# Lab Assignment

**OBJECTIVE:-** Understanding the geometry for seismic data acquisition.

A given seismic geometry has 12 geophones and a single shot at the end of it.

**Given 5 cases :-**

(1) Group Interval = Shot Interval

(2) Group Interval = 2nd shot interval

(3) Group Interval = 4th shot interval

(4) Shot Interval = 2nd group interval

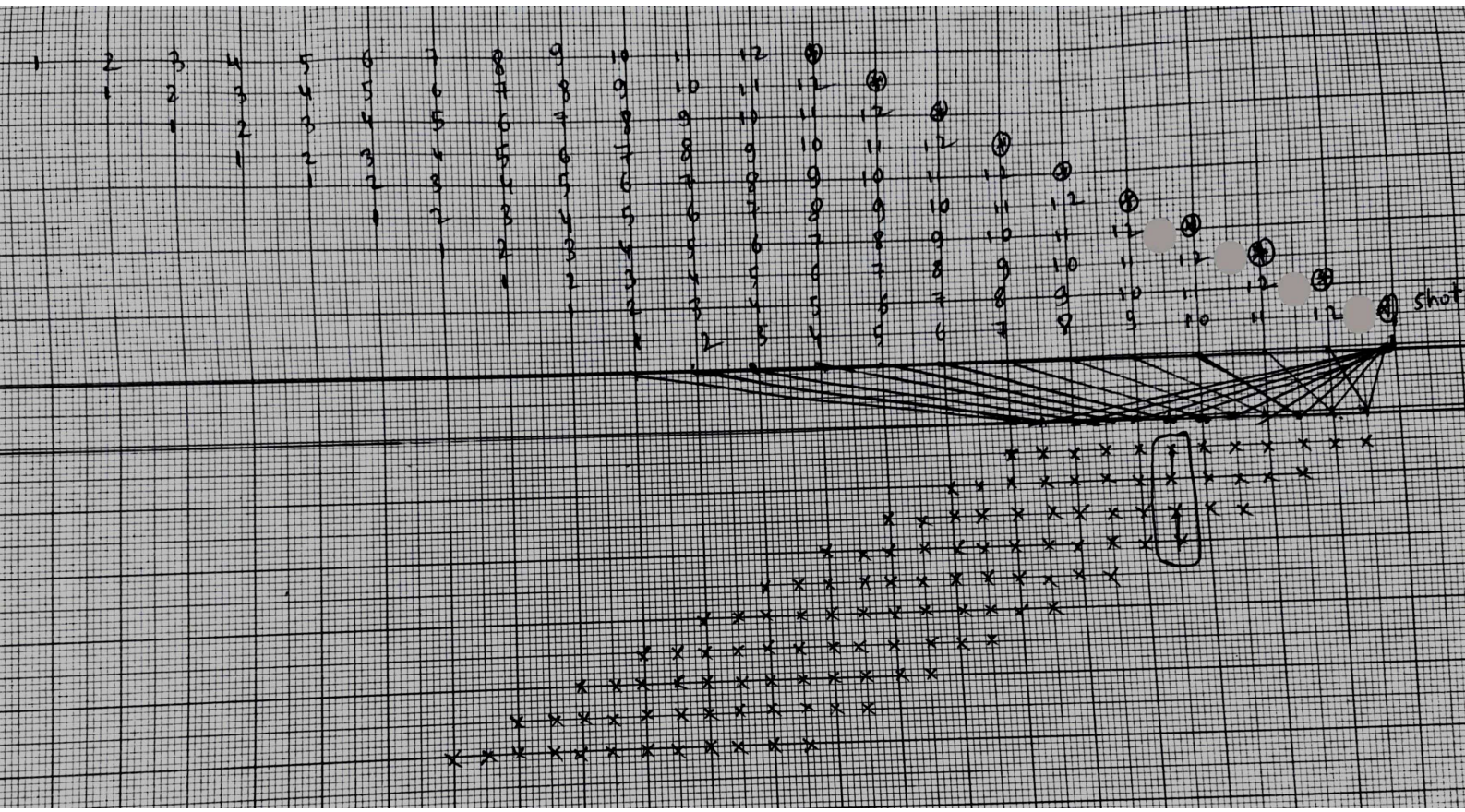
(5) Shot Interval = 4th group interval

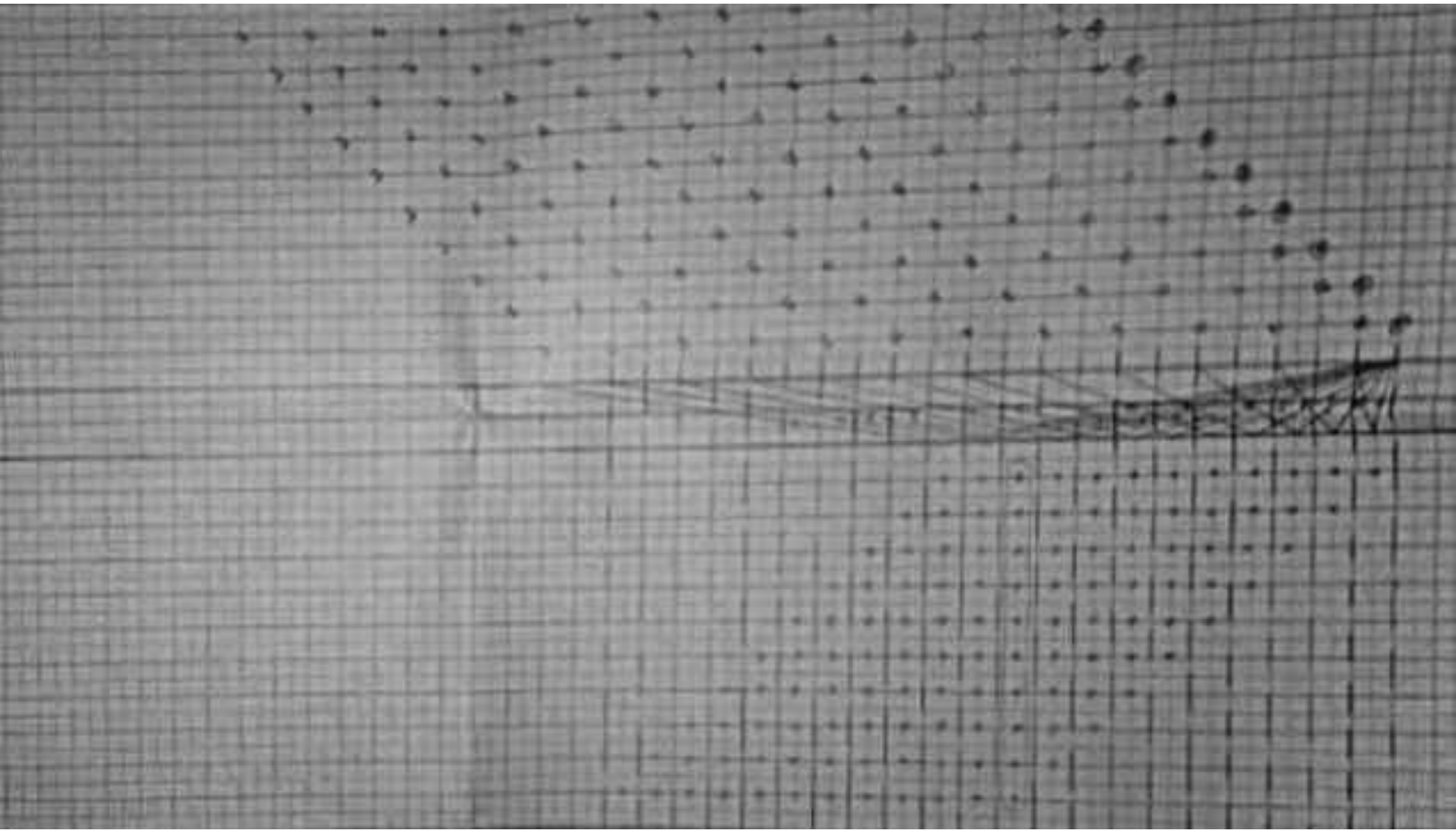
(6) We need to keep the near offset equal to shot interval for all the cases.

