



Objection to the expansion of Maules Creek Coal mine SSD- 63428218; EPBC 2024/09936

Introduction

We wish to open our submission objecting to the further expansion of the Maules Creek coal mine by providing a little bit of background about our group, as we are not merely providing our values to facts provided in the EIS but also seeking to furnish the decision makers with competing facts that we believe are omitted from the EIS.

The Leard Forest Research Node (LFRN) is a community-based, independent citizen-science group formed to document and defend the ecological, cultural and amenity values of the Leard State Forest and surrounding communities. Since 2015, LFRN has led systematic, field-based monitoring across the Leard Forest mining precinct—recording noise, dust, blasting impacts and ecological changes—and translating those observations into evidence-based submissions that have materially assisted planning and compliance deliberations in New South Wales.

LFRN's origins are rooted in the exceptional conservation significance of Leard State Forest. The forest contains some of the most extensive and intact stands of the nationally listed, critically endangered White Box–Yellow Box–Blakely's Red Gum Grassy Woodland, alongside rich assemblages of native plants and fauna. Multiple public sources describe the forest as a biodiversity hotspot of state and national importance—context that underpins the urgency and relevance of LFRN's on-ground monitoring.

From its earliest work, LFRN has combined rigorous field methods with transparent public reporting. Its monitoring program has included campaign-style noise measurements at

residential receivers and vantage points, correlating acoustic data with specific mining activities; these data have been presented to consent authorities and Independent Planning Commission (IPC) hearings. LFRN's Vickery Extension public-hearing submission, for example, summarised multi-year noise monitoring beginning in 2015, while a separate technical submission details methods linking observed mine operations to measured exceedances and community impact. (see ipcn.nsw.gov.au/majorprojects/planningportal.nsw.gov.au)

LFRN has also communicated time-critical information through media releases and public outreach, helping to ensure that emerging impacts—such as dust events, vegetation clearing and blasting—are visible to decision-makers and the public. This role is evident in documented statements and media materials dating back to 2015–2016, when LFRN was actively briefing local and state audiences on operational changes and environmental risks in the Leard precinct.

The group's work sits within, and constructively complements, the broader public record on the Leard precinct. Government-commissioned status reports were established in response to community concerns about monitoring coal and CSG projects in the area; LFRN's longitudinal citizen-science fills critical information gaps by providing fine-grain, locally grounded evidence that helps interpret those higher-level compilations. In planning contexts—where decisions must weigh complex technical claims—this independent evidence base is especially valuable.

LFRN's contributions have highlighted issues that go to the heart of ecologically sustainable development and orderly planning: the adequacy of blast and noise monitoring networks; the placement of monitors relative to sensitive ecological assets, conservation corridors and receivers; and the need for transparent, verifiable data linking operational activity to environmental outcomes. Recent public analyses and submissions from LFRN emphasise that monitoring must reflect the sensitivity of the Leard landscape—not only mine boundaries—and advocate for decision conditions that protect the integrity of the Biodiversity Corridor and Box-Gum Woodland remnants.

LFRN's track record demonstrates independence, persistence and technical literacy; its outputs are anchored in public-domain evidence and presented in formats directly usable by consent authorities. In a region where cumulative impacts and offset claims are frequently debated, LFRN provides the consistent, ground-truthed monitoring that helps planners, regulators and the community distinguish assertion from fact. For these reasons, we recommend our group's history of citizen-science leadership and respectfully submit that our ongoing participation should be afforded significant weight in the assessment of proposals affecting Leard State Forest and its dependent communities.

Key concerns

1. The blast impact zone of Maules Creek Coal is understated
2. There is no attempt to respond to the criticisms of the Judge in *EPA v Maules Creek Coal Pty Ltd* [2023] NSWLEC 94 (the blast of 20th August 2020, discussed below)
3. Further 8 charges of blasting criminality are due to be heard by the NSW Land and Environment Court later this year, and the sentencing of *EPA v Maules Creek Coal Pty Ltd* [2023] NSWLEC 94 will also be announced later this year
4. Whitehaven Coal Chief Operating Officer Ian Humphries addressed the Land and Environment Court in May 2025, telling the Court the company wouldn't change anything they did if they were faced with the same circumstances again ie no contrition.
5. No requirement to report nitrate emissions from individual blasts (although these are reported annually in retrospect to the National Pollution Inventory)
6. Blast Management Plan permits “small” blasts
7. It is not appropriate to be pursuing approval for the expansion of this project under these circumstances.

