`FACULTY OF SCIENCE

B.Sc. IV-Semester (Practical) Examination`

Subject : Geology

Paper: IV

Question Paper

Time: 2 Hours Max. Marks: 25

I. Identify the rocks (Nos. 1-3) from the list mentioned below. Give their textures, and mineral assemblages and add a note on mode of formula. (3 x 2 = 6)

1. Breccia, **2.** Conglomerate, **3.** Sand stone, **4.** Lime stone, **5.** Shale, **6.** Shelly Limestone

I.(b) Identify the rocks (No. 4-5) under microscope and give their petrographic characteristics. (2 x 2 =4)

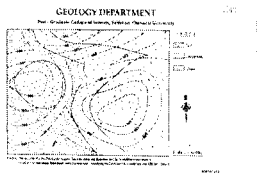
7. Breccia, **8.** Conglomerate, **9**. Sand stone, **10**. Lime stone, **11.** Shale, **12**.Shelly Limestone

II. Identity the topographic features of the given toposheet. (1 x 3 =3)

13.

14.

III. Prepare a cross section along X-Y of the geological map and write the geological history of the area. (Annexure – I) (1 x 5 =5)



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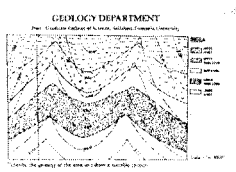

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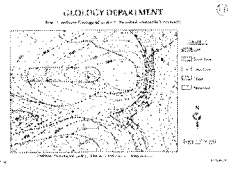

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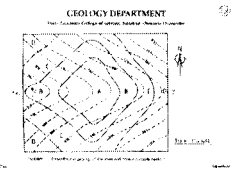

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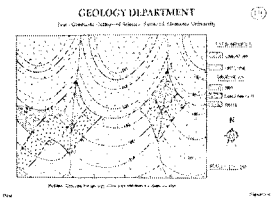

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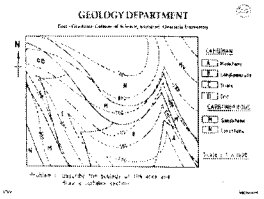

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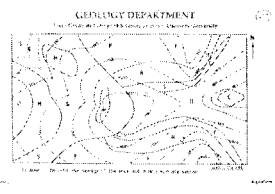

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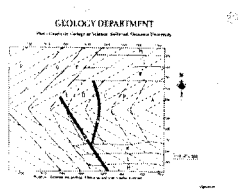

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IV. Bore Hole data problem (Annexure – II) (1 x 2 =2)

23. Three coal pits A,B,C at the corners of an equilateral triangle on horizontal surface of the ground enter a coal seam at depth of 100 M,200 M, and 400 M respectively, below the surface. The side of the triangle is 500 meters in length and C is due south of A. Find the direction and amount of dip of the upper surface of the seam supposing this to be a plane surface.

24. Bore holes were sunked at A, B, and C which are at the same altitude above sea level and which lie at the corners of an equilateral triangle. The side is 6000'. C is being west of B and A north of the point midway between B and C. A coal seam was met at depths at 600' in the bore hole A, 400' in B and 200' in C. Find the dip of the coal seam.

25. Bore holes were sunk at A, B, C, and D, which are suited at N-W,N-E, S-E, and S-W corners respectively. The sides of which are 5000' long. The coal seam reached in the bore hole at following depths, In A at 100' , B at 400', and in D at 600'. At what depth will the coal seam be met at C.?

