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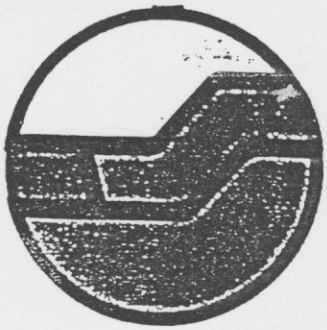

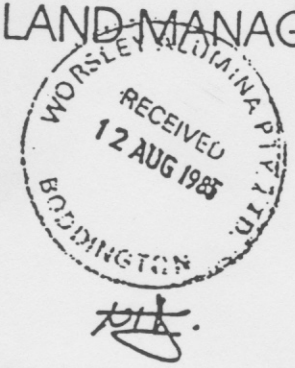

Mr N. Allen
Environmental Officer
Worsley Alumina Pty Ltd
via BODDINGTON WA 6390

re: Impact of mineral exploration bore holes on fauna

Dear Nick,

Following our recent conversation about the possible impact of mineral exploration bore holes on fauna, I have come up with the following:

1) I guess the first step is to determine that
(a) animals do fall down holes and

(b) they do it frequently, and

2) that this also applies to exploration drill holes.

With regard (1) I would draw your attention to the papers by How et al. (1984) and McKenzie and Youngson (1983) which not only show that pit-trapping is very effective but that as a general rule their efficacy is greatest in drier environments. They are so successful as a trapping method that in some studies they are used exclusively. With regard (2) it is not quite so simple to gather data. Firstly, in many cases the bore holes may be hundreds of feet deep and retrieval of skeletal remains of victims unattainable. I can find no published data, but the following may be of assistance.

In 1980 I examined material which had been sucked from the bottom of two drillholes left from mining exploration in the Fitzgerald River National Park. The material was collected by lowering a hose down the holes with a vacuum cleaner at the top. Debris from the holes was sucked into the bags, then examined. These holes were about 3 metres deep, being the only shallow ones I could find.

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Tiliqua rugosa	— BOBTAIL SKINK	COMMON NAMES
Tarsipes rostratus	— HONEY-POSSUM	
Cercartetus concinnus	— WESTERN PYGMY-POSSUM	
Pseudomys albocinereus	— ASHY-GREY MOUSE	
Sminthopsis	— DUNNART (MARSUPIAL MOUSE)	

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One hole contained skulls of 23 Tarsipes rostratus, 17 Sminthopsis sp, 8 Cercatetus concinnus and 82 reptiles, most except Tiliqua rugosa (of which there were 3) being unidentifiable. The other hole contained 17 T. rostratus, 9 Sminthopsis, 2 Cercatetus concinnus 4 Pseudomys albocinereus and 127 reptiles including 2 Tiliqua rugosa.

It should be born in mind that these drill holes had been open for several years but it was obvious that the sand and other debris contained a high proportion of teeth, obviously representing animals whose skeletal remains had long decayed.

In this particular area I located 47 drill holes, all except those two being too deep to sample.

It thus seems to me there is little doubt that drill holes have a serious effect on the fauna. Additional information, also not documented, is the frequent observations made by farmers and fencing contractors of the number of animals found in post holes. If you were to look at the W.A. Museum's records of small mammals and possibly reptiles, I suspect there is a substantial number that have been handed in by the public after having been found in fence post holes. Similarly speleologists and prospectors will relate numerous stories of finding snakes, etc, in caves or old mine shafts.

I also believe there is a strict requirement for drill holes to be covered at all times in the United States. I understand that drill holes are not to remain uncapped for even a few minutes and that each must be carefully and permanently plugged on finish of operations, with stiff penalties if this does not happen.

I hope these comments will be of some value.

Yours faithfully,

Barry

Barry Muir

2 August, 1985

References:

How, R.A., Humphreys, W.F. & Dell, J. (1984)
Vertebrate surveys in semi-arid Western Australia.
In "Survey Methods for Nature Conservation".
Proc. Workshop. Adelaide Univ. 31 Aug. - 2 Sept.
1983. Myers, K., Margules, C.R. & Musto, I. (eds).
Vol.1 pp 193-216.

McKenzie, N.L. & Youngson, W.K. (1983).
Mammals. In: Burbidge, A.A. & McKenzie N.L. (eds).
"The Wildlife of the Great Sandy Desert, Western
Australia". Wildl. Res. Bull. West. Aust. No.12
(Dept. Fish. Wildl. Perth).