Why the prospect of blasting at the Maules Creek Continuation is more serious in terms of human health risks than 2020 context

While concerning in their lack of contrition, the statements of Mr Humphries, Whitehaven Coal Chief Operating Officer, to the sentencing hearing of *EPA v Maules Creek Coal Pty Ltd* [2023] NSWLEC 94, appear to be honest, as the EIS shows no signs it has respected the findings of guilt in that case. This EIS confirms that Whitehaven Coal has no intention of improving their operational compliance.

In 2020, the overlooked receivers were 2.9 km away and adults in an industrial setting. The northern progression now brings high-energy blast zones **within a few kilometres of children in a rural school and families in Maules Creek township** — a far more vulnerable population under AS 2187.2 and under common law duty of care. There does not appear to be proposed a monitor between proposed northern pits and Fairfax Public School/Maules Creek and leaves data gap for likely downwind impacts from the prevailing seasonal southerly-south-easterly winds

Issue	Court Finding (EPA v MCC 2024)	Appendix H Section/Page	Deficiency for Northern Receivers
Receiver Definition	Failed to treat Boggabri Coal workers as sensitive receivers; breached AS 2187.2 and BMP	Sec 4, Fig 4-1; Appendix B	Fairfax Public School and Maules Creek township residents listed generically, not elevated to special protection despite vulnerability
Blast Monitoring Locations	No monitor in most-affected direction (BM3 was 7.5 km away from Boggabri)	Sec 3.2, Fig 3-1	No monitor between proposed northern pits and Fairfax

			PS/Maules Creek; leaves data gap for likely downwind impacts
Modelling Limitations	Expert admitted doubts about modelling at extreme distances; called for conservative assumptions	Sec 10.3–10.5	Model uses standard compliance distances; no explicit modelling of northerly wind cases carrying blast energy/fume toward school/town
MIC Limits	MIC of 56,925 kg was 10× above conservative levels; breach of BMP	Table 10-1, Sec 10.4	No requirement to lower MIC when blasting near northern receptors; allows large charges close to school
Governance Safeguards	Ignored expert's Dec 2019 advice; drilled before consulting; overruled shot-firer safety concerns	Sec 10.6	No independent review, community notification, or automatic halt triggers for blasts near school/township
Fume/Dust Risk	Blast caused dust/fume requiring evacuation of adjacent workforce	Sec 10.6	No school-specific protocols (e.g., indoor sheltering, real-time air monitoring at Fairfax PS)
AS 2187.2 §4.1	Breach of §4.1's person-first hazard ID requirement	Sec 10.2–10.6	No explicit integration of §4.1 first-principles safety into blast design criteria for school proximity
Cumulative Impacts	Cross-boundary human impacts shown (Boggabri case)	Sec 10.5–10.6	No cumulative exposure analysis for Fairfax PS/Maules Creek from multiple mine blasts in northerly winds
Receiver Definition	Failed to treat Boggabri Coal workers as sensitive receivers; breached AS 2187.2 and BMP	Sec 4, Fig 4-1; Appendix B	Fairfax Public School and Maules Creek township residents listed generically, not elevated to special protection despite vulnerability.

Key Legal and Factual Findings – EPA v Maules Creek Coal [2023] NSWLEC 94

Whitehaven Coal (WHC), operator of Maules Creek Coal, was prosecuted by the NSW Environment Protection Authority (EPA) for failing to conduct blasting activities in a competent manner. The charges were laid under:

- Section 64(1) of the *Protection of the Environment Operations Act 1997 (POEO Act)*
- Condition O1.1 of the Environment Protection Licence (EPL)

With the Maules Creek Coal Mine Continuation Project pit progression moving further north, the pattern of potential blast and noise impacts changes significantly. While the *EPA v Maules Creek Coal* prosecution remains a critical precedent, the most vulnerable receptors now shift to include residents in Maules Creek township and, crucially, Fairfax Public School on Harparary Road.

