

<b>Title</b>	<b>Demonstrate knowledge of geology and geotechnical features and failures for surface extraction</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>5</b>

<b>Purpose</b>	People credited with this unit standard are able to demonstrate knowledge of geology and geotechnical features and failures for surface extraction.
----------------	---

<b>Classification</b>	Extractive Industries > Surface Extraction
-----------------------	--

<b>Available grade</b>	Achieved
------------------------	----------

---

### Guidance Information

- Performance of the outcomes of this unit standard must comply with the following:  
Health and Safety at Work Act 2015 (HSW);  
Health and Safety at Work (General Risk and Workplace Management) Regulations 2016;  
Health and Safety at Work (Mining Operations and Quarrying Operations) Regulations 2016;  
Health and Safety at Work (Worker Engagement, Participation, and Representation) Regulations 2016;  
approved codes of practice issued pursuant to the HSW Act.
- Any new, amended or replacement Acts, regulations, standards, codes of practice, guidelines, or authority requirements or conditions affecting this unit standard will take precedence for assessment purposes, pending review of this unit standard.
- Definitions  
*Company procedures* mean the documented methods for performing work activities and include health and safety, operational, environmental, and quality management requirements. They may refer to legislation, regulations, guidelines, standard operating procedures, manuals, codes of practice, or policy statements.  
*Industry best practice* may be documented in management plans, control plans, company procedures, managers' rules, occupational health and safety policy, industry guidelines, codes of practice, manufacturers' instructions, and safe working and/or job procedures (or equivalent).

---

### Outcomes and performance criteria

#### Outcome 1

Demonstrate knowledge of geology and geotechnical features and failures for surface extraction.

**Performance criteria**

1.1 Rocks and minerals are identified and described in terms of their formation and characteristics.

Range rock types – igneous, metamorphic, sedimentary.

1.2 Geological and geotechnical features occurring within extractive sites are identified in relation to industry best practice methods of working towards, with, and around them.

Range may include but is not limited to – faults, folding, anticline, syncline, monocline, dyke, sill, washout, partings, seam type, dip, overlying rock, orebody.

1.3 Geological and geotechnical features occurring within extractive sites are described in terms of safety management plans.

Range includes – failure modes, monitoring, recording and reporting, slope stability, face stability, waste dump stability;  
may include but is not limited to – contours, overburden removal, interburden, haulage roads, working surfaces, seam thickness, seam or orebody characteristics, grade, strike and dip, rehabilitation.

1.4 Methods for managing geological and geotechnical failures are described in terms of industry best practice.

Range may include but is not limited to – risk assessment, external geotechnical advice, ground support, isolation, monitoring, recording and reporting.

<b>Planned review date</b>	31 December 2022
----------------------------	------------------

**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	27 January 2005	31 December 2017
Rollover and Revision	3	16 July 2010	31 December 2017
Review	4	18 June 2015	31 December 2019
Review	5	1 March 2018	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	0114
--	------

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](mailto:info@mito.org.nz) if you wish to suggest changes to the content of this unit standard.