

PR 92-100

MAGELLAN PETROLEUM AUSTRALIA LIMITED

DISTRIBUTION OF THE
POSTULATED LATE-DEVONIAN/EARLY CARBONIFEROUS
" CARBONATE BUILDUP "
IN VAUGHAN SPRINGS SYNCLINE

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INTRODUCTION

As part of the E.P. 15 Year 2 work programme, the basal part of the Mt. Eclipse Sandstone and its contact with pre-Mt. Eclipse strata were examined in Vaughan Springs Syncline to determine if the postulated late Devonian/early Carboniferous "carbonate buildup" were present in that area. Seismic data (Davidson, 1991) suggest that the "carbonate buildup" should be present in this area because it is on trend with "carbonate buildup" isochron maxima (Fig. 1). Vaughan Springs Syncline also contains the Ngalia Basin outcrop closest to the Canning Basin strata with which the "carbonate buildup" is correlated. I note that the outcrop has been transported southeastward along the Waite Creek thrust fault and, during the time of deposition of the postulated "carbonate buildup", was located approximately 10 km northwest of the present position.

RESULTS

No carbonate or chert was observed in the basal part of the Mt. Eclipse Sandstone or at its contact with underlying strata in the area traversed (Fig. 2). The BMR also reports no carbonate (or chert) at this location (Wells et al., 1983, measured section EX-13) and no carbonate (or chert) was observed in the northern part of Vaughan Springs Syncline in a traverse made in 1982 by John Davidson, Ken Morrison, and myself (Fig. 2). David Blake, who recently completed his remapping of the Vaughan Springs sheet for the BMR, also reports no carbonate at that level in the Vaughan Springs area.

I note that it is possible (but not probable) that "carbonate buildup" strata were deposited and subsequently eroded at the base Mt. Eclipse unconformity, thereby leaving no evidence of its existence.

I also note that the contact of the Mt. Eclipse Sandstone with underlying strata is concealed in parts of the area traversed. If carbonates were present, however, they would probably crop out as they do in the Amadeus, Georgina, Canning, and other parts of the Ngalia Basin.

CONCLUSIONS

I conclude that:

- 1) There is a high probability that the postulated "carbonate buildup" does not exist in Vaughan Springs Syncline; and
 - 2) On the basis of outcrop data from Vaughan Springs Syncline and geochronologic data from BMR Mt. Doreen No. 8B (Fig. 1), the postulated "carbonate buildup" is areally more restricted than previously thought.
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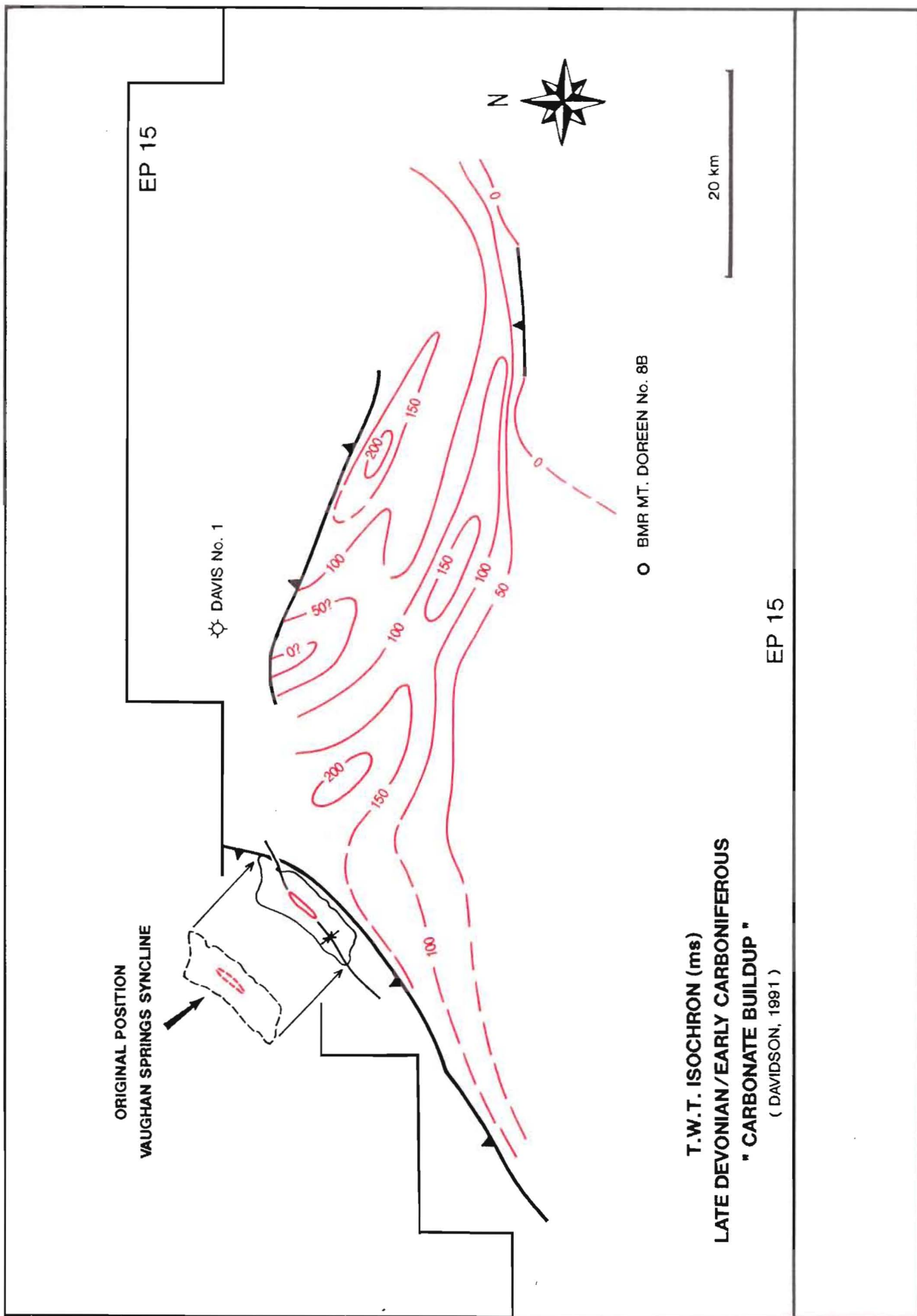


FIGURE 2