Conclusions and Orders

- The Court found to the criminal standard of proof - **beyond reasonable doubt** - that:
 - WHC **breached s 64(1) of the POEO Act and condition O1.1 of its EPL** by failing to blast in a competent manner ([445]).
 - The blast **did not meet safety and risk assessment requirements** in the relevant Australian Standard ([399]).
 - WHC **overloaded blast holes**, in breach of procedures and risk assessment obligations ([448]).

The following were the major findings and evidence in the case(referenced by paragraph number)

1. Incompetent and Dangerous Blast Design

- The blast was overloaded by **41,404 kg of explosives**, well beyond the approved design parameters ([286]).
- **19% of blast holes** were overloaded by more than 10%, in breach of WHC's own blast procedures ([445]).
- The overloading was not suitable or sufficient considering the potential environmental consequences.

2. Disregard for Safety and Sensitive Receptors

- WHC failed to classify **personnel at Boggabri Coal (2.9 km away)** as sensitive receivers ([287], [290]).

- WHC similarly ignored other sensitive areas like the **EPBC-protected Biodiversity Corridor** and **Leard State Forest**.

3. Flawed and Dangerous Modelling Approach

- WHC's expert, Dr McKenzie, admitted he had **never modelled impacts at such extreme distances** and had **doubts about reliability** ([54], [283]).
- Despite these concerns, WHC proceeded with the blast as a "**learning opportunity**", a stance the Court found reckless ([399]).

4. Non-compliance with Australian Standards and BLMP

- The blast did not meet requirements of **section 4.1 of AS 2187.2**, which prioritises the safety of people, property, and the environment ([399]).
- WHC failed to assess hazards/risks prior to blasting, in breach of this standard.
- The **Maximum Instantaneous Charge (MIC)** was **56,925 kg**, ten times greater than the "conservative and proven levels" required under clause 3.3.5 of the Blast Management Plan ([392]).
- No blast impact modelling was conducted **to the south**, despite the **Boggabri Coal mine being only 3 km away**, contrary to BLMP clause 3.1 ([391]).

5. Disregard for Expert Recommendations and Internal Warnings

- WHC ignored **Dr McKenzie's December 2019 recommendations** for improved blast design ([298]).
- In August 2020, when WHC resumed consultation, **30–50% of holes were already drilled**, locking in the flawed design ([298]).
- WHC's **own shot-firer** expressed safety concerns and advised delaying the blast. These concerns were **overruled by management**.

6. Weak and Unconvincing Defence

- WHC relied on US expert **Dr Cathy Aimone-Martin**, who had only two open-cut mine projects since 2009 and gave vague or evasive responses. Her evidence was **largely rejected** by the Court ([302]-[304]).

Critical Legal and Environmental Implications of the judgement

1. Setting Precedent

Operators cannot justify flawed blast designs as "learning opportunities" when **public safety and environmental risk** are involved.

2. Monitoring Failures

The **closest monitor (BM3)** was **7.5 km away**, despite much closer sensitive receptors, revealing systemic deficiencies.

3. Misuse of Standards

WHC's attempt to exclude Boggabri workers and ecologically sensitive areas from "sensitive receiver" status was **rejected**.

4. Worker Safety Neglected

Workers at nearby mines must be included in **blast risk assessments**, even if not employed by the same operator.

5. Internal Dissent Ignored

WHC's **dismissal of the shot-firer's concerns** indicates a dangerous safety culture prioritising production over safety.

Key Ways the EIS' Appendix H Ignores Court Findings & Emerging Northern Receiver Risks

1. Failure to classify northern communities and Fairfax Public School as high-priority sensitive receivers

- **Court finding (2020 blast case):** WHC wrongly excluded certain nearby populations from the sensitive receiver set — e.g., Boggabri Coal workers — breaching both AS 2187.2 and the Blast Management Plan.
 - **Appendix H:** In its “Noise-Sensitive Receivers” list (Sec 4, Fig 4-1), Fairfax Public School and some Maules Creek residential clusters appear only as generic “privately-owned dwellings” or “community” points. They are not elevated to the special-protection status warranted for:
 - Children in an educational setting (extra vulnerability to blast overpressure, dust, and vibration).
 - Residents in the direct downwind sector of the proposed northern pits.
 - **Risk:** The same definitional error condemned in the Court is now repeated for a new set of high-risk receptors, just in a different direction.
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2. Blast monitoring network leaves northern gap

