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MINING ON CALM LANDS - GUIDELINES

These guidelines were prepared, mostly by Mr N Caporn, to assist Regions and Districts. They may be used as a reference, and will form the basis for Regional training programmes which will be convened in the next few months, by the Environmental Protection Branch.

I refer you particularly to the introduction (Section 1), pro-forma for assessing applications (Section 13) and guidelines for approving exploration (Section 7). These are brief and worth reading.

The conditions for mining tenements have been prepared in consultation with the Mines Department and CALM Directors.

Frank Batini

Frank Batini
MANAGER
ENVIRONMENTAL PROTECTION

24 February 1989

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MINING ON C.A.L.M. LANDS

GUIDELINES


PREFACE

Mining activities on CALM lands can be controversial and complex.

These guidelines have been prepared by CALM's Environmental Protection Branch, to assist and guide CALM field officers.

They bring together published information from several sources as well as internal guidelines and instructions.

For the time being, the document should be kept for internal use within the Department. It should not be copied or given to other organisations without the Executive Director's approval.


R J Underwood
GENERAL MANAGER

15 December 1988

FB:SK

MINING GUIDELINES - CALM LANDS

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NOVEMBER 1988

1. INTRODUCTION

Mining, which within the terms of the Mining Act includes exploration and fossicking, can be undertaken on CALM lands under two principal statutes:

CALM ACT

Leases can be issued for basic raw materials (ie. gravel, sand, stone) in accordance with the published Policy (Section 3), and subject to Sections 97 to 100 of the Act.

MINING ACT 1978

Section 24 of the Act defines Ministerial responsibilities for approving mining on various land classes: The Minister for Mines can approve "mining" (including exploration) subject to:

- * Concurrence of the Minister for CALM for:- State Forest, Timber Reserves (CALM Act), National Parks and any A class reserve.
- * Recommendations of the Minister for CALM for:- Any B or C Class reserve (CALM or Land Act).
- * Resolution of both Houses of Parliament for any National Park or 'A' Class Nature Reserve.

The concurrence mechanism effectively gives the Minister wide powers to refuse or to prescribe conditions or constraints. When conflict cannot be resolved at Ministerial level, decisions rest with Cabinet.

Changes to the Mining Act have been drafted to accommodate procedures required under the Government Policy on Mining in National Parks and Nature Reserves (Section 2).

Special Agreement Acts are generally enacted for major resource projects (bauxite and coal), with the Department of Resources Development as the principal managing authority assisted by Department of Mines.

The Environmental Protection Act 1986 takes precedence over most other Acts. The Department of Mines refers "significant" projects to the EPA according to agreed guidelines. The Department of Conservation and Land Management and individuals can also refer proposals for assessment.

Tenement Approval The decision process for dedicated conservation lands (National Parks and Nature Reserves) is clearly defined in the recent Government policy. In other cases (eg. multiple use lands, 5g reserves, Goldfields Timber Reserves) CALM, through its Minister, accepts that exploration will occur under strict conditions, but maintains the right to make recommendations on mining proposals on a case by case basis, considering the benefits and cost to the State. In the majority of cases EPA assessment will be required.

Exploration Approvals Applications for Exploration licences are generally referred to District offices to ensure any sensitive areas/issues are identified and that adequate conditions are prepared. The conditions in Section 8, recently agreed to with the Department of Mines, have adopted a "staged approval" concept. Each phase of a programme has to be submitted to and discussed with the local CALM manager and agreement reached as to procedures and techniques. Guidelines are included in Section 7.

Mining Management It is essential to have adequate mining plans and some form of working arrangements for any ongoing mining project (including gravel) so as to clearly spell out procedures and obligations. Mining plans for new operations can be prepared as part of a Notice of Intent (NOI) subsequent to the grant of the tenement. The plan must be approved before operations are allowed to proceed. This stage is generally managed by CALM's Environmental Protection Branch in consultation with Regions and the Environmental and Rehabilitation Branch of the Department of Mines.

Working Arrangements

These should be tailored to individual operations and should include:

- * Obligations of all parties. (flowing from the lease conditions and Notice of Intent commitments).
- * Approval stages and procedures.
- * Rehabilitation criteria, prescriptions, slope batters.
- * Annual reporting requirements.

For an example of a basic working arrangement for a limestone quarry see Section .

Working arrangements are primarily the responsibility of Regions with assistance from CALM's Environmental Protection Branch.

	NP's & "A" NR's (Inc. Approved Proposed Reserves)		5g CONSERVATION Reserves/Parks (B&C) (Timber Goldfields)		B & C Nature Reserves (Pending Review)		S.F. and T.R. S/West	
	Expl.	Mining	Expl.	Mining	Expl.	Mining	Expl.	Mining
Geo. Scientific Survey Permit Required	YES	NA	NO	NA	YES	NA	NO	NA
Approval of Both Houses Parliament	YES	YES	NO	NO	NO	NO	NO	NO
EPA Assessment	YES	YES	NO	MAYBE	YES	YES	NO	MAYBE
Concurrence Minister for CALM	YES	YES YES	YES (CALM ACT TR)	YES (CALM ACT TR)	NO	NO	YES	YES
Recommendation Minister for CALM	NA	NA	YES (others)	YES (others)	YES	YES	NA	NA
Compensation or (Land Exchange)	NA	YES	NA	YES	NA	YES	NA	YES

NA = Not Applicable
 NR = Nature Reserve
 NP = National Park

THE WESTERN AUSTRALIAN GOVERNMENT'S
POLICY ON EXPLORATION AND MINING IN
NATIONAL PARKS AND NATURE RESERVES.

Section 1

National parks and nature reserves will be closed to exploration and mining activities. This situation will remain unless a specific park or reserve has been either individually opened for the granting of an exploration licence by the process described in this document or reclassified as provided for in Section 5.

Section 2

Areas of the highest biological or landscape value should remain closed.

Section 3

Geoscientific survey work should be permitted without holding an exploration licence in national parks and reserves under permit issued by the Minister for Mines. The Minister must seek and obtain the agreement of the Minister for Conservation and Land Management. The Minister for Mines may attach appropriate conditions to a permit, or, in exceptional circumstances, refuse to issue a permit. Appropriate reports on the results of the survey should be prepared by the permit holder for the Departments of Mines, and Conservation and Land Management.

Section 4

If the Mines Department believes that a particular national park or nature reserve or part thereof is of sufficient prospectivity, then it should formally refer the proposal to open the area for the granting of exploration licences to the Environmental Protection Authority. A programme of non-destructive research should then be carried out with an inter-departmental committee, convened by the Environmental Protection Authority and including representatives of the Department of Conservation and Land Management, and Mines Department. The committee would assess the results of the research and report to the Environmental Protection Authority, which would then recommend to Government. Where a company has lodged a tenement application over a closed area, it should be required to meet the cost of the necessary research.

Section 5

In reporting to Government the Environmental Protection Authority will recommend:

- . that the area in question not be declared open for the granting of exploration licences if it is considered to be of the highest biological or landscape value; or
- . that the area in question be declared open for the granting of exploration licences subject to appropriate conditions but remain part of the national park or nature reserve if it is considered to be of intermediate biological and landscape value; or
- . that the area in question be removed from the national park and nature reserve system if it is considered to be of low biological and landscape value..

Section 6

The following matters will be taken into account by the Environmental Protection Authority, when assessing whether or not to recommend that a national park or nature reserve or part thereof be declared open for the granting of exploration licences:-

- . the presence of rare or endangered species of fauna and flora, communities or habitats;
- . the presence of areas of outstanding scenic or landscape value;
- . the presence of significant wilderness or important wetlands;
- . the presence of sites of archaeological, cultural, historic, or scientific value, or a geological monument;
- . the importance of the area in terms of its role in protecting representative ecosystems;
- . the particular importance of islands to nature conservation; and
- . any other matter that the Environmental Protection Authority considers relevant;

Section 7

If, after receiving the advice from the Environmental Protection Authority, the Government wishes to open a national park or reserve or part thereof, then it must seek and receive the agreement of both Houses of Parliament.

Section 8

Mining leases will only be granted over national parks or nature reserves if the area concerned has previously been declared open for the granting of exploration licences or the mining lease application covers an area subject to a pre-existing exploration licence or prospecting licence.

Section 9

Existing tenements over national parks or nature reserves which were granted with a no mining condition (or those not granted) should not be considered for mining until the procedures outlined in this policy document (policies 1-8) have been completed.

Section 10

Once a park or reserve has been assessed and refused opening, a new application over the same area will not be considered within five years of the date of refusal. Provision will be made in special circumstances for an appeal to be heard against this recommendation which would require the approval of both the Mines Minister and the Minister for Conservation and Land Management, to be successful.

Section 11

Areas vested in the National Parks and Nature Conservation Authority as B or C class reserves will be individually reviewed and either:

- . reclassified as a national park or nature reserve; or
- . have its NPNCA vesting status removed.

Further, the review will encompass reserves vested in bodies other than the NPNCA, which are considered worthy of national park or nature reserves status.

Section 12

If an exploration licence application was lodged over a B or C class reserve before the completion of the Section 11 review, then the reserve would need to be reviewed before the application was granted.

Section 13

Areas proposed for reservation as national parks or nature reserves and fully approved by Government will be treated administratively as if they were so reserved.

Section 14

The Government will initiate a public review of the national park and nature reserve boundaries, with a view to rationalisation. The primary objective of this process will be to set ecologically sensible and manageable boundaries while maintaining the values and area of the reserve system. A secondary objective will be to avoid areas of high prospectivity wherever this can be accomplished without prejudice to the primary objective.

The Review will be undertaken by the Department of Conservation and Land Management in liaison with the Mines Department and the Environmental Protection Authority. The Review could be carried out as part of the preparation by the Department of Conservation and Land Management of a management plan for each park or reserve.

Section 15

Insofar as it relates to national parks and nature reserves the Mining Act 1978 will be amended to:

- . require that exploration licences and mining leases are only granted subject to the condition that damage to the surface of the land and anything on the surface of the land (eg flora and fauna) is prevented or minimised and repaired; and
- . enable the Minister for Mines to impose additional environmental conditions at any time.

Section 16

Applications for exploration licences over national parks and nature reserves and the assessment of exploration programmes will be processed according to the procedures illustrated in Figure 1.

