



WESTERN AUSTRALIA

MINISTER FOR THE ENVIRONMENT

Ass # 795

Bull # 741

State # 366

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

SILICA SAND MINING, KEMERTON (795)

GWALIA CONSOLIDATED LTD

This proposal may be implemented subject to the following conditions:

**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, the proponent shall fulfil the commitments made in the Public Environmental Review, 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. These commitments are consolidated in Environmental Protection Authority Bulletin 741 as Appendix 4. (A copy of the commitments is attached.)

**2 Implementation**

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

- 2-1 Subject to these conditions, the manner of detailed implementation of the 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 with the proposal. Where, in the course of that detailed implementation, the proponent seeks to change those designs, specifications, plans or other technical material 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.

**3 Vesting**

The vesting of the Stage 1 area, including the six lakes on the eastern half of the project site which are covered by the Environmental Protection (Swan Coastal Plain Lakes) Policy 1992, should be completed before construction begins on the site. The vesting of the Stage 2 area should be substantially initiated prior to completion of mining and rehabilitation of the area specified in the Public Environmental Review.

- 3-1 Prior to construction, the proponent shall finalise an agreement with the Minister for the Environment on the vesting of the Stage 1 area comprising the six lakes covered by the Environmental Protection (Swan Coastal Plain Lakes) Policy 1992 and associated buffer. (See Figure 1 attached.)

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- 3-2 Within six months of the completion of mining of the area outlined in the Public Environmental Review, the proponent shall have substantially initiated the vesting of the Stage 2 area. (See Figure 1 attached.)

#### **4 Protection of Remnant Vegetation**

- 4-1 The proponent shall protect remnant vegetation on the property, outside the area to be mined, from indirect impacts of the construction and mining operations of the project.
- 4-2 Prior to construction, to achieve the objectives of condition 4-1, the proponent shall prepare an Environmental Management Programme in consultation with the Department of Conservation and Land Management and the Department of Environmental Protection.
- 4-3 The proponent shall implement the Environmental Management Programme required by condition 4-2, to achieve the objectives of condition 4-1.

#### **5 Wetlands**

The protection of those unmined lakes in the project area covered by the Environmental Protection (Swan Coastal Plain Lakes) Policy 1992 from impacts associated with the project is critical.

- 5-1 Prior to installation of the borefield and commencement of the dredging operation, the proponent shall prepare a groundwater monitoring and management programme in consultation with the Water Authority of Western Australia and the Department of Conservation and Land Management.
- 5-2 The proponent shall implement the groundwater monitoring and management programme required by condition 5-1.
- 5-3 The proponent shall not engage in dewatering, for the purpose of increasing the depth of material available for mining.

#### **6 Rehabilitation**

- 6-1 The proponent shall rehabilitate the project area to a standard of rehabilitation that is consistent with the conservation values of the area to be vested for Stage 1.
- 6-2 Within 12 months of the commencement of mining, the proponent shall prepare a rehabilitation plan for the site in consultation with the Department of Conservation and Land Management and the Department of Environmental Protection. This plan shall include draft completion criteria and a monitoring component to determine its effectiveness, and shall be reviewed and reported on annually.
- 6-3 The proponent shall implement the rehabilitation plan required by condition 6-2.

#### **7 Decommissioning**

- 7-1 The proponent shall satisfactorily decommission the project, remove the plant and installations, and achieve the final rehabilitation of the site and its environs.
- 7-2 At least six months prior to decommissioning, the proponent shall prepare a decommissioning and final rehabilitation plan.
- 7-3 The proponent shall implement the plan required by condition 7-2.

#### **8 Proponent**

These conditions legally apply to the nominated proponent.

8-1 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 for the Environment 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.

**9 Time Limit on Approval**

The environmental approval for the proposal is limited.

9-1 If the proponent has not substantially commenced the project within five years of the date of this statement, then the approval to implement the proposal as granted in this statement shall lapse and be void. The Minister for the Environment shall determine any question as to whether the project has been substantially commenced.

Any application to extend the period of five years referred to in this condition shall be made before the expiration of that period, to the Minister for the Environment by way of a request for a change in the condition under Section 46 of the Environmental Protection Act. (On expiration of the five year period, further consideration of the proposal can only occur following a new referral to the Environmental Protection Authority.)

