



Australian Government

RIINHB220 Assist coil tube drilling

Release: 1

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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 assist coiled tubing in drilling. It prepares individuals to assist in installing and handling storage reels, tubing snake connectors, and set screw tubing dimples, assist bottom hole assembly operations, and with tripping in and out with coil tubing.

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, legislative and certification requirements that apply to this unit can vary between states, territories, and industry sectors. Users must check requirements with relevant body before applying the unit.

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 to assist coiled tubing	1.1 Obtain, interpret and confirm work requirements 1.2 Access, interpret and apply documentation required to assist coil tube drilling operations and confirm work activity is compliant 1.3 Identify and minimise environmental issues and potential hazards, and assess and address risks within scope of own role and according to workplace procedures 1.4 Select and wear personal protective equipment required for work activity

ELEMENT	PERFORMANCE CRITERIA
	1.5 Communicate with other personnel at site according to work requirements and confirm briefings and handover details are communicated and received 1.6 Check, fit and replace restraining devices on all pressure hoses as required 1.7 Raise alarm and report as required
2. Assist storage reel installation	2.1 Position crane hook to centre of storage reel 2.2 Hoist the storage reel over the centre of the carrier and lower into saddles 2.3 Lock down storage reel with retainer brackets and set tension screws 2.4 Install circulating equipment
3. Assist storage reel removal	3.1 Remove mud tank side hoses, swivel and cross over 3.2 Line up saddles and cut excess coil tubing on rig floor with casing cutter 3.3 Align saddles to remove storage reel 3.4 Install dog nut and chain coil 3.5 Cut coil tubing 3.6 Open level wind box, shut off motor and lockout rig and open storage reel saddles 3.7 Remove lockout and prepare to pick up coil 3.8 Measure amount of coil cut and record remaining length
4. Assist installation of tubing snake connector	4.1 Prepare coil tubing ends 4.2 Check the o-rings for die retention are not stretched out 4.3 Separate two-piece tubing snake connector in middle at the threads 4.4 Size, install and tighten threaded half of tubing snake connector into tail end of coil tubing on the storage reel 4.5 Size, install and tighten threaded half of tubing snake connector into tail end of coil tubing on the injector side 4.6 Align tubing connector up and screw two tubing stake connector pieces together at centre treads
5. Assist handling of tubing snake connector	5.1 Inspect derrick and rig floor for equipment 5.2 Monitor workplace and communicate with driller as required while conducting slip and cut of coil 5.3 Run coil with tubing snake connector and confirm safe distance of injector from iron roughneck and other objects
6. Assist installation of set screw tubing dimple	6.1 Prepare coil tubing end with a grinder 6.2 Install dimple template

ELEMENT	PERFORMANCE CRITERIA
	6.3 Tighten all set screws on dimple template 6.4 Loosen screws and remove template 6.5 Deepen template indents with a drill to dimple screw depth 6.6 Inspect tubing dimple seals 6.7 Install tubing dimple 6.8 Install dimple set screws
7. Assist bottom hole assembly operations	7.1 Prepare subs for use 7.2 Place float on bit and install bit sub onto bit 7.3 Stab drill collar in bit sub and make up drill collar into bit sub 7.4 Pick up sub and position where needed for stabbing into stump 7.5 Guide driller stabbing the dimple into the bottom hole assembly on the stump and confirm dimple is lined up to prevent from cross threading 7.6 Apply make-up tong to dimple while making up bottom hole assembly 7.7 Apply breakout tong to dimple and make up tong to BHA and torque to specifications
8. Assist tripping in with coil tubing	8.1 Confirm the lube tube is down and air bag inflated on flow T 8.2 Confirm arch pin is retracted while tripping in and free movement of the arch 8.3 Grease and inspect injector as per industry standards
9. Assist tripping out with coil tubing	9.1 Verify level wind is lined up ready to trip out 9.2 Check the air bag on flow T is still inflated 9.3 Verify level wind continuously stays in with coil while tripping out 9.4 Assist lifting the lube tube when bottom hole assembly reaches 75 metres prior to pulling out of hole
10. Assist slipping and cutting of coil tubing-grinder/rod cutter	10.1 Place tubing dimple at the desired working height 10.2 Place the hole cover in position 10.3 Removing tubing dimple 10.4 Run coil tubing through table to acceptable height while taking precautions to reduce stress on coil 10.5 Cut coil tubing with grinder/rod cutter 10.6 Remove with double wrapping sling and wire line 10.7 Lay down through v door.

ELEMENT	PERFORMANCE CRITERIA
	10.8 Measure length cut off to keep accurate length

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	Identifies and interprets information from workplace procedures, documentation and regulations
Writing	Produces and completes workplace reports using appropriate vocabulary, grammatical structures and conventions
Self-management	Monitors and minimises own exposure to worksite hazards during activities

Unit Mapping Information

New unit

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 RIINHB220 Assist coil tube drilling

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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:

- assist coiled tube drilling on at least two occasions, including:
 - using the following equipment:
 - coil tubing (diameter 1,200 – 2,200 metres)
 - storage reel
 - mud motor
 - dop drive
 - injector
 - level wind
 - in-coder
 - storage reel
 - spool coil
 - tubing snake connector
 - tubing dimple
 - saddles
 - lube tube
 - interpreting information from the weight indicator
 - measuring line string components and calculating hole depth
 - disassembling, describing the function of components, inspecting components, replacing unserviceable parts and reassembling a bottom hole assembly.

During the above, the candidate must:

- locate and apply documentation, policies and procedures required to assist coiled tube drilling
- implement the requirements, procedures and techniques for assisting coil tube drilling, including:
 - keeping work area clean

- selecting and wearing required protective clothing and equipment
- conducting pre-operational checks
- reporting immediately any malfunction or equipment failure
- work with others to undertake and complete conducting of coiled tubing that meets required outcomes, including:
 - organising work activities to meet all task requirements
 - communicating with others to receive and clarify work instructions
 - reporting regularly to and work as directed by the driller or derrickman.
 - communicating the hazards of cuttings in the return air stream to all crew members.

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 assisting coiled tube drilling, including those for:
 - work health and safety
 - emergencies
 - identifying hazards relevant to coiled tube drilling
 - environmental requirements
 - housekeeping
- the critical need to hoist storage reel over the centre of the carrier correctly
- the methods required to limit the contamination of samples/cuttings/returns
- correct bit selection for different types of drilling and different ground conditions
- identifying problems related to inaccurate measurement of bits and other related components
- the importance of monitoring the hole for returns/cutting/sample quantity
- the role that blockages play in affecting sample quality
- the critical need for restraining devices to be fitted to all pressure delivery hoses and sample delivery hoses (if used), the devices available and their methods of attachment
- the importance of checking gauges and monitoring pressures, flow rates and temperatures.

Assessment Conditions

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

- include access to:
 - personal protective equipment
 - equipment required to assist coil tube 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 (RTOs) 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 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.

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