



**CAMBERWELL COAL
PTY LIMITED**

A.C.N. 003 825 018

Ref: RG.0062.ga

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20 February 1992

The Director
Department of Environment & Planning
4th Floor
175 Liverpool Street
SYDNEY NSW 2000

Attention: Manager Assessments and Resources Branch

Dear Mrs Adams

Camberwell Coal Pty Limited was granted ministerial consent to develop the Camberwell Coal Project on 21 March 1990. Camberwell Coal Pty Limited now wishes to seek an amendment to that consent under Section 102 of the Environmental Planning and Assessment Act to permit the use of tailings dams and pipelines for the disposal of coal washery reject for the balance of the life of the mine which is now understood to be about 20 years. This variation relates to an aspect of the project that was considered but not adopted in the EIS, but which is now required for economical and technical reasons.

As you are aware, we were unable to develop a trial mining area for test purposes during the feasibility study, so our design work was based on borehole data for the project, which did not reveal the extent and nature of the high clay and fines content of the coal now being mined. The extent of the fines problem has been further increased during the last six months. Market pressures have resulted in a need to improve coal quality and handleability by reducing the amount of fines in the product coal. This has been achieved by a change in the "cut point" of the cyclones from 0.075mm to 0.090mm resulting in more material reporting as fine reject.

The combination of increased fines and clay in the raw coal and the need for reduced fines content in the product coal has lead to major problems in the Coal Preparation Plant and reject emplacement areas. Our capacity to process raw coal has at times been reduced to 50% of design levels due to the bottleneck created in the fine rejects systems. Operation of the tailings thickener is being severely affected by the amount of clays, despite it being enlarged from 16m to 18m diameter during the design and construction phase. The construction of additional tailings thickeners and belt press filters, has been considered but is prohibitively expensive. Furthermore, due to the increased fines content, the cost of operating the belt press filters has increased enormously and is seriously affecting the competitive position of the mine. At full production the cost of chemicals associated with use of the belt press filters is estimated at \$2.3M-\$2.5Mpa.

The original proposal outlined in our EIS (Section 5.3.2) was to dewater the fine rejects with belt press filters, then mix them with the coarse reject and transport the combined material by truck to the spoil dumps for spreading using conventional earthmoving equipment. This has proven not to be a practical option. The soft, wet nature of the reject (including the coarse material) has presented spoil dump stability problems. As a result, the reject has been block dumped, after the removal of topsoil, on the natural surface within the out-of-pit spoil areas identified in the EIS. Suitable dump locations are now very limited. We are therefore unable to continue to use the method envisaged in our EIS.

In an attempt to overcome the disposal problem, approval was sought and granted by the SPCC for short term injection of tailings into disused underground workings on the site. This method has had limited success and does not present an ongoing solution.

The variation to our development consent for which we are now seeking approval, is described as follows.

The proposed method for reject disposal is to establish tailings dams over the eastern end of the out-of-pit dump. Fine reject from the preparation plant would be pumped to the dams and the coarse reject would be trucked for disposal with mine waste. The material in the dams would consist of clays and fine particles from the coal seams with a small proportion of flocculant and gypsum. Flocculant and gypsum has been used in the belt press filters as originally planned. Their usage will now be reduced by 90% through the change to tailings dams. Approximately nine dams would be constructed of which two would be in use at any one time, so that a sequence of deposition and drying time can be achieved by alternating between dams. This will also reduce stress on the dividing walls between the dams. The site for the dams is within the area defined in the EIS for waste deposition and is set in a valley that will be surrounded by bulk earth fill. The dam walls are approximately 110-140m wide at the base, 40m wide at the top and have a height of 18-32m. They will be constructed from overburden mined in the normal course of operations and because of their size and location there is a negligible risk of failure. In the unlikely event that this did occur, then the siting of the dams within the valley prevents any major consequences or loss of life. The dams will follow the contour of the final restoration. Although final restoration of the area would be delayed, the tailings dam would be screened by grassed bund walls on the east side which would create a quicker visual restoration than is currently proposed. The bund walls would be used for ultimate backfilling of the dam area, and it is anticipated that restoration of all the dams would be completed within five years of the completion of the mining operations. Dams filled during the life of the mine will be restored on a progressive basis. The profile of the land after restoration will be as described in the EIS. A plan showing the location of the dams and their sequence for use is attached. Also shown are sections through the dams and an approximate timetable for their use and subsequent restoration.