**10 Compliance Auditing**

In order to ensure that environmental conditions and commitments are met, an audit system is required.

10-1 To help verify environmental performance, the proponent shall prepare periodic progress and compliance reports, in consultation with the Department of Environmental Protection.

**Procedure**

1 The Department of Environmental Protection is responsible for verifying compliance with the conditions contained in this statement, with the exception of conditions stating that the proponent shall meet the requirements of either the Minister for the Environment or any other government agency.

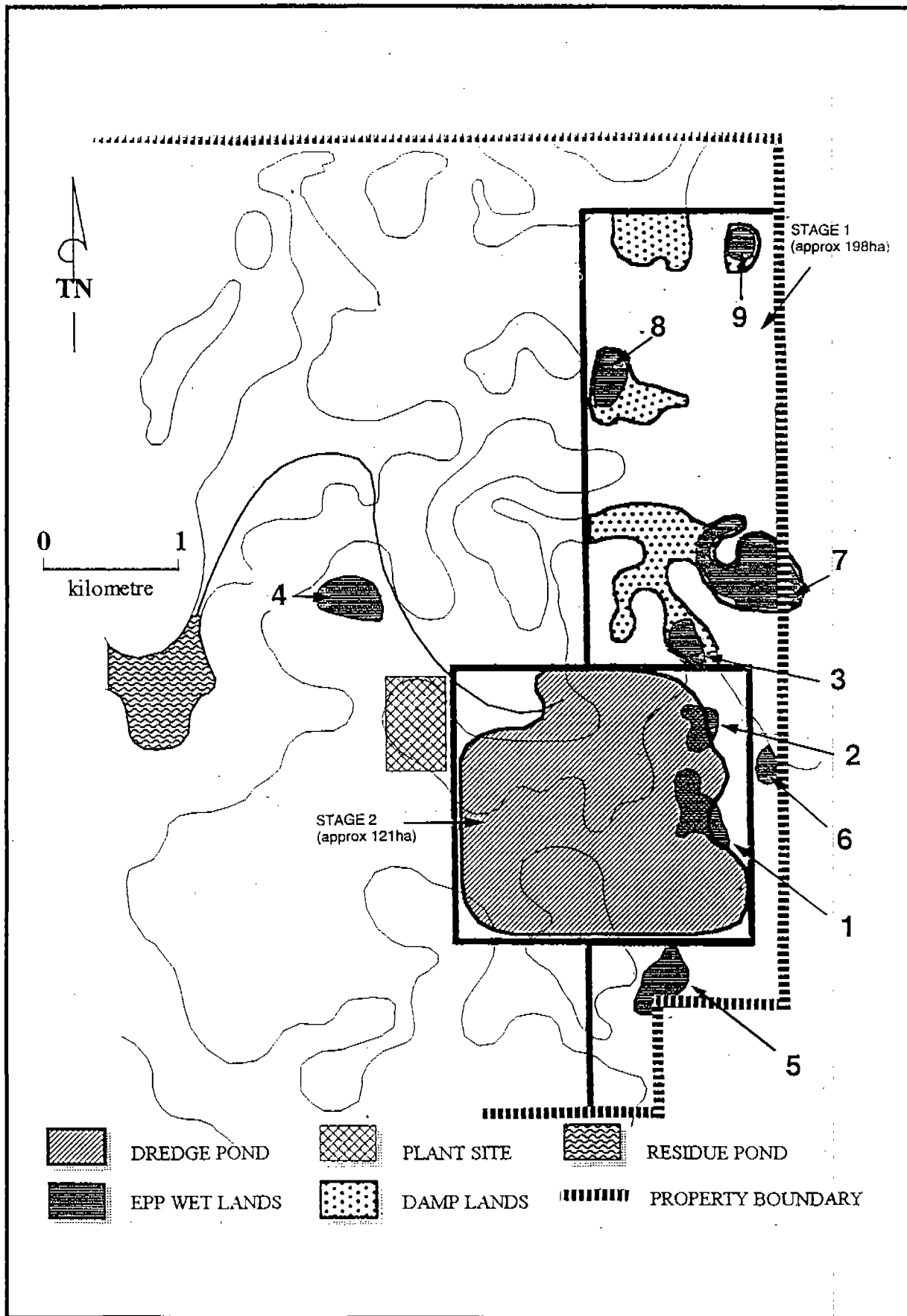
2 If the Department of Environmental Protection, other government agency or proponent is in dispute concerning compliance with the conditions contained in this statement, that dispute will be determined by the Minister for the Environment.

