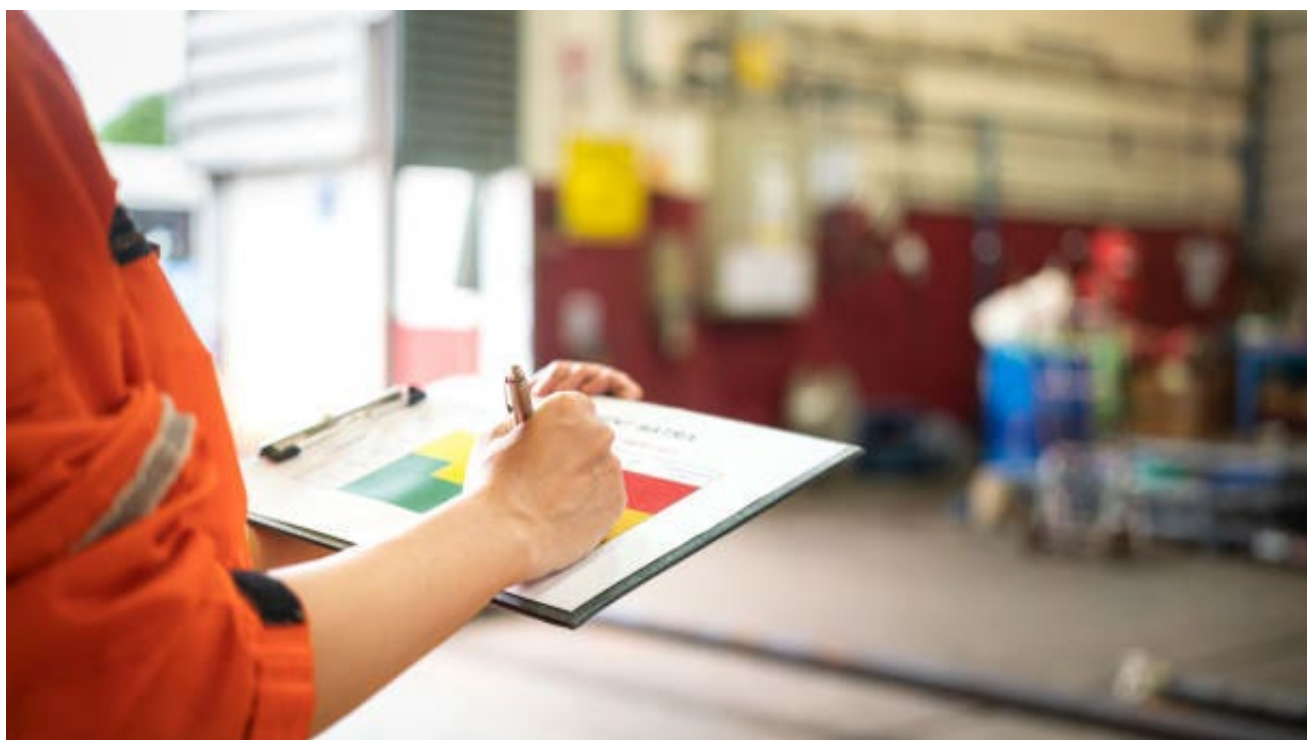


Consolidated report

Health control plan – stage one metals and extractives sites

November 2023 to January 2025



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Executive summary

A crucial part of the Resources Regulator’s incident prevention strategy for mines and petroleum sites involves:

- targeted assessments and planned inspection programs – focusing on assessing an operation’s control of critical risks by evaluating the effectiveness of control measures in the mine’s safety management system
- priority programs – proactively assessing a topic that is an emerging risk throughout the industry, which is determined primarily from incident data as well as evolving industry trends.

A planned inspection program at metals and extractive sites (surface and underground) for the principal health control plan was conducted between November 2023 and January 2025.

The 48 metals and extractive sites assessed (surface and underground) consisted of:

- 33 extractive surface sites (28 surface construction material mines and 3 surface industrial mineral mines), one surface mineral sands mine and 1 surface mineral sands processing site
- 14 underground metal mines and one surface metalliferous metal processing site.

The Regulator developed a bowtie for the material unwanted event (MUE) of health impairment – illness or injury. There were 4 threats and one consequence topics identified resulting in 5 critical control criteria identified for the assessment of the health control plan – stage one.

As part of the planned assessment activities, Regulator inspectors attended metals and extractive sites with a focus on assessing the identified critical control criteria and control supports.

This planned inspection program was part of an ongoing effort by the Regulator to reduce the potential risks associated with human health impairment- illness or injury.

This report provides information on assessment findings and recommendations for operators of metals and extractive sites.

