



Government of **Western Australia**  
Department of **Mines and Petroleum**  
Resources Safety

## **Guide to health surveillance system for mining employees**

**September 2010**

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## Objective

This document will assist employers, employees, medical practitioners and approved persons in understanding requirements for undertaking health assessments under the health surveillance system provisions of the Mines Safety and Inspection Regulations 1995.

The health surveillance system for mining employees in Western Australia is administered by Resources Safety. Confidential information is recorded on an approved health assessment form and transferred to Resources Safety's MINEHEALTH database. The objectives of the health surveillance system are to:

- assess the health status of all mining industry employees on a regular basis;
- analyse collected data to detect adverse health effects at the earliest opportunity;
- enable appropriate and timely corrective action to be taken in order to safeguard the health and well-being of mining industry employees; and
- provide data for future epidemiological studies.

Following this guide will help to ensure the uniformity and reliability of data collected for the database.

## Application

This guide applies *only* to initial and periodic health assessments undertaken for the purpose of the health surveillance system that is stored in the MINEHEALTH database. It does *not* apply to:

- pre-employment health checks initiated by employers to assess medical fitness of prospective employees; or
- additional health assessments that may be required in respect of specified occupational exposure work.

## Health surveillance system

The health assessment conducted for the health surveillance system for mining employees comprises:

- a work history;
- a respiratory questionnaire;
- a lung function test;
- an audiometric (hearing) test; and
- in some cases, a chest x-ray.

### Initial health assessments

Employees new to the industry are required to have an initial health assessment carried out within three months of commencement, unless they are exempted from the health surveillance requirements.

### Periodic health assessments

After the initial health assessment, employers must ensure that periodic health assessments are conducted at intervals not exceeding five years for all mine employees, unless the employee is exempted from the health surveillance requirements.

### Exemption from health assessment

Employees who are not usually exposed to significant levels of hazardous substances or agents are exempted from the health surveillance system, including:

- employees who normally work in an office, administration building, residential or recreational facilities;

- employees of contractors and self-employed persons who are only engaged to work on mine sites occasionally for periods of less than one month at any one time; and
- employees who work at a mine or mines for a cumulative period of less than three months in a 12-month period.

## Responsibility of employers

Employers:

- must arrange for health assessments;
- must pay for the expenses associated with these tests;
- may request their employees to attend a health assessment at a specified place; and
- may request a copy of the health assessment from the employee, but there is no legal requirement for the employee to release any of his or her private and confidential medical records to the employer.

## Responsibility of employees

Employees:

- must have a health assessment within three months of starting employment at a mine (when they initially join the mining industry) and then subsequently within five years of the previous assessment;
- should keep their health surveillance number for ready reference during their employment;
- the employee's current employer must organise and pay for the health assessment; and
- attend health assessments at places specified by their employers.

## Responsibility of medical practitioners or approved persons

Medical practitioners or approved persons must:

- complete the health assessment forms in accordance with this guide;
- complete the one-day approved persons course before performing lung function tests (spirometry), and attend the refresher course every two years thereafter unless they are exempted;
- satisfy all WorkCover WA's requirements for audiometric officers; and
- provide employees with a copy of their health assessment form and explain the results recorded if necessary.

Note that incomplete forms will be returned to the approved person to be completed and returned to Resources Safety within 14 days of receipt. Approval will be revoked if an unacceptable number of poor quality forms are submitted to Resources Safety.

## Completing a health assessment form

The health assessment form is available from Resources Safety's website at [www.dmp.wa.gov.au/ResourcesSafety](http://www.dmp.wa.gov.au/ResourcesSafety) in the mining forms section. A sample is shown in Appendix 1.

It is particularly important that the forms are correctly completed to maintain the quality of the data stored in Resources Safety's MINEHEALTH database. Only fully completed health assessment forms will be accepted as part of the health surveillance system — incomplete forms will be returned to the approved person to complete before they are processed further.

## Reporting details

*Employee's personal details*

- Use the name as given on the person's birth certificate, including former name(s) in brackets if name has changed.

