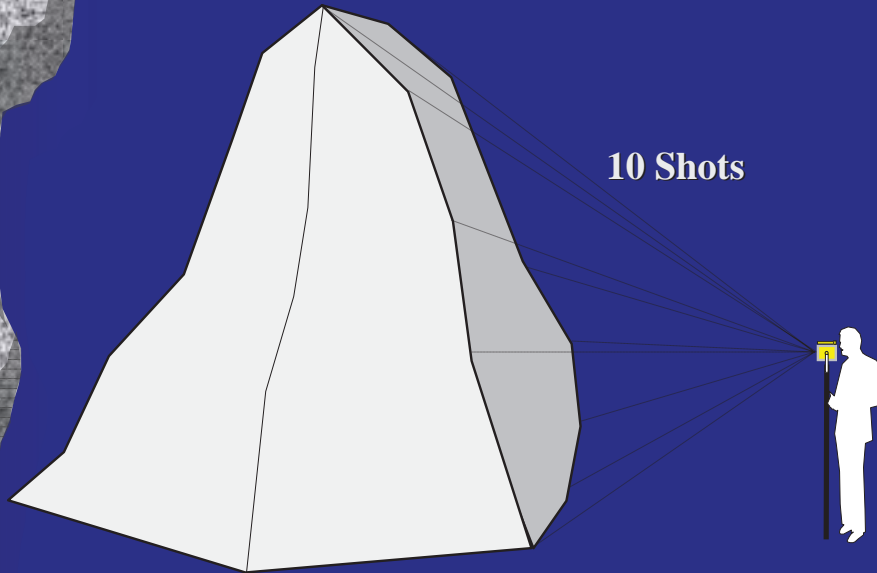
Setup Procedure

In about 15 Minutes

- Walk around the pile, temporarily marking instrument points that will afford full coverage of the surface
- Assemble the hardware
- Configure the Angle Encoder or TruPulse 360 and MapSmart Software



Pile Shape

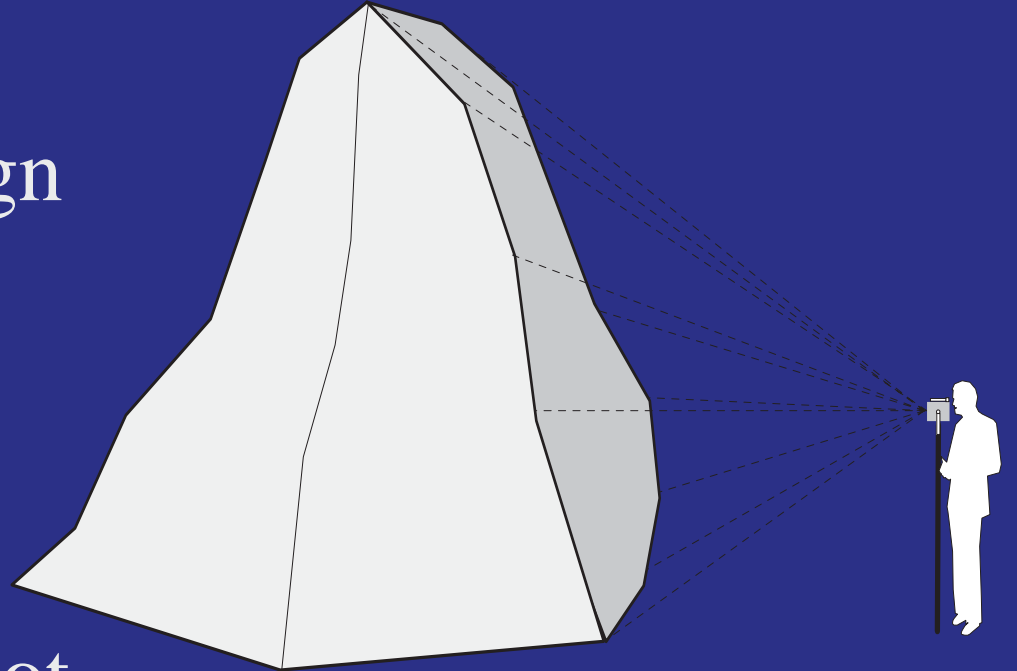


- Emphasize data collection on the surface breaks
- More shots are necessary near undulating and crowned edges
- Less shot are necessary on gentle slopes and flat tops



