

ANZA-BORREGO'S CALCITE CANYON

by DAVID TILLERSON



THAR'S CALCITE in them thar hills" and near the eastern border of the Anza-Borrego Desert State Park "them thar hills" are known as the Calcite Canyon Scenic Area. This is a region of the park that contains immense mineral wealth, a wealth that is measured by the impressive quantity of Iceland

Spar calcite present under nearly every footstep. Rarely found elsewhere, this form of calcite is equally as beautiful as it is scarce. The Indians, who once populated the Borrego Desert some time ago, reportedly used calcite crystals as beads for necklaces.

Iceland Spar calcite is also known as

optical calcite due to its use in World War II in the optics of ring gun sights. It was the crystal's property of double refraction, the bending of light in two directions, that made it so valuable as an optical component. During World War II, Calcite Canyon became the primary source of optical calcite for the entire western hemisphere. Now deserted, the only evidence left of the calcite workings is a single mining structure, many old boards and the deep cuts left in the canyon's slopes by the equipment of the miners.

In addition to the interest of these mined areas, the surrounding landscape of Calcite Canyon is an equal attraction. Receiving almost negligible rainfall, the area is nearly devoid of vegetation. Deep ravines wind and twist their way through the local sandstone, products of the violent action of flash floods. These sunken



Calcite crystals found in the area display rhombohedral cleavage when fractured.

Calcite Canyon lies two miles up the Calcite Mine Road, off the Borrego Salton Seaway.

sidewalks offer vertical walls that reach skyward to 50 feet or more in places. If you crave that tranquilizing silence of nature, you've got it; and for the adventurous, you never know what's around that next turn in these winding barrancas. This is what makes Calcite Canyon such an attractive place to visit. It is an area that remains uncrowded, and seemingly forgotten.

The calcite crystals found in the canyon are a transparent form which display perfect rhombohedral cleavage. Calcite veins in this location occur in sandstone fissures with some of these reaching lengths of 300 feet and widths up to two feet. Although calcite literally covers some of the slopes in the region, these crystals were useless for optical needs because they were often discolored or too small. The trench-like cuts that scar the canyon, 78 altogether, were necessary to discover underground pockets of calcite. These pockets contained the larger and cleaner forms of optical calcite and could be found only at the intersections of calcite veins.

John Hilton, the desert writer and artist, along with a partner, Ralph Willard, were the first miners to extract calcite from the canyon in 1942. Lacking heavy equipment and discouraged by the effects of the desert heat and isolation, Hilton and a Mr. Heather, another claim owner, sold their mining rights to a large company, Calcite Operators, Inc., in late 1942. This marked the beginning of big time operations in Calcite Canyon. Heavy equipment was brought in and a Marine Corps water truck, along with a cook house, electricity and other comforts were provided. In April of 1943, construction of a two-mile dirt road was completed to the central mining area from the Truckhaven Trail. (In 1968, the Truckhaven Trail was paved and renamed the Borrego-Salton Sea Way.) About this time, a synthetic crystal was devel-

