



Unit title	Carry Out Sampling Operations: Bacteriological, Chemical Spot and Flush
SQA code	HC40 04
SCQF level	5
SCQF credit points	5
SSC ref	DC07

History of changes

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Title	Carry Out Sampling Operations: Bacteriological, Chemical Spot and Flush	
Learning Outcomes		Assessment Criteria
The learner will:		The learner can:
1	Prepare for simple sampling.	1.1 Confirm the conditions for sampling are in accordance with laid down procedures. 1.2 Select equipment and materials according to instructions. 1.3 Check and ensure that materials and equipment are in serviceable condition and the equipment is in calibration. 1.4 Prepare equipment and materials in accordance with standard operating procedures. 1.5 Ensure that the required resources are available and appropriate. 1.6 Follow safety systems and standard operating procedures correctly.
2	Obtain representative sample.	2.1 Prepare the sampling point as necessary. 2.2 Confirm the conditions for sampling are in accordance with the sampling plan. 2.3 Record the conditions under which the sample is taken. 2.4 Take the sample following standard operating procedures. 2.5 Identify and correctly label the sample. 2.6 Follow safe practices during sampling. 2.7 Record any deviations from the set procedure or from anticipated results and take appropriate action. 2.8 Clean sampling equipment and materials appropriately which will be re-used.

Learning Outcomes The learner will:	Assessment Criteria The learner can:
	2.9 Dispose correctly of equipment and materials which will not be re-used. 2.10 Confirm the sample taken meets the plan procedure.
3 Maintain integrity of sample.	3.1 Record information about the sample to permit traceability. 3.2 Maintain the condition of the sample according to instructions. 3.3 Confirm the sample is protected from external sources of contamination. 3.4 Take appropriate action in the event of abnormal occurrences affecting the sample condition. 3.5 Follow safety, health and environmental requirements.
4 Know and understand simple sampling operations.	4.1 Explain the purpose of sampling. 4.2 Explain the reasons for using controlled conditions . 4.3 Outline the procedures for taking samples and completing documentation and labelling systems to ensure traceability. 4.4 Describe the equipment requirements for sampling, including: (a) appropriate sampling equipment to use (b) how to identify defective equipment (c) the action to take with defective equipment. 4.5 State the safety, health and environmental requirements and procedures for sampling, including any risk to the source.

Learning Outcomes	Assessment Criteria
<p>The learner will:</p>	<p>The learner can:</p> <p>4.6 Explain what constitutes a suitable point from which to take a sample according to the sample plan.</p> <p>4.7 Describe the relevant features of the sampling plan, including what constitutes a suitable sample according to the sample plan.</p> <p>4.8 Outline how to use materials including:</p> <ul style="list-style-type: none"> (a) dealing with materials (b) handling materials (c) materials storage (d) disposal of materials. <p>4.9 Give examples of cleaning materials and how to use them.</p> <p>4.10 Outline safe lifting and moving techniques for sampling operations.</p> <p>4.11 Describe the information that needs to be recorded about samples.</p> <p>4.12 Describe the procedure for maintaining sample condition.</p> <p>4.13 Describe abnormal conditions that can affect sampling.</p> <p>4.14 Give examples of different types of sampling containers.</p> <p>4.15 Outline the procedure for arranging for samples to be collected or transported to laboratories.</p>

Additional information about the Unit
Unit purpose and aim(s)
<p>This Unit allows learners to demonstrate their competence in taking samples of water for bacterial or chemical purposes using prescribed procedures. The procedures cover the equipment to be used, the conditions required for sampling and the sampling activity to be undertaken. Learners are responsible for carrying out the defined procedure and recording the result.</p> <p>Learners must use appropriate sampling equipment and materials and ensure that they are fit for purpose. They must take, identify and label the samples, cleaning and disposing of equipment and materials as required. They must record information about the sample to ensure traceability, maintain its condition, protect it from contamination and take action where the condition of the sample is affected.</p> <p>Learners must follow standard operating procedures and safe working and hygiene practices at all times.</p>
Details of the relationship between the Unit and relevant national occupational standards (if appropriate)
EUSDC07 — Carry out simple sampling operations
Details of the relationship between the Unit and other standards or curricula (if appropriate)
N/A
Assessment requirements specified by a sector or regulatory body (if appropriate)
<p>Some terms, used in the Assessment Criteria, cover a range of situations, as follows:</p> <p>1 Conditions include:</p> <ul style="list-style-type: none"> (a) access (b) location (c) timing (d) temperature (e) sampling points (f) duration (g) safety (h) health and environmental impact. <p>2 Resources required include:</p> <ul style="list-style-type: none"> (a) equipment (including personal protective equipment) (b) materials (c) documentation.

**Assessment requirements specified by a sector or regulatory body (if appropriate)
(cont)**

3 Safe practices include:

- (a) use of personal protective equipment
- (b) safe materials handling
- (c) safe lifting and moving techniques
- (d) safe disposal and storage.

4 Information required about the sample includes:

- (a) time
- (b) conditions
- (c) location
- (d) nature of sample
- (e) known hazards
- (f) required storage conditions
- (g) possible contamination sources.

5 The learner maintains the condition of the sample through:

- (a) preservation
- (b) transportation
- (c) packaging
- (d) documentation.

Assessor observation in a realistic working environment (RWE), agreed in advance with the EV, may contribute to the Unit evidence. Networks replicated in the RWE must be pressurised to a level consistent with, and must contain a substance which replicates, the workplace network. The materials and equipment used must be of the same type, and cover the same variety as those that are available in the learner's workplace.

Assessment (evidence) Requirements

Workplace evidence

The majority of the evidence used for this Unit must come from the learner's own work activities, both in their own 'reporting base' and working on the water distribution network.

Knowledge and Understanding

The Knowledge and Understanding requirements for this Unit must be covered in full. The learner may demonstrate considerable knowledge through their workplace performance and during observed assessments, but it is likely that some assessor questioning will be needed to confirm that all knowledge requirements are met. The centre may use oral and/or written questioning to cover the knowledge requirements.

Guidance on Instruments of Assessment

The evidence for this Unit is likely to be generated through a mixture of observation reports, assessor-guided discussions and questioning, and workplace records, reports or documentation.