The System is Efficient

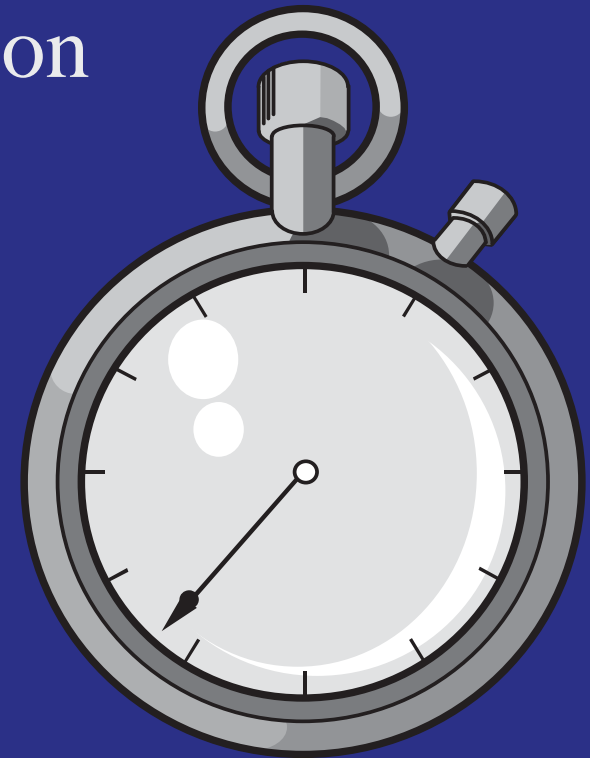
- Lightweight, portable design
- One person operation
- 1/2 second shot acquisition time