Section 17

Applications for mining leases over national parks and nature reserves and the assessment of mining proposals will be processed according to the procedures illustrated in Figure 2.

Section 18

Reports will be prepared by the holders of mining tenements over national parks and nature reserves at appropriate intervals describing the environmental management of their activities. Such reports should be forwarded to the Mines Department, Department of Conservation and Land Management and other departments and authorities where appropriate.

Section 19

Access to national parks and nature reserves for exploration and mining activities including access for the purpose of marking out a tenement should occur under only three circumstances:

- . as authorised by a geoscientific survey permit; or
- . in accordance with the terms and conditions of an exploration licence; or
- . in accordance with the terms and conditions of a mining lease.

Section 20

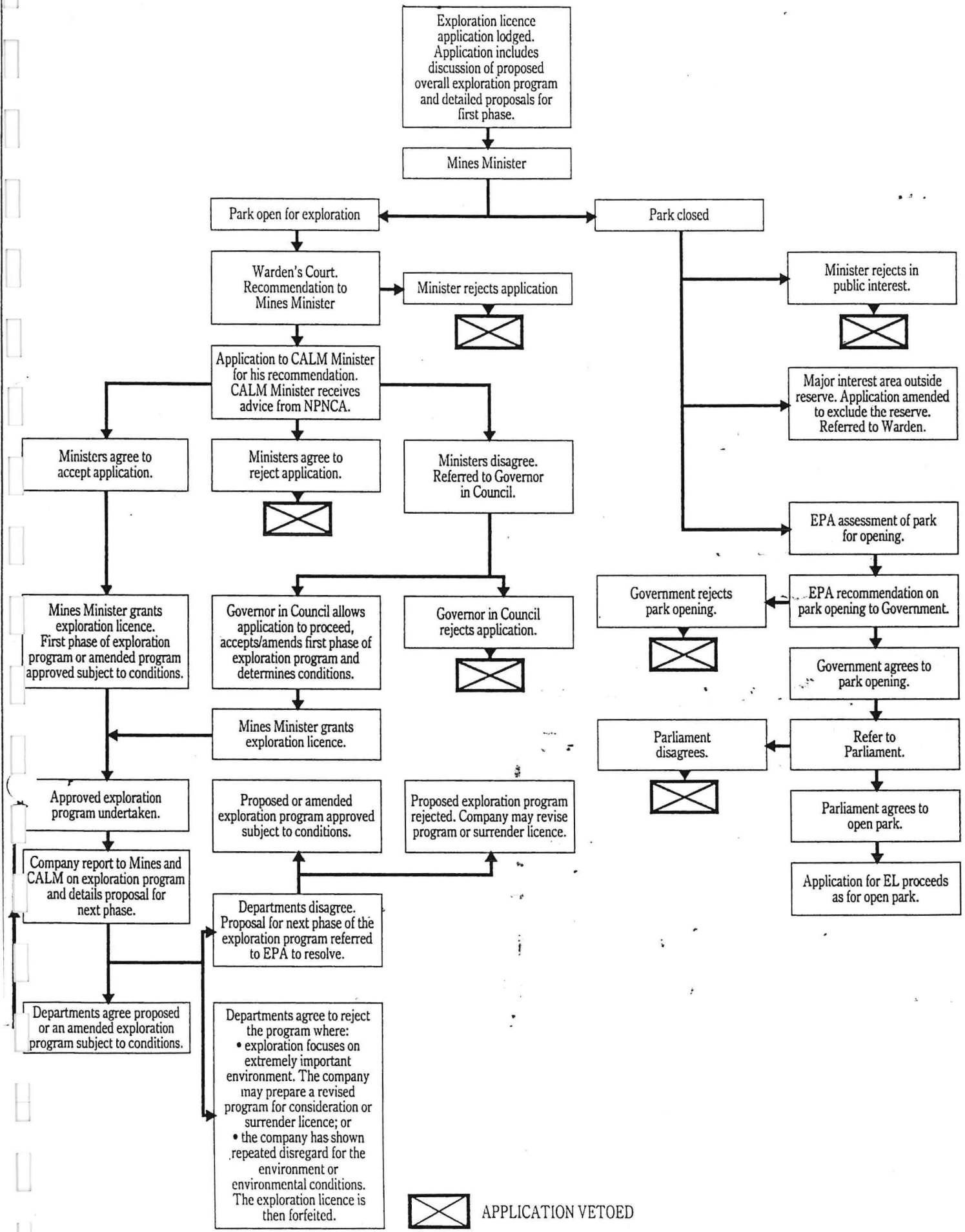
Holders of exploration licences in opened national parks or nature reserves will be required to submit to an Environmental Protection Authority review every five years. Further, the Government will examine ways of providing a mechanism to close parks and reserves to exploration after a certain period of time.

Section 21

Prospecting licence applications will be treated as exploration licence applications under this policy.

PROTECTION PLAN – EXPLORATION

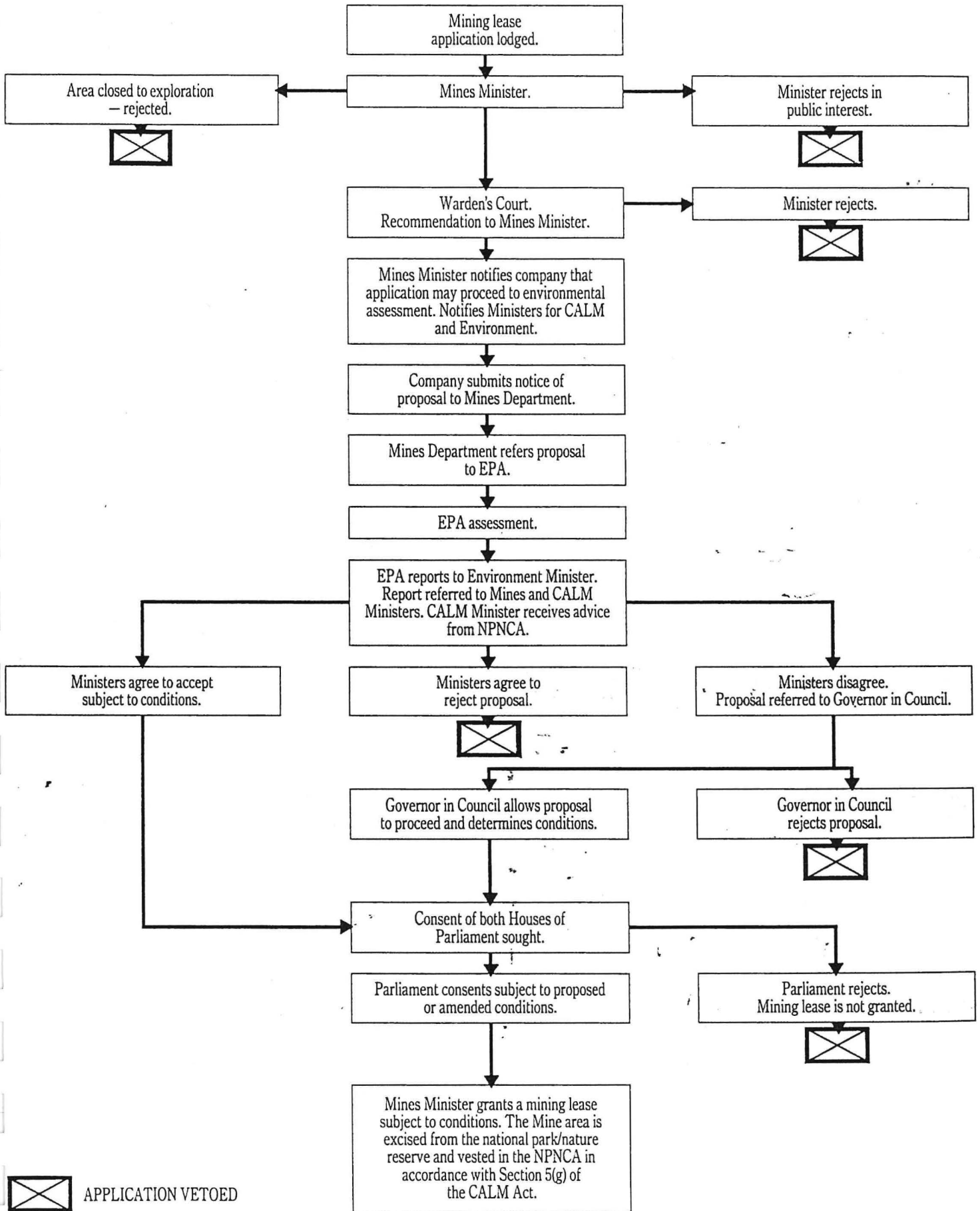
FIGURE 1



 APPLICATION VETOED

PROTECTION PLAN – MINING

FIGURE 2



 APPLICATION VETOED

DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT

POLICY STATEMENT NO. 2BASIC RAW MATERIALS

(Revised January 1989)

The Departments of Conservation and Land Management and Mines have agreed to a strategy concerning the extraction of certain minerals from land under the control of the Department of Conservation and Land Management (CALM).

The particular minerals involved are gravel, shale (not being oil shale), sand, clay, limestone or rock, ie. those materials which are not minerals when on private land, but are minerals when on Crown land or reserved land as defined under the Mining Act 1978.

It is proposed that such minerals on CALM land can be used by CALM or its authorised agents for any agricultural, pastoral, household, road making, or building purpose on that land if no mining tenement has been granted over the land, eg. CALM may authorise gravel to be obtained from one part of a State forest, national park or nature reserve in order to effect road works in other parts of that forest, park or reserve, [Section 9(2) of the Mining Act 1978].

In the case of gravel, sand etc., being required by various shires, MRD, SEC or other agencies for services adjacent to, on, or servicing State forests and timber reserves, it is proposed that they be accommodated by the issue by CALM of a lease. (CALM Act, Section 97). In the case of gravel, sand etc. being required from national parks or nature reserves, requests may be accommodated by the issue by CALM of a lease (CALM Act, Section 100) provided that the use of the gravel is "necessary" for the management of the national park or nature reserve [CALM Act, Section 33(3)]. Doubtful cases are to be referred to the General Manager.

