

DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

TO ACCOMPANY MAP MF-1492-D

**MINES AND PROSPECTS OF THE ANDREWS MOUNTAIN, MAZOURKA, AND PAIUTE
ROADLESS AREAS, INYO COUNTY, CALIFORNIA**

By

Steven W. Schmauch
U.S. Bureau of Mines

Pamphlet includes table 2 only, table 1 and text on map sheet.

Table 2.--Summary of mines and prospects in the Andrews Mountain, Mazourka, and Paiute Roadless Areas

[Underlined names refer to properties further described in the Mineral Resource Potential map, MF-1492-B]

Map No.	Name	Summary	Workings and production	Resource/sample data
1	Big Pine Copper No. 1	Three small areas with copper minerals are exposed in a granodiorite-hornfels contact. Malachite and chrysocolla are disseminated and stain the fractures in both rock types.	A 17-ft-deep shaft and about 150 ft of bulldozer cuts.	Four random chip or grab samples were taken from locations with visible copper minerals. A select sample of apparently the highest grade material from the shaft had 4.63 percent copper. The other three samples contained 0.38, 1.55, and 2.4 percent copper. All samples also had traces of gold and silver.
2	Boaz	Two bands of vuggy friable limonite, which are 2 ft thick, are concordant with arenaceous limestone that strikes N. 20° E. and dips 25° NW. The limonite-bearing zones are separated by a 0.6-ft-thick limestone bed.	A small pit and a 15-ft-long trench leads to a 19-ft-long adit.	Four samples from the limonite bodies had as much as 0.2 oz gold per ton, 0.2 oz silver per ton, and 0.03 percent copper.
3	Kaweah	Crenulated broken slate trends N. 40° W. and dips from 50° NE. to 65° SW. The dumps contained less than 5 percent quartz. Quartz is vuggy, iron-stained, and has oxidized cubic masses of galena. No quartz was found in place.	Two shallow 4-ft-wide by 15-ft-long pits.	Two select samples of mineralized quartz from two dumps contained 0.01 and 0.03 oz gold per ton, 3.8 and 8.0 oz silver per ton, 5.2 and 11.1 percent lead.
4	Alice	Prospect in fissile gray-black slate. Overburden covers any evidence of quartz outcrops.	One pit 17 ft by 3 ft by 5 ft deep trends N. 35° E.	A select sample of quartz in dump had 2.6 oz silver per ton, 4.3 percent lead, and a trace of gold.
5	Alice Extension	Country rock is green calcareous slate that strikes N. 57° E. and dips 77° SE. An east-trending shear zone 3 ft thick is partly filled with banded quartz-calcite veins and is exposed for 15 ft. A few pieces of quartz containing lead oxide are present on the dump of the pit.	One pit, one trench, and an adit 8 ft long with a 5-ft-long underhand stope.	A chip sample from the adit from across the shear zone had a trace of gold and 0.6 oz silver per ton; a grab sample of quartz from the dump assayed a trace of gold and 0.2 oz silver per ton. A select sample of mineralized quartz float from the pit contained 0.03 oz gold per ton, 2.6 oz silver per ton, and 4.3 percent lead.
6	Unknown 1/ (35, 9, 35)	Northwest-trending conglomerate, sandstone, and limestone contacts are locally sheared. Kaolinite and secondary calcite are abundant within the sheared areas.	A shallow pit and a 34-ft-deep crosscut shaft inclined 45° W.	Three chip samples from conglomerate and from a sheared conglomerate-sandstone contact at the shaft; each assayed a trace of gold and copper, one had 0.17 percent lead. Two grab samples from the pit dump contained traces of gold, copper, and lead.

Table 2.--Summary of mines and prospects in the Andrews Mountain, Mazourka, and Paiute Roadless Areas--Continued

Map No.	Name	Summary	Workings and production	Resource/sample data
7	Big Pine	Interbedded shale and limestone contains several subparallel bedding-plane quartz veins that are a few inches thick, with pods as much as 4 ft thick, which are traceable for about 20 ft. Most of the quartz is massive; brecciated areas are filled with siliceous limonite and fine-grained galena.	There are three adits, a 22-ft-deep shaft, and a small pit. The lowest adit has 216 ft of workings and appears to have been driven to intersect the quartz veins found in the upper workings.	Structures were not continuous enough to permit tonnage and grade estimates. Six chip samples across quartz contained a trace to 0.8 oz silver per ton and 0.03 to 1.95 percent lead. A random chip sample from a 2-in.-thick galena-bearing quartz vein assayed 2.9 oz silver per ton and 4.05 percent lead. About 25 tons of stockpiled quartz at this prospect average 2.3 oz silver per ton and 2.6 percent lead. The quartz veins at this property contain small isolated concentrations of lead and silver.
8	Cabin	Highly fractured quartz contains minor pyrite and bornite in shale country rock.	One pit.	Specimens of quartz contained a trace of gold, silver, and copper.
9	Bob White	Olive-green, micaceous phyllite and interbedded dolomite strike N. 19° W. and dip 36° SW. Friable, brecciated quartz float is in the dump and surrounding area.	One pit.	A chip sample from across the phyllite-dolomite contact contained no significant values. The quartz assayed 0.1 oz gold per ton and 0.3 oz silver per ton.
10	Mule Springs No. 1	Crystalline limestone has been intensely fractured and locally metamorphosed. A brecciated zone is present between the limestone and a sandy shale unit.	A glory hole 100 ft wide, 170 ft long, and 150 ft deep. An unknown amount was used as railroad ballast for the Southern Pacific Railroad beds in this area.	Nine random chip and grab samples in and near the glory hole showed a calcium oxide content ranging from 24.9 to 36.7 percent, which is too low for cement manufacturing or for fertilizer markets.
11	Lucky Bee	A 5-ft-thick, 25-ft-long lens of bull quartz is concordant with interbedded shale and sandstone.	A 28-ft-long adit.	Four chip samples taken at regular intervals from the quartz; three assayed as much as a trace of gold and 0.2 oz silver per ton.
12	JR No. 2	A north- to south-trending pod of quartz, as much as 1.0 ft thick and less than 6 ft long, is present in massive light-brown limestone.	One pit.	A select sample of quartz contained no significant values.

Table 2.--Summary of mines and prospects in the Andrews Mountain, Mazourka, and Paiute Roadless Areas--Continued

Map No.	Name	Summary	Workings and production	Resource/sample data
13	Blister Lode	A 30-ft-wide, 120-ft-long area of dolomite is cut by north-trending, east- and west-dipping faults. Most are short, irregular, and discontinuous; the longest one was 1 to 4 in. thick and 30 ft long. The zones are composed of gouge, limonite, siliceous dolomite, siderite, and quartz veins or pods. Randomly distributed cubic masses of galena are sometimes concentrated into streaks or lenses in the fault zones. The largest lens is 0.3 ft thick and 1.5 ft long.	Three of the four short adits form a series of interconnected, 15°-inclined stopes and drifts totalling 260 ft of development.	Fifteen chip, one select, and one grab sample were taken from quartz veins and shear zones. Two galena lenses contained 55.3 to 65.9 oz silver per ton and 13.0 to 20.6 percent lead. Thirteen of the samples had 1.2 oz silver per ton or less.
14	Unknown 1/ (7, 10, 35)	An 80-ft-long, 3-ft-thick quartz vein strikes N. 35° E. and dips 35° to 60° SE. The vein is concordant with interbedded phyllite and dolomite.	One small pit.	Three chip samples assayed as much as a trace gold.
15	Montezuma mine	Northeast- to northwest-trending faults have displaced, tilted, and locally overturned limestone, argillite, and dolomite strata. Faults, landslides, bulldozer trenches, and the westerly dip of the strata, which is coincident with slope angles, all obscure geologic detail. Irregular replacement bodies of lead-zinc-silver ore were found in the Monila Formation limestone. Because sediments are overturned, sulfide bodies were positioned above previously oxidized carbonate bodies. Sulfide bodies were reported by Tucker (1921, p. 29) to be 30 ft wide and 50 ft long. Oxidized carbonate bodies were 200 ft long and 200 ft wide. Thicknesses as reported by Crawford (1896, p. 32, 33) range from 7 to 12 ft. The sulfide ore body consisted of finely disseminated galena, sphalerite, pyrite, and tetrahedrite. Larger intergrown crystals of sphalerite and galena also are present. In addition to the above, the carbonate body contained vuggy, crusty forms of cerussite, smithsonite, and azurite. Much of the galena was argentiferous (see Knopf, 1914, p. 110; Eakle, 1923, p. 138).	Two upper adits, an intermediate, and a lower adit are all caved. They were reported to be 200, 400, 400, and 1,400 ft long. A 35-ft-long adit near the millsite was used for storing explosives. Switchback access roads and a series of bulldozer trenches and open cuts are the most recent development. Production was intermittent from 1893 to 1968, and at least 1,023.7 oz gold, 4,964 oz silver, 52,244 lb lead, 38,872 lb zinc, and 47 lb of copper were produced (U.S. Bureau of Mines production files).	A grab and a select sample of ore, presumably from the replacement bodies, had 7.2 and 8.2 oz silver per ton, 5.0 and 8.8 percent lead, 5.0 and 6.3 percent zinc, and 0.15 and 0.11 percent copper.
16	Montezuma South	Intensely fractured, interbedded limestone and green to purple shale is partly rehealed with veinlets of quartz, calcite, and limonite. Malachite is associated with the quartz.	Three pits and two adits totalling 47 ft.	Eight samples from country rock contained no significant values. A select sample from a 1-ton stockpile of fractured limestone and malachite had 0.9 oz silver per ton and 15 percent copper.

Table 2.--Summary of mines and prospects in the Andrews Mountain, Mazourka, and Paiute Roadless Areas--Continued

Map No.	Name	Summary	Workings and production	Resource/sample data
17	<u>Alice Quartz mine</u> (JR No. 1)	Short, irregular northwest-trending shear zones 1 to 2 ft thick are composed of altered dolomite, gouge, siliceous dolomite, and disseminated pyrite. Structure limits were not traceable beyond the workings.	Five adits, two of which intersected shear zones, ranged between 10 and 50 ft long. Mr. A. Lovett produced 39.3 oz gold from 20 tons in 1907 (U.S. Bureau of Mines production files).	The shear zones were too short and irregular to sample well enough to determine resources. One of 13 chip samples assayed 0.33 oz gold per ton; the others contained a trace of gold. Three grab or select samples of siliceous dolomite had 0.19, 0.41, and 0.99 oz gold per ton.
18	<u>Blake mine</u> (JR No. 1)	Altered limestone permeated with limonite, gouge, siliceous limonite, and siderite forms gradational, indistinct boundaries within locally overturned limestone strata. The area of intense alteration is about 60 ft wide and 200 ft long in rocks that trend northwest and dip 40 to 50° NE. Galena is present in random cubic masses and as matrix fillings of brecciated, siliceous gossan zones as much as 1.0 ft thick and 12 ft long.	Six adits totalling more than 500 ft of excavation, one caved adit, and three pits. In 1919, the property yielded 525 oz silver and 22,660 lb of lead from 37 tons (U.S. Bureau of Mines production files).	The largest mineralized area, 40 ft long and 2.3 ft wide, combined with two smaller areas has a total of 600 tons of indicated and inferred subeconomic resources with a weighted average of 1.49 oz silver per ton and 4.87 percent lead.
19	<u>Lucky Jim</u>	Dark-gray iron-stained slate is cut by a 0.5-ft-thick, 55-ft-long shear zone that strikes east, dips 70° to 88° N. Discontinuous veinlets of brecciated quartz in the shear zone contain blebs and thin stringers of galena and sphalerite.	A 30-ft-long trench with a 15-ft-deep shaft and 25-ft-long adit.	Three chip samples from the shear zone and quartz had as much as 0.04 oz gold per ton, 3.0 oz silver per ton, 0.23 percent copper, and 7.0 percent lead. A select sample of mineralized quartz contained 1.6 oz silver per ton, 3.3 percent lead, and 3.1 percent zinc.
20	<u>Plain View</u>	Limonite and siderite along fractures, and a small shear zone that contains limonite and pyrite are in gray limestone and buff dolomite.	Two pits.	Two select samples assayed trace gold and 0.2 oz silver per ton.
21	<u>East Sylvester</u>	No structure was observed. Dump material was iron- and copper-stained gossan and limestone.	Three small pits.	Three random grab samples from the dump contained a trace of gold and an average of 0.21 percent copper.

