



Australian Government

RIINHB412D Construct geothermal wells

Release: 1

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Modification History

Not applicable.

Application

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

This unit is appropriate for those working in supervisory or technical specialist 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 the unit.

Unit Sector

Drilling

Elements and Performance Criteria

<p>1. Plan and prepare for the construction of geothermal wells</p>	<p>1.1 Access, interpret and apply construction of the geothermal wells documentation and ensure the work activity is compliant</p> <p>1.2 Obtain, read, interpret, clarify and confirm work requirements</p> <p>1.3 Identify and address potential risks, hazards and environmental issues and implement control measures</p> <p>1.4 Select and wear personal protective equipment appropriate for work activities</p> <p>1.5 Communicate and coordinate activities with others throughout the work activity</p> <p>1.6 Discuss scope of work with client to gain general agreement on drilling plan</p> <p>1.7 Communicate regular up to date information on progress, and/or problems encountered to client and/or other relevant parties</p> <p>1.8 Provide details of the completed well to the appropriate authorities as required by the relevant state/territory legislation</p> <p>1.9 Obtain and interpret emergency procedures, and be prepared for fire/accident/emergency</p>
<p>2. Design geothermal wells</p>	<p>2.1 Determine most appropriate construction methods from the reading and interpretation of all available documented information and local geographic/geological knowledge</p> <p>2.2 Determine a drilling fluid program to suit the expected down-hole conditions and anticipated pressures/temperatures</p> <p>2.3 Select appropriate bore/surface casing for the anticipated ground conditions and construction techniques</p> <p>2.4 Ensure all necessary materials anticipated for the job are available and on site prior to commencement of construction phase</p>
<p>3. Construct geothermal wells</p>	<p>3.1 Carry out any pre-start and start up procedures</p> <p>3.2 Identify, select and apply rig operational controls</p> <p>3.3 Assemble and insert casing</p> <p>3.4 Grout or otherwise seal surface casing</p> <p>3.5 Conduct grouting operations to seal intermediate and/or production casing strings or to seal selected zones</p> <p>3.6 Construct well in accordance with any applicable regulations, minimum construction requirements and the organisation's internal procedures</p> <p>3.7 Maintain plumbness and alignment of the hole within the</p>

	<p>required limitations</p> <p>3.8 Recognise symptoms of a formation kick and take action to control the well</p> <p>3.9 Maintain adequate supplies of water on site to quench the well if required</p> <p>3.10 Collect, record and label formation samples</p> <p>3.11 Maintain records accurately and legibly</p> <p>3.12 Accurately calculate hole, annular, grout and mud pit volumes in cubic metres or litres</p> <p>3.13 Comply with relevant workplace occupational health and safety requirements for both the drilling equipment and construction materials</p> <p>3.14 Maintain tool string inventories</p>
4. Develop bore	<p>4.1 Use development techniques with care to prevent collapsing of casing or blow outs</p> <p>4.2 Develop bore hole</p>
5. Carry out well maintenance and rehabilitation	<p>5.1 Undertake a process of diagnosis to determine likely cause of well deterioration</p> <p>5.2 Devise a program of rehabilitation to ensure that the well is restored to a reasonable condition</p>
6. Decommission test/bore holes	<p>6.1 Determine suitable decommissioning procedures and select appropriate materials</p> <p>6.2 Carry out the decommissioning (abandonment) of test holes or wells in geothermal systems</p> <p>6.3 Verify position/location of hole for future reference</p> <p>6.4 Dispose of drill and other fluids safely</p> <p>6.5 Carry out housekeeping requirements</p>

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

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Links

SkillsDMC RII Companion Volumes - <http://www.skillsdmc.com.au/>