

Heavy Minerals Mine at Jangardup — Change to environmental conditions

Cable Sands (W.A.) Pty. Ltd.

**Report and recommendations
of the Environmental Protection Authority**

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Summary

This report is to provide the Environmental Protection Authority (EPA) advice and recommendations to the Minister for the Environment on the environmental factors relevant to a proposal by Cable Sands (WA) Pty Ltd to modify the approvals relating to the company's existing mining operations at Jangardup, approximately 47 kilometres south of Nannup.

It is the EPA's opinion, based on the submissions from people and organisations listed in Appendix 2 and on the references in Appendix 3, that there is one environmental factor relevant to the proposal, which is:

- noise (road transportation)

In the EPA's opinion, the modified project should be subject to the following conditions if implemented:

- (a) the existing Ministerial conditions, except where the following recommendations supercede those conditions;
- (b) the additional commitments made in the Section 46 document; and
- (c) changes to the proposal which are not substantial should be carried out with the approval of the Minister for the Environment.

The EPA submits the following recommendations:

Recommendation 1

That the Minister for the Environment note the relevant environmental factor and the objective for that factor, as set out in Section 3 of this report.

Recommendation 2

That subject to the satisfactory implementation of the EPA's recommended conditions and procedures (Section 4) including the proponent's environmental management commitments, the proposed increase in mineral concentrate throughput from 271 000 tonnes to 410 000 tonnes annually can be managed to meet the EPA's objectives.

Recommendation 3

That the Minister for the Environment imposes the conditions and procedures set out in Section 4 of this report.

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1. Introduction and background

This report is to provide the Environmental Protection Authority (EPA) advice and recommendations to the Minister for the Environment on the environmental factors relevant to a proposal by Cable Sands (WA) Pty Ltd (Cable Sands) to modify the approvals relating to the company's existing mining operations at Jangardup, approximately 47 kilometres south of Nannup.

The heavy minerals mine at Jangardup has been previously assessed by the EPA at the level of Environmental Review and Management Programme (ERMP). The EPA published its report and recommendations to the Minister for the Environment for the mine (EPA, 1990a) during January 1990 and a statement of environmental approval, with conditions, was issued on 19 July 1990.

The mine commenced production in June 1994. During 1996 the proponent proposed to increase the annual mineral concentrate throughput of the mine from the approved 271 000 tonnes per annum to 410 000 tonnes per annum, as described in the proponent's Section 46 document (Cable Sands, 1997a). Cable Sands would retain the current trucking regime when using the haulage route through Nannup, but would increase the trucking frequency when using the purpose built heavy minerals haulage route (via Stewart Road west, Brockman Highway east and using Sues Road) (Cable Sands, 1997b).

Further information on the proposal is given in Section 2 of this report. Section 3 discusses environmental factors relevant to the proposal.

Recommended conditions and procedures to which the proposal should be subject if the Minister determines that the proposed changes may be implemented are set out in Section 4. Section 5 presents the EPA's recommendations to the Minister.

Appendix 1 provides maps relating to the proposed changes. A list of the people and organisations that made submissions in response to the proponent's Section 46 document is included in Appendix 2, and published information referenced in the report is listed in Appendix 3. Appendix 4 contains the environmental conditions and commitments currently applying to the project and Appendix 5 contains the EPA's recommended conditions arising from the proposed project modifications.

A summary of the public comments, Cable Sands' response to these comments and additional commitments are published separately by Cable Sands.

2. The proposal

The approved project, as assessed by the EPA during 1990, is to mine and process an average of 271 000 tonnes of heavy mineral concentrate per year. The concentrate is then trucked from the mine to Bunbury via Black Point Road, Stewart Road and the Vasse and Bussell Highways (Appendix 1: Figure 1). The approved trucking regime is for a maximum 56 truck trips (full plus empty) per week day. Weekend and public holiday transport requires prior approval of the Shire of Nannup. Cable Sands currently implement a trucking regime involving 44 truck trips (full plus empty) per week day within a 13 hour period on the day.

Cable Sands is seeking to modify the approved project in two ways, by:

- increasing the heavy mineral concentrate production rate from 271 000 tonnes annually to a maximum of 410 000 tonnes annually; and
- inclusion of a non-substantial change clause in the environmental approval.

