

MINERS' HEALTH MATTERS

Cut the Dust Conference 2020

Scheme Reforms for Queensland Coal Mining

25 February 2020

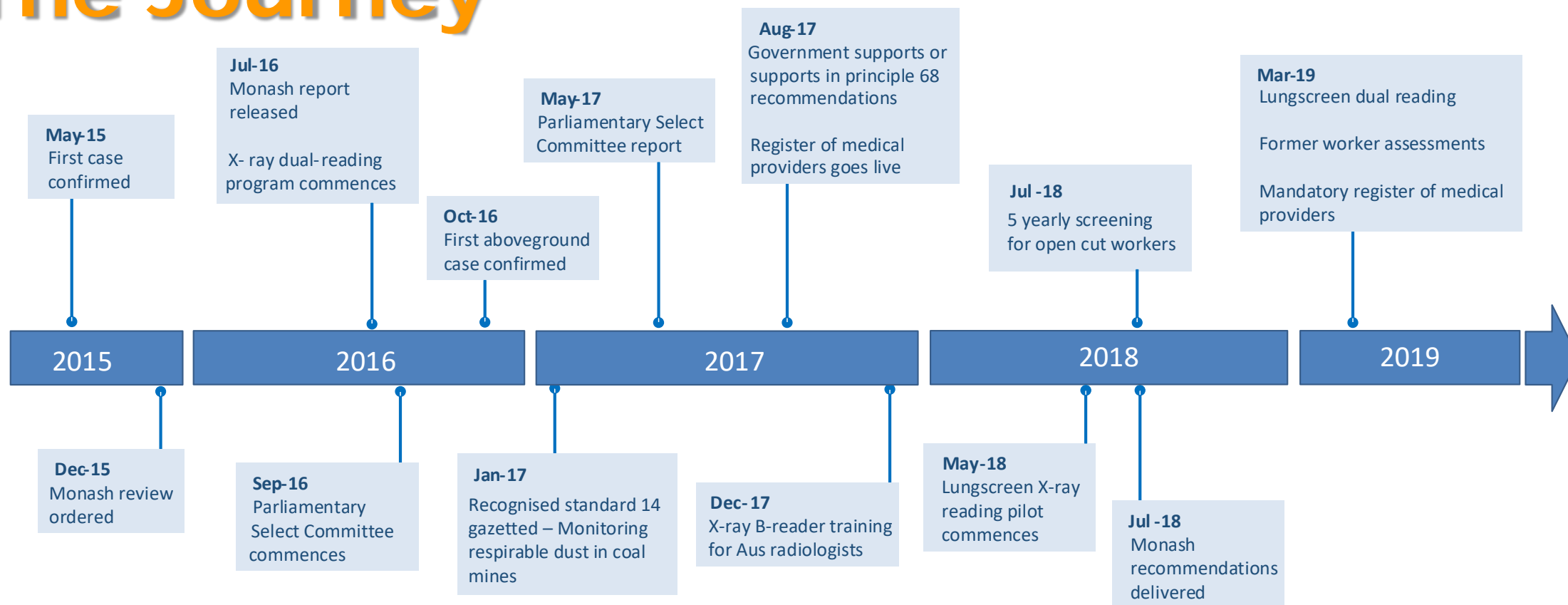
Prevention › Detection › Support

search **miners-health-matters**

**“The past is where you learned the lesson.
The future is where you apply the lesson.
Don't give up in the middle!”**

Dale Carnegie

The Journey



MINERS' HEALTH MATTERS

2012

Early detection

- 52 year old coal mine worker
- Commenced open cut 2008
- Non-smoker
- 2nd Health Assessment under the Scheme



3.9 Respiratory system

Litres	Observed		Predicted		Observed/Predicted %	
Forced exp. Vol. 1 sec- FEV ₁	(b)	4.27	(e)	3.78	(h)	113
Forced vital capacity - FVC	(c)	5.05	(f)	4.73	(i)	107
FEV ₁ /FVC%	(d)	85	(g)	78		

- 3.10 Spirometry (abnormal includes FEV₁/FVC < 70%) Abnormal Normal
- 3.11 Auscultation of chest Abnormal Normal
- 3.12 (a) Was chest x-ray undertaken (as advised by employer) Yes No

Examination Details

Date of Examination by EMO

22/08/2012

Position (e.g. job title (generic))

PLANT OPERATOR

Is the assessment for underground work?

Yes No

As at the date of this examination, the coal mine worker:

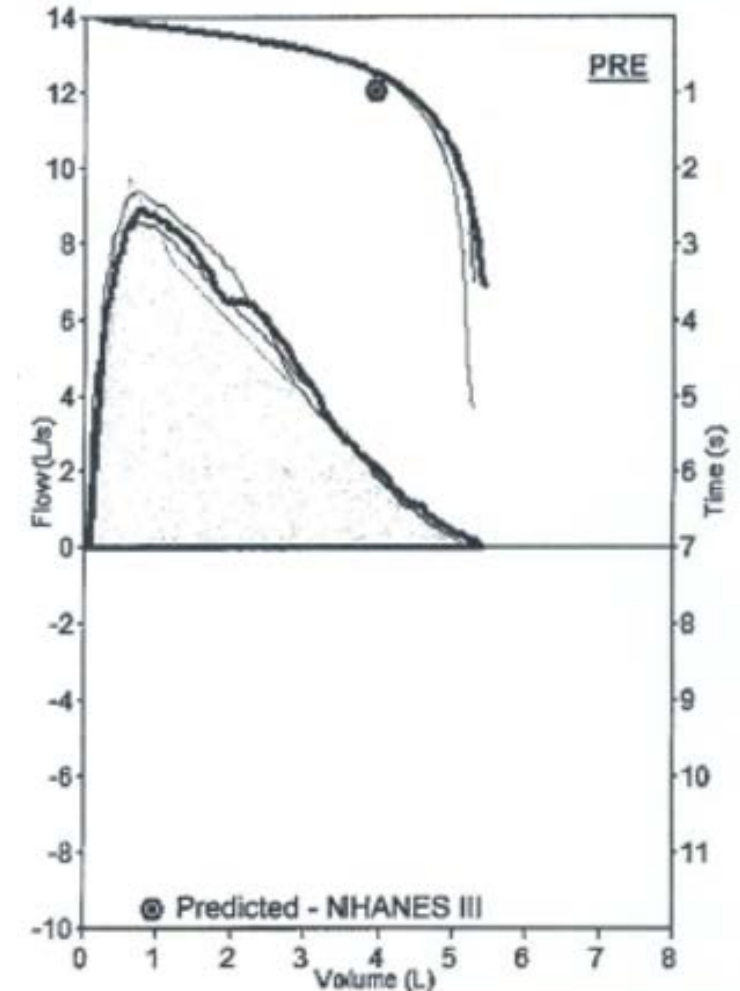
Is fit to undertake any position

Is fit to undertake the proposed / current position

Is suitable for and has no condition which precludes participation in mines rescue - See Mines Rescue Medical Guidelines

For Queensland Mines Rescue Service personnel / applicants only.

