Barbarossa Mine, Loraine Mining District, Kern County, California

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Acknowledgement and Disclaimer

The information in this paper is taken largely from published sources. I have reproduced this material and present it pretty much as I found it, not trying to harmonize discrepancies in mine or geologic descriptions. I have changed verb tenses for readability and have used some paraphrase. I have expanded abbreviations or special characters with full text (e.g. feet instead of ft., inches instead of ") *Italics indicate quotations*. Authors of the original information are indicated at the end of each paragraph. Paragraphs without a citation are my own material. The maps in this report have been compiled and rectified from digital and paper copies of original sources that were made at different scales and in different geographic projections. Therefore, many of the maps had to be adjusted or stretched. They do not fit perfectly. Most are accurate to within 100 feet, but reproduction and projection errors can be as much as 300 feet for some maps. PLSS means Public Land Survey System. That survey data was obtained from the U.S. Bureau of Land Management website.

MRDS, 2011, Mineral Resources Data System, U.S. Geological Survey, https://mrdata.usgs.gov/mrds/. This database relies on records that, in many cases, are inaccurate or imprecise. For example, if a report describes a mine as being in "Section 9", with no other information, MRDS plots the mine location in the center of the section. If a mine is reported in "SW ¼" of a section, MRDS plots the mine in the center of that SW quarter-section. Where I could confidently adjust an MRDS location of a mineral deposit to features identifiable in aerial photographs or topographic maps, I did so.

Help me make this report better. If you have any photographs, memories or reports for this mine, please send them to me so I can incorporate in this paper.

Avenza. pdf

All the maps in this report are available as georectified .pdf files. These can be read in the field (without cell phone tower reception) on your smart phone with the Avenza.pdf app. It is downloadable at https://www.avenza.com/avenza-maps/

This application takes my maps and puts a dot on your cell phone or tablet screen to show you where you are as you explore the areas covered by my maps. The free version only lets you load 3 maps a at time. Georectified maps can be obtained from me by request.

LOCATION

Mostly in the SW¼ NE¼ sec. 16, T. 30 S., R. 33 E., M.D.M., Loraine district, one mile north of Loraine on a high ridge between Sand and Sycamore Canyons (Troxel and Moron, 1961, p. 95).

PREVIOUS NAMES

HISTORY

The Barbarossa mine was worked mostly during two periods in the early 1900s. In 1904 approximately 2,000 tons of ore was mined, and an additional 900 tons was shipped between 1912 and 1914. The ore averaged one ounce of gold and one ounce of silver per ton. Ore was hauled by wagon to the Amalie mill *one mile south of the Barbarossa mine. The mine has been idle, except for development work, since 1914* (Troxel and Morton, 1961, p. 95).

OWNERSHIP
Christopher Rosenhoffer, 277 Douglas, Pasadena (1958)(Troxel and Morton, 1961, p. 95)

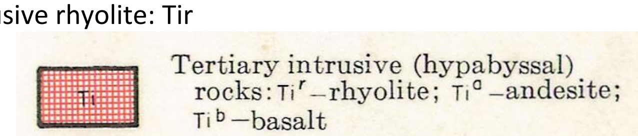
GEOLOGY

LORAINE DISTRICT
The Loraine district is underlain by. Mesozoic biotite hornblende quartz diorite and by roof pendants of pre-Cretaceous metasedimentary rocks. The quartz diorite is medium gray, equi-granular, medium grained, and, near contacts with roof pendants, is poorly to moderately foliated. The roof pendants arc composed of lavers of mica schist, quartzite. hornfels. and limestone. The largest roof pendent is a nearly continuous body, which in the Loraine district is one to one and a half miles wide and extends laterally several tens of miles from Tehachapi Creek on the south to Lake Isabela on the north. In the Loraine district the pendant trends north-northeast between Eagle Peak on the south to the old townsite of Piute. Numerous Tertiary rhyolite porphyry dikes have intruded the granitic and metamorphic rock throughout the district. The dikes range in width from a few feet to many tens of feet and are as much as several hundred feet long. Most of these dikes crop out as resistant ridge-forming masses that weather to a pale huff-yellow color, which contrasts with the predominantly reddish-brown color of the metasedimentary rocks and the knobby rounded outcrops of the granitic rocks. A. few Tertiary dikes of andesitic to dacitic composition are found mostly in the northeastern part of the district. Both types of dikes trend northwest to west-north west (Troxel and Morton, 1962, p. 42).

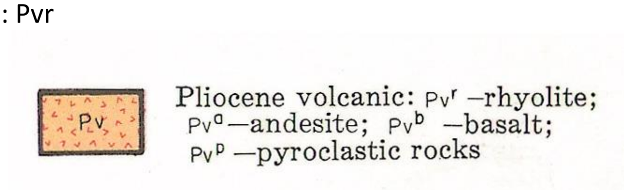
BARBAROSSA MINE

Smith (1964, Figures 7 and 8 this report) mapped the area of the Barbarossa Mine t a confluence of 4 rock types:

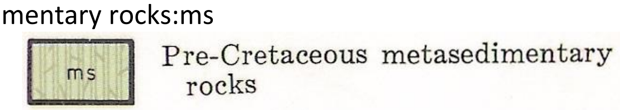
Tertiary hypabyssal intrusive rhyolite: Tir



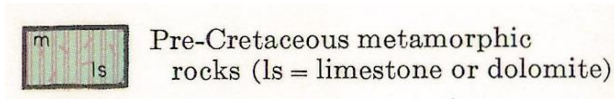
Pliocene volcanic rhyolite: Pvr



Pre-Cretaceous metasedimentary rocks:ms



Pre-Cretaceous metasedimentary with limestone: ls-m



Lourke (1965) mapped the area of the Barbarossa Mine in and area with an island of granite to the north. At the mine there is a contact between metasedimentary rock and limestone. To the south of the mine is an exposure of dacite. See Figure 10

MINERALOGY

LORAINE DISTRICT

In the Loraine District, silver and gold ore present in quartz veins commonly, within or along the walls of the rhyolite dikes. This relationship suggests that the mineralizing solutions may have been a late phase of the intrusion of the dikes. Pre- mineral shearing, faulting. and sheeting provided channels for the emplacement of the veins. The veins also commonly extend from the rhyolite into schist or diorite, or lie wholly within them, as at the ***Ella and Atlas*** *mines. At the* ***Barbarossa*** *mine, a quartz vein strikes diagonally across a rhyolite porphyry dike to the edge of the dike, follows the contact for a few tens of feet, then swings into the quartz diorite where it splits or "horsetails" into minor fractures within a few feet. No known mineralization is associated with the dacite or andesite dikes (Troxel and Morton, 1962, p. 42).*

Wall-rock alteration in the Loraine District is pronounced in most of the silver and gold mines in the district. Kaolinization commonly extends a few tens of feet into hath walls of the vein -and alteration has been so intense that, in some mines, the nature of original wall rock is obscure. The altered rock is very weak and workings in it are held open only with difficulty, especially when it is wet (Troxel and Morton, 1962, p. 42).

