

**Proposal to continue using the existing SCM
solid residue disposal site at Dalyellup,
beyond March 1994**

SCM Chemicals Ltd

Proposed change to environmental conditions

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

**Environmental Protection Authority
Perth, Western Australia
Bulletin 706
October 1993**

THE PURPOSE OF THIS REPORT

This report contains the Environmental Protection Authority's environmental assessment and recommendations to the Minister for the Environment on the environmental acceptability of the proposal.

Immediately following the release of the report there is a 14-day period when anyone may appeal to the Minister against the Environmental Protection Authority's report.

After the appeal period, and determination of any appeals, the Minister consults with the other relevant ministers and agencies and then issues his decision about whether the proposal may or may not proceed. The Minister also announces the legally binding environmental conditions which might apply to any approval.

APPEALS

If you disagree with any of the contents of the assessment report or recommendations you may appeal in writing to the Minister for the Environment outlining the environmental reasons for your concern and enclosing the appeal fee of \$10.

It is important that you clearly indicate the part of the report you disagree with and the reasons for your concern so that the grounds of your appeal can be properly considered by the Minister for the Environment.

ADDRESS

Hon Minister for the Environment
12th Floor, Dumas House
2 Havelock Street
WEST PERTH WA 6005

CLOSING DATE

Your appeal (with the \$10 fee) must reach the Minister's office no later than 5.00 pm on 22 October 1993

Environmental Impact Assessment (EIA) Process Timelines in weeks

Date	Timeline commences after receipt of full details of proposal from the proponent	Time (weeks)
2/9/93	Proponent Document distributed by EPA for comment (distribution targeted to relevant government agencies and Conservation Council of WA)	3
23/9/93	Comment Period Closed	
	Issues Raised During Public Comment Period Summarised by EPA and Forwarded to the Proponent	not required
	Proponent response to the issues raised received	not required
8/10/93	EPA Section 46 report to the Minister for the Environment released	2

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1. Introduction

SCM Chemicals Ltd (the proponent) proposes to continue using its Dalyellup solid residue disposal site beyond March 1994, the expiry date of current approvals for the site. SCM referred this proposal to the Environmental Protection Authority as an amendment to its existing Environmental Conditions in July 1993. Under the provisions of Section 46 of the Environmental Protection Act, the Minister for the Environment has requested that the Environmental Protection Authority inquire into the proposal and report to him. This report fulfils that request.

The Environmental Protection Authority required SCM to provide a concise explanation of the proposal. SCM were advised that they should include information on the precise area involved in utilising the site beyond March 1994 and the then projected life of the Dalyellup site. This information was bound into a document titled "Proposal for the continued use of existing residue disposal site at Dalyellup, August 1993" together with a copy of SCM's June 1993 Audit Report and the Environmental Protection Authority's last assessment report (Bulletin 589).

The Environmental Protection Authority distributed this document to relevant government agencies, the Shire of Capel and Conservation Council of WA on the 2 September 1993 and asked for comment by 23 September 1993. The Radiological Council, Homeswest Centre, Conservation Council of WA, Department of Resources Development and Landcorp made submissions. In these responses the issues covered related to concern that the site may be seen as the final solution to SCM's waste disposal problems, concern that the waste operations may limit the capacity of surrounding areas for future development and comment regarding the need to obtain approval for the continued use of the site from the Radiological Council.

2. SCM Chemical's operation

SCM Chemicals Ltd operates a modern chloride process pigment plant within the Kemerton Industrial Park, 9km north of SCM's Australind plant. The Kemerton plant produces titanium dioxide pigment and has both liquid and solid waste streams associated with the processing operation. The liquid waste is treated on site and discharged to the ocean with the approval of the Environmental Protection Authority. The solid waste is currently disposed of in two interdunal depressions at Dalyellup, 8km south of Bunbury (Figure 1). The solid waste comprises unreacted materials such as ore, coke, metal hydroxides, gypsum, lime, and a small amount of titanium dioxide.

3. Background

The Environmental Protection Authority formally assessed the operation of the Dalyellup disposal site in October 1991 (Environmental Protection Authority Bulletin 589 see Appendix 1). That report related specifically to a proposal to continue using the site beyond March 1992. SCM was required to prepare a Consultative Environmental Review (CER) for that proposal. The CER was released for a four week period and three government agency submissions and one from the Conservation Council of WA were received.

The Environmental Protection Authority considered the proposal to be environmentally acceptable but recommended approvals be granted only from March 1992 to March 1994. The time limit on approvals was a clear statement by the Authority against the long term use of interdunal depressions for the disposal of industrial waste. It allowed SCM to continue operations because of and subject to the following:

- Continued acceptable environmental performance and compliance with all Environmental Protection Authority licence conditions.