Table 2.--Summary of mines and prospects in the Andrews Mountain, Mazourka, and Paiute Roadless Areas--Continued

Map No.	Name	Summary	Workings and production	Resource/sample data
22	Green Giant <u>Marble Nos.</u> <u>1-8</u>	Paleozoic dolomite, shale, and limestone strike northwest and dip 40° to 75° SW., with local overturning of some strata. Crystalline dolomite crops out over an area about 1 mi long, and is 1,000 ft thick. Major northwest-trending faults and overturning of beds and have intensely fractured and brecciated the rocks.	Quarry development covers approximately 15 acres and is on four bench levels with about 1,000 ft of bulldozer trenches. Older workings investigated parts of major faults and the igneous-sedimentary contacts. They include three short caved shafts, an 8 ft adit, and two pits. The owner states an unknown amount of marble was produced in the 1950's. In 1978, Mr. LaVigne produced 250 tons of marble chips, used for terrazzo aggregate.	A series of bench cuts over the entire outcrop could easily provide 5 million tons of inferred subeconomic resources.
23	Contact Silver <u>No. 8</u>	A 1.0-ft-thick, northwest-trending fault in dolomite is filled with siliceous, iron-stained friable gouge. The only visible mineral in the untraceable fault was malachite. A major fault mapped in this area projects through the Alice Quartz mine, 0.75 mi northwest of this location.	Two adits, each 30 ft long, two pits and a trench.	Three select, one grab, and one chip sample, all from siliceous limonite material from a shear zone contained from 0.01 to 0.37 oz gold per ton, 0.1 to 4.4 oz silver per ton, and 0.02 to 0.47 percent copper.
24	Gold Giant <u>No. 4</u>	Gray to buff-dolomite is massive and extensively fractured. The largest of several north-trending shear zones is 3.5 ft thick and extends for about 30 ft. The zones are composed of brecciated dolomite, gouge, and lesser amounts of siliceous limonite, banded quartz-limonite, hematite, calcite, azurite, and malachite.	Two trenches 11 and 25 ft long, an 11-ft-long adit, a 36-ft-long inclined shaft, a vertical shaft about 30 ft deep, and a pit.	Six chip, two select, and one grab sample from shear zones, quartz, or siliceous limonite. One chip sample from a 0.7 ft mineralized shear zone assayed 0.2 oz gold per ton. Selected azurite- and malachite-stained quartz from the pit had 9.4 oz silver per ton, 4.0 percent copper, and 2.6 percent lead. The other samples contained no significant metal values.
25	Black Aster <u>2/</u>	An area 1,100 ft long and 400 ft wide in the vicinity of a dolomite-slate contact has several 1- to 5-ft-thick shear zones. The longest one is exposed underground for 140 ft. Quartz veins crop out in siliceous dolomite, but larger more continuous veins and lenses are in the gouge-filled shear zones. Randomly disseminated blebs of oxidized galena and malachite are in some of the quartz and siliceous dolomite.	Four small pits, two adits 60 and 200 ft long, and a 22-ft-deep shaft with an 80-ft-long drift at the bottom.	Nine hundred tons of indicated and inferred subeconomic resources average 1.0 oz silver per ton from a quartz-rich part of the largest shear zone. Other more highly mineralized quartz veins were not sufficiently exposed to determine resources. It is likely that the three select samples represent the highest grade material available. Results ranged from 2.6 to 5.4 oz silver per ton and 1.3 to 1.4 percent lead.

Table 2.--Summary of mines and prospects in the Andrews Mountain, Mazourka, and Paiute Roadless Areas--Continued

Map No.	Name	Summary	Workings and production	Resource/sample data
26	Gold Bug	The predominant trend of joint sets in fractured dolomite is N. 15°-50° E. and N. 35-70° W. Very minor silicification has occurred along the poorly defined and untraceable joints. Finely disseminated galena is associated with siliceous dolomite.	Three adits, 10, 20, and 70 ft long, and a 40°-50° inclined shaft, 94 ft deep.	All 15 samples contained from a trace to 0.05 oz gold per ton, with one assay of 0.26 oz gold per ton. Two stockpile samples also contained 2.9 and 20.62 oz silver per ton.
27	Unknown 1/ (3, 11, 35)	The country rock is dark-gray to white-banded limestone. A horizontal bedding-plane quartz vein as much as 1.5 ft thick can be traced for 45 ft. A vertical shear zone displaces the quartz vein about 0.5 ft.	A 62-ft-long adit and over 200 ft of bulldozer cuts.	Four of the six samples contained a trace of gold.
28	Valley View (Buena Vista)	A 5- to 15-ft-thick, dark-green diabase dike can be traced intermittently for 400 ft and strikes N. 55° to 70° W. in quartz monzonite.	Seven small pits.	Three of the five chip and grab samples contained a trace of gold and one had 0.1 oz silver per ton.
29	Unknown 1/ (8, 11, 35)	A 2-ft-thick white quartz vein is in quartz monzonite.	One 35°-inclined 10-ft-deep shaft and a pit.	A chip sample from across the vein contained a trace gold.
30	"69" Nos. 1-6	A 6- to 8-ft-thick quartz vein strikes N. 65° E. and dips 54° SE. in hornfels. Minor amounts of disseminated galena are in the iron-stained quartz.	Ten shallow pits.	Results from 16 samples show no significant values.
31	Little Joker	Sinuuous irregular masses of milky quartz as much as 15 ft thick and 30 ft long crop out in a north-elongated 200-ft-long area. The country rock is granodiorite.	An 8-ft-long adit, a small pit, and a 130-ft-long bulldozer cut.	One chip and four grab samples contained a trace of gold.
32	Squaw mine (Valley View Nos. 1 and 2)	Four shear zones less than 20 ft long and 1.0 ft thick are composed of highly fractured, altered, quartz monzonite, lightly to heavily iron-stained gouge, and white quartz veins or pods. The quartz contains siliceous iron, limonite, manganese oxides, pyrite cubes, scattered grains of chalcocopyrite, and malachite in fractures.	Two adits 23 and 26 ft long, a caved adit, and three pits.	About one-half of the nine chip, grab, or select samples of quartz from the shear zones had insignificant gold and copper values. Three select samples from stockpiles representing less than 2 tons had 0.14, 0.49, and 0.61 oz gold per ton and 0.36, 0.01, and 0.52 percent copper. A grab sample of quartz from a dump had 0.10 oz gold per ton and 0.17 percent copper.

Table 2.--Summary of mines and prospects in the Andrews Mountain, Mazourka, and Paiute Roadless Areas--Continued

Map No.	Name	Summary	Workings and production	Resource/sample data
33	Blue Bell mine	Gray, thin- to medium-bedded limestone strikes northwest and dips southwest. Iron-stained fault gouge fills small, localized areas of bedding-plane shearing in the country rock.	One 50-ft-deep shaft, a 25-ft-deep inclined shaft, and 11 pits.	Of 14 samples, only three contained significant values. Samples from two pits, 420 ft east of the shafts, contained 0.4 to 0.6 oz silver per ton. A random grab sample of iron-stained fault gouge from the inclined shaft had 0.9 oz silver per ton.
34	Mexican Hat	An altered, silicified zone along a quartz monzonite-hornfels contact strikes N. 45° W. and dips 45° SW. The 4-ft-thick zone contains veins and pods of vuggy limonite-stained quartz as thick as 1.8 ft. The zone has been exposed for 60 ft along strike and at least 150 ft down dip.	A 10-ft-diameter shaft is 45 ft deep with 110 ft of accessible 45°-inclined drift. Other workings include an 8-ft-deep pit and 15 shallow short bulldozer cuts.	Of 13 samples of quartz, seven contained from a trace to 0.06 oz gold per ton, and eight had from 0.01 to 0.13 percent copper. Another chip sample contained 0.3 oz gold per ton.
35	Michael's 322	Slate and phyllite are cut by numerous northeast-trending, quartz- and gouge-filled shear zones in a 300- by 600-ft area. Quartz veins and lenses range from 0.3 to 3.0 ft thick and are stained with limonite and hematite.	A 60-ft-long trench and a 27-ft-diameter pit made by a bulldozer, and one small pit.	Three chip and one select sample from the quartz lenses and veins had no significant values.
36	<u>Badger Flat prospects</u>	A 400- to 500-ft-thick limestone-dolomite unit strikes N. 55°-80° W., dips 40°-55° SW., and is highly fractured. Numerous short, highly irregular, discontinuous veins, veinlets, and pods of quartz, calcite, and siderite are in gouge-filled shear zones. These are poorly exposed and not traceable because alluvium covers the area. A 40-ft-long, 4.1-ft-thick segment of shear zone in a winze appears to have more gold and silver than any others in the surrounding area. Very minor amounts of malachite stain are found elsewhere in this vicinity.	A cluster of five closely spaced adits comprise 340 ft of development, including a 70-ft-long winze. In addition, there are three shafts 40 ft deep and less, nine trenches, three short adits, and 43 pits.	The 40-ft-long segment of shear zone has 550 tons averaging 0.05 oz gold per ton and 0.7 oz silver per ton.
37	St. Phillip	Thin quartz vein in brown phyllite trends N. 50° E. and dips vertically.	One pit 35 ft long, 5 ft wide, and 3 ft deep.	One select sample of quartz did not contain any gold or silver.
38	Good Luck	Quartz vein as thick as 6 in. trends N. 20° W. in fractured gray limestone. Several thin, discontinuous quartz veins are present here.	One pit 10 ft in diameter and 2 ft deep.	Two chip samples of quartz did not contain any gold or silver.

