



STORYS CREEK ACID DRAINAGE REMEDIATION

ANOXIC LIMESTONE DRAIN CONSTRUCTION REPORT

FEBRUARY 2001

MINERAL RESOURCES		
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1.0 INTRODUCTION

The Storys Creek/Rossarden remediation project is a cooperative project between Mineral Resources Tasmania (MRT), the Department of the Primary Industry Water and Environment (DPIWE) and the Commonwealth Department of the Environment. The aim is to design and implement a remediation strategy for the Storys Creek and Rossarden abandoned mine sites to reduce acid and heavy metal discharge into the South Esk River system.

Mineral Resources Tasmania is supervising the acid drainage remediation works at the old abandoned mine workings at Storys Creek and Rossarden. The remediation works are being funded by the State Government through the Rehabilitation of Mining Lands Trust.

The aim is to design and implement a remediation strategy for the Storys Creek and Rossarden abandoned mine sites to reduce acid and heavy metal discharge into the South Esk River system.

As part of the remediation works, an anoxic limestone drain to generate alkalinity in waters draining into the underground workings was constructed.

This report details construction. A separate report deals with the design. (John Miedecke and Partners Pty Ltd (JMP) 2000a.

Figure 1 shows the location.

2.0 ANOXIC LIMESTONE DRAIN CONSTRUCTION

2.1 Purpose

The ALD was constructed to raise alkalinity in "clean" waters and then be released to the mine workings.

2.2 Details

The drain was constructed up-slope from the main shaft in January 20001 and in an area which was saturated from leakage from the ponds constructed in the area for mine use (see Figure 1).

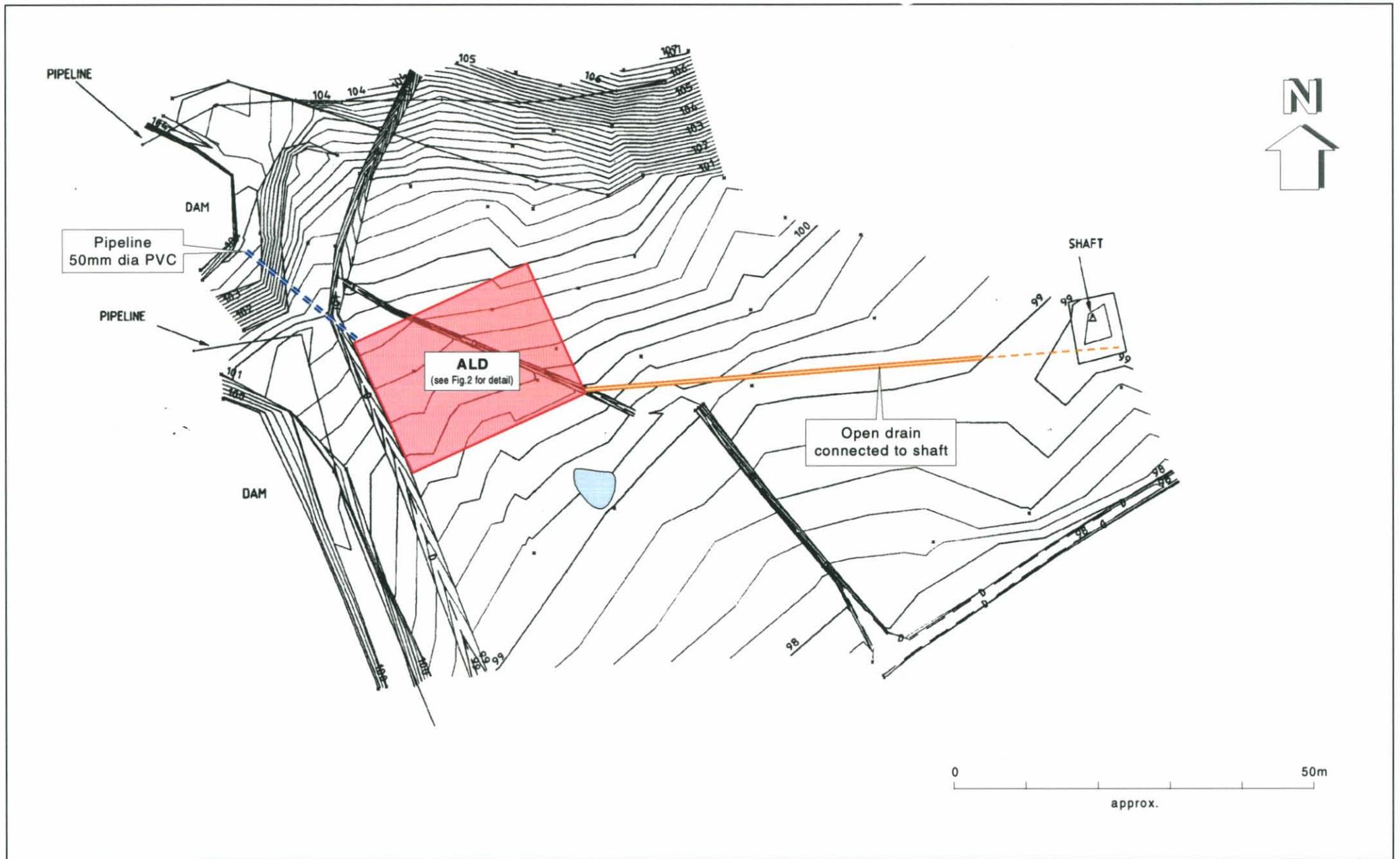
The drain was excavated in clays to a depth of approximately 1.9 m in a series of cells and filled with 1100 tonnes of limestone (size approx 25-75mm). Figure 2 shows the as constructed details.

