

TICK CANYON FIELD TRIP

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RARE MINERALS!! The Tick Canyon field trip is one of the most interesting short trips that can be taken from the Pasadena-Los Angeles area. It is an easy one-day trip and a locality which has not been widely visited.

Outstanding in Tick Canyon is the rare and attractive mineral, HOWLITE, a rare borate mineral. Also to be found are the zeolite mineral, *natrolite*, some choice blue agate, neocolemanite, an interesting brecciated rock, and a low-grade bloodstone-like jasper. Tick Canyon offers inducements to both lapidaries and specimen-collectors. The howlite which predominates is a silico-borate of calcium. This rare mineral was first described by H. How in 1868. For a long time its only known occurrence was in Hants Co., Nova Scotia. About forty years later the mineral was reported from California: massive, with colemanite, at Ryan near Death Valley; with bakerite and ulexite from the Calico Mountains northeast of Barstow; and from the head of Tick Canyon. The Tick Canyon locality was operated as the Sterling Borax Mine from 1908-1923, during which period it was exceeded only by the mines at Death Valley as a world producer of borax. There was a mill on the property for rough sorting, the concentrate being shipped east to chemical plants. The howlite occurs in colemanite or neocolemanite as flaky white, but compact, nodular masses consisting of microscopic flat prismatic crystals. The silica content prevented its commercial utilization, so it was thrown on the dump and tons have accumulated. It commonly resembles a gray head of cauliflower in appearance. It is often streaked through with black carbonaceous matter, apparently producing a harder nodule better adapted for polishing. The source of this impurity is undoubtedly the black shales in which the colemanite layers are interbedded. This shaly material comprised most of the dump which is first seen from the road approaching the old mine.

Brown inclusions in some of the howlite consist of organic matter which shows a weak fluorescence under ultra-violet light. The mineral deposit was probably formed in an alkali marsh by the interaction of limy deposits with water containing boric acid. The latter was probably of volcanic origin. The material is not recommended for ring sets as it is rather soft (3.5) and the carbonaceous markings do not show up well in small stones. It does make superb bracelets, brooches, and belt ornaments when set in oxidized silver. It also makes very unique book-ends. Many tons of howlite have been gathered by collectors and there are none of the 40-50 pound chunks lying about, but there are still countless pounds of smaller pieces exposed and a little digging should probably uncover larger pieces in the dumps. The main ore mineral, colemanite, is still found as white cleavage fragments with a glassy luster. A fibrous form resembling satinspar is also obtainable. Some specimens of this form bear a marked resemblance to petrified wood.

Up the canyon from the old mine site, as it narrows, the mineral collectors will find a zone of amygduloidal rock in which the gas pockets are filled with spherules or amygdules of natrolite in hair-like radiating crystal masses. A zone of brecciated volcanic rock and a seam of red-splotted jasper are also encountered. Neither of these are recommended for polishing as they are a little granular.

Another item of particular interest to the mineral collector is the new mineral, *veatchite*, found here by a Pasadena Junior College student, George Switzer. It is a fine, fibrous calcium borate closely resembling the other borate minerals present. Its discovery and analysis are reported in the American Mineralogist, Vol. 23, Number 6 for June, 1938.

The blue agate in the area is widely scattered. A very choice piece from the hill to east of the mine workings was reported by a fellow rock-hound on the occasion of the writer's last visit to the area. Good cutting material has been reported over several square miles of surrounding territory, but there is little at any one spot.

Tick Canyon and the dumps of the old borax works lie about 50 miles north-westerly from Los Angeles and Pasadena. It is reached from Los Angeles via U.S. Hwy. 6 (San Fernando Road in part). Visitors from Pasadena and the foothill cities will find Foothill Blvd. (Calif. Hwy. 118 in part) a short cut to U.S. 6. Foothill Blvd. and San Fernando Rd. join about 30 miles from Pasadena and lose their identities as such. U.S. Hwy. 99 follows a more westerly course to Bakersfield from this junction and U.S. 6 which leads to the Tick Canyon area bears more northerly. U.S. Hwy. 6 should be followed for 19.7 miles from the junction mentioned above to Davenport Road. The turn-off is marked by a large green tank on the west side of Hwy. 6. The dirt road running eastward from here is marked *Davenport Road*. It makes a climbing S turn soon after leaving U.S. 6 and continues to wind among the hills with occasional flats. About 2.5 miles from the highway the large black dump of the old borax works can be seen on the left. There is a narrower dirt road leading up to a small parking area at the base of the black dump, a distance of about one-third of a mile. A herd of goats is maintained in the canyon, so particular vigilance is kept against the use of firearms in the area.

When you have gathered all the Tick Canyon specimens you care to, the Vasquez Rock locality should be your next stop. Follow the roads as shown on the accompanying map. The hills in this vicinity are generously scattered with agate nodules and geodes. These are often quite small, but the geodes are frequently lined with amethyst.

As is common with Southern California gem and mineral deposits, there is no drinking water, so you will want to take your canteen or water bag when visiting Tick Canyon and Vasquez Rocks.

