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October 18, 1976

FINAL REPORT
IMC-PKK-PXC ARIZONA PORPHYRY COPPER PROJECT
by A.J. Perry (PXC)

STATEMENT

This report is the final Project report by Perry Exploration Company, Inc. It is submitted in fulfillment of a requirement of Section 16 of the Project Agreement. The report is supplemental to an earlier summary dated November 30, 1975.

GENERAL

Perry, Knox, Kaufman, Inc. and more recently Perry Exploration has carried on porphyry copper exploration in Arizona with IMC since July, 1974. Work was managed by A.J. Perry. Geologists R.B. Blakestad, Jr. and N.I. Colburn contributed heavily. Project expenditures thru September, 1976 totalled $ 78,173. Only minor expenditures will be incurred in subsequent Project business cleanup.

During the project work, a total of 43 prospects/areas have been examined/evaluated. A list of those properties examined subsequent to the November, 1975, report are tabulated below. Those prospects underlined received more than casual attention. Those followed by an asterisk were recommended for further work and/or acquisition.

- Sullivan-Johnson, Cochise Co.*
- Zonia Copper Mine, Yavapai Co.
- Dome Rock Mtns., Yuma Co.
  - Blue Jem Area
  - Sugarloaf Peak** (SUG claims area)
- Northern Plomosa Mtns., Yuma Co.
- Castle Dome Mtns., incl. Big Vein Area
- Oatman District, Mohave Co., incl. Moss Area
- Katherine District, Mohave Co.

** recommendation to acquire by location (Aug., 1976 Monthly Report)- withdrawn -(Blakestad report of Sept. 1).

Other Sullivan Lands - Johnson, Cochise Co.

Emerald Isle properties (El Paso Nat. Gas) Mohave Co.*

Silver District, Yuma Co.

Little Butte District (Bouse) Yuma Co.

Winchester Mtns., Cochise Co.

Red BirdHills, Cochise Co.

These properties considered since November, 1975, that received substantial attention, following the initial examination, are reviewed below:

Sullivan-Johnson Properties (JP Project area), Cochise Co.

Interest in the Sullivan properties first developed in November, 1975, as a result of the evaluation of nearby Strong and Harris. Sullivan holds lands situated on the convex skarn mineral trend which parallels the eastern lobe of the Texas Canyon stock. The trend was recognized by The Superior Oil Company and Cyprus Mines which subsequently developed a mineral reserve in Sec. 31 T 15S R23E, the "I-10 orebody". Sullivan holds Arizona State Leases and unpatented claims covering both NW and SE extensions of the trend. Evidence is strong that the somewhat lower grade holes drilled to date on Sullivan fringe higher grade I-10 type mineral.

The PKK report of March 17, 1976; Preliminary Evaluation of the Properties of James Sullivan, Johnson Camp, Cochise County, Arizona, was prepared as a result of a 70 man-day evaluation. It recommended that negotiation be undertaken with Sullivan for exploration rights and a step-by-step program of work be undertaken -- est. expenditure 1st year - $164,000.

IMC management determined that the problems associated with possible exploration of the Johnson-Sullivan were too numerous to warrant their interest. The problem areas included: 1.) Hwy I-10's position crossing the mineral trend, 2.) possible necessity of in-situ testing assuming conventional mining techniques could not be worked out, 3.) the fact that Cyprus lands intervene between those of Sullivan, 4.) problem of adverse ownership at NW end of Sullivan's Sec. 36. The Sullivan-Johnson land is currently not under option, but is being evaluated by several companies.

Blue Jem Area, Dome Rock Mtns., Yuma Co.

The Blue Jem area was first examined by Blakestad in July, 1976 (ref: Blakestad report 7/8/76). It is situated in the Dome Rock Mtns. adjacent to and south of US-I-10, west of Quartzite. Multiple intrusives occur along a NW trending zone of structural

weakness intruding Mesozoic(?) intrusive and metamorphic rocks. Kerr-McGee occupied the ground with unpatented claims -- at least until September 1, 1976. K-M had drilled several shallow core holes in the copper bearing sericitized contact zone between the older and the younger intrusives, along Gonzales Gulch.

Considering the ±4000' mineralized contact zone with 400-500' widths - Blakestad calculated a possible 80 million ton exploration potential. Although the suggested small size was a deterrent, it was decided that the Project would wait until after Sept. 1 to determine if K-M had done their 1975-76 assessment, and if not, possibly occupy the ground and attempt to obtain information from K-M regarding the detail of their work. Assuming some encouragement, particularly as to size, could be derived from a data review and additional field work -- claims validation might be recommended. The IMC-Arizona project was terminated prior to Sept. 1 without any action being taken.

Sugarloaf Area, Dome Rock Mtns., Yuma Co.

The Sugarloaf area is situated about 1½ miles ESE of the Blue Jem area. It was recognized during the examination of the Blue Jem (see p.2, Blakestad 7/8/76). Blakestad subsequently examined, briefly mapped and geochemically sampled the Sugarloaf area. His conclusions are detailed in this report of September 1, 1970 -- submitted simultaneously with this final summation.

Briefly, the Sugarloaf is a large area of generally leached, former sulfide bearing mixed rocks that is anomalous for copper and molybdenum. Eleven drill holes were located. The more anomalous geochem values are restricted to the scattered more well silicified areas.

In view of the suggested paucity of intrusive rocks and copper - and the suggested possible great depth to any substantial copper center (if it exists), no further work was recommended.

Emerald Isle Properties (El Paso Nat. Gas), Mohave Co.

The lands of El Paso NW of Duval's Mineral Park copper-molybdenum operation near Kingman were first examined in May, 1976. El Paso had terminated their leaching of oxide copper ores from the Gila Conglomerate.

It was determined that the in-situ leaching of the +1.7 million tons of ±0.50% Cu from the old pit and adjacent pediment areas was probably not feasible. However, unexplained IP anomalies in bedrock warranted a check IP survey. IMC declined to undertake the limited geophysical work recommended.

Of the several properties recommended for some additional work since July, 1974, the following ones, in particular, continue to be viable exploration targets and are probably currently available:

1. Cuprite Area, Pima Co. (IMC terminated agreement with Bear Creek)

2. C.G. Patterson Property, Mohave Co.

   Property optioned by L.W. Hardy Co. for turquoise potential. No current activity.

3. Sullivan-Johnson, Cochise Co. (continues to be available).

Tucson, Arizona
June 26, 1976

To: Mr. J.B. Imswiler
IMC

From: A.J. Perry
Perry, Knox, Kaufman, Inc.

Subject: ARIZONA (IMC) PORPHYRY COPPER PROJECT
Monthly Report - June, 1976

During the report period PKK submitted an interim memo on the potential of El Paso's Emerald Isle properties near Kingman (Detrital Valley Magnetic area) -- concluding that the remaining oxide potential (mostly under ±200' of cover and available only by in-situ treatment) was of no interest to IMC. Mining Geophysical Surveys of Tucson (Gordon Wieduwilt) analyzed the geophysical (IP-resistivity) findings of Heinrichs and McPhar which were supplied by El Paso. The SW trending IP anomaly of Heinrichs N2/15 is divided by MGS into 2 zones -- 1) a W trending anomaly, 4000' wide in NS dimension, which abuts a NNW striking (down to the west) normal fault in E/2-15 --- anomalous zone buried 600-1000' from surface and 2) a SW trending near surface dike zone west of the NS fault. Drilling by El Paso probably tested the dike but the broader zone may not have been reached by E-3 (TD = 507').

There are other minor and/or questionable anomalies. A brief summary report is in preparation.

Interesting amounts of gold were reported from three surface grab/chip samples collected by Perry in an excavated area in the Little Butte District near Bouse, Yuma County --

BA-P-1 - 0.130 oz/Au
BA-P-2 - 0.020 oz/Au
BA-P-3 - 0.360 oz/Au

Balkestad has just completed a substantial sampling of this responsive hematized granitic intrusive and surrounding sedimentary and volcanic rocks. Samples should be delivered to the assayer by June 30.

Mr. Blakestad is currently engaged in the reconnaissance mapping of a copper bearing intrusive in an area in the Dome Rock Mountains where Kerr McGee did limited core drilling. Rumor has it that K-M may not do the required assessment for the year ending Sept. 1, 1976. We expect to make a determination as to the desirability of occupying the K-M ground.

A.J. Perry devoted 7 days to the Project during this report period - R. Blakestad 11 days.

Commencing June 26 - coincident with startup of the next report period - the activities of PKK relative to the IMC-Arizona Project will be transferred to the newly formed Company - Perry Exploration Company, Inc. (PXC). PXC will function from the same Tucson location and with the same personnel.

Activities anticipated during July will include: 1) cleanup work and final decision re: El Paso'a property, 2) report/decision - Little Butte District, 3) recon of outside areas near Johnson, Az. ie. Red Hills and S. Wichester's, 4) PKK is developing additional ideas relative to appropriate prospecting areas for presentation to IMC at a meeting scheduled for Tucson in the period July 7-9.

Attachment: Review of IP-Resistivity Data - Emerald Isle Area by Mining Geophysical Surveys

Tucson, Arizona
July 26, 1976

To: Mr. J. B. Imswiler - IMC

From: A. J. Perry- PXC

Subject: ARIZONA (IMC) PORPHYRY COPPPER PROJECT
Monthly Report - July, 1976

On July 9, Mr. Imswiler and A. J. Perry met with Bear Creek Tucson personnel to discuss Bear Creek's proposed additional work at Cuprite, Pima County. Bear Creek is recommending that three additional holes be drilled during the next 12 months at an estimated cost to each Participant of $50-60,000. Mr. Imswiler agreed that the work was warranted and indicated that he would make a presentation to IMC management.

Also on July 9, the other activities of the Project were reviewed, including:

* 1) El Paso Natural Gas' Emerald Isle Property - PXC recommended a check IP survey.

2) Bouse gold prospect, Little Butte Mining District, Yuma Co. No further work was recommended.

* 3) Blue Jem Property (Kerr-McGee), Dome Rock Mountains, Yuma Co. some additional geologic work will be performed.

4) N. Castle Dome Mountains- Big Vein Area, Yuma Co.- additional recon and sampling.

5) Winchester and Red Bird Hills- Cochise Co. - no further work.

* 6) Johnson Area, Cochise Co.-other than Sullivan- PXC suggested that no additional interest be taken by IMC.

Plans for the examination of several new areas were discussed.

Mr. Imswiler called July 23 to inform PXC that IMC's funds for metals exploration for the fiscal year commencing July 1, 1976 had been reduced and that IMC was terminating the Arizona program, effective August 31, 1976. PXC has subsequently received formal notice of termination. A natural winding-down of Project activities has commenced. El Paso has been notified that IMC does not intend to conduct test geophysical work at Emerald Isle.

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* Report submitted IMC

During the report period PXC personnel devoted the following time to the Project:

A. J. Perry ..... 10 days

R. Blakestad ..... 16 "

RECEIVED SEP 2 1976

August 28, 1976

To: Mr. J. B. Imswiler - IMC

From: A. J. Perry - Perry Exploration Company

Subject: ARIZONA (IMC) PORPHYRY COPPER PROJECT
Monthly Report- August, 1976

Mr. R. Blakestad conducted further work in the SUG claims area, west of Quartzite (Dome Rock Mountains), along the Big Vein (Castle Dome Mountains) and at Bouse (Little Butte District); all in Yuma County. Reports covering all areas are in preparation. Only the SUG claims area, situated east of the Blue Jem appears to warrant further interest.

At SUG, Blakestad has recognized a large WNW trending bleached pyritized zone, containing geochemically anomalous amounts of molybdenum and copper. Several holes have been drilled by past explorers-- but probably none to depths in excess of 1000' from surface. There is no evidence that Kerr McGee who currently occupies the ground has performed the work necessary during the current assessment period. This ground is worthy of staking -- and that action is recommended.

Project work and plans for termination were reviewed with Mr. Imswiler in Tucson, August 24.

A total of 11 man days were devoted to the Project during the current report period:

A. J. Perry - 2 days

R. Blakestad - 9 days

Tucson, Arizona
May 25, 1976

To: Mr. J. B. Imswiler - IMC

From: A. J. Perry - PKK

Subject: ARIZONA (IMC) PORPHYRY COPPER PROJECT - Monthly Report- May, 1976

PKK's efforts toward the Project during May involved: 1) completion of an evaluation of exploration possibilities at Johnson, Arizona, with emphasis on lands other than those of Cyprus and Sullivan (I-10) and 2) study of exploration opportunities on the lands of El Paso Natural Gas Company, north of Kingman (study still in progress).

PKK personnel devoted a total of 15½ days to the Project-- A. J. Perry - 15 days; N. I. Colburn ½ day.

Johnson,Arizona Area

On May 14 a report was submitted to IMC combining the observations of Colburn - Prospects in the Vicinity of Little and Northern Dragoon Mountains, Cochise County, Arizona and those of Perry- Opportunities for Exploration for Copper in the Vicinity of Johnson-Dragoon, Exclusive of Sullivan and Cyprus' I-10.

The lands of Rex Ellsworth, north of Strong-Harris, probably involve extensions of the S-H mineralization, buried at depths of +700 feet. Sullivan's Section 7, south of I-10 also has possibilities. Other areas possibly worth checking include: CFI's holdings at the south end of the Little Dragoons; the north end of the Dragoons where Mineral Exploration worked and the Red Hills and South Winchesters.

