# Regulated Qualifications Unit and Assessment Specification

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| **Unit title** | Prepare and Operate Machinery to Extract Materials |
| **Regulator unit code** | J/503/4301 |
| **SQA unit code** | FV4X 60 |

## History of changes

**Publication date:** September 2011

**Version:** 02 (July 2017)

| Version number | Date | Description | Authorised by |
|---|---|---|---|
| 02 | July 2017 | Unit Specification updated to reflect current Ofqual terminology, and change made to Guided Learning Hours. | Qualifications Officer |
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# Regulated qualifications unit specification

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| **Title** | Prepare and Operate Machinery to Extract Materials |
| **Level** | 2 |
| **Credit Value** | 10 |

| **Learning Outcomes**<br><br>**The learner will:** | **Assessment Criteria**<br><br>**The learner can:** |
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| 1 Know the machinery required for extracting materials according to the specification. | 1.1 Identify the type of machinery required.<br>1.2 Interpret a duties chart for the machinery.<br>1.3 Identify the hand tools, ancillary equipment and accessories required. |
| 2 Know how to prepare and conduct pre-operational checks of machinery and the work area. | 2.1 Interpret the drawings and specification for the task.<br>2.2 Identify any potential hazards within the work area, including underground and overhead utilities apparatus.<br>2.3 State procedures for preparing the machinery to meet the requirements of the specification.<br>2.4 State how to check the machinery is safe for operational use in line with manufacturers' recommendations and guidance.<br>2.5 Identify the person(s) responsible for approving safety checks.<br>2.6 State procedures for workplace safety and dealing with accidents, emergencies and problems.<br>2.7 State legislative requirements for disposing of waste. |
| 3 Conduct pre-operational checks of machinery. | 3.1 Prepare machinery to meet operational requirements in line with manufacturer's recommendations and guidance.<br>3.2 Check safety of components and controls in line with manufacturer's recommendations and guidance.<br>3.3 Confirm machinery is safe for operational use. |

| Learning Outcomes<br><br>The learner will: | Assessment Criteria<br><br>The learner can: |
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| | 3.4 Confirm with line management all checks have taken place before use.<br>3.5 Complete appropriate documentation to confirm operational checks have taken place. |
| 4 Operate machinery to extract materials safely. | 4.1 Select personal protective equipment (PPE) for the task in accordance with the specification.<br>4.2 Measure and mark out the area to be extracted according to the specification.<br>4.3 Operate machinery in accordance with manufacturer's guidelines and the operator's handbook.<br>4.4 Operate hand tools and ancillary equipment as required.<br>4.5 Extract materials meeting the work specification.<br>4.6 Place extracted materials into a designated location or vehicle for transportation.<br>4.7 Park, shut down and secure machinery in accordance with manufacturers guidelines and operators handbook.<br>4.8 Comply with all current workplace safety and legislative requirements.<br>4.9 Dispose of waste in accordance with legislative requirements. |

| Additional information about the unit | |
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| Unit purpose and aim(s) | This unit provides an introduction to carrying out basic extraction procedures within a construction environment. It will develop the learner's understanding and practical skills in using machinery to extract materials. |
| Unit start date | 01 September 2011 |
| Details of the relationship between the unit and relevant national occupational standards (if appropriate) | VR 386 Prepare Plant or Machinery for Operational Performance<br><br>VR 388 Operate Plant or Machinery to Extract |
| Details of the relationship between the unit and other standards or curricula (if appropriate) | |
| Assessment requirements specified by a sector or regulatory body (if appropriate) | Assessment of learners' knowledge and understanding will be undertaken through practical assignment and questioning based activities undertaken in the training environment.<br><br>For the full training specification refer to the relevant SQA training and assessment programme for this unit. |
| Endorsement of the unit by a sector or other appropriate body (if required) | ConstructionSkills |
| Location of the unit within the subject/sector classification system | 5.2 Building and Construction |
| Name of the organisation submitting the unit | SQA |
| Guided Learning Hours | 52 |

## Regulated qualifications unit assessment specification

**Assessment (evidence) requirements**

Learners are required to produce evidence to confirm that they have achieved all learning outcomes and assessment criteria outlined in this unit. Learner training and assessment should take place in as realistic an environment as possible to that of a live working site.

Performance evidence is required to demonstrate that the learner has achieved the standard specified in the learning outcomes and assessment criteria.

Performance evidence must be produced at an appropriate point in training under supervised conditions once the learner has developed the necessary skills and knowledge required to carry out the assessment. This performance evidence must be supplemented with a completed assessor observational/operational checklist.

Evidence should be demonstrated by the learner using one of the following items of machinery:

- loading shovel (wheeled or tracked)
- skid steer loader
- motorised scraper
- loader compressor
- dragline

As part of the assessment for this unit, the learner will also produce evidence of a method statement and a completed risk assessment for a specified training activity. Oral or written evidence of knowledge and understanding may be demonstrated by the learner during practical assignments set for all learning outcomes and noted at the time by the training assessor.

**Guidance on instruments of assessment**

Centres may use the method of assessment which they consider to be most appropriate but are encouraged to use the training assessment programme (TAP) developed centrally by SQA. It is expected that learners will have to demonstrate current knowledge and understanding of safe working practice and risk assessment methods etc., prior to being set the assessment tasks.

Opportunities for integrated assessment of this unit may be possible with all mandatory units.

Knowledge and understanding of the processes involved in preparing and operating machinery to extract materials should be assessed before any practical assignments are carried out by learners. This will include assessment of a learner's ability to prepare the work area and prepare and operate machinery to extract materials.

Practical assignments should be carried out under supervised conditions and recorded in an assessor observation/operational checklist. Assessments should confirm that a learner has the ability to prepare and operate machinery to extract materials using designated machinery or equipment correctly and safely, whilst adhering to current statutory health and safety regulations and legislation.

Adherence to current statutory working regulations and health and safety procedures will be observed during the practical exercise carried out by the learner towards all learning outcomes.

**Opportunities for the use of e-assessment**

E-assessment may be appropriate for some assessments in this unit. By e-assessment we mean assessment which is supported by information and communications technology (ICT), such as e-testing or the use of e-portfolios or e-checklists. Centres which wish to use e-assessment must ensure that the national standard is applied to all learner evidence and that conditions of assessment as specified in the assessment (evidence) requirements are met, regardless of the mode of gathering evidence. Further advice is available on the SQA Solar e-assessment system.