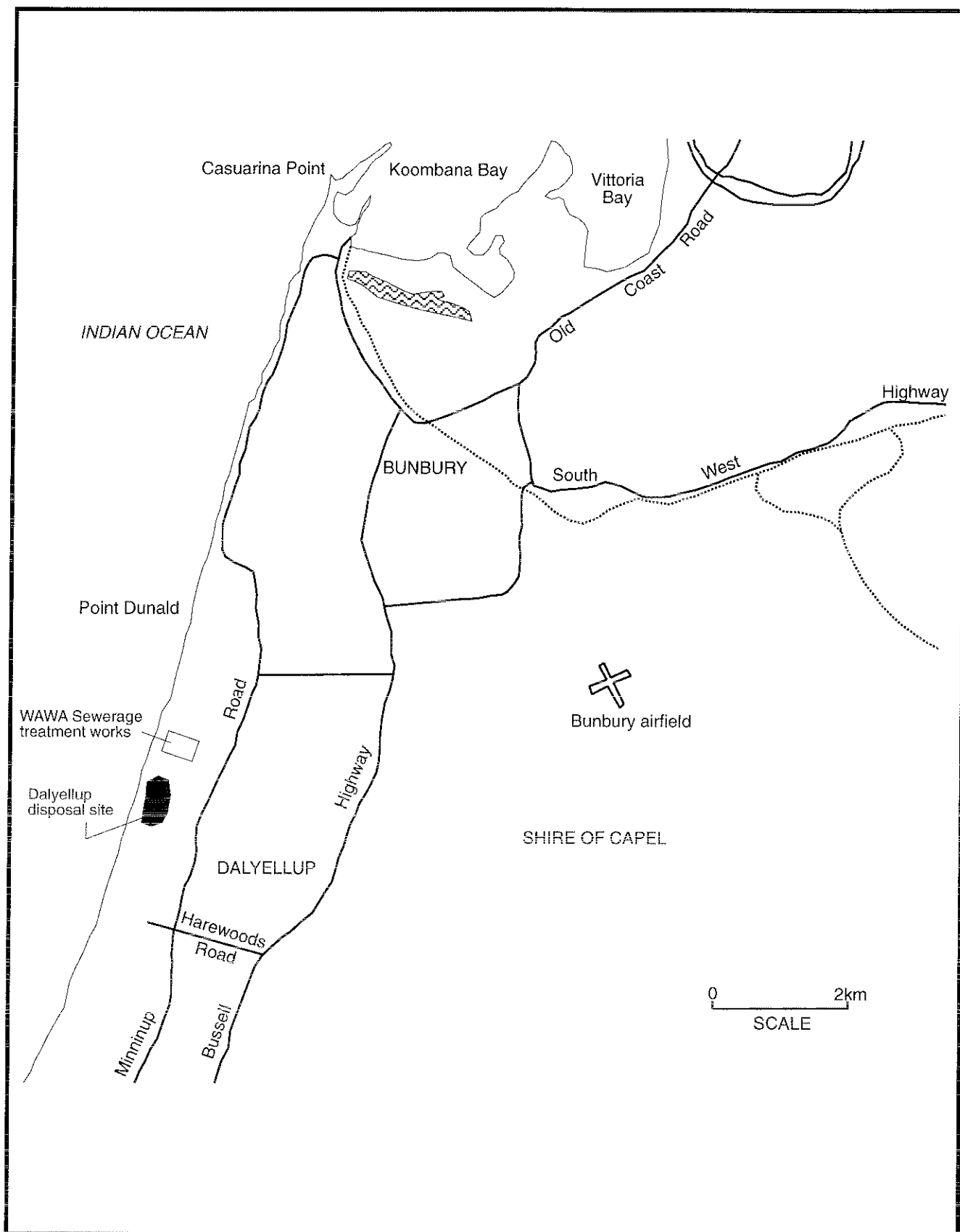


Figure 1. Regional location of proposed disposal area
 Courtesy of SCM Chemicals Ltd

- No land use conflicts developing around the site (ie. final rehabilitation of the site must ensure it is compatible with existing and future proposed land uses).
- No extension of the existing boundary.

In addition, the Environmental Protection Authority recognises that:

- other reasonable options do not exist at this time;
- SCM is committed to pursuing alternative methods of waste disposal; and
- the Department of State Development, the Industrial Lands Development Authority, the Kemerton Advisory Board and the Industrial Land Co-ordinating Committee are in the process of preparing a report to address strategic waste issues for industries in the Kemerton Industrial Park (Environmental Protection Authority Bulletin 589).

Prior to the 1991 assessment SCM had been using the Dalyellup site under Environmental Protection Authority conditional approval, being limited to a three year period (1989 to 1992) and satisfactory environmental performance.

Regular environmental monitoring data and reports have been developed by SCM since it commenced operations at the site. These reports have been provided to the Environmental Protection Authority, Water Authority of WA, Radiological Council of WA and Shire of Capel. The most recent is the June 1993 Audit Report.

4. Environmental performance of existing operation

This section has been copied directly from the Environmental Protection Authority's previous assessment of this project October 1991. It has been included in this report for ease of reference.

"The Environmental Protection Authority has carefully monitored the environmental performance of the Dalyellup site since December 1988 when the Environmental Protection Authority issued a Licence under the provisions of Part V of the Environmental Protection Act.

The Licence addresses the issues identified in the Environmental Protection Authority's advice to SCM (Appendix I) which approved the use of the Dalyellup site for a three year period up to March 1992. Importantly, SCM was required to:

1. demonstrate the adequate environmental performance of the disposal operation ;
2. provide a report on alternative waste treatment and disposal methods; and
3. rehabilitate the land to the satisfaction of the Environmental Protection Authority and Shire of Capel.

In relation to the first requirement above, SCM has commissioned reports that show:

- a calcium chloride salinity plume has developed under the site;
- no significant increase in heavy metals loadings to the groundwater has occurred; and
- the levels of radiation are within acceptable environmental standards.

