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Mount Augustus

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MOUNT AUGUSTUS

Notes prepared by Geological Survey of Western Australia

Mr A Gibb-Maitland, Western Australian Government Geologist in the years 1896-1926, writing in Geological Survey of Western Australia Bulletin 33 (1909) pp.46, 47, states:

"It appears that Mount Augustus was named on the 31st of May, 1858, by F T Gregory after his brother Augustus (who) at that time (was) leading the expedition in quest of the remains of Dr Leichardt ... The mountain was first ascended on the 3rd of June of that year and estimated by aneroid (barometer) to be 3 480 feet above the sea level; ... According to ... the Surveyor General (29-9-09) ... the altitude of this station was determined by Sir John Forrest in 1882 as 3 580 feet ... which is 100 feet more than that determined by Mr Gregory twenty-four years earlier. My own observations made in July, 1907 with two aneroid (barometers) (gave data from which) ... the Government Astronomer (calculated) the altitude of Mt Augustus ... at 4 054 feet above sea level."

A subsequent third order theodolite traverse by WA Surveyor General's staff has established the currently accepted height of 1 106 metres (3 627 feet) above sea level which is certainly accurate to within a few feet. However, A Gibb Maitland's observations did establish with reasonable accuracy the height of Mount Augustus above its immediate surroundings at 2 354 feet (717 metres).

The highest point of Mount Augustus is located at $24^{\circ}19'$ south latitude and $116^{\circ}50'$ east longitude between the Lyons and Thomas Rivers, both of which are northern tributaries of the ephemeral Gascoyne River. Mount Augustus is about 8 kilometres long in a northwesterly direction and 4 kilometres wide, and is by far the most conspicuous mountain in the region. The composition of the mountain is not uniform. A coarse sandstone with minor lenses of conglomerate (the Mount Augustus Sandstone) lies on top of a core of schist and granitic rock. The contact surface between the older crystalline and metamorphic rocks (granite and schist) and the younger sedimentary rocks (sandstone and conglomerate) is very irregular. The sedimentary rocks have been folded into an asymmetrical anticline with a northwesterly axis

(giving the appearance of a lop-sided arch when viewed from the northwest) as illustrated in the simplified diagrammatic section.

Figure 1 (after A Gibb Maitland, 1909; with modifications).

The Mount Augustus Sandstone is a unit within the Middle Proterozoic Bangemall Group. This means that the sedimentary rocks are about 1 100 million years old and the granite and schist "basement" is 1 600 million years or older. The Mount Augustus Sandstone is estimated to be 600 metres thick in this area but some may have been lost by erosion.

"The vegetation (covering much of Mount Augustus) is a tall open shrubland dominated by mulga (*Acacia aneura*). There are many other wattles, poverty bushes (*Eremophila*), hop-bushes (*Dodonaea*) etc., while many herbaceous plants appear after suitable rains. Several unnamed species are known only from the mountain, e.g. a Hibiscus, a mulla mulla (*Ptilotus*) and a spectacular native foxglove (*Pityrodia*)." (From A George *in* Conservation Reserves in Western Australia; Report of the Conservation through Reserves Committee to the Environmental Protection Authority "Green Book" 1974.) In some places, particularly along the northeasterly side of the mountain, there are near vertical escarpments that are nearly devoid of vegetation.

A spurious comparison has been made in recent years between Mount Augustus in Western Australia and Ayers Rock in the Northern Territory. Both, it is true, are isolated mountains but whereas Ayers Rock has no other hills within a 24 km radius, there are numerous hills in closer proximity to Mount Augustus and its isolation is not nearly as evident, other than when viewed from particular directions.

Ayers Rock (also Mount Olga and Mount Currie) is best described as an inselberg (American Geological Institute Glossary of Geology, 1972. Inselberg: A prominent, isolated steep sided, usually smoothed and rounded, residual knob, hill or small mountain of circumdenudation rising abruptly from, and surrounded by an extensive, and nearly level, low-land erosion surface in a hot dry region, ... generally bare and rocky ...; it is characteristic of an arid or semi arid landscape in a late stage of the erosion cycle).. Its highest point is 349 metres above the surrounding plain level; length and breadth are about 3 and 1.5 kilometres respectively.

Ayers Rock is almost devoid of vegetation so that the pitting and sculptured forms resulting from arid erosion are clearly seen. Ayers Rock is composed of steeply dipping beds of arkose (a coarse grained sedimentary rock rich in fragments of the mineral feldspar) deposited in Late Proterozoic or Early Cambrian (about 600 million years ago) as part of an extensively developed sequence known as the Currie Conglomerate. Ayers Rock was discovered and named by the explorer W C Gosse in 1873, although the Aboriginal people had long before regarded it as a sacred place. Its present day attraction for tourists seems to rely on the dramatic suddenness with which the outcrop rises from the extensive surrounding plain, the almost bare sculptured surface, which gives rise variously to harsh light and shadow effects or attractive colouration at sunrise and sunset, and lastly to its not inconsiderable size. One could (incorrectly) imagine that it was an extra-terrestrial body dropped into a featureless isolated terrain.