The creation of such a lease will mean that the land will fall within the Mining Act definition of private land. Accordingly, any gravel, shale etc. will no longer be minerals and the provisions of the Mining Act will not apply.

All operations of a commercial nature involving basic materials will be controlled under the Mining Act, and for this purpose a mining tenement will need to be obtained by the operator. These will be subject to approval by our Minister, to conditions and to the payment of appropriate compensation to CALM, and royalties to the Mines Department.

The CALM policy and conditions on rehabilitation, compensation and royalties is presented in the table.

Syd Shea

Syd Shea
EXECUTIVE DIRECTOR

10 January 1989

Distribution: Lists A,B,D,E & F.

TABLE TO ACCOMPANY POLICY STATEMENT NO 2

AGENCY	TENURE	MINING TENEMENT	CALM LEASE	REHABILITATE PITS	COMPENSATION TO CALM	ROYALTY		APPROVALS	REMARKS
						DOM	CALM		
1 CALM	Use on CALM lands	No	No	Yes	No	No	N/A	CALM District	Minimal pits on National Parks, Nature Reserves and flora, fauna and landscape conservation areas. All pits to be rehabilitated after use.
2 CALM agents authorised works	Use on CALM lands	No	No	Yes	No	No	N/A	CALM District	Minimal pits on National Parks, Nature Reserves or flora, fauna and landscape conservation priority areas. All pits to be rehabilitated after use.
3 Shires, MRD or other authorised agencies	i)*Roads on or servicing State forest or Timber Reserve or within 5km. ii) *Roads on National Parks or Nature Reserves or "necessary" for management of the reserve.	No	Yes	Yes	No	No	N/A	CALM District	Minimum of new pits on National Parks, Nature Reserves or flora, fauna and landscape conservation priority areas. Existing pits to be phased out and rehabilitated.
4 Shires, MRD or other authorised agencies	*Commercial use or land not adjacent (more than 5 km).	Yes	No	Yes	Yes	Yes	No	CALM would oppose mining tenements	No new pits on National Parks, Nature Reserves or flora, fauna and landscape conservation priority areas. Existing pits to be phased out and rehabilitated.
Contractors	For use on other tenures or on P.P.	Yes	No	Yes	Yes	Yes	No	CALM would oppose mining tenements.	No new pits on National Parks, Nature Reserves or flora, fauna and landscape conservation priority areas. Existing pits to be phased out and rehabilitated.
6 Private Individuals - small lots.	For use on P.P.	-	No	-	-	-	-	-	Obtain from contractors

*Doubtful cases to be referred to General Manager.

REHABILITATION OF DISTURBED LAND POLICY STATEMENT NO. 10

Operational Objective

To regenerate, on disturbed land, self-regulating ecosystems, consistent with the purpose for which the land is to be managed.

Background

Disturbance is defined here as any activity or process producing, or likely to produce, long-term degradation of habitats and ecosystems. It may occur before the land is acquired by CALM, as an unavoidable part of CALM management, because of inadequate management in the past, or as a result of activities by other agencies or natural processes.

Disturbance may be *caused* by such things as mining or quarrying, clearing for agriculture, dieback disease, grazing pressure, excessive burning and physical damage by vehicles, machinery and people. It is *expressed* in various ways including changes to natural assemblages of plants and animals (especially the loss of species), soil compaction and/or erosion, salination and reduction in water quality, safety problems or threats to private land or other habitats.

The type, and extent, of rehabilitation required will vary depending upon the type and extent of the disturbance. The aim of regeneration in a particular case, and therefore the procedure used, may also depend upon the priority use of the land in question. For instance, intensive uses, such as the clear-felling/replanting of pines, resulting in an alteration to natural ecosystems would be maintained where that is the designated land-use.

The policies presented below are based upon the following three principles.

Firstly, CALM land should be managed as far as possible to avoid disturbance. Rehabilitation should be the last option in a series of management decisions designed to protect the environmental values of CALM land. (Other policy statements deal with this matter in more detail).

Secondly, rehabilitation should aim to restore original values, including indigenous communities where appropriate, and help to enhance all potential uses provided the priority uses are not adversely affected.

Thirdly, policies on rehabilitation must be consistent with the four primary objectives of the CALM Corporate Plan.

Policy

The Department will:

- (1) Prevent disturbance causing activities on CALM land wherever possible, particularly on nature reserves, national parks, and conservation management priority areas, and in cases where the activity will lead to irreversible degradation of ecosystems or habitats; (this clause does not prevent duly authorised necessary operations, or the implementation of an approved management plan).
- (2) In the event of planned activities on CALM land which will cause disturbance, establish conditions for such activities which minimise the area and degree of disturbance, and define the type of rehabilitation required.
- (3) Ensure that all CALM land which has suffered disturbance, as defined, is rehabilitated as far as practicable, so that it will best meet the needs of the designated land use.

- (4) Prevent or suppress the invasion by weeds of disturbed or rehabilitated areas.
- (5) Ensure that, whenever possible, the cost of rehabilitation is borne by the agency responsible for the disturbance.
- (6) Ensure that rehabilitation provides for as many secondary land uses as possible, consistent with 3 above.
- (7) Apply one of the following four procedures wherever nature conservation is the priority use, as in nature reserves, national parks and flora, fauna and landscape management priority areas.

Natural regeneration of indigenous vegetation is the preferred method of rehabilitation, and where necessary, steps should be taken to encourage it.

Where this is not possible, or needs supplementing, local species, grown from seed or cuttings obtained locally, should be planted, with restoration as far as possible of the original species diversity, composition and spacing.

Where conditions have been changed to such an extent that local species cannot grow (e.g., on areas affected by salinity, dieback disease, or the removal of topsoil), or where a desired purpose, such as providing shade, cannot be met by local species, species suitable to the conditions and purpose should be planted. However, where more than one species are suitable, then that which occurs naturally closest to the rehabilitation-site should be used, with seeds and cuttings collected from the nearest possible source.

The necessity, and feasibility, of reintroducing species, or aggregations of species, of the original fauna will be considered.

- (8) For areas where nature conservation is not the priority use, rehabilitate ecosystems to enhance designated uses, or to maintain them at an appropriate level; however, the steps in 7. above, including consideration of the reintroduction of native fauna, should be followed where they do not interfere with this aim.
- (9) Carry out, or encourage research to provide a sound scientific basis for rehabilitation procedures.
- (10) Maintain detailed operational guidelines based on the best current techniques, and ensure that disturbance-causing activities and subsequent rehabilitation are fully integrated into land use planning and management.
- (11) Establish criteria by which to judge the success of rehabilitation on land for different purposes.
- (12) Monitor regeneration programmes to ensure that the aims are being achieved, and to contribute to the continuing improvement in methods.
- (13) Liaise with mining companies, Government Departments and other land users to ensure an exchange of ideas on the latest techniques and standards in rehabilitation.
- (14) Actively promote, and provide advice and assistance for, the regeneration of native vegetation, and the use of the most fitting rehabilitation methods, on areas of land outside the CALM estate.

EXTRACT FROM "STRATEGIES FOR CONSERVATION AND RECREATION ON CALM LANDS IN WESTERN AUSTRALIA DECEMBER 1987".

MINING

Objective

To ensure that approved exploration and mining operations proceed according to conditions specified, to minimise environmental damage and to rehabilitate in conformance with the purpose of vesting.

Specifically, the aim is to:

abide by the Mining Act, which allows for proposals to be rejected or approved subject to conditions by the Hon Minister for Conservation and Land Management on national parks, State forest and A class reserves;

ensure that when any proposal for exploration or mining is submitted involving land and waters under CALM management that the land values affected by the proposal are fully considered;

where conditions applying to exploration and mining are being considered by Government, ensure the development of the most appropriate conditions to preserve the values for which the land was reserved;

liaise with the Mines Department, the Department of Resources Development and the Environmental Protection Authority to ensure that the most appropriate conditions for exploration and/or mining on parks, reserves and forests, are developed;

ensure that conditions applied to exploration and mining are complied with;

continue research into techniques aimed at minimising environmental damage and land use conflict;

liaise with exploration companies to ensure they are aware of the effects of mining on the environment and other land uses, and of rehabilitation techniques;

liaise with authorities responsible for administering mining agreements and with other organisations authorised to study mining effects and rehabilitation techniques;

rehabilitate areas affected by mining to suit the designated land use, and in accordance with conditions imposed by State Government under the various special agreement Acts and Mining Act.

Strategies

Seek the inclusion of appropriate conditions governing environmental protection into the mineral leases issued under the Mining Act.

Ensure that exploration on CALM land is conducted in strict adherence to conditions stipulated by the relevant departments.

Seek to direct mining operations into areas where there will be least conflict with other land uses.

Where possible obtain realistic compensation from companies mining on CALM land to cover loss of conservation values, land purchase and the continuing cost of rehabilitation and management of areas affected by mining.

DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT
GEOSCIENTIFIC SURVEY PERMIT
SCHEDULE OF CONDITIONS

1. The surveyor shall comply with and ensure that all persons operating in the Reserve area are aware of, and comply with the provisions of:
 - (i) the Conservation and Land Management Act, 1985 and the Regulations thereunder;
 - (ii) the Bush Fires Act, 1959 and the Regulations thereunder; and
 - (iii) the Wildlife Conservation Act, 1950 as Amended and the Regulations thereunder.
2. Access to and from, and the movement of vehicles within the Reserve shall wherever possible be restricted to existing roads and tracks as indicated on the programme approved by the Regional Manager, Department of Conservation and Land Management (CALM). Vehicle travel off existing tracks to a limited extent, may be approved by prior agreement with the Regional Manager.
3. The surveyor shall comply with all conditions specified by the Regional Manager, CALM, for the prevention of soil-borne plant diseases and the spread of non-endemic weeds.
4. No soap, detergent or other foaming agents shall be used in any water course or rockhole nor any rubbish or other polluting material deposited in any water course or rockhole.
5. Domestic animals or firearms shall not be taken on to the Reserve.
6. The surveyor shall provide the Regional Manager, CALM, with an itinerary and detailed programme of operations on the Reserve, and keep him informed at least seven days in advance of any changes to that itinerary.
7. The surveyor shall not establish any camp, base-works area, fuelling depot or similar establishment on the Reserve unless the site and access is specifically approved by the Regional Manager, CALM.
8. Such further conditions necessary for the protection of the environment and rehabilitation of any disturbance to the land or vegetation, shall be complied with by the surveyor on receipt of a request in writing from the Executive Director, CALM.
9. The surveyor shall at twelve monthly intervals or on completion of the programme, submit a report to the Director General, Department of Mines and the Executive Director, Department of Conservation and Land Management, on the results of the geoscientific work undertaken.