Results Come FAST

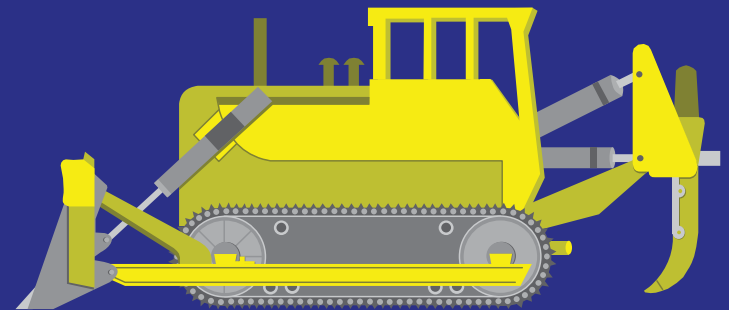
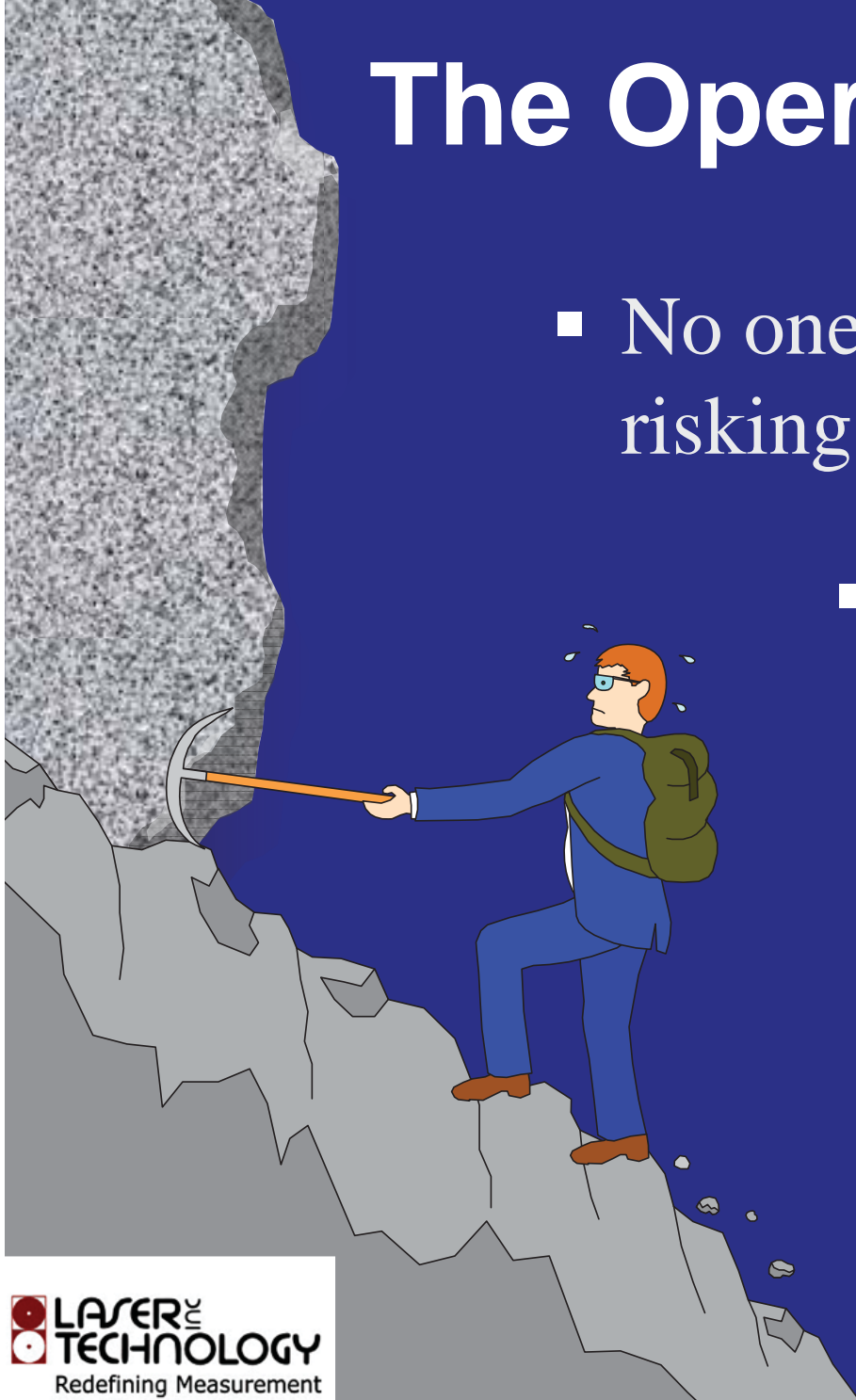
- Quickly determine critical stockpile volume information anytime of the year
- Typical 500 point survey accomplished in 1 hour
- Data processed in Seconds

