The map shows the location of the Glensanda superquarry which produces 7 million tonnes

of gravel annually by dredging the coastal waters. The Scottish Wildlife Trusts have

campaigned against the superquarry but the owners have argued that such superquarries

actually reduce the national impact of mining and quarrying. Each year the UK uses

200 million tonnes of aggregates, 21% of which comes from marine deposits.



State **one** major use of gravel.

*Construction*

*(1 mark)*

(b) Suggest **two** possible harmful environmental consequences of the Glensanda superquarry.

Noise Pollution

*Air Pollution (Dust, Emmisions)*

*(2 marks)*

(c) Suggest how the operation of such a superquarry might actually reduce the total

environmental impact of mining and quarrying.

*Super-quarries concentrate mining to a small area helping to minimise widespread enviromental disruption created by many smaller quarries. A superquarrie helps to reduce emmissions created form transport of capitol equipment. Superquarrieys also have high levels of efficiency compared to smaller quarrys.*

*(2 marks)*

M/S02/ESC2

*Total 5*

Copper deposits at Capel Herman in mid Wales occur as a mass of veinlets spread through

rocks. The proportion of copper in the rock is 0.3% by mass.

(a) State **two** economic factors, other than the copper content, which may affect the

viability of exploiting this mineral.

Hard to reach

*(2 marks)*

(b) The owners of the site estimated that 350 million tonnes of rock would be mined using

opencast methods over 20 years. 1000 tonnes of rock has a volume of 375 m3.

(i) Calculate how many tonnes of copper are contained in 350 million tonnes of rock.

Show your working.

Answer .........................................tonnes

*(1 mark)*

(ii) Calculate the volume of the copper-bearing rock that would be extracted from the

opencast pit.

Show your working.

Answer ...............................................m3

*(1 mark)*

4

M/S02/ESC2

*LEAVE*

*MARGIN*

*BLANK*



By what geological processes might these copper deposits have been formed?