GUIDELINES TO CALM STAFF FOR ASSESSING EXPLORATION PROGRAMMES
ON CONSERVATION LANDS

(Other than National Parks or A Class Nature Reserves)

- CALM Districts will not hinder exploration programmes which conform to the required conditions. CALM strategy is to determine and pursue alternatives where there is major conflict, and to get realistic standards to reduce impact on conservation values where there is not.
- Environmental Protection Branch and Mines Department Environmental and Rehabilitation Service officers will assist to resolve conflicts and co-ordinate standards.

Mining Companies Proposing Exploration

Programmes should submit proposals with adequate notice. Requests for approvals should preferably be on a stage by stage basis and submissions may include:

- A - Maps and air photos showing locations of proposed roads, camps and other disturbances.
- B - Purpose, specifications, life of such roads, etc.
- C - Description of vegetation types, landforms, unusual features to be disturbed. To a standard determined by the Regional Manager. Level of description will depend upon the type of disturbance and nature/complexity of vegetation/land systems.
- D - Techniques, prescriptions, target dates for rehabilitation and undertakings for corrective measure for failed rehabilitation.
- E - Training and supervision of personnel on environmental conditions.

Guidelines for Approval - Tracks, Survey Lines, Geophysical Lines

1. Clearing limited to absolute essentials for operation.
2. Existing access to be used wherever possible.
3. Construction of new baseline tracks to be limited to pushing or grading the vegetation aside, with a minimum of disturbance to the soil and root systems.
4. Alignment of baseline tracks to avoid 'fragile areas and special features, eg,
 - granite rocks and surrounding vegetation;
 - thickets of timber;
 - areas prone to erosion such as sand dunes, steep slopes, watercourse banks and beds;
 - wetlands;
 - Heritage areas.

The identification and the control of impacts on these features can be managed by a combination of airphoto interpretation, local knowledge, ground survey by the Lessee and operator training. In critical situations continuous CALM presence may be required.

5. Gridlines to be surveyed with line of sight only (1m width).
6. Access tracks to drill sites etc on gridlines to be via least damaging route and method, preferable constructed by rolling vegetation (except when this would create unacceptable fire hazard). This technique is most suitable in tussock grassland (spinifex), heathland, saltbush. If vegetation type excludes this, clearing to be according to 3 above.

Rare Flora

1. Searches will be required if rare flora may occur in the locality and vegetation type and the level of impact has potential to damage the plants. (See Appendix to Policy No. 9 - "Guidelines for Surveys.....").
2. Rare flora localities are available from the Senior Clerk, Flora, Como or local records. More precise information as to the potential for such rare flora to occur in the area of operations and the particular vegetation type are available from Research Officers at Woodvale or Environmental Protection Branch at Bunbury.
3. A sound approach is to require the same commitment from the Mining Co. as is required internally by CALM for similar operations (See Admin Instruction 24).

Rare Fauna

1. If potential exists for destruction of critical habitat of restricted/rare fauna the Lessee should undertake surveys by qualified personnel.

Hygiene

1. Unless approved otherwise operations within the southwest mineral field and the Ravensthorpe and Esperance Shires should be under dry soil conditions. All vehicles entering any reserve should be free of soil and organic matter.

Guidelines for Approval - Costeans, Trenches, Pits, Drill Holes

1. Topsoil to be stockpiled.
2. Where possible pits to be progressively refilled to original contour as sampling proceeds.
3. All drill holes to be capped or filled in (water bore holes to be capped).

4. All exploration sites (drill pads, camps etc) to be left clean and rehabilitated.
5. Any bulk sampling programme requires special approval.

Rehabilitation Techniques

1. Roads and Tracks - Roads and tracks to be ripped (if compacted) and windrows graded back.
2. Drills Pads - Topsoil to be pushed back, site ripped and debris returned.
3. Costeans - Topsoil returned and lightly ripped or tyned.

Training

1. CALM's role is to identify training needs of mining personnel, (eg, hygiene) review proposed training programmes but not conduct them (except on a paid consultancy basis) - Administrative Instruction No. 28.
2. CALM presence is required at start up to confirm standards.
3. Compliance with environmental conditions should be a condition of employment for sub-contractors.

Major Sampling Operations - (eg, processing of alluvials for diamonds) are to be examined on a case-by-case basis in conjunction with Environmental Protection Branch. A Notice of Intent may be required.

EXPLORATION AND MINING ON CALM LANDS
THE MINING ACT 1978
AGREED SCHEDULES OF STANDARD CONDITIONS
JUNE 1988

1. A. Exploration - Conservation lands.
- B. Exploration - State Forests and Timber Reserves (South West).
- C. Mining. - State Forests and Timber Reserves (South West).
- D. Exploration - Goldfields Timber Reserves.
- E. Mining - Goldfields Timber Reserves.

SCHEDULE 'A'
DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT
THE MINING ACT 1978
CONDITIONS FOR EXPLORATION IN CONSERVATION LANDS
(OTHER THAN NATIONAL PARKS AND A CLASS NATURE RESERVES)

PLANNING AND APPROVALS

1. Prior to any disturbance to vegetation the licensee preparing a detailed programme for each phase of proposed exploration for approval of the Regional Mining Engineer in agreement with the Regional Manager, Department of Conservation and Land Management (CALM). This programme to include:
- (i) Maps and/or aerial photographs showing the proposed locations of all roads, tracks, camps, costeans and other disturbances;
 - (ii) The purpose, specifications and life of such roads tracks, disturbances etc;
 - (iii) Descriptions of all vegetation types, land forms, and unusual features intersected by such proposed disturbances. The Regional Manager specifying the level of vegetation description;
 - (iv) Proposals which may disturb any declared rare or geographically restricted flora and fauna;
 - (v) Techniques, prescriptions, and target dates for rehabilitation of all proposed disturbances;
 - (vi) Undertaking for corrective measures for failed rehabilitation;
 - (vii) Details of water requirements from within the reserve;
 - (viii) Details of refuse disposal and
 - (ix) Proposals for training and supervision of personnel and contractors in respect to environmental conditions.

REHABILITATION

2. The licensee at his expense, rehabilitating all areas cleared or otherwise disturbed to the satisfaction of the District Mining Engineer in agreement with the Regional Manager, CALM.
3. Prior to the cessation of exploration/prospecting activity the licensee notifying the District Mining Engineer and the Regional/District Manager CALM and arranging an inspection as required.

REPORTING

4. At agreed intervals and not greater than 12 monthly, the licensee reporting to the District Mining Engineer and the Regional Manager CALM on the progress of the operation and rehabilitation programme.

COMPLIANCE WITH ACTS

5. The licensee complying with and ensuring that all persons under its control operating in the licence area are aware of and comply with the provisions of:
 - (i) the Conservation and Land Management Act, 1984 and the Regulations thereunder;
 - (ii) the Bush Fires Act, 1954-77 and the Regulations thereunder, and
 - (iii) the Wildlife Conservation Act, 1950 as amended and the Regulations thereunder (excepting Regulations 46 a, b, c, d, g, l, L and O, insofar as non-compliance occurs as an unavoidable incident or reasonable consequence in the performance of the approved exploration programme).

GENERAL PROVISIONS

6. The licence ensuring all vehicles and equipment entering the reserve are free of soil and plant propagules and the licensee adhering to such conditions as specified by the Regional/District Manager, CALM, for the prevention of the spread of soil borne diseases.
7. The Regional/District Manager CALM being supplied with an itinerary and programme of the locations of operations on the licence area and informed at least seven days in advance of any changes to that itinerary.
8. The licensee making provisions to prevent spillage of fuel and discharge of pollutants generally and for all exploration sites being kept free from any rubbish and being left in a clean and tidy state.
9. No soap, detergent or other foaming agent being used in any water course or rockhole nor any rubbish or other polluting material being deposited in any water course or rockhole.
10. Domestic animals or firearms not being taken onto the Reserve.

11. Such further conditions for protection of the land environment and rehabilitation of the land as the Minister for Mines may from time to time impose.
12. The grant of this licence not inferring automatic approval to mine or the subsequent grant of a mining lease in accordance with Section 75 of the Mining Act.
13. The licensee not establishing any camp, base works or area, fuelling depot or similar establishment on the licence area unless the site and access has received prior approval of the Regional Manager, CALM.
14. Access to and from and the movement of vehicles within the licence area being restricted to roads and tracks approved under the programme or otherwise agreed by the Regional Manager CALM.

(For nominated high value exclusion areas)

15. No mining (exploration) without the written approval of the Minister for Mines within.....

OPTIONAL CONDITION

16. The licensee at his expense rehabilitating specified areas disturbed by previous mining activity to the satisfaction of the Regional Mining Engineer in consultation with the Regional Manager CALM.

RA444EGX388

SCHEDULE 'B'
DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT
THE MINING ACT 1978
CONDITIONS FOR PROSPECTING AND EXPLORATION LICENCES
ON STATE FOREST AND TIMBER RESERVES (SOUTH WEST)

Planning and Approvals

1. Prior to any disturbance to vegetation the licensee preparing a detailed programme for each phase of proposed exploration for written approval of the Regional Mining Engineer in agreement with the Regional Manager, Department of Conservation and Land Management (CALM). This programme to include:
 - (i) maps and/or aerial photographs showing all proposed routes, construction and upgrading of tracks, camps, drill sites and any other disturbances;
 - (ii) Proposals which may disturb any declared rare or geographically restricted flora and fauna; and
 - (iii) Techniques, prescriptions and target dates for the rehabilitation of all proposed disturbances.

Rehabilitation

2. The licensee, at his expense, rehabilitating all areas cleared, explored or otherwise disturbed to the satisfaction of the District Mining Engineer in agreement with the District Manager, CALM. Such rehabilitation as is appropriate and may include:
 - (i) stockpiling and return of topsoil;
 - (ii) backfilling all holes, trenches and costeans;
 - (iii) ripping;
 - (iv) contouring to the original landform;
 - (v) revegetation with seed and/or plants; and
 - (vi) capping and or backfilling of all drill holes.
3. Prior to the cessation of exploration/prospecting activity the licensee notifying the District Mining Engineer and Regional/ District Manager CALM and arranging an inspection as required.

