



BUSHFIRE MANAGEMENT PLAN (BFMP)



Version	Date	Details	Who	Approved By
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1.0 INTRODUCTION

Vernice Pty Ltd operates the Clover Down's Gravel Extractive Industries licence located on Lot 1 Goomalling-Toodyay Road (81 Forest Road), Nunile. Vernice Pty Ltd is a private, family owned business, operating since 1972.

In February 2015, Development Consent and an Extractive Industries Licence was granted by the Shire of Toodyay. The Clover Down's gravel pit commenced operations and has continued to service local government with gravel material for road creation and upgrading. This approval is undergoing further approvals to extend the extraction area and extend the period of the licence.

1.1 SCOPE

The Development Consent requires the preparation, approval and implementation of an Environmental Management Strategy (EMS) and subordinate Environmental Management Plans (EMP). One of these EMPs is the Bushfire Management Plan (BFMP). Whilst this plan specifically addresses issues related to bushfire management, it should be read in conjunction with other EMP's.

This BFMP has been prepared to the satisfaction of Western Australian State Planning Policies and requirements.

1.2 OBJECTIVES

The objectives of the Bushfire Management Plan are:

- To manage activities on site are to minimise the risk of outbreak of fire;
- Contain fuel loads to acceptable levels to moderate fire intensity;
- To put in place hazard mitigation measures to contain an outbreak of fire should one occur; and
- To put in place arrangements to liaise with and support the DEFES should an outbreak of fire occur at Clover Down's or Vernice sites or threaten Vernice's operations.

2.0 STATUTORY REQUIREMENTS

The relevant approval and licence requirements from the 'State Planning Policy 3.7 – Planning in bushfire prone areas' along with information on where they are addressed in this plan.

Table 1: Statutory Requirements

Condition	Section
Avoid any increase in the threat of bushfire to people, property and infrastructure. The preservation of life and the management of bushfire impact are paramount.	5.0

Reduce vulnerability to bushfire through the identification and consideration of bushfire risks in decision-making at all stages of the planning and development process.	5.0
Ensure that higher order strategic planning documents, strategic planning proposals, subdivision and development applications take into account bushfire protection requirements and include specified bushfire protection measures.	Site/Project Management Plan
Achieve an appropriate balance between bushfire risk management measures and, biodiversity conservation values, environmental protection and biodiversity management and landscape amenity, with consideration of the potential impacts of climate change.	Site/Project Management Plan and Extractive Licence Application

3.0 RISK PROFILE

3.1 CLIMATE

The regional climate of the Shire of Toodyay, locality of Nunile is typically described as hot-summer Mediterranean climate. At least three times as much precipitation in the wettest month of winter as in the driest month of summer, and driest month of summer receives less than 30 mm (1.2 in).

The primary fire season is the period between November to March, the summer period, when the combination of hot, dry winds, lightning strikes and relatively dry ground cover increases the risk for bushfires. The **Prohibited Burning Period** runs from 1 November to 8 March annually. No burning is allowed for any reason during this period. The **Restricted Burning Period** runs in two parts, the first from 1 October to 31 October annually and the second part from 9 March to 30 April annually. A permit system is in place during these times.

3.2 LAND USE

Vernice is set amongst an area of existing farmland and an existing 6 ha of mined area. Surrounding land uses include a agricultural farming activities that are predominantly wheat and sheep farming.

The proximity of several residential properties to the mine site is important from two perspectives. Firstly, they represent potential sources of ignition and secondly, they represent assets that must be protected in the event of an outbreak of fire.

4.0 POTENTIAL IGNITION SOURCES

The following potential sources of ignition have been identified:

4.1 MINING ACTIVITIES

The risk of bushfire ignition primarily relates to mobile equipment or maintenance activities. Mobile equipment and vehicles can ignite fires if unguarded exhausts come in contact with dry pasture. Maintenance activities that can ignite fires are metal grinding or welding.

4.2 POWER LINES

Several power lines are located, in and around, the perimeter of Lot 1 Goomalling-Toodyay Road. During hot weather power lines may sag and, in windy conditions, may clash together and arc. The arcing of power lines may cause sparks to ignite vegetation beneath the power lines. The risk of fire is increased if the power lines are close to tall vegetation.

4.3 LIGHTNING

Lightning may cause ignition of vegetation, particularly at higher elevations along ridgelines.

4.4 EXTERNAL FIRE

Bushfire may enter Vernice lands from adjacent properties. The prevalence of bushfires from other properties increases during the periods when hot, dry north-westerly winds are blowing.

4.5 TRANSPORT AREAS AND PUBLIC ROADS

There are several transport corridors in the vicinity of Vernice operations. The main risk of ignition on these roads and transport areas is from discarded cigarette butts.

4.6 OTHER

Other causes of ignition include arsonists, fuel reduction fires, and motor vehicle accidents.

5.0 IGNITION SOURCE MANAGEMENT MEASURES

5.1 MINING ACTIVITIES

Heavy vehicles shall be restricted to identified vehicle routes and designated access tracks to reduce the risk of spark emissions. Activities that create sparks or hot particles, such as metal grinding and welding will be managed in accordance with Vernice's Hot Work Permit process. Ideally, all machine maintenance will either be completed off site, back at the Vernice workshop, or in the floor of the pit away from fuel.