Kevin Minson MLA  
MINISTER FOR THE ENVIRONMENT

- 5 OCT 1994

**Note**

The proponent is required to apply for a Works Approval and Licence for this project under the provisions of Part V of the Environmental Protection Act.



*Figure 1: Areas proposed for vesting, including locations of EPP lakes.*

**Proponent's Environmental Management Commitments**

**SILICA SAND MINING, KEMERTON (795)**

**GWALIA CONSOLIDATED LTD**

**Gwalia Consolidated Ltd**

**KEMERTON SILICA SAND PROJECT**

**AMENDED SUMMARY OF ENVIRONMENTAL COMMITMENTS**

**November 1993**

The commitments made in Section 6 of the July 1993 PER have been supplemented in light of additional commitments made in the process of responding to public and government submissions on the project. The following is a consolidated list of all commitments.

**1. Rehabilitation**

**1.1 Rehabilitation of Areas Subjected to Dry Mining**

Areas subjected to dry mining and not subsequently included in dredge mining operations will progressively be rehabilitated to stable landforms, to the satisfaction of the EPA, on the advice of CALM. Rehabilitation will include:

- The battering down of slopes agreed with the Department of Minerals and Energy
- Where necessary, the provision of erosion-control facilities, to manage runoff and prevent sheet and gully erosion
- Scarifying, ripping or ploughing on contour of salvaged and replaced overburden and topsoil
- Planting and/or seeding of suitable plant species
- Maintenance of revegetation through fertiliser application, fire management and the like, to encourage a self-sustaining system

**1.2 Rehabilitation of Dredged Areas**

As part of a strategic plan to replace, if not enhance, the pre-mining wetland values of the mining area, areas subjected to dredge mining will be progressively reconstructed as wetlands, to the satisfaction of the EPA and as advised by CALM. This reconstruction will include:

- Establishment of shallows (no deeper than 2 metres) over a 100 metre-wide perimeter of the dredge pond
- Replacement of salvaged topsoil around the pond perimeter, to facilitate re-establishment of lake-side vegetation

- Planting and/or seeding of lake-side vegetation, based on flora and vegetation studies carried out in December 1992 and to be carried out in the spring of 1993 – both species diversity and vegetation structure will be accommodated, to re-establish representative flora and fauna habitat values
- Examination of the desirability and feasibility of establishment of floating islands, to provide protection to fauna (especially waterbirds) from predators

### 1.3 Re-use of Dried Process Tailings

Solar-dried tailings will be re-won from the tailings dam and used in rehabilitation programmes to enhance the water- and nutrient-holding properties of the sandy soils of areas being rehabilitated. Tailings will be blended into the sandy soils, by rotary hoeing or other means of tillage.

At the end of the project, remnant tailings on the floor of the tailings dam will be similarly incorporated into the sandy soils underlying the tailings dam, and the area re-vegetated, using relevant parts of the prescription described in Section 1.1 above.

### 1.4 Vesting of Rehabilitated and Other Areas

Investigate the feasibility and desirability of vesting rehabilitated and other areas with appropriate authorities, to ensure long-term management of ecological values either protected from disturbance during operations or created by rehabilitation programmes. Of particular interest are wetland areas: two such areas covered by the *Environmental Protection (Swan Coastal Plain Lakes) Policy 1992* will be disturbed by project operations, and another seven such nearby areas will be protected from disturbance by project operations.

## 2. Protection of Wetlands

### 2.1 Protection of EPP Wetlands

Seven of the nine wetlands in the project area covered by the *Environmental Protection (Swan Coastal Plain Lakes) Policy 1992* will not be directly disturbed by project activities. These wetlands will be protected from indirect and/or inadvertent disturbance by fencing, signposting, access-control, workforce awareness and other appropriate means.

