UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF MINES

Mineral-Resource potential of the Dragoon Mountains Rare II Further Planning Area, Cochise County, Arizona

U.S. Bureau of Mines Mineral Land Assessment
MLA 35-82
1982

By
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This open file report summarizes the results of a Bureau of Mines wilderness study and will be incorporated in a joint report with the U.S. Geological Survey. The report is preliminary and has not been edited or reviewed for conformity with the U.S. Bureau of Mines editorial standards. Work on this study was conduced by personnel from Intermountain Field Operations Center, Building 20, Denver Federal Center, Denver, CO 80225.

FOREWORD

The U.S. Bureau of Mines and U.S. Geological Survey jointly conduct mineral surveys of lands which in the U.S. Forest Service Roadless Area Review and Evaluation (RARE II) program have been designated for further planning. These evaluations are used in the RARE II program which conforms with the Multiple-Use Sustained-Yield Act of 1960 (74 Stat. 215; 16 U.S.C. 528-531), the Forest and Rangeland Renewable Resources Planning Act of 1974 (88 Stat. 476, as amended; 16 U.S.C. 1601 note), and the National Forest Management Act of 1976 (90 Stat. 2949; 16 U.S.C. note). Reports on these surveys provide the President, Congress, the U.S. Forest Service, and the general public with information essential for determining the suitability of land for inclusion in the National Wilderness Preservation System.

This report is on the Dragoon Mountains RARE II Further Planning Area, Cochise County, Arizona.

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Terry J. Kreidler, U.S. Bureau of Mines

INTRODUCTION

During 1979 and 1980, the Bureau of Mines conducted a field investigation of the Dragoon Mountains RARE II Further Planning Area to evaluate the mineral resource potential (Plate 1). Mines, prospects, and mineralized areas were examined and sampled during the field investigation.

Location, size, and geographic setting

The Dragoon Mountains RARE II Further Planning Area, located in central Cochise County, in the southeastern corner of Arizona, comprises 32,820 acres (13,200 ha) of the Coronado National Forest (fig. 1). Tombstone is about 14 mi (22 km) southwest, Benson about 20 mi (32 km) west, and Willcox about 25 mi (40 km) northeast of the area.

Access is good from all directions on periodically maintained Forest Service and county roads. The roads are particularly good on the north and south ends because of the past mining activity in these areas.

The Dragoon Mountains are an elongate north-south trending range with elevations from 5000 to 7500 ft (1500-2300 m) marked by rugged topography and dense brush. Though several major drainages have incised steep-walled, canyons, none are perennial streams.

Mining Activity

The Dragoon Mountains were first prospected during the rush following the silver strike at Tombstone in the 1870's. Since then mining and exploration activity has been sporadic, the last burst taking place in the late 1940's and early 1950's. During the spring and summer of 1980, no mining or exploration activity had taken place within the RARE II boundary. Activity

near the area in 1980 included core drilling by Phelps-Dodge Corp., 3 to 4 miles (5 to 6.5 km) to the southeast, minor trenching on silver veins within one mile (1.6 km) of the southern boundary, and renovation and re-timbering of the Golden Rule mine, north of the area.

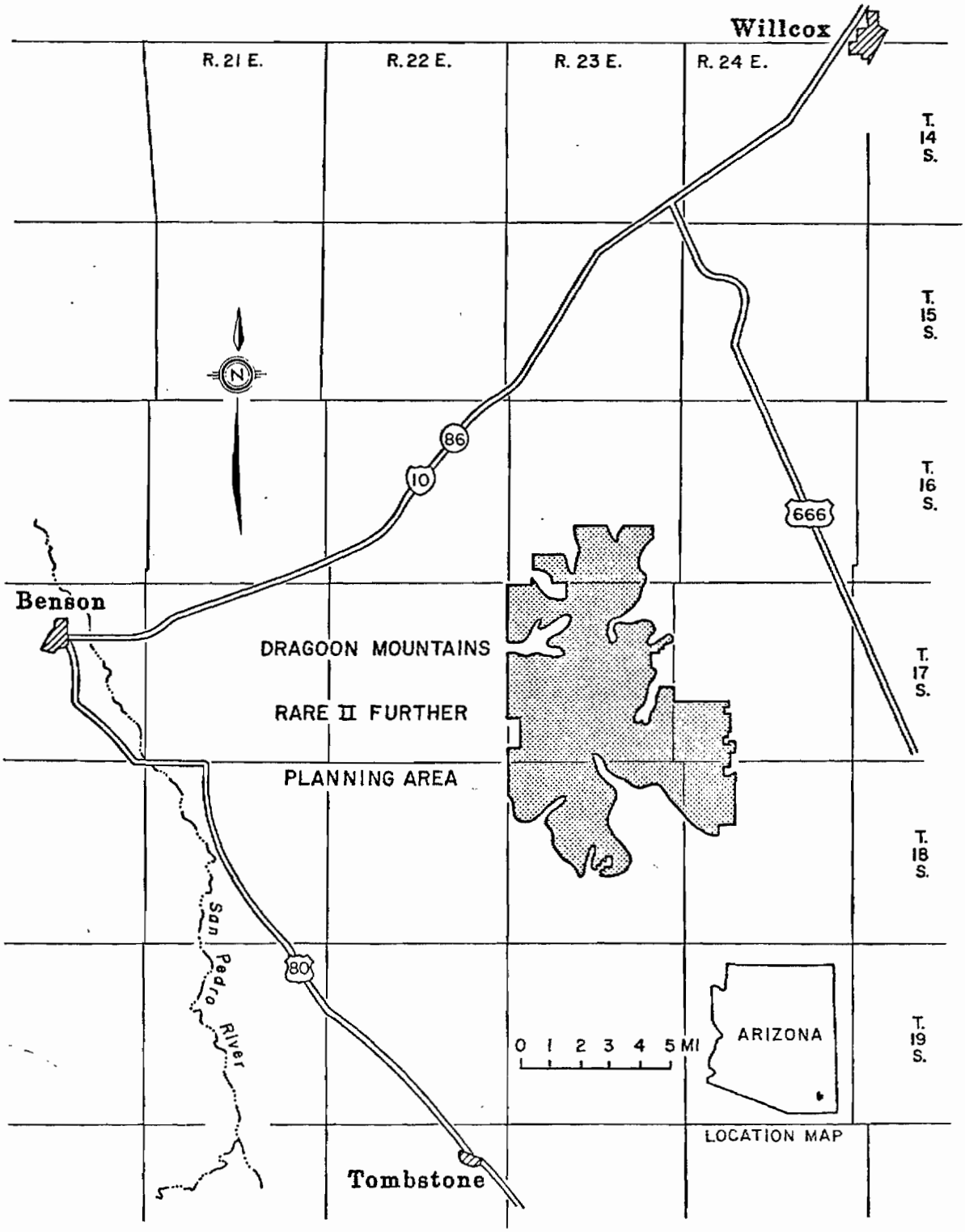

Figure 1.-Index map of the Dragoon Mountains RARE II Further Planning Area.

MINING DISTRICTS AND MINERALIZED AREAS

The Dragoon Mountains RARE II Further Planning Area includes parts of two mining districts, the Dragoon (Golden Rule) on the north and the Middle Pass (Middle March) on the south. Fifteen patented mining claims are in or adjacent to the Dragoon Mountains RARE II Area. Unpatented claims that have been recorded as being in or near the area number close to 3,000. Most of these were staked between 1880 and 1940 and generally have vague location descriptions so that the locations can not be accurately determined. Nearly all of the claims have been staked in the Dragoon or Middle Pass mining districts. The Dragoon mining district, at the north end of the Dragoon Mountains, was prospected for gold and silver in the 1870's. Producing ore as early as 1873, the Golden Rule mine, also known as the Old Terrible, 1/2 mile (0.8 km) north of the boundary, has been the only major mining operation in this district. Approximately 9,500 tons (8,700 mt) of gold-lead ore was mined before 1930 (Keith, 1973). Since then, production has been minor and sporadic. The Golden Rule is located on Cambrian Abrigo Limestone that has been faulted and intruded by Tertiary rhyolite dikes and rhyolite prophyry. Ore minerals (cerrusite, anglesite, galena, pyrite and oxidized zinc minerals) occur with coarsely crystalline quartz, calcite, and iron oxide minerals in vuggy fissure veins; the gold is associated mostly with the iron oxides. Recorded production through 1929 amounts to 9543 oz (300,000 g) gold and 158 tons (144 mt) lead worth about $224,000 (Wilson, 1934).

Other mines and their production in the Dragoon mining district include the Hubbard (Democrat-Sherman) on the west side of the RARE II area, 330 tons (300 mt) of zinc ore in the late 1940's; the Seneca just east of the boundary, 216 tons (196 mt) zinc-lead ore in the 1940's; Buena Vista and Horse Fall mines west of the area, 75 tons (68 mt) lead ore in the early

1930's; and the Burrito de Fierro one mile (1.6 km) west, 230 tons (209 mt) lead-zinc-gold ore, in the late 1950's and early 1960's (Keith, 1973), and the Rainbow shaft, in Jordan Canyon, no production data available. These mines produced ore from small replacement bodies in limestone near the contact with Stronghold Granite or rhyolite dikes.

Total reported production of the Dragoon mining district through 1970 amounted to about 19,000 tons (17,000 mt) of ore yielding about 9700 oz (302,000 g) gold, 72,000 oz (2,240,000 g) silver, 178 tons (162 mt) lead, 124 tons (113 mt) zinc and 9 tons (8 mt) copper with a total value estimated at $340,000 (Keith, 1973).

