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FRASER ISLAND
ENVIRONMENTAL INQUIRY

First Report
by the
Commission of Inquiry
November 1975

Australian Government Publishing Service
Canberra 1976



Published under the
Environment Protection (Impact
Assessment and Compensation
Arrangements) Act 1974

FRASER ISLAND ENVIRONMENTAL INQUIRY

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Dear Minister,

On 12 July 1975, we were appointed to conduct an Inquiry into the environmental aspects of the making of decisions by the Australian Government in relation to the export of minerals extracted from Fraser Island.

We have the honour to submit herewith our first Report.

Yours faithfully,

A. B. Hicks
(A. B. Hicks)
Commissioner

John Hookey
(John Hookey)
Presiding Commissioner

The Hon. A. S. Peacock, M.P.,
Minister of State for Environment,
Parliament House,
CANBERRA 2600

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SUMMARY

This first Report of the Commission of Inquiry on the environmental aspects of the making of decisions by the Australian Government in relation to the export of minerals extracted from Fraser Island is primarily related to the environmental aspects of the making of a decision whether to grant twelve months' blanket approval to D. M. Minerals for the export of minerals extracted from Mining Lease 102 and/or 95.

The Commission recommends that:

- (1) All decisions within the terms of the Direction dated 12 July 1975 of an executive or administrative nature relating to the review of D. M. Minerals' export contract, and, in particular, any proposed decision as to whether to grant blanket approval for the exportation of minerals from Mining Leases 102 and/or 95 in the twelve months following 13 December 1975 subject to the performance of the environmental Special Conditions of these leases, be deferred until after the Commission's final Report is presented.
- (2) If it is considered necessary to make a decision of the kind described in Recommendation (1) before the presentation of the final Report of the Commission, then blanket approval for the exportation of minerals from Mining Leases 102 and/or 95 for the twelve months following 13 December 1975 be not granted.
- (3) Fraser Island be recorded as part of the National Estate as soon as possible.

1. INTRODUCTION

1.1 The Inquiry

On 12 July 1975, a Direction was made in pursuance of Section 11 of the Environment Protection (Impact of Proposals) Act 1974-1975

that an inquiry be conducted in respect of all of the environmental aspects of the making of decisions by or on behalf of the Australian Government in relation to the exportation from Australia of minerals (including minerals that have been subjected to processing or treatment) extracted or which may hereafter be extracted from Fraser Island in the State of Queensland.

Commissioners were also appointed to form a Commission to conduct the Inquiry. Public hearings were conducted in Brisbane on thirty-one days during the period 5 August to 3 October 1975. The proceedings are recorded on 3496 pages of transcript. Seventy-four witnesses gave evidence before the Commission; the oral evidence was supplemented by 658 exhibits.

The evidence before the Commission shows that it has been intended to make a decision about whether to grant blanket approval for the export of minerals extracted from mining leases on Fraser Island by the partnership D. M. Minerals, for the twelve months from 13 December 1975. This Report considers the environmental aspects of the making of such a decision, and related matters, including the potential of the Island for inclusion in the register of the National Estate. The other matters within the terms of reference of the Commission, as set out in the Direction of 12 July 1975, will be reported upon later.

1.2 Brief Description of Fraser Island

Fraser Island, off the east coast of Queensland, is approximately 122 kilometres in length, ranges from 5 to 25 kilometres in width, and covers an area of about 172,000 hectares. The highest elevation is 235 metres. It is aligned NNE-SSW and lies between latitudes $24^{\circ} 40' S$ and $25^{\circ} 50' S$, and longitudes $152^{\circ} 55' E$ and $153^{\circ} 20' E$. At the nearest points it is 26 kilometres due east of the urban centre of Maryborough (19,900 population in 1971) and 80 kilometres east of Bundaberg. The west coast is separated from the mainland by the shallow shoals of Great Sandy Strait and the southern tip of the Island is two kilometres from the mainland at Inskip Point (Fig. 1).

Most of the Island consists of State Forest Reserve (118,000 hectares) and National Park (34,000 hectares). The remainder includes vacant Crown land, township reserves, a lighthouse reserve, and some freehold. A number of mining leases have been granted, for the most part within the State Forest Reserve. There is a tourist resort at Orchid Beach, two small settlements at Eurong and Happy Valley, residential facilities for forestry and lighthouse personnel, and a number of huts at scattered locations. Approximately seventy-five people permanently reside on the Island. The main activities are tourism, forestry and sandmining; there is no commercial agriculture or grazing.

Fraser Island, the largest sand island in the world in both area and volume, is composed almost entirely of loose siliceous sand apparently deposited in a number of episodes during the last few million years. Hard rock outcrops only in the Indian Head-Waddy Point area on the east coast, and at one locality on the west coast. Many of the numerous sand dunes comprising the Island occur

