vComp Pty Ltd

(ABN 39 103 040 311)
PO Box 7356
Cloisters Square
Perth WA 6850
Telephone +618 9312 6158
Fax +618 9312 6158

FlexiSurv V1.13

Release Notes

2nd October 2015

Version Highlights

1. 64 bit compatibility! *FlexiSurv* will run under the dedicated 64 bit version of *Surpac* running on 64 bit *MS Windows*.

2. Compatibility issues with the recently released *Surpac V6.7* have been resolved and tested.

3. A new system for customisation and configuration files has been implemented to make migrating to new versions of *Surpac* and *FlexiSurv* versions easier

4. Ability to create 'Backsight Offsets' has been implemented.

5. Drill holes can now be sourced from a string file and trimmed for inclusion on survey memos/instructions.

6. Portrait memo styles are now available in both A4 and A3 sizes.

7. Title blocks can now be placed on the left hand side of the page as well as the traditional right side.

8. Fixed numerous positioning and sizing issues on memo plots.

9. A new consolidate string function has been implemented in the over/under break function to produce cleaner sections delivering more accurate results

10. A design solid rather than centreline and profile can now be input to the batch mode of over/under break function.

11. Level solids would crash when *Surpac* averaged *z* values on some points which created duplicate points.

12. Level Solids now has the ability to create up to 5 separate solids.

Important Note on Surpac 64 Bit Compatibly

Please note that *FlexiSurv V1.12* and all previous versions **will not function** on the 64 bit versions of *Surpac.*

FlexiSurv V1.13 is now **compatible with 64 bit versions of Surpac**. Note that both 32 bit versions and 64 bit versions of *Surpac* with *FlexiSurv* can coexist on the same computer.

New Installer

The installation program for *FlexiSurv* has been re-written to solve a number of issues. It now correctly detects all versions of *Surpac* including 64 bit installations.

The previous installer wrote a key into the computers registry which generally required computer administrator privileges. This no longer happens making the program easier to deploy in a restricted environment. A normal user should be able to run the installer.

The installer contains all files for both 32 bit and 64 bit versions of *Surpac,* separate installers are not required.

Recommendations

The following versions of *Surpac* have been tested with *FlexiSurv* and appear to be stable;
- Surpac 6.3+
- Surpac 6.4+
- Surpac 6.5+
- Surpac 6.6+
- Surpac 6.7

FlexiSurv

Version Details

In an effort to consolidate customised files and files associated with the survey memos, a new system has been implemented. Prior to version V1.13 program configuration files were stored in the main *FlexiSurv* directory with memo files being stored in the memos subdirectory. From this version a new directory named custom is created under the main *FlexiSurv* directory and all custom files are now created/placed in it.

Note that previously memo configuration files were placed in the memos subdirectory and suffixed with ".cfg". This conflicted with program configuration files so memo configuration files are now suffixed with ".memo".

The upgrade to the new system is automatic. When you run any of the *FlexiSurv* functions it is detected if the upgrade to use the custom directory has been made, and if not your system will then be upgraded.

What this means going forward is that all custom files now live in the custom directory. If you need to upgrade computers you just need to replicate this directory onto the new computer once you have *FlexiSurv* installed.

For multi user sites where there are two or more computers you may wish to use the *FlexiSurv* share point system to share the custom files between computers. Please see the section following for further information.

FlexiSurv

Create FlexiSurv Share Point

If you have multiple *FlexiSurv* users and wish to share the configuration files between all users you need to create a *FlexiSurv* Share Point. This is simply a directory on a common network drive that is visible to all *FlexiSurv* users.

