



## Welcome to the last Train Brain to pull out of the station before Christmas

This edition underscores that our sector needs to get serious about silica. This mineral makes up about a quarter of the earth's crust and one version, Respirable Crystalline Silica (RCS) is deadly. The respirable particles can't be seen and are small enough to get deep into your lungs where they can't be cleared with coughing. They cause silicosis which is often fatal.

RCS has come into prominence in recent years with the deaths and illness caused to workers making engineered stone. The grinding involved in making things like benchtops is a particularly nasty source of RCS; Australia which first blew the whistle is poised to soon [ban engineered stone](#) and already companies here like Bunnings are withdrawing engineered stone products. But RCS is also found – admittedly in much lower quantities – in soil, rocks, granite, sand, clay and concrete. As part of an effort to avoid such risks, some kiwi mine workers have for many years had to be provided with pre-employment medicals including x-rays and a measure of lung function, then health and lung checks every five years and on leaving the industry.

These same requirements came into force for the quarry sector last July as part of our new regulations. I know a lot of quarry operators, particularly larger ones, have been running such medical checks for years but many smaller quarries are not yet aware of, or follow these requirements. Even those quarries doing regular x-rays as part of their health checks face a worrying conundrum.

Our November MinEx Board meeting saw us swap notes about a concerning lack of medical expertise in NZ to detect silicosis. We don't have a single person here trained to the appropriate level to spot silicosis on x-rays. This issue was spotlighted in Australia about a decade ago. NSW had been reporting an average of one case a year of silicosis or another lung disease pneumoconiosis from mines and quarries; Queensland's bigger extractives sector had none over 20 years. It turned out the difference was the analysis of the x-rays. When Queensland sent its years of x-rays to the US state of Kentucky, the world's leader on lung diagnosis, specialists there found 19 cases. Now Queensland has a second specialist review of its mine and quarry x-rays and also sends them to Kentucky. These have helped determine that Queensland, with the same population as New Zealand, currently has 10 active cases of silicosis – four from quarries.

So, what is WorkSafe doing about the obvious potential risks here?

Well, it recently halved the Workplace Exposure Standard (WES) for RCS from 0.05mg/m<sup>3</sup> to 0.025mg/m<sup>3</sup>. I submitted against that simply because the detection machinery we use here in NZ can't measure below 0.05mg/m<sup>3</sup> accurately. (See story in this Train Brain.)

There are better things that we can do to reduce any risks RCS poses to our quarry workers. Top of the list is informing people about the risks – and what they can do to minimise these. MinEx has put out three publications since 2017 to assist. Find the most recent [here](#).

I've also spoken about RCS again this year to the 400 quarry and mine workers who attended one of MinEx's 16 regional workshops. The message is: our sector now needs to get really serious about RCS.

To reinforce the fact we need to up our game, this edition of Train Brain includes an interview with my UK equivalent Jon Prichard, looking at how British workplace deathrates across the board are about a quarter of NZ's.

Having now heard the full range of MinEx Board views, I'm writing to the new Minister for Workplace Relations and Safety, Brooke van Velden, advising her that they need to work with their health colleagues to ensure NZ gets the resources it needs to be able to detect silicosis in lung checks. That puts equal onus on us to get those health checks in place and be doing all we can to minimise the awful risks that RCS faces.

In this Train Brain, we also have a story about the new Te Waharoa training programme which has brought young Māori into our sector, and a story reminding mines and quarries which have dams that new regulations loom for them. Also, have a look at the simple one-page [health and safety checklist](#) which Safe Work Australia has just put out.

I hope you are soon able to enjoy a good safe holiday break. Perhaps use it to give some thought to how to make yourself and your site safer from RCS and other risks when you return in 2024.



Wayne Scott  
CEO MinEx and AQA

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## Guard against injuries and big costs

A WorkSafe prosecution after a worker lost an arm in moving machinery is another stark reminder of the importance of proper guarding, says MinEx CEO Wayne Scott.

Manawatu concrete business Dunlop Drymix Limited was sentenced for breaches under the Health and Safety at Work Act 2015 (HSWA) and was fined \$297,000 and reparations of \$60,000 after a worker had his arm severed on the job.