- **Court finding:** A key failing was having no monitor in the most affected direction (Boggabri to the south); BM3 was 7.5 km away.
 - **Appendix H:** Figure 3-1 shows blast monitors still concentrated south and east; there is **no permanent monitor between the proposed northern pit extensions and Fairfax Public School/Maules Creek residences**.
 - **Risk:** As the pit advances north, overpressure/dust plumes in northerly and north-easterly weather could impact these communities **without direct blast data capture**, exactly as Boggabri was missed in 2020.
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3. Modelled compliance assumptions ignore northern weather pathways

- **Court finding:** Modelling could not reliably predict impacts at extreme distances; high uncertainty should trigger conservative settings.
- **Appendix H:** Predictive modelling (Sec 10.3–10.5) still assumes fixed “minimum compliance distances” based on a southerly risk profile. **No explicit modelling is shown for worst-case northerly wind conditions** carrying blast energy and fume toward Fairfax Public School.

- **Risk:** The most relevant wind direction for northern neighbours is not separately assessed — meaning the model may understate exposure for the school and township.
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4. No revised conservative Maximum Instantaneous Charge limits for closer northern receptors

- **Court finding:** Use of 56,925 kg MIC — tenfold above conservative safe levels — was a breach of the Blast Management Plan and AS 2187.2.
 - **Appendix H:** Continues to use generic 8,000 kg MIC “minimum compliance” curves but **does not commit to lower caps when blasting near northern population centres.**
 - **Risk:** Larger charges could be fired within short distances of a school without a mandatory conservative limit.
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5. Governance safeguards missing for new proximity risks

- **Court finding:** Expert warnings and shot-firer concerns were ignored; governance failure was central to the breach.
 - **Appendix H:** Northern encroachment is not matched with:
 - Mandatory pre-blast briefings with school/community reps.
 - Independent engineering review of blast designs near Fairfax PS.
 - Automatic halt authority for on-site staff when risk to children is identified.
 - **Risk:** The same organisational culture weaknesses could lead to unsafe northern blasts.
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6. Underplaying fume/dust risk to school environments

- **Court finding:** The 2020 blast created dust/fume requiring evacuation of an adjacent workforce.
- **Appendix H:** The “Blast Management” section (Sec 10.6) lists generic fume controls, but **no school-specific contingency:**
 - Evacuation/indoor-sheltering protocols.
 - Coordination with NSW Education.
 - Real-time PM₁₀/PM_{2.5} or NO₂ monitoring at school grounds during blast days.

- **Risk:** Acute health impacts on children are not specifically addressed.
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7. Australian Standard §4.1 first-principles safety still not embedded

- **Court finding:** Breached §4.1's requirement to first protect persons, property, and environment, and to identify hazards before blasting.
 - **Appendix H:** Criteria remain framed in regulatory limits, not in "first consideration" language. With schoolchildren now in closer proximity, absence of §4.1 integration is even more concerning.
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8. Cumulative impact narrative still narrow

- **Court finding:** Cross-boundary human impacts (e.g., Boggabri) are real.
- **Appendix H:** Cumulative blast impact analysis (Sec 10.5–10.6) is scheduling-focused, not exposure-focused. It does not:
 - Consider cumulative noise/blast exposure on Fairfax Public School from Maules Creek plus other mines.
 - Map overlapping blast risk zones from multiple projects in northerly winds.
- **Risk:** Underestimates true risk envelope for northern communities.

Case study of air pollution impacts from blasting at Maules Creek Coal mine, 20 August 2020

Summary: On the day of the criminal blast of 20th August 2020, it was reported on Facebook social media that a dust cloud was viewed approaching Gunnedah reducing visibility to 500m. However, the dust cloud has been attributed to natural causes by the NSW Department of Environment's Air Quality portal: www.airquality.nsw.gov.au

We argue that there is inadequate evidence for the attribution of the Gunnedah dust cloud to natural causes and provide the following analysis which supports the view that in fact the dust cloud observed at Gunnedah was in fact the result of the criminal blast from Maules Creek Mine. If so, this destroys Whitehaven's own EIS claims as to the extent of its pollution and gives rise to expectations the NSW Government and the NSW EPA will acknowledge the impact zone of the mine is significantly wider than predicted in the EIS.