The Authority has been kept informed on the progress of these reports and the issues they address, and as noted above has received the full reports on a regular basis as have a number of other government agencies. To date, the acceptable environmental performance of the disposal operation has progressed without incident.

The second requirement was complied with through SCM's submission of the independent report prepared by Dr Radford and discussed in section 3 above.

In relation to the Authority's third requirement, SCM is unsure of the ultimate end land use of the site, which prevents them from completing a detailed rehabilitation programme at this stage. Nonetheless, they have progressed investigations at the site and propose to implement a staged management rehabilitation programme.

The Environmental Protection Authority expects that the site will be rehabilitated for recreational use and considers that this is appropriate. This end land use would be one of the few acceptable land uses for that site, given its proximity to the Water Authority of WA waste water treatment plant number two (some 500m to the north, see Figure 2). There is a need to ensure an adequate buffer is maintained around this treatment plant to prevent land use conflicts from occurring (eg. urban development would be an inappropriate land use within close proximity to the treatment plant due to odour issues)."

The Authority is satisfied that SCM has continued to operate the site since the above comments were made in 1991 to now, in an environmentally acceptable manner. Results of its monitoring programmes and yearly audit reports are available for review.

5. The proposal

SCM has sought approval to use the Dalyellup site beyond March 1994 because an alternative site or options have not been identified. Such approval would require that the area of land actually used to dispose of the waste is increased from that previously approved (Figure 2). This increase of land area can be accommodated within the boundary of the existing lease for the site.

This proposal would see the projected lifetime of the site extended by up to eight years. It is also pointed out by SCM that with greater efficiencies and success from waste reduction programmes, this time period could also be increased.

SCM suggest that advantages to be gained from this proposal are:

- The area has already been disturbed and it is therefore logical to maximise the use of this site rather than seek and disturb new sites. Disposal will be contained within the leased site boundary.
- Disposal is contained within the WAWA sewerage plant buffer zone. This use is compatible with the buffer zone concept and rehabilitation to recreational use will ensure the ultimate integrity of the buffer zone.
- Disposal will be confined to the interdunal area — there will be no impact on the tuart area east of the site. In fact, tuarts have been shown to thrive on a rehabilitated section of the residue site.

There is no intention, indeed it is virtually impossible, to extend the ponds westwards of the existing ponds. Further, soil recovery potential is limited and only practical in the interdunal depressions S2, S3 and S4.

This should have no significant impact on the environmental performance of the operation.

- Properly engineered development of the site into several smaller ponds will permit better management of the filling/drying cycle. Geochemical studies have shown that solar drying is an effective technique to further immobilise the iron and manganese oxides and this is an important factor in the development of potential uses.
- Very large quantities of sand and topsoil are already required for rehabilitation. It is logical to obtain this soil from the site rather than import soil from elsewhere.
- The Dalyellup site is relatively isolated at the moment and there are no significant adverse impacts on any residential areas. Safety is regarded as an important aspect of the operation, however, and it is important to note that security fences are in place around the active ponds for safety reasons. They bear no relationship to the lease boundaries and are frequently shifted to provide maximum protection. The site is regularly patrolled by a local security firm.

