

SITE 45 - MOUNT MAJURA LIMESTONE OUTCROPS

ITEM: Mount Majura and Mount Ainslie form a topographic ridge leading north from the centre of Canberra. The ridge is mainly composed of Ainslie Volcanics within the Hawkins Volcanic Suite; erupted 434-428 Ma. However there are outcrops of Canberra Formation limestone on both the Majura Valley side of Mount Majura and on the western side near north Canberra suburbs of Hackett and Watson. These limestone outcrops are fossiliferous and as early as 1988 were listed as heritage sites by the National Capital Development Corporation (NCDC). **LOCAL SIGNIFICANCE.**

LOCATION: The limestone outcrop of interest is in an open grassland area near a drainage dam/pond accessed on foot a few metres to the north of Oldfields Lane that leads uphill for a few hundred metres from Anthill Street in the suburb of Watson.

GPS COORDINATES : Site 1: Latitude 35° 13.83'S, Longitude 149° 10.42'E

Geocentric Datum of Australia (GDA94) Grid Zone 55H, Sector FA, Easting 97 796, Northing 99 173

Site 2: Latitude 35° 13.79'S, Longitude 149° 10.43'E

Geocentric Datum of Australia (GDA94) Grid Zone 55H, Sector FA, Easting 97 806, Northing 99 258

Topographic map sheet, 1:25,000 scale - Hall.



Drainage pond north of Oldfields Lane.

December 2021.

DESCRIPTION: The limestone outcrops within the Canberra Formation (427—433 Ma) are in grassland near a drainage pond north of Oldfields Lane and in December 2021 the grass was quite long, obscuring many of the scattered boulder outcrops. Although outcrops could be found, in December 2021 no fossiliferous limestone was evident.; any fossils could be under the water. Two sites were found. One near the Oldfields Lane end of the embankment of the drainage pond. The limestone boulders were probably bulldozed into their present location during the construction of the drainage pond. The other site was further away from Oldfields Track about 50 metres north of the pond in grassland obscured by tall grass. There may be other outcrops nearby.

ACCESS: The limestone outcrop is within the Mount Ainslie—Mount Majura nature reserve. It is in an open grassland area north of Oldfields Lane in the suburb of Watson. It is listed in the NCDC Volume Two—Sites of Significance in the ACT, Technical Report 56, Inner Canberra (1988).

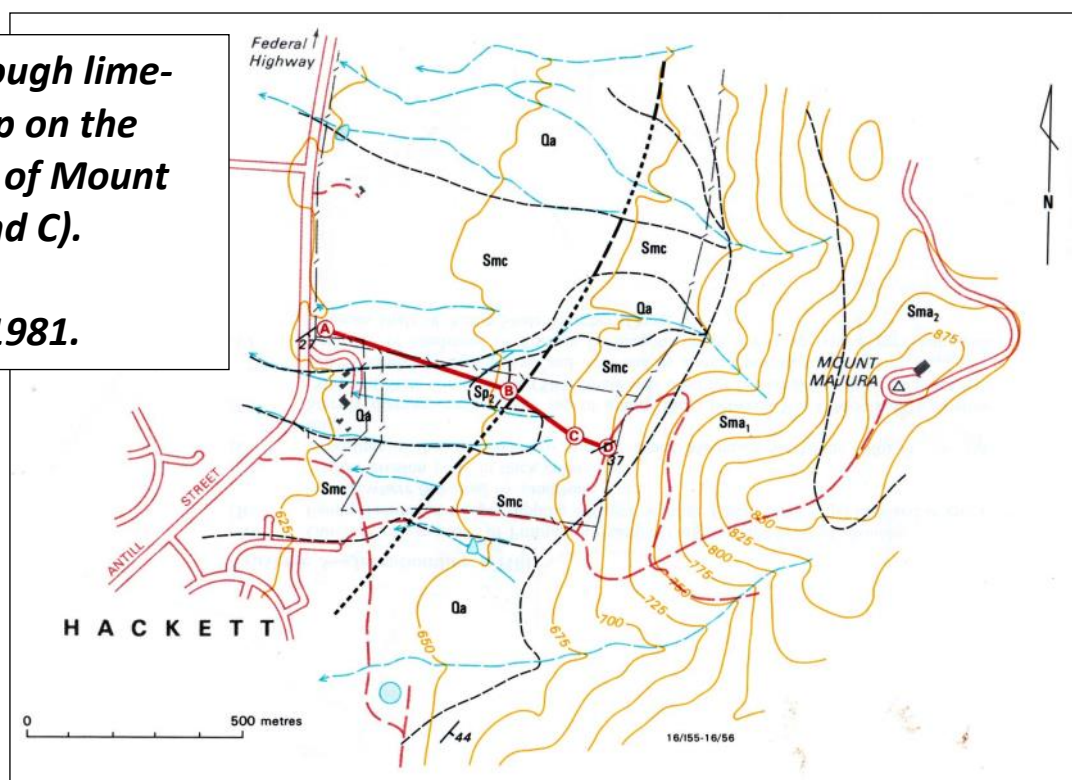


Limestone outcrop on the western side of Mount Majura.