To create the share point, execute the function and nominate the share point folder. This needs to be done on all computers. Once the share point is created on all computers they will all access the same configuration and memo files.
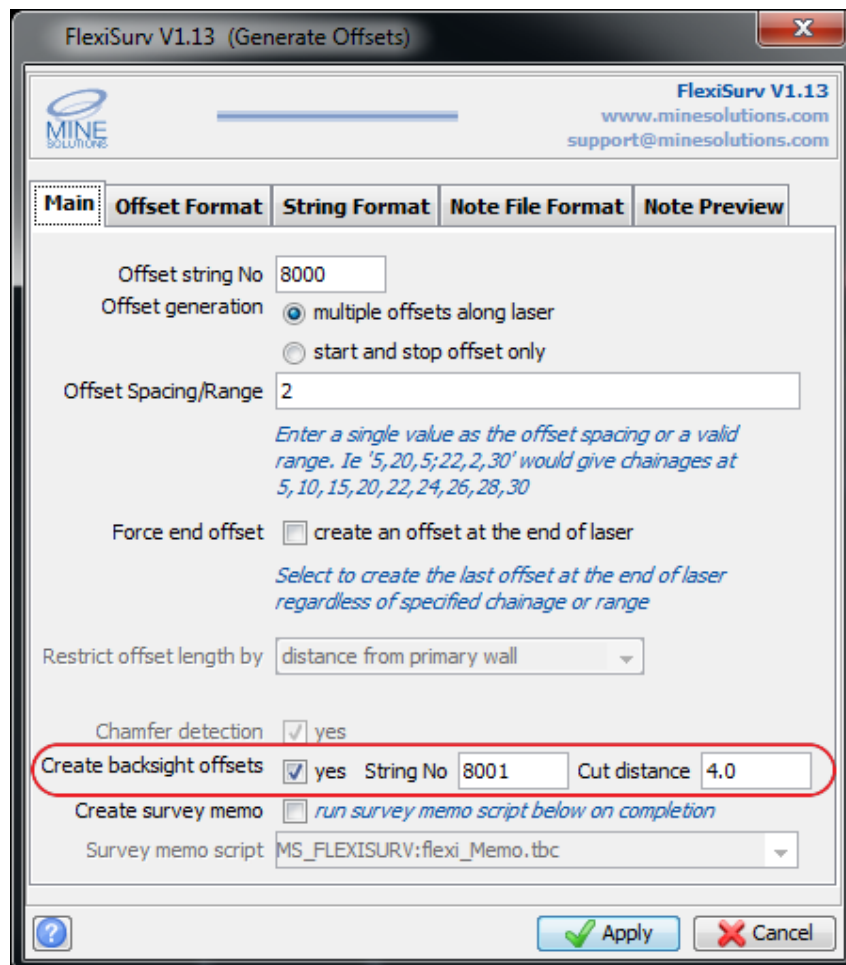
FlexiSurv
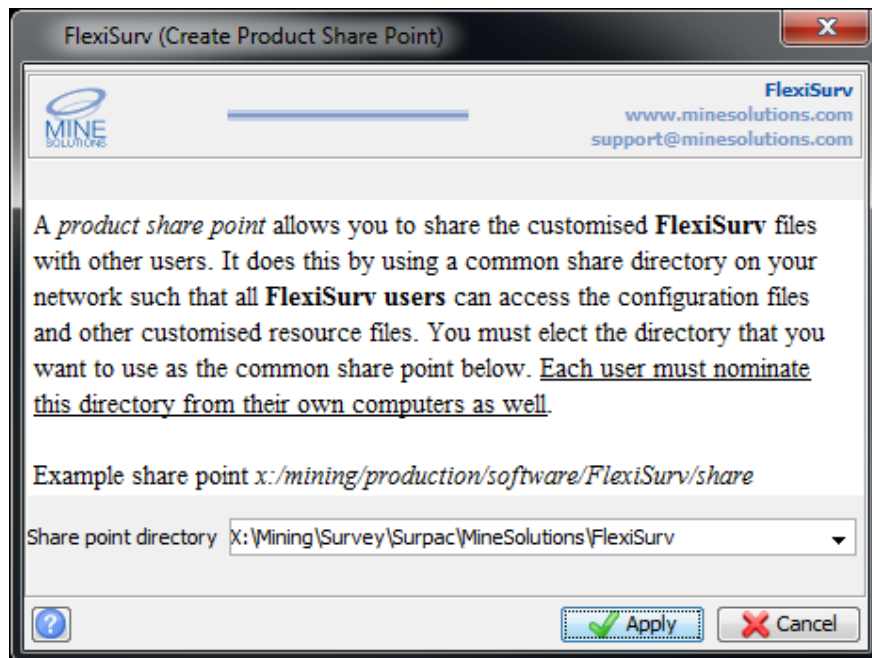
Laser Offsets

The force offset at end option would not always create an offset at the end of the laser. This was due to the laser falling just short of an intersection with the design wall. This issue has been fixed.

