

Title	Blast Operating Procedures
Category	Noise and Blast Management
Reference	N&BM 1.3
Consent Conditions Ref	32 to 37, 68
EMP overview Ref	Section 7.3.2

OBJECTIVES

- To ensure safe working practices and to minimise the impacts of blasting at nearby residences.

OTHER PROVISIONS

- All blasting is to be undertaken in accordance with DMR regulations. Refer DMR General rules.
- Blast design, drilling and blasting is to be in accordance with CSR's guideline *Drilling and Blasting Procedures for Jandra Quarry*.

PROCEDURES

1. As per *Drilling and Blasting Procedures for Jandra Quarry* (copy attached).

REPORTING

Reporting of the implementation of this procedure is to occur in the Annual EMP Report prepared as part of consent condition 12(d).

Date: 1 June 2000

Manager Responsible: Kevin Worth (Quarries Manager)

Title	Blast Monitoring
Category	Noise and Blast Management
Reference	N&BM 1.4
Consent Conditions Ref	32 to 38 and 45
EMP overview Ref	Sections 7.4.2

OBJECTIVES

- To appropriately monitor and record blasting from the operations to ensure compliance with statutory requirements.

OTHER PROVISIONS

- Monitoring of all blasts to be carried out at the nearest impacted residence (at the present time this is YALA 3).
- Monitoring to include ground vibration and air-blast overpressure.
- Blasting upper limits are: Overpressure – 115dB 95% over the reporting period, ground vibration – 5mm/s 95% over the reporting period (reporting period is any 12 month period).
- Monitoring is to be carried out by a suitably qualified person and approved in writing from the EPA.
- Blasting to be avoided during adverse meteorological conditions – not during high winds or temperature inversions.
- Results of monitoring are required to be reported to authorities annually (see EPP M1.5).
- Monitoring frequency details are contained in the EPP Monitoring Table.;

PROCEDURES

1. Orica is to be contracted to monitor all quarry blasts.
2. Nearby residents (YALA and Loveday) to be notified in writing of an intention to blast.
3. Blast records are to be maintained at quarry office and attached to this EPP.
4. EPA to be advised in writing 48 hours prior to blasting.

Jandra Quarry Environmental Protection Procedure N&BM1.4 (con't)

5. EPA to be advised of any results that exceed the required limits. EPA license report to be completed annually and submitted to the EPA.

REPORTING

Reporting of the implementation of this procedure and outcomes from the monitoring of blasting is to occur in the Annual EMP Report prepared as part of consent condition 12(d).

Date: 18 May 2001

Manager Responsible: Kevin Worth (Quarries Manager)

Title	Dust Control Procedures
Category	Air Quality Management
Reference	AQ1.1
Consent Conditions Ref	15 to 22
EMP overview Ref	Section 8.2

OBJECTIVES

- To appropriately control dust and total suspended particulate generated by quarry operations.

OTHER PROVISIONS

- Water for dust suppression is to be sourced from either Dam 1, 2 or 3.

PROCEDURES

1. All haul roads and stockpiles are to be regularly watered as part of routine operations at the site.
2. The speed limit in the quarry is to be maintained at 40 km/h on unsealed surfaces.
3. Disturbed areas are to be progressively rehabilitated
4. Where possible drilling and blasting are to be conducted in suitable meteorological conditions (ie low wind conditions).
5. Where possible, dust extraction units are to be used on drill rigs.
6. Dust extraction units on crushing and screening plants to be regularly maintained.
7. Seals and mist sprays on crushing and screening plant to be regularly maintained.
8. For the pug-mill or asphalt plant, dust displaced during silo filling to be controlled by an appropriate filter.
9. Accumulated dust to be regularly removed from conveyor structures, and crushing and screening equipment using water.

Jandra Quarry Environmental Protection Procedure AQ1.1 (con't)

REPORTING

Reporting of the implementation of this procedure is to occur in the Annual EMP Report prepared as part of consent condition 12(d).

