

<b>Title</b>	<b>Describe and operate magnetic separation systems at an extraction site</b>		
<b>Level</b>	<b>4</b>	<b>Credits</b>	<b>12</b>

<b>Purpose</b>	People credited with this unit standard are able to: operate magnetic separators and describe their operational characteristics and performance; describe and demonstrate adjustments and checks, and safety systems for magnetic separators; describe and demonstrate the production requirements for the magnetic separator operation; carry out shift-end, shut-down procedures and complete documentation for magnetic separators, at an extraction site.
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<b>Classification</b>	Extractive Industries > Extractive Industries Management
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<b>Available grade</b>	Achieved
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### 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 manuals, codes of practice, or policy statements.  
*Industry best practice* refers to those practices which competent practitioners within the industry recognise as current industry best practice. These may be documented in management 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).
- This unit standard is intended for, but is not limited to, workplace assessment.

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## Outcomes and performance criteria

### Outcome 1

Operate magnetic separators and describe their operational characteristics and performance.

#### Performance criteria

- 1.1 The type of raw material and specifications are described in relation to where magnetic separators can effectively operate.
- Range raw material, particle size, moisture content, contaminant removal, slimes reduction, magnetic properties, particle density, through-put volumes, material grades, valuable mineral recovery.
- 1.2 Magnetic separators are described in terms of their operational characteristics and performance.
- Range separator types and component parts, rougher magnets, power source and supply, cleaner magnets, scrubber operation, variability, controls, settings, separation variables, operating procedures.
- 1.3 Magnetic separators are operated in accordance with manufacturer's instructions.

### Outcome 2

Describe and demonstrate adjustments and checks, and the safety systems for magnetic separators.

#### Performance criteria

- 2.1 The adjustments and checks to be carried out by the operator are described and demonstrated in accordance with industry best practice.
- Range magnetic separator checks, scrubber, feed slurry lines, mechanical checks, screens, cyclones, controls, pre-start checks.
- 2.2 The safety systems for magnetic separators are described and demonstrated in accordance with industry best practice.
- Range fire fighting, alarms, communications, emergency stops, trip-out and re-set, safety features, isolation procedures.

### Outcome 3

Describe and demonstrate the production requirements for the magnetic separator operation.

**Performance criteria**

- 3.1 The shift plan and requirements are described and demonstrated in accordance with the mining plan.

Range production, product quality, variability controls, feed density, feed volume, percentage magnetics, housekeeping.

**Outcome 4**

Carry out shift-end, shut-down procedures, and complete documentation for magnetic separators.

**Performance criteria**

- 4.1 The plant is shut down in accordance with the manufacturer's recommendations, plant operation plan, and industry best practice.

Range going off-feed, shut-down procedures, settings.

- 4.2 Defects are listed in accordance with industry best practice.

Range plant and associated equipment inspections, hazard inspections.

- 4.3 Documentation is completed in accordance with company procedures.

Range plant operator log sheets, hazard reports, defect reports.

<b>Planned review date</b>	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	31 July 2001	31 December 2019
Review	2	24 November 2005	N/A
Rollover and Revision	3	16 July 2010	N/A
Rollover and Revision	4	25 January 2018	N/A

<b>Consent and Moderation Requirements (CMR) reference</b>	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](mailto:info@mito.org.nz) if you wish to suggest changes to the content of this unit standard.