Not days or even weeks as experienced with aerial photo interpretation services



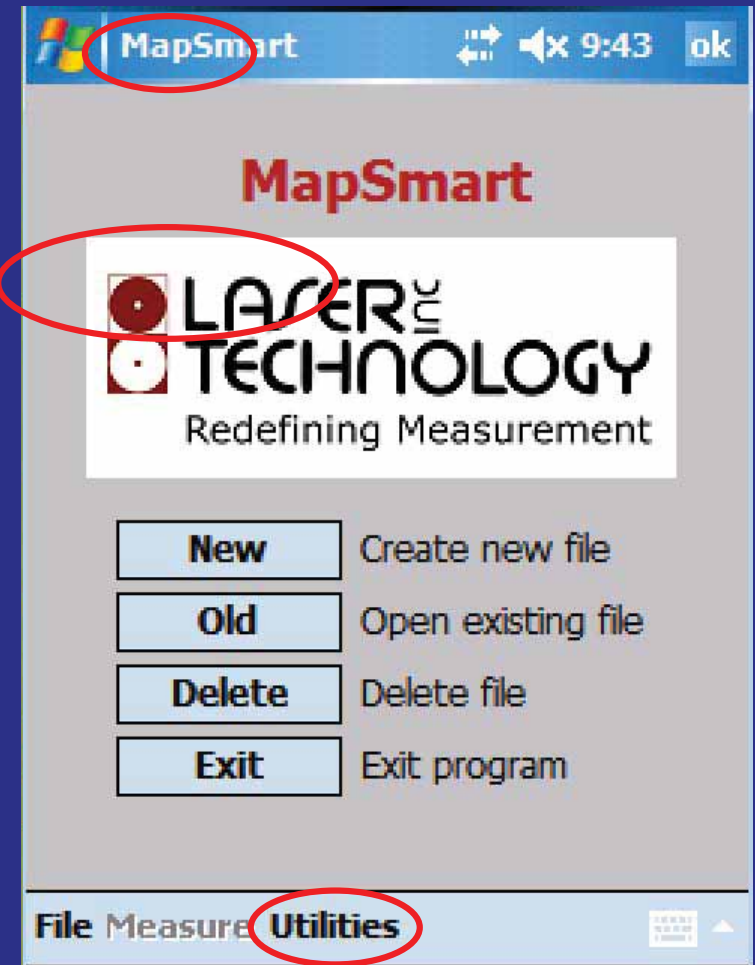
The Operation is SAFE

- No one scrambling over the pile risking injury
- Equipment can be set-up clear of vehicles and other working machinery



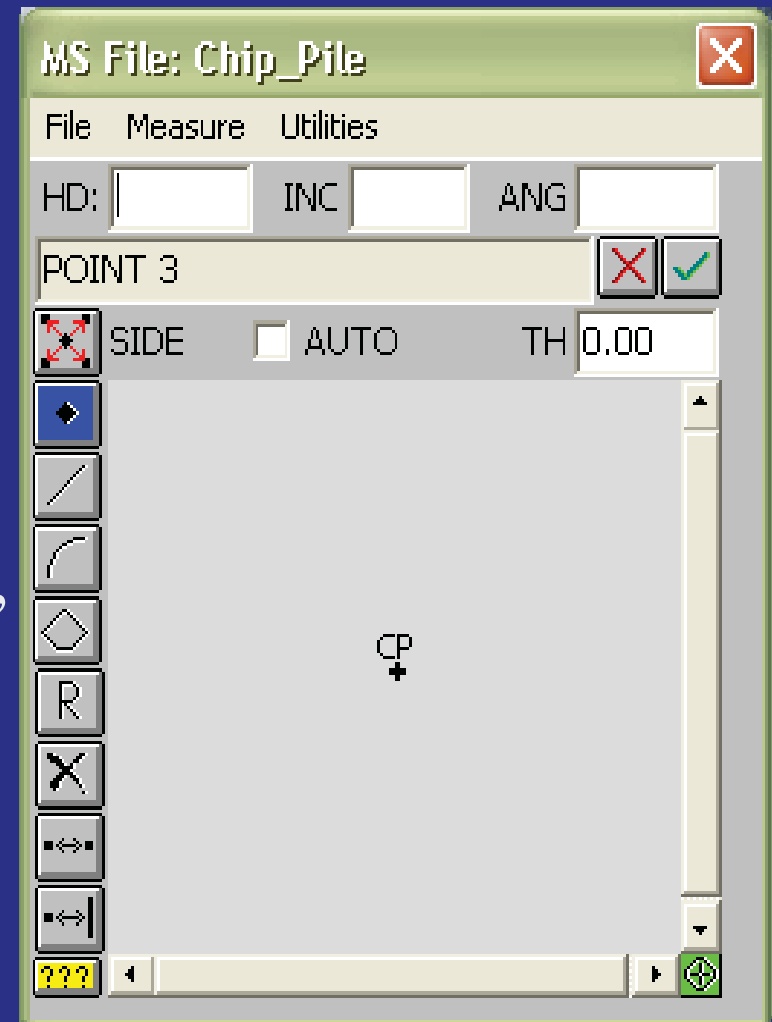
Open a File

- On the Pocket PC, Tap **Start** and select MapSmart
- From the main page, the user can either create a **New** file, **Open** a existing file, **Delete** a file, or **Exit** the program



