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## 11.0 CONCLUSIONS

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### 11.1 Site History

- 11.1.1 The site area has a long and varied history with a number of uses that are relevant to the study.
- 11.1.2 A former chemical works, brine-extraction, railway, lagoons, reservoirs, sand-pits, gas-works, refuse site and chemical waste dumping are former activities within the area.
- 11.1.3 ARE Harwell, restored the site in the early 1970's by controlled burial of wastes, removal of infrastructure and restoration to a golf-course.

### 11.2 Geology

- 11.2.1 The site is developed upon an area of Upper Keuper Saliferous Beds that are recognised as being a collapse breccia. The superficial deposits consist of the laterally extensive Congleton Sand, Alluvium and Boulder Clay.

### 11.3 Drainage System

- 11.3.1 ARE Harwell installed an extensive system of drainage as part of the remediation of the site. Because of local flooding problems within the area of interest, additional drainage was designed and installed at a later date.

### 11.4 Volatile Organics

- 11.4.1 Most of the boreholes sampled during the investigation revealed the presence of BTEX and other organic compounds. The level of contamination is seen to be in excess of the Dutch C Intervention level, therefore implying remedial measures need to be taken.
- 11.4.2 The source of the volatile organics is uncertain. It is likely that groundwater flows are moving to the area of interest via a number of different possible migration pathways. The volatile organic content is a possible mechanism for the cause of the grass 'die-back'.

### 11.5 Chloride

- 11.5.1 High concentrations of Chloride (NaCl) were encountered within the area of interest, especially around BH2. The Chloride content of the groundwater (together with the shallowness of the groundwater) point to chlorides being a possible mechanism for the cause of the grass 'die-back'.

### 11.6 Trace-metals

- 11.6.1 Concentrations of trace-metals within the groundwater and Birchenwood Brook were found to be at very low concentrations.