2001 HIGHER SCHOOL CERTIFICATE EXAMINATION

Earth and Environmental Science

Centre Number

Section I – Part B (continued)

Student Number

Marks

Question 25 (8 marks)

During the Earth and Environmental Science course, you have carried out a case study of a rehabilitation program in an area affected by salinity.

(a) Name the area you studied, and identify ONE cause of the salinity problem. **1**

Wagga (Wagga Region - secondary salinity caused by poor sewage/draining of water within the city and the subsiquent rise in the water table from irrigation.

(b) Describe the impact of this salinity problem. **3**

The impact of the salinity - urban salinity, has caused damage to roads and structures - buildings and water pipes, as well a accelerated corrosion of iron pipes and cast iron building components fou in vintage houses.

(c) Evaluate the effectiveness of the rehabilitation strategy used at this site. **4**

The strategy the local government is using is to limit the amount of water used to irrigate public areas eg parks, foot ball fields etc. The local government has also instigated an educational program on salinity for its residents as well as repairing sewage pipelines and pumping bore water into local rivers.

According to the council their techniques in dealing with salinity have been so successful that they are seeing a drop in the height of the water table.

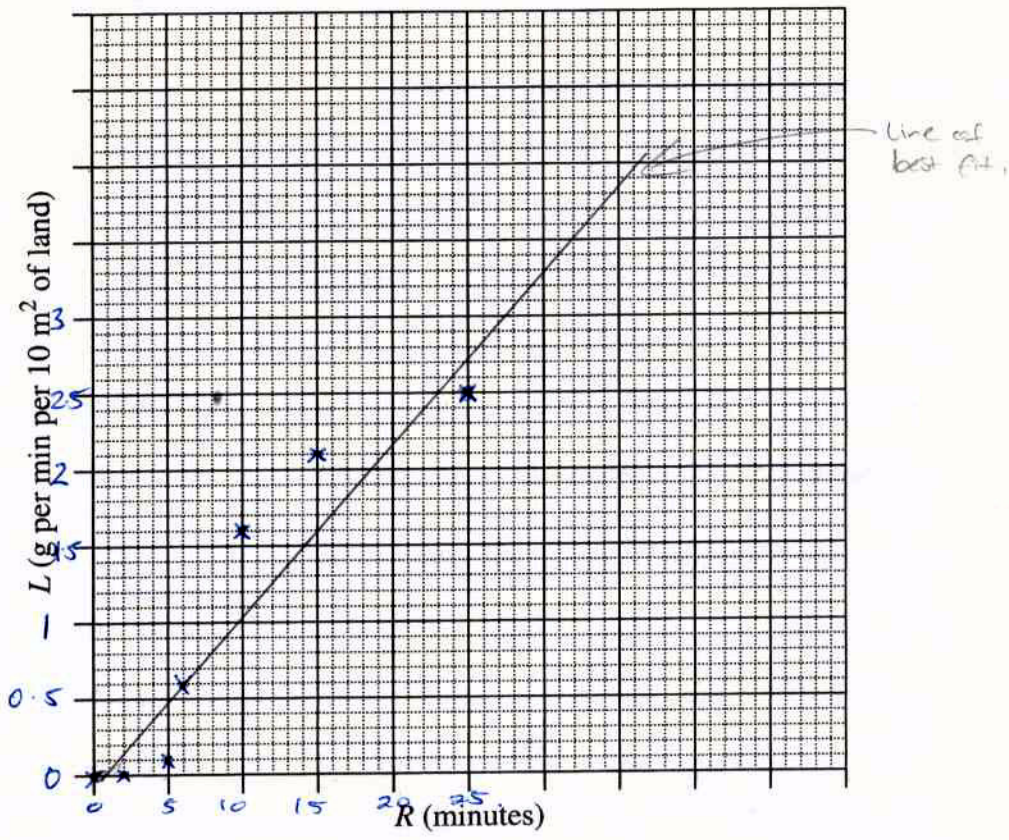
Marks

Question 26 (4 marks)

The table shows the duration of rainfall (R) and the rate of soil loss due to erosion (L) at a test site in an agricultural area.

Duration of rainfall (R) (minutes)	*Rate of soil loss (L)* (g per min per 10 m^2 of land)
0	0.0
2	0.0
5	0.1
6	0.6
10	1.6
15	2.1
25	2.5

(a) Using the grid provided, draw a graph of L versus R, with a line through the data points. **2**



(b) Describe the relationship between L and R. **2**

As duration of rainfall increases the rate of soil loss due to erosion also increases therefore rate of soil loss is proportional to duration of rainfall. Where short periods of rainfall have little or no effect on soil erosion and longer periods have more significant impact on soil erosion.

© Board of Studies NSW 2001