

Exercise 4 Answers

Question 4.1 Total mass of the Deccan traps is given by:

$$M = \rho \times V = 3050 \times 1 \cdot 10^{15} \text{ kg} = 3.05 \times 10^{18} \text{ kg}$$

The total amount of Ir in the Deccan Traps is therefore:

$$3.05 \cdot 10^{18} \times 0.32 \cdot 10^{-9} = 9.76 \cdot 10^8 \text{ kg}$$

However, only 0.3% of this would actually be degassed, i.e., 2.93×10^6 kg of Ir. Apparently the Deccan Traps cannot produce sufficient Ir to account for the Ir anomaly at the KT boundary.