Lampiran 1 perhitungan pengujian impak

Pengujian impak

Variasi 1,1

Diketahui :

Tebal spesimen (d) : 5 mm

Lebar spesimen (b) : 13 mm

Luas (Ao) : 65 mm 2

Sudut α : 30^0

Sudut β : 28^0

Panjang Lengan (R) : 0,65 m

Percepatan gravitasi (g) : 9.81 m/s^2

Berat Pendulum (m) : 14 kg

a. Esrp = m.g.R.(cos β - cos α)

= 14kg. 9.81 m/s^2.0,65 m(cos 28 - cos 30)

= 89,27 kgm /s^2.(0,822-0,866)

= 1.42 kgm 2 /s^2 = 1.42 J

b. HI $= \frac{Eserap}{Ao}$

$= \frac{1,42}{65\ mm^2}$

= 0,021 J/mm^2

Lampiran 2 perhitungan pengujian tarik

Variasi 1.1

Diketahui:

ΔF : $50 \times 18.85 = 942{,}5\ mm$

ΔL : $3 \times 0.1 = 0.3\ mm$

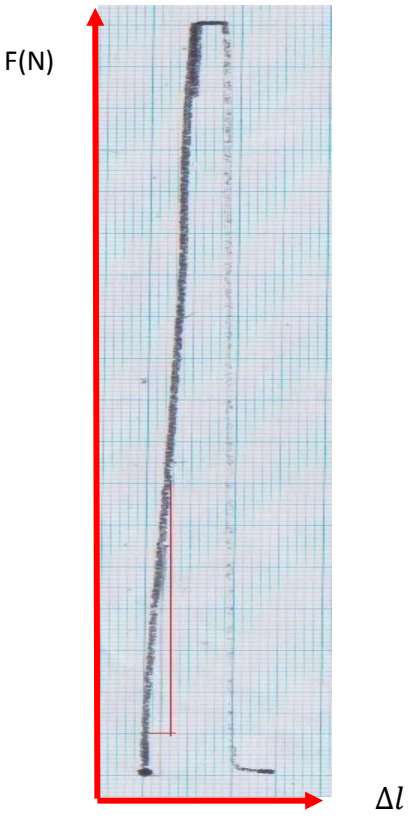
F : $3447.23\ N$

A : $13mm \times 5mm = 65\ mm$

E : $\dfrac{57 \times 942{,}5}{0.3 \times 65} = 2025{,}69\ MPa$

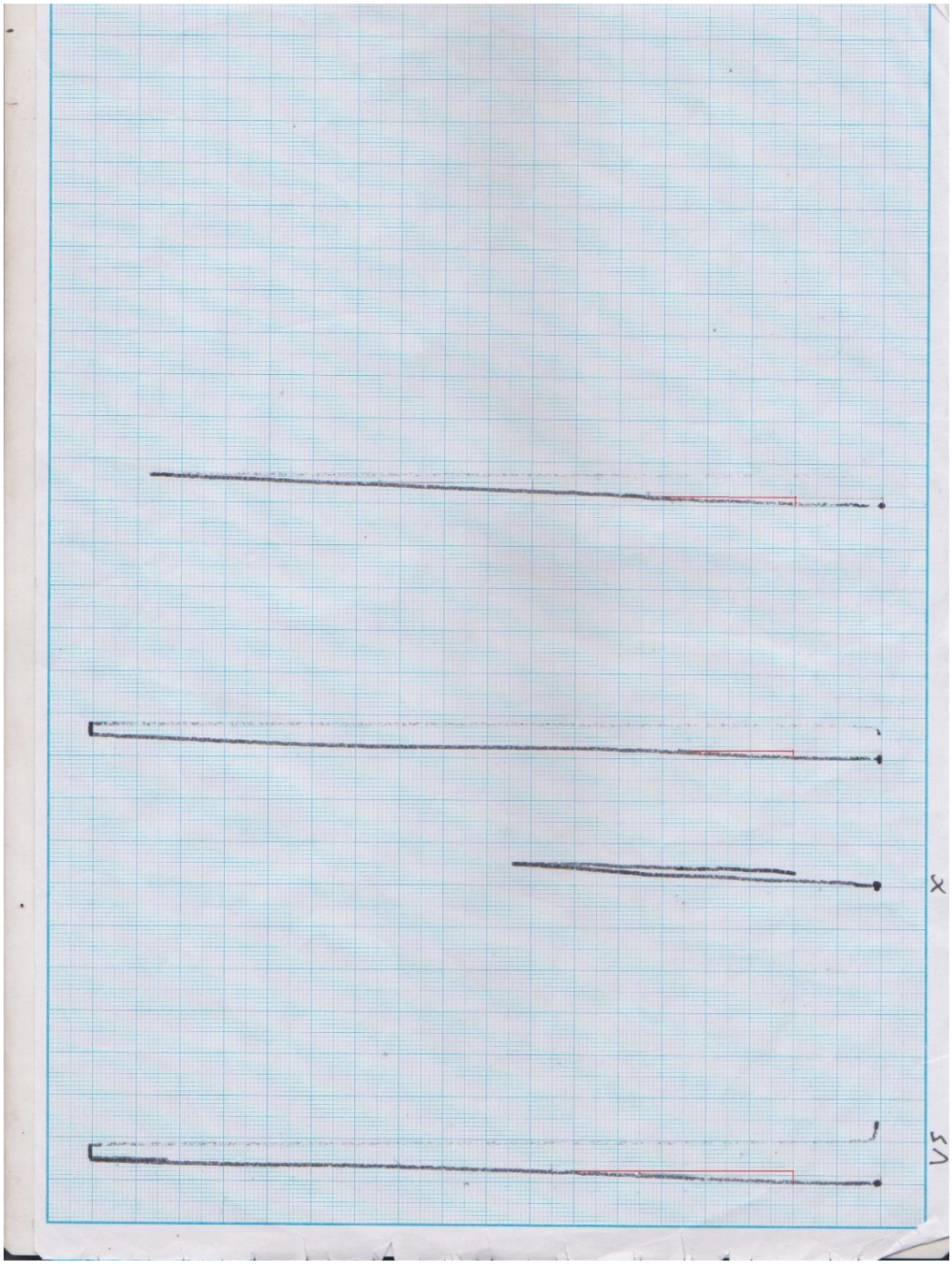
σ : $\dfrac{3447.23}{65} = 52.97\ MPa$

ε : $\dfrac{0.8}{57} = 0.014\ mm/mm$



