Tasmanian Geological Survey
Record 2001/04

Strategy — The rehabilitation of abandoned mining lands (Revision 1)

Introduction

Abandoned mining lands, for the purposes of this strategy, refer to areas or sites of former mining activity for which no individual, company, or organisation are responsible. Such sites have also been called 'derelict' or 'orphan' mines.

These sites may contain hazards to human and animal life in the form of accessible adits, shafts and workings, and there may be associated pollution (such as acid drainage) from old workings and stockpiles. Visual degradation is an issue in some areas, even if the site is not actively eroding. In some places, ongoing erosion can affect land stability, revegetation efforts and water quality.

These problems have arisen because government requirements and operational standards were previously of a lower standard than are in use today. Modern mines are operated in accordance with 'best practice' techniques and government regulation of both exploration and mining is strict. Bonds are held against both exploration and mining titles and these funds can be used for any rehabilitation which is left outstanding by the operator.

This was not the case in the past, when mines and many industrial developments operated without the care and attention to the impact on the environment which we expect today.

In recent years the mining industry agreed to an increase in royalties, a portion of which was to be allocated to a Trust Fund, for the sole purpose of the repair of abandoned mining lands.

Establishment of Trust Fund

A Trust Fund was established to fund rehabilitation of land affected by former mining or exploration activities. This is defined in the *Mineral Resources Development Act* 1995 as:

(a) any money appropriated by Parliament for the purposes of this Part; and

(b) any money received from the sale of any building, machinery or property vested in the Crown under section 105(4); and

(c) any security deposit or part of a security forfeited by the Minister under section 198; and

(d) any other money received for the purpose of this Part; and

(e) any money the Treasurer directs to be paid into the Rehabilitation Trust Fund.

The Minister for Mines may (*Mineral Resources Development Act* 1995, Section 180):

(a) cause any abandoned mining land or land affected by former exploration activities to be rehabilitated; and

(b) enter into any contract relating to the environmental rehabilitation of any abandoned mining land or land affected by former exploration activities.

Trust Fund Committee

A Committee has been established to provide advice to the Minister on the management of the Trust Fund. The committee comprises representatives from:

- Mineral Resources Tasmania (MRT);
- Department of Primary Industries, Water and Environment (Environment and Planning);
- Department of Primary Industries, Water and Environment (Parks and Wildlife Service);
- Forestry Tasmania;
- Crushed Stone Association; and
- Tasmanian Minerals Council.

Aim of Rehabilitation

The Trust Fund has set priorities for sites to be rehabilitated. These are:

- remove risks to health and safety;
- stabilise the site and reduce or remove the impact of erosion and mass movement;
- where feasible maintain or increase the biological diversity of species in the vicinity to pre-mining levels;
- remove or ameliorate sources of site contamination;
- remove features limiting the beneficial use of the site and its surroundings;
- improve the visual amenity of the site and its surroundings.

Selection of Sites

Sites which are to be considered for rehabilitation must fit the following selection criteria:

1. the site is to be on Crown land. Sites on private property will not be considered;
2. the site is to have been worked by private enterprise and not by government or by government instrumentality. Gravel pits previously worked by the Hydro-Electric Corporation, Forestry Tasmania, the Department of Main Roads etc. will not be considered;
3. the site must be abandoned, with the responsibility for rehabilitation resting with the Crown. Current liabilities of existing tenement holders will not be considered. However, work may be done on tenements where the tenement holder has been absolved of responsibility for pre-existing degradation.

Other factors to be considered include:

4. threats to the safety or health of the public, stock or native flora/fauna;
5. pollution impacts on adjoining properties or catchments;
6. erosion or land degradation on/off site;
7. loss of visual amenity;
8. public concerns/complaints.

The selection of sites will always be based on the criteria previously mentioned.

Priorities for Rehabilitation

To set priorities for rehabilitation, a means for determining the degree of risk presented by a given site (environmental and safety) is required. Where practicable, this should be quantitative or semi-quantitative while still allowing for other factors to be used in final consideration of the eligibility of a site for remediation. Such a method may entail an assessment of the likelihood of risks and the consequences of utilising a risk assessment matrix to determine priority sites.

A summary sheet is to be filled out for each site under consideration (Appendix 1).