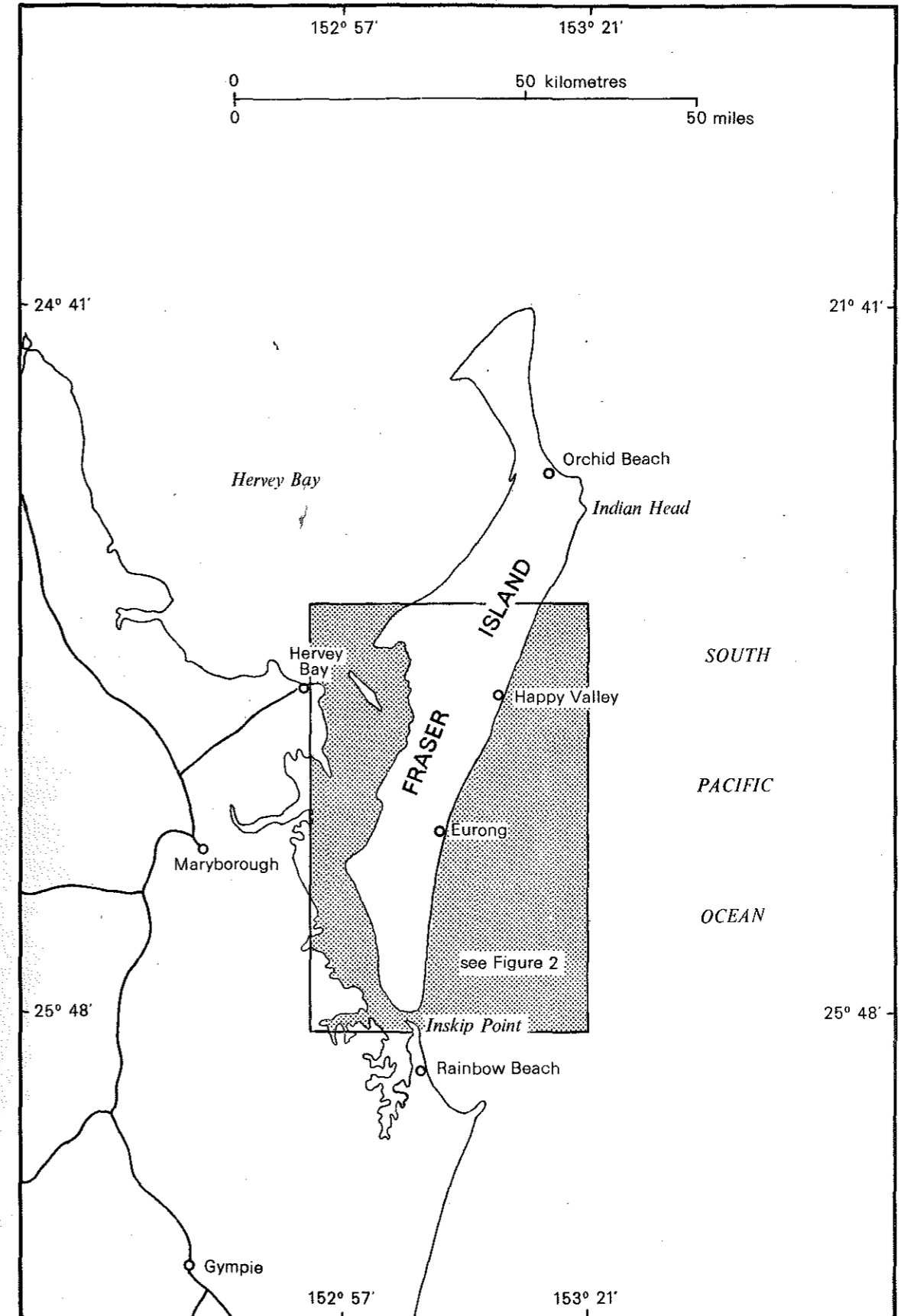


Figure 1: Location Map of Fraser Island

in parabolic form, with steep sides stabilised by vegetation, but there are many naturally-active sand 'blowouts', some extending over several hundred hectares. High rates of natural erosion of both shorelines and uplands are evident. The Island has over forty lakes, both perched and as 'windows' in the regional water table, and many of the lakes, swamps and creeks are of great beauty and interest. The vegetation is very diverse, and includes heaths, wetland communities, grasslands, shrublands and forests of several types, including dense rainforests. The aquatic fauna, in particular, is of considerable scientific interest.

The east coast comprises two very long beaches, mostly trafficable by the four-wheel drive vehicles that are also used on the sandtracks of the Island. The east coast has excellent fishing. Deposits of ilmenite, rutile, zircon and several other heavy minerals occur mostly along or near this coast, concentrated in seams on the beaches and disseminated within parts of the low and high dunes. There was evidence that the qualities of Fraser Island most appreciated by visitors are its isolation and wilderness value, its unusual and unique features, its extraordinary beauty and its present relatively natural and unspoiled environment.

1.3 Sandmining Operations

Queensland Titanium Mines Pty Ltd and D. M. Minerals are currently engaged in sandmining operations on Fraser Island.

Queensland Titanium Mines Pty Ltd was incorporated under the Companies Act 1961-1964 of Queensland on 12 October 1964. The two equal shareholders are the Titanium Alloy Manufacturing Co. Pty Ltd (which is wholly owned by NL Industries Inc. of the U.S.A.) and Titanium Metals Corporation of America.

The Company has twelve mining leases on Fraser Island covering an area of about 1,000 hectares (Appendix Table 1.1). Its mining operations on the Island commenced in December 1971 and by mid-May 1975 the area 'disturbed by mining' was estimated by the Manager of the Company's operations on Fraser Island to have been 158 hectares. Operations have so far been confined to Mining Leases 84, 104 and 105 in the south-east of the Island (Fig. 2). Production to date was stated to be 44,292 tonnes of rutile and 32,793 tonnes of zircon. The Company has applied for a further five mining leases on Fraser Island (Appendix Table 1.2), covering an area of about 580 hectares.

D. M. Minerals is a partnership between Dillingham Constructions Pty Ltd (which is a subsidiary of Dillingham Corporation of Australia Ltd, a wholly-owned American company) and Murphoyres Incorporated Pty Ltd (a wholly-owned subsidiary of Murphoyres Holdings Ltd). The terms of the partnership agreement were not disclosed to the Commission, but a company review compiled by the Research and Statistical Bureau of the Sydney Stock Exchange Ltd shows that Dillingham Constructions Pty Ltd is the Managing Partner, and that Murphoyres Incorporated Pty Ltd will receive thirty per cent of the profits until a total of 551,000 tons (about 560,000 tonnes) of rutile and zircon is produced, and thereafter half the profits. According to evidence before the Commission, this quantity of minerals would take eight to nine years to produce.

Murphoyres Incorporated Pty Ltd has twelve mining leases on Fraser Island covering an area of about 12,000 hectares (Appendix Table 1.3). In 1975 D. M. Minerals commenced sandmining operations on Mining Lease 102 (Fig. 2). No production data were made available to the Commission but, as at 25 September 1975, approvals

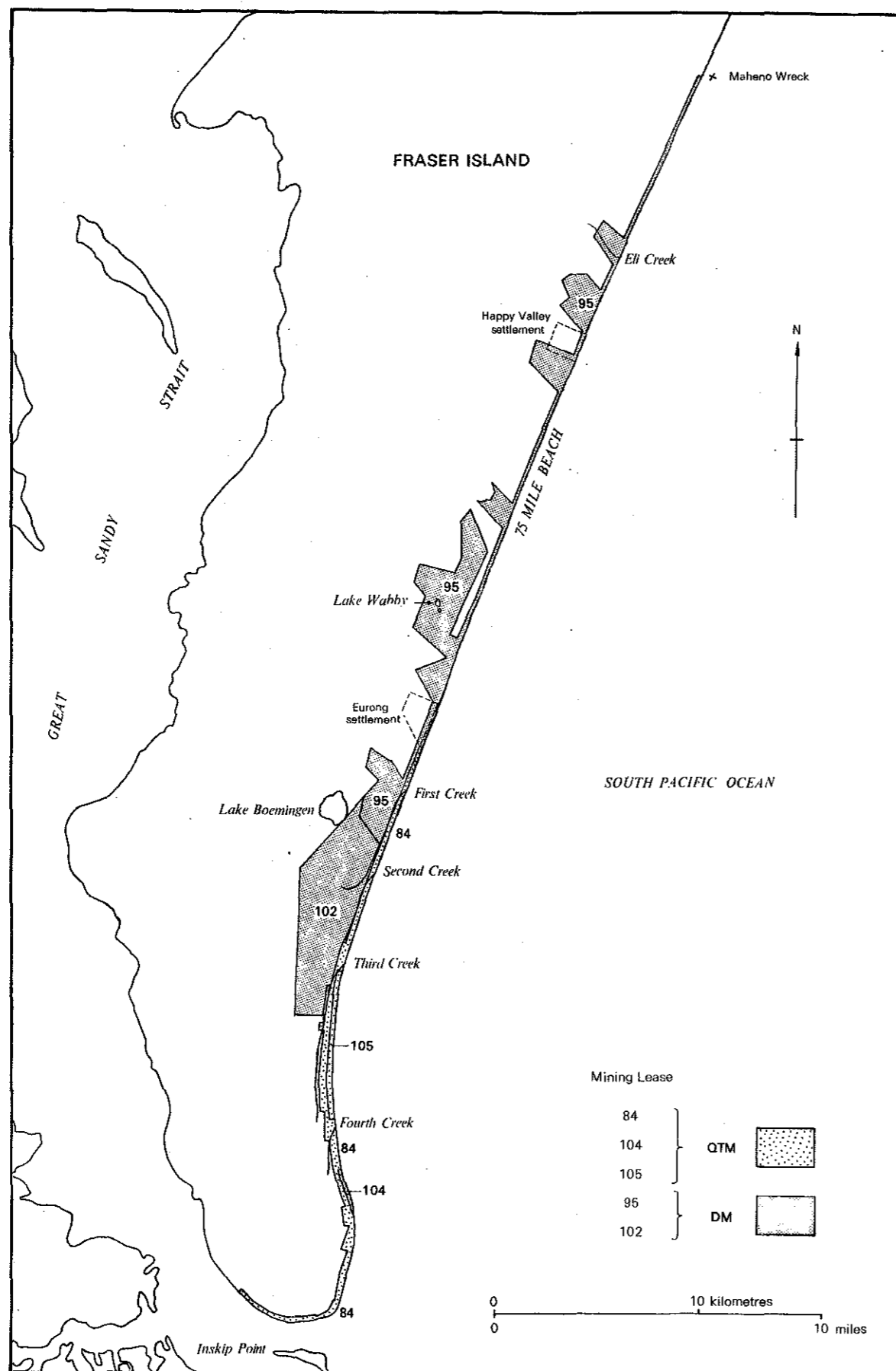


Figure 2: Location of sandmining leases and other features on Fraser Island referred to in this Report. The boundaries of the leases are indicative only.