Certain geometric shapes could cause offsets not to be generated. The algorithm has been made more robust to handle these situations.

An implementation of what is being termed '*Backsight Offsets*' has been made. Backsight offsets are used to orientate the drill rig when developing curves. They are generally used when centreline laser offsets are generated but can also be used when generating wall to wall laser offsets.

FlexiSurv
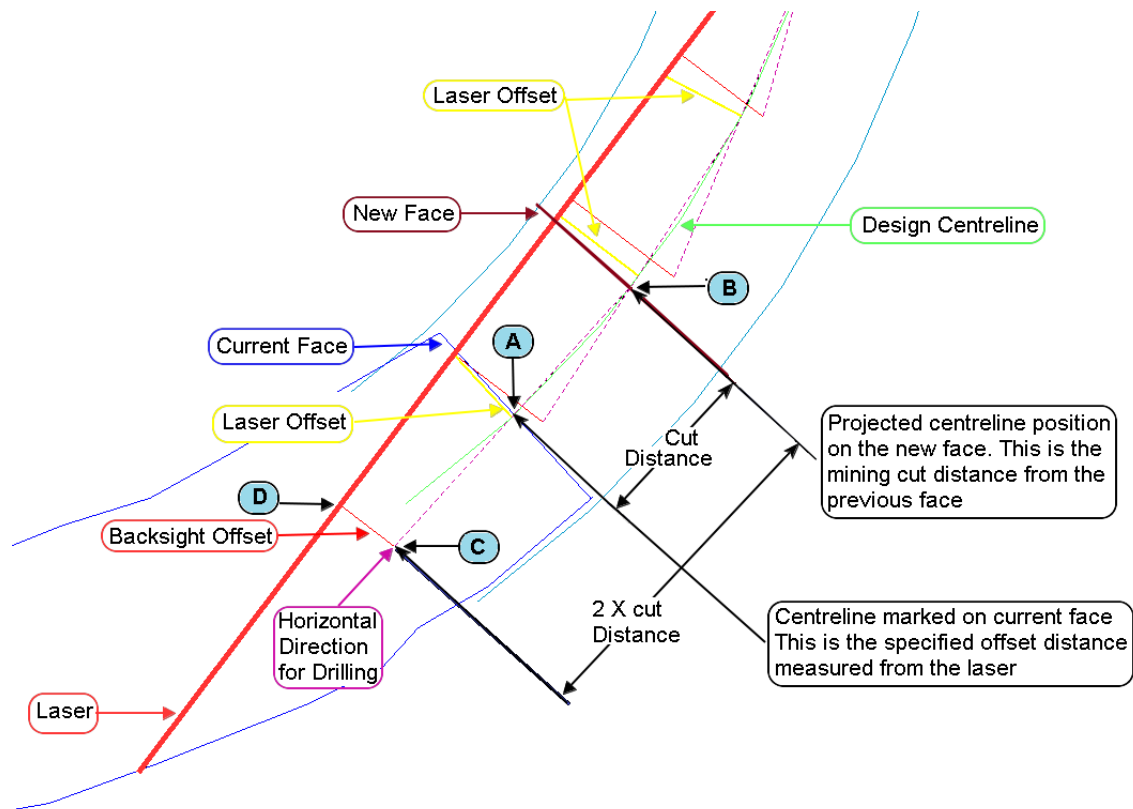
How is a backsight offset calculated?