V. Record (1 x 5 =5)

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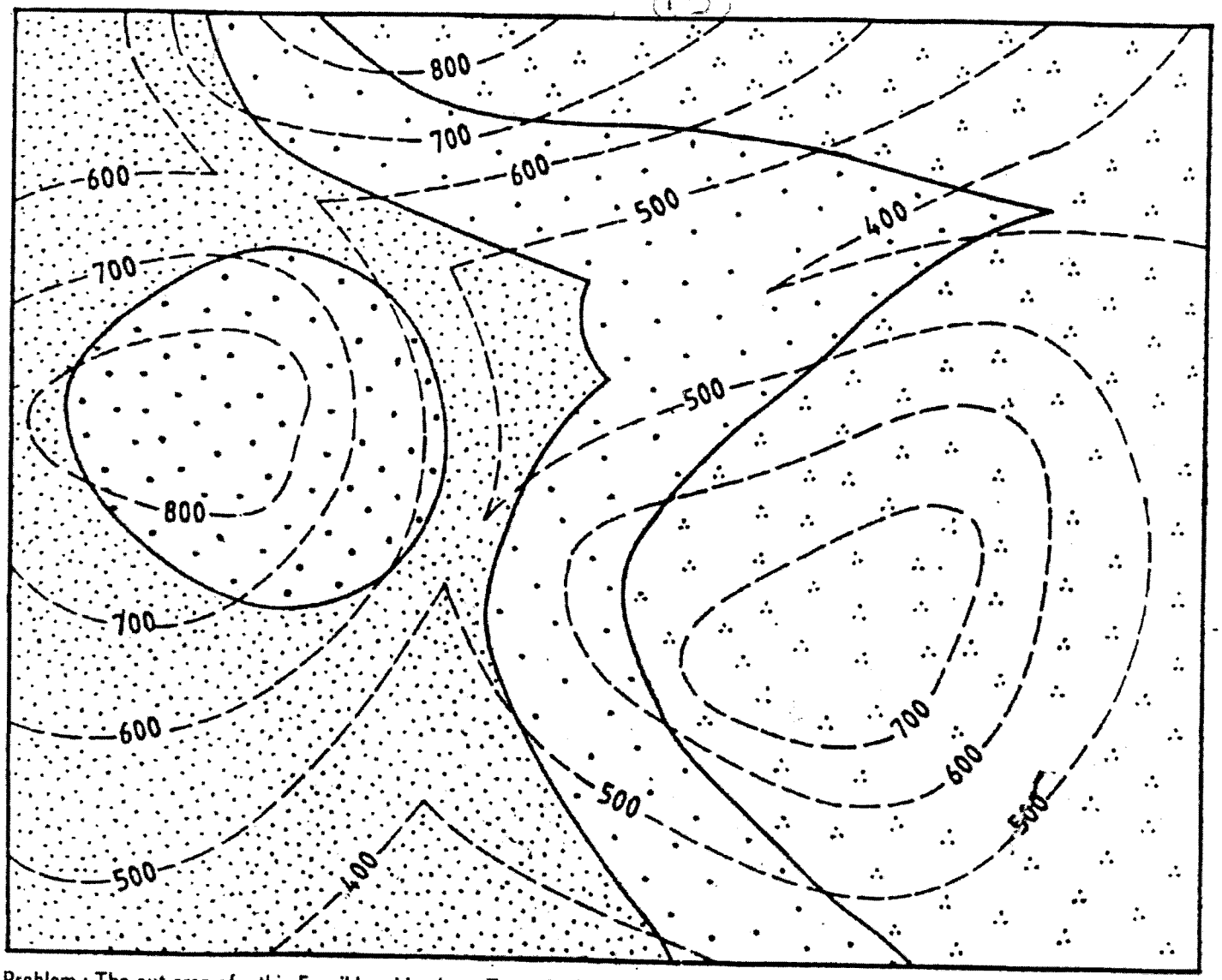

INDEX

Grit

Limestone

Shale

N

Scale : 1"=1000'

Problem : The out crop of a thin Fossil band is given. Trace the Band and determine the Dip. In addition a coal seam is noted at 150 Feet below Fossil band. Trace the coal seam, underlying the Fossil band is a sandstone bed 125 feet. Trace it

