

IR20

## Calculation of hydraulic diffusivity and permeability at Mosul dam's lake

N. H. Al-Saigh\* (Mosul University)

### SUMMARY

---

The space-time pattern of seismicity in Mosul reservoir is studied. The epicentral area of seismicity was considered for each three months of the monitoring period (starting from April 1986 to December 1987). Events scattered far away from the concentration area were excluded. The most prominent direction of epicentral areas are along a zone of nearly E-W direction, coinciding with the general trends of the faults in the area. However, the most characteristic feature of epicentral area is its relation with the reservoir level and number of observed events (Fig.1). The epicentral area related to October-December 1986 (area 3) is the smallest epicentral area. This is due to the recording was off from the 5th November 1986 to the end of March 1987. Therefore the hydraulic diffusivity between areas 3 and areas 2 and 4 was not considered. During 1986 it can be seen that there was an increase of epicentral area during July-Sept. although there was drop in water level in the lake. This suggests that there was a time lag between water level and pore pressure diffusion.

The calculated average hydraulic diffusivity of Mosul reservoir is  $9.3 \times 10^4$  cm<sup>2</sup>/sec. This is within the range of hydraulic diffusivity obtained in other reservoirs in the world. Talwani and Acree (1985) calculated the hydraulic