- The health surveillance card detailing the health surveillance number and expiry date (date before which a periodic health assessment is required) will be sent to the address provided.

#### *Employer's details*

- Record the company name of the principal employer for the employee.
- For contractors and labour hire companies, a specific site name is only required if the employee will be working there for a period of longer than three months.

#### *Approved person or medical practitioner details*

- The approved person or medical practitioner must complete all details in this section, which is on the first page.
- If another approved person performs a different part of the health assessment, the name and details of the person completing that part should be given on the bottom of the form.

#### *Section 1 – Work history*

- The work history is to be completed by the approved person or medical practitioner, in conjunction with the employee. It is vital that this section is filled in as neatly, accurately and comprehensively as possible, in line with the notes at the top of the section.
- Completion of the work history may be facilitated by the employee making some notes regarding their past employment prior to the health assessment.
- Do not attach resumes as they are not acceptable.
- Refer to Appendix 2 for a sample of occupation categories and codes.

#### *Section II — Respiratory questionnaire*

- The approved person must read all questions and record the spontaneous answers to each question.
- Casual smokers who do not smoke every day, or smoked for less than one year should indicate “no” to question 19.
- For question 20, record the number of cigarettes smoked per day — *do not* record number of packets.

#### *Section III — Lung function test*

- Record person's details as listed.
- The spirometer make and model are required (e.g. Make: Microlab, Model: 3300).
- Date of calibration refers to the last time that the spirometer was calibrated with a three-litre syringe. It is recommended that the spirometer be calibrated with a three-litre syringe at the beginning of each session.
- Measurement graphs must be attached to the health assessment form.
- The three best test results indicating reproducibility within 0.15 litres of each other are required.
- Record whether a bronchodilator was used and, if so, how long before the test.
- Record whether the test was undertaken while sitting or standing.

#### *Section IV — Audiometric test*

- Audiometric tests must be completed in accordance with the WorkCover WA procedure.
- Consent from the employee is required using WorkCover WA Form 22 to allow audiometric test results to be sent to Resources Safety for the health surveillance system.
- Results must be entered online into the WorkCover WA database.

- Print the “individual test summary” screen as part of the result entry process, and transfer the results into Section IV of the health assessment form.
- Attach the printed “individual test summary” to the health assessment form.
- Use WorkCover WA Form 19A or 19B if the employee:
  - has a worker’s compensation claim in progress; or
  - is over the age of 70.

### *Section V — Chest x-ray*

A review of chest x-rays collected over the past decade under the health surveillance system (MineHealth) did not reveal any significant occupational lung disease from mining activities. The most common findings were changes related to tobacco smoking.

- Mines Safety and Inspection Regulations 1995 (MSIR) – amendments

A chest x-ray is no longer a routinely required component of the mineworkers health assessment. Legislation was amended to reflect this (MSIR r. 3.25(2); 3.26(2))

However, there is provision in the legislation for you to request a chest x-ray as a component of the mineworker’s health assessment, should you consider that one is clinically necessary or desirable.

- Coding of chest x-rays

Chest x-rays are no longer reviewed by a chest x-ray reader for coding purposes. Coding under the International Labour Organisation (ILO) classification for pneumoconiosis is known to be subject to variation between readers and is reliant on comparison with standard (hard copy) chest x-ray films produced by the ILO. The advent of digital radiography has made coding problematic due to high resolution of images and the lack of standards for comparison.

- Authorisation for chest x-ray form (Resources Safety)

This form was originally issued to assist approved persons who worked remotely from a registered medical practitioner. Most approved persons now work in a medical practice or in association with a medical practitioner and hence do not require the form.

Consequently, the form has been withdrawn from use. Please be advised that further use of this form is unauthorised and any remaining forms in your possession should be destroyed or returned to Resources Safety.

Approved persons are requested to make arrangements with a supervising medical practitioner for the purpose of referring mining employees for chest x-rays as part of the mining employee’s health assessment. In remote areas the approved person may make alternative arrangements with the radiology service provider.