Table 1 summarises the key project characteristics of the approved project and the proposed modifications.

Table 1. Summary of proposed project modifications

Project characteristic	Current approved project	Proposed modifications
Planned life of mine	8 years	8 years
Total extraction of ore (life of mine)	30 million tonnes	30 million tonnes
Heavy mineral concentrate production	271 000 tonnes per year	410 000 tonnes per year
Heavy mineral concentrate transport		
<ul style="list-style-type: none"> • normal transport route 	<ul style="list-style-type: none"> • Black Point Road, Stewart Road and the Vasse and Bussell Highways 	<ul style="list-style-type: none"> • Stewart Road west, Brockman Highway east and using Sues Road to connect with Bussell Highway
<ul style="list-style-type: none"> • truck movements (maximum) 	<ul style="list-style-type: none"> • 56 (full plus empty) per weekday only 	<ul style="list-style-type: none"> • unrestricted number, weekdays only (expect 85 per week)

It should be noted that the existing environmental approval requires Cable Sands to commence use of the alternate trucking route from Jangardup to Bunbury via the purpose-built heavy minerals haulage route, and in accordance with the approved trucking programme. The Section 46 document (Cable Sands 1997a) shows that the Company is not seeking to change to these particular approvals. Whilst the EPA has considered this information, it is inappropriate for the EPA to reassess the company's use of the alternate route or the trucking programme.

3. Environmental factors

As outlined in the Section 46 document (Cable Sands 1997a) the increase in mineral concentrate production is a direct consequence of the ore body's variable concentration. There is no proposal to increase the rate of mining or clearing. An issue of this nature can normally be addressed through the "Implementation" clause where changes to the proposal which are not substantial may be carried out with the approval of the Minister for the Environment. The provisions under Part V of the *Environmental Protection Act 1986* are applicable to the increase in mineral concentrate production.

3.1 Relevant environmental factors

It is the EPA's opinion, based on the submissions from people and organisations listed in Appendix 2 and on the references in Appendix 3, that there is one environmental factor relevant to the proposal, which is:

- noise (road transportation)

This factor is addressed below.

3.2 Noise (road transportation)

Information

The proposed change will increase the total amount of mineral concentrate available for transport each year, thereby increasing the number of return trips made by haulage trucks in transporting the mineral concentrate from the mine to Bunbury. There is the potential for increasing the noise impact in the areas surrounding the transport route.

Cable Sands currently transport mineral concentrate from the mine to Bunbury via Black Point Road, Stewart Road and the Vasse and Bussell Highways (Appendix 1 Figure 1). Restrictions are applied to the haulage of mineral sands along this route as a consequence of the noise and social impacts arising from this activity, particularly on the town site of Nannup.

Cable Sands have approval for a maximum of 56 truck trips (full plus empty) per week day, operating over a 13 hour period taking into account the movement of school buses. Weekend transporting of mineral concentrate can only take place with the prior approval of the Shire of Nannup.

Assessment

The area considered for assessment of this relevant environmental factor is the area within 450 metres¹ of the mineral sands haulage route from Jangardup to Bunbury via Black Point Road, Stewart Road and the Vasse and Bussell Highways, as this is the area which would be affected by any increase in noise from the haulage of mineral sands.

The EPA's objective in regard to this environmental factor is "to ensure that the noise levels generated by the project meet acceptable standards".

The EPA notes Cable Sands' commitment to retain the current trucking regime of 11 trucks making 2 loaded trips per week day (equivalent of 44 truck trips) from the mine to Bunbury when using the haulage route from Jangardup to Bunbury via Black Point Road, Stewart Road and the Vasse and Bussell Highways (Cable Sands, 1997b).

The EPA also notes that Cable Sands have received approval from the Minister for the Environment to transport mineral sands along the recently opened purpose-built haulage route (Minister for the Environment, 1997). This alternate route is via Stewart Road west, Brockman Highway east and using Sues Road to connect to Bussell Highway, and that it is Cable Sands' intention to use this alternate route as the normal route from Jangardup to Bunbury (Cable Sands, 1997b).

