Title	Analyse geology for underground extraction		
Level	5	Credits	10

Purpose	People credited with this unit standard are able to analyse the geological nature of a mineral orebody or deposit in relation to underground extraction methods, and evaluate the effects of geological features and associated hazards on underground mining methods and mine planning.

Classification	Extractive Industries > Underground Extraction	
Available grade	Achieved	

### **Guidance Information**

None.

# Outcomes and performance criteria

### Outcome 1

Analyse the geological nature of a mineral orebody or deposit in relation to underground extraction methods.

### Performance criteria

- 1.1 The characteristics of a mineral orebody or deposit are analysed in relation to a given underground site.
  - Range geological features and structure, massive, bedded, vein, seam thickness, rock mass properties, igneous, sedimentary, metamorphic, strength, hardness, cleat, joints, faults and folds, dip strike and plunge, density.
- 1.2 The various grades of mineral, metal or sedimentary deposit are identified for the given site.
- 1.3 Sampling methods used to obtain a representative sample are described in terms of the analysis required for extractive sites.
  - Range includes but is not limited to channel, bulk, core drill, drill cuttings, test pits, augers, trenching, sample storage and transport.

# Outcome 2

Evaluate the effects of geological features and associated hazards on underground mining methods and mine planning.

### Performance criteria

- 2.1 Geological features and associated hazards that affect the development of a mine and mine plan are evaluated for a given underground extraction site.
  - Range may include but is not limited to faults, folds, syncline, anticline, monocline, wash-outs, graben, horst, joints, microfractures, partings, splits, weak rock, hard rock, permeability, hanging wall, footwall, ore contacts.
- 2.2 A geological plan for the selected underground extraction site is interpreted and evaluated in terms of the geological features that affect the mining methods.

Planned review date	31 December 2029

### Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	25 July 1999	31 December 2017
Review	2	24 November 2005	31 December 2017
Rollover	3	16 July 2010	31 December 2017
Review	4	18 June 2015	31 December 2027
Rollover	5	25 January 2018	31 December 2027
Review	6	29 May 2025	N/A

Consent and Moderation Requirements (CMR) reference	0114		
This CMR can be accessed at <u>http://www.nzqa.govt.nz/framework/search/index.do</u> .			

### Comments on this unit standard

Please contact Hanga-Aro-Rau Manufacturing, Engineering and Logistics Workforce Development Council <u>qualifications@hangaarorau.nz</u> if you wish to suggest changes to the content of this unit standard.