

STAGE 5 REPORT

Coastal Acid Sulfate Soils Program (CASSP) 28th February 2003

Demonstrating amelioration of Acid Sulfate Soils, Barker Inlet
Gillman area, South Australia.



Workshop Demonstration crowd being entertained by Rob and Brett at the Gillman remediation trials site. The drain, in the foreground contains highly acidic groundwater with a pH of 2.8.

Bio-remediation experiment pond. Actual ASS was placed in the bottom of the plastic lined pond and covered with organic matter before being filled with acidic ground water (pH 2.8) from the drain pictured above.



Three months after construction, iron oxides are precipitating from the water that now has a pH of 5.4.

STAGE 5 PROGRESS REPORT

Coastal Acid Sulfate Soils Program (CASSP)

Milestone Report: 30th October 2002

1. **Project title:** Demonstrating amelioration of Acid Sulfate Soils, Barker Inlet Gillman area, South Australia.

2. **Contact Details:**

Project Manager: Ms Verity Sanders (Port Adelaide Enfield Council).

Phone: (08) 8405-6727

Email: vsanders@portenf.sa.gov.au

Postal Address: PO Box 110

Port Adelaide SA 5015

Research officer: Dr Rob Fitzpatrick (CSIRO Land & Water).

Project Officer: Mr Brett Thomas (PhD student, University of Adelaide; CSIRO).

Project Steering committee: The Barker Inlet and Port Estuary Committee (BIPEC)

– Contact / secretary Harry Pitrans.

Project Consortium: Port Adelaide Enfield Council, CSIRO Land & Water, Land Management Corporation, Penrice Soda Products, Department of Environment and Heritage, Salisbury Council, Torrens Catchment Water Management Board, Northern Adelaide & Barossa Catchment Water Management Board and the St Kilda Mangrove Trail & Interpretative Centre.

3. **Key Dates**

Project Duration: 1st January 2001 to 31st December 2002. Final report is due 28th February 2003. Stage 5 Final Report due: 28th February 2003.

4. **Project Activities**

The agreed activities and milestones are shown below:

	Activities	Milestones	Progress
5.1	Disseminate information from ASS rehabilitation trials as per Communication and Awareness Strategy (Annexure A Q11) and via: <ul style="list-style-type: none">• Demonstrations workshops at trial site.• Publication of research outcomes• Publishment of Development Brochure	Information disseminated	Milestone Met
5.2	Finalise and distribute Industry Manual, <i>Best practice soil improvement strategies for ASS</i>	Industry Manual finalised and distributed	Milestone partly met - DRAFT compiled
5.3	Commence Plan Amendment Report to Amend Councils' Development Plans	Plan Amendment Report finalised	Milestone partly met
5.4	Final research report compiled	Final research report delivered	Milestone partly met - DRAFT compiled
5.5	Begin Project Final Report	Project Final Report begun	Milestone Met
Final Report Report to be lodged with the Department within 2 months of completion of Stage 5 and project. Final report is to include a Statement of Expenditure in accordance with Clause 10.3. - Due date 28/02/2003			

A report against each milestone follows.

Report against Milestones

Activity 5.1 Disseminate information from ASS rehabilitation trials as per Communication and Awareness Strategy (Annexure A Q11) and via:

- Demonstrations workshops at trial site.
- Publication of research outcomes
- Publishment of Development Brochure

Milestone 5.1 Information Disseminated

Report: *Milestone 5.1 Met*

Demonstrations workshops at trial site

A Demonstration Workshop was conducted at the Gillman remediation trials site on the 15th of October 2002. The Demonstration was attended by 22 people, representing industry (Transport SA and environmental/ geotechnical consultancy companies), BIPEC members (Steering Committee) and the Project committee.

Plans are being made to hold a series of meetings to communicate outcomes from the project to manage better the ASS in Barker inlet. The purpose of the meetings is an awareness raising strategy to inform landholders, developers and the local community about the ASS problem, the extent of it, methods that can be adopted to ameliorate the problem, and intended policy changes by both Councils. The City of Port Adelaide Enfield has two existing monthly environment forums that will be used for this purpose.

A copy of these reports is contained in Appendix 1.

Publication of research outcomes

Research outcomes have been disseminated to the scientific, development, engineering and planning communities and the general public through:

- The preparation of articles in the respective professional journals:

Two journal papers are currently being prepared for publication in the Australian Journal of Soil Research, Special 5th International ASS Conference Proceedings Edition. This is based on the following the presentation by Brett Thomas *et. al.* made to an internationally recognised scientific ASS audience at the 5th International ASS Conference held at Tweed Heads in August. An abstract and related poster was also published in the conference proceedings.