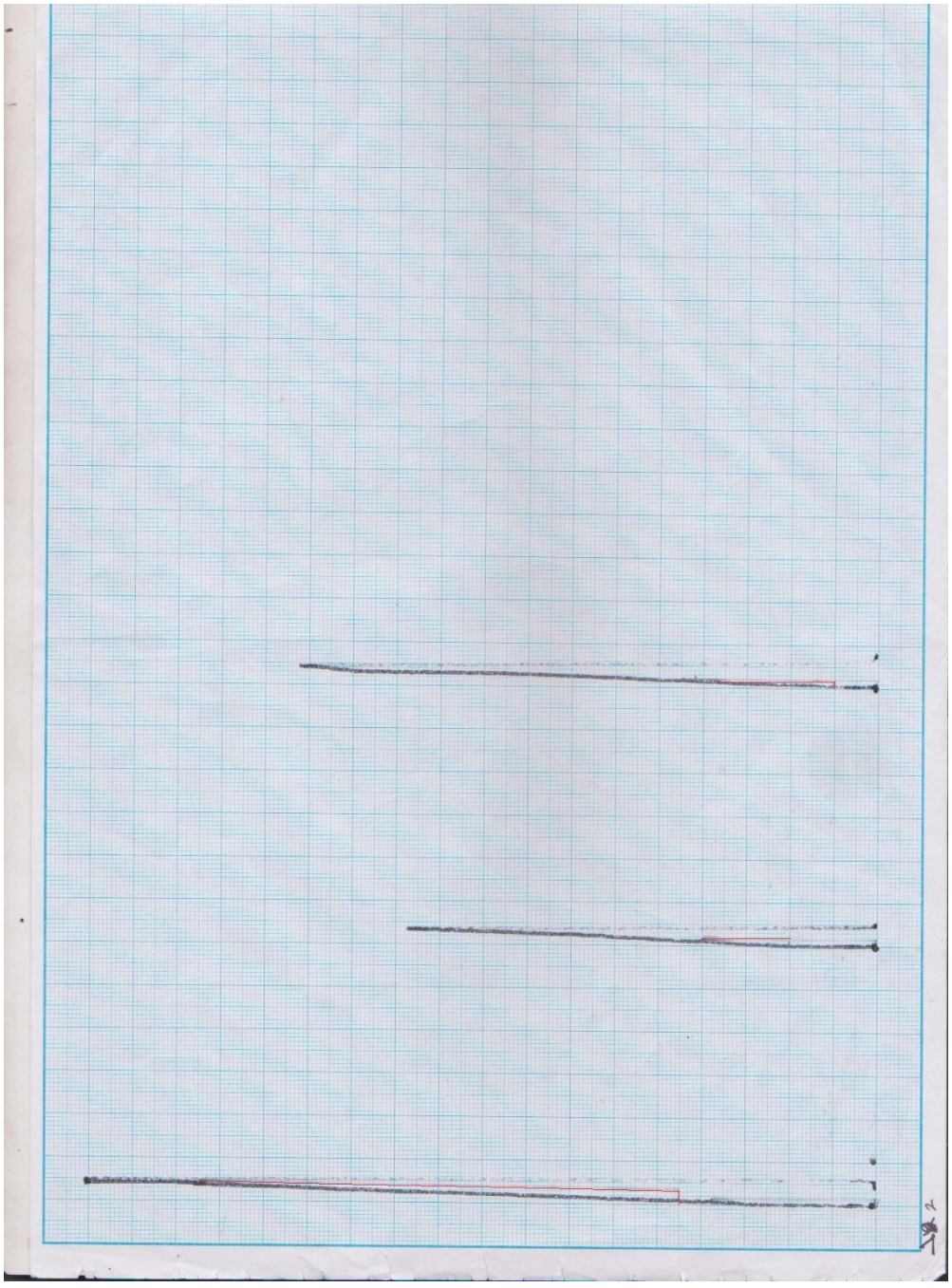
Lampiran 3

Grafik tarik 1



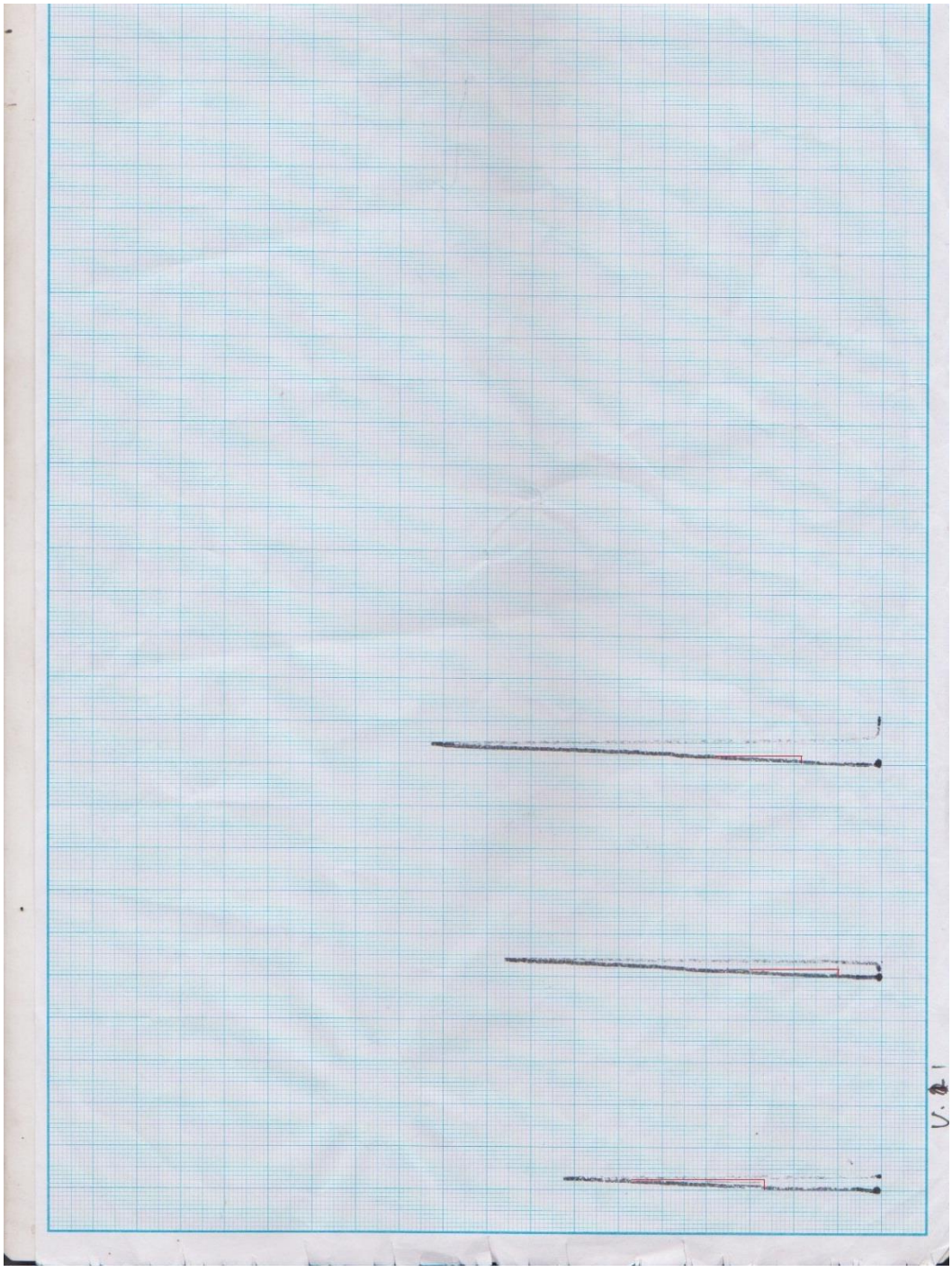
Lampiran 4

Grafik tarik variasi 2



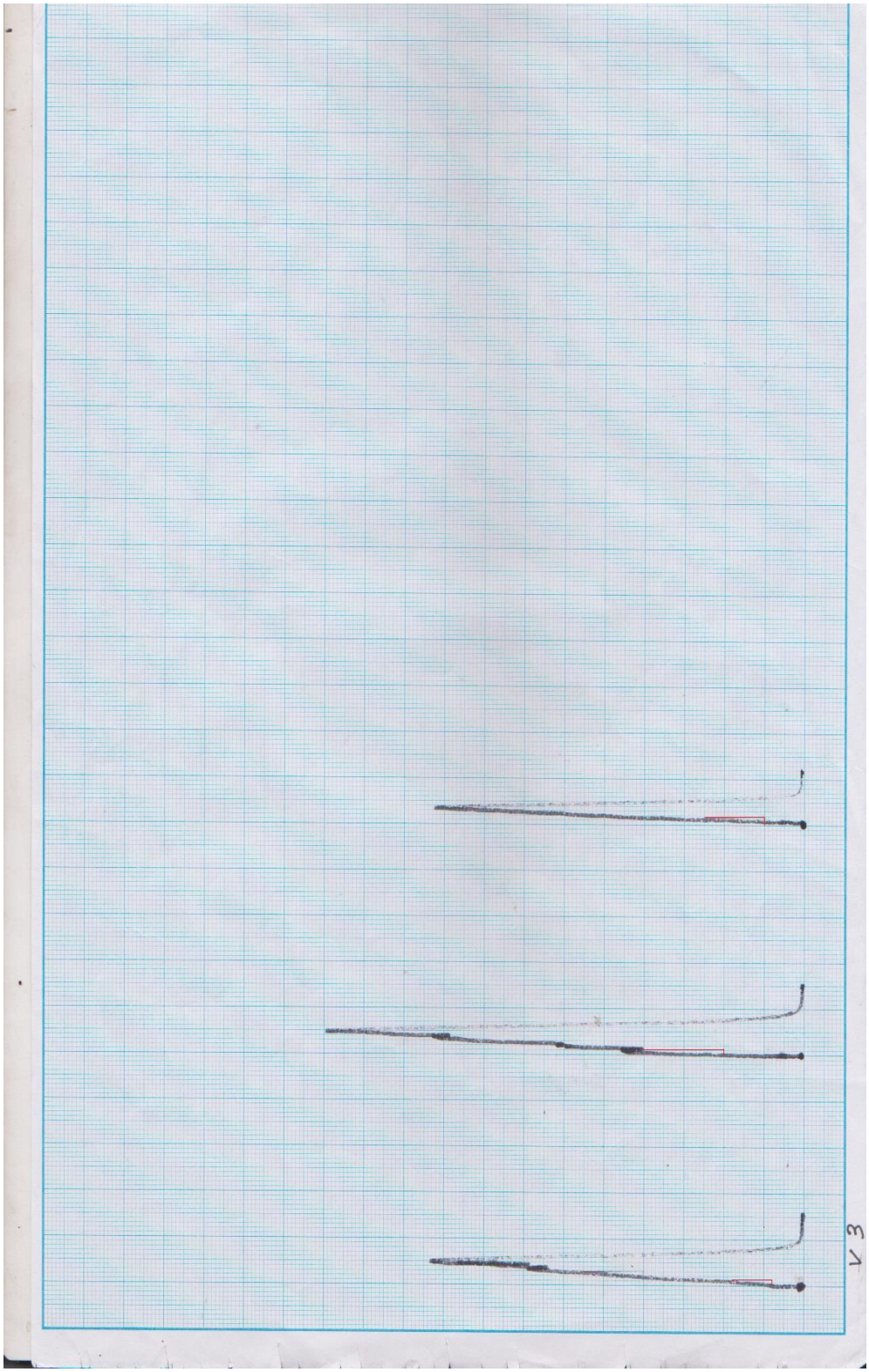
Lampiran 5

Grafik tarik variasi 3



Lampiran 6

Grafik tarik variasi 4



Lampiran 7

Grafik tarik variasi 5