The alternate route was subject to a separate environmental impact assessment and was reported on by the EPA during 1990, 1991 and 1996 (EPA 1990b, EPA 1991, EPA 1996).

Having particular regard to:

- (a) existing environmental conditions and commitments relating to road transport;
- (b) Cable Sands' new commitment to retain current transport frequencies along the Black Point Road, Stewart Road and the Vasse and Bussell Highways route when that route is used; and
- (c) Cable Sands' new commitment to use the Stewart Road west, Brockman Highway east and using Sues Road to connect to Bussell Highway, as the normal route,

it is the EPA's opinion that the increase in annual mineral concentrate throughput is unlikely to compromise its objective in regard to noise (road transport).

¹ Proposed *Environmental Protection (Noise) Regulations 1997*, In accordance with Schedule 3 section 2, all activities within 450 metres of the noise sensitive premises are considered to have an influencing factor on the noise received at that point.

4. Conditions and procedures

4.1 Conditions

In the EPA's opinion, the modified project should be subject to the following conditions if implemented:

- (a) the existing Ministerial conditions applied to the project (Ministerial Statement 103, 19 July 1990), subject to the modification of Condition 1 as set out in (b), and the updating of the conditions into the currently accepted format by including a condition related to the implementation of the proposal and non-substantial changes as set out in (c);
- (b) Cable Sands' additional commitments made in the Section 46 document (Cable Sands 1997b) should be made enforceable conditions; and
- (c) Changes to the proposal which are not substantial should be carried out with the approval of the Minister for the Environment.

4.2 Procedures

In the EPA's opinion, the modified project should be subject to the following procedures if implemented:

- (a) Provisions under Part V of the *Environmental Protection Act 1986* are applicable.

5. Recommendations

The EPA submits the following recommendations:

Recommendation 1

That the Minister for the Environment note the relevant environmental factor and the objective for that factor, as set out in Section 3 of this report.

Recommendation 2

That subject to the satisfactory implementation of the EPA's recommended conditions and procedures (Section 4) including the proponent's environmental management commitments, the proposed increase in mineral concentrate throughput from 271 000 tonnes to 410 000 tonnes annually can be managed to meet the EPA's objectives.