- Chest x-rays requested by approved person or medical practitioner

If you request a chest x-ray, please note that:

- the costs are to be borne by the employer;
- the chest x-ray is to be reviewed and reported on by a radiologist;
- under rr.3.25, 3.26 and 3.31 of the Mines Safety and Inspection Regulations 1995 you are required to record the results of the chest x-ray report and notify the employee of the results, as well as explain those results to the employee, should follow-up treatment be required. You are also required to notify the employer of any outcome of the health assessment and if necessary advise on any remedial action required. Please indicate on the health assessment form (Section VI) what actions have been taken;
- you are required to forward the chest x-ray film and the radiology report to Resources Safety together with the other components of the health assessment (questionnaire, spirometry, audiometry). Any chest x-ray film unaccompanied by a radiology report will be returned to you.

### *Section VI — Results*

- Indicate what actions, if any, have been taken, then sign and date the form.

## **Confidentiality of health surveillance records**

- All health surveillance records are considered “confidential information” and must not be divulged except as provided for in the regulations.
- Medical practitioners and employers must ensure that health surveillance records or outcomes are retained as confidential records.

## **Department records**


To obtain department records:

- employees may write to the State mining engineer requesting a copy of their own health surveillance records — these records will be directly mailed to the individual employee who has made such a request;
- employees and employers may access their health surveillance number details from the online MineHealth database ([www.dmp.wa.gov.au/minehealth](http://www.dmp.wa.gov.au/minehealth)); and
- employers may write to the State mining engineer to find out if their employees have had a health assessment.

## **Submitting health assessment forms**

The completed health assessment forms, with chest x-ray if taken, must be submitted to Mines Occupational Physician, Resources Safety, Department of Mines and Petroleum, 100 Plain Street, East Perth WA 6107 or by email to [minehealthreporting@dmp.wa.gov.au](mailto:minehealthreporting@dmp.wa.gov.au)

# Appendix 1 — Health assessment form [sample only]

<p>HEALTH ASSESSMENT FORM</p>  <p><b>Government of Western Australia</b>          Department of Mines and Petroleum          Resources Safety</p>	<p><b>CONFIDENTIAL</b></p> <p>Resources Safety          303 Sevenoaks Street, Cannington WA 6004</p> <p>Phone: 08 9358 8461</p> <p>www.dmp.wa.gov.au/ResourcesSafety          minehealthreporting@dmp.wa.gov.au</p>	
<p><b>HEALTH ASSESSMENT FORM</b></p>		
<p>MINES SAFETY AND INSPECTION ACT 1994 Section 75 (1)</p>		
<p><b>TYPE OF HEALTH ASSESSMENT:</b></p> <p><input type="checkbox"/> INITIAL</p> <p><input type="checkbox"/> PERIODIC</p>	<p>Health Surveillance Number</p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div> <p><small>(To be assigned by DMP)</small></p>	
<p>PLEASE PRINT IN BLOCK LETTERS</p>		
<p><b>EMPLOYEE'S PERSONAL DETAILS (AS PER CURRENT ID)</b></p>		
<p>Surname: ..... <input type="checkbox"/> MALE <input type="checkbox"/> FEMALE  <small>(include former name, if name has changed)</small></p> <p>Given names: ..... Date of birth: ...../...../.....</p> <p>Contact address: .....  <small>(Health Surveillance Card will be sent to this address)</small> Post code: .....</p> <p>Home/Mobile Number: .....  <small>(Mandatory)</small></p> <p>Name and address of private doctor: .....          ..... Post code: .....</p> <p>Signature: ..... Date: ...../...../.....</p>		
<p><b>EMPLOYER DETAILS (CURRENT)</b></p>		
<p>Company: .....</p> <p>Site: .....</p> <p>Contact Person: .....</p> <p>Address: .....</p> <p>Contact Number: ..... Post code: .....</p>		
<p><b>APPROVED PERSON OR MEDICAL PRACTITIONER DETAILS</b></p>		
<p>Approved Person .....</p> <p>Medical Practitioner .....</p> <p>Address: .....</p> <p>Contact Number (mandatory): ..... Date: ...../...../.....</p> <p>Approved Person No. or Provider No.: .....</p>		
<p><b>Please send the completed health assessment forms including chest x-ray (if required) to:</b>  <b>Mines Occupational Physician, Resources Safety, DMP, 100 PLAIN STREET, EAST PERTH WA 6004.</b></p>		
<p>Department of Mines and Petroleum</p>	<p>Page 1 of 6</p>	<p>July 2009</p>

