Answers to Questions for Review

15.1 Using the figures in the table, we can find that at a discount rate of 4%, the $\Sigma PV$ of the returns would be £523, so the NPV would be £23; so this investment might be justified if this NPV was felt to outweigh the risk. At a discount rate of 8%, the $\Sigma PV$ of the returns would be £463, so the NPV would be negative; so this investment would definitely not be justified.

15.2 At 4%, the $\Sigma PV$ is £1,332 for Asset 1 and £1,316 for Asset 2. So their NPVs are £232 and £216 respectively, making Asset 1 the better investment. At 8%, the $\Sigma PV$ is £1,200 for Asset 1 and £1,253 for Asset 2. So their NPVs are £100 and £153 respectively, making Asset 2 the better investment.

15.3 If new deposits were discovered, the owners would extract more this year. Otherwise, the price this year would be the same, so future prices would behave as before, and this means the total quantity extracted by the time the choke price was reached would be the same. But the owners will want to sell all their deposits by then, and they now have more to sell.

15.4 With lower demand, the owners would adjust their output to get lower prices this year. Then there would be lower prices in all future years, assuming prices net of extraction costs rise each year by the interest rate. With these lower prices, the owners will still be able to sell all their deposits despite the lower demand. However, as demand has fallen, we cannot be sure whether obtaining the right set
of lower prices each year will require extraction to occur more quickly or more slowly.