Determining Rehabilitation Priorities

The Committee has previously agreed that the sites selected for rehabilitation should be prioritised in accordance with the following criteria, which are listed in order of importance. A guide to using these criteria is given in Appendix 2.

(a) The nature of public risk posed by hazards on the site, assessed by risk analysis:

- risk, depth of shafts;
- extent of stoping and excavations;
- ease of access;
- population exposed.

(b) Scope of impacts — off-site: the extent of the impact and the consequences of impacts on surrounding lands, such as:

- natural areas/National Park;
- forested land or productive forest;
- agricultural land;
- derelict farmland;
- acid drainage;
- siltation; and
- potential for weed infestation to spread.

(c) Extent of and potential for further degradation on site: factors such as the following will be considered:

- area of degradation;
- contamination;
- erosion, stable or actively degrading;
- loss of soil and vegetation;
- weed infestation.

The duration of any potential impact (short or long term) will also be considered, as will whether the remediation can be completed in one or two campaigns or will be on-going, requiring extensive maintenance.

(d) Visual amenity and social impact

- The visual impact of the site is also a factor to be considered. This need not necessarily be related

to the size of the site; small sites may be more visually intrusive in sensitive areas than larger sites elsewhere; and

- Social impact refers to public interest in the site or its off-site effects.

The committee has agreed to a list of sites which are to be rehabilitated. A preliminary three year rolling plan has been prepared which lists sites to be repaired as funds permit. This list will be reviewed from time to time and will be amended as new information comes to hand (see Appendix 2).

Development of a Rehabilitation Plan

The objectives and extent of rehabilitation should be agreed to as early as possible to provide discipline for discussion with stakeholders and bodies who grant approvals. Rehabilitation plans must be developed to guide site-specific remediation.

Process for Rehabilitation

The process to be followed for the implementation of rehabilitation projects is outlined below.

Following the approval of a particular project by the Committee a number of steps are required before on-ground work can commence. These are:

The Land Use Planning and Approvals Act 1993 (LUPAA) as it applies to rehabilitation on Crown land

As all rehabilitation projects include on-ground work they will fall under the LUPAA and therefore require a permit from the Local Government. By following the requirements of this Act a transparent process is followed which includes notification in the local press and public consultation.

The following information is included in the Planning Application:

- description of the proposed development:
  - background;
  - stakeholder consultation;
  - proposed works;
  - current and proposed land use;
  - staging of the proposed works;
  - hours/days of operation;
  - heavy traffic movements;
  - potentially hazardous operations and/or movements;
  - disposal of wastes;
  - control of emissions;
  - employment.
- supporting information:
  - maps;
  - scientific and cultural information.

In some cases rehabilitation on a minor scale may be exempt from these requirements, for example spraying an incipient weed infestation. If this is the case the work will either be approved by using the Project Proposal Form for lands managed by the Parks and Wildlife Service (discussed below) or if it is conducted on tracks or related to other exploration activities the usual MRT exploration work approvals process will be used.

Inter-departmental Consultation

All projects will be circulated to Forestry Tasmania, the Parks and Wildlife Service, Department of Primary Industries, Water and Environment, and Property Services at an early stage to determine their requirements and develop rehabilitation objectives.

Public Consultation

Selection of sites and plans will be discussed with community and stakeholder groups early in the process to develop interest and support, assist in site selection, develop rehabilitation objectives and to avoid future conflicts.

Approval for work to commence on Crown land

Crown land managed by the Parks and Wildlife Service

Any works on land managed by the Parks and Wildlife Service can be approved but a Project Proposal Form (PPF) must be completed. The PPF is an integral part of any rehabilitation project and must be factored into the budgeting and planning process. Information required for the PPF includes details of the type and scale of work proposed and prescriptions for the particular site. Natural resource information is also required.

The PPF is assessed by the Parks and Wildlife Service, with assessment taking approximately five weeks. Information assessed includes known natural and cultural values which may occur in the vicinity and how they may be influenced by on-ground works. Consideration is also given to the prescriptions or treatments being proposed and whether they are consistent with conservation and land management requirements, and in particular, to satisfy the Crown's

responsibilities under the *Threatened Species Protection Act* 1995 and the *Historic Cultural Heritage Act* 1995.

Parks and Wildlife Service staff are not available, unless adequately resourced, to do detailed environmental assessments outside the agency, it being the proponent's responsibility to provide information necessary for an adequate assessment.