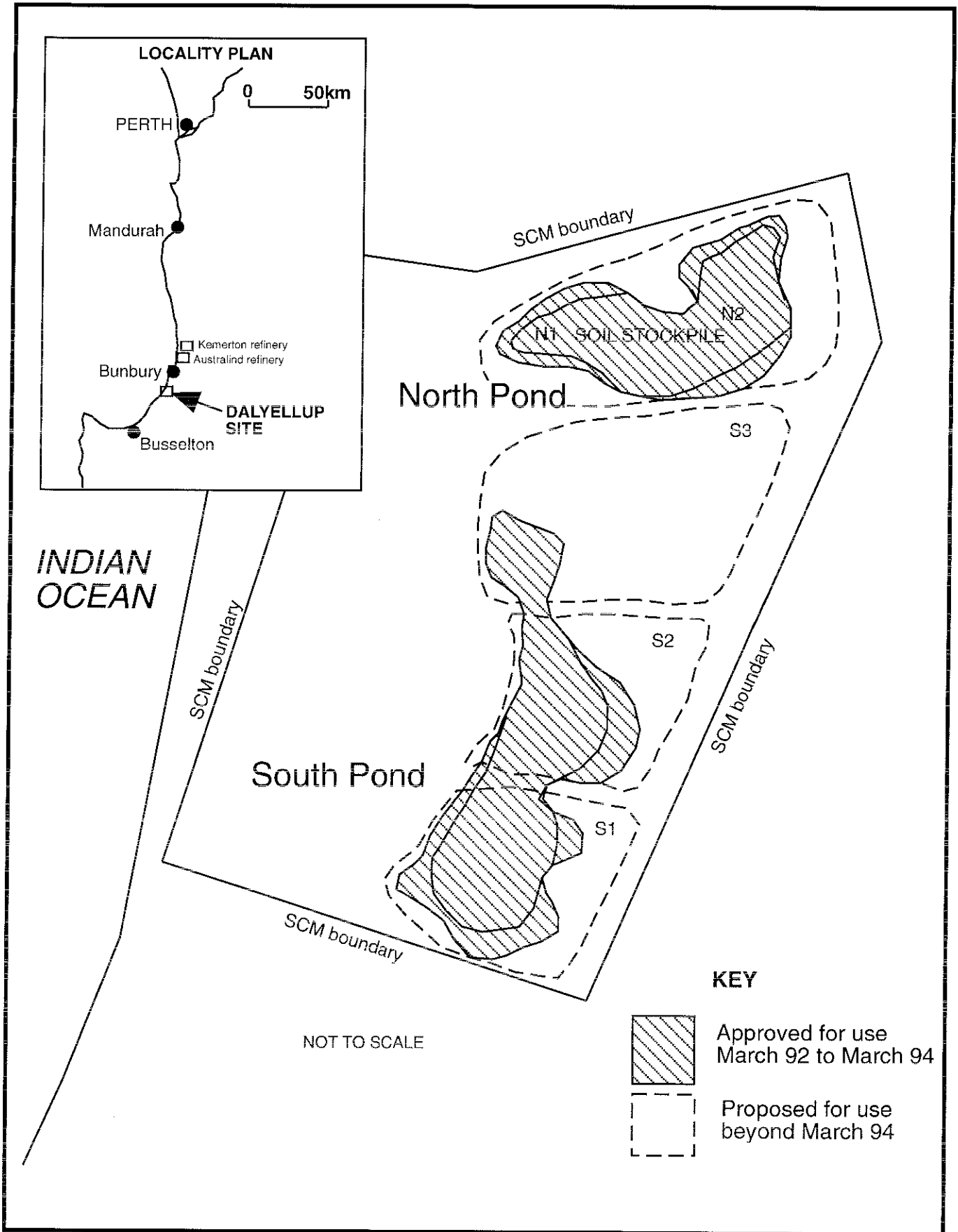


Figure 2. Dalyellup disposal ponds

6. Environmental Protection Authority's assessment

The Environmental Protection Authority does not support the general principle of the use of interdunal depressions on the coast for the disposal of waste. This view has been expressed previously in Bulletin 589. More suitable long term alternatives for waste disposal must be identified as a priority. It should be recognised that this proposal will not provide a final solution to solid waste disposal issues for SCM. The Kemerton plant has an expected operational life in excess of the estimated eight years of storage capacity at Dalyellup. Accordingly, SCM Chemicals will still be required to locate an alternative solid waste disposal site. Furthermore, should SCM find itself in a position where it seeks to increase the capacity of the Kemerton plant, then the Environmental Protection Authority would expect that proposal to include an alternate solid waste disposal area.

Notwithstanding the above and in view of the previous satisfactory environmental performance of the Dalyellup site, the Authority considers that use of the Dalyellup site beyond March 1994 is environmentally acceptable subject to the following:

- continued acceptable environmental performance and compliance with all Environmental Protection Authority licence conditions;
- no land use conflicts developing around the site (ie. final rehabilitation of the site must ensure it is compatible with existing and future proposed land uses);
- no extension of the existing lease area;
- no development further west (into the primary dune system) than already exists;
- fill to be restricted to no more than RL 24; and
- only waste from SCM's Kemerton plant operations to be disposed at the site.

Recommendation

The Environmental Protection Authority recommends that SCM Chemicals Ltd proposal to continue its solid residue disposal operation is environmentally acceptable and that it could continue beyond March 1994 subject to the continued acceptable environmental performance of the operation to the requirements of the Environmental Protection Authority.

This recommendation is made subject to disposal occurring within the existing lease area, east of the primary dune system and to a maximum height that does not compromise the future usefulness of the site.

This recommendation could be given effect through an amendment to the Minister for the Environment's Statement published 23 January 1992 (see Attachment 1 to Section 7).

7. Recommended environmental conditions

The following Recommended Environmental Conditions would amend the Minister's original Statement (Attachment 1) and apply additional conditions to ensure a continued review of the environmental performance of this site.

PROPOSAL: PROPOSAL TO CONTINUE USING THE EXISTING SCM SOLID RESIDUE DISPOSAL SITE AT DALYELLUP, BEYOND MARCH 1994 (824)

ORIGINAL PROPOSAL: CONTINUED USE OF SCM SOLID RESIDUE DISPOSAL SITE AT DALYELLUP, FROM MARCH 1992 TO MARCH 1994 (625)

Conditions 1, 2 and 4 of the original Statement are replaced with the following:

1 Proponent Commitments

In implementing the proposal, including the proposed amendment to continue using the site beyond March 1994 as reported on in Environmental Protection Authority Bulletin 706, the proponent shall fulfil the commitments (which are not inconsistent with the conditions or procedures contained in this statement) made in the Consultative Environmental Review, September 1991.

2 Implementation

Subject to the conditions in this amended statement, 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.

4 Rehabilitation

The satisfactory rehabilitation of the site is the responsibility of the proponent.

4-1 The proponent shall prepare a final rehabilitation programme at least six months prior to any planned decommissioning of the site. This programme shall be prepared to meet the requirements of the Radiological Council and reflect advice of the Shire of Capel.

4-2 The proponent shall implement the plan required by condition 4-1.

The following conditions are inserted after condition 5 in the original Statement:

6 Management of the Site

6-1 The proponent shall ensure that the waste disposal site is operated and maintained to protect the environment from unacceptable environmental impacts.

6-2 The proponent shall ensure that disposal occurs within the existing lease boundary, does not encroach on the primary dune system and is limited to a fill height of no more than RL 24.

6-3 The proponent shall ensure that only waste from its Kemerton plant operations are disposed of to the Dalyellup site.

