MALABAR

MAXWELL UNDERGROUND MINE

SPONTANEOUS COMBUSTION MANAGEMENT PLAN

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1 INTRODUCTION

1.1 Background

Maxwell Ventures (Management) Pty Ltd (Maxwell), a wholly owned subsidiary of Malabar Resources Limited (Malabar) owns and operates the Maxwell Underground Mine (the site). The site is located in the Upper Hunter Valley of New South Wales (NSW), east-southeast of Denman and south-southwest of Muswellbrook. The site is approved to extract a maximum of 8 million tonnes of run-of-mine coal per year over a period of 26 years. The site boundary is shown in **Figure 1**.

The site consists of the following areas:

- Underground area comprising the proposed area of underground mining operations and the mine entry area (MEA) to support underground mining and coal handling activities and provide for personnel and materials access;
- Maxwell Infrastructure (formerly Drayton mine) comprising previous open cut mining areas, existing coal handling and preparation plant, train load-out facilities and rail loop, Antiene rail spur and other infrastructure and services; and
- Transport and services corridor between the underground area and Maxwell Infrastructure comprising the proposed site access road, covered overland conveyor, power supply and other ancillary infrastructure and services.

The area within and surrounding the site, which has previously been known as Mt Arthur South, Saddlers Creek and Drayton South, has long been identified as having a significant in-situ coal resource. Prospecting for coal commenced in the late 1940s, with exploration intensifying during the 1960s and 1970s. Open cut coal extraction and mining activities commenced at Maxwell Infrastructure in 1983 and ceased in October 2016. The previous open cut mining area is currently in the rehabilitation phase of the mine operations.

The development consent for State Significant Development 9526 (SSD 9526) was granted on 22 December 2020 under clause 8A of the *State Environmental Planning Policy* (State and Regional Development) 2011 and section 4.5(a) of the *Environmental Planning and Assessment (EP&A) Act 1979*.

The development consent was modified on 19 November 2021 (Maxwell MOD1) to allow for the repositioning of infrastructure primarily at the MEA and realignment of a section of the site access road. The development consent was further modified (Maxwell MOD2) on 19 October 2022 to allow for the following:

- Re-orientation of the longwall panels in the Woodlands Hill, Arrowfield and Bowfield Seams resulting in a minor increase in the approved underground mining extent.
- Reduction in the width of some of the longwall panels in the Woodlands Hill Seam.
- Repositioning of the upcast ventilation shaft site and associated infrastructure.
- Other minor works and ancillary infrastructure components (e.g. access road and ancillary water management infrastructure for the repositioned ventilation shaft site).

Another modification was made to the development consent (Maxwell MOD3) on 22 September 2025 to allow for the transfer of tailings Mt Arthur Coal to the Maxwell UG Mine East Void, and tailings and coarse rejects from the Maxwell CHPP to the North Void.

The site also incorporates the development formerly authorised under the Maxwell Infrastructure Project Approval (PA) 06_0202. Development Consent DA 106-04-00 for the existing rail loop and Antiene Rail Spur was granted on 2 November 2000 under Section 76(A)9 and 80 of the EP&A Act. DA 106-04-00 was modified on 18 September 2023 (Antiene MOD1) to align with the approved operating life of the Maxwell Underground Mine (i.e. until 2047).

1.2 Purpose and Scope

The purpose of this Spontaneous Combustion Management Plan (SCMP) is to ensure that statutory requirements are met, and to outline the controls to be implemented to manage spontaneous combustion at the site. This SCMP is one of a series of Environmental Management Plans that together form the Environmental Management System for the site.

This SCMP applies to all activities within the SSD 9526 development application area. In particular, the management measures described in this plan are relevant for the ongoing rehabilitation of the Maxwell Infrastructure site and stockpiling of coal from underground operations.

Rehabilitation of the sublease area is the responsibility of Mt Arthur Coal in accordance with their approvals and Forward Program and is excluded from this plan. Occupational health and safety risks associated with spontaneous combustion are addressed in the *Spontaneous Combustion Principal Hazard Management Plan* which is required under clause 24 and Schedule 1, clause 3B of the *Work Health and Safety (Mines and Petroleum Sites) Regulation 2014* and are excluded from this plan.

This SCMP was approved by the Planning Secretary on 22 February 2022. On 6 April 2022 Maxwell gave written notice to the then Department of Planning and Environment (DPE) (now DPHI) of its intention to commence permitted construction, in accordance with Condition A13(b), Schedule 2 of Development Consent SSD 9526. In accordance with Schedule 2, Condition B92 of Development Consent SSD 9526, Maxwell did not commence construction until this SCMP was approved by the Planning Secretary. In accordance with Schedule 2, Condition B93 of Development Consent SSD 9526, Maxwell is implementing this SCMP.

1.3 Objectives

The objectives of this SCMP are to:

- Ensure all relevant statutory requirements are identified;
- Identify potential spontaneous combustion impacts;
- Detail the controls that are implemented to prevent spontaneous combustion impacts;
- Detail the spontaneous combustion monitoring program;
- Detail the procedure for assessing and reporting on spontaneous combustion performance;
- Detail the procedure for reporting spontaneous combustion related exceedances and incidents to relevant stakeholders; and
- Manage complaints related to spontaneous combustion in a timely and effective manner.

