

# INVESTIGATION INFORMATION RELEASE

AUGUST 2020

## Open cut coal mine worker contracts coal workers' pneumoconiosis

**Event:** Open cut mine worker contracts work-related dust disease

**Location:** Undetermined

### Overview

A 61-year-old worker (Worker B) with about 41 years' coal mining experience, has been diagnosed with coal workers' pneumoconiosis. The NSW Resources Regulator has completed an investigation into how the worker may have contracted the disease.

### The worker

The worker was employed at numerous coal mines in Queensland between 1972 and 2015. He worked in underground coal mines for several years at the start of his career. For the remainder of his mining career, Worker B worked in open cut coal mines. In 2015, he began working at Maules Creek Mine in north-west NSW, where he remained working until he was certified as unfit for work in September 2019. His unfit-for-work status related to pneumoconiosis and a throat condition arising from an unrelated incident, in which he inhaled fumes from burning coal. His work history is summarised in Table 1.

The worker has also been diagnosed with emphysema, which was believed to have been caused by cigarette smoking.

Table 1 Work history of affected worker

Mine	Role	Key Tasks
Moura Underground Mine	cadet	Shovelling under belts, dragging cables.
Moura open cut – wash plant	labourer	Bull hose, stacker reclaim system, train loading, operating reject truck.
Riverside - open cut	various roles	Control room operator (4 years), Blast crew (5 years), Pre-strip (2 years), Remainder on coal crew (mobile plant operator).
Riverside mine – open cut	driller	Seismic drilling.
Goonyella Mine	supervisor	Pre-strip work – primarily loader and truck.
Peak Downs Mine	supervisor	Pre-strip work. Supervision using light vehicle.
Saraji Mine – open cut	operator	Coal preparation – dozer operation.
Burton Downs – open cut	operator and supervisor	Excavator and loader. Supervision using light vehicle.
Norwich Park – open cut	supervisor	Supervise pre-strip operations – light vehicle only.
Moura – open cut	supervisor	Supervision from light vehicle.
Peak Downs – open cut	operator	Coal preparation using D11 dozer.
Newlands Coal Mine (Suttor Creek Pit)	supervisor	Light vehicle work only.

South Walker Creek – open cut	supervisor	Supervisor – light vehicle operation.
Saraji Mine – open cut	superintendent	Primarily office based – some work in light vehicle.
Riverside – open cut	supervisor	Pre-strip coal – light vehicle operation only.
Isaac Plains – open cut	operator and assessor	Operating loaders, dozers, graders etc.
Burton Downs – open cut	superintendent	Primarily office based – one hour per day in light vehicle
Worked from home	manager	Office work.
South Walker Creek – open cut	supervision	Light vehicle operation only.
Peak Downs – open cut	operator	Heavy mobile plant operation.
Maules Creek Coal	operator	Heavy mobile plant operation – dozers, excavators, diggers and graders.

## Workplace dust conditions

The worker told investigators that he experienced various mine conditions during his career.

### Moura underground mine – 1972 to 1976

The worker was a cadet manager in Moura Underground Mine (Numbers 1, 2, 3 and 4). He told investigators he mostly worked shovelling under conveyors in returns. He said he felt dust conditions at the Moura mines were ‘quite good’ and he only ‘felt the need to wear respiratory protective equipment (RPE) when a dry load of coal came along the conveyor’. He said he wore paper masks on those occasions, but found they were generally ineffective as they tended to ‘disintegrate when he sweated’.

## Queensland open cut mines – 1977 to 2015

Worker B performed a broad variety of roles during his 38-year Queensland open cut mining history, including:

- labourer
- washery plant operator
- mobile plant operator
- supervisor
- superintendent.

He said that with the exception of his time as a superintendent, most of his career was spent working in the operational areas of mines. Worker B relayed some common observations during this period to investigators.

### Education about dust issues

The worker said that during most of this period he was not given any training or education about dust management and safety. He noticed that from about 2008, some mine operators began focusing on dust issues and were encouraging workers to take precautions. However, in general terms, any focus on dust issues was considerably less than that given to other hazards in the workplace.

### Use of dust masks

The worker stated that except for rare occasions, he did not wear dust masks. As he generally worked in enclosed cabins, he felt that he was adequately protected from exposure to dust.

### Condition of mobile plant and light vehicles

The worker said he found mobile plant at the mines to be generally in good condition and well maintained. Cabins were pressurised and had effective air conditioning and filtration systems.

He said he found the condition of light vehicles that he operated to be 'very good'. He said that at several mines, the light vehicle that he used was his own and something he took very good care of.

## **Maules Creek Coal (NSW open cut) – 2015 to present**

### **Induction and training**

Worker B said he undertook several days of induction when he started at the mine, however he could not recall being given any information about dust management or protection.

The mine operator provided the Regulator with records from inductions attended by the worker in 2014 and 2018. These records showed the worker was provided with information about dust control (of note, the 2018 induction was much more detailed than that undertaken in 2014). In addition, the mine operator stated it provided regular presentations to workers about the importance of effective dust management.

### **Mobile plant conditions**

The worker said that in his opinion the condition of mobile plant he operated at this mine was 'poor'. He said the cabins were prone to leaking because they had missing and flattened seals. He said he often brushed out cabins at the start of each shift and developed a practice of putting rags between the door and the cabin to reduce dust leakage. He said the condition of mobile plant at the mine had 'improved over the past 12 months'.