### 2.2 Monitoring of Wetlands

Water levels and the condition of surrounding vegetation at wetlands not directly disturbed by the project will be monitored on a quarterly basis, and water from the water management system delivered to wetlands where unacceptable changes resulting from project-related groundwater abstraction occur.

### **2.3 Protection of Wetland Water Quality**

Runoff will be directed *via* engineered drains to silt traps to reduce sediment loads before being allowed to enter wetlands, and care will be taken to minimise the addition of nutrients to wetlands as a result of project operations such as fertiliser treatment of rehabilitated areas.

## **3. Biological Investigations**

### **3.1 Study Schedule**

Building on the December 1992 studies, intensive flora and fauna studies will be carried out in the spring of 1993, and brief studies bi-monthly until February 1994, to:

- Define more precisely the status of any species on CALM's Declared Rare Flora and Priority Species List, and of any rare and endangered fauna
- Provide a quantitative baseline for the planning of rehabilitation/revegetation, especially in terms of habitat requirements
- Provide a basis for ongoing monitoring of biological impacts and the subsequent development of appropriate management plans
- Assess patterns and nature of waterbird use of wetland areas
- Delineate habitats of sensitive species and provide appropriate protection

### **3.2 Reporting**

Reports on biological studies will be submitted to the EPA and other relevant organisations

### **3.3 Rare and Endangered Flora and Fauna**

Gazetted Rare Fauna and Declared Rare and Priority Flora recorded in the project area will be reported to CALM, with whom agreement will be reached on the most appropriate methods of management.

## **4. Groundwater Monitoring**

- The five monitoring bores installed for the water management investigation will be surveyed to WAWA's standards, levels will be monitored monthly in the first instance and chemical analyses performed at least once a year. Once a stable baseline has been established by the monitoring, Gwalia will discuss with WAWA a reduction in the frequency of level-monitoring.



- Additional monitoring bores will be established around the settling pond and monitored as described above
- All groundwater volumes abstracted will be measured and reported to WAWA on an annual basis

## **5. Dieback Management**

### **5.1 Dieback Mapping**

Map the project area to assess the incidence of dieback.

### **5.2 Dieback Hygiene**

Develop and implement a dieback management programme aimed at minimising the risk of plant disease movement to and from the project area, to the satisfaction of the EPA on the advice of CALM.

## **6. Noise Management**

### **6.1 Noise from Mining and Processing**

Ensure that noise from mining and processing operations, including the loading of product for trucking to the Port of Bunbury, does not result in noise levels at existing residences in the vicinity of the project area in excess of 35 dB(A) (15-minute L<sub>10</sub>), including allowance for tonal components.

### **6.2 Noise from Product Transport**

Ensure that noise from transport of product to the Port of Bunbury does not exceed an L<sub>10</sub> of 63 dB(A) at existing residences in the vicinity of the transport route.

## **7. Dust Management**

Apply water or other treatments, and install appropriate dust control equipment on processing facilities, to ensure that vehicular movement and equipment operation does not cause dust nuisance.

## **8. Control of Light Spill**

Design and operate lighting facilities so that light spill does not cause a nuisance to neighbours.

## **9. Radiological Assessment**

Gwalia will check the levels of Uranium and Thorium in production samples, to confirm the very low levels of these radionuclides determined to date. If wastes are concentrated to levels demanding it, disposal will be effected in accordance with the Radioactive Waste Disposal Code.

## **10. Aboriginal Sites**

Gwalia will complete an archaeological and ethnological study of the project area by the end of 1993 and report the findings to the Department of Aboriginal Sites, with whom consultation will be held to decide on any action required as a result of the study.

## **11. Construction Management**

Prior to starting construction, Gwalia will develop with the relevant authorities a specific environmental management programme addressing:

- minimisation of clearing to that required for safe and efficient operations
- forest hygiene procedures, based on disease mapping and including clean-down procedures for incoming and outgoing vehicles and equipment, intra-site movements and designation of "dieback-safe" and "unsafe" access-ways
- flora and fauna protection
- surface water and groundwater management
- salvage of topsoil from disturbed areas, for subsequent use in rehabilitation
- fire management
- exclusion of pets from site