Mineral Resources Tasmania
Department of State Growth

Tasmanian Government

MINING PLAN
MINING AND EXTRACTIVE INDUSTRIES

RENEWAL/PARTIAL SURRENDER

This form is designed to provide information to review performance on a mining lease. Please refer to the *Quarry Code of Practice*, which will be used as the assessment standard. The information is required to assist in drafting appropriate lease conditions and to review or release the security deposit.

Please provide the following information:

Name of applicant:		
Address:		
Telephone number:		
Mobile number:		
Facsimile number:		
Name of landowner (if private land):		
Landowner phone number:		
Lease application number:		
What type of application is it? (*circle*)	***Renewal***	***Partial surrender***
What other mining leases or operations are you involved in?		

If your operation is expanding, a permit review may be required by Council or the Environmental Protection Authority (EPA). Decommissioning may also require a permit under the planning scheme.

(November 2017)

PLEASE ENSURE THE FOLLOWING INFORMATION IS PROVIDED:
(Circle *italics* as required.)

What is the *Quarry/Mine* called? .....

What is the land tenure? ..... *Private land / PTPZ (forestry) land / Other Crown Land*

Operational status ..... *Continuous/Occasional intermittent/Partial surrender*

Has a permit been granted by Council? ..... *Yes/No*

Is the permit for a Level 2 operation? ..... *Yes/No*

If a contractor is to be used, who is the contractor? .....

MATERIAL EXTRACTED

What product is to be mined? *Sand/clay/gravel/hard rock/alluvial/*
other minerals .....

Has this changed since the original application? *Yes/No*

Estimated or measured resources .....tonnes, cubic metres of stone

.....tonnes of ore at .....% ..... mineral

Annual production? .....

How has the market for your product developed during the lease term? Please provide information? .....

.....

How big is the lease area? ..... hectares

How big an area has been disturbed by mining? ..... hectares

Has this expanded during the term of the lease? ..... *Yes/No*

What area has been rehabilitated? ..... hectares

ROYALTY

Is there any Crown land on the lease? ..... *Yes/No*

Is the landowner agreement still current? ..... *Yes/No*

Are Crown minerals extracted? ..... *Yes/No*

Describe the production records which have been kept:

Sales dockets, weighbridge dockets, other .....

.....

What production returns have been submitted? .....

.....

PUBLIC SAFETY

Safety is an important responsibility of the lessee.

How accessible is the site to the general public? *High risk/low risk*?

Are gates or fences *Existing/to be installed/or required*?

Are there unprotected shafts, excavations, faces, dams or machinery? *Yes/No*

Measures taken to reduce hazards are as follows:

.....

.....

Is the access to hazardous areas controlled? *Yes/No*

PUBLIC LIABILITY INSURANCE

What level of public liability insurance do you carry? $.....

It is a requirement of the mining lease that a minimum of $10,000,000 public liability insurance is maintained, higher risk operations will be required to carry $20,000,000 of insurance.

Attach a copy of your certificate of currency if not already provided to MRT.

OPERATION SUMMARY

Has the operation expanded/extended in area since your lease application? *Yes/No*

What methods or equipment have been introduced since your application?

Earth moving, drill & blast

Crushing/screening/washing

Fixed or mobile plant

Small scale underground

Alluvial mining

Has *waste, overburden stockpiles* or *tailings* been produced? *Yes/No*

SITE LOCATION (*Quarry Code of Practice*, pages 10 and 11)

Have neighbours encroached onto the operation since application or last renewal?

.....

.....

VISIBILITY

Visibility is the cause of public complaint at many, otherwise well managed, quarries. Visibility of the developing quarry from frequently used roads or vantage points may limit the height of the quarry or require specific working and rehabilitation plans.

Is the operation visible from main roads etc.? *Yes/No*

Or has visibility increased? *Yes/No*

Please provide a working plan of the operation using the work sheet below.
(A spare planning sheet is included on page 10 and a sample mine plan is included on page 11).

SITE PLAN

Please Indicate:

Access roads		Direction of water flow	
Visual screening		Drainage, settling ponds, process dams	
Direction of working		Stages of operation and rehabilitation	2002
Bench face		Distance to watercourses and housing	350 m
Dimensions of excavation	350 m		
Location of processing plant		North	N
Topsoil and overburden stockpiles	^ ^ topsoil ^ ^		

QUARRY	DATE
SCALE	DRAWN

ACCESS (*Quarry Code of Practice*, page 13)

Access to a quarry site is of primary importance to its operation.

Does the quarry traffic affect the local roads? *Yes/No*

Or does the quarry traffic affect the local residents? *Yes/No*

Has the access road been redeveloped since application or is redevelopment required?

Redeveloped, required or is it satisfactory.