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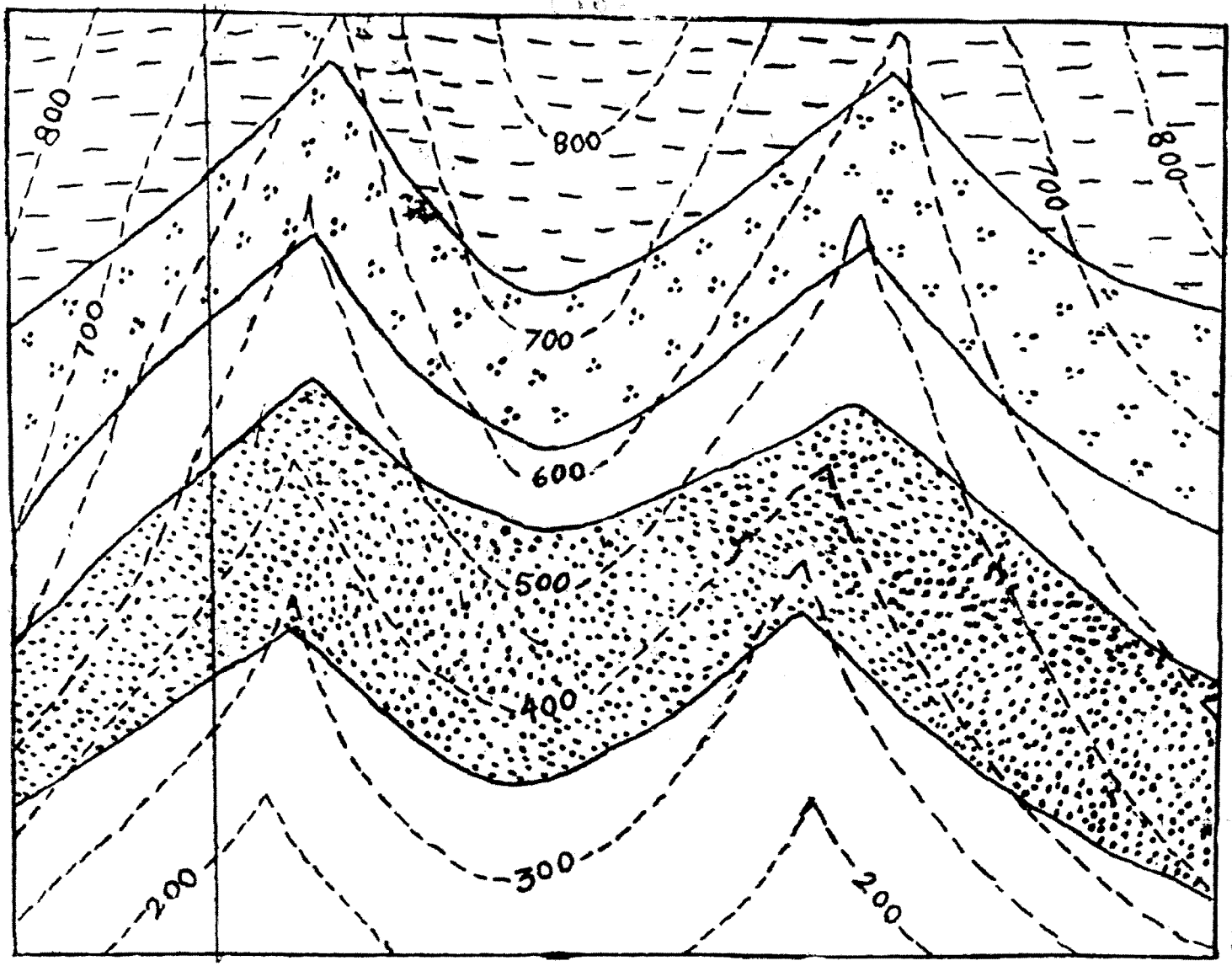

