

# Release Notes for VSP version 6.5

## (Major changes since 6.3)

### Improvements to Designs

#### UXO designs

- Added import function to High Density Areas dialog page
- Fixed UXO Transect Augmentation design dialog so that "Select All" COG updates properly
- Optimization improvements to Find Gaps in UXO Transect Augmentation design
- Improvements to Transect creation in UXO Transect Augmentation design
- Optimization improvements to Anomaly file import
- Added option of keeping or removing transects when importing 100% Survey Areas
- Added Target area definition options based on munition characteristics
- Fixed storage and display of lag distance and lag tolerance for UXO Geostatistical analyses
- "Save Graph" works from UXO Spacing page, even if Apply is not pressed
- Improvements to "Help me choose" Window Size dialog
- Improvements to UXO Transect Power Curve Graphs (see notes below\*)

#### Non-UXO designs

- Added default data columns for Control Chart design
- Made improvements to list handling in Control Chart design
- Lower / Upper Bound of the Gray Region won't be affected when changing Action Level
- Improvements to Kriging design dialog

### Miscellaneous

- Improved layer control for multiple data raster sets
- Improved Layer response when there are many sample areas
- Improved SHP file export of Gap Areas
- Added Sample Area Expand function
- Added labels for transects
- Improvements to Sample Area Information dialog – allowing changing size units
- Added display of map lines to floor in Room View
- Added Delete All menu item for deleting all raster data layers
- Added more furniture files to the library
- Improved Sample Symbol scaling
- Improvements to DXF map loading
- Display of map units on Layer control
- Can add new Analyte by clicking on blank part of analyte list

#### **\*UXO transect designs power curves:**

Modifications were made in the simulation of power curves for the UXO transect designs to correct erratic, inconsistent behavior observed under some conditions and to improve simulation speeds for

more precision. The inconsistencies happened due to the underlying discrete statistical model and anomaly density-averaging window. At times the detection performance curves were quite jagged/bumpy at the tight transect spacings (relative to target area dimension) which affected the consistency of the detection results for a given transect spacing. These modifications result in more smooth, consistent, and reproducible power curves. The increased simulation speeds allow for improved consistency in the Monte Carlo (the max error and min precision) from run to run.

Note that in some instances, the transect spacing arrived at under previous VSP versions will be different than the transect spacing using any VSP version 6.5 or higher. More precisely, the differences in detection probabilities are most noticeable for (in order of impact)

1. narrow transects (i.e. 1 meter),
2. over small assumed target areas (i.e. 300 ft. radius),
3. where the anomaly density above background is less than one times the assumed background anomaly density level,
4. and the transect spacing is very tight relative to the target area dimension (i.e. 3-10 transects covering a target area)

The wider transects (i.e. 3 meters) were not generally affected.