



BRIEF BACKGROUNDS

THE PEAK RANGE CLERMONT DISTRICT

The Peak Range is a chain of prominent and picturesque mountains to the east of Clermont which is visible from a considerable distance across the plains of the central highlands. It consists of a number of groups of sharp peaks separated by flat plain country similar to the surrounding district.

The Peak Range district is underlain by an extensive sequence of basalt flows and rhyolite/trachyte intrusive bodies, which were erupted and emplaced between 30 and 26 million years ago (middle of the Tertiary period), probably as this part of the Australian crustal plate drifted northwards across a 'hot-spot' deep below in the Earth's mantle. (Other volcanoes developed later, about 24 to 23 million years ago, as southeast Queensland drifted across the hotspot, to give the Bunya Mountains, the Main Range and the border ranges.)

Only a thin veneer of basalt flows (30m) now covers the flat country as far west as Clermont, but in the Peak Range itself remnant hills of basalt flows show that the sequence was at least in places originally much thicker, of the order of 500m. The intrusive bodies are formed of hard rhyolite and trachyte which have resisted erosion to form many of the prominent peaks. Many are thought to represent the filling of volcanic cones which contributed to the eruption of the basalts.

Three distinct divisions of the range are apparent. The *northern and southern parts* generally consist of closely spaced pinnacles and domes rising spectacularly from a subdued countryside. Volcanic vent fillings (plugs) formed by the intrusion of magma into tuff cones are preserved in the north (eg Mount

Castor, Fletchers Awl). Some of the rocks in the peaks have been altered and softened by late hydrothermal fluids, and these parts have weathered more rapidly to give large-scale cavernous features such as at Fletchers Awl.

Some of the higher peaks in the southern area are thrust domes resulting from successive intrusions and upheaval of viscous (sticky) lava (eg Scotts Peak and Ropers Peak). The origin of some peaks, such as Wolfgang Peak is complex, as they possess features of both plugs (steep faces) and of thrust domes (inclined columnar jointing). In general the intrusions of the northern area are composed of rhyolite and pitchstone (volcanic glass), while in the southern area trachyte and comendite are more common.

In the central part of the range, prominent flat-topped mesas and ridges composed of flat-lying lavas rise strikingly above the surrounding open country. Lords Table Mountain and the nearby Anvil are capped by a flow of more resistant trachyandesite 30m thick, which overlies about fifteen basalt benches. From this it would appear that some quantities of lavas intermediate in composition between basalt and trachyte were erupted towards the end of the predominantly basaltic activity.

Small undeveloped National Parks cover Mounts Castor and Pollux and Wolfgang Peak (accessible from the Peak Downs Highway); Lords Table Mountain (accessible from the Clermont Dysart Road); and Eastern Peak further to the south.

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