Water management under this proposal would differ in that water would be decanted from the dams rather than collected in the preparation plant. Decant water will be pumped and gravity fed to the existing process water dam for re-use. No substantial change would be expected in the water balance although a greater percentage of water would be active in the system at one time. There is therefore no change to the management of water externally off the mining lease from that which was presented in the EIS.

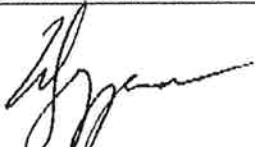
The proposal to use tailings dams, although in some ways inferior on environmental grounds, does offer significant advantages for the quality of the local environment. Building the tailing dams in the dump area closest to the neighbours on the eastern side, will significantly reduce the number of truck movements in this area and so reduce the major source of dust and noise. Further, by pumping the fine reject there will be less truck movements in total. Both of these points are positive aspects for the local environment.

A major investigation of the feasibility of the alternative of pumping both fine and coarse rejects has been undertaken at a cost of \$75,000. Using this method, there is still a requirement for reject dams of the nature now proposed. The anticipated benefit of this method would be a more stable end product in the dams compared to our proposed variation in which only fine rejects are placed in the dams. However, the capital cost, estimated to be about \$3.0M, is prohibitive. There are also concerns regarding the practicality and commercial viability of the method as there is only one coal mine in Australia using such a system of disposal, and they are still making changes to the system. This option has therefore been discarded.