The Middle Pass mining district is at the south end of the Dragoon Mountains. Some mining and prospecting was done in the district as early as the 1880's, though most of the activity occurred between 1920 and 1950. The deposits have all been small mantos and chimneys of pyrometasomatic replacement in Paleozoic limestones near the contact with Stronghold Granite or rhyolite dikes. Among the larger mining operations in this district are (1) the Abril mine, 30,000 tons (27,000 mt) zinc-copper-lead ore; (2) the San Juan mine, 15,000 tons (13,600 mt) of zinc ore; and (3) the Middle March mine, 11,000 tons (10,000 mt) copper-zinc ore (Keith, 1973). These mines are located less than 1 mi (1.6 km) outside the RARE II boundary.

Total reported production of the Middle Pass mining district, through 1970, amounted to about 76,000 tons (69,000 mt) of ore containing some 337 oz (10,500 g) gold, 147,000 oz (4.6 million g) silver, 4,626 tons (4200 mt) of zinc, 1005 tons (915 mt) of copper, 137 tons (125 mt) of lead 2.5 tons (2.3 mt) scheelite concentrate, and 75 tons (68 mt) of hand sorted barite, with a cumulative value of about $1,725,000 (Keith, 1973).

ASSESSMENT OF MINERAL-RESOURCE POTENTIAL

Silver values in 16 of 128 samples from in or near the RARE II area ranged from 1.5 to 5.0 oz/ton; the other samples were in the 0.2 to 0.6-oz/ton range. Some samples, most notably those from the San Juan mine, the Pittsburg-Manhattan area, and the Hubbard mine, had anomalous zinc concentrations, ranging from 3 to 30 percent.

The RARE II area and its immediate environs have a low potential for large low-grade deposits of base metals, the type for which southern Arizona is famous. Because known ore deposits in the Dragoon Mountains, whether in or near the RARE II area, are small pyrometasomatic replacement bodies in limestone near the contact with the granite or rhyolite dikes, finding any large commercial deposits in the area is unlikely. The southeast part of the RARE II area has a moderate potential for small deposits of medium-to high-grade zinc with accessory lead, copper and silver.

Figure 2 shows the preliminary determination of the mineral-resource potential based on work by the U.S. Bureau of Mines.

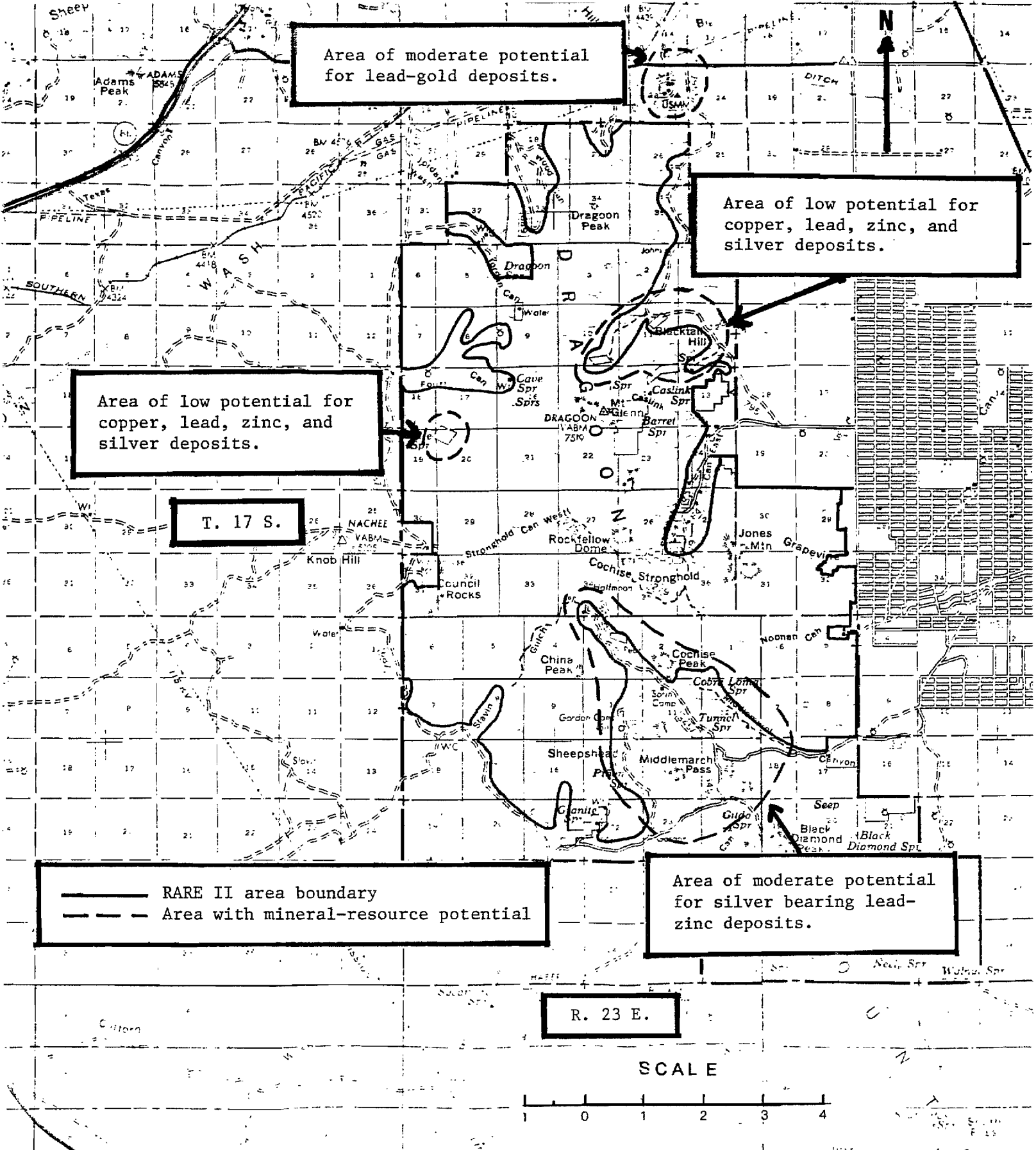

Figure 2.-Map of the Dragoon mountains RARE II Further Planning Area showing a preliminary determination of the mineral-resource potential.

REFERENCES

Keith, S. B., 1973, Index of mining properties in Cochise County, Arizona: Arizona Bureau of Mines Bulletin 187, p. 9-11, 63-64, 67-69.

Wilson, E. D., Cunningham, J. B., and Butler, G. M., 1934, (Revised 1967); Arizona lode gold mines and gold mining: Arizona Bureau of Mines, Bulletin 137, p. 121-122.

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PLATE 1

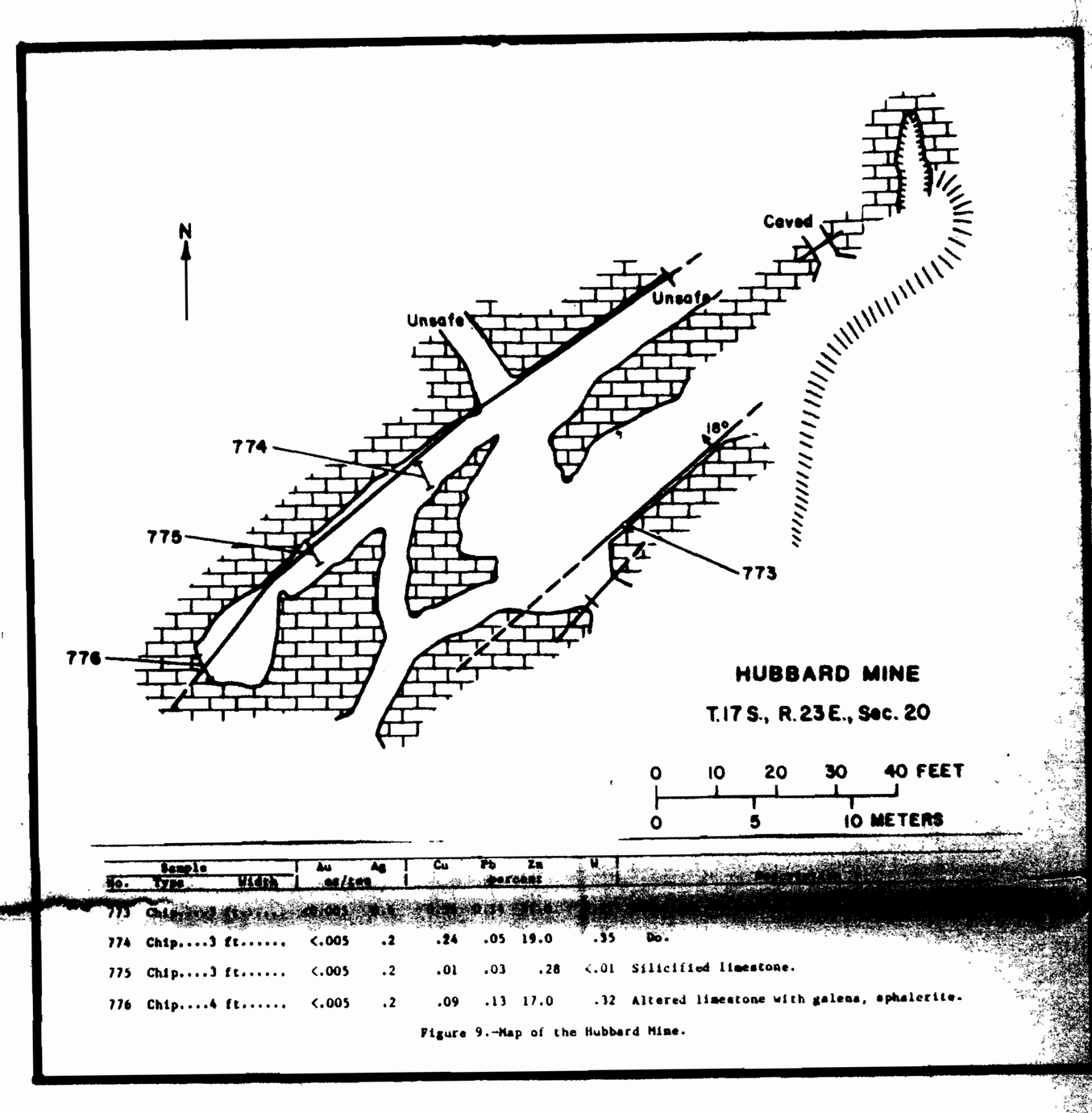


Figure 7.--Map of the Hubbard Mine.