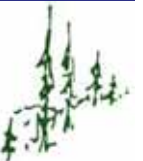
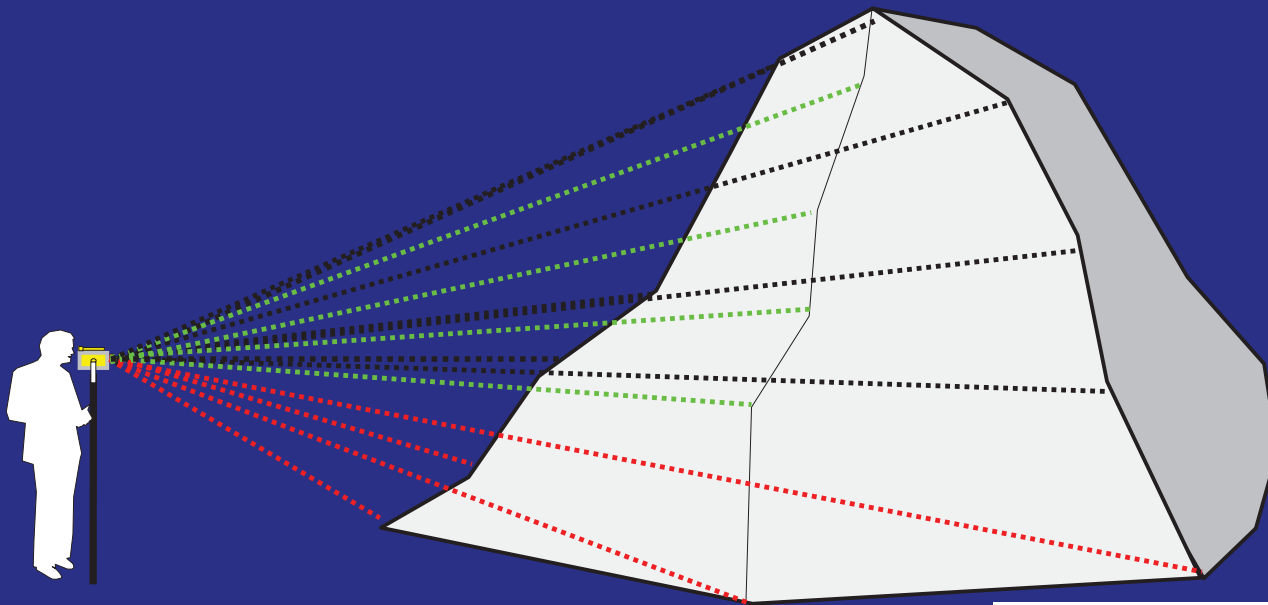
Create a New File

- Easy and Intuitive
- Enter File Name
- Select Method
- Select Units of Measurement
- Set Instrument Height, Side Target Height, and Traverse Target Height
- Start Collecting Data