Friends of Mount Majura, map; Google Earth.

Transect through limestone outcrop on the western side of Mount Majura (B and C).

Henderson, 1981.



RECOMMENDATIONS: The limestone outcrops are accessible to the public. Although there is a danger that people may go “fossil hunting” across the outcrops, they would have to be very, very lucky to find fossiliferous limestone at the site. The limestone outcrops are offtrack and obscure. However, any good fossils are rare and should be protected in an appropriate manner wherever possible and not collected for personal collections.

GEOLOGICAL VALUE: The NCDC Technical Paper 56 indicates that there are Silurian fossils within the limestone outcrop. These are valuable in identifying the Silurian tectonic environment around Mount Ainslie and Mount Majura and detailed examination of the fossils within the limestone indicated that it is a limestone lens within the Canberra Formation, similar to other outcrops around Canberra. The fossiliferous material comprised trilobites, brachiopods and corals, some being largely intact (Henderson, 1981).



***Limestone boulder outcrop at Site 1
at the south end of the drainage
pond embankment.
December 2021.***





***Limestone hand samples
from Site 1, drainage pond
north of Oldfields Lane.***

Photo— December 2021.

***Outcrop at Site 2, north of drainage
pond.***

December 2021.



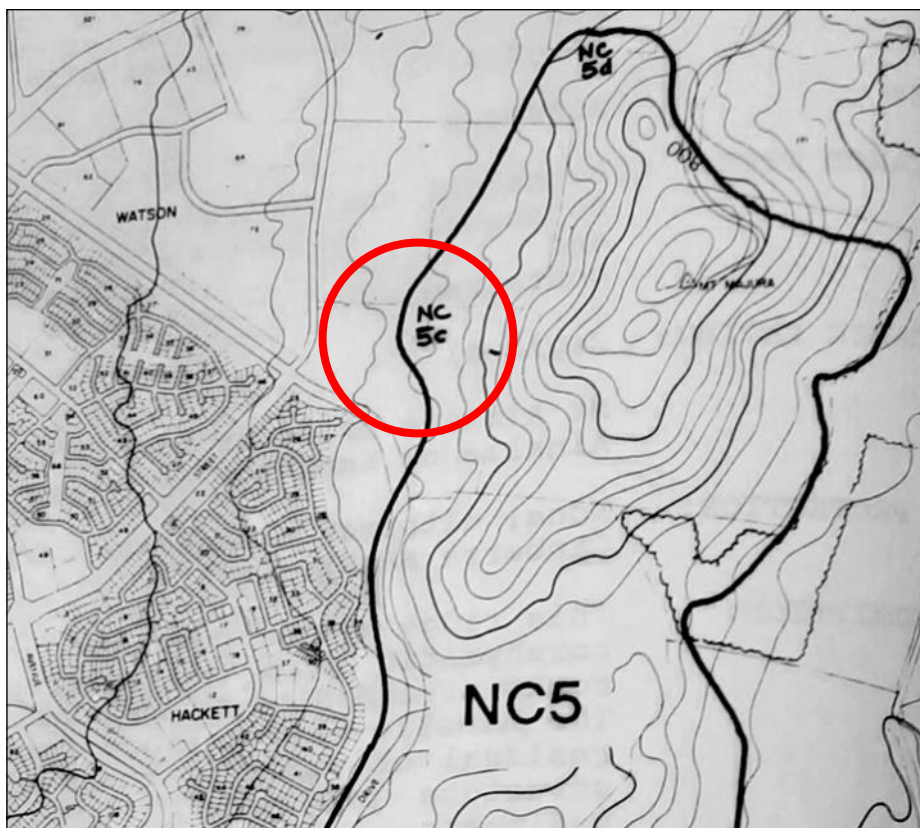
STATE OF PRESERVATION: Being within the Mount Majura nature park, the scattered outcrops are unlikely to be disturbed . No fossiliferous limestone was found in December 2021. Historical reports of trilobites and brachiopods are difficult to verify, although in future years, when grass is not obscuring the outcrops, there may be a better chance of finding fossils.

GEOLOGICAL VALUE: The NCDC Technical Paper 56 describes the limestone outcrop in the following terms:

“NC5c—Mt Majura Fossil Outcrops (Regional).

On the northwestern lower slopes of Mt Majura, outcrops of dacite intruding metamorphosed limestone and siltstone of the Canberra Formation occur. Fossils collected from sediments include corals, trilobites and brachiopods. A relatively extensive exposure of limestone of the Canberra Formation, displaying minor surface solution features, outcrops on the lower slopes.”

Location of NC5c limestone outcrop site as shown in NCDC Technical Paper 56, 1988.



NC5c limestone outcrop photo as shown in NCDC Technical Paper 56, 1988.

This photo was probably taken at the horse paddock limestone outcrop.



Trilobite, Mount Majura.