The victim was cleaning a conveyor belt at a Feilding plant early one morning in November 2021. While he reached to retrieve a dropped tool his right arm was grabbed by rollers which pulled him further into the machine. The victim was alone at the time and had to leave the area to look for help. Tragically, surgeons could not reattach his arm and he remains off work.

A WorkSafe investigation found the conveyor's off switch was located in the next warehouse and its emergency stop switch was completely disconnected and non-functional. Dunlop Drymix had no standard operating procedure for cleaning of the machine, insufficient risk assessment, and should have trained staff on safe ways to clean. WorkSafe says these failures exposed workers to a risk of death or serious injury arising from exposure to a nip point on the conveyor.

Wayne Scott reinforced the WorkSafe message in reminding businesses to be on alert for the dangers of moving machinery. "Proper guarding to protect people is essential yet too often it's removed or not functioning properly and tragedies occur," says Wayne. "Such protections need to be in place when cleaning and maintenance is undertaken as well as during normal operations." He says as well as the risks posed to workers, quarries and other extractives sites need to be aware that fines of up to \$1.5m are possible for breaches of HSWA requirements.

WorkSafe says Dunlop Drymix has now improved its health and safety systems, but their experience provided a timely warning for other businesses.

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## MinEx Health & Safety Workshops 2024

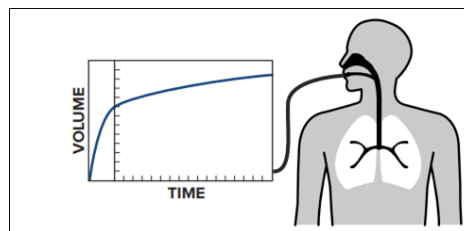
Register to the 2024 Workshops in Blenheim, Nelson and Greymouth. Tickets are \$160+gst for AQA members and \$170+gst for general registrants. Click on the link below to register.

[Register here to MinEx Health & Safety Workshops in 2024](#)

## MinEx disappointed by WorkSafe decision on RCS

MinEx CEO Wayne Scott is disappointed at a WorkSafe decision to lower the current Workplace Exposure Standard (WES) for Respirable Crystalline Silica (RCS) from 0.05mg/m<sup>3</sup> to 0.025mg/m<sup>3</sup>.

WorkSafe has been reviewing a range of standards of workplace and biological exposure indices and standards.



MinEx had [submitted](#) that levels below 0.025mg/m<sup>3</sup> were not able to be detected, so lowering it would do nothing to protect workers.

WorkSafe says it valued the engagement and has taken on board the feedback and discussion which included no new health-based evidence on reducing the WES for RCS. However, it says it received good suggestions that increased guidance, engagement, and education on health risk and controls which would be valuable to industry. These are now being developed.

Wayne Scott says that's a positive response supported by MinEx and that every quarry and mine needs to be aware of the need to control risks with dust, especially that which may contain RCS.

"We tell our subscribers that the potential for worker exposure to crystalline silica is widespread within mining and quarrying. We are clear to them that managing RCS is a requirement under health and safety law and have developed a [booklet](#) as well as covering this in our annual workshops."

"That said, you can't manage what you can't measure, so lowering the current exposure level makes no sense."

Wayne Scott says MinEx will work with WorkSafe to promote any extra guidance, education and controls to combat RCS risks to workers.

WorkSafe has a [range of existing documents](#) to guide workers on RCS exposure risks and how to mitigate these.



# UK & NZ industries swap notes on health and safety



*MPA CEO Jon Prichard.*

Britain has a workplace death rate that's about a quarter of New Zealand's. Across all sectors we lose 2.4 people per annum for every 100,000 workers; in the UK it's less than 1 lost per 100,000 workers.

That disparity was the prompt for MinEx CEO Wayne Scott to recently engage with his British counterpart. Wayne had a Zoom meeting with Jon Prichard, CEO of the UK's Mineral Products Association (MPA).

The two swapped data on industry fatalities and Jon has also alerted MinEx subscribers to [Safeguarry](#), his organisation's database of health and safety advice which is available to access free of charge.