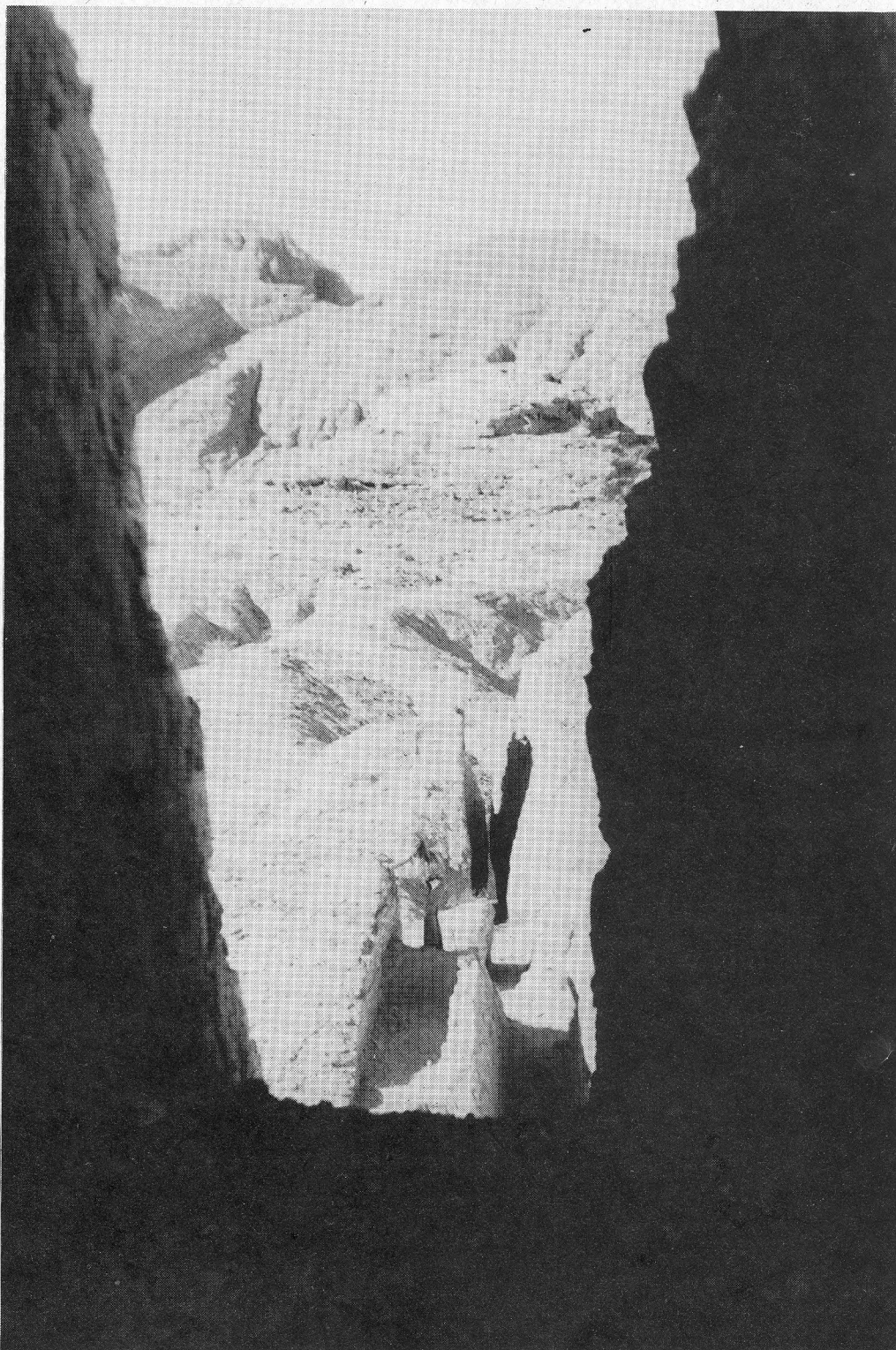
oped by Polaroid Corporation, manufacturer of optical gun sight components, and extensive mining in Calcite Canyon ended in October, 1943.

Calcite Operators moved to Montana, but in November of 1943, two of the corporation's employees, C. J. Frost and Robert Dye, after buying the claim rights, returned and continued mining on a small scale. The claim rights expired shortly thereafter, and the workings were abandoned. During the period of heavy mining by Calcite Operators, Inc., gasoline jackhammers were used to make the narrow cuts in the canyon's

slopes. Due to a need for ventilation, operations never exceeded 50 feet in depth. For the last few months of mining, air hammers and explosives were used instead of gasoline jackhammers.

To reach these calcite workings and observe all this first hand requires that you find and conquer the old Calcite Mine Road. The Borrego-Salton Sea Way provides the access to the Calcite Mine Road turn-off, marked by a park sign that reads "Calcite Canyon." This obscure little sign is located 12.3 miles

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The trench-like cuts, 78 altogether, were made by explosives and by both gas and air hammers.



The calcite diggings, being examined by Susan Tillerson, never exceeded 50 feet in depth due to a need for ventilation.

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from the Pegleg Smith Monument (northeast corner of Borrego Valley). If you drive from the eastern end of the Borrego-Salton Sea Way via Highway 86, the turn-off is .6 mile past that red and white micro-way relay antenna which comes to dominate your view after a few miles. You can't miss it.

At the Calcite Mine Road turn-off, civilization ends and desolation begins. This dirty little road could be described among other things, as rocky, narrow and precipitous. The good news is that there's little sand to contend with, and given reliable tires and brakes, most cars can handle it. For example, I once tackled this road (or vice versa) in a Volkswagen Beetle on two bald tires and carrying no jack.

Actually, there is another practical way to reach the mines which avoids driving the worst part of the Calcite Mine Road. About one-third of the way up (.7 mile for you odometer buffs) is a

junction marked by a post reading "Palm Wash." Park your car nearby and hike to Calcite Canyon by way of the ravines that drain the mine area. Beginning in Palm Wash, hike in a northerly direction while staying to your left as the wash branches into several ravines. After walking about an hour, you'll notice the Calcite Mine Road dip into the wash. Follow the road as it climbs up and out to the right, leading you to Calcite Canyon after approximately half-an-hour's hiking. This is a shady hike which gives you a feel for the region.

The central mining area is at the end of the road and is marked with a sign erected by the park service. The sign carries the written reminder that wildlife, vegetation and geological formations are protected by park rules and should not be disturbed. Standing by the sign, you whip out your compass and using this article to guide you, discover that the majority of mined areas lie 140 degrees to the southeast on either side of that ravine just below you. From this point on, let those pioneer instincts be your guide. □