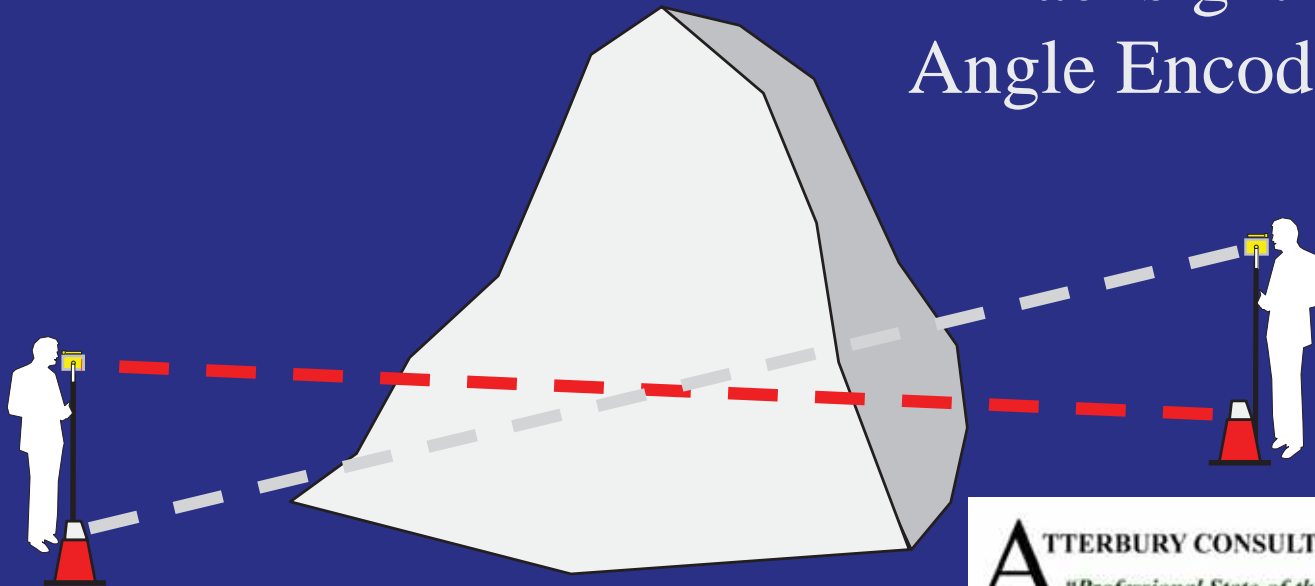
Collecting Side Shot Data

- Aim to the **Bottom** of the pile, fire the laser and store the data point as “Toe”
- Aim to the **Edge** of the pile, fire the laser and store the data point as “Pile”
- Repeat this procedure, following the “break lines” of the surface



Traverse Shot

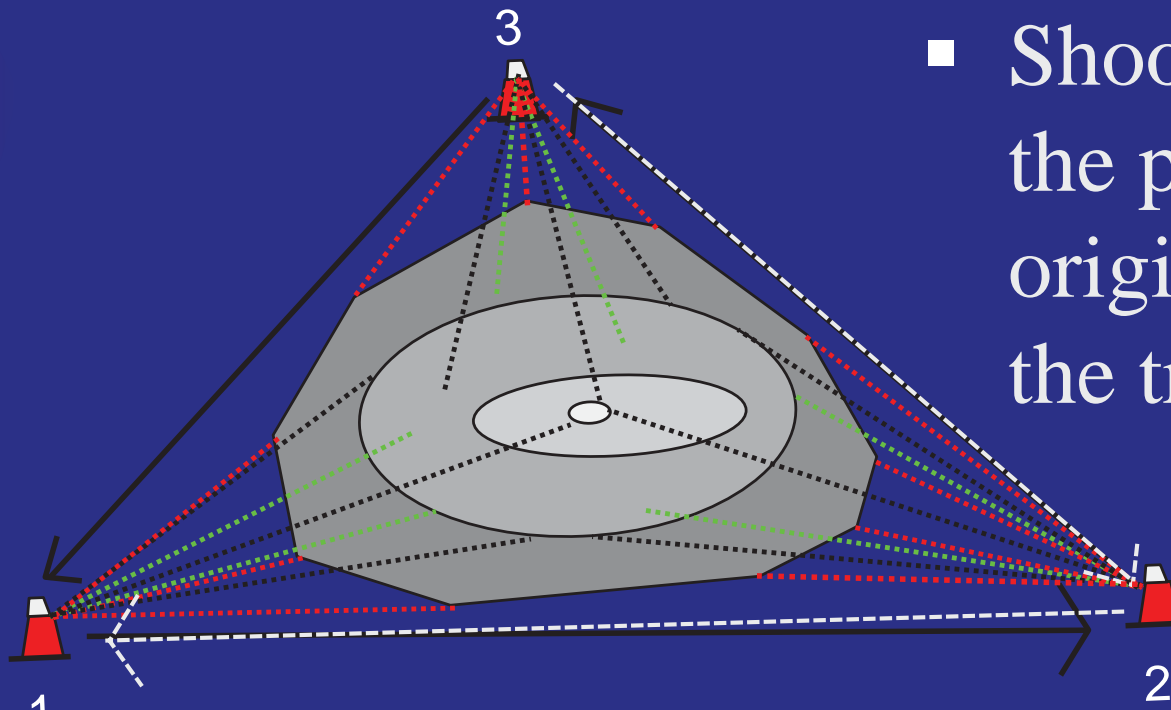
- Aim to the target at the next control point
- Push the fire button and collect the shot
- Store this data as a “Traverse Shot” and move the equipment up to the new location
- Backsight the Angle Encoder