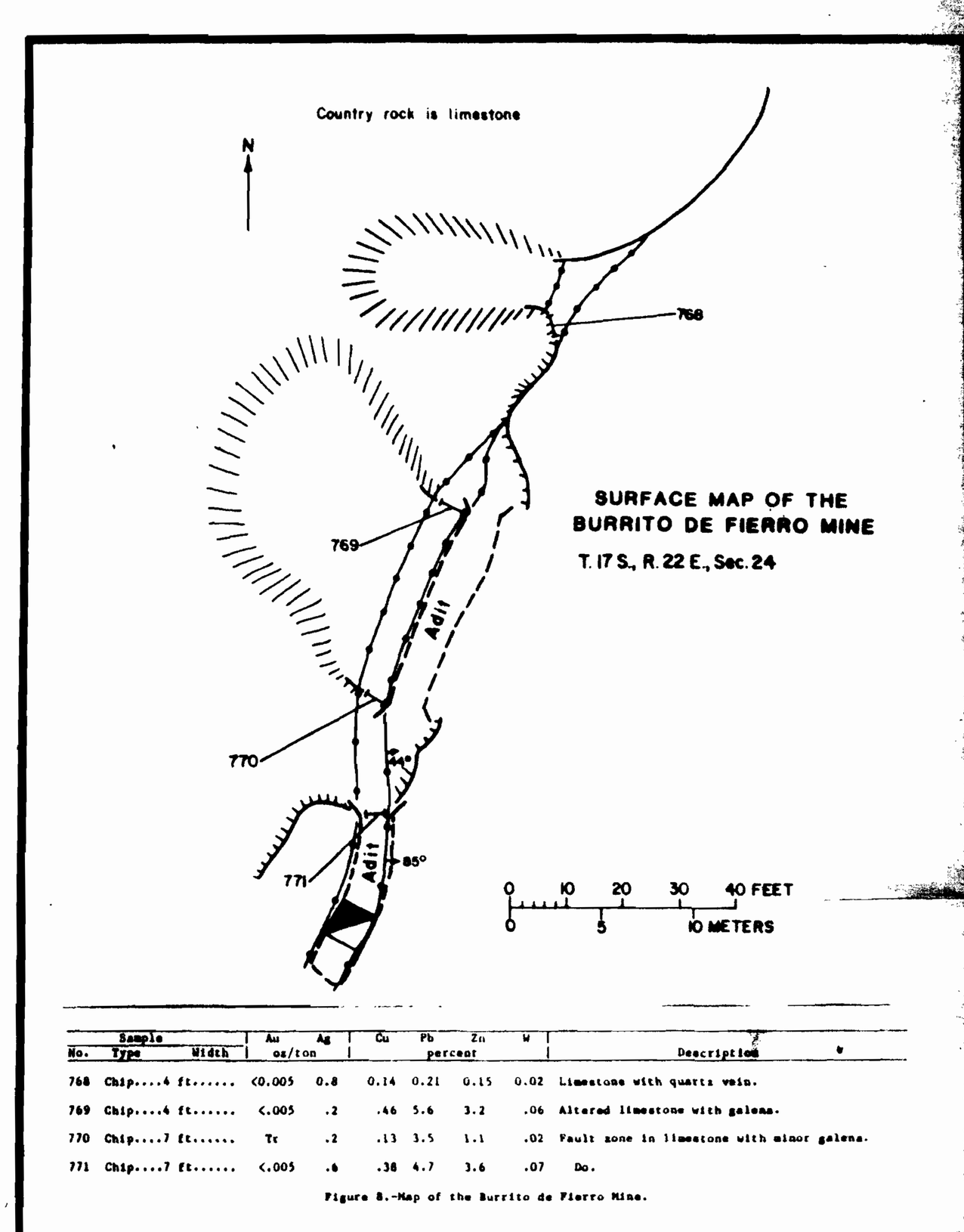


Figure 8.--Map of the Burrito de Fierro Mine.

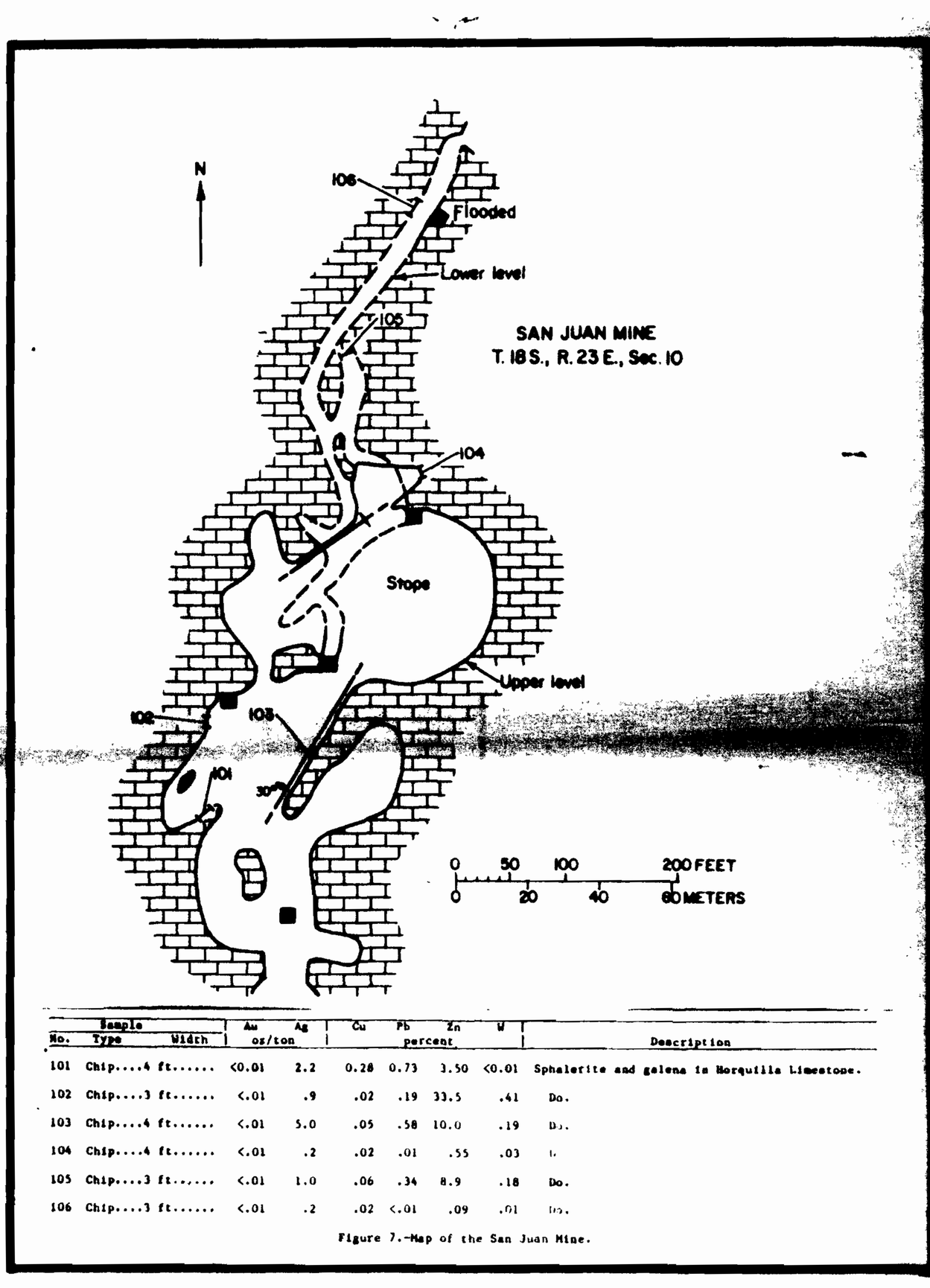


Figure 7.--Map of the San Juan Mine.