The following procedure is inserted in the 'Procedure' section of the original Statement:

The Environmental Protection Authority 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.

If the Environmental Protection Authority, 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.



WESTERN AUSTRALIA
MINISTER FOR THE ENVIRONMENT

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

CONTINUED USE OF SCM SOLID RESIDUE DISPOSAL SITE AT DALYELLUP,
FROM MARCH 1992 TO MARCH 1994 (625)

SCM CHEMICALS LTD

This proposal may be implemented subject to the following conditions:

1. In implementing the proposal, the proponent shall fulfil the commitments (which are not inconsistent with the conditions or procedures contained in this statement) made in the Consultative Environmental Review, September 1991 (A copy of the commitments is attached).
2. 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. Prior to 30 June each year, the proponent shall prepare and submit an audit report which addresses the following:
 1. environmental performance of the existing site;
 2. progress towards finding an alternative; and
 3. compliance with the conditions of this statement,to the satisfaction of the Environmental Protection Authority.
4. The proponent shall be responsible for decommissioning and removal of the plant and installations and rehabilitating the site and its environs, to the satisfaction of the Environmental Protection Authority. At least six months prior to decommissioning, the proponent shall prepare and subsequently implement a decommissioning and rehabilitation plan, to the satisfaction of the Environmental Protection Authority.
5. 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.

Published on

23 JAN 1992

Procedure

The operation of this site is currently subject to conditions of a licence issued under the provisions of Part V of the Environmental Protection Act. The continued operation of this site will be subject to the licensing requirements of the Environmental Protection Act.



Bob Pearce, MLA
MINISTER FOR THE ENVIRONMENT

22 JAN 1992

COMMITMENTS:

The proponent has made the following commitments in relation to this proposal.

1. The existing groundwater monitoring and reporting programme will continue. This will be combined with ongoing investigations, including solute transport modelling to improve understanding of the disposal technique.
2. Existing topsoil removal practices will be continued to ensure that wind blown dust remains under control.
3. The existing radiation monitoring and reporting programme will continue.
4. At the end of the disposal period the proponent will cause the disposal site to be rehabilitated to the satisfaction of the Shire of Capel and the EPA.
5. The proponent will continue Research and Development studies into methods of waste minimisation and modification including further salinity reductions. This will include further studies of the materials properties and possible uses.
6. The proponent will continue actively pursuing alternative methods of waste disposal.

Appendix 1

**Environmental Protection Authority's report to the
Minister for the Environment
Bulletin 589, October 1991**

**Proposed use of existing SCM
solid residue disposal site at Dalyellup,
from March 1992 to March 1994**

SCM Chemicals Ltd

Report and recommendation
of the Environmental Protection Authority

Environmental Protection Authority
Perth, Western Australia
Bulletin 589
Assessment No. 625
October, 1991

THE PURPOSE OF THIS REPORT

SCM Chemicals Ltd is proposing to continue its solid residue disposal operations occurring at Dalyellup, 8 km south of Bunbury, for a further 2 years beyond the March 1992 expiry of the Environmental Protection Authority's licence.

This report contains the Environmental Protection Authority's environmental assessment and recommendations to the Minister for the Environment on the environmental acceptability of the proposal.

Immediately following the release of the report there is a 14-day period when anyone may appeal to the Minister against the Environmental Protection Authority's recommendations.

After the appeal period, and determination of any appeals, the Minister consults with other relevant ministers and agencies, and then issues his decision as to whether the proposal may or may not proceed. The Minister also publishes the legally binding environmental conditions which apply in the case of an approval.

APPEALS

If you disagree with any of the assessment report recommendations, you may appeal in writing to the Minister for the Environment, outlining the environmental basis for your concerns, and enclosing the appeal fee of \$10.

It is important that you clearly indicate the part of the report with which you disagree, and the reasons for your concerns, so that the grounds of your appeal can be properly considered by the Minister for the Environment.

ADDRESS

Hon Minister for the Environment
18th Floor, Allendale Square
77 St George's Terrace
PERTH WA 6000

CLOSING DATE

Your appeal (with the \$10 fee) must reach the Minister's office no later than 5.00 p.m. on the date indicated below.

1. The proposal

SCM Chemicals Ltd (the proponent) proposes to continue using its Dalyellup solid residue disposal site for a further two years beyond the expiry of its current Licence (March 1992). SCM referred this proposal to the Environmental Protection Authority in July 1991 and the Authority determined that the proponent should prepare a Consultative Environmental Review (CER).

The CER was released for a four week public review period beginning 16 September 1991 and ending 14 October 1991. During this period, four submissions were received. Three submissions were from Government agencies (Department of Planning and Urban Development, Water Authority of WA and Homeswest) and one was from the Conservation Council of WA.

None of the submissions raised issues that were not adequately addressed in the CER. All submissions considered that the proposal was environmentally acceptable (subject to some reservations such as the use of interdunal depressions for waste disposal and continued acceptable environmental performance), provided that the operation did not expand beyond the existing site boundaries.

The Consultative Environmental Review presents a summary of the numerous reports commissioned by SCM to monitor the environmental performance of the Dalyellup site. Copies of the Consultative Environmental Review were made available at the Environmental Protection Authority's library, Bunbury Library, Shire of Capel Library, Shire of Harvey Library, and Shire of Dardanup Library.

