Australian Government

Assessment Requirements for MSL974029 Operate an automated mineral analysis system

Release: 1

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Modification History

Release	Comments
Release 1	New unit released in *MSL Laboratory Operations Training Package Release 2.0.* Supersedes and equivalent to MSL974015 Operate an automated mineral analysis system. Foundation skill information added. Range of conditions removed. Assessment requirements amended. Equivalent outcome.

Performance Evidence

There must be evidence the candidate has completed the tasks outlined in the elements and performance criteria of this unit, and:

- operated an automated mineral analysis system safely, reliably and efficiently for at least 3 different sets of operating conditions or 3 different types of samples.

Knowledge Evidence

There must be evidence the candidate has knowledge of:

- importance of good customer relations, achieving production targets and minimising costs and rework
- purpose of analytical tests conducted in job role
- function and operation of automated system elements and flow chart for automated analysis process
- common mineral samples:
  - pulverised solids, such as rocks, minerals, soils, sands and stream sediments
  - pulverised core and other drill samples
- automated analytical methods:
  - thermal gravimetric analysis (TGA)
  - x-ray fluorescence (XRF)
- workplace procedures for:
  - specific samples, batches and clients (such as labelling, preparation, analysis, storage, transport and disposal)
  - computer operation, including use of specific control screens, menus and control commands
  - common faults, routine system error codes and specified corrective actions for each

  - cleaning/maintaining equipment and instruments used in job role
  - preventing contamination of samples and equipment
  - ensuring traceability of samples
- automated system elements:
  - sample in-feed station
  - weigh stations
  - mould table
  - furnaces
  - robotic arms
  - conveyor belts
  - acid/ultrasound baths for cleaning crucibles
  - compressed air system
- routine system checks
- visual checks:
  - presence of surface dust on system elements, particularly sensors
  - sample contamination during sample extraction from vials
  - cleanliness of crucibles before re-use
- typical routine system faults and corrective actions
- workplace and/or legal traceability requirements
- awareness of environmental sustainability issues as they relate to the work task
- legal, ethical and work health and safety (WHS) requirements specific to the work task.

Assessment Conditions

Skills must have been demonstrated in the workplace or in a simulated environment that reflects workplace conditions and contingencies. The following conditions must be met for this unit:

- use of suitable facilities, equipment and resources, including:
  - an automated mineral analysis system, operating procedures, reagents, sample containers and labels
  - mineral ore samples, such as iron ore
  - client requests/documentation, such as client profile, sample identification and sample receipts, required analyses, storage and/or disposal, and service charges
  - safe work procedures, safety equipment and PPE.

Assessors must satisfy the NVR/AQTF mandatory competency requirements for assessors.

Links

MSL Laboratory Operations Companion Volume Implementation Guide is available from VETNet - https://vetnet.gov.au/Pages/TrainingDocs.aspx?q=5c63a03b-4a6b-4ae5-9560-1e3c5f462baa