

AN UNRECORDED METEORITE FROM COOLAC, NEW SOUTH WALES.

By

T. HODGE-SMITH,

Mineralogist, The Australian Museum.

(Plate xx, and Figure 1.)

THROUGH the kindness of Mr. W. E. Williams I was informed that Mr. Noel McMahon, of Coolac, New South Wales possessed an object thought to be a meteorite. On request, Mr. McMahon very generously sent the specimen to the Museum on loan, with permission to cut off a small portion for purposes of investigation.

He stated that his grandfather, Thomas McMahon, found the iron about the year 1874 on his selection known as Happy Valley, about three miles west of Coolac, Parish Bongongolong, County Harden, New South Wales, latitude $34^{\circ} 58' S.$, longitude $148^{\circ} 7' 30'' W.$

Mr. McMahon believes that his grandfather found it four feet below the surface while prospecting for gold. He further reports that "there is a distinct depression in the ground where I believe the meteorite was found. This would be about twenty yards wide; a dry creek in summer now passes through the depression."

The iron was used by his grandmother as a firestop in an open fireplace for about four or five years, when it was sent to Sydney for analysis. According to Mr. McMahon, the result of the analysis was "that it had been in a fire on this earth". I am unable to discover who reported on the matter or to whom the sample was submitted.

The appearance of the meteorite when received at the Museum was that of a typical iron with broad somewhat shallow "thumb-marks", and roughly pyramidal in shape, measuring 225 mm. by 195 mm. by 180 mm. It weighed 42 lb. 8 oz. (19.28 kg.), and the specific gravity, taken on a portion weighing half a kilogram, is 7.15.

An attempt to cut the iron with an ordinary hacksaw failed, and Luke Muras, Limited, very kindly undertook to cut it. They found considerable difficulty owing to the presence of inclusions, some of which were silicate minerals. Finally, a little more than half a kilogram was cut off.

On polishing a small surface of the meteorite, when first received, no trace of Widmanstätten figures was observed. Later, a surface measuring 75 mm. by 40 mm. (Plate xx, fig. 2) showed only traces of the octahedral structure. Apparently the four or five years that the iron served as a firestop had been sufficient partially to destroy this structure. In the top section of the etched surface remnants of the taenite bands exist to show the octahedral orientation; a small portion of this area has been enlarged somewhat and is shown in