Kingman, Arizona Area

Data was obtained from El Paso Natural Gas Company which will allow evaluation of their holdings at Emerald Isle, west of Duval's Mineral Park operation and north of Kingman.

El Paso holds 85 unpatented lode claims, some millsites and three water wells. The claims extend from the Emerald Isle pit northward for 2+ miles.

Emerald Isle shut down in November, 1975. A total of 1.4 million tons of 1% copper ore (chrysocolla) has been mined from the Gila Conglomerate at that location. The majority of the ores were treated by LPF method. In 1973 when pit reserves diminished El Paso commenced in-situ leach studies with the USBM. It was hoped that methods would be developed to recover copper from 200,000 tons of nearly 1% copper in the pit bottom and from 1.5 million tons of 0.50% Cu grade mineral extending west from the pit, under 200 feet of overburden. Test work was terminated prematurely due to El Paso shutdown. It is PKK's conclusion that the tests were inconclusive.

Exploration work by El Paso indicates sulfide mineralization is present in Pre-Cambrian granite gneiss, beneath the Emerald Isle pit and in a separate area at the north end of the claims. We are presently evaluating the possible exploration targets in these two areas.

El Paso has no plans for further production in the near future--having sold their LPF and other operational facilities; neither do the have any exploration plans. They seek to farm out the total of their Kingman holdings.

Other Areas

Assays of five samples from the west end of the vein at the Moss Mine, near Oatman, varied in contained values from .03-.11 oz. Au and from .29-1.1 oz. Ag. Considering the select nature of the samples and the estimated potential tonnages that might be developed -- no further sampling-examination seems justified (sample analyses and descriptions attached).

We are in receipt of some data from Mr. Al Locker re: Little Butte Mining District. We will firm up our opinion regarding that area during June.

Mr. Imswiler reports that he is nearing completion of the evaluation of NJZ's Silver District, Yuma County farmout.

SKYLINE LABS, INC.
Hawley & Hawley, Assayers and Chemists Division
1700 W. Grant Rd., P.O. Box 50106, Tucson, Arizona 85703
(602) 622-4836

Charles L. Thompson
Arizona Registered Assayer No. 9427

William L. Lehmbeck
Arizona Registered Assayer No. 9425

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION	Au ppm	Ag ppm	Sample Description
1	MS 1-vn	1.8	35.	chip/channel, 3' vein, stope adj.to shaft
2	MS 2-vn	2.0	33.	" " , 9' " , upper portal
3	MS 3	0.79	10.	" " , 4½' " , adj. portal
4	MS 4	3.8	27.	vnquartz from dump, adj. to shaft, select
5	MS 5	1.1	39.	" " " " , small prospect on hill west of shaft/adit (main wkgs)

TO:
PERRY, KNOX, KAUFMAN, INC.
P.O.Box 12754
Tucson, Arizona 85742

Attn.: A.J. Perry

MOSS MINE near
OATMAN, ARIZONA

REMARKS:

Trace analysis

CERTIFIED BY: William L. Lehmbeck

REGISTERED ASSAYER CERTIFICATE NO. 9425 WILLIAM L. LEHMBECK DATE SIGNED 5/11/76 Arizona U.S.A.

IME AZ - Moss Vn - Oatman Dist, AZ

DATE REC'D:	DATE COMPL.:	JOB NUMBER:
5/3/76	5/11/76	760916

Tucson, Arizona
April 7, 1976

To: Mr. Bruce Imswiler
IMC

From: R.B. Blakestad
Perry, Knox, Kaufman, Inc.

Subject: Yuma County, Arizona, Reconnaissance
(IMC-ARIZONA PROJECT)

SUMMARY

An initial reconnaissance of Yuma County, Arizona, has resulted in the identification of three areas of possible interest which are described below.

DOME ROCK MOUNTAINS (Blue Jem Area)

Location

The Blue Jem prospect is located in Sec. 31, T4N, R20W, G&SRM, in the central part of the Dome Rock Mountains, about 7 miles west of Quartzsite, Arizona.

General Geology

Mesozoic and Tertiary(?) monzonitic rocks intrude Mesozoic and probable Precambrian(?) volcanic and meta-sedimentary rocks. Copper oxides and sparse sulfides occur in a fractured zone along the southern contact of the Tertiary(?) quartz monzonite. The zone is about 500 feet wide and 1500 feet long. Abundant pyrite occurs as disseminations in the Mesozoic intrusive adjacent to the area of copper mineralization. Oxidized pyritic capping with scattered limonite after chalcocite is found over a wide area east of the main prospect. Outcrops of the Tertiary(?) quartz monzonite just east of the main copper showing are moderately to extremely sericitized and show copper oxides and moderate amounts of limonite after chalcocite.

Property

Kerr-McGee Corp. staked a large number of claims in the area in 1972-73. A recent search of the courthouse records indicates that these claims are currently valid. Kerr-McGee has drilled at least 5 holes in the mineralized contact zone. Copper mineralization consisting of chalcopyrite as blebs and stringers

was found associated with moderate to small amounts of pyrite in core chips at each drill site. The rocks comprising the drill cuttings include biotite-feldspar gneiss, sericitic schist and a locally well-sericitized quartz-feldspar intrusive. A trace amount of chalcocite was noted at one location. No hole was drilled in the area of most abundant limonite after chalcocite.

A student from the University of Arizona has recently completed a mapping program east(?) of the area described. He was supported by Kerr-McGee. He is reported to have said that Kerr-McGee may abandon the area this year.

Map Reference

Middle Camp Mountain, $7\frac{1}{2}$ minute quadrangle map, USGS.

LITTLE BUTTE AREA - NORTHERN PLOMOSA MOUNTAINS

Location

The Little Butte mine area is located in Sec. 7, T7N, R17W, G&SRM, about 4 miles northwest of the town of Bouse, Arizona, in the northernmost Plomosa Mountains.

General Geology

A monzonitic body of possible Tertiary(?) age intrudes Mesozoic(?) and Tertiary(?) sedimentary and volcanic rocks in the Little Butte area. Siltstones, limestones and dolomites(?) form the western contact with the intrusive. Andesitic volcanic rocks form the eastern margin. Irregular specularite and quartz-specularite veins are found in the intrusive and are best developed in a weakly argillized area measuring approximately 350 feet by 750 feet. In this better area, specularite occurs as vein fillings and disseminations and with quartz in a general stockworks fashion. Chlorite is locally prominent. Outside of the better area, the degree of alteration is less intense and the stockworks-type fracturing is weaker and less well mineralized.

Replacement of the wallrocks by specularite is locally intense and is associated with some copper oxide. More copper is found on the western side of the area.

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.

Tucson, Arizona
April 28, 1976

To: Mr. J.B. Imswiler
IMC

From: A.J. Perry
Perry, Knox, Kaufman, Inc.

Subject: ARIZONA (IMC) PORPHYRY COPPER PROJECT
Monthly Report - April, 1976

During April project work was directed principally to the evaluation of lands surrounding those of Sullivan at Johnson, and further recon in Yuma County and in the Oatman and Katherine Districts, SW of Kingman in Mohave County. A.J. Perry devoted 9 days to project work, N.I. Colburn - 9 = total 18 person/days.

Other Lands - Johnson Camp

The evaluation of the potential of lands surrounding those of Sullivan (previously evaluated) is in progress. We are looking at a much broader area -- extending thru nine or ten townships. Several areas appear worthy of at least a preliminary look. Cyprus is now evaluating the high grade oxide reserves of Strong-Harris (Superior) in hopes of supplementing their open pit oxide feed to their leach - E-W system -- thus eliminating the most obvious reserve in the District, excepting Sullivan, Cyprus' I-10. We should have our report completed by May 7.

Mohave County

Examinations were made in both the Oatman and Katherine Districts in areas suggested in literature as having vein widths of possible interest (+50'). Near Oatman, in one vein (at the west end of the Moss mine) 60-90' widths can be measured. Several samples were taken. Targets of $\pm\frac{1}{2}$ million tons are envisioned.

It is doubtful that any interest will develop because of the apparent limited tonnage -- but we will await assays.

Examination of Katherine District possibilities are incomplete -- but the target sizes are thought to be about the same as at Oatman.

Mr. John Reynolds, Manager of Exploration, El Paso Natural Gas has indicated a willingness to discuss allowing further work on El Paso's recently abandoned Emerald Isle operation north of Kingman. According to Reynolds, El Paso shut down because of the small contribution of that plant to El Paso income. Due to the complexities of the pediment area, there may be some potential for additional ore. We are arranging to examine El Paso's data.

Yuma County

We are attempting to collect data regarding past exploration on and surrounding the properties of Mr. Al Locker in the Little Butte Mining District. On the basis of additional recon, unless the results of past drilling look encouraging, it is doubtful that the Locker property itself warrants further interest.

The New Jersey Zinc Company is prepared to farm-out their interest in the Silver District, north of Yuma (ref: PKK report of April 25, 1975 - Properties of Maxie Adkinson - Silver Mining District, Yuma County). On the basis of data supplied verbally by Mr. John Teet, Regional Geologist, NJZ, we suggested to Mr. Imswiler that the potential appeared at best borderline for IMC. Teet envisions 6-7 million tons as being outlined, with the possibility of raising that to 10 million tons with additional drilling. The ores are of mixed type -- ie. 4.3 million tons - 2.9 oz Ag, 4% CaF_2, 16% $BaSO_4$ on the east vein; 200,000 million tons - 20% CaF_2 and 10% $BaSO_4$ in the central vein.

Dofferent mill schemes must be considered. The ores are situated at various locations, along three vein systems. The region is remote. Water is probably available. The reason for NJZ's wanting a farmout is not clear but the limited size of the anticipated operation and its apparent operational complexities are suggested.

Mr. Imswiler has signed a secrecy agreement and has been supplied documented information.

Tucson, Arizona
November 26, 1975

To: Mr. J.B. Imswiler
IMC

From: A.J. Perry
Perry, Knox, Kaufman, Inc.

Subject: Arizona (IMC) Porphyry Copper Project - Monthly Report - November, 1975

A.J. Perry reconnoitered the Bonanza-Golden Eagle area, Yuma Co., in detail and determined that no possibilities exist for substantial deposits in the granite of the semi-pediment area extending north from the Bonanza or in the Paleozoic(?) quartzite-shale and limestone sequence of the surrounding hills. A report is in preparation.

Data pertaining to drilling accomplished by BCMC in the area near Superior's Anomaly 21, located west of Duval's Mineral Park, was obtained thru an information trade. Using that data Mining Geophysical Surveys (Gordon Wieduwilt) has made an independent interpretation of the 21 area and concludes that the anomaly(?) is "essentially a deep alluvial basin which extends northwesterly -- the Basin is in excess of 3000' deep". (copies of the GP report and BCMC data are attached). We now have eliminated our positive target and as depths are in excess of those anticipated, our 40 WAL series claims located Sept. 20 and 21 and covering all of Sec. 28 and N2/NW34 - T23N - R18W will be abandoned. A small area, thought by Wieduwilt to be anomalous and located just west of two well altered low hills (W/2-Sec.26 E/2-27) will be considered.

The Superior Oil Company has outlined a mineral reserve of +55 million tons of mixed oxide-sulfide ores assaying 0.68% Cu, 0.79% Zn and 0.22 oz Ag in four areas on the Strong and Harris Properties located at Johnson Camp in Cochise County. They seek a partner to finance the next phases of work. We briefly reviewed the Superior data and engaged Mr. Norman Weiss to report on the metallurgical outlook. Mr. Weiss finds that ore treatment tests are at an early stage but the outlook for a breakthru is not promising. We recommended that no interest be taken in this opportunity.

Comments by Mr. Joe Kantor, geologist for Superior, with respect to other opportunities possibly available in the Johnson area have led to our acquiring data pertaining to the J.P. Project Area (an area controlled by J. Sullivan of Scottsdale) located south of Cyprus' Burro Pit now under exploitation. Ralph W. Parson's reports supplied by Sullivan are now under study.

A.J. Perry devoted 7 days during November to the Project - N.I. Colburn 3½.

Tucson, Arizona
February 3, 1976

To: Mr. J. B. Imswiler - IMC

From: A. J. Perry - PKK

Subject: ARIZONA (IMC) PORPHYRY COPPER PROJECT
Monthly Report - January 1976

Project work during January involved an analysis of the potential of McAlester Fuel's Zonia copper oxide operation and associated properties and a continuing assimilation/ interpretation of data related to J. Sullivan's mineral properties at Johnson Camp.

A. J. Perry devoted 9 days to project work, N. I. Colburn $15\frac{1}{2}$ days and Ward Sumner (temporary help) $5\frac{1}{2}$ days.

Zonia Copper Property

McAlester Fuel Company's Zonia cement copper operation and associated properties is for sale. The Zonia operated continuously during the period March,1966 thru March,1975, producing +33 million pounds of copper. They estimate an additional 87 million pounds of copper is available for leach. Additional possibilities for a protore porphyry copper deposit and massive sulfide con-concentrations were suggested.

PKK's evaluation indicates no evidence for a porphyry concentration of any reasonable grade. Tests for massive sulfide have not been thorough but as occurrences of this type and estimated possible size have been rejected by IMC (eg. Blue Bird mines area, no recommendation for exploration was developed.