Table 2.--Summary of mines and prospects in the Andrews Mountain, Mazourka, and Paiute Roadless Areas--Continued

Map No.	Name	Summary	Workings and production	Resource/sample data
39	Platta Blanca	Vertical to steeply southwest dipping bedded limestone strikes N. 30° W. A nearly concordant quartz vein and a shear zone 1.8 and 1.3 feet thick, respectively, were not exposed outside of the excavation.	An adit 13 ft long and four pits.	Three of the four chip samples contained a trace gold; one also had a trace lead. One grab sample contained 0.4 oz silver per ton.
40	<u>Zincite</u>	Thinly bedded, siliceous, iron- and manganese-stained limestone strikes northwest and dips 22° to 65° SW.; locally recrystallized. Bedding-plane quartz veins 2 in. thick contain fine-grained disseminated galena and sphalerite in a zone 2.8 ft thick. Shear zones that strike N. to N. 20° W. crosscut the area and offset the quartz veins a few feet.	Two adits totalling 96 ft in length, one inclined shaft 22 ft deep, and seven pits.	A quartz vein contains 450 tons averaging 1.1 oz silver per ton, 2.9 percent lead, and 4.6 percent zinc.
41	Unknown 1/ (21, 11, 35)	Iron-stained quartz monzonite contains specular hematite and localized occurrences of limonite-stained gouge.	Two pits, both about 18 ft wide, 10 ft long, and 3 ft deep with approximately 1 ton of limonite-gouge material stockpiled.	No significant values in stockpile samples from either pit.
42	Monte Cristo	Iron-stained quartz monzonite contains disseminated hematite, weathered pyrite, and quartz pods.	Two pits, one exposes quartz monzonite and the other a 12-ft-long, 6-ft-wide quartz pod.	A chip sample from across the quartz pod assayed a trace gold and a grab sample assayed 0.03 oz gold per ton.
43	Johnnie No. 7	Pink-white aplite dikes, quartz veins, and green-brown diabase dikes form a north-trending dike swarm in quartz monzonite. Chalcopyrite, malachite, and azurite are associated with the veins and dikes in small, randomly distributed pods where iron stain is most intense.	Eight pits.	A 4-ft chip sample from across a quartz vein contained 0.33 percent copper. Two select samples of fragments of iron- and copper-stained quartz monzonite had 1.30 and 0.28 percent copper. Five other select and chip samples contained no significant values.
44	Unknown 1/ (28/29, 11, 35)	Iron-stained quartz veins and an aplite dike intrude quartz monzonite.	Two small pits in the quartz veins. Three small pits in the aplite dike.	Four grab samples and one chip sample contained no significant values.
45	Iron Wedge	Diabase and aplite dikes with milky quartz veins are as thick as 2.0 ft and trend north-northeast across quartz monzonite. Some parts of the 200-ft- to 600-ft-long dikes are highly iron stained.	One trench 18 ft long and seven pits.	Three of the eight samples from dikes and veins contained from 1.0 to 2.7 oz silver per ton.
46	California Rose No. 2	Approximately 1,000 ft separates two northeast-trending northwest-dipping shear zones in quartz monzonite. The shears are filled with kaolinite, brecciated vein quartz, and as much as 30 percent limonite. The larger shear zone is about 210 ft long and ranges from 3 to 10 ft thick, but averages about 4 ft thick.	A 9-ft-wide by 6-ft-long pit and a 15-ft-long trench lead into a 3-ft-long adit.	Five chip samples and one grab sample contained no significant values.

Table 2.--Summary of mines and prospects in the Andrews Mountain, Mazourka, and Paiute Roadless Areas--Continued

Map No.	Name	Summary	Workings and production	Resource/sample data
47	Pyrite Extension 2/	Two 4-ft-thick quartz-limonite veins are partly exposed for 240 ft in quartz monzonite. The veins strike N. 40°-66° W. and dip 30°-45° NE.	An 11-ft-long adit and two pits.	About 6,700 tons of indicated and inferred subeconomic resources having a weighted average of 0.08 oz gold per ton are in the quartz veins.
48	George III	A north-trending shear zone is exposed for over 1,000 ft, average 6 ft thick, and dips 60° SW. Most of the zone is composed of altered quartz monzonite, with varied parts of dacite dikes and quartz veins as thick as 4 ft. Localized areas along the zone also contain as much as 3 percent specular hematite, magnetite, limonite, and malachite stain.	Five pits.	One of six chip samples from the shear zone contained 1.8 oz silver per ton, the other samples had no significant values. East of the shear zone a chip sample of iron-stained quartz monzonite contained 0.5 oz silver per ton and 0.73 percent copper.
49	Manlan Nos. 1-9	Quartz stringers and pods a few inches thick and as long as 5 ft; they crop out in widely spaced locales in quartz monzonite. Quartz is also associated with shear zones that are as thick as 20 ft. The quartz is iron stained and has fracture fillings of malachite, chrysocolla, and traces of azurite.	Seven small pits and an 11-ft-deep shaft with 3.5- and 25-ft-long drifts.	Fifteen chip, grab, and select samples were taken from quartz veins and shear zones. Most samples contained a trace of gold, silver, and copper. One sample contained 0.18 oz gold per ton, another had 0.24 percent copper. A select sample from a 25-ton stockpile contained 0.02 oz gold per ton, 0.9 oz silver per ton, and 5.2 percent copper.
50	Unknown 1/ (29, 11, 35)	Secondary calcite and pyrite altered to limonite and hematite in quartz are found in weathered quartz monzonite.	Three shallow pits.	Three grab samples of iron-stained vein quartz, limonite, and altered quartz monzonite from the pits contained no significant values.
51	Old River Arrastre-Black Jack Gold Nos. 1-10 2/	Quartz monzonite is cut by numerous north- to northwest-trending, nearly vertical diabase dikes, faults, and quartz veins. The larger structures can be traced for several miles and are 10 ft thick or more in places. The faults contain various amounts of highly cleaved country rock, iron-stained gouge, and quartz veins. The larger veins are 1 to 4 ft thick and can be traced for as far as 150 ft. The quartz is typically massive and milky white, but parts are iron stained and contain discrete blebs of pyrite, chalcopyrite, chrysocolla, and malachite.	A 2,500-ft-long segment of a shear zone has been explored by ten shafts, eight adits, 21 pits, and two trenches. Underground workings total 1,222 ft; the longest adit is 337 ft. Smaller nearby veins or dikes have two adits and four pits or trenches on them.	The part of the shear zone exposed between three shafts has a total of 25,000 tons of indicated and inferred subeconomic resources with a weighted average grade of 0.04 oz gold per ton. About 6,800 tons of this resource in the vicinity of shafts 5 and 6 averages 0.03 oz gold per ton; 2,000 tons near shaft 7 average 0.06 oz gold per ton.

Table 2.--Summary of mines and prospects in the Andrews Mountain, Mazourka, and Paiute Roadless Areas--Continued

Map No.	Name	Summary	Workings and production	Resource/sample data
52	Blue Boy	A northeast-trending shear zone dips-northwest and ranges from 0.5 to 2.0 ft thick in granodiorite. The shear zone is composed of discontinuous quartz veins and kaolinized, limonite-stained, altered country rock. At several locations, the quartz contains minor amounts of malachite, azurite, and chrysocolla.	A 144-ft-long adit, a 35-ft-long trench, and five pits.	Three grab and five chip samples were collected. A select sample from a 1 ton stockpile had 1 percent copper. Mineralized quartz-vein float from the trench contained 0.49 percent copper. A grab sample of quartz float from a pit contained 0.90 percent copper and 6.6 oz silver per ton.
53	<u>Old River</u> <u>Arrastre-</u> <u>Owl</u>	A north-trending, 3- to 5-ft-thick shear zone is mostly traceable for 153 ft. Its margins have corrugated cleavage surfaces along some parts. Country rock is quartz monzonite. The shear zone is composed mostly of altered country rock, limonite stringers, and 2- to 12-in.-thick, massive to brecciated quartz stringers and pods. In some areas of the shear zone, chrysocolla is finely disseminated or found as fracture fillings.	Two shafts, 37 and 17 ft deep, two adits, and seven pits. The adits are 28 and 285 ft long with 80-ft-long drift. The deepest shaft intersects the 80-ft-long drift of the longest adit.	A mineralized part of the shear zone is estimated to contain 10,000 tons quartz monzonite, quartz, and gouge having an average grade of 0.20 percent copper.
54	<u>Gold Bug Nos.</u> <u>1 and 2</u>	A 0.5-mi-long, northwest-trending shear zone composed of altered and brecciated chlorite schist and clay fault gouge is from 0.5 to 5 ft thick in quartz monzonite. Isolated quartz veinlets in the shear zone are 6 in. thick and as long as 3 ft long. The quartz contains finely disseminated specular hematite and pyrite with malachite and azurite stains and fracture fillings.	Seven adits from 12 to 140 ft long, a caved adit, a 37-ft-deep shaft with a 45-ft-long drift, two caved shafts, one inclined shaft 10 ft deep, and 20 pits.	Twenty of the 72 chip, select, or grab samples from the shear zone, quartz veins, stockpiles, or dumps assayed from 0.01 to 0.96 oz gold per ton; 29 others had a trace of gold. The select samples with gold assays closely paralleled the chip sample results. Three select samples had 0.6, 1.9, and 4.6 oz silver per ton. Eight select and two chip samples contained copper ranging from 0.12 to 1.7 percent and one had 8.40 percent. The values are localized in small, undefineable pockets or shoots along the shear zone, thus resources could not be determined.

Table 2.--Summary of mines and prospects in the Andrews Mountain, Mazourka, and Paiute Roadless Areas--Continued

Map No.	Name	Summary	Workings and production	Resource/sample data
55	Eureka <u>Consolidated</u> <u>Quartz Mine</u>	North-trending shear zones as thick as 9 ft and 50-ft-long cut coarse-grained quartz monzonite. The zones are composed of rock fragments, gouge, discontinuous diabase dikes, and discontinuous, interlaced quartz pods and stringers 0.5 in. to 1.2 ft thick. Some of the quartz contains finely disseminated pyrite, chalcopyrite, limonite, and chrysocolia.	A 45°-inclined shaft 104 ft deep with a 22-ft-long drift at its bottom, seven pits, and three adits totaling 125 ft of development. Several more workings on the property lie outside the roadless area boundary and were not examined. Quartz stringers selectively mined were reported to have averaged 3.7 oz gold per ton. Specific production data are unknown (Knopf, 1914, p. 120).	Twenty-nine chip, grab, or select samples were collected from quartz stringers and pods, shear zones, stockpiles, and dumps. Eight samples contained detectable gold; seven of these ranged from 0.01 to 0.06 oz gold per ton, and the other had 0.13 oz. The highest silver values in two samples were 1.1 and 1.0 oz per ton. Two chip and two select samples also assayed 0.11, 0.70, 0.25, and 2.2 percent copper, respectively. Most of the easily accessible mineralized quartz has been removed. Remaining gold-bearing quartz is of extreme small size and apparent restricted occurrence.
56	Gwen group 2/ <u>group</u>	A swarm of dark-green, aphanitic to schistose diabase dikes, 1- to 8-ft thick and tan-pink aplite dikes 1- to 2.5-ft-thick strike predominantly northeast in quartz monzonite. A definite pattern of northwest-trending dikes is also visible. The dikes partly or totally fill shear zones, which have schistose, chloritized, altered country rock, gouge, and discontinuous, fractured, iron-stained quartz veins. The largest shear zone is exposed for over 500 ft and averages 50 ft thick.	Two adits 20- to 45-ft-long and 37 pits.	A mineralized segment of the largest zone contains 1,100 tons of indicated and inferred subeconomic resources. The average grade is 0.79 oz silver per ton. Fifty-one samples from the structures and numerous small, high-grade stockpiles indicate copper and silver are isolated in small pockets.
57	Lucky Larry <u>group</u>	Blocky medium-grained quartz monzonite is cut by numerous N. 20° E.- to N. 20° W.-striking shear zones, quartz veins, and aplite and diabase dikes. All of the structures are discontinuous and irregular especially the larger ones that are over 3.0 ft thick. The smaller ones that are as thick as 1.0 ft are traceable for as far as 60 ft. Most of the quartz is milky white with discrete areas of chalcopyrite, which is finely disseminated, or in blebs and large aggregate masses. Chrysocolia and malachite are associated with the chalcopyrite.	A caved adit, 12 adits ranging from 10 to 280 ft long, 13 pits, and two trenches.	A mineralized segment of a zone contains 32,000 tons of quartz monzonite, quartz, and gouge averaging 0.24 percent copper. About 25 tons from various stockpiles in this area have an average grade of 0.61 percent copper. Mineralization was localized, and some restricted areas with gold-bearing quartz exist.