Recommendation 3

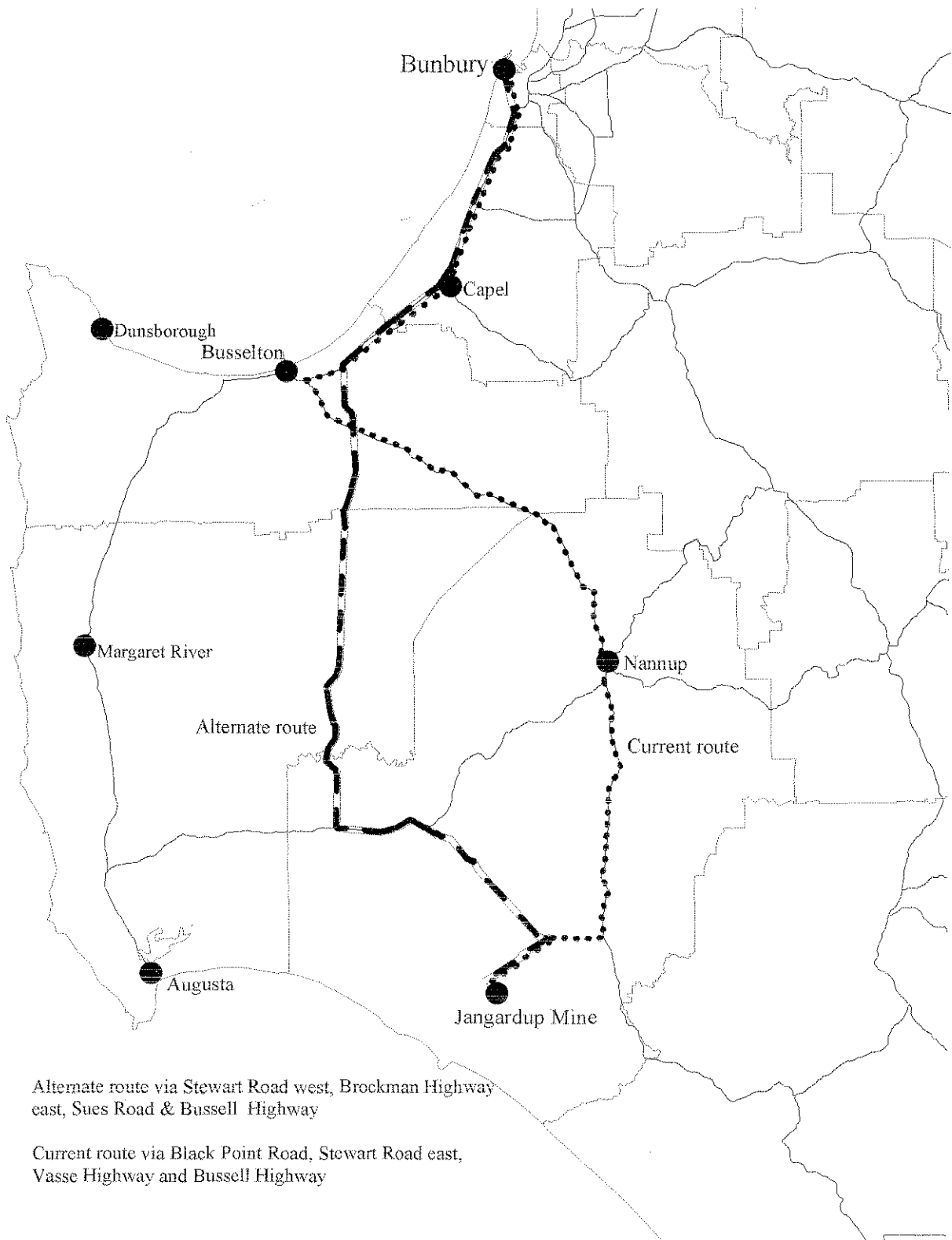
That the Minister for the Environment imposes the conditions and procedures set out in Section 4 of this report.

Table 2. Summary of relevant environmental factors, EPA objectives, project characteristics, proponent's commitments and EPA opinion

Relevant Environmental Factor	EPA Objective	Project characteristic	Proponent Commitments	EPA's Opinion
<i>Pollution</i>				
Noise (road transportation)	To ensure that the noise levels generated by the project meet acceptable standards.	Current trucking regime of 11 trucks making 2 loaded trips per week day when using the route via Black Point Road, Stewart Road and the Vasse and Bussell Highways. Future trucking regime of unrestricted number of trips, weekdays only when using the route via Stewart Road west, Brockman Highway east and using Sues Road to connect with Bussell Highway	To retain the current trucking regime whilst using this route. To use the alternate route as the normal route once appropriate approvals are obtained.	The proposed project modifications are unlikely to compromise the EPA's objective.

Appendix 1

Figures





Alternate route via Stewart Road west, Brockman Highway east, Sues Road & Bussell Highway

Current route via Black Point Road, Stewart Road east, Vasse Highway and Bussell Highway



0 20 40 Kilometers

 Roads - Main (WA)
 Local Government Authority Boundaries



1:725083

Figure 1 Mineral concentrate transport routes from the Jangardup mine to Bunbury

Appendix 2

List of people and organisations that made submissions

Non-government organisations

Denmark Environment Centre Inc

State government agencies

Bunbury Water and Rivers Commission - South West Region

Water and Rivers Commission - Management Planning

Appendix 3

References

Cable Sands 1997a, *Jangardup Heavy Mineral Mine Change of Ministerial Conditions*, March 1997, Cable Sands (WA) Pty Ltd 1997.

Cable Sands 1997b, *Response to submissions from the public review of the Section 46 Change of Ministerial Conditions for the Jangardup Heavy Minerals Mine*, April 1997, Cable Sands (WA) Pty Ltd 1997.

Environmental Protection Authority 1990a, *Heavy Minerals Mine at Jangardup: Report and Recommendations of the Environmental Protection Authority, Bulletin 422*, Environmental Protection Authority, Perth, Western Australia.

