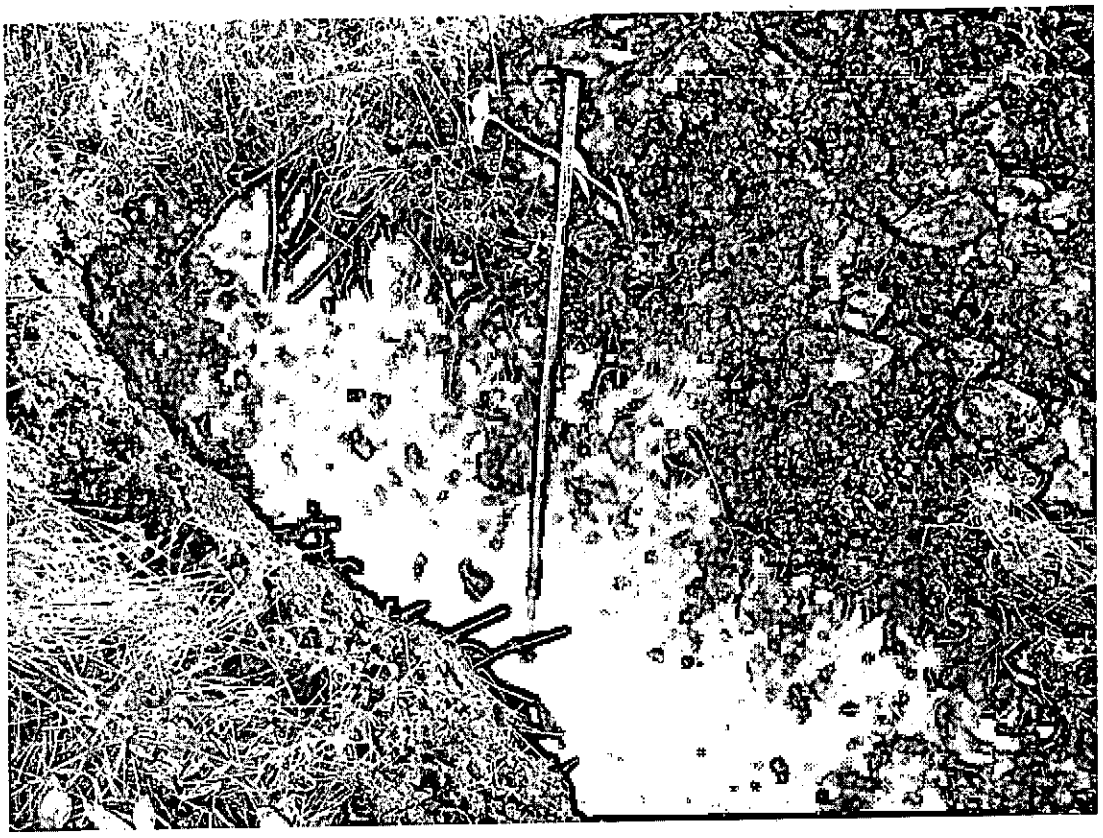
APPENDIX D - DATA SEARCHES

NO DATA SEARCHES WERE OBTAINED AS PART OF THIS REPORT

APPENDIX E - PHOTOGRAPHS TAKEN DURING SITE WALKOVER

Photograph 1: Example of Made Ground soils at the site. Location of pit is unknown.



Photograph 2: Example of Made Ground soils at the site. Location of pit is unknown.

APPENDIX F - DEFINITION OF SOURCE PROTECTION ZONES AND GROUNDWATER VULNERABILITY ASSESSMENTS

Source Protection Zones

Source Protection Zones (SPZs) are defined by the Environment Agency (for England and Wales), SEPA (Scotland) and the Environment and Heritage Service (Northern Ireland) for groundwater sources such as wells, boreholes and springs that are used for public drinking water supply. The zones show the risk of contamination from activities that might cause groundwater pollution in the area. The size and shape of a zone depends upon subsurface conditions, how the groundwater is removed, and other environmental factors.