Flow / Volume Loop and Volume / Time Curve



MINERS' HEALTH MATTERS

13 May 2015



**Review of Respiratory Component of the
Coal Mine Workers' Health Scheme
for the Queensland Department of Natural
Resources and Mines**

Final Report

Monash Centre for Occupational and Environmental Health
School of Public Health & Preventive Medicine
Faculty of Medicine, Nursing and Health Sciences
Monash University

In collaboration with

School of Public Health
University of Illinois at Chicago

12th July 2016



**Black lung
white lies**

**Inquiry into the re-identification of Coal
Workers' Pneumoconiosis in Queensland**

*The first priority and concern of all in the coal mining industry must be the health and safety of
its most precious resource – the miner.*

Section 2(a), Federal Coal Mine Safety and Health Act of 1969 U.S. Public Law 91-173 (USA)

Report No. 2, 55th Parliament

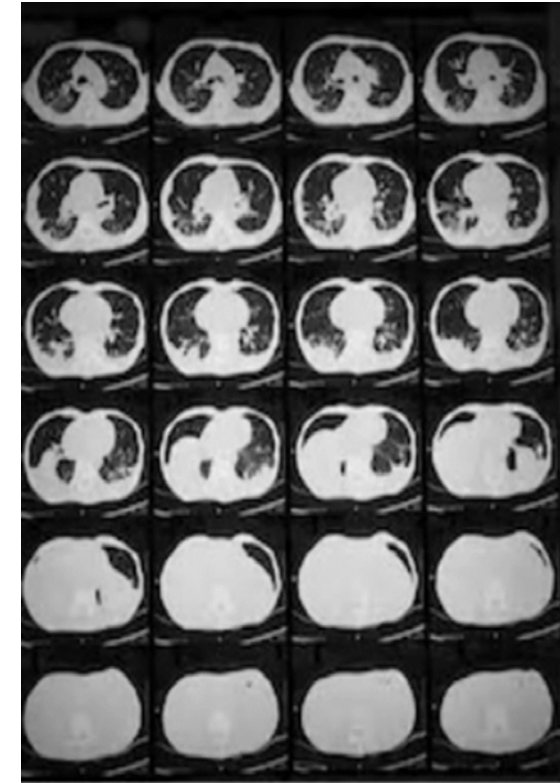
Coal Workers' Pneumoconiosis Select Committee

May 2017

MINERS' HEALTH MATTERS

2017

Changes to the scheme



MINERS' HEALTH MATTERS

Lung checks for former workers



MINERS' HEALTH MATTERS

You are entitled to a
free lung check

It does not matter if you work in open cut or in underground mining. If you are a Queensland coal miner, your employer is required by law to pay for you to get a respiratory health check. This is part of an ongoing effort to make sure lung disease from mine dust is prevented and detected early.

If you are retired, or no longer working in the industry, call (07) 3818 5420 and we will give you one for free.

Protection > Detection > Support

search miners-health-matters

 Queensland Government



Geoff

DNRME Queensland

Level 16, 61 Mary Street
City East, Qld 4002

Radiograph Interpretation Form

Note: Please record your interpretation of a single radiograph by placing an "x" in the appropriate boxes on this form. Classify all appearances described in the ILO International Classification of Radiographs of Pneumoconiosis or Illustrated by the ILO Standard Radiographs. Use symbols and record comments as appropriate.

1. IMAGE QUALITY		<input type="checkbox"/> Overexposed (dark)	<input type="checkbox"/> Improper position	<input type="checkbox"/> Underinflation	<u>excess edge enhancement</u>																																																	
<input checked="" type="checkbox"/> 1	<input checked="" type="checkbox"/> 2	<input type="checkbox"/> Underexposed (light)	<input type="checkbox"/> Poor contrast	<input type="checkbox"/> Motion																																																		
(If not Grade 1, mark all boxes that apply)		<input type="checkbox"/> Artifacts	<input type="checkbox"/> Poor processing	<input checked="" type="checkbox"/> Other (please specify)																																																		
2A. ANY CLASSIFIABLE PARENCHYMAL ABNORMALITIES?		YES <input checked="" type="checkbox"/>		Complete Sections 2B and 2C	NO <input type="checkbox"/> Proceed to Section 3A																																																	
2B. SMALL OPACITIES		2C. LARGE OPACITIES																																																				
<table border="1"> <tr> <th colspan="2">a. SHAPE SIZE</th> <th colspan="2">b. ZONES</th> <th colspan="3">c. PROFUSION</th> </tr> <tr> <th>PRIMARY</th> <th>SECONDARY</th> <th>R</th> <th>L</th> <th>0</th> <th>1</th> <th>2</th> </tr> <tr> <td><input checked="" type="checkbox"/> s</td> <td><input checked="" type="checkbox"/> p</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/> q</td> <td><input type="checkbox"/> t</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> <tr> <td><input type="checkbox"/> r</td> <td><input type="checkbox"/> u</td> <td><input checked="" type="checkbox"/></td> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table>		a. SHAPE SIZE		b. ZONES		c. PROFUSION			PRIMARY	SECONDARY	R	L	0	1	2	<input checked="" type="checkbox"/> s	<input checked="" type="checkbox"/> p	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> q	<input type="checkbox"/> t	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> r	<input type="checkbox"/> u	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<table border="1"> <tr> <th>SIZE</th> <th>0</th> <th>1</th> <th>2</th> </tr> <tr> <td><input checked="" type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> <td><input type="checkbox"/></td> </tr> </table>		SIZE	0	1	2	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Proceed to Section 3A							
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		If other diseases or significant abnormalities (OD), findings must be recorded on reverse. (section 4C:4D) (See reverse for other symbol definitions.)		Date Physician or Worker notified? (mm-dd-yyyy)																																																		
4E. Should worker see personal physician because of findings in section 4? YES		NO <input checked="" type="checkbox"/>																																																				



