RESOURCE GROUP (WA)

DUST MANAGEMENT PLAN

PROPOSED QUARRY

CLYDESDALE ROAD

Grass Valley WA

Contents

1. PURPOSE

This Management Plan applies to the proposed Resource Group quarry located at 792 Clydesdale Rd, Grass Valley WA (lot 150 on plan 300080).

The plan is prepared to ensure that any dust generated is controlled thereby ensuring that the requirements of the EPA Act and the Shire of Northam Extractive Industries Local Law pertaining to fugitive dust and air quality are addressed and are complied with.

2. OBJECTIVE

The objective of this Dust Management Plan is to manage dust emissions generated within the project area, so that the appropriate dust criteria is met during both the construction and operational stages of the project.

3. SCOPE

This plan addresses:

- Plant dust generation issues
- Identification of site dust issues
- Compliance with relevant legislation and local laws
- Provision of measures to manage the impact of all dust issues at the site
- Management of non-compliance, if identified
- Staff awareness training

4. RESPONSIBILITIES

Employees	Responsible for ensuring that the dust issues for their work are minimised and controlled. This includes: ➢ Observing any dust emissions standards and procedures that apply to their work or operations ➢ Taking action to minimise or prevent dust emission ➢ Reporting dust emissions
Quarry Manager and/or Supervisors	Responsible for minimisation of dust emissions arising from work methods and the working environment. This includes: ➢ Identifying, reducing and preventing dust emission ➢ Monitoring operations and maintenance work to ensure dust emissions are maintained within approved measures ➢ Initiating action to prevent dust incidents ➢ Identifying, reporting and recording dust emission incidents.
HSE Advisor	Responsible for: ➢ Ensuring periodic dust monitoring is carried out ➢ Ensuring that an appropriate management plan is developed and implemented if dust emission limits are found to have been exceeded. ➢ Review dust emission complaints received to determine if particular dust issues/trends are being identified.
Operations Manager	Responsible for: ➢ Approving any communication to external parties on dust generation issues prior to release

	➢ Ensure all personnel are aware of License, DA and other regulatory requirements relating to dust ➢ Ensure site Environment performance objectives and targets are established, monitored and achieved ➢ Ensure availability or resources ➢ Conduct management reviews of the DMP ➢ Ensure any dust incidents are reported to authorities as required ➢ Verify the implementation of corrective and preventative actions ➢ Recognise and respond to community concerns

5. DUST MANAGEMENT PRIORITIES

The following areas have been identified as requiring dust control measures:

- Drilling and Blasting in-situ rock
- Load out of ROM into dump trucks
- Tipping into ROM bin
- Crushing Plant Transfer Points
- Load out from beneath crushing plant
- Product Tipping and Stockpiling
- External delivery truck loading
- Truck movement on unsealed roads

The rock being quarried at the Grass Valley Quarry is of a high silica content and as such can be dangerous to the workforce (and others) should individuals be exposed to the dust for regular and long-term duration.

However, research by the Australian Institute of Occupational Hygienists (AIOH) has determined that the activity of free radicals from high Silica content dust decays with time due to 'aging' and is rendered harmless within minutes through the application of water (AIOH Position Paper - February 2009).

As such the primary dust control method at the Grass Valley Quarry will be the use of water and water sprays. Given this need to reduce any exposure to high Silica fugitive dust at the Quarry, and the methods employed to do this, means that by definition the emission of fugitive dust will be tightly controlled and thus any escape to surrounding areas will be minimal.

6. Control Measures

6.1 Drill and Blast

All drilling is carried out by pneumatic drill rig complete with a dust bagging unit. The bagging unit uses compressed air to draw dust particles from within the drill holes into the bags. The bagging unit then deposits the dust near the hole in a small manageable pile. The dust pile in turn is kept damp by the on-site water tanker.

Dust at the hole collar is controlled by the drill rig. All drill rigs carry water and sprays the collar area regularly thus keeping the dust to a minimum.

All quarry blasts use an emulsion based explosive product. The use of this emulsion alloys the onsite water tanker to spray the surface area prior to the blast being initiated, thus controlling any fugitive dust.

6.2 Quarry Dump Truck Load-out

After the blast has been initiated the resultant shot rock is loaded onto the dump truck by a front-end loader (FEL) for transport to the Run of Mine pad (ROM) where it is stockpiled. Prior to this occurring the water truck wets down the 'shot' to inhibit dust from rising. The wetting down process is repeated several times as the FEL works its way through the stockpile of shot rock.

6.3 ROM bin feed

Whilst on the ROM pad the shot rock is constantly kept wet by the water truck as required by ambient conditions. The already wet ROM material is then tipped into the ROM bin. The ROM bin is fitted with a series of high-pressure sprays to ensure any fugitive dust is controlled. This material in turn is presented to the Primary Crusher in a damp state.

6.4 Crushing Plant

All transfer points within the crushing plant are fitted with high pressure water sprays. These sprays maintain the moisture content resulting from the previous soaking by the water truck. Additionally, all crushing transfer points are fitted with rubber shrouds to assist the sprays and control any dust that may eventuate. At the product stockpile end of the plant movement of stock is controlled to ensure that material does no fall any great distance as this can create dust issues. To add additional ability to suppress dust, equipment that produces a fine atomised water mist can be utilised. Installation of a 2.5 metre bund wall on the Western and Southern sides of the crushing plant so as to aid in the control and prevention of fugitive dust from reaching the sensitive receptor locations.

6.5 Load out - Crushing Plant to Stockpile

All finished product remaining under the crushing plant is inherently damp due to the previous processes. To ensure any dust that may be present the water truck once again sprays the stockpile prior to the dump truck being loaded.

The dump truck in turn delivers the product to the stockpile where it is tipped along with previous loads. Again, the water truck wets down the product and the FEL 'pushes up' the material to build the overall stockpile dimensions required

6.6 Product Delivery Trucks

A maximum fourteen times a day road delivery trucks present at the quarry to be loaded with product for transport to Perth. Prior to loading the trucks with an FEL, the water truck once again sprays the material to be loaded with the water cannon. To assist with further control the trucks proceed through a truck wheel wash and a set of overhead sprays to ensure no dust is carried onto local roads. The road trucks also cover the load with tarpaulins.

6.7 Unsealed Roads

All haul roads within the quarry, stockpile area plus the ingress and egress road are regularly sprayed by the water truck to keep dust down. Truck speed will be kept to a maximum 8kph. Additionally, the first 50 metres of road adjoining Clydesdale Road will be sealed to avoid dust being carried onto it and obscuring vision when Northerly winds are blowing. Over time dust suppressant agents will be worked into all haul roads. All haul rods to be regularly maintain to commencement standard.

6.8 Stockpiles

Stockpiles to be limited to a maximum 6 metres in height. Long term stockpiles to have batters to minimise wind pickup. On a regular basis the water truck operator will ensure that any fines stockpiles are maintain in a surface damp condition. These stockpiles have the potential to emit dust when strong winds are blowing. However, if they a regularly watered ultimately a crust will form which alleviates the amount of dust that can be picked up by the any wind. Consideration required to be given to wind conditions prior to working on stockpiles. If wind speeds are in excess of 15kph then work should be directed elsewhere.

6.9 Training

Initially all personnel working on the site will, amongst other things, be required to attend a training course on fugitive dust and how the Dust Management Plan can be utilised to alleviate any potential problems. All subsequent new employees will be required to complete this training. Refresher training to be carried out yearly prior to or on its first anniversary.

Training to include site personnel, Operations Manager and all road delivery truck operators.