Describe the geology of the area and draw a suitable section

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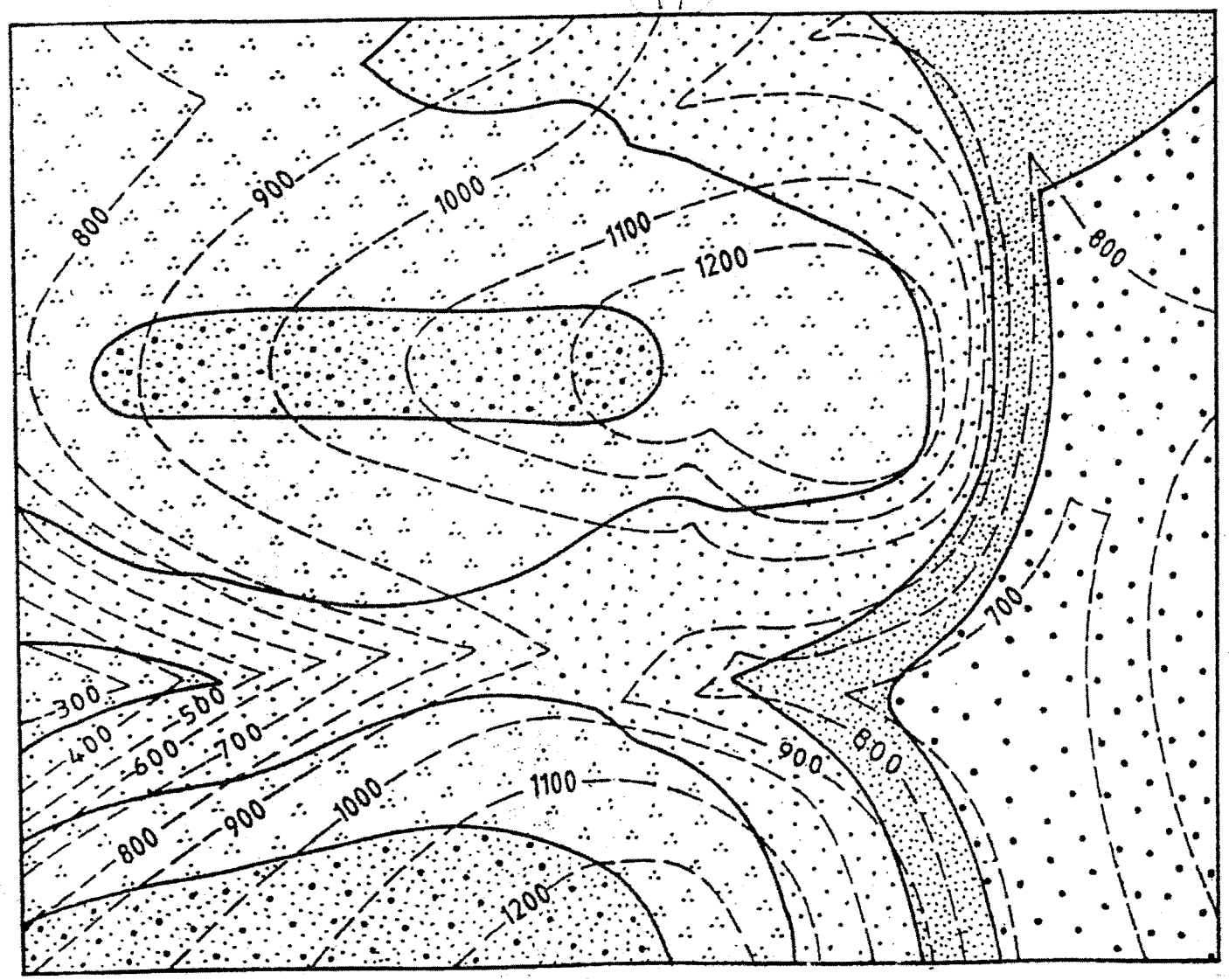

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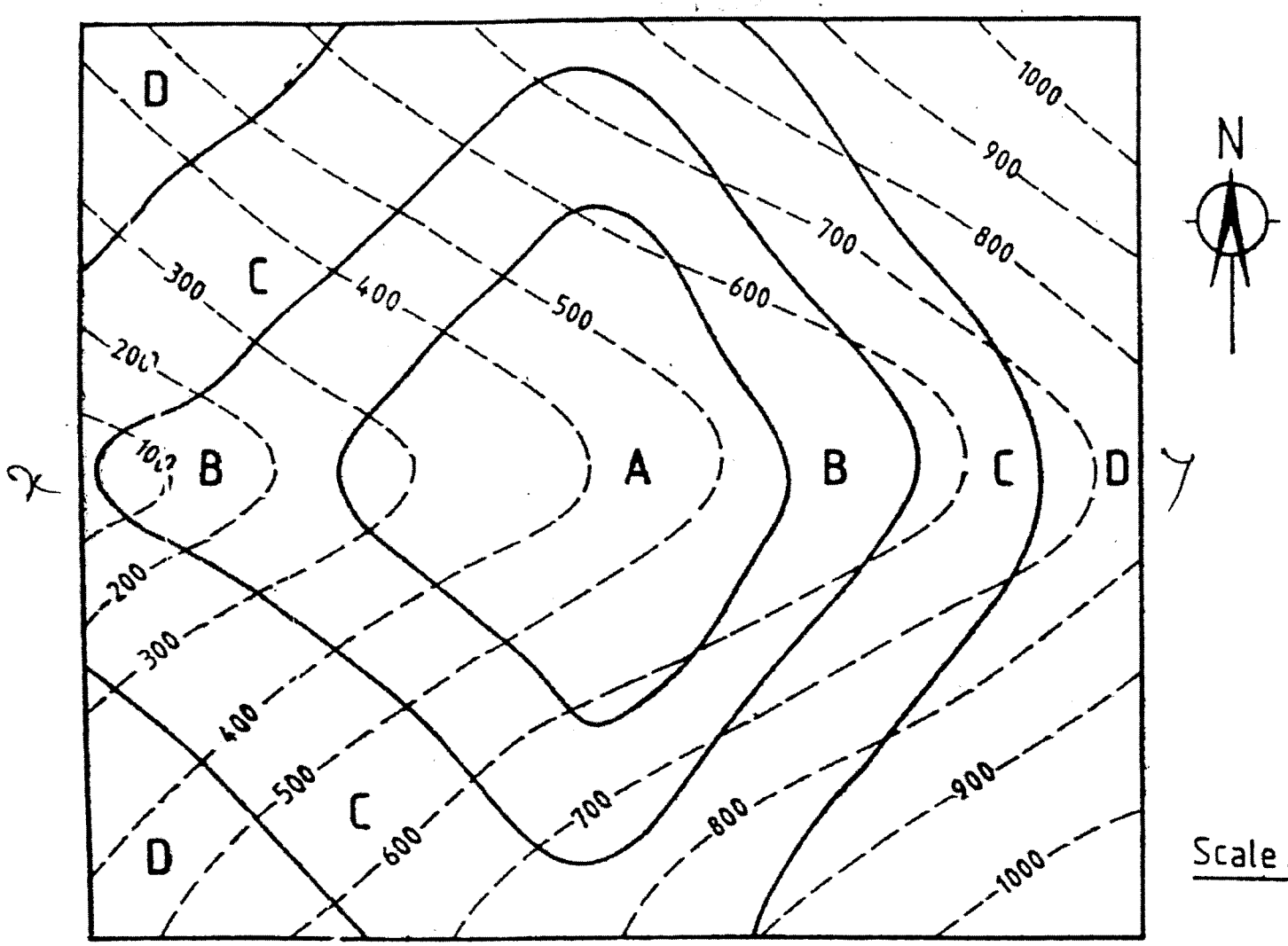

