TOLICHA DISTRICT

The Tolicha district is about 22 miles north and 6 miles northeast of Beatty on the Nellis Bombing and Gunnery Range and is within an area where travel is restricted. The district is about 10 miles across and is divided with Clarksdale on the west and Quartz Mountain on the east. The major activity in the district is along the western and northeastern flanks of Tolicha peak between elevations 4800 and 5900 feet. Prospecting followed a gold discovery at Quartz Mountain in 1905 according to Lincoln (1923), but most of the activity came after the 1917 gold discovery at the Landmark-Life Preserver properties. An active period of leasing in the thirties produced about $750,000, mostly in gold, from the Landmark Group. Recorded production from the district was negligible according to Kral (1951).

All of the properties visited at Tolicha are epithermal gold-silver deposits. Mineralization is associated with quartz veins in and along faults and fractures, as replacement along shear zones, and as fissure fillings in stockworks. Most of the vein systems have north-south orientation and cut rhyolites, rhyolite tuffs and sediments of late Miocene age. Ekren and others (1971) have identified three cooling units associated with the Tolicha Peak volcanics intercalated with a thick sequence of lacustrine sedimentary rocks. Some of the sediments were observed in the Yellow Gold, Clarksdale area, but none were associated with mineralization. Another 400 feet of younger ryholite lavas and tuffs overlie the Tolicha Peak volcanics at Quartz Mountain. The source of the volcanics is not known with certainty but it is thought that they may have come from a caldera south of Mount Helen.

Located in the western part of the district are the Yellow Gold, Wyoming Scorpian, and Clarksdale mines, several shallow inclines and twenty or more prospect pits and trenches. Access to this part of the district is from the west via Tolicha Wash approximately four miles east of Highway 395. The road to the mines is bad and is impassable east of Clarksdale.

The Yellow Gold Mine is on the western side of a swale, between two prominent hills just north of Tolicha Wash. The workings consist of two adits, two shafts, several prospect pits, some trenches and one glory-hole. Both shafts were inaccessible but the adits were open at the time of our examination. No structures were standing. The mine is in altered rhyolite and rhyolite tuff of Miocene age (Cornwall, 1972). The mine workings explored a vein system that strikes N15°W and dips 65°W. One glory-hole has been sunk along the vein trace approximately 50 feet east of the north shaft. The stockworks vein system carries some sulfides, including pyrite, with limonite and hematite fillings vugs and cavities. Silicification is pervasive in and around brecciated volcanic fragments.

An underground examination of the southern part of the vein system was made via a 150 foot adit. Samples were collected from the adit face, from the shaft dumps and from the glory-hole. The