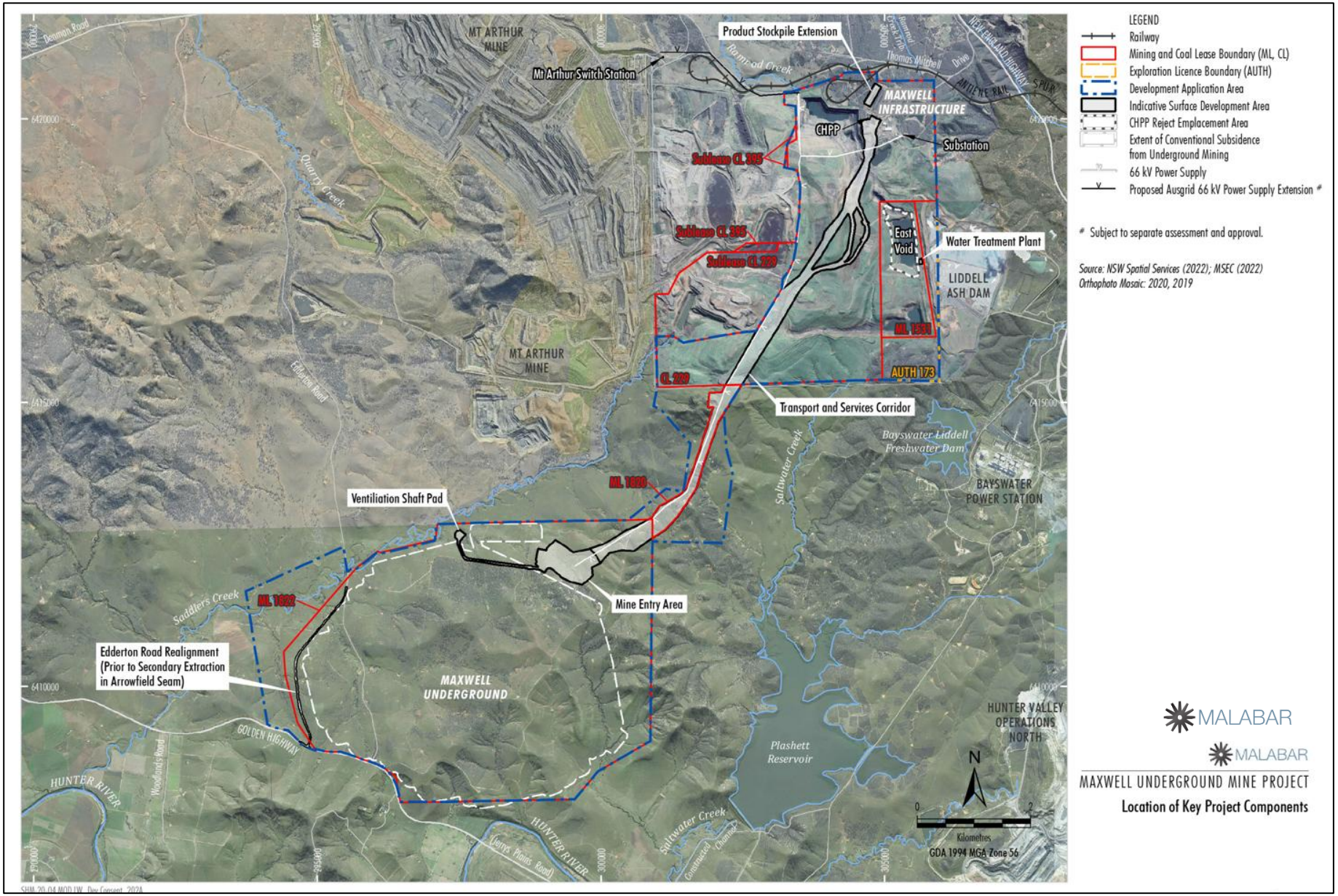

Figure 1. Maxwell Underground Mine

2 PLANNING

2.1 Regulatory Requirements

This SCMP describes the management of spontaneous combustion to meet relevant statutory requirements within SSD 9526, DA 106-04-00 and Environment Protection Licence (EPL) 1323. The various conditions that relate to spontaneous combustion management and where they are addressed in this document are detailed in **Appendix 1**.

2.2 Maxwell EIS and Supporting Document Commitments

Commitments in the Maxwell Environment Impact Statement (EIS) (2019) and supporting documents that relate to spontaneous combustion management, and where they are addressed in this document are detailed in **Appendix 2**.

2.3 Preparation and Consultation

Schedule 2, Part B, Condition B20(a) of SSD 9526, requires that this plan be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the Planning Secretary. Maxwell has engaged Dr B Basil Beamish (Managing Director at B3 Mining Services Pty Ltd) to assist with the preparation of this plan. A copy of the endorsement by the Planning Secretary is included in **Appendix 3**.

In accordance with Schedule 2, Part B, Condition B20(b) of SSD 9526, this plan has been prepared in consultation with the Resources Regulator. Outcomes of the consultation with the Resources Regulator are presented in **Appendix 4**.

2.4 Interaction with the Forward Program

Under the *Mining Act 1992*, rehabilitation is regulated by conditions in all mining leases, including requirements for the submission of a Forward Program. The management of spontaneous combustion is an integral part of the rehabilitation process (in particular at the Maxwell Infrastructure site) and therefore any control measures for spontaneous combustion in the Forward Program will be consistent with this SCMP.

3 IMPLEMENTATION

3.1 Context

Coal and other carbonaceous materials oxidise when exposed to oxygen, producing heat. Heat increases the rate of oxidation. If oxygen is available and the heat from oxidation isn't dissipated, increasing temperatures can cause the oxidation reaction to self-accelerate. If temperatures then become high enough, the carbonaceous material will ignite, which is known as spontaneous combustion.

Although all coals are liable to spontaneous combustion events under the right conditions, the Greta coal measures, which were mined in the past at the Maxwell Infrastructure site, are known to have a high propensity for spontaneous combustion. This is caused by the heat balance between the intrinsic reactivity of the coal and the moisture contained within the coal. Subsequently, there is a risk of spontaneous combustion events in previously open cut mined areas and spoil emplacement areas at the Maxwell Infrastructure site. Spontaneous combustion in overburden emplacements and coal stockpiles at Maxwell Infrastructure has been successfully managed through the implementation of the Maxwell Infrastructure Spontaneous Combustion Management Plan which was last approved by DPE in February 2020 under PA 06_0202. Controls previously included as part of the Maxwell Infrastructure Spontaneous Combustion Management Plan have been incorporated into this plan.

The Spontaneous Combustion Management Plan for the Maxwell UG Mine would replace the existing plan (for Maxwell Infrastructure) once approved, as the Maxwell UG Mine includes the area that was Maxwell Infrastructure.
The target seams for the underground mining operations are located within the Jerrys Plains Subgroup, which form part of the upper and middle units of the Wittingham Coal Measures. Coal quality data from the target seams in boreholes across the proposed underground mine have been used to interpolate spontaneous combustion index parameter values for R_{70} self-heating rate, self-heating temperature (SHT) and crossing point temperature (CPT) (Beamish, 2020). These index parameters provide an indication of the intrinsic spontaneous combustion propensity of a particular coal using a relative rating scheme. The spontaneous combustion propensity ratings of the target coal are as follows:

- R_{70} self-heating rate index: Low-Medium to Medium
- SHT: Medium
- CPT: Low

Reactive pyrite-initiated heatings, as documented for the Greta seam (Beamish, Theiler and Ward, 2017), are unlikely as the coal seams in the Wittingham Coal Measures have low sulphur concentrations.

The risk of dust, smoke and odours from spontaneous combustion in coal stockpiles at the site are low.

3.2 Performance Measures

In accordance with Schedule 2, Part B, Condition B20(c) of SSD 9526, a performance measure for spontaneous combustion is to minimise the risk of spontaneous combustion on the site. Maxwell will take all reasonable steps to manage and minimise the risk of spontaneous combustion. In accordance with Schedule 2, Part B, Condition B15 of SSD 9526 and Schedule 2, Part B, Condition B2 of DA 106-04-00, and Condition O4.1 of EPL 1323, another performance measure is to minimise odour on site and not cause or permit the emission of offensive odour beyond the boundary of the premises. Coal stockpiles associated with underground operations will also be managed to reduce the potential for spontaneous combustion.

Extensive rehabilitation has been undertaken at the Maxwell Infrastructure site, following the cessation of mining operations in 2016. As such, the primary focus of spontaneous combustion management is on the prevention of spontaneous combustion outbreaks in the final landform, as well as the detection and remediation of outbreaks in the old open-cut areas.

3.3 Overburden Emplacement Areas

Maxwell will aim to prevent spontaneous combustion outbreaks in overburden emplacement areas by reducing oxygen access to carbonaceous material. This is generally achieved through:

- Compaction and shaping of the surface.
- Application of inert material to a specified depth.
- Appropriate surface treatment including water management and vegetation establishment.

3.3.1 Compaction

Overburden emplacement areas that have reached their nominal landform height and contain carbonaceous material (defined in **Section 8.2**) or show signs of heating will be compacted and shaped, where practical.

3.3.2 Inert Capping

Final surfaces of overburden emplacement areas will be covered with a layer of inert material (defined in **Section 8.2**) and compacted. Inert material is sourced from dedicated stockpiles consisting mostly of clays that were established during the mining process. Areas will be assessed by the Mining Engineer and/or Land and Property Coordinator as part of the rehabilitation planning process to determine the depth of inert material required, based on the matrix in **Table 1.**

The capping depth will be factored into the final landform surface to maintain the maximum design height.

Historic monitoring data and an inspection using a thermal camera will be undertaken to determine if heating is present. The degree of carbonaceous material will be assessed visually. This technique has been evaluated against an analytical technique and found to be a conservative estimate of spontaneous combustion propensity (Beamish 2017).

Table 1. Inert capping depth matrix

Surface temperature	Inert capping depth (m)			
	No carbonaceous material	Some carbonaceous material	Mostly carbonaceous material	All carbonaceous material
Less than 35°C	0	1	2	3
35-80°C	1	2	3	4
Greater than 80°C	2	3	4	4

3.3.3 Surface Treatment

Surface treatment is required to maintain the effectiveness of the inert capping on overburden emplacement areas. Surface treatment involves the management of water to reduce erosion and the establishment of vegetation. As per the *Water Management Plan*, erosion and sediment controls will be implemented in accordance with *Managing Urban Stormwater: Soils and Construction Volume 1* (Landcom 2004), *Volume 2C* (DECC 2008) and *Volume 2E* (DECC 2008) (The Blue Book). The main principles include:

- Erosion prevention;
- Sediment capture; and
- Site stabilisation.

