



CONTACT INFORMATION  
Mining Records Curator  
Arizona Geological Survey  
3550 N. Central Ave, 2nd floor  
Phoenix, AZ, 85012  
602-771-1601  
<http://www.azgs.az.gov>  
[inquiries@azgs.az.gov](mailto:inquiries@azgs.az.gov)

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Tucson, Arizona  
August 7, 1976

To: Mr. J.B. Imswiler  
IMC

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

Subject: Reconnaissance of Springfield Mine Area,  
Yavapai County, Arizona

#### Summary

The Springfield Mine area was examined by the writer on July 22, 1976. Copper mineralization appears to be largely restricted to narrow portions of a larger north-trending pyritic shear zone in a Cretaceous(?) granodiorite intrusive complex. The mineralization may indicate leakage of copper-bearing fluids from a deep-seated source, but surface indications are weak.

#### Recommendation

No further attention should be given to this area at this time, but activities there might be monitored in an attempt to evaluate any future exploration efforts.

#### Location

The Springfield prospect is located in the Bradshaw Mountains, Yavapai County, Arizona, approximately 40 miles SSE of Prescott and 2½ miles west of Crown King. Access is by unimproved forest road from Crown King or by the rough "Senator Highway" from Prescott or Mayer (see Fig. 1).

#### Examination

The Springfield Mine area was examined to determine the potential for a copper deposit of sufficient size and grade to be of interest to IMC and to determine the location and extent of drilling done during past exploration efforts. Five diamond drill holes were located and core chips were gathered from two of them near the Springfield Mine. Several traverses were made across the mineralized zone and a sample of dump material was taken for possible analysis. It appears that the area is not currently claimed, as the most recent paper found on the ground was dated 1973 and no recent work is indicated.

### General Geology

A Cretaceous(?) granodioritic intrusive almost 4 miles in diameter invades the Yavapai Schist and Bradshaw Granite (see Fig. 2) of Precambrian age. The complex includes a large area of intrusive breccia of intermediate composition and a series of late acidic porphyry dikes. Fracturing and faults of NW, and NE trends traverse the area.

Pyrite, chalcopyrite, molybdenite and minor fluorite occur in a narrow shear zone associated with highly fractured, moderately altered granodiorite. This zone is explored by the Springfield and Gorilla workings. The only recorded production has been two carloads of 12% copper ore. Actual production may have been somewhat greater.

Alteration generally consists of mild propylitization in the pyritic shear zone with moderately sericitized rock found locally along narrow shears and fractures. Minor quartz veins are evident in areas of more intensive alteration. Quartz is also found with pyrite in the core chips. The overall alteration pattern suggests that the mineralizing fluids were generally weak, except in the area of the copper bearing shear.

### Previous Work

Previous geologic investigations have been made by Jagger and Palache (1905) and by Lindgren (1922), as well as by several mining companies. Cominco examined the property early in 1966 and A.J. Perry of this office did a brief examination later that year.

Three diamond drill holes were located in the Springfield area prior to 1966 and more recently, Exxon drilled at least two holes north of the earlier drilling (see Fig. 2). At least one of the later holes was reported to have been extended to a depth of 2000 feet. Results of the drilling are not known.

### Evaluation

A north-trending zone of shearing and faulting in the intrusive complex near the Springfield Mine is pyritized. The zone contains thin bands of copper and molybdenum sulfides. Copper is of fairly high-grade thru parts of these bands, but little dissemination into the wall rock is evident. Rock alteration is intense only along portions of the shear. Low-grade propylitization appears widespread. It appears that the mineralization and alteration reflect the presence

of a source so deep-seated as to be of no present interest to IMC. However, further exploration may reveal the presence of mineralization in the area that could be of interest, therefore such activity should be monitored.

References

Lindgren, W., 1926, Ore Deposits of the Jerome and Bradshaw Mtns. Quadrangles, Arizona. USGS Bull. 782, 192p.

