

# Mining Industry



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Department of  
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## MINING

### INDUSTRY AREA COVERAGE

GROUP	CLASS	DESCRIPTION
<b>110</b>	-	<b>Coal Mining</b>
	1101	Black Coal Mining
	1102	Brown Coal Mining
<b>131</b>	-	<b>Metal Ore Mining</b>
	1311	Iron Ore Mining
	1312	Bauxite Mining
	1313	Copper Ore Mining
	1314	Gold Ore Mining
	1315	Mineral Sand Mining
	1316	Nickel Ore Mining
	1317	Silver-Lead-Zinc Ore Mining
	1319	Metal Ore Mining n.e.c.
<b>141</b>	-	<b>Construction Material Mining</b>
	1411	Gravel and Sand Quarrying
	1419	Construction Material Mining n.e.c.
<b>142</b>	-	<b>Mining n.e.c.</b>
	1420	Mining n.e.c.
<b>151</b>	-	<b>Exploration</b>
	1511	Petroleum Exploration (Own Account)
	1512	Petroleum Exploration Services
	1513	Mineral Exploration (Own Account)
	1514	Mineral Exploration Services
<b>152</b>	-	<b>Other Mining</b>
	1520	Other Mining Services
<b>272</b>	-	<b>Basic Non-Ferrous Metal Manufacturing</b>
	2721	Alumina Production
	2722	Aluminium Smelting
	2723	Copper, Silver, Lead and Zinc Smelting, Refining
	2729	Basic Non-Ferrous Metal Manufacturing n.e.c.

\* ANZSIC Group - Australian New Zealand Standard Industrial Classification  
 \*\* n.e.c. - not elsewhere classified

### STATE BODIES

- Metals, Manufacturing and Services ITC
- WA Minerals Training Council
- Utilities, Electrotechnology and Printing ITC
- Process Manufacturing ITC



## NATIONAL BODIES

- Minerals Council of Australia
- Resources and Infrastructure Industry Skills Council (RIISC)
- Australian Drilling ITC

## INDUSTRY ORGANISATIONS/ASSOCIATIONS

*This list is not exhaustive – a guide only.*

Chamber of Minerals and Energy

Department of Industry and Resources

Mining and Resource Contractors Safety and Training Association (MARCSTA)

Australian Mines and Metals (AMMA)

### DOCEP

The Resources Safety Division of the Department of Consumer and Employment Protection (DOCEP) is responsible for the regulation of mines safety in Western Australia.

Guidance notes and Codes of Practice relevant to the minerals industry can be located at <http://www.docep.wa.gov.au/ResourcesSafety>

The document *General Duty of Care in Western Australian Mines (DOCEP)* can be found at:


[http://www.docep.wa.gov.au/ResourcesSafety/Sections/Mining\\_Safety/pdf\\_/MS%20Misc/ms\\_misc\\_dutyofcare.pdf](http://www.docep.wa.gov.au/ResourcesSafety/Sections/Mining_Safety/pdf_/MS%20Misc/ms_misc_dutyofcare.pdf)

## WORKSAFE

The following areas have been identified by WorkSafe as general issues to be addressed in staff induction and training. However, it must be noted that WorkSafe has no jurisdiction over mines safety, and consequently, these should only be used as references.

- Hazard identification
- Manual handling
- Working in isolation
- Machinery and equipment
- Hazardous substances
- Personal protective equipment
- Electrical safety

Information on working in isolation can be found at <http://www.safetyline.wa.gov.au>



Information on hazardous substances – chemicals at work can be found at <http://www.safetyline.wa.gov.au>

Information on electrical safety can be found at <http://www.safetyline.wa.gov.au>

For Codes of Practice – Manual Handling, please refer to <http://www.safetyline.wa.gov.au>

## **WORKFORCE ISSUES, CHARACTERISTICS, ACTIVITIES**

Mining workers are the highest paid of all industries nationally, on average earning double the earnings of workers in other industries.