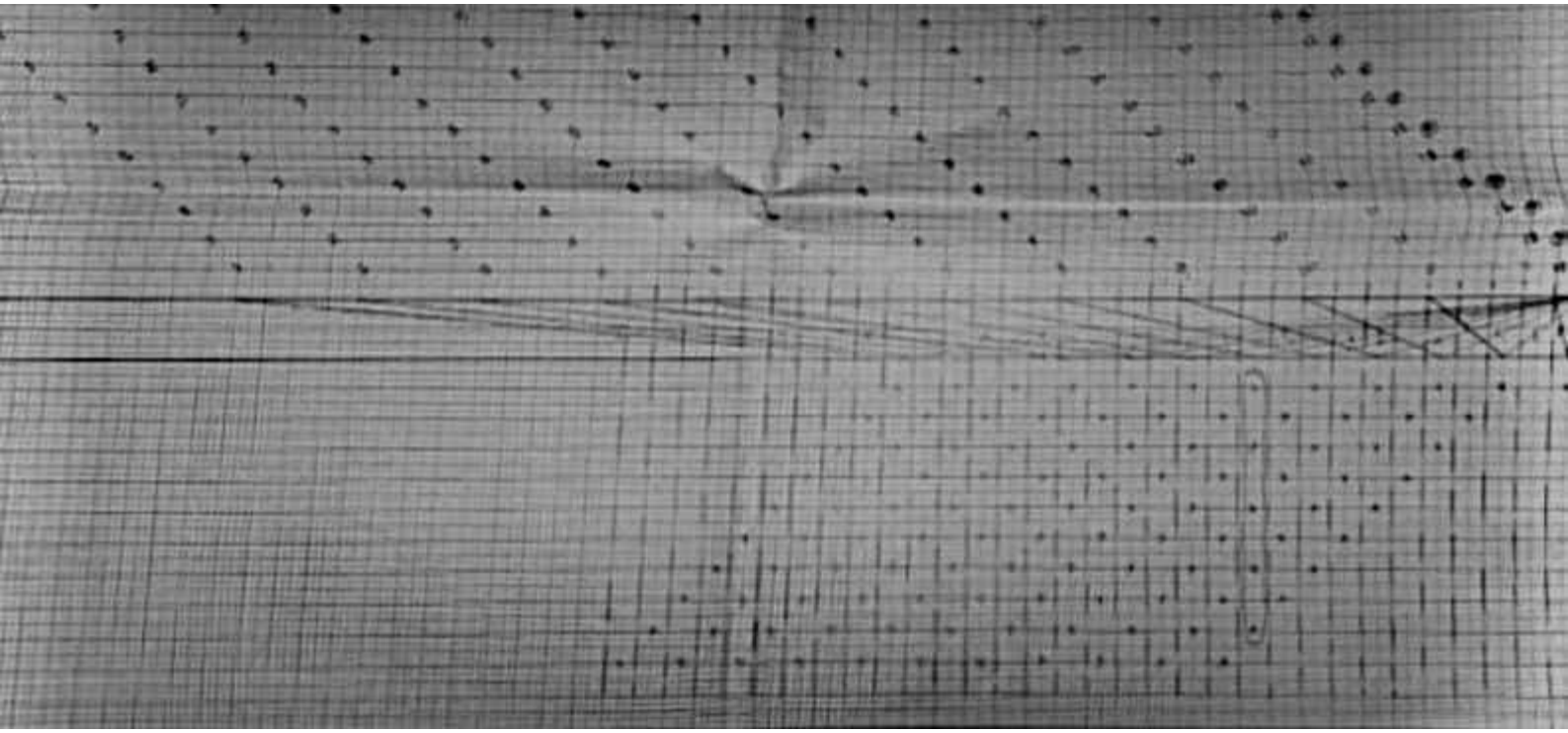
$$\text{Foldage} = \frac{1}{2} \times \text{Number of geophones} \times \frac{\text{Group interval}}{\text{Shot interval}}$$