Traversing the Perimeter

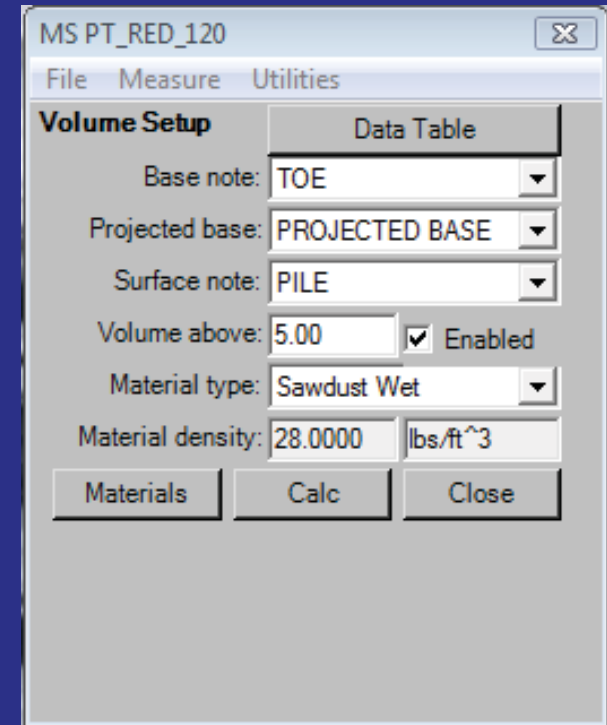
- Continue around the pile, collecting side shots, until the entire surface is covered