Any interest by IMC in this copper body should be based on an internal need for cement copper -- possibly as a fertilizer or fungicide additive.

We are awaiting an indication of such an interest/ non-interest before notifying McAlester.

JP Project (Sullivan) Copper Properties, Johnson Camp

James Sullivan of Scottsdale reportedly controls portions or all of 8 sections of land in the Johnson Camp area. All are currently under evaluation.

Lands in Secs. 36, T15S-R22E and Secs. 6 and 7 in adjacent T16S appear to be of interest.

A high grade trend of substantial thickness was intersected by previous drilling in S/2-36. This trend projects across SE-36 into Cyprus' Sec. 31 and may extend into Sullivan's Sec. 6. Sec. 7 could hold open pit oxide possibilities.

PKK's full report to IMC will be completed by February 5.

A. J. Perry
PERRY, KNOX, KAUFMAN, INC.

Tucson, Arizona
April 6, 1976

To: Mr. J.B. Imswiler
IMC

From: A.J. Perry
Perry, Knox, Kaufman, Inc.

Subject: ARIZONA (IMC) PORPHYRY COPPER PROJECT
Monthly Report - March, 1976

Arizona project work during March was accelerated to complete an evaluation of the Johnson Camp properties of J. Sullivan. Several areas in Yuma County were reconnoitered by Blakestad and later reviewed by Perry. Additional information is being gathered on one area in the Plomosa Mountains near Bouse.

Total time devoted to the Project was 49 man days - Perry-13½, Blakestad-17½, N.I. Colburn-18 days.

Sullivan-Johnson Camp

On March 17, PKK completed work on a revised copy - Preliminary Evaluation of the Properties of James Sullivan - Johnson Camp, Cochise County, Arizona. PKK recommended that negotiations be undertaken with Sullivan for acquisition of at least those lands in Secs. 36, 6 and 7 (I-10 orebody area). The potential for the area, including the reserve of Cyprus, appears to be 300-400 million tons of principally oxide ores.

Messrs. Imswiler and Perry met with Mr. Sullivan in Phoenix on March 22 and determined that it was probably possible to negotiate terms with Sullivan etal satisfactory with IMC re: the above properties.

At later meetings between Mr. Imswiler and IMC management it was determined that the complexities of the I-10 ores, ecological problems associated with the deposit, etc. were so substantial as to preclude IMC's showing further interest. Mr. Sullivan has been notified of IMC's decision.

Yuma County Reconnaissance

R. Blakestad examined broad areas of suspect mineral potential in the Dome Rock Mountains, the Northern Plomosa Mountains and in the Castle Domes. Brief reports relative to three areas are attached. At Dome Rock, Kerr McGee continues to maintain unpatented claims.

The Big Vein area of the Northern Castle Domes is impressive and unprospected but within the Kofa Game Range and currently withdrawn from mineral location. Unless claims staked prior to the withdrawl (2/21/74) cover the area of interest there is no opportunity to gain exploration access, and no evidence has yet been found of such prior staking. New Jersey Zinc occupied lands nearby in 1973 (on structures similar to those of the Silver District) and still maintains a position.

In the N. Plomosa's near Bouse, specularite and quartz veins including stockworks carry copper and gold. Simplot and Seaforth Mines have both drilled. We are gathering data from the land owners.

Oatman - Katherine Districts, Mohave Co.

N.I. Colburn has completed a brief literature search of these Districts - attached. We will reconnoiter briefly in search of low grade precious metals possibilities.

Tucson, Arizona
November 3, 1975

To: Mr. J.B. Imswiler
IMC

From: A.J. Perry
Perry, Knox, Kaufman, Inc.

Subject: IMC-ARIZONA PROJECT MONTHLY REPORT - October, 1975

Summary

N.I. Colburn completed the report of her initial reconnaissance of the Harquahala-Harcuvar Mountains region, Yuma and Maricopa Counties on October 17. Subsequently several of the areas were reviewed with A.J. Perry -- specifically: Cunningham Pass, Golden Eagle-Bonanza Mines area and Alaska-Rio Del Monte (see Figure 1). Several other areas were briefly visited. Only the Golden Eagle-Bonanza area appeared to have any possible exploration potential.

Some office work was devoted to the continued Detrital Valley aeromag followup. Bear Creek appears ready to accept trade of data in PKK's possession detailing some work done in N.M. for information re: drilling in our anomalous area west of Duvals' Mineral Park. We have an appointment this week with C.L. Elliot, geophysist, to review the Superior detailed data.

One day was devoted to a field examination of the claims of L. Burkhart, situated on the west side of Tortolita Mountains, NW of Tucson in Pima and Pinal Counties. Although there are numerous small copper oxide and sulfide occurrences in Pre-Cambrian rocks in at least three areas on the claims, it is doubtful that any attention should be devoted to the area by IMC.

Mr. Imswiler appears to be proceeding well in final detailed negotiations with BCMC re: Cuprite Area.

A.J. Perry devoted 6 days to IMC-AZ during the report period, N.I. Colburn 12.

Detail

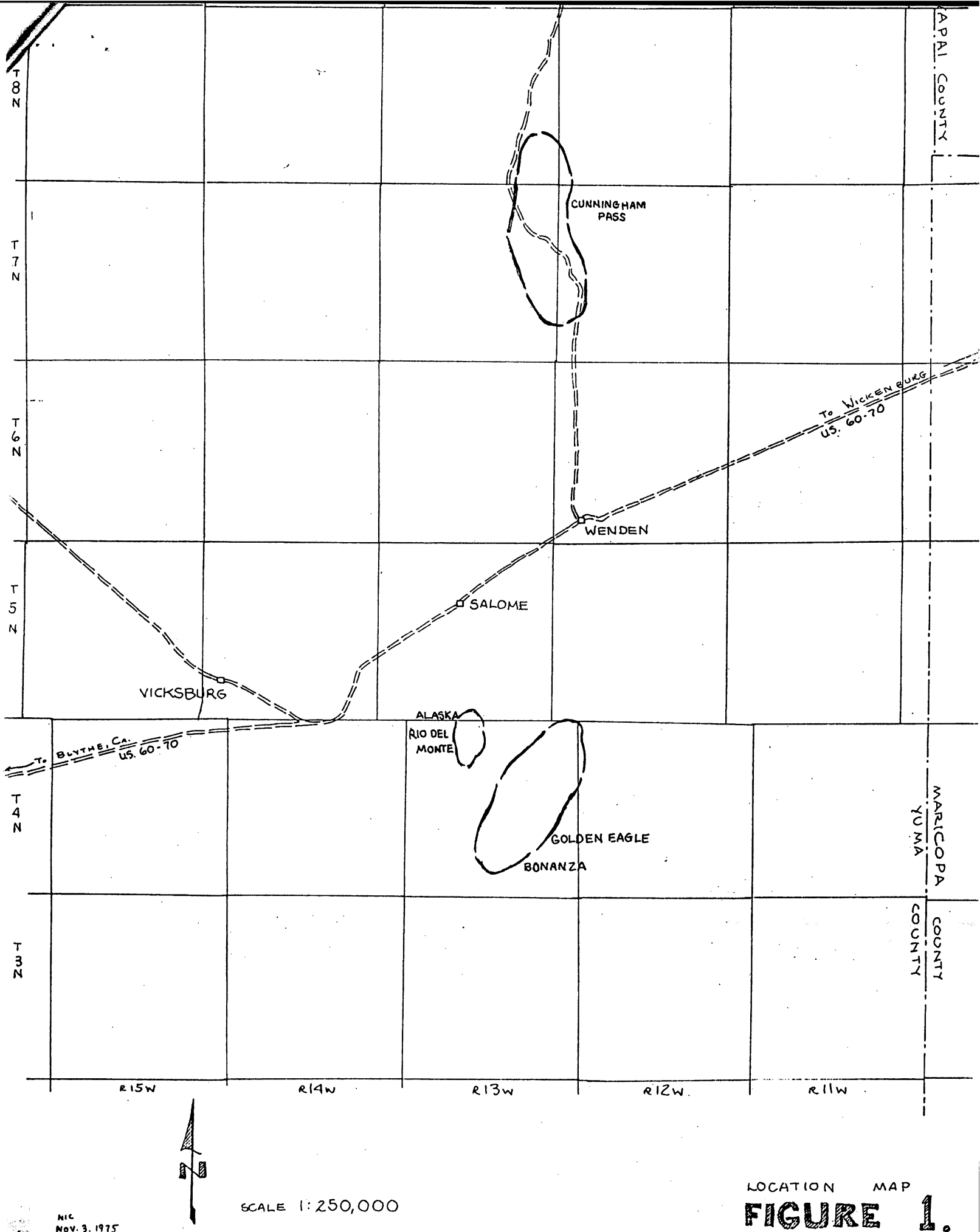
In the Golden Eagle-Bonanza (Harquahala) Mines area there has been past production from a lower Cambrian (?) sedimentary sequence of limestone, quartzite-shale which is in fault contact with an underlying-sometimes cupiferous-Laramide(?) granite. Remaining potential may exist; 1) along the edge of a rather

substantial sized granite area of lower elevation, beneath sediments similar to those at Golden Eagle and Bonanza or, 2) within the granite itself, possibly in areas having suffered structural disruption such as that open cut area situated NW of Golden Eagle (see Figure 2). Initial inquiry indicates CFI drilled in the area in 1969-70. We are contacting claims owners, attempting to obtain information for review.

Proposed Activity, November

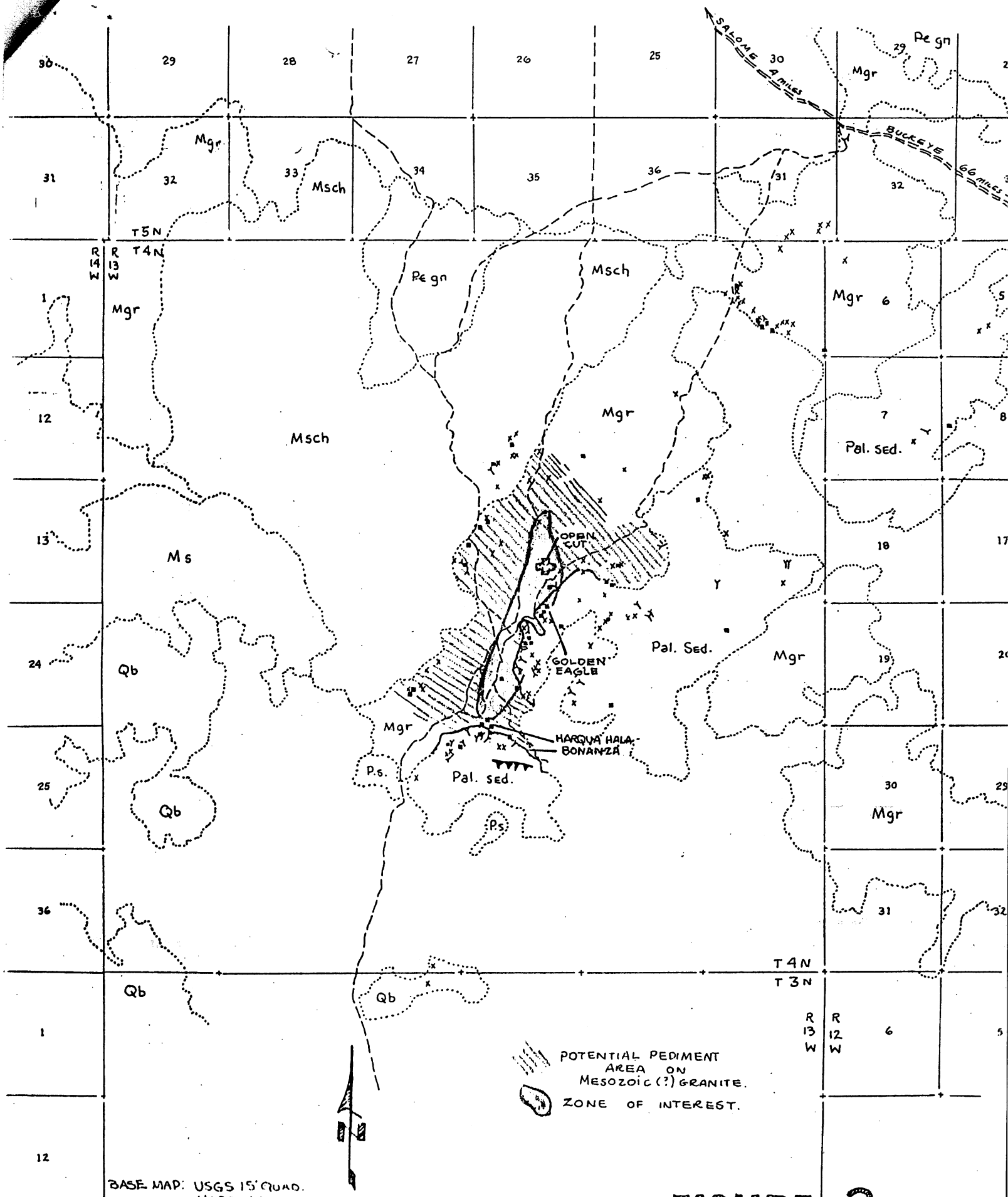
It is anticipated that; 1) the possibilities of our anomaly west of Mineral Park, in Detrital Valley, will be geophysically analyzed and a decision made as to the advisability of undertaking exploration. 2) We expect to screen all remaining Detrital Valley geophysically anomalous areas. 3) Some final determination will be made of the potential at Bonanza-Golden Eagle. 4) Additional recon will be conducted of areas in Yuma Co., time permitting.

