

Opal

by

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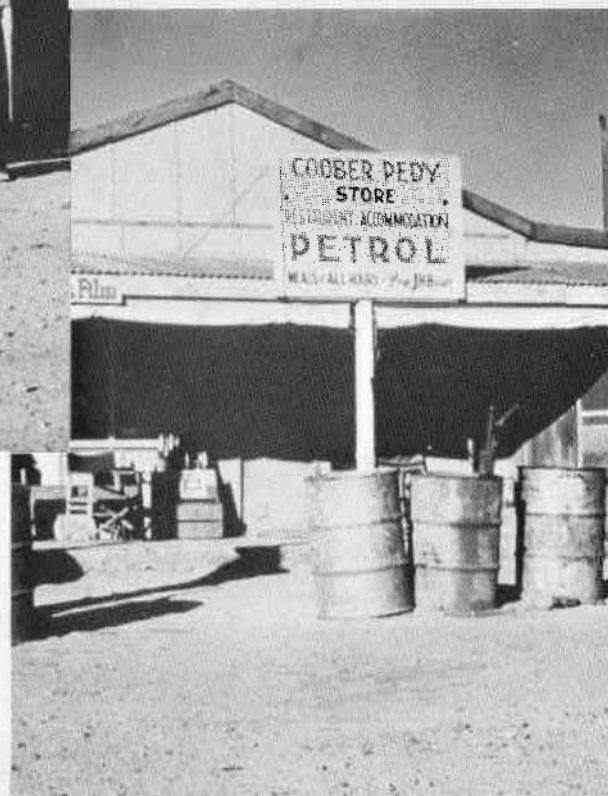
A visit to the main sources of precious opal today, Coober Pedy and the Andamooka deposits, in the northern areas of South Australia Province, Australia.

(Continued from Fall 1959)

These buildings, sitting on the very edge of a high bluff, give the impression of two crouching cats facing each other. The store and general trading post of the Brewsters is on the north side of the road. Opposite, and in direct competition, stands the Marks store, no relation to the opal Marks. Marks is postmaster, overseer for the aborigine, etc. His sign says, "Opal and Specimens for Collectors." Both he and the Brewsters have gas pumps and competition is keen. The Brewsters are old-timers and former opal gougers, now retired to

store tending, getting meals for tourists, and opal buying. There are about forty persons living at Coober Pedy.

Coober Pedy is famous not only for its fine opal, but also for its queer houses. In the olden days, all of the houses were under the ground. This was done for two reasons: there was no timber in the area, and there were great seasonal changes in the weather. In summer it is hot, and in winter it is cold, with the winds swirling up from the South Pole. When it is hot these underground houses are cool, and when