The veins of the Loraine District consist principally of white to blue-gray quartz containing pyrite, cerargyrite, bromyrite, argentite, and free gold. Tetrahedrite and proustite also have been noted. Hydrous iron oxides and melanterite are common in oxidized zones near the surface. At the ***Minnehaha mine*** *large crystals of scheelite associated with free gold are in a vein in schist and limestone (Troxel and Morton, 1962, p. 42).*

Zinc, lead, and copper have been mined in the Loraine District at one locality in the district, the ***Blackhawk mine****. There, aurichalcite, sphalerite, goslarite, hemimorphite, galena, cerussite, chalcopyrite. and malachite are in a gangue of calcite and quartz, with associated pyrite, arsenopyrite, and pyrrhotite. The deposit consists of irregular replacement masses along a contact zone between metamorphic rocks and quartz diorite(Troxel and Morton, 1962, p. 42).*

In the Loraine District, several high-grade, closely spaced, and steeply dipping barite veins crop out in limestone on a sharp, high ridge between ***Studhorse and Hog Canyons on Ritter Ranch****. Two antimony prospects,* ***the Wiggins and Studhorse Canyon*** *deposits, have each yielded a few tons of ore. Stibnite and yellow antimony oxides are in steeply dipping, narrow fissure veins in highly bleached and altered granitic rock* (Troxel and Morton, 1962, p. 42).

BARBAROSSA MINE

The ore was obtained from the Barbarossa vein which is contained in a porphyritic rhyolite dike a few tens of feet thick and trending N. 5° W. The dike has intruded Mesozoic quartz diorite. The vein is 2 co 6 feet wide, strikes N. 35° W., dips 50 ° to 70 ° NE., and can be traced about 400 feet on the surface (fig.

39). The south end of the vein is terminated by a fault which strikes N. 25° E. and dips 58° NW.; the north end apparently splits into several small fractures which can be traced only a few feet farther northwest. Porphyritic rhyolite forms both walls of the vein at the surface but at some points under-ground quartz diorite forms the footwall. The vein walls are well-defined faults which pinch and swell abruptly. The vein is composed principally of quartz with sparsely disseminated fine-grained pyrite; free gold· and an undetermined silver mineral are the only ore minerals (Troxel and Morton, 1962, p. 42).

DEVELOPMENT

LORAINE DISTRICT

Silver and gold valued at more than $600,000 has been yielded by the Loraine district since mining began in the 1890s. The tungsten, antimony, lead, zinc, and copper output has been valued at approximately $150,000. In 1959, a deposit of barite was being developed (Troxel and Morton, 1962, p. 42).

BARBAROSSA MINE

A single-compartment 137-foot inclined shaft extends from the surface to the upper or Finley level at 70 feet and the middle level at 137 feet. These two levels aggregate more than 700 feet of drifts and crosscuts. The upper level is also accessible by a 110-foot crosscut driven N. 70° W. from a point 130 feet east of the collar of the shaft. From the 137-foot level the vein on both sides of the shaft has been mined about equal distances to extract an ore body 160 feet long and 4 feet wide (Troxel and Morton, 1962, p. 95).

A lower level was developed from a point 370 feet southeast of and 208 feet below the portal of the upper level. It consists of a 416-foot crosscut adit driven N. 80 ° W. and about 1,000 feet of appended lateral workings driven in an attempt to find other ore bodies. Although additional veins were found in these lower workings none was of sufficient grade to mine at a profit. Another crosscut adit 330 feet northeast of the upper portal was driven 145 feet S. 45 ° W. toward the 137 level, but lacks 145 feet of connecting with it (Troxel and Morton, 1962, p. 95).

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Troxel, Bennie W. and Paul K. Morton, 1962, Mines and Mineral Resources of Kern County, California Division of Mines and Geology, County Report No. 1., 370 p.

