

H. Dust monitoring data

Under s. 89 of the Coal Mining Safety and Health Regulation 2017, mines must ensure each coal mine worker's exposure to respirable dust at the mine is kept to an acceptable level and the average concentration of coal and silica dust in the atmosphere in which the worker breathes does not exceed 2.5mg/m³ air and 0.1mg/m³ air respectively.

As dust monitoring is not conducted on every worker on every day across every task, workers are grouped because they perform similar tasks or use the same types of materials or processes. These groups are called 'similar exposure groups' (SEGs).

The sampling provides an average concentration that the worker was exposed to over their shift. This can then be compared to the occupational exposure limit, as stated above, 3mg/m³ for respirable dust and 0.1mg/m³ for respirable silica (prior to 1 November 2018), and 2.5mg/m³ for respirable dust and 0.1mg/m³ for respirable silica (after 1 November 2018).

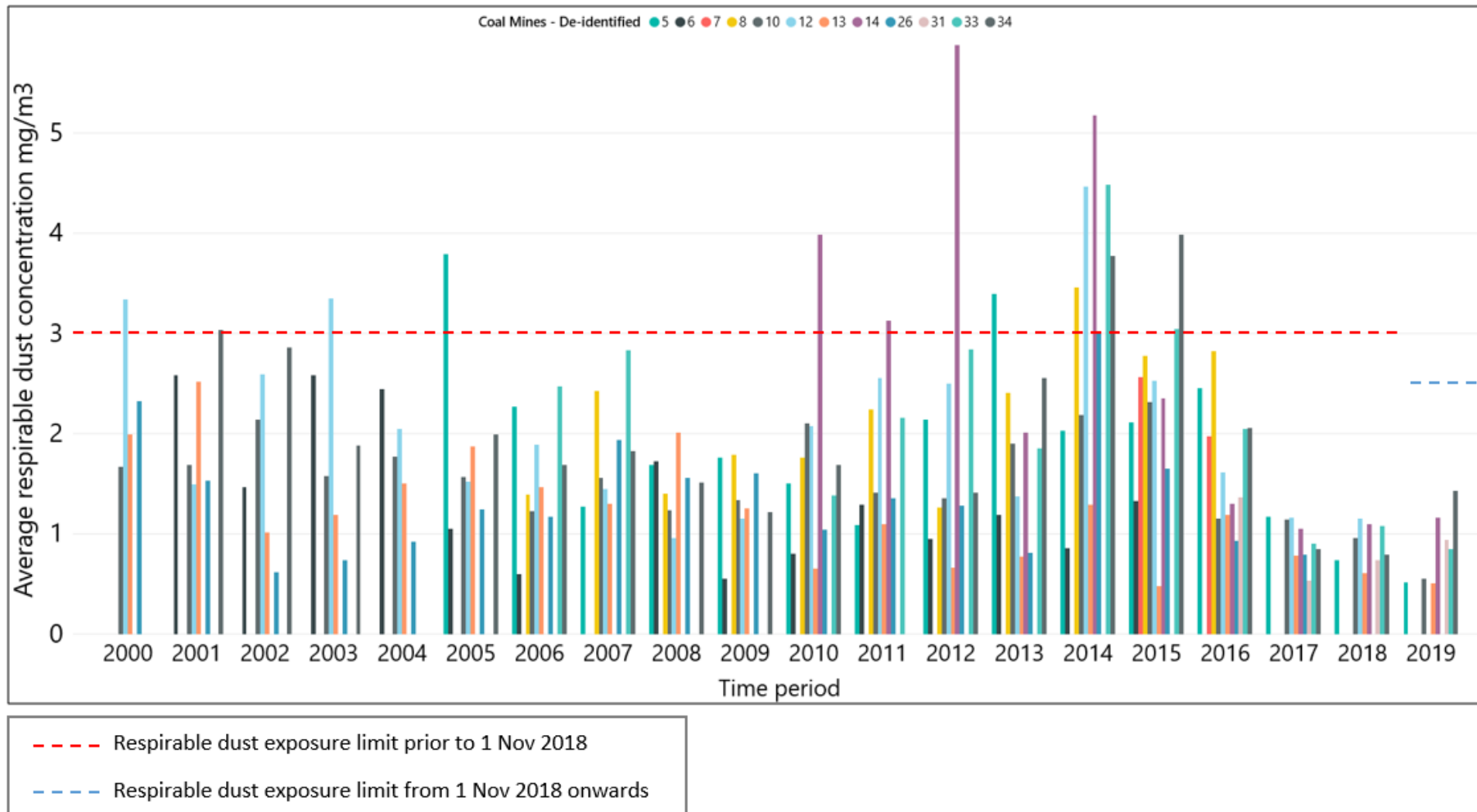
The Department of Natural Resources, Mines and Energy publish graphs online each quarter. This allows mine sites to bench mark themselves against other sites and operators. <https://www.business.qld.gov.au/industries/mining-energy-water/resources/safety-health/mining/hazards/dust/monitoring-data>.