had been given for export permits to be issued to D. M. Minerals for 626 tonnes of rutile and 670 tonnes of zircon. Murphyores Incorporated Pty Ltd has applied for a further five mining leases on Fraser Island (Appendix Table 1.4), covering an area of about 2,260 hectares.

Whilst evidence was presented by witnesses on behalf of Queensland Titanium Mines Pty Ltd, no witness on behalf of the Companies forming the partnership D. M. Minerals gave evidence at this Inquiry. The Commission was restrained by an Order of the High Court of Australia from compelling the attendance of any such witness. Nevertheless, the Commission made it clear that it was willing to hear any evidence volunteered on behalf of the partnership. The Commission also gave the partnership frequent opportunities to ask questions of witnesses. No questions were asked by or on behalf of the partnership of any witness at the Inquiry. Despite the absence of any witness called on behalf of the partnership at this Inquiry there was a considerable body of evidence before the Commission relating to the operations of D. M. Minerals on Fraser Island.

According to evidence before the Commission, D. M. Minerals expect to produce approximately 32,500 tonnes of rutile and 32,500 tonnes of zircon per annum. Although details of the agreement for the sale of those minerals, as approved by the Department of Minerals and Energy, were not disclosed to the Commission, it appears that this volume of output would yield foreign exchange earnings of approximately \$20 million at the level of prices ruling when the contracts were approved. Queensland Titanium Mines Pty Ltd exports a combined total of approximately 20,000 tonnes of the two minerals annually, and the prices received are related to world market prices at the time of sale. At recent price levels, such

a level of output would yield approximately \$6 million per annum.

The total value of Australian exports of goods in 1974-1975 was \$8,479 million, so that the annual value of exports of rutile and zircon from Fraser Island, at recent price levels, would represent approximately 0.31 per cent of the total value of Australian exports in 1974-1975. However, this estimate of the value of foreign exchange earnings from the mining operations cannot be regarded as a complete assessment of the effects of the operations on Australia's balance of trade, since it makes no allowance for the possibility that the sale of minerals from the Island reduces the prices obtained and/or the quantities sold by other Australian producers of mineral sands, neither does it take into account the value of imports required as a result of the direct and indirect effects of the mining operations. A consideration of the overall effects of the operations on the Australian balance of payments with the rest of the world would also make it necessary to take account of the capital flows associated with the operations and the extent of net profits and other incomes payable abroad.

Queensland Titanium Mines Pty Ltd provided the Commission with information concerning financial aspects of its mining operations and other evidence was also given about similar aspects of both sandmining operations. Although this information does not make it possible to make precise calculations of the incomes produced by the mining operations, the data suggest that wages and salaries paid by the two mining operations, taking account of recent wage levels, would be approximately \$3 million per annum, which would be equal to less than 0.01 per cent of total wages, salaries and supplements of \$35,177 million estimated by the Bureau of Statistics for Australia as a whole in the financial year 1974-1975. At recent price levels, the net profit (before deduction

of income tax) earned from the two mining operations would appear to be approximately \$15 million per annum, equivalent to approximately 0.12 per cent of the total of the net operating surpluses of \$12,646 millions estimated by the Bureau of Statistics to have been earned by all enterprises in Australia in 1974-1975.

Evidence was also given to the Commission concerning the number of people directly employed by the mining operations. Queensland Titanium Mines Pty Ltd gave evidence that 132 people are employed in its operations, and it was suggested in other evidence that the number employed by D. M. Minerals is approximately 200 people. Together these figures represent less than 0.01 per cent of the total Australian labour force of approximately 5,940,000 and approximately 0.04 per cent of the total estimated labour force of 837,000 in Queensland. The employment provided is relatively more important in the areas directly affected by the mining operations. For example, employment of 200 people by D. M. Minerals would represent about two per cent of the estimated labour force in the area made up by the City of Maryborough and the Shire of Burrum. Employees of Queensland Titanium Mines Pty Ltd represent a similar proportion of the estimated labour force in the area made up by the City of Gympie and the Shire of Widgee. Allowing for indirect effects on local incomes created by the purchase of goods and services by the mining firms and by the responding effects of incomes created locally by payments for wages and salaries and by other expenditures of the mining firms, the operations appear to provide total incomes which would account for the employment of about three per cent of the total labour force in each of the two areas directly affected by the mining operations.

2. THE PURPOSE OF THIS REPORT

The task of the Commission is to make findings and recommendations 'in respect of all of the environmental aspects of the making of decisions by or on behalf of the Australian Government in relation to the exportation from Australia of minerals...extracted...from Fraser Island...'.

The evidence before the Commission shows that if the word 'decisions' is to be interpreted in its normal everyday sense, and not given a narrow technical meaning, then there are two broad categories of decisions that have been made in the past, and are likely to be made in the future, concerning the export of the key minerals, rutile and zircon, extracted from Fraser Island. The first category comprises decisions of an administrative or executive nature, apparently without any specific statutory basis, relating to the approval and review of contracts made to sell rutile and zircon overseas. The second category comprises decisions relating to the granting of permits and licences to export particular shipments of minerals. Such decisions are made from time to time under powers conferred by regulation, notably, the Customs (Prohibited Exports) Regulations, and the Banking (Foreign Exchange) Regulations.

These two categories of decisions are by no means entirely distinct. Thus, it is explained in paragraph 5 of a Statement prepared by the Department of Minerals and Energy on Export Control Procedures, which was exhibited at the Inquiry, that

When approval has been given to the terms of an export contract for which the delivery period extends beyond 12 months, a blanket approval is normally given for a specific period, usually 12 months at a time. Giving

blanket approval means that during the period of that approval, for shipments within the terms of the approved contract, an authorised officer may issue export permits as and when requested by the exporter. This procedure of limiting blanket approval to a specific period enables performance under particular contracts to be reviewed and current knowledge of the Industry's progress to be maintained.

This passage is of some significance, because, in the case of D. M. Minerals' operations on Fraser Island, the evidence before the Commission shows that a twelve months' blanket approval was originally given for an export contract for which the delivery period was very possibly longer than twelve months, though the details of that contract were not themselves in evidence. There was also evidence indicating that the original twelve months' approval was made subject to the proviso that the Fraser Island environment would be protected.