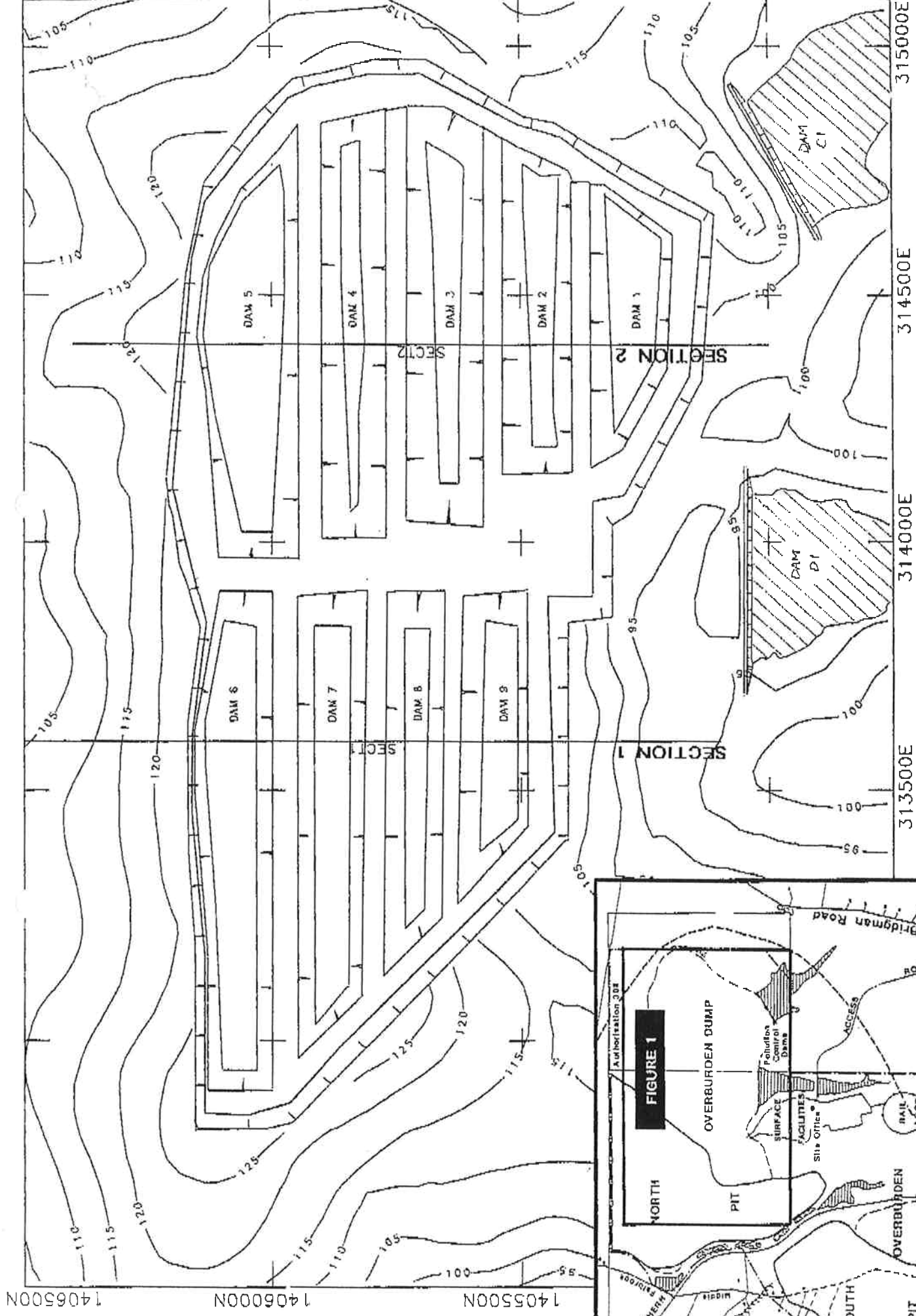
Camberwell Coal is currently facing a serious problem with tailing disposal that is affecting the viability of the operation. Approval by the end of the March quarter 1992 is therefore sought for the use of the tailings dams for the life of the mine, an estimated 20 years. However, alternatives and enhancements will continue to be investigated over this period, particularly the pumping of a combination of coarse and fine rejects. In the event that this method is shown to be technically feasible and commercially viable, then the same dams can be used for their disposal.

