

Dendrobium Mine

Environmental Management System

Management Plan



Bushfire

Review History

Revision	Description of Changes	Date	Approved
0	Draft submitted	Nov 04	Bryan Quinn
1.0	Incorporating comments on draft	Feb 05	David Oliver
2.0	Three yearly review as required by Development Consent	Mar 08	David Oliver
3.0	Review as required by the revised Development Consent (issued 8 December 2008)	April 09	Wayne Price

Persons involved in the review of this document include:

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Representatives from external organisations and regulatory agencies involved in the review of this document include:

Title	Organisation
Community Safety Officer	Rural Fire Service
Captain Mt Kembla Fire Brigade	Rural Fire Service
Catchment Officer	Sydney Catchment Authority

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1 Introduction

1.1 Background

Dendrobium Mine is an underground mine which commenced construction in January 2002 following approval from the Minister of the then Department of Urban Affairs and Planning on 20 November 2001. Longwall mining commenced at Dendrobium in April 2005. The mine is owned and operated by Dendrobium Coal Pty Ltd, a wholly owned subsidiary of BHP Billiton and is operated on a continuous basis, 24 hours a day and 7 days a week.

The Mining operations are located immediately adjacent to Mt Kembla, approximately 8km west of Wollongong, NSW, on the Illawarra escarpment. Mt Kembla village, located within 500m of the Pit Top site, has close historical links with coal mining.


The Pit Top facilities have been developed on the site previously known as Nebo Colliery, which was combined with Wongawilli Colliery in 1993 to form Elouera Colliery. The Nebo Portal site was relinquished from the ownership and responsibility of Elouera Colliery in December 2001 to enable Dendrobium Mine to acquire formal responsibility, ownership and identity of the site.

Dendrobium Mine accesses coal from the No. 3 Seam (Wongawilli Seam) of the Illawarra Coal Fields. Three mining areas make up the approved mine plan for Dendrobium and are named Areas 1, 2, and 3 respectively.

Dendrobium produces coking coal and is approved to produce up to 5.2 million tonnes per annum with an expected life of mine in excess of 20 years. The Bluescope Port Kembla Steel Works and Whyalla Steel Works are the major customers. In addition to these Australian based customers, coal may be exported via the Port Kembla Coal Terminal to international customers.

This Bush Fire Management Plan (BMP) covers Dendrobium Mine and its associated facilities. The content of the plan is based on the Illawarra Bush Fire Risk Management Plan (2008), and will operate underneath the Illawarra Coal Holdings Bush Fire Risk Management Plan.

This document is a module of the Environmental Management System (EMS) document. This document contains an introduction to the EMS as well as the common aspects across the Environmental Management Plans.

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1.2 Scope

The scope of this document includes the following Dendrobium sites and facilities:

Dendrobium Pit Top - consists of administration building, workshop, machinery and equipment storage areas, people and materials access to the underground workings via the Dendrobium Tunnel, a sedimentation pond and grey water treatment and Oil Water Separation facility.

Kemira Valley Coal Loading Facility – the KVCLF receives coal from underground via the Kemira Valley Tunnel. Coal is transported from underground to KVCLF via a conveyor network. The coal is then fed into a rill tower and deposited onto a 150,000 tonne capacity stockpile from which it is loaded into trains via an enclosed rail-loading chute.

Ventilation Shaft Number 1 - The No.1 ventilation shaft, located within the Metropolitan Special Area administered by Sydney Catchment Authority (SCA), operates as a downcast shaft (i.e. drawing fresh air into the underground workings). The No. 1 vent shaft is on land owned by Illawarra Coal.

Ventilation Shafts Number 2 and 3 – Also located within the Metropolitan Special Area and within Mining Lease ML1566. Construction of the No.2 and 3 ventilation shafts was completed during 2008. The No.2 shaft operates as an additional downcast shaft whilst the No.3 shaft operates as an upcast shaft.

2 OBJECTIVES OF THE PLAN

The objectives of the BMP are to:


- Comply with all regulatory requirements set out in the Dendrobium Development Consent and other legislation with regards to hazard reduction and bushfires;
- Ensure BHP Billiton environmental and other relevant Strategies and Policies are met and upheld;
- Ensure that effective hazard reduction practices are implemented and effectively monitored;
- Provide for the co-ordinated prevention and mitigation of bush fires for:
 - a. The protection of life, property and the environment within the local community;
 - b. Minimising the risk to firefighters and the public by reducing the potential for severe bush fires;
 - c. Protecting the catchment values of Sydney's major water storage dams; and
 - d. The protection, maintenance and, wherever possible, enhancement of the natural and cultural values of the area through the management of appropriate fire regimes.

3 RESPONSIBILITY

Implementation of the plan is the responsibility of the owners or occupiers (land managers) of the land on which the bush fire risk is situated. The Rural Fires Act 1997 imposes this responsibility on both public and private land managers.

The Environment and Community Manager, in conjunction with the Survey and Property Coordinator for Illawarra Coal, is responsible for the overall coordination of the implementation of this management plan and for the periodic review of the Plan. The Environment and Community Manager will also be responsible for ensuring the commitments contained within this management plan are met.

Any hazard mitigation strategies will be coordinated by Dendrobium Mine and Illawarra Coal in association with the Rural Fire Service.

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4 LEGISLATIVE AND OTHER REQUIREMENTS

4.1 Legislative Requirements

Bush Fire Risk Management is both governed and restricted by the:

- Rural Fires Act 1997 (including Section 66 Notices), Occupational Health and Safety Act 2000, Local Bush Fire Management Plans, Local Operation Plan.
- The NSW Rural Fire Service (by way of Fire Permits and Hazard Reduction Certificates)
- NSW Rural Fire Service, Planning for Bushfire Protection Guideline (2006).

4.2 Development Consent Conditions

Schedule 4 of the Development Consent details the specific environmental conditions (surface facilities) with which Dendrobium must comply. The following condition applies to this BMP:

Schedule 4

Bushfire Management plan

22. The Applicant shall prepare and implement a Bushfire Management Plan for the site, with particular reference to the mining area, in consultation with SCA and to the satisfaction of the Rural Fire Service.

4.3 Ecologically Sustainable Development (ESD)

In exercising its functions under the Rural Fires Act 1997, including the preparation of a BMP, Dendrobium Coal is required to have regard to the principles of ecological sustainable development (referred to as ESD).


4.4 BHP Billiton and other policies and standards

BHP Billiton operates in accordance with the Health, Safety, Environment and Community (HSEC) Management Standard (STA.009) which covers all operational aspects and activities of its business and the Environment Standard (STA.020) which prescribes the mandatory environmental performance requirements that support the aspiration of zero harm across BHP Billiton.

The HSEC Management System framework is consistent with internationally recognised standards. It aims to set benchmarks for the Company's diverse range of businesses to develop and implement their own HSEC Management Systems, to provide auditable criteria for these systems and to provide a basis from which to drive continuous improvement.

The BMP has been developed consistent with the principles of the HSEC Management Standard and Environment Standard.

Dendrobium Mine maintains an environmental management system which is certified to ISO14001 standard.

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5 LOCATION CHARACTERISTICS AND SUMMARY OF BUSH FIRE RISK FACTORS

5.1 Local Conditions, Site Conditions and Bush Fire History

5.1.1 Climate

Wollongong is characterised by a humid, temperate, moderate climate with annual average rainfall of 1461mm. Temperature and rainfall conditions vary across the City, with the climate on top of the escarpment tending towards warm temperate. The average monthly summer temperature over the City is 24°C and the average monthly winter temperature over the City is 12°C (Source: *Forest Research, CSIRO*).

Bush fire season generally coincides with the strong south-west winds which often prevail during late winter and spring (Aug/Sept). Longer fire seasons are experienced when this period of year coincide with unreliable rainfall. Extreme fire days are mostly associated with strong west to north-westerly winds (Source: *Illawarra Bush Fire Risk Management Plan*).

5.1.2 Vegetation

The Illawarra escarpment is highly vegetated and hosts a number of vegetation types, including rainforests, wet and dry sclerophyll forests, heathlands, as well as grasslands, pastoral lands and open woodlands. Each type of vegetation has characteristics which determine its ability to promote bush fire (for more detail refer to the *Illawarra Bush Fire Risk Management Plan*).


5.1.3 Bush Fire History

Major fires occurred in September 1939, October 1968, November 1980, January 1994, December 1997, December 2000 and during 2001. A fire in the area around the No. 1 Ventilation Fan in Kembla Heights occurred in September 2003. These fires coincided with extended drought periods and extreme fire weather. These fires burnt extensive areas including areas of and below the escarpment.

Dangerous bush fire seasons are most commonly associated with two or more of the following factors in combination:

- Occurrence of an extended drought period.
- Lower than average rainfall through winter.
- Persistent south-west to north-west winds in late winter/early spring.
- Prolific amounts of fuel that have accumulated over previous heavy and vigorous growing seasons
- Spring/summer thunderstorm activity in dry years

The majority of fires occurring below the escarpment are urban related rather than bushfires (Source: *Illawarra Bush Fire Risk Management Plan*).

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5.2 Ignition Sources

Removal of ignition sources is an important component of bush fire management. This is particularly important when subject to severe weather conditions.

External to the site, sources of ignition include illegal burning off, car dumping, inappropriately discarded cigarette butts or the deliberate lighting of bushland.

On-site sources include the hot exhausts of vehicles and spark or flame sources such as grinders or welders.

Other sources of ignition include lightning, the arcing of power lines, and the escape of fire from legal burning off.

5.3 Prescribed Burning Period

Most prescribed burns are planned from April through to September each year due to prevailing weather conditions such as high soil and fuel moisture content and low relative humidity and night time temperatures. Prescribed burns can take place outside this period if suitable conditions exist. Prescribed burns are also highly dependent on rainfall. If the weather restricts the completion of the prescribed burning program, all incomplete proposals will be reviewed by the Illawarra Bush Fire Management Committee, and in most cases will be rescheduled.


Where prescribed burning cannot be completed as scheduled before the bushfire season due to rainfall and suitable climatic conditions, this may be supplemented with mechanical clearing.

5.4 Site Conditions

The Dendrobium Pit Top site is predominantly cleared, and includes the portal entrance, administration buildings, workshop, store yard and car park (Figure 1). The site is surrounded by dense vegetation, and is spatially close to the Mount Kembla and Kembla Heights communities. The boundaries to the site in some areas are steeply sloped and impose challenges for bush fire prevention. High usage site roads are sealed, however there are several unsealed roads used to access the eastern sections of the site used predominantly for storage.

The Kemira Valley Coal Loading Facility (KVCLF) is a cleared site, with rehabilitated areas predominantly grassed. Like the Pit Top Site, the KVCLF borders highly vegetated areas to the North and West. The site is designed to mostly operate without full time staff on site. Almost all roads on the site are fully sealed. (Refer Figure 1).

The Ventilation Shaft No. 1 site is located in the Sydney Water Catchment Area. The site was cleared during construction and maintenance of the site is undertaken to minimise bush fire fuel loading. The access

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road is unsealed. The site is located on Dendrobium land within catchment to the west of a SEPP 58 boundary, and is surrounded by bushland (Refer Figure 1).

The Ventilation Shaft 2/3 site is located in the Sydney Water Catchment Area. The site is accessed via the unsealed Fire Trail 6C. Revegetation has been undertaken along the access road from Fire Trail 6C to the site, and also on the site. A buffer around the Ventilation Fan infrastructure has been maintained, and the access road and the cleared area beneath the power line functions as a fire break. The site is surrounded by dense bushland (Refer Figure 2).

Access to these sites is restricted to a single access road (either on a permanent basis or temporary basis due to road closures). The risks associated with this include the potential for personnel to be trapped at the site and the inability of fire crews to access the site.

6 BUSH FIRE RISK ASSESSMENT AND MANAGEMENT PROCESS

6.1 Bush Fire Risk Assessment

Bush fire risk is defined as the chance of a bush fire igniting, spreading and causing damage to assets of value. The three main factors that contribute to bush fire risk are:

- i. The potential severity of the fire (or bush fire hazard). The bush fire hazard is influenced by the vegetation, slope, fuel load and weather conditions.
- ii. How close the bush fire hazard is to an asset (or bush fire threat). The further an asset is located from a bush fire hazard, the less likely it is to be damaged or destroyed by the bush fire.
- iii. The capacity of an asset to cope with, and recover from the expected bush fire (or vulnerability). Different types of assets have different abilities to cope with fire.

The approach for the assessment and management of Bush Fire at Dendrobium sites will include:

- The assessment and maintenance of bush fire risk based on site surface factors, such as vegetation condition, sealed areas;
- The assessment and management of materials, machinery and performed tasks on site to prevent ignition sources or the enhancement of a bush fire;
- The reduction of hazards;
- Fire training of company personnel; and
- The reduction of vulnerability to bush fire through the maintenance of Asset Protection Zones.


Bush fire risk assessment will take place via inspections organised by the Environment and Community Manager in conjunction with the Survey and Property Coordinator, as required. Risk assessment will be coordinated with the Illawarra Coal assessment, on a regular basis, or six weeks prior to the bush fire season, and ongoing as required throughout the bush fire season.

Risk assessments will be undertaken in accordance with the relevant Bush Fire Management Plans, including this plan, the Illawarra Bush Fire Risk Management Plan and the Illawarra Coal Bush Fire Management Plan.

6.2 Bush Fire Risk Management

No single risk management option is likely to provide sufficient protection from bush fires. This is particularly true for extreme conditions or areas of major risk. However, the following options can be used in combination to manage bush fire potential:

- Avoid the risk – by deciding not to proceed with the activity likely to generate the bush fire risk;
- Reduce the hazard – reduce the level of fuel available to burn in a bush fire;
- Reduce ignitions – reduce the number of deliberate and accidental ignitions;
- Reduce vulnerability – increase the resilience of community and environmental assets to bush fires; and
- Residual risk – manage with fire response strategies such as fire suppression operations, early fire detection and evacuation.

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6.2.1 Reducing Fuel Loads, Providing Buffers and Maintaining Access

Dendrobium will mitigate the risk of bush fire through the maintenance of trails and roads, asset protection zones and suitable fuel loadings. Specifically:

- Access roads and trails will be monitored during regular inspections, with remedial and maintenance work carried out when required. Fire trails will be locked when not in use to prevent unauthorised entry. Fire Trails will be maintained to a standard for Category 1 Fire Tanker access where possible.
- The asset protection zone defined in the Illawarra Bush Fire Risk Management Plan must be maintained between Dendrobium property and neighbouring land.
- Fuel loadings on Dendrobium land will be maintained as defined in the Illawarra Bush Fire Risk Management Plan.
- Hazard reduction programs will be carried out in accordance with the Planning for Bushfire Protection Guidelines, where applicable, to minimise fuel loads present.
- At the Dendrobium Pit Top and Kemira Valley, fuel loads will be managed in accordance with the Illawarra Bush Fire Risk Management Plan and other relevant guidelines, where applicable.
- In inaccessible locations, tracks will be maintained, perimeter areas will be managed and new access routes created, where required.


Areas targeted near the Dendrobium Pit Top will include Dendrobium land holdings bordering onto community housing, focussing primarily on the areas of Kembla Heights, Benjamin Road, Kirkwood Place and Cordeaux Road. A 20m asset protection zone will be maintained where practical at the urban interface with Dendrobium Pit Top and around the Dendrobium Mine coal handling facilities at Kemira Valley. The asset protection zones will be maintained taking into account specific environmental and topographical factors, and in accordance with relevant guidelines, where applicable.

Kemira Valley contains cleared sections of land between the Dendrobium holdings and the Mt Kembla community. A large portion of this land is used as pastoral land and acts as a buffer between the KVCLF site and residential land.

A 20 metre asset protection zone will be maintained around the Ventilation Shaft infrastructure.

A sediment pond at the Ventilation Shaft 2/3 site will be maintained for the provision of water for fire fighting at this site. Cordeaux Dam is located in close proximity to the site and could be used as a source of water for aerial fire fighting.

The asset protection zones will be reviewed as required in conjunction with Illawarra Coal and the NSW Rural Fire Service, Wollongong City Council and the Sydney Catchment Authority, where relevant to ensure that these are adequate. This review will also take into account the methods and frequencies for hazard reduction programs. The asset protection zones for each of the nominated sites are shown in Figure 3:

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Asset Protection Zones - Dendrobium Pit Top, Kemira Valley and Ventilation Shaft 1 and Figure 4: Asset Protection Zone - Ventilation Shaft 2/3.

The mitigation techniques that may be used to manage bush fire risk include:

Burning

- Requires a Hazard Reduction Certificate and a Fire Permit from the NSW Rural Fire Service under s87 or s88 of the Rural Fires Act 1997. In the event that a Hazard Reduction Certificate cannot be obtained, a Review of Environmental Factors must be carried out.
- The NSW Rural Fire Service is an agency that can be utilised for conducting the hazard reduction burn. However BHP Billiton, with guidance from the Survey and Property Coordinator will organise the establishment of containment lines and split the area into sections to complement the hazard reduction.
- The hazard reduction burn is then performed on the prepared areas of land, and within the prescribed guidelines.

Hand Clearing

- Except for general maintenance, hand clearing requires a Hazard Reduction Certificate. Where a Hazard Reduction Certificate cannot be obtained a Review of Environmental Factors must be carried out.
- The Environment and Community Manager, in conjunction with the Survey and Property Coordinator, then instigates works on the property through a suitably qualified contractor. This work will be carried out as required under the Hazard Reduction Certificate.


Machine Clearing

- Except for general maintenance, hand clearing requires a Hazard Reduction Certificate. Where a Hazard Reduction Certificate cannot be obtained a Review of Environmental Factors must be carried out.
- The Environment and Community Manager, in conjunction with the Survey and Property Coordinator, then instigates works on the property through a suitably qualified contractor. This work will be carried out as required under the Hazard Reduction Certificate.

6.2.2 Risk Management and Emergency Response Procedures On-Site

The following documents are in place at Dendrobium Mine:

- Fire and Explosion Major Hazard Management Plan (DENMP0027) identifies the fire hazards, resources, procedures, equipment and inspections, required to maintain a system for fire prevention and fire fighting capability.
- Emergency Fire Provisions (DENP0017) describes the facilities in place at the mine to allow for adequate fire fighting ability.
- Emergency Management System (DENMP0022) defines a standard set of procedures and responses to ensure the effective management of any incident, threat, injury or emergency

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arising from any source at the mine where the relevant Critical Safety Hazard Management Plan has been ineffective in controlling the fundamental hazard.

- Emergency Response Procedure (DENP0051) defines the actions that are to be taken in response to a fire or other emergency by persons at the mine.
- Dealing with Bushfire Risk (DENP0093) informs employees of the steps to be taken if there is bushfire activity around the surface infrastructure of the mine.
- Smoke Underground During Bushfires (DENP0201) defines gas monitoring and evacuation procedures to be established in the event of smoke from bushfires entering the underground workings.
- Evacuation in Event of Fire (DENP0069) covers the emergency evacuation of personnel from the underground areas of the mine in the event of an outbreak of fire.
- Surface Evacuation (DENP0249) provides a procedure for evacuation of the surface area of the mine in an emergency.
- Loss of Pressure or Quantity of Water to the Fire Fighting Supply System (DENP0035) ensures the safety of the persons who are underground when the water supply to underground is interrupted, or becomes ineffective.

The Fire and Explosion Major Hazard Management Plan is relevant to the Dendrobium Pit Top site, Kemira Valley Coal Loading Facility, and the Dendrobium Ventilation Shaft sites. It also covers management of the Dendrobium underground, regarding risks, requirements, maintenance, roles etc.


In the event of an emergency at a Dendrobium Managed site, the Dendrobium Standard Procedure Emergency Contacts should be used, but contacting 000 in the first instance in the case of a fire emergency is imperative.

Emergency number	000
Dendrobium Control Room	4255 4402
Environment Protection Authority	131 555
Wollongong City Council	4227 7111
Sydney Catchment Authority Emergency Reporting (24 hours)	1800 061 069
Integral Energy	131 003

The Kemira Valley Coal Loading Facility contact in the case of an on-site emergency is the Processing and Logistics Operations Manager. A contact number can be obtained by contacting the Dendrobium Mine Control Room.

In the case of an emergency and where a tanker is required on site, the Rural Fire Service (RFS) will be contacted. If a tanker cannot be supplied by the RFS an external company such as Cleary Bros (Phone: 4275 1000) will be utilised.

The risk imposed by smoking and contraband substances are controlled as in the procedure Designated Areas, Smoking Materials and Searches (DENP0036).

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Fire Fighting Aides and Suppressants

In addition to the preventative vegetative methods mentioned above, fire-fighting aides are available on-site for extinguishing site fires. These aides help prevent bush fires occurring from on site, as well as preventing an external bush fire from entering the sites. These tools are subject to stringent maintenance programs.

Fire hydrants, fire blankets, connections and hoses have been installed at various locations around the sites. The locations chosen represent those most at risk from fire entering the site. In addition, fire hydrants are placed around the surface, in buildings, underground, and on or near site machinery. Fire fighting systems at the Pit Top uses the town water source, whilst the KVCLF utilises recycled site water. In the event of a bush fire the KVCLF Stockpile Sprays can be utilised to dampen surfaces and minimise the likelihood of ignition of the stockpile and/or other facilities.


No fire fighting system is available at Ventilation Shaft 1. As noted in Section 6.2.1, a sediment pond is located at Ventilation Shaft 2/3, from which water could be drawn in the event of a fire. As the site is surrounded by dense bushland, it is unlikely that personnel would stay at the site to fight a fire due to the risk of escape routes being cut off. It is also a requirement that all personnel in the Sydney Catchment Authority area evacuate the catchment in the event of a bushfire alarm.

Fire hydrants are identified by reflective signage. A monthly inspection, carried out by the Dendrobium Fire Officer, ensures all equipment is properly maintained and operational. The equipment and inspections include:

- Fire mains – leaks and installation
- Hydrants – damage and correct operation by the insertion of male instantaneous coupling
- Hydrant valves – checked for ease of operation and flushing to check water quality and pressure.
- Portable extinguishers – In accordance with Australian Standard AS 1851.1 Maintenance of Fire Protection Equipment – Portable Fire Extinguishers and Fire Blankets and the requirements of Dendrobium Standard Procedure Supply, Maintenance and Servicing of Portable Fire Extinguishers
- Fire depot drums – condition and seals
- Location and condition of signs – in accordance with Dendrobium Standard Procedure Fire Fighting Equipment Signage
- Fire main – flow pressure test at the end of each fire main
- Fire hoses – in accordance with the Dendrobium Standard Procedure Supply, Maintenance and Servicing of Fire Hoses.

Automatic fire equipment and fire alarms are tested by a contracting firm.

Gutters and other fire hazard collection points are inspected on a three-monthly basis to ensure that leaves and other materials will be removed as required.

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These activities reduce bush fire risk as well as complementing fire fighting operation, in the event of a bush fire.

Ongoing consultation with the Rural Fire Service, and BHP Billiton personnel, including the Survey and Property Manager will focus on the perceived risks on site and the potential maintenance, or new facilities required for fire prevention or defence.

6.2.3 Fire Training for Company Personnel

Company personnel are trained in basic fire fighting by attending Southern Mines Rescue Training. This training is compulsory and is carried out on an annual basis. Most employees on site are capable of operating fire-fighting equipment.

6.2.4 Construction of buildings in bushfire-prone areas

Australian Standard AS 3959—1999 specifies requirements for the design and construction of buildings in bushfire-prone areas in order to improve their performance when subjected to burning debris, radiant heat or flame contact generated from a bushfire.

Where possible, buildings will comply with the requirements of AS 3959.

Fire Safety Statements are completed for the bathhouse at the Dendrobium Pit Top and the Sizer at Kemira Valley on an annual basis.

6.2.5 Installation of Additional Infrastructure

Additional infrastructure installed at the Dendrobium Pit Top and other sites will be assessed in regard to bush fire risk and fire mitigation.

Outcomes from this assessment will be implemented as part of the construction process.

7 REPORTING

The provisions described in this plan will be audited regularly as part of the Dendrobium Environmental Management Strategy.

This plan will be reviewed at regular intervals in accordance with the audit results and updated as required to take into account new information, guidelines and the requirements of external agencies and internal company requirements.

Bushfire management activities undertaken will be reported in the annual Environmental Management Report as required.

Bushfire management activities undertaken will be reported in the NSW Rural Fire Service BRIMS system. Reports will be provided to the Illawarra Coal Survey and Property Coordinator who will facilitate the BRIMS update.

8 RECORD KEEPING

Reports containing information relating to monitoring, inspections and observations, correspondence, notification and approvals, records of communication with statutory authorities and other bodies, audit reports and reviews shall be maintained for a period of at least 7 years.

9 DOCUMENT CONTROL

The Bushfire Management Plan shall be controlled in accordance with the Mine's Document management System.

Modifications to the Management Plan may occur as a result of the auditing and review process, the assessment and implementation of a corrective action or as a result of system improvements or modifications.

10 REFERENCES

- BHP Billiton (2008) Health, Safety, Environment and Community Standard STA.009
- BHP Billiton (2008) Environment Standard STA.020
- Dendrobium Mine (2006) Smoke Underground During Bushfires (DENP0201)
- Dendrobium Mine (2007) Dealing with Bushfire Risk (DENP0093)
- Dendrobium Mine (2007) Designated Areas, Smoking Materials and Searches (DENP0036).
- Dendrobium Mine (2007) Emergency Fire Provisions (DENP0017)
- Dendrobium Mine (2007) Emergency Management System (DENMP0022)
- Dendrobium Mine (2007) Emergency Response Procedure (DENP0051)
- Dendrobium Mine (2007) Evacuation in Event of Fire (DENP0069)
- Dendrobium Mine (2007) Loss of Pressure or Quantity of Water to the Fire Fighting Supply System (DENP0035)
- Dendrobium Mine (2008) Fire and Explosion Major Hazard Management Plan (DENMP0027)
- Dendrobium Mine (2009) Surface Evacuation (DENP0249)
- Illawarra Coal (2004) Illawarra Coal Bushfire Management Plan
- NSW Rural Fire Service (2006) Planning for Bushfire Protection Guideline
- NSW Rural Fire Service (2008) Illawarra Bush Fire Risk Management Plan
- Occupational Health and Safety Act
- Rural Fires Act 1997
- Standards Australia (1999) AS3959 Requirements for the Design and Construction of Buildings in Bushfire Prone Areas

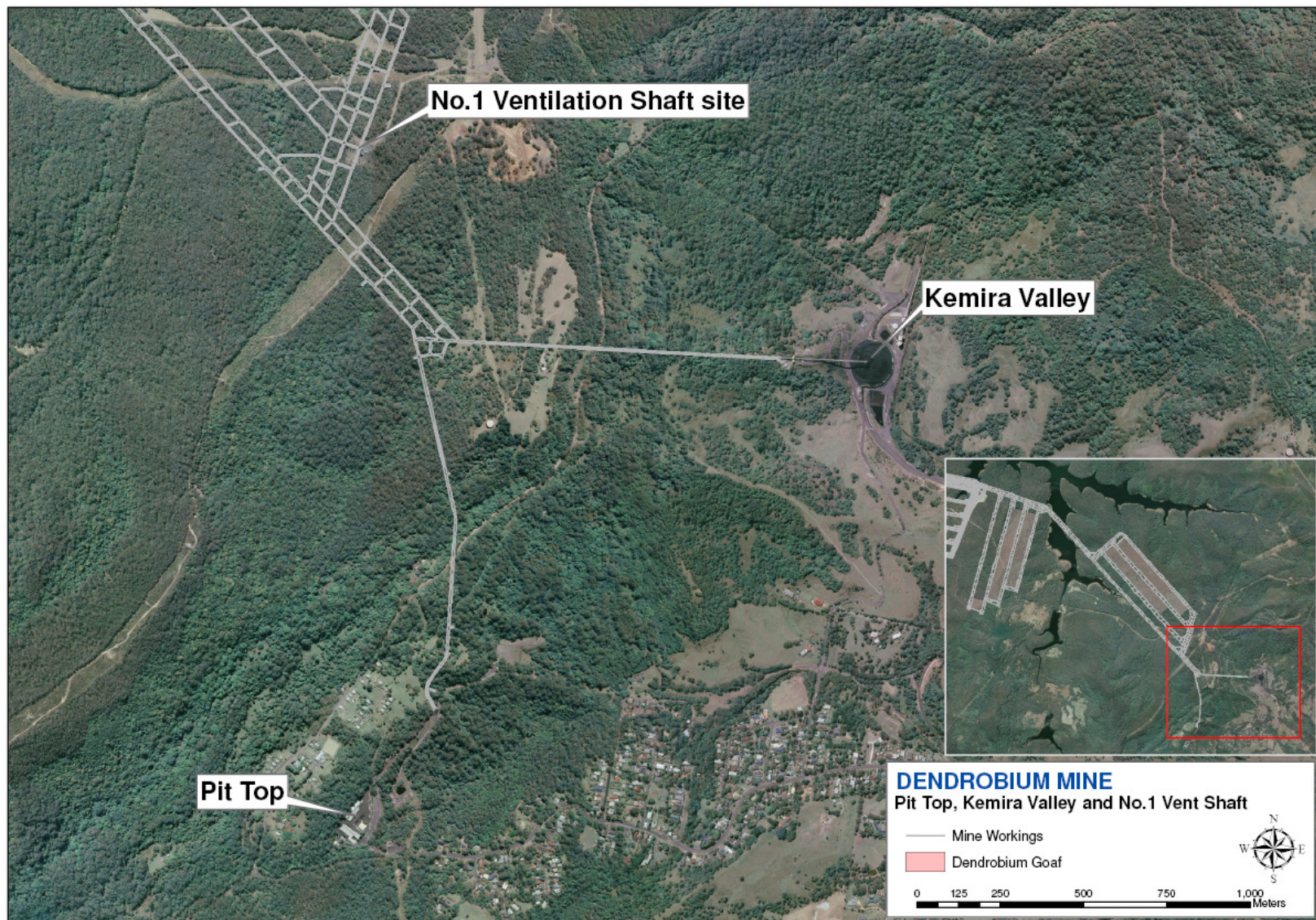


Figure 1: Site Plan - Pit Top, Kemira Valley and Ventilation Shaft 1

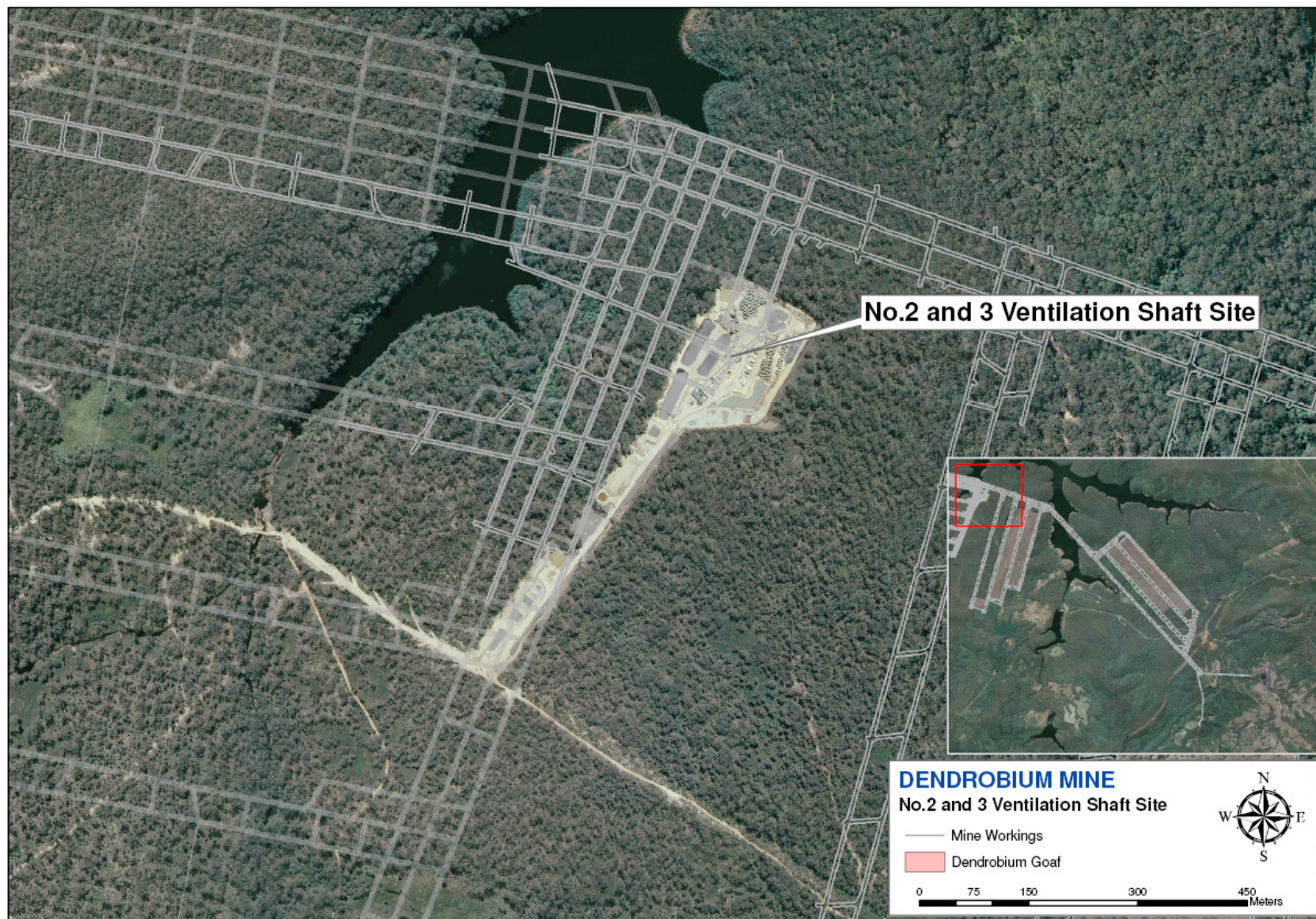


Figure 2: Site Plan - Ventilation Shaft 2 and 3

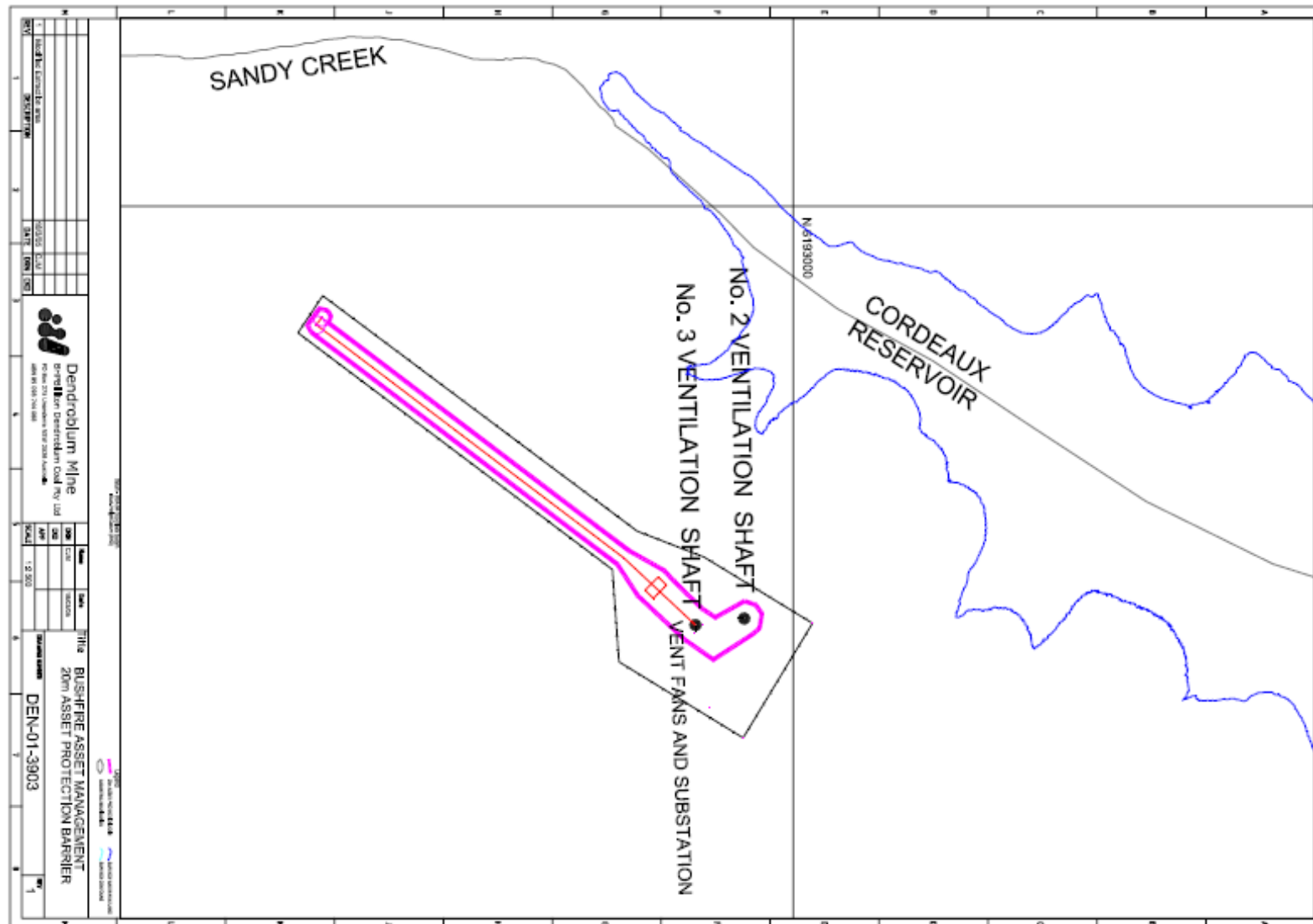


Figure 4: Asset Protection Zone - Ventilation Shaft 2/3