Early detection

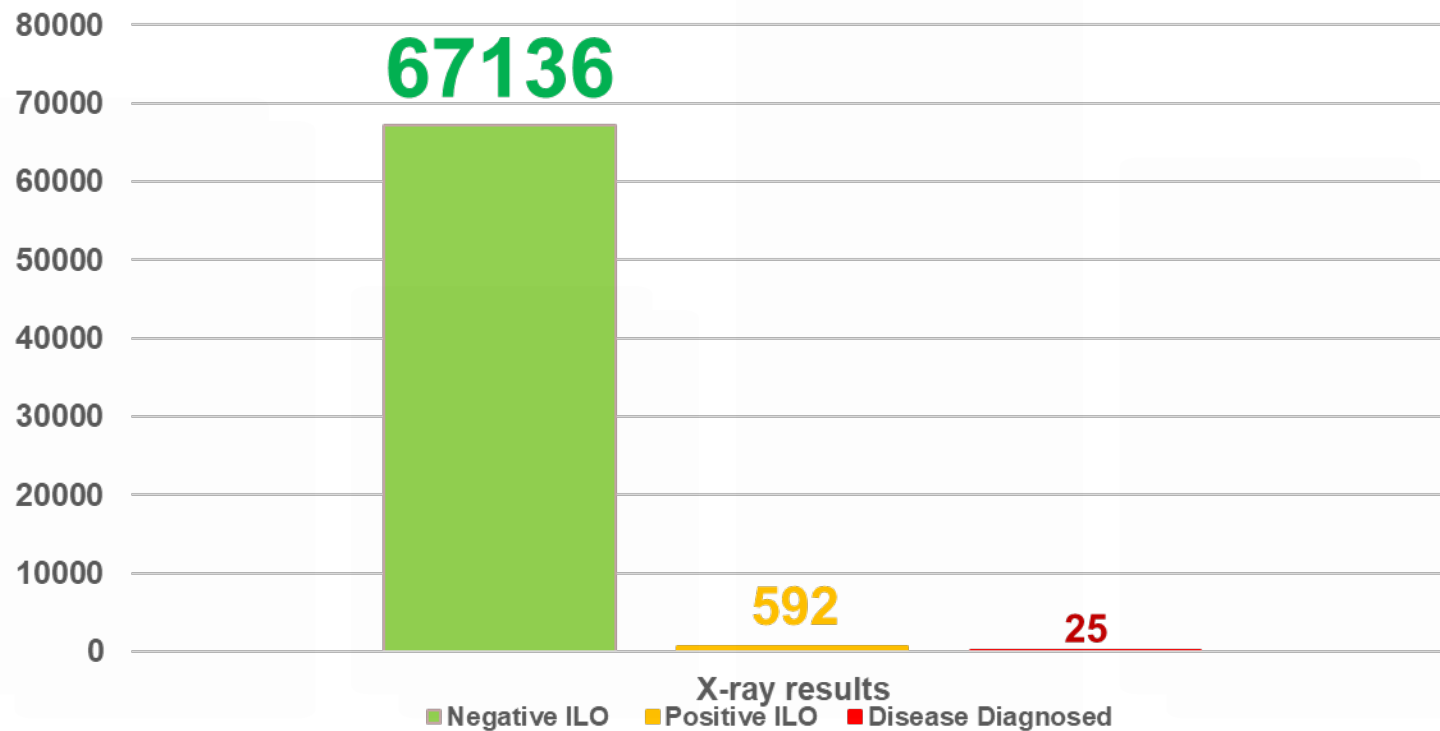
- Dust restrictions
- Personal and static monitoring
- Miner + Doctors + Employer working together
- Regular health reviews under the Scheme

SAMPLER
(sampling head)

