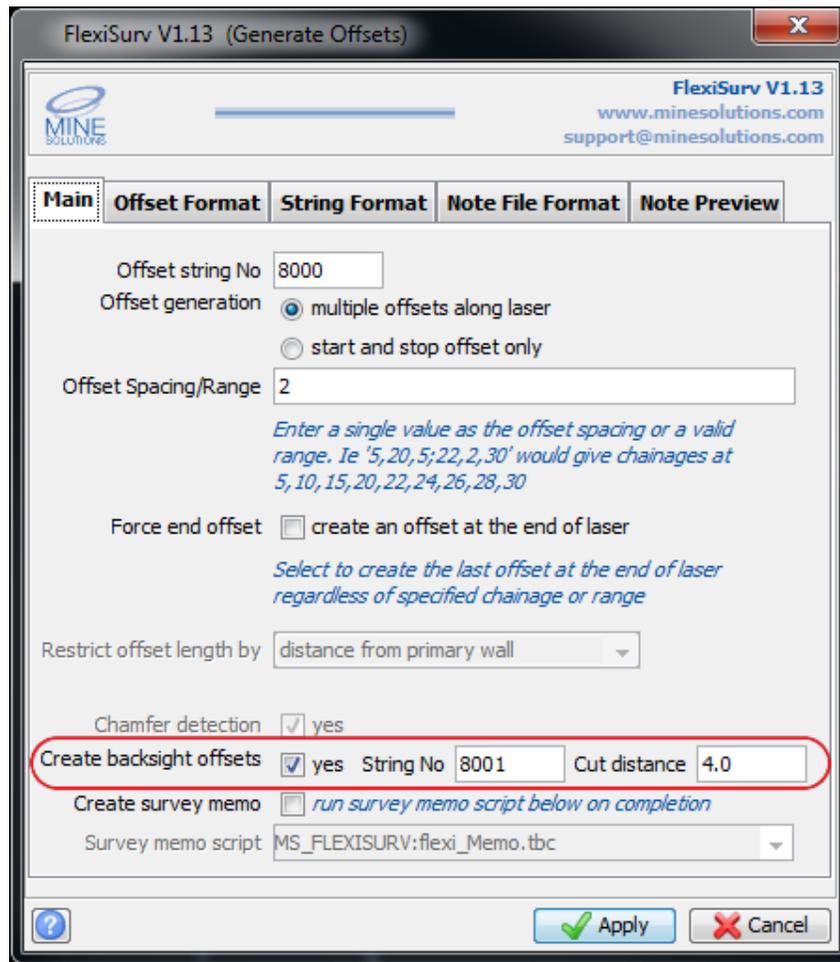


Backsight Offsets

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 V1.13 (Generate Offsets)

MINE SOLUTIONS

FlexiSurv V1.13
www.minesolutions.com
support@minesolutions.com

Main | Offset Format | String Format | Note File Format | Note Preview

Offset string No: 8000

Offset generation: multiple offsets along laser
 start and stop offset only

Offset Spacing/Range: 2
Enter a single value as the offset spacing or a valid range. Ie '5,20,5;22,2,30' would give chainages at 5, 10, 15, 20, 22, 24, 26, 28, 30

Force end offset: create an offset at the end of laser
Select to create the last offset at the end of laser regardless of specified chainage or range

Restrict offset length by: distance from primary wall

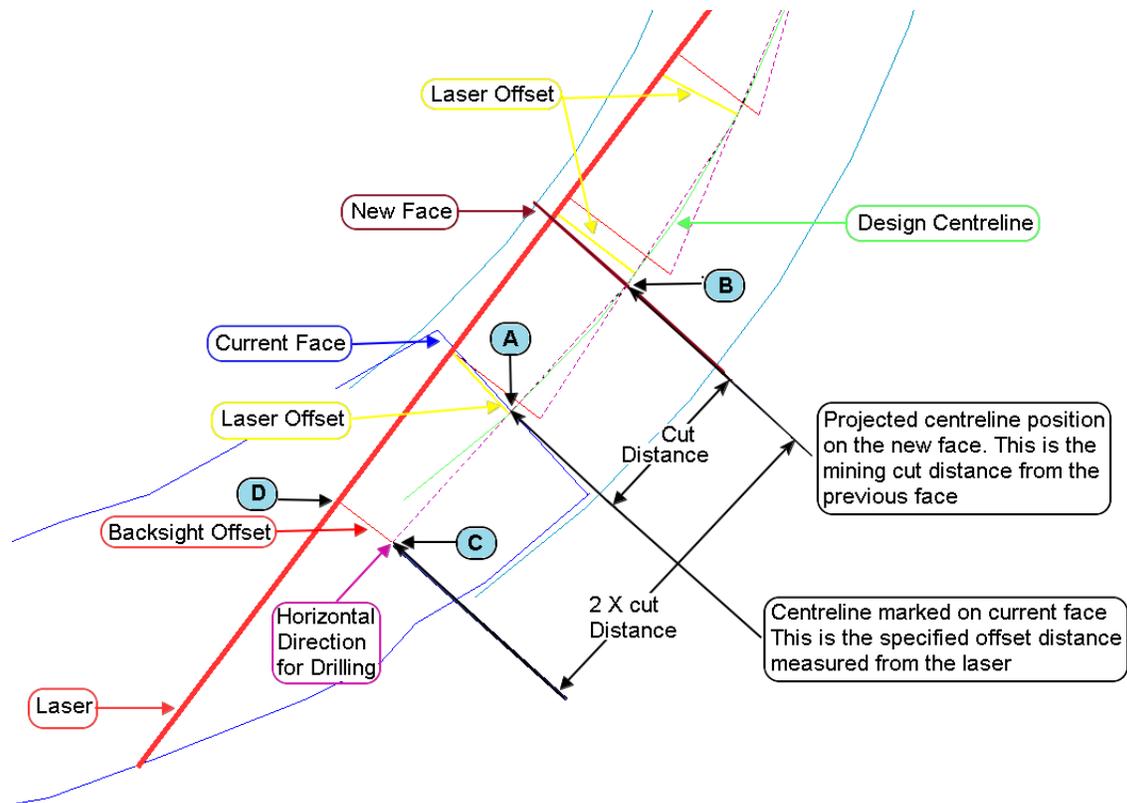
Chamfer detection: yes

Create backsight offsets yes String No: 8001 Cut distance: 4.0

Create survey memo: run survey memo script below on completion

Survey memo script: MS_FLEXISURV:flexi_Memo.tbc

Apply Cancel



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.

Example offset table showing centreline laser offsets and backsight offsets.

LASER OFFSETS		
Dist From Laser	Dist To Centreline	Backsight 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.