MAPS

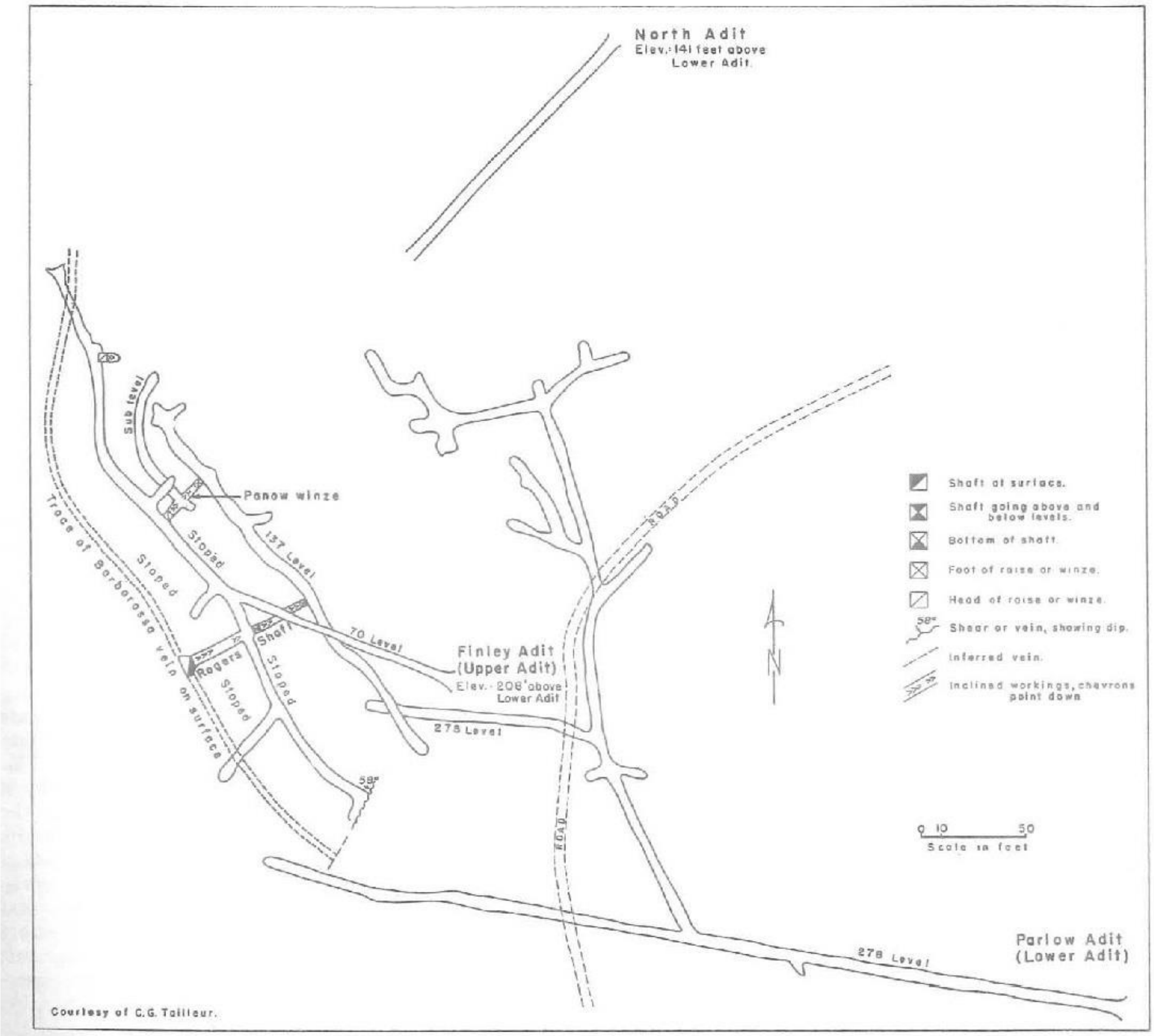

Figure 39. Composite plan of the Barbarossa mine.

Figure 1. Barbarossa plan map. From Troxel and Morton, 1961, p.

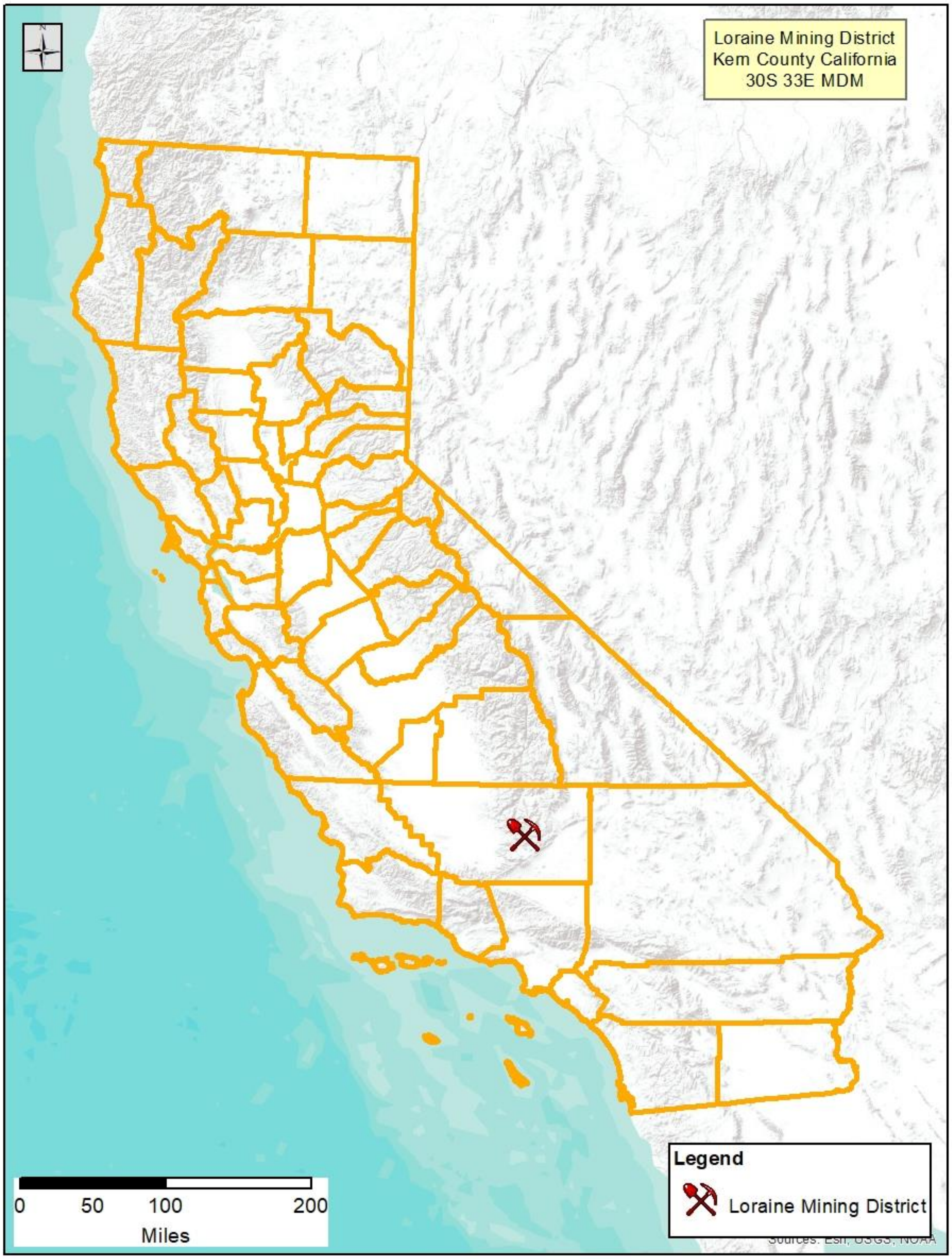

Figure 2. Location map of the Loraine Mining District in California.