In some cases further on-ground assessments may be required, if for example there is a high likelihood that the works could impact on important conservation values or that they may have adverse environmental impacts due to site conditions or the nature of the disturbance being treated.

Crown land managed by Forestry Tasmania

The majority of identified abandoned mine sites occur on Crown land managed by the Parks and Wildlife Service. In a situation where a site occurred on land administered by Forestry Tasmania and major works were required, a Level 1 permit would be applied for under LUPAA. Forestry Tasmania would be consulted and involved in prior planning and approvals would need to be obtained through the relevant District Forester. Natural and cultural heritage considerations would also need to be reported on to satisfy the Crown's responsibilities under the *Threatened Species Protection Act* 1995 and the *Historic Cultural Heritage Act* 1995.

The Management Decision Classification System (MDCS) of Forestry Tasmania will be a useful mechanism for identifying special values in areas prioritised for rehabilitation.

Appointment of Consultants

As MRT does not have the resources to project manage large rehabilitation works consultants will need to be appointed to manage these tasks.

To ensure fairness and transparency the best practice model advocated by the New South Wales Independent Commission Against Corruption (ICAC) will be used to select consultants.

By following the principles of probity set out by ICAC and the Association of Consulting Engineers Australia in the booklet *Qualification Based Selection*, the appointment of consultants will be seen to be ethical and maintain the integrity of the selection process.

Awarding of Tenders and/or Contracts

In most cases the appointed project managers will be responsible for the preparation and dissemination of works tenders.

MRT will approve the preferred tenderer after perusal of the applications and discussion with the project manager, and the award of the tender will be ratified by the Trust Committee.

The project manager will use an Australian Standards approved tendering process such as the AS 4301 system.

Project Management

After sites have been selected and prioritised, a project brief for work will be drawn up by MRT and circulated to committee members. The agreed project brief will be the basis for invitation of tenders. This will include rehabilitation objectives, safety requirements, and environmental management.

Regular inspections will be made by MRT staff as work progresses, in conjunction with the consultant and other members of the Trust Committee or representatives of the land manager as required.

Reporting

The Trust Committee will meet quarterly. Progress reports on individual projects will be made quarterly and an annual report of Trust Fund activities will be produced. A list of projects, both current and completed, is given in Appendix 3.

Acknowledgements

This strategy was compiled by Carol Bacon with assistance from John Pemberton, Wojciech Grun and David Gatehouse.

[14 March 2001]

APPENDIX 1

Trust Fund Assessment

Locality/Site Name: . . . . . .

Land status: . . . . . Grid Reference:. . . . . .

Past Lease/Licence Holder (if known): . . . . . .

Approximate date last worked: . . . . . .

Description of previous operation (exploration site/mine site/alluvial mine/quarry/gravel pit/tailings):

. . . . . .

. . . . . .

. . . . . .

Previous reports: . . . . . .

. . . . . .

. . . . . .

Public safety hazards: . . . . . .

Access (vehicle/bike/foot): . . . . . .

Vegetation type: . . . . . .

Topsoil availability: . . . . . .

Off-site impacts, acid drainage/erosion, etc.: . . . . . .

Adjacent land:. . . . . .

Visibility of site: . . . . . .

Duration of site impacts: . . . . . .

Historical significance (water races, tailings dumps, structures, adits, town sites etc.):

. . . . . .

. . . . . .

Restoration measures required (seeding/fertilising/earthworks, ripping, re-contouring, spreading topsoil, drainage, erection of bund):

. . . . . .

. . . . . .

Maintenance:. . . . . .

. . . . . .

Hazard reduction required: . . . . . .

. . . . . .

. . . . . .

Previous rehabilitation:. . . . . .

Public safety (high/medium/low): . . . . . .

Off-site impacts (high/medium/low): . . . . . .

Extent of degradation and potential for further on-site degradation (high/medium/low):. . . . . .

Visibility and social impacts (high/medium/low):. . . . . .

Priority for restoration (high/medium/low): . . . . . .