Compliance with Acts

4. The licensee complying with and ensuring that all persons operating in the licence area are aware of and comply with the provisions of:
 - (i) the Conservation and Land Management Act, 1984 and the Regulations thereunder;
 - (ii) the Bush Fires Act, 1954-77 and the Regulations thereunder;
 - (iii) the Wildlife Conservation Act, 1950, as amended and the Regulations thereunder, and
 - (iv) the Country Areas Water Supply Act, 1947 and the Regulations thereunder.

Access and Dieback Hygiene

5. The licensee informing the District Manager CALM of the whereabouts of the operations on the licence areas by providing a works programme or weekly advise of work location.
6. Access to and from and the movement of vehicles within State Forest and Timber Reserves being restricted to roads and tracks approved under the programme or otherwise agreed by the District Manager CALM.
7. The licensee complying with the instructions of the Executive Director or his nominee in respect of the forests disease Phytophthora cinnamomi (or "Jarrah Dieback"), the prevention and spread of that disease and general forest hygiene.
8. Entry into a Forest Disease Risk Area (D.R.A.) will only be undertaken by the licensee when the licensee's proposals meet the requirements of the Dieback Policy 1982 and a permit for vehicle access has been issued to the licensee. Access to these areas being restricted to dry soil conditions. In the event of rain all operations ceasing and personnel leaving the Disease Risk Area immediately by the route specified on the entry permit.

9. The licensee washing down and cleaning all rigs, vehicles, tools and other equipment to the standard required by the District Manager, CALM, prior to and on each occasion any such equipment, rig, vehicle or tool is brought onto or taken from the licence area. All sampling equipment to be cleaned between samples to the standard required by the District Manager CALM.

General

10. The grant of this licence not inferring automatic approval to mine or the subsequent grant of a mining lease in accordance with Section 75 of the Mining Act.
11. Such further conditions for protection of the environment and rehabilitation of the land as the Minister for Mines may from time to time impose.
12. The licensee keeping the licence area free from all waste materials, rubbish and litter, and prior to or at the termination of operations removing all equipment and temporary buildings from the licence area.
13. The licensee taking all reasonable precautions not to unnecessarily destroy or damage vegetation on the licence area.
14. No firearms being used or taken onto the licence area.
15. The licensee not establishing any camp, base works or area, fuelling depot or similar establishment on the licence area unless the site and access has received prior approval of the District Manager, CALM.

Optional Condition

16. No mining (exploration) within..... without the written approval of the Minister for Mines.
17. The licensee at his expense rehabilitating specified areas disturbed by previous mining activity to the satisfaction of the Regional Mining Engineer in consultation with the Regional Manager CALM.

RA444EGX388

SCHEDULE 'C'
DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT
THE MINING ACT 1978
CONDITIONS FOR MINING LEASES ON STATE FOREST AND TIMBER
RESERVES (SOUTH WEST)

1. The lessee complying with the provisions of :
 - (i) the Conservation and Land Management Act, 1985 and the Regulations thereunder;
 - (ii) the Bush Fires Act, 1954-77 and Regulations, and Wildlife Conservation Act, 1950 and
 - (iii) Regulations thereunder.
2. The lessee giving the Executive Director, Department of Conservation and Land Management (CALM) three (3) months notice in writing of the intention to enter upon any uncleared area of State Forest for the purposes of mining or operations associated with mining. Rights to remove any marketable timber from such area in advance of mining operations being with the Executive Director.

Compensation

3. The lessee paying to the Executive Director, Department of Conservation and Land Management (CALM), compensation for all areas cleared of vegetation for mining, in support of mining and degraded as a result of mining in association with this lease. The rate of compensation being \$ per hectare and being adjusted annually by the Executive Director. The C.P.I. for Perth providing the basis of such adjustments. The Executive Director issuing a notice for the amount of compensation due and the lessee paying the amount within 2 months of the date of such notice. A penalty of interest at the Commonwealth bond rate being charged for late payment.
4. The lessee paying royalty at current rates to the Executive Director for any forest produce obtained from State Forest and Crown Land used in connection with mining operations on the lease.

Disease

5. The lessee at his expense carrying out all necessary measures to prevent the spread of the forests disease Phytophthora Cinnamomi (or Jarrah Dieback) on the area of the lease and liaising with the District Manager CALM before commencing exploratory work outside areas being mined.

Fire

6. Lessee taking all such necessary precautions as may be indicated by the District Manager CALM to prevent the occurrence or spread of any fire within or adjacent to the leased area.

Rehabilitation

7. The lessee at his expense rehabilitating all areas affected by mining or operations associated with mining, including the rehabilitation enrichment of dieback or other forest disease affected areas, resulting from the lessees mining or operations associated with mining. Rehabilitation being to the satisfaction of the Regional Mining Engineer and in agreement with the Regional Manager CALM.

Planning and Approvals

8. No developmental or productive mining being commenced until the lessee has submitted a Notice of Intent (N.O.I.) for the proposed operations, including measures to safeguard the environment, to the Director, Mining Engineering Division for assessment and until his written approval has been obtained, subject to the agreement of the Executive Director, CALM. The approved N.O.I (as amended) then becoming a condition of this lease and the lessee being required to lodge a security pursuant to Section 26(1)(d) of the Mining Act for due compliance of the approved plan for the sum specified in the N.O.I. approval.
9. Following approval of the N.O.I. in condition () the lessee byof each year consulting with the District Mining Engineer and District Manager to review past programmes and within one (1) month of this review the lessee to prepare and submit detailed annual mining proposals and management programmes for approval to the Director Mining Engineering in agreement with the District Manager, CALM.
10. The lessee designating to the Regional Manager, CALM a responsible officer to direct and control the rehabilitation programme.

General

11. Exploration programmes involving vegetation disturbance are subject to the approval of the District Mining Engineer in consultation with the District Manager, CALM.
12. Where reasonable, the lessee permitting CALM to remove for CALM requirements, sand, rock, clay, gravel and soil subject to a working agreement.

SCHEDULE 'D'
DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT
THE MINING ACT 1978
CONDITIONS FOR PROSPECTING LICENCES AND EXPLORATION
LICENCES ON GOLDFIELDS
TIMBER RESERVES

Planning and Approvals

1. Prior to any disturbance to vegetation the licensee preparing a detailed programme for each phase of proposed exploration for written approval of the Regional Mining Engineer in agreement with the Regional Manager, Department of Conservation and Land Management (CALM). This programme to include:
 - (i) maps and/or aerial photographs showing all proposed routes, construction and upgrading of tracks, camps, drill sites and any other disturbances;
 - (ii) The purpose, specifications and life of all proposed disturbances;
 - (iii) Proposals which may disturb any declared rare or geographically restricted flora and fauna; and
 - (iv) Techniques, prescriptions and target dates for the rehabilitation of all proposed disturbances.

Rehabilitation

2. The licensee, at his expense, rehabilitating all areas cleared, explored or otherwise disturbed to the satisfaction of the Regional Mining Engineer in agreement with the Regional Manager, CALM. Such rehabilitation as is appropriate and may include:
 - (i) stockpiling and return of topsoil;
 - (ii) backfilling all holes, trenches and costeans;
 - (iii) ripping;
 - (iv) contouring to the original landform;
 - (v) revegetation with seed and
 - (vi) capping and or backfilling of all drill holes.
3. Prior to the cessation of exploration/prospecting activity the licensee notifying the Regional Mining Engineer and Regional Manager CALM and arranging an inspection as required.

Compliance with Acts

4. The licensee complying with and ensuring that all persons operating in the licence area are aware of and comply with the provisions of:
 - (i) the Conservation and Land Management Act, 1984 and the Regulations thereunder.
 - (ii) the Bush Fires Act, 1954-77 and the Regulations thereunder, and
 - (iii) the Wildlife Conservation Act, 1950, as amended and the Regulations thereunder.
5. All vehicles, machinery or equipment being cleaned of all soil, mud and plant propagules prior to entering the reserve.
6. Access to and from and the movement of vehicles within the Reserve being restricted to roads and tracks approved under the programme or otherwise agreed by the Regional Manager CALM.
7. The grant of this licence not inferring automatic approval to mine or the subsequent grant of a mining lease in accordance with Section 75 of the Mining Act.
8. Such further conditions for protection of the environment and rehabilitation of the land as the Minister for Mines may from time to time impose.
9. The licensee keeping the licence area free from all waste materials, rubbish and litter, and prior to or at the termination of operations removing all equipment and temporary buildings from the licence area.
10. The licensee taking all reasonable precautions not to unnecessarily destroy or damage vegetation on the licence area.
11. No firearms being used or taken onto the licence area.
12. The licensee not establishing any camp, base works or area, fuelling depot or similar establishment on the licence area unless the site and access has received the prior approval of the Regional Manager, CALM.

Optional Condition

13. The licensee at his expense rehabilitating specified areas disturbed by previous mining activity to the satisfaction of the Regional Mining Engineer in consultation with the Regional Manager CALM.

RA444EGX388

SCHEDULE 'E'
DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT
THE MINING ACT 1978
CONDITION FOR MINING LEASES ON GOLDFIELDS TIMBER RESERVES

1. The lessee complying with the provisions of:
 - (i) the Conservation and Land Management Act, 1984 and the Regulations thereunder;
 - (ii) the Bush Fires Act, 1954-77 and Regulations; and
 - (iii) Wildlife Conservation Act, 1950 and Regulations thereunder.

Compensation

2. The lessee paying to the Executive Director, Department of Conservation and Land Management (CALM), compensation for all areas cleared of vegetation for mining, in support of mining and degraded as a result of mining in association with this lease. The rate of compensation being \$ per hectare and being adjusted annually by the Executive Director. The C.P.I. for Perth providing the basis of such adjustments. The Executive Director issuing a notice for the amount of compensation due and the lessee paying the amount within 2 months of the date of such notice. A penalty of interest at the Commonwealth bond rate being charged for late payment.
3. The lessee paying royalty at current rates to the Executive Director for any forest produce obtained from Crown Land in connection with mining operations on the lease.