The Coal Mine Inspectorate use this reported data for oversight on respirable dust and silica levels at sites which, in turn, will trigger compliance action.

The following graphs are a sample of average respirable dust concentration and respirable silica concentration for Queensland's underground coal mines.



Figure H1
Underground SEG (Longwall workers) average respirable dust levels 2000—Q2 2019



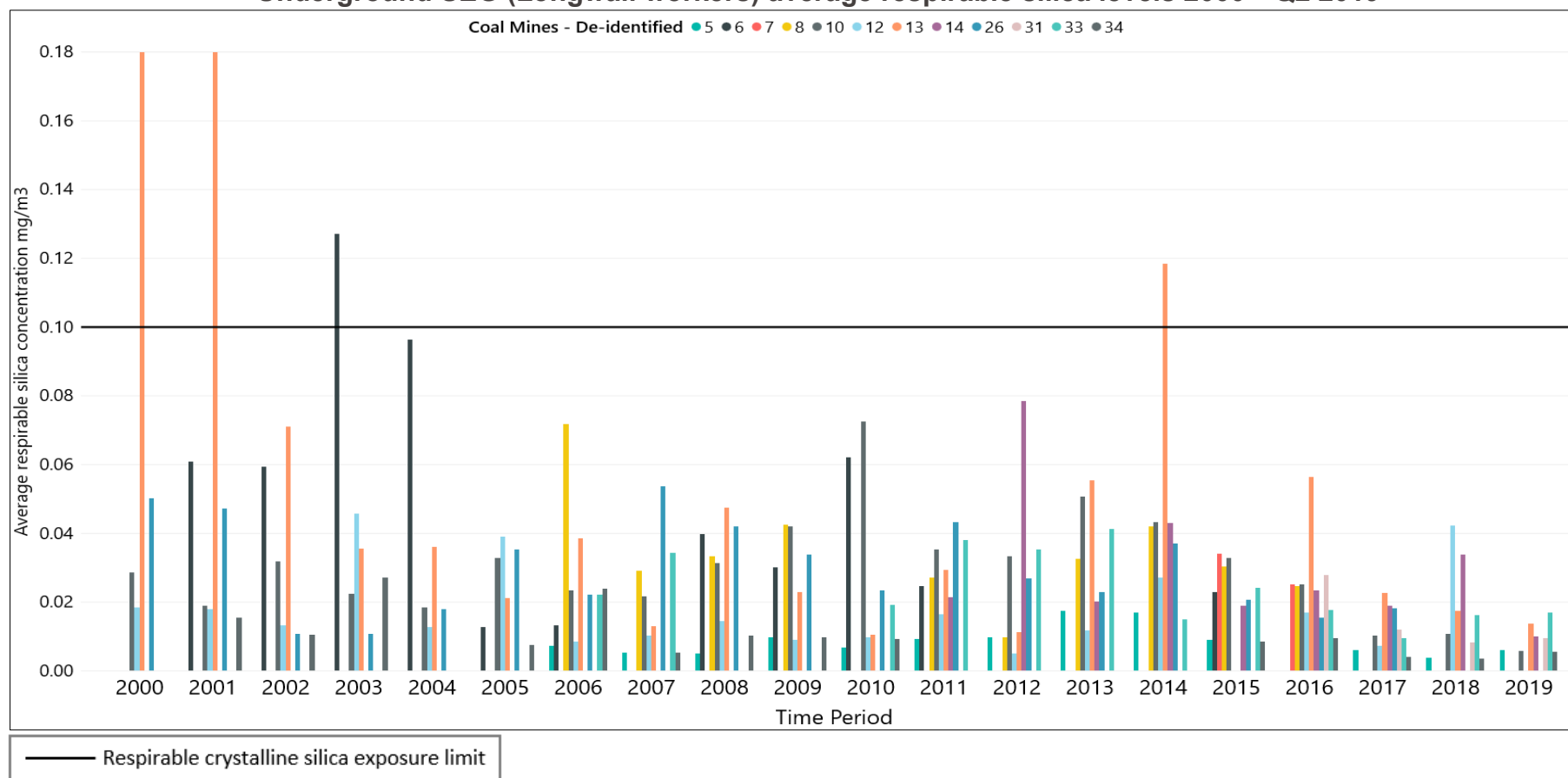
Source: The Department of Natural Resources, Mines and Energy.



