



Australian Government

RIINHB320D Construct monitoring bores

Release: 2

RIINHB320D Construct monitoring bores

Modification History

Release	Comment
1	This unit replaces RIINHB320A Construct monitoring bores
2	Required frequency and volume of evidence amended in Performance evidence. Substantial amendments made in Assessment Conditions field, including: references to Industry Sectors, assessor and subject matter expert experience requirements, how assessment should be conducted and what it should confirm.

Application

This unit describes a participant's skills and knowledge required to construct monitoring bores in Drilling.

This unit is appropriate for those working in operational roles.

Licensing, legislative, regulatory and certification requirements that apply to this unit can vary between states, territories, and industry sectors. Relevant information must be sourced prior to application of this unit

Unit Sector

Drilling

Elements and Performance Criteria

1. Plan and prepare for constructing monitoring bores	1.1 Access, interpret and apply construct monitoring bores, documentation and ensure the work activity is compliant 1.2 Obtain, read, interpret, clarify and confirm work requirements 1.3 Identify and address potential risks, hazards and environmental issues and implement control measures 1.4 Select and wear personal protective equipment appropriate for work activities 1.5 Discuss scope of work with client to gain general agreement on drilling plan, including method of drilling, construction detail and materials to be used, and development requirements
---	--

	1.6 Communicate and coordinate activities with others throughout the work activity 1.7 Regularly communicate up to date information on progress, geology and/or problems encountered, to client and/or other relevant parties 1.8 Obtain and interpret emergency procedures, and be prepared for fire/accident/emergency
2. Construct monitoring bores	2.1 Carry out any pre-start and start up procedures 2.2 Assemble and insert casing and screens 2.3 Place artificial pack material in a manner so as to ensure uniform distribution in the annular space without bridging 2.4 Construct bore in accordance with applicable regulations and standard bore construction procedures 2.5 Read, interpret and apply basic geological data 2.6 Accurately calculate basic numerical tasks 2.7 Maintain records accurately and legibly 2.8 Label and secure the well 2.9 Complete a construction diagram showing all details of the construction 2.10 Read and interpret plans, diagrams and logs to determine the appropriate design for the monitoring well 2.11 Measure and record Standing Water Level
3. Purge bores	3.1 Use development techniques with care to prevent collapsing of casing or screens 3.2 Use a range of development techniques to improve hydraulic transmissivity around the bore
4. Disinfect/decontaminate bore and drilling equipment	4.1 Ensure disinfection/decontamination complies with relevant standards or regulatory requirements 4.2 Handle chemicals in accordance with manufacturer's recommendations 4.3 Use appropriate personal protective equipment
5. Decommission test holes	5.1 Carry out decommissioning of test holes per geological formation and hydrological setting 5.2 Verify properly sealed hole for future reference 5.3 Dispose of drill and other fluids safely 5.4 Carry out housekeeping requirements

6. Complete and submit required reports	6.1 Submit bore log, signed bore completion report and other written tasks to relevant authorities/client upon completion of the bore 6.2 Log bore holes in accordance with client/regulatory requirements 6.3 Locate bores according to instruction and provide sketches to regulatory authorities
---	--

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit. Further information is available in the Resources and Infrastructure Industry Training Package Companion Volume.

Unit Mapping Information

RIINHB320A Construct monitoring bores

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>

Assessment Requirements for RIINHB320D Construct monitoring bores

Modification History

Release	Comment
1	This unit replaces RIINHB320A Construct monitoring bores
2	Required frequency and volume of evidence amended in Performance evidence. Substantial amendments made in Assessment Conditions field, including: references to Industry Sectors, assessor and subject matter expert experience requirements, how assessment should be conducted and what it should confirm.