Table 2.--Summary of mines and prospects in the Andrews Mountain, Mazourka, and Paiute Roadless Areas--Continued

Map No.	Name	Summary	Workings and production	Resource/sample data
58	Unknown 1/ (4, 12, 35)	Two shear zones strike north and dip 47° to 63° E. in quartz monzonite. Maximum thickness is 20 ft, but the zones average about 8 ft thick and can be traced for over 300 ft. The shear zones consist of fractured to altered country rock with discontinuous limonitic quartz veins.	Two adits, 15 and 22 ft long, and two small pits.	Eleven chip samples from surface and underground shear zone exposures. Four grab samples from quartz-vein stockpiles and from dumps. One chip sample contained 0.6 oz silver per ton, none of the others contained significant values.
59	Unknown 1/ "crystal area" (9/4, 12, 35)	Quartz veins and dacite and diabase dikes trend northwest in quartz monzonite. The largest structures are exposed for over 1,000 ft; quartz veins average about 2 ft thick and 50 ft long. Cavities in the quartz contain euhedral, clear, smoky, or rutilated quartz crystals. Random blebs of chalcopyrite, pyrite, and malachite are sparse in localized areas of the quartz veins.	A 20-ft-deep shaft with 12 ft of drifts, a 6-ft-long adit, and over 125 shallow pits and trenches.	One hundred and forty-two select, chip, or grab samples were taken from workings and quartz-vein outcrops. Of these, 24 had values greater than 0.01 oz gold per ton, 0.2 oz silver per ton, or 0.01 percent copper. The highest values were 0.08 oz gold per ton, 2.0 oz silver per ton, and 1.19 percent copper. The quartz crystals were judged to be a common variety and have no commercial value.
60	Unknown 1/ (3, 12, 35)	A 0.5- to 1.1-ft-thick, iron-stained quartz vein with pods of limonite extends for 250 ft along a N. 30° E. trend in quartz monzonite.	Six small open cuts along quartz vein.	Five of six select samples contained no significant values. One sample contained 0.4 oz silver per ton.
61	Unknown 1/ (3, 12, 35)	Massive to brecciated, limonite-stained quartz and jasperoid silica are associated with an altered, sheared diabase dike. It strikes N. 60° E., is intermittently exposed in workings for 280 ft and is as thick as 6 ft. Sporadic chalcopyrite, malachite, and pyrite are present in the quartz.	Four pits.	One of the four chip samples from the quartz and dike contained 0.02 oz gold per ton.
62	Western Minnesota Mining Association (placer)	Information held confidential by owner.	---	---

Table 2.--Summary of mines and prospects in the Andrews Mountain, Mazourka, and Paiute Roadless Areas--Continued

Map No.	Name	Summary	Workings and production	Resource/sample data
63	D.R. Mar Jak	A dolomite and quartzite contact is partly exposed for 3 mi along the east limb of an arcuate-shaped syncline exposed in Mazourka Canyon. The rocks strike N. 30° W. and dip 80° SW. This site is one of three known talc deposits found along the contact. Underground, highly irregular talc bodies pinch out and swell to 8.0 ft thick along strike and are exposed down dip for 147 ft. There are some country-rock inclusions, but soft, massive, steatite-grade talc bodies as thick as 6.0 ft thick are present.	Three adits total 225 ft of development, excluding two stoped areas and a 36 ft winze. Other workings include a 12-ft-deep shaft and a pit. U.S. Bureau of Mines production files indicate that 183 tons talc were mined in 1957.	An estimated 18,000 tons of indicated and inferred subeconomic resources, of which 10 percent is steatite-grade talc, is present along the contact. There is a high potential for additional talc resources along the dolomite-limestone-quartzite contact.
64	Santa Rita Nos. 1-9 (placer)	An unidentified volume of quartz monzonite alluvium is in a south-trending intermittent stream drainage.	None.	Two samples contained no significant values.
65	Gypsy King and Gypsy King Extension No. 2	Limonite-stained, brecciated, milky to jasperoid vein quartz as thick as 2 ft is exposed by workings for 400 ft along a northwest trend. The quartz contains sporadic pyrite. The vein is in a shear zone in altered quartz monzonite.	Three trenches, one adit, one caved adit, one shaft, and one pit.	Five chip and two select samples; one select sample of the shaft dump contained 0.06 oz gold per ton, the other sample assayed no more than 0.007 oz gold per ton.
66	Empire mine	Hematite-stained vuggy quartz in granitic country rock.	One caved adit.	Three select samples of quartz and granite had 0.03, 0.04 and 0.21 oz gold per ton. One had 0.2 oz silver per ton.
67	Mendosino	Discontinuous quartz veins as much as 0.8 ft thick and 50 ft long are found along thin, gouge-filled northeast-trending shears in quartz monzonite. Quartz varies from massive to vuggy and is sometimes fractured and powdery. Minor amounts of malachite are in vuggy, limonite-filled quartz veins at the face of the accessible adit.	Two adits and a pit partly expose a northeast-trending zone for 80 ft on a hillside. The lower adit is 113 ft long; the upper adit was probably longer, but is caved at the portal.	Five samples of quartz or shear-zone material from the lower adit contained as much as 0.4 oz silver per ton. A malachite-stained sample from the adit face contained 0.16 percent copper. A random grab and a select sample of quartz from the dump of the caved adit had 0.08 and 0.79 oz gold per ton, 0.2 and 0.6 oz silver per ton, and 0.02 and 1.09 percent copper, respectively.
68	Unknown (14, 12, 35)	Quartz monzonite is overlain by alluvium.	A 60-ft-long, 4-ft-deep bulldozer trench.	One chip sample contained no significant values.

Table 2.--Summary of mines and prospects in the Andrews Mountain, Mazourka, and Paiute Roadless Areas--Continued

Map No.	Name	Summary	Workings and production	Resource/sample data
69	Unknown 1/ (14, 12, 35)	A 3-in.-thick, jasperoid quartz vein with minor amounts of epidote, chrysocolla, and chalcocopyrite is in a nearly vertical shear zone striking N. 7° E. in quartz monzonite.	One 10-ft-diameter pit.	A grab sample of jasperoid quartz assayed 1.4 oz silver per ton.
70	Maid of Erin <u>Nos. 1-3 2/</u>	A 2- to 4-ft-thick quartz vein in a 3- to 5-ft-thick shear zone strikes N. 45° E., dips 70° NW. in medium-grained granodiorite. The vein contains disseminated chalcocopyrite and has chrysocolla and malachite stain.	A pit and a 68-ft-deep inclined shaft with a 10-ft-long drift. U.S. Bureau of Mines production files show 1 ton of ore that yielded 8 oz silver and 310 lb of copper.	A total of 2,000 tons of indicated and inferred subeconomic resources has a weighted average grade of 0.04 oz gold per ton.
71	Blackbird	Graphitic shales vary in thickness from 10 to 30 ft and are interbedded with black hornfels. Limonite stain is present along fractures.	Six bulldozer cuts, each averaging 60 ft long, 20 ft wide, and 5 ft deep, displaced an estimated total of 1,800 tons of material.	Eight chip samples average 1.13 percent total carbon and 6.97 percent moisture and volatiles. The moisture and the volatile content is too high and the grade too low to be considered a graphite resource.
72	Blue Stone <u>Talc mine</u>	Irregular, gradational talc bodies are present along a 1,200-ft-long segment of a 3-mi-long dolomite quartzite contact. The rocks strike north and dip 73° W. Two pale-gray-green, soft, massive talc bodies are 2.9 and 10 ft thick and 100 ft long. The steatite-grade talc locally contains rock fragments.	On the south side of a canyon three short adits total 92 ft. Two elongate glory holes, 34 and 43 ft long, and a 200-ft-long adit are on the north side. A winze, now caved, connected the adit with the lowest glory hole. Eight hundred tons of steatite talc were mined in the 1940's (Page, 1951, p. 32 and Chidester and others, 1964, p. 27-61).	Both talc bodies indicate pinching out at depth and along strike. A total of 4,200 tons of indicated and inferred steatite- and nonsteatite-grade talc is estimated.
73	Black Lady <u>Nos. 1 and 2</u>	A 200- to 300-ft-thick, carbon-rich member of the Rest Spring Shale crops out in Mazourka Canyon for 3 mi. The rocks strike northerly and dip 55° SW. An X-ray diffraction analysis determined that some of the carbon was amorphous graphite and that it is present as a thin filmlike smear on the shale. Workings indicate that the higher grade lenses are 35 to 60 ft wide and 80 to 140 ft long.	There are two bulldozer workings, 2,000 ft apart. One is 80 ft long, 35 ft wide, and 32 ft deep; the other is 140 ft long, 60 ft wide, and 5 ft deep. Production has been intermittent over the last 20 years. At one point, 130 tons a month were shipped. Estimates based on the sizes of the workings indicate about 5,000 tons could have been removed.	If 1 percent of the 3-mi-long, 200-ft-thick zone was similarly mineralized for a downdip distance of 200 ft, then about 500,000 tons of inferred subeconomic graphite resources remain. The percentages of moisture and volatile content are too high and the flake size and percent graphite too small for most uses of graphite. However, the deposit may be in demand for limited uses, such as lubricating runners and nozzle blocks in steel mills.

Table 2.--Summary of mines and prospects in the Andrews Mountain, Mazourka, and Paiute Roadless Areas--Continued

Map No.	Name	Summary	Workings and production	Resource/sample data
74	Lucille's Lucky Star	Poorly sorted, sand-to-boulder-size chert and granitic alluvium overlies claystone in a paleo-stream channel.	One 73-ft-long adit and one 13-ft-long open cut.	Four samples contained no significant values.
75	Asbestos No. 1	Discontinuous, thin quartz veins strike N. 10° to 20° W. and dip vertically in gray quartzite.	Four pits.	Two chip samples and two grab samples did not show any significant mineral values.
76	<u>Gray Eagle Talc</u>	Poorly exposed talcose bodies as much as 100 ft long and 17 ft thick are along a quartzite-dolomite contact. The rocks strike north, dip 50°-80° westerly, and are exposed for about 3 mi in Mazourka Canyon. Magnesium-deficient dolomite is prevalent within the talcose bodies, and little if any significant steatite-grade talc was formed.	A bulldozer-made bench cut is 140 ft long with a 20-ft-high headwall. Other workings are seven pits and a 40-ft-long adit.	The adit and bench cut area is estimated to contain 38,000 tons of inferred subeconomic resources of nonsteatite-grade talc.
77	Julia R. Nos. 1-3	The country rock is massive, siliceous, black spotted hornfels. Regional trend is northerly with steep westerly dips.	One small pit in alluvium.	Twelve random chip and grab samples, each covering a 100-ft-long, 60-ft-wide area, were taken in the discovery area of two claims. Two of the samples assayed 0.04 and 0.14 oz gold per ton and 3.4 and 1.2 oz silver per ton, respectively. The owner reported platinum-group metals, but none were detected in these samples.
78	Barrel Springs group (placer)	Information held confidential by owner.	---	---
79	<u>Copper Empire group</u>	Six tactite bodies are present along a 2-mi segment of an igneous-sedimentary rock contact or in sedimentary rocks within 0.5 mi to the east. gradational lenslike bodies range from 30 to 60 ft thick and 180 to 800 ft long. Several more persistent bands of tactite crop out in a zone 100 to 150 ft wide in one area only. Malachite and chrysocolla stain and fracture filling is common. High grade lenses in the tactite are 1 to 6 ft thick, usually less than 20 ft long, and compose 10 to 50 percent of the rock. These lenses also contain fine to coarse blebs of chalcopyrite. A major north-trending shear zone has two small fractured areas filled with chrysocolla. It appears that this fault cuts off the copper-mineralized zone to the east.	Sixteen adits totalling about 900 ft, four shafts with a combined depth of 60 ft, 62 pits and trenches, and two caved adits. The longest adit was about 200 ft. About 500 tons of hand-sorted tactite averaging 3 percent copper were produced in 1917 (Sheahan and Stager, 1954, p. 5).	Four of the six tactite bodies are estimated to have a total of 460,000 tons of indicated and inferred subeconomic resources. The weighted average grade is 0.43 percent copper and 0.09 oz silver per ton. Two other tactite bodies contain lenses of similar copper-silver content, but exposures were too poor to determine resources. In addition, 3,900 tons from two widely spaced mineralized segments of the major shear zone average 2.56 percent copper and 0.27 oz silver per ton.

