openreach

PIA – Gas and Contaminated Water in the Openreach Network

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Document overview

This document explains the actions that Openreach **recommend** you undertake if you detect gas or find contaminated water whilst you are working in the Openreach underground network.

Gas Detection

If gas is detected you should follow the following steps for:-

Flammable gas

1. Put out any flames or other sources of ignition immediately and avoid actions which may produce sparks
2. Switch off any mechanical equipment in the vicinity which may cause ignition
3. Warn those working nearby
4. Wherever possible, naturally ventilate the area – make sure any openings are guarded to stop anyone falling in
5. Contact the Gas Emergency Service Providers (ESPs)

Region	Contact	Telephone number
England, Scotland & Wales	Gas Emergency Contact Centre	0800 111 999
Northern Ireland NI	Gas Emergency Service	0800 002 001

Petrol or fuel oil fumes

1. Carefully replace the cover
2. Contact the emergency services and wait for their arrival
3. Make sure there are no sources of ignition within 10 metres of the structure
4. Follow any guidance from the emergency services and keep your line manager informed
5. Don’t go into the structure until it has been made safe

Toxic gas

1. Ventilate the structure
2. Notify your Line Manager
3. When you think the air is clear – retest and only enter if safe to do so
4. If the problem persists or reoccurs, close the manhole and follow the procedures for Gully Sucking and De-Silting.

Other gases

Ventilate the space and don’t go in until you have a negative GDU reading.

Contaminated Water

Introduction

Openreach's underground network of ducts and jointing chambers acts as a drainage channel in many cases for rainwater and for groundwater, which may enter via duct joints. Whilst this water is in the majority of instances harmless, circumstances do arise in which water becomes contaminated.

Pumping out of jointing chambers is a frequent operational requirement prior to commencing external underground activities. Water is typically pumped into roadside storm drains or other roadside drainage facility, and can and does make its way into natural waterways. It is a requirement that any such water is tested to ensure that it is visibly free of pollution.

A water test must be carried out prior to any water pumping operations in Openreach's underground network, and appropriate action taken if polluted water is observed. The outflow from the Water Pump must also be monitored regularly.

Failure to comply with this requirement by Openreach, its contractors or Communications Providers may result in prosecution by the Environment Agency or other equivalent regulatory bodies responsible for waterways, and may result in additional constraints being imposed on Openreach's operations concerning discharge of water into drainage systems.

The Environment Agency (EA) is responsible for the protection of "controlled waters", which includes all watercourses and water contained in underground strata. It is an offence under the Water Act 2003 to cause pollution to such waters.

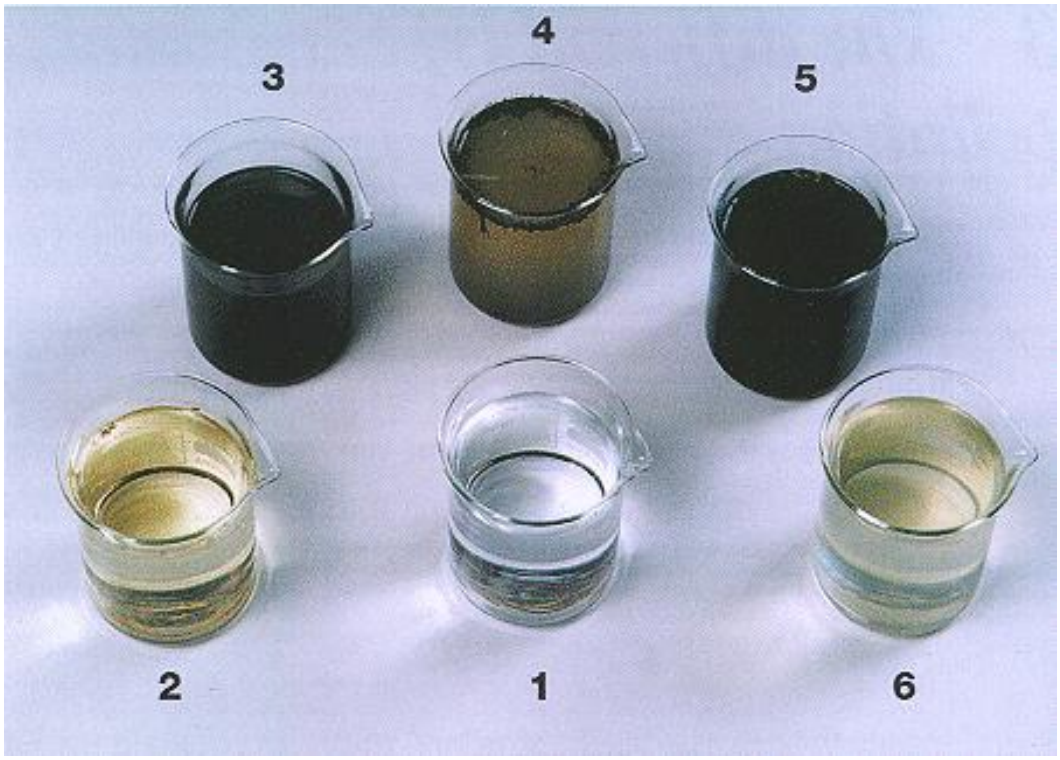
Further information on "dewatering of underground ducts and chambers" is given in EA Pollution Prevention Guidelines document PPG20, see Reference Guide. Where appropriate, extracts from this document are included here.