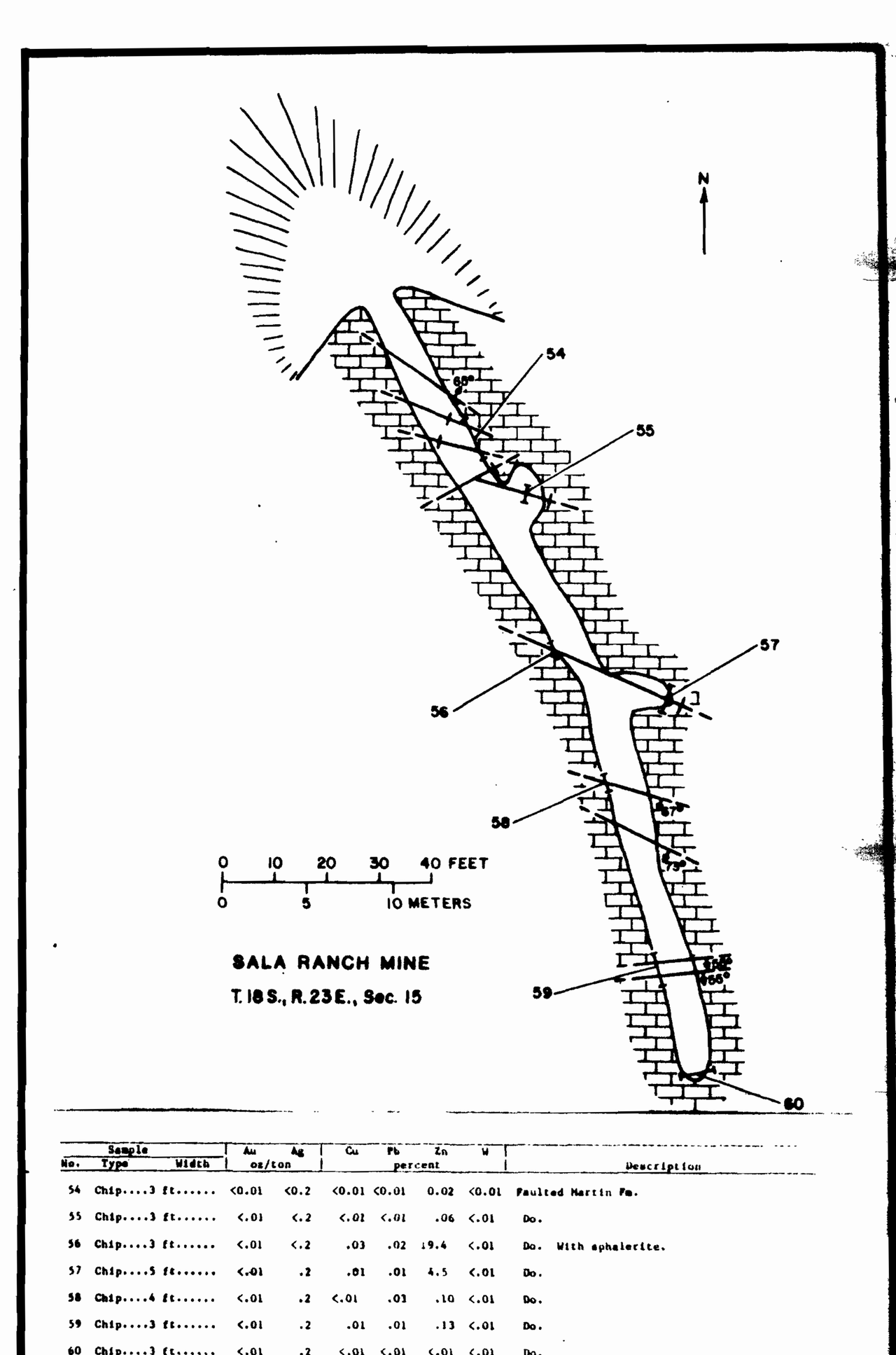


Figure 4.--Map of the Bala Ranch Mine.

EXPLANATION FOR FIGURES

- ABRIGO FORMATION
- DIABASE
- RHYOLITE
- STRONGHOLD GRANITE
- FAULT--Showing dip; dashed where approximate
- FAULT--Vertical; dashed where approximate
- VEIN
- CONTACT--Located approximately
- LOCALITY OF HORIZONTAL SAMPLE--Showing sample number and interval sampled
- LOCALITY OF VERTICAL SAMPLE--Showing sample number
- DUMP
- SURFACE OPENINGS
  - Shaft
  - Flooded shaft
  - Portal
  - Caved portal
  - Portal of adit, with open cut
  - Open cut
- UNDERGROUND OPENINGS
  - Underground workings--inferred extent
  - Raise--bottom of underground
  - Vertical raise--Top of underground
  - Winze

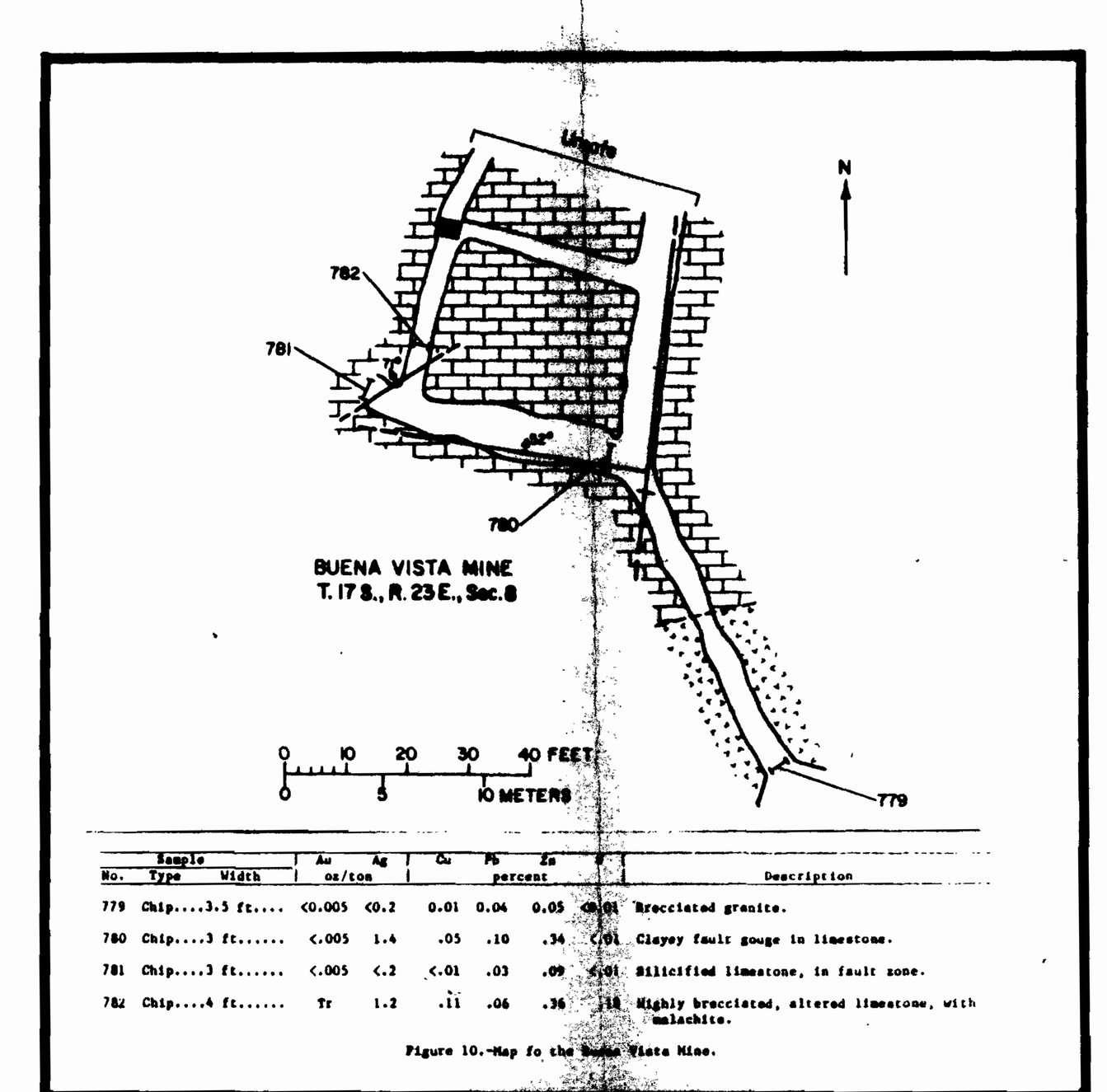


Figure 10.--Map of the Buena Vista Mine.