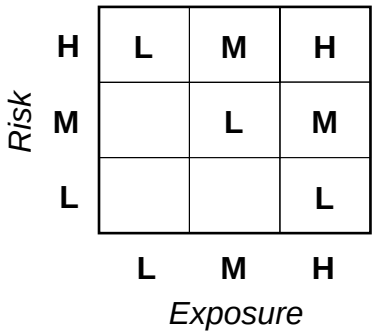
. . . . . .

APPENDIX 2

Rehabilitation Criteria

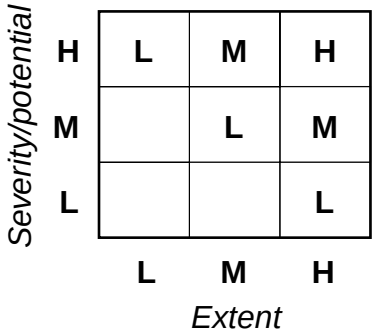
1. Public Safety

Risk:	Depth of shaft/s Extent of excavation Stopes
Exposure:	Proximity to population, access



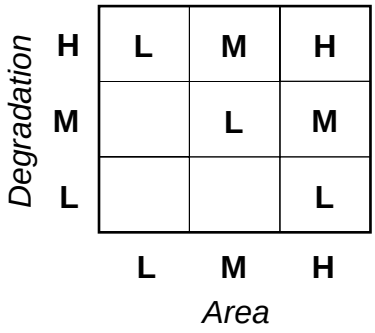
2. Off Site Impacts

Severity/Potential	Weeds — potential to spread Siltation activity Severity/potential Acid drainage
Extent:	Exposure to wind Catchment Dispersion/confluence



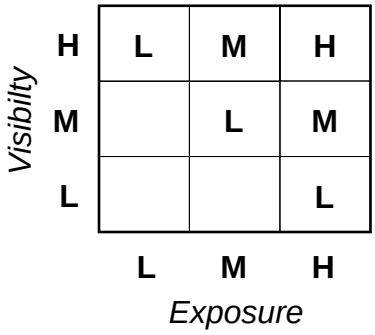
3. Extent of degradation and potential for further on-site degradation

Degradation:	Weeds Erosion/activity Soil loss Vegetation Contamination
Extent:	Area



4. Visibility and social impacts

Intrusion:	Visibility
Exposure:	Population/traffic Perception Complaints



APPENDIX 3

Current and Completed Rehabilitation Projects (Revised November 2000)

Endurance Mine

- Repair of erosion gullies which are consuming approximately 2 ha per year of land previously rehabilitated by Greening Australia
- N2 gulley — 1997–1998, 1998–1999
- Maintenance — 1999-2000
- Water monitoring and design of water treatment on Ruby Creek — 1997–1998
- Honours study on revegetation success — 1998–1999
- Honours study on acid drainage, Ruby Creek — 1998–1999

Star Hill Workings

- Recontouring of alluvial tinfield; improvement to drainage — 1997–1998
- Seeding and fertilising — 1997–1998
- Repair of tailings dam; stability work — 1997–1998
- Repair of dam overflow and erosion channel — 1997–1998
- Monitoring and maintenance required

Monarch Workings

- Stabilisation of gully and creek — 1997–1998
- Successive alkalinity producing system trial on Vicarys Creek — 1997–1998
- Planting of seedlings (by Scottsdale High School pupils) — 1997–1998
- Joint revegetation effort with Scottsdale High School (contribution to NHT funds) — 1999–2000

Rossarden

- Tailings rehabilitation — 1996–1997
- Tailings dam maintenance (further spreading of seed and topsoil) — 1998–1999
- Water treatment investigation (pump trial $25,000) (pipe investigation $10,000) — 1999–2000
- Pumping installation — under consideration
- Piping installation — under consideration
- Wetland construction — under consideration
- Water diversion works — 1999–2000

Storys Creek (RiverWorks)

- Alkalinity addition to Storys Creek, trial — 1998–1999*
- Alkalinity addition to jig tailings and lysimeter evaluation, trial — 1998–1999*
- Limestone addition to stream banks; laboratory trial — 1998–1999*
- Limestone addition to stream, trial — 1998–1999*

- ☐ Anoxic limestone drain above mine, trial — 1998–1999*
- ☐ Drill precipitate dam — 1998–1999*
- ☐ Relocate precipitate dam (contribution to RiverWorks) — 1999–2000
- ☐ Seal eastern adits (contribution to RiverWorks) — 1999–2000
- ☐ Limestone addition to stream banks — 1999–2000
- ☐ Biological monitoring — under consideration
- ☐ Anoxic limestone drain above mine — 2000–2001
- ☐ Limestone addition to stream, continuing — 2000–2001