STAGING OF OPERATIONS (*Quarry Code of Practice*, page 14)

The resource should be worked in a systematic manner, generally across or down the slope so that worked out sections can be rehabilitated as mining progresses. The Inspector will recommend a security deposit, based on the maximum disturbed area you require. The area you require will be included as a lease condition if the application is granted. Disturbed area is measured in hectares (1 hectare = 100 m × 100 m) and includes stripping, excavation, overburden, waste, tailings, plant, hardstand and access etc.

What is the maximum disturbed area you will require for the next 5 years? ..... hectares

Is your area of disturbance — *increasing, decreasing or unchanged*?

All security deposits are periodically reviewed as the scale or nature of the proposed operation and area of disturbance changes. Security deposits may be reviewed at any time.

Please provide a working plan of the operation using the work sheet opposite. It should show the current pit and any proposed future development. (A spare planning sheet is included on page 11 and a sample mine plan is included on page 10).

CLEARING AND PROGRESSIVE REHABILITATION (*Quarry Code of Practice*, page 15)

The area of disturbance of an operation should be kept to a minimum, and rehabilitation should be carried out progressively. Clearing should be kept to the minimum absolutely necessary for efficient operations. Topsoil must be protected and the guidelines below should be followed:

- If possible, windrows of topsoil should not exceed one metre in height.
- Topsoil should not be buried or driven on, as this will damage soil structure.
- Overburden should be stripped and stockpiled separately from soils.
- On hillside operations, it is best to store topsoil above or beside the excavation.
- Note that holding a Mining Lease does authorise topsoil removal from the site.

What type of vegetation has been cleared? .....

What area of vegetation has been cleared since lease approval?.....

Is further clearing required? .....

What is the topsoil depth?.....

Wherever practical overburden, subsoil and topsoil should be placed directly onto worked out areas, to avoid double handling of soil and maximise the viability of the seed bank.

Has topsoil been separately stockpiled and protected? *Yes/No*

Has topsoil been removed from the site? *Yes/No*

Describe the stripping and stockpile arrangement:.....

.....

.....

(Please show the above, on the plan)

BLASTING (*Quarry Code of Practice*, page 18)

Is blasting carried out regularly? *Yes/No*

Has any blasting proved necessary? *Yes/No*

EXCAVATION AND DISTURBANCE
BENCHING (*Quarry Code of Practice*, page 20)

Is the deposit benched to win material? *Yes/No (next section)*

How many working faces exist or are planned? .....

Towards the end of the productive life of the quarry, the uppermost benches should be reduced in height. Where possible benches should be recontoured to form slopes by grading them out or back filling. Slopes greater than 30 metres in length should be broken up with drainage berms along contour to reduce erosion.

What is the final land form shape? *Benches/Recontoured slopes*

What is the final face height?.. .....

What is the final bench width?.....

What is the final slope of faces?.....

Has development of any benches been completed? *Yes/No*

Have any benches been regraded or back filled? *Yes/No*

NOXIOUS WEEDS AND PLANT DISEASES (*Quarry Code of Practice*, page 22)

Weed invasion can be minimised by tackling weed infestations quickly to prevent a large seed bank. Weeds should be managed until such time as native species are re-established. A list of weeds is shown on page 40 of the Code.

What weeds exist or have spread onto site?.....

How have these been controlled?.....

Quarries can also spread the root rotting pathogen *Phytophthora cinnamomi* (PC) responsible for the increasing loss of native plant communities in coastal heath and moorland areas. Gravel free of PC may be stipulated for road contracts in sensitive zones.

Does the quarry produce sand or gravel? *Yes/No*

Is the quarry situated in native vegetation? *Yes/No*

Is the elevation less than 800 metres? *Yes/No*

Is rainfall greater than 600 mm per annum? *Yes/No*

Are zones of 'die back' evident in the native heath? *Yes/No*

Is there any evidence of *Phytophthora cinnamomi* spreading onto the site? *Yes/No*

If *Yes* what control measures have been adopted?.....

.....

.....

DRAINAGE AND EROSION CONTROL (*Quarry Code of Practice*, page 24)

Water leaving quarry premises should be clear and free from contaminants. If not, water quality may be affected far beyond the premises, affecting downstream neighbours and the environment.

Are there downstream water users? *Yes/No*

Have clays or fine silt been exposed on site? *Yes/No*

Have cut-off drains been constructed? *Yes/No* Are they effective? *Yes/No*

Have sediment trap(s) been provided? *Yes/No* Are they effective? *Yes/No*

Have sediment trap(s) been provided for the access road? *Yes/No*

Are they effective? *Yes/No*

How often are they cleaned out?.....

How effective are the culverts? .....