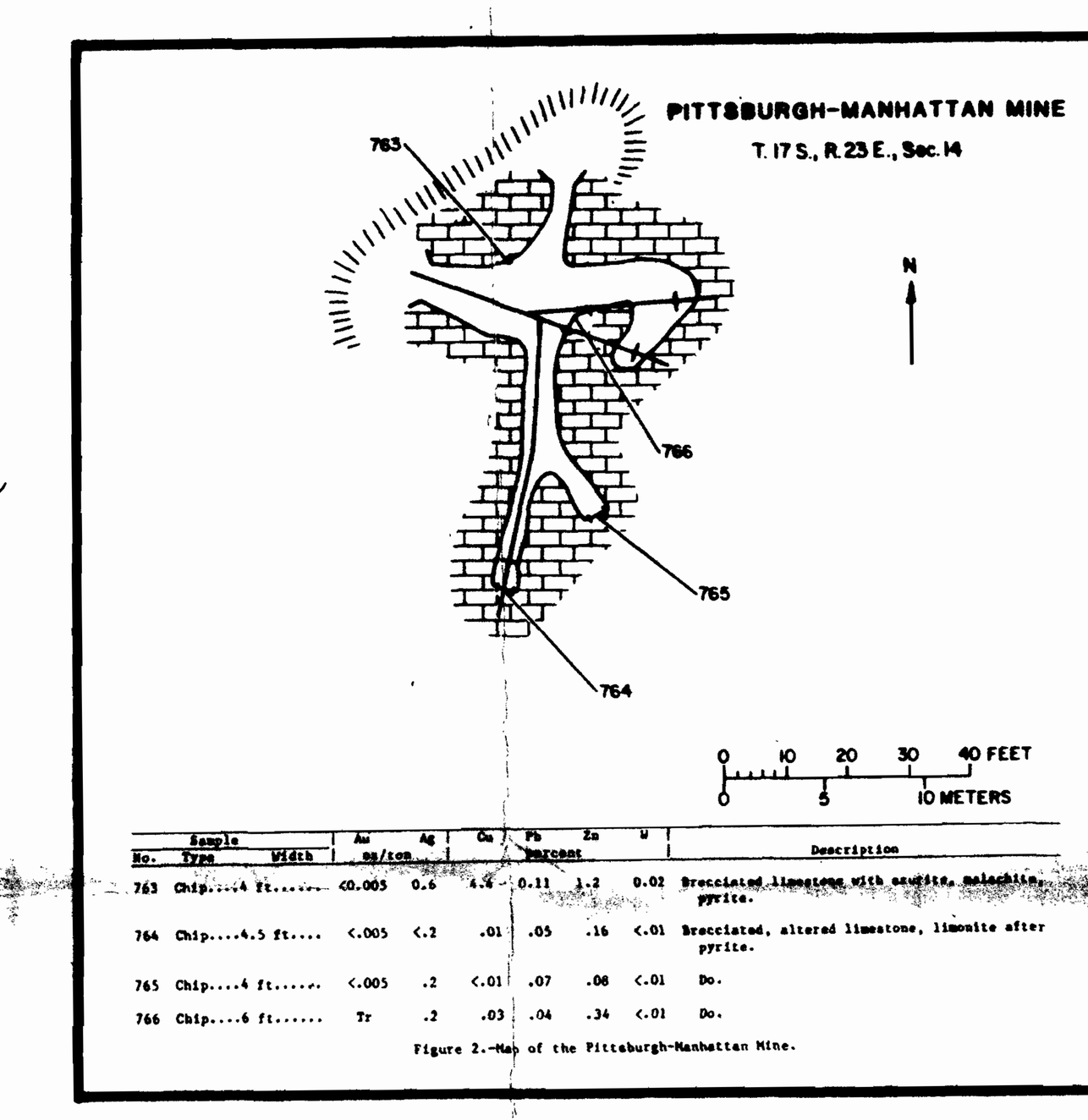


Figure 2.--Map of the Pittsburgh-Manhattan Mine.

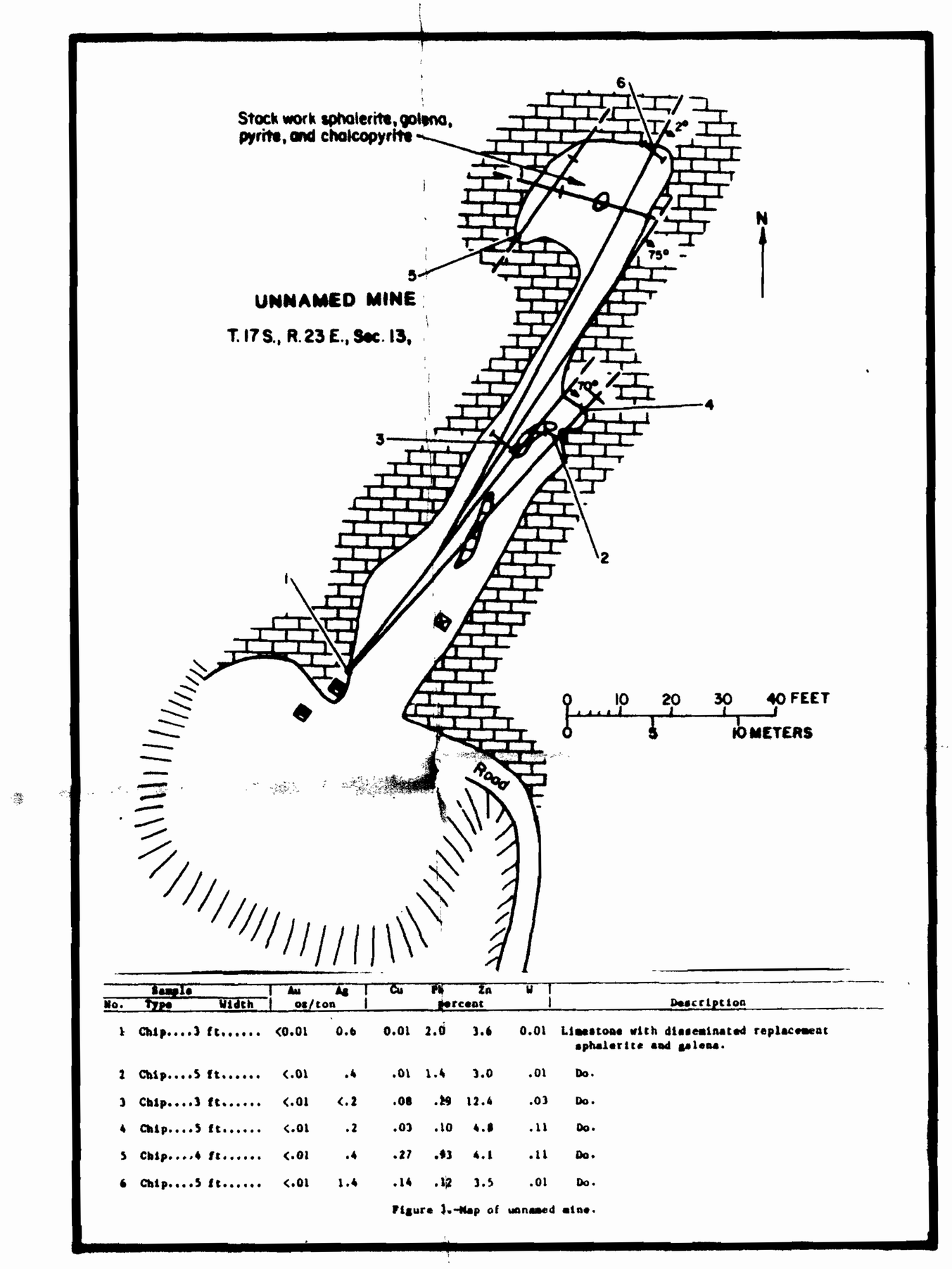


Figure 3.--Map of unnamed mine.

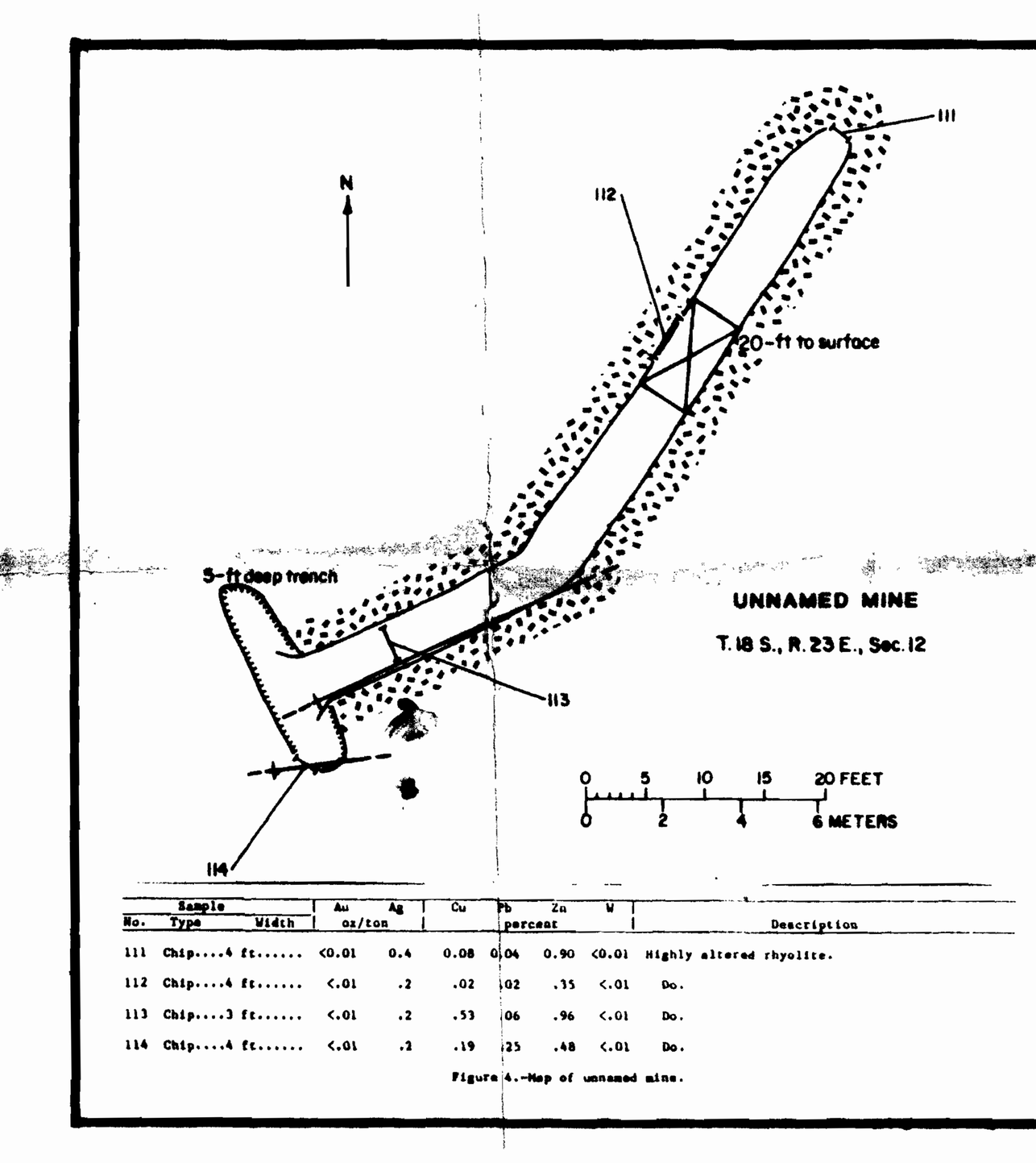


Figure 4.--Map of unnamed mine.