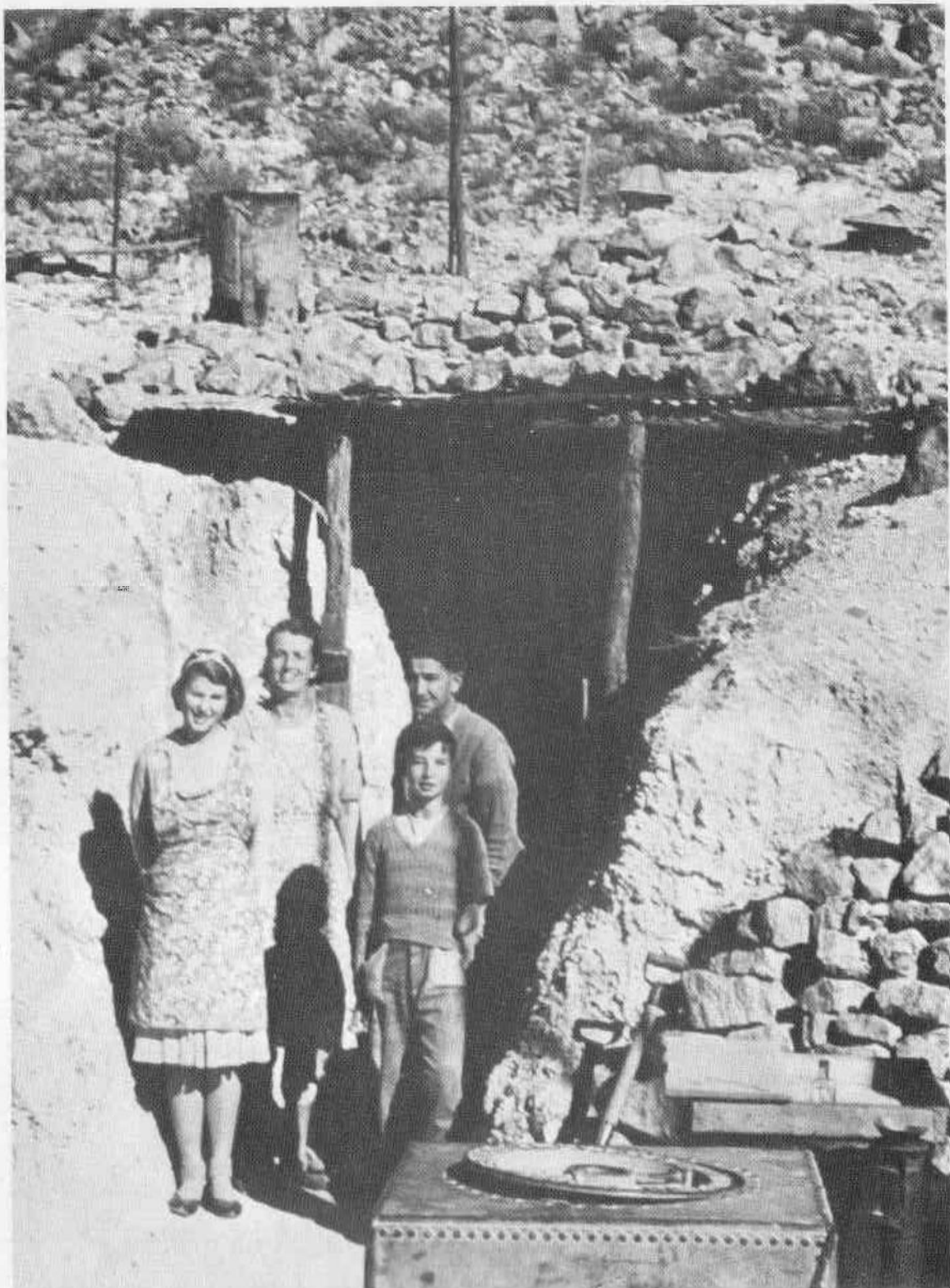


Coober Pedy

The author stands with the Brewsters at their store, the hub of universe out there. The kindness, hospitality and never-ending stories of these two old-timers will never be forgotten. Mrs. Brewster is a cook *par excellence*.

the cold winds blow they are warm. Then, too, in a land plagued by flies, these carved rock houses offer a retreat, because the flies shun them. Rooms are gouged out of the soft sandstone, and the house can become as spacious as you have the patience to dig. Shelves and cupboards are cut out of the solid rock wall and the bed base is often of the

same material. The old-timers still have lanterns and candles, but some of the more progressive folks have wind generators that keep storage batteries charged, for they enjoy electric lights. There were a few kerosene refrigerators — luxury indeed. Coober Pedy's school is by radio and at home, the Government supplying the sets. On one



Coober Pedy

Mr. and Mrs. Blatchford and family wait to welcome me to their home. The ventilators and chimney indicate the underground size of this house. It was very cozy.



Coober Pedy

The interior of the dugout house. Bryan greets his teacher several hundred miles away via radio. All of his lessons have been carefully prepared in advance and supervised by his very able mother. Note the refrigerator in the background; it runs on kerosene.

of my morning visits to the Blachford home, young Bryon was addressing a good morning to his teacher several hundred miles away. The scholastic standing of these children is high. Coober Pedy has one blessing: that of being on the main road of the north-south highway. It was surprising to learn of the numbers of vacationists who find their way down through the area in the dry season. Water is caught off a basin watershed and stored in a manmade covered reservoir; unless the season is very dry, there is adequate water for all.