Has any erosion occurred? *Yes/No*

If *Yes* what control measures or repairs been made? .....

.....

(Please show the above, on the plan)

Certain minerals have the potential to cause acid drainage pollution when exposed to air and water. Likely visible signs include the presence of pyrite minerals and iron-rich precipitates. These may be evident in the form of brown staining on rocks or in water.

Has pyrite been exposed or is there and evidence of acid drainage? *Yes/No*

If *Yes,* have operations been restricted to the oxidised zone? *Yes/No*

WASTE DISPOSAL AND STORAGE (*Quarry Code of Practice*, page 26)

Quarries should not be allowed to accumulate rubbish, disused plant, waste oil or other waste materials. Oil changes should not be done on site unless hydrocarbon spillage equipment is on hand. Chemicals and fluids must be stored according to Australian Standards. Sewerage must be Council approved and landfills approved by the Environmental Protection Authority (EPA).

Have the following goods been introduced on site since lease approval?

Fuel or oil *Yes/No* How are they stored? .....

Explosives *Yes/No* How are they stored? .....

Other *Yes/No* .....

Are oil changes done on site? *Yes/No* What measures have been adopted to control spillage?

.....

Is there rubbish or scrap which require disposal?.....

.....

REHABILITATION (*Quarry Code of Practice*, page 29)

The main aims of rehabilitation work are:

- The stabilisation of all worked out areas to minimise ongoing erosion.
- To revegetate worked out areas with suitable plant species.
- To minimise visual impact of disturbed areas.
- To ensure that worked out areas are safe for future uses.

The final land use of the site will determine the final landform, which should blend with the surrounding landscape.

Is there an approved end use for the site? *Yes/No*.....

.....

Or is the site being rehabilitated to blend into the surrounding landform? *Yes/No*

How large an area* has been rehabilitated since lease approval? ..... hectares

How large an area* is disturbed and not rehabilitated? ..... hectares
*(Also asked on page 2)

Site preparation earthworks are best carried out during early to mid autumn.

Tick the rehabilitation or site preparation used or planned on the check list below:

☐ Removal of plant and rubbish
☐ Removal of buildings
☐ Leveling of bunds and stockpiles
☐ Overburden back filled
☐ Slopes reduced below 3 in 1
☐ Slope distance less than 30 metres
☐ Compacted areas and roads deep ripped
☐ Bench heights reduced to 5 metres
☐ Rippable benches recontoured
☐ Wetlands ponds constructed
☐ Signage / security around remnant benches
☐ Weed identification and control

REVEGETATION (*Quarry Code of Practice*, page 33)

Establishment of a self-sustaining cover of vegetation is the best low maintenance stabiliser of disturbed sites in the long term. Generally, the vegetation type that existed before the disturbance, or a similar vegetation type, will be most successful afterwards. Seed application should be done mid–late autumn whilst tree planting is best carried out in early spring.

What *landscaping/vegetation* has been *planted/retained*, to screen the operation?

.....

.....

Does revegetation require maintenance? *Yes/No*

Should the revegetation area be extended? *Yes/No*

Tick the revegetation measures used to date or planned on the checklist below:

USED	PLANNED
☐ Soil importation*	☐ Soil importation
☐ Soil spreading	☐ Soil spreading
☐ Soil tillage/ripping	☐ Soil tillage/ripping
☐ Direct seeding	☐ Direct seeding
☐ Cover/nurse crop	☐ Cover/nurse crop
☐ Spreading of seed slash	☐ Spreading of seed slash
☐ Tree planting	☐ Tree planting
☐ Fertiliser application	☐ Fertiliser application
☐ Mulching	☐ Mulching
☐ Water reticulation	☐ Water reticulation
☐ Browsing controls	☐ Browsing controls

* Note that if soil is imported stringent weed control measures must be taken.

Rehabilitation is a process, which may take several years to produce a stable and self-sustaining ecosystem. Maintenance of rehabilitation is vitally important and any failures should be rectified quickly.

Identify maintenance measures on the checklist below:

☐ Monitor drainage, erosion control and plant growth

☐ Follow up fertiliser ☐ Weed control ☐ Re-sowing for crop failure

Before the security deposit is released the minimum standards below are to be achieved:

- The rehabilitated area should be safe and self sustaining.
- The area must be suitable for the planned final use or rehabilitation objective.
- Rehabilitated areas should be visibly free of active erosion and noxious weeds.
- Revegetation is established and effective over the whole site.

Evaluation of revegetation will be dependent on factors including tree density, species diversity, and vegetative cover. A copy of this document should be retained. Your performance will be measured against it.

Is the disturbance, environmental or rehabilitation liability *increasing, decreasing or unchanged*? (Also asked on page 5.)