Jagger, T.A. and C. Polache, 1905, Description of the Bradshaw Mtns. Quadrangle. USGS Folio 126, 11p.

Crown King, Arizona 7.5 min. quadrangle map, USGS - 1969.

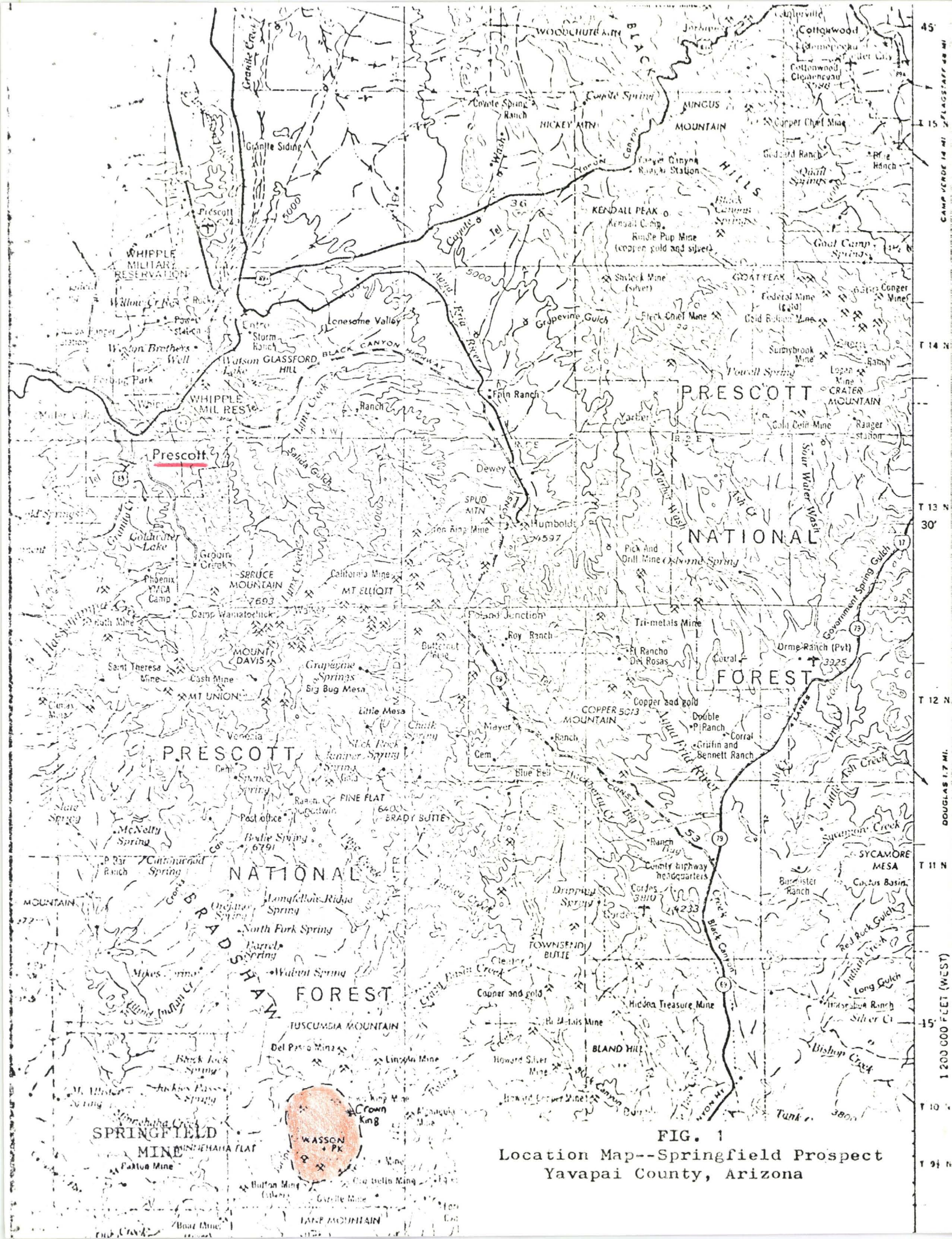


FIG. 1  
 Location Map--Springfield Prospect  
 Yavapai County, Arizona

CAMP CODE 14-41  
 T 15 N  
 T 14 N  
 T 13 N 30'  
 T 12 N  
 T 11 N  
 T 10 N  