Environmental Protection Authority 1990b, *Heavy Minerals Mine - Beenup: Report and Recommendations of the Environmental Protection Authority, Bulletin 483*, Environmental Protection Authority, Perth, Western Australia.

Environmental Protection Authority 1991, *Mineral Sands Road Study - Sues Road to Capel: Report and Recommendations of the Environmental Protection Authority, Bulletin 573*, Environmental Protection Authority, Perth, Western Australia.

Environmental Protection Authority 1996, *Beenup Titanium Minerals Project (formerly Beenup Mineral Sands) - Change to environmental conditions: Report and Recommendations of the Environmental Protection Authority, Bulletin 815*, Environmental Protection Authority, Perth, Western Australia.

Minister for the Environment 1997, *Heavy Minerals Mine at Jangardup (Statement 103): Trucking Programme for the Alternative Route from Jangardup to Bunbury via Stewart Road west, Brockman Highway east and using Sues Road*, unpub.

Appendix 4

Existing environmental conditions applying to the project



WESTERN AUSTRALIA
MINISTER FOR THE ENVIRONMENT

STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED
(PURSUANT TO THE PROVISIONS OF THE ENVIRONMENT
PROTECTION ACT 1986)

PROPOSED HEAVY MINERALS MINE AT JANGARDUP

This proposal may be implemented subject to the following conditions:

1. The proponent shall adhere to the proposal as assessed by the Environmental Protection Authority and shall fulfil the commitments made in the Environmental Review and Management Programme and as subsequently modified (copy of commitments attached).
2. Prior to commencement of product haulage operations, the proponent shall develop a more detailed environmental and social analysis for alternative haulage options and propose a heavy mineral transport programme, satisfactory to the Minister for the Environment on advice from the Environmental Protection Authority, the Department of Transport, the Department of Conservation and Land Management and the Main Roads Department. In the course of developing the transport option, the proponent shall ensure an adequate level of public consultation.
3. The proponent shall ensure that there are no environmentally significant detrimental effects from the mining operation on the vegetation or groundwater quality or levels within adjacent National Park, State Forest and private lands. Accordingly, the proponent shall adhere to the following management requirements, to the satisfaction of the Minister for the Environment on advice from the Environmental Protection Authority, the Water Authority of Western Australia and the Department of Conservation and Land Management:
 - initial mining operations shall commence at a point remote from adjacent properties; and
 - prior to commencement of dredge pond construction, the proponent shall prepare and implement a groundwater management strategy and a programme to monitor vegetation, groundwater levels and groundwater quality; and
 - should this programme identify any adverse effects, the proponent shall report these immediately to the Environmental Protection Authority, together with a plan of remedial action; and
 - operations which would result in a level of groundwater drawdown in excess of half a metre at the boundary of adjacent private properties, National Park or State Forest, shall be confined to the months of May to September.
4. Prior to any operations involving the movement of earth, including gravel extraction for road construction, the proponent shall prepare and subsequently implement a dieback hygiene programme, in consultation with the Department of Conservation and Land Management and to the satisfaction of the Minister for the Environment on advice from the Environmental Protection Authority. The dieback hygiene programme shall be available for public viewing.
5. Prior to commencement of mining, the proponent shall prepare rehabilitation plans to the satisfaction of the Minister for the Environment on advice from the Environmental Protection Authority, the Department of Conservation and Land Management and the Department of Agriculture. The rehabilitation plans shall be available to the public following examination by the Environmental Protection Authority.

Published on

120 JUL 1990
191

During mining, the rehabilitation plans shall be reviewed annually and continuously implemented to the satisfaction of the Minister for the Environment on advice from the Environmental Protection Authority and the Departments of Conservation and Land Management and Agriculture.

Rehabilitation of State Forest shall be planned and implemented in consultation with the Department of Conservation and Land Management.

Rehabilitation of private lands shall be planned and implemented in consultation with the landowner and the Commissioner of Soil Conservation. Disturbed agricultural lands shall be rehabilitated to a use which is environmentally stable.