2. Introduction

SCM Chemicals Ltd operates a high technology chloride process plant within the Kemerton Industrial Park, 9km north of SCM's Australind plant (Figure 1). The Kemerton plant produces titanium dioxide pigment and has both liquid and solid waste streams associated with the processing operation. The liquid waste is treated on site and discharged to the ocean with the approval of the Environmental Protection Authority. The solid waste is disposed of in two interdunal depressions at Dalyellup, 8km south of Bunbury. The solid waste comprises unreacted materials such as ore, coke, metal hydroxides, gypsum, lime, and a small amount of titanium dioxide which is not extracted during the process.

3. Background

The Environmental Protection Authority previously assessed SCM's proposal to dispose of its waste in an exhausted basalt quarry in Gelorup. This proposal was found environmentally acceptable but in response to local concerns, SCM decided to search for an alternative site.

The alternative site proposed by SCM was at Dalyellup (Figure 2). In December 1988 the EPA approved this site for use (see Appendix 1), and SCM began disposal operations in March 1989.

EPA's approval was conditional, being limited to a three year period and satisfactory environmental performance. SCM was also required to commission an independent assessment of the available information relating to the disposal of its solid residue. The study was undertaken by Dr R. Radford from the Department of Chemical Engineering at Curtin University of Technology and is available in the EPA Library for review by interested parties. It investigated five disposal options including:

- roasting of the residue with recovery of chlorine and/or hydrochloric acid;
- use of the residue as a soil conditioner;
- disposal of the residue in an alumina refinery red-mud lake;

- disposal of the residue in depleted sand-mines in or near Capel; and
- disposal of the residue in interdunal depressions at Dalyellup.

Of these five options, the Environmental Protection Authority had envisaged that option one would be the most environmentally acceptable. However, the study showed that this option had potentially more problems associated with it than the current method of waste treatment and disposal.

Regular environmental monitoring data and reports have been developed by SCM since it commenced operations at the site. These reports have been provided to the EPA, Water Authority of WA, Radiological Council of WA and Shire of Capel.

4. Environmental performance of existing operation

The Environmental Protection Authority has carefully monitored the environmental performance of the Dalyellup site since December 1988 when EPA issued a Licence under the provisions of Part V of the Environmental Protection Act.

The Licence addresses the issues identified in the EPA's advice to SCM (Appendix 1) which approved the use of the Dalyellup site for a three year period up to March 1992. Importantly, SCM was required to:

1. demonstrate the adequate environmental performance of the disposal operation ;
2. provide a report on alternative waste treatment and disposal methods; and
3. rehabilitate the land to the satisfaction of the EPA and Shire of Capel.

In relation to the first requirement above, SCM has commissioned reports that show:

- a calcium chloride salinity plume has developed under the site;
- no significant increase in heavy metals loadings to the groundwater has occurred; and
- the levels of radiation are within acceptable environmental standards.

The Authority has been kept informed on the progress of these reports and the issues they address, and as noted above has received the full reports on a regular basis as have a number of other Government agencies. To date, the acceptable environmental performance of the disposal operation has progressed without incident.

The second requirement was complied with through SCM's submission of the independent report prepared by Dr Radford and discussed in section 3 above.

In relation to the Authority's third requirement, SCM is unsure of the ultimate end land use of the site which prevents them from completing a detailed rehabilitation programme at this stage. Nonetheless, they have progressed investigations at the site and propose to implement a staged management rehabilitation programme.

The Environmental Protection Authority expects that the site will be rehabilitated for recreational use and considers that this is appropriate. This end land use would be one of the few acceptable land uses for that site, given its proximity to the Water Authority of WA waste water treatment plant number two (some 500m to the north, see Figure 2). There is a need to ensure an adequate buffer is maintained around this treatment plant to prevent land use conflicts from occurring (eg. urban development would be an inappropriate land use within close proximity to the treatment plant due to odour issues).

5. Environmental Protection Authority's assessment

The three year period identified in the Authority's original approval for the site was chosen to allow SCM sufficient time to investigate alternative waste disposal options, including alternative sites and waste treatment technologies.

SCM proposes to continue disposal at Dalyellup for a further two years because they have so far been unsuccessful in locating an alternative site or developing an alternative waste treatment process. This is not a reflection on SCM's commitment to the job. The reality is that waste disposal issues are a major concern for industry in the south-west and they are not easily resolved.

The Authority's December 1988 letter of approval (Appendix 1) identified that the use of the Dalyellup site "has been assessed to be environmentally unacceptable beyond 3 years...". However, based on the Authority's assessment of the information supplied by SCM since that date, the Authority considers that the proponent has demonstrated the environmental acceptability of its waste disposal operation within its existing site boundaries.

In view of the previous satisfactory environmental performance of the Dalyellup site, the Authority considers that the continued use of the site is environmentally acceptable subject to the following:

- continued acceptable environmental performance and compliance with all EPA licence conditions;
- no land use conflicts developing around the site (ie. final rehabilitation of the site must ensure it is compatible with existing and future proposed land uses); and
- no extension of the existing boundary.

In addition, the Environmental Protection Authority recognises that:

- other reasonable options do not exist at this time;
- SCM is committed to pursuing alternative methods of waste disposal; and
- the Department of State Development, the Industrial Lands Development Authority, the Kemerton Advisory Board and the Industrial Land Co-ordinating Committee are in the process of preparing a report to address strategic waste issues for industries in the Kemerton Industrial Park.

