



News Letter

Spring
2000

NRG Survey System for Windows: Version 5 due for Release

By Martin A. Peet

Improved performance

NRG are proud to announce that version 5 of the **NRG Survey System** is due for release.

So what does version 5 have to offer?

Apart from a variety of new functions and tools, we have improved the performance of the system, thus triangulation, and volume calculations are up to 20 times faster.

Release Date:

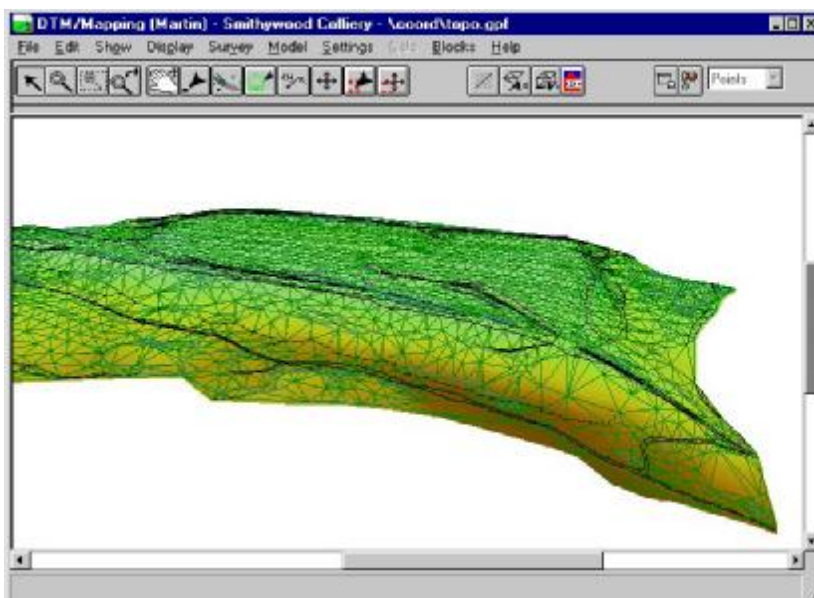
For those of you with up to date Support agreements, you can expect to receive your copy by mid March.

DTM Mapping

DTM Mapping and Modelling has been the cornerstone of the system for many years. Here are some of the features that make it the cornerstone of all mapping software...

- 3D perspective and isometric viewing from any view point.

- Colour scaled contours and isopachytes
- Additional Import and Export facilities.
- Pan the screen by cursor for easier display control.
- Bore Hole Analysis and Modelling of strata including material volume calculations.
- View multiple column text for each point - GIS Capability
- Area Shading
- Add Blocks
- Swap triangles without effecting layer zero (non-contourable triangle)
- Enhanced Setting Out functions and point analysis - especially with respect to As-Built positions compared to a Design.

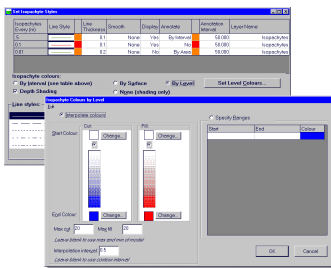


DTM Mapping showing:

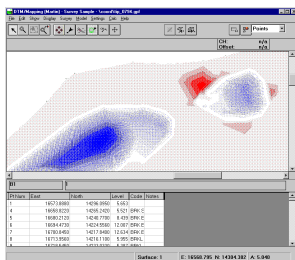
3d Perspective Viewing and Colour scaling for Contours – two of the new features in version 5

3d View & Coloured Contours and Isopachytes

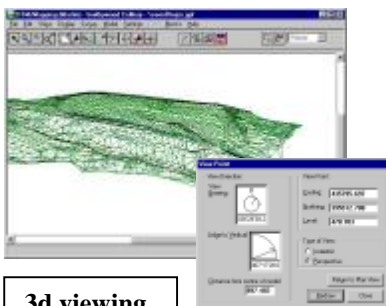
For those of us who can't see topography by looking at those wavy lines we call contours, or depth from isopachytes, help is now at hand. The new DTM Mapping & Modelling now includes 3d perspective, or isometric viewing, and colour scaling for Contour and Isopachyte display.



Colour Shaded Isopachytes - a simpler view at depth and volume information.



With these new features, topographic models and volume depths can easily be read, by viewing them in 3d or as a colour range - high to low, deep to shallow - Perfect for any presentation.

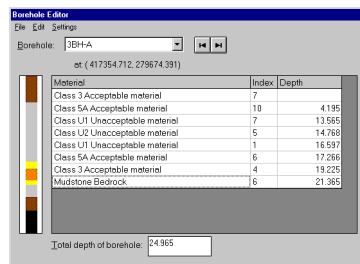


3d viewing.

An example of these features is shown on page 1 of this article.

Bore Holes

An entirely new section has been added to DTM Mapping & Modelling - **Bore Holes**. To do a bore hole analysis, coordinates are required for each bore hole, these can be input manually, or exported from a survey. Each bore holes



depth data is then added from the logs:

Bore hole head levels can also be taken from other ground models. Once all the data is entered, models are produced for each material layer. This ultimately leads to the calculation of material volumes, and cross sections.