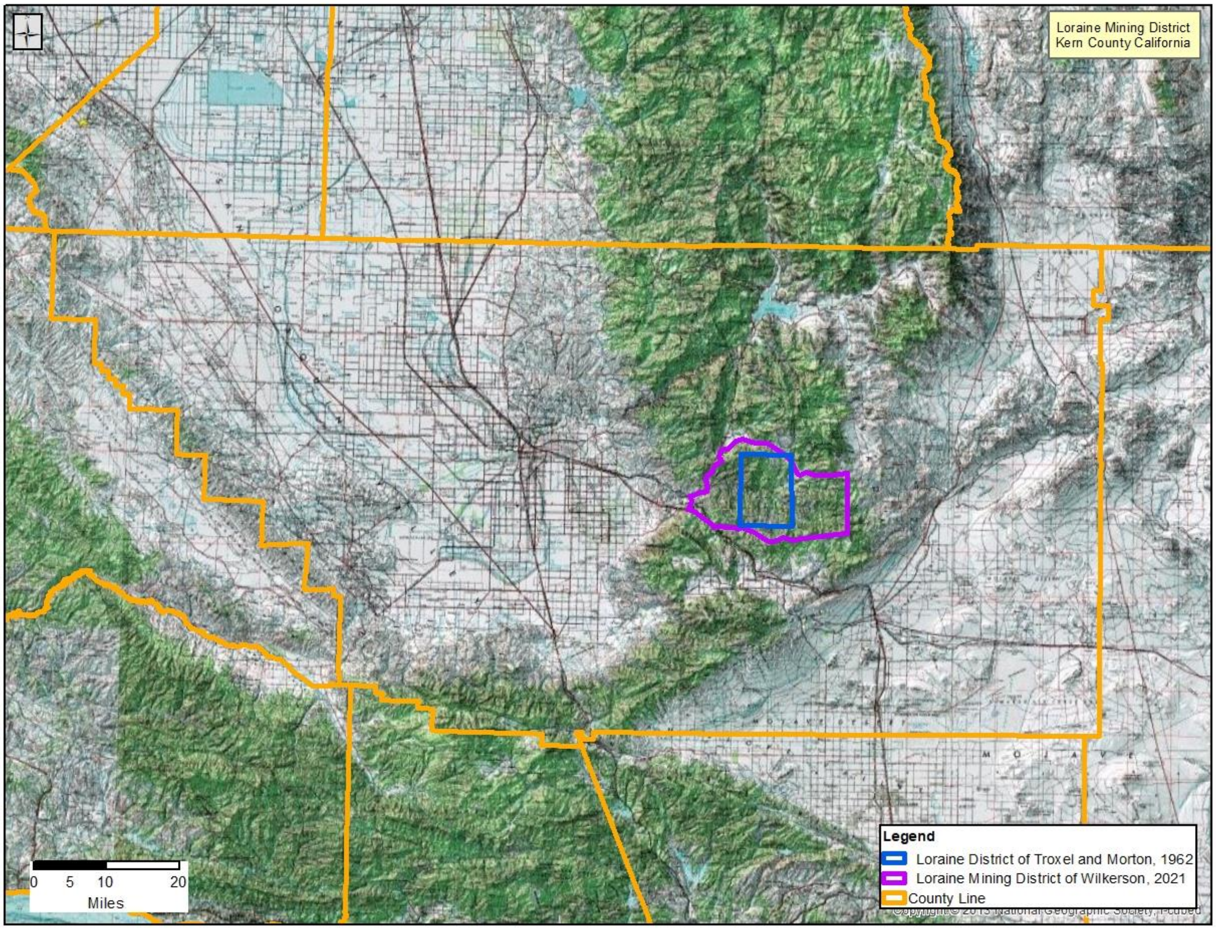

Figure 3. Location map of the Loraine Mining District in Kern County.

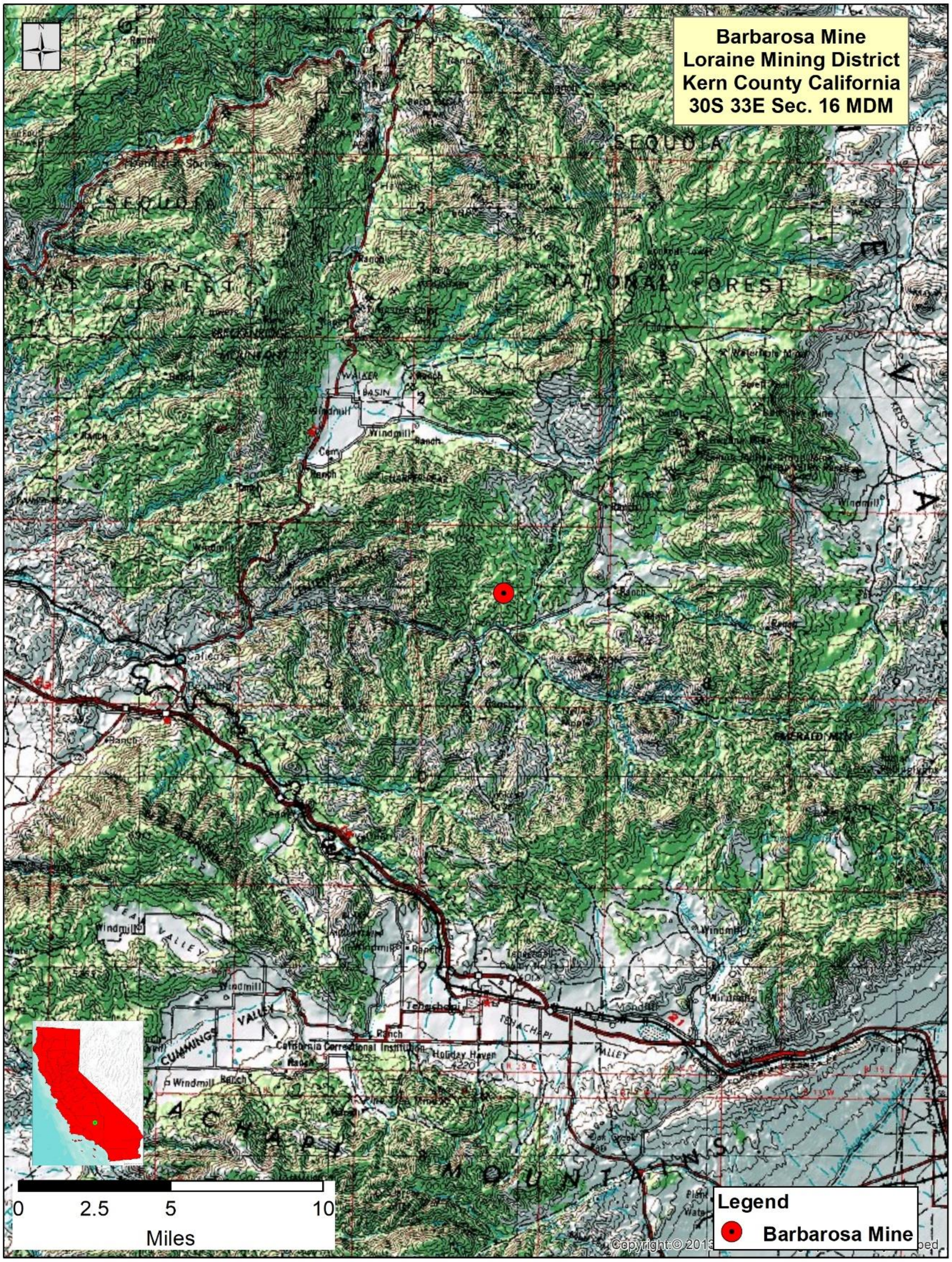

Figure 4. Regional topographic map of the Barbarossa Mine. Scale 1:250K.