In summary, of the 48 metals and extractive sites assessed, a total of 86 compliance notices were issued to 28 of the 34 surface sites assessed and 13 of the 14 underground mines assessed.

Forty-seven of the 86 compliance notices related specifically to the assessment topic of human exposure to health impairment – illness or injury.

Explanatory notes on the assessment system are in Appendix A.

Assessment criteria for all assessments

The Regulator’s bowtie identified 4 threats, one consequence and 5 critical control criteria to assess how operators of metals and extractive site managed the MUE of health impairment – illness or injury.

A tabulation of the threat/consequence and critical controls assessed for the MUE is in Table 1.

Table 1: Threat/consequence and critical controls for the MUE of health impairment – illness or injury

Threat/Consequence		Critical control
Threat	Heat, humidity and cold	Hydration - PC1.3
	Physical capacity limitations	Alcohol and other drug free – PC3.2
	Mental capacity limitations	Well rested – PC3.3
	Physical capacity limitations	Physically capable for work – PC3.4
Consequence	Potential for self-harm	Mental health support systems - MC3.2

A tabulation of the critical controls and control supports assessed for the MUE is provided in Table 2.

Table 2: Critical controls and control supports assessed for the MUE of health impairment – illness or injury

Critical control		Control support
Hydration	01	Workers recall receiving information, training, and instruction about the nature of dehydration and heat illness including signs and symptoms, and the required controls.
	02	Workers can explain the risks of becoming dehydrated and the controls designed to prevent dehydration and heat illness.
	03	Workers have access to potable drinking water.
	04	The type of work clothing and PPE provided for use in a hot work environment does not contribute to exposure to heat.
	05	Workers have access to facilities where they may recover from exposure to heat.
	06	Supervisors test the work environment in line with the site procedures.
	07	Workers have the right to stop work if they are feeling the effects of exposure to heat.
	08	Workers recall participating in any required hydration testing.
	09	Discuss with workers any experiences of prolonged exposure to elevated temperatures to determine if they have felt the effects of heat hangover or heat related illness.

Critical control		Control support
Alcohol and other drug free	01	Workers recall receiving information, training, and instruction about the impacts of alcohol and other drugs, the alcohol and other drugs policy and associated procedures.
	02	Workers declare any medication they take that could impact their fitness for work.
	03	Workers participate in alcohol and other drug testing.
	04	Workers are familiar with the Employee Assistance Program or other assistance is available to those suffering alcohol or other drug addiction.
	05	Workers believe that the disciplinary process for those testing positive for alcohol and other drugs is just, fair and is followed.
Well rested	01	Confirm with workers that they have received information training and instruction about the nature of fatigue, fatigue-related hazards and site fatigue controls.
	02	Confirm that workers are familiar with work-pattern related fatigue controls.
	03	Confirm with workers that the work pattern design provides opportunity to achieve 7-8 hours of sleep per day.
	04	Confirm that workplaces and tasks that people perform limit exposure to vibration, noise, lighting impacts and ergonomics that contribute to fatigue.
	05	Confirm that workers are aware of fatigue self-reporting processes and would be comfortable to use them.
	06	Confirm that supervisors monitor workers including themselves for fatigue.
	07	Confirm that fatigue identification and warning systems such as eye watching technology are installed where applicable.
Physically capable for work	01	Confirm with workers that they are assigned tasks that are within their physical capability to perform.
	02	Confirm with workers that they attend required medical examinations.
	03	Confirm workers are happy to participate in return-to-work arrangements
Mental health support systems	01	Workers can identify warning signs of mental wellness issues.
	02	Workers can list the actions the site expects them to take when mental wellness issues are identified.
	03	Workers are familiar with and would be happy to use available mental health support mechanisms.

Assessment findings for metals and extractive sites

Overall, the assessment findings were:

- 48 metals and extractive sites (surface and underground) were assessed between November 2023 and January 2025
- 34 surface metals and extractive sites and 14 underground metals and extractive mines
- 1,296 individual findings for the assessed criteria
- 136 assessment findings with enforcement action recorded
- 86 compliance notices in total were issued.

Assessment overall ratings for surface METEX mines

In summary the overall assessment findings for METEX sites were:

- 91% assessment overall finding for the 5 critical controls assessed.

Figure 1 provides a summary assessment of the overall findings by critical control for metals and extractive sites (surface and underground).