**SECTION I – WORK HISTORY***To be completed by the approved person or medical practitioner only***Note:**

- i. Enter all past work history both mining and non-mining from when you left school.
- ii. Enter specific job descriptions, .e.g air leg operator, plant operator, driller, fitter, truck driver, electrician, laboratory operator, mine manager
- iii. Record duration and "from – to" dates as accurately as possible.
- iv. Minesite column – Enter name of mine; if outside WA specify location; if not a minesite leave blank.

Usual occupation or trade: \_\_\_\_\_

Description of current occupation / job	Period of Time (fill in either of the following)		Name of employer	Name of minesite
	Duration (yy/mm)	From – To (mm/yy – mm/yy)		
	___/___	___/___ - ___/___		
Previous Jobs (most recent job first)	Period of Time		Name of employer	Name of minesite (use "u/g" to indicate if underground)
	Duration (yy/mm)	From – To (mm/yy – mm/yy)		
1.	___/___	___/___ - ___/___		
2.	___/___	___/___ - ___/___		
3.	___/___	___/___ - ___/___		
4.	___/___	___/___ - ___/___		
5.	___/___	___/___ - ___/___		
6.	___/___	___/___ - ___/___		
7.	___/___	___/___ - ___/___		
8.	___/___	___/___ - ___/___		
9.	___/___	___/___ - ___/___		
10.	___/___	___/___ - ___/___		
11.	___/___	___/___ - ___/___		
12.	___/___	___/___ - ___/___		

**SAMPLE ONLY**

**SECTION II – RESPIRATORY QUESTIONNAIRE**

*To be completed by the approved person or medical practitioner only*

*Please instruct the employee to give you quick (spontaneous) answers to the questions listed below.*

	YES	NO
<b>Cough</b>		
1. Do you usually cough first thing in the morning?	<input type="checkbox"/>	<input type="checkbox"/>
2. Do you usually cough during the day or at night?	<input type="checkbox"/>	<input type="checkbox"/>
If <b>NO</b> to questions 1 and 2, go to question 4. If <b>YES</b> to questions 1 or 2:		
3. Do you have a cough like this on most days for as much as three months each year?	<input type="checkbox"/>	<input type="checkbox"/>
<b>Phlegm</b>		
4. Do you usually bring up phlegm from your chest first thing in the morning?	<input type="checkbox"/>	<input type="checkbox"/>
5. Do you usually bring up phlegm from your chest at any other time of day or night?	<input type="checkbox"/>	<input type="checkbox"/>
If <b>NO</b> to questions 4 and 5, go to question 9. If <b>YES</b> to questions 4 or 5:		
6. Do you bring up phlegm like this on most days for as much as three months each year?	<input type="checkbox"/>	<input type="checkbox"/>
7. In the past three years have you had a period of increased cough and phlegm lasting for three weeks or more?	<input type="checkbox"/>	<input type="checkbox"/>
If <b>NO</b> to question 7, go to question 9. If <b>YES</b> to question 7:		
8. Have you had more than one such period?	<input type="checkbox"/>	<input type="checkbox"/>
<b>Breathlessness on activity</b>		
9. Do you get short of breath when hurrying on level ground or walking up a slight hill?	<input type="checkbox"/>	<input type="checkbox"/>
If <b>NO</b> to question 9, go to question 12. If <b>YES</b> to question 9:		
10. Do you get short of breath when walking with other people of your age on level ground?	<input type="checkbox"/>	<input type="checkbox"/>
If <b>NO</b> to question 10, go to question 12. If <b>YES</b> to question 10:		
11. Do you have to stop for breath when walking at your own pace on level ground?	<input type="checkbox"/>	<input type="checkbox"/>
<b>Breathlessness at rest</b>		
12. Do you ever get short of breath at rest?	<input type="checkbox"/>	<input type="checkbox"/>
13. Do you ever wake up in your sleep short of breath?	<input type="checkbox"/>	<input type="checkbox"/>