Zeehan

- ☐ Alkalinity producing system trial near Queen Hill No. 4 workings — 1998–1999
- ☐ Honours study on seepages from Oceana smelter site — 1998–1999
- ☐ Honours study on natural remediation of Zeehan wetlands — deferred
- ☐ Honours study on regional acid drainage survey, Zeehan district — 1997–1998
- ☐ Honours study on completed rehabilitation of mine sites in the Zeehan district — 1997–1998
- ☐ Consultant's assessment of Tim Parr's honours work and recommendations for water quality improvement work — 1998–1999
- ☐ Revegetation of parts of Queen Hill — 1999–2000

Queensberry Mine

- ☐ Eradication of gorse infestation — planned

Shaft Capping

- ☐ Cap over shaft at Montana — 1997–1998
- ☐ Backfill stopes at Montana — 1997–1998
- ☐ Grid over shaft at Crown Prince — 1998–1999
- ☐ Grids over three shafts at Great Republic mine, Gipps Creek — 1998–1999
- ☐ Grid over shaft at Spray mine, Zeehan — 1999–2000
- ☐ Cap over shaft at Golden Mara, Warrentinna (Branxholm) — 1999–2000
- ☐ Cap over shaft at Orieco mine — 1999–2000

Shaft and Adit Fencing

- ☐ Ben Lomond, Great Republic mine, Gipps Creek — 1999–2000
- ☐ Golden Mara area, Warrentinna (Branxholm) — 1999–2000
- ☐ Orieco, Trafalgar, Golden Ridge — 1999–2000
- ☐ Queen Hill, Zeehan — 1999–2000
- ☐ Vaudeau, Cuni (Melba Flats Zeehan) — 1999–2000

Miscellaneous Safety work

- ☐ Gloziers, Mt Bischoff. Asbestos removal, rubbish removal, weed control — 1997–1998
- ☐ Spray mine, Zeehan. Back-fill water tank — 1999–2000

Tasmanian Acid Drainage Study

- Trust Fund to contribution to NHT funds — 1999–2000
- Project management by MRT, geochemist for two years to undertake study of acid drainage

Quarries

- Whalebone Beach gravel extraction, King Island — 1998–1999
- Revegetation Oak Dene Road sand pits — 1998–1999
- Maintenance — 1999–2000

Balfour

- Revegetation — planned

Exploration

- Removal of camp sites from the South West Conservation Area
- Removal of huts and rubbish from Old Noddy Creek, Moores Valley and Wart Hill — 1998–1999
- Removal of rubbish and drill rods from Old Innes Peak and Wart Hill — 1999–2000

* partly or wholly funded by RiverWorks. Some works in conjunction with Trust funding.

