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Tucson, Arizona  
August 17, 1976

To: Mr. J.B. Imswiler  
IMC

From: R.B. Blakestad  
Perry Exploration Company, Inc.

Subject: Additional Reconnaissance - "Big Vein" Area,  
Yuma County, Arizona

#### Location

The area of interest is located in Sec. 1, T4S, R19W (uns.) and Sec. 35, T3S, R19W (uns.), in the McPherson Pass area of the Castle Dome Mountains, Yuma County. It is about 6 miles north of the old mining camp of Castle Dome.

#### Background

The Castle Dome Mountains were first inspected for signs of mineralization over areas of sufficient size to be of interest to IMC in February, 1976. Initial sampling of a large epithermal vein in the McPherson Pass area indicated that it might contain significant amounts of silver and gold. No production is known to have occurred from the vein and only minor prospecting is evident. Additional brief reconnaissance visits were made to the "Big Vein" in March and July, 1976, during which time it was learned that the area was on the proposed Kofa Game Refuge and may have been excluded from mineral entry.

#### General Geology

The northern part of the Castle Dome Mountains is comprised of a thick pile of andesitic to rhyolitic volcanics related to a large cauldron structure located at the extreme northern end of the range. Cauldron subsidence and subsequent Basin and Range faulting has created an area of great structural complexity. In the McPherson Pass area gold and silver-bearing solutions have filled certain of the larger faults with mixtures of quartz, carbonate and barite to form typical epithermal veins of impressive size. The largest of these veins so far identified is the subject of this report.

Massive yellow-green quartz forms a short bluff overlooking McPherson Pass in the central part of Sec. 1, T4S, R19W (uns.). The core of the vein is at least 50 feet wide at that point. The vein is bordered on its northeast side by a zone of sub-parallel quartz veinlets and veins up to 5 feet in width. The zone extends at least 200 feet into the hanging wall. Massive quartz and subordinate calcite are conspicuous over widths of up to 30 feet along the veins strike for a distance of approximately 2000 feet to the northwest. A zone of lesser veins and veinlets up to 50 feet in width parallels the core vein zone the entire distance.

At a point about 2000 feet NW from the main prospect overlooking McPherson Pass, the vein changes character, becoming a wide zone of shattered and brecciated andesitic rock cut by veinlets and seams of white to yellowish quartz and calcite with associated barite. As the vein is traced to the northwest, other pods of massive yellow-green quartz up to 30 feet in thickness and 200-300 feet in length are found. The vein otherwise continues as a strong shattered zone up to 100 feet wide cemented by epithermal minerals. The vein was traced for about 6000 feet along strike to the NW and was seen to extend at least 2000 feet further beyond the last outcrop examined.

A total of nine samples have been collected from various points along the vein. Values for gold have ranged from 0.03 ppm to 1.4 ppm (0.04 oz/ton). Silver values have ranged from 0.4 ppm to 105 ppm (3.5 oz/ton). Silver values within the main part of the vein generally exceed 15 ppm from the leached outcrop. A list of sample descriptions is attached.

#### Property Situation

The area is part of the proposed Kofa Game Range. No new mining claims are allowed to be located within the Range, but claims current at the time of establishment of the proposed range boundaries are valid. One of the prime reasons for the July reconnaissance trip was to carefully search for evidence of current ownership. None could be found, and it is assumed that the area is withdrawn and cannot be claimed.

#### Summary and Recommendation

The McPherson Pass area contains good potential for the discovery of sizeable gold-silver orebodies in one or more epithermal veins associated with a large cauldron structure.

The area of the mineralization has been essentially removed from any mineral entry by the establishment of the Kofa Game Range. Some effort should be made to make the officials responsible for the withdrawal aware of the potential of the area and attempt to have all or part of it excluded from the game refuge. Until the area once again becomes open to mineral entry, no further field action is warranted or recommended for IMC-PXC.

Reference

Castle Dome Mts. Quadrangle - 15' Quadrangle Map, 1965, USGS

### History

The Bouse area has had minor sporadic production since the early 1900's. Gold and copper were recovered from ores in the Little Butte Mine, which is developed along the eastern contact of the intrusive with the volcanics. The areas of best-developed specularite and copper mineralization contain low-grade gold values. Several attempts have been made in the past to leach colluvial material with no apparent success. The property was reportedly drilled in 1961 by Simplot and again in 1975(?) by Seaforth Mines of Vancouver.