Different Types of Water Pollution

The water test required is a simple operation designed to identify pollutants in the following three categories:

- Petrol and oil contamination, where a film of contaminating fluid will appear on the surface of the water possibly together with a distinctive smell.
- Dirty water contamination, potentially from sewage or other foul water source, which will discolour the water, may result in solid particles in suspension and may be accompanied by an unpleasant or distinctive smell.
- Silt, or very fine solids, drawn in from the surrounding strata by ground waters entering the structure, which can remain in suspension in the water in the form of a cloudy discolouration, or which may settle to the bottom of the water in the structure to form a layer of sludge but is easily disturbed. The prevention of silt entering natural waterways is as important as prevention of other contaminants, and requires care in pumping operations even though silt has not been identified by water test, see pumping guide section.

Typical examples of polluted water samples are illustrated below. These illustrations are for guidance only - use your judgement, and call for assistance if required.



Typical examples of polluted water

1. Pure Water
2. Sewage
3. Silted water
4. Silted water
5. Oil
6. Discoloured Water

Note: Both silted and discoloured water may be of many different colours depending upon the local rock and soil.

When to Test

- The test must always be carried out as part of the initial access procedure for underground jointing chambers, to be conducted during the standard entry precautions for gas detailed.
- A water test is required for every chamber containing water that needs to be removed wholly or in part for operational or safety reasons,

How to Test

- Using a clean Water Test Cup (I/C 075886) attached to a length of draw rope, carefully take a sample from the surface of the water and withdraw the cup from the chamber.

- Visually examine the water in good light for the presence of:
    - unnatural discolouration
    - unusual distinctive or unpleasant smell
    - cloudy suspension or visible suspended solids
- If any of the above characteristics are observed, the water is deemed to be polluted. Follow the section "What to do if polluted water is found".
- If the water is observed to be unpolluted, pumping out may proceed in accordance with "pumping guide".

Return the sample to the water in the chamber. Clean the Water Test Cup with synthetic rag or suitable alternative.

What to do if polluted water is found

- Do not perform any work in the chamber or work space
- Replace the chamber cover.
- Arrange for a suitably qualified contractor to Empty and Wash the manhole / Carriageway / Footway box.

Gully Emptying and Washing Standard Manhole/Carriageway/Footway Box

This will require the use of a gully emptier unit and an auxiliary pressure hose and lance. On arrival at the work site it will be the responsibility of the Supplier to guard the site in accordance with the new roads and street works act 1991. Remove the covers from the structure ensuring that all relevant safety precautions are taken i.e. gas testing before work commences. The Supplier will be required to remove all contaminated water and solids from the structure. This will include hosing down the content of the structure and its' walls to leave it clean and safe for commencement of work in the network. Manhole and footway covers shall be fitted correctly and the site left, clean and tidy. If medical needles are found in or around the structure the Supplier shall undertake their disposal. The Supplier shall have in place a procedure for safe containment and incineration of medical needles.