SAMPLE ONLY

	YES	NO
<b>Wheezing</b>		
14. Does your chest ever sound wheezy or whistling?	<input type="checkbox"/>	<input type="checkbox"/>
If <b>NO</b> to question 14, go to question 18. If <b>YES</b> to question 14:		
15. Do you get this on most days or nights?	<input type="checkbox"/>	<input type="checkbox"/>
16. Have you ever had attacks of shortness of breath with wheezing?	<input type="checkbox"/>	<input type="checkbox"/>
If <b>NO</b> to question 16, go to question 18. If <b>YES</b> to question 16:		
17. Was your breathing normal between attacks?	<input type="checkbox"/>	<input type="checkbox"/>
<b>Breathing Difficulty</b>		
18. Does your chest ever feel tight or your breathing become difficult?	<input type="checkbox"/>	<input type="checkbox"/>
<b>Smoking History</b>		
19. Do you, or did you, smoke more than 1 cigarette/day; a cigar/week; or 2 oz (50g) pipe tobacco/month for at least one year?	<input type="checkbox"/>	<input type="checkbox"/>
If <b>NO</b> to question 19, go to question 23. If <b>YES</b> to question 19:		
20a. How much do you (or did you) smoke each day? (no. of cigarettes/cigars)	_____	
20b. Roll-your-owns or pipes (number of grams/week)?	_____	
21. How old were you when you started smoking?	_____	
22. If you are an ex-smoker, how old were you when you gave up smoking permanently?	_____	
<b>Past Chest Illness</b>		
23. During the past three years have you had any chest illness that has kept you from your usual activities for a week or more?	<input type="checkbox"/>	<input type="checkbox"/>
If <b>NO</b> to question 23, go to question 26. If <b>YES</b> to question 23:		
24. Did you bring up more phlegm than usual during this illness?	<input type="checkbox"/>	<input type="checkbox"/>
25. Have you had more than one illness like this in the past three years?	<input type="checkbox"/>	<input type="checkbox"/>
26. Have you ever had asthma?	<input type="checkbox"/>	<input type="checkbox"/>
27. Have you ever had any other chest illness, injury or surgery?	<input type="checkbox"/>	<input type="checkbox"/>
<b>If yes, provide details:</b>		
.....		
.....		
.....		

SAMPLE ONLY

**SECTION III – LUNG FUNCTION TEST**

Height _____ (cm)	Age _____ (years)	Weight _____ (kg)
(must be measured)		

**Lung Function (Spirometry)**

Room Temp. \_\_\_\_\_ °C

Make:

Model:

Date of calibration (3-litre syringe) \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ Mandatory for all spirometers

**Measurement Results:**

(attach all spirometry printouts with flow volume graphs to this form)

*Three acceptable and reproducible results (within ± 0.15L)*

	Test 1	Test 2	Test 3
FEV <sub>1</sub>			
FVC			

Bronchodilator use: Yes  No

If yes, how long before test? \_\_\_\_\_ minutes/hours.

Comments (especially if any difficulty with spirometry):

.....

.....

.....

.....

SAMPLE ONLY

## SECTION IV – AUDIOMETRIC TEST

To be completed by the approved audiometric officer

Frequency: KHz	0.5	1.0	1.5	2.0	3.0	4.0	6.0	8.0
Right								
Left								

The following procedure should be used for recording of audiometric test results:

1. Enter the results "on-line" into WorkCover WA database.
2. Print the "Individual Test Summary" screen as part of the result entry process.
3. Transfer the results into Section IV of the Health Assessment Form.
4. Attach a copy of the "Individual Test Summary" to the Health Assessment Form.

Please Note: Attach WorkCover Form 19A or 19B if:

- There is a NIHL claim in progress
- The employee is over 70

Audiometric Officer: .....

Address: .....

Signature: ..... Date: ...../...../.....

Audiometric Officer Approval No.: .....