Jon says the British quarry industry with about four times the size of NZ's primary production, had 72 fatalities from the year 2000 to June 2023. Wayne noted the 29 deaths at Pike River in 2010 and 10 extractives industry fatalities since. Pike River has not gone unnoticed in the UK, says Jon. It's used as a case study for senior directors doing a course on decision-making.

As Pike River sparked improvements in NZ's extractives industry, the Brits, who had seen a steady decline in fatal incidents over a considerable period, had a wake-up call through 2014 and 2015 as incident rates began to increase, and then in 2017 fatalities within the industry spiked.

A significant part of the response was the adoption of 'Vision Zero' a strategy for the sector which focuses on the elimination of the high consequence hazards that are responsible for the majority of fatalities, serious injuries and ill health in the industry.

These high consequence hazards are otherwise known as 'the Fatal Six' and comprise of:

1. Contact with machinery and lack of isolation
2. Workplace transport and pedestrian interfaces
3. Work at height
4. Respirable Crystalline Silica (RCS)
5. Struck by moving/falling objects
6. Road traffic

Jon says that subsequent to the launch of Vision Zero and the focus on 'the Fatal Six', the British industry had seen a period of reduced fatal incident rates, although 2022 and 2023 have seen a further increase. Certainly among the root causes is new personnel coming into the industry potentially having a lack of awareness of the particular risks associated with the extractives industries.

"This is something the industry is seeking to address, we are very definitely still on an improvement journey."

The Lost Time Injury Frequency Rate LTIFR per million hours worked for MPA members, used to be 5, now it's 3 and the target is 1.5 by 2025. More importantly perhaps the MPA members are aiming to eliminate incidents relating to 'the Fatal Six' by the end of 2025 and there has been a downward trend since 2018.

Wayne says while NZ uses the Total Recordable Injury Frequency Rate TRIFR measure, NZ extractives injury rates are similar to the UK's, with recent trends upwards. Personally, however, Wayne favours a focus on serious injury rates. MinEx was also working to shift a prevailing 'she'll be right' type attitude in some extractives workplaces.

Jon says he'd recently visited Heidelberg Materials cement plants which reflected a very healthy approach taken to health and safety by that sector.

"Those lessons are there but people have to want to learn and this necessitates strong leadership helping to develop a clear understanding that health and safety is the most important priority, and with leaders walking the talk."

Both men are well familiar with the need for workplaces to have constant 'chronic unease' about health and safety risks. "Chronic unease is a culture that is incredibly difficult to achieve," says Jon.



However, MPA has been making some progress. Some 83.5% of member sites had reported completing an isolation audit and 96.9% had implemented an action plan. MPA had developed resources on the Fatal Six including handbooks and online e-learning. For example, a project is currently underway to develop guidance on using real-time monitoring to identify and improve dust controls and working practices. Some 85 percent of MPA members reported having an occupational health screening programme for employees and even more say they have a programme for routine personal exposure monitoring for RCS. And working with partner bodies in the UK, MPA has produced resources relating to for example, isolation, including an isolation audit, avoiding pedestrian interface with mobile plant on site and many more.

All of these resources and many more are available on the MPA-managed [Safequarry](#) site, a free to access health and safety hub for the mineral products industry. Jon points out that those in the New Zealand quarry industry and indeed anyone else can access [Safequarry](#) and also sign up to receive regular safety alerts shared by UK industry members, "This is important because" says Jon "we are all safer by sharing."



**It is a good idea to record your CPD restricted and unrestricted hours every time CPD is done. It only takes a few minutes!**

## Dam new law

From May 13 next year, new regulations apply which mean some dams need engineering assessments and ongoing compliance requirements.

MBIE issued the new regulations in May last year with a two-year timeframe to comply.

Fiona Bartier, GM Health, Safety, Environment & Community at Bathurst Resources, is a MinEx Board member and says there may be mines or quarries with dams that are affected by the new regulations but are unaware of them.

Most small dams are not included, but those higher than 4 metres holding 20,000 or more cubic metres volume of water need to be assessed and classified; so do dams with a height of 1 metre or more holding in excess of 40,000 cubic metres of water.