We **critique** the claim that the **dust storm observed in the Boggabri–Gunnedah region on 20 August 2020** was a **natural event**, along with an evidence-based argument supporting the alternative conclusion: that the **dust storm was most likely caused by, or significantly exacerbated by, the Maules Creek Coal Mine blast** on that day.

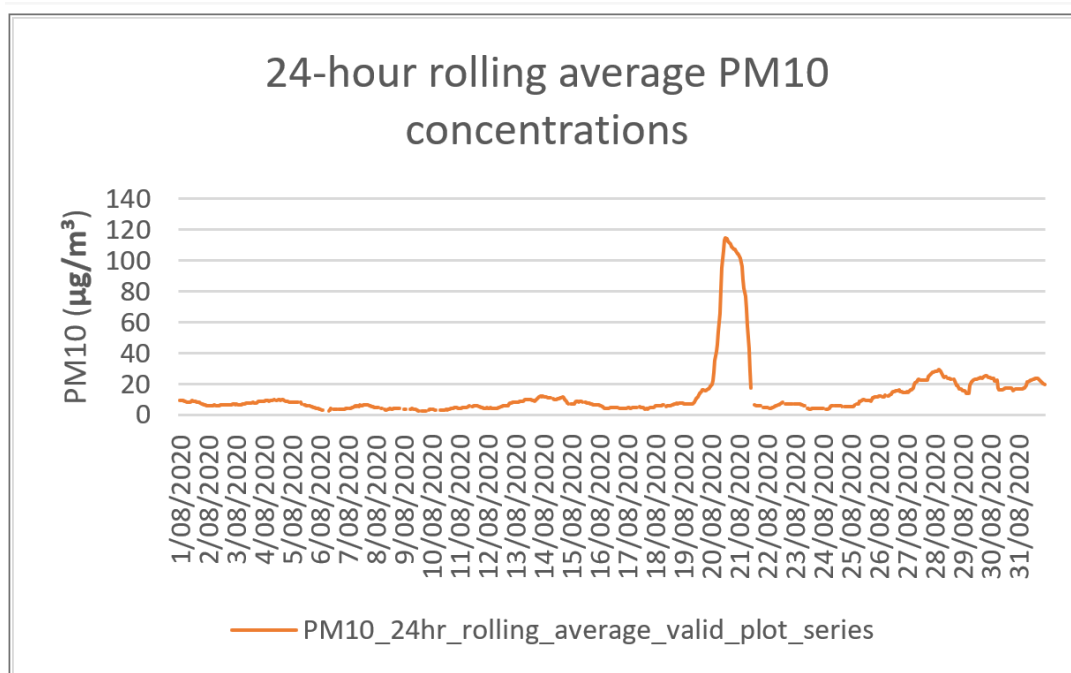
The NSW Government's air quality reporting for Winter 2020 described a regional dust event across parts of the Namoi region on **19–20 August 2020**, framing it as a **natural phenomenon**, driven by broader meteorological conditions. However, this attribution lacks substantiation and does not stand up to scrutiny when examined against known meteorological data, ground conditions, and blast-related activity on the day in question.