APPENDIX 4

Inventory of Abandoned Mine Sites

Site No.	Ref No.	Name	Land Status	Commodity	Current Lease	Years of op	Sheet	Work required	Assessed	Date	Safety	Off-Site	Degradation	Visibility	Program
198x	50023	Comstock	CL	Pb ,Ag, Zn	Yes		79142	Assessment	Required		1	1	1	2	current lease
		Site elements: Adits, open cut, shafts, townsite						*Issues:* Mining heritage, public safety, acid drainage							
646	36006	Mt Bischoff	SF	Sn	Yes	1871-1947	80153	Assessment	Committee		1	1	1	1	
		Site elements: Complex of adits & shafts, open cuts, costeans						*Issues:* Public safety, drainage, mining heritage							
55	31084	Bangor	PP	Slate	Yes	0		Capping			1	3	3	3	
		Site elements: Slate quarry						*Issues:* Safety, heritage, tramway							
568	35040	Magnet	CL	Ag, Pb		1894-1940	79152	Assessment	Halfacre		1	3	3	2	
		Site elements: Shafts, adit, mullock, mill site, townsite, tramway						*Issues:* Public safety, fossicking area, access, mining heritage							
610	50018	Montana Silver Lead	CL	Pb, Ag		1899-1958	79142	Filling, capping, rehab.	ZE20, Oosting,	1990, 1998	1	3	3	1	1997-1998
		Site elements: Adits, shafts, mill site, mullock, tailings						*Issues:* Public safety, possible interpretation site, acid drainage							
842	37039	Round Hill Central (A)		Ag			81153		Halfacre		1	3	3	3	
1147	41004	Trafalgar (New Carthage)	SF		No	1900s	85153	Fence shaft collar	Dickens		1	3	3	3	
		Site elements: Shaft, adit, battery site						*Issues:* Public safety							
222	40063	Crown Prince	SF	Au		1883+	84152	Adit gate	Forestry Tasmania	1998	1				1998-1999
		Site elements: Adit, stope						*Issues:* Public safety							
401	48015	Great Republic	SF	Sn	No	1889-1920s	84144	Assessment	TMC	1998-99	1				1998-1999
		Site elements: Shafts, mullock, battery site, buddle? Mining heritage													
734	41027	Orieco	SF	Cu, As, Zn			85154		Pemberton	1999	1				1999-2000
		Site elements: Adits													
		Spray Mine, Zeehan	CL	Pb, Zn	No				R Halfacre	1999	1				1999-2000
		Site elements: Disused shafts, Spray Tunnel						*Issues:* Open shaft, some workings							
		Crown Prince, Victoria Pass	SF	Au	No				Forestry Tasmania	1998	1				1998-1999
		Site elements: Disused adits shafts and workings						*Issues:* Shaft access							
		Golden Mara, Warrentinna	SF	Au	No				DPIWE,	1999	1				1999-2000
		Site elements: Disused adits shafts and workings						*Issues:* Shaft cap and wider fencing	J Pemberton						
30	50326	Argent #1		Pb, Ag	Yes		79142	Assessed	rez?, parr, oos		2	1	1	1	
		Site elements: Shafts, adits, history						*Issues:* Safety, weeds, acid drainage, heritage							
730	50016	Oonah? No. 1, No. 2 Queen Hill	CL	Pb, Ag, Sn		1888-1954	79142	Assessment and remediation	Parr, Oosting	1997, 1998	2	1	1	1	
		Site elements: Main shaft, adits, mullock, mill site						*Issues:* Mining heritage, acid mine drainage							
964	48010	Storys Creek	SF	W	No	1916-1981	84144	Assessment, remediation, rehab.	F103, Miedecke	1990	2	1	1	1	1998-99, continuing
		Site elements: Adits, shafts, tailings, machinery						*Issues:* Machinery site clean-up, degradation, acid drainage, public interest							
1117	50227	Zeehan Queen No.4	CL	Pb, Ag	Yes	1895-1929	79142	Remediation, rehabilitation	ZE21, Parr, Oosting	1990, 1997, 1998	2	1	1	1	1998-1999, trial
		Site elements: Shaft						*Issues:* Part of Queen Hill complex, acid drainage							
956	25042	Star Hill; Lawry	CL	Sn	No	1941-1983	85163	Assessment, revegetation, dam repairs	R101, Singline, SEMF	1990, 1985, 1997	2	2	1	3	1997-1998
		Site elements: Sluiced areas, tailings, dams, Mount Cameron water race						*Issues:* Eroded areas, visual impact, (?) degredation, dam repairs							
54	32134	Banca	CL/SF	Sn	No		84151	Needs assessment	required		2	2	2	3	
		Site elements: Alluvial race						*Issues:* Erosion gullies, some revegetation, dam							