- Shoot back to the point of origin & close the traverse



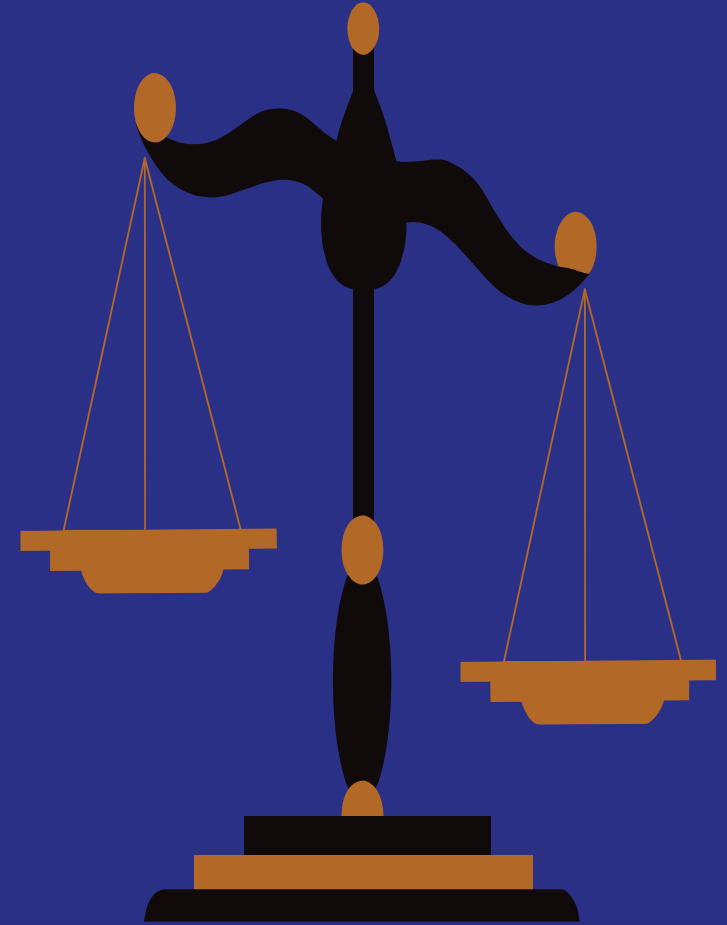
Calculate Volume

- Open the calculation menu, select the appropriate “note”, calculate the volume.
- Additional options are available for calculating the volume above a specified height or with a specified weight
- You can print and store the file in several formats including .txt, .bmp, .dxf, .CSV



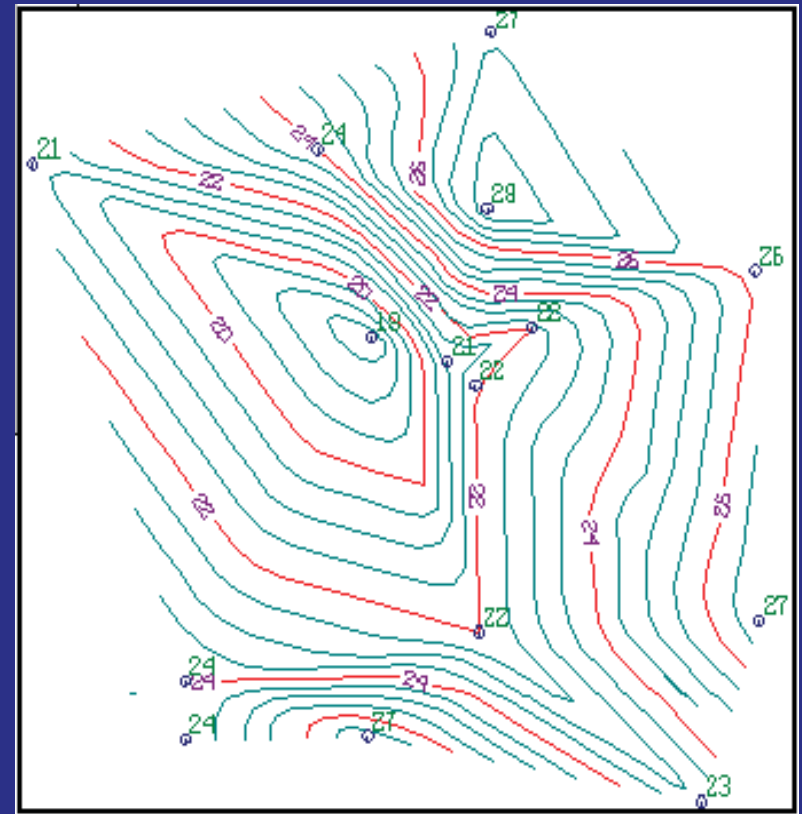
Expected Results

- Safe, efficient use of personnel
- Obtain answers in **hours**, not days or weeks
- Volumes within 1-5% of actual, depending on the measurement system and pile configuration



Additional Applications

- Quick Face Height Measurements
- Profiling Muckpiles after a Blast
- General Topo for new Progress, Site Map, etc.
- Drag-line Distances
- Landslide Volume



Target Markets

- Mining Industry
 - Aggregates
 - Coal
 - Hard Rock
 - Reclamation
- Timber Industry
 - Chip Piles
 - Log Decks
 - Hog Fuel
 - Slash Piles
- Government
 - BLM: Encroachment & Reclamation
 - State, County & City DOT's
 - Sand/Salt Piles
 - Landslides
- Surveying & Engineering Firms

YOUR
COMPANY



Questions