All Seven Regional Stations Exceeded the PM₁₀ NEPM Benchmark on 20 August 2020

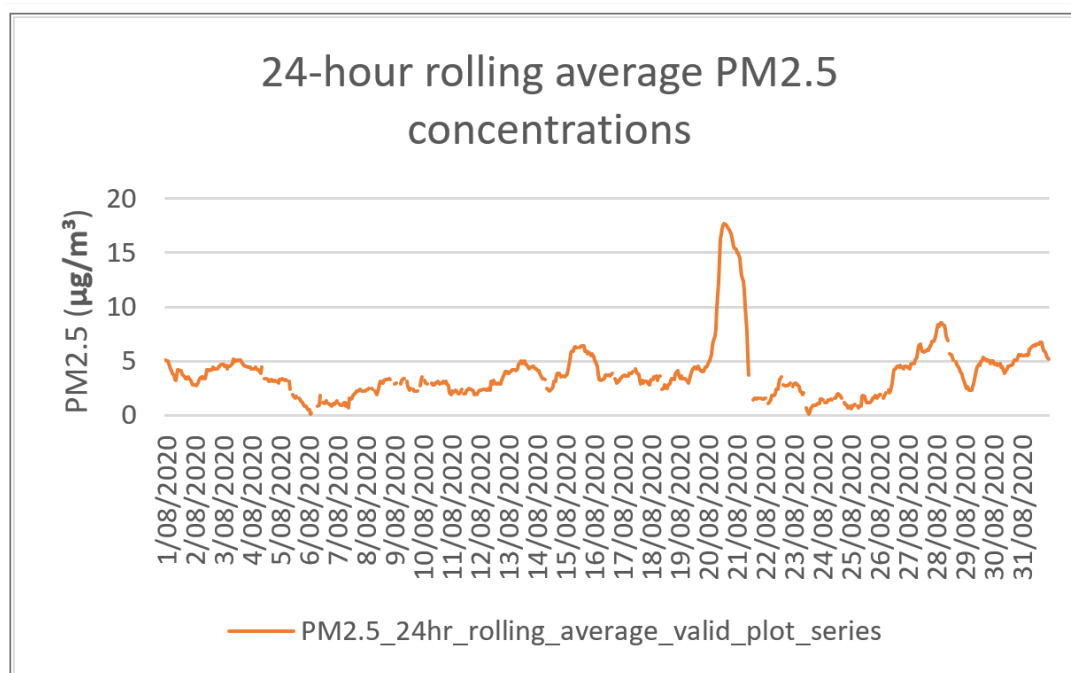
Every station registered **at least one day** during winter 2020 when the **24-hour PM₁₀ average exceeded the 50 µg/m³ NEPM benchmark**—and that day was **20 August 2020**. These seven stations comprise both government-run and industry-run monitors in the Namoi / North-West Slopes region:

- Narrabri
- Gunnedah
- Tamworth
- Maules Creek
- Wil-gai (Boggabri)
- Breeza
- Werris Creek

Wil-gai is the nearest to the mine. These extreme spikes noted locally around time of blast; not reflected in daily NEPM-supported summaries.



Wil-Gai plot clearly shows PM10 (24-hour rolling average) spiking well over 100 $\mu\text{g}/\text{m}^3$ on 20 Aug 2020



Is the blast the source of the regional dust cloud?

We say yes.

1. Absence of Source Identification

The reporting fails to specify:

- The **location of origin** of the supposed dust plume (only generalised claims of dust storms in southern Queensland and earlier claims of dust storms around Broken Hill)
- The **trajectory and mechanism** by which dust was allegedly entrained into the atmosphere
- Any **satellite imagery or synoptic charts** identifying bare-soil source zones beyond mining operations

In dust storm attribution, credible natural dust events are typically associated with:

- **Frontal systems crossing over arid areas**
- **Strong convective winds** over dry, exposed soils (e.g. Lake Eyre Basin, western NSW)
- **Satellite-detectable uplift** or MODIS plume tracking

No such evidence has been produced for the 20 August 2020 event. In contrast, dust storms from 2019–2020 drought periods were strongly correlated with known western NSW dust source zones. The **lack of evidence** for any such source zone on 20 August 2020 undermines the claim of a natural origin.

2. Contradictory Meteorological Conditions: Preceding Rainfall

Data from the **Bureau of Meteorology (BOM)** and NSW rainfall records show:

- **Maules Creek received ~57 mm of rainfall in the week leading up to 20 August 2020**
- Cumulative rainfall during August was well above average for this region

High antecedent soil moisture is known to **suppress dust mobilisation** by:

- Binding soil particles and clays
- Promoting short-term vegetation cover
- Inhibiting threshold friction velocity required for entrainment

Therefore, the **high rainfall directly contradicts the conditions necessary for a naturally occurring dust event** from exposed soils, suggesting that dust uplift from native landscapes was improbable on 20 August.

3. Localisation of Dust Impact and Timing Consistent with Blast

Reports from air quality monitors and witnesses confirm that:

- **The Wil-gai air quality station (Boggabri)** recorded a sharp, sudden **spike in PM_{2.5} and PM₁₀ levels**, peaking in a manner consistent with a short-duration, high-intensity dust emission
- This spike **coincided precisely with the timing of the blast** at the Maules Creek Coal Mine
- Other nearby stations (Narrabri, Maules Creek) showed more moderate PM elevations

This strongly indicates a **localised dust plume**, most intense near the mine, with the most severe impacts downwind — fully consistent with a **blast-induced dust cloud**, and **inconsistent with a large-scale regional dust storm**.

