

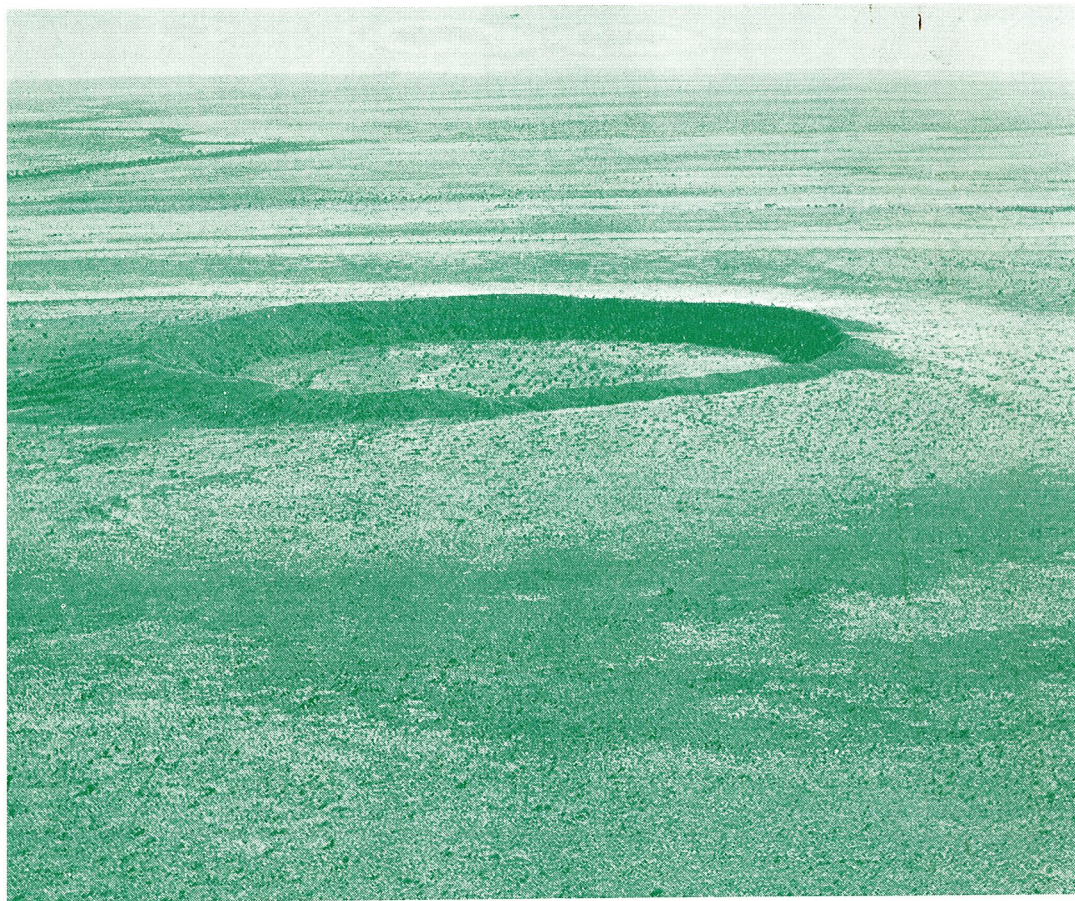
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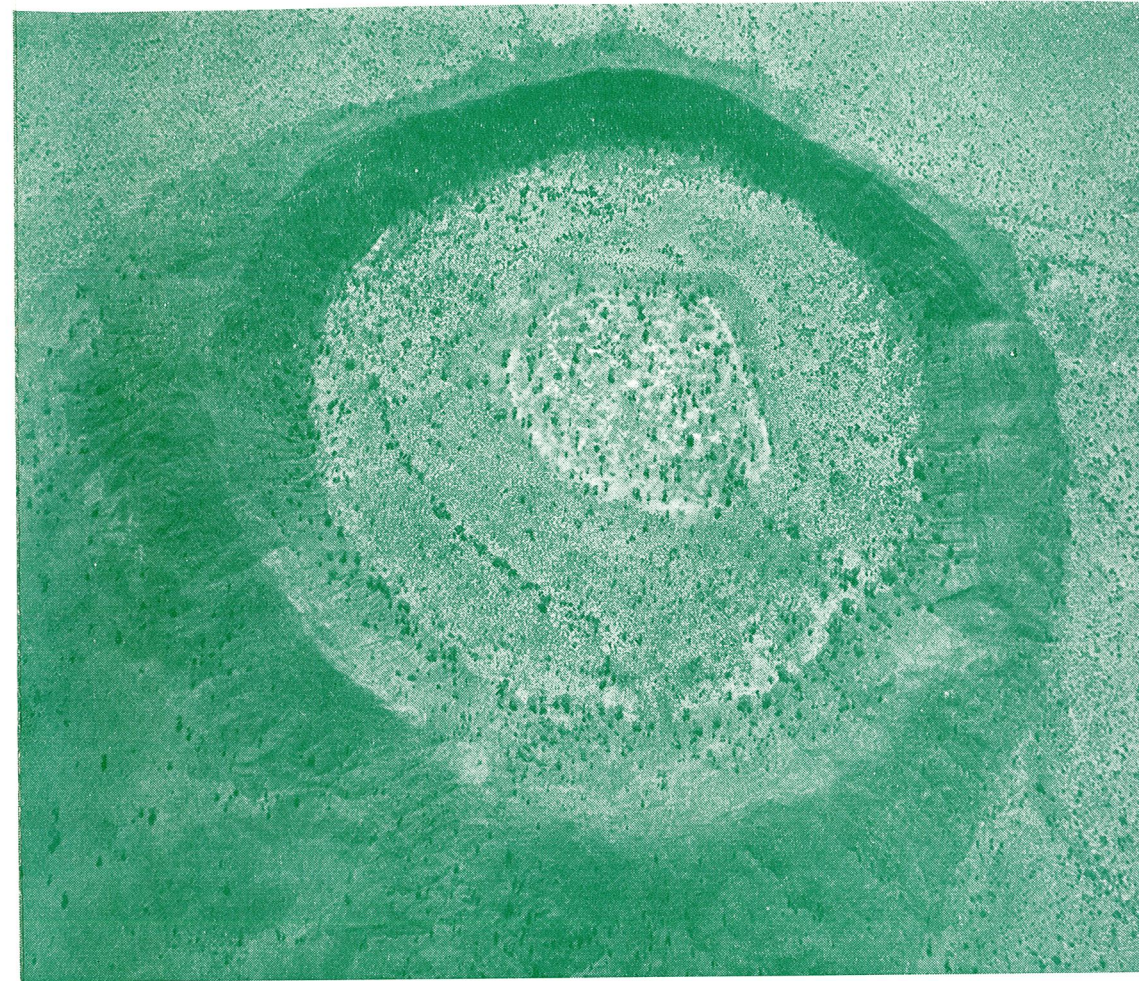
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WOLF CREEK