- Non core activities are increasingly being outsourced, with about 50% of the industry's mining operations undertaken by contracting companies. Mainly open cut operations, although a significant proportion of enterprises have both open cut and underground operations.
- There is demand in the industry for:
  - Heavy Vehicle Mobile Equipment mechanics needed across the industry;
  - Process operators (AQF levels 2-3) - the development of associated learning materials is a critical requirement;
  - Mechanical fitters; and
  - Mechanical, electrical and instrumentation trades (AQF levels 3 – 4). Essential trade skills require ongoing support from the publicly funded VET system.
- Increasing use of specialised equipment which could be site, process or product specific.
- Advances in mineral extraction and processing equipment and processes are being developed on a regular basis.
- Workforce restructuring is occurring, with labouring and technical categories of personnel disappearing, and an increased use of complex, sophisticated equipment, resulting in a rising level of skill required for tradespeople and operators.
- Strong focus on safety and health issues.
- The workforce is highly mobile, particularly in the project development sector, with personnel responding to the fluctuating demands for skilled labour. The labour market is international in nature, particularly for high skill and professional workers.
- Reflecting the often hard working environment and remote locations of mine sites, labour turnover and attrition from the industry can be high, although many workers also remain in the industry for their working life, thereby creating an ongoing need for skills upgrading and refresher training.
- Despite the high skills profile of the industry, a significant proportion of the workforce has not been formally trained or had their skills formally recognised.



## LICENSING OR REGULATORY REQUIREMENTS

- Safety and health requirements specific to a mine site are covered by the *Mines Safety and Inspection Act 1994* and *Mines Safety and Inspection Regulations 1995*.
- Advice and guidance should be sought from organisations, agencies close to the industry.

Storage and transport of explosives and dangerous goods is currently regulated by the Resources Safety Division of DOCEP and the relevant legislation includes Dangerous Goods Transport Act (1998) and the Explosives and Dangerous Goods Act (1961).

However, the legislation specific to dangerous goods is currently under review, and it is expected that the new Dangerous Goods Safety Act 2004 and the supporting regulations will be proclaimed before the end of 2006.

Information regarding this review, and the individual legislation can be found at:

[http://www.docep.wa.gov.au/ResourcesSafety/Sections/Dangerous\\_Goods/Legislation\\_and\\_Policy/overview.html](http://www.docep.wa.gov.au/ResourcesSafety/Sections/Dangerous_Goods/Legislation_and_Policy/overview.html)



## TRAINING PACKAGES

The Mining Industry has coverage for the following Training Packages:

DRT03 – Drilling Industry

MNM99 - Metalliferous Mining Training Package

MNQ03 - Extractive Training Package

MNC04 - Coal Training Package Note: (The Coal training package is endorsed nationally, but not implemented in WA).

### **Drilling Industry Training Package – DRT03**

The Drilling Training Package is designed to support the vocational requirements of the industry. Qualifications are available at Certificate II, III, IV, Diploma and Advanced Diploma levels.

**Status** – Endorsed

## QUALIFICATIONS

DRT20103	<a href="#"><u>Certificate II in Drilling - Environmental</u></a>
DRT20203	<a href="#"><u>Certificate II in Drilling - Foundation/Construction</u></a>
DRT20303	<a href="#"><u>Certificate II in Drilling - Geotechnical</u></a>
DRT20403	<a href="#"><u>Certificate II in Drilling - Trenchless Technology</u></a>
DRT20503	<a href="#"><u>Certificate II in Drilling - Mineral Exploration</u></a>
DRT20603	<a href="#"><u>Certificate II in Drilling - Mineral Production and Development</u></a>
DRT20703	<a href="#"><u>Certificate II in Drilling - Blast Hole</u></a>
DRT20803	<a href="#"><u>Certificate II in Drilling - Oil/Gas Off shore</u></a>
DRT20903	<a href="#"><u>Certificate II in Drilling - Oil/Gas On shore</u></a>
DRT21003	<a href="#"><u>Certificate II in Drilling - Seismic</u></a>
DRT21103	<a href="#"><u>Certificate II in Drilling - Water Well</u></a>
DRT30103	<a href="#"><u>Certificate III in Drilling - Environmental</u></a>
DRT30203	<a href="#"><u>Certificate III in Drilling - Foundation/Construction</u></a>
DRT30303	<a href="#"><u>Certificate III in Drilling - Geotechnical</u></a>
DRT30403	<a href="#"><u>Certificate III in Drilling - Trenchless Technology</u></a>
DRT30503	<a href="#"><u>Certificate III in Drilling - Mineral Exploration</u></a>
DRT30603	<a href="#"><u>Certificate III in Drilling - Mineral Production and Development</u></a>
DRT30703	<a href="#"><u>Certificate III in Drilling - Blast Hole</u></a>
DRT30803	<a href="#"><u>Certificate III in Drilling - Oil/Gas Off shore</u></a>
DRT30903	<a href="#"><u>Certificate III in Drilling - Oil/Gas On shore</u></a>
DRT31003	<a href="#"><u>Certificate III in Drilling - Seismic</u></a>
DRT31103	<a href="#"><u>Certificate III in Drilling - Water Well</u></a>
DRT40103	<a href="#"><u>Certificate IV in Drilling - Environment</u></a>
DRT40203	<a href="#"><u>Certificate IV in Drilling - Foundation/Construction</u></a>
DRT40303	<a href="#"><u>Certificate IV in Drilling - Geotechnical</u></a>