Import Export

Although we are proud that DTM Mapping & Modelling is THE premier mapping package, still some clients and contractors use other software packages to work with. Eventually, they will realise that DTM Mapping & Modelling is superior, but until that day we have included more import and export functions to these packages. These include:

- Improved DXF import and export- Blocks can now be imported also

spot level text can be imported as levels - turning a 2d drawing into a 3d model. Selectable AutoCad version to export to.

- Import and Export to Leica GSI format.
- Export to Trimap TDC1, Eclipse file, LSS file, and AutoCivil file.
- Export triangle file to RAW format for 3d viewing. IE for use in 3d-viewer.

GIS

DTM Mapping & Modelling now has the ability to display multiple column text information on every point in the model. This makes the package ideal for GIS display. Basically "Column Text" is a feature to display the information from the editing table onto the plot. Now that multiple Column Text can be displayed per point. With the addition of multiple Notes columns you can display as much information as you like, from coordinates and levels to setting out information to general information. The only limitation is the room you have on the plot paper!

GIS at your fingertips - Multiple Column Text shows all you need to know.

Oak
 Spread-10m.
 Ht.-12.5m.
 Girth-2.9m.
 Condition-Good

Setting Out

In conjunction with the Setting Out module DTM Mapping & Modelling has

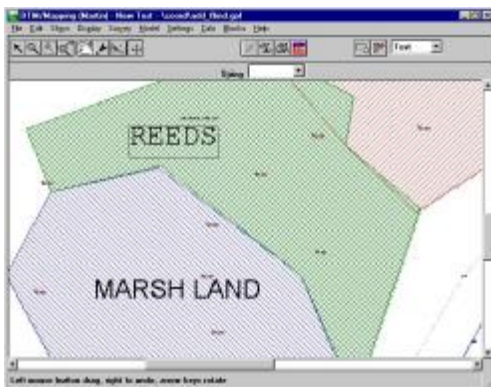
always been able to produce fast and effective setting out information to the engineer.

As-Built

Now, as well as "pre-build" setting out information, "as-built" information is also available. By comparing as-built surveys to design co-ordinates, an analysis of construction tolerances can be made. This can be in the form of rectangular differences (dE, dN, dL), or polar (bearing and distance as 2d and 3d vectors to nearest design point). The advantage of this new feature greatly reduces design time should remedial works be required.

Area Shading

DTM Map now has another new feature- Area Shading. This gives the user the ability to select areas on a plot and shade them. This has numerous uses; marking zones in a survey, showing areas where a physical survey could not be accomplished, areas of different materials, and so on. The areas can be drawn onto the plot by snapping to existing survey points or freehand.



Area Shading. This gives the user the ability to select areas on a plot and shade them.

Inserting Blocks

Definable co-ordinate blocks can now be added to any design or survey.



Adding blocks makes the design process faster and easier.

The Add Block tool makes the design phase of any job easier, as blocks are added they are converted to co-ordinates. Levels can also be obtained from the ground model.

Such applications of this feature may include; foundation pile cap layouts, pillar bases, manhole bases, and so on.

Volume Categories

Volumes can now be categorised by surface, gradient or depth.

Surface categorises the volume into different measurement areas.

Gradient categorises the volume into different gradient ranges.

Depth categorises the volume into depth ranges.

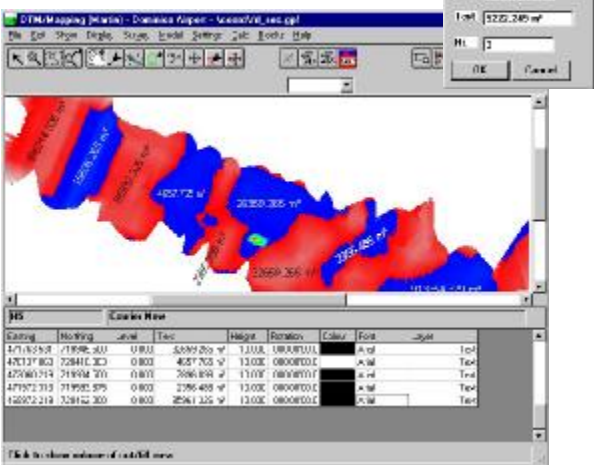
Mass Haul Made Easy

A new tool has been added for volume presentation. Display Volume.

Once a volume run has been accomplished, the user can display on the plot the individual cut and fill volumes.

The report given in a volume run only gives the total Cut/Fill results and those by Categories (see Volume Categories). This tool allows the user to identify cut and fill volumes in individual areas, determined by the Cut/Fill line. Each volume is added as annotation text for that cut or fill area. The text style can be altered in Text Edit mode, for a better presentation.

The Show Volume tool allows the user to add individual Cut / Fill volumes, as text, to the plot.