6. Following the commencement of rehabilitation, the proponent shall implement a rehabilitation monitoring and maintenance programme until such time as the rehabilitation is self-sustaining, to the satisfaction of the Minister for the Environment on the advice of the Environmental Protection Authority. The proponent shall perform audits annually and forward the results to the Department of Mines, the Environmental Protection Authority and other involved agencies. These reports on rehabilitation shall be available to the public following examination by the Environmental Protection Authority.
7. The proponent shall be responsible for removal of the plant, all equipment and installations and rehabilitating the site and its environs to the satisfaction of the Environmental Protection Authority.
8. The proponent shall, at least six months prior to ceasing mining operations, prepare a decommissioning and rehabilitation plan to the satisfaction of the Environmental Protection Authority.
9. No transfer of ownership, control or management of the project which would give rise to a need for the replacement of the proponent shall take place until the Minister has advised the proponent that approval has been given for the nomination of a replacement proponent. Any request for the exercise of that power of the Minister shall be accompanied by a copy of this statement endorsed with an undertaking by the proposed replacement proponent to carry out the project in accordance with the conditions and procedures set out in the statement.



Bob Pearce, MLA
MINISTER FOR THE ENVIRONMENT

19 July 1987

SUMMARY OF PROPONENT'S COMMITMENTS MODIFIED TO ACCOMMODATE TRANSPORTATION ISSUES

1. Cable Sands agrees to comply with the relevant statutory requirements of both the State of Western Australian and the Commonwealth of Australia.
2. Site preparation prior to mining will be as described in this ERMP.
3. The mining operations and the heavy minerals separation process will comply with the descriptions presented in this ERMP.
4. All topsoil will be used for covering restored landforms, and there will be no loss of topsoil.
5. Rehabilitation will be fully integrated with mine production and it will be undertaken continuously, some one to two months behind the dredging front. Rehabilitation will comply with the guidelines presented in this ERMP.
6. Cable Sands will be operating in the area for many years and will maintain the responsibility for rehabilitation until the defined endpoints are achieved. Successful rehabilitation will be determined by the Department of Mines, using the endpoints outlined in this ERMP. The endpoints will be accepted by Cable Sands as a condition.
7. Water usage, electricity generation, access roads, and sewerage and rubbish disposal will be carried out as described in this ERMP and will not be varied greatly without prior consultation with the authorities.
8. All workers will be kept within radiation standards set by the Department of Mines for the heavy minerals mining industry in compliance with the Australian Code of Practice on radiation protection in the mining and milling of radioactive ores of 1987.
9. Every effort will be made to protect regrowth of plants on the rehabilitated areas from fire and weed encroachment.
10. Part of the rehabilitation process will be to create a range of habitat types.
11. In the event that material of Aboriginal origin is uncovered during the operations, all work will cease within that area and the Western Australian Museum will be called upon to advise.
12. Dust and noise levels will be kept below the standards which are currently set for the mining industry.
13. Groundwater levels and the quality of groundwater around the dredge pond and the production bore will be monitored by Cable Sands. All data will be analysed and should there be any evidence of unacceptable changes, action will be implemented immediately to avoid any harmful changes to the water regimes of the area. The authorities will be notified immediately.
14. Monitoring of the rehabilitation will be undertaken by Cable Sands and reported annually to the Department of Mines, the Department of Conservation and Land Management and the Environmental Protection Authority.

SUMMARY OF PROPONENT'S ADDITIONAL COMMITMENTS

These additional commitments are related to the issues raised in public submissions (Appendix B) as noted in brackets, and modified subsequently in response to transportation requirements.

- A1. The contribution of funds to encourage the establishment of extra houses in Nannup (Issue 23).
 - A2. Prior to mining the ponds area, checking for the existence of aquatic fauna outside the area to be mined (Issue 56).
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WESTERN AUSTRALIA
MINISTER FOR THE ENVIRONMENT

STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED
(PURSUANT TO THE PROVISIONS OF THE ENVIRONMENT
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2. Prior to commencement of product haulage operations, the proponent shall develop a more detailed environmental and social analysis for alternative haulage options and propose a heavy mineral transport programme, satisfactory to the Minister for the Environment on advice from the Environmental Protection Authority, the Department of Transport, the Department of Conservation and Land Management and the Main Roads Department. In the course of developing the transport option, the proponent shall ensure an adequate level of public consultation.
3. The proponent shall ensure that there are no environmentally significant detrimental effects from the mining operation on the vegetation or groundwater quality or levels within adjacent National Park, State Forest and private lands. Accordingly, the proponent shall adhere to the following management requirements, to the satisfaction of the Minister for the Environment on advice from the Environmental Protection Authority, the Water Authority of Western Australia and the Department of Conservation and Land Management:
 - initial mining operations shall commence at a point remote from adjacent properties; and
 - prior to commencement of dredge pond construction, the proponent shall prepare and implement a groundwater management strategy and a programme to monitor vegetation, groundwater levels and groundwater quality; and
 - should this programme identify any adverse effects, the proponent shall report these immediately to the Environmental Protection Authority, together with a plan of remedial action; and
 - operations which would result in a level of groundwater drawdown in excess of half a metre at the boundary of adjacent private properties, National Park or State Forest, shall be confined to the months of May to September.
4. Prior to any operations involving the movement of earth, including gravel extraction for road construction, the proponent shall prepare and subsequently implement a dieback hygiene programme, in consultation with the Department of Conservation and Land Management and to the satisfaction of the Minister for the Environment on advice from the Environmental Protection Authority. The dieback hygiene programme shall be available for public viewing.
5. Prior to commencement of mining, the proponent shall prepare rehabilitation plans to the satisfaction of the Minister for the Environment on advice from the Environmental Protection Authority, the Department of Conservation and Land Management and the Department of Agriculture. The rehabilitation plans shall be available to the public following examination by the Environmental Protection Authority.

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Rehabilitation of State Forest shall be planned and implemented in consultation with the Department of Conservation and Land Management.

Rehabilitation of private lands shall be planned and implemented in consultation with the landowner and the Commissioner of Soil Conservation. Disturbed agricultural lands shall be rehabilitated to a use which is environmentally stable.

6. Following the commencement of rehabilitation, the proponent shall implement a rehabilitation monitoring and maintenance programme until such time as the rehabilitation is self-sustaining, to the satisfaction of the Minister for the Environment on the advice of the Environmental Protection Authority. The proponent shall perform audits annually and forward the results to the Department of Mines, the Environmental Protection Authority and other involved agencies. These reports on rehabilitation shall be available to the public following examination by the Environmental Protection Authority.
7. The proponent shall be responsible for removal of the plant, all equipment and installations and rehabilitating the site and its environs to the satisfaction of the Environmental Protection Authority.
8. The proponent shall, at least six months prior to ceasing mining operations, prepare a decommissioning and rehabilitation plan to the satisfaction of the Environmental Protection Authority.
9. No transfer of ownership, control or management of the project which would give rise to a need for the replacement of the proponent shall take place until the Minister has advised the proponent that approval has been given for the nomination of a replacement proponent. Any request for the exercise of that power of the Minister shall be accompanied by a copy of this statement endorsed with an undertaking by the proposed replacement proponent to carry out the project in accordance with the conditions and procedures set out in the statement.