Table 2.--Summary of mines and prospects in the Andrews Mountain, Mazourka, and Paiute Roadless Areas--Continued

Map No.	Name	Summary	Workings and production	Resource/sample data
80	Gold Rabbit 2/ 1-8 (placer)	A 1.5- to 5.5-ft-thick shear zone in quartz monzonite trends north-northeast and is partly exposed for 400 ft. Gouge, sericite, and discontinuous quartz stringers and veins as thick as 0.5 ft fill the shear zone. Limonite and disseminated pyrite are associated with the quartz.	Two 15-ft-deep shafts and one pit.	The area between the two shafts contain 4,300 tons of rock with an average of 0.03 oz gold per ton.
81	Elkhorn Nos. 1-8 (placer)	A west-trending intermittent-stream drainage in quartz monzonite has alluvial accumulations as much as 40 ft wide, 200 ft long, and 2 ft deep. A 1.5-mi segment of stream drainage has an estimated 7,000 yd ³ of alluvium.	Twelve trenches, 40 to 200 ft long, and 22 pits.	Thirty-four samples contained no significant values.
82	NRA	Abundant jasperoid associated with an 8- to 12-in.-thick, northeast-trending quartz vein in quartz monzonite.	Two trenches.	Two chip samples of jasperoid and quartz had no significant values.
83	Jackrabbit	Quartz fissure veins and pods occupy north-trending joints in deeply weathered quartz monzonite. Exposed veins and pods were as long as 12 ft and had an average thickness of 3 to 4 in. The veins have sparse 0.25-in.-diameter pods of chalcopryrite and malachite.	An 11-ft-deep vertical shaft is at the south end of a 20-ft-long open cut that trends N. 28° E. A 31-ft-long 24° decline, which begins at the bottom of the shaft, bears S. 13° E.	Four chip samples from the shaft and decline ranged from 0.03 to 0.17 oz gold per ton, 0.17 to 1.12 percent copper, and as much as 0.4 oz silver per ton. One sample from a 0.5-ton quartz stockpile had 0.55 oz gold per ton, 0.5 oz silver per ton, and 0.33 percent copper.
84	Gold Seal	Weathered, decomposed quartz monzonite has as much as 10 percent hairline fractures filled with limonite and sparse quartz pods.	Two shallow pits.	One chip and one select sample contained no significant values.
85	Seventy-Niner Nos. 1 and 2 (placer)	Information held confidential by owner.	---	---
86	Philday Lode	A poorly defined 2- to 5-ft-thick shear zone strikes N. 72° E.; dips 77° SE., and is partly exposed for 165 ft in quartz monzonite. Scattered blebs of chalcopryrite and fracture fillings of chrysocolla are found along structure margins and in silicified country-rock pods within a clay-gouge matrix. The largest mineralized pod is 3 ft thick and 12 ft long.	A 56-ft-long, 13-ft-deep trench, and four shallow bulldozer trenches ranging from 20 to 111 ft long.	Three of the nine samples, all from the 56-ft-long trench area, had significant mineral values. Gold, silver, and copper values from two select samples and one chip sample were: 1.83, 0.02, and 0.38 oz gold per ton; 1.3, 0.2, and 0.2 oz silver per ton; 6.1, 0.61, and 9.0 percent copper, respectively.

Table 2.--Summary of mines and prospects in the Andrews Mountain, Mazourka, and Paiute Roadless Areas--Continued

Map No.	Name	Summary	Workings and production	Resource/sample data
87	Talco	White to green limestone and argillite strike N. 30° E., dip 70° SE. Altered argillite is slightly talcose.	One shallow pit.	A chip sample contained a trace of gold. The amount of talc was insignificant.
88	Hidden Valley Nos. 1-6	Irregularly shaped pods and lenses of platy, specular hematite crop out at a limestone-quartz monzonite contact. The largest pod is 105 ft long by 35 ft wide; the longest lens is 110 ft long and averages 1.3 ft thick. Thirteen other small lenses average 11 ft long by 3 ft wide. Associated with the hematite are minor amounts of magnetite, limonite, pyrite, and quartz.	An adit 110 ft long, a 10-ft-deep shaft, and several shallow bulldozer scrapes as long as 90 ft. U.S. Bureau of Mines production records show that 29 tons containing 49 oz silver and 2,845 lb of copper were produced in 1918.	The largest lens and pod are estimated to contain 23,000 of the 25,000 tons of hematite-rich rock. An additional 1,800 tons are present in smaller lenses or pods. The average grade, 43.5 percent iron, is marginal and tonnage is small. None of the samples contained significant silver or copper.
89	Joe Diaz	Northeast-trending cherty limestone and dark green argillite are crosscut by a few, small quartz veins. A 10-in.-thick quartz vein exposed in a pit contains blebs, stringers, and disseminated galena, chalcocopyrite, malachite, and azurite.	A 162-ft-long crosscut adit and a small pit.	A select sample of quartz from a small stockpile near a pit had 2.78 oz silver per ton, 10.5 percent lead, and 2.5 percent copper. Four chip samples from the adit contained no significant values.
90	Mexican Silver	A 5-ft-thick zone of silicified limestone containing abundant quartz veinlets is bounded on the east by a 2- to 4-in.-thick shear zone. Its length is not traceable beyond the working. Blebs and disseminated galena are present throughout the zone but are concentrated at a poorly defined footwall. Mineralized rock in the dump also has malachite stain.	One 14-ft-deep shaft.	A select sample from the dump had 0.01 oz gold per ton, 0.9 oz silver per ton, 0.48 percent copper, and 8.88 percent lead. A chip sample from across the shear zone and silicified limestone had 0.3 oz silver per ton, 0.02 percent copper, and 0.67 percent lead.
91	Susan No. 1	White to pale-green talcose argillite.	A small pit.	One chip sample contained no significant values.
92	Hawkeye	Gray- to white- banded dolomite has been intruded by medium-grained quartz monzonite.	Two bulldozer cuts, as much as 80 ft long and 5 ft deep.	Two random grab samples from the workings contained no significant values.
93	Unknown 1/ (32, 12, 36)	A small area of cherty limestone has been bleached nearly white. Quartz float containing disseminated pyrite is found in the bleached area.	A 13-ft-long trench.	A grab sample of quartz and some siliceous limestone contained no significant values.

Table 2.--Summary of mines and prospects in the Andrews Mountain, Mazourka, and Paiute Roadless Areas--Continued

Map No.	Name	Summary	Workings and production	Resource/sample data
94	Nevada Queen	North-striking, alternating limestone and quartzite beds have been intruded by a lamprophyre dike. Random, minute shears are present at sedimentary contacts and contain disseminated pyrite, galena, malachite, and minor veinlets of siderite-calcite.	One 18-ft-deep shaft, four pits, and a 6-ft-long adit.	Two chip samples from shear zones contained a trace of gold and copper, and one had 0.7 oz silver per ton. Seven random or select samples contained a trace of gold and a trace to 0.82 percent copper; five had 0.9 to 4.5 oz silver per ton.
95	Squares Tunnel (placer)	Information held confidential by owner.	---	---
96	Buckeye Nos. 1 and 2 (placer)	Information held confidential by owner.	---	---
97	Willmington	Thin limestone strata are interbedded with quartzite. Some limestone has stringers of asbestos, quartz, and chalcidony. Malachite and chrysocolla stain fractured quartzite at one outcrop.	Five pits, a trench, and one 32-ft-long adit with 30 ft of drift.	Twelve samples were taken. A select sample had 3.3 oz silver per ton, 5.9 percent copper, and 0.11 percent molybdenum. A random grab sample from a nearby trench had 0.49 percent copper. A dump sample from the adit contained 0.5 oz silver per ton. The other nine samples contained traces of gold and copper.
98	Flapjack No. 1	A 4- to 5-ft-thick, northwest-trending shear zone in limestone contains gouge, pyrite, epidote, chlorite, iron oxide, calcite, and chalcidony.	One adit 22 ft long.	Three chip samples from across the shear zone and a grab sample from the dump contained no significant values.
99	Birthday Nos. 1-4	Highly irregular shear zones are traceable for 0.5 mi along an east-trending fault that dissects an overturned anticline, which plunges 50-70° SW. The limestone and dolomite strike north and are locally recrystallized. The largest shear zone is 50 ft long and 1 to 3 ft thick; most others are considerably smaller. Some limonite-gouge-filled zones contain finely disseminated, oxidized galena, malachite, and chrysocolla blebs.	Seven adits, two with winzes 21 and 18 ft deep, total 218 ft of underground development. Other workings include a 33-ft-deep shaft and three pits. U.S. Bureau of Mines production files show that in 1912 and 1913 this property produced a total of 4 tons, which contained 2 oz gold, 26 oz silver, 32 lb copper, and 485 lb lead.	Six of twenty chip samples from gouge- and limonite-filled shear zones had from 0.01 to 0.06 oz gold per ton, 0.1 to 1.2 oz silver per ton, and 0.01 to 0.15 percent copper. Two select samples, representing less than 2 tons, had 0.14 and 0.15 oz gold per ton, 3.3 and 14.1 oz silver per ton, 0.77 and 1.2 percent copper, 6.9 and 18.8 percent lead, and 0.25 to 4.1 percent zinc.

Table 2.--Summary of mines and prospects in the Andrews Mountain, Mazourka, and Paiute Roadless Areas--Continued

Map No.	Name	Summary	Workings and production	Resource/sample data
100	Condor No. 1	A 100- by 300-ft area of fractured dolomite hosts several discontinuous northeast- to northwest-trending shear zones. The largest is 63 ft long and averages about 1.0 ft thick. Limonite-siderite pods 1 to 4 ft long and 0.5 to 1.5 ft thick are mineralized with highly oxidized lead and zinc minerals and stained with malachite. The pods are confined to the shear zones.	A 50-ft-long open cut leads to a 10-ft-long adit; two converging 10-ft-deep shafts form a single 50-ft-deep shaft. Other workings include two adits that are 63 and 75 ft long and four shallow pits.	Nineteen chip, random chip, or select samples were collected from dolomite, shear zones, and limonite pods. Five chip samples from the shear zones contained 0.8 to 4.0 oz silver per ton, 4.9 to 31.0 percent zinc, 0.51 to 0.89 percent lead, and as much as 0.47 percent copper. Five select samples of stockpiles assayed from 0.5 to 25 oz silver per ton, 1.82 to 20 percent lead, 6.0 to 19 percent zinc, and 0.11 to 0.75 percent copper.
101	Unknown 1/ (4, 13, 36)	A 1-ft-thick, limonite-stained shear zone strikes due north and dips 45° W. in limestone.	One 18-ft-deep inclined shaft.	Two chip samples from the shear zone contained no significant values. A grab sample from the dump contained 0.6 oz silver per ton.
102	Dolomite Nos. 1-8	Bright sugary-white, bedded dolomite strikes N. 20° E. and dips nearly vertically. The dolomite is highly fractured and is intercalated between limestone beds. The owners report the material was used to surface local roads.	One adit 110 ft long with 70 ft of drifts and a small open pit.	Two grab samples of dolomite had as much as 29.3 percent calcium oxide and 25.0 percent magnesium oxide.
103	Monongahela	A limonite- and manganese-stained, white to gray, vuggy quartz vein is about 1 ft thick, strikes N. 31° W., and dips vertically in a shear zone in limestone. The quartz, which is exposed for 8 ft, contains galena, malachite, and chrysocolla. An 8- to 16-ft-thick limonite zone that is exposed for 37 ft underground strikes N. 27° W. to due north, dips from 49° to 72° SW., and is about 20 ft south of the quartz vein.	One adit 37 ft long, one pit 8 ft deep, and two caved adits.	Seven samples were taken. A select sample of quartz from a stockpile at the pit had 0.04 oz gold per ton, 5.2 oz silver per ton, 0.55 percent copper, and 5.50 percent lead. A random chip sample from the same stockpile had 0.04 oz gold per ton, 9.0 oz silver per ton, 0.20 percent copper, and 13.00 percent lead. Of five gossan samples, three had a trace of gold, three had 0.2 to 0.4 oz silver per ton, 0.05 percent copper, and one had 0.45 percent lead.
104	Broadway	Thinly bedded limestone has been intruded by quartz monzonite. The altered, sheared contact zone varies from 3 to 15 ft wide and is exposed for about 0.33 mi along its N. 10° W. strike. The altered areas of the contact consist of gouge, quartz, yellow-brown chalcedony, magnetite, and iron oxides.	One pit.	Four chip samples and one grab sample were taken from a 76-ft-long part of the altered contact zone. The samples contained traces of gold, zinc, and copper; one sample also assayed 0.5 oz silver per ton.