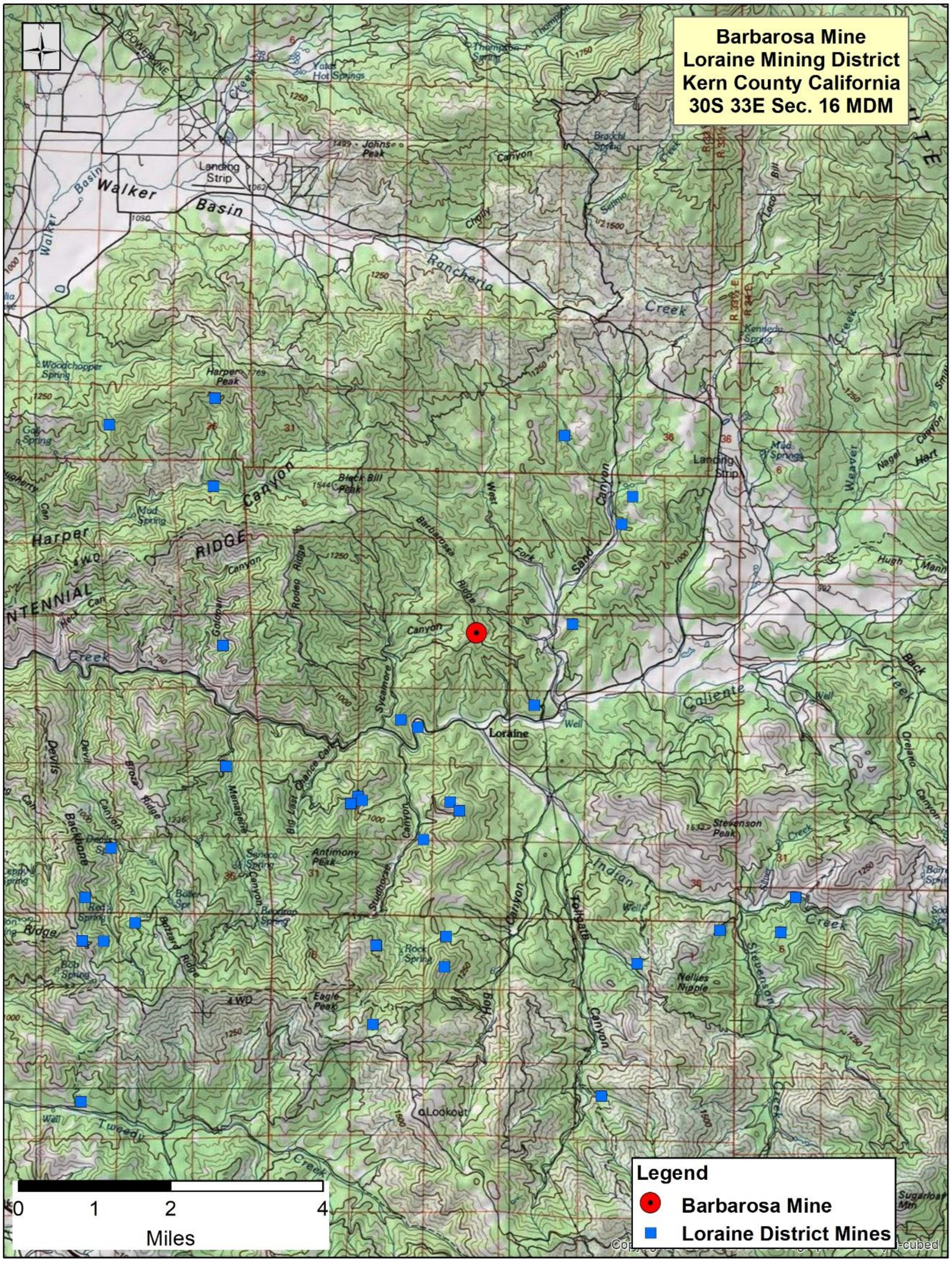

Figure 5. Topographic map of the Barbarossa mine and surrounding areas. Scale 1:100K

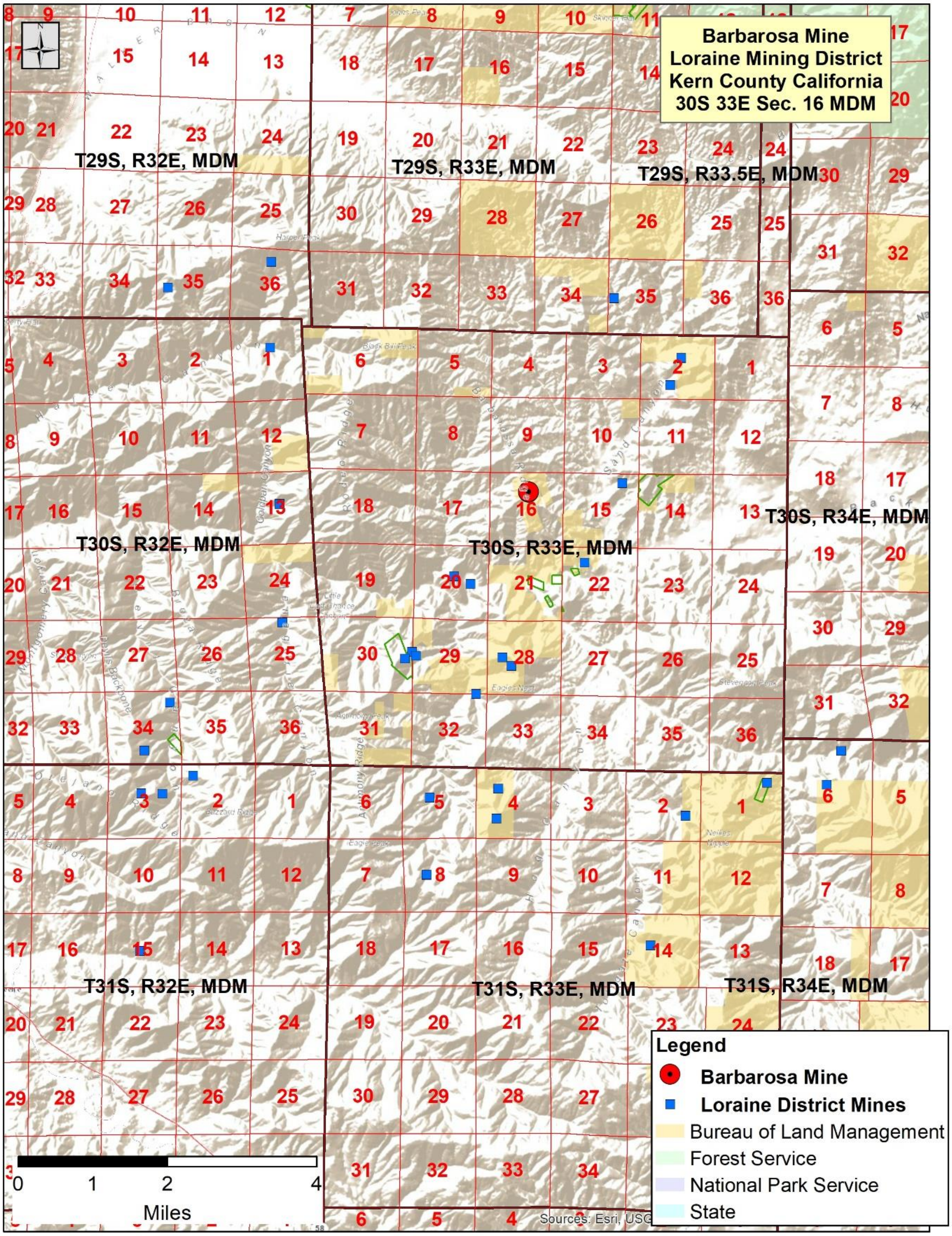

Figure 6. Land status map for the Barbarossa Mine. Data from USBLM.