The mine operator has refuted the worker's assertions about the condition of mobile plant. The mine stated that cabin seals were inspected during scheduled maintenance and smoke bomb tests were performed at every major service. In addition, it contended that as all cabins were air conditioned, if seals were missing or flattened (which it does not accept was the case), the air escaping from the cabin would prevent dust from entering.

### **Road conditions**

The worker said when he first began working at the mine, road conditions were 'quite good'. At that time, roadways were blanket watered. The worker also said that 'about 12 months ago', road conditions worsened when roads at the mine began being only spot watered (water applied to the roadway intermittently). The worker believed there was a noticeable increase in the amount of dust that roads at the mine were producing as a result.

In response, the mine operator stated that its default watering method was blanket spraying with a dry line, but its procedures did also provide options for strip and spot spraying. It did not accept that strip and spot spraying resulted in an increase in the amount of dust that roadways at the mine were producing and pointed to several monitoring processes that supported this position.

## Use of dust masks

Worker B said he never wore a dust mask at the mine and never saw any one else wear one. He said he wasn't issued a dust mask when he started at the mine, nor was he told where he could obtain one.

The mine operator agreed that the worker would not have been issued a dust mask at the commencement of his employment however contended that all mine workers were shown where they could access personal protective equipment. In addition, the mine operator provided evidence to the Regulator that dust masks were stocked and made available to workers when requested.

## Health monitoring

### Queensland

Worker B said he did not participate in any structured health monitoring while he was in Queensland. He said the only assessments of his health were pre-employment medicals facilitated by prospective employers. In the early years, this consisted of a physical examination only, but was later expanded to include spirometry and functional assessments. He said he could not recall having a chest X-ray or CT during his mining career in Queensland.

### NSW

Worker B participated in workplace health monitoring conducted by Coal Services Pty Ltd between 2015 and 2019. Some changes were noted on X-rays and CT scans conducted in 2016, but they were not thought to be associated with a dust disease at that time.

Further testing in 2019 identified abnormalities that resulted in the worker being referred to a respiratory specialist.

In September 2019, the worker was diagnosed as having coal workers pneumoconiosis.

## Workplace dust and silica monitoring

### Queensland

The worker said he was unaware of sampling having been conducted at any of the mines that he worked at in Queensland.

## Maules Creek Coal

Coal Services undertook sampling for atmospheric respirable dust and silica at Maules Creek between 2015 and 2019. Fifty-seven workers were sampled during that period. Two workers were found to exceed the workplace exposure standard for silica of 0.1 mg/m<sup>3</sup> (0.12 and 0.25). Worker B was not sampled during this period.

## The investigation

The Regulator's investigation has involved:

- obtaining relevant medical reports
- conducting a detailed interview with Worker B to obtain his work and health history
- obtaining information from the worker's general practitioner, treating specialist and Coal Services
- reviewing and analysing the information obtained.

## Findings

- The worker has contracted pneumoconiosis due to 'prolonged and multiple heavy dust exposures in Queensland and NSW, without in many case, RPE. He has also had exposure to carcinogens such as of course, diesel and silica and cigarettes,' as per his treating doctors' diagnosis.
- In consideration of the specific nature of the medical diagnosis and the worker's employment history, the Regulator has found it is reasonable to conclude that the worker's condition is related to his work as a coal miner. However, it cannot reasonably be determined, based on a review of the evidence obtained, whether the worker contracted the disease as a consequence of exposure while working at a particular mine.
- The worker said he rarely wore respiratory protective equipment. It is noted that respiratory protective equipment is the last line of defence in the control of airborne dust inhalation, as per the hierarchy of control.
- The worker's prognosis was unclear at the time of writing.

## Recommendations

Existing and former coal workers are encouraged to maintain their scheduled screening and to contact Coal Services to arrange a medical examination if they have any concerns about their respiratory health.

Coal Services has the following guidance material available:

- [Prevention of pneumoconiosis in NSW - Information for workers in the NSW coal mining industry](#)
- [Protecting against airborne dust exposure in coal mines](#)

Mine operators should ensure the adequacy of the principal hazard management plan for airborne contaminants. The review should include:

- the hierarchy of controls
- all dust suppression measures, including the method of mining
- mine ventilation to remove dust
- all personal protective equipment (PPE) supplied to filter dust
- atmospheric monitoring
- worker monitoring
- worker education and supervision.

Further guidance published by the Regulator is available at:

- [Guide - Airborne contaminants principal hazard management plan](#)
- [Fact sheet - Airborne contaminants](#)
- [Investigation information release - Serious illness \(Worker Y\) - May 2019](#)
- [NSW Resources Regulator publication - Dust safety in the metals and extractives industries](#)

## About this information release

The NSW Resources Regulator has issued this information to draw attention to the occurrence of a serious illness in the mining industry. Further information may be published as it becomes available.

The information contained in this publication is based on knowledge and understanding at the time of writing. However, because of advances in knowledge, users are reminded of the need to ensure that the information upon which they rely is up to date and to check the currency of the information with the appropriate officer of the NSW Resources Regulator or the user's independent adviser.

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