As the original twelve months' approval was given on 13 December 1974, the administrative decisions relating to the review of this blanket approval would normally be expected to be made on or about 13 December 1975. There was, indeed, specific evidence before the Commission pointing to an annual review of D. M. Minerals' export contract arrangements on or about 13 December 1975. This is to be found on page 2896 of the House of Representatives Hansard of 28 May 1975; in a letter from the Minister for Minerals and Energy to a Vice-President of D. M. Minerals dated 9 June 1975 and in paragraph 6 of the Statement on Export Control Procedures mentioned above. These three documents, which were exhibited at the Inquiry, also indicate an awareness that this annual review provides an opportunity for the consideration of environmental matters.

In any event, the Commission has to form a view as to whether the decision in respect of this annual review is a decision within the terms of the Direction establishing the Inquiry and outlining its terms of reference, quite irrespective of whether, prior to the establishment of the Inquiry, the review was regarded as being limited to specific issues. This is because of the duty of the Commission to report 'in respect of all of the environmental aspects of the making of decisions by or on behalf of the Australian Government in relation to the exportation from Australia of minerals ...extracted...from Fraser Island...'. .

There is nothing before the Commission to suggest that the word 'decisions' in its terms of reference should not be interpreted to include the decision in question. The absence of any definition of the same word where it appears in paragraph 5 (1)(d) of the Environment Protection (Impact of Proposals) Act, suggests that it is used in both contexts in its ordinary everyday sense: Reg. v. National Insurance Commissioners, ex parte Hudson, [1972] 2 W.L.R. 210 (H.L. (E)), at pp. 265 and 251. The Commission does not feel entitled to adopt any interpretation of the word 'decisions' as it appears in the Direction of 12 July 1975 which might defeat the object of the Act, particularly since the Direction states that the Inquiry was established to achieve its object. The interpretation proposed would include this particular decision in those decisions referred to in the Direction of 12 July 1975, and seems consistent with the general language of the paragraphs of Sub-section 5 (1) of the Act. It is the view of the Commission that matters affecting the environment to a significant extent are involved in, and likely to result from, the making of the decision in question, and are environmental aspects of that decision.

The Commission is aware that the decision relating to the annual review of D. M. Minerals' export contract, being an administrative decision not directly based on any statutory authority, need not be made at all, should there be changes in policy, or administrative practice, in respect of either the annual review of export contracts of this kind, or the particular contract in question. It may also be that the nature of this annual review may change from time to time, or that the time for the review may be deferred. Nevertheless, on the uncontradicted evidence before the Commission, the annual review of D. M. Minerals' export contract is due on or about 13 December 1975. In the light of the Commission's duties set out in the Direction of 12 July 1975, the Commission considers it should make findings and recommendations concerning the environmental aspects of the making of this decision.

The considerable mass of evidence before it, and the complexity of the issues involved, has led the Commission to exercise its discretion to make more than one Report, and to concentrate for the most part in this first Report, on the environmental aspects of the making of the above decision.

3. THE ENVIRONMENTAL ASPECTS OF RELYING UPON THE SPECIAL CONDITIONS OF MINING LEASES 102 AND 95

3.1 Introduction

The fundamental issue for consideration in this Report is whether the object of the Environment Protection (Impact of Proposals) Act can be achieved by relying on the Special Conditions of Mining Leases 102 and 95 relating to environmental matters. It has already been noted that the Commission has been directed to conduct its Inquiry in order to achieve the object of the Act which is

to ensure, to the greatest extent that is practicable, that matters affecting the environment to a significant extent are fully examined and taken into account...

When consideration is given to the environmental aspects of the making of a decision whether to grant a further twelve months' blanket approval to D. M. Minerals subject to the performance of the Special Conditions of the leases, the substantial question is whether reliance on such performance is the greatest extent to which it is practicable to take matters affecting the environment to a significant extent into account.

A consideration of the Special Conditions of Mining Leases 102 and 95 goes to the kernel of one of the most controversial aspects of sandmining on Fraser Island. Such a consideration of their environmental aspects does not involve any determination by the Commission on matters outside its jurisdiction, such as whether the lessee is in breach of particular Covenants, Conditions or Special Conditions.

A reading of the Special Conditions of these leases suggests that they were intended to limit or minimise the seriousness of the impact of sandmining upon the environment of the Island. It is not intended as any adverse criticism to record that they were written

prior to any definitive and comprehensive analysis of the environmental problems of sandmining on Fraser Island.

Furthermore, it must be recognised that the environmental conditions form part of mining leases, and as decisions to grant mining leases are decisions about the allocation of land for the purpose of mining, rather than for competing purposes, an environmental aspect of reliance on the performance of the environmental conditions of a mining lease is an acquiescence in the use of the lands concerned for mining.

In addition, it must be considered whether the Special Conditions will be amended, or interpreted, or acted upon in such a way as to cause significant environmental harm.

There are three specific questions to be canvassed:

- (a) are the Special Conditions unlikely to be amended?
- (b) are the Special Conditions unlikely to be interpreted or implemented in such a manner as to cause significant environmental harm?
- (c) if the Special Conditions were neither amended nor interpreted or implemented in such manner, would they provide adequate protection to the environment?

Only if all three questions can be answered in the affirmative would it be possible to rely upon the Special Conditions to protect the environment.

The Special Conditions of Mining Leases 102 and 95 are similar in respect of their apparent environmental goals. The general comments in this Section about Special Conditions are intended to apply to the Special Conditions of both Leases, except where they are specifically confined to the Special Conditions of one particular Lease.

Most of the detailed illustrations, however, are in respect of the Special Conditions of Mining Lease 102, the lease now being worked by D. M. Minerals. In the rest of this Section, where a Special Condition is mentioned by number, but without specific identification of the mining lease in which it is found, there it is a reference to a Special Condition of Mining Lease 102.

3.2 Amendment of Special Conditions

Special Condition 24 (b) of Mining Lease 102 states specifically that water shall not be taken from Second Creek. This Special Condition was changed to such an extent that a new Special Condition was approved by the Under-Secretary for Mines which permitted the removal of unspecified quantities of water from Second Creek. The Commission was informed that approximately one-third of the flow of water is being removed from the Creek.

The Commission is not satisfied that similar variations in the Special Conditions of the mining leases will not be made in the future, should the exigencies of maintaining production appear to warrant such a course. For example, if mining moves to the southern part of Mining Lease 95, water will presumably be required from First Creek. The taking of water from First Creek is at present prohibited by Special Condition 24 (b) of Mining Lease 102.

3.3 Interpretation and Implementation of Special Conditions

Interpretation and implementation of Special Conditions in a manner such as to cause environmental harm can occur consciously or inadvertently, or because it is not possible to comply with certain Special Conditions. Whatever the cause, the Commission is primarily concerned

with the effect on the environment of reliance on the Special Conditions.

(a) Special Condition 24 (a)

Special Condition 24 (a) states that the lessee

shall not interfere with or cause to be interfered with for mining purposes:-

...

- (iii) the area of Second Creek and the land abutting that creek to a distance of three (3) chains from the banks of that creek.

Photographic evidence was placed before the Commission indicating visual and physical alteration to, and interference with, the environs of Second Creek, by deposits of sand from mining operations. The installation of a pump near Second Creek was not accomplished without damage to the area by dredging and blasting. Apparently, it had been found necessary to obtain water from Second Creek on an extensive scale. It appears that various efforts, including blasting and attempts at dredging a channel, were made to divert water from the Creek to an adjacent pump site in the sand dunes, but that these efforts failed. Eventually, a long pipeline was laid over the swamp into Second Creek and water pumped for use in the mining operations. After the pump had been installed and was operating, permission was given in writing, on 18 June 1975, by the Under-Secretary for Mines, to replace the original Special Condition 24 (b) with a new Condition permitting the removal of unspecified quantities of water from Second Creek with the consent of the Commissioner of Irrigation and Water Supply. This consent was given.

