

Title	Carry out hydraulic sand extraction operations		
Level	4	Credits	12

Purpose	People credited with this unit standard are able to: plan and prepare for hydraulic sand extraction operations; operate hydraulic sand extraction plant; control product quality; and carry out plant maintenance on hydraulic sand extraction plant.
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Classification	Extractive Industries > Surface Extraction
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Available grade	Achieved
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Guidance Information

- 1 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;
 - WorkSafe NZ's Good Practice Guidelines for the extractives industries, including *Health and Safety at Opencast Mines, Alluvial Mines and Quarries Good Practice Guidelines 2015*, available from <https://worksafe.govt.nz/>;
 - Manufacturer's guidelines for plant maintenance.
- 2 Any new, amended or replacement Acts, regulations, standard, 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.
- 3 Definitions

Company procedures and *product quality requirements* 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.
- 4 This unit standard is intended for, but is not limited to, workplace assessment.

Outcomes and performance criteria

Outcome 1

Plan and prepare for hydraulic sand extraction operations.

Performance criteria

- 1.1 Briefings or handover details are received, interpreted, and clarified.
- Range worksite inspection, defects on machine, nature and scope of task, adequacy of site lighting, location of potential hazards, plant and pit configuration.
- 1.2 Safety rules and regulations, including company procedures and legislation are observed.
- 1.3 Pre-start check is carried out in accordance with manufacturer's and/or company procedures.
- 1.4 Work area preparation, including floor clean-up, level and grade requirements, is co-ordinated with others and carried out to job specifications.
- 1.5 Basic geological survey data, resource consent, and product knowledge required to complete the allocated task are received and applied in accordance with company procedures.

Outcome 2

Operate hydraulic sand extraction plant.

Performance criteria

- 2.1 Start-up checks are performed in accordance with manufacturer's guidelines and/or company procedures.
- Range checking oil levels and greasing of designated components, checking pumps for adjustments, secure monitor.
- 2.2 Start-up operations as per plant configuration and system are performed, in accordance with manufacturer's and/or company procedures.
- Range check material transport system for condition, including pump suction and delivery lines and connections; check stability and integrity of pump operation station; check high-pressure water supply.

- 2.3 Operation of plant is in accordance with manufacturer's and/or company procedures.
- Range adjusting high pressure flow to achieve optimisation sump water level, checking and adjusting feed rates as required, clearing blockages and reset overloads as required, observing and making any other adjustments, as and when required.
- 2.4 Operations are conducted within the operating capacity of allocated plant in accordance with site quality and safety plans.
- Range may include but is not limited to – operating during night and day and in a variety of weather conditions.
- 2.5 Emergency procedures are demonstrated in accordance with the manufacturer's and/or company procedures.
- 2.6 Shut-down is completed according to plant configuration requirements and system.
- 2.7 Post shut-down checks are completed as per plant configuration requirements and system.

Outcome 3

Control product quality.

Performance criteria

- 3.1 Product quality meets quality targets in accordance with company quality assurance procedures and product specifications.
- 3.2 Adjustments to meet product quality parameters are made in accordance with requirements of laboratory reports and/or company quality procedures.
- 3.3 Liaison with site management is co-ordinated to make ongoing plant adjustments, and to meet product quality requirements.

Outcome 4

Carry out plant maintenance on hydraulic sand extraction plant.

Performance criteria

- 4.1 Inspection and fault finding are carried out in accordance with manufacturer's specifications or company procedures.
- 4.2 Routine operational servicing, lubrication, and housekeeping tasks are carried out to manufacturer's and/or company procedures.

- 4.3 Minor maintenance is carried out to manufacturer's and/or company procedures.
- 4.4 Records are maintained in accordance with company procedures.

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	26 November 1996	31 December 2019
Revision	2	17 December 1996	31 December 2019
Revision	3	18 December 1998	31 December 2019
Revision	4	17 April 2002	31 December 2019
Review	5	27 January 2005	N/A
Rollover and Revision	6	16 July 2010	N/A
Rollover and Revision	7	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.