Further, if the capacity of the site will allow waste to be deposited at the site beyond March 1994, (which may be the case if alternative treatment methods reduce the volume of waste disposed) subject to the constraints above, ie. no extension of the site boundary, the Environmental Protection Authority considers that it is likely to be environmentally acceptable. However, the Authority would make that determination based on the performance of the operation at the site up to March 1994.

Recommendation

The Environmental Protection Authority recommends that SCM Chemicals Ltd solid residue disposal operation at Dalyellup is environmentally acceptable and that it could continue up to the end of March 1994 subject to the commitments made in the proponent's CER and the continued acceptable environmental performance of the operation at the site to the satisfaction of the Authority.

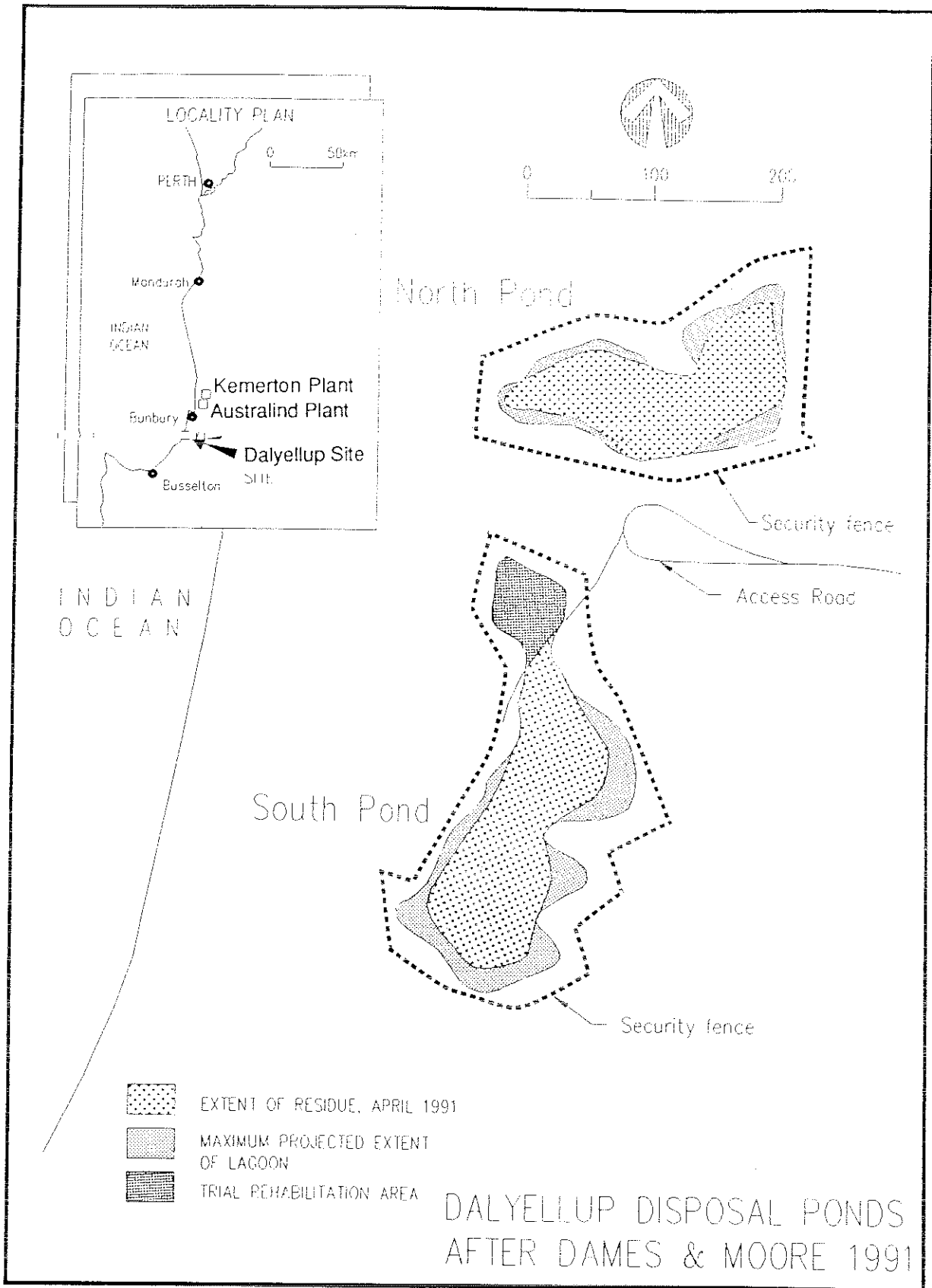


Figure 1. Regional location of SCM operations (Kemerton, Australind and Dalyellup, courtesy of SCM's Consultative Environmental Review), and the Dalyellup disposal ponds.