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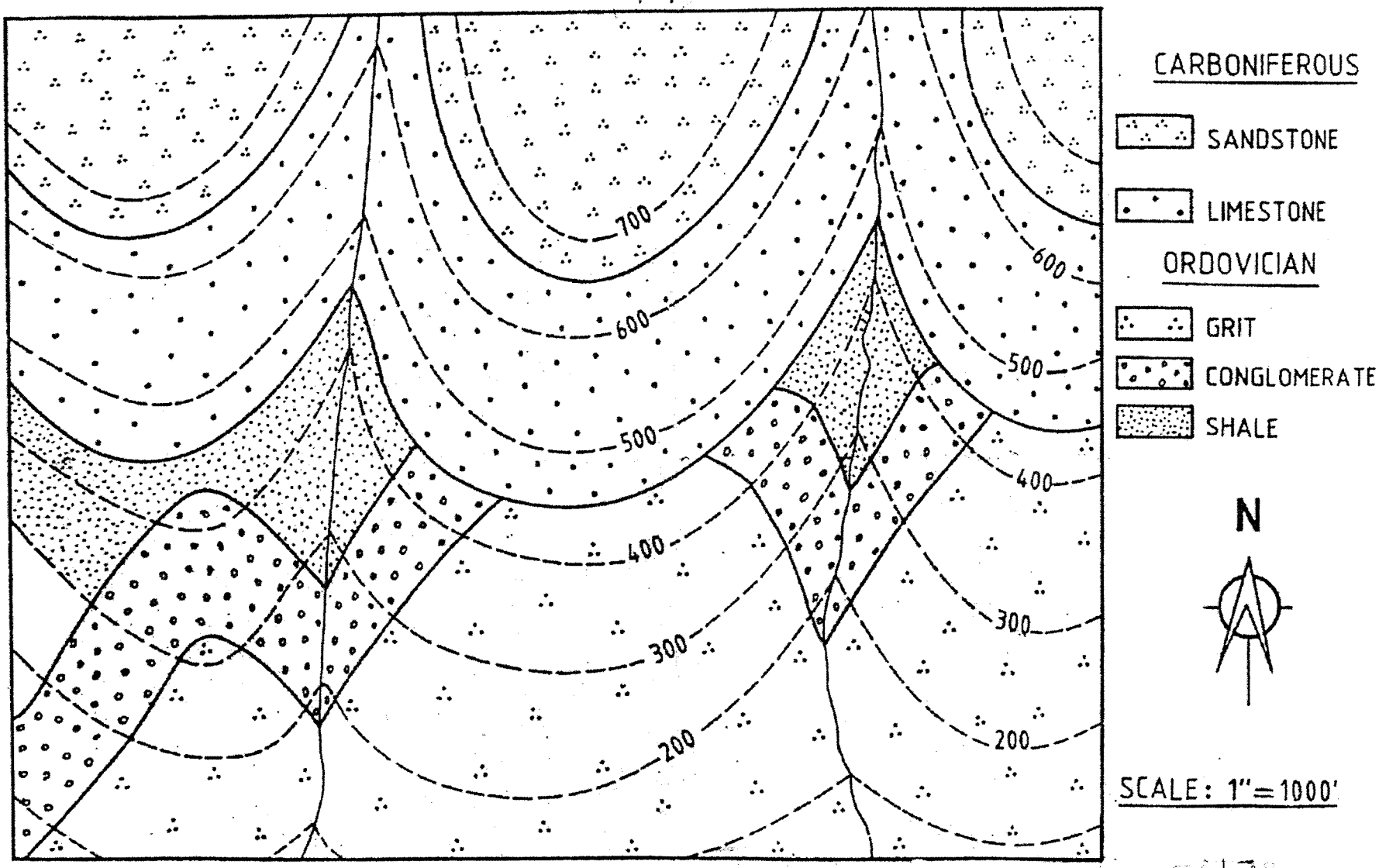