 T 9 N  
 DOUGLAS T. 7 MI.  
 1 200 000 FEET (WEST)

112° 22' 30"

374000m E.

375

376

377 20'

378

3789  
3788  
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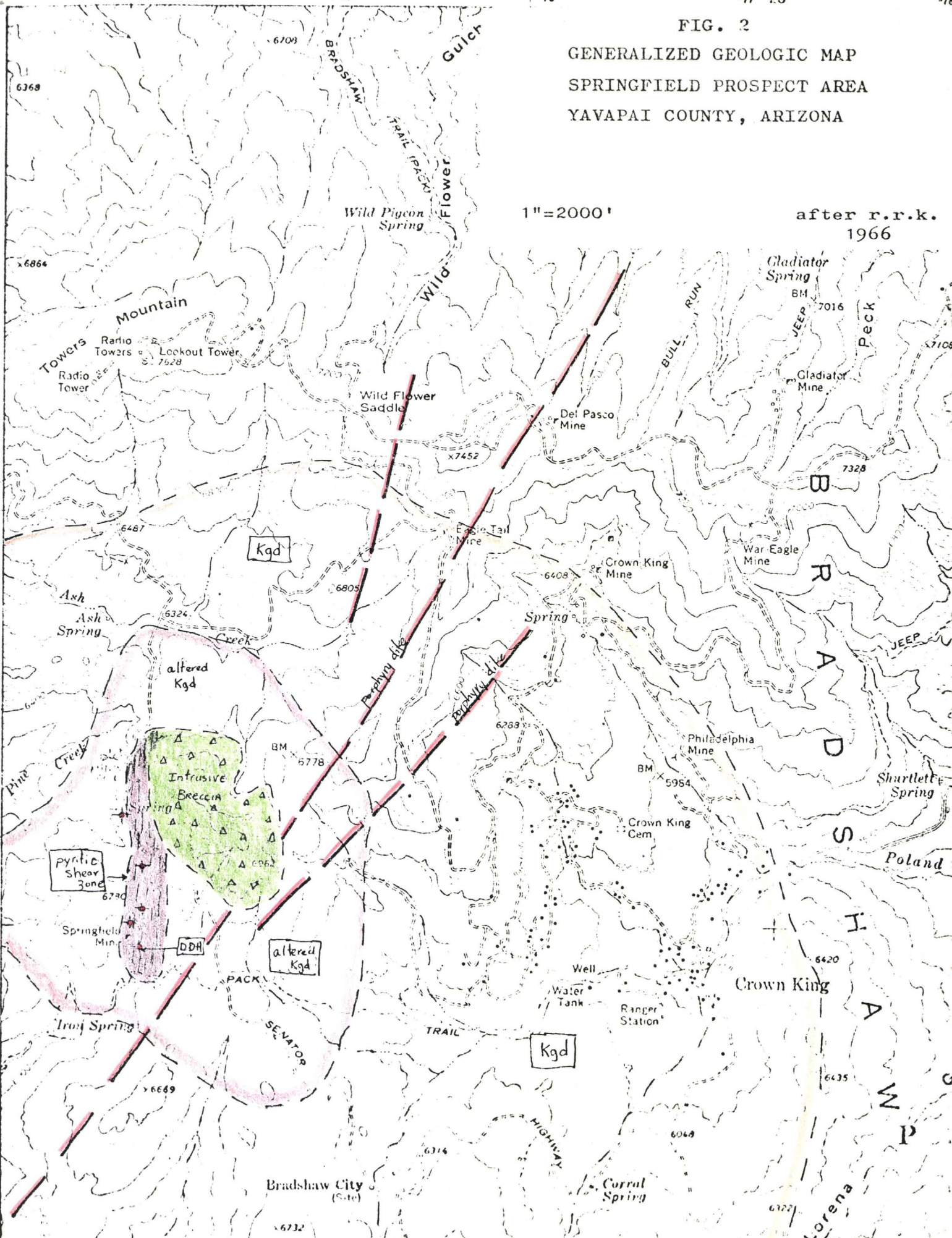
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FIG. 2  
GENERALIZED GEOLOGIC MAP  
SPRINGFIELD PROSPECT AREA  
YAVAPAI COUNTY, ARIZONA