- Milestone Reports availability:

A website is has been developed where all previous milestone reports will be made publicly available.

URL: <http://www.clw.csiro.au/staff/FitzpatrickR/publications.html>

CSIRO Land and Water are in the process of re-developing websites but we expect that this location will be stable.

- Development Brochures:

Two “user-friendly” publications have been produced: 1. A brochure has been published that outlines the various characteristics of coastal ASS in the Barker Inlet to inform landholders, developers, the local community and students about potential problems associated with the coastal ASS. 2. A draft of “Coastline” bulletin (No 33) titled “A strategy for implementing CPB policies on coastal acid sulfate soils in South Australia” is being edited. This bulletin will outline the issues and proposed implementation polices in SA but with a specific case study from Barker Inlet. At least 1500 colour copies will be printed.

- Field-trip brochure

A field-trip brochure for the Gillman ASS remediation experiments was produced and disseminated at the Worksop Demonstration day.

Publishing the Development Brochure

- An information brochure that also explains the problems at St Kilda has been published and is being distributed to school children and the general public through the St Kilda Mangrove Interpretive Centre.

- The following “user-friendly” publications have been produced:

1. A brochure has been published that outlines the various characteristics of coastal ASS in the Barker Inlet to inform landholders, developers, the local community and students about potential problems associated with the coastal ASS.
2. A draft of “Coastline” bulletin (No 33) titled “A strategy for implementing CPB policies on coastal acid sulfate soils in South Australia” is being edited. This bulletin will outline the issues and proposed implementation polices in SA but with a specific case study from Barker Inlet. At least 1500 colour copies will be printed.

Activity 5.2 Finalise and distribute Industry Manual, *Best practice soil improvement strategies for ASS*

Milestone 5.2 Industry Manual finalised and distributed

Report: *Milestone 5.2 Partly met*

A Draft Industry Manual titled “Best practice soil improvement strategies for ASS in Barker Inlet” (Version 1.1) has been produced and is currently being edited and trialled.

Activity 5.3 Commence Plan Amendment Report to Amend Councils’ Development Plans

Milestone 5.3 Plan Amendment Report finalized

Report: Report Finalised (*Partly met*)

Varity Sanders is developing a framework to prepare a “Plan Amendment” Report, which will be submitted to the SA Government for discussion and approval.

Activity 5.4 Final research report compiled

Milestone 5.4 Final research report delivered

Report: *Milestone 5.4 Partly Met*

A Draft of the Final Research report has been produced and is currently being edited.

Activity 5.5 Begin Project Final Report

Milestone 5.5 Project Final Report begun

Report: *Milestone 5.5 Met*

Writing of the Project Final Report has begun and several drafts have been prepared – following meetings with project staff.

5. Provide a brief description and analysis of Program Performance Indicators as per Item K.

The project has progressed well and although not all the Stage 5 Milestones have been completed at this time, they are well underway and will be completed shortly. We have been actively communicating during this reporting period, liaising closely with industry such as Transport SA and GasNet about the likelihood of encountering ASS during the construction of the “Mawson Connector” freeway and a new underground gas pipeline that will run though Gillman, adjacent to the remediation trial site.

5.1 Communications and Correspondence made during the reporting period. (Appendix 1 contains a copy of these documents).

- **St Kilda Information brochure:** Information on the environmental conditions at St Kilda (aimed at higher level Primary School and Secondary School students).
- **Coastline Bulletin:** A draft of “Coastline” bulletin (No 33) titled “A strategy for implementing CPB policies on coastal acid sulfate soils in South Australia” is being edited.
- **Coastal Acid Sulfate Soils Development brochure:** A draft brochure detailing the characteristics, identification, hazards, processes and remediation options has been drafted and is currently being edited for publication.
- **Field-trip brochure:** for the Gillman ASS remediation experiments have been developed for Worksop Demonstration days.

Appendix

Appendix 1 **Communications**

- 1.1 St Kilda Information brochure (Final)**
- 1.2 Coastal Acid Sulfate Soils Development brochure (Draft)**
- 1.3 Coastline Bulletin (Draft)**
- 1.4 Coastal ASS Remediation Trials: Field notes**
- 1.5 Industry Manual, *Best practice soil improvement strategies for ASS* (Draft)**

5.2 *Appendix 2* **Project Committee Meetings Minutes**

Agenda, minutes and attachments from committee meetings:

- 15/10/02

Declaration

As the Organisation referred to in the Financial Agreement we declare that the information given in this report is complete and correct. We consent to the public disclosure of the information in this report.

Signature of authorised representative of
recipient organisation

Printed name

Position in Organisation

Contact Telephone Number

Date

Ms Verity Sanders
Port Adelaide Enfield Council
08 8405 6727
30/10/2002