Fire

4. Lessee taking all such necessary precautions as may be indicated by the Regional Manager, CALM to prevent the occurrence or spread and undertake suppression of any fire within or adjacent to the leased area.

Rehabilitation

5. The lessee at his expense rehabilitating all areas affected by mining or operations associated with mining, rehabilitation being to the satisfaction of the Regional Mining Engineer and in agreement with the Regional Manager CALM.

Planning and Approvals

6. No developmental or productive mining being commenced until the lessee has submitted a Notice of Intent (N.O.I.) for the proposed operations, including measures to safeguard the environment, to the Director, Mining Engineering Division for assessment; and until his written approval has been obtained, subject to the agreement of the Executive Director, CALM. The N.O.I. as approved then becoming a condition of this lease and the lessee being required to provide, in lieu of the bond referred to in Condition No..., a bank guaranteed unconditional performance bond in favour of the Minister for Mines for due compliance with the approved plan for the sum specified in the N.O.I. approval.

7. Following approval of the N.O.I. in condition () the lessee by of each year consulting with the District Mining Engineer and Regional Manager to review past programmes and within one (1) month of this review the lessee to prepare and submit detailed annual mining proposals and management programmes for approval to the District Mining Engineer in agreement with the Regional Manager, CALM.

General

8. The lessee designating to the Regional Manager, CALM a responsible officer to direct and control the rehabilitation programme.
9. Exploration programmes involving vegetation disturbance are subject to the approval of District Mining Engineer in consultation with the Regional Manager, CALM.
10. The lessee not establishing any camp, base works or area, fuelling depot or similar establishment on the lease area, unless the site and access has received prior approval of the Regional Manager, CALM.

Optional Condition

11. The lessee at his expense rehabilitating specified areas disturbed by previous mining activity to the satisfaction of the Regional Mining Engineer in consultation with the Regional Manager CALM.

RA444EGX388
Updated 21/2/89

* MINING PROPOSAL STATEMENT TO COVER APPLICATION FOR
MINING LEASES

(Not an "N.O.I.")

Upon application for a Mining Lease a limited amount of information is sometimes required by Department of Mines and CALM for initial assessment. A decision can often then be made to proceed to NOI or reject the proposal. This Stage I report is designed to cover cases where a project is in possible doubt and the expense of an N.O.I. would be unwarranted.

Statement to include:

A Development Proposal Overview

- General technical brief of project, description or plans showing tenements/tenures/development/ore body/type of mining operation/final landform concept.

B Environmental Description

- Brief description of existing level of disturbance, landform, vegetation type (principal species). Summarise data gathered during exploration phase.
- Include photographs of area (ground and aerial, if available).

C Impact Overview

- Existing land use, perceived impacts, project justification, alternatives, final land use rehabilitation philosophy.

Departmental Information Only

- * This submission may be used for Stage I initial assessment and will assist in determining :-
 - (a) CALM values at stake,
 - (b) Whether there is a valid requirement for the Mining Lease; and
 - (c) the case for outright refusal or grant; and
 - (d) level of further assessment

NOTICE OF INTENT (NOI) GUIDELINES
DEPARTMENT OF MINES

1. INTRODUCTION

The primary role of the Mines Department is to promote and facilitate the orderly exploration and development of minerals and petroleum in Western Australia for the present and future benefit of the community.

One of the objectives of the Department is to ensure that all operations in the mining industry are conducted in a manner that is safe for workers and the public in general and to ensure that proper attention is given to rehabilitation and protection of the environment.

These guidelines have been formulated to assist the proponents of new mining operations and proponents of major expansions to existing operations in the development of projects which will comply with current Departmental, industry and community standards.

While these guidelines generally cover matters that need to be addressed to gain project approval, they are not project specific. Proponents or their consultants are strongly urged to contact the Regional Mining Engineer for the project area to discuss their proposal and receive specific advice on the content and detail required in the proposals document.

2. GENERAL

Prior to the commencement of any new mining project or major new development associated with an existing operation, the proponent must have written approval to proceed from the Mines Department.

- ° To obtain this written approval, a proponent must submit five (5) copies of the development proposal to the Regional Mining Engineer of the district in which the project is to be situated, for distribution as required.
- ° The development proposals must be assessed by the appropriate officers of the Mines Department.
- ° Under the provisions of Part IV of the Environmental Protection Act 1986, a proposal that appears likely, if implemented, to have a significant effect on the environment, or a proposal of a prescribed class, must be referred by the Department to the Environmental Protection Authority. Under these circumstances, the Department cannot give approval to commence until any further requirements of the Environmental Protection Act have been met.

- Under the provisions of Part V of the Environmental Protection Act 1986, a Works Approval is required from the Pollution Control Division of the Environmental Protection Authority (EPA) prior to the construction of any treatment plant or tailings dam. The Mines Department will arrange for the Works Approval Application and a copy of the proposal to be forwarded to the EPA.
- The development proposal may be referred, by the Mines Department, to other State and Local Government agencies for their assessment.
- A reasonable period of time (in months) must be allowed for the proper assessment of the proposal to be made.
- Under the provisions of Section 84 of the Mining Act, certain conditions may be imposed for the purpose of preventing or reducing, or making good, injury to the surface of the land on mining leases. The proposal document will form the basis of these conditions.

3. CONTENTS OF PROPOSAL DOCUMENT

The development proposal must cover certain aspects relating to safety and environmental matters and the following headings are suggested for use (where appropriate) by the proponent:

INTRODUCTION

- Summary
- Objective
- Location
- Ownership
- History
- Existing Facilities

EXISTING ENVIRONMENT

- Regional Setting
- Geology
- Hydrology
- Climatology
- Flora and Fauna

PROJECT DESCRIPTION

- Mining
- Ore Processing
- Tailings Disposal
- Support Facilities
- Workforce
- Transportation Corridors
- Resource Requirements
- Decommissioning

ENVIRONMENTAL IMPACT AND MANAGEMENT

- Water
- Flora and Fauna
- Waste Products
- Toxic Materials use and storage
- Atmospheric pollution (including dust)
- Noise
- Rehabilitation

SOCIAL IMPACTS

- Aboriginal Sites
- Heritage
- Land use
- Social Environment
- Use of Public Roads

4. SPECIFIC DETAILS TO BE ADDRESSED

INTRODUCTION

Summary

A brief summary of proposal covering major features should be given.

Objective

Brief summary of the scale and type of operation planned e.g. to develop an open-cut gold mine and CIP treatment plant, etc.

Location

Mineral Field and District as well as location relative to nearest township and any nearby operating mines. A locality map and aerial photograph should be provided.

A plan to be provided showing tenements and location of various facilities

Ownership

Lessees of all tenements covered by proposed operation, status on any joint ventures and name of managing/operating company.

History

Extent of previous mining activity in the area, amount of ground disturbance, exploration activities etc.

Existing Facilities

Brief description of existing facilities (if any), at operating site, and planned use of any nearby facilities, including the use of public roads.

EXISTING ENVIRONMENT

Regional Setting

General description of geology and geomorphology, including description of land units.

Geology

Brief description of geology specific to the area of interest including a basic description of the mineralization and ore reserves.

Hydrology

Brief summary of surface and subsurface water flows and quality as they relate to the project and facilities. Details of the project water requirements including the source, quantities required and quality as well as details of existing water use, water reserves and catchment areas must be included. The development and extraction of Groundwater usually requires W.A. Water Authority's approval and a licence.

Climatology

Regional weather patterns, average rainfall, average evaporation, prevailing winds, etc. Minimum drainage design should be based on the 20 year return rainfall event.

Flora and Fauna

Description of flora and fauna in area and reference to any previously published studies. In areas of high ecological value or sensitivity a specific programme of flora and fauna studies may be required.

PROJECT DESCRIPTION

Mining

Outline of proposed method of operation, pit design, waste dump design and location. Both a long term concept plan as well as detailed plans for the first few years of operation should be provided. Specific guidelines for waste dump design and rehabilitation are available from the Mines Department.

Ore Processing

A description of the treatment plant and general arrangement plan should be supplied. Details of dust control and chemical handling and storage safety measures should be provided. An EPA Works Approval and Licence is required for all treatment plants.

Tailings Dam

If a tailings dam is proposed, specific guidelines are available from the Mines Department. An EPA Works Approval and Licence is required for all tailings dams.

Support Facilities

Location of on site offices, workshops, power supply, accommodation units, etc.

Workforce

Number and classification of workers. Provisions of the Mines Regulation Act and Regulations in relation to certification and working conditions should be acknowledged.

Transportation Corridors :

Location of main access, power and water supply lines. The use and maintenance of local roads to be agreed with Local Government. Where local roads are to be used for ore haulage prior agreement with the Local Government Authority is mandatory. Use of Highways for ore or concentrates haulage requires specific Main Roads Department approval.

It is pointed out that Section 85 of the Road Traffic Act allows Councils to recover, through Court action, extraordinary expenses that are incurred in repairing damage to roads caused by heavy traffic.

Resource Requirements

Any other details on resources required for project.

ENVIRONMENTAL IMPACT AND MANAGEMENT

The aim of this section is to identify environmental impacts and make commitments to minimise disturbance and manage adverse impacts. Specific guidelines for environmental planning are available from the Mines Department.

Water

Impact on local water resource and other users.

Water requirements for processing and domestic use.

Dewatering requirements, drainage control and impact on regional drainage.

W.A. Water Authority approvals sought and those already obtained.

Flora and Fauna

Extent of area to be disturbed, and whether any restricted, rare or endangered species are to be disturbed.

Waste Products

Method of management of wastes including domestic and sewerage. Commitment to waste dump and tailings dam management as per Department of Mines Guidelines.

Toxic Materials

Transport, storage and handling of all toxic materials.

Note: The transport and storage of certain materials requires the approval of the Explosives and Dangerous Goods Division of the Department.

Dust

Dust control methods for all phases of the operation. Both occupational health and environmental aspects must be addressed.

Noise

Noise control procedures for the various aspects of the project. Occupational noise levels and where appropriate community or environmental levels should be covered.

Rehabilitation

Commitment to undertake progressive and final rehabilitation and site clean up. Details of proposed rehabilitation and environmental management which will lessen impact of project during operations and following decommissioning.