Longwall workers conduct similar tasks such as operating the shearer, which cuts the coal in an underground mine. Figure H1 shows the average respirable dust concentration in this work group across different coal mines in Queensland. Each vertical bar represents a different mine site and indicates the trend in dust levels. The solid black line indicates the occupational exposure limit from 2000 – 31 October 2019. From 1 November 2019, the exposure limit was reduced to 2.5mg/m³.

Figure H2 shows the average respirable silica concentration in the longwall work group.

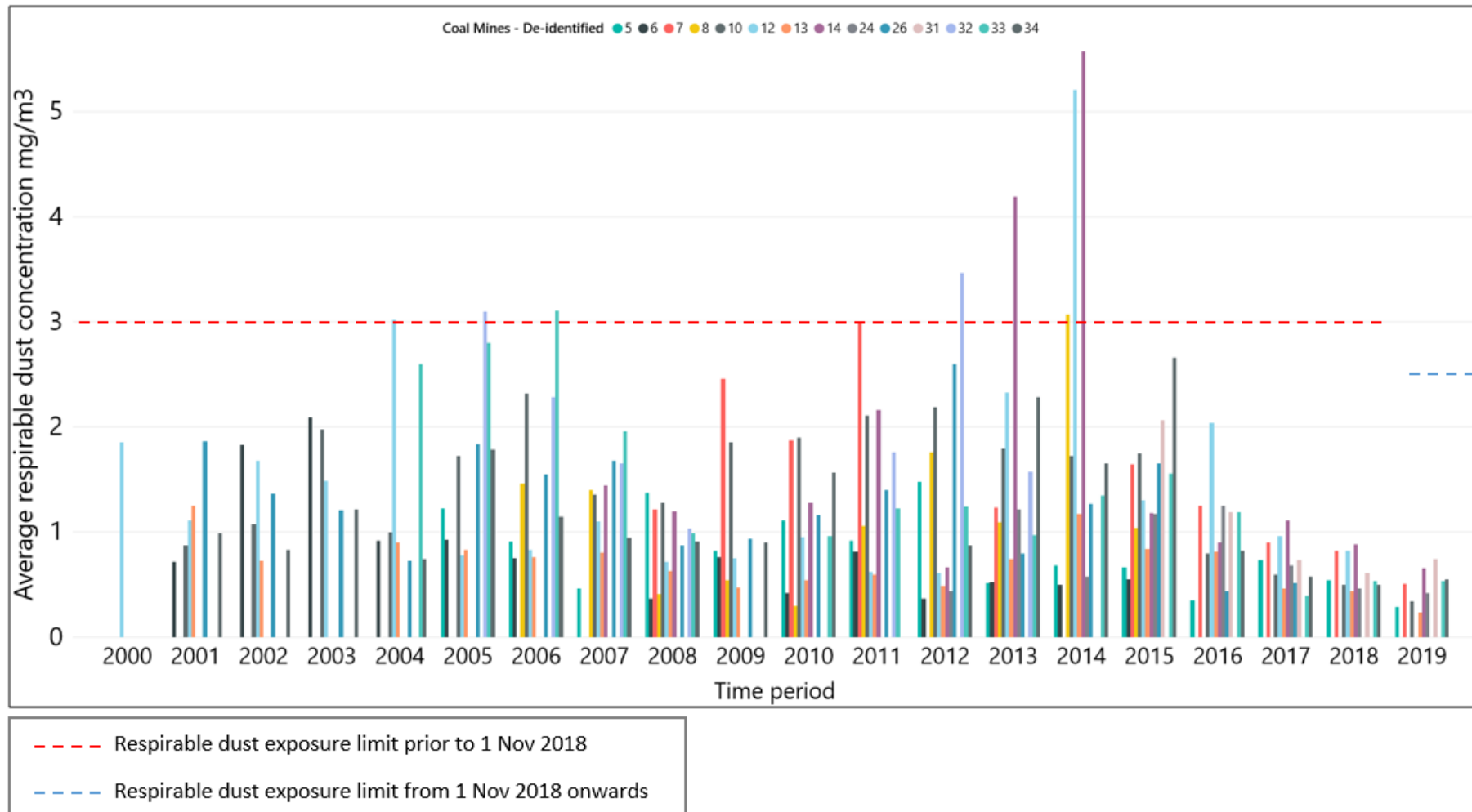
Figure H2
Underground SEG (Longwall workers) average respirable silica levels 2000—Q2 2019



Source: The Department of Natural Resources, Mines and Energy.



