MMS has developed in house software to determine the 3D stress field from overcoring tests. This software was written in Visual Basic and interfaces with Excel. A toolbar is added to Excel to run various codes. This code is simple and easy to use, however, like any software the correct data must be inputted.

**Stress 2010 Toolbar**

This product is sold commercially under license to other rock mechanics institutes and consultants. This version has the basic I/O, converts measured output to strain, plots the data, calculates rock properties and also the stresses for an individual test. This code had been vetted against CSIRO approved code and also MT Isa mines code.

MMS has developed additional software that can combine data from a number of CSIRO HI cell overcore tests and also data from differently orientated boreholes. This code can also include USBM gauge data. The programme will calculate a site result from all the data. The programme will also generate steronet projections and various other graphs. This programme is not commercially available, however, contact us if you need to combine data, we may be able to help.

MMS also has software that can calculate a 3D result from the USBM 2D gauge. It is necessary to conduct tests in 3 boreholes with the USBM gauge. This code was checked against an independently developed code by the United States Bureau of Mines. Very good agreement was achieved by comparing stress outputs from the MMS and USBM codes. Generally we use the CSIRO HI cell and the USBM gauge at a site. We have had to calculate the 3 D stress field from USBM gauge tests only when we have had problems bonding the CSIRO HI cell to the rock.

Some graphical output illustrated below
Principal Stresses

DIRECTIONS

MAGNITUDES

STRESS (MPa)

SIGMA 1  SIGMA 2  SIGMA 3

SITE

BH1  BH2

SIGMA 1  SIGMA 2  SIGMA 3

Hi1  Hi2  Hi3  Hi4  Hi5

SIGMA 1

SIGMA 2

SIGMA 3

36.4 MPa

21.1 MPa

13.2 MPa