The establishment of vegetation is generally through seeding with either a woodland or pasture mix in accordance with the SSD 9526 consent and Forward Program requirements. Where there is a risk of spontaneous combustion, the vegetation ground cover will be increased to maintain the coherence of the surface protection layer and reduce oxygen ingress.

3.3.4 Remediation

Remediation is required when outbreaks occur on existing rehabilitated land. Remediation measures will be put in place to address spontaneous combustion outbreaks with consideration given to the following aspects:

- Risk to workers, environment and the community;
- Intensity of the outbreak;
- Size of the area affected;
- Potential for odour to travel off-site;
- Access to the area;
- Landform and rehabilitation plan; and
- Availability of inert material for coverage.

The remediation measure that will be implemented for isolated outbreaks includes the loading out and/or pushing out of carbonaceous material to remove the ignition source. Remediation measures that will be implemented for larger outbreaks include reshaping and capping with inert material and or track rolling to reduce potential airflow through material.

Requirements for inert capping during remediation will be guided by **Table 2**. Inert capping will be compacted where access allows. Due to access restrictions in highwall areas, this matrix may not be able to be applied. In this instance, a case-specific plan will be implemented for individual outbreaks.

Table 2. Inert capping guide for remediation

Surface temperature	Inert capping		
	Depth (m)	Buffer around outbreak (m)	Additional notes
Less than 25°C	None		
25 – 35ºC	1	5	-
36 – 80ºC	2	10	-
Greater than 80ºC, or blue smoke, or tar on surface.	3	10	Where possible, cracks will be filled with inert material with priority given to available material with a higher sand content.

3.4 Coal Stockpiles

Coal stockpiles at the mine entry area and coal handling and preparation plant will be regularly monitored for signs of spontaneous combustion which include heat-haze, smoke and/or spontaneous combustion odours.

If monitoring indicates self-heating of coal is occurring on the ROM stockpile, then the stockpile will be recirculated and washed to reduce and or remove the heating. This material will then be placed onto the product stockpile. If heating is present on the product stockpile, the material will be relocated or removed. The existing product coal stockpile area at the Maxwell Infrastructure will also be extended to allow for better management of different product coal blends.

The stockpiles are managed on a ‘first in, first out’ basis so that the coal is rotated regularly (i.e. no coal is left sitting on the stockpile for an extended period of time). The stockpiles are small in size and as such, require the quick rotation of coal which in turn minimises the chance for heat build-up. Stockpiles have been and will continue to be designed on areas of natural ground or areas where there are no signs of spontaneous combustion. Stockpiles will be designed to allow access for equipment if remedial measures are required.

3.5 Coarse Rejects

Coarse and fine reject material will be co-disposed of within the East Void. They will be transferred via a single pipeline to the East Void and decant water will be reclaimed for use within the mine water management system. As areas within the East Void reach the final landform surface, they will be progressively capped and rehabilitated.

3.6 Odour and Fume Management

Experience and analysis (Metford Laboratories 1998) have shown that emissions from spontaneous combustion outbreaks include components that contain sulphur, which cause odour. Odour from spontaneous combustion is managed through the prevention and remediation of spontaneous combustion outbreaks as described in **Sections 3.2** and **Section 3.3**. Remediation is prioritised for outbreaks in areas where there is a potential for fumes and odour to migrate off-site.

The management of any complaints received in relation to spontaneous combustion odour is detailed in **Section 4.5**.

4 MEASUREMENT AND EVALUATION

4.1 Indicators

Spontaneous combustion outbreaks are identified through the following indicators:

- smoke or steam emissions.
- surface heating (as indicated by touch or thermal imagery);
- odour;
- surface discolouration;
- crack formation; and
- otherwise unexplained localised vegetation die-back.

4.2 Inspections

4.2.1 Routine Inspections

Spontaneous combustion will be included as part of the daily inspection during any rehabilitation or constructions activities that occur at the Maxwell Infrastructure site (i.e within the old open cut workings within the SSD 9526 development application area). Routine inspections of coal stockpiles (located at the mine entry area and Coal Handling and Preparation Plant) will occur once coal stockpiling activities have commenced. If, during these inspections, a Supervisor observes any spontaneous combustion outbreak that is new or has increased in intensity, or any landform stability issues associated with the oxidation of carbonaceous material, it will be reported to the Land and Property Coordinator. Any remedial work will be scheduled and undertaken in accordance with this plan.

4.2.2 Post Rain Event Inspection

One to two weeks following a rain event, where more than 20mm of rainfall is recorded in one day or more than 50mm is recorded in three days, the Land and Property Coordinator will inspect known spontaneous combustion outbreaks and areas where spontaneous combustion remediation works have been undertaken in the previous twelve months. For each area inspected, the approximate area exhibiting smoke or steam emissions and a photograph will be recorded and compared against historic data. Water management structures will also be inspected for landform stability.

4.2.3 Monthly Inspections

Each month, the Land and Property Coordinator will inspect areas where:

- Smoke or steam emissions from spontaneous combustion are evident or have been evident within the previous twelve months; or
- Spontaneous combustion remediation works have been undertaken in the previous twelve months.

The inspection will be undertaken shortly after daybreak, to reduce interference from the heating of the surface from the sun. Barometric pressure, wind speed, wind direction and temperature at the time of the inspection will be recorded.

The following will be recorded for each area inspected:

- A unique identifier.
- The approximate surface area in square metres exhibiting smoke or steam emissions.
- Classification of the intensity of the outbreak, where:
    - Inactive refers to areas with no visible smoke or steam.
    - ***Minor*** refers to areas where spontaneous combustion is evident where visible steam or smoke exists, however the area affected is 200 square metres or less.
    - ***Moderate*** refers to areas where spontaneous combustion is evident where visible steam or smoke exists, however the area affected is greater than 200 square metres.
    - ***Major*** refers to areas that exhibit naked flames, regardless of the size of the area affected.

- The approximate location, classification and surface area affected on a site plan.
- A photograph using a thermal camera (where appropriate).

A summary of actions taken to prevent the development or to control the spread of spontaneous combustion during the month, and the effectiveness of such actions, will also be recorded including an assessment of the effectiveness of these actions.

4.2.4 Thermal Aerial Survey

A thermal aerial survey using infrared detection will be used to identify areas of heating on a site-wide basis and also to assess the integrity of existing capping. The thermal aerial survey will be flown on an annual basis however the frequency of the survey may be reduced if there have been no new areas of spontaneous combustion over a period of at least two consecutive years. Additional thermal aerial surveys (of isolated areas) will be considered for any major outbreaks. The thermal aerial survey will be compared against previous surveys to assess the horizontal extent and potential migration of heating.

4.2.5 Rehabilitation Monitoring

Annual ecological monitoring of rehabilitation includes inspections for visible spontaneous combustion or spontaneous combustion impacts on vegetation (e.g. phyto-toxicity). Rehabilitation monitoring is described in detail in the Rehabilitation Management Plan..

4.3 Environmental Incident and Non-Compliance Notification

An incident is defined in SSD 9526 and DA 106-04-00 as an occurrence or set of circumstances that causes or threatens to cause material harm and which may or may not be or cause a non-compliance.

Maxwell will notify the Department of Planning and Environment (DPE) if it is aware that spontaneous combustion has:

- caused odour to migrate off-site;
- caused damage to a private residence or public infrastructure; or
- resulted in a pollution incident.

In accordance with Schedule 2, Part E, Condition E9 of SSD 9526 and Schedule 2, Part B, Condition C5 of DA 106-04-00, Maxwell must notify the Department within 24 hours of becoming aware of an incident. The notification must be made via the NSW planning portal (Major Projects) and address details of the incident including:

a) date, time and location;

b) a brief description of what occurred and why it has been classified as an incident;

c) a description of what immediate steps were taken in relation to the incident; and

d) identifying a contact person for further communication regarding the incident.

Maxwell shall provide the DPHI with a subsequent incident report in accordance with Appendix 7 of Development Consent SSD-9526.