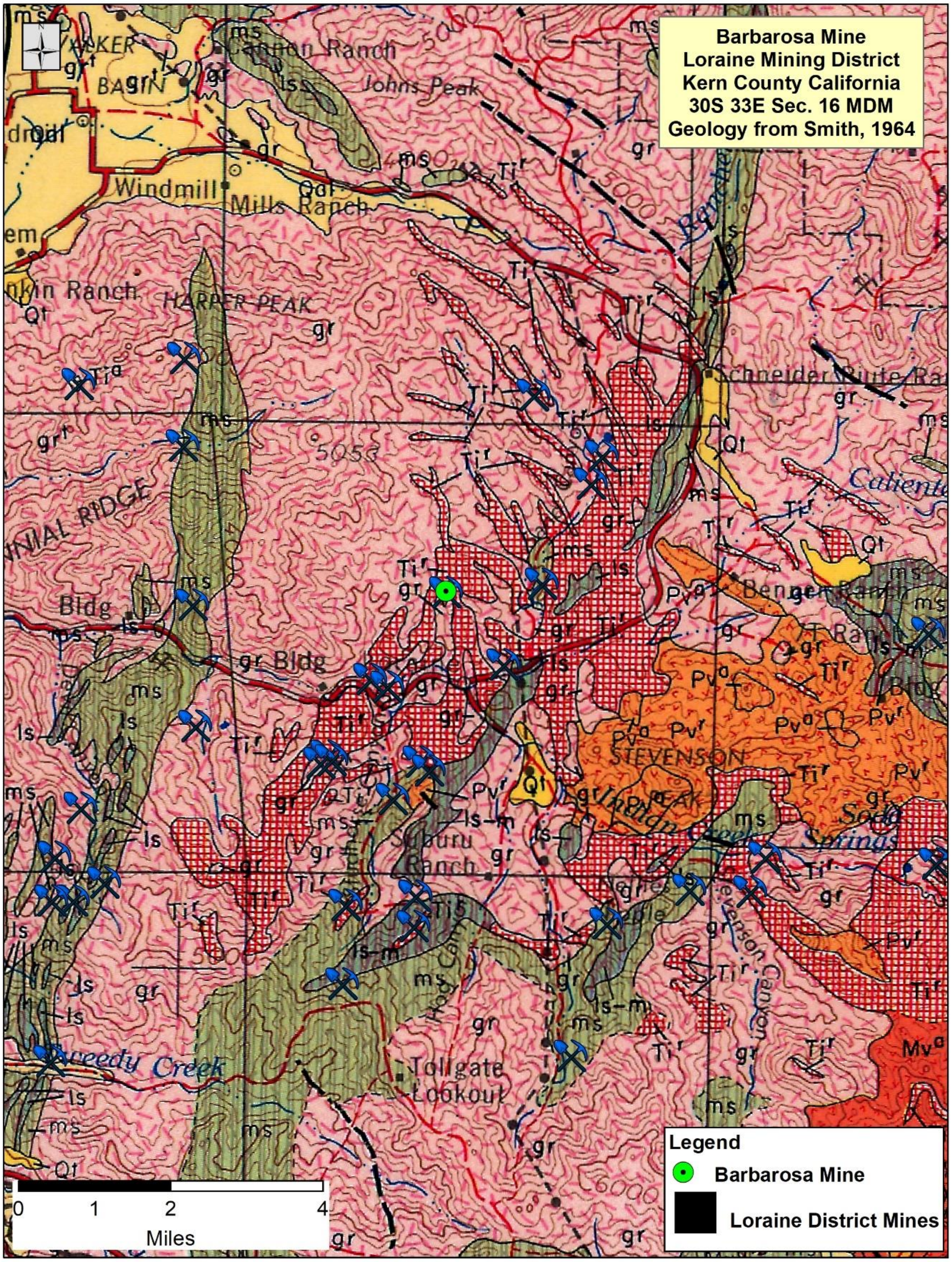

Figure 7. Area geologic map of the Barbarossa Mine. Scale 1:100,000.