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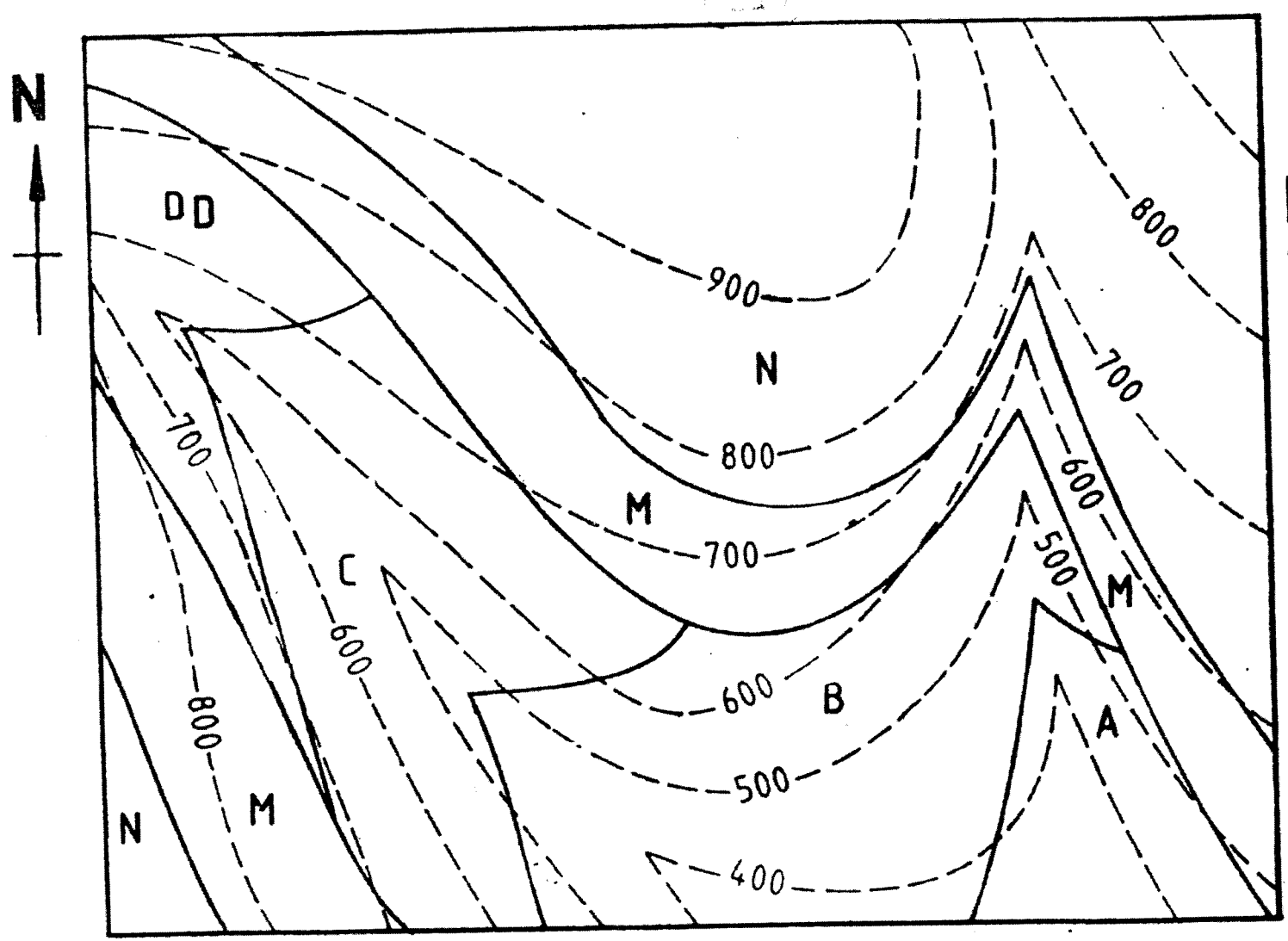