Several samples of dumps and drill cuttings reveal the presence of gold and copper in small amounts throughout the area. Copper values range from a high of 13000 ppm to a low of 285 ppm. Most samples contained at least 900 ppm copper. Gold values ranged from 1.0 ppm to nil, but most samples showed at least some gold to be present.

### Property

The property consists of several contiguous(?) groups of unpatented claims and a few patented(?) claims held by a California man. He will be contacted in an effort to determine the present property situation and to secure data about past work.

### Map Reference

Bouse, Arizona, 15 minute quadrangle map USGS.

### References

Bancroft, Howland, 1911, Ore Deposits in Northern Yuma County, Arizona, USGS Bull. 451, pp. 93-95

### BIG VEIN AREA - NORTHERN CASTLE DOME MOUNTAIN

#### Location

The Big Vein area is located in the north central Castle Dome Mountains, in McPherson Pass, about 5 miles north of the Castle Dome Mine.

### General Geology

The area is composed of a thick sequence of andesitic volcanic rocks overlain by felsic ash-flow tuffs. These rocks have been broken by north and west-trending faults along which intermediate and felsic dikes have intruded.

The occurrence of interest in a well-developed quartz-carbonate vein formed in an east-west structure in the andesites. The vein is composed of a central zone of massive porcellaneous quartz that averages 20-25 feet in width over a length of approximately 1300 feet. Additional quartz stringers and vein zones are found in the hanging wall (north side) extending as much as 250 feet from the central zone. The quartz vein is abruptly terminated on the eastern end by a flat fault. The massive quartz grades into a thick carbonate vein at its western end.

### Sampling

Two samples were taken for geochemical analysis. One sample, taken at the western terminus of the vein, ran 150 ppm Ag and 1.2 ppm Au. The second sample, taken approximately 750 feet west of the first, consisted of well-leached, extremely fractured quartz fragments coated with caliche. It assayed 0.13 ppm Au and 15 ppm Ag. Based on our previous experience with similar gold-silver veins, these are significant values. The size of the mineralized structure indicates that a significant tonnage could exist.

### Past Production

The vein had had no apparent production and is developed only by shallow prospects.

### Property Situation

The area lies within the Kofa Game Range and is currently under the jurisdiction of the Bureau of Land Management. The area was withdrawn from mineral entry in 1974. This action invalidates any claims located after that date. No indication of a currently valid claim was found in the area, thus we are apparently precluded from obtaining a position there. The USGS and USBM are currently conducting a minerals survey of the Kofa Game Range. A resolution as to future mineral entry is not imminent.

Map Reference

Castle Dome Mountains, Arizona, 15 minute quadrangle map, USGS.

Recommendations

It is recommended that two of the three areas described above be monitored as to their future status. Immediate attention will be given the Little Butte Area.

	<u>Cu</u>	<u>Mo</u>	<u>Au</u>	<u>Ag</u>
SUG-1(R)	55	55	0.15	0.8
2(R)	50	175	0.24	1.8
3(R)	85	260	0.32	0.8
4(R)	20	16	0.61	0.2
5(DDH)	350	8	0.13	1.2
6(R)	20	2	0.02	0.2
7(R)	45	240	0.38	1.4
8(R)	40	16	0.13	0.4
9(R)	55	50	0.15	2.6
10(R)	110	2	0.23	0.2
11(R)	10	20	0.10	0.4
12(DDH)	30	18	0.12	0.4
13(R)	60	10	0.15	0.6
14(R)	45	32	0.21	0.2
15(PDH)	25	6	0.10	0.2
16(PDH)	30	6	0.02	0.4
17(R)	25	2	0.02	0.4
18(DDH)	95	110	0.19	0.4
19(DDH)	70	2	0.02	0.2
19(PDH)	325	6	0.08	0.2
20(PDH)	220	4	0.06	0.2
21(DDH)	100	28	0.24	0.2
21(PDH)	125	14	0.07	0.2
21(R)	195	160	5.5	0.8
22(PDH)	65	2	.04	0.2
23(PDH)	85	8	.19	0.2
24(DDH)	55	10	.12	0.2

BIG VEIN AREA	ppm	ppm
<i>this area on Vista Gne</i>	Au	Ag
<i>Refuge</i>		
BVB-4(R)	0.09	0.8
5(R)	0.39	25.
6(D)	1.0	31
7(R)	0.20	4
8(D)	1.4	27