A *Pollution and Incident Response Management Plan* (PIRMP) is maintained in accordance with the requirements of the Part 5.7A of the *Protection of the Environment Operations Act 1997* and Chapter 7, Part 3A of the *Protection of the Environment Operations* (General) Regulation 2009. Any pollution incident that causes actual or potential material harm will be reported to the relevant agencies immediately after it is identified, as described in the PIRMP. A copy of the PIRMP is located on Malabar's website at https://malabarresources.com.au/corporate-governance/.

In accordance with Schedule 2, Part E, Condition E10 of SSD 9526 and Schedule 2, Part C, Condition C6 of DA 106-04-00, Maxwell shall immediately notify DPHI within seven days of becoming aware of a non-compliance. The notification shall be in writing via the Department's Major Projects Website and

identify the development (including the development application number and name), set out the condition of SSD 9526 that the Project is non-compliant with, why it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken, and when, to address the non-compliance. A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.

Duty to notify the Resources Regulator of spontaneous combustion occurring at the surface of a coal mine (including an underground coal mine) under clause 128(5)(v) of the *Work Health and Safety (Mines and Petroleum Sites) Regulation 2014* is addressed in the *Spontaneous Combustion Principal Hazard Management Plan*.

4.4 Adaptive Management and Contingency Plan

In accordance with Schedule 2, Part E, Condition E4 of SSD 9526 and Schedule 2, Part C, Condition C2 of DA 106-04-00, where any exceedance of performance measures has occurred (i.e. outbreak of spontaneous combustion on rehabilitation, spontaneous combustion on coal stockpiles or emission of odour), Maxwell shall, at the earliest opportunity:

- Take all reasonable and feasible steps to ensure that the exceedance ceases and does not recur. Steps may include (where appropriate)
    - Compaction and shaping of the surface (in accordance with **Section 3.3.1**).
    - Application of inert material to a specified depth (in accordance with **Section 3.3.2**).
    - Appropriate surface treatment including water management and vegetation establishment (in accordance with **Section 3.3.3**).
    - Loading out and/or pushing out of carbonaceous material to remove the ignition source (in accordance with **Section 3.3.3**).
    - Recirculating coal stockpiles to remove heating (in accordance with **Section 3.4**).
    - Additional visual inspections and inspections using a thermal camera to determine the extent of heating or if heating is still present after treatment (in accordance with **Section 4.2.3**).
    - Thermal aerial surveys (in accordance with **Section 4.2.4**).
    - Ongoing monitoring.
- Consider all reasonable and feasible options for remediation (where relevant) and submit a report to DPE describing those options and any preferred remediation measures or other course of action; and
- Implement reasonable remediation measures as directed by the Planning Secretary.

In accordance with Schedule 2, Part E, Condition E5 (f) of SSD 9526, the following contingency plan is used to manage any unpredicted impacts and their consequences, and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible:

- Review the unpredicted impact with consideration of any relevant activities and monitoring data;
- Identify the most likely source of the unpredicted impact;
- Review the existing process and current visual impact controls; and
- Implement appropriate mitigation measures.

4.5 Complaints Handling

If a complaint or enquiry is received regarding air quality, it is investigated as soon as reasonably practicable and managed in accordance with Maxwell's *Community Complaints and Enquiries Procedure*. Details such as complainant name, contact details, nature of concern, date, time and method of receival are recorded. While details of the enquiry vary depending on the nature and source of the enquiry, the following actions may result:

- Confirmation of whether the complainant would like the matter raised as a complaint or an enquiry.
- Identify further details which may assist in determining the cause of the complaint.
- Carry out an inspection of the site or conduct an assessment of monitoring results to identify the source.

- Identify if there is an exceedance or non-compliance with any consent or licence condition.
- Identify, where necessary and practical, methods to manage the source of the complaint and minimise the chance of a recurrence or the potential to generate further complaints.

All enquiries and/or complaints are recorded in an enquiries database. A summary of complaints is presented to the Community Consultative Committee (CCC) and included in the Annual Review and EPL Annual Return.

5 AUDIT, REVIEW AND IMPROVEMENT

5.1 Review Schedule

The suitability of this SCMP will be reviewed in accordance with Schedule 2, Part E, Condition E7 of SSD 9526 and Schedule 2, Part C, Condition C3 of DA 106-04-00, that is within three months of:

- the submission of an incident notification under condition E9/C5;
- the submission of an Annual Review under condition E11;
- the submission of an Independent Environmental Audit under condition E13/C7;
- the approval of any modification of the conditions for SSD 9526 or DA 106-04-00; or
- notification of a change in development phase under condition A13.

In accordance with Schedule 2, Part E, Condition E8 and Schedule 2, Part C, Condition C4 of DA 106-04-00, if necessary, to improve the environmental performance of the site, cater for a modification or comply with a direction, this plan will be revised. The revised plan will be submitted to DPHI for approval within six weeks of the review.

During each review of the SCMP, a check will be undertaken to make sure there is consistency between the SCMP and the *Spontaneous Combustion Principal Hazard Management Plan*.

5.2 Reporting

Results from the monthly inspections (as described in **Section 4.2.3**) will be collated into a report and submitted to the NSW Environment Protection Authority within two months of the end of the reporting periods:

- 1 April – 30 September; and
- 1 October – 31 March.

In accordance with Schedule 2, Part E, Condition E11 of SSD 9526, by the end of March in each year after the commencement of the development, or other timeframe agreed by the Planning Secretary, an Annual Review report will be submitted to DPHI. The Annual Review will include the following:

- A description of the development that was carried out in the previous calendar year and the development proposed to be carried out over the current calendar year.
- A comprehensive review of spontaneous combustion results and complaints over the previous calendar year.
- A description of non-compliances which occurred in the previous calendar year and actions that were (or are being) taken to rectify the non-compliance and avoid reoccurrence.
- Evaluation of the effectiveness of spontaneous combustion management measures.
- Trends in monitoring data and any discrepancies between predicted and actual impacts.
- Measures to be implemented over the next calendar year to improve the environmental performance of the development.

In accordance with Schedule 2, Part E, Condition E12 of SSD 9526 copies of the Annual Review shall be submitted to Muswellbrook Shire Council and made available to the CCC and any interested person upon request.

In accordance with Schedule 2, Part E, Condition E17(a) of SSD 9526, the Annual review will be publicly available on Malabar's website at https://malabarresources.com.au/corporate-governance/.

5.3 Auditing

In accordance with Schedule 2, Part E, Condition E13 of SSD 9526 and Schedule 2, Part C, Condition C7 of DA 106-04-00, within one year of commencement of development under SSD 9526 and within one year of approval of Antiene MOD1, and every three years after, unless the Planning Secretary directs otherwise, Maxwell will commission and pay the full cost of an Independent Environmental Audit of the development. The audit shall:

(a) be led by a suitably qualified, experienced and independent auditor whose appointment has been endorsed by the Planning Secretary;

(b) be conducted by a suitably qualified, experienced and independent team of experts (including any expert in field/s specified by the Planning Secretary) whose appointment has been endorsed by the Planning Secretary;

(c) be carried out in consultation with the relevant agencies and the CCC;

(d) assess the environmental performance of the development and whether it is complying with the relevant requirements in this consent, water licences and mining leases for the development (including any assessment, strategy, plan or program required under these approvals);

(e) review the adequacy of any approved strategy, plan or program required under the abovementioned approvals and this consent;

(f) recommend appropriate measures or actions to improve the environmental performance of the development and any assessment, strategy, plan or program required under the abovementioned approvals and this consent; and

(g) be conducted and reported to the satisfaction of the Planning Secretary.

In accordance with Schedule 2, Part E, Condition E14 of SSD 9526 and Schedule 2, Part C, Condition C8 of DA 106-04-00, within three months of commencing an Independent Environmental Audit, or other timeframe agreed by the Planning Secretary. Maxwell shall submit a copy of the audit report to the Planning Secretary, and any other NSW agency that requests it, together with its response to any recommendations contained in the audit report, and a timetable for the implementation of the recommendations. The recommendations shall be implemented to the satisfaction of the Planning Secretary.