Site No.	Ref No.	Name	Land Status	Commodity	Current Lease	Years of op	Sheet	Work required	Assessed	Date	Safety	Off-Site	Degradation	Visibility	Program
161	44026	Chester (Kershaws Iron Blow) *Site elements:* Open cuts, old townsite	CL	Py, Zn	No	1908-1920	80144	Assessment *Issues*: Public safety, acid drainage	Required		2	2	2	2	
1041	50210	Vaudeau *Site elements:* Shaft, stopes, trenches	CL	Ni, Cu	No	1909-14, 1938, 1948	79142	Capping *Issues:* Acid drainage	Dickens		2	2	2	2	1999-2000
624	26001	Mt Balfour Cu mine (The Clump) *Site elements:* Adits, shaft, mullock	SR	Cu		1908-1912	78151	Fence main shaft collar *Issues:* Public safety, acid mine drainage	Halfacre		2	2	3	3	p
771	32022	Pioneer *Site elements:* Large open cut (lake)	CL	Sn	No	1877-1982	84151	Rehabilitation assessment, revegetation *Issues:* Held under RL, Public interest	R106	1990	2	3	1	1	
22	33009	Amber Hill *Site elements:* Sluiced area	CL	Sn	No	1880s+	85154	Cut access, regrade, revegetation *Issues:* High faces, erosion, safety, revegetation	R103, Singline	1990, 1985	2	3	2	3	l
15	31002	All Nations *Site elements:* Shaft	CL	Au	Yes	1869-1984	83154	Assess, cap *Issues:* Open shaft adit stopes	Halfacre		2	3	3	3	
188	50080	Colebrook Hill (prospecting area) *Site elements:* Old smelter, tramway, shaft, adits	CL	Cu	No		79142				2	3	3	2	
1140	99999	Coronella *Site elements:* Deep shaft	SF	Au	No	1880's	84154	Fence shaft collar *Issues:* Connects a long tunnel	Dickens		2	3	3	3	
224	28029	Cuprona Copper King *Site elements:* Shafts, adit		Cu			80151	 *Issues:* Public safety	Halfacre		2	3	3	3	
335	25047	Fly By Night *Site elements:* Alluvial, dams shafts	CL	Sn	No		85163	Assess, fill shafts, regrade *Issues:* Eroded areas, shafts dams	R102, Singline, Council	1990,1985,1996	2	3	3	3	
416	58226	Harris Reward *Site elements:* Shafts, battery site	SF	Au		1895-1905	80134	 *Issues:* Possible tourist site			2	3	3	2	
566	50507	Maestries Broken Hill; Concert Creek *Site elements:* Open cuts shaft, adit, machinery site	PP	Pb	Yes	1891+	79142	Gorse removal, track maintenance *Issues:* Previous rehab needs monitoring, access track required	Halfacre		2	3	3	2	
644	40079	Mt Victoria *Site elements:* Large mullock, 4 adits, 3 shafts, waterwheel site	SF	Au	Yes	1882+	84152	Gate for main adit *Issues:* Active exploration			2	3	3	3	1998-1999
718	50251	Oceana *Site elements:* Three shafts, mill site, tailings, trenches	CL	Pb, Zn, Ag		1887-1960	79142	Assessment, collapsed stope, weed control *Issues:* Public safety, weed infestation, headframe at Zeehan Museum	Halfacre		2	3	3	2	
883	50073	Serpentine Hill (Argent Tunnel) *Site elements:* Open cut, adits	CL	Asbestos	No	1940-45	79142		Halfacre		2	3	3	2	
		Ben Lomond etc., Gipps Creek *Site elements:* Disused adits shafts and workings	SF	Sn	No			Fencing	W Grun	1999	2				1999-2000
5	48001	Aberfoyle @ Rossarden *Site elements:* Shaft capped, mullock, tailings dams, adits	SF	Sn	No	1926-1982	84141	Rehab underway, assessment, earthworks, revegetation, a drain *Issues:* Tailings, discharge, public interest	Miedecke	1998	3	1	1	1	1996-97
1141	99998	Godkin (Victorian Magnet) *Site elements:* Main shaft, adits, machinery	CL	Pb, Ag, Zn	No	1888-1920s	79152	Interpretation assessment, fencing *Issues:* Mining heritage	Halfacre		3	1	3	2	