Date: 1 June 2000

Manager Responsible: Kevin Worth (Quarries Manager)

Title	Monitoring Air Quality
Category	Air Quality Management
Reference	AQ1.2
Consent Conditions Ref	16 and 42
EMP overview Ref	Section 8.2.3

OBJECTIVES

- To monitor dust deposition and suspended particulate levels to ensure that compliance requirements are being met.

OTHER PROVISIONS

- Depositional dust monitoring carried out monthly (max. 4mg/m²/month annual average), monitoring to be done in accordance with AS 3580.10.1 (1991).
- TSP monitoring carried out over a 7 day period once a year (90µg/m³ annual average), monitoring to be done in accordance with AS 2724.3 – 1984.
- Note results of monitoring are required to be reported to authorities annually (see EPP M1.5).
- The frequency of monitoring is shown in the EPP Monitoring Table.

PROCEDURES

1. Dust sampling monitoring locations to be carried out at locations shown on Figure 8.1 of the EMP Overview (attached).
2. **Dust Deposition:** Gauges to be placed permanently along the boundary of the property.
3. Collect samples monthly and send to CSR Penrith Lab for analysis. Attach results to this EPP.
4. **TSP:** Monitors to be placed annually for the first five years at YALA, Loveday and Jones (ie: the closest sensitive sites) whilst the quarry is operating.
5. TSP results to be discussed with the EPA to determine future monitoring requirements. Attach any results and correspondence to this EPP.

Jandra Quarry Environmental Protection Procedure AQ1.2 (con't)

6. **Reporting:** All monitoring results must be included in the annual EMP report to DUAP and contain information as per Section 8.2.5 of the EMP Overview.

REPORTING

Reporting of the implementation of this procedure and monitoring results is to occur in the Annual EMP Report prepared as part of consent condition 12(d).

Date: 1 June 2000

Manager Responsible: Kevin Worth (Quarries Manager)

Title	Asphalt Plant Management
Category	Air Quality Management
Reference	AQ1.3
Consent Conditions Ref	23
EMP overview Ref	Section 8.3

OBJECTIVES

- To appropriately control dust and fugitive emissions generated by asphalt plant.

OTHER PROVISIONS

- Monitoring of stack emissions is required upon commissioning, within three months of commissioning and on an annual basis.

PROCEDURES

1. Ensure reverse pulse filter or equivalent is in place on the lime silo (check during commissioning and start-up).
2. Ensure asphalt plant process to be designed to optimise combustion process. This is to be completed during commissioning or reviewed during start up.
3. Install a suitably designed exhaust stack to adequately disperse the emission plume.
4. Regularly maintain the wet scrubber and include regular servicing of the interceptor trap.
5. Stack emission to be monitored in accordance the EPP Monitoring Table and Section 8.3.3 of the EMP Overview.

REPORTING

Reporting of the implementation of this procedure and monitoring results is to occur in the Annual EMP Report prepared as part of consent condition 12(d).

Jandra Quarry Environmental Protection Procedure AQ1.3 (con't)

Date: 1 June 2000

Manager Responsible: Kevin Worth (Quarries Manager)

Title	Incident Management
Category	Miscellaneous
Reference	M1.1
Consent Conditions Ref	n/a
EMP overview Ref	10.2

OBJECTIVES

- To ensure all environmental incidents are appropriately managed and damage to the site or surrounding environment is minimised.

OTHER PROVISIONS

- All quarry personnel are to be regularly trained on emergency procedures.
- Material Safety Data Sheets of all hazardous chemicals on site are to be centrally located in the quarry office.

