Unit 301 Preparing and operating 180 degree excavators to extract and excavate ground and loose materials in the workplace

80 credits

Level: 2
UAN: T/506/4619

Unit aim:
The aim of this unit is to provide the learner with an awareness of:
- interpreting information
- adopting safe and healthy working practices
- selecting and or using materials, components and equipment for plant or machinery operations
- setting up, operating and shutting down plant or machinery for carrying out extraction work.

*PER – Portfolio evidence reference SO – Site observation OQ – Oral question WQ – Written question WT – Witness testimony
PS – Product supplementary PD – Professional discussion

Assessment criteria that are practical activities are highlighted in bold.

1. Interpret the given information relating to the preparation and use of 180 degree excavators for extracting and excavating operations.							
You must be able to:	*PER	SO	OQ	WQ	WT	PS	PD
1.1 **interpret and extract relevant information from:**							
a. **drawings**							
b. **specifications**							
c. **schedules**							

d. **risk assessments**							
e. **manufacturers' information**							
1.2 **comply with information and/or instructions derived from risk assessments and method statements**							
1.3 describe the organisational procedures developed to report and rectify inappropriate information and unsuitable resources and how they are implemented							
1.4 describe different types of information, their source and how they are interpreted in relation to:							
a. drawings							
b. specifications							
c. schedules							
d. method statements							
e. risk assessments							
f. manufacturers' information							
g. current regulations governing the operation of 180 degree excavators for extraction and excavation work.							

2. Organise with others the sequence and operation in which extracting and excavating operations using 180 degree excavators are to be carried out.							
You must be able to:	*PER	SO	OQ	WQ	WT	PS	PD
2.1 **organise the work according to given information or instructions**							
2.2 describe how to communicate ideas between team members							
2.3 **organise and communicate with team members and other associated occupations**							
2.4 describe how to organise resources prior to and during extracting and excavating operations using 180 degree excavators.							

3. Know how to comply with relevant legislation and official guidance when carrying out extracting and excavating operations using 180 degree excavators.							
You must be able to:	*PER	SO	OQ	WQ	WT	PS	PD
3.1 describe their responsibilities regarding potential accidents, health hazards and the environment whilst working:							
a. in the workplace							
b. below ground level							
c. in confined spaces							
d. at height							
e. with tools and equipment							
f. with materials and substances							
g. with movement/storage of materials							
h. by manual handling and mechanical lifting							
3.2 describe the organisational security procedures for:							
a. tools							
b. equipmets							
c. Personal belongings							
In relation to:							
d. site							
e. workplace							
f. company							
g. operative							
3.3 explain what the accident reporting procedures are and who is responsible for making reports.							

4. Maintain safe working practices when preparing for and carrying out extracting and excavating operations using 180 degree excavators.							
You must be able to:	*PER	SO	OQ	WQ	WT	PS	PD
4.1 **use health and safety control equipment safely and comply with the methods of work to carry out the activity in accordance with legislation and organisational requirements during extracting and excavating operations**							
4.2 **demonstrate compliance with given information and relevant legislation when carrying out extracting and excavating operations using 180 degree excavators in relation to two or more of the following:**							
a. **safe use and storage of plant or machinery**							
b. **safe use and storage of tools and equipment**							
c. **specific risks to health**							
4.3 explain why and when health and safety control equipment, identified by the principles of protection, should be used, relating to 180 degree excavator use, and the types, purpose and limitations of each type, the work situation and general work environment, in relation to:							
a. collective protective measures							
b. Personal Protective Equipment (PPE)							
c. Respiratory Protective Equipment (RPE)							
d. Local Exhaust Ventilation (LEV)							
4.4 describe how the relevant health and safety control equipment should be used in accordance with the given working instructions							

4.5 describe how emergencies should be responded to in accordance with organisational authorisation and personal skills when involved with:							
a. fires							
b. spillages							
c. injuries							
d. other task-related activities.							