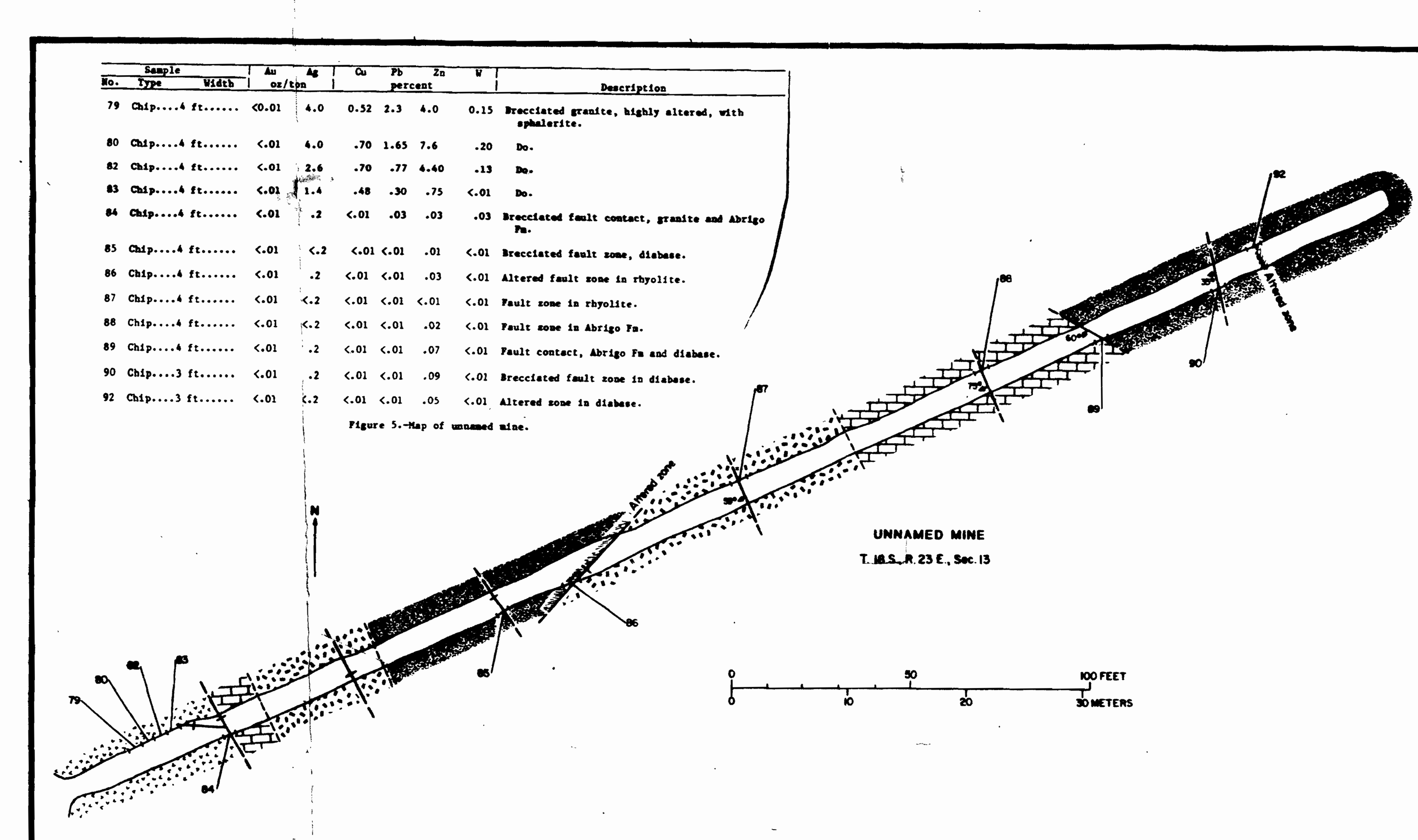


Figure 5.--Map of unnamed mine.

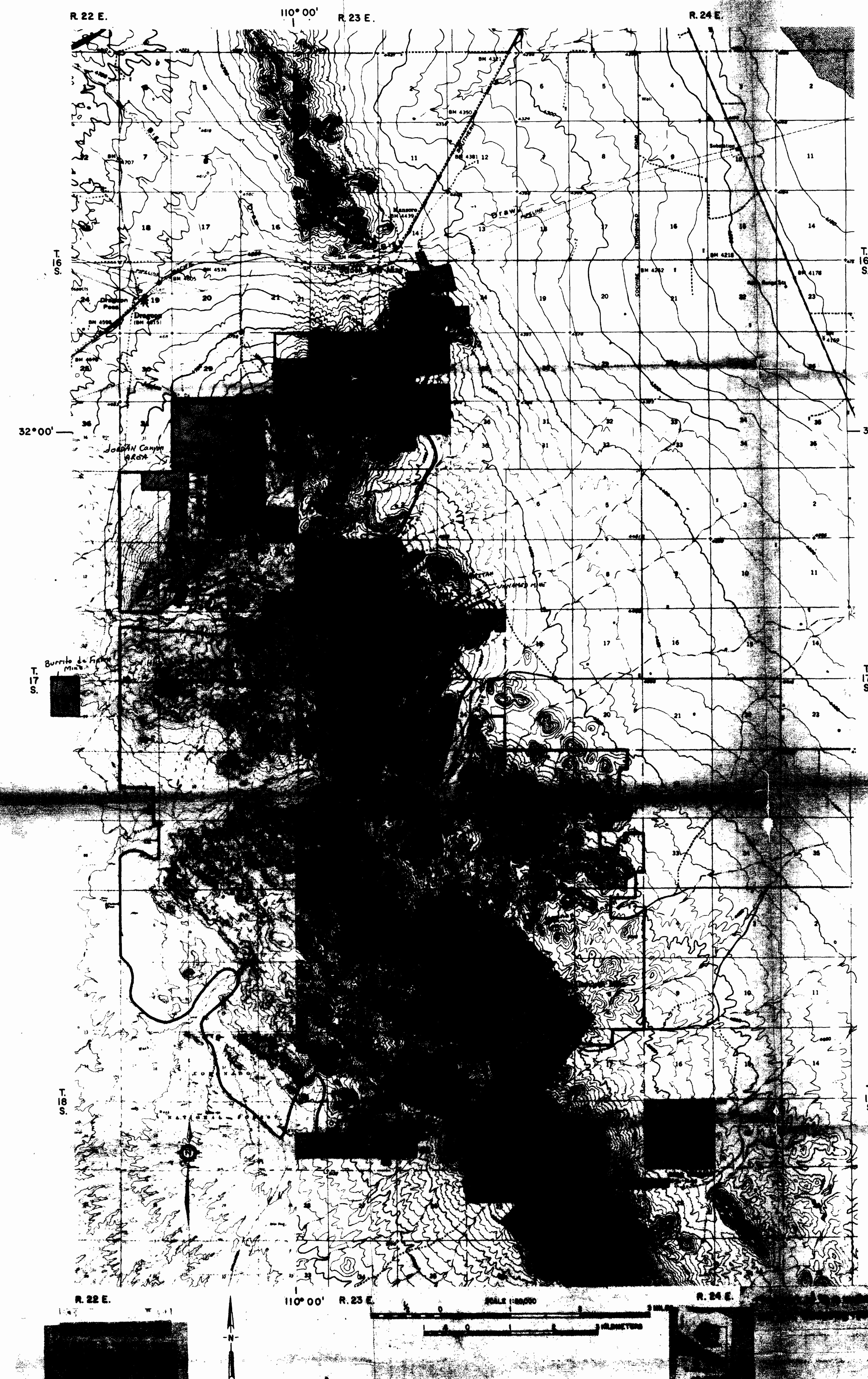


Table 2.--Mineral Deposits of the Dragoon Mountains Roadless Area

[Numbers correspond to sample location shown on map. Workings labeled inactive have had no exploration or development work since 1978]

