

2019 Airborne Dust Results

Lucas Boyne Occupational Hygiene Manager CMTS-OH

Order 42 Airborne Dust Monitoring collected results





Order 42: Workplace Exposure Standard (WES) Exceedance Rates



Coal Services

CS



■ Respirable Dust WES (1.5mg/m³) ■ Respirable Dust WES (2.5mg/m³)

Order 42: 2019 average result as % of workplace exposure standard (WES)



SEG / SDC Category	Respirable Dust		Respirable Quartz			Inhalable Dust		
	2.5 mg/m ³ WES	1.5 mg/m ³ WES	Trend	0.1 mg/m ³ WES	0.05 mg/m ³ WES	Trend	10 mg/m ³ WES	Trend
Longwall	22%	36%	+	34%	68%		38%	+
Surface Blast Crew	7%	11%	•	30%	60%		13%	•
Continuous Miner	15%	25%	+	20%	40%		31%	+
Cement & Spraying	8%	13%	•	10%	20%		55%	•
UG Other	10%	16%	•	20%	40%		44%	
Surface Drillers	4%	7%	•	18%	36%	-	9%	•
Surface Other	4%	7%		12%	24%		14%	•
СНРР	6%	9%	•	10%	20%		17%	•
Surface Mobile Equip	4%	7%	•	10%	20%		6%	•

<25% WES

25-50% WES

51 - 100% WES

> 100% WES

% Workers Reported as Utilising Respiratory Protective Equipment (RPE)



Coal Services

CS

WES Exceedance Contributing Factors





Longwall Tasks		Average Respirable Quartz			
		0.1 mg/m ³ WES	0.05 mg/m³ WES		
Operate Shearer		47%	94%		
Operate Sup	ports	35%	70%		
Fitter		33%	66%		
Deputy		30%	60%		
Electrician		25%	50%		
Maingate		25%	50%		
<25% WES	25-50% WES	51 – 100% WES	> 100% WES		





2019 Longwall Respirable Quartz

RPE use for Quartz Results >50% WES



■ P2 Disposable

■ PAPR

- P3 Half Face
- P2 Half Face
- P2 Full Face
- Not Reported
- P3 Full Face

PAPR & Disposable





2019 Longwall Respirable Quartz

Longwall – 2019 Airborne Dust Exceedance Contributing Factors





Continuous Miner Tasks		Average Respirable Quartz			
		0.1 mg/m ³ WES	0.05 mg/m³ WES		
Driving Miner		28%	56%		
Roof Bolting		25%	50%		
Shuttle Car		16%	32%		
Deputy		16%	32%		
Fitter		16%	32%		
Electrician		14%	28%		
<25% WES	25-50% WES	51 – 100% WES	> 100% WES		





2019 Continuous Mining Respirable Quartz





2019 Continuous Mining Respirable Quartz

Continuous Mining – 2019 Airborne Dust Exceedance Contributing Factors











60% Cutting Stone **40%** Poor Ventilation Standards **25%** Operator Positioning

10% Poor Spray/Suppression Maintenance

Cement and Spraying Tasks			Average Inhalable Dust			
			10 mg/m ³ WES			
Mix Product Pump/Hopper				61%		
Nozzle / Spraying				57%		
Secondary Support Installation				57%		
Operating Loader				30%		
~25% MES				> 100%		
~23% VVES	25-50% WES	WES	0	> 100% WES		





2019 Cement & Spraying Inhalable Dust

RPE use for Inhalable Dust Results >50% WES







2019 Cement & Spraying Inhalable Dust

Cement & Spraying – 2019 Airborne Dust Exceedance Contributing Factors





Blast Crew Tasks		Average Respirable Quartz			
		0.1 mg/m³ WES	0.05 mg/m³ WES		
Loading & Stemming Shot		35%	70%		
Operating Mobile Equip		25%	50%		
<25% WES	25-50% WES	51 – 100% WES	> 100% WES		





2019 Surface Blast Crew Respirable Quartz





2019 Surface Blast Crew Respirable Quartz

Blast Crew – 2018/2019 Airborne Dust Exceedance Contributing Factors









66% Elevated Wind 66% Operator Positioning 33% Dry Roadways