4. Absence of Dust Storm Alerts or Warnings

The Bureau of Meteorology issues dust storm warnings and visibility alerts for regional dust events. We have not found any evidence of:

- A dust storm warning issued for the Gunnedah/Namoi region on 20 August 2020
- Severe weather warnings related to strong winds that day

This omission further undermines the narrative of a widespread natural dust event and instead supports the inference that the **event was a localised incident originating from industrial activity**.

Reasons Supporting Blast-Caused Dust Storm Hypothesis

Given the above, the dust plume observed at Boggabri and Gunnedah is more credibly explained by the **Maules Creek Coal blast**, due to the following:

Evidence	Relevance
High rainfall preceding 20 August	Inhibits natural dust uplift
Timing of dust spike coincided with blast	Strong temporal correlation
Peak PM levels at Wil-gai (close to mine)	Indicates localised plume origin
Lack of regional wind/dust warnings	Suggests event was not region-wide
Court findings of overcharged blast and expert warnings ignored	Confirms unusually large dust-generating activity
Absence of natural dust source zones documented	No known natural source identified

Evidence

Wind direction on the day consistent with plume transport toward Boggabri

Relevance

Consistent with known wind patterns

Conclusion

The dust storm event on 20 August 2020 was **not of natural origin**. Instead, it was most likely caused or significantly aggravated by the criminally negligent blast at Maules Creek Coal Mine, which coincided precisely with peak PM_{2.5} and PM₁₀ readings at nearby stations. The attempt to explain this event as a natural dust storm is inconsistent with meteorological, geographical, and legal evidence.

Our Recommendations to Improve Mine Monitoring

1. **Publish real-time hourly monitoring data** for all relevant stations (Wil-gai, Maules Creek, Breeza, Werris Creek, Narrabri). Currently, daily summaries mask short-duration peaks. (The NSW SEED system *does* capture hourly averages but isn't always publicly accessible beyond the last 48 hrs without specific access or request.)
2. **Add short-term rolling average thresholds** (e.g. 1-hour, 3-hour limits) for PM_{2.5}, PM₁₀ and NO₂ that would trigger public alerts and incident investigations, similar to U.S. EPA 24-hour exposure guidelines.
3. **Install additional monitors closer to active blasting zones**, capturing direct blast-related plumes before dilution—especially for PM_{2.5} and NO₂ sources.
4. **Integrate noise/blast timing logs and meteorological wind data** with the monitoring record, to correlate spikes precisely with blasts and forecast plume movements.
5. **Deploy personal mobile monitoring units or community sensors** downwind during blast operations. These offer high-frequency data where people live.
6. **Establish standard incident thresholds** (e.g. single-hour PM_{2.5} > 100 µg/m³; NO₂ spikes > 200 ppb, PM₁₀ > 300 µg/m³), above which mines must report publicly, trigger mitigation (e.g. water sprays, pause operations), and notify nearby residents.
7. **Publish accessible dashboards** with historical hourly data, alerts, and clear health messaging (e.g. “hourly PM_{2.5} exceeded 50 µg/m³ between 09:00–12:00; at-risk residents advised to stay inside”).
8. **Audit and validate recorded anomalies** (e.g. Wil-gai's spike) via cross-comparison with nearby stations and telemetry redundancy, to rule out instrumental errors or isolated artefacts.

Summary

- Reporting of dust levels should focus on **hourly spikes** rather than daily averages, reflecting greater acute health risk.
- Short-term exposure to PM_{2.5}, PM₁₀, and NO₂ is a recognised trigger for serious respiratory and cardiovascular outcomes, even at durations of hours, and deserves vigilant real-time monitoring.
- **Improved monitoring**, with threshold-based alerts, denser spatial coverage, and timely public reporting, is key to protecting community health around blasting events.

“Small” blasts generating ground vibration of 0.5mm/s or less

On many occasions, blasts are heard coming from the Maules Creek mine at times when blasts have neither been scheduled nor notified to the community. The Blast Management Plan, required by Schedule 3, Condition 25 of Project Approval PA 10_0138, allows certain smaller blasts—those that generate ground vibration of 0.5 mm/s or less at any residence or privately-owned land, or blasts undertaken for safety reasons—to be conducted without counting against the limit for the maximum number of blasts permitted per week.