Performance Evidence

Evidence is required to be collected that demonstrates a candidate's competency in this unit. Evidence must be relevant to the roles within this sector's work operations and satisfy all of the requirements of the performance criteria of this unit and include evidence that the candidate:

- locates and applies relevant documentation, policies and procedures
- implements the requirements, procedures and techniques for the safe, effective and efficient completion of construction of monitoring bore including:
 - reading interpreting work instructions
 - interpreting geological and survey data
 - carrying out mechanical and manual handling
 - cementing and grouting
 - mixing and placing concrete
 - applying drilling methods
 - operation of pressure cleaning equipment
 - completing calculations and measurements
- works effectively with others to undertake and complete the construction of monitoring bores that meets all of the required outcomes including:
 - complying with written and verbal reporting requirements and procedures
 - communicating clearly and concisely with others to receive and clarify work instructions
 - communicating clearly and concisely with others to resolve coordination requirements prior to commencing and during work activities

- demonstrates completion of the construction of monitoring bore that safely, effectively and efficiently meets all of the required outcomes on more than one (1) occasion including:
 - confirming scope of work with client and gaining agreement on drilling plan
 - assembling and inserting casing and screens
 - placing artificial pack material in a manner so as to ensure uniform distribution in the annular space without bridging
 - labelling and securing the well
 - completing a construction diagram showing all details of the construction
 - using a range of development techniques to improve hydraulic transmissivity around the bore
 - carrying out decommissioning of test holes per geological formation and hydrological setting

Knowledge Evidence

The candidate must demonstrate knowledge in constructing monitoring bores through:

- accessing, interpreting and applying the organisation and site requirements and procedures for:
 - work, health and safety
 - environmental issues
 - operating drill rig
 - housekeeping
- basic geological formations, i.e. various formations which permit groundwater movement and factors affecting groundwater quality
- characteristics of 'good samples' required for water well construction
- ways in which sampling errors can occur
- the types of muds, their use, and development techniques to remove them from bores
- grout placement methods and procedures
- water sampling techniques and protocols
- the monitoring systems and alarms requirements and procedures
- the ground preparation requirements and procedures
- the inspection, fault finding and reporting requirements and procedures
- diagrams, plans and instructions for positioning, recording work or progress being prepared for fire/accident/emergency

Assessment Conditions

- An assessor of this unit must satisfy the requirements of the NVR/AQTF or their successors; and Industry regulations for certification and licensing; and,
- this unit must be assessed in the context of this sector's work environment; and,

- this unit must be assessed in compliance with relevant legislation/regulation and using policies, procedures, processes and operational manuals directly related to the industry sector for which it is being assessed; and,
- assessment may be conducted in conjunction with the assessment of other Units of Competency; and,
- assessment must confirm consistent performance can be applied in a range of relevant workplace circumstances; and,
- assessors must demonstrate the performance evidence, and knowledge evidence as outlined in this Unit of Competency, and through the minimum years of current* work experience specified below in an Industry sector relevant to the outcomes of the unit; or,
- where the assessor does not meet experience requirements a co-assessment or partnership arrangement must exist between the qualified assessor and an Industry subject matter expert. The Industry subject matter expert should hold the unit being assessed (or an equivalent unit) and/or demonstrate equivalence of skills and knowledge at the unit level. An Industry technical expert must also demonstrate skills and knowledge from the minimum years of current work experience specified below in the Industry sector, including time spent in roles related to the unit being assessed; and,
- assessor and Industry subject matter expert requirements differ depending on the Australian Qualifications Framework Level (AQF) of the qualification being assessed and/or Industry Sector as follows:

Industry sector	AQF** Level	Required assessor or Industry subject matter expert experience
Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Construction	1	1 Year
	2	2 Years
Drilling, Coal Mining and Extractive (Quarrying)	3-6	3 Years
Metalliferous Mining and Civil Construction	3-6	5 Years
Other sectors	Where this Unit is being assessed outside of the Resources and Infrastructure Sectors assessor and/or Industry subject matter expert experience should be in-line with industry standards for the sector in which it is being assessed and where no Industry standard is specified should comply with any relevant regulation.	

*Assessors can demonstrate current work experience through employment within Industry in a role relevant to the outcomes of the Unit; or, for external assessors this can be demonstrated through exposure to Industry by conducting frequent site assessments across various locations.

****Where a unit is being delivered outside of a Qualification the first numeric character in the Unit code should be considered to indicate the AQF level**

Links

Companion Volume implementation guides are found in VETNet -

<https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=88a61002-9a21-4386-aaf8-69c76e675272>