Map No.	Prospect Name	Location	Commodity	Type deposit	Development category	Brief description	References
1-6	None	NW1/4 sec. 13, T. 17 S., R. 23 E.	Pb, Zn, Ag.	Replacement	Mine; inactive.	Lead and zinc sulfide replacement in faulted area of Abrigo Formation.	None.
9-11, 26-32	None	Sec. 27, 33, 35, T. 16 S., R. 23 E.	Marble	None----------	Quarries; inactive.	Fractured and folded white and colored marble.	Keith, 1973.
16-25	None	Secs. 23-26, T. 16 S., R. 23 E.	None known	None----------	Prospect pits and shafts; inactive.	Various prospect areas near Golden Rule Mine, most in Abrigo Formation at or near contact with igneous rock.	None.
33-43	Jordan Canyon Prospects.	S1/2 sec. 32, T. 16 S., R. 23 E., N1/2 sec. 5, 4, 9, T. 17 S., R. 23 E.	Possible Cu, Pb, Zn.	Vein and replacement.	Prospect pits and shafts; inactive.	Precambrian igneous and metamorphic rocks, and Paleozoic limestone with pyrite, chalcopyrite and secondary copper staining.	None.
44-48	Jordan Canyon Adit.	N1/2 sec. 5, T. 17 S., R. 23 E.	Possible Cu, Zn.	Vein and replacement.	Mine; inactive.	Highly faulted marble with areas of brecciation; minor secondary copper staining; entire adit not accessible.	None.
49-53	Sala Ranch #1.	SW1/4 sec. 15, T. 18 S., R. 23 E.	Possible Cu, Pb, Zn.	Vein	Mine; inactive.	Coarse grained granite with some marble on dump (none in adit) minor epidotization. No mineralization seen.	None.
54-60	Sala Ranch #2.	SE1/4 sec. 15, T. 18 S., R. 23 E.	Possible Cu, Pb, Zn.	Vein	Mine; inactive.	Silicified Abrigo Formation in complexly faulted area. Minor epidotization.	None.
61-62, 65-70	Gordon Tank Prospects.	E1/2 sec. 22, W1/2 sec. 23, T. 18 S., R. 23 E.	Possible Cu, Pb, Zn, Ag.	Vein and replacement.	Prospect pits and shafts; inactive.	Limestone and granite in fault contact. Some alteration of limestone. Secondary copper minerals in some fault zones.	None.
71-72, [illegible]	[illegible]	[illegible] sec. 13, [illegible] sec. 23, NW1/4 sec. 24, T. 18 S., R. 23 E.	W, Pb, Ag, Cu, [illegible]	Vein and replacement.	Shafts, pits, trenches; inactive.	Faulted limestones and quartzite near contact with Stronghold Granite. Spotty crystalline scheelite with minor barite replacement pods and lenses.	Dale, et. al., 1960, Stewart, et. al., 1960.
8, 73	Seneca	SE1/4 sec. 10, T. 17 S., R. 23 E.	Zn, Pb, Ag, Cu.	Vein and replacement.	Mine; inactive.	Faulted limestone cut by latite dike, adit caved.	Keith, 1973, Wilson, 1951.
79-92	None	NW1/4 sec. 13, T. 18 S., R. 23 E.	Pb, Zn, Ag, Cu.	Vein	Mine; inactive.	Granite, limestone, rhyolite and latite in fault contacts. Mineralization in brecciated zones. Galena, sphalerite.	None.
97-98	Hussar Mine.	NE1/4 sec. 3, T. 18 S., R. 23 E.	Possible Pb, Zn, Ag, Cu.	Replacement	Mine; inactive.	Altered, faulted limestone with secondary copper minerals and minor epidote.	None.
101-107	San Juan Mine.	Cen., sec. 10, T. 18 S., R. 23 E.	Zn, Pb, Ag, W, Cu.	Replacement	Mine; inactive.	Irregular replacement bodies of sphalerite, minor galena, and iron oxides in fault block of Abrigo Formation surrounded by Stronghold Granite.	Keith, 1973, Wilson, 1951.
111-114	None	NE1/4SW1/4 sec. 12, T. 18 S., R. 23 E.	Possible Pb, Zn, Ag, Cu.	Vein	Mine; inactive.	Highly altered rhyolite with secondary copper minerals abundant at portal. Epidote present throughout.	None.
762-767	Pittsburg-Manhatten.	NE1/4 sec. 14, T. 17 S., R. 23 E.	Zn, Pb, Ag, Cu.	Replacement	Mine; inactive.	Highly brecciated limestone with replacement bodies of galena, sphalerite, pyrite, and chalcopyrite. Highly brecciated.	None.
768-771	Burrito de Fierro.	NW1/4 sec. 24, T. 17 S., R. 22 E.	Pb, Zn, Cu, Ag, W.	Replacement	Mine; inactive.	Bedded replacement deposits of base metal sulfides in Abrigo Formation near Stronghold Granite.	Keith, 1973.
772-777	Hubbard Mine.	NW1/4 sec. 20, T. 17 S., R. 23 E.	Zn, Pb, Cu, Ag, W.	Replacement	Mine; inactive.	Sphalerite with minor galena and chalcopyrite in tabular replacement bodies in faulted Abrigo Formation near contact with Stronghold Granite.	Keith, 1973, Wilson, 1951.
778-783	Buena Vista.	SE1/4 sec. 8, T. 17 S., R. 23 E.	Pb, Zn, Ag, W.	Replacement	Mine; inactive.	Bedded replacement deposits of lead and zinc mineralization in brecciated Abrigo Formation.	Do.
Workings Not Examined							
	Abril Mine.	SW1/4 sec. 34, T. 17 S., R. 23 E.	Zn, Cu, Pb, Mo, Ag.	Replacement	Mine; inactive.	Bedded pyrometasomatic deposits of sphalerite, chalcopyrite, minor galena, and sparse molybdenite, with associated garnet and epidote in Naco Group cut by Stronghold Granite and rhyolite dikes.	Do.
	Middlemarch-Cobra Loma.	Sec. 11, sec. 12, T. 18 S., R. 23 E.	Cu, Zn, Ag, Au.	Vein and replacement.	Mine; active.	Copper, zinc, and minor lead carbonates and sulfides in chimney shaped orebody in fault zone cutting Paleozoic and Cretaceous limestone beds.	Keith, 1973.
	Golden Rule.	Cen., sec. 23, T. 16 S., R. 23 E.	Pb, Zn, Ag, Au.	Vein	Mine; under renovation.	Cerrusite, anglesite, galena, pyrite, oxidized zinc minerals in quartz, calcite and iron oxides in vuggy fissure veins in Abrigo Formation intruded by rhyolite dikes.	Keith, 1973, Wilson, 1951.

Table 1.--Sample and assay data for samples not shown in mine figures

[Gold and silver determined by fire assay; values reported in oz/ton. Copper, lead, zinc, and tungsten determined by atomic Absorption; values reported in percent; < indicates below detection limit; Tr indicates trace. Sample numbers 14, 15, 63, 64, 75, 93 were not used.]

No.	Sample Type	Width	Au oz/ton	Ag oz/ton	Cu percent	Pb percent	Zn percent	W percent	Description
7	Chip	7 ft	<0.01	0.4	<0.01	0.10	0.06	<0.01	Limestone-rhyolite contact; prospect pit.
8	Grab		<.01	.8	.24	1.0	.78	.01	Limestone, marble, basalt, rhyolite; adit dump.
9	Chip	2 ft	<.01	.2	<.01	.01	.04	<.01	Silicified limestone; quarry.
10	Chip	10 ft	<.01	.2	<.01	.02	.03	<.01	Altered, cherty, limonite stained limestone; quarry.
11	Chip	3 ft	<.01	.2	.01	.01	<.01	<.01	Clayey, limonite stained limestone; quarry
12	Grab		<.01	.2	<.01	.25	<.01	<.01	Crystalline limestone with limonite stain; prospect pit.
13	Chip	3 ft	.05	.6	.07	.75	6.5	.12	Faulted clayey, limestone, limonite after pyrite; prospect pit.
16	Grab		<.01	.04	.01	.11	.05	<.01	Altered limestone and diabase, limonite after pyrite; prospect pit.
17	Grab		<.01	.4	.02	.16	.17	<.01	Limestone-granite contact; prospect pit.
18	Chip	3 ft	<.01	.2	.02	.16	.68	<.01	Faulted limestone; prospect pit.
19	Grab		<.01	.2	<.01	.02	.01	.32	Unaltered limestone; prospect pit.
20	Chip	3 ft	<.01	.4	.07	.21	19.6	.29	Altered limestone in fault zone; prospect pit.
21	Chip	4 ft	<.01	.2	<.01	.01	.01	<.01	Limestone breccia in fault zone; adit.
22	Grab		<.01	.6	.01	.61	.48	.28	Limestone with limonite staining; prospect pit
23	Grab		<.01	.2	.01	.02	<.01	<.01	Brecciated limestone; prospect pit.
24	Chip	3 ft	<.01	.4	.04	.21	.22	<.01	Limestone breccia in fault zone; prospect pit.
25	Grab		<.01	.4	.03	.48	.50	.01	Limestone, quartz and granite; prospect pit.
26	Chip	5 ft	<.01	.2	.01	.01	.02	<.01	Altered, clayey, faulted limestone; trench.
27	Chip	5 ft	<.01	.4	<.01	.01	.02	<.01	Do.
28	Chip	5 ft	<.01	<.2	<.01	.01	.03	<.01	Highly altered, clayey limestone? with pyrite cubes to 1/2 in.; quarry.
29	Chip	5 ft	<.01	.4	<.01	.01	.04	<.01	Do.
30	Chip	5 ft	<.01	<.2	<.01	.01	.03	<.01	Do.
31	Select grab		<.01	.2	<.01	<.01	.02	<.01	Gray crystalline limestone; quarry.
32	Chip	3 ft	<.01	.2	<.01	<.01	.03	<.01	Black limestone with altered zone with pyrite; quarry.
33	Chip	3 ft	<.01	<.2	.01	<.01	.02	<.01	Gneissic granite; prospect pit.
34	Chip	5 ft	<.01	<.2	.1	<.01	.01	<.01	Biotite granite cut by quartz veins with malachite; shaft.
35	Grab		<.01	<.2	.05	.01	.04	<.01	Mica schist-granite-diorite contact with pyrite, chalcopyrite; shaft dump.
36	Grab		<.01	.4	.02	<.01	.01	<.01	Do.
37	Grab		<.01	.4	.04	1.60	.28	<.01	Altered basalt with pyrite, galena, sphalerite, shaft dump.
38	Chip	3 ft	<.01	.2	.03	1.79	2.4	<.01	Do.
39	Grab		<.01	.2	<.01	<.01	<.01	<.01	Faulted, sheared granite; shaft dump.
40	Grab		<.01	.4	.56	<.01	.01	<.01	Granite with quartz veins, malachite, azurite shaft dump.
41	Chip	[illegible] ft	<.01	.4	1.20	<.01	.05	<.01	Granite with malachite, azurite, sphalerite; trench.
42	Chip	3 ft	<.01	.2	.08	<.01	.05	<.01	Quartz vein in altered granite; prospect pit.
43	Grab		<.01	.2	.14	<.01	.03	<.01	Faulted granite, with malachite, azurite, shaft dump.
44	Chip	4 ft	<.01	.2	.04	<.01	.01	<.01	Faulted marble with malachite, azurite, pyrite chalcopyrite, Jordan Canyon Adit.
45	Chip	4 ft	<.01	.2	.15	<.01	.1	<.01	Do.
46	Chip	4 ft	<.01	.2	.03	<.01	.04	<.01	Do.
47	Grab		<.01	.2	.17	<.01	.03	<.01	Dump sample, Jordan Canyon Adit.
48	Select grab		<.01	2.2	3.8	<.01	.75	.02	Select grab from ore sorter of above adit.
49	Chip	4 ft	<.01	.4	.01	<.01	.03	<.01	Faulted course-grained granite, with epidote Sala Ranch Mine #1.
50	Chip	4 ft	<.01	.4	<.01	.05	.64	.01	Fractured granite, Sala Ranch Mine #1.
51	Chip	7 ft	<.01	<.2	<.01	.04	.04	<.01	Breccia zone in faulted granite; Sala Ranch mine #1.
52	Chip	4 ft	<.01	.2	<.01	.06	.09	<.01	Faulted granite with epidote; Sala Ranch mine.
53	Grab		<.01	<.2	.02	<.01	.02	<.01	Granite and marble with malachite; prospect pit.
61	Chip	2 ft	<.01	.4	.01	.14	.5	<.01	Limestone, minor limonite stain; prospect pit.
62	Chip	3 ft	<.01	3.7	<.01	1.3	2.8	<.01	Fault, limestone - granite contact; prospect pit.
65	Chip	3 ft	<.01	.2	.01	.04	.26	<.01	Limestone; prospect pit.
66	Chip	2 ft	<.01	.2	.05	<.01	<.01	<.01	Limestone; prospect pit.
67	Grab		<.01	<.2	<.01	<.01	<.01	<.01	Limestone - granite contact, shaft dump.
68	Chip	2 ft	<.01	<.2	<.01	.04	.10	<.01	Limestone; prospect pit.
69	Grab		<.01	<.2	.02	<.01	.03	<.01	Limestone with malachite, azurite, shaft dump.
70	Grab		<.01	<.2	.01	<.01	.03	<.01	Do.
71	Grab		<.01	<.2	.11	.05	1.15	<.01	Limestone, marble with malachite, azurite, shaft dump.
72	Grab		<.01	.2	.57	.21	10.5	.27	Limestone and marble with malachite, azurite, shaft dump.
73	Chip	4 ft	<.01	5.2	1.35	9.7	1.26	.03	Faulted intermediate volcanic rock, malachite, azurite, galena, caved adit.
74	Grab		<.01	.2	<.01	.04	.07	<.01	Limestone and altered volcanic rock; prospect pit.
76	Chip	3 ft	<.01	<.2	.01	.01	.04	<.01	Weathered, clayey limestone; caved adit.
77	Grab		<.01	<.2	.01	.01	.12	<.01	Limestone and volcanic rock, shaft dump.
78	Chip	2 ft	<.01	.6	.26	.01	.15	<.01	Limestone, prospect pit.
94	Grab		<.01	.2	<.01	<.01	.18	<.01	Rhyolite with some limonite staining, prospect pit.
95	Grab		<.01	1.0	1.4	.02	.15	<.01	Probable skarn, with pyrite, chalcopyrite, bornite; prospect pit.
96	Grab		<.01	.6	<.01	<.01	.09	<.01	Granite from dump of caved adit.
97	Chip	3 ft	<.01	.2	.37	.01	.05	<.01	Altered fault zone in limestone, with azurite epidote; Hussar mine.
98	Chip	5 ft	<.01	.2	.05	.02	.34	<.01	Do.
99	Grab		<.01	<.2	.01	<.01	.06	<.01	Limestone and felsic volcanic rock, altered zone; prospect pit.
100	Grab		<.01	<.2	.13	<.01	.10	<.01	Granite-diabase contact, minor malachite, azurite; prospect pit.
107	Grab		<.01	.2	.02	<.01	.20	<.01	Limestone cut by basic dike, with sphalerite galena; prospect pit.
108	Grab		<.01	<.2	<.01	<.01	.06	<.01	Limestone in shear zone; prospect pit.
109	Grab		<.01	<.2	<.01	<.01	.02	<.01	Limestone; prospect pit.
110	Grab		<.01	2.8	.07	1.45	1.64	<.01	Limestone with limonite staining; prospect pit.
*762	Grab		Tr	1.6	.10	.82	3.2	.05	Brecciated limestone, with pyrite, minor malachite and azurite, prospect pit.
767	Chip	4 ft	<.005	.08	.14	.21	.15	.02	Limestone with quartz vein; prospect pit.
772	Grab		<.005	.6	<.01	.16	4.5	.08	Skarn-like altered limestone; flooded adit dump.
777	Grab		<.005	.2	.01	.02	.15	<.01	Limestone, with limonite staining, minor epidote; caved adit dump.
778	Grab		<.005	<.2	<.01	.03	.07	<.01	Silicified, limestone; flooded adit dump.
783	Chip	3 ft	<.005	.8	.01	.10	3.3	.07	Vein in fault zone in silicified limestone, prospect pit.

