Interpretation of seismic reflection data in case of SINGLE DIPPING REFLECTOR (in case of small dipping angle)

First: Plot the T-X data (should produce an asymmetrical hyperbola)

Second: find the NMO Time values for both: X and –X offsets. Calculate the average of the two NMO values.

Third: use the calculated average of the NMO times to calculate the *velocity* using:

$$\Delta T \approx \frac{x^2}{2v^2 t_0}$$

This is valid only for small dip angle values.

Fourth: Calculate the dip angle using:

$$\sin \xi \approx \frac{1}{2} V \frac{\Delta t_d}{\Delta x}$$

Where, Δt_d is the difference in NMO at X and –X

Fifth: Calculate the depth (h) using:

$$\mathbf{X = -} 2h \sin \xi$$

X is the distance where minimum arrival time is observed on the hyperbola graph (the apex)