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P032 Airly .L1.
9 July 2014

Scientific Director |

EDO NSW

Level 5, 263 Clarence Street,
Sydney NSW 2000 AUSTRALIA

Attention: Megan Kessler

Dear Madam

RE: AIRLY MINE EXTENSION OF TIME

1. INTRODUCTION

This letter is in relation to a proposal by Centennial Coal to “modify DA 162/91 ... to allow for the continuation of mining within the approved mine plan for a period of 12 months beyond expiry date of DA 192/91¹” (**the Modification**)

It is stated that the Modification will involve no change to any of the following:

- no mining in the 50 m coal barrier;
- first workings only where the depth of cover is less than 50 m
- Partial extraction beneath Environmental Protection Zones (refer to **Figure 5**)
- Full extraction in areas outside Environmental Protection Zones with supercritical void widths
- maximum subsidence of 1.8 m;
- maximum tensile strains of 25.5 mm/m;
- maximum compressive strains of 42.5 mm/m; and
- maximum tilt of 85 mm/m.

The mine plan for this modification has been designed with long term stable pillars with a minimum system factor of safety of 2.0. Mine design criteria to establish long term stable pillars are detailed in **Appendix 2** for each Panel.

Mining will be limited to that identified in **Appendix 2**. Subsidence predictions will be within those approved.

¹ Centennial Coal, Environmental Assessment, Extension of Time, June 2014.

It is our opinion that there is a probably a typographical error in the above quotation from the Environmental assessment in that the first reference to 'Appendix 2' should be ti Appendix 3. The actual Appendix 2 contains two figures, reproduced below. The second is an enlargement of part of the first.

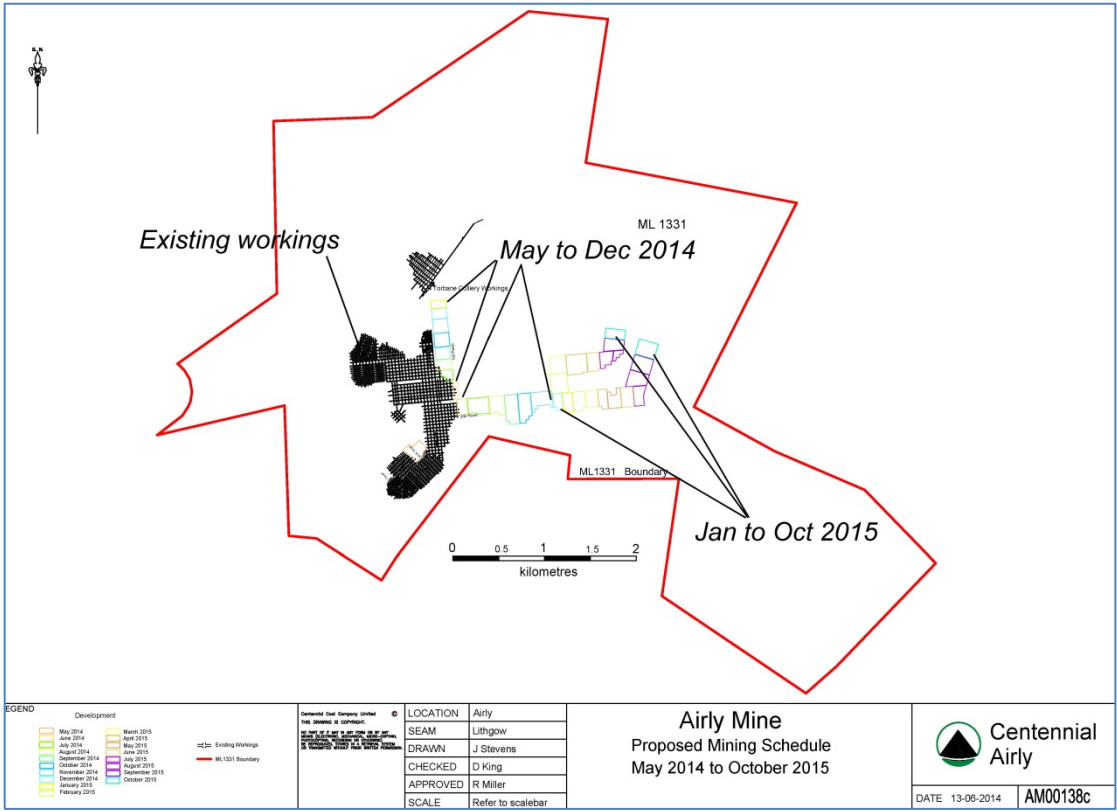


Figure 1: From EA Appendix 2, annotated by Pells Consulting according to the Legend on the drawing