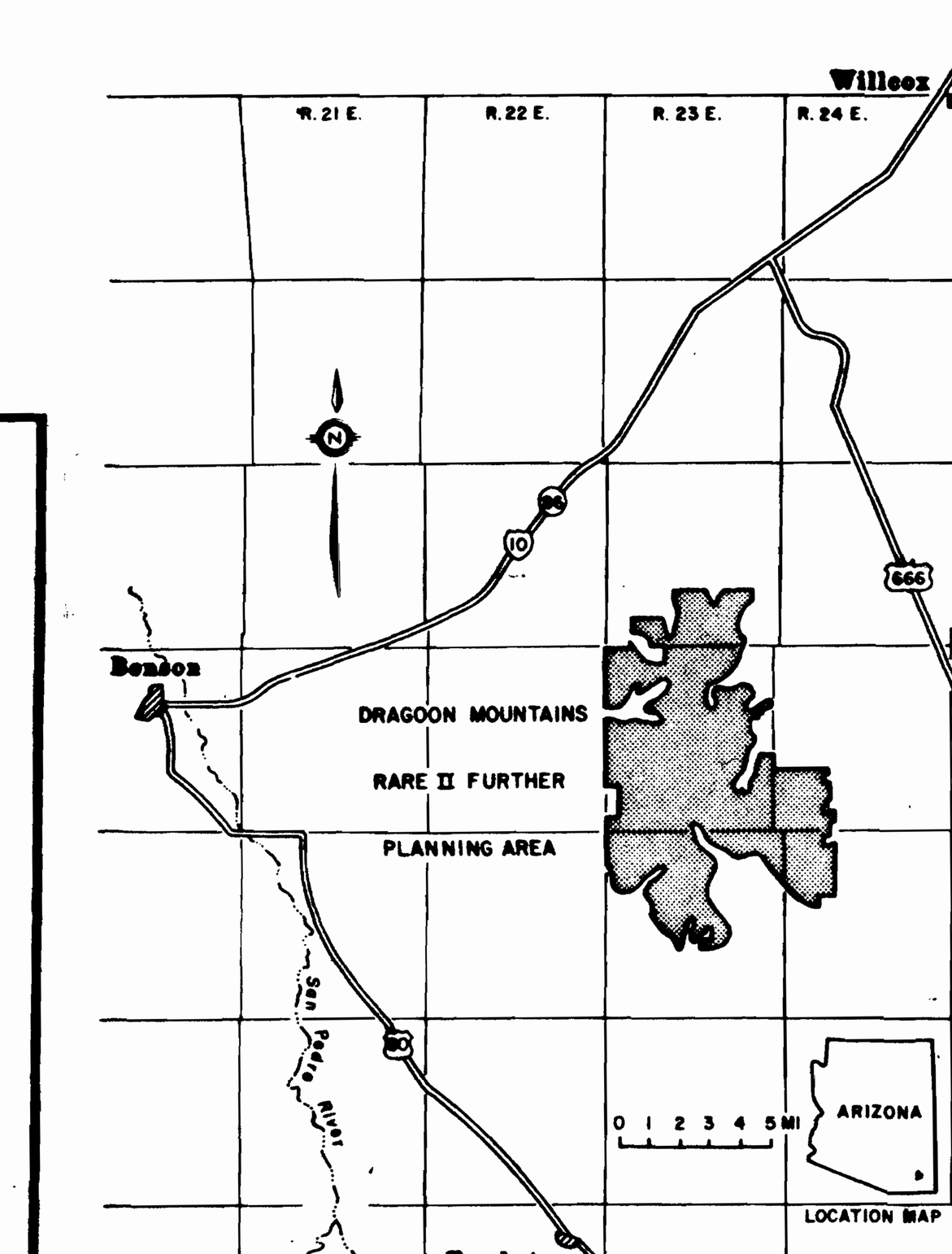
*Samples 762 - 783 were assayed at a later date with lower detection limits for gold.

STUDIES RELATED TO WILDERNESS

The Wilderness Act (Public Law 88-577, September 3, 1964) and related acts require the U.S. Geological Survey and the U.S. Bureau of Mines to survey certain areas on Federal lands to determine their mineral resource potential. Results must be made availalbe to the pblic and be submitted to the President and the Congress. This report presents the results of a mineral survey of mines, prospects, and mineralized areas of the Dragoon Mountains Roadless Area in the Coronado National Forest, Cochise County, Arizona. The Dragoon Mountains Roadless Area was classified as a further planning area during the Second Roadless Area Review and Evaluation (RARE II) by the U.S. Forest Service, January 1979.

EXPLANATION FOR MAP

- APPROXIMATE BOUNDARY OF THE DRAGOON MOUNTAINS ROADLESS AREA
- PATENTED MINING CLAIMS
- UNPATENTED MINING CLAIMS
- SURFACE OPENINGS--Showing sample locality number
  - 8 Adit
  - 778 Caved adit
  - 41 Trench
  - 34 Shaft
  - 9 Quarry



MINE AND PROSPECT MAP OF THE DRAGOON MOUNTAINS ROADLESS AREA, COCHISE COUNTY, ARIZONA

By

Terry J. Kreidler, U. S. Bureau of Mines

1981