Figure 1: Overall assessment findings by critical control for metals and extractive sites (surface and underground sites)

	Threat				Consequence	Grand Total
	1. Heat, humidity and cold	3. Physical capacity limitatons 4. Mental capacity limitations		3. Physical capacity limitatons		
	PC1.3	PC3.2	PC3.3	PC3.4	MC3.2	
	Hydration	Alcohol and other drug free	Well rested	Physically capable for work	Mental health support systems	
Surface	<div><div></div>89%</div>	<div><div></div>89%</div>	<div><div></div>90%</div>	<div><div></div>91%</div>	<div><div></div>89%</div>	<div><div></div>89%</div>
Underground	<div><div></div>96%</div>	<div><div></div>100%</div>	<div><div></div>95%</div>	<div><div></div>98%</div>	<div><div></div>93%</div>	<div><div></div>97%</div>
Grand Total	<div><div></div>91%</div>	<div><div></div>92%</div>	<div><div></div>91%</div>	<div><div></div>93%</div>	<div><div></div>90%</div>	<div><div></div>91%</div>

- Green (=100%)
- Yellow (>= 80% and <100%)
- Orange (>= 65% and <80%)
- Red (<65%)
- Not applicable

In summary the overall assessment ratings were 83% documented and implemented, 7% implemented but not documented, 4% documented but not implemented, 2% not documented and not implemented and 4% were not applicable.

Figure 2 provides an overall assessment findings ratings at all metals and extractive sites assessed.

Figure 2: Overall assessment findings ratings at all metals and extractive sites assessed