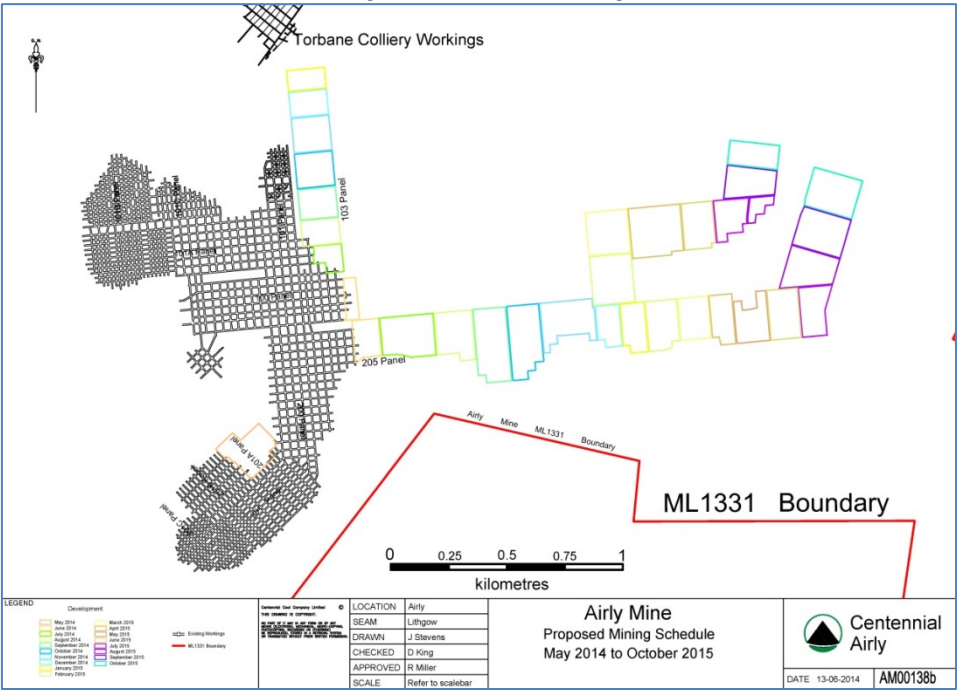


Figure 2: From Appedix 2 of EA

We note that the two figures reproduced above do not show the Environmental Protection Zones. In order to determine these in relation to the proposed workings we have superimposed Drawing 5 from the EA onto Figure 2 as reproduced above. The result is given in Figure 3, below.

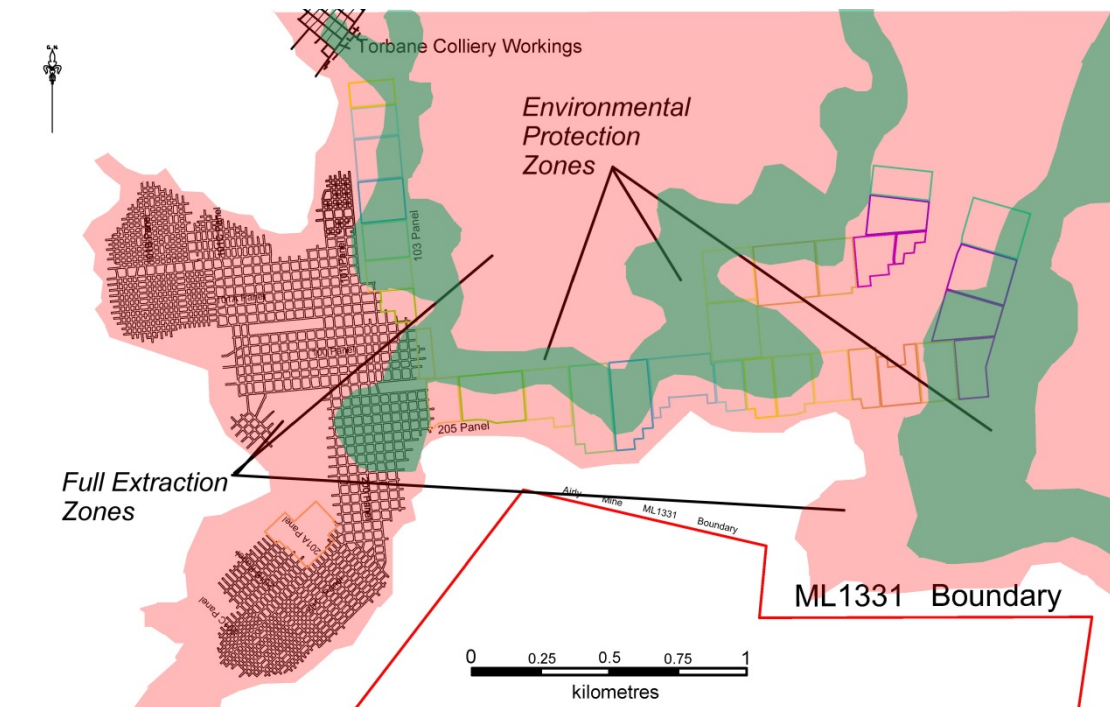


Figure 3: proposed mining in relation to existing Environmental Protection Zones.