It was here that I saw two old camels, remnants of the once fabulous Ghans traders. My home here was twenty-five feet under the ground in the old post office. Shared with Vin Wake, it was most comfortable, but I have to confess to a feeling of heavy claustrophobia that first night. The hospitality was wonderful, and I will never forget that kangaroo-tail goulash that was cooked for three days by Mrs. Keith Hamilton and the party that the Hamiltons gave to serve the goulash.

Mining here is about the same as at Andamooka. The fields are more vast



The first view over the hill from the Brewsters at the old diggings of the main find at Coober Pedy. Notice that both the hills, as well as the flats, have been explored. The finds were fabulous.

and the distances are greater and more widely separated. The bottoms are much deeper and the horizons don't have the massive bands of gypsum that indicate the nearness of opal. The opal found here is of a lighter color and slightly softer. Usually, it is thought that these can be easily told apart; however, I discovered that occasionally stones are sent between fields and sold as Andamooka or Pedy stones, as the occasion demands. I doubt that any genuine opal buyer can be fooled consistently. It was further interesting to note that the gougers each believed that the stones from his area were the best. The buyers

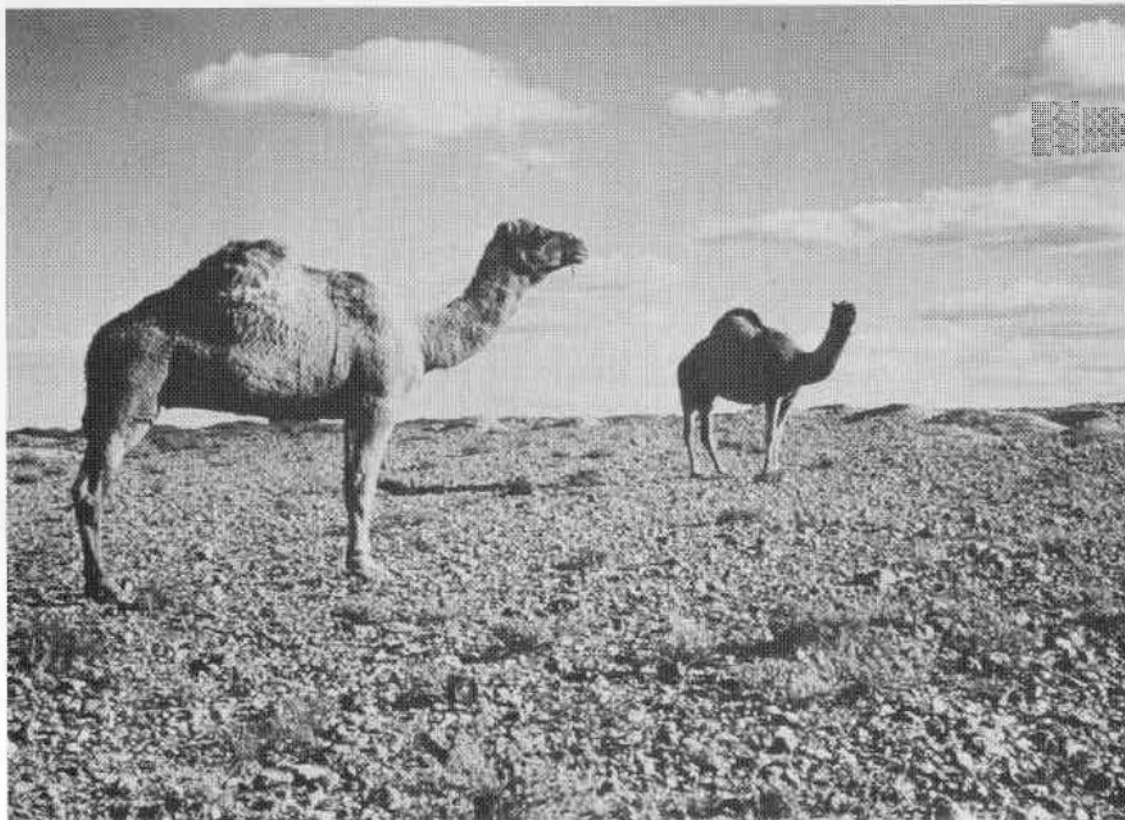
bought anything and everything they could get their hands on.

