

3 methods — tangent
— average
— secant

Rock Mechanics GLY364:- Practical UV1 - 2011

Prac 1; P1

Deformation Characteristics - Vervormingseienskappe

NB Important Notes - Belangrike inligting

Use the information provided by Geomechanics Research Pty Ltd on Fig.1
Where necessary, clearly provide formula (formulae) and
then substitute and only then calculate
1 Microstrain unit = 0,000 001 strain unit
1 Millistrain unit = 0,001 strain unit

1 Plot

Axial, Lateral and Volumetric strains

12

Aksiale, laterale en Volumetriese vormveranderings

Calculate/determine:-

bereken/bepaal:-

2a The strength (UCS):- All 3 possible methods
Die sterkte (EAD):- 3 moontlike metodes

6

2b The density of the rockmaterial
Die digtheid van die rotsmateriaal

3

2c $E_{\tan 50\% \text{ UCS/EAD}}$

3

2d $\gamma_{\tan 50\% \text{ UCS/EAD}}$

3

2e $E_{\sec 30\% \text{ UCS/EAD}}$

3

γ^4 2f $\gamma_{\sec 30\% \text{ UCS/EAD}}$

3

2g $E_{\sec 36,2 \text{ MPa}}$

2

2h $\gamma_{\sec 36,2 \text{ MPa}}$

2

2i Modulus ratio ($\tan 50\% \text{ UCS/EAD}$)

3

Modulus verhouding ($\tan 50\% \text{ UCS/EAD}$)

$$\frac{E}{\text{UCS}} = \text{modulus ratio}$$

2011-09-09

Total Marks:-	40
Totale Punte:-	