It can be seen that substantial portions of the proposed workings will be in areas of allowable total extraction wherein subsidence may be up to 1.8m, tensile strains up to 25.5mm/m, compressive strains to 42.5mm/m and tilts up to 85mm/m.

2. DISCUSSION

Appendix 3 of the EA is a report on Panel Stability and Subsidence Panels 100, 121, 122, 205 and 420. It is, we presume, the material referenced in the quote from the EA given in Section 1, above. The panels are shown in Figure 4, below, superimposed on Figure 3.

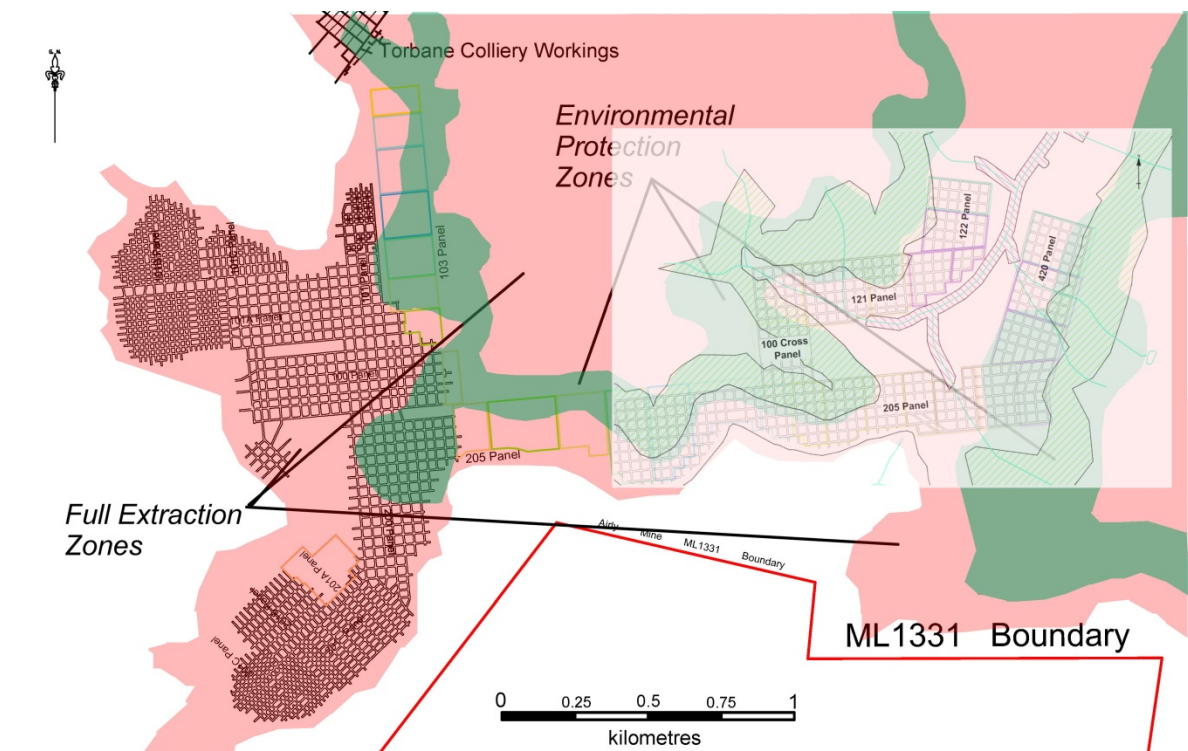


Figure 4: Panels analysed by Golder Associates superimposed on proposed mine plan from EA

The obvious point that arises from Figure 4 is that the analyses undertaken by Golder Associates, that are stated as covering the whole of the proposed mine area, do not do so. They cover none of the area on the west and north-west, which are almost entirely under Environmental Protection Area.

The less obvious point is that an examination of the Golder document reveals that it provides no analyses of mining in areas where “Full Extraction” is allowed. The Golder analyses only apply to first workings where pillar factors of safety have been chose so as to limit surface tensile strains to $<1\text{mm/m}$, with trivial surface settlement.

3. DISCUSSION

It must be clearly understood that the subsidence and strains that are at present allowed in areas of 'Full Extraction' are such that there would be substantial damage to the surface in the form of cracking, damage to ecological features and disruption of groundwater systems. The EA and the Golder Report are silent in these matters.

It should also be understood that even in areas of first workings, where there is small subsidence and there are small surface strains, there will be impacts on groundwater systems and baseflows to streams. This arises simply from depressurisation and dewatering at coal seam level. The EA is silent in this matter, so we can provide no assessment, other than to say that this silence is, in our opinion, untenable.

Yours sincerely

A handwritten signature in black ink, appearing to read 'P. Pells', written over a horizontal line.

PHILIP PELLIS
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