



WERRIS CREEK COAL MINE GEOLOGY FACT SHEET

GEOLOGY SUMMARY

The geology of the Werris Creek township and surrounding area contains Early Permian (~290 to 265 million years old) sedimentary and volcanic rocks of the Southern New England Orogen. The location of Werris Creek township and Werris Creek Coal mine is within a geological structural basin known as the Werrie Basin.

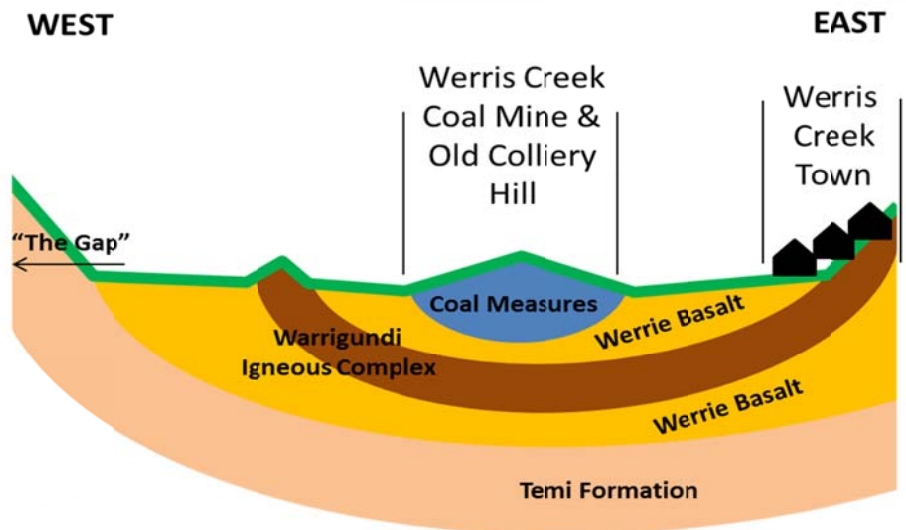
WERRIE BASIN

The Temi Formation forms the base of the Werrie Basin comprising 220 metres of sedimentary and volcanic rocks. The Temi Formation is visible as part of the western ridge line that Werries Creek flows through at "The Gap"; towards the Mooki River and Liverpool Plains.

Overlying the Temi Formation is the 2km thick series of lava flows and volcanic rocks namely the Werrie Basalt and Warrigundi Igneous Complex.

The coal-bearing rocks are the Greta Coal Measures occur stratigraphically above the Werrie Basalt in limited locations such as the Werris Creek Coal mine and at Willow Tree.

ILLUSTRATIVE CROSS SECTION OF THE WERRIE BASIN GEOLOGY IN THE WERRIS CREEK AREA



Note: Cross Section not to Scale

WERRIS CREEK TOWNSHIP GEOLOGY

The lower slopes of town are situated on the Werrie Basalt which was formed from series of basaltic lava flows. The Werrie Basalt is more easily eroded than other local rock types and therefore found lower in the landscape and has weathered to make fertile deep red soil local to Werris Creek.

The elevated areas of town are on top of different volcanic rocks (Warragundi Igneous Complex) sourced from the extinct Mount Terrible Volcano. This volcanic rock is less erodible and has formed the ridge line that backs onto Werris Creek town.

No coal seams exist beneath Werris Creek township. The coal measures are limited to the Werris Creek Coal mine area only and are not directly connected to Werris Creek town by rock shelves. No faulting has been previously mapped in the area between the mine and the Werris Creek township.

GEOLOGY AT THE WERRIS CREEK COAL MINE

The coal measures at Werris Creek were once connected to the Early Permian Greta Coal Measures found in the Muswellbrook and Cessnock areas of the Hunter Valley. Since deposition of these coal measures, periods of uplift and erosion have left only the isolated remnant of coal measures at the Werris Creek Coal mine.

The former underground mine located onsite previously mined 750 000 tonnes of coal from 1925 to 1967. Werris Creek Coal mine has produced over 11 million tonnes of coal since May 2005. There are nine coal seams found at the Werris Creek Coal mine within a sequence of nearly 200 metres of sedimentary rocks. The coal measures have been folded by uplift events after deposition to form a 'north-south elongated bowl' shape. At the edges of the bowl the coal seams dip at close to 60° whereas in the middle of the bowl the coal seams are generally flat lying.



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