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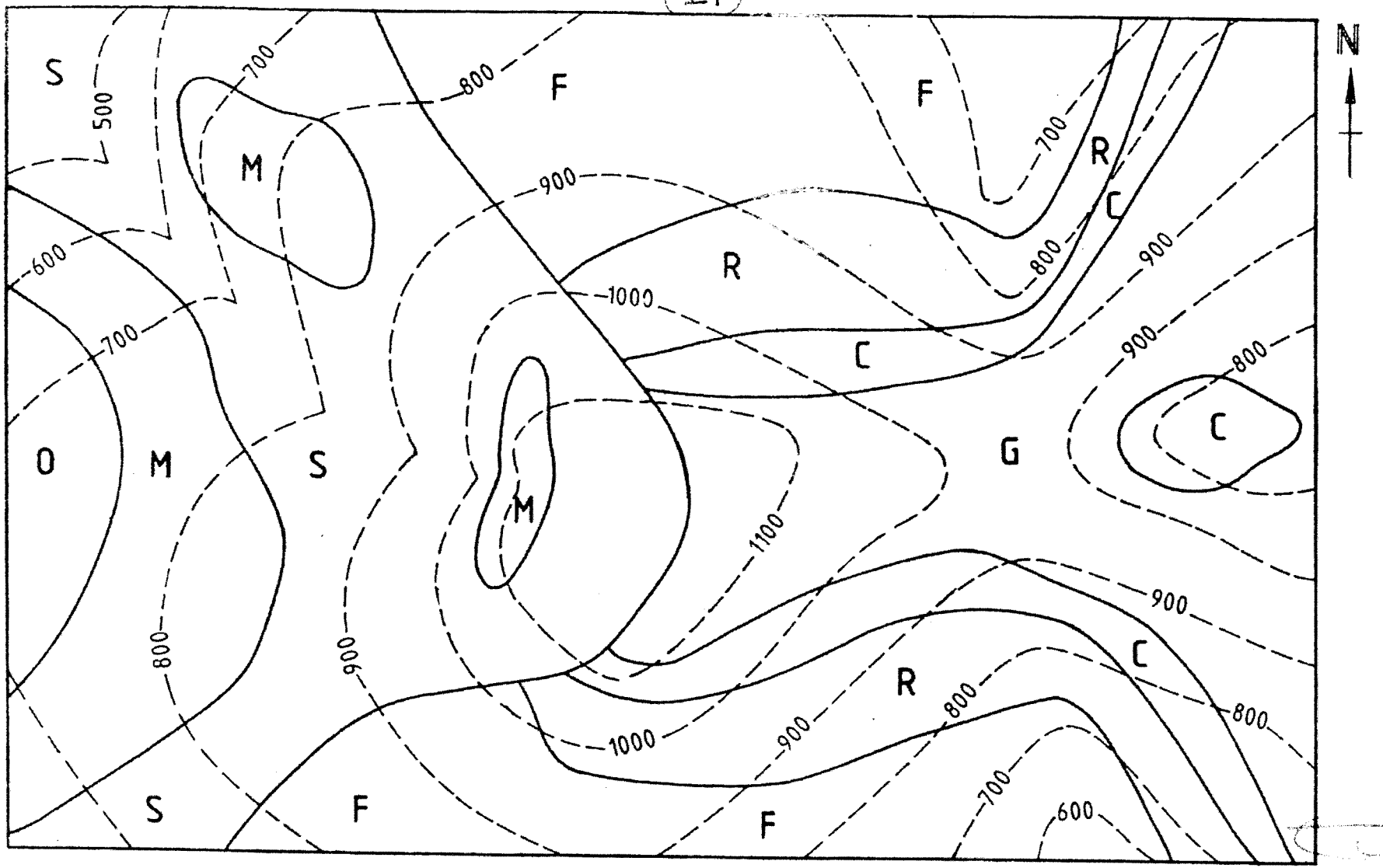