MBIE says there have been 25 incidents with New Zealand dams since 1960, more than half of them serious.

While its new regulations were framed in 2022, it says the North Island weather events of

this year reinforce the need for the new requirements.

Within three months from 13 May 2024, those who own a classifiable dam must assess the potential impact their dam's failure could have on the community, historical or cultural places, critical or major infrastructure, and the natural environment.

A dam's Potential Impact Classification (PIC) will be either low, medium, or high and needs to be assessed by a recognised engineer and submitted to the local authority.

For dams with a medium or high PIC, a Dam Safety Assurance Programme (DSAP) is required.

This provides dam owners with a structured framework of plans and procedures to plan and complete the activities required for the safe operation and management of their dams.



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## Promising new gateway for Māori into our sector

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A group of young Māori who were previously seeking career opportunities are now in the final days of a new training initiative which introduces them to the extractives sector – and the signals are positive.

Te Waharoa (the gateway) has seen eight Waikato-Tainui iwi members, empowered by the Ministry of Social Development and MITO and actively supported by Bathurst Resources, Stevenson Aggregates and J Swap Contractors under a joint initiative run by Whatukura Ltd, in cooperation with Waikato-Tainui.

MITO's Ardi Tawha, who's tasked with supporting Māori development, says with only a few days to go on the 10-week programme, all eight were still on board.

"It's been an awesome opportunity for all of them to see and experience a whole new industry." The programme was adapted from one introduced by the Building and Construction ITO. The trainees spend their first week on a Tainui marae. "This experience creates opportunity for these participants to connect with each other and learn more about their iwi" says Ardi.

The first week saw them building relationships and getting to know Stu Lawrence who is their primary mentor and the Director of Whatukura Ltd, which specialises in Māori and Pasifika workplace development. Stu has been working alongside Waikato-Tainui for over eight years supporting their education and vocational strategy. The following three weeks saw all the trainees visit the sites of the two quarry operators and one mining company (with two worksites) supporting the programme.

Ardi says they also visited Higgins Contractors who are major players in road construction in Waikato. "The site visits to workplaces were amazing. They saw and witnessed what happens in quarries and mines, how the machinery operates, how it's maintained and repaired and where quarry products can end up getting laid as a road. We wanted them to see the whole supply chain. They now have that understanding."

Then the trainees started six weeks of paid work experience with one of the three companies. In the case of Bathurst Resources, it was eight weeks of work as the company wanted its four trainees to be able to conclude with a basic level of compliance in being able to operate machinery. Bathurst Resources also provided Peter Arthur as a facilitator to take all the trainees through their health and safety compliance modules.

"All this formal training and work experience along with [MITO's RockUp programme](#) has contributed greatly in preparing the iwi members for the industry." He says it's now up to the companies involved to make any job offers and says the signals are positive.

Ardi says thanks are due to Waikato-Tainui and the companies for their support and also to MinEx CEO Wayne Scott for helping introduce them and making the programme possible. He says another major aggregate supplier was keen to be involved but the timing of its pre-onboarding procedure prevented this and it's hoped to involve them and others when another cohort is run as early as the beginning next of year.



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## Job offers loom for first trainees

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Three job offers are likely early in the New Year at J Swap Contractors Taotaoroa quarry near Cambridge after it hosted three trainees under the Te Waharoa programme.

Quarry Manager Zak Reilly says all three worked really well and he expects to make the job offers to them after the Christmas break.

"It's worked really well. There were no issues at all." He says he'd made clear at the start that a good attitude was the key and the trainees responded. "Any job we asked them to do, they did it." This included doing screen changes, hosing down, and after training operating a rigid 50 tonne dump truck, a bin truck and small plant loader. "We basically treated them as if they were any other new employees."

J Swaps 25 full-time staff were very welcoming and supportive to the three young men. Zak says given the average age in the quarry sector is 50 or even 60, learning from their experience is critical to the sector.