1. At a particular chainage, point A is located on the centreline at the given offset distance from the laser.

2. Point B is then determined by projecting where the next intersection on the centreline would be using the cut distance (drilling length) of the rig.

3. Point C is then found by projecting a line from point B back through point A at two times the cut distance. This line represents the horizontal direction to align the rig to.

4. Finally the backsight offset distance is determined by projecting a line from point C to point D on the laser which must be at a 90 degree angle from the laser.

FlexiSurv

Example offset table showing centreline laser offsets and backsight offsets.

```
          LASER OFFSETS

Dist From    Dist To    Backsight
Laser        Centreline  Offset
-------------------------------
10.0          1.5 R        0.7 R
12.0          1.9 R        1.5 R
14.0          2.2 R        2.1 R
16.0          2.3 R        2.5 R
18.0          2.2 R        2.8 R
20.0          2.0 R        2.9 R
22.0          1.5 R        2.7 R
24.0          1.0 R        2.3 R
26.0          0.3 R        1.7 R
28.0          0.4 L        1.1 R
30.0          1.2 L        0.4 R
```

How are backsight offsets used?

1. At a given chainage/distance along the laser, the laser offset distance is used to locate the position of the centreline on the current face. This point is marked on the face (point A).

   Using the information for the offset at 12m from the table above; 12m is measured along the laser, from this point 1.9m is measured to the right of the laser to locate and mark the centreline point on the current face.

2. The backsight position is then located by measuring the cut distance back from this mark (point A) at the specified backsight offset distance from the laser at right angles (point D) to give point C.

   Again using the information for offset at 12m; assuming a cut distance of 4m the backsight point is found by measuring approximately 4m back and then measuring 1.5m from the right of the laser at 90 degrees to the laser.

3. A paint line can then be created on the floor or backs (roof) from point C to point A to define the correct horizontal orientation of the rig.

   Now the backsight point is found a paint line can be marked from this position to the centreline point on the current face to define the horizontal direction to drill.

FlexiSurv

Survey Memo

As described in the general section, the background system for memo configurations and the custom form interface have changed. The memos directory is no longer used with memo configurations being placed in the new Custom directory. Memo configurations are now suffixed as '.memo'. All other custom Tcl scripts are placed into, and now accessed from the Custom directory.

If you wish to share the custom files between a number of computers then please see the notes above on using a *FlexiSurv* share point above.

When you first run the new version it will automatically upgrade your system files. If you have any teething problems please contact support@minesolutions.com immediately.

New plotting sheet sizes have been defined and are automatically placed into the Surpac sheet database. The standard sheet sizes defined in Surpac do not make full use of modern printer capabilities where printing nearer the margins of the page is now possible. Four sheet sizes have been defined as follows:

- MS_A4L – 28.00 x 19.25 cm
- MS_A4P – 19.25 x 28.00 cm
- MS_A3L – 40.00 x 27.50 cm
- MS_A3P – 27.50 x 40.00 cm

Two new plot borders have also been defined. They have been designed to allow your memo's to be hole punched at the top or left of the page without the holes going through the actual plot. You can modify the borders in the Surpac *'Plot Sheet Setup Window'*. The default dimensions as follows:

- MS_A4_BORD – 1.25 left; 0.00 right; 0.50 bottom; 0.25 top; (cm)
- MS_A3_BORD – 1.50 left; 0.00 right; 0.50 bottom; 1.00 top; (cm)

It is now possible to elect to have the title block to the left or right of the page. Previously only right hand side title blocks were supported.

