Australian Government

RIINHB326X Conduct coil tube drilling

DRAFT

Release: 1

RIINHB326X Conduct coil tube drilling

Modification History

Release	Comments
1	This unit of competency was first released in RII Resources and Infrastructure Industry Training Package Release 13.0.

Application

It prepares individuals to rig up coil tubing equipment, make up coil tubing connections and the bottom hole assembly, conduct tripping and drilling operations, respond to problems, and rig down on completion.

It applies to those working in operational roles. They generally perform tasks involving a broad range of skilled applications in a wide variety of contexts, which may involve some discretion and judgement in selecting equipment, services and contingency measures.

Licensing/Regulatory Information

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

Pre-requisite unit(s)

No pre-requisite units

Competency field(s)

N/A

Unit sector(s)

Drilling

Elements and Performance Criteria

Element	**Performance criteria**
Elements describe the essential outcomes.	*Performance criteria describe the performance needed to demonstrate achievement of the element.*
1. Plan and prepare for coil tubing drilling operations	1.1 Obtain, access, interpret and apply work instructions, coil tube drilling documentation, and confirm work activity is compliant

DRAFT

© Commonwealth of Australia, 2026 Mining and Automotive Skills Alliance

	1.2 Obtain and interpret emergency procedures and identify steps required in case of fires, accidents and other emergencies according to workplace procedures 1.3 Compare approved drilling information with physical work area conditions and report any discrepancies according to workplace procedures 1.4 Identify and minimise environmental issues and potential hazards, and assess and address risks within scope of own role and according to workplace procedures 1.5 Select, inspect and wear personal protective equipment required for work activities, and check restraining devices on all pressure hoses and fit or replace as required 1.6 Select tools and equipment required to carry out tasks, check for serviceability and rectify or report any faults within scope of own role, according to workplace procedures 1.7 Communicate with other personnel at site according to work requirements and confirm briefings and handover details are communicated and received
2. Rig up coil tubing equipment	2.1 Inspect the worksite, carrier position, access and clearances, and reconcile with the plan according to workplace procedures 2.2 Confirm reel mass, lifting equipment and lift plan, position, hoist and lower the storage reel over the centre of the carrier into saddles, and lock down with retainer brackets and tension screws, according to manufacturer specifications and workplace procedures 2.3 Install and align the gooseneck or tubing guide, injector, level wind and depth-measurement system, and inspect the reel drive/brake, injector traction system, guards, interlocks and controls, according to manufacturer specifications 2.4 Install circulating equipment, and complete function, leak and pressure checks to confirm readiness to proceed, according to manufacturer specifications and workplace procedures
3. Make up coil tubing connections and bottom hole assembly	3.1 Prepare coil tubing ends according to manufacturer specifications 3.2 Inspect tubing snake connector, including conducting non-destructive crack test and checking O-rings for die retention, according to manufacturer specifications 3.3 Size, install and tighten threaded halves of tubing snake connector into tail ends of coil tubing on storage reel and injector side, and connect at centre threads, according to manufacturer specifications

DRAFT

© Commonwealth of Australia, 2026 Mining and Automotive Skills Alliance

	3.4 Perform pull test to confirm integrity of tubing snake connection prior to removing chains according to manufacturer specifications 3.5 Inspect derrick and rig floor, and raise derrick to align injector and storage reel coil tubing ends, according to workplace procedures 3.6 Apply and remove lockout on floor motor, and remove storage reel retention chain and dog nut, according to workplace procedures 3.7 Engage storage reel and run coil with tubing snake connector through injector, maintaining required pressure, according to manufacturer specifications 3.8 Install tubing dimple and dimple set screws using dimple template according to manufacturer specifications 3.9 Make up bottom hole assembly, including preparing subs, installing float and bit sub, and making up drill collar, according to manufacturer specifications 3.10 Stab tubing dimple into bottom hole assembly and torque up using make up and breakout tongs according to manufacturer specifications
4. Conduct coil tubing drilling operations	4.1 Set bottom hole assembly depths at rotary Kelly bushing before lowering lube tube according to manufacturer specifications 4.2 Confirm lube tube, flow T air bag and stripping head are set to required condition prior to and during tripping according to manufacturer specifications 4.3 Set reel drag and injector traction pressure to required parameters to prevent coil tubing slippage according to manufacturer specifications 4.4 Confirm trip speed with designated person prior to and during tripping according to workplace procedures 4.5 Monitor and confirm level wind alignment with coil tubing and accuracy of depth tracking throughout tripping operations according to workplace procedures 4.6 Conduct flow checks at the shaker box at specified intervals according to workplace procedures 4.7 Grease and inspect injector according to manufacturer specifications 4.8 Lift lube tube when bottom hole assembly reaches specified depth prior to pulling out of hole according to manufacturer specifications

DRAFT

© Commonwealth of Australia, 2026 Mining and Automotive Skills Alliance

	4.9 Monitor and interpret weight indicator, gauge readings, pressures and flow rates to determine conditions down hole according to workplace procedures 4.10 Monitor hole returns and cuttings for quantity and quality, and measure line string components to calculate hole depth, according to workplace procedures
5. Respond to problems	5.1 Identify possible problems in equipment or process according to workplace procedures 5.2 Determine possible causes of problems and action required according to workplace procedures 5.3 Rectify problems within area of responsibility and follow through until final resolution has occurred according to workplace procedures 5.4 Report problems outside area of responsibility to designated person according to workplace procedures
6. Rig down and complete coil tubing drilling operations	6.1 Place tubing dimple at required working height, position hole cover and remove tubing dimple according to workplace procedures 6.2 Run coil tubing through table to required working height in cellar and cut with grinder or rod cutter according to manufacturer specifications 6.3 Remove cut coil tubing using double wrapping sling and wire line, and lay down through v-door, according to workplace procedures 6.4 Remove mud tank side hoses, swivel and cross over according to manufacturer specifications 6.5 Line up saddles, cut excess coil tubing on rig floor with casing cutter and align saddles to remove storage reel according to manufacturer specifications 6.6 Install dog nut and chain coil according to manufacturer specifications 6.7 Open level wind box, shut off motor, apply and remove lockout, and open storage reel saddles, according to workplace procedures 6.8 Measure amount of coil cut and record remaining length according to workplace procedures 6.9 Confirm housekeeping activities are completed according to workplace procedures