Figure H3
Underground SEG (Development workers) average respirable dust levels 2000—Q2 2019

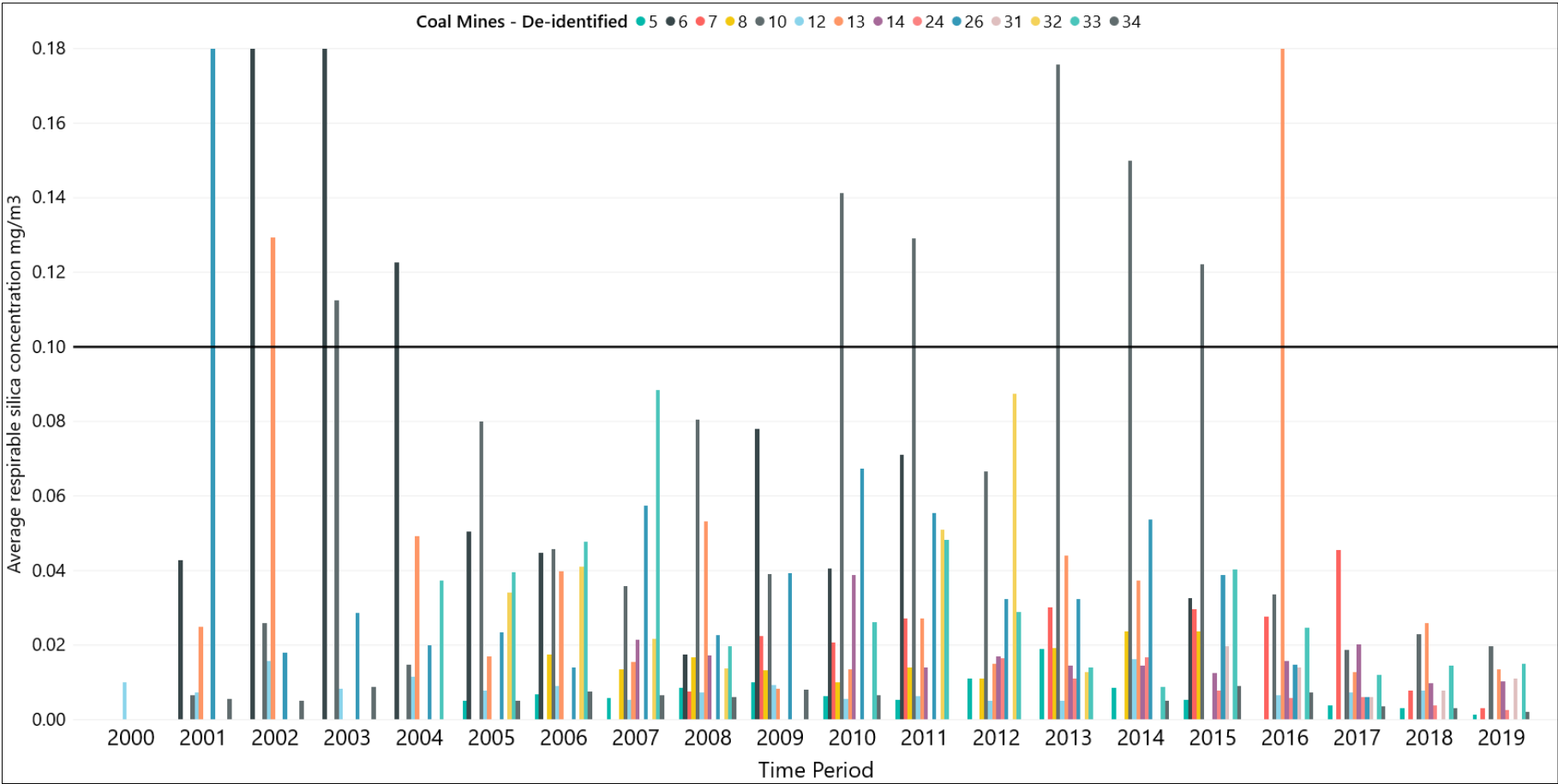


Source: The Department of Natural Resources, Mines and Energy.

Development workers conduct tasks such as operating the continuous miner. Figure H3 shows the average respirable dust concentration in this work group across different coal mines in Queensland. Each vertical bar represents a different mine site and indicates the trend in dust levels.



Figure H4
Underground SEG (Development workers) average respirable silica levels 2000—Q2 2019



— Respirable crystalline silica exposure limit

Source: The Department of Natural Resources, Mines and Energy.

