

Muswellbrook Coal

Spontaneous Combustion Management Update | August 2020

The Muswellbrook Coal Mine (MCM) began operations in 1907 as an underground coal mine, and open-cut operations commenced in 1944. The MCM is Australia's oldest, continual operating coal mine. As a result of our heritage, MCC has a particular focus on the work of ongoing remediation and rehabilitation of the MCM site.

“Spontaneous combustion” can occur in coal mines when carbonaceous material – that is carbon rich material – is exposed to oxygen and heat is generated. The management of carbonaceous material is a key focus for our staff, as spontaneous events generate gasses including sulphur dioxide (SO₂) and hydrogen sulphide (H₂S). In response to community consultations, and in accordance with its Environmental Protection Licence (EPA), MCC commissioned a study of spontaneous combustion at the MCM.

Preventing “spontaneous combustion” events

MCC has long sort to reduce emissions and improve safety by proactively preventing spontaneous combustion events. These events tend to occur in the parts of the site where there has historically been underground mining activity. As such where possible, MCC aims to prevent future heating issues when open cut mining is undertaken. This work is undertaken in accordance with the approved Spontaneous Combustion Management Plan.

Spontaneous Combustions Emissions Study

Over twelve months, MCC monitored emissions from the open cut operations. During this period H₂S concentrations did not exceed health-based criteria and based on this, the study concluded that the measured levels would not have caused adverse health effects. Also, SO₂ concentrations did not exceed either the EPA criteria or National Standards.

The study found northeast of the mine an area where there are no residential properties, may have a higher chance of emissions from spontaneous combustion events. The study also found H₂S, which has a distinctive odour, may be detectable at times within the community area surrounding MCC, depending on the sensitivity of the individual.

Next steps

MCC will continue to monitor H₂S and SO₂ emissions with its existing monitoring system. MCC will also report to the EPA as required and upload monitoring data to its website monthly.

The findings have been incorporated into the updated Air Quality Management Plan (AQMP) and Spontaneous Combustion Emissions Plan (SCMP), with these documents being reviewed by Muswellbrook Shire Council.

The Spontaneous Combustion Emissions Study is available on our website –

<https://www.idemitsu.com.au/mining/wp-content/uploads/2016/01/Spontaneous-Combustion-Emissions-Study-Final.pdf>

If you have any questions about the study, please contact our Environmental Superintendent Julie Thomas.

Contact details of the Project

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