Because of the floods and washouts on the roads to the south, I was forced to go north on my return journey, coming out through Alice Springs. Then by air to Darwin and via the Philippines on to Japan, where I visited the massive pearl farms and the rock-crystal works.

GEOLOGICAL FEATURES

Andamooka

Precious opal occurs here in a fault outlier of lower Cretaceous beds resting unconformably on quartzites, sandstones and shales of the Upper Pre-



Coober Pedy

Sentinels of the past. Two ancient camels left from the once mighty herds that made up the Khans trading routes.

In the early days it was with these beasts that the Mohammedans from the Middle East came to ply trade throughout central Australia.

Cambrian Age. The geological section is approximately as follows:

Superficial mantle of ferruginous and siliceous *gibbers*, or rocks.

Fifteen feet, approximately, of dense quartzite and sandstone, now mostly eroded away but capping a few hills.

A zone of cream-colored siliceous shale with limonitic veins; thickness not known.

Cream of pale-pink siliceous clay and porous sandstone, approximately 55 feet thick.

Hard band of brown sandstone and

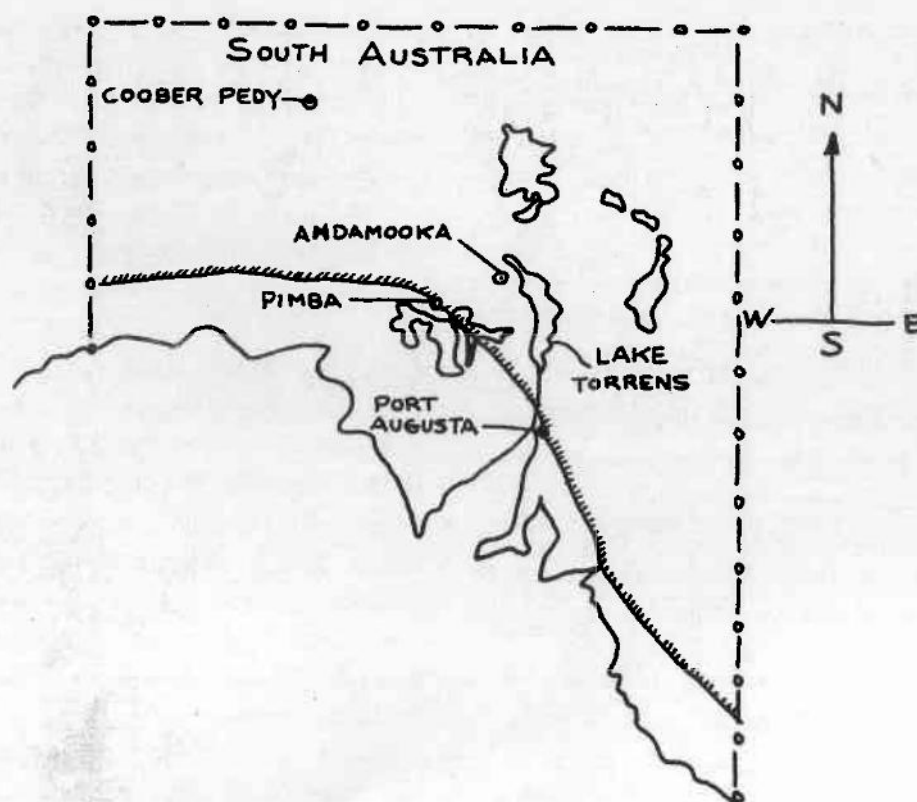
a seam of massive gypsum. A band of coarse conglomerate and boulders up to nine inches in diameter. White micaceous clay.