Meteorite
Crater



The Wolf Creek meteorite crater from the south-east with trees marking the dried up course of Wolf Creek in the left background.



Kimberley Region

WESTERN AUSTRALIA

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Western Australia has many unusual land features scattered over its 975,920-square mile face. One of the most remarkable is the Wolf Creek Meteorite Crater 65 miles south of Halls Creek in the Kimberley. The second largest crater in the world where associated meteoric fragments have been found, it was believed formed during the last million years when a wandering meteor hurtled through the earth's atmospheric shield and slammed into the ground with incredible velocity, exploding and vapourising as it struck.

The hole it left in the arid terrain measures 2,800 feet in diameter at the inside base of the crater rim. The average depth of the crater below the rim is 160 feet, with an average depth of 70 feet below the surrounding desert. Unknown to science until 1947 when it was reported by Dr. Frank Reeves and Mr. N. B. Sauve of the Vacuum Oil Company, the crater can be reached by road without difficulty during the dry season through Ruby Plains Station on which it lies. Carranya Station homestead is only about two miles away.

The Canning Stock Route, once used for droving cattle from the Kimberley to Wiluna in the Eastern Goldfields, passes close by, with the Northern Territory border about 100 miles to the east. The crater's true location is 127 degrees 46 minutes east and 19 degrees 18 minutes south. It was named in 1948 by Dr. Reeves after Wolf Creek, a water course which runs south into Sturt Creek.

From the air the crater appears as a lunar-like scar, amazingly well preserved and circular in shape. From the ground it looks like a low hill in an otherwise featureless desert, with nothing to suggest that a crater lies beyond the rise. It is only when you get close that the piles of rock forming the crater rim suggests something unusual. The massive pile of unsorted blocks of red-brown quartzite, particularly on the southern flank of the rim, is very striking.

An imposing view can be obtained from the top of the rim. Even after hundreds of thousands of years the symmetry of the crater remains. Erosion has been slow because of the dry nature of the country. Originally the crater was much deeper. But the action of wind and weather over a long period of time has filled in much of the inner portion with sediment to an unknown depth.

The average thickness of the rock forming the crater rim is 90 feet and it consists of angular blocks of quartzite and grit thrown up by the force of the explosion. Due to subsequent erosion, the height of the rim rock

varies only slightly. The rim's outer slope varies from 10 to 15 degrees. But the inner wall slopes from 30 to 40 degrees which is close to the original line as there is little evidence of erosion in the shattered rock.

The floor of the crater is mostly flat, rising only slightly from the central area to the abrupt face of the wall. The inner portion of the floor is some 1,400 feet wide and composed of light porous gypsum with numerous sinkholes. A zone of loose sand surrounds the central area.

The youngest sediments in the area are Precambrian in age. Scientists, however, have proved that the meteor must have struck and exploded after the laterite layer had been formed. They found a few loose pieces of pisolitic ironstone laterite amongst the fractured blocks forming the rim of the crater on the eastern side. As the age of northern laterite is believed to be late Miocene it is fairly certain that the Wolf Creek Meteorite Crater was formed in comparatively recent geological times.

There is no record of the crater or the meteorite that struck in Aboriginal legend, although Aborigines in the area have long been aware of its existence.

Definite proof that the crater was of meteoric origin came in 1965 when small pieces of iron meteorite believed to have spilled from the meteor as it plunged through the atmosphere, were found. The fragments were discovered on the surface among small pebbles overlying calcareous clay. They were located mainly in an elliptical area with an axis of 20 to 30 metres, some 3,900 metres south-west of the crater. Other fragments were later found about 100 metres to the west and a large fragment about 500 metres west of Wolf Creek.

Much of the area was traversed using a mine detector, but no large masses were located. It is impossible to deduce the direction from which the meteor came because the subsequent explosion acts as a point source, and so a circular crater results whatever the impact. The iron meteorite almost certainly penetrated the atmosphere and some distance into the ground as a solid mass before exploding.

Its force was less than that producing the great Barringer Crater in Arizona - the worlds largest - although in the same order of magnitude. The explosive power of such meteorites are equal to several times their weight in TNT.

The Wolf Creek Crater has been classified as an A Class Reserve. It is one of the North's most outstanding tourist attractions.