(b) Special Condition 19

Special Condition 19 states that

Except as is otherwise approved the maximum area of land which may remain unrehabilitated at any one time during the term of the lease shall not exceed twenty (20) acres for every one (1) suction dredge or one (1) buried loader unit used in mining operations upon the land demised.

At this point it is also necessary to mention Special Conditions 4 (a) and 4 (b), which state that

- 4 (a) The amount of the security is based on the operation of one (1) buried loader unit with an average throughput of three hundred (300) tons per hour and in the event of a further dredge or dredges, buried loader unit or units being installed and operated upon the land demised the amount of security which shall be lodged by the lessee shall be increased in accordance with the throughput capacity of such dredge or dredges, buried loader unit or units so installed.
- 4 (b) The term 'one (1) buried loader unit' shall mean one (1) buried loader with attendant bull-dozers and a system of transporting the mineral from such buried loader to a mill for treatment purposes.

It is not entirely clear to the Commission how the word 'unrehabilitated' has been interpreted in practice in the administration of Special Condition 19. One interpretation is that recently-mined land 'remains unrehabilitated' until the tailings are recontoured, topsoil respread and the first seeds artificially sown. Another interpretation is that land 'remains unrehabilitated' until the sand surface is completely stabilised against erosion, and conspicuous plant growth is evident. More stringently,

some witnesses contended that land is unrehabilitated until the regenerating plant associations are self-sustaining and need no further assistance by fertilizers and other human intervention. Clearly, such a process could require a decade or more, especially for complex ecosystems with shrubs, trees and inter-related fauna. In the administration of Special Condition 19 of Mining Lease 102 the first of these interpretations is probably being applied, although in a more general sense it is understood that those witnesses who preferred the third (or any similar) interpretation were making the point that the first and second interpretations were unsatisfactory from an environmental viewpoint. Cogent evidence was presented detailing the environmental risks inherent in the presence of large areas of bare unstabilised sand, especially during periods of high wind which can move large volumes of sand into adjacent plant communities or onto areas undergoing rehabilitation.

Several witnesses asserted that Special Condition 19 had been breached for at least one period, when it was alleged that about more than fifty acres (about twenty hectares) of bare uncountoured tailings were evident though apparently there were only two 'installations' operative in the mining process. There appeared to be some confusion between Special Condition 4 (a) and Special Condition 19. It seems to the Commission that in Special Condition 4 (a) the throughput capacity of the mining equipment is merely used as the basis on which to calculate the amount of the security to be lodged with the Minister for Mines. This matter appears to be entirely separable from the area of land (twenty acres) that may remain unrehabilitated for each mining installation, regardless of its throughput capacity. Were it not so, the present installations which, the evidence appeared to indicate, have a total throughput capacity in excess of 1,800 tons per hour, would allow at least 120 acres (48 hectares) of land to remain unrehabilitated at any one time. The Commission is deeply concerned at this possibility, and the grave

environmental risks consequent upon such an interpretation of Special Condition 19. It is manifestly not what the Minister for Minerals and Energy had in mind when he stated in the House of Representatives on 20 May 1975, that 'No more than 20 acres could be uncovered at any one time...' : Hansard, page 2480.

(c) Special Condition 24 (c)

Special Condition 24 (c) provides that at all times the lessee

shall not return any water to, or discharge any other substance or material whatsoever:-

- (i) onto the area of Lake Boemingen or the land abutting Lake Boemingen...
- (ii) onto the area of First Creek or onto the land abutting First Creek...
- (iii) onto the area of Second Creek or onto the land abutting Second Creek...
- (iv) onto the area of Third Creek or onto the land abutting Third Creek...

There was evidence that water might be added to Lake Boemingen by seepage from tailings ponds, that this might have to be removed by pumping, and that it was proposed to monitor such additions with water level recorders. As there was also evidence that mining is proposed above Lake Boemingen's perched aquifer outside the proscribed buffer zone of one-third of a mile from the shore of the Lake, it appears most likely that water will be so added to the Lake; this would not implement the environmental provisions of Special Condition 24 (c). The environmental consequences of fluctuations of water level in Lake Boemingen will be

considered in detail in a later Report. It is most likely that water will similarly be added, inadvertently, to certain creeks and swamps.

Quite apart from the addition of water to these water bodies, there is the problem of the addition of water borne nutrients to the lakes, swamps and creeks. The evidence of a number of witnesses showed that artificial fertilizers, regarded as vital in rehabilitation of vegetation, are not completely used by plants, but easily and rapidly pass through the permeable and non-retentive sands of the Island. As a result, it was contended that calcium, magnesium, potassium, cadmium, sulphur and, most significantly, phosphorus and nitrogen, will inevitably reach the regional aquifer. A proportion of the phosphorus may be sorbed onto sesquioxides within dunes, and thus be effectively removed from circulation. The magnitude of this effect cannot be precisely estimated, but it will probably be very slight in permeable tailings sands of the kind resulting from the mining operations on Mining Lease 102. Water in regional aquifers must eventually move towards the surface to appear as creeks, swamps, or as seepage onto the beach. Some lakes, such as Lake Wabby, are 'windows' in the regional water table. Dissolved substances must move with this water, and not necessarily at high rates of dilution. Very large amounts of elements may move, and at rates several hundred times greater than would naturally occur. Such flushes of elements will occur after concentrated fertilizer applications during the process of rehabilitation, and also as a result of the burning of piles of vegetation cleared from the mining path.

D. M. Minerals is currently mining several hundred metres to the west of Second Creek. It is the view of the Commission that any mining west of Second Creek is

likely, eventually, to be inconsistent with the implementation of the environmental safeguards in Special Condition 24 (c) (iii) restraining the pollution of Second Creek, for the reasons set out above. Similarly, the proposed mining of the ore bodies situated above the perched aquifer (of which Lake Boemingen is a surface expression) will add substances to Lake Boemingen, and will be inconsistent with the implementation of the environmental safeguards in Special Condition 24 (c) (i). It should be noted that the extent of this perched aquifer is unknown. Likewise any mining west of Lake Wabby in Mining Lease 95 will ultimately add nutrient-rich water to that Lake as the water moves eastwards. This would be in conflict with the implementation of one environmental safeguard in Special Condition 25 (c) (i) of Mining Lease 95, which provides that the lessee

shall not return any water to, or discharge or deposit any other substance or material whatsoever:-

- (i) onto the area of Lake Wabby or the land abutting Lake Wabby...

The Commission is aware that the provisions of the relevant leases restrain mining in the buffer zones arbitrarily delineated around the lakes and creeks referred to above. In the case of each lake, the buffer zone is one-third of a mile (536 m), while in the case of Second Creek and the other creeks described in the mining leases, the buffer zone is three chains (60 m). The evidence indicates that the processes of pollution described above are unlikely to be substantially alleviated by these arbitrary buffer zones.