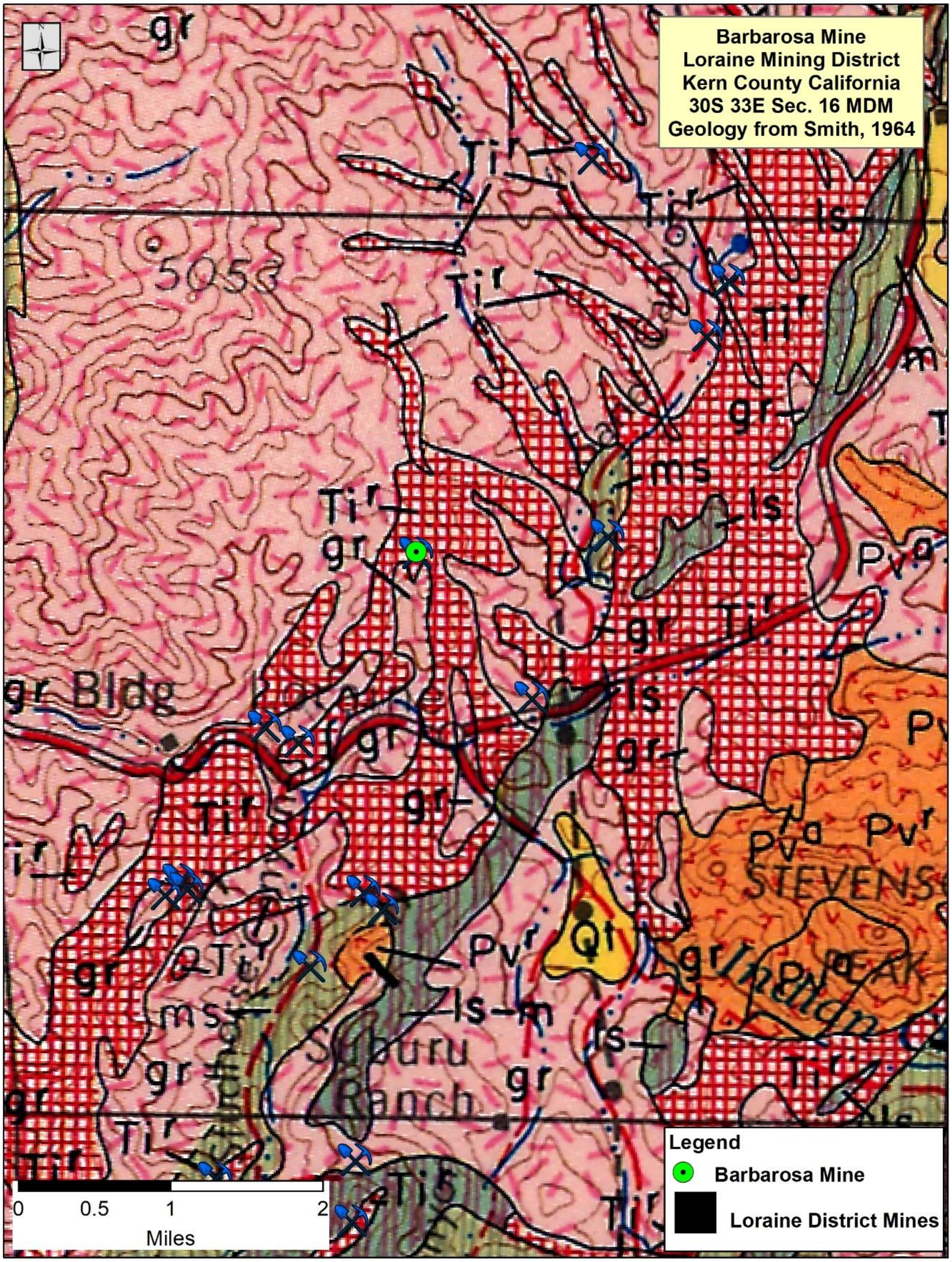

Figure 8. Detail of regional geology. Scale, 1:50K.

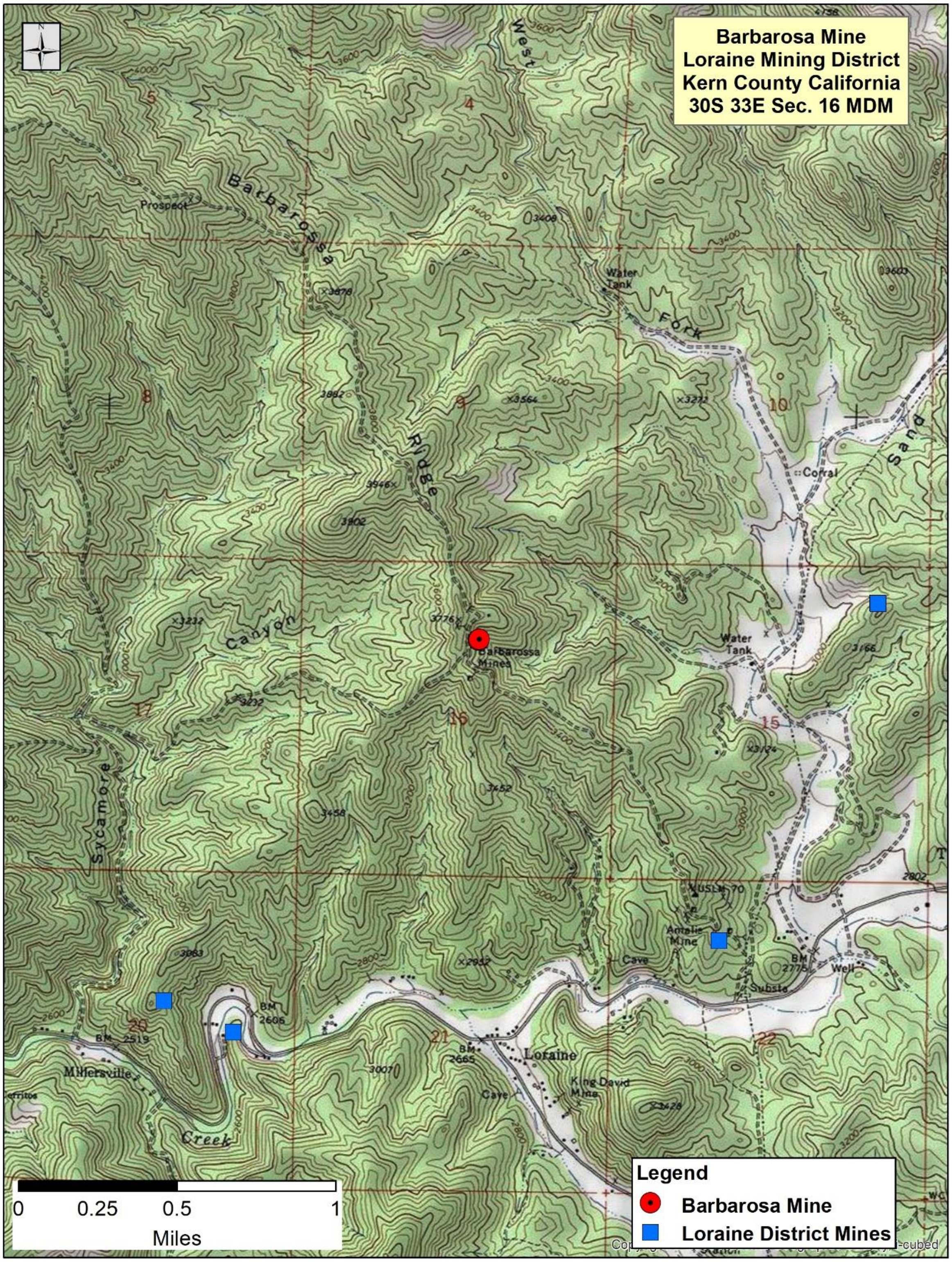

Figure 9. Location map of the Barbarossa Mine. Scale 1:24,000.