## SECTION V – CHEST X-RAY

Chest x-ray: Taken:  Not taken:

Please note:

The requirements for chest x-rays are detailed in *The Guide to Health Surveillance System for Mining Employees* (which can be downloaded from <http://www.dmp.wa.gov.au>). Most employees do not require a chest x-ray. If in doubt, contact Resources Safety on 9358 8461 for clarification. If a chest x-ray has been taken, ensure that it is attached to the Health Assessment Form.

## SECTION VI – RESULTS (Reg 3.31) - mandatory

Approved Persons and medical practitioners are required to:

- (a) Notify and explain results to the employee, and
- (b) Notify the employer of outcome and the need for remedial action (if any).

Mine worker advised of

Spirometry results	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Audiometric Results	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Chest x-ray Results	<input type="checkbox"/> Yes	<input type="checkbox"/> No

Employer advised of outcome:  Yes  No

Remedial action taken (please specify): \_\_\_\_\_

SAMPLE ONLY

Signature of Approved Person / Medical Practitioner ..... Date: ...../...../.....

## Appendix 2 — Occupation categories

100000

*Management and supervisory*

### **110000 General management occupations**

Financial manager  
Personnel manager  
Sales manager  
Purchasing manager

### **120000 Engineering occupations**

121000 Mining engineer  
122000 Mechanical engineer  
123000 Civil engineer  
124000 Chemical engineer  
125000 Metallurgical engineer  
126000 Petroleum engineer  
129000 Engineer NOC

### **130000 Professional and related occupations**

131000 Chemist  
132000 Geologist or geological assistant  
133000 Metallurgist  
134000 Environmental scientist or assistant  
135000 Surveyor  
136000 Draftsman  
137000 Health or medical occupations  
- Doctor  
- Occupational health nurse  
- First aid attendant  
138000 Industrial hygienist  
139000 Professional and related NOC

### **140000 Management or administration services**

141000 Security officer  
142000 Safety officer  
143000 Training officer  
144000 Personnel officer  
145000 Clerical or secretarial occupations  
146000 Township or accommodation occupations  
- Caretaker  
- Housekeeper or cleaner  
- Handyman  
- Gardener  
- Groundsman  
- Township or accommodation occupation NOC  
147000 Catering occupations  
- Cook  
- Catering assistant  
- Kitchen hand  
- Canteen attendant  
- Catering occupations NOC

148000 Cleaning or laundering occupations  
149000 Management or administrative services  
occupations NOC

**150000 Mine management occupations**

151000 Mine manager  
152000 Underground manager  
153000 Assistant underground manager  
154000 Under manager  
155000 Mine management occupations NOC

**160000 Supervisory occupations**

161000 Deputy (coal)  
162000 Foreman or shift boss underground  
163000 Foreman or shift foreman surface  
164000 Overman (coal)  
165000 Supervisor

**200000 Underground production and services**

**210000 Miners production or development (underground)**

211000 Contract miner  
212000 Coal miner (underground)  
213000 Non-contract miner (underground)  
214000 Trainee miner  
215000 Miner NOC  
216000 Miner's assistant

**220000 Long hole drill and blast occupations (underground)**

221000 Long hole drill operator  
222000 Long hole driller's assistant  
223000 Shotfirer  
224000 Shotfirer's assistant (charging)

**230000 Diamond drillers or raiseborers**

231000 Diamond drill operator  
232000 Diamond driller's assistant  
233000 Raiseborer operator  
234000 Raiseborer's assistant

**240000 Loading or transport occupations (underground)**

241000 Diesel loader operator  
242000 Mechanical bogger driver  
243000 Scraper operator  
244000 Locomotive driver  
245000 Truck driver  
246000 Plant operator  
247000 Underground personnel transport driver  
248000 Conveyor attendant or operator  
249000 Trucker

**250000 Ground or roof support occupations (underground)**

251000 Timberman  
252000 Roofbolter  
253000 Hydraulic fill operator

<b>260000</b>	<b>Services occupations (underground)</b>
261000	Ventilation occupations
262000	Tracklayer or platelayer
263000	Pipefitter
264000	Pumpman or pump attendant
265000	Nipper, salvageman or utilityman
266000	Underground crushing operator
266100	Grizzlyman or pass runner
267000	Underground labourer or tool carrier
268000	Sanitaryman
269000	Underground services occupations NOC