5.4 Access to Information

In accordance with Schedule 2, Part E, Condition E17 of Development Consent SSD 9526 and Schedule 2, Part C, Condition C11 of DA 106-04-00, before the commencement of construction and within 3 months of the approval of Antiene MOD1 until the completion of all rehabilitation required under SSD 9526 and DA 106-04-00, Maxwell will make the following information and documents (as they are obtained, approved or as otherwise stipulated within the conditions of SSD 9526 and DA 106-04-00) that are relevant to this plan publicly available on Malabar's website (https://malabarresources.com.au/corporate-governance/):

- this SCMP;
- the proposed staging plans for the development if the construction, operation or decommissioning of the development is to be staged;
- minutes of CCC meetings;
- regular reporting on the environmental performance of the development in accordance with the reporting requirements in any plans or programs approved under the conditions of this consent;
- a comprehensive summary of the monitoring results of the development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;
- a summary of the current phase and progress of the development;
- contact details to enquire about the development or to make a complaint;
- a complaints register, updated monthly;
- the Annual Reviews of the development; and

- audit reports prepared as part of any Independent Environmental Audit of the development and the Applicant's response to the recommendations in any audit report.

This information shall be kept up to date, to the satisfaction of the Planning Secretary.

5.5 Records Management

All spontaneous combustion monitoring data is maintained in accordance with the Environmental Management Strategy and maintained on the premise for a period of at least four years.

5.6 Continuous Improvement

Maxwell will continuously investigate and implement improved spontaneous combustion management measures on site. Feedback from the monitoring results and any complaints may be used to assess impacts and determine where improvements or mitigation measures are required. These measures will be reported on in the Annual Review.

5.7 Document Review History

A summary of the document history is outlined in **Table 3**.

Table 3. Document revision status

Issue	Date	Completed By	Details
1	March 2021	Robyn Skinner Dr B Basil Beamish Donna McLaughlin	Document prepared following approval of SSD 9526 for the Maxwell UG Project.
1.1	June 2021	Robyn Skinner Donna McLaughlin	Document updated following review by DPIE.
2	February 2022	Alex Newton Donna McLaughlin	Document updated following approval of Modification 1.
3	August 2022	Robyn Skinner	Document updated following AEMR submission (to meet Condition E7(b)) and Independent Environmental Audit submission (to meet Condition E7(c)) and notification of construction commencement ((to meet Condition E7(e)).
4	December 2022	Robyn Skinner Donna McLaughlin	Document updated following approval of Modification 2 and to reflect amendments to the *Mining Act 1992*.
5	October 2023	Donna McLaughlin Alex Newton	Document updated following approval of Modification 1 of development consent DA 106-04-00 for the Drayton Rail Loop and Antiene Rail Spur.
6	December 2025	Donna Tiananga Tas Willis	Administrative update following IEA and approval of Modification 3.

6 INFORMATION, TRAINING AND INSTRUCTION

6.1 Competent Persons

Suitably qualified, competent and experienced persons shall be involved in the design, planning and implementation of this plan and related procedures.

6.2 Training

Spontaneous combustion management training is provided to all employees and contractors through the Site Familiarisation process. From time to time, workforce communication and toolbox talks allow for discussion of the objectives and requirements of this and any other relevant Management Plans.

To avoid confusion, this plan and the *Spontaneous Combustion Principal Hazard Management Plan* should be read in conjunction with one another for the operational management of spontaneous combustion at the site.

To ensure the effective implementation of spontaneous combustion management controls, all site personnel involved in the supervisory and operator roles will undertake a more detailed awareness training package.

7 RESPONSIBILITIES

Responsibilities associated with this management plan are outlined in **Table 4**.

Table 4. Responsibilities

Position	Responsibilities
General Manager	• Provide adequate resources for the implementation of this Plan.
Environment, Community and Approvals (EC&A) Manager	• Oversee the implementation of the SCMP. • Notify regulatory authorities and affected stakeholders of incidents in accordance with this Plan. • Coordinate periodic reviews of this Plan. • Ensure all personnel are trained in accordance with this plan.
Land and Property Coordinator	• Assist the EC&A Manager as required in the implementation of this Plan. • Coordinate investigations of spontaneous combustion related incidents or complaints. • Coordinate the implementation of the spontaneous combustion monitoring program in accordance with this Plan. • Coordinate the management of records and reporting of spontaneous combustion monitoring and management. • Manage spontaneous combustion related complaints in accordance with the complaints management procedure. • Provide training to all relevant personnel.
Mining Engineering Manager	• Manage spontaneous combustion in accordance with this Plan. • Prepare and implement mine designs to achieve appropriate final landforms and incorporate appropriate inert capping materials. • Develop a mitigation strategy, in consultation with the EC&A Manager if an area is identified as requiring remediation.
Supervisors	• Notify the Land and Property Coordinator of any new outbreaks or increases in outbreak intensity that have been observed. • Undertake routine inspections of rehabilitation areas and coal stockpiles. • Provide the Land and Property Coordinator with a summary of actions undertaken to prevent the development or to control the spread of spontaneous combustion.
All Personnel	• Undertake works in accordance with the objectives and principles of this Plan. • Report any incidents and exceedances involving spontaneous combustion.

8 DOCUMENT INFORMATION

8.1 References

Beamish (2017) Review of Spontaneous Combustion Assessment and Characterisation of Overburden at Drayton Coal Mine.

Beamish, B, Theiler, J and Ward, C (2017) Spontaneous combustion behaviour of coal from the Greta seam, in Proceedings of the 40th Symposium on the Geology of the Sydney Basin, pp 154-162 (Coalfield Geology Council of New South Wales).

Beamish, B (2020). Preliminary Assessment of Spontaneous Combustion Propensity of Target Seams at Maxwell Underground Project Based on Coal Quality Data.

Biodiversity Management Plan

Community Complaints and Enquiries Procedure

Landcom (2004) Managing Urban Stormwater Soils and Construction – Volume 1, 4th Edition, Sydney

Metford Laboratories (1998) Spontaneous Combustion Smoke Analysis

Pollution and Incident Response Management Plan

Spontaneous Combustion Principal Hazard Management Plan

Water Management Plan

8.2 Definitions and Abbreviations

Term	Definition
°C	Degrees Celsius
Antiene MOD1	Drayton Rail Loop and Antiene Rail Spur (DA 106-04-00) Modification 1
Carbonaceous material	Coal or rock material with a carbon-content sufficient to colour it dark grey to black and where a risk of self-heating may be present
CL	Coal Lease
DA	Development Approval
DPE	NSW Department of Planning and Environment
DPHI	Department of Planning, Housing and Infrastructure
DPIE	NSW Department of Planning, Industry and Environment (now NSW Department of Planning and Environment)
EIS	Environmental Impact Statement
EPL	Environment Protection Licence
Inert material	Material free of carbonaceous content and of low chemical reactivity. Typically, highly weathered material, such as clay or sandstone and shale that does not contain carbonaceous material or pyrite.
m	Metres
Maxwell MOD1	Maxwell Underground Project (SSD 9526) Modification 1
Maxwell MOD2	Maxwell Underground Project (SSD 9526) Modification 2
Maxwell MOD3	Maxwell Underground Project (SSD 9526) Modification 3
MEA	Mine Entry Area
ML	Mining Lease
NSW	New South Wales
PA	Project Approval
PIRMP	Pollution Incident Response Management Plan
SCMP	Spontaneous Combustion Management Plan
Spoil	Waste materials extracted through the mining process, such as interburden and overburden.
SSD	State Significant Development
Toolbox Talk	A forum where information is presented to the crews