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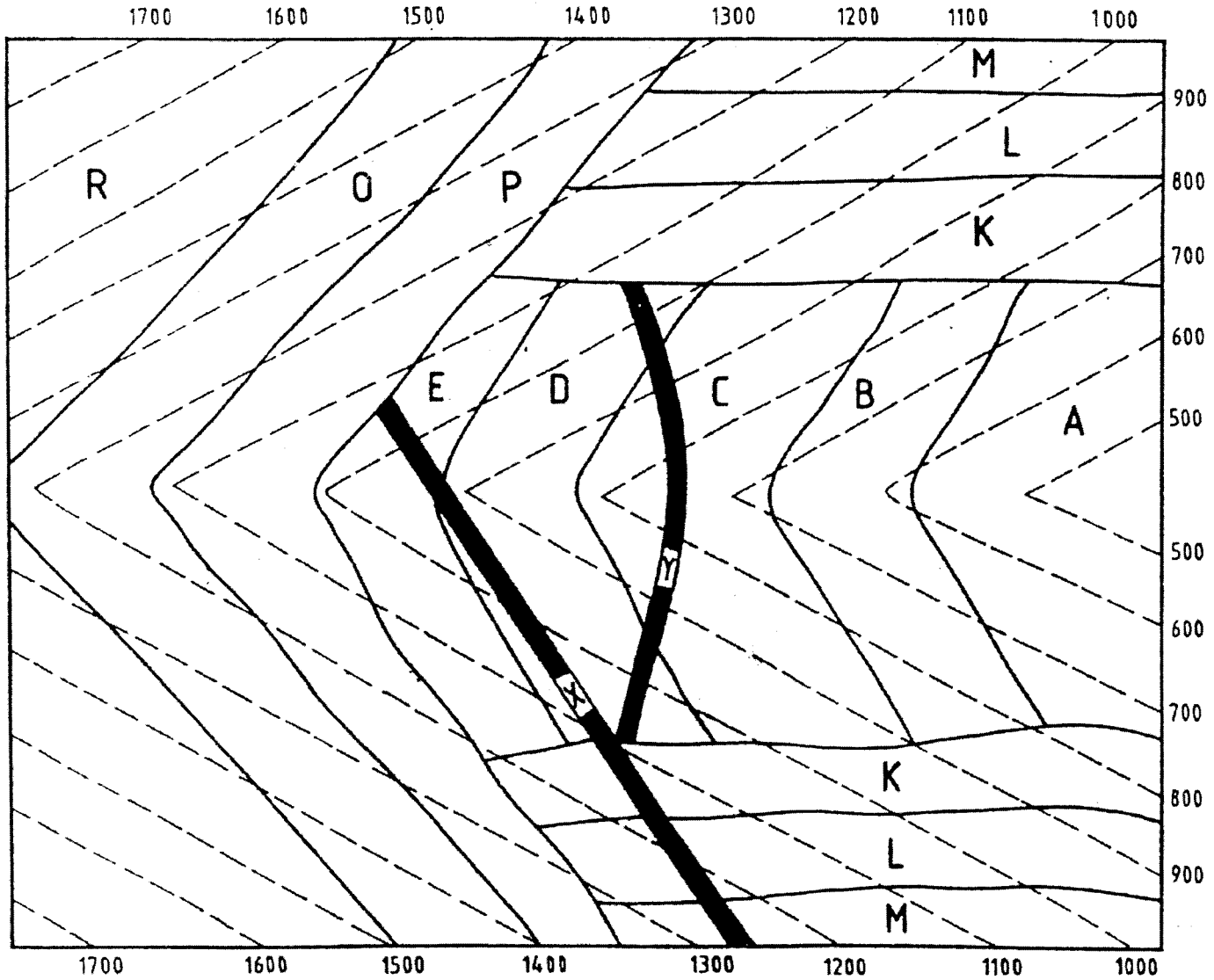

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