The Commission heard detailed evidence concerning the dangers of adding any substances to Lake Boemingen and other lakes on Fraser Island. There was no contradictory evidence. These lakes are extremely unusual, particularly in Australia, because of their highly oligotrophic nature. Any abnormal addition of nutrients,

specifically nitrogen and phosphorus, from fertilizers, sewage or other agencies will produce a potentially irreversible pollution problem. It was contended that once eutrophication had occurred these lakes could not return to their present oligotrophic state.

In view of this, any mining and associated engineering works (and any incidental, unplanned and accidental side effects of mining) which could possibly lead to eventual contamination of water in Lake Boemingen are quite incompatible with the preservation of the Lake's biological and chemical qualities. Special Condition 24 (a) (i) of Mining Lease 102 prohibits interference with the land within one-third of a mile (536 m) of Lake Boemingen. In view of the paucity of evidence about the sub-surface nature of the environs of this Lake, and the hydrological regimes therein, this buffer zone seems totally inadequate as a means of preventing serious harm to the Lake. Even if a much wider buffer zone were accepted by the lessee, the status and implementation of any undertaking to respect the wider zone would have to be considered.

The Commission considered the contention that any nutrients which reach Second Creek would be rendered harmless by infinite dilution, ammonification of nitrogen, or by sorption onto or into plant materials. The Commission was not attracted to this argument, since contaminating nutrients may not be highly diluted before or after they reach the water bodies; nitrogen may not be changed in the manner proposed; and, while phosphorus may be retained in organic forms, these are of only short-term unavailability and will eventually be mineralised to release their phosphorus. In any case, the evidence before the Commission suggests that the addition of even small amounts of nitrogen and phosphorus to wetland ecosystems which have evolved in a nutrient-poor environment is unacceptably risky if their natural state is to be preserved.

3.4 Adequacy of Special Conditions

The problems of the area permitted to be left unrehabilitated and the width of the buffer zones have been outlined earlier in this Section. The subduing of the topography and the rehabilitation/restoration problem will be discussed in this Sub-section.

(a) Topography:

Special Conditions 16 (a) and (b) state

Any mined area upon the land demised shall be rehabilitated in the manner following:

- (a) The mined area shall be progressively backfilled except in the case of mining a dune when the upper section of that dune is mined by dry mining methods or by sluicing methods of mining.
- (b) In the case of mining a dune when the upper section of that dune is mined by dry mining methods or by sluicing methods of mining, the surface of that dune, and in the case of any other mined area that is mined by other methods of mining, the surface of that other mined area so backfilled shall be graded to conform to the surface of the adjoining land and graded in such a manner that the surface shall have a slope not exceeding twenty degrees (20°) from the horizontal.

These clauses are by no means clear and various interpretations have been put on them ranging from the tailings having to be shaped over the whole of the mined area so that they appear to be like the surrounding areas, to the tailings being as flat as a cricket ground and only shaped around the edges to grade into the surrounding topography. There is no requirement to return the tailings to the topography that existed previously: to take this point to an extreme, if the area mined was a dune surrounded by flat areas, it would be permissible to leave the area as flat as possible. In addition, there is the requirement that the tailings shall not have a slope greater than twenty degrees. It is not practical

to use mechanical equipment for rehabilitation on steeper slopes; it is most likely that flatter slopes will be used.

Consequently, even if the most environmentally favourable interpretation is placed on the conditions, where the dunes were originally steep, the final topography will be substantially subdued with lower ridges, higher valleys and gentler side slopes. The complex natural shapes and slopes are unlikely to be replaced. The depth to the regional water table is most likely to be changed, which is of particular importance in the valleys where it will have the greatest effect upon the plant communities. There is no indication at this stage that such an environmentally favourable interpretation will prevail.

These topographic changes are virtually inevitable. The reduction in topographic variability will cause the range and variability of vegetation types, which are of considerable ecological interest and contribute to the interest of Fraser Island, to be appreciably simplified forever, even if rehabilitation ultimately achieves success.

(b) Rehabilitation:

The Special Conditions require the rehabilitation of mined areas rather than their restoration. Special Condition 16 describes rehabilitation as the backfilling and shaping of the tailings, spreading of surface soil, planting of approved grasses and trees and maintaining the trees until their growth is satisfactorily established. Restoration, on the other hand, would require the mined areas to be brought back to their original state, both topographically and in respect of the distribution and diversity of species and plant communities contained on them. Restoration is not required by the Special Conditions, nor is it feasible.

- (i) the relative harshness of the environment for biological productivity;
- (ii) stability of the substrate;
- (iii) complexity and longevity of the plant communities and inter-related faunal assemblages;
- (iv) their susceptibility to perturbation by numerous environmental and other agencies - their fragility; and
- (v) their ability to recover from such perturbations, and regain their former state.

It might well be easier to rehabilitate certain components of the Fraser Island landscape (such as foredunes) than other components (such as steep, erosion-prone high dunes exposed to strong winds and salt loads). The Commission nevertheless feels reluctant to endorse sandmining operations on Fraser Island, and the resulting attempted rehabilitation, in view of the inherent dangers to all components of the landscape, and the incompatibility of such operations with the retention of long-term land-use options.

3.5 Conclusions

In summary, the Commission notes that the environmental risks of sandmining in Mining Leases 102 and 95 on Fraser Island include the following:

- (i) interference with water bodies;
- (ii) the risk of rehabilitation failing, or being less than completely successful, thus exposing large tracts of land to wind erosion and other undesirable side effects;
- (iii) disturbance of scenic attractions and other features which are in a delicate state of balance;

- (iv) direct and indirect, even inadvertent, interference with, and unnecessary damage to, vegetation communities adjacent to mined areas (including rainforests, with their particular susceptibility to changes in ecosystem cycles, hydrological regimes and salt influx);
- (v) considerable simplification and subduing of the complex natural shapes and slopes of the topography, and concomitant patterns of vegetation with their accompanying fauna.

The Commission is aware that Special Conditions of Mining Lease 102 can be, and have been, altered (Section 3.2). It doubts whether all of them are at present being implemented (Section 3.3). In any event, it is unlikely that certain of the Conditions can be implemented (Section 3.3). And it considers that even if the Special Conditions of Mining Lease 102 remain unaltered and are performed to the letter, serious environmental harm would nevertheless still be caused (Section 3.4). Reliance on the performance of the Special Conditions would therefore be an undesirably risky method of performing the environmental obligations of the Australian Government.

In reaching these conclusions the Commission has taken into account certain statements of intention or undertakings made on behalf of D. M. Minerals which are recorded in the exhibits. They concern, amongst other matters, proper water management, the location of mining operations in relation to specified features, the minimisation of aesthetically detrimental impacts of mining, and the preservation or construction of protective topographic and vegetation buffers for adjacent plant communities.

In the Introduction to this Section three specific questions were raised concerning the Special Conditions, and the view expressed that only if all of them could be answered in the affirmative, would it be possible to rely

upon the Special Conditions of the two Mining Leases in order to protect the environment. The Commission is not able to answer any of them in the affirmative. Nor is it able to say that reliance on these Special Conditions is the greatest extent to which it is practicable to take into account matters affecting the environment in making a decision on the annual review of D. M. Minerals' export contract. The Commission recommends that this decision, which is likely to have such significant environmental effects, should be deferred until its final Report is considered, because of the need to fully examine all of the environmental aspects of all of the decisions within the terms of the Direction establishing the Inquiry.