Site No.	Ref No.	Name	Land Status	Commodity	Current Lease	Years of op	Sheet	Work required	Assessed	Date	Safety	Off-Site	Degradation	Visibility	Program
226	50037	Curtin Davis Mine *Site elements:* Adits, tailings	CL	Ag, Cu, Pb	No		79142	*Issues:* Interpretation/assessment	Halfacre		3	2	2	1	
634	43141	Mt Lindsay *Site elements:* Adits, mullock, hand-dug costeans (1910)	SF (RAP)	Sn			79141	Maintain access track *Issues:* Current lease	Halfacre		3	2	3	3	
297	32020	Endurance *Site elements:* Alluvial, tailings, excavations, Blue Lake	CL	Sn	No	1922-82	84151	Erosion control, revegetation, acid drainage dam repairs *Issues:* Extensive degradation, soil loss, erosion, public interest	R104, Singline, SEMF	1990,1985, 1997	3	3	1	1	1997-1998, continuing
603	24028	Monarch; Shallamar *Site elements:* Sluiced areas, dams, tailings, erosion	CL	Sn			84162	*Issues:* Erosion , revegetation, contamination, public interest	SEMF	1997	3	3	1	1	1997-1998, continuing
6	24020	Aberfoyle (Hill) tin field, Ringarooma River *Site elements:* Alluvial	CL	Sn	Yes		84162	*Issues:*	Bacon		3	3	2	3	
51	32027	Bald Hill *Site elements:* Adit, exploration tracks, costeans, mullock		Sn			84151	Track erosion repairs *Issues:*	Halfacre		3	3	2	3	
53	50236	Balstrups Manganese Hill *Site elements:* Adits, quarry	SF	Pb, Ag	Yes	1885-92, 1924-41	79142	*Issues:* Visibility	Halfacre		3	3	3	3	
250	45003	Devon *Site elements:* Adits, 'flying fox'	SF	Ag	No	1899-1912	81144	*Issues:*	Halfacre		3	3	3	3	
1146	40209	Jeromes (Brittania) *Site elements:* Adit, shafts, open cut	SF	Au	No	1880s	84152 *Issues:*		Dickens		3	3	3	3	
515	50195	Lead Blocks *Site elements:* Shaft, mullock	CL	Au, Pb, Ag	Yes	1909-16, 1935-36	79142	*Issues:* Mining heritage, potential acid drainage	Pemberton		3	3	3	3	
544	35039	Lord Brassey *Site elements:* Adit, mullock	CL	Ni	No		79152	*Issues:* Rare zaratite occurrence			3	3	3	3	
548	43035	Lucy Creek Workings-A *Site elements:* Sluiced area	CL	Au	Yes	1890s	79144	*Issues:*	Halfacre		3	3	3	3	
586	50117	Mayne Cumberland area *Site elements:* Open cuts, adits, tramway	SF	Sn	No	1902-06, 1935-43	79143	Assessment if access is improved *Issues:* Mining heritage	Halfacre		3	3	3	3	
629	44061	Mt Farrell Mine (North) *Site elements:* Rehabilitated by Pasminco	CL	Pb			80144	Check the shaft cap *Issues:*			3	3	3	1	
639	32035	Mt Paris *Site elements:* Old adits, open cut sluiced area	SF	Sn		1882-1939	84151	*Issues:* Mining heritage			3	3	3	3	
782	28018	Preolenna - 8 Mile *Site elements:* Adits	SF	Coal	No	1901-24	80154	*Issues:*	Halfacre		3	3	3	3	
800	57005	Queensberry *Site elements:* Adits, shafts, machinery	CL	Zn, Pb,	No		79131	Gorse removal, site assessment *Issues:* Mining heritage, gorse infestation			3	3	3	3	p
808	50021	Razorback *Site elements:* Adits, open cuts, high faces, mill site, mullock	CL	Sn		1909+	79142	Remedy drainage, remove weeds, cap tailings dams, close adits & shafts *Issues:* Drainage, weed infestation, public safety	Halfacre		3	3	3	2	
835	43051	Rocky River Mine ;Whyte R *Site elements:*		Au, Fe, Ag			79144	*Issues:*	Halfacre		3	3	3	2	

Site No.	Ref No.	Name	Land Status	Commodity	Current Lease	Years of op	Sheet	Work required	Assessed	Date	Safety	Off-Site	Degradation	Visibility	Program
931	35005	Specimen Reef	CL	Au		1883-90s	79153	Assessment	Halfacre		3	3	3	3	
		Site elements: Adits, dams, stamper, waterwheel						*Issues:* Acid mine drainage, mining heritage							
		Oak Dene Road, Scottsdale	CL	Sand	No	1960-75?			Crushed Stone Assoc.	1998			2	1	1998-1999
		Site elements: Disused sand pits						*Issues:* Regrading, drainage, re-vegetation							
		Whalebone Beach, King Island	CL	Gravel	No	1960-1980		Regrading	C Bacon	1998			2	1	1998-1999
		Site elements: Disused beach gravel pits						*Issues:*							

Appendix 5

Flow diagram