Monitoring

The NRG Monitoring package has been completely revamped, to provide more information to the user, and enhanced practicality in the form of Automation.

As before, Base points are loaded into the monitoring package as GPF (coordinate file), PDF (Psion Data file), CSV (comma separated variable), or manual entry, and subsequent surveys are added to these on a time basis. Points are identified by label, or found by proximity to its base point. This is user definable. As more surveys are inputted, a "history" of each monitored point is created. The movement of these points can be plotted over time.

Real - Time monitoring surveys can be loaded straight into the PC via a robotic instrument, such as the Leica TCA series. The applications for this is endless, from earth works monitoring to slope stability, tunnel excavations to movement control in prefab. construction. (e.g. fitting a bridge deck, where level control maybe crucial)

With the incorporation of movement tolerances, Amber and Red warnings can be given, an especially useful feature for monitoring the stability of slopes or tunnels during a dig. Other applications of this feature could be the movement control of structures during construction.

Movement "trends" can also be calculated giving the user a prediction of movement for further analysis. This

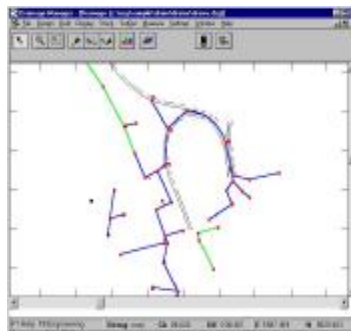
includes estimated times for points to move out of tolerance.

Here is a summary of the new features:

- *Real-time monitoring with a robotic instrument.*
- *Warning given when points move out of tolerance.*
- *Display of vertical, horizontal, and vector movement over time.*
- *Enhanced security features can allow the database to be administered only by a system supervisor.*
- *Monitoring by cross section.*
- *Summary of point to point separations.*

Drainage Manager

NRG Drainage Manager has also been revamped to include many new drainage features, including a new stock control and measurement system.



Drainage Manager- drainage designs can simply be created and checked, as-built information can also be added to compare to the original design.

The ability to design manholes, pipe runs and connections has been improved. Also the ability to provide as-built

information for measuring. Stock control sheets can be created and order quantities can be produced. Bill of Quantity quotes can also be inputted for comparison.

The ability to plot long sections along the drainage network has now been implemented

Intersections can be produced, in the design phase, to sort out problems where pipes cross.

Design data can be prepared for setting out, with the improved Setting Out routine.



Drainage Manager - Preparing information to set out a pipe run

Here is a summary of the features that Drainage Manager has to offer:

- *Stock Control*
- *As-built documentation.*
- *Measurement and "Bill of Quantities" comparisons.*
- *Calculation of intersection clashes*
- *Setting out reports for manholes, pipe runs, and junctions, including construction detail reports.*
- *Export setting out information to GPF file for use within DTM Mapping or setting out with the Psion Workabout.*

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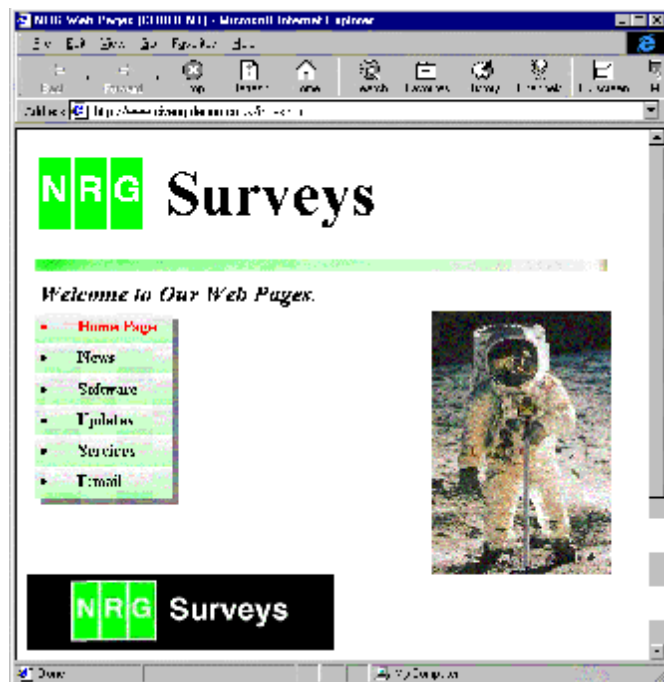
**...and what you will
find there...**

From our web site you can receive:

- *Banners for DTM Map including a Station Location banner for professional station location drawings.*
- *Updates of the software*
- *News - the latest developments from the NRG software house, including prices, features and update news.*
- *A concise review of our available Services.*

Coming soon...

- *NRG Screen Saver, Wallpapers and desktop theme.*
- *Complete catalogue of DTM Map banners for downloading in a variety of plotter and printer sizes.*
- *Manual and help file updates.*
- *Full software suite updates.*
- *Support response form - fill in your query and it will email it to us for a quick response.*



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