Table 2.--Summary of mines and prospects in the Andrews Mountain, Mazourka, and Paiute Roadless Areas--Continued

Map No.	Name	Summary	Workings and production	Resource/sample data
105	Old Soldier	Highly fractured quartzite. Fractures filled with microcrystalline quartz, calcite, and turgite.	One pit.	One 5.5-ft-long chip sample across iron-stained quartzite in the pit contained no significant values.
106	<u>Black Eagle Mine</u>	The main quartz vein strikes N. 45°-50° E. and dips vertically to 70° SE. in quartz monzonite near a limestone contact. The vein averages 2.6 ft thick, and is exposed underground for 340 ft along strike. Quartz is continuous down dip for about 250 ft, but it gradually forms lenses and pods within a gouge-filled shear zone. Bands and streaks of limonite and hematite, along with fine disseminations, small aggregates, and hairline-fracture fillings of free gold and pyrite are in the quartz. One hundred feet from either side of the main vein, two smaller subparallel quartz veins are partly traceable for 120 and 180 ft. Vein thicknesses are about 3.5 and 1.6 ft, respectively.	The main working is a 308-ft-deep shaft with 1,660 ft of drifts on six levels. Two stopes along the main vein open to the surface. Other nearby workings include four shafts with 240 ft of drifts, two shafts 18 and 44 ft deep, two trenches, and five pits. An unknown amount of ore was produced from 1883 to 1900. From 1901 to 1950 about 2,476 tons yielded 1,070.4 oz gold, 6,838 oz silver, 641 lb copper, and 4,136 lb lead (U.S. Bureau of Mines production records).	In the main working 12,000 tons of demonstrated and inferred reserves averaging 0.21 oz gold per ton, and 44,000 tons of indicated and inferred subeconomic resources averaging 0.07 oz gold per ton are estimated. An additional 4,000 tons of indicated marginal reserves averaging 0.05 oz gold per ton are in the dump. The quartz veins subparallel to the main vein total 7,200 tons of indicated and inferred subeconomic resources averaging 0.05 oz gold per ton. Potential is high for additional gold resources at this property.
107	Alhambra	An iron-stained quartz vein 1 to 2 ft thick, strikes N. 28° W., dips steeply southwest and northeast, and extends for 110 ft in quartz monzonite.	Three trenches total 165 ft. In the middle trench an inclined shaft intersects a 29-ft-deep vertical shaft. A small stope area connected with the shaft bottom is within 5 ft of the floor of another trench. A 20-ft-long adit, 90 ft northeast of the main workings, may have been an attempt to intersect the vein at depth.	Four chip samples from the quartz vein contained from a trace to 0.04 oz gold per ton. A sample from the adit dump assayed 0.03 oz gold per ton.
108	Omega	A probable xenolith of epidote-garnet-quartz-tremolite-bearing dolomite 20 ft wide and 30 ft long is in quartz monzonite. Azurite, malachite, and chrysocolla stain and coat the fractured, partly assimilated xenolith. About 10 tons of the most highly copper-mineralized material has been hand sorted.	One 30-ft-long adit.	Two random chip samples from the adit and one grab sample from the dump had traces of gold and 0.15 to 1 percent copper. A select sample from the stockpile had 0.1 oz gold and 1.1 oz silver per ton, 2.2 percent copper, and 0.13 percent zinc.
109	Clifford	A 4.5- to 9.4-ft-thick, gouge-filled shear zone strikes northeast, separating limestone and shale from quartz monzonite for 150 ft. Margins of the shear zone locally are filled with multicolored jasper.	Two trenches, a 50-ft-long adit, a 28-ft-deep shaft, and two pits.	Five chip and eight grab samples were taken from the contact area and siliceous interbedded sedimentary rocks. Seven samples contained from a trace to 0.01 oz gold per ton. One grab sample had 0.06 oz gold per ton.

Table 2.--Summary of mines and prospects in the Andrews Mountain, Mazourka, and Paiute Roadless Areas--Continued

Map No.	Name	Summary	Workings and production	Resource/sample data
110	Noble Nos. 1-8 and WDC Nos. 1-5	Tactite zones are present in limestone that is in contact with granite. The tactite zones contain unaltered limestone, marble, hornfels, garnet, and idocrase. Massive garnet composes 80 percent of the tactite.	One open trench 350 ft long, 100 ft wide, and 2 ft deep in granite, limestone, and tactite, and one trench 180 ft long, 50 ft wide, and 3 ft deep in granite.	A chip sample from tactite had 0.13 percent tungsten trioxide (WO ₃) and one select sample of hornfels-tactite had 0.4 oz silver per ton and 19.0 percent iron. Five grab samples from dumps contained no significant values.
111	<u>Noble No. 6</u>	At least five poorly defined, northwest-trending mineralized shear zones are present in a 300- by 700-ft area of limestone. Small blebs of chalcopyrite, bornite, galena, and azurite-malachite stains and coatings are present in the zones.	Five pits, two adits, and two shafts.	Eight chip samples and one random chip sample were taken from the adits and shafts, seven grab samples from pits and dumps, and two select samples from stockpiles. The two select samples had 1.4 and 1.0 oz gold per ton, 6.4 and 8.8 oz silver per ton, and 1.9 and 0.21 percent copper, respectively. Seven other chip and grab samples, mostly of altered-limestone fault gouge, contained from 0.4 to 1.4 oz gold per ton, a trace to 4.7 oz silver per ton, and 0.01 to 0.73 percent copper.
112	Cent	Numerous small, calcite- and epidote-filled shears cut gray, massive, crystalline limestone. The largest shear zone trends N. 27° W., dips vertically to 70° NE., and is partly exposed for 150 ft. The 4-ft-thick zone appears to pinch out 20 ft downdip. The zones consist of altered and brecciated limestone and gouge, with lesser amounts of limonite, siderite, chalcadony, quartz, and calcite.	A 30-ft-deep shaft and a 22-ft-long trench.	A select sample of shear-zone material from the dump of the shaft yielded 0.18 oz gold per ton, 1.7 oz silver per ton, and 0.15 percent copper. A chip sample from across the zone in the trench had a trace of gold, 0.2 oz silver per ton, and a trace of copper.
113	Green Gem Nos. 1 and 2	Randomly oriented shear zones, mostly less than 1.0 ft thick, cut massive, jointed, multicolored shale, hornfels, and limestone. Altered country rock, limonite, and calcite fill the zones. Sparse thin coatings of malachite were observed in some shear material found in the dumps.	Seven pits.	Six of the nine samples contained a trace of gold. Copper content was less than 0.04 percent.
114	Welch Gold millsite (placer)	Information held confidential by owner.	---	---

Table 2.--Summary of mines and prospects in the Andrews Mountain, Mazourka, and Paiute Roadless Areas--Continued

Map No.	Name	Summary	Workings and production	Resource/sample data
115	Four Mules	Vein-quartz fragments and float are scattered over dark-green to black shale.	A cluster of ten small pits and bulldozer scrapings.	A grab sample of quartz contained no significant values.
116	<u>Bluebird 2/</u>	A shear zone partly traceable over a distance of about 700 ft, strikes N. 25° W., dips 70° NE., and ranges from less than a foot to 12 ft thick, where it is exposed in limestone. The shear zone is composed of calcareous gouge, limonite-stained jasperoid, siliceous limonite, and fracture coatings of chrysocolla and malachite.	A 15-ft-deep shaft, three pits, and a 10-ft-long adit.	A 110-ft-long segment of the zone averages 5.5 ft thick and has 7,900 tons of subeconomic resources with a grade of 1.19 percent copper.
117	<u>Betty Jumbo mine</u>	Tactite bodies were formed along and near igneous-sedimentary rock contacts. Scheelite is present as fine disseminations, coarse aggregates, and along hairline fractures in tactite. The two largest tactite bodies were developed at the east and west adits. At the east adit an original resource was about 125 ft long, 20 ft wide, and 10 ft thick. The west adit is centered on the thickest part of a tactite outcrop that is partly exposed for 450 ft. It ranges from 2 to 28 ft thick and is 100 ft wide, as developed at the west adit. The adit also exposes a copper- and gold-bearing shear zone that is 46 ft long and 2.5 ft thick. The Betty Jumbo no. 6 contains a gold-bearing shear zone that is 38 ft long and 1.5 ft thick.	The east, west, and south adits total over 1,200 ft of mostly single level development. Other workings nearby include two shafts no more than 25 ft deep, two trenches, three pits, and three adits 10, 60, and 75 ft long. Production from the property in 1918 and 1951 totals 1,037 lb tungsten, 5,575 lb copper, and 46 oz silver. An additional estimated 18,750 lb of tungsten were recovered from a 1952 shipment, but were not recorded.	The west adit has 52,000 tons of indicated and inferred reserves averaging 0.70 percent WO ₃ . Within this block 350 tons average 0.22 oz gold per ton, 1.18 oz silver per ton, and 1.59 percent copper. An eastward extension of the tactite body is estimated to contain 5,100 tons of indicated and inferred subeconomic resources with 0.08 percent WO ₃ . The east adit has 5,000 tons of indicated and inferred marginal reserves grading 0.38 percent WO ₃ . The Betty Jumbo no. 6 has 90 tons of inferred subeconomic resources with 0.57 oz gold per ton.
118	White Swan	Quartz float indicates a maximum vein thickness of 4 in. Elongate blebs of chalcopyrite are randomly scattered in the quartz, and malachite or chrysocolla coat the fractures. Country rock is decomposed quartz monzonite.	One pit.	A grab sample of mineralized float contained a trace gold and 4.2 percent copper. Quartz monzonite from near the pit also contained a trace gold and 0.14 percent copper.
119	<u>E1 Sobrante (placer)</u>	Information held confidential by owner.	---	---

Table 2.--Summary of mines and prospects in the Andrews Mountain, Mazourka, and Paiute Roadless Areas--Continued