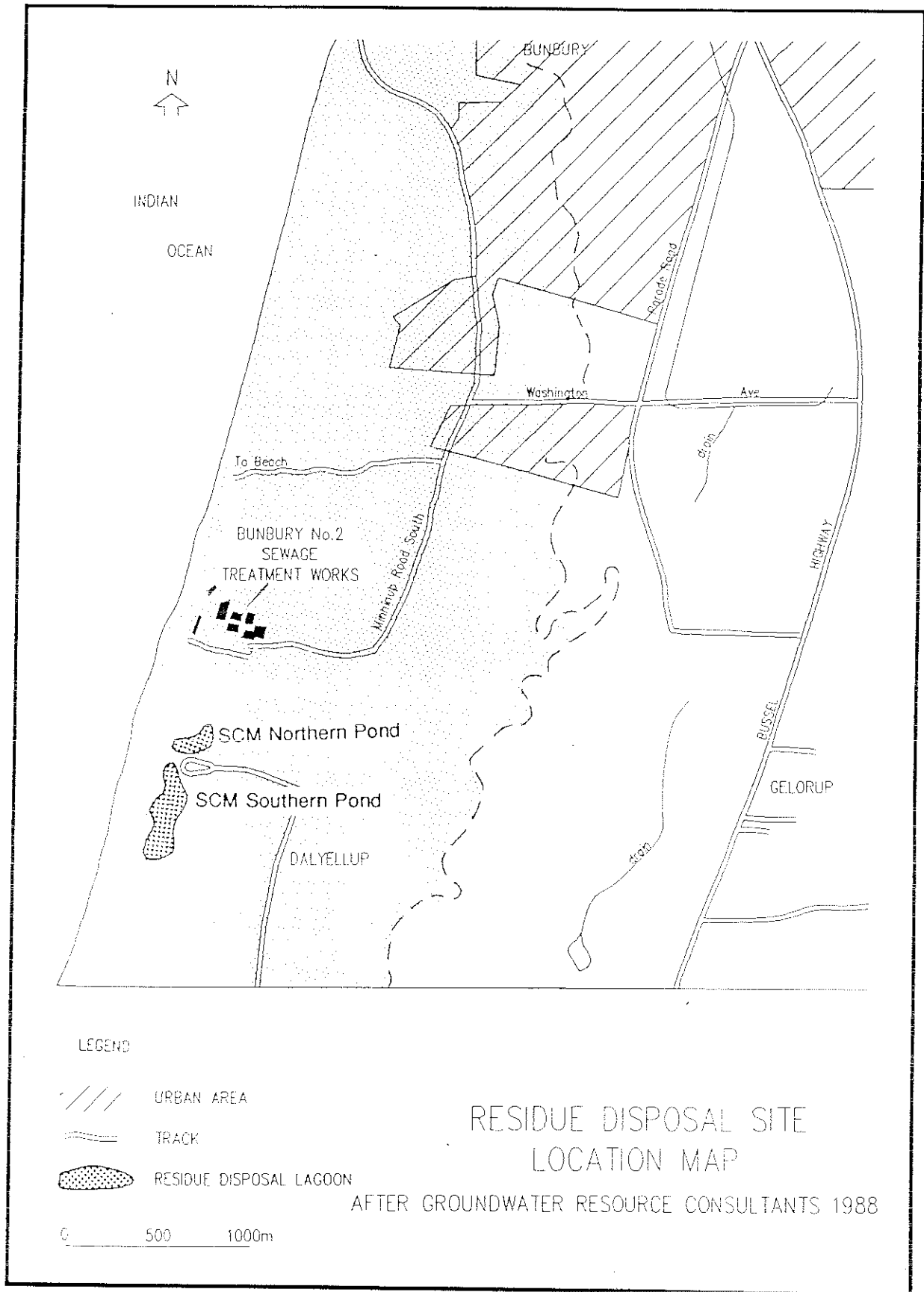


Figure 2. Dalyellup location map (Courtesy of SCM's Consultative Environmental Review)

Appendix 2

**Environmental Protection Authority's advice
regarding waste disposal at Dalyellup**



ENVIRONMENTAL PROTECTION AUTHORITY

1 MOUNT STREET PERTH WESTERN AUSTRALIA 6000

Telephone (09) 222 7000

General Manager
SCM Chemicals Limited
PO Box 245
BUNBURY WA 6230

Your Ref

Our Ref

Enquiries

Attention: Mr John Leach

Dear Mr Leach

PROPOSAL FOR DISPOSAL OF SOLID WASTES

The Environmental Protection Authority has considered the proposal from your Company submitted in response to Ministerial Condition number 11 of 24 August 1987, for disposal of solid wastes from the pigment plant at Kemerton, and has reached the following conclusions.

Your proposal to dispose of the slurry material in the coastal dunes at Dalyellup south of Bunbury has been assessed as environmentally unacceptable beyond 3 years and only acceptable for short term disposal under the following circumstances:

1. Use of the site will be subject to a Works Approval and Licence under Part V of the Environmental Protection Act. This Licence will be issued for a period of two years. Continuation of the licence will be for a maximum of one further year dependent on:
 - a) adequate environmental management performance of the disposal operation; and
 - b) submission to the Authority, no later than 18 months from the start of the disposal operation, of a report detailing the progress made towards alternative waste treatment and disposal methods, and indicating the method to be developed to allow completion of the Dalyellup operation within the additional year.
2. Conditions will be attached to the Licence formalising your Company's commitments to environmental management. In particular, the requirements for groundwater monitoring will be specified in detail.

3. The site shall remain under the control of the Company for such period after the cessation of waste disposal, as is required for rehabilitation of the site to be completed to the satisfaction of the Authority.
4. The final land use of the site, and hence the type of rehabilitation, must be to the satisfaction of the Authority and the Shire of Capel.

Yours sincerely



B A Carbon
CHAIRMAN

19 December 1988

0354RNRS