DRT40403	<a href="#"><u>Certificate IV in Drilling - Trenchless Technology</u></a>
DRT40503	<a href="#"><u>Certificate IV in Drilling - Mineral Exploration</u></a>
DRT40603	<a href="#"><u>Certificate IV in Drilling - Mineral Production and Development</u></a>
DRT40703	<a href="#"><u>Certificate IV in Drilling - Blast Hole</u></a>
DRT40803	<a href="#"><u>Certificate IV in Drilling - Oil/Gas Off shore</u></a>
DRT40903	<a href="#"><u>Certificate IV in Drilling - Oil/Gas On shore</u></a>
DRT41003	<a href="#"><u>Certificate IV in Drilling - Seismic</u></a>
DRT41103	<a href="#"><u>Certificate IV in Drilling - Water Well</u></a>
DRT50103	<a href="#"><u>Diploma of Drilling - Environmental</u></a>
DRT50203	<a href="#"><u>Diploma of Drilling - Foundation/Construction</u></a>
DRT50303	<a href="#"><u>Diploma of Drilling - Geotechnical</u></a>
DRT50403	<a href="#"><u>Diploma of Drilling - Trenchless Technology</u></a>
DRT50503	<a href="#"><u>Diploma of Drilling - Mineral Exploration</u></a>
DRT50603	<a href="#"><u>Diploma of Drilling - Mineral Production and Development</u></a>
DRT50703	<a href="#"><u>Diploma of Drilling - Blast Hole</u></a>
DRT50803	<a href="#"><u>Diploma of Drilling - Oil/Gas Off shore</u></a>
DRT50903	<a href="#"><u>Diploma of Drilling - Oil/Gas On shore</u></a>
DRT51003	<a href="#"><u>Diploma of Drilling - Seismic</u></a>
DRT51103	<a href="#"><u>Diploma of Drilling - Water Well</u></a>
DRT60103	<a href="#"><u>Advanced Diploma of Drilling Management</u></a>

More information on the Drilling Industry Training Package, its qualifications and units of competency can be found on the following websites:

<http://www.riisc.com.au/Drilling-About/default.aspx>

<http://www.ntis.gov.au>

### **Metalliferous Mining – MNM05**

The Metalliferous Training Package is designed to support the vocational requirements of the industry. Qualifications are available at Certificate II, III, IV, Diploma and Advanced Diploma levels.

**Status** – Endorsed.

### **QUALIFICATIONS**

<b>National Code</b>	<b>Qualification Name</b>
MNM60105	Advanced Diploma in Metalliferous Mining

#### **Open Cut**

<b>National Code</b>	<b>Qualification Name</b>
MNM20105	Certificate II in Metalliferous Mining Operations (Open Cut)
MNM30105	Certificate III in Metalliferous Mining Operations (Open Cut)



MNM40105 Certificate IV in Metalliferous Mining Operations (Open Cut)

**Open Cut and Underground**

**National Code**      **Qualification Name**  
MNM50105 Diploma of Metalliferous Mining (Open Cut and Underground)

**Processing**

**National Code**      **Qualification Name**  
MNM20305 Certificate II in Metalliferous Mining Operations (Processing)  
MNM30305 Certificate III in Metalliferous Mining Operations (Processing)  
MNM40305 Certificate IV in Metalliferous Mining Operations (Processing)  
MNM50205 Diploma of Metalliferous Mining (Processing)