FlexiSurv
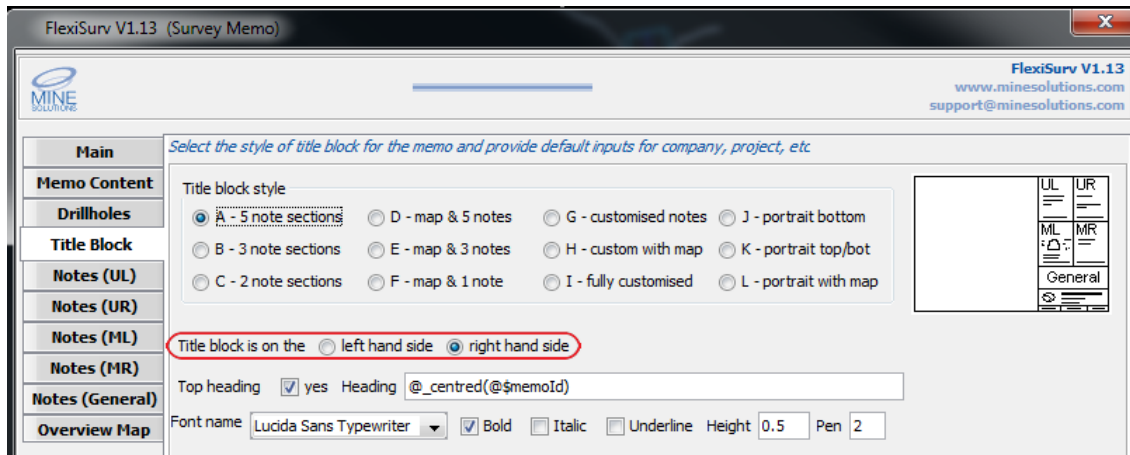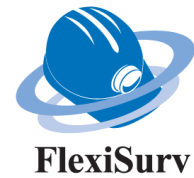
The Survey memo system now supports both A4 and A3 portrait plots. Three basic styles have been defined.

FlexiSurv
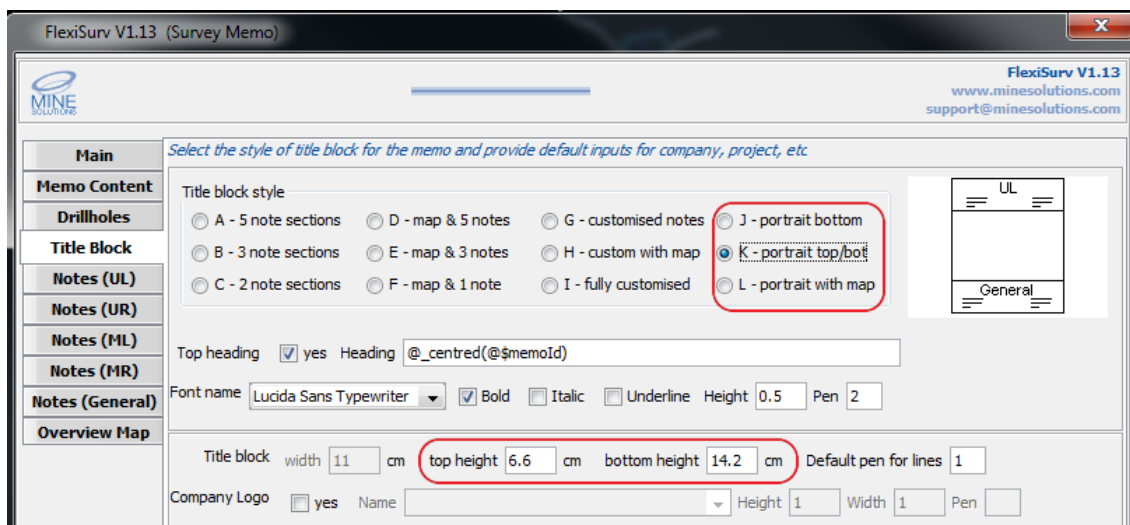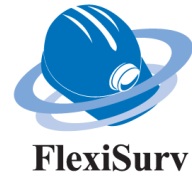
An example portrait memo