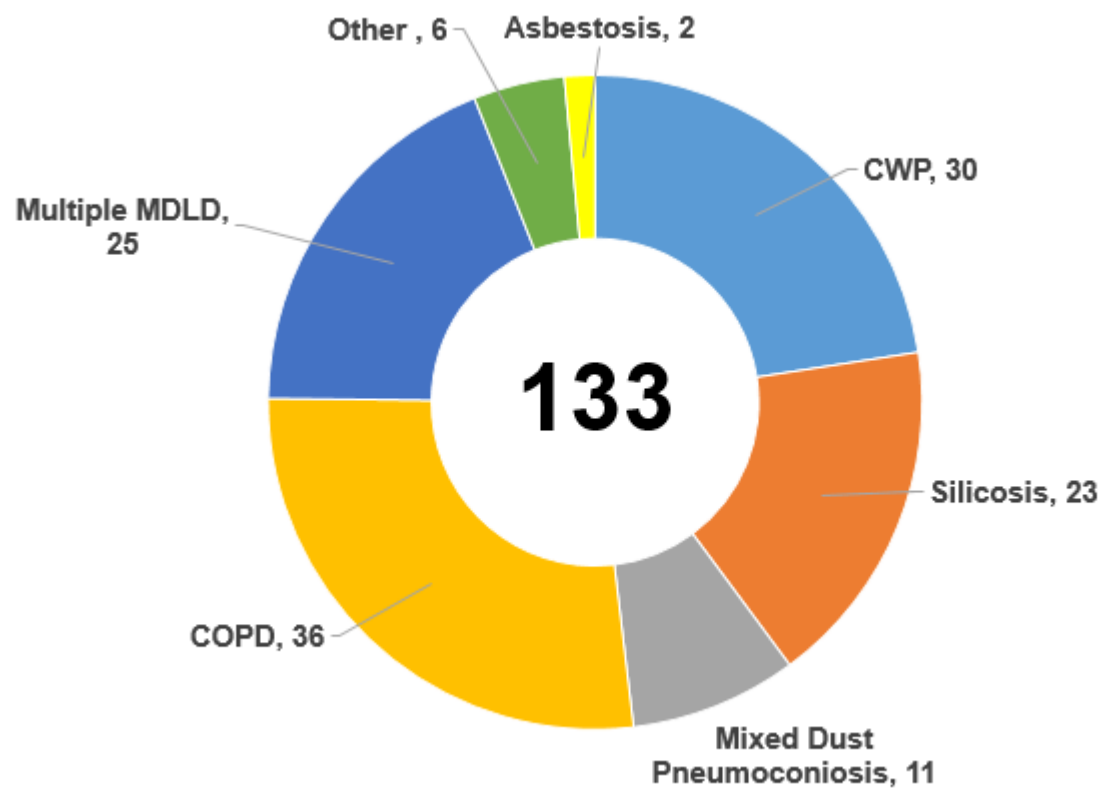


SAMPLING PUMP

Chest X-ray screening results



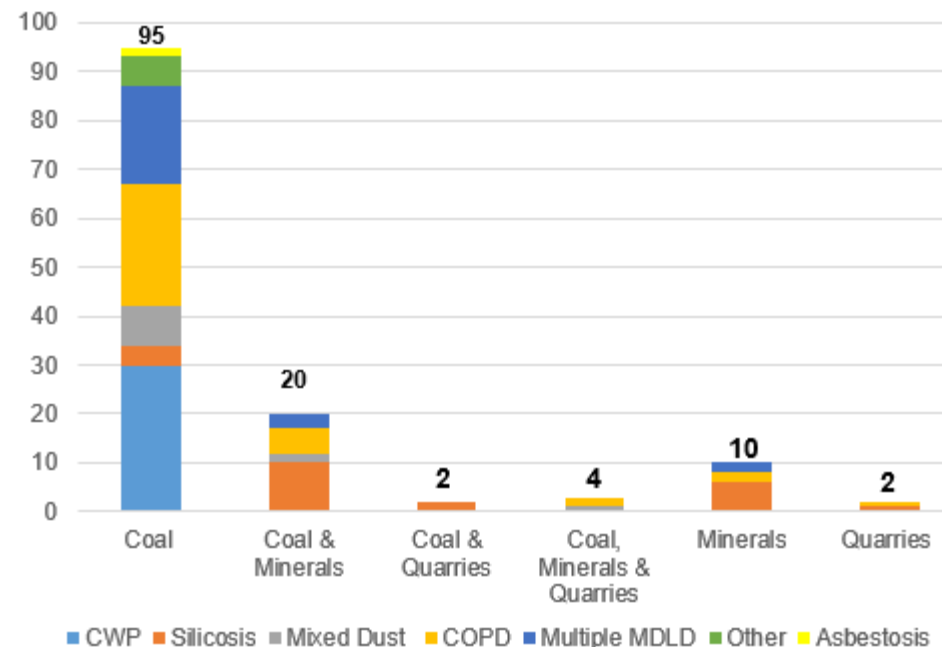
Disease reporting



Disease reporting

- 79% > 50 years old
- 46% underground
- 34% surface
- 32% interstate/international

MDLD by Mining Sector



Working to the future



What actually causes dust disease?



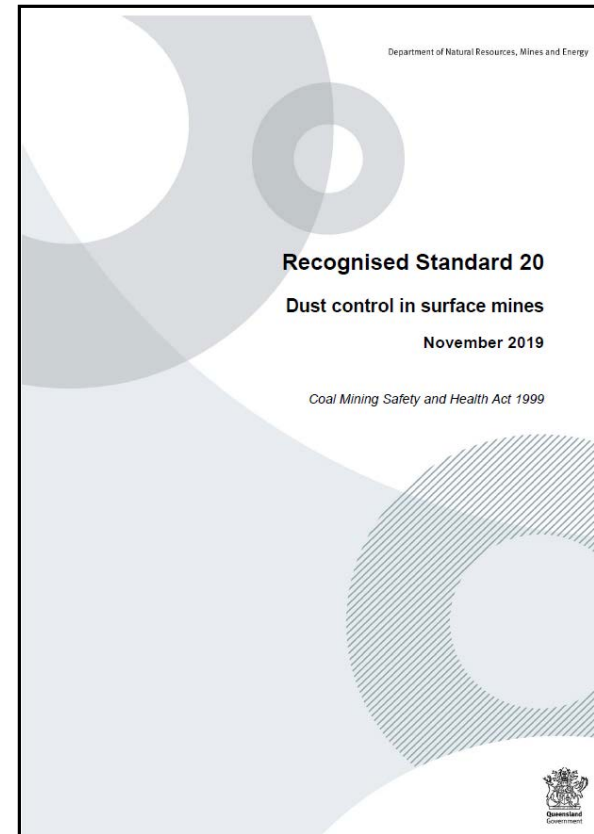
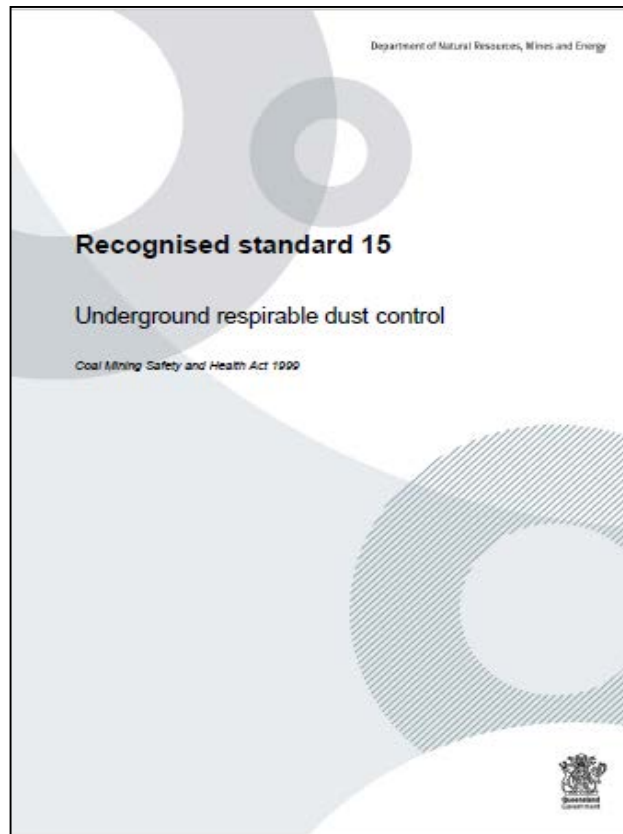
QLD Coal Mining Legislation provides for:

- Identify Dust hazards **PLAN**
- Control Dust levels **NO**
- Monitor Dust exposures **CHECK**
- Investigate and address high exposures **NO**
- Monitor to ensure effective control **REVIEW**
- Health surveillance **NO Disease**

Key reforms

- Dust control recognised standards
- Risk based monitoring programs
- Dust data reporting requirements
- Mandatory & quality health surveillance

Focus on controls



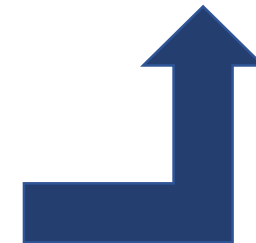
RS 15 – Dust control in underground mines

Foam System

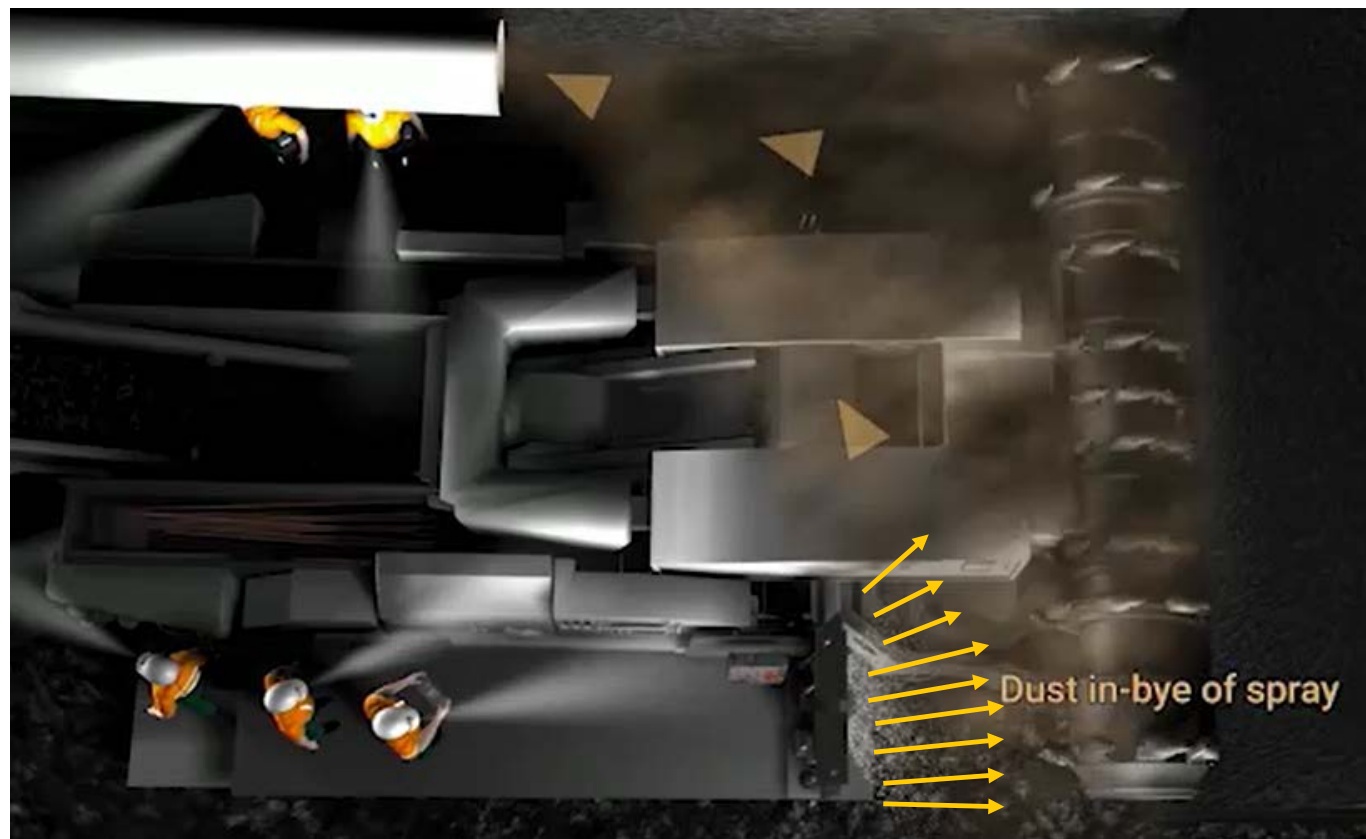
Poly Curtain Spray



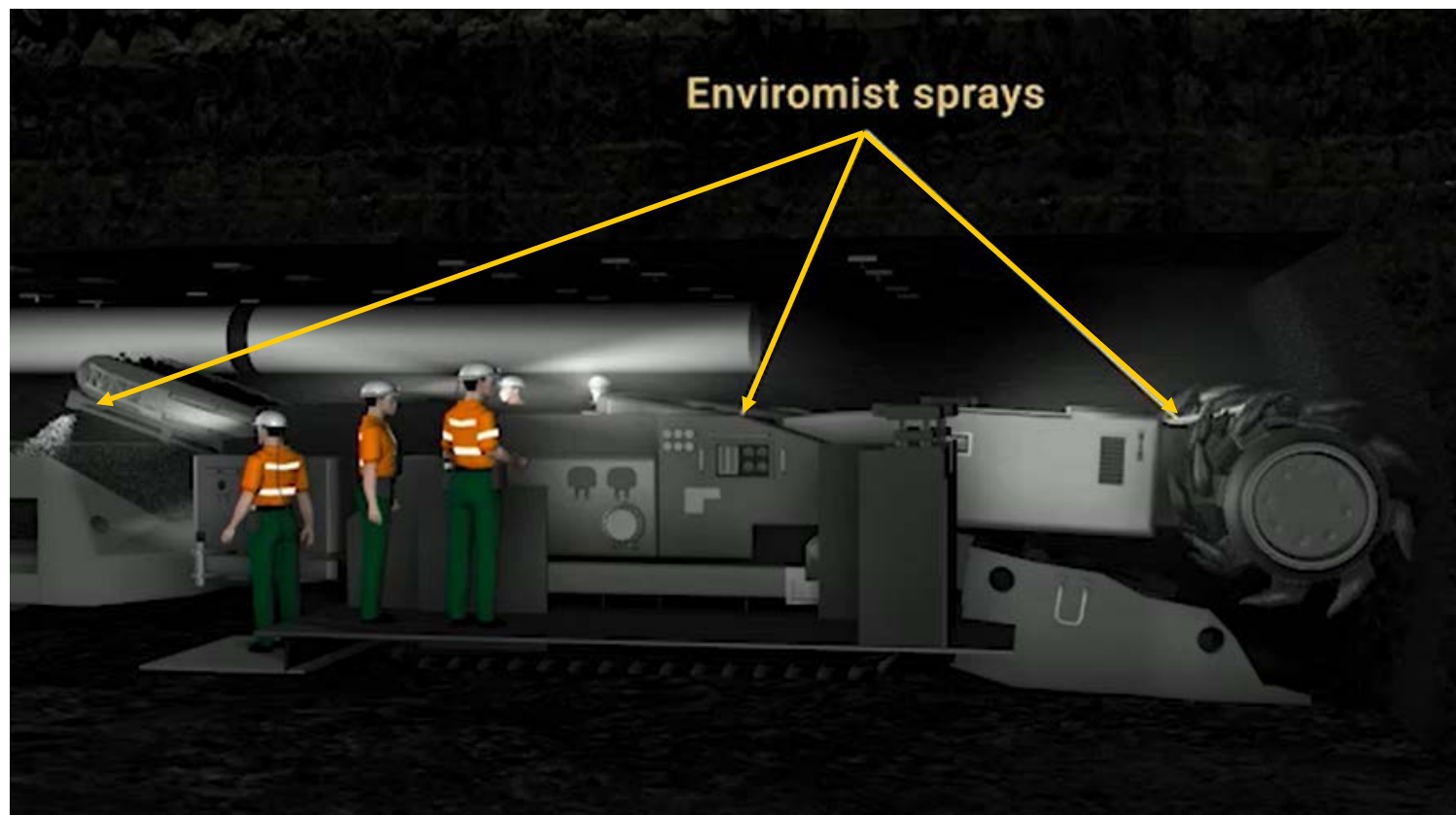