1"=2000'

after r.r.k.  
1966



BARREL SPRING 5 MI

Springfield Mine

Bradshaw City (Site)

Corral Spring

Lorena

Peck

Shurtlett Spring

Poland

Crown King

Ranger Station

Water Tank

Well

Crown King Cem.

Philadelphia Mine

War Eagle Mine

Gladiator Mine

Gladiator Spring

Del Pasco Mine

Wild Flower Saddle

Wild Pigeon Spring

Flower Gulch

Trail Pack

Bradshaw

Towers Mountain

Radio Towers

Lookout Tower

Radio Tower

Ash Spring

Ash Creek

altered Kgd

Intrusive Breccia

pyritic shear zone

Springfield Mine

Iron Spring

altered Kgd

altered Kgd

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# DEKALB Mining, Inc.

MEMO TO: J. B. Imswiler

December 4, 1981

DATE:

FROM: K. M. Emanuel

SUBJECT: Reconnaissance of the Bradshaw Mountains, Yavapai County, Central-Arizona

## Districts Included:

Groom Creek, Hassayampa, Walker, Big Bug, Bradshaw, Turkey Creek, Peck, Minnchaha, Pine Grove, Tiger, Black Canyon, White Picacho, and Black Rock.

## Types of Deposits Included:

Primarily mesothermal quartz veins within precambrian granites and schist. Vein matter with contains few % pyrite and baremetal sulfides with 0.1 -> 1.0 oz/ton gold and minor silver values.

## Maps and References:

Listed with each area.

## General Geology:

The Bradshaw Mountains consist of a northeast trending series of structural blocks in which open folded pre-cambrian granite and metavolcanic rocks are exposed.

The areas have been extensively studied by Anderson and others 1958, USGS Prof. Paper 308; 1972 (USGS Bulletin 1336). The mineralization of the area has received little attention since Lindgren's (1926) study, (USGS Bulletin 782). The ore deposits towards the north are generally within fissures radiating from granodiorite bodies of Iaramide ore. Deposits in the southern part of the Bradshaws do not display an obvious association with intrusive rocks, but are generally similar to those that are. A number of quartz - Au veins that carry tourmalene were considered by Lindgren (USGS Bulletin 782) to be pre cambrian, and are distinct in their low pyrite content and glossy fractured quartz. The veins of this type sampled in this investigation include the Boay mine (Minnchaha district), the Black Rock mine (Black Rock district), the Buster mines (Bradshaw district), and the Snowdrift mine (Walker district). Veins of this type are most common in the pre cambrian exposures of the Southern Bradshaws.

## Recommendations:

Most of the northern Bradshaws are tied up in subdivisions of old patents. The best possibilities from the standpoint of land acquisition are to the south of the Crown King area. Further investigations in the Black Canyon, Black Rock and White Picacho districts would appear justified in areas of the assay result received. Mapping and sampling of the Golden Slipper (White Picacho), the Red Bluff (Black Rock), and the Silver Cord (Black Canyon), areas should be done, as well as further reconnaissance in their general vicinity.