5.2 POWER LINES

Some power line easements on site are managed by Western Power. Vernice will work with Western Power to remove vegetation that may interfere with power lines. The other power lines and vegetation around the powerlines under the control of Vernice, will be maintained by Vernice, to reduce the bushfire risk. The powerlines on the property are running through cleared land which reduces the risk of bushfires.

5.3 LIGHTNING

No specific management practices are practicable to reduce the risk of a lightning strike starting a fire. Other than reducing damage to plant and equipment by parking the plant and equipment in a cleared area e.g., the extraction pit floor.

5.4 EXTERNAL FIRE

Prevailing winds during summer are from the east, however winds that lead to an extreme fire

danger can occur from either direction. Firebreak design will therefore take into consideration that bushfires are likely to enter the site from all directions, depending on the wind direction and wind changes.

The risk of bushfires in the adjacent lands spreading to Vernice land will be minimised by the provision of firebreaks along boundary fences.

5.5 TRANSPORT AREAS AND PUBLIC ROADS

Firebreaks along the property boundaries of Vernice lands will provide a degree of protection from bushfires ignited by discarded cigarette butts by motorists.

The mine site access road and internal haul road shoulders will be regularly slashed and maintained to reduce the potential for vegetation to ignite from exposed low exhausts of vehicles turning, pulling off the roads or from lit cigarettes thrown from vehicles.

5.6 OTHER

As the potential sources of ignition of bushfire in the 'other' category are unanticipated events, the management of such bushfires is to provide a rapid and co-ordinated firefighting response to these bushfires.

6.0 ON SITE FIRE MANAGEMENT MEASURES

6.1 FIRE FIGHTING EQUIPMENT

Vernice has a range of facilities on the mine site area that will be made available to help control and extinguish bushfires. This equipment includes, but is not limited to:

- Water dams with maintained access points;
- Stock dams;
- Water carts;
- Earth moving equipment;
- Water pumps;
- Portable radios
- Emergency telephones and fire extinguishers provided at vantage points within the surface facilities; and
- First aid room and supplies.

Personnel, trucks and other equipment shall be made available on request to emergency services for use on the mine site in cases of bushfire incidents. The water carts are off road vehicles and can be made available, subject to suitable access.

6.2 INSPECTIONS

Vernice shall conduct an annual inspection, preferably during winter, to assess fuel loads and fire hazards. The inspection shall report on:

- Accessibility of roads and tracks, having due regard to safety considerations in the operation of the mine;
- Potential interference with electricity transmission lines from vegetation;
- Condition of fire breaks;
- Accessibility to water supplies (creeks, dams, hydrants); and
- Assessment of fuel loads and fire hazards in general.

6.3 FIRE BREAKS

Following the annual inspection areas maintenance will be undertaken to areas that require clearance and access. Cleared areas will be maintained around above-ground facilities and buildings. An area beside access tracks will be cut or slashed extending the firebreaks, if necessary. Existing firebreaks and access to dams and water supply will be maintained as required.

6.4 SUPPRESSION OF OUTBREAKS OF FIRES ON SITE

Any bushfire will be to the local volunteer firefighters (DEFES) through telephoning the 000-emergency number.

If the fire is restricted to the Vernice mine site the use of water carts and other firefighting equipment, including personnel, will be made available to assist DEFES.

The Vernice Emergency Response Team will continue bushfire suppression, in co-operation with DEFES and following a request from them, outside the Vernice mine site should bushfire spread to adjoining properties.

6.5 ACCESS FOR DEFES PERSONNEL

If an outbreak of fire occurs on site, DEFES personnel shall be meet at the site offices or other points around the site. DEFES personnel and equipment shall be organised by an DEFES group officer and the DEES contingent shall be escorted by authorised Vernice personnel to the fire. Vernice will provide an updated contacts list to the DEFES when required or requested.

7.0 REVIEW OF MANAGEMENT PLAN

The BFMP will be reviewed;

- Within 3 months of changes to Development Consent conditions relating to bushfire management;
- Following an independent environmental audit which recommends changes to the BFMP;
- At the completion of mining activities; and
- Every two years, as per environmental and safety standards.

8.0 RESPONSIBILITIES

Table 2 outlines the responsibilities relating to the BFMP.

Table 2: Management Plan Responsibilities

Position	Task	Timing
Director	Provide adequate resources to implement the requirements of the BFMP.	Annual review
Maintenance Manager/Director	Maintain firefighting equipment	As required
	Maintain vegetation around power lines to reduce the bushfire risk.	As required
Mining Manager	Maintain vegetation around boundary lines and access tracks to reduce the bushfire risk.	As required
	Maintain access to dams for firefighting access	As required
	Maintain vegetation along the access road to reduce the bushfire risk.	As required
HSEQ and HR Manager	Coordinate firefighting training for the Emergency Response Team	As required
	Notify DEFES of site contacts in case of emergency	Annually
HSEQ Manager	Coordinate annual bushfire inspections.	Annually
	Coordinate reviews of the BFMP	As outlined in the BFMP
	Coordinate reporting as required in BFMP	Annually