Enviromist System



Poly curtain Spray



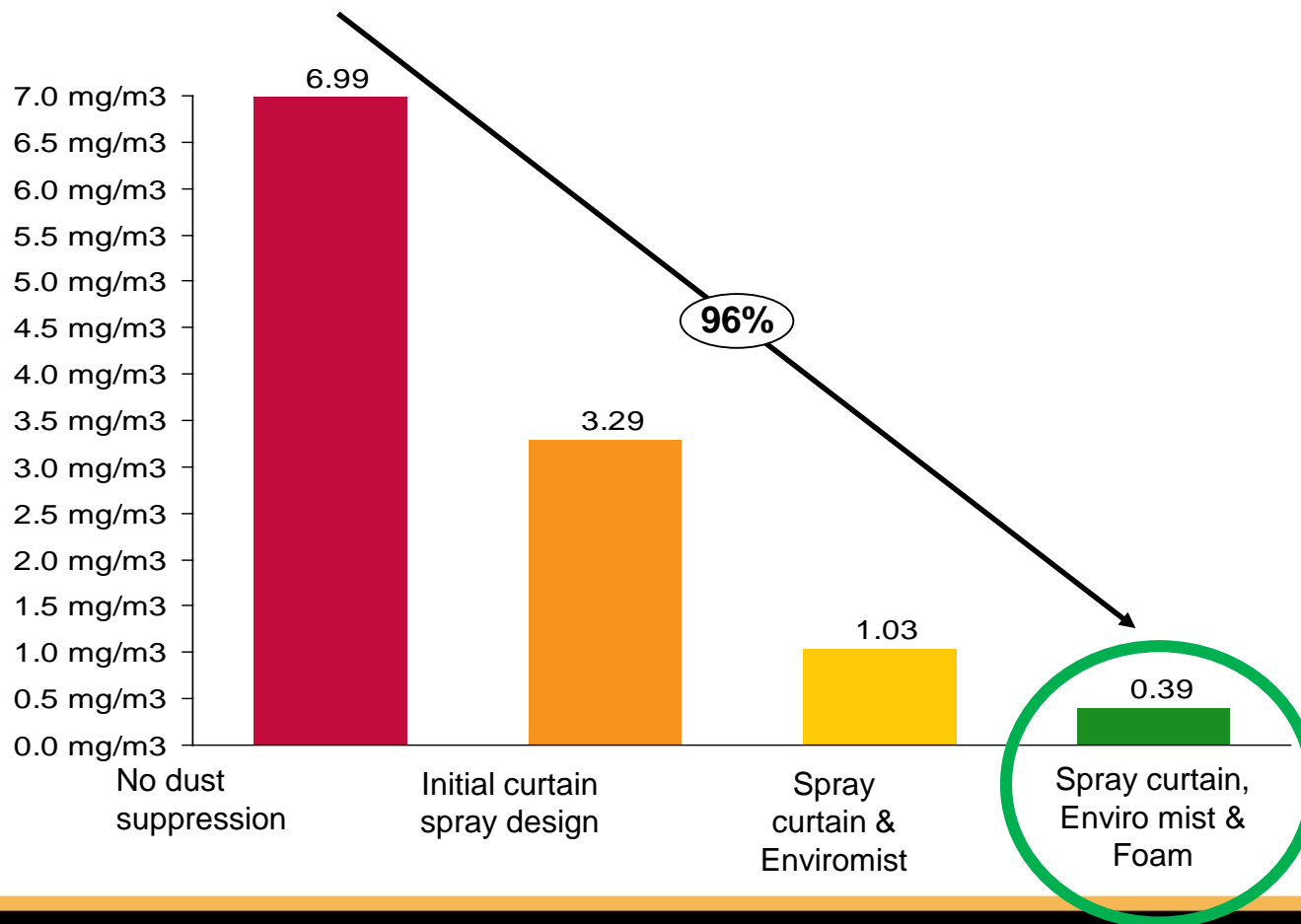
Enviromist system



Foam System



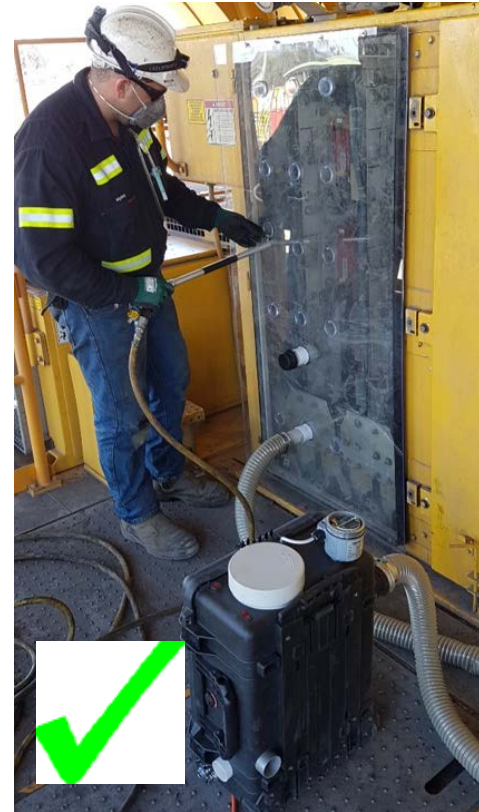
Control validation



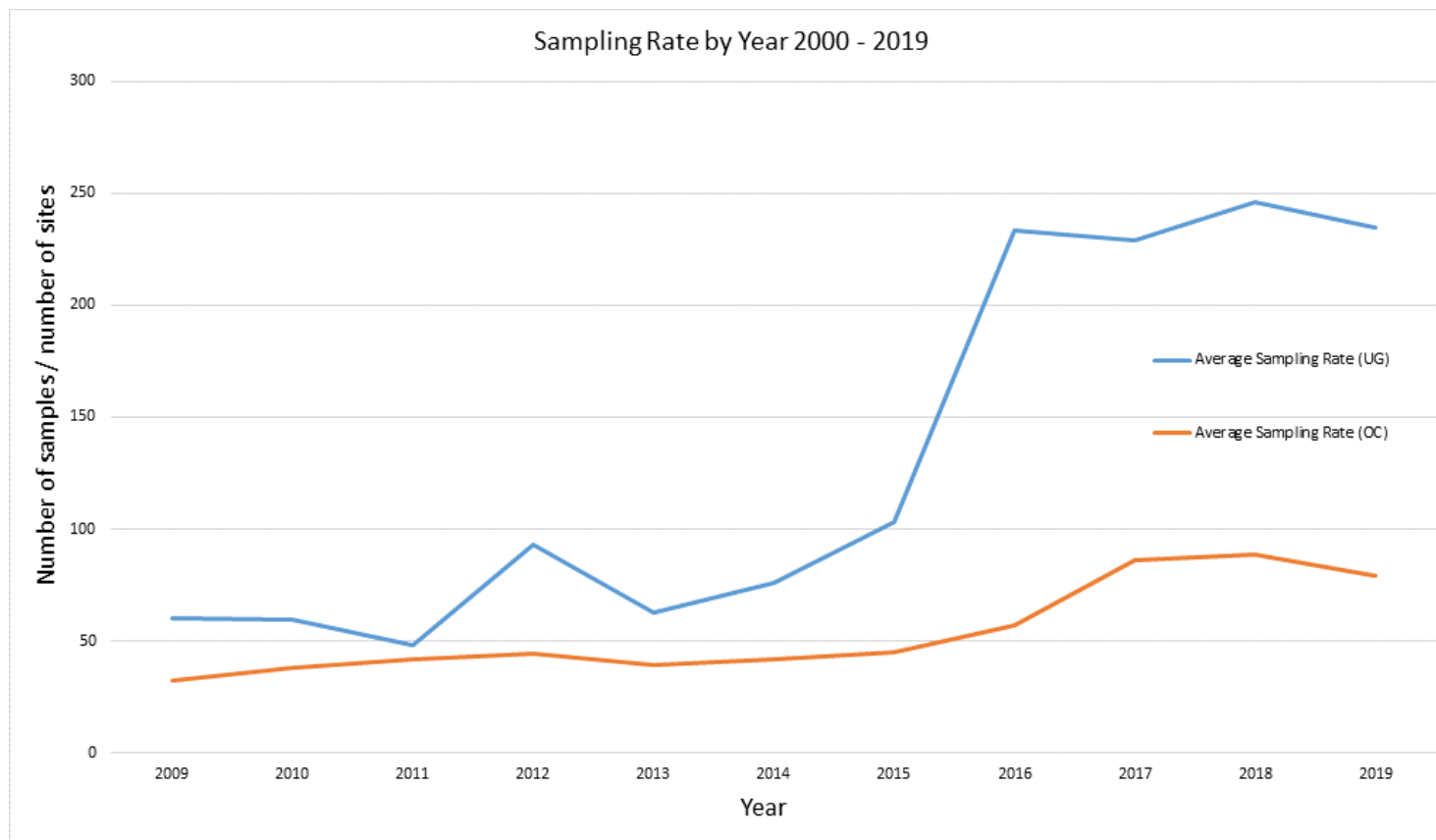
RS 20 – Dust control on surface coal mines



Field Maintenance: Portable LEV (pLEV)