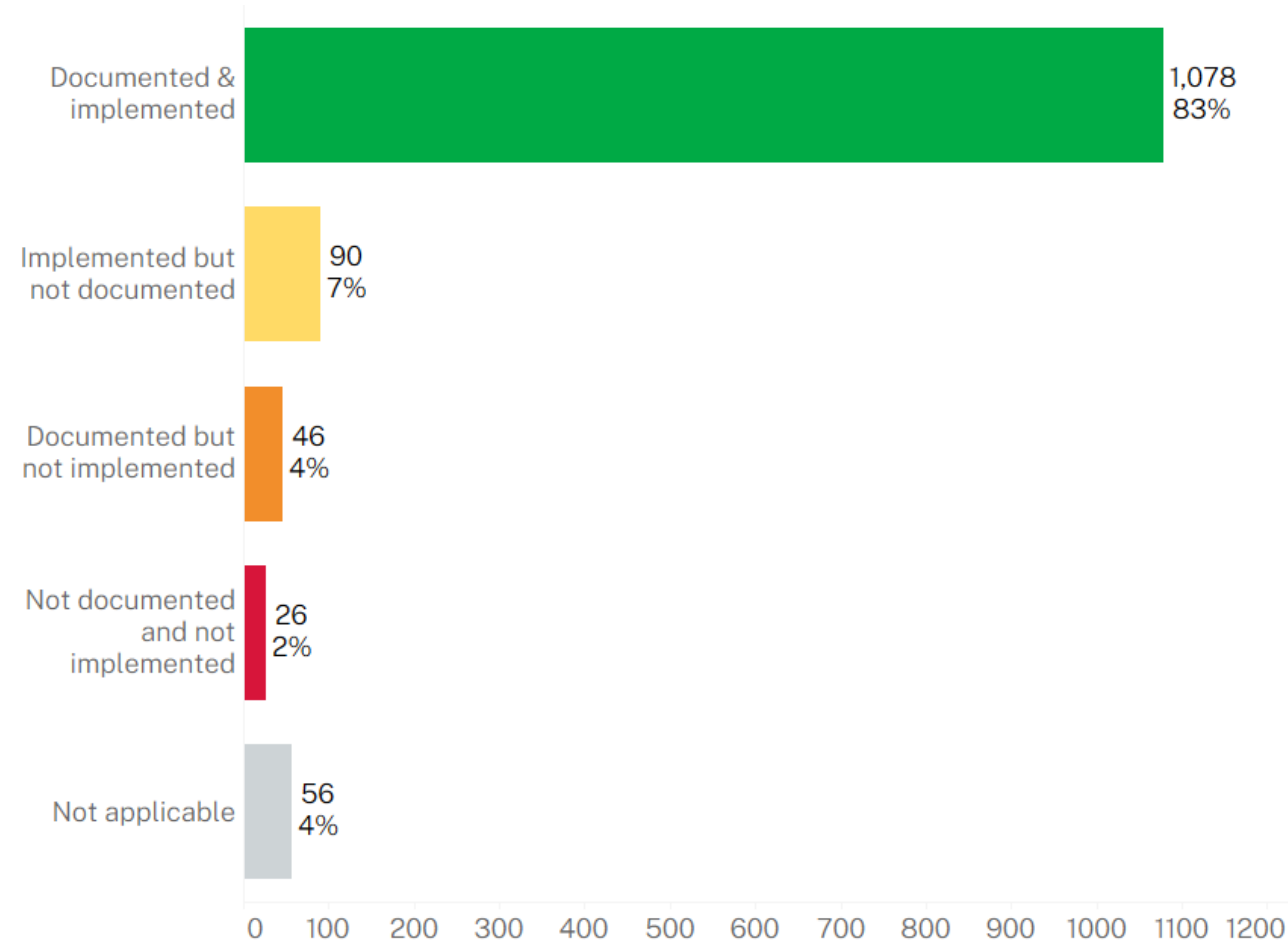
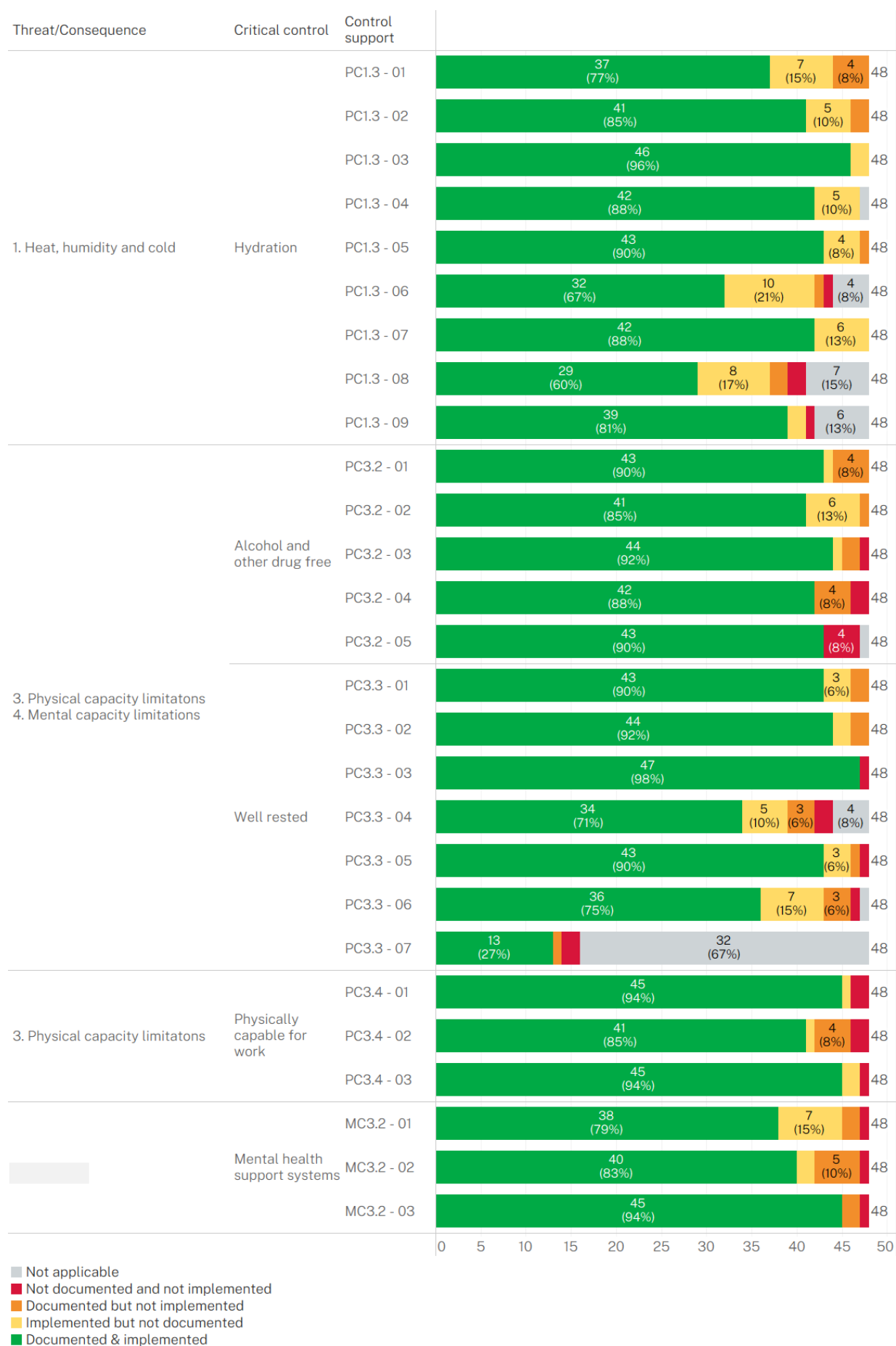


Figure 3 provides an overall assessment of the overall finding ratings by critical control and control support at all metals and extractive sites assessed.