5. Request and select the required quantity and quality of resources to prepare for and carry out extracting and excavating operations using 180 degree excavators.							
You must be able to:	*PER	SO	OQ	WQ	WT	PS	PD
5.1 **request and select resources associated with 180 degree excavators in relation to:**							
a. **consumables**							
b. **materials**							
c. **attachments**							
d. **tools**							
e. **ancillary equipment and/or accessories**							

5.2 describe the:							
a. characteristics							
b. quality							
c. uses							
d. sustainability							
e. limitations							
f. defects							
associated with the resources, and how they should be used correctly, relating to:							
g. consumables, lubricants and fuels							
h. attachments and extraction/excavation aids							
i. hand tools, ancillary equipment and accessories							
5.3 describe how the resources should be used correctly and how problems associated with the resources are reported							
5.4 explain why the organisational procedures have been developed and how they are used for the selection of required resources							
5.5 describe any potential hazards associated with the resources and methods of work							
5.6 describe how to identify:							
a. weight							
b. quantity							
c. length							
d. area							
associated with the method/procedures to carry out extracting and excavating operations using 180 degree excavators.							

6. Minimise the risk of damage to the work and surrounding area when preparing to and extracting and excavating materials.							
You must be able to:	*PER	SO	OQ	WQ	WT	PS	PD
6.1 protect the work and its surrounding area from damage in accordance with safe working practices and organisational procedures							
6.2 prevent damage and maintain a clean work space							
6.3 dispose of waste in accordance with current legislation							
6.4 describe how to protect work from damage and the purpose of protection in relation to:							
a. general workplace activities							
b. other occupations							
c. adverse weather conditions							

6.5 explain why the disposal of waste should be carried out safely in accordance with:							
a. environmental responsibilities							
b. organisational procedures							
c. manufacturers' information							
d. statutory regulations							
e. official guidance.							

7. Complete the work within the allocated time when preparing to and extracting and excavating materials.							
You must be able to:	*PER	SO	OQ	WQ	WT	PS	PD
7.1 **demonstrate completion of the work within the allocated time**							
7.2 describe the purpose of the work programme and describe why deadlines should be kept in relation to:							
a. types of progress charts, timetables and estimated times							
b. organisational procedures for reporting circumstances which will affect the work programme.							

8. Comply with the given contract information to extract materials using 180 degree excavators to the required specification.							
You must be able to:	*PER	SO	OQ	WQ	WT	PS	PD
8.1 **demonstrate the following work skills when preparing for and extracting and excavating loose materials and ground using 180 degree excavators:**							
a. **checking**							
b. **adjusting**							
c. **communicating**							
d. **manoeuvring**							
e. **positioning**							
f. **extracting**							
g. **excavating**							
h. **forming**							
i. **removing**							
j. **loading**							
8.2 **use and maintain hand tools, ancillary equipment and/or accessories**							
8.3 **prepare, position, set up and operate 180 degree excavators to given working instructions**							
a. **extract loose materials and/or different types of ground**							
b. **load and/or stockpile loose materials and ground**							
c. **excavate different types of ground**							
8.4 **shut down and secure 180 degree excavators**							

8.5 describe how to apply safe and healthy work practices, follow procedures, report problems and establish authority needed to rectify, to:							
a. identify the characteristics of the 180 degree excavator used for the extraction and excavation operation							
b. carry out function checks for the extraction and excavation operation							
c. prepare, set up and adjust for operational requirements							
d. identify the area to be extracted/excavated							
e. carry out pre-operational checks for obstructions, stability, safety and security of the work and surrounding area							
f. identify geological, environmental and material changes and report							
g. check to avoid damage to structures and utilities service apparatus							
8.6 describe how to apply safe and healthy work practices, follow procedures, report problems and establish authority needed to rectify, to:							
a. recognise and determine when specific skills and knowledge are required and report accordingly							
b. extract, excavate, remove and load materials safely and securely							
c. form stockpiles							
d. be on the public highway							
e. shut down and secure 180 degree excavator							
8.7 describe the needs of other occupations and how to effectively communicate within a team when preparing to and carrying out extracting and excavating operations							

8.8 describe how to maintain the:							
a. plant and machinery							
b. hand tools							
c. ancillary equipment							
d. accessories							
used to extract and excavate materials.							

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Declaration

I confirm that the evidence supplied for the above unit is authentic and a true representation of my own work. The work logged is my own work carried out during my normal work duties.

Candidate name:	
Candidate signature:	
Date:	

I confirm that this candidate has achieved all the requirements of this unit with the evidence listed. Assessment was conducted under the specified conditions and context, and is valid, authentic, reliable, current and sufficient.

Assessor name:	
Assessor signature:	
Date:	

IQA name:	
IQA signature:	
Date:	