

1. SUMMARY AND INTRODUCTION

Murphy 1, located 17km south south west of the Mt Ebenezer Roadhouse in EP26NT, was the rank wildcat petroleum well drilled by Pacific Oil & Gas Pty Limited during the 1990 Amadeus Basin Exploration Program. (Plans PetNTcw5101 and 5105).

The objectives of the well were to test the reservoir potential of the Heavitree Quartzite at the base of the Proterozoic Amadeus Basin sequence, and the source and seal potential of the overlying Bitter Springs Formation.

The well was designed to test the shallowest of three culminations on a large, seismically mapped anticline, with closure on at least one seismic horizon. The shallowest culmination had an interpreted closure of 14 square kilometres at the top of the Bitter Springs salt sequence.

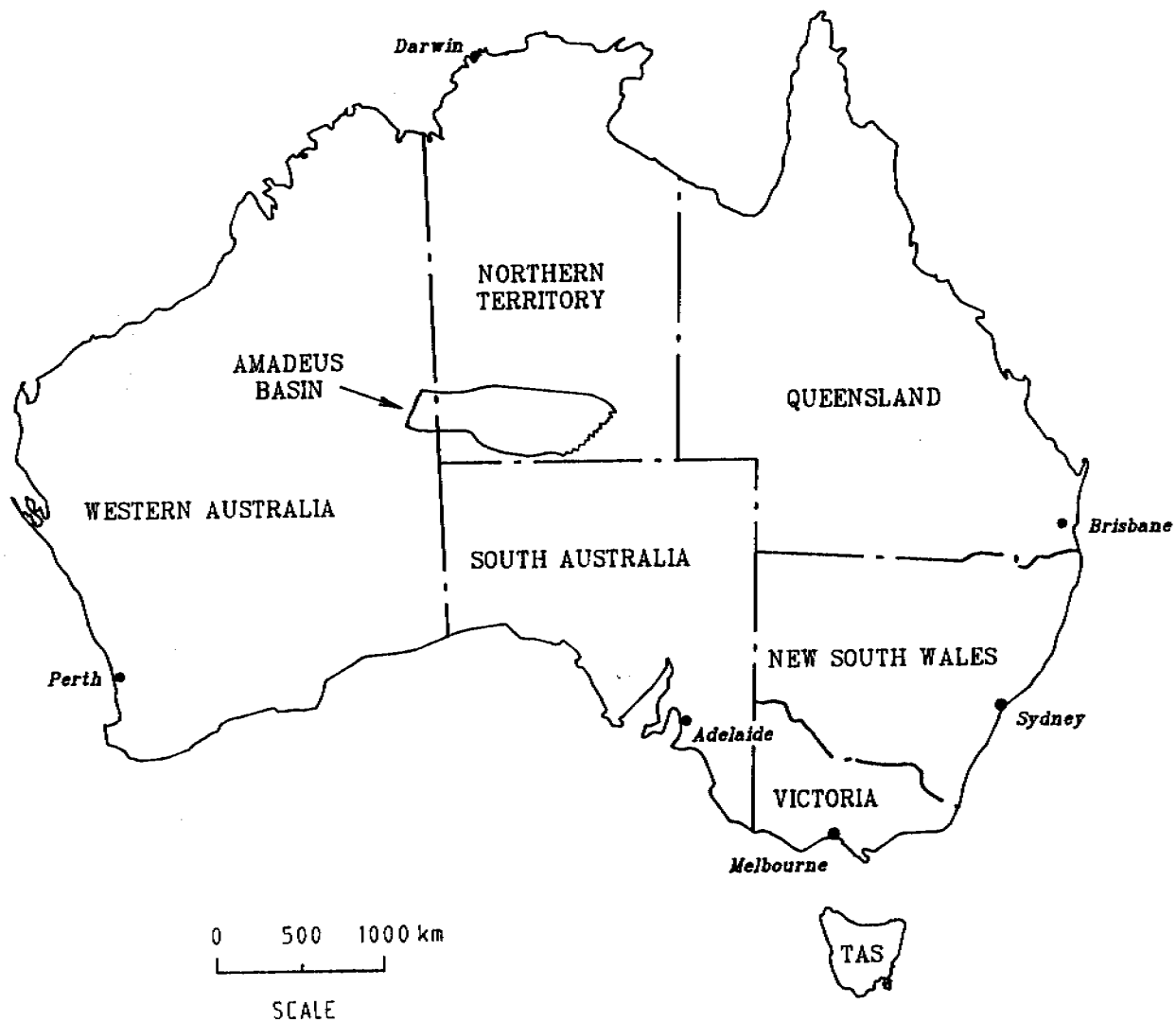
Rockdril Contractors Rig 22 commenced drilling at 0800 hours on 9 November 1990. Drilling ceased, at a total depth of 2882m, at 0545 hours on 26 January 1991. The hole was air hammer drilled to 576m, air rotary drilled from 576m to 714m, and conventionally drilled from 714m to total depth.

The well was spudded in thin Quaternary aeolian sands and intersected a sedimentary sequence comprising the Mid-Late Devonian Horseshoe Bend Shale, the Early Devonian Carmichael Sandstone, the Cambrian Pertacorrta Group, the Proterozoic Inindia Beds and the Proterozoic Bitter Springs Formation.