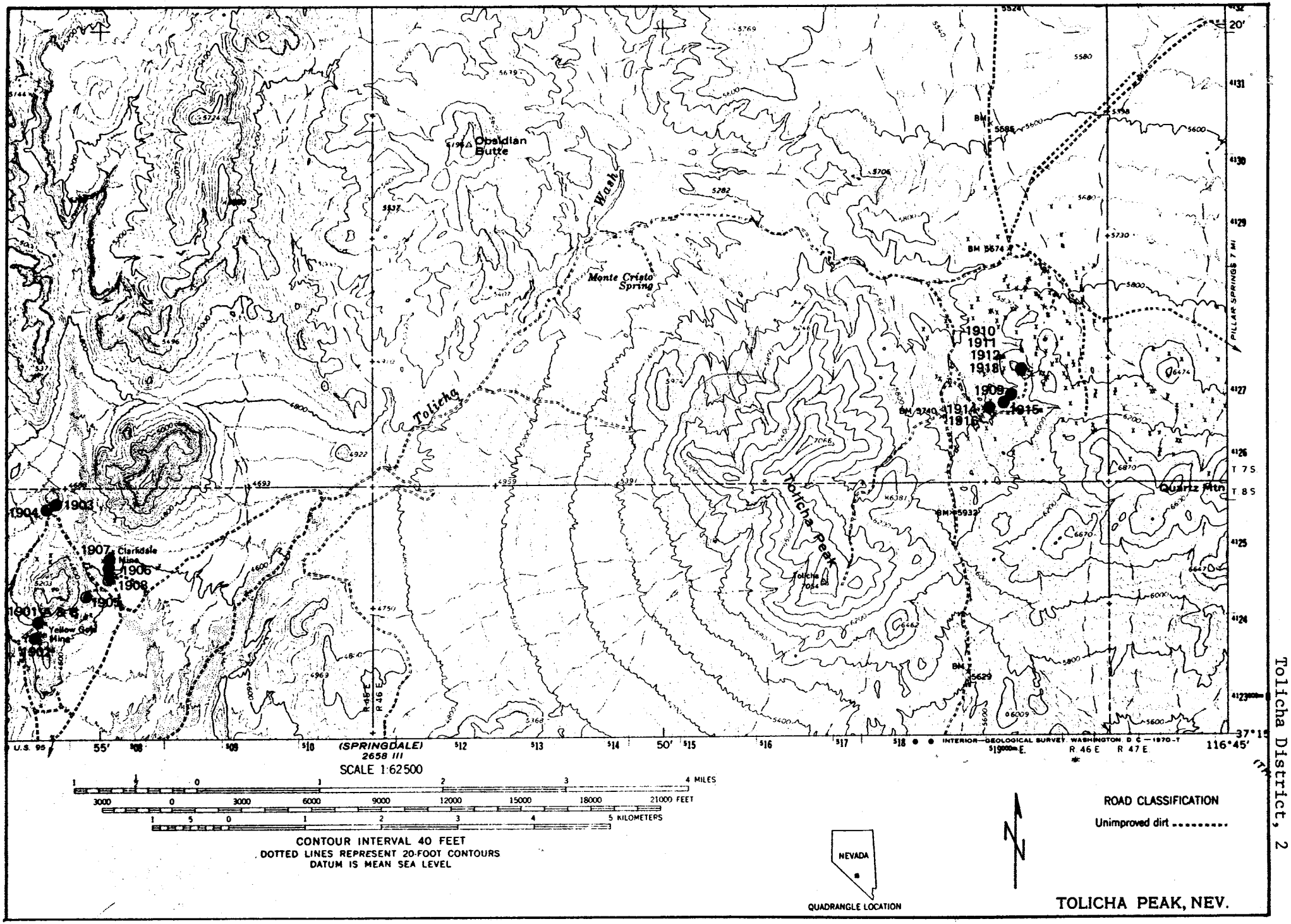

FIGURE 17. Sample location map, Tolicha district

materials were similar; silicified rhyolite and tuff, breccia, strong oxidation producing abundant Fe-oxides filling vugs in a quartz matrix, with minor sulfides. Assays showed trace amounts of gold and less than one ounce of silver from the samples. Kral (1951) reported, "fine gold occurred in a brecciated rhyolite which had been highly kaolinized and in places silicified with opaline silica". He also reported the values to be very erratically distributed. The actual production from the mine is unknown, but the main activity was in the early thirties.

The Wyoming Scorpion Mine is about a mile north of the Yellow Gold and consists of a now inaccessable shaft reported by Kral to be "100 feet deep with 40 feet of drifting". Five dollar gold values were reported from a vein at the 40 foot level, but no production records exist. Another 30 foot inclined shaft 50 yards to northeast of the main shaft was not mentioned. Both workings are in an altered rhyolite tuff which has been cut by quartz veins containing minor sulfides. Vein material from the dump of the main shaft and from a 12" quartz vein in the incline assayed only trace amounts gold and no silver.

The Clarksdale Mine is about a mile east of the Yellow Gold Mine. The workings consist of five closely spaced shafts on a north-south trending rib of highly silicified and very resistant volcanic rock in the middle of a stream wash. The shafts were sunk on a 3 foot wide vein bearing N10°E and dipping 67°SE and consisting of silicified rhyolite breccia in a quartz matrix. All five shafts are within a 700 foot span which Kral thought was the result of working the property on a block lease system. All of the mine structures are in bad condition. The head frames are down and the underground workings are not accessible.

Samples from the dumps contained vein material of silicified breccia and opaline quartz with minor sulfides that assayed only trace amounts of gold and silver. Earlier production from the mines included a 1000 dollar shipment in 1933 and 238 tons of ore, yielding 45 ounces of gold and 32 ounces of silver, shipped between 1936 and 1938.