SOCIAL IMPACTS

Aboriginal Sites

A commitment to abide by the provisions of the Aboriginal Heritage Act, extent of ethnographic and archaeological surveys carried out (if any), commitment to inform the WA Museum of any sites of Aboriginal Heritage significance discovered in the course of the development.

Heritage

Items of European Heritage value should be defined and a commitment to record, relocate or preserve such items as appropriate should be given.

Land Use

Impact on other land users in the vicinity. Pastoral leases, reserve land and town sites should receive particular attention. Any agreements reached should be acknowledged.

Social Environment

Positive and negative social impact of project for the region and State/Local Government opportunities should be highlighted.

5. NOTICE OF COMMENCEMENT

Prior to commencing mining operations notice shall be given by the owner or manager to the local District Inspector of Mines. Section 29 Mines Regulation Act.

Should you have particular enquiries or require further guidance in preparation of the mining proposal, you may discuss the matter with one of the Mining Engineering Inspectorate officers at the following centres:-

- ° COLLIE (097) 341 222
- ° KARRATHA (091) 868 243
- ° KALGOORLIE (090) 213 066
- ° PERTH (09) 222 3375

6. OTHER PUBLICATIONS AVAILABLE

- ° Guidelines for the preparation of a Development Proposal for Tailings Dams.
- ° Guidelines for Environmental Management Planning.
- ° Guidelines for Waste Dump design and rehabilitation.

CALM REQUIREMENTS FOR N.O.I.'s ON CALM LAND

(Additional to D.O.M. Requirements)
(30 July 1988)

1 INTRODUCTION

- Location - Outline status and purpose of reserves.
- Ownership - Include a plan and air photo with overlays showing tenements and project in relation to the reserve boundaries and features.
- Include copy of conditions currently applicable to mining tenements held and tenement status.
- History - Land use history.
- Project Justification - Describe benefits and disbenefits. Compare economic and social benefits of exploitation of mineral resource as opposed to other land uses and values.
- Justify why mining should occur within reserved land rather than on other land. Written advice on alternatives should be sought from Department of Mines.
- Describe proposed final land use.

2 EXISTING ENVIRONMENT (Environmental Inventory)

- Geomorphology - Soils - Include descriptions of soils with plan stratifying major soil types (air photography).
- Hydrology - Particular attention required to function of alluvial valley floors (sheet flow) and drainage channels in arid areas.
- Flora and Fauna - Recommended a consultant be engaged to described vegetation associations and determine conservation status of area on a regional basis, unless initial reconnaissance and joint assessment has indicated this is not required.
- Results of opportunistic and other surveys.
- Species to be listed in functional groups.
- Advise of fauna habitat value and significance of area.
- Aesthetic and Social Factors - Areas of unique interest or beauty.
- Recreation and Amenity values (inc. Views to and from, Visitor usage).

Conservation Status/Environmental Quality

- Uniqueness/ecological significance (extent of reservation of system). Occurrences of any rare plants or animals or unusual ecosystems or ecosystems of limited occurrence. Compare the area to be mined and disturbed with the remainder of the reserve and with other nearby reserves if relevant, ie, Regional overview of conservation resources.
- Condition (erosion/degradation/weeds).

3 PROJECT DESCRIPTION

- Access - Access roads, haul roads
- Existing and Final Landform - Include contour Plans showing existing landform and final landform. Include cross sectional diagrams.
 - Return to approximate final contours should be a primary objective. If not possible state case why not.
- Mining Method - Describe and show location of orebodies and sequence of mining, timing for 10 years or mine life. Using air-photo overlays show and describe proposals for all areas to be disturbed.
- Overburden & Tailings Management - Show location and design. Include plan and cross sectional diagrams showing construction and stabilization techniques and rehabilitation proposals.
- Water Management - Show what engineering will be undertaken to control erosion, sedimentation and manage water bodies. Describe use of saline waters.
- Topsoil Management - Include details of opportunities taken to utilize fresh topsoil.
- Fencing - Details.

4 ENVIRONMENTAL IMPACTS AND THEIR MANAGEMENT

- Summary of all unavoidable adverse impacts include:
 - Impact on the conservation status of flora, fauna landscape values.
 - Social and aesthetic impacts.
 - Impact from disease and weed introductions.
 - Hydrology, including modifications to sheet flow in arid environments.
 - Toxic materials/waste.

- Summary of positive impacts.
- Considerations of alternatives.
- Procedures to reduce or minimise impacts.

As per D.O.M. requirements plus:

- Rehabilitation objectives and standards (investigate potential for fauna habitat enhancement).
- Conceptual rehabilitation plan for mine life.
- Disease, weed, water management.
- Proposed prescriptions, techniques, species. Commitments to amend procedures should they prove unsatisfactory.
- Monitoring requirements, undertakings and methods.*
- Limits of adverse impacts.
 - Hydrology
 - Water quality
 - Dust, etc
- Maximum disturbed areas at any point in time.

* CALM requires an annual review and subsequent report on impact management and monitoring. These may require independent professional consultants depending on the circumstances and must include:

- fixed photo point monitoring
- review of previous years operations; Proposals for next 12 months
- proposals for corrective measures if required;
- next 12 months rehabilitation programme including prescriptions;
- rehabilitation area vs mined area audit.

Division 2—Public Reserves, etc.

Mining on public reserves, etc.

23. Subject to this Act, a mining tenement may be applied for in respect of any land, or land of a class, to which section 24 or section 25 applies (not being land that is already the subject of a mining tenement) but—

- (a) no mining shall be carried out on or under any such land otherwise than in accordance with a relevant consent obtained in relation to that land under section 24 or section 25; and
- (b) a mining tenement held in relation to such land by a person who—
 - (i) contravenes this section; or
 - (ii) is in breach of any term or condition to which a consent given under section 24 or section 25 is made subject,
 is liable to be forfeited,

and such land is only open for mining as provided in those sections and subject to such terms and conditions as are thereby imposed.

[Section 23 substituted by No. 100 of 1985 s. 16.]

Classification of reserves

24. (1) The classes of land to which this section applies are—

- (a) land that is in the South-West Division of the State as described in section 28 of the *Land Act 1933*, or in the municipal district of the Shire of Esperance or Ravensthorpe and that is reserved pursuant to Part III of that Act and classified as of Class "A" pursuant to that Part or so classified pursuant to any other Act;
- (b) any land comprised within—
 - (i) a national park, being land to which section 6 (3) of the *Conservation and Land Management Act 1984* applies;
 - (ii) a nature reserve, being land to which section 6 (4) of the *Conservation and Land Management Act 1984* applies and which is reserved pursuant to Part III of the *Land Act 1933* and classified as of Class "A" pursuant to that Part or so classified pursuant to any other Act;
 - or
 - (iii) a nature reserve, not being land to which section 6 (4) of the *Conservation and Land Management Act 1984* applies but which is reserved pursuant to Part III of the *Land Act 1933* for the conservation of flora or fauna, or

Vested NP's

'A' Class NR
Vested NPNCAs

'A' Class NR
Not Vested in
NPNCAs

both flora and fauna, and classified as of Class "A" pursuant to that Part or so classified pursuant to any other Act;

- | | |
|--|---|
| <p>(c) land reserved pursuant to Part III of the <i>Land Act 1933</i>, not being—</p> <p style="padding-left: 2em;">(i) land to which paragraph (a) or (b) of this subsection refers;</p> <p style="padding-left: 2em;">(ii) land reserved for mining or commons;</p> <p style="padding-left: 2em;">(iii) land reserved and designated for Public Utility for any purpose pursuant to that Part;</p> <p>(d) land that is a State forest or a timber reserve within the meaning of the <i>Conservation and Land Management Act 1984</i> or any Act repealing or replacing the relevant provisions of that Act;</p> <p>(e) land that is a water reserve or catchment area for the purposes of the <i>Metropolitan Water Supply, Sewerage, and Drainage Act 1909</i> or of the <i>Country Areas Water Supply Act 1947</i> or any other relevant Act within the meaning of that term as defined by section 5 of the <i>Water Authority Act 1984</i>, or of that Act;</p> <p>(f) land to which Part III of the <i>Aboriginal Affairs, Planning Authority Act 1972</i> applies; and</p> <p>(g) land that is reserved under any Act other than those Acts already referred to in this subsection.</p> | <p>Other Land Act Reserves—eg</p> <p>B & C Class NR</p> <p>5g CALM ACT</p> <p>Land Act Timber Reserves</p> <p>CALM Act SF & T</p> <p>Water Reserves</p> |
|--|---|

(2) (a) The Governor may, from time to time, by order in council, apply this section to any other land or class of land specified in the order in council and as from the date so specified this section shall apply to the extent and in the manner specified in the order in council.

(b) The Minister shall cause an order in council made pursuant to paragraph (a) to be laid on the table of each House of Parliament within 12 sitting days of its making and if either House does not pass a resolution disallowing such order in council within 12 sitting days of that House after the order in council has been laid before it the order in council shall have effect from the date of its making.

(3) (a) Subject to subsection (4) mining may be carried out on any land referred to in subsection (1) (a) or (b) with the written consent of the Minister who may refuse his consent or who may give his consent subject to such terms and conditions as the Minister specifies in the consent.

(b) Before giving his consent whether conditionally or unconditionally the Minister shall first consult with, and obtain the concurrence thereto, of the responsible Minister.

(4) No mining lease or general purpose lease shall be granted on any land referred to in subsection (1) (a) or (b) unless both Houses of Parliament by resolution consent thereto, and then only on such terms and conditions as are specified in the resolution.

'A' Class NP & NR

(5) (a) Mining on any land referred to in subsection (1) (c) may be carried out with the written consent of the Minister who may refuse his consent or who may give his consent subject to such terms and conditions as the Minister specifies in the consent.

B & C NR.
5g

(b) Before giving his consent whether conditionally or unconditionally the Minister shall first consult the responsible Minister and the council of the municipality, public body, or trustees or other persons in which the control and management of such land is vested with respect thereto, and obtain its or their recommendations thereon.

(6) (a) Mining may be carried out on any land referred to in subsection (1) (d) with the written consent of the Minister who may refuse his consent or who may give his consent subject to such terms and conditions as are specified in the consent.