The IPC should consider addressing this loophole, and we request the Commissioners take the following factors into account:

1. Cumulative Impact Is Ignored by the Exemption

- The current Blast Management Plan treats these small blasts as inconsequential on the basis of *single-event* vibration measurements.
- However, frequent “small” blasts can **combine in their impacts over time**, leading to:
 - Chronic disturbance to sensitive ecological areas, especially the **EPBC-listed Leard State Forest Biodiversity Corridor**.
 - Repeated disturbance to fauna during breeding seasons, particularly for species with low tolerance to noise or ground shock.
 - Increased community disturbance, even when each blast is individually “below threshold”.
- Because they are not counted in weekly limits, operators could theoretically schedule *multiple* such blasts per week, creating a **continuous background of mining disruption**.

2. Ground Vibration is Not the Only Impact Metric

- The 0.5 mm/s threshold focuses only on **human comfort and building damage criteria**, not **environmental or ecological impacts**.
- These small blasts still:
 - Generate **air overpressure**, which can travel further than vibration and disturb both people and wildlife.
 - Produce **dust plumes**, including particulate matter (PM_{2.5}/PM₁₀) and nitrate fallout, which are not accounted for in the vibration threshold.
- The **NSW Land and Environment Court** has noted in *EPA v Maules Creek Coal [2023] NSWLEC 94* that ecological sensitivity must be considered alongside human receptor limits.

3. Opportunity for “Approval Banking” or Regulatory Gaming

- Because they are excluded from blast count limits, there is a **loophole**:
 - Operators may deliberately design blasts to register *just below* 0.5 mm/s to avoid hitting their limit of allowable weekly blasts.
 - This allows for *more total blasting activity* than the approval conditions appear to intend.
- Without scrutiny, this undermines the purpose of having blast frequency limits in the first place.

4. Disproportionate Impacts on Northern Receptors

- For the Maules Creek Continuation, receptors to the north—including the small Fairfax Public School on Harparary Road—will be closer to mine operations than some previous sensitive receivers. So, too, will the grazing region of Maules Creek.
- Even low-vibration blasts may cause **noticeable disruption** in a quiet rural setting, especially for children and livestock.

5. Lack of Transparent Monitoring and Reporting

- The current BlMP does not require public reporting of the number, timing, and location of sub-0.5 mm/s blasts.
- This opacity:
 - Prevents communities from knowing how often they are subjected to low-level blasting.
 - Makes it impossible to assess whether multiple “minor” blasts in short succession could produce cumulative exceedances in air quality, noise, or wildlife disturbance.

6. Precedent for Stricter Oversight

- We understand that in other NSW mining approvals (e.g. Bulga Coal), regulators have required all blasts—regardless of measured vibration—to be logged and reported, recognising that impact thresholds are not absolute cut-offs for harm.
- Applying this precedent would ensure consistent environmental protection standards

Conclusion re smaller blasts

The 0.5 mm/s “small blast” exemption rests on a narrow, human-centric criterion that fails to account for cumulative, ecological, and non-vibration impacts. Without greater scrutiny—including logging, public reporting, and inclusion in weekly counts—the exemption could

become a loophole allowing more frequent disruptive blasting than intended, particularly impacting sensitive ecological areas and northern receptors like Fairfax Public School.

Nitrate pollution

Although the current BLMP at the mine incorporates some remote and mobile sensing, there is no reporting requirement for NO₂ emissions that might exceed safe levels.

Queensland's *Guidance Note 20: Management of oxides of nitrogen in open cut blasting* is specific in addressing nitrate-related blast fumes. . Queensland's Department of Environment warns that nitrogen oxides from blasting can contribute to acidic rainfall and nitrate pollution in surface water.

In NSW, there is no direct equivalent "Guidance Note" dedicated solely to nitrates or oxides of nitrogen from blasting. NSW regulates nitrate and blast fume management within general mining, environmental, and air quality frameworks, but does not publish a standalone nitrate/NO_x blasting guidance note like Queensland's GN20

We recommend that in future, particularly due to Whitehaven's known blasting exceedances, nitrate levels be included in reporting requirements.

Leard Forest Research Node

8th August 2025

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