***Photos— Waltraud Pix,
Friends of Mount Majura.***

***Exact location unknown.
Could be under water at
the drainage pond (Pix,
pers. com., 2021).***



HORSE Paddock LIMESTONE OUTCROPS: There are other limestone outcrops on the western lower slopes of Mount Majura. In particular, in the Hackett/Majura Horse Paddocks near Jukes Street, Hackett, there are grassland areas about 1.0 km south of the drainage pond near Oldfields Lane described earlier. The outcrop is spread out over an area of about 20m x 20m and much more substantial than at the drainage pond.

There are no previous reports of obvious brachiopod or trilobite fossils being found at this site and none were found in December 2021.



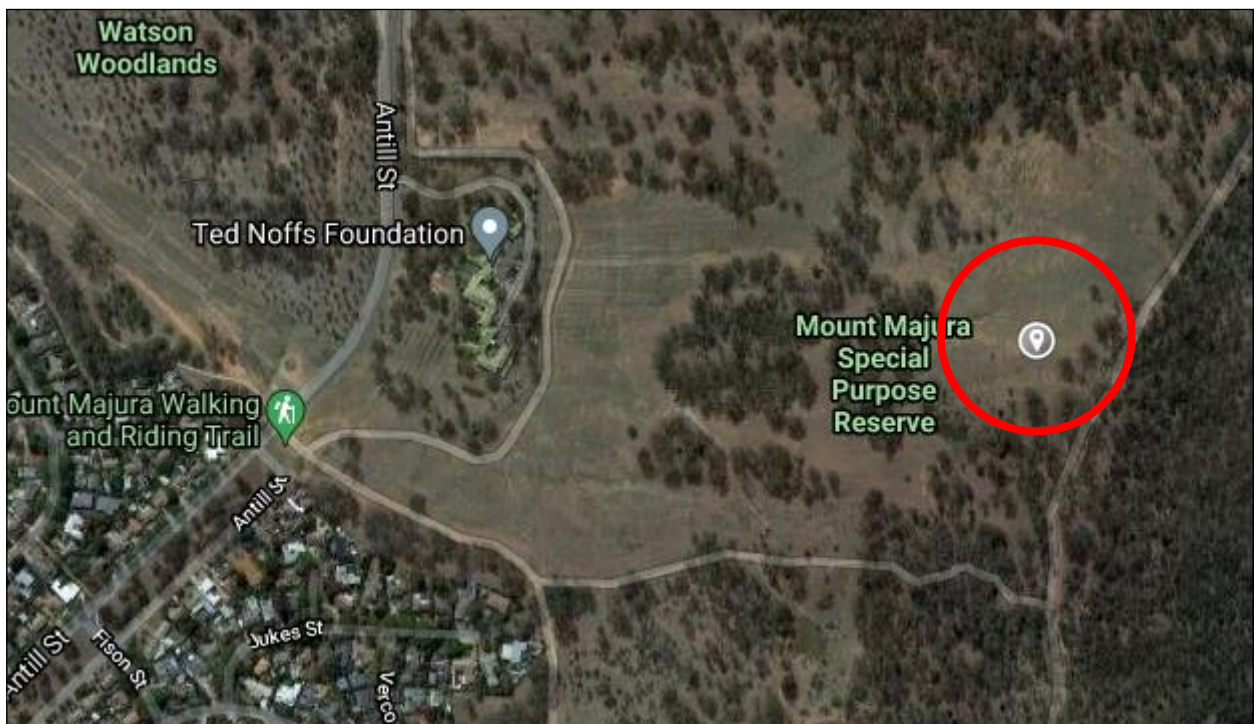
Limestone outcrop on the western side of Mount Majura in the Hackett/Majura horse paddocks.

Photo—December 2021

GPS COORDINATES : Latitude 35° 14.37'S, Longitude 149° 10.42'E

Geocentric Datum of Australia (GDA94) Grid Zone 55H, Sector FA, Easting 97 732, Northing 98 252
Topographic map sheet, 1:25,000 scale - Hall.

ACCESS: The limestone outcrop is within the Mount Majura nature reserve within the horse paddocks and is easily accessed by walking from the car parking area on Anthill Street. It is in an open grassland area; grass may be long depending on rainfall.



Limestone outcrop on the western side of Mount Majura in the Hackett/Majura horse paddocks.

Photos — December 2021





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Unless otherwise stated the information has been obtained from the following publications and sources:

Finlayson, D. M. (author and editor), 2008. Co-authors – R. S. Abell, D. L. Strusz, P. Wellman, M. J. Rickard, D. Clark, K. McCue, K. S. W. Campbell, K. G. McQueen and B. Pillans. A Geological Guide to the Canberra Region and Namadgi National Park. *Geological Society of Australia (Australian Capital Territory Division), 140 pages.*

Henderson, G. A. M., 1981. *Geology of Canberra, Queanbeyan and Environs, Notes and 1: 50,000 scale map. Bureau of Mineral Resources, Geology and Geophysics, Canberra.*

National Capital Development Corporation (NCDC), 1988. *Sites of Significance in the ACT, Technical Paper 56, Volume Two, Inner Canberra.*

Latest Update—December 2021.