**Underground**

**National Code**      **Qualification Name**  
MNM20205 Certificate II in Metalliferous Mining Operations (Underground)  
MNM30205 Certificate III in Metalliferous Mining Operations (Underground)  
MNM40205 Certificate IV in Metalliferous Mining Operations (Underground)

More information on the Metalliferous Mining Training Package, its qualifications and units of competency can be found on the following websites:

<http://www.ntis.gov.au>

<http://www.riisc.com.au/MetalliferousTraining/>

**Extractive – MNQ03**

The Extractive Industries Training Package is designed to cover the vocational requirements of the quarrying industry. Qualifications are available at Certificate II, III, IV, Diploma and Advanced Diploma.

**Status** – Endorsed

## QUALIFICATIONS

National Code	Qualification Name
MNQ20103	<a href="#"><u>Certificate II in Extractive Industries Operations</u></a>
MNQ30103	<a href="#"><u>Certificate III in Extractive Industries Operations</u></a>
MNQ40103	<a href="#"><u>Certificate IV in Extractive Industries Operations</u></a>
MNQ50103	<a href="#"><u>Diploma of Extractive Industries Management</u></a>
MNQ60103	<a href="#"><u>Advanced Diploma of Extractive Industries Management</u></a>

**More information on the Extractive Industries Training Package, its qualifications and units of competency can be found on the following websites:**

<http://www.ntis.gov.au>

**Implementation Kits for Training Packages can be found at the following website:-**

<http://www.training.wa.gov.au/training/content-training-packages.asp>

**Black Coal** - The Coal Training Package covers the vocational needs of the underground and open cut coal mining industry. Qualifications are available at the Certificate II, III, IV, Diploma and Advanced Diploma level.

**Please Note: (The Black Coal training package is endorsed nationally, but not implemented in WA).**

## TRAINING ENVIRONMENT/ ISSUES PERTAINING TO ASSESSORS

- Assessors should look for the type and range of mobile equipment that mobile equipment training organisations have available, and query how the RTO addresses the issue of trainees who will be working on a broader range of equipment when they return to the actual workplace. How is competency recorded? i.e. is mention made of the type of equipment that the person has operated while in training.
- The depth of training offered on mobile equipment is an issue – to what extent are trainees trained, over what time period, to what level of mastery. An RTO with close links to the industry would have a better chance of meeting the industry’s skill development needs.
- RTOs should be queried on where they undertake their training, on the basis that training in the actual workplace is likely to be more effective.
- RTOs with a quality assurance role, that is, who do not necessarily actually undertake the on-site training, should be audited as to how they will actually ensure that the appropriate training and assessment is occurring at site.



## INDUSTRY TRAINING ENVIRONMENT/ ISSUES

- The WA Inquiry into Fatalities highlighted the need for Managerial and Supervisory Health and Safety training as well as hazard identification, risk assessment and risk reduction training.
- Larger firms look after their own training needs or negotiate training delivery with providers. Small enterprises unable to negotiate in the same way. Strong tradition of on the job training.
- Fly in/fly out arrangements mean training must be responsible to workplace and production needs.
- People and Safety management training for supervisors and managers has been identified in ITP as priorities.
- Concern about adequacy of supervisory skills, with some companies adopting the Frontline Management package and customising it, yet smaller enterprises are unable to access suitable, cost effective training. Quality of supervisory staff, their communication and people management skills are an issue.
- Much use of specialised equipment which is site, process, or product specific also requires specialised training, however vendors and manufacturers of equipment do not necessarily provide adequate training.

## HIGH RISK TRAINING CONCERNS

- The delivery and assessment of the safety competencies in the FLM has been reviewed and materials developed by CMEWA. It is suggested that one day's training for the safety competencies is a minimum, and needs to be supported with a rigorous workplace project or evidence gathering (or up front skills recognition). In addition, specific competencies from the Metalliferous Mining Training Package could be used for these purposes.
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- On the same theme, RTOs could be queried as to how they incorporate a client company's site safety systems, processes, forms, etc into their training, to ensure that the training is relevant and specific.
- There will be a continuing need for FLM training for the industry's supervisors and managers, at Certificate Levels III and IV, and Diploma Level V. Both companies and their FLM providers have become more sophisticated in the delivery of this training and the assurance of the required skill development.