DRAFT

© Commonwealth of Australia, 2026 Mining and Automotive Skills Alliance

	6.10 Complete and process drilling records, including hole details, ground conditions encountered and drilling parameters applied, according to workplace procedures

Foundation Skills

Foundation skills essential to performance are explicit in the performance criteria of this unit and are described below to support training and assessment.

SKILL	DESCRIPTION
Reading	Interpret technical documentation referenced in the performance criteria, including tubing service/fatigue records, pull-test and NDT results, and manufacturer traction/tension charts.
Numeracy	Interpret trends across successive weight indicator, pressure and flow readings, and calculate hole depth from line string measurement.
Oral communication	Structure a shift handover or fault report so a colleague can act on it without needing to seek clarification, including communicating cuttings hazards to crew.
Problem solving	Distinguish between normal equipment wear and an emerging tubing or pressure-system fault from subtle changes in gauge readings, before the change becomes an operational problem.
Self-management	Maintain systematic decision-making and safety checks when tripping or drilling parameters change rapidly.

Range of conditions

N/A

DRAFT

© Commonwealth of Australia, 2026 Mining and Automotive Skills Alliance

Assessment Requirements for RIINHB326X Conduct coil tube drilling

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:

- complete coil tube drilling operations on at least two separate occasions, each covering preparation, rig up, drilling to the depth or target specified in the drilling plan, and rig down
- identify a change in ground or operating conditions from down hole indicators on at least one of these occasions, and adjust drilling parameters in response

In the course of the above, the candidate must:

- prepare for the work by interpreting drilling documentation against site conditions, and controlling hazards and risks to self, others and the environment
- rig up coil tubing equipment, make up connections and the bottom hole assembly, and verify their integrity before drilling commences
- monitor and interpret down hole conditions throughout tripping and drilling, using readings, returns and depth measurement
- identify and respond to at least one equipment or process problem arising during the work, resolving or escalating it according to own role
- rig down, leaving the site and equipment secure and records reflecting the work performed and conditions encountered
- communicate with crew and other personnel to coordinate the work and share safety-critical information, including at least one briefing or handover

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:

- workplace policies and procedures applicable to coil tube drilling, including:
    - work health and safety
    - environmental requirements
    - emergency response requirements
- principles of coil tubing drilling, including:
    - how a continuous string differs from a jointed drill string
    - the implications for rig up, tripping, rotation and depth control
- components of a coil tubing drilling system, and how they work together to control the path, speed and position of the tubing

© Commonwealth of Australia, 2026 Mining and Automotive Skills Alliance

- mechanical behaviour of coil tubing, including:
    - how bending, tension, traction and drag contribute to fatigue and damage
    - how fatigue life is tracked and managed
- principles of load stability and safe lifting as they apply to handling the storage reel and other heavy components
- how connections and the bottom hole assembly transmit load, pressure and circulation, the ways connections fail, and how inspection and testing detect defects before use
- principles of pressure control and circulation in coil tubing drilling, including:
    - the role of surface pressure-control equipment
    - the hazards of stored pressure in hoses and lines
- relationship between surface indicators and conditions down hole, including:
    - how to recognise trends and deviations in weight, pressure, flow, penetration rate, returns and cuttings
- common formation types and ground conditions encountered in coil tubing drilling, and how they influence bit selection, drilling parameters, cuttings return and hole stability
- methods for measuring drill string components and calculating hole depth, and the effect of measurement error on depth control and drilling records
- sources and effects of sample contamination and return system blockages, and their consequences for sample quality, hole condition and geological interpretation
- common equipment and process problems in coil tubing drilling, their likely causes, and the information needed to resolve or escalate them
- hazards specific to coil tubing drilling, including:
    - moving equipment
    - stored energy
    - pressurised returns and cuttings in the return air stream, and the controls applied
- purpose and content of drilling records and handover information, and how they are used by others

Assessment Conditions

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

- include access to:
    - personal protective equipment
    - equipment required to conduct coiled tubing
    - workplace documentation such as, drill plans, site plans and procedures, manufacturer instructions and safety data sheets

© Commonwealth of Australia, 2026 Mining and Automotive Skills Alliance

- be conducted in a safe environment
- be assessed in the context of this sector's work environment
- 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
- 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.

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

Industry Experts

An industry expert engaged by an RTO to wholly or partially conduct assessment, independently or together with another assessor, or be involved in an assessment judgement, must also satisfy the assessor requirements in applicable vocational education and training legislation, frameworks and/or standards.

Assessors and industry experts delivering training in the drilling industry sector must also have a minimum of three (3) years industry experience, directly relevant to the training and assessment being provided.

Mandatory Workplace Requirements

Assessment of performance evidence may be in a workplace setting or an environment that accurately represents a real workplace.

Unit Mapping Information

Previous Code and Title	Equivalence	Comments
RIINHB326 Conduct coil tube drilling	Equivalent	Updates to application, elements and performance criteria, performance and knowledge evidence, and assessment conditions

Links

Companion volumes, including implementation guides, are found on the national training register - https://training.gov.au/training/details/RII.

© Commonwealth of Australia, 2026 Mining and Automotive Skills Alliance