The extract and plot drill holes feature has been extended such that drill holes can be processed from a string file of hole paths. It is assumed that the drill hole paths are defined by strings segments with the first point representing the collar and the last point of the segment the toe.
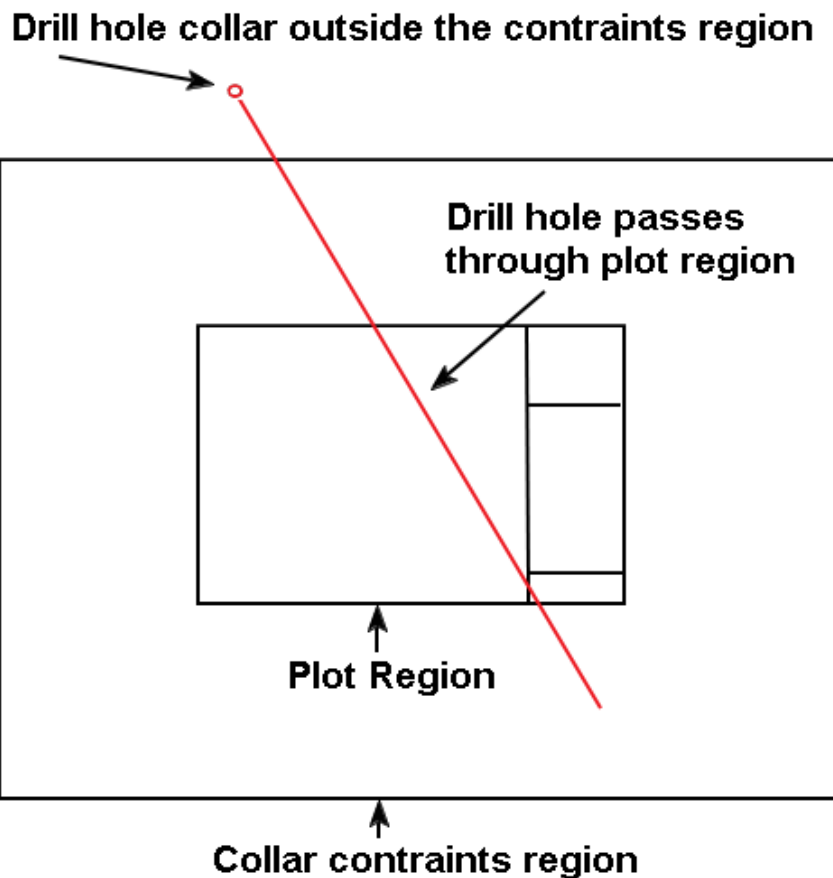

You also have options to constrain the drill holes by their collar coordinates. You can

1. Constrain by an expansion factor of the blot boundary area. Using this method you must also enter the expansion factor. Only collars that lie within this expanded region will be extracted.

2. Constrain by defining a rectangular region. Using this method you must enter the minimum and maximum X and Y values. Only collars that lie within this region will be extracted.

3. The third method is to use no constraints meaning all drill holes will be extracted. This may be slow if you have a large database.

FlexiSurv

Once extracted the drill holes may be trimmed to avoid over complicating the memo with drill hole information overload. The holes can be trimmed by an entered distance above and below the current level. The average RL of the memo data in graphics is calculated and this is used as the RL midpoint.

Note on Collar Constraints.

When constraining the drill hole collars you must be careful to avoid situations as shown below. The constraint uses the collar XY coordinate to determine if it's included. No check of the drill hole trace is made to see if it passes through the plotting area of the memo.

Drill hole collar outside the contraints region

Drill hole passes through plot region

Plot Region

Collar contraints region

New text functions have been implemented for the title block text
- @_hardx(position) – where position is expressed in cm from the title block left. This sets a temporary left margin for all following text lines
- @_nohardx() – remove any defined hard x position
- @_checkbox(No) – where No represents the number of checkboxes to create. By default only one checkbox is created.

FlexiSurv
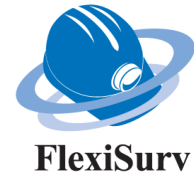
The text area for each of the title block note sections has been increased from 50 lines to 200 lines.

Sheet margins are now read from the Surpac borders database. The lower left of the plot boundary is now positioned correctly to align with the plotting viewport. Previously it was aligned to the bottom left corner of the plot border.