Bob Pearce, MLA
MINISTER FOR THE ENVIRONMENT

19 July 1980

SUMMARY OF PROPONENT'S COMMITMENTS MODIFIED TO ACCOMMODATE TRANSPORTATION ISSUES

1. Cable Sands agrees to comply with the relevant statutory requirements of both the State of Western Australian and the Commonwealth of Australia.
2. Site preparation prior to mining will be as described in this ERMP.
3. The mining operations and the heavy minerals separation process will comply with the descriptions presented in this ERMP.
4. All topsoil will be used for covering restored landforms, and there will be no loss of topsoil.
5. Rehabilitation will be fully integrated with mine production and it will be undertaken continuously, some one to two months behind the dredging front. Rehabilitation will comply with the guidelines presented in this ERMP.
6. Cable Sands will be operating in the area for many years and will maintain the responsibility for rehabilitation until the defined endpoints are achieved. Successful rehabilitation will be determined by the Department of Mines, using the endpoints outlined in this ERMP. The endpoints will be accepted by Cable Sands as a condition.
7. Water usage, electricity generation, access roads, and sewerage and rubbish disposal will be carried out as described in this ERMP and will not be varied greatly without prior consultation with the authorities.
8. All workers will be kept within radiation standards set by the Department of Mines for the heavy minerals mining industry in compliance with the Australian Code of Practice on radiation protection in the mining and milling of radioactive ores of 1987.
9. Every effort will be made to protect regrowth of plants on the rehabilitated areas from fire and weed encroachment.
10. Part of the rehabilitation process will be to create a range of habitat types.
11. In the event that material of Aboriginal origin is uncovered during the operations, all work will cease within that area and the Western Australian Museum will be called upon to advise.
12. Dust and noise levels will be kept below the standards which are currently set for the mining industry.
13. Groundwater levels and the quality of groundwater around the dredge pond and the production bore will be monitored by Cable Sands. All data will be analysed and should there be any evidence of unacceptable changes, action will be implemented immediately to avoid any harmful changes to the water regimes of the area. The authorities will be notified immediately.
14. Monitoring of the rehabilitation will be undertaken by Cable Sands and reported annually to the Department of Mines, the Department of Conservation and Land Management and the Environmental Protection Authority.

SUMMARY OF PROPONENT'S ADDITIONAL COMMITMENTS

These additional commitments are related to the issues raised in public submissions (Appendix B) as noted in brackets, and modified subsequently in response to transportation requirements.

- A1. The contribution of funds to encourage the establishment of extra houses in Nannup (Issue 23).
 - A2. Prior to mining the ponds area, checking for the existence of aquatic fauna outside the area to be mined (Issue 56).
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Appendix 5

EPA's Recommended environmental conditions

PROPOSAL: HEAVY MINERALS MINE AT JANGARDUP
(116/1041)

CURRENT PROPONENT: CABLE SANDS (WA) PTY LTD

ORIGINAL CONDITIONS SET ON: 19 JULY 1990

The EPA recommends that the implementation of this proposal be subject to the conditions contained in Ministerial Statement 103, subject to the amendment and addition of the following conditions and procedures:

Condition 1 is amended to read as follows:

1 Proponent Commitments

The proponent has made a number of environmental management commitments in order to protect the environment.

- 1-1 In implementing the proposal (including the documented modifications of March 1997), the proponent shall fulfil the relevant environmental management commitments made in the Environmental Review and Management Programme (June 1989) and reported on in Environmental Protection Authority Bulletin 422, in the Section 46 document (March 1997), and in response to issues raised following public submissions; provided that the commitments are not inconsistent with the conditions or procedures contained in this statement.

In the event of any inconsistency, the conditions and procedures shall prevail to the extent of the inconsistency.

The consolidated environmental management commitments of July 1990, as modified on 5 June 1997, are attached.

Condition 10, Procedures 1 and 2, and Notes 1 and 2 are added following condition 9:

10 Implementation

Changes to the proposal which are not substantial may be carried out with the approval of the Minister for the Environment.

- 10-1 Subject to these conditions, the manner of detailed implementation of the modified proposal shall conform in substance with that set out in any designs, specifications, plans or other technical material submitted by the proponent to the Environmental Protection

Authority initially with the proposal and subsequently in March 1997, as part of further consideration under Section 46 of the *Environmental Protection Act 1986*.

- 10-2 Where, in the course of the detailed implementation referred to in condition 10-1, the proponent seeks to change the designs, specifications, plans or other technical material submitted to the Environmental Protection Authority in any way that the Minister for the Environment determines, on the advice of the Environmental Protection Authority, is not substantial, those changes may be effected.

Procedure

- 1 Unless otherwise specified, the Department of Environmental Protection is responsible for assessing compliance with the conditions contained in this statement and for issuing formal clearance of conditions.
- 2 Where compliance with any condition is in dispute, the matter will be determined by the Minister for the Environment.

Note

- 1 The Environmental Protection Authority reported on the proposal in Bulletin 422 (January 1990) and Bulletin *** (June 1997).
- 2 The proponent is required to apply for a Works Approval, Licence or Registration for this project under the provisions of Part V of the *Environmental Protection Act 1986*.