



Scottish Water

Trade Effluent Sampling Code of Practice

Version: 1

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DOCUMENT VERSION CONTROL

Please record any amendments to this document in the table below.

| Version Ref | Amended By | Amended Date | Summary of Changes |
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Trade Effluent Sampling Code of Practice

This is the Code of Practice that accompanies Schedule 5 of the template Wholesale Services Agreement (WSA), "*Requirements for the provision of Trade Effluent Sampling and Analytical Services by the Licensee*". All defined terms contained within this Code of Practice refer to the terms defined in the template WSA.

This Code of Practice sets out best practice that the Licensee should observe when conducting both Trade Effluent Service (TE) A and Trade Effluent (TE) Service B.

1. Training

All staff involved in trade effluent sampling should be shown to be competent in carrying out their duties. Staff should be trained in the necessary skills, and a record of training for each individual should be maintained as part of the quality system. A programme of training updates should be detailed in the quality system.

2. Health & Safety

All sampling should be undertaken in a safe manner. Each sampling site will have a Risk Assessment form that will outline potential hazards and procedures for safe sampling. The appropriate Personal Protective Equipment (PPE) to include hard hat, safety footwear, gloves and hi-visibility coat or waistcoat, should be available and used appropriately. PPE requirements may vary from site to site.

The Licensee in carrying out sampling is responsible for complying with all associated health and safety obligations including their own health and safety and all other people affected by their activities

3. Sampling Equipment

The appropriate sampling rods or sampling cans should be used for the taking of spot/snap samples. Manhole lifting keys or mechanical lifters should be used to lift manhole covers. The condition of sampling equipment should be checked prior to each sampling run and damaged items replaced.

4. Vehicles

Sample bottles should be stored in appropriate crates in a refrigerated compartment of the vehicle and should be transported in a way which minimises the risk of damage or contamination.

5. Bottles and Labels

Sample containers should be appropriate for the determinand and analytical system being employed. Wherever possible they should be supplied by the analysing laboratory. The analysing laboratory will advise on the required bottle type, labelling and delivery procedures.

Where the Licensee chooses not to provide analytical services, i.e., is providing TE Service A, it will be provided with sample bottles, sample labels and sample worksheets by Scottish Water. Table 1 below lists bottles currently used by SW. The Licensee (or their contractor) must adhere to these requirements. Use of alternative bottles may be acceptable but must be agreed with Scottish Water in advance of taking samples.

Sample containers should not be rinsed with sample before filling unless specified in the sampling procedures. It is very important to take note of laboratory requirements regarding the filling of sample containers, for example some test will require no air space be left after filling to stop loss of volatile components, while others need space left in the bottle to allow addition of extraction solvents when reaching the laboratory. Failure to carry out laboratory instructions on the use of sample bottles may lead to invalid analytical results. Laboratories should either reject improperly presented samples, or a disclaimer should accompany the results stating they may be invalid.

Where appropriate, preservatives may be added to ensure that there is no material change in the concentration of the determinands in question before analysis. Preservatives are often added to sample containers before they are dispatched from the laboratory, and these containers should not be rinsed.

6. On-Site Communication

If the site procedures require it samplers must identify themselves to the site management and follow any site specific health and safety regulations that may apply.

7. Taking the Sample

It is essential to avoid contamination during sampling. All possible sources of contamination should be considered and the correct control measures applied e.g. thoroughly rinsing sample cans and disposing of rinse water downstream of the sample point or in a way that does not contaminate or disturb the sample point.

Samples at an outfall should be taken from regions of high turbulence and good mixing, usually at the centre of the discharge. Solid materials will have little chance to settle out here.

Samples in channels should be collected away from the sides and bottom of the channel to avoid contamination of the sample with sediment and biological growths.

When sampling from chambers (e.g. manholes), it is necessary to ensure that measures are taken to avoid contamination of the sample by the disturbance of deposits from the cover when the cover is lifted and to prevent contamination of the sample from the chamber walls and any bottom deposits. Sampling staff should be aware that manholes and similar confined spaces are

dangerous and must not be entered unless in accordance with a safe system of work and after appropriate training.

Sample containers should be closed sealed and correctly labelled with date & time of sampling, sampler and sample location

Sub-sampling or dividing a bulk sample into different bottle types may be required. Particular care should be taken to ensure that the nature of the sample does not change and to avoid contamination during sub-sampling. Prior to sub-division the sample should be agitated to prevent suspended solids settling.

8. Sampling Observation Reports

When on site consideration should be given to completing a Sampling Observation Report to record any observations relating to the sample, sample point or apparent quality of the effluent which may be relevant.

As a minimum the following non-exhaustive list of site specific observations set out below would require the completion of a report:

- Deterioration in effluent appearance (colour, solids, oil, fat, odour or any other observable parameter);
- Failure of on-site pH or temperature tests;
- Any information provided by the Customer or observed which indicates change in the process giving rise to effluent;
- Any information provided by the Customer or observed which indicates a defect in any effluent treatment plant, effluent monitoring or effluent flow recording equipment normally visible during a sampling visit;
- Whether there was no effluent discharging to sewer at the time of the visit;
- Any information provided by the Customer or observed which indicates that the process giving rise to the effluent has terminated or that the company premises, has closed;
- Whether access to the designated sample point was blocked and the reason e.g. car parked over sample manhole.

9. Field Measurements

Only trained staff should conduct field measurements (e.g. on-site pH or temperature) using calibrated equipment and instrumentation. Information must be recorded immediately in the appropriate document (s) and on the label.

10. Delivery of Sample to the Laboratory

Samples should be delivered to the laboratory as soon as possible. Samples and labels should be checked before storage to ensure they are undamaged and any damaged or illegible labels or registration documents should be replaced.

All storage facilities should be securely locked when unattended. Storage of samples should be arranged to prevent contamination, loss or damage.

Table 1

Table 1 lists sampling bottles currently used by Scottish Water. The Licensee (or their contractor) must adhere to these requirements. Use of alternative bottles may be acceptable but must be agreed with Scottish Water in advance of taking samples.

| Bottle Description | Analysis |
|--|--|
| 1 litre Square Plastic | BOD,COD Settled BOD Settled COD Suspended/ Settled/ Nutrients, pH |
| 1 litre Square Plastic | Colourimetric Phenols |
| 250ml Square Plastic | All non-soluble metals with exception of Mercury |
| 250ml Square Plastic | All soluble metals with exception of Mercury |
| 250ml Square Plastic | Mercury |
| 250ml Square Plastic | Anionic Detergents & Non-Anionic Detergents |
| 250ml Grey Plastic (Sodium Hydroxide Treated) | Cyanide |
| 1 litre Glass Duran (Blue capped) | Total Hydrocarbons/Oil I.D's/Pesticides |
| 60ml Amber Bottle with Screw Cap | Total Fats, Oils and Greases |

| | |
|------------------------------|---------------------|
| 50ml Amber Glass Vial | VOC's, Alcohols |
| 250ml Square Plastic | TOC |
| 250ml Square Plastic | Sulphate & Fluoride |
| 1 litre Amber Plastic | Microscopy |
| 250ml Square Plastic | Sulphide |