4. FRASER ISLAND AND THE NATIONAL ESTATE

Though the evidence reflects a wide range of attitudes about sandmining, there were a number of important matters frequently referred to by witnesses on which there was little or no controversy. No one disputed the claim, for example, that Fraser Island is the largest sand island in the world. In addition, a great deal of evidence was given about its cultural, prehistoric, historical, geomorphological, ecological, recreational, educational, scientific and aesthetic significance. The evidence indicates that some features of the Island are not found anywhere else in the world, and that others, although not unique to this Island, attain particular significance here because they remain relatively untouched by man. Moreover, the fact that Fraser Island is an island has led to the evolution of floral and faunal communities that differ from those on the adjacent mainland. "The Commission is greatly impressed by the evidence as to the 'integrity' and 'fragility' of Fraser Island in the sense that any further ad hoc interference may lead to widespread, deleterious and irreversible changes to what is, the evidence suggests, a very finely balanced system." It is the view of the Commission that decisions about Fraser Island must take account of all its actual and potential resources, and reflect an awareness of its aesthetic, historic, scientific and social significance, and other special values, for future generations of Australians, as well as for the present community.

The Australian Heritage Commission Act 1975 makes provision for the identification and conservation of components of the natural environment of Australia that have special values for present and future generations of Australians. This Act provides for a register to be made in which places included in the National Estate are to be listed, and imposes certain duties upon Australian

Government Ministers and upon Australian Government authorities in relation to the conservation of such places; it also makes specific provision for Commissioners conducting Inquiries under the Environment Protection (Impact of Proposals) Act 1974-1975 to recommend to the Minister that a place be recorded on the National Estate register, even if such Inquiries were not established with such considerations explicitly in mind.

The Commission was invited to recommend that Fraser Island be so recorded by several witnesses, including the Chairman of the Interim Committee on the National Estate, who reported that the Committee of Inquiry into the National Estate had received several submissions stressing the uniqueness and pre-eminence of Fraser Island amongst the natural features of Australia. The arguments in favour of recording Fraser Island as part of the National Estate are compelling and will be considered in detail in the Commission's next Report.

Nevertheless, having considered the evidence, the Commission is now in a position to make findings and recommendations that Fraser Island should be recorded as part of the national estate, as soon as the Register comes into being.

5. FINDINGS

From its consideration of the evidence before it

1. THE COMMISSION FINDS THAT, of the Special Conditions of Mining Lease 102:

- (a) Special Condition 24 (b) prohibiting the extraction of water from Second Creek has been radically altered.
- (b) (i) Special Condition 24 (a) (iii) prohibits interference with the area of Second Creek and the land abutting it.
 - (ii) Environmental harm has nevertheless been caused to Second Creek and its environs by sandmining operations.
- (c) (i) Special Condition 24 (c) (iii) prohibits the return of water to the area of Second Creek and the land abutting it.
 - (ii) Water has nevertheless been returned to Second Creek.
- (d) (i) Special Conditions 24 (c) (i) and (iii) prohibit the return of water to, or discharge of any other substances onto the areas of Lake Boemingen, Second Creek and the lands abutting them.

(ii) If mining proceeds as planned, water and other substances, particularly plant nutrients, will almost certainly be returned to the areas of Lake Boemingen, Second Creek and the lands abutting them.

(e) Depending upon the interpretation placed on Special Condition 19, which prescribes the maximum area which may remain unrehabilitated at any one time, either the prescribed maximum area is being exceeded, or the extent of the area permitted to remain unrehabilitated is so great as to be environmentally hazardous.

(f) Special Conditions 16 (a) and (b) can reasonably be interpreted as permitting the reshaped surface of a mined area to be virtually flat, at least over the majority of a mined area.

(g) Other Special Conditions are also of environmental concern and will be considered in a later Report.

2. THE COMMISSION FINDS THAT the Special Conditions of Mining Lease 102

(a) have been altered, after the lease was granted, in an environmentally significant manner,

(b) have not, and will not, prevent actions during sandmining operations which will be significantly damaging to the environment,

(c) do not represent adequate environmental safeguards whether fulfilled to the letter or not.

3. THE COMMISSION FINDS THAT there are significant environmental risks should mining proceed on Mining Leases 102 and/or 95, in respect of:

(a) pollution of lakes, swamps and creeks,

(b) exposure of sand areas to wind erosion if rehabilitation fails,

(c) disturbance of scenic attractions,

(d) exposure of rainforests and other sensitive plant communities to salt laden winds.

4. THE COMMISSION FINDS THAT should mining proceed on Mining Leases 102 and/or 95:

(a) the topography of mined steep dune areas will be forever substantially subdued with a reduction in diversity of plant communities and their accompanying fauna,

(b) restoration of most mined areas, including all steep dune areas, is

not possible in any sensible human time scale,

- (c) rehabilitation of mined areas in the sense of merely establishing a permanent self-sustaining vegetative cover cannot be guaranteed but can be successful in certain areas, such as foredunes, provided that the necessary care is taken.

- 5. THE COMMISSION FINDS THAT the acceptability of successful rehabilitation, as opposed to restoration, would depend upon the later use to which the land is to be put, and if Fraser Island is recorded as part of the National Estate, even successful rehabilitation would be generally unacceptable.
- 6. THE COMMISSION FINDS THAT the whole of Fraser Island is worthy of being recorded as part of the National Estate.

6. RECOMMENDATIONS

THE COMMISSION RECOMMENDS that

- (1) All decisions within the terms of the Direction dated 12 July 1975 of an executive or administrative nature relating to the review of D. M. Minerals' export contract, and, in particular, any proposed decision as to whether to grant blanket approval for the exportation of minerals from Mining Leases 102 and/or 95 in the twelve months following 13 December 1975 subject to the performance of the environmental Special Conditions of these leases, be deferred until after the Commission's final Report is presented.
- (2) If it is considered necessary to make a decision of the kind described in Recommendation (1) before the presentation of the final Report of the Commission, then blanket approval for the exportation of minerals from Mining Leases 102 and/or 95 for the twelve months following 13 December 1975 be not granted.
- (3) Fraser Island be recorded as part of the National Estate as soon as possible.

APPENDIX 1

Tables showing Mining Leases granted and applied for on Fraser Island.

APPENDIX TABLE 1.1 FRASER ISLAND LEASES GRANTED OR SUBSEQUENTLY TRANSFERRED TO QUEENSLAND TITANIUM MINES PTY LTD

Mining lease	Date approved	Term of lease (years) <i>application</i>	Area of lease (hectares)	Reserves			
				Rutile (tonnes)	Zircon (tonnes)		
84	8 April 1965	21 from 1 February 1962	476 ^b	32,000 ^c	23,000 ^c		
104	23 May 1950	10 from 1 September 1949 18 from 1 September 1959	20				
105	23 May 1950	10 from 1 September 1949 18 from 1 September 1959	89				
108	24 December 1956	5 from 1 November 1955 17 from 1 November 1960	8				
109	8 August 1956	10 from 1 March 1956 11 from 1 March 1966	91				
110	18 December 1956	21 from 1 September 1956	39				
111	18 December 1956	21 from 1 September 1956	12				
112	18 December 1956	21 from 1 September 1956	30				
113	18 December 1956	21 from 1 September 1956	39				
106	23 May 1950	10 from 1 April 1950 17 from 1 April 1960	97			18,000 ^d	17,000 ^d
107	23 May 1950	10 from 1 April 1950 17 from 1 April 1960	48				
120	1 May 1962	21 from 1 March 1962	53				
Total 12 leases	-	-	1,002	50,000	40,000		

Footnotes on p. 40

Footnotes to Appendix Table 1.1

- a Stated on lease documents in acres and rounded here to nearest hectare.
- b Part of mining lease 84 at Inskip Point excluded.
- c Reserves estimated by firm. These exclude the quantities produced so far (44,292 tonnes of rutile and 32,793 tonnes of zircon: Exhibit 317, p. 5) from mining leases 84, 104 and 105.
- d Reserves estimated by firm (Exhibit 317, p. 5).