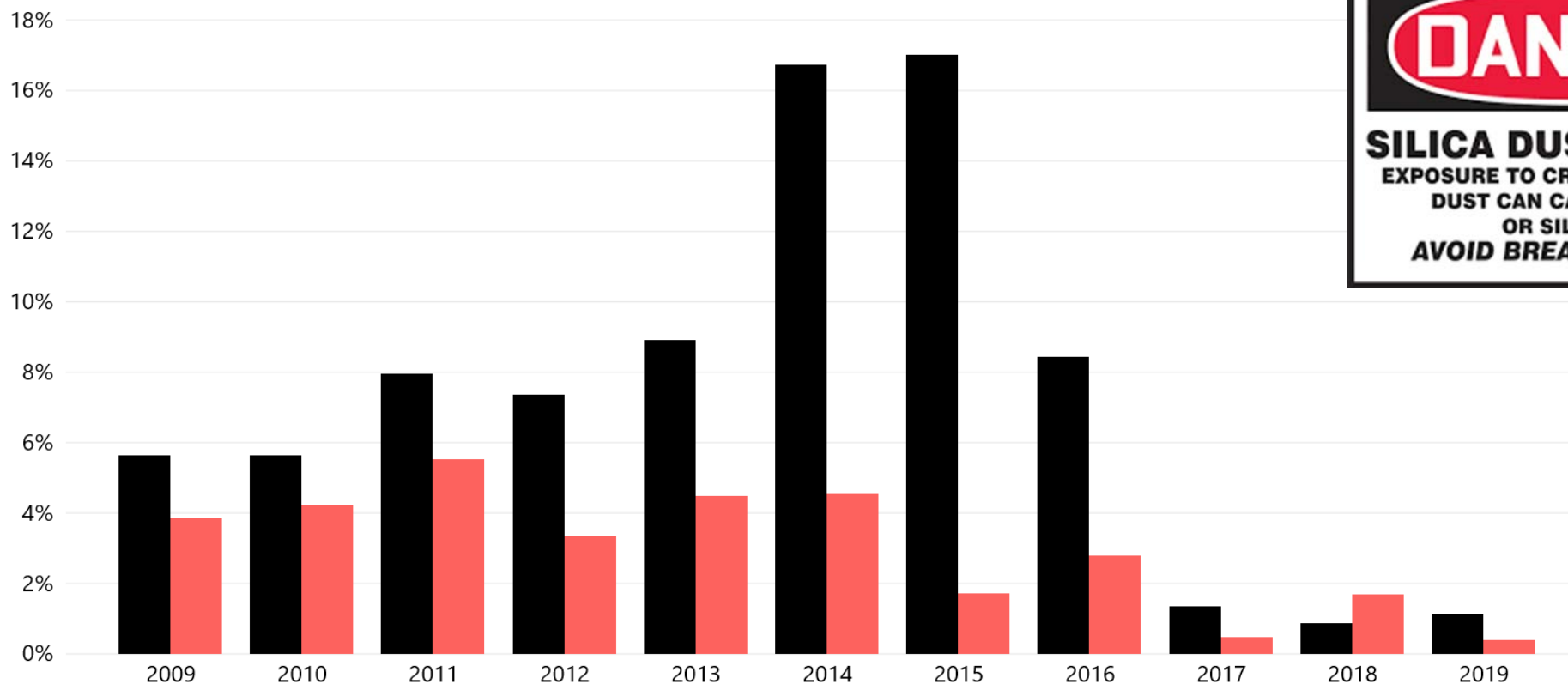


RS 14 – Risk based monitoring

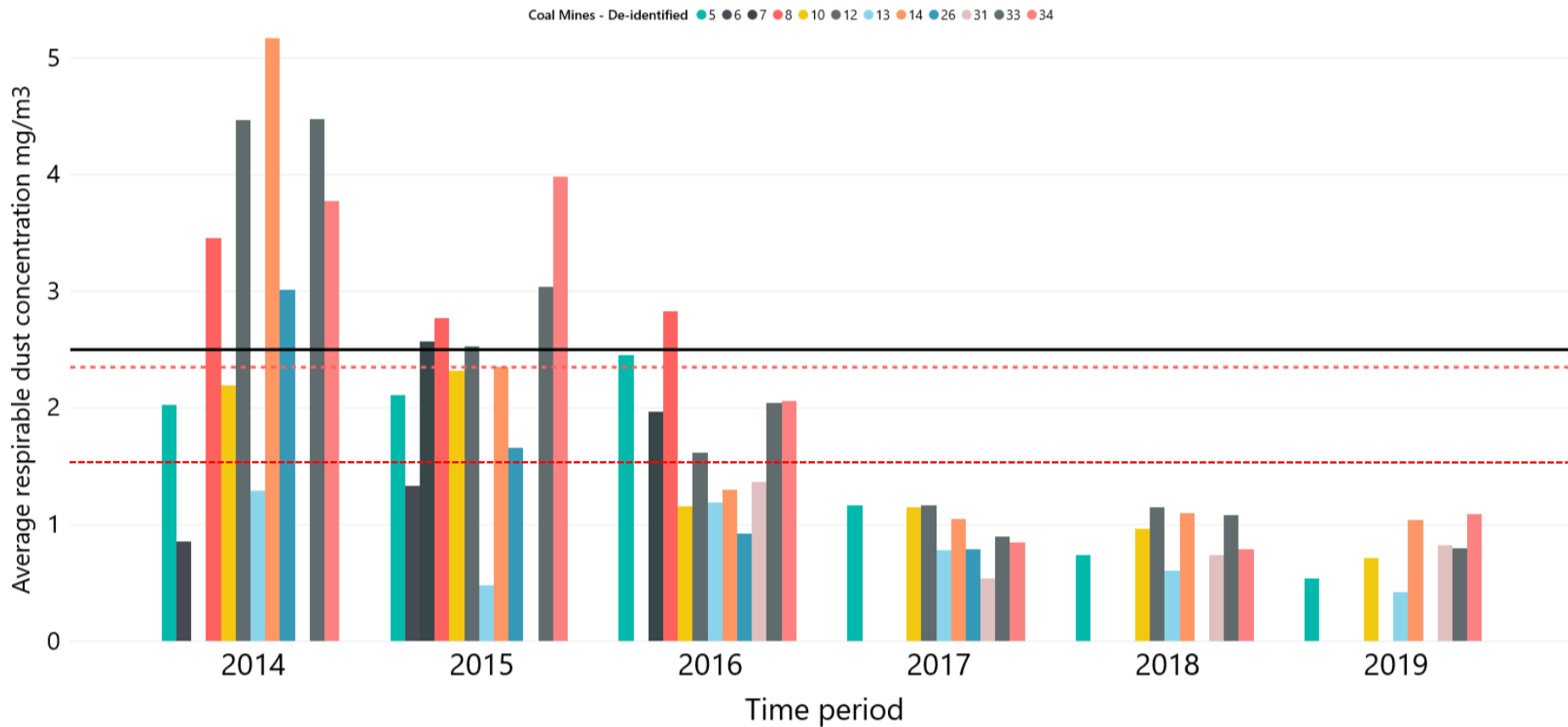


Every sample analysed for silica

● Respirable Dust ● Respirable Quartz



Reporting of Data



It doesn't stop with respirable dust!



Summary

- Dust monitoring is important
- Quality health surveillance is important

BUT

- The key to disease prevention is dust control



Kerri Melkersson

A/Executive Director

Occupational Health and Hygiene

Resources Safety and Health

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