PROCEDURES

- Display emergency contact details for Police, Fire Brigade, Ambulance, EPA and local council in the site office.
- Storm Events**
 - After the event, all erosion control structures will be immediately checked and repaired where necessary.
 - Fallen trees and debris will be removed and stockpiled or disposed of to licensed landfill.
- Spillage**

Small spills:

 - Material to prevent spillage flow, including dry-sorb granules, will be retained at site facilities where fuels, chemicals and lubricants are stored.
 - These materials are to be used to reduce small spills (eg fuel leak in bunded storage area)

Jandra Quarry Environmental Protection Procedure M1.1 (con't)

- c) Ensure Material Safety Data Sheets are readily available for all fuels, chemicals and lubricants on site.
- b) Used materials are to be removed from site and disposed of in accordance with any local council and EPA requirements.

Large Spills:

- a) Spills that have potential to flow into drainage channels are to be contained by using earthmoving equipment to bund the area to contain the flow.
- b) This area will be treated as hazardous and treated according to guidelines in the Environmental Manual
- c) Notify the EPA immediately in accordance with EPP- M1.2. "Incident Reporting"

4. Fire

- a) Fire extinguishers are located on all mobile plant, the crushing & screening plant, workshop, control room and site offices. Locations are shown on the site map.
- b) The site watercart fitted with a water canon can be utilised if required.
- c) Emergency numbers are displayed on the site office wall with the emergency procedures.
- d) If required and when burning off excess timber, contact the Napiac Fire Brigade for approval and any necessary advice.

REPORTING

Reporting of the implementation of this procedure is to occur in the Annual EMP Report prepared as part of consent condition 12(d).

Date: 1 June 2000

Manager Responsible: Kevin Worth (Quarries Manager)

Title	Incident Reporting
Category	Miscellaneous
Reference	M1.2
Consent Conditions Ref	n/a
EMP overview Ref	10.2

OBJECTIVES

- To report all relevant environmental incidents to the appropriate statutory authorities.

OTHER PROVISIONS

- All quarry personnel are to be aware of all site emergency procedures.
- All new quarry personnel are to be made aware of the requirements of this EPP.

PROCEDURES

1. Incidents caused by storm events, spillage of fuels, chemicals and lubricants, fire and associated environmental damage are to be recorded and attached to this EPP. Details to be included are the date of the incident, nature of incident, time and date of remedial action, reporting to any authorities and follow up actions.

Note: An incident form is attached

2. All significant environmental incidents (for example a large spill, fire or storm event resulting in significant on-site or off-site impacts are to be reported immediately to the EPA and followed with an incident report with the above details.

REPORTING

Reporting of the implementation of this procedure is to occur in the Annual EMP Report prepared as part of consent condition 12(d).

Jandra Quarry Environmental Protection Procedure M1.2 (con't)

Date: 1 June 2000

Manager Responsible: Kevin Worth (Quarries Manager)



Jandra Quarry Environmental Protection Procedure

Title	Induction Training
Category	Miscellaneous
Reference	M1.4
Consent Conditions Ref	n/a
EMP overview Ref	Chapter 11

OBJECTIVES

- To ensure that all employees are aware of key EPP requirements and that sound environmental practices are displayed by all employees.

OTHER PROVISIONS

- Note that a key aim of quarry activities is to reduce the risk of incidents by ensuring that employees and sub-contractors are aware of their individual responsibilities in environmental management.

Note: An outline of the induction programme is attached

PROCEDURES

- Environmental site induction training is required for all new employees and long term sub-contractors.
- The training is to be conducted no later than 10 working days following their commencement of employment on site.
- The training program will be developed by the Environmental Officer and approved by the Area Manager.
Update: Training program titled "Jandra Quarry Environmental Management" has been developed and approved by the Area Manager.
- The training program will contain information and practical demonstrations as outlined in Section 11.2 of the EMP.
- An induction record of all persons who complete the training is to be kept on site and attached to this EPP

Jandra Quarry Environmental Protection Procedure M1.4 (con't)

REPORTING

Reporting of the implementation of this procedure is to occur in the Annual EMP Report prepared as part of consent condition 12(d).

