

Title	Describe and operate a gravity separation system at an extraction site		
Level	4	Credits	12

Purpose	People credited with this unit standard are able to: operate and describe the operational characteristics and performance of a gravity separator; describe and demonstrate the adjustments and checks, and safety systems required for a gravity separator; describe and demonstrate the production requirements for the gravity separator operation; carry out shut-down procedures and complete documentation for a gravity separator.
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Classification	Extractive Industries > Extractive Industries Management
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Available grade	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.

Outcomes and performance criteria

Outcome 1

Operate and describe the operational characteristics and performance of a gravity separator.

Performance criteria

- 1.1 Gravity separators are described in terms of their ability to effectively handle and process raw material.
- Range raw material specifications, particle size, moisture content, contaminant removal, slimes reduction, particle density, throughput volumes, material grades, valuable mineral recovery.
- 1.2 Gravity separators are described in terms of their operational characteristics and performance.
- Range separator types and component parts (cones, spirals), power source and supply, water circuit, variability, controls, settings, separation variables, grade control, and operating (cones, spirals) procedures.
- 1.3 Gravity separation system is operated in accordance with industry best practice.

Outcome 2

Describe and demonstrate the adjustments and checks, and safety systems required for a gravity separator.

Performance criteria

- 2.1 The adjustments and checks to be carried out by an operator are described and demonstrated in accordance with industry best practice.
- Range cone and spiral separator checks, feed slurry lines, mechanical checks, splitter adjustments, hoses, spray bars, controls, pre-start checks.
- 2.2 The safety systems for a gravity separator are described and demonstrated in accordance with industry best practice.
- Range fire fighting, alarms, communications, emergency stops, cut-out/reset, safety features, isolation procedures.

Outcome 3

Describe and demonstrate the production requirements for the gravity 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, feed rate, particle size, housekeeping.

Outcome 4

Carry out shut-down procedures and complete documentation for a gravity separator.

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.

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	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

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.