<b>270000</b>	<b>Underground winding and hoisting occupations</b>
271000	Winding engine driver
272000	Hoist driver
273000	Platman
274000	Skipman
275000	Braceman
276000	Brakeman
277000	Onsetter
279000	Winding and hoisting occupations NOC

## 300000 Mining production and services (surface)

<b>310000</b>	<b>Blast hole drilling surface</b>
311000	Blast hole drill operator
312000	Blast hole drill operator's assistant
313000	Air track or crawl air driller
314000	Sniper drill operator (rubber tyred)
<b>320000</b>	<b>Charging and blasting (surface)</b>
321000	Powder monkey, leading hand or shotfirer
322000	Powder truck driver
323000	Powder crew labourer
<b>330000</b>	<b>Exploration drilling (surface)</b>
331000	Driller
332000	Driller's assistant
<b>340000</b>	<b>Excavation equipment operators (surface)</b>
341000	Bucketwheel operator
342000	Bucketwheel operator's assistant
343000	Dragline operator
344000	Rope shovel operator
346000	Hydraulic excavator operator
347000	Dredge operator
348000	Front end loader operator
349000	Excavation equipment operator NOC
<b>350000</b>	<b>Mobile plant operator (surface)</b>
351000	Bulldozer operator
352000	Grader driver
353000	Backhoe operator
354000	Scraper driver
359000	Mobile plant operator NOC

**360000 Driving occupations (surface)**

- 361000 Haulage truck driver
- 362000 Water truck driver
- 363000 Explosives truck driver
- 364000 Fuel, grease or service truck driver
- 365000 Hiab truck driver
- 366000 Passenger vehicle driver or bus driver
- 367000 Equipment transport driver
- 369000 Driver NOC

**370000 Open cut service occupations**

- 371000 Greaser or oiler
- 372000 Quarry labourer or labourer
- 373000 Fuel and lubrication serviceman
- 374000 Wash bay operator
- 375000 Dump spotter
- 376000 Weighbridge operator

## 400000 Ore treatment occupations

**410000 Processing plant occupations**

- 411000 Processing plant operator
- 412000 Processing plant serviceman
- 413000 Processing plant utility worker

**420000 Mobile plant occupations**

- 421000 Front end loader operator
- 422000 Mobile plant operator NOC

**430000 Final product handling or transport occupations**

- 431000 Final product packer, loader or dumper operator
- 432000 Final product warehouse operator
- 433000 Final product handling or transport NOC

**440000 Sampling, assay, laboratory occupations**

- 441000 Laboratory technician, assistant or analyst
- 442000 Sample preparation operator
- 443000 Sampler or sample plant operator

## 500000 Railway operations occupations

**510000 Railway operator NOC**

**520000 Locomotive crews**

- 521000 Locomotive driver
- 522000 Observer
- 523000 Trainee observer
- 524000 Shunter locomotive driver

**530000 Track laying or maintenance**

- 531000 Ganger
- 532000 Platelayer
- 533000 Track maintenance machine operator
- 534000 Track labourer

## 600000 Metal working processing trades

### 610000 Sheet metal trades

611000 Metal patternmaker  
612000 Sheet metal worker  
613000 Coppersmith  
614000 Guillotine operator  
615000 Millwright

### 620000 Metal machining trades

621000 Metal machinist  
622000 Fitter or turner

### 630000 Fitter mechanical

631000 Fitter  
632000 Fitter — welder  
633000 Fitter — diesel  
634000 Fitter — pipe

### 640000 Structural steel trades

641000 Boilermaker or welder  
642000 Boilermaker  
643000 Welder

### 650000 Metal trades apprentices

651000 Sheet metal apprentice  
652000 Metal machining apprentice  
653000 Fitter's apprentice  
654000 Boilermaker's apprentice  
659000 Apprentice NOC