Yours faithfully

CAMBERWELL COAL PTY LIMITED

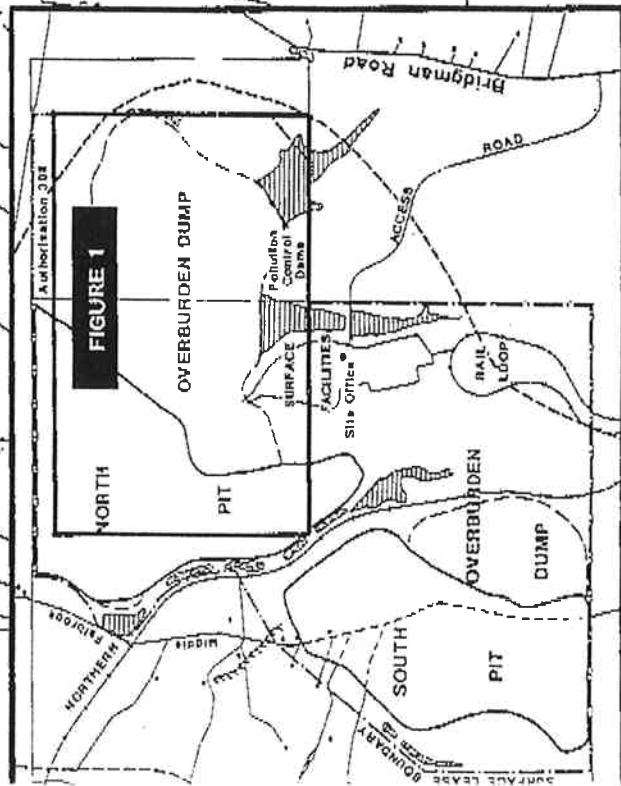


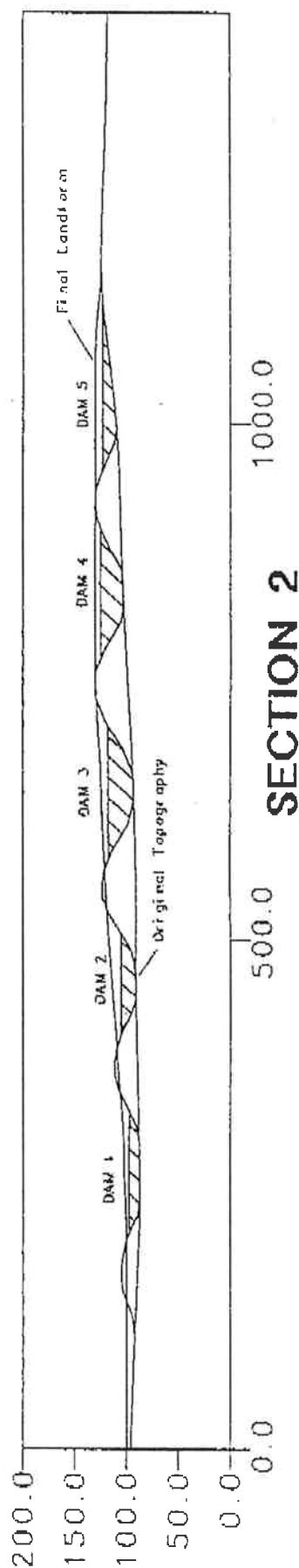
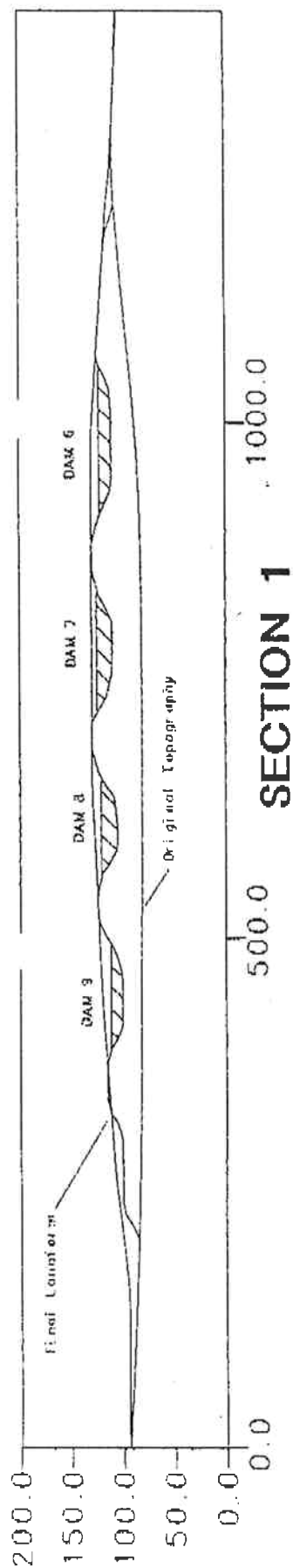
R V Gazzard
General Manager



LOCATION OF TAILINGS DAMS
WITH FINAL LANDFORM CONTOURS

FIGURE 1





REJECT DUMPING PLAN

DAM	Capacity (KCM)	Dumping Period	Dam Restored
DAM 1	562	06/92 - 05/94	1996
DAM 2	749	12/92 - 07/96	1999
DAM 3	1608	06/94 - 11/99	2004
DAM 4	1371	10/97 - 05/02	2006
DAM 5	1011	07/00 - 05/05	2010
DAM 6	1145	09/03 - 06/07	2011
DAM 7	966	12/05 - 08/08	2013
DAM 8	623	09/08 - 07/09	2014
DAM 9	443	08/09 - 03/11	2016

Total 8478

FIGURE 2