Map No.	Name	Summary	Workings and production	Resource/sample data
120	Four Horsemen	Highly contorted, faulted, blue-gray to black slate is dissected by a 0.5- to 0.8-ft-thick sinuous quartz vein that extends for 110 ft. It varies considerably in strike and dip but trends about N. 14° E. and dips 40° NW. The vein is locally vuggy and crystalline and contains masses of disseminated galena from 0.25 in. to over 2 in. in diameter.	An open cut 50 ft long, 20 ft wide, and 6 to 9 ft deep and two small pits.	Eleven samples of quartz; five chip samples had from 0.2 to 1.0 oz silver per ton, and 0.1 to 2.5 percent lead. Select samples from stockpiles and dumps contained as much as 2.3 oz silver per ton, 1.3 percent copper, and 7.0 percent lead.
121	Blue Crystal <u>Nos. 1-6</u>	A limestone facies in the Late Proterozoic Wyman Formation is intruded by a Cretaceous granitic pluton, the resulting tactite zones are as much as 1,100 ft long and about 150 ft wide. Traces of disseminated scheelite and a small magnetite pod are present. The tactite zones are as thick as 5 ft.	Three open cuts, 12 shallow trenches, and six pits.	A grab sample of tactite contained 2.4 oz silver per ton and 0.22 percent W ₃ . Twelve other chip or grab samples contained 0.01 to 0.12 percent W ₃ . Three samples from the magnetite pod had from 16.5 to 31.0 percent iron.
122	Unknown 1/ <u>(18, 10, 36)</u>	A 6-in.- to 2-ft-thick quartz vein strikes N. 39° W. and dips 35° SW. In impure buff-gray limestone. The quartz vein contains disseminated galena and pyrite and about 5 percent white calcite. The vein can be traced for about 30 ft down dip, but not along the surface beyond the shaft collar.	An inclined shaft that dips 40° SW. is caved at the collar.	Four samples were taken from the prospect. A select sample from a 200-lb stockpile contained 10.8 oz silver per ton, 22.0 percent lead, and 2.0 percent zinc. Two chip samples from across the quartz vein had 0.12 and 4.5 percent lead, and 0.6 and 3.30 percent zinc; one had 2.6 oz silver per ton. Poor access to the underground workings prevented a resource estimate.
123	Unknown 1/ <u>(18, 10, 36)</u>	A 3-ft-thick quartz vein can be traced for 25 ft along strike and 40 ft along dip. It strikes N. 58° W., dips 22° to 35° NE., and crosscuts interbedded sandstone, siltstone, and shale. Disseminated chalcopyrite, malachite stain, and limonite are found along parts of the vein.	Two small pits.	Two of three chip samples from across the vein had 0.05 and 1.05 percent copper and 0.2 and 0.6 oz silver per ton, respectively. A select sample of the most highly mineralized quartz had 4.5 percent copper and 0.8 oz silver per ton.
124	Andrews <u>Nos. 1-17</u>	Quartz-limonite pods along limestone-shale contacts are present in deposits as thick as 2 ft and as long as 30 ft. Typically, the minerals present are pyrite, galena, and sporadic occurrences of chrysocolla. Veins in the shale are discontinuous and displaced by faulting.	At the Andrews Nos. 14-17 there is a 120-ft-long adit, five pits, and two trenches. The Andrews Nos. 1 and 2 have a vertical 50-ft-deep shaft with 80 ft of drifting, five pits, and a 25°-inclined, 25-ft-deep shaft with 50 ft of drift.	Thirty-four samples were collected from the Andrews Claims. One select sample of stockpiled material had 17.8 oz silver per ton and 37 percent lead; the other samples contained considerably less. In general, the assay data indicate the mineralization was spotty and erratic.

Table 2.--Summary of mines and prospects in the Andrews Mountain, Mazourka, and Paiute Roadless Areas--Continued

Map no.	Name	Summary	Workings and production	Resource/sample data
125	Iron Side	Dark red hematite-limonite lens in limestone. Minor amounts of vein quartz in dump.	Two pits.	Two select samples had 0.01 oz gold per ton.
126	<u>Squaw Flat</u> <u>Nos. 1-4 2/</u>	Discontinuous, fissure-filling quartz veins intrude fine-grained massive quartzite and thin, interbedded white dolomite. The two longest veins extend for about 42 ft and average 1.1 ft thick. Sulfide pods and veins up to 3 in. thick contain galena, sphalerite, and pyrite.	Development consists of a headframe, two inaccessible shafts, a 58-ft-long adit with a 50-ft-deep inclined winze, several shallow trenches, and one small pit. About 5 tons of quartz is stockpiled near the headframe. U.S. Bureau of Mines production files show 1 oz gold, 123 oz silver, and 2,294 lb lead were recovered from 57 tons in 1950.	The two quartz veins have a total indicated and inferred subeconomic resource of 300 tons with an average weighted grade of 1.6 oz silver per ton, 3.69 percent lead, and 1.85 percent zinc. About 5 tons of similarly mineralized quartz is stockpiled at the workings.
127	Pasadena Nos. 1 and 2	Bedding-plane quartz-limonite veins are as thick as 1.5 ft in northwest-trending siliceous limestone.	Two pits.	Two select samples and one chip sample of quartz and quartz-limonite material contained no significant values.
128	<u>San Pedro</u> <u>Nos. 1-6</u>	Quartz veins are normal to a northwest-trending fault system. The largest vein is a massive, sinuous, branching quartz vein that crops out in a 200- by 50-ft area in thinly bedded siltstone, shale, and phyllite. Other outcrops are present as small discontinuous pods. Cubic, irregular masses of galena are randomly distributed in the vein. The veins are as thick as 10 ft, but generally less than 2.0 ft. There is limited subsurface access and poor surface exposure of the vein system.	There are nine pits, four adits, one trench, and one shaft with 70 ft of drifts.	Four chip, 15 select, and five grab samples were collected. One chip sample from across a 1.7-ft-thick quartz vein had 3.9 oz silver per ton, 1.2 percent lead, and 0.17 percent zinc. Five select samples of quartz from stockpiles and waste material averaged 6.8 oz silver per ton, 3.0 percent lead, and 0.62 percent zinc.

Table 2.--Summary of mines and prospects in the Andrews Mountain, Mazourka, and Paiute Roadless Areas--Continued

Map no.	Name	Summary	Workings and production	Resource/sample data
129	Dorothy	Massive, milky-white quartz veins, no larger than 40 ft long by 2 ft thick, cut argillite. Cubic masses of galena as much as 2 or 3 in. in diameter are randomly distributed in some of the quartz. Some of the galena has been completely oxidized, leaving a cellular boxwork, which has been encrusted with limonite.	A 22-ft-long trench with a caved 13-ft-deep shaft and a pit compose the upper workings. The lower working is a pit. Distance between the upper and lower workings is 800 ft. The workings are not on the same vein.	A select sample from the shaft area had 4.6 oz silver per ton and 5.65 percent lead. Quartz from the nearby pit contained no significant values. A select sample from the lower working contained 1.6 oz silver per ton and 1.3 percent lead.
130	Friend (placer)	Permission to publish results was not obtained.	---	---
131	Iron Nugget (placer)	Information held confidential by owner.	---	---
132	Narrows claim	A 5-ft-thick, iron-stained quartz pod strikes N. 25° W. and dips 55° NE. in chloritic hornfels.	One pit.	One chip sample contained no significant metal values.
133	Narrows <u>Nos. 1-6</u>	Veins, veinlets, and pods of quartz as long as 2 ft have rehealed segments of a thrust fault. The sulfide minerals were more localized than the quartz, yet present in several widely spaced areas along the fault. The quartz contains randomly disseminated blebs, cubes, or masses and stringers of galena, sphalerite, and pyrite as thick as 4 in.	A 251-ft-long adit is the longest of six adits totalling 485 ft of underground development and three small pits.	Of 44 samples, nine contained more than 1 oz silver per ton and 1 percent lead or zinc. Higher grade concentrations of minerals are erratically distributed in thin, discontinuous quartz veinlets and in blebs or pods. The apparent overall average grade is too low to constitute a resource.
134	Pearl	Buff-colored dolomite and limestone have secondary calcite and iron stain along fractures.	A small pit.	One grab sample contained no significant values.
135	Unknown (14, 10, 36)	Gray, fissile shale strikes N. 20 W. and dips 30° SW. A north-trending quartz vein that is 2.0 ft thick is partly exposed for 55 ft.	Two pits.	Of two random chip samples; only one contained trace of gold and 0.2 oz silver per ton.

Table 2.--Summary of mines and prospects in the Andrews Mountain, Mazourka, and Paiute Roadless Areas--Continued

Map no.	Name	Summary	Workings and production	Resource/sample data
136	Silver Princess Nos. 1-4 2/ (Nancy Hanks)	Discontinuous fissure-filling veins are present in limestone and dolomite along a major east-trending thrust fault, which is as thick as 40 ft and partly exposed for over 2 mi along strike. The veins are generally less than 10 ft long and as thick as 1.5 ft. Intergrown cubic galena and sphalerite are present as blebs and streaks in the quartz, but also form solid, massive-sulfide veins and pods.	Two pits and one adit with 325 ft of workings. Production totalled at least 233 oz of silver, 12 lb of copper, and 13,951 lb lead (U.S. Bureau of Mines production records).	Twenty-eight samples were taken. Underground workings exposed mineralized quartz veins in an area 30 ft thick, 50 ft wide, and 120 ft long. If the veins constitute 10 percent of the total rock, then 3,000 tons of vein material average 1.3 oz silver per ton, 4.1 percent lead, and 1.8 percent zinc.
137	Three Fingers	Random discontinuous, north-trending quartz veins 0.7 to 1.6 ft thick are in slate. Limonite-stained quartz has blebs of euhedral galena and sphalerite.	Two pits, a 20-ft-long trench trending northeast, and a 19-ft-long inclined adit trending north.	Three chip and four grab samples of quartz were taken. Chip samples from the adit had from a trace to 1.6 oz silver per ton, 0.11 to 8 percent lead, and 0.12 to 0.27 percent zinc. One select sample of quartz from dumps had 5.6 percent lead.
138	Good Enough	A gray shale is locally speckled with 1- to 2-in.-diameter limonite pseudomorphs after pyrite. Overburden obscures in-place quartz.	One trench 11 ft long by 4 ft wide, and 2 ft deep trends S. 22° E. and one trench 13 ft long, 4 ft wide, and 2 ft deep trends S. 65° E.	Two grab samples of galena-bearing quartz from stockpiles at both trenches had copper values of 0.04 and 12 percent; zinc values averaged 1.15 percent. One sample had 18.8 oz silver per ton.
139	K.I.F.S.	Vein quartz float as thick as 1.0 ft in shale.	Two shallow pits.	Three samples of quartz contained no significant values.
140	Lucky Strike	Massive limonite-stained quartz veins, which are 0.7 to 1.6 ft thick penetrate fissile slate.	One 6.5-ft diameter, 6.5-ft-deep pit.	Two chip samples had 0.01 and 0.56 percent lead. A grab sample of quartz had 1.4 oz silver per ton and 6 percent lead.

Table 2.--Summary of mines and prospects in the Andrews Mountain, Mazourka, and Paiute Roadless Areas--Continued

Map no.	Name	Summary	Workings and production	Resource/sample data
141	Opal mine 2/ (Daisy)	Fractures filled with quartz form irregular, discontinuous veins and pods in a 160- by 340-ft area of thinly bedded slate. Massive and cubic galena with minor amounts of sphalerite and pyrite are unevenly distributed in the quartz.	Eleven pits, three adits totalling 220 ft of underground workings, and three shafts 14, 28, and 43 ft deep.	Assay results of 37 samples indicate that silver, lead, and zinc are erratically distributed; only eight samples contained more than 1 oz silver per ton. The largest vein is 48 ft long, averages 2.5 ft thick, and contains 240 tons of indicated and inferred subeconomic resources. The average grade is 2.86 oz silver per ton and 4.59 percent lead.
142	Silver Spur 2/ (Daisy)	Two parallel quartz veins 360 ft and 150 ft long and from 2 to 6 ft thick follow bedding planes in calcareous fissile slate and interbedded limestone. Cubic masses or streaks of galena and pyrite as much as 4 in. wide by 6 in. long are found in some parts of the veins.	Five inclined shafts from 10 to 40 ft deep and five small pits. U.S. Bureau of Mines production records are incomplete, but at least 74 oz of silver, 854 lb lead, and 0.8 oz gold have been produced.	Twenty-eight samples were collected. Approximately 30 tons of mineralized quartz are stockpiled and mixed in the dumps. Sample results for this material ranged from 2 to 5 oz silver per ton, 3 to 14 percent lead, and 2 to 4 percent zinc. At one inclined shaft 7 tons of vein quartz averages 18.1 percent lead, 2.6 percent zinc, and 1.2 oz silver per ton.
143	Jean Apex	A 50-ft ² area of interbedded shale and dolomite adjacent to quartz monzonite was suspected by the owner to contain uranium minerals. No anomalous radioactivity was found.	None.	One random chip sample; no uranium detected.
144	Squaw Flat (placer)	Older alluvium consists of unconsolidated decomposed quartz monzonite.	Seven bulldozer trenches 40 to 200 ft long and a 10-ft-diameter pit.	Eight random grab samples contained no significant values.

Table 2.--Summary of mines and prospects in the Andrews Mountain, Mazourka, and Paiute Roadless Areas--Continued

Map no.	Name	Summary	Workings and production	Resource/sample data
145	<u>Lucky Josephine</u> <u>No. 10</u>	Discontinuous fissure-filling quartz veins range in length from 10 to 400 ft, with thicknesses as much as 5 ft. The veins are present in an alteration zone of tuffite and hornfels that is at least 120 ft wide and 1,500 ft long. The metamorphic rocks resulted from the Cretaceous intrusion of a granitic pluton into carbonate and clastic rocks of Cambrian age. Mineralization produced pyrite, limonite, and traces of disseminated galena in the quartz veins.	Five pits and trenches as long as 20 ft, three adits 35, 43, and 440 ft long, and a 70-ft-deep inclined shaft are on the property.	Of 42 samples collected from the property, values are as much as 4.0 oz silver per ton, 3.15 percent lead, 0.9 percent copper, and 0.23 percent molybdenum disulfide. However, the majority of values are considerably below these.
146	<u>Inyo Queen</u> <u>Nos. 1 and 2</u>	A northeast-striking shear zone averages 5 ft thick and dips 50° to 70° SE. in a quartz monzonite intrusive. The zone, which is partly exposed in the adits for 170 ft vertically and 172 ft horizontally, is composed of altered quartz monzonite and limonite-stained vein quartz. The vein ranges from less than 0.1 ft to approximately 7 ft thick and contains sporadic isolated concentrations of galena, pyrite, and possibly bornite. Cavities contain clear quartz crystals as long as 5 in.	Three adits have a total of 242 ft of workings. Foundations and some machinery remain at a nearby millsite.	Sixteen samples were collected from this property. Five of the 13 samples from shear zones had 0.2 to 0.9 oz silver per ton and 0.05 to 1.3 percent lead. One of the three select samples from the dumps contained 0.4 oz silver per ton and 1.5 percent lead. Some samples were also analyzed for copper, zinc, and tungsten; anomalous values above background levels were not detected. Low-grade lead and silver are present in sporadic isolated concentrations.
147	<u>Independence</u> <u>Claims</u>	Irregular, discontinuous shear zones are composed of limestone fragments, gouge, and quartz veins. Most veins are 1 to 3 in. thick with pods as thick as 3.5 ft. Oxidized pyrite cubes and blebs of galena and malachite stain are associated with quartz.	There are four adits, 10, 40, 75, and 210 ft long, two caved adits and three pits.	Sixteen chip, five select, and two grab samples were taken from shear zones and quartz veins. A sample of galena-bearing quartz collected from a stockpile had 7.8 oz silver per ton and 50.5 percent lead. Four other samples contained more than 1 oz silver or 1 percent lead. Two samples contained anomalous amounts of molybdenum.

Table 2.--Summary of mines and prospects in the Andrews Mountain, Mazourka, and Paiute Roadless Areas--Continued

Map no.	Name	Summary	Workings and production	Resource/sample data
148	Inyo King	A 6- to 8-ft-thick quartz vein strikes N. 65° E. and dips 54° SE. in hornfels. Minor amounts of disseminated galena are in the iron-stained quartz. The vein is exposed only underground, and its length could not be measured.	A 17-ft-long crosscut adit.	A chip sample from across the vein and quartz in the dump each had 0.6 oz silver per ton, a trace of gold per ton, 0.60 and 0.78 percent lead, and 0.02 and 0.13 percent W ₃ .
149	Inyo Queen No. 2	A resistant, siliceous, limonite-rich, and brecciated quartz lens about 10 ft thick and 30 ft long occupies part of a sheared limestone-shale and quartzite contact. The adit reveals that the structure is shallow. A smaller segment of the lens has been offset about 30 ft east of the portal of the main workings.	A 17-ft-long adit and a 185-ft-long adit with 100 ft of drifts.	Two chip samples from siliceous limonite in the main working assayed 0.7 and 4.0 oz silver per ton. Of nine other samples from the shear zone and country rock, four yielded traces of gold, silver, copper, or lead.
150	Valley View	Brown crystalline limestone is cut by a 3- to 3.5-ft-wide shear zone that strikes N. 62° W. and dips 80° SW. The zone is filled with limonitic altered limestone, minor amounts of calcite veinlets, and highly iron-stained quartz. Overburden covers possible extensions of the structure.	One 6-ft-deep pit.	A chip sample from the shear zone and a grab sample from the dump contained no significant values.
151	Pick Up	A short near-vertical cross section of a N. 30° E.-trending shear zone is exposed at the base of a buff-colored limestone cliff. The 1.5- to 3.3-ft-thick shear zone is composed of brecciated country rock and gouge.	One 19-ft cut that extends partly underground.	Two samples had 0.1 oz gold per ton.
152	Custer (Baxter)	Altered black hornfels, shale, and quartz monzonite in a contact zone 4 to 6 ft thick, strikes N. 40° E., and dips 40° NW. (Tucker and Sampson, 1938, p. 435). Siliceous limonite and 2-in.-thick quartz-vein material present in a 2- or 3-ton stockpile at the portal of a caved adit.	Two accessible adits are 5 and 22 ft long. A caved adit was driven into the contact zone and is reported to be 100 ft long (Goodwin, 1957, p. 435). Remnants of a gravity tram system exist. U.S. Bureau of Mines records indicate 34 tons of ore have been produced, yielding 92.2 oz gold, 1,266 oz silver, 2,351 lb copper, and 23,866 lb lead.	Five samples were collected. Two select samples from stockpiles contained 0.02 and 0.20 oz gold per ton, 6.6 and 8.9 oz silver per ton, 2.4 and 20.4 percent copper, and 7.2 and 5.8 percent lead. The three chip samples contained traces of gold, silver, lead, and copper.

Table 2.--Summary of mines and prospects in the Andrews Mountain, Mazourka, and Paiute Roadless Areas--Continued

Map no.	Name	Summary	Workings and production	Resource/sample data
153	Lucky Boy 2/ (Crepper and Dungeon)	A 2- to 7-ft-thick white quartz vein in a predominantly carbonate country rock is exposed for 1,650 ft strikes approximately N. 60° W. and dips 50° to 65° SW. The vein is 15 ft, locally fractured, has minor amounts of galena, chalcocopyrite, and bornite with secondary iron and copper stains along fractured surfaces.	The property has 20 adits ranging from 2 to 220 ft long and 20 pits and trenches. Total underground development is 1,500 ft.	A 220-ft-long mineralized part of the 1,650-ft-long quartz vein contains an estimated 2,800 tons of inferred subeconomic resources with a weighted average grade of 5.38 oz silver per ton, 7.48 percent lead, and 0.19 percent copper. Waring and Huguenin (1919, p. 117) reported that this property had molybdenum; however, no molybdenum was detected in our samples.
154	Black Jackass	Quartzite, shale, and limestone beds strike 75° to 85° NE. and dip steeply to the northwest. Iron- and copper-stained altered areas and small quartz-epidote tactite bodies present along some areas of contact between the sedimentary rocks and quartz monzonite intrusive.	Two pits and a 13-ft-long open cut lead to a 10-ft-long adit.	Three chip samples taken from intensely altered contact area show a trace of gold, as much as 0.2 oz silver per ton, and from 0.01 to 0.20 percent copper. A dump sample contained similar values.
155	Green Monster	A thin zone of magnetite and epidote is present along a cherty limestone-quartz and monzonite contact.	A 14-ft-long trench.	A grab sample of rock from the contact area contained a trace of gold and 0.1 oz silver per ton.
156	Goodview	Iron- and manganese-stained quartz-vein float in quartz monzonite.	One pit.	One grab sample had 0.01 oz gold per ton and 0.04 percent copper.
157	Mountain View	Highly fractured gray limestone strikes to the north with a 55° to 83° E. dip. Some beds are locally recrystallized with calcite veins and veinlets, and 2- or 3-in.-thick fractures are filled by gouge.	A 45-ft-long adit and a small pit.	Three chip samples and one grab sample each contained traces of gold and copper.
158	Arroyo group	Bedding-plane shear zones less than 1 ft thick contain fractured limestone, secondary calcite, siderite, quartz veinlets, and heavy limonite staining.	Three adits 32, 40, and 60 ft long and nine pits.	Ten chip and seven grab samples were taken. A chip sample from across a shear zone contained a trace of gold and 0.6 oz silver per ton. Two grab samples from waste dumps of two pits assayed 1.9 and 0.8 oz silver per ton and a trace of gold each.

Table 2.--Summary of mines and prospects in the Andrews Mountain, Mazourka, and Paiute Roadless Areas--Continued

Map no.	Name	Summary	Workings and production	Resource/sample data
159	Silver Dollar Nos. 1-5	Discontinuous, faulted, west- and north-trending shear zones are in a gray-blue limestone 0.4 to 1.0 ft thick. Shears are composed of limonite and gouge and traces of chrysocolla stain on fractures.	Five pits averaging 7 by 11 ft, one caved adit.	Seven chip samples and one grab sample from the shear zones contained from a trace to 0.6 oz silver per ton. Gold and copper values were insignificant.
160	Dennis Jr. mine (Onward nos. 1-6)	A 250-ft-long, 10- to 30-ft-thick silicified shear zone grades into a 140-ft-long, 10-ft-thick tactite zone. The shear zone is dominated by jasperoid limonite with accompanying fracture-filling limonite and pyrolusite. One body of jasperoid limonite is exposed for 60 ft and is 1 to 8 ft thick. The tactite is mainly fine- to coarse-grained, green grossularite garnet with minor secondary calcite. This structure lies between nearly vertical beds of limestone and shale adjacent to a granitic pluton.	A 20-ft open cut leads to a 37-ft-deep shaft and a 65-ft-long adit. Other workings include a caved adit and five shallow pits.	Eleven chip, one grab, and two select samples were taken. Gold values ranged from a trace to 0.07 oz per ton, and one sample had 0.1 percent copper. The samples contained no W03.

1/ The three numbers in parentheses below "unknown" name refer to section, township, and range, with respect to the Mount Diablo Base and Meridian.

2/ This property would not return enough revenue to be classified as a subeconomic resource, based on hypothetical production costs for this deposit alone. However, it is favorably located for possible consolidated development with other deposits and, viewed collectively, they represent resources.