APPENDIX 1 – REGULATORY REQUIREMENTS

State Significant Development Consent 9526

Clause	Requirement	Section of Plan
B19	**Air Quality Operating Conditions** The Applicant must: (a) take all reasonable steps to: (i) minimise odour, fume, and particulate matter (including PM_{10} and $PM_{2.5}$) emissions of the development, paying particular attention to minimising wheel-generated haul road emissions; (ii) manage and minimise the risk of spontaneous combustion;	**3.6** **3**
B20	**Spontaneous Combustion Management Plan** The Applicant must prepare a Spontaneous Combustion Management Plan for the development to the satisfaction of the Planning Secretary. This plan must: (a) be prepared by a suitably qualified and experienced person/s whose appointment has been endorsed by the Planning Secretary; (b) be prepared in consultation with Resources Regulator; and (c) describe the measures to be implemented to minimise the risk of spontaneous combustion on the site.	**Appendix 3** **Appendix 4** **3**
B22	The Applicant must not commence construction until the Spontaneous Combustion Management Plan is approved by the Planning Secretary.	**Appendix 5**
B23	The Applicant must implement the Spontaneous Combustion Management Plan as approved by the Planning Secretary.	**Noted**
E4	The Applicant must assess and manage development-related risks to ensure that there are no exceedances of the criteria and performance measures in this consent. Any exceedance of these criteria or performance measures constitutes a breach of this consent and may be subject to penalty or offence provisions under the EP&A Act or EP&A Regulation. Where any exceedance of these criteria or performance measures has occurred, the Applicant must, at the earliest opportunity: (a) Take all reasonable and feasible steps to ensure that the exceedance ceases and does not recur; (b) Consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and (c) Implement reasonable remediation measures as directed by the Planning Secretary.	**4.4**
E5	Management plans required under this consent must be prepared in accordance with relevant guidelines, and include: (a) a summary of relevant background or baseline data; (b) details of: (i) the relevant statutory requirements (including any relevant approval, licence or lease conditions); (ii) any relevant limits or performance measures and criteria; and (iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the development or any management measures;	**1.1** and **3.1** **Appendix 1** **3** **4.1**

Clause	Requirement	Section of Plan
	(c) any relevant commitments or recommendations identified in the document/s listed in condition A2(c); (d) a description of the measures to be implemented to comply with the relevant statutory requirements, limits, or performance measures and criteria; (e) a program to monitor and report on the: (i) impacts and environmental performance of the development; and (ii) effectiveness of the management measures set out pursuant to condition E5(d); (f) a contingency plan to manage any unpredicted impacts and their consequences and to ensure that ongoing impacts reduce to levels below relevant impact assessment criteria as quickly as possible; (g) a program to investigate and implement ways to improve the environmental performance of the development over time; (h) a protocol for managing and reporting any: (i) incident, non-compliance or exceedance of any impact assessment criterion or performance criterion); (ii) complaint; or (iii) failure to comply with other statutory requirements; (i) public sources of information and data to assist stakeholders in understanding environmental impacts of the development; and (j) a protocol for periodic review of the plan. ***Note:*** *The Planning Secretary may waive some of these requirements if they are unnecessary or unwarranted for particular management plans.*	**Appendix 2** **3 and 4** **4 and 5.2** **4.4** **5.6** **4.3** **4.5** **4.3** **5.2** **5.1**
E6	The Applicant must ensure that management plans prepared for the development are consistent with the conditions of this consent and any EPL issued for the site.	**2.1 and Appendix 1**
E7	Within three months of: (a) the submission of an incident report under condition E9; (b) the submission of an Annual Review under condition E11; (c) the submission of an Independent Environmental Audit under condition E13; (d) the approval of any modification of the conditions of this consent (unless the conditions require otherwise); or (e) notification of a change in development phase under condition A13; The suitability of existing strategies, plans and programs required under this consent must be reviewed by the Applicant.	**5.1**
E8	If necessary, to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Planning Secretary. Where revisions are required, the revised document must be submitted to the Planning Secretary for approval within six weeks of the review. ***Note:*** *This is to ensure strategies, plans and programs are updated on a regular basis and to incorporate any recommended measures to improve the environmental performance of the development.*	**5.1**

Clause	Requirement	Section of Plan
E9	The Applicant must notify the Department within 24 hours of becoming aware of an incident. The notification must be made via the NSW planning portal (Major Projects) and address details of the incident including: (a) date, time and location; (b) a brief description of what occurred and why it has been classified as an incident; (c) a description of what immediate steps were taken in relation to the incident; and (d) identifying a contact person for further communication regarding the incident.	**4.3**
E9A	The Applicant must provide the Department with a subsequent incident report in accordance with Appendix 7 (Incident Notification and Reporting Requirements).	**4.3**
E10	Within seven days of becoming aware of a non-compliance, the Applicant must notify the Department of the non-compliance. The notification must be in writing and must be submitted via the NSW Planning Portal (Department's Major Projects Website).The notification must identify the development (including the development application number and name), set out the condition of this consent that the development is non-compliant with, why it does not comply, the reasons for the non-compliance (if known), and what actions have been undertaken, or will be undertaken, and when, to address the non-compliance. ***Note:*** *A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.*	**4.3**

Development Consent DA 106-04-00

Clause	Requirement	Section of Plan
B2	The Applicant must ensure that no offensive odours, as defined under the POEO Act, are emitted from the site.	**3.6**
C2	The Applicant must assess and manage development-related risks to ensure that there are no exceedances of the criteria and performance measures in this consent. Where any exceedance of these criteria or performance measures has occurred, the Applicant must, at the earliest opportunity: (a) Take all reasonable and feasible steps to ensure that the exceedance ceases and does not recur; (b) Consider all reasonable and feasible options for remediation (where relevant) and submit a report to the Department describing those options and any preferred remediation measures or other course of action; and (c) Implement reasonable remediation measures as directed by the Planning Secretary.	**4.4**
C3	Within three months of: (a) the submission of an incident report under condition C5 or C6; (b) the submission of an Independent Environmental Audit under condition C7; (c) the approval of any modification of the conditions of this consent (unless the conditions require otherwise);	**5.1**

Clause	Requirement	Section of Plan
	the suitability of existing strategies, plans and programs required under this consent must be reviewed by the Applicant.	
C4	If necessary, to either improve the environmental performance of the development, cater for a modification or comply with a direction, the strategies, plans and programs required under this consent must be revised, to the satisfaction of the Planning Secretary. Where revisions are required, the revised document must be submitted to the Planning Secretary for approval within six weeks of the review. ***Note:*** *This is to ensure strategies, plans and programs are updated on a regular basis and to incorporate any recommended measures to improve the environmental performance of the development.*	**5.1**
C5	The Applicant must immediately notify the Department and any other relevant agencies immediately after it becomes aware of an incident. The notification must be in writing via the Department's Major Projects Website and identify the development (including the development application number and name) and set out the location and nature of the incident	**4.3**
C6	Within seven days of becoming aware of a non-compliance, the Applicant must notify the Department of the non- compliance. The notification must be in writing via the Department's Major Projects Website and identify the development (including the development application number and name), set out the condition of this consent that the development is non-compliant with, why it does not comply and the reasons for the non-compliance (if known) and what actions have been, or will be, undertaken to address the non-compliance. ***Note:*** *A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.*	**4.3**
C7	Within one year of approval of Mod 1, and every three years after, unless the Planning Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the development. The audit must: (a) be led by a suitably qualified, experienced and independent auditor whose appointment has been endorsed by the Planning Secretary; (b) be conducted by a suitably qualified, experienced and independent team of experts (including any expert in field/s specified by the Planning Secretary) whose appointment has been endorsed by the Planning Secretary; (c) be carried out in consultation with the relevant agencies; (d) assess the environmental performance of the development and whether it is complying with the relevant requirements in this consent, water licences and mining leases for the development (including any assessment, strategy, plan or program required under these approvals); (e) review the adequacy of any approved strategy, plan or program required under the abovementioned approvals and this consent; (f) recommend appropriate measures or actions to improve the environmental performance of the development and any assessment, strategy, plan or program required under the abovementioned approvals and this consent; and be conducted and reported to the satisfaction of the Planning Secretary.	**5.3**
C8	Within three months of commencing an Independent Environmental Audit the Applicant must submit a copy of the audit report to the Planning Secretary, and any other NSW agency that requests it, together with its response to any	**5.3**