Date: 18 May 2001

Manager Responsible: Kevin Worth (Quarries Manager)



Jandra Quarry Environmental Protection Procedure

Title	EPP Review and EMP Reporting
Category	Miscellaneous
Reference	M1.5
Consent Conditions Ref	12
EMP overview Ref	n/a

OBJECTIVES

- To ensure that the Jandra quarry's Environmental Protection Procedures are updated regularly and outcomes from the quarry's Environmental Management Planning process are appropriately reported to statutory authorities.

Note: the Annual EMP Report submitted to Government agencies needs to demonstrate that effective environmental management of the Jandra quarry is being achieved (in terms of monitoring results and implementation of these EPP's). New environmental objectives for the coming year also need to be identified where relevant. The Annual EMP Report is due in June each year.

OTHER PROVISIONS

- There are no other provisions for this EPP.

PROCEDURES

- The EPP's in this manual (including the EPP Monitoring Table) should be updated as required and reviewed at least every two years to determine their applicability to current activities at Jandra, and improvements in environmental practices or new environmental requirements.
- EPPs that are no longer relevant are to be notified as such.
- A report on the outcomes from the implementation of the Jandra Quarry EPPs shall be prepared annually and supplied to DUAP, Taree Council, the regional EPA and DLWC offices. The report should cover all records appended to EPP's in this manual, other statutory requirements and monitoring results.

Jandra Quarry Environmental Protection Procedure M1.5 (con't)

REPORTING

See bold type above. Reporting of the implementation of this procedure is to occur in the Annual EMP Report prepared as part of consent condition 12(d).

Date: 18 May 2001

Manager Responsible: Kevin Worth (Quarries Manager)

Landra Quarry

Environmental Incident Non conformance Report No

Plant: **Activity:**

Chronology

Incident Date: **& Time:** **Date Reported:**

Reported By

Name:

Position (eg employee, EPA, auditor, public etc)

Personal Details Where Report Initiated by Public (Complaint)

Note: Details do not have to be provided by complainant. If no details provided note to that effect.

Address:

Telephone No.: **Complaint taken By:**

Nature of Incident

Did Incident occur during 'licenced' operating hours Yes/No (Delete as appropriate)

Incident Type (Circle most appropriate):

Air / Traffic / Water / Noise / Blasting / Bureaucratic issues (eg licence renewal) / Community issues (eg heritage, aesthetics) / Land (e.g. waste disposal)

Operating conditions: (Circle most appropriate): Accident-Spillage / Normal / Breakdown / Cleaning-Waste Removal / Emergency-Fire etc.

Category (1 to 5 see over): **Impact felt:(Circle one):** On site / Off site / Both

Incident is (circle one): Ongoing.. / One -off

Notifications: EPA - YES/NO EGM - YES/NO Other (details below:)

Provide details of incident.

Action Taken

If no action please state reasons why.

Environmental incidents are now reported under the following five categories (in accordance with AS/NZS 4360:1995).

To determine the appropriate category for an incident, select the highest level matched by any of the points listed in the Descriptions column.

Level	Descriptor	Description
1	Minor incident	<ul style="list-style-type: none"> Any complaint from the public, or On site incident immediately contained/cleaned up, and Environmental cost less than \$5,000
2	Significant Incident	<ul style="list-style-type: none"> On the spot fine, or On or Off site release causing minor harm and promptly contained/cleaned up, or Local media enquiry, or Remedial action required by authorities, or Environmental cost between \$5,000 and \$25,000
3	Serious Incident	<ul style="list-style-type: none"> Prosecution likely, or Off site release with short term detrimental effect on environment, or Regional, state or national media coverage, or Environmental cost between \$25,000 and \$250,000
4	Severe Incident	<ul style="list-style-type: none"> Prosecution expected, or Toxic release off site with prolonged detrimental effect on the environment, or State, national media headline coverage, or Environmental cost between \$250,000 and \$2.5m.
5	Extreme Incident	<ul style="list-style-type: none"> High level prosecution expected, and Toxic release off site with major detrimental effect on environment, Sustained high level media & community pressure expected, and Environmental cost >\$2.5m