"It's really important to get young people coming through. We risk that experience being lost unless it's passed onto somebody." He says Te Waharoa programme was well constructed with an initial week's marae immersion and then all eight trainees being brought back together each Friday for the next three weeks to check and reinforce progress.

"They had good support around them," he says of MITO, Waikato-Tainui and the iwi-appointed mentors.

Zak is due to attend a prize-giving for the cohort being held this Friday at Novotel Tainui in Hamilton. Given its success for his quarry, he's hopeful these are not the last Te Waharoa trainees.



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## Save the date - Komatsu Women in Extractives Lunch 2024



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After the success of the inaugural Women in Extractives Lunch in 2023, a date has been set for 2024.

The Komatsu Women in Extractives Lunch will be held on Wednesday March 20 at the Jet Park Hotel in Hamilton.

The event is hosted by Straterra, AQA and MinEx is to celebrate diversity and inclusion in the extractives sector.

Straterra CEO Josie Vidal says the keynote speaker for 2024 is Lindy Nelson MNZM, who chairs the Safer Farms organisation and founded the Agri-Women's Development Trust.

Josie says Komatsu remains the principal sponsor of the event which includes the announcement of three awards.

The Kristy Christensen Memorial Award (sponsored by MinEx and named in honour of its late former Board member) will recognise someone who, like Kristy, has been a champion for diversity.

The Emerging Star Award will recognise a young person who has demonstrated exceptional leadership skills and personal performance as well as innovative thinking that's provided value for their company.

The Leader of the Year will recognise a leader who develops their team members and has demonstrated a commitment to diversity and inclusion in their everyday work.

Nomination forms are now available on our [website](#) and are due in by COB Wednesday 21 February 2024 with judging being completed by a panel from Straterra, AQA and MinEx. Tickets to the lunch will be available during December.



**Remember to keep all evidence of CPD activities to provide when you apply/ renew your CoC**

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## Microlearning for mobile plant operators

**WORKSAFE**  
NEW ZEALAND | HAKI MAUNARU  
AOTEAROA

WorkSafe New Zealand have led the development of microlearning modules for mobile plant operators. The WorkSafe New Zealand Extractives Team initiated a mobile plant project in 2020 to address the contributing factors that led to mobile plant being the leading notifiable category of incidents reported to WorkSafe.



The aim of the modules is to provide Health and Safety learning modules specifically for mobile plant in the quarry's work environment based on universal design for learning.

This provides learning that is digestible, byte-sized chunks that is accessible for workers.

These modules were developed as a proof of concept and are free to access.

There are currently eight topics. Presented in accessible chunks of learning, each topic can be accessed at any time from any device.

They are not a formal qualification. Try out the learning topics [online](#) or by scanning this QR Code. We have produced laminated QR codes. Please advise your postal address and



we can send these out to you.



A training advisory group has been formed that includes people from industry to develop a suite of modules.

WorkSafe New Zealand are working with MinEx for them to host this webpage for the Extractives industry in the near future.

Please provide feedback to the HHU Extractives [hhu.extractives@worksafe.govt.nz](mailto:hhu.extractives@worksafe.govt.nz) or Innovation [Innovation@worksafe.govt.nz](mailto:Innovation@worksafe.govt.nz) teams for ideas on additional modules or if you have any technical difficulties.

We look forward to your feedback and hope your team find these a valuable resource.



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## ACT Safety Courses



Click on the link below for details on qualifications and courses you can do through Act Safety.

[Extractive Units Training | ACT Safety](#)

## Mines Rescue

The 2024 training schedules for Mines Rescue are ready for enrolments:

[2024 A GRADE COC](#)

[2024 B GRADE COC](#)

[2024 SPECIALIST COC](#)



## MITO Courses



Visit the [MITO Te Pūkenga website](#) for details on qualifications and courses you can do.

Contact MITO Te Pūkenga on 0800 88 21 21 to enrol.

## Tai Poutini Courses



Go to the [Tai Poutini website here](#) to view the available courses.  
Students may be eligible for free fees, see more information [here](#).  
Contact Nicole Scalmer on 03 769 9645 or [nicoles@tpp.ac.nz](mailto:nicoles@tpp.ac.nz)

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