Opal occurs in the interstices of the conglomerate and as a surface film, or layer, on the boulders, and it also occurs as seams within the clay that underlies the conglomerate band. The conglomerate and clay constitute the opal *horizon*, and the hard band and gypsum, when present, serve to indicate the proximity of the *horizon*. The sequence described above may be regarded as typical, but is not necessarily continuous throughout the field. The total



Coober Pedy

A buying partner comes to inspect his mine. This was a deep shaft, almost seventy feet down. Note the steps on the sides and the winch at the top.



thickness of this zone is about five feet.

Veins of opal may traverse the clay at any angle, but usually are flat. In one example, they followed a vein for 55 feet.

Coober Pedy

The geological section is approximately as follows:

A superficial layer of smooth, rounded *gibbers*, or rocks. These form an almost continuous thin mantle over the tableland surface.

Gray or brown quartzite, with some conglomerate and porcellanite. Approximately fifteen feet thick.

Zones of pink and cream-mottled clay, with scattered flakes of selenite. Approximately eight feet thick. It is not present in all parts of the field.

White, cream or pale-pink siliceous claystone, with one or more horizontal seams of fibrous gypsum up to 18 inches thick.

Pink or brown ferruginous sandstone, with veinlets of precious opal or pelecypod shells replaced by opal. The opal-bearing sandstone is the lowest formation exposed in the mines. Its thickness cannot be determined, but the total thickness below the quartzites (including the mottled clay) exceeds 60 feet.

The seams of opal range in thickness from about two inches to a fraction of an inch, and are irregular in their occurrence. Some are vertical, but the majority are horizontal or nearly so. Many of the veins are not continuous and are in the nature of lenticles, occur-

ring in a series of fissures or joints.

The main level of opal is about 70 feet below the top of the plateau; as the result, most of the wide development has been on the flats.

There are few, if any, surface indications here to guide the miners in the selection of sites for prospecting.

Andamooka opal varies in body color and is generally darker than that obtained in Coober Pedy or White Cliffs. Some specimens, notably those of the German Gully area, are dark enough to compare favorably with the Lightning Ridge opal.

Australian opal fluoresces under rays of the long-wave ultraviolet light.

A Short History of Opal

In gem history, opal is one of the oldest of known gemstones; however, it had no place of honor with the ancient Hebrews. It was not included in the placement of jewels on the High Priest's Breastplate. However, by Roman times it had become known, appreciated, and highly sought after. In ancient Greece, the stones were used as talismans of foresight and prophecy. In Rome, they were symbols of hope and purity and were thought to preserve people from disease. Pliny, the learned Roman scholar, wrote, *It has the fire of carbuncle, the brilliance of purple amethyst, the sea green of emerald, all shining together in incredible union.*

The ancient Arabs believed that these fiery stones fell from heaven in flashes of lightning. An interesting story of Rome tells of a Senator, Nonius, going into exile rather than forfeit his jewel to the Emperor. This jewel, a great slab of opal was olive green with a magnificent play of color; when viewed by transmitted light, it was ruby red. Later, at Alexandria, Egypt, during excavations, a magnificent opal was recovered. It was debated by historians if this were the Nonius opal. This gem eventually found its way to the French Court. Could this opal have been the fabulous *The Burning of Troy* possession of the Empress Josephine? When the Nadir Shah overran and conquered India and the Mogul court, part of the treasure he sought was opal. Queen Elizabeth I, of England, had a mania for gems. She owned a wardrobe of some 2000 gem-encrusted gowns. She was so infatuated with these and the gem designs that she had an artist commissioned to paint them. Her favorite stone was opal. Charles the Bold and General Potemkin each paid thousands of ducats for fine fiery cabochons. After centuries of supremacy, in the nineteenth century, all of the love, fame and glory were eclipsed by the publishing of a novel, Sir Walter Scott's *Anne of Geirstien*. At once a superstition spread through the Victorian world that opal was unlucky. Even though Queen Victoria and other greats such as Bernhardt gave opal great publicity, the stigma is still well planted in the Western world.