Fixed numerous positioning and sizing issues

Updated all the survey memo demonstrations and implemented three portrait demonstrations. The demos are now accessible from the *FlexiSurv* tool bar
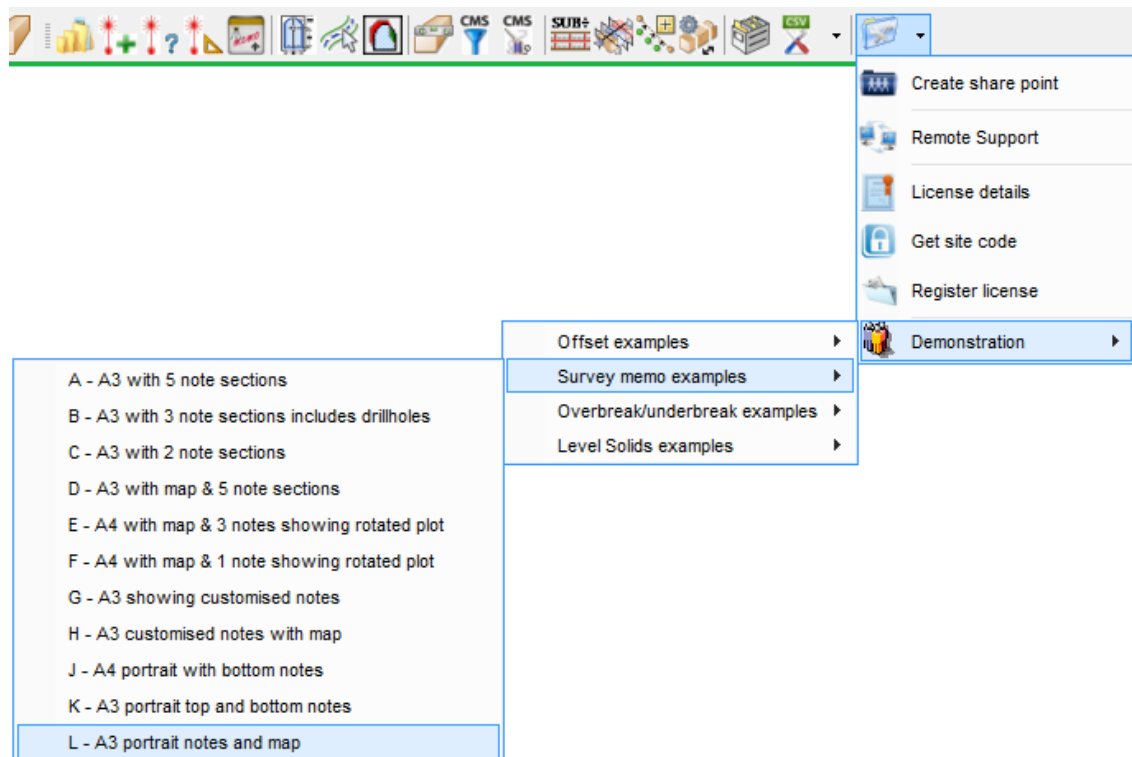
Overbreak / Underbreak Calculations

A new routine to consolidate a string has been implemented. The algorithm attempts to join the segments of a string whose endpoints lie within a given distance. This is used to tidy up the design and development sections produced to provide a more accurate result.

The batch processing mode now supports using a pre-made design solid rather than just the centreline and profile method to create the design solid.

FlexiSurv

Fixed a problem caused by generating a plot scale for the overview map with more than one decimal place. The scale is now rounded one decimal place. Fixed issues with plotting section lines on the overview plan

Level Solids

When level solids creates the floor and back DTM's, there was a possibility of duplicate points being introduced which in turned caused the solid stitching to fail. When the DTM is formed, Surpac will mean the Z value for any points containing the same XY values thus introducing duplicate points. This situation is now handled by removing any introduced duplicate points.

Level solids can now create up to 5 separate solids along with 2 feature solids such as escape ways and vent rise.

Request for Enhancements

If there are any new features that you would like to see in upcoming versions of *FlexiSurv* please email support@minesolutions.com your requests or telephone David on +618 9312 6158.