SPZs are classified into four categories:

- **Zone 1 (Inner protection zone).** Any pollution that can travel to the abstraction point within 50 days from any point within the zone is classified as being inside Zone 1. This applies at and below the groundwater table. This zone also has a minimum 50 m protection radius around the abstraction point. These criteria are designed to protect against the transmission of toxic chemicals and water-borne disease.
- **Zone 2 (Outer protection zone).** The outer zone covers pollution that takes up to 400 days to travel to the abstraction point, or 25% of the total catchment area, whichever area is the largest. This travel time is the minimum period over which the Environment Agency considers that pollutants need to be diluted, reduced in strength or delayed by the time they reach the abstraction point.
- **Zone 3 (Total catchment).** This is the total area needed to support removal of water from the abstraction point, and to support any discharge from this.
- **Zone of special interest.** This may occasionally be defined as a special case. This is usually where local conditions mean that industrial sites and other potential sources of contamination could affect the groundwater source, even though they are outside the normal catchment area.

Groundwater Vulnerability Assessments

The Environment Agency has issued a series of maps that identify the vulnerability of groundwater in England and Wales to contamination from the overlying soils. The assessment takes account of the physico-chemical characteristics of the overlying soils, the characteristics of the unsaturated strata overlying the aquifer and the properties and the properties of the aquifer itself.

The standard terms used by the Environment Agency are summarised in Tables 1 and 2.

Table 1. Soil Classification.

Classification	Definition
H. Soils of high leaching potential	Soils with little ability to attenuate diffuse source pollutants and in which non-adsorbed diffuse source pollutants and liquid discharges have the potential to move rapidly to underlying strata or shallow groundwater.
H1	Soils which readily transmit liquid discharges because they are either shallow or susceptible to rapid flow direct to rock, gravel or groundwater.
H2	Deep, permeable, coarse textured soils which rapidly transmit a wide range of pollutants because of their rapid drainage and low attenuation potential.
H3	Coarse textured or moderately shallow soils which readily transmit non-adsorbed pollutants and liquid discharges but which have some ability to attenuate adsorbed pollutants due to their clay or organic matter contents.
I. Soils of intermediate leaching potential	Soils which have a moderate ability to attenuate diffuse source pollutants or in which it is possible that some non-adsorbed diffuse source pollutants and liquid discharges could penetrate the soil layer.
I1	Soils which can possibly transmit a wide range of pollutants.
I2	Soils which can possibly transmit non- or weakly adsorbed pollutants and liquid discharges but are unlikely to transmit adsorbed pollutants.
L. Soils of low leaching potential	Soils in which pollutants are unlikely to penetrate the soil layer because either water movement is largely horizontal or they have the ability to attenuate diffuse pollutants.

Table 2. Aquifer Classification ("Geological Classification").

Classification	Definition
Major Aquifers (Highly Permeable)	Highly permeable formations usually with a known or probably presence of significant fracturing. They may be highly productive and able to support large abstractions for public supply and other purposes.
Minor Aquifers (Variably Permeable)	These may be fractured or potentially fractured rocks that do not have a high primary productivity, or other formations of variable permeability, including unconsolidated deposits. Although these aquifers will seldom produce large quantities of water for abstraction, they are important for local supplies and in supplying base flow to rivers.
Non-Aquifers (Negligibly Permeable)	Formations which are generally regarded as containing insignificant quantities of groundwater. However, some groundwater flow, although imperceptible, does occur through such formations and they need to be considered in assessing the risk posed by persistent pollutants.

APPENDIX G - DEFINITION OF TERMS USED IN QUALITATIVE AND QUANTITATIVE RISK ASSESSMENTS

For the qualitative and quantitative assessment of risks posed by potential pollutant linkages to all receptors, a common terminology has been employed throughout this report.

Evaluated significance of pollutant linkage	Definition
Very High	There is a high probability that severe harm or pollution by the identified contaminant could arise at the identified receptor unless appropriate remedial action is taken.
High	It is probable that harm to, or pollution of, the identified receptor by the identified contaminant could occur unless appropriate remedial action is taken.
Moderate	It is possible that harm to, or pollution of, the identified receptor by the identified contaminant could occur unless appropriate remedial action is taken. However, it is relatively unlikely that the consequences would be severe.
Low	It is possible that harm to, or pollution of, the identified receptor by the identified contaminant could occur. However, if any harm is realised it is likely that any effects will be mild.
Negligible	The presence of an identified contaminant will not cause significant harm or pollution to the identified receptor *via* the specified pathway(s).