SF
& TR

(b) Before giving his consent, whether conditionally or unconditionally the Minister shall first consult with, and obtain the concurrence thereto, of the responsible Minister.

(7) (a) Mining may be carried out on any land referred to in subsection (1) (e), (f) or (g) with the written consent of the Minister who may refuse his consent or who may give his consent, subject to such terms and conditions as are specified in the consent.

(b) Before giving his consent, whether conditionally or unconditionally, the Minister shall first consult the responsible Minister with respect thereto and obtain his recommendation thereon.

(c) The giving by the Minister of his consent under this subsection in relation to land referred to in subsection (1) (f) does not prevent or in any way affect the application of section 31 of the *Aboriginal Affairs Planning Authority Act 1972* to any person acting under that consent.

(8) The responsible Minister for the purposes of this section is the Minister for the time being charged with the administration of the land or the enactment to which the land is subject, and if in any case a question arises as to who is the responsible Minister under this section, the question shall be determined by the Governor whose decision shall be final.

[Section 24 amended by No. 122 of 1982 s. 7; No. 100 of 1985 s. 17 No. 105 of 1986 s. 8.]

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(2) In relation to any application for a mining tenement in respect of any land, or land of a class, to which section 24 or section 25 applies—

(a) land to which section 24 (1) (a) or (b) refers may be marked out only with the consent of the Minister and the responsible Minister; and

(b) land to which section 24 (1) (d) refers may be marked out only in accordance with such conditions and restrictions, if any, as are lawfully prescribed pursuant to section 128 (1) (h) of the *Conservation and Land Management Act 1984*,

but otherwise the land shall be marked out as a mining tenement in accordance with this Act.

JOINT WORKING ARRANGEMENTS
ML 70/13

- 1. Limestone Building Block Co. (The Lessee)
- 2. DEPT OF CONSERVATION AND LAND MANAGEMENT

1. Approval Stages - The Lessee shall consult with the District Manager, Wanneroo and receive written approval at the following stages:-

- 1.1 Before clearing or disturbing natural vegetation.
- 1.2 Before the removal and storage of topsoil and overburden.
- 1.3 Before recontouring and battering and the return of overburden and topsoil.

2. Annual Plans - An annual review of the operations by the Lessee is required by 1st June each year after on site consultation with the District Manager as to detail of content. The plan to show and describe where necessary:

- A. Past years operations, inc.
 - clearing (identify areas subject to compensation);
 - stockpile, locations;
 - rehabilitation (if any).
- B. Corrective measures for failed rehabilitation (detailing method).
- C. Operations proposed for the next 12 months, inc.
 - Areas to be cleared and topsoil stripped;
 - Locations of topsoil and overburden dumps;
 - Areas to be mined next 12 months;
 - Recontouring and rehabilitation proposals.

NOTE: A statement of the area subject to compensation is to be submitted to the District Manager Wanneroo by 1st June each year for checking. The District Manager will forward the statement to Finance Branch, Como. Finance Branch will invoice the Company at the rate of \$2158 per hectare. The rate will be adjusted annually, on June 30th each year, according to the C.P.I. for Perth.

3. Operational Guidelines

3.1 Topsoil and Overburden Handling

- Area covered with directly returned topsoil to be maximized.
- Topsoil to a depth of 150mm (6") is to be stripped and stored separately to overburden unless otherwise agreed with Conservation and Land Management (CALM).
- Topsoil and overburden to be located where it will only be handled once.

3.2 Recontouring/Landscaping

- Recontouring plans to be agreed with District Manager (in annual plans or separately).
- A minimum batter of 1 vertical to 4 horizontal (14°) unless otherwise agreed. Pit floor to have at least 1:100 fall.
- All large boulders to be buried in the batters.
- Final land surface should blend with the surrounding landscape character. Unnaturally appearing gouges, debris, piles and slopes must be removed by slope rounding, filling and surface moulding. Curved or indented walls in preference to long straight walls.
- If fill is imported from external sources it must be approved by the District Manager.

3.3 Return of Topsoil/Overburden

- Area to be inspected and approved by CALM prior to any return of topsoil, overburden.
- Pit floor to be ripped at 1m intervals to 0.5m prior to return of overburden/topsoil.
- Overburden and topsoil to be spread evenly.
- Surface to be lightly scarified on the contour if necessary.

3.4 Rehabilitation

- Fertilizer - 500kg per hectare superphosphate to be applied prior to seeding.
- Seeding - to be carried out in May. A specie list is to be prepared in consultation with the District Manager. Rate is 1.5kg mixed seed per hectare. Species which may be included:-
 - Eucalyptus gomphocephala (tuart);
 - Eucalyptus foecunda;
 - Agonis flexuosa;
 - Acacia lasiocarpa;
 - Acacia rostellifera;
 - Acacia cuneata;
 - Templetonia retusa;
 - Hardenbergia comptoniana;
 - Dryandra sessilis;
 - Melaleuca heugelii;
 - Melaleuca acerosa;
 - Hakea trifurcata;
 - Grevillea crithmifolia;
 - Grevillea vestita;
 - Calothamnus quadrifolius.

- Planting - In addition to seeding hand planting of tuart is required. District Manager to advise technique.

- Rate: 600 trees per hectare

- Randomly spaced (no straight lines).

Planting of other species in the following year may be required if failures occur.

Signed:



For Limestone Building Block Co.

Date 7-6-88



For Executive Director
Department of Conservation
and Land Management.

Date 8-8-88

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DEPARTMENT OF CONSERVATION AND LAND MANAGEMENT
THE PETROLEUM ACT - 1967
CONDITIONS FOR EXPLORATION IN CONSERVATION LANDS
(INCLUDING ISLAND RESERVES)

Planning and Approvals

1. The licensee to prepare a detailed programme for each phase of proposed exploration for approval of the Petroleum Division in agreement with the Regional Manager, Department of Conservation and Land Management (CALM) prior to any disturbance to vegetation. This programme to include:
 - (i) Maps and/or aerial photographs showing the proposed locations of all roads, tracks, camps, drill sites, mud disposal techniques and other disturbances;
 - (ii) The Purpose, specifications construction techniques and life of such roads, tracks, disturbances etc. Include assessment of alternatives (low impact methods).
 - (iii) Descriptions of all vegetation types, land forms, and unusual features intersected by such proposed disturbances. The Regional Manager specifying the level of vegetation description;
 - (iv) Proposals which may disturb any declared rare or geographically restricted flora and fauna;
 - (v) Techniques, prescriptions, and target dates for rehabilitation of all proposed disturbances;
 - (vi) Undertakings for corrective measures for failed rehabilitation;
 - (vii) Details of water requirements from within the reserve;
 - (viii) Details of refuse disposal; and
 - (ix) Proposals for training and supervision of personnel and contractors in respect to environmental conditions.

Rehabilitation

2. The licensee at his expense, rehabilitating all areas cleared or otherwise disturbed to the satisfaction of the Petroleum Division in agreement with the Regional Manager, CALM.
3. Prior to the cessation of exploration activity the licensee notifying the Petroleum Division and the Regional/District Manager CALM and arranging an inspection as required.

Reporting

4. The licensee to, at agreed intervals and not greater than 12 monthly, submit reports to the Petroleum Division and the Regional Manager CALM on the progress of the operation and rehabilitation programme.

Compliance with Acts etc.

5. The licensee and its contractors and sub-contractors complying with and ensuring that all persons under its control operating in the licence area are aware of and comply with:
- (i) the current Australian Petroleum Exploration Association (APEA) codes of environmental practice;
 - (ii) the Department of Mines Guidelines for Onshore Seismic Operations;
 - (iii) the Conservation and Land Management Act, 1984 and the Regulations thereunder;
 - (iv) the Bush Fires Act, 1959 and the Regulations thereunder; and
 - (v) the Wildlife Conservation Act, 1950 as amended and the Regulations thereunder (excepting Regulations 46a, b, c, d, j, l and o, insofar as non-compliance occurs as an unavoidable incident or reasonable consequence in the performance of the approved exploration programme).

General Provisions

6. All vehicles and equipment entering the reserve must be free of soil and plant propagules and the licensee adhering to such conditions as specified by the Regional/District Manager, CALM, for the prevention of the introduction of exotic plants and animals and the spread of soil born diseases.
7. The Regional/District Manager CALM being supplied with an itinerary and programme of the locations of operations on the licence area and informed at least seven days in advance of any changes to that itinerary.
8. Provisions being made to prevent spillage of fuel and discharge of pollutants generally and for all exploration sites being kept free from any rubbish and being left in a clean and tidy state.
9. No soap, detergent or other foaming agent being used in any water course or rockhole nor any rubbish or other polluting material being deposited in any water course or rockhole.

10. Domestic animals or firearms not being taken onto the Reserve.
11. Such further conditions for protection of the land environment and rehabilitation of the land as the Minister for Minerals and Energy may from time to time impose.
12. The licensee not establishing any camp, base works or area, fuelling depot or similar establishment on the licence area unless the site and access has received prior approval of the Regional Manager, CALM.
13. Access to and from and the movement of vehicles within the licence area being restricted to roads and tracks approved under the programme or otherwise agreed by the Regional Manager CALM.

Optional Conditions

1. The licensee at his expense rehabilitating specified areas disturbed by previous petroleum exploration activity to the satisfaction of the Petroleum Division in consultation with the Regional Manager, CALM.
2. No exploration within without the written approval of the Director Petroleum Division who shall consult with the Executive Director, CALM.

To: DISTRICT MANAGER

Your Ref:

Our Ref:

Enquiries:

Phone:

Subject: PRO-FORMA FOR ASSESSING APPLICATIONS FOR PROSPECTING AND
EXPLORATION LICENCES

The Minister has reviewed his needs in determining the merits of mining applications. To assist, would you please provide the following information in brief, general terms.

1. Land Tenure, Proposals
2. Land Description and Condition
Vegetation and landform in general terms.
3. Conservation Status
 - Include knowledge of rare species, unique communities, historic value, general condition, relative importance.
 - Advise areas of high conservation value on which mining should be opposed. Give reasons:-
4. Effects of Exploration (given available information).
5. Recommendations and Non-standard Conditions
6. Known Alternative Sources, Including Existing Mining, Private Property etc.