

|              |  |                |          |
|--------------|--|----------------|----------|
| <b>Title</b> | <b>Demonstrate introductory knowledge of geology at surface extraction sites</b> |                |          |
| <b>Level</b> | <b>3</b>   | <b>Credits</b> | <b>5</b> |

|                |  |
|----------------|--|
| <b>Purpose</b> | People credited with this unit standard are able to demonstrate knowledge of rocks and minerals at surface extraction sites, in relation to safety and quality, and demonstrate knowledge of geological structures at surface extraction sites in terms of their impact on operations. |
|----------------|--|

|                       |  |
|-----------------------|--|
| <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 (Worker Engagement, Participation, and Representation) Regulations 2016;  
Health and Safety at Work (Mining Operations and Quarrying Operations) 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.

---

### Outcomes and performance criteria

#### Outcome 1

Demonstrate knowledge of rocks and minerals at surface extraction sites, in relation to safety and quality.

**Performance criteria**

- 1.1 Rocks and minerals relevant to the candidate's work site are identified, and described in terms of their value to the operation.
- Range may include but is not limited to – waste rock, overburden, ore, plant feed, industrial minerals, coal; evidence is required for two.
- 1.2 The physical properties of industrial rocks and minerals are described in relation to their extraction and processing characteristics.
- Range includes but is not limited to – hardness, solubility, specific gravity, abrasiveness, texture, weathering characteristics.

**Outcome 2**

Demonstrate knowledge of geological structures at surface extraction sites in terms of their impact on operations.

**Performance criteria**

- 2.1 The structural characteristics of the mineral and host rock are described in relation to their fragmentation nature.
- Range includes but is not limited to – fault, jointing, bedding, roof, floor, intrusions.
- 2.2 Other structures or geological events are described in relation to their effect on mineral, industrial rock, and host rock.
- Range may include but is not limited to – ancient rock slides, ancient river beds, old mine workings.
- 2.3 The hazards arising from geological features are described in relation to surface extraction processes.
- Range includes but is not limited to – face height in rock and gravel, face slope, stability, berm condition, drainage and weather effects.

|                            |                  |
|----------------------------|------------------|
| <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    | N/A                      |
| Rollover and Revision | 5       | 25 January 2018 | N/A                      |

**Consent and Moderation Requirements (CMR) reference**

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.