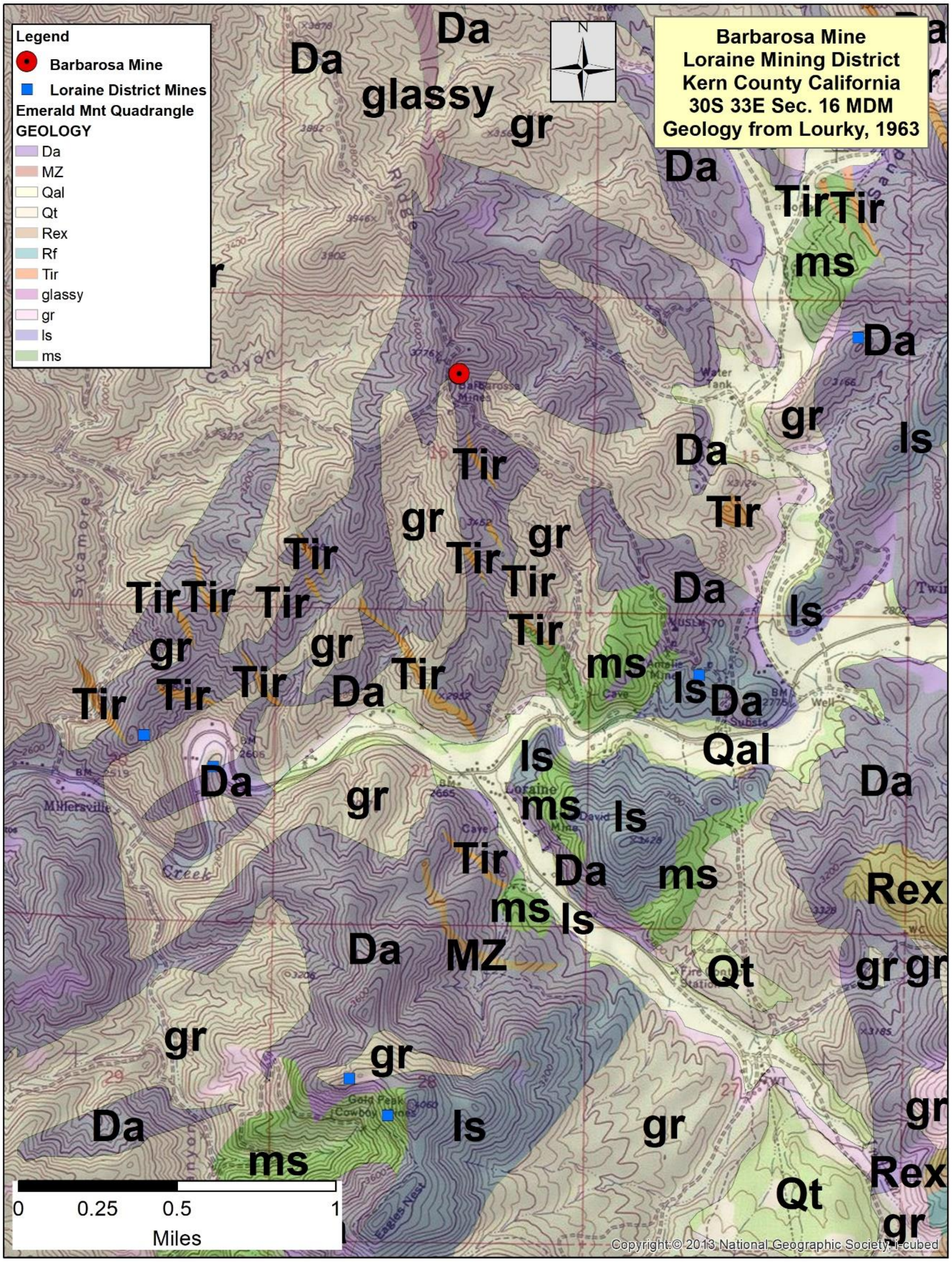

Figure 10. Geologic map of the Barbarossa Mine. Scale 1:24,000.

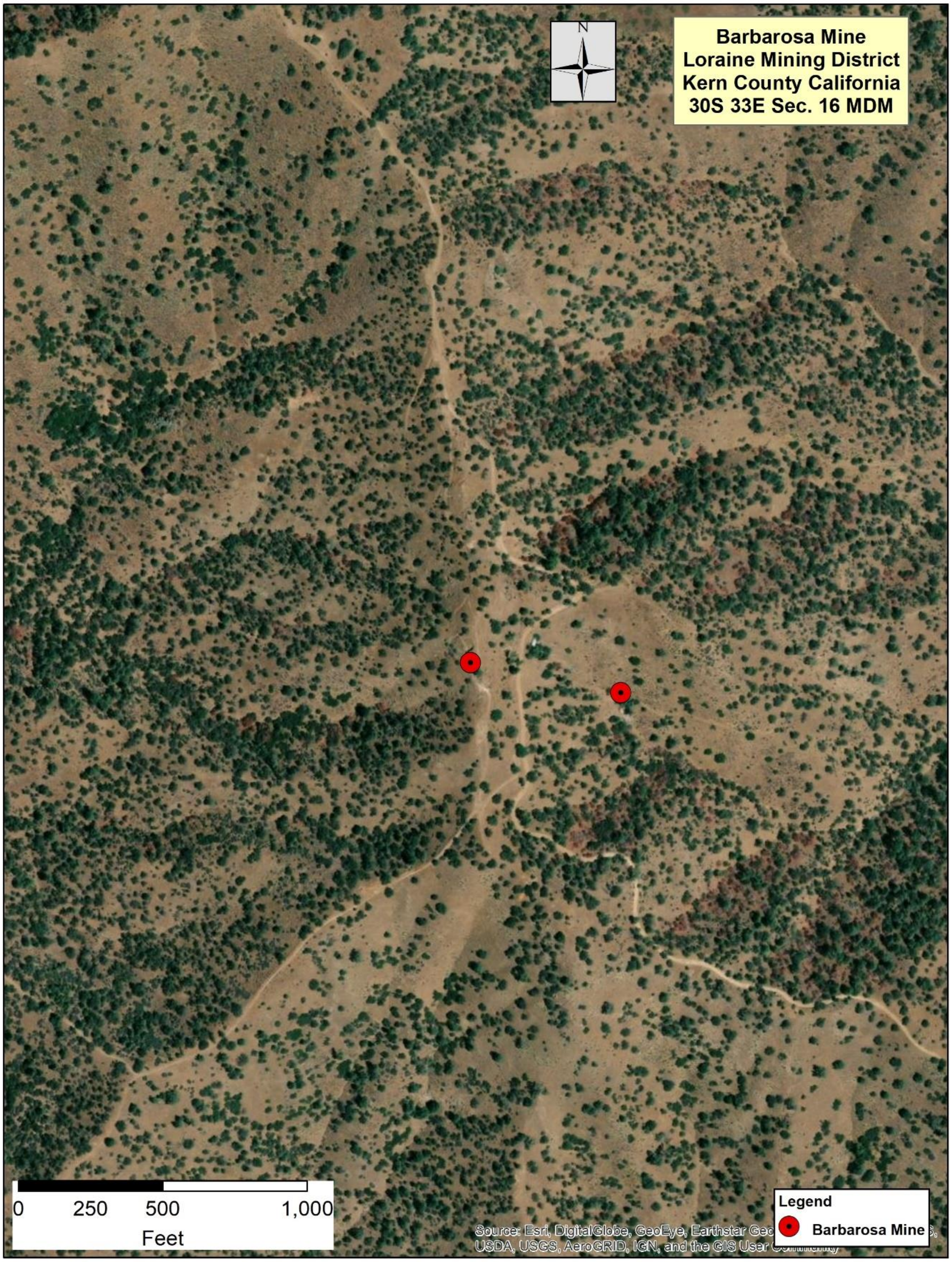

Figure 11. Aerial photograph of the Barbarossa Mine. From ESRI, 2021.Scale, 1:5,000