A layer of organic material - comprising /feedlot manure (150m³) was mixed with 5 large round bales of straw was placed on top of the limestone and capped with polythene and then covered with topsoil.

A pipeline from the dam has been constructed with flows controlled via a gate valve.

The drain is designed for flows up to 6L/second.

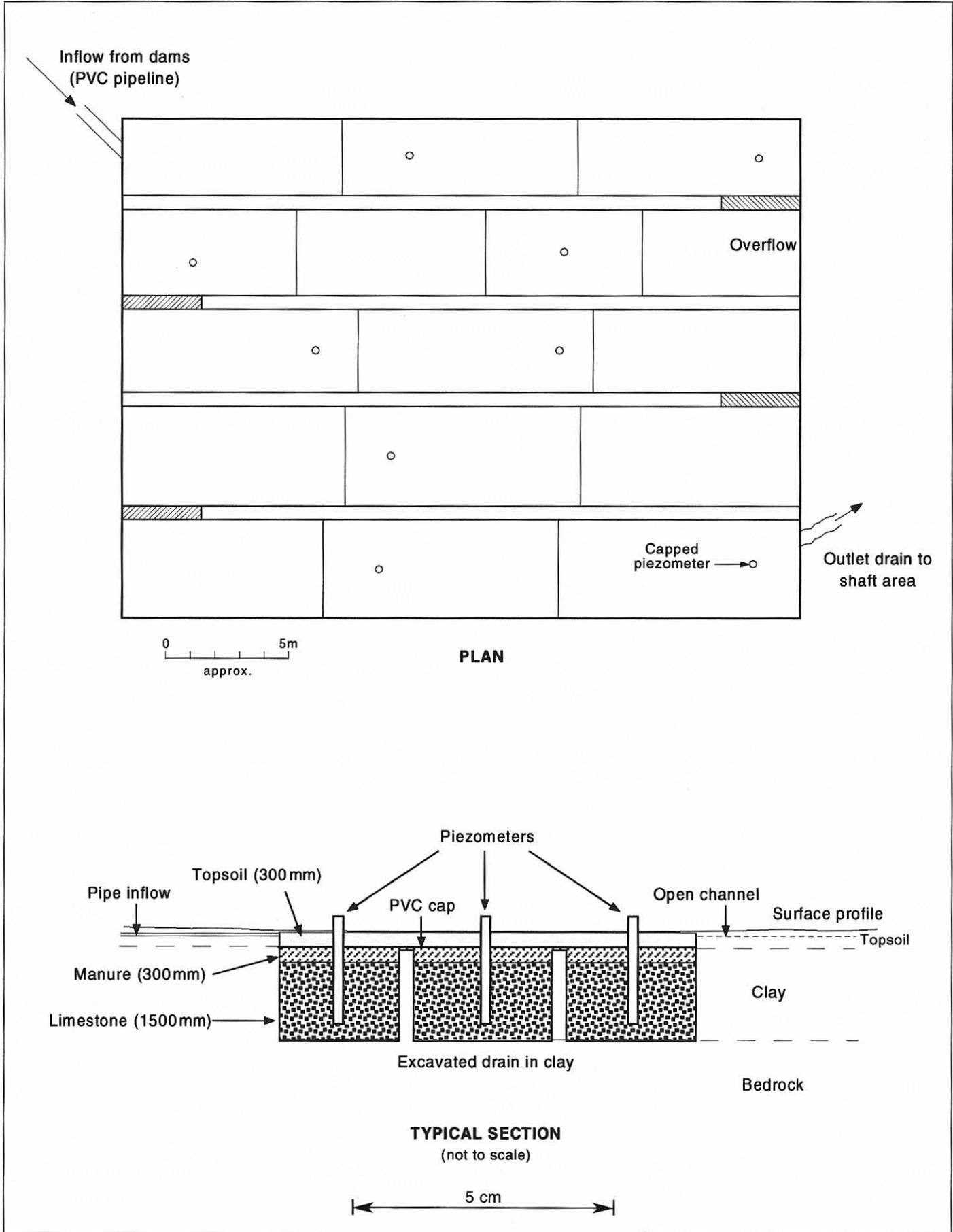
An open channel directs the alkaline water to the shaft.



5 cm

MINERAL RESOURCES TASMANIA	
Storys Creek Remediation ALD Location	
John Miedecke & Partners P/L	FIG 1

(February 2001)



3.0 MONITORING AND MAINTENANCE

3.1 Monitoring

Periodic water sampling is recommended. This should include at various piezometer locations to check on alkalinity generation rates through the cells. Flow rates should also be checked. Parameters should include pH , TDS, alkalinity, and cations (Ca, Mg).

3.2 Maintenance

Periodically the drain should be checked for flow rates , any signs of blocking etc. The inflow is controlled by a gate valve from the top,dam. This in turn is fed by a pipeline (steel and PVC (100mm)) from Storys Creek. This pipeline should also be checked. It was repaired in January 2001.

REFERENCES

Miedecke 2000. Storys Creek/Rossarden Acid Drainage Remediation Study
– ALD Design Report John Miedecke and Partners, June 2000.



January 2001 ALD UNDER CONSTRUCTION AND COMPLETED.



January 2001 ALD DRAINING TO SHAFT .



January 2001 MIXING MANURE AND STRAW.



January 2001 ALD UNDER CONSTRUCTION.