



**Australian Government**

# **RIINHB501F Plan drilling**

**Release: 1**

## RIINHB501F Plan drilling

### Modification History

| Release   | Comments                                                                                                 |
|-----------|----------------------------------------------------------------------------------------------------------|
| Release 1 | This version first released with RII Resources and Infrastructure Industry Training Package Version 5.0. |

### Application

This unit describes the skills and knowledge required to inspect a drilling site, select an appropriate drilling method, manage costs, quotes and permits, design and organise a drilling program and prepare a work health and safety (WHS) plan for site.

It applies to those working in management or consultancy roles. They generally perform tasks involving a high level of autonomy that require the application of significant judgement in planning and determining the selection of equipment, roles and techniques for themselves and others. They are required to demonstrate the application of a broad range of technical, managerial, coordination and planning skills.

No licensing, legislative or certification requirements apply to this unit at the time of publication.

### Unit Sector

Drilling

### Elements and Performance Criteria

| ELEMENT                                           | PERFORMANCE CRITERIA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>Elements describe the essential outcomes.</i>  | <i>Performance criteria describe the performance needed to demonstrate achievement of the element.</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 1. Plan and prepare for planning drilling program | <ul style="list-style-type: none"><li>1.1 Define and confirm precise scope of work expected by client and other relevant parties</li><li>1.2 Access, interpret and apply drilling planning documentation and confirm work activity is compliant</li><li>1.3 Communicate with all parties and confirm that priorities and special requirements are understood and acted upon</li><li>1.4 Negotiate an achievable and acceptable contract with the client within the scope of the legal requirements and legal responsibilities of the driller</li></ul> |

| ELEMENT                                                                                         | PERFORMANCE CRITERIA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                                                                 | 1.5 Achieve and document agreement on the drilling plan by communicating and clarifying intended objectives and contract requirements with all relevant parties<br>1.6 Develop, in consultation, a time schedule for all operations                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| 2. Inspect/research site for accessibility, services, hazards, legal and environmental problems | 2.1 Establish size and nature of intended drill sites and designated routes to reach them<br>2.2 Assess topographical and geological features and identify preferred drilling sites<br>2.3 Locate and interpret specific relevant information from maps, diagrams or from other data<br>2.4 Identify legal and environmental limitations and hazards applying to site and take appropriate action<br>2.5 Identify and honour locations of socially or environmentally sensitive areas according to site agreement<br>2.6 Check availability and distance of water and/or other local supplies                                                                                                                                                                                                                                                                                                                                                                           |
| 3. Select appropriate drilling method                                                           | 3.1 Read and evaluate available data relevant to ground conditions<br>3.2 Select optimum method of drilling and down hole tools, in consultation with other personnel, according to work requirements                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| 4. Prepare cost estimates, quotes and tenders                                                   | 4.1 Prepare data for quote, listing all necessary activities, materials and sub-contracting services needed<br>4.2 Allow a contingency sum for identifiable but uncertain factors<br>4.3 Use mathematical calculations and estimations to determine job costs<br>4.4 Document and present quote or tender                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| 5. Arrange permits and licences                                                                 | 5.1 Determine and obtain the required permits and licences<br>5.2 Follow correct application procedures                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| 6. Design and organise drilling program                                                         | 6.1 Establish action plan that ensures completion of program to client satisfaction, within quality, time and cost parameters<br>6.2 Select appropriate and available crew and other resources for the job<br>6.3 Communicate scope of work, job requirements, working conditions and roles and responsibilities to crew involved in drilling program<br>6.4 Prepare fieldwork instructions detailing project location, access, water supply, aims of project and detailed instructions<br>6.5 Note variations to scope of work/contractual requirements on log according to workplace procedures<br>6.6 Establish size and nature of intended drill rig sites, and routes for reaching them<br>6.7 Specify any access track, clearing or bench construction sizes and compaction required to support rigs and equipment<br>6.8 Clarify availability of site amenities and back up support<br>6.9 Decide upon methods of controlling flow off site, disposing of wastes |

| ELEMENT                      | PERFORMANCE CRITERIA                                                                                                                                                                                                                                                                                                                                                 |
|------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                              | and restoring site after operations according to environmental requirements                                                                                                                                                                                                                                                                                          |
| 7. Prepare WHS plan for site | 7.1 Prepare plan to eliminate/mitigate hazards to designated level<br>7.2 Confirm signs, hazards and warnings are observed and consequences understood<br>7.3 Determine and acquire required safety equipment<br>7.4 Incorporate safety rules and regulations, legislation and specific site instructions<br>7.5 Obtain sign-off on commitment to WHS plan from crew |

## Foundation Skills

*This section describes those language, literacy, numeracy and employment skills that are essential to performance but not explicit in the performance criteria.*

| SKILL   | DESCRIPTION                                                                                                                                                                                              |
|---------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reading | <ul style="list-style-type: none"> <li>Identifies critical information from the organisational plan, work programs and lease details</li> </ul>                                                          |
| Writing | <ul style="list-style-type: none"> <li>Produces and completes workplace reports, including organisational procedures and using appropriate vocabulary, grammatical structures and conventions</li> </ul> |

## Unit Mapping Information

Supersedes and is equivalent to RIINHB501E Plan drilling.

