

Title	Demonstrate knowledge of geology for underground extraction		
Level	5	Credits	10

Purpose	People credited with this unit standard are able to demonstrate knowledge of the geological nature of a mineral orebody or deposit in relation to underground extraction methods, and the effects of geological features on underground mining methods and mine planning.
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Classification	Extractive Industries > Underground Extraction
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Available grade	Achieved
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Guidance Information

None.

Outcomes and performance criteria

Outcome 1

Demonstrate knowledge of 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 identified and described in relation to a given underground site.

Range	geological features and structure, massive, bedded, vein, seam thickness, gradient, rock properties, igneous, sedimentary, metamorphic, strength, hardness, cleat, joints, dip and strike, density.
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- 1.2 The various grades of mineral or sedimentary deposit are identified for the given site.
- 1.3 Sampling methods used to obtain a representative sample are described in terms of 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.
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Outcome 2

Demonstrate knowledge of the effects of geological features on underground mining methods and mine planning.

Performance criteria

2.1 Geological features that affect the development of a mine and mine plan are identified for a given underground extraction site.

Range may include but is not limited to – faults, folds, syncline, anticline, monocline, wash-outs, graben, horst, want areas, microfractures, partings, splits, weak rock, hard rock, permeability.

2.2 A geological plan for the selected underground extraction site is interpreted in terms of the geological features that affect the mining methods.

Planned review date	31 December 2022
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Status information and last date for assessment for superseded versions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	N/A
Rollover	5	25 January 2018	N/A

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

Comments on this unit standard

Please contact MITO New Zealand Incorporated info@mito.org.nz if you wish to suggest changes to the content of this unit standard.