NB: The security deposit may be increased or decreased at renewal.

Signed: ..... Date: .....

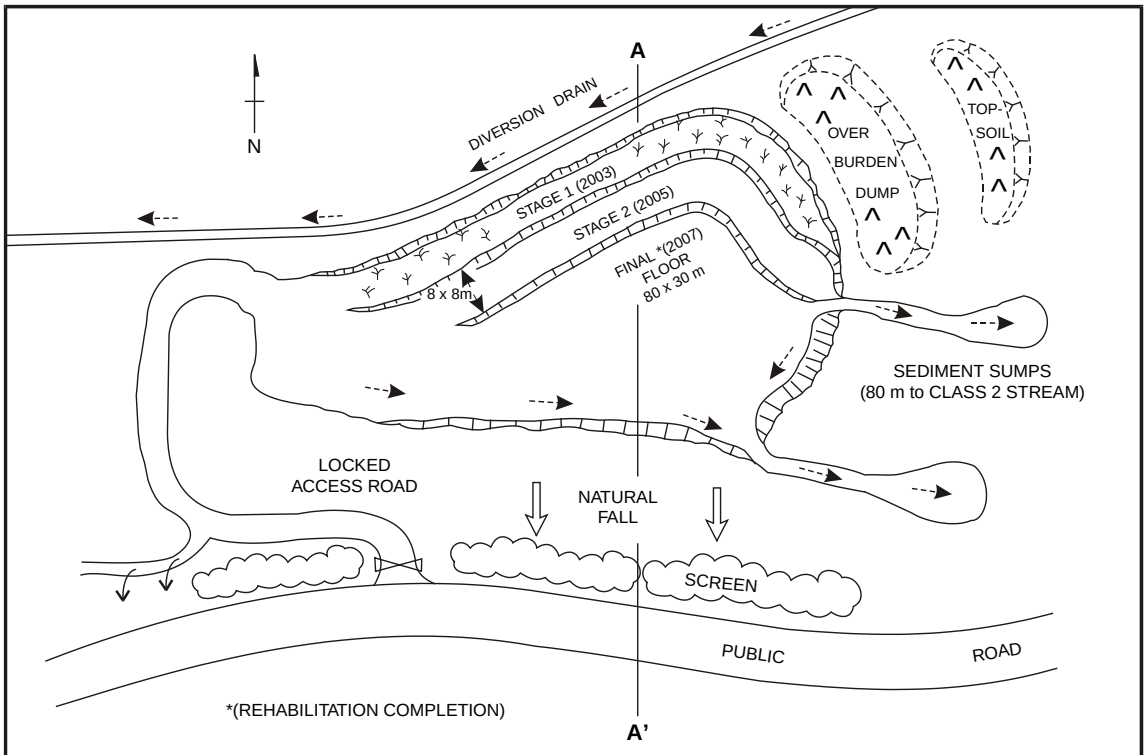
SPARE SITE PLAN

Please Indicate:

Access roads		Direction of water flow	----▶
Visual screening		Drainage, settling ponds, process dams	
Direction of working	→	Stages of operation and rehabilitation	--- 2002 ---
Bench face		Distance to watercourses and housing	← 350 m →
Dimensions of excavation	← 350 m →		
Location of processing plant	☒	North	N
Topsoil and overburden stockpiles	^ ^ topsoil ^ ^		

QUARRY	DATE
SCALE	DRAWN

SAMPLE MINE PLAN



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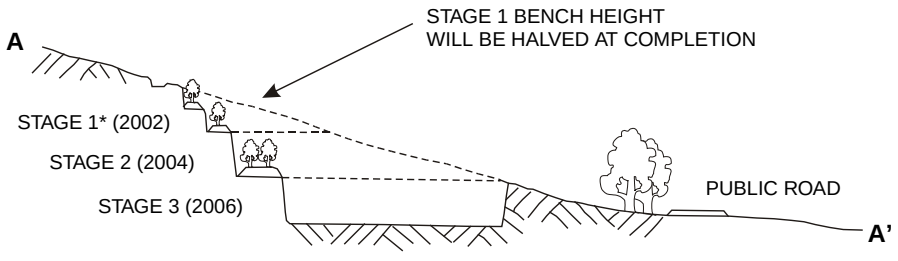
Bench face		Distance to watercourses and housing	350 m
Dimensions of excavation	350 m		
Location of processing plant			
Topsoil and overburden stockpiles	^ ^ topsoil ^ ^		

'TYPICAL' QUARRY	DATE
NOT TO SCALE	DRAWN

SAMPLE MINE SECTION



* (EXCAVATION COMPLETE)

'TYPICAL' SECTION THROUGH AA'
AT 2006 LOOKING EAST