### 660000 Trades assistant

### 690000 Metal trades

691000 Tool and dye setter  
692000 Saw setter  
693000 Electroplater  
694000 Blacksmith  
695000 Shipwright  
696000 Instrument artificer  
697000 Lamp room mechanic or assistant  
698000 Toolmaker  
699000 Drill doctor

## 700000 Electrical or electronic trades

### 710000 Electrical trades

711000 Linesman  
712000 Electrical fitter  
712100 Cable splicer  
713000 Electrical mechanic  
714000 Automotive electrician  
715000 Refrigeration mechanic  
716000 Air conditioning mechanic  
717000 Electrical installer  
718000 Lift mechanic

	719000	Electrician NOC
<b>720000</b>		<b>Electronic trades</b>
	721000	Radio technician
	722000	Telecommunication technician
	723000	Telecommunication trainee
	724000	Signals technician
	725000	Instrument technician
<b>730000</b>		<b>Electrical or electronic apprentices</b>
	731000	Electrical apprentice
	732000	Electronic apprentice
<b>790000</b>		<b>Electrical trades assistant</b>
<b>800000</b>		<b>Miscellaneous trades or utilities</b>
<b>810000</b>		<b>Construction trades</b>
	811000	Bricklayer
	812000	Carpenter or joiner
	813000	Painter
	814000	Plasterer or tiler
	815000	Plumber or drainer
	816000	Rigger or ropesplicer
	817000	Scaffolder
	818000	Construction trades assistant
<b>820000</b>		<b>Conveyor belt repair occupations</b>
	821000	Belt repairer
	822000	Belt repairers assistant
	823000	Trainee belt repairer
	824000	Rubber repairer NOC
<b>830000</b>		<b>Motor or engine trades</b>
	831000	Motor mechanic
	832000	Diesel motor mechanic
	833000	Brake mechanic
	834000	Tyre fitter
	835000	Panel beater
	836000	Spray painter
	837000	Mechanic NOC
	838000	Trades assistant
	839000	Sand blaster
<b>840000</b>		<b>Power plant operators</b>
	841000	Power plant engine driver
	842000	Power plant trainee engine driver
	843000	Power plant greaser
	844000	Boiler attendant
	845000	Fireman
<b>850000</b>		<b>Water treatment plant operator</b>
<b>860000</b>		<b>Waste disposal equipment operator</b>
<b>870000</b>		<b>Gas supply service operator</b>
<b>890000</b>		<b>Utility operator NOC</b>

900000 Material handling – stores or warehouse occupations

**910000 Crane driving occupations**

- 911000 Mobile crane driver
- 912000 Tower crane driver
- 913000 Overhead crane driver (cabin controlled)
- 914000 Crane driver NOC
- 915000 Dogman or cranechaser

**920000 Fork lift operator**

**930000 Storemen NOC**

- 931000 Toolstore attendant

*NOC = not otherwise classified*

## Appendix 3 — Chest x-ray requirements

The work categories for which a chest x-ray may be required, depending on where and for how long the work was done, are listed below.

An x-ray is required for an employee who has worked in:

- any of the designated work categories within the Western Australian mining industry for ten or more years;
- any of the designated work categories in the mining industry in other states of Australia or other countries for five or more years; or
- any of the designated non-mining work categories for five or more years.

### *Designated work categories*

### *Mineral commodity*

#### **Underground mining**

Foreman/shift boss	All
Production/development	All
Longhole drill and blast	All
Diamond drillers/raise borers	All
Loading/transport	All
Ground/roof support	All
Service occupations	All

#### **Surface mining**

Blast hole drilling	*
Charging and blasting	*
Exploration activities – drilling/sampling	All
Open cut service occupations (e.g. dump spotters)	*
Sample preparation	*
Sampler	*
Sampler plant operator	*
Crushing/screening operator	*

#### **Non-mining**

Sandblasting

Tunnelling/road construction

Foundry work

Any occupations involving potential significant exposure to asbestos (e.g. asbestos removal occupations)

\* *construction materials (dimension stone, granite and silica sand), gold, nickel, silicon*