



# DEPARTMENT OF MINES AND ENERGY

## Central Region

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30 March 1999

Mr Ross Hannigan  
General Manager  
Mine Management Pty Ltd  
Private Mail Bag  
**EMERALD QLD 4720**

Dear Mr Hannigan

I refer to the Annual Report on Subsidence submitted by ARCO Coal Australia Inc to this Department in accordance with the Gordonstone Coal Project special lease condition 2.7.

Special Lease Condition 2.7 states "The lessee shall forward to the Minister at least once in each year, or at such other times as the Minister may require, a report based upon the results of monitoring which shall, at the least, satisfy the Minister's requirements in respect of the effects of subsidence upon the surface of the land, the time for the development of various subsidence profiles, the area of surface affected by subsidence relative to mine workings, and the effects of subsidence on ground water resources. The report should further project the effects of subsidence on the use of the land for the purposes of agriculture and upon irrigation and drainage structures of the type employed in the area."

The Annual Mining Subsidence report submitted by ARCO Coal Australia Inc stated that there was no requirement to monitor in any of the areas mined even though the area of land influenced by mining subsidence was reported to be 23.7 ha. This report is not satisfactory and it is suggested that the current operator conduct the monitoring required over the coming year to ensure that these reports are acceptable to the Minister.

If you have any further enquiries please contact this Department at the above address.

Yours sincerely

s.49 - Signature

**K M Hudspith**  
**Mining Registrar**  
**Emerald**

CC David Coffey  
Resource Development and Strategic Planning  
Department of Mines and Energy  
GPO Box 194  
**BRISBANE QLD 4000**

RTI DL RELEASE - DNRM



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**SAFETY AND HEALTH DIVISION**

**MEMORANDUM**

**TO:** DAVID COFFEY  
**FROM:** BRUCE HAM  
**THROUGH;** ROGER BANCROFT  
**DATE:** 6 JANUARY 1999  
**SUBJECT:** REVIEW OF ANNUAL REPORT ON SUBSIDENCE - MINING LEASE 1978 -  
GORDONSTONE

**Purpose**

The purpose of this note is to assess the extent to which Gordonstone Coal Management has met its obligations under lease conditions 2.7 (annual report on mining subsidence and ground water monitoring) and 2.13 (annual report on operations)

**Review of Annual Report on Operations**

This report covers the main operational issues except health and safety which to some extent are otherwise reported to the Department through the inspectorate.

**Review of Annual Report on Mining Subsidence**

The report states that 906,025 tonnes were mined from the longwall extraction block '106' of 19.75 ha in area. The mining width was 249.76 metres and the seam extracted was 2.98 m thick. They state that the surface area affected was 23.7 ha.

Some earth works were undertaken in association with Longwall 201 that apparently had been mined in the previous year.

The report states that 'No subsidence monitoring was required during this period.' Given the sensitivity of mining subsidence in this area and the specific inclusion of section 2.7 (subsidence monitoring), this statement is difficult to reconcile.

**Review of Annual Report on Subsidence Impact on Ground Water**

The report states that some monitoring was undertaken but no results are provided. The reports concludes there is no significant impact.

### Discussion

In the context of the Gordonstone mine there are a number of key subsidence related technical issues that can only be resolved as a result of a long term subsidence monitoring program. These include :

- 1) what is the maximum subsidence with respect to extraction thickness, depth and panel width,
- 2) what is the maximum slope change resulting from subsidence at the perimeter of the mining areas and over the pillars between longwalls,
- 3) how long does full settlement take in the middle of panels and over chain pillars.
- 4) what is the critical thickness or tension experienced in Permian strata which promotes leakage from the Tertiary aquifers to the mine workings and
- 5) how is item (4) affected by proximity to faults or other geological structures.

### Conclusion

The 'Report on Operations' satisfactorily meets the requirements of the lease condition 2.13.

The reports on mining subsidence and ground water lack technical merit and are unsatisfactory.

### Recommendations

Given the change in ownership of the Gordonstone Mine, the issue cannot be pursued with Gordonstone Coal Management.

Discussions should be held with the new mine owners and the land holder to map out an effective mining subsidence and ground water monitoring program.

s.49 - Signature

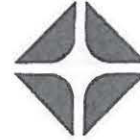
**Bruce Ham**  
**Mining Engineer**  
**HEALTH SURVEILLANCE UNIT**

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**ARCO Coal Australia Inc.**

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9 December, 1998

Minister for Mines and Energy

-9 DEC 1998

Ministerial Correspondence

Honourable Tony McGrady MLA  
Minister for Mines & Energy and  
Minister Assisting the Deputy Premier on  
Regional Development of Queensland  
QMEC Building  
Level 17  
61 Mary Street  
BRISBANE QLD 4000

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Dear Sir,

**RE: MINING LEASE 1978 – GORDONSTONE PROJECT  
ANNUAL REPORT ON SUBSIDENCE – SPECIAL CONDITION 2.7**

In accordance with Condition 2.7 of the Special Conditions of Mining Lease 1978, I hereby submit the following reports for the year ending 30 June 1998:

- Annual Mining Subsidence Report; and
- Report on Subsidence Impact on Groundwater and Agriculture at the Gordonstone Mine.

If you have any queries in relation to the above please do not hesitate to contact the writer.

Yours faithfully  
**ARCO COAL AUSTRALIA INC**

s.49 - Signature

**SUE-ANN M. HIGGINS**  
SENIOR CORPORATE SOLICITOR