## Links

Companion Volume implementation guides is found on VETNet -

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

## Assessment Requirements for RIINHB501F Plan drilling

### Modification History

| Release   | Comments                                                                                                 |
|-----------|----------------------------------------------------------------------------------------------------------|
| Release 1 | This version first released with RII Resources and Infrastructure Industry Training Package Version 5.0. |

### Performance Evidence

The candidate must demonstrate the ability to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including evidence of the ability to:

- plan drilling on at least two occasions, including:
  - determining required method of drilling and down hole tools in consultation with other personnel
  - identifying, assessing and selecting plan components
  - identifying required information and scope of work
  - consulting and negotiating with stakeholders
  - researching site for accessibility, services, hazards, legal and environmental problems, and exploring viable options to determine issues
  - evaluating ground conditions for selected site
  - preparing cost estimates and documenting and presenting quote/tender
  - identifying and arranging permits and licences
  - assessing site hazards and risks and preparing Work Health Safety plan.

During the above, the candidate must:

- locate and apply required legislation, documentation, policies and procedures
- implement the procedures and techniques for the planning of drilling programs, including:
  - identifying, addressing and reporting potential hazards and risks
  - implementing emergency response plan and procedures
  - identifying, addressing and reporting environmental issues
  - checking all contractor-supplied equipment
  - applying negotiation skills with clients and other parties
  - preparing costing, estimations and tenders
  - using project management tools and programs
- work with others to complete the planning of drilling programs, including:
  - preparing for and organising work activities to meet all task requirements
  - communicating with others to receive and clarify work instructions

- using a range of communication techniques and aids to advise others of work activity and exclusion zones
- using written and verbal communications to convey all activities and outcomes for rig operations to others.

## Knowledge Evidence

The candidate must be able to demonstrate knowledge to complete the tasks outlined in the elements, performance criteria and foundation skills of this unit, including knowledge of:

- key policies, procedures and established requirements for planning drilling, including those for:
  - risk assessment and management
  - workplace health and safety
  - environmental management
  - workplace communication
  - quality management
  - contract management
  - plant, equipment and tools maintenance
  - materials deliveries
  - developing and implementing communication systems, processes and procedures
  - accessing, interpreting and applying identifying plant and equipment capabilities and limitations
- inspection/research techniques for collecting data, including:
  - linear measurement
  - angular measurement
  - by manual/electronic means
- communication documents including maps, geological and topographical data, diagrams, graphical representation (including maps and diagrams and their uses for interpretation and prediction)
- special requirements for different methods of drilling
- environmental requirements for drill sites.

## Assessment Conditions

Mandatory conditions for assessment of this unit are stipulated below. The assessment must:

- include access to:
  - personal protective equipment
  - equipment required to plan drilling
- be conducted in a safe environment; and,
- be assessed in the context of this sector's work environment; and,

- be assessed in compliance with relevant legislation/regulation and using policies, procedures and processes directly related to the industry sector for which it is being assessed; and,
- confirm consistent performance can be applied in a range of relevant workplace circumstances.

Where personal safety or environmental damage are limiting factors, assessment may occur in a simulated work environment\* provided it is realistic and sufficiently rigorous to cover all aspects of this sector's workplace performance, including environment, task skills, task management skills, contingency management skills and job role environment skills.

### Assessor requirements

Assessors must be able to clearly demonstrate current and relevant industry knowledge and experience to satisfy the mandatory regulatory standards as set out in the Standards for Registered Training Organisations 2015/Australian Quality Training Framework mandatory requirements for assessors current at the time of assessment and any relevant licensing and certification requirements. This includes:

- vocational competencies at least to the level being delivered and assessed
- current industry skills directly relevant to the training and assessment being provided
- current knowledge and skills in vocational training and learning that informs their training and assessment
- formal relevant qualifications in training and assessment
- having knowledge of and/or experience using the latest techniques and processes
- possessing the required level of RII training product knowledge
- having an understanding and knowledge of legislation and regulations relevant to the industry and to employment and workplaces
- demonstrating the performance evidence, and knowledge evidence outlined in this unit of competency, and
- the minimum years of current\*\* work experience after competency has been obtained as specified below in an industry sector relevant to the outcomes of the unit.

It is also acceptable for the appropriately qualified assessor to work with an industry expert to conduct assessment together and for the industry expert to be involved in the assessment judgement. The industry expert must have current industry skills directly relevant to the training and assessment being provided. This means the industry subject matter expert must demonstrate skills and knowledge from the minimum years of current work experience after competency has been obtained as specified below, including time spent in roles related to the unit being assessed:

| Industry sector                                                                              | AQF indicator level*** | Required assessor or industry subject matter expert experience |
|----------------------------------------------------------------------------------------------|------------------------|----------------------------------------------------------------|
| Drilling, Metalliferous Mining, Coal Mining, Extractive (Quarrying) and Civil Infrastructure | 1                      | 1 year                                                         |
|                                                                                              | 2                      | 2 years                                                        |

| Industry sector                                                                              | AQF indicator level***                                                                                                                                                                                                                                                                                                         | Required assessor or industry subject matter expert experience |
|----------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------|
| Drilling, Coal Mining, Extractive (Quarrying), Metalliferous Mining and Civil Infrastructure | 3-6                                                                                                                                                                                                                                                                                                                            | 3 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. |                                                                |

\*Guidance on simulated environments has been stipulated in the RII Companion Volume Implementation Guide located on VETNet.

\*\*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 a minimum number of site assessments as determined by the relevant industry sector, across various locations.

\*\*\* While a unit of competency does not have an AQF level, where a unit is being delivered outside of a qualification the first numeric character in the unit code should be considered as the AQF indicator level for assessment purposes.

## Links

Companion Volume implementation guides is found on VETNet -

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