Figure 3: Overall assessment findings ratings by critical control and control support at all metals and extractive sites assessed



Notices issued to sites (surface and underground)

In total, 48 assessments were conducted at metals and extractive sites (surface and underground).

In summary, of the 48 metals and extractive sites assessed, a total of 86 compliance notices were issued to 28 of the 34 surface sites and 13 of the 14 underground mines assessed:

- 2 x section 195 prohibition notices
- 47 x section 191 improvement notices
- 37 x section 23 cause for concern notices

1 of the 2 WHSA s195 prohibition notices issued related specifically to the topic of human exposure to health impairment- illness or injury.

16 of the 47 WHSA s191 improvement notices issued related specifically to the topic of human exposure to health impairment- illness or injury.

30 of the 37 WHSA s23 notice of concern issued related specifically to the topic of human exposure to health impairment- illness or injury.

Table 3 lists the compliance notices issued by type and number at the sites assessed.

Table 3: Notices issued for all sites assessed

Category	Surface	Underground	Grand Total
WHS(MPS)A s23 notice of concerns	24	13	37
WHSA s191 improvement notice	40	7	47
WHSA s195 prohibition notice	2		2
Grand Total	66	20	86

Recommendations for operators of metals and extractive sites

Based on the findings outlined in this report, and in relation to the numbers and types of compliance notices issued during the assessment of human health impairment- illness or injury at metals and extractive sites, it is recommended that the following topics should be reviewed by operators of metals and extractive sites (surface and underground):

Review the site **principal health control plan** for the critical controls assessed and information resources provided on the Regulator's website at:

www.resources.nsw.gov.au/resources-regulator/safety/health-and-safety-management:

Alcohol and other drug free

- Documented process for disciplinary action taken under the site drug and alcohol testing policy.
- Provide information, signage and self-testing facilities for worker compliance with the site drug and alcohol policy and procedures.

Well rested

- Broad-brush risk assessment to manage heat illness, fatigue and dehydration and documented in the site health control plan with appropriate worker training and refresher programs.
- Review appropriate signage at site to remind workers and supervisors of best practice management of heat illness, fatigue and dehydration.
- Provision of adequate access to drinking water in work places.

Physically capable for work

- Review the provision of methods to maintain appropriate hygiene in meal areas and toilet facilities on site.
- Develop and implement a system for audiometric testing of workers.
- Review the risks of worker exposures to respirable dust, welding particulates and respirable crystalline silica.
- Review worker exposure to hazardous chemicals in particular laboratory workers and training in the use of chemical spill kits.
- Review appropriate site testing procedures to identify the risks associated with temperature, humidity and lighting in the workplace.
- Review site pre-employment and on-going medical testing to establish health levels, physical ability and medical history of workers.

Mental health support systems

- Develop and implement a system of information, training and reporting for workers in the management of psychosocial issues and mental health awareness.
- Provide supervisors with information, training and reporting in the management of psychosocial issues and mental health awareness.
- Provide information at site for workers accessing employee assistance programs (EAP).

For more information on safety assessment programs, the findings outlined in this report, or other mine safety information, please contact the Regulator.

Contact	Contact details
Email	cau@regional.nsw.gov.au
Incident reporting	To report an incident or injury call 1300 814 609 or log in to the Regulator Portal
Website	www.resources.nsw.gov.au

Contact	Contact details
Address	Resources Regulator 516 High Street Maitland NSW 2320

Appendix A – Assessment criteria rating

Each assessed criteria is rated from one to 4 based on evidence supporting the expected control supports identified at the mine site.

Evidence supporting expected control supports

Expected control supports	Rating	Evidence supporting rating / comments				
	<table><tr><td>4</td><td>3</td></tr><tr><td>2</td><td>1</td></tr></table>	4	3	2	1	
4	3					
2	1					

Assessment findings results are calculated based on the total points allocated to the assessed ratings as a percentage of the maximum possible points for each criteria group, and any findings rated as 'Not applicable' were excluded from the calculation.

Criteria assessed ratings and points

Assessed as	Rating	Points
Documented & implemented Compliant	4	4
Implemented but not documented Improvement needed	3	2
Documented but not implemented Significant improvement needed	2	1
Not documented and not implemented Non compliant	1	0
Not applicable (N/A)		

Findings results (points) with colours assigned as follows:

- Green (=100%)
- Yellow ($\geq 80\%$ and $<100\%$)
- Orange ($\geq 65\%$ and $<80\%$)
- Red ($<65\%$)
- Not applicable