Mount Augustus could never be termed an inselberg and its classification as a monadnock is open at least to some question. A monadnock (AGI Glossary) is "an upstanding rock, hill, or mountain of circumdenudation of resistant rock, rising conspicuously above the general level of a peneplain in a temperate climate, representing an isolated remnant of a former erosion cycle in a mountain region that has been largely beveled to its base level". Although Mount Augustus descends to a nearly planar surface on all sides, it is doubtful if that surface is a peneplain. There are flanking hills (e.g. the Centipede Range) only 10 kilometres to the west; Mount Genoa and Mount Isabella are about 15 kilometres southeastwards and there are other unnamed hills fairly close. However, although these adjoining hills tend to invalidate the concept of a surrounding peneplain, none of them is nearly as high as Mount Augustus which, true monadnock or not, is certainly the highest point for hundreds of kilometres in any direction and the fifth highest named point above sea level in Western Australia. The higher named peaks are Mount Meharry 1 251 metres, Mount Bruce 1 227 m, Mount Vigers 1 145 m, and Mount Brockman 1 114 m. It is also one of very few places in Western Australia where one can see a mountain peak that is 700 metres higher than the viewing point and only a few kilometres distant.

From certain viewpoints, particularly north and northwest, Mount Augustus is most impressive if for no other reason than its bulk (at least 4 times that of Ayers Rock). At closer quarters the mountain is precipitous on parts of its northeasterly face and elsewhere is extensively cut by rough ravines which are often thickly covered by Minnieriche and Mulga scrub and difficult to penetrate. Reaching the summit, from whence a spectacular view is obtained, would not require special climbing skills on selected routes. A natural amphitheatre seen from the air at the northwestern end of the mountain is not as scenically attractive as one might suppose, when seen on the ground.

Cattle Pool, in the bed of the Lyons River, provides permanent fresh water about 5 kilometres north of Mount Augustus. The Environmental Protection Authority has recommended (in Conservation Reserves for Western Australia, EPA "Red Book" 1975) that, in the event of the Mount Augustus pastoral lease coming on the market, it be purchased by the State with the intention of creating a National Park surrounding Mount Augustus. However, as Mount Augustus station is a viable cattle grazing property, this must be regarded as a long term aim. It should also be noted that the southeastern part of the mountain lies within the adjoining Cobra station.

Meanwhile it is understood that occasional safari tours visit Mount Augustus, and the more venturesome motorists, prepared to face 455 kilometres of unsealed and often rough roads, sometimes travel from Carnarvon via Gascoyne Junction, Dairy Creek, Mooloo Downs, Yinnietharra, Mount Phillips, and Cobra, to view this impressive mountain.

14/6/1977

R R CONNOLLY

← NORTHEAST

SOUTHWEST →

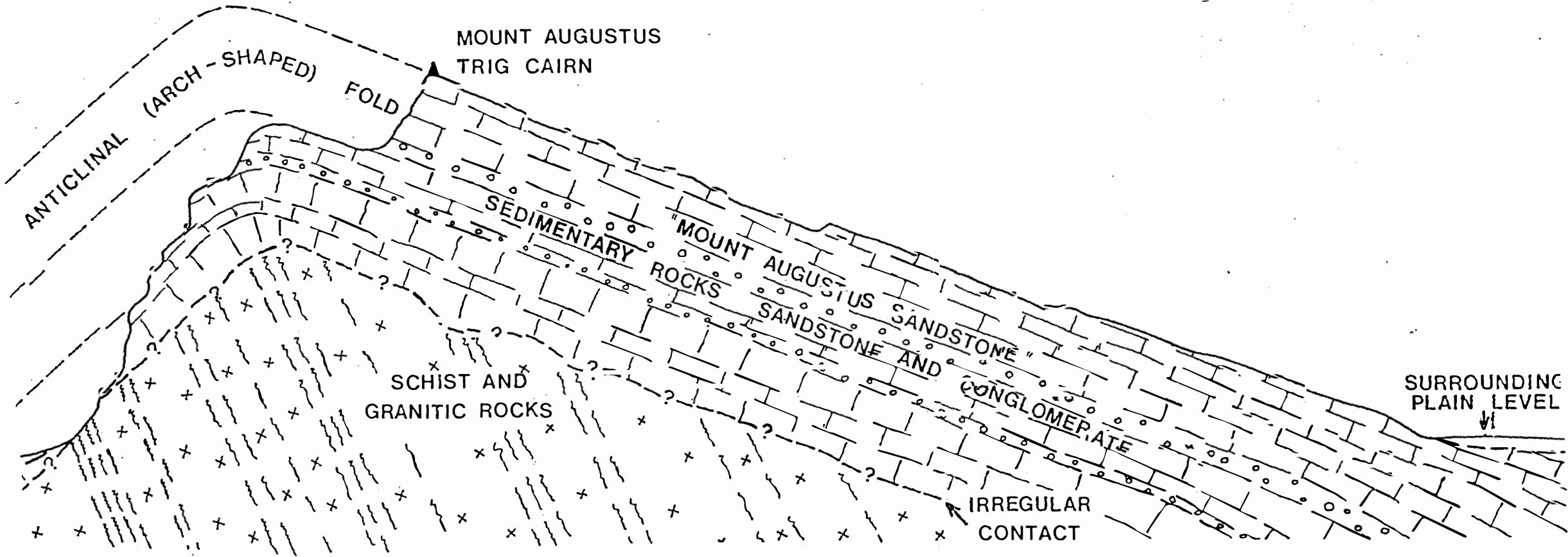


FIGURE 1. DIAGRAMMATIC CROSS SECTION THROUGH MOUNT AUGUSTUS
VIEWED FROM THE NORTHWEST