Clause	Requirement	Section of Plan
	recommendations contained in the audit report, and a timetable for the implementation of the recommendations. The recommendations must be implemented to the satisfaction of the Planning Secretary.	
C11	Within 3 months of the approval of Mod 1, until the completion of all rehabilitation required under this consent, the Applicant must: (a) make the following information and documents (as they are obtained, approved or as otherwise stipulated within the conditions of this consent) publicly available on its website: (i) the documents listed in condition A2(c) of this consent; (ii) all current statutory approvals for the development; (iii) all approved strategies, plans and programs required under the conditions of this consent; (iv) a summary of the current phase and progress of the development; (v) contact details to enquire about the development or to make a complaint; (vi) a complaints register, updated monthly following the receipt of any complaints; (vii) audit reports prepared as part of any Independent Environmental Audit of the development and the Applicant's response to the recommendations in any audit report; (viii) any other matter required by the Planning Secretary; and (b) keep such information up to date, to the satisfaction of the Planning Secretary	**5.4**

Environment Protection Licence 1323

Clause	Requirement	Section of Plan
E1.1	**Spontaneous combustion control program** Carbonaceous material that is prone to self-heating and which is not extracted as run of mine coal must be selectively removed and purposely disposed of in such a manner that will prevent the development of spontaneous combustion at the disposal site. The licensee must implement a Spontaneous Combustion Control Program which must include, but may not be limited to, the following: (a) A monthly summary of actions and procedures undertaken to prevent the development or to control the spread of spontaneous combustion at the premises. (b) An assessment of the effectiveness of the actions and procedures undertaken every month in preventing the development and control of the spread of spontaneous combustion at the premises. (c) Monthly mapping of the approximate location of the areas subject of spontaneous combustion at the premises. The map must show the respective areas in square metres of each area affected and must include a key to show the relative intensity of the heatings.	**3.3** **4.2.3** **4.2.3** **4.2.3**
R3.6	The monthly summaries, assessments and maps prepared under the spontaneous combustion control program must be submitted to the EPA in the form of a half yearly report. The licensee must forward a copy of each report to the regional office of the EPA no later than (2) months after the half yearly period being reported.	**5.2**

Clause	Requirement	Section of Plan
R3.7	The monthly summaries, assessments and maps must be retained by the licensee for not less than three (3) years following the period under review. The records must be kept in a legible form and must be made available to any authorised officer of the EPA on request.	**5.5**
O4.1	The licensee must not cause or permit the emission of offensive odour beyond the boundary of the premises.	**3.6**

APPENDIX 2 – MAXWELL PROJECT EIS AND SUPPORTING DOCUMENT COMMITMENTS

Source	Detail	Section of Plan
EIS Section 6.10.4	Events that could potentially cause releases of odour (i.e. spontaneous combustion) would be managed and monitored during operations.	**3 and 4**
EIS Section 6.10.4	An Air Quality and Greenhouse Gas Management Plan would be prepared for the Project and would include: • measures to avoid potential spontaneous combustion events, including mine planning, risk identification and assessment and identification of hot spots;	**3**
EIS Section 6.20.3	Coal stockpiles would be managed to reduce the potential for spontaneous combustion.	**3.4**
EIS Appendix T, Table A-1 Hazard Identification and Analysis Table	Existing and proposed preventative measures (for managing risk of spontaneous combustion events): • Design and management of coal stockpiles (i.e. size, shape and age tracking of stockpiles). • Regular monitoring and communication of stockpile status and active management. • Spontaneous combustion propensity testing to inform management decisions and measures. • Operator training and operational procedures.	**3.4** **4.2.1** **3.1** **6.2**
EIS Appendix U, Table 8 Risk Assessment	Spontaneous combustion proposed controls: • Capping of rehabilitated areas with inert material • Regular monitoring and thermal imagery of area after rehabilitation to identify potential outbreaks.	**3.3** **4.2**
Maxwell Project Submissions Report, Section 6.1.8	Maxwell would continue to manage spontaneous combustion in accordance with the Spontaneous Combustion Management Plan, which is focused on: (i) capping areas with potential for spontaneous combustion, (ii) monitoring, and (iii) rectification, if required, of previously capped areas.	**3.3** **4** **3.3.4**
Maxwell Project Submissions Report, Table 12.	Events that could potentially cause releases of odour (i.e. spontaneous combustion) would be managed and monitored during operations.	**3.6**

APPENDIX 3 – PLANNING SECRETARY ENDORSEMENT

Planning, Industry & Environment

Donna McLauglin
HSE and Community Manager
Maxwell Ventures (Management) Pty Ltd
Thomas Mitchell Drive
Muswellbrook, NSW, 2333

03/02/2021

Dear Ms McLaughlin

Maxwell Underground (SSD-9526)
Spontaneous Combustion Management Plan Endorsement

I refer to your request (SSD-9526-PA-1) for the Planning Secretary's approval of suitably qualified persons to prepare the Spontaneous Combustion Management Plan for the Maxwell Underground (SSD-9526).

The Department has reviewed the nomination and information you have provided and is satisfied that the expert is suitably qualified and experienced. Consequently, I can advise that the Planning Secretary approves the appointment of Dr Bevan Basil Beamish to prepare the Spontaneous Combustion Management Plan.

If you wish to discuss the matter further, please contact Charissa Pillay on 9995 5944.

Yours sincerely

Matthew Sprott
Director
Resource Assessments (Coal & Quarries)
As nominee of the Planning Secretary

4 Parramatta Square, 12 Darcy Street, Parramatta 2150 | dpie.nsw.gov.au | 1

APPENDIX 4 – CONSULTATION WITH RESOURCES REGULATOR

Consultation Feedback	Outcome
Mine Safety	
The SCMP appears to form part of the site's Environmental Management System. As presented, the SCMP does not appear to be related to, or refer to, the Spontaneous Combustion Principal Hazard Management Plan (PHMP) required under clause 24 and Schedule 1, clause 3B of the *Work Health and Safety (Mines and Petroleum Sites) Regulation 2014*. The Regulator has some concern that there may be confusion between the two plans in day-to-day operation and measures should be taken to ensure consistency between these plans and ensure that they are clearly understood by mine staff.	Additional text has been added to Section 1.2 clarifying that occupational health and safety risks associated with spontaneous combustion are addressed in the Spontaneous Combustion Principal Hazard Management Plan and are excluded from this plan. Additional text has been added to Section 5.1 noting that during a review of the SCMP, a check will be undertaken to make sure there is consistency between the SCMP and the Spontaneous Combustion Principal Hazard Management Plan. Additional text has been added to Section 6.2 clarifying that both the SCMP and Spontaneous Combustion Principal Hazard Management Plan should be read in conjunction with one another for the operational management of spontaneous combustion.
Steps have been detailed within the document that relate to the reporting of spontaneous combustion. These steps make no reference to requirements under clause 128(5)(v) of the Regulation. For completeness it is suggested that all reporting requirements are included.	Additional text has been added to Section 4.3 clarifying that 'environmental' incidents are addressed in this plan and that the duty to notify the Resources Regulator of spontaneous combustion occurring at the surface of a coal mine (including an underground mine) under clause 128(5)(v) of the *Work Health and Safety (Mines and Petroleum Sites) Regulation 2014* is addressed in the Spontaneous Combustion Principal Hazard Management Plan.
The Resources Regulator also notes that there is no mention of the responsibilities of the Mining Engineering Manager in the implementation and operation of the plan.	The table of responsibilities in Section 7 has been amended to clarify responsibilities of the Mining Engineering Manager.
Mine Rehabilitation	
Maxwell Ventures (Management) Pty Ltd must ensure that the SCMP and the Mining Operations Plan (MOP) are consistent.	Section 2.4 has been added to clarify how the SCMP interacts with the MOP.
The SCMP should be updated prior to the resumption of mining operations and include further detail regarding specific control measures to be implemented during mining operations (eg. identification and subsequent selective handling / treatment of potentially problematic material, coarse reject and stockpile management).	The SCMP has been prepared to meet the consent conditions for SSD 9526 which permits mining operations to be carried out on site until 30 June 2047. This plan includes specific control measures to be implemented during mining operations. The review schedule for this plan is provided in Section 5.1. Section 3.5 has been added and notes that coarse and fine reject material will be emplaced within the East Void. Stockpile management is addressed in Section 3.4. The management of overburden emplacement areas is addressed in Section 3.3.
3.3.2 Inert Capping and 3.3.3 Surface Treatment	
Detail mechanisms for how the inert cap will be integrated into the rehabilitated landform, how cap integrity will be assessed and maintained (for example; development of root pits, phyto-toxicity impacts).	Additional information has been added to Section 3.3.2 noting that the capping depth will be factored into the final landform surface to maintain the maximum design height. Assessment of the capping integrity has been added to

Consultation Feedback	Outcome
Detail longer term landform management practices e.g. managing instability issues associated with oxidation of carbonaceous material, longer term surface water management structures etc.	Section 4.2.4. Ecological monitoring to determine impacts on vegetation is addressed in Section 4.2.5. Additional text has been added to Section 4.2.1 to include assessment of landform stability as part of the routine inspections. Additional text has been added to Section 4.2.2. to include the inspection of water management structures.
4.2.2 Post Rain Event Inspection	
Detail how areas that may be of higher risk (for example, where capping has only recently been established) will be assessed to determine integrity of cap.	Section 4.2.2 already notes that areas where spontaneous combustion remediation works have been undertaken in the previous twelve months will be inspected following a rain event, where more then 20mm of rainfall is recorded in one day or more than 50mm is recorded in three days. In addition, assessment of the capping integrity has been added to Section 4.2.4.
4.2.4 Thermal Aerial Survey	
Consider requirements for additional aerial surveys should new areas of heating / spontaneous combustion be identified.	Additional text has been added to Section 4.2.4 noting that additional thermal aerial surveys will be considered for any major outbreaks.
General	
Include detailed (if performed) monitoring to assess the horizontal and lateral extentand potential migration of heating / spontaneous combustion.	Additional text has been added to Section 4.2.4 noting that the thermal aerial survey will be compared against previous surveys to assess the horizontal extent and potential migration of heating.

Regional NSW

DOC21/125795
MAAG0009854

Alex Newton
Malabar Coal

Via: Major Projects Portal

Dear Mr Newton

Re. Maxwell UG Coal Mine - Spontaneous Combustion Management Plan (SSD-9526-PA-10)

I refer to your request of 4 February 2021 for advice regarding the Maxwell Underground Coal Mine's Spontaneous Combustion Management Plan (SCMP). The Resources Regulator has reviewed the request.

Assessment
Based on the review of the SCMP, the Resources Regulator provides the following comments.

Mine Safety

The SCMP appears to form part of the site's Environmental Management System. As presented, the SCMP does not appear to be related to, or refer to, the Spontaneous Combustion Principal Hazard Management Plan (PHMP) required under clause 24 and Schedule 1, clause 3B of the *Work Health and Safety (Mines and Petroleum Sites) Regulation 2014*.

The Regulator has some concern that there may be confusion between the two plans in day-to-day operation and measures should be taken to ensure consistency between these plans and ensure that they are clearly understood by mine staff.

Steps have been detailed within the document that relate to the reporting of spontaneous combustion. These steps make no reference to requirements under clause 128(5)(v) of the Regulation. For completeness it is suggested that all reporting requirements are included.

The Resources Regulator also notes that there is no mention of the responsibilities of the Mining Engineering Manager in the implementation and operation of the plan.

Mine Rehabilitation

Maxwell Ventures (Management) Pty Ltd must ensure that the SCMP and the Mining Operations Plan (MOP) are consistent.

The SCMP should be updated prior to the resumption of mining operations and include further detail regarding specific control measures to be implemented during mining

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operations (eg. identification and subsequent selective handling / treatment of potentially problematic material, coarse reject and stockpile management).

Section 3.3.2 Inert Capping and Section 3.3.3 Surface Treatment	Detail mechanisms for how the inert cap will be integrated into the rehabilitated landform, how cap integrity will be assessed and maintained (for example; development of root pits, phyto-toxicity impacts). Detail longer term landform management practices eg. managing instability issues associated with oxidation of carbonaceous material, longer term surface water management structures etc.
Section 4.2.2 Post Rain Event Inspection	Detail how areas that may be of higher risk (for example, where capping has only recently been established) will be assessed to determine integrity of cap.
Section 4.2.4 Thermal Aerial Survey	Consider requirements for additional aerial surveys should new areas of heating / spontaneous combustion be identified.
General	Include detailed (if performed) monitoring to assess the horizontal and lateral extent and potential migration of heating / spontaneous combustion.

Limitations

It should be noted that the Resources Regulator does not provide any endorsement of the proposed rehabilitation methodologies presented in the plans provided. Under the conditions of a mining authorisation granted under the *Mining Act 1992*, the Resources Regulator requires the holder to adopt a risk-based approach to achieving the required rehabilitation outcomes.

The applicability of the controls to achieve effective and sustainable rehabilitation is to be determined based on site-specific risk assessments conducted by the authorisation holder. An authorisation holder may also be directed by the Resources Regulator to implement further risk control measures required to achieve effective rehabilitation outcomes during the life of the mine.

Regulatory requirements if approved

The proponent may be required to submit a revised Mining Operations Plan for approval by the Resources Regulator prior to the commencement of the works associated with the proposal.

The Resources Regulator may undertake assessments of the mine operators' proposed mining activities under the *Work Health and Safety (Mines and Petroleum Sites) Act 2013* and Regulation as well as other WHS regulatory obligations.

Background

The Mining Act Inspectorate within the Resources Regulator undertake risk-based compliance and enforcement activities in relation to obligations under the *Mining Act 1992*. This includes undertaking assessment and compliance activities in relation to mine rehabilitation activities and determination of security deposits.

The Mine Safety Inspectorate within the Resources Regulator is responsible for ensuring the mine operators' compliance with the Work Health and Safety (WHS) legislation, in particular the effective management of risks associated with the principal hazards as specified in the *Work Health and Safety (Mines and Petroleum Sites) Regulation 2014*.

Contact
Should you require any further information or clarification, please contact the Office of the Executive Director (ED.ResourcesRegulator@planning.nsw.gov.au)

Yours sincerely,

Alex Tutt-Branco
Executive Officer
Office of the Executive Director, Resources Regulator

24 February 2021

APPENDIX 5 – PLANNING SECRETARY APPROVAL

Department of Planning, Housing and Infrastructure

Our ref: SSD-9526-PA-191

Donna Tiananga
Environment, Community and Approvals Manager
Maxwell Ventures (Management) Pty Ltd
Thomas Mitchell Drive
Muswellbrook, NSW, 2333

22/01/2026

Subject: Maxwell Underground – Spontaneous Combustion Management Plan

Dear Ms. Tiananga

I refer to your submission requesting review and approval of a revised Spontaneous Combustion Management Plan in accordance with Schedule 2, Condition B20 of the Development Consent for Maxwell Underground Mine (SSD-9526).

I note the Spontaneous Combustion Management Plan was revised following submission of an Independent Environmental Audit on 24 July 2025, the approval of Modification 3 of SSD-9526 and DPHI letter of 7/10/2025 (SSD-9526-PA-173).

Accordingly, as nominee of the Planning Secretary, I approve the revised Spontaneous Combustion Management Plan (Rev 6, dated December 2025).

Please ensure you make the document publicly available on the project website at the earliest convenience.

If you wish to discuss the matter further, please contact Wayne Jones on (02) 6575 3406.

Yours sincerely

Stephen O'Donoghue
Director
Resource Assessments

As nominee of the Planning Secretary

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