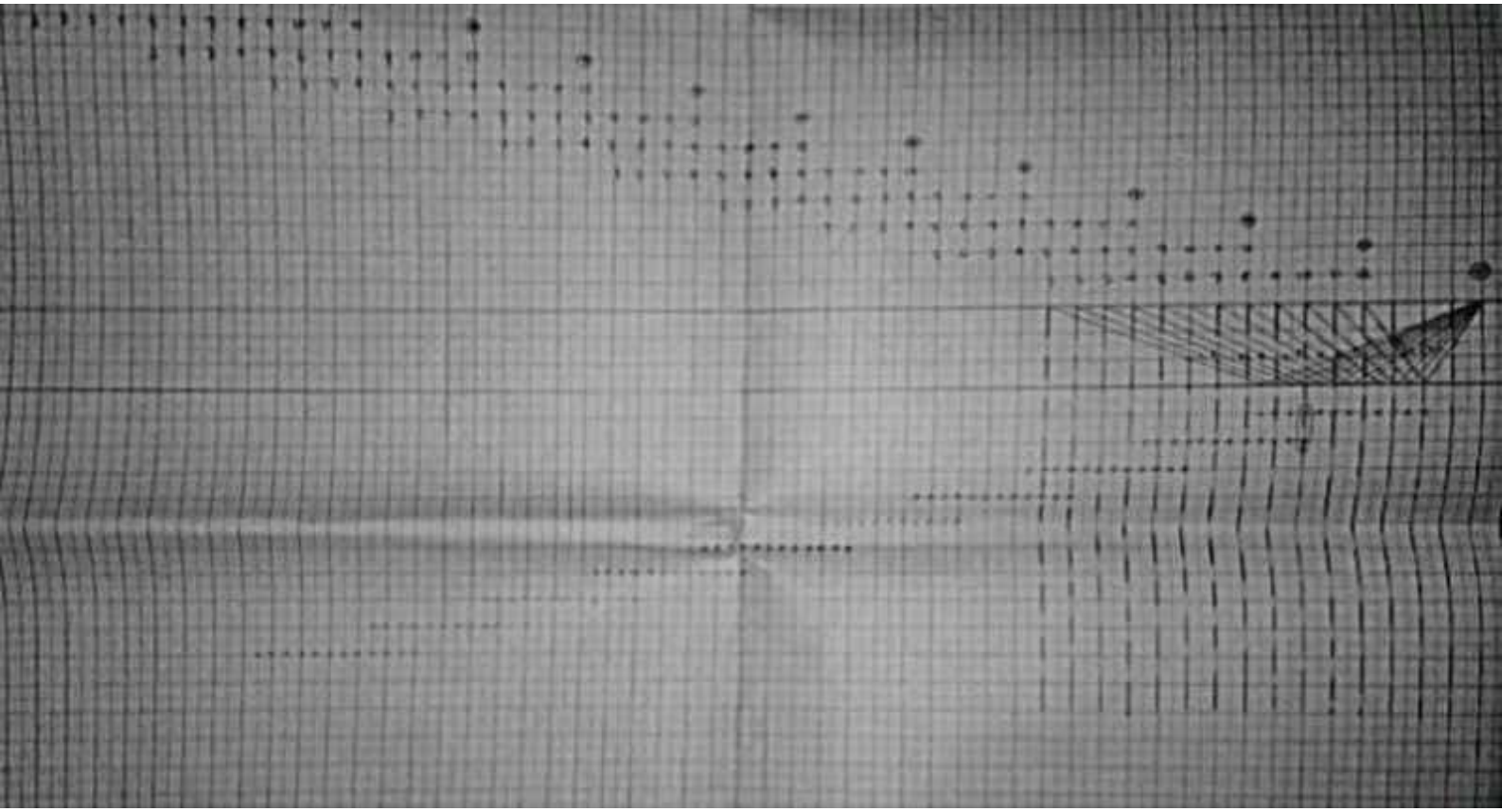
**Table :-**

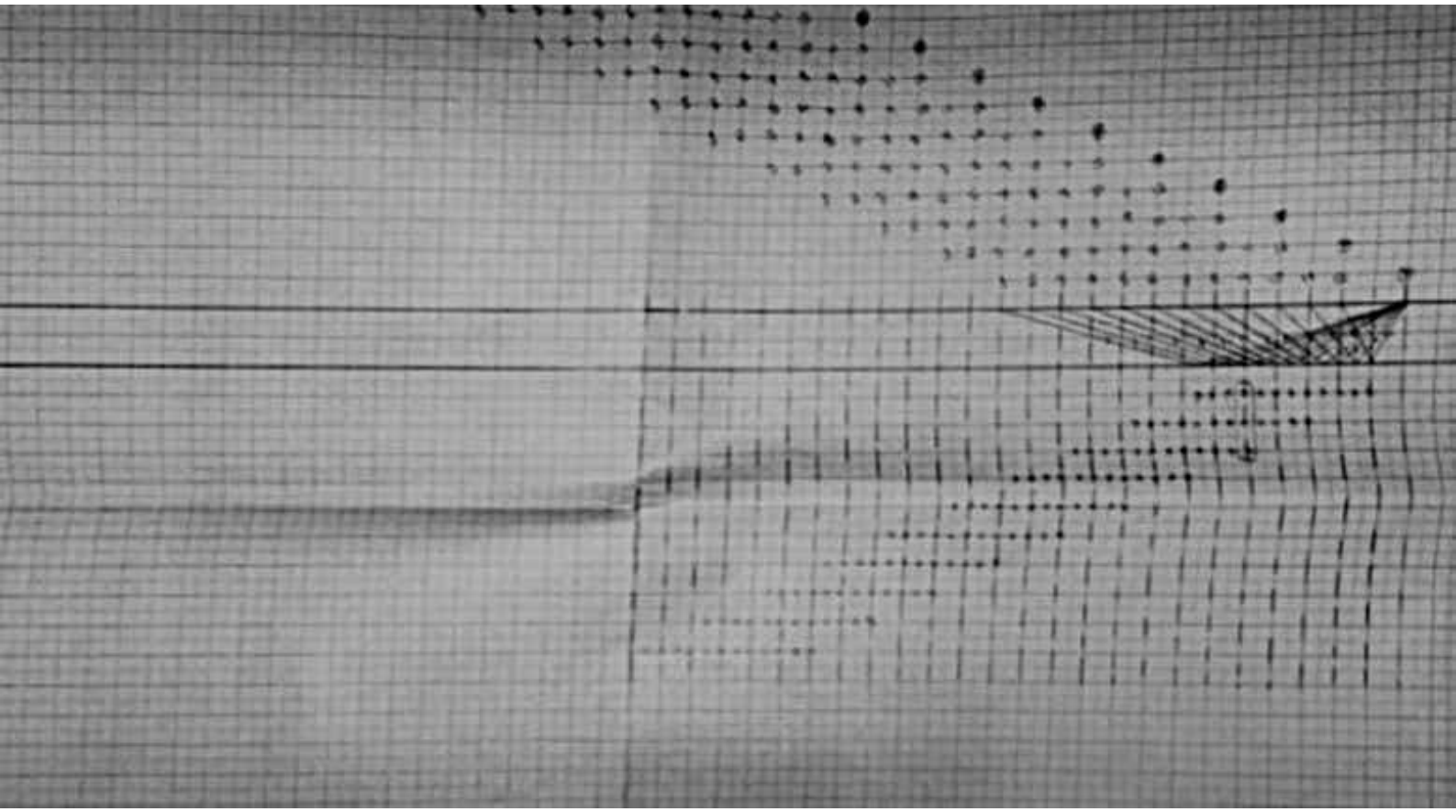
| GI:SI | Foldage from geometry | Foldage from formula |
|---|---|---|
| 1 | 6 | 6 |
| 2 | 12 | 10 |
| 4 | 24 | 5 |
| $\frac{1}{2}$ | 3 | 3 |
| $\frac{1}{4}$ | 2 | 1.5 |


Shot









## THEORY :-

- In multichannel seismic acquisition (bed not dipping), common reflection point at depth on a reflector, or the halfway point when the wave travels from source to reflector to receiver, in this case, the common depth point shared is by multiple sources and receivers. Therefore dip movement processing is necessary to reduce screwing or absurd mixing of data.

## REMARKS :-

Formula for foldage is valid upto :-

GS : SI = 1 : 1

and

GS : SI = 1 : 2