Sources: Exhibits 317, 318.

APPENDIX TABLE 1.2 APPLICATIONS FOR MINING LEASES ON FRASER ISLAND
BY QUEENSLAND TITANIUM MINES PTY LTD

Mining lease application	Date of application	Term sought (years)	Area of lease ^a (hectares)	Reserves ^b		Area to be mined ^c (hectares)
				Rutile (tonnes)	Zircon (tonnes)	
131	15 December 1972	21	130	25,000	22,000	69
132	15 December 1972	21	130			
133	15 December 1972	21	130			
134	15 December 1972	21	130			
136	25 May 1973	10	61			
Total 5 lease applications	-	-	581	25,000	22,000	69

- a Stated on lease application documents in acres and rounded here to nearest hectare.
- b Information from firm as to reserves available for recovery (Pennycuick, transcript, p. 2445).
- c Information from firm as to area of ore bodies (69 hectares) and 'area of disturbance' (99 hectares): Pennycuick, transcript, pp. 2445-6.

Sources: Exhibits 317, 318, 319.

APPENDIX TABLE 1.3 FRASER ISLAND MINING LEASES GRANTED TO MURPHYORES INCORPORATED PTY LTD

Mining lease	Date of lease	Term of lease (years)	Area of lease ^a (hectares)	Area to be mined ^b (hectares)	Reserves ^c	
					Rutile (tonnes)	Zircon (tonnes)
95 ✓	15 March 1973	21 from 1 June 1966	3,561	348	168,000 ^d	169,000 ^d
102 ✓	23 August 1973	21 from 1 September 1973	2,557	223	90,000 ^d	86,000 ^d
Sub-total (2 leases)	-	-	6,118	571	258,000	255,000
93 ✓	15 March 1973	21 from 1 June 1966	881	146	64,000 ^d	49,000 ^d
94 ✓	15 March 1973	21 from 1 June 1966	1,845	243	117,000 ^d	133,000 ^d
96 ✓	15 March 1973	21 from 1 June 1966	2,380	135	59,000 ^e	59,000 ^d
101 ^h	23 August 1973	21 from 1 September 1973	687	24	8,000 ^d	9,000 ^d
114 ^h	4 July 1974	9 from 1 August 1974	5	} 88	27,000 ^f	51,000 ^f
115 ^h	4 July 1974	9 from 1 August 1974	58			
116 ^h	4 July 1974	9 from 1 August 1974	58			
117 ^h	4 July 1974	9 from 1 August 1974	58			
118 ^h	4 July 1974	9 from 1 August 1974	58			
119 ^h	13 June 1974	9 from 1 July 1974	16			
Sub-total (10 leases)	-	-	6,046	636	275,000	301,000
Total 12 leases	-	-	12,164	1,207	533,000 ^g	556,000 ^g

- a Stated on lease documents in acres and rounded here to nearest hectare.
 b From information provided by firm in acres and rounded here to nearest hectare.
 c From information provided by firm in tons and rounded here to nearest thousand tonnes.
 d Proven reserves.
 e Probable reserves.
 f Inferred ore.
 g Total of proven and probable reserves and inferred ore.
 h Beach leases.

Sources: Exhibits 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 62, 74, 75.

APPENDIX TABLE 1.4 APPLICATIONS FOR MINING LEASES ON FRASER ISLAND BY MURPHYORES INCORPORATED PTY LTD

Mining lease application	Date of application	Term sought (years)	Area of lease ^a (hectares)	Reserves ^b		Area to be mined ^c (hectares)
				Rutile (tonnes)	Zircon (tonnes)	
126	29 September 1972	21	198	35,000	38,000	99
127	29 September 1972	21	364	28,000	33,000	77
128	29 September 1972	21	1,271	88,000	104,000	227
129	29 September 1972	21	393	25,000	29,000	105
130	9 October 1972	21	38	9,000	10,000	14
Total 5 lease applications	-	-	2,264	185,000	214,000	522

- a Stated on lease application documents in acres and rounded here to nearest hectare.
 b From information provided by firm in tons and rounded here to nearest thousand tonnes. Reserves described by firm as 'proven reserves'.
 c From information provided by firm in acres and rounded here to nearest hectare.

Sources: As for Appendix Table 3.

APPENDIX TABLE 1.5 MINING LEASES GRANTED AND APPLIED FOR ON FRASER ISLAND

Leases	Number of leases	Area of leases ^a (hectares)	Reserves ^b	
			Rutile (tonnes)	Zircon (tonnes)
1. Leases granted				
(i) Queensland Titanium Mines Pty Ltd	12	1,002	50,000	40,000
(ii) Murphyores Incorporated Pty Ltd	12	12,164	533,000	556,000
<i>Sub-total</i>	24	13,166	583,000	596,000
2. Leases applied for				
(i) Queensland Titanium Mines Pty Ltd	5	581	25,000	22,000
(ii) Murphyores Incorporated Pty Ltd	5	2,264	185,000	214,000
<i>Sub-total</i>	10	2,845	210,000	236,000
TOTAL ALL LEASES	34	16,011	793,000	832,000

a Summarised from lease documents and rounded here to nearest hectare.

b Includes quantities described by firms as proven, probable, inferred, and available for recovery.

Source: Summarised from Appendix Tables 1 to 4.

APPENDIX 2

ADVISERS

Pursuant to Sub-section 11 (2) of the Environment Protection (Impact of Proposals) Act 1974-1975 the following gentlemen were appointed by the Minister to advise the Commission:

Dr G. J. R. Linge
 Mr C. R. Løorham
 Associate Professor G. D. McColl
 Dr P. R. Stevens.

The Commission was pleased to receive their advice before reporting these findings and recommendations. The Commissioners nevertheless take sole responsibility for all matters contained in the Report.

APPENDIX 3

Environment Protection (Impact of Proposals) Act
1974-1975

FRASER ISLAND ENVIRONMENTAL INQUIRY

FOR achieving the object of the Environment Protection (Impact of Proposals) Act 1974-1975, I, EDWARD GOUGH WHITLAM, the Minister of State for Environment, in pursuance of sub-section 11 (1) of that Act, hereby direct that an inquiry be conducted in respect of all of the environmental aspects of the making of decisions by or on behalf of the Australian Government in relation to the exportation from Australia of minerals (including minerals that have been subjected to processing or treatment) extracted or which may hereafter be extracted from Fraser Island in the State of Queensland,

AND in pursuance of the powers conferred on me by sub-section 11 (2) of the said Act, I appoint John Francis Hookey and Arthur Blamey Hicks as Commissioners to be a Commission to conduct the said inquiry,

AND in pursuance of the powers conferred on me by sub-section 11 (3) of the said Act, I appoint the said John Francis Hookey to preside at the said inquiry.

Dated this Twelfth day of July 1975.

E. G. WHITLAM
Minister of
State for
Environment

Source: Australian Government Gazette,
No. S147, Canberra, Wednesday,
16 July 1975

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