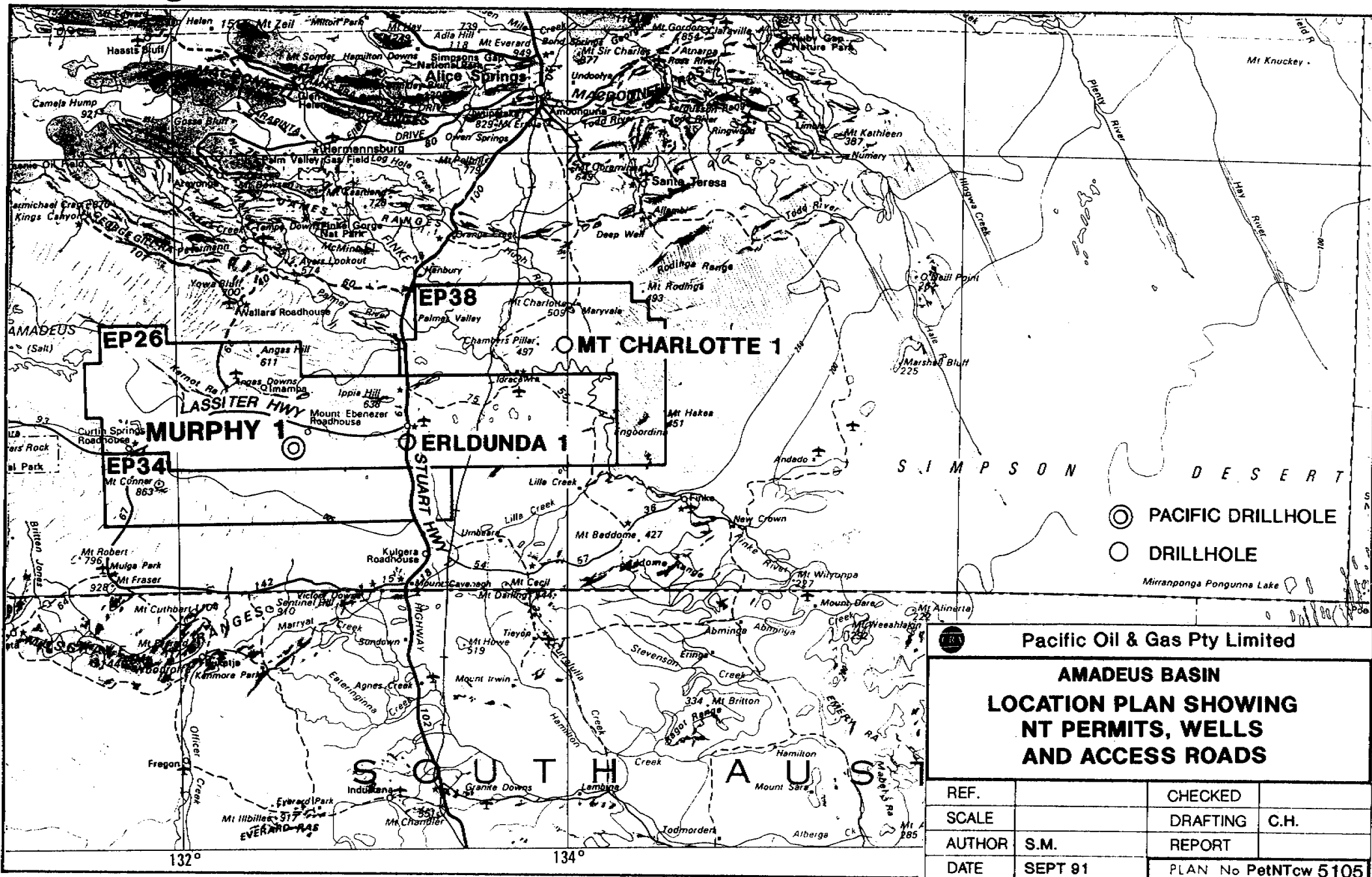
The well was plugged and abandoned over 1200m past its anticipated total depth of 1670m. The Inindia Beds were considerably thicker than predicted, and an unconformity interpreted on seismic to be the base of the Heavitree Quartzite was found to be a previously unrecognised unconformity within the Bitter Springs Formation.

All formations penetrated were reasonably close to prognosis above the Proterozoic sequence. The Proterozoic horizons came in considerably lower than anticipated and the well was abandoned before reaching the Heavitree Quartzite.

Four zones of elevated gas readings were encountered in the Proterozoic section and very minor oil shows were encountered in the Gillen Member of the Bitter Springs Formation. On site evaluation of cuttings and wireline logs indicated that no zones were present that warranted drill stem testing and the well was plugged and abandoned in compliance with Northern Territory Government regulations on the 27 and 28 of January 1991.



AMADEUS BASIN - LOCATION



- ⊙ PACIFIC DRILLHOLE
- DRILLHOLE

Pacific Oil & Gas Pty Limited

**AMADEUS BASIN
LOCATION PLAN SHOWING
NT PERMITS, WELLS
AND ACCESS ROADS**

REF.		CHECKED	
SCALE		DRAFTING	C.H.
AUTHOR	S.M.	REPORT	
DATE	SEPT 91	PLAN No PetNTcw 5105	

Three abandonment plugs were set at depths 1654 to 1590m, 125 to 30m and 55m to surface.

Rockdril Rig 22 was released at 2359 hours on 28 January 1991.