A small 40 foot incline between Clarksdale and the Yellow Gold yielded the highest values from this part of the district. Samples from a vein at the bottom of the shaft reported 7.3 ppm (.21 oz/ton) and 70 ppm (2 oz/ton) silver.

The properties in the eastern part of the district include the Landmark-Life Preserver Group, located about 1.5 miles east of Tolicha Peak, and the Quartz Mountain workings, located 3 miles further to the southeast. All of the properties are within a mile of the main road into the area where access is restricted by the Air Force.

The Landmark-Life Preserver Group was the most productive in the district and was recurrently active from their discovery in 1917 to 1940. USBM records indicated mine production at 391 tons of ore containing 482 ounces of gold and 735 ounces of silver between 1923 and 1940 (Norberg, 1977). Kral reported that lessees shipped $750,000 during the late thirties however, there is no official record of such production.

The Landmark workings include a 140 foot inclined shaft, a lower connecting adit and several lateral drifts and adits. Three

other inclines and several prospects to the northeast are along the same structure. Less than a half mile to the southwest the Life-Preserver, properties consisting of several shafts and reported thousand feet of subsurface workings are found, but these are no longer accessible. The mines are all in an area of high relief with poor roads, no surface structures and limited access.

Locally, the rocks are rhyolite flows and tuffs of Miocene age (Cornwall, 1972). Most of the mining activity is along a vein system that strikes N30°E and dips 60°SE and for over a half mile, the vein system consists of massive quartz and breccia recemented by a cherty and very hard opaline quartz. Areas of intense hydrothermal alteration along the vein and adjacent faults are marked by iron-oxides, breccia and pervasive silicification. Post mineralization movement along the main vein system was evident in the northermost inclines where slickensides and gouge filled the easternmost contact between the quartz vein and the altered volcanics.

At the Landmark shaft the vein is over 5 feet wide and is bounded by a zone of silicifed volcanics that exceeds fifty feet in places. The lower adit cross-cuts a continuous zone of breccia from its entrance to the intercept with the inclined shaft. Samples were taken from a raise 110 feet into the adit, from a shallow winze 60 feet from the portal. From the face in the main adit and from the dumps. Selected samples were also taken from other workings where access was possible and from prospect pits and outcrops along the strike length of the major vein system.

Four samples carried more than a half ounce of silver while gold values ranged from .15 to 3.5 ppm. (004 to .102 oz/ton). Several of the samples from the Landmark adit were also anomalous in lead and zinc. In 1921, cut samples were taken from the vein system off the main adit and from ore piles outside the mine from this same vein. The vein samples ranged in value from .16 to .52 ounces of gold while the dump samples averaged close to 1.5 ounces of gold and 1.0 ounces of silver per ton (Carper, 1921).

Another three miles to the southeast, the Quartz Mountain workings mark the site of the original gold discovery in 1905. Several shafts with adjacent stopes to the surface and extensive trenching are from recurrent work done between 1910 and 1930's. The two caved adits further up the hill are part of the older workings.

The older adits explored part of a north-south vein up to 20 feet wide that outcrops at the surface for approximately 2000 feet along strike. The vein is solid at the surface but fragments at depth, and consists of very hard, white jaspery quartz (Burgess, 1910). Burgess reported: "In some places within the vein there were small irregular streaks of hard, greenish quartz that carried high values in gold and that occassionally showed visible gold". He also collected samples from one of the northern shafts 20 feet below the colar that assayed $13.03, and a 20-foot cut sample from a crosscut 50 feet below the collar that assayed $8.14/ton. There were also samples of float collected near the vein that assayed over $100/ton that had to be discounted because they could not be found in place (Burgess, 1910). A description of the underground

workings was not available nor are there any production records.

Summary

Almost every sample taken during our study of the Tolicha district was found to contain detectable gold. exploration in the district, however, has been limited tho shallow mines and prospect-pits dug by hand. Extensive areas along known mineralized vein systems remain unexplored. A logical program at the Landmark Group would be to explore, by mapping, sampling, and drilling the vein system. This system, 20-50 feet wide and with close to a mile of surface exposure, could contain undeveloped gold resources. Similar exploration opportunities exist on a somewhat smaller scale for the Clarksdale and Quartz Mountain areas and very probably for some lesser known prospects in the district.

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