A.J. Ferry



NIC
Nov. 3. 1975

LOCATION MAP
FIGURE 1.



BASE MAP: USGS 15' QUAD.
HOPE, ARIZONA
SCALE: 1:62,500
GEOLOGY FROM: AZ. BUREAU of MINES
GEOLOGY OF YUMA COUNTY

NIC
NOV 3. 1975

FIGURE 2.

Tucson, Arizona
September 25, 1975

To: Mr. J.B. Imswiler
IMC

From: A.J. Perry
Perry, Knox, Kaufman, Inc.

Subject: Arizona (IMC) Porphyry Copper Project
Monthly Report, September, 1975

Project work during September was focused on: 1) evaluation of Bear Creek Mining Company's properties in the Cuprite area and subsequent negotiations with Bear Creek re: joint exploration of their lands, and 2) land acquisition - Aeromag anomaly 21 area (Detrital Valley) near Mineral Park, Mohave Co.

The proposed joint exploration of the Cuprite area, Pima County by Bear Creek, IMC-PKK and ASARCO never materialized because of first, ASARCO's announcement to the other parties that they intended to proceed unilaterally with drilling of a breccia situated on their state permit lands in Sec. 27 - T17S - R16E and subsequently, by their unannounced abandonment of their holdings in the area. BCMC filed permits on the former ASARCO ground and PKK examined BC data and their properties 8/27-8/28 recommending in a report of 8/28 that IMC join with Bear Creek in core drilling, assuming their participation demands were not excessive.

On 9/3-9/4 Mr. Imswiler (IMC), G.D. VanVoorhis and D.C. Bulmer (BCMC) and A.J. Perry (PKK) reviewed the BC proposal and determined that a joint effort was warranted. Mr. Imswiler is attending to the details of the negotiation.

Our PKK 1A-16A lode claims in Secs. 21 and 28 - T17S - R16E have been checked, (papers replaced - monuments resurrected, etc.). This land and the adjacent fee holdings of Horizon Corporation where negotiations were once in progress do not play a part in the currently proposed BCMC-IMC joint exploration.

In our Detrital Valley Aeromag area near Kingman; we have acquired 40 claims by location -- WAL 1-36 claims covering all of Sec. 28 - T23N - R18W and WAL 37-40 covering N/2-NW/4 of adjacent Sec. 34. These claims cover portions of Superior s aeromag anomaly 21 discussed in last month's report. Mineral rights to adjacent fee lands are held by ATSF RR. Surface has been disposed of by the Railroad and is of mixed ownership.

We now believe that the cuttings located near a suspect drill hole in SE/SW-33 which assayed 4300 ppm Cu were hauled in from another location -- perhaps for use as road metal. A second hole WWP-2 was drilled by Bear Creek. We have contacted that Company and suggested an exchange of data so that we might gain information pertaining to this critical drill hole. We are also arranging for a re-interpretation of the magnetics of the area before proceeding with any advanced work.

We are attempting to re-contact Mr. Charles Simpson regarding the Mammoth-Black Queen.

Ms. Colburn has been delayed with her Yuma report but it will be forthcoming by October 10.

During the period 8/26-9/27 PKK personnel devoted the following time to IMC-AZ project.

A.J. Perry	$8\frac{1}{2}$ days
R. Blakestad	4 days
Ward Sumner	12 hours
Total	$14\frac{1}{2}$ days (-)

Tucson, Arizona
August 26, 1975

To: Mr. J.B. Imswiler
IMC

From: A.J. Perry
Perry, Knox, Kaufman, Inc.

Subject: Arizona (IMC) Porphyry Copper Project
Monthly Report, August, 1975

During August we began examination of the numerous aeromag anomalies in the Detrital Valley area near Kingman. The Mammoth-Black Queen claims area property dispute was resolved and two additional geochem lines were sampled. A silver property was examined at Ash Peak near Duncan, Arizona. N.I. Colburn continued research work on the mineral potential of the Yuma Co. area.

We have examined eight of the 26 areas reported by Superior's contract interpreter as anomalous based on their aeromagnetic work. Two of the areas are of interest but at least one-half of one (Anom. 22 - see Figure 1) is occupied by Duval's tailings, pipeline and other facilities. Anomaly 21, situated west of 22, appears to warrant our interest.

Anomaly 21 - occupies portions of Secs. 27, 28, 33, and 34, T23N - R18W, about 3 mi. SSW of Ithica Peak (of Duval's Mineral Park operations).

There are no bedrock exposures in the Anomaly 21 area but two low hills in E/2-27 and W/2-26 are at least in part Tertiary monzonite in composition. Sericitic alteration is pervasive. There are some Fe oxides and a couple shallow prospect pits. The impression is that the area is one possibly fringing substantial porphyry mineralization.

Two old drill holes have been located immediately adjacent to Anomaly 21. The first is situated in SE/SW-33. Cuttings, apparently of bedrock found beside a maintained dirt road (see Fig. 1) show suspect monzonite, well oxidized, with locally substantial limonite (probably mostly after pyrite with minor chalcopyrite). There is fairly abundant turquoise. A sample of the cuttings assayed 4300 ppm Cu and 6 ppm Mo. A second hole (cap marked WWP-2) was found in NE/NE-28. This was also, at least in part a rotary hole -- as with the other hole, depth unknown. WWP-2 cuttings showed 550 ppm Cu and 22 ppm Mo. Values of both holes could be termed more than interesting.

The magnetic expression of Anomaly 21 is that of a minimal saddle cutting a west dipping or downfaulted WSW trending positive (intrusive extending from Mineral Park?). Depths to magnetic basement vary between 1000' and 2500'.

The land situation over Anomaly 21 is fairly complicated.

Sec. 27-W/2 - patented - held by Az. Land Title & Trust Co. except for SE/SW - surveyed for subdivision, but currently not physically divided.

Sec. 28 - open for mineral location, apparently not recently occupied.

Sec. 33 - patented - with all but a diagonal strip in the SW4 and SW/NW which has been subdivided, owned by Harry P. and Martha D. Heuer of Powers Lake, Wis.

Sec. 34 - apparently open for mineral location.

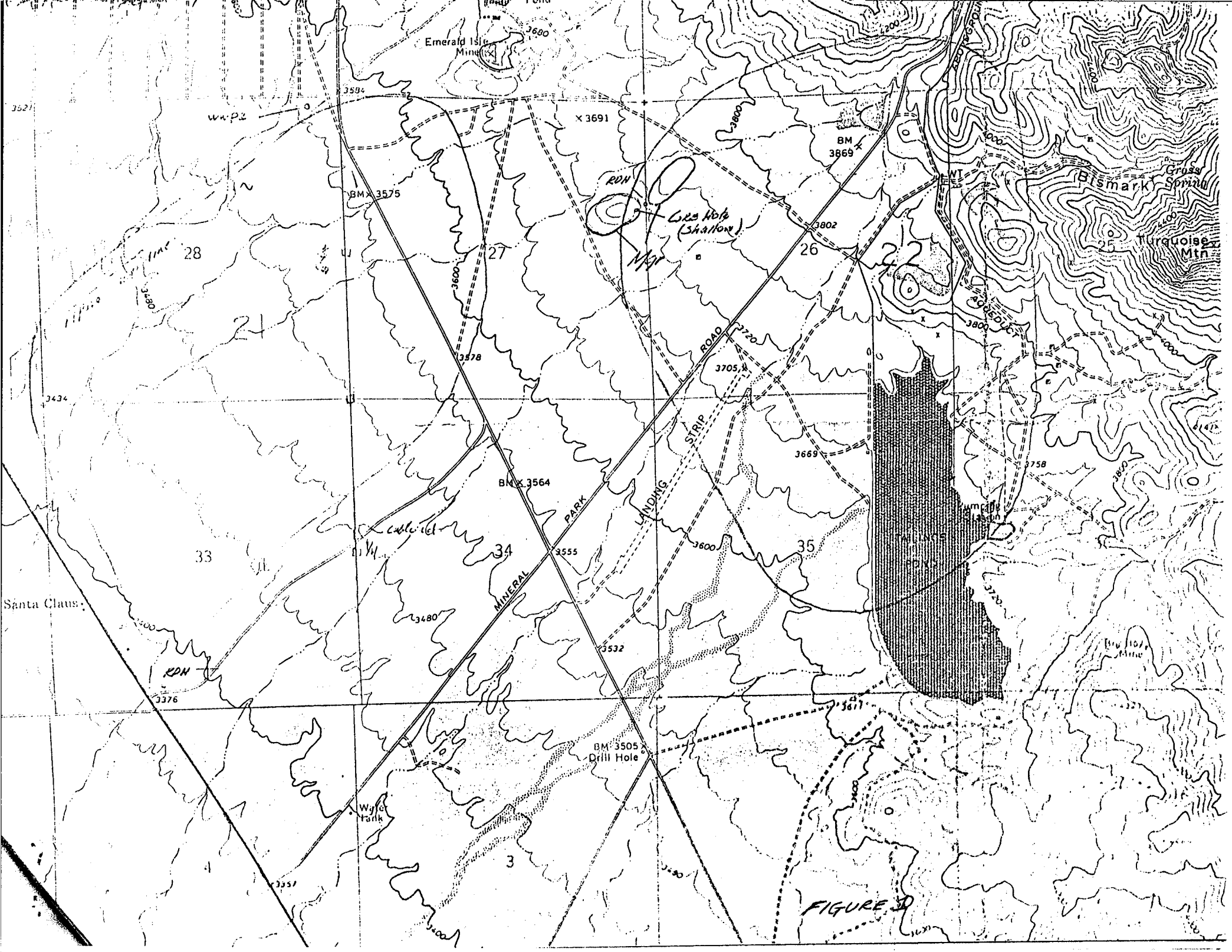
We have not yet ascertained whether the minerals of the former ATSFRR lands (Secs. 27 and Sec. 33 go with the property or were reserved).

Our plan of action is to stake the appropriate acreage in Secs. 28 and 34 then contact the record mineral/surface owners in the adjacent important sections.

The C.G. Patterson properties previously recommended for acquisition are in process of being optioned by a Mr. Hardy who has the turquoise concession at Mineral Park. Patterson expects to receive substantial "front money". (During July Hardy reportedly paid Duval $100,000 royalty from his production).

The conflict over unpatented claims situated in Sec. 36 T2N - R8E, in the Mammoth-Black Queen area, was resolved in favor of Goldfield Mines, Inc., when the Superior Court of Maricopa County found the defendants (Apex Gold Mine & Expl. Co.), guilty of forcible entry. We subsequently completed the sampling for gold along two additional lines, north of the Mammoth open cut. (results on attached mylar).

As we have established some continuity to the north trending anomalism, overtures have been made to Mr. Charles Simpson, optionee from Goldfield and to Goldfield thru Simpson. It will be mid-September before the officers of Goldfield are reassembled and any action can be considered. We have provided Simpson data pertaining to our work for recording to fulfill annual labor requirements.


Emerald Isle Mine
3680
3584
3691
BM 3869
BM 3575
RDH
Gas Hole (Shallow)
Mgr
3802
Bismark
Gross Spring
Turquoise Mtn
28
27
26
25
22
21
3600
3578
3720
3705
ROAD
AQUEDUCT
3800
3434
STRIP
LANDING
3669
3758
BM 3564
PARK
MINERAL
3555
3600
35
33
34
Santa Claus
3480
3532
RDH
3376
BM 3505
Drill Hole
Water Tank
3
4
3357
FIGURE 1

Hawley & Hawley, Assayers and Chemists Division
1700 W. Grant Rd., P.O. Box 50106, Tucson, Arizona 85703
(602) 622-4836

Arizona Registered Assayer No. 9427
William L. Lehmbeck
Arizona Registered Assayer No. 9425

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION	Au ppm	Ag ppm	Cu ppm	Mo ppm					
1	BMA- 1	2.2	0.4							
2	2	0.08	56.							
3	3	1.8	28.							
4	4	<0.02	3.2							
5	5	1.2	19.							
6	6	<0.02	0.2							
7	BMA- 7	0.54	2.4							
8	KM-WWP 2			550	22					
9	KM-SC-33			4300	6					

TO:

Perry, Knox, Kaufman, Inc.
P.O. Box 12754
Tucson, Arizona 85732

Attn.: Mr. A. J. Perry

REMARKS:

Trace analysis

CERTIFIED BY: William L. Lehmbeck

REGISTERED ASSAYER CERTIFICATE NO. 9425 WILLIAM L. LEHMBECK DATE SIGNED 8/21/75 ARIZONA U.S.A.

DETRITAL V.
IMC - AZ

DATE REC'D:	DATE COMPL.:	JOB NUMBER:
8/11/75	8/21/75	751745

Tucson, Arizona
August 26, 1975

To: Mr. J.B. Imswiler
IMC

From: A.J. Perry
Perry, Knox, Kaufman, Inc.

Subject: Arizona (IMC) Porphyry Copper Project
Monthly Report, August, 1975

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Properties of the Ash Creek Partners situated at Ash Peak, near Duncan, Arizona, were examined -- see report dated August 1, 1975. It is possible that ±500,000 tons of material grade 6.0 oz Ag - 0.02 oz Au could be developed from underground adjacent to old shaft workings; but such a target is of no interest to either IMC or PKK.

Nora Colburn continues with the summary of Yuma Co. potential --- now compiling data from her July field examinations. This work will be completed by mid-September.

A.J. Perry

AJP/sc

SKYLINE LABS, INC.
Hawley & Hawley, Assayers and Chemists Division
1700 W. Grant Rd., P.O. Box 50106, Tucson, Arizona 85703
(602) 622-4836

Charles E. Thompson
Arizona Registered Assayer No. 9427

William L. Lehmbeck
Arizona Registered Assayer No. 9425

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION	Au ppm	Ag ppm	Cu ppm	Mo ppm
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7	BMA- 7	0.54	2.4		
8	KM-WWP 2			550	22
9	KM-SC-33			4300	6

TO:

Perry, Knox, Kaufman, Inc.
P.O. Box 12754
Tucson, Arizona 85732

Attn.: Mr. A. J. Perry

REMARKS:

Trace analysis

DETRITAL V.
IMC-A2

CERTIFIED BY: William L. Lehmbeck

REGISTERED ASSAYER CERTIFICATE NO. 9425 WILLIAM L. LEHMBECK DATE SIGNED 8/21/75 ARIZONA U.S.A.

DATE REC'D:	DATE COMPL.:	JOB NUMBER:
8/11/75	8/21/75	751745

SKYLINE LABS, INC.
Hawley & Hawley, Assayers and Chemists Division
1700 W. Grant Rd., P.O. Box 50106, Tucson, Arizona 85703
(602) 622-4836

Charles E. Thompson
Arizona Registered Assayer No. 9427

William L. Lehmbeck
Arizona Registered Assayer No. 9425

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION	Au ppm
1	MAM-3 1 E-S	<0.02
2	2 E-S	<0.02
3	3 E-S	<0.02
4	4 E-S A	<0.02
5	5 E-S	<0.02
6	6 E-S	<0.02
7	7 E-S	<0.02
8	8 E-S	<0.02
9	8.5 E-S A	<0.02
10	9 E-S	<0.02
11	9.5 E-S	<0.02
12	10 E-S	<0.02
13	10.5 E-S	<0.02
14	11 E-R	<0.02
15	11.5 E-S	<0.02
16	12 E-S	<0.02
17	13 E-S	<0.02
18	0 W-S	<0.02
19	.5 W-S	0.12
20	1 W-S	<0.02
21	1.5 W-S A	0.12
22	2 W-S A	0.05
23	3 W-S	<0.02
24	4 W-S	<0.02
25	5 W-S	<0.02
26	6 W-S A	<0.02
27	7 W-S A	<0.02
28	8 W-R	<0.02
29	MAM-3 9 W-S A	<0.02
30	MAM-4 .5 E-S A	1.9
31	1 E-S A	0.37
32	1.5 E-S A	0.09
33	2 E-S	0.04
34	3 E-R	0.04
35	MAM-4 4 E-S A	<0.02

TO:
Perry, Knox, Kaufman, Inc.
P.O. Box 12754
Tucson, Arizona 85732

Attn.: Mr. A. J. Perry

REMARKS:
Trace analysis
Page 1 of 2
MAMMOTH
MAC-A2

CERTIFIED BY:
REGISTERED ASSAYER CERTIFICATE NO. 9425 WILLIAM L. LEHMBECK DATE SIGNED 8-20-75 Arizona U.S.A.

DATE REC'D:	DATE COMPL.:	JOB NUMBER:
8/7/75	8/20/75	751722

SKYLINE LABS, INC.
Hawley & Hawley, Assayers and Chemists Division
1700 W. Grant Rd., P.O. Box 50106, Tucson, Arizona 85703
(602) 622-4836

Charles E. Thompson
Arizona Registered Assayer No. 9427

William L. Lehmbeck
Arizona Registered Assayer No. 9425

CERTIFICATE OF ANALYSIS

ITEM NO.	SAMPLE IDENTIFICATION	Au ppm
36	MAM-4 1.5 W-S	<0.02
37	2 W-S	<0.02
38	2.5 W-S	<0.02
39	3.5 W-R	<0.02
40	4.5 W-S	<0.02
41	MAM-4 5.5 W-R	<0.02
42	MAM-5 1 E-S A	<0.02
43	1.5 E-S A	0.04
44	2 E-S A	0.47
45	MAM-5 2.5 E-S A	0.21

TO:

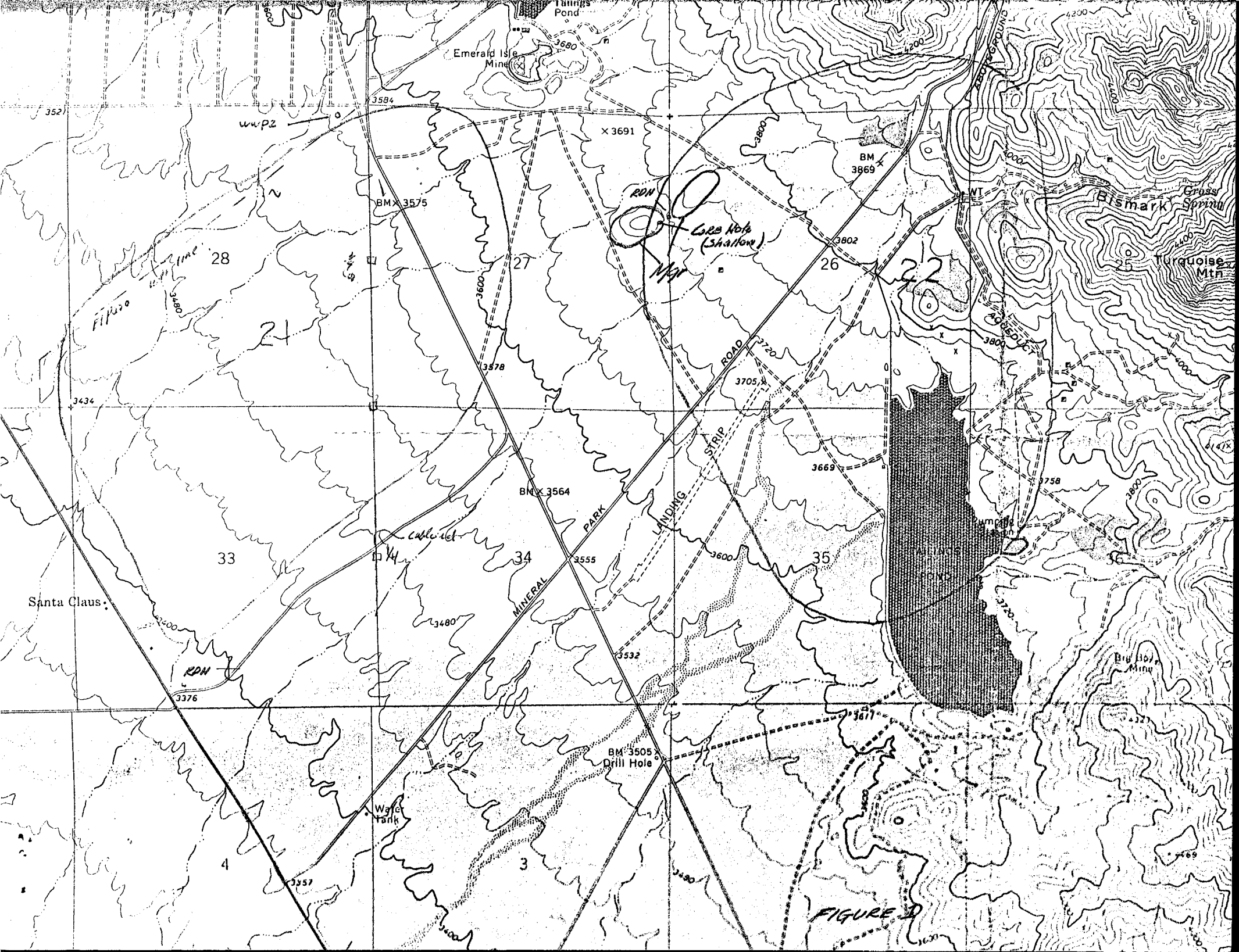
REMARKS:
Trace analysis

Page 2 of 2

CERTIFIED BY:

REGISTERED ASSAYER CERTIFICATE NO. 9425 WILLIAM L. LEHMBECK DATE SIGNED 8/20/75 Arizona U.S.A.

DATE REC'D:	DATE COMPL.:	JOB NUMBER:
8/7/75	8/20/75	751722


Tailings Pond
Emerald Isle Mine
3680
3584
3521
wwp2
× 3691
BM 3869
BM × 3575
RDH
Core Hole (Shallow)
Mgr
3802
WT
Bismark
Gross Spring
Turquoise Mtn
28
27
26
25
22
21
3600
3480
3578
3720
3705
3800
4000
4200
4400
3434
ROAD
STRIP
LANDING
PARK
MINERAL
3669
3758
BM × 3564
cabin
33
34
35
36
3555
3600
Santa Claus
3480
3532
RDH
3376
3617
BM 3505
Drill Hole
Water Tank
4
3
3357
3480
3400
FIGURE 1

Tucson, Arizona
July 28, 1975

To: Mr. J. B. Imswiler - IMC

From: A. J. Perry - PKK

Subject: Arizona (IMC) Porphyry Copper Project
Monthly Report, July, 1975

During July recommendations for property acquisition and further exploratory work were made for two properties: 1) C. G. Patterson copper-molybdenum prospect, located north of Duval's Ithica Peak deposit and 2) Mammoth-Black Queen gold prospect, Pinal and Maricopa Cos. (assuming a satisfactory settlement of pending litigation between the owners, Goldfield Mines and recent locators, Apex Exploration).

Miss Colburn completed further geologic work on the Mammoth-Black Queen. No data was developed which would adversely effect the potential of the property as previously described. Adverse claimants, Apex Exploration and Development of Apache Junction cleaned out 25' of a vertical shaft reported to be 65' deep. They established a temporary office on the property. Goldfield is reported to have filed an action and a hearing was set for July 23. We have not heard the results of that meeting. A planned negotiating session with optionee Charles Simpson was delayed pending a favorable result of the dispute. IMC has been asked to determine a general interest/no interest presuming an unincumbered property.

The C. G. Patterson Property was recommended as an exploration target. Both a shallow chalcocite target and a deep primary objective are envisioned.

We now have in our possession the primary aeromagnetic data of Superior Oil for the Detrital Valley area. Superior's initial intrepretation yielded 26 targets ranging in quality from good to poor. Duval's deposit is covered and there are eight anomalies on the compilation sheet covering about a $2\frac{1}{2}$ Twsp area north, west and south of that mine. Initial followup will be on these targets.

One weeks geologic recon was accomplished by Miss Colburn in Yuma County. She is preparing a brief report. Followup work appears warranted.

A minor silver occurrence (Hot Spot Prospect) was examined in Pre-Cambrian rocks near Lake Havasu City.

The following time was devoted to Project work during July:

A. J. Perry	12 days
Nora Colburn	Full Month
W.W. Perry (technician)	8 days

A. J. Perry

Tucson, Arizona
July 3, 1975

To: Mr. J.B. Imswiler
IMC

From: A.J. Perry
Perry, Knox, Kaufman, Inc.

Subject: Arizona (IMC) Porphyry Copper Project
Monthly Report, June, 1975

June exploration efforts were devoted primarily to; 1) continued work in the Detrital Valley area, Mohave Co., specifically the C.G. Patterson property, 2) followup efforts at the Mammoth-Black Queen, Maricopa and Pinal Counties and 3) the Yuma County Compilation. There are no new developments at Cuprite and the Detrital Valley Agreement has yet to be executed by Superior.

Perry devoted 4 days to study of data pertaining to past exploration by Alcoa and Duval on the C.G. Patterson property and to reconnaissance geologic mapping of a 1 3/4 square mile area. There are indications that a possible postore copper-moly target at depths of +3500' remains untested. Some rock chip samples were collected over the area of principal interest. A report and recommendation for positive action is in preparation. Local Duval management had proposed deep drilling on the Patterson for calendar 1975. This recommendation was not approved.

Aerial photographs were contracted for and received, covering about 5 square miles surrounding the Mammoth-Black Queen area. Nora Colburn mapped a north trending strip 5000' X 1700' in dimensions extending from the old Mammoth pit. A potential target of ±40 million tons of gold bearing rock is envisioned.

At a meeting with Mr. J.B. Imswiler a program of shallow trenching/sampling was discussed; assuming reasonable terms can be arranged.

A geochemical survey of the Mammoth-Black Queen zone was about ½ completed when adverse claimants were encountered cleaning out an abandoned shaft on the Black Queen. The lessee, Mr. C. Simpson of Scottsdale with whom we have been talking, has been advised of this activity. Pending a satisfactory solution to the claims conflict we will summarize the work completed.

Miss Colburn has completed a 6 weeks map/data compilation of Yuma County. A report has been submitted. Several areas outside of the numerous withdrawn tracts (Game Ranges, Bombing Ranges, etc.) warrant our reconnaissance.

During June, A.J. Perry devoted $11\frac{1}{2}$ days to the project (including 5 days DV). Miss Colburn worked 20 days on compilation. A technician was involved for 4 days DV and 1 day IMC-AZ general.

Tucson, Arizona
June 3, 1975

To: Mr. J.B. Imswiler
IMC

From: A.J. Perry
Perry, Knox, Kaufman, Inc.

Subject: Arizona (IMC) Porphyry Copper Project
Monthly Report, May, 1975

During May preliminary prospecting was undertaken in the Detrital Valley area, Mohave County. Perry scouted the properties of Mr. C.G. Patterson located immediately north of Duval's Mineral Park holdings. Blakestad worked in the area to the south of Mineral Park (including the old Golconda Mine area). Cores from the 3 deepest holes drilled on the Patterson ground have been examined. The 7½ min. topog sheet of that area has been enlarged to 1" = 1000' scale. A reconnaissance geologic map will be prepared and a summary presented as to the remaining mineral potential.

The Agreement with Superior for use of their aeromag data has not yet been amended by IMC and forwarded for Superior's ratification.

Blakestad examined the Mammoth - Black Queen mines area (gold-silver), Superstition Mining District, Maricopa and Pinal Counties. Bob is fairly enthusiastic about the wide zones of shearing/mineralization despite only fair to poor initial sample results. Bob emphasizes that the samples collected were taken from surface and suggests that leaching may account for the low tenor of material sampled. There will be further study of the area.

Nora Colburn, formerly a geologist for Cyprus Arizona Operations, has been employed on a contract basis and is compiling geologic information (including map compilation work) on W. Yuma County, an area much neglected by exploration. Preliminary review of work to date indicates some prospecting areas will be pointed up. Miss Colburn will complete her work in about two weeks.

There are no new developments in the Cuprite Area. Bear Creek has not yet reached agreement with Horizon Corporation.

In May, Perry devoted 13 days to the project -- Blakestad 11 days. Miss Colburn has devoted the full period to her research.

To: Mr. J.B. Imswiler
IMC

From: A.J. Perry
Perry, Knox, Kaufman, Inc.

Subject: Arizona (IMC) Porhyry Copper Project
Monthly Report, March and April 1975

Project efforts during March were limited primarily to; attempts to solve claims conflict problems at the Cuprite and discussions with Asarco and Bear Creek Mining Company re: their intentions in that Project area.

During April our 16 claims in the Cuprite area were validated and proper certificates filed. Mr. Edgar Heylmun, independent geologist, who had over-staked some of our PKK-A series claims acknowledged his error and indicated he would withdraw his locations. Contrary to expectations Asarco notified Bear Creek and IMC-PKK that they would proceed with exploration in the Cuprite area on a unilaterial basis, at least for the present. Bear Creek is attempting to deal with Horizon Corp. for some lands located east of our block. To date there has been no response to their proposal from Horizon. IMC is withholding forwarding a draft of proposed agreement to Horizon until we determind if it is Bear Creeks decision to join in exploration with IMC-PKK.

Substantial time was devoted to examination of exploration possibilities on the Maxie Adkinson properties, Silver Mining District in Yuma Co. The combined target size of properties within the District not controlled by the New Jersey Zinc Company did not appear adequate to be of interest to IMC.

Three precious metals properties; Humbug (gold - Maricopa Co.), *Jupiter (gold and silver - Pinal Co.), and *Aliso Springs (gold - Pima Co.) were examined. All were judged to be to small for other that gambosino operations, if that.

*Reports in preparation

Tucson, Arizona
February 10, 1975

To: Mr. J.B. Imswiler
IMC

From: A.J. Perry
Perry, Knox, Kaufman, Inc.

Subject: Arizona (IMC) Porphyry Copper Project
Monthly Report, January, 1975

January activities included completion of a preliminary evaluation of the DeSoto massive sulfide prospect, Yavapai County and examination of four other prospects (Old Glory - Margarita Area, Santa Cruz County, Newsboy Prospect (Ag/Au) Maricopa County, Charlotte Prospect, Maricopa County, and Slate Creek Prospect, Yavapai County). There was a continuation of the evaluation of the Powers Properties at Safford. A proposal was made Horizon Land Company re: their property in the Cuprite Area, Pima County. Our 16 PKK claims were repapered January 25. An arrangement will probably be made to acquire the aeromagnetic data of Superior Oil covering the Detrital Valley area, NW of Kingman.

A.J. Perry expended 10 days on Project related activities; James A. Knox, 11 days.

Activities during February are expected to include; 1) some determination re: the merit of proceeding with exploration at the DeSoto on renegotiated terms, 2) final evaluation of the Powers Safford properties and 3) submission of a pre-magnetic evaluation analysis of the potential of the Detrital Valley area.

Bruce - 2/11/75

Attached are 2 copies each:

① Monthly Report

② Copeland - Slate Creek Props.

③ Old Glory - Margarita Area.

—

As our time sheets, forwarded to you by Mrs. Allison Effleet -- in addition to the 21 days (AJP and JAL combined) shown on the Monthly Report -- we have 10½ hrs. bookkeeping and 1½ days R. Leisure (carried forward from a past month).

—

Possibly some mix up here - did you receive a Newsboy Property, Maricopa Co. report? If not pls. call.

Al

Bruce - 2/11/75

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Al

Tucson, Arizona
March 15, 1975

To: Mr. J. B. Imswiler
IMC

From: A. J. Perry
Perry, Knox, Kaufman, Inc.

Subject: Arizona (IMC) Porphyry Copper Project
Monthly Report, February, 1975

Work during February consisted of : 1) reconnaissance of the area NW of Kingman (Superior's Detrital Valley magnetics area) and compilation work pertaining to the same region, 2) further work on the DeSoto evaluation, 3) completion of a report on the Powers Properties at Safford, 4) minor continuing work on the Cuprite property and the proposed IMC-Horizon Agreement, and 5) a brief reconnaissance of the Orofino Placers, near Quartzite (report to be forwarded).

The Kingman area geology was reviewed with Mr. Imswiler and an enlightening visit was made to Duval's Mineral Park copper-moly operation.

Bear Creek and ASARCO who control lands adjacent to IMC-PKK at the Cuprite remain undecided about 1975 joint exploration; Bear Creek apparently because of continuing budget uncertainties. ASARCO's attorneys are said to be investigating to determine if any anti-trust problems might develop from a BC-ASARCO venture. A three way meeting is still planned, but the date remains uncertain. The 16 unpatented lode claims of IMC-PKK will be validated during March.

A. J. Perry worked 9½ days on the Project during February. James A.Knox devoted 2½ days to Project activities. There were other minor charges for secretarial- accounting work.

During March we hope to consumate the Agreement with Horizon and with Superior for the Detrital Valley aeromagnetics information.

IMC has notified PKK that they have no interest in pursuing possibilities at the DeSoto. PKK has requested a release of this property from terms of the Agreement as that information provides.

Tucson, Arizona
January 2, 1975

To: Mr. J.B. Imswiler
IMC

From: A.J. Perry
PKK

Subject: Arizona (IMC) Porphyry Copper Project
Monthly Report, December 1974

December activities were somewhat restricted due to holiday time off. Work continued on the Sanchez Evaluation and at the Cuprite. Data was examined pertaining to a massive sulfide copper occurrence in Yavapai County (DeSoto Mine). That examination will continue. Negative reports were submitted for the World's Fair Property and the Oroblanco Mine Area.

A.J. Perry devoted 9 days to Project related activities, and James A. Knox, 2 days. R. Leisure and W. Sumner expended 3½ days in support.

On December 3, the author met in Inspiration with Messrs. Imswiler and Lindberg of IMC and metallurgical consultant Norman Weiss to further review ICCC Sanchez Project data. Imswiler and Perry visited the project area with ICCC geologist Jack Eastlick.

Mr. Weiss submitted a brief but favorable report December 6 concluding that: 1) the Sanchez modification of the Mangula leach system was well adapted to Sanchez ores, 2) +60% copper recoveries could be expected -- with a considerable upside recovery trend, 3) current Sanchez capital costs have a 40-50% low and 20% high degree of accuracy because of the lack of engineering drawings, 4) operating costs were calculated in a generally acceptable manner, and 5) a first engineering feasibility study could be concluded in less than 4 months.

IMC is running Sanchez estimates thru its computer programs to determine if the anticipated return is acceptable. Mr. Imswiler communicated with Inspiration December 10 indicating that IMC could not meet ICCC's deadline for proposals of December 15, but that they would work toward a December 31 deadline.

Contact has been made with Horizon Corporation, owners of about 360 acres (surface and minerals) in Sec. 21 - T17S - R16E; an area critical to proposed Cuprite exploration. Mr. Russell Wilde, Executive Vice President of Horizon has asked for a proposal -- copy previously forwarded IMC. Contraty to our previous experiences with Horizon they now indicate they are amenable to some business arrangement.

Bear Creek has been contacted re: Secs. 22 and 23, where they hold State prospecting permits. They would apparently entertain a venture arrangement, if funds are made available for their 1975 participation. They will know of their financial capabilities by January 15. Bear Creek had already contacted ASARCO who controls N/2 - Sec. 27 and NW/4 - Sec. 26. They seem willing to participate also.

Our prospecting permit applications on several sections surrounding Horizon terminated December 17. These lands do not now appear critical to our proposed efforts.

Our claims, now number sixteen (PKK-1-16) and cover portions of Secs. 21 and 28, T17S - R16E. Approximately five additional claims may be located in SW/4, Sec. 21. Our sixteen claims were located beginning 10/28/74 and are due for recording by January 26, and validation 30 days later. I believe it in our best interest to validate these lands if we receive a favorable response from Horizon, on the speculation that a venture will be possible with Bear Creek and ASARCO. The cost of validating all claims should not exceed $2500.

A.J. Perry

Tucson, Arizona
December 2, 1974

To: Mr. Bruce Imswiler
IMC

From: A.J. Perry
Perry, Knox, Kaufman, Inc.

Subject: Arizona (IMC) Porphyry Copper Project
Monthly Report, November, 1974

Exploration activities during November centered around four properties:

IMC-AZ-6 - Inspiration's Sanchez Copper Oxide Deposit

IMC-AZ-7 - World's Fair Precious Metals Property

IMC-AZ-5 - Cuprite Copper Prospect

IMC-AZ-3 - Oroblanco District

A.J. Perry devoted 12 days to Arizona Project activities. Jr. Geologist-Sampler, R. Leisure provided 13½ days in support.

By far the most important Project development centered around Inspiration Consolidated Copper Company's Sanchez Deposit, located near Safford, Graham County. Initial contacts were made with ICCC by A.J. Perry. On November 11, Mr. J.B. Imswiler and A.J. Perry met with Mr. John G. Kuhn, ICCC New Projects Director, at Inspiration. Summary reports of ICCC and Union Pacific related to the Sanchez were reviewed. A very brief visit was made to the Sanchez.

Union Pacific Mining Company had made a preliminary evaluation of Sanchez economics and entered into a tentative arrangement with Inspiration, dependent upon a more complete study. UP decided not to proceed after an 18 month evaluation. ICCC now seeks another venture partner. Reportedly, 15 companies have data and are considering this opportunity. Inspiration hopes to have proposals from interested parties by December 15.

ICCC says that the company whose proposal is accepted will be allowed time for further feasibility study.

IMC has engaged Mr. Norman Weiss, Tucson metallurgical consultant, to review proposed treatment methods and estimated costs. Mr. Robert D. Lindberg of IMC will look over mining aspects of the Sanchez. Imswiler and Perry are scheduled for a geologic review of the Property with John Eastlick, geologist for ICCC, December 3.

Using UP's reserve of 116 million tons, 0.38% Cu and 70% recovery, with 20,000 tpd ore production @ 68¢ copper -- UP calculated a 15.7% DCF for the Project -- generating a $4.1 million annual income, after taxes.

On October 28 and 29, PKK restaked 16 claims in the Cuprite Area, Secs. 21 and 28, T17S, R16E, at the north end of the Santa Rita Mountains and only 5-6 miles NNE of Anaconda's Helvetia Deposit. Prospecting permits were filed with the State of Arizona for mineral rights on about 3000 acres in the same area.

Possibilities for copper in economically interesting amounts depend upon the discovery of substantial replacements of favorable beds -- probably in lower Paleozoic units at depths in excess of 2500 feet from surface. The area of principal interest is in E/2 Sec. 21 and Secs. 22 and 27 where favorability is marked by ESE trending dikes anomalous in copper and structurally controlled zinc occurrences.

The advisability of proceeding with exploration at the Cuprite will largely be tempered by 1) the willingness of Horizon Land Company to enter into a reasonable agreement ie: their surface and mineral interest in Sec. 21 and 2) the interest of Bear Creek and ASARCO (who hold prospecting permits on the two other critical sections) in entering into some sort of joint exploration arrangement. Our chances of resolving this complex land situation, at this time, must be viewed as poor at best. A proper report will be prepared re: Cuprite if it appears that possibilities for exploration improve.

Mr. Lyall Lichty of Tucson has submitted data, including geochemical survey results re: the World's Fair Prospect, Santa Cruz County. A copy of Lichty's report on the Prospect has been provided IMC.

Results of PKK's check sampling are under review and a full report will be submitted in the near future.

We have concluded that no exploration is warranted in the Oroblanco Mine Area, Oroblanco District (report also in preparation). Some check work remains to be done in the Margarita Mine area.

Tucson, Arizona
January 2, 1975

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IMC

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PKK

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Monthly Report, December 1974

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We have concluded that no exploration is warranted in the Oroblanco Mine Area, Oroblanco District (report also in preparation). Some check work remains to be done in the Margarita Mine area.

Jerry

Tucson, Arizona
November 2, 1974

To: Mr. J. Bruce Imswiler - IMC

From: A. J. Perry - PKK

Subject: ARIZONA (IMC) PORPHYRY COPPER PROJECT
Monthly Report, October, 1974

During October an evaluation was completed of Towne Mines' Properties at Safford (see J. A. Knox report of October 21). Evidence appeared weak for deep ore in near proximity to holes drilled in Towne's Skyview Area. An adverse property situation ruled out further work in the Ben Hur Area.

Investigations are being made into the current property situation and the detail of past exploration on lands once held by Kennecott, NE of their Safford Orebody.

A. J. Perry is scheduled to meet November 11 with Mr. John Kuhn, New Projects Director for Inspiration Consolidated Copper Company, re: their Sanchez Deposit located at Safford. Inspiration seeks to farm out this deposit-- reported to contain 80 million tons, about 0.40% grade copper.

Sixteen lode claims (PKK 1-16) have been located in the Cuprite Mine Area, Pima County. This area is situated at the north end of the Santa Rita Mountains, south of Tucson. In addition to the claims, prospecting permit applications have been filed on about $4\frac{1}{2}$ sections of State land surrounding the claims. All the lands are located in T17S-R16E. Detailed geologic mapping of the area in 1971-72 by Newmont and PKK indicates favorability at depth for copper-molybdenum, particularly in the receptive Glance conglomerate and possibly buried Paleozoics. Opportunities available to IMC-PKK depend largely on the interest of Horizon Land Company in allowing exploration on critical patented lands they control.

In the Oroblanco District, Santa Cruz County, geochemical sampling is in progress near the Oroblanco Mine. An area of well fractured agglomerate and intrusive is reported to contain anomalous amounts of gold.

We have examined information relating to the World's Fair Mine located in the northern Patagonia Mountains, Santa Cruz County. There may be possibilities of disseminated silver being available near surface, adjacent to old high grade chutes, if the geochemical sampling of previous explorers can be relied upon. A field examination will be undertaken.

It is now estimated that between $30,000 and $60,000 would be required to aeromagnetically survey the Detrital Valley Area, Mohave County. This area is situated adjacent to Duval's Mineral Park Mine. The survey price depends largely on the precise size of the area and the survey line spacing. Superior Oil is being contacted to determine their possible interest in selling their magnetics covering the area.

Sixteen and one-half man days were devoted to the IMC-Arizona Project during October.

A meeting is scheduled with Mr. J. B. Imswiler, during the month of November to review in the field some of the most interesting of our prospect areas.

A. J. Perry
Project Manager

Tucson, Arizona
November 2, 1974

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From: A. J. Perry - PKK

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A. J. Perry
Project Manager

Tucson, Arizona
August 10, 1974

To: Mr. [illegible]
International Minerals & Chem. Corp.

From: A. J. Perry - Perry, Knox, Kaufman, Inc.

Subject: [illegible] (IMC) PORPHYRY COPPER PROJECT
Monthly Report- July 1974

Project work commenced during July, on a one-half time basis as was agreed. PKK files pertaining to Arizona prospects were re-examined and critical Arizona literature reviewed. Plans were made to field check several areas, in the past thought to have exploration potential.

A large mineralized area located east of Wickenburg was briefly examined (Koch Copper-Gold Property-IMC-Az-1). Discussions were held with Towne Mines Exploration Co's local representative re: their properties in the Safford Mining District.

The meeting between IMC and PKK for purposes of review of likely looking target areas in Arizona would best be held at about the end of the second week in August, from PKK's standpoint.

We have not yet received IMC's draft of proposed agreement covering Arizona exploration.

A. J. Perry

Examined 7/15-16/74
A.J. Perry

IMC-ARIZONA-1 KOCH (COUSINS) COPPER-GOLD PROPERTY,
Bitter Creek - Garfias Wash Area (White Picacho Mining District); Maricopa Co.

Summary

The Koch property covers one of several large altered and pyritized areas in volcanics associated with porphyritic Laramide intrusives, in the region between Morristown and Castle Hot Springs. Although the sulfide system carries some copper and gold it is thought that any large target, if present, is probably buried at depths exceeding those of current economic interest (±5000' from surface). The absence of any known orebodies in the area bears on this decision.

Recommendation

IMC-PKK should take no interest now - but future activities in the area should be monitored.

Location

The Koch (Cousins) copper property consists of about 3000 acres, all held by unpatented lode location, reportedly covering most of a broad WNW trending altered and mineralized belt extending thru portions of Secs. 8 thru 16, T7N - R2W, Yavapai County (Garfias Mountain Quad - 7½ min Series, Arizona). See Figures 1 and 2. Access to the area is by the Castle Hot Springs Road from Morristown (on US 60) located about 12 miles to the west.

Background

Bear Creek Mining Company reportedly drilled 3 holes in the Cousins claims area in 1947-48 -- possibly not to depths exceeding 350'. Work was said to have been restricted to S2/4 - N2/9. One Bear Creek hole was located during the brief PKK examination. The site is in the center of the line common to Secs. 4 and 9. A Mr. Harold Ferron is said to have held 12 claims in the same vicinity prior to Bear Creek -- and supposedly intersected interesting gold in one shallow drill hole. The owners say Cyprus Mines once conducted an IP survey of the area -- results unknown. There has been no known mineral production from the claims area.

Mrs. Del Koch, 34 Colonia Miramonte, Camelback Inn Estates, Paradise Valley, Arizona, has a 20% interest in the Cousins properties and an option on the whole.

General Geology

Reference to the Geology Map of Yavapai County, scale 1/375,000 shows the Cousins lands are covered by Cretaceous andesites intruded by two NW trending Laramide dikes -- part of a group of five Laramide masses (the others being at least plus one section in size).

The intrusive group appears to be situated about three townships NE of the intersection of the Southwest Arizona, Copper Cities and Iron King Linements of (Mayo, Schmitt and Lacy).

No detail is available from the Arizona Bureau of Mines even in the form of rough field sheet geology. There is apparently no other source of geologic data available

We are certain, from our very cursory examination that on smaller scale the geology is complex.

PKK Examination

The author examined the Cousins' property the afternoon of July 15 in the company of Mr. Ronald Karvinen, consulting geologist and representative of Mrs. Koch and the following morning without Karvinen's guidance. The entire claims area was not covered but only the "highlights" as pointed out by Karvinen.

Bitter Creek was carefully traversed in the E/2-9 and W/2-10 (see attached portion of Garfias Mtn. Quad). Several rock chip samples were collected -- assays and sample descriptions are attached. A gold prospect was visited in SW-10 (sple 11) and oxide copper showings in S2/4 - N/2-9.

Examination Observations

Rocks traversed in Bitter Creek are far more varied than can be shown on the county geologic map. Substantial areas of foliate Pre-Cambrian rock are exposed in the Creek bottom. These older rocks are altered and pyritized and are jarositically stained. The overlying volcanics are also altered, mineralized and stained a brick red (presumably from the substantial amounts contained hematite). Rocks of all types are well brecciated and/or crackled.

The volcanics are probably andesitic but locally they defy identification due to the intense alteration. The volcanics are silicified and propylitized at the west end of the Bitter Creek traverse. Volcanics near the junction of Bitter Creek with the Castle Hot Springs road (in center Sec. 10) are silicified and contain abundant sericite. In E/2-9 a N30W striking more intensely colored red zone (200-300+ in width), marks the presence of one of the Laramide porphyry dikes shown on the County map. Sample 2 was collected along the dikes East side. The dike is well silicified and sericitized. The immediately adjacent volcanics are especially well broken and brecciated. The dike can be observed to extend + 1 mile NW of Sample Site 2 and at least $\frac{1}{4}$ mile to the SE.

In S2/4 - N/2 - 9 the same dike zone has been prospected by dozer cuts. One Bear Creek hole is reported to have been drilled in one of the cuts. Low grade oxide copper ore (40-50 tons est.) stacked in NW9 is assumed to have come from the cuts area. Much of the ore is andesite porphyry with a good development of former sulfide stockworks and some barite. Another pile is composed of principally mineralized felsic volcanic material. Fracture coatings on both rock types include minor chalcocite. Most of the mineral is copper oxide and chrysocolla. In the cuts area at least one N40E structure was noted. The mineralization may be localized due to structural intersections.

Evaluation

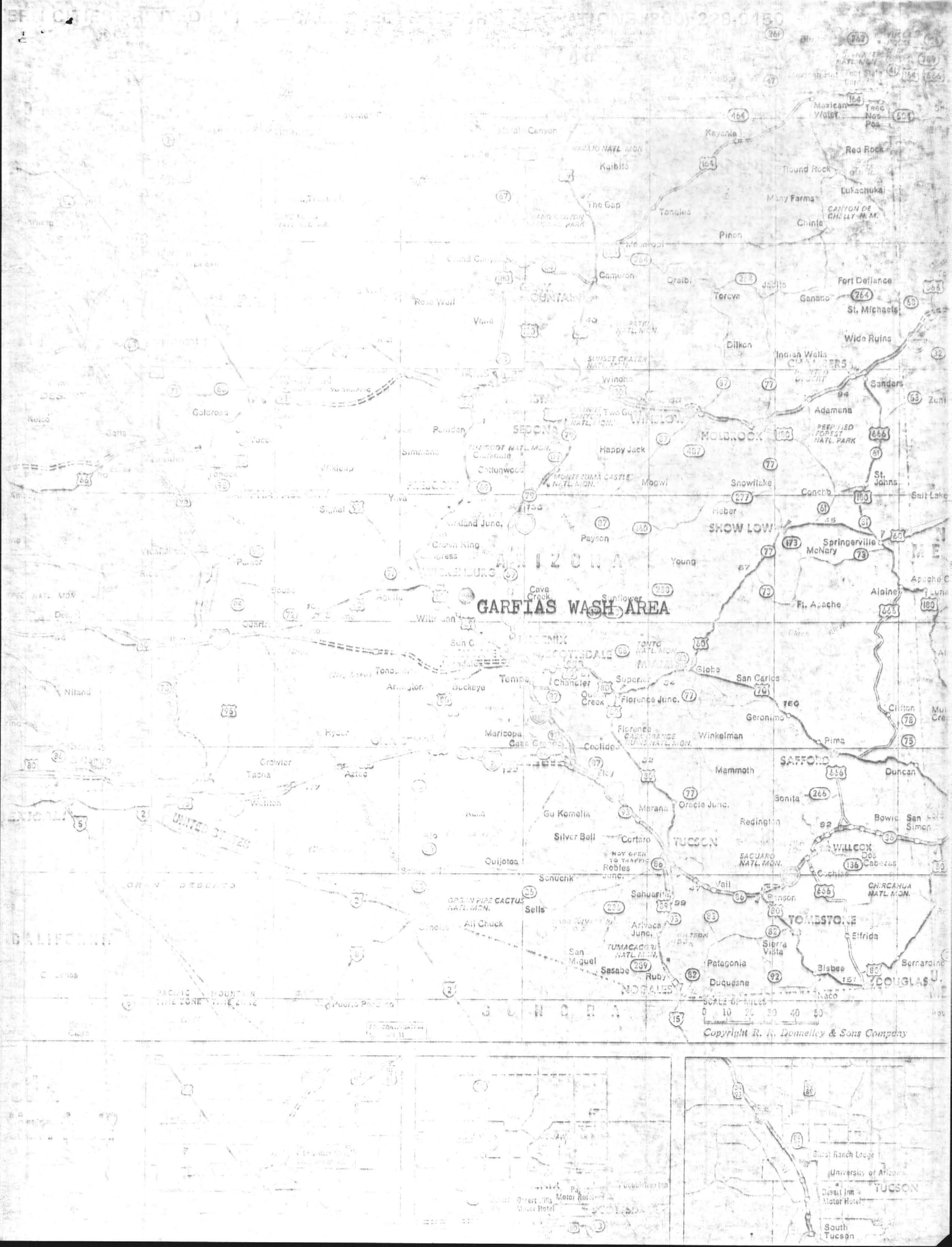
We are certainly dealing with a substantial sulfide system, as represented by Karvinen. There are only minor indications of copper and gold -- principally in the N30W dike area, along faults and in the few veins -- mostly of the same trend.

We are looking at protore with no apparent chance for enrichment. There is the possibility that we are high up in the pyrite halo around a copper zone with "peek-thrus" of copper only along major breaks. If this is the case we might expect some buildup of copper with depth -- but a gradual buildup. Geochem analyses of samples collected apparently at random by Quintana over a $2\frac{1}{2}$ section area (without sample descriptions) show generally 50-205 ppm Cu - where there is any copper present. These are indeed weak indications in a generally unleached copper zone.

If there is a target it is very deep - say $\pm$5000'. One might make a judgement to undertake some work in the area

if there were substantial nearby production but there is none.

The Bitter Creek-Garfias Wash Area will eventually be drilled to depth. This is not the type target IMC should undertake to test at this time. Better opportunities will certainly become available.


GARFIAS WASH AREA
ARIZONA
SONORA
CALIFORNIA
Copyright R. R. Donnelley & Sons Company
SCALE OF MILES
0 10 20 30 40 50
Kaibito
The Gap
Tonalea
Kayenta
Round Rock
Red Rock
Many Farms
Lukachukai
Chinle
CANYON DE CHELLY N.M.
Pinon
Cameron
Oraibi
Tercva
Ganado
Fort Defiance
St. Michaels
Dilkon
Indian Wells
Wide Ruins
Winona
WINSLOW
HOLBROOK
Sanders
Adamana
PETRIFIED FOREST NATL. PARK
Happy Jack
Snowflake
St. Johns
Concho
Heber
SHOW LOW
Springerville
McNary
Young
Payson
Ft. Apache
Alpine
Rose Well
Valle
Goldroad
Kelso
Simmons
Cottonwood
SEDONA
Mogul
Kirkland Junc.
Crown King
Cave Creek
Sunflower
SCOTTSDALE
Tempe
Chandler
Superior
Globe
San Carlos
Queen Creek
Florence Junc.
Geronimo
Florence
Winkelman
Maricopa
Casa Grande
Coolidge
Pima
SAFFORD
Duncan
Clifton
Mammoth
Oracle Junc.
Marana
Bonita
Redington
Bowie
San Simon
Gu Komelik
Silver Bell
Cortaro
TUCSON
WILLCOX
Dos Cabezas
Quijotes
Robles Junc.
SAGUARO NATL. MON.
Vail
Benson
CHIRICAHUA NATL. MON.
Sells
Sahuarita
ORGAN PIPE CACTUS NATL. MON.
Ali Chuck
Arivaca Junc.
TOMBSTONE
Elfrida
San Miguel
Sasabe
TUMACACORI NATL. MON.
Sierra Vista
Patagonia
Ruby
Duquesne
Bisbee
DOUGLAS
Bernardino
NOGALES
Naco
Crowder
Tacna
Aztec
Niland
Buckeye
Arlington
Wittmann
Crowder
Tonopah
Guest Ranch Lodge
University of Arizona
Desert Inn Motor Hotel
South Tucson
Motor Hotel

INTER-OFFICE CORRESPONDENCE

COPIES TO:

PKK

TO P. O. Sandvik

FROM J. B. Imswiler

DATE April 2, 1976

SUBJECT Summary of Activity During Past Twelve Months

During the post-meeting budget discussion between you, D. L. Everhart, M. A. Upham and myself, I made the statement that we were getting an extremely high value for our exploration dollars spent in the PKK program. Your reply was "I don't know that that is true; I don't know what we are getting for our money."

As a matter of clarification, I am enclosing a brief summary of our PKK progress through November 30, 1975. Since that date, we have made a complete evaluation of the Strong and Harris properties north of Johnson Camp; have made an in-depth evaluation of the James Sullivan properties at Johnson Camp, and have made a preliminary appraisal of the Zonia Cement Copper property in Yavapai County, Arizona. Further information on any or all of these prospects can be obtained by referring to my monthly activity reports over the past 18 months. I think that the amount of exposure and the proposed projects (we are drilling one now with BCM) is quite impressive for the money spent.

In addition, I am sending you a brief outline of the major projects conducted by personnel of the Sparks office during the past year. Again, more information may be obtained through reference to my monthly reports. If you should have any questions or require further information, please do not hesitate to contact me.

J. B. Imswiler

:tlb
Enc. (2)

PERRY EXPLORATION COMPANY, Inc.
P. O. BOX 12754 TUCSON, ARIZONA 85732

5055 E. Broadway
Suite B-206
Tucson, Arizona
P.O. Box 12754 (85732)
Phone (602) 790-1175

October 18, 1976

Mr. J.B. Imswiler
Manager of Exploration
Western USA
IMC
390 Freeport Boulevard
Suite 12
Sparks, Nevada 89431

Re: Final Status
Properties Jointly Held
IMC Arizona Project

On January 25, 1975, Perry, Knox, Kaufman, Inc. located sixteen (16) unpatented lode mining claims in Secs. 21 and 28, T17S, T16E, in the Cuprite Mine area, Empire Mining District, Pima County, Arizona (PKK 1A thru 16A).

Those claims were subject to the Agreement - IMC Arizona Project, effective July 1, 1974. Under terms of that Agreement, PKK reserves a 4% fully carried net profits interest in any production resulting from the commercial exploitation of the claims.

The claims were subsequently validated by drilling and the validations recorded. The claims names, and book and page references of the original locations are appended for record purposes.

At request of Bear Creek Mining Company, PKK subsequently conveyed the claims to IMC in order that IMC might join with Bear Creek in the exploration of a larger area in the Empire District (Agreement of February 18, 1976).

PKK 5A thru 16A were maintained thru the assessment year 1975-76 by the Bear Creek-IMC venture.

On October 5, 1976, Mr. J. Bruce Imswiler of IMC terminated the Bear Creek-IMC Agreement. The properties of IMC (the PKK 5A-16A claims) reverted to IMC -- with PKK's interest continuing under terms of the IMC Arizona Project Agreement.

No other properties are held by either PKK(PXC) or IMC under terms of the IMC Arizona Project Agreement.

If this letter accurately reflects IMC's understanding of the final status of the Project lands, at the time of termination of the Project, please so indicate by signing and returning a copy of this letter to PKK, Tucson.

A. J. Perry
President
PERRY, KNOX, KAUFMAN, INC.

Agreed: _____

for IMC.

APPENDIX

ORIGINAL RECORDATIONS IMC-PKK OWNED CLAIMS AT CUPRITE, PIMA CO., AZ.

Claim Name	Book	Page
PKK 1A	4983	206
PKK 2A	"	207
PKK 3A	"	208
PKK 4A	"	209
PKK 5A	"	210
PKK 6A	"	211
PKK 7A	"	212
PKK 8A	"	213
PKK 9A	"	214
PKK 10A	"	215
PKK 11A	"	216
PKK 12A	"	217
PKK 13A	"	218
PKK 14A	"	219
PKK 15A	"	220
PKK 16A	"	221

INITIAL
PKK PROPOSALS TO IMC
FOR MINERALS EXPLORATION -
ARIZONA - 1974 - 75

PKK's proposals to IMC for commencement of serious work in Arizona centers on five areas for which background work has been accomplished -- excluding the Safford area which will be discussed separately. The areas are:

*1. Detrital Valley Area (Kingman), Mohave Co.
2. Black Mountain Area, Mohave Co.
*3. Florence to Ray Area, Pinal Co.
4. Ajo Area, Pima Co.
5. Oro Blanco Mining District, Santa Cruz Co.

Considering PKK's one senior man, one-half time committment to IMC, it would appear unwise to select more than perhaps two-three of the areas for scrutiny during the next year -- this work could easily later be focused on one area to the exclusion of others if involved and expensive work (land acquisition, drilling, trenching, etc.) appeared warranted.

Much of the prospecting (areas 1, 2, and 4) involves the use of high quality and relatively expensive aerial magnetic data which would be available from The Superior Oil Company in return for a participating interest in any properties acquired within those areas. There would be some work committment required on the part of IMC. (See the attached possible proposal)

In area 1 and perhaps area 2 there is some possibility that Duval could be enticed to enter into joint exploration -- though work with Duval, Superior, IMC and PKK (10%) might reduce interests below those sought -- if not by IMC, perhaps by Duval -- but this can be discussed.

Work in the Florence to Ray area would be rough-raw foot slogging type prospecting with much recon geology and substantial geochemical work. Locally the areas land is tight but overall acquisition possibilities are unknown. We believe Kennecott has one ore body within the area (perhaps only fluxing ore, but a deeper orebody is possible).

---

* Areas now judged to be of prime exploration potential.

SUMMARY OF SPECIFIC AREAS TO BE DISCUSSED

1. Detrital Valley Area, Mohave Co., Arizona -- area stretches NW from Kingman to within 15 miles of Lake Mead - total area, about 565 sq. miles (see attachment).

Potential - The potential is chiefly for porphyry type copper/moly orebodies -- similar to Duvals Mineral Park deposit -- though perhaps not enriched.

Geologic Promise - Several Laramide intrusives, including one at Mineral Park are located along a NW trending zone -- Chloride Linear (a split off the SW Arizona Lineament) -- they include large intrusive bodies at Deluge Wash and Wheeler Wash in the Hualapai Mountains, and others at Mineral Park (Cerbat Mountains Area) and the D & G properties in the Black Mountains. These intrusives are known to be well altered and mineralized in a stockworks fashion with pyrite, chalcopyrite and molybdenite.

Pre-Cambrian foliate rocks, Quaternary volcanics and alluvium conceal possible intrusive target areas -- which might be revealed by their magnetic signatures -- particularly in the non-volcanic areas.

Other reported intrusives eg. Mt. Perkins' and Crest of Black Mountains T20-21S, R21W, may be of the same geologic vintage and hold equal promise.

The Chloride and White Hills precious metals Districts fall along the Chloride trend and could represent precious metals hood zones above porphyry concentrations.

Recommended Exploration Procedures:

1. Using the available aeromag data examine each target area indicated (Superior has a high quality report describing the geophysical characteristics of the target areas -- including est. depths to the magnetic source) including surrounding bedrock exposures in the case of pediment blanketed anomalies.

2. Examine the specific land situations in the better looking anomalous areas.

3. Assuming reasonable terms -- acquire exploration rights and follow up with ground geophysics and geologic, geochem work where applicable.

Principal Deposits

Mineral Park (Duval) - anticipated total tonnage<100 million ±.76 Cu eg; including 0.04% Mo. Mineralization associated

with a single pulse(?) 72 my aged quartz monzonite porphyry (essentially the same age as the Bagdad qm). At Mineral Park there is good stockworks development with pervasive sericite and argillite surrounded by a propylitized zone. The general NW trend of the crescent shaped orebody and the corresponding 7 mi. long trend of the Cu-Mo vein zone emphasize the Chloride linear.

2. Black Mountain Area, Mohave Co., Arizona -- Extends from near Bullhead City southeast to Yucca and south covering the Buck Mountains, encompassing a total of about 790 square miles. (See attachment).

Potential - possible bulk low grade deposits of copper, gold, etc. eg. San Francisco (Oatman) District -- $35 mill. gold production. Area includes the Topock and Chemehuevis Districts.

General Geologic Setting:

In the Black Mountains Cretaceous andesites are intruded by a mass of Laramide granitic rocks and possibly smaller plugs. Quaternary basalts cover about 1/3rd of the Range where aeromagnetics are available. In the Buck and Mohave Mountains Pre-Cambrian foliates predominate with some Laramide dikes and possible small stocks being in evidence. About one half the total area covered by magnetics is overlain by Quaternary gravels.

The area is in near proximity to the high priority area north of Kingman. Should the decision be made to acquire the Superior aerial geophysics rapid scrutiny should be given the Black Mountain Area during the anticipated 30 day free inspection period -- to determine the possible real merit of the area for prospecting.

3. Florence to Ray Portion (Sacaton to Ray Mineral Belt) includes the E½ of a ENE aligned mineral trend that extends from ASARCO's Sacaton Deposit eastward thru Poston Butte (Conoco), the Pioneer District and Ray.

Mineral Potential - a twofold potential is envisioned 1) the fairly deep - low grade - disseminated copper-moly deposit and 2) possible oxide copper accumulations in Whitetail Conglomerate (a la Copper Butte).

Background

Mineral trend prospecting led ASARCO to Poston Butte and Sacaton in the late 50's - early 60's. Rough terrain and more complex rock mixture exposures east of Florence make exploration possibly more complicated. Kennecott and others (Miami Copper, The Superior Oil Company, Quintana Minerals, etc.) have prospected the subject area with Kennecott making at least one discovery.

General Geology

Pre-Cambrian terrain, (the rocks are largely of a foliate type) has been interrupted by Tertiary intrusives, at least two being several sections in size. Later dacite and gravel covers ¼ or more of the target area.

In the Pre-Cambrian, principal structural trends are NW and NE to ENE, while the alignment of the areas of vein concentrations are definitely ENE to EW. Copper oxides, chrysocolla and occasionally chalcocite are scattered thru the area between Florence and Ray -- with oxidized breccias being fairly common.

Some narrow Laramide dike-sill like bodies contain appreciable chalcopyrite -- reportedly containing locally 1-2% Cu.

Concentrations (swarms) of dikes - especially with accompanying increases in vein intensity could pinpoint likely "at depth" target areas.

Exploration Procedures

Our limited exposure in the Florence-Ray area suggests that prospecting would be best done using a system of foot slogging - reconnaissance mapping and geochem sampling simultaneously making observations with respect to land control.

Within a few weeks in the District it would be simple to determine the relative availability of working space in areas of apparent mineral interest.

General Comments

These producers/potential producers define the Sacaton to Ray Belt.

1. Sacaton (ASARCO) 9000 tpd - w/published reserves 50 million tons 0.70% Cu.

2. Poston Butte (Conoco) est. +500 million tons - 0.55% Cu.

3. Ray Mines Div. (Kennecott) 1972 - #5 US producer copper.

The above give an indication of the possible large - probably deeply buried targets to be found along the belt.

The Copper Butte occurrence of Kennecott (Secs. 19, 30 - T3S, R13E) is in Whitetail conglomerate with reserves unknown, but as at 1956 a former owner had shipped +100,000 tons - 2.5% Cu bearing silica rock to Hayden. A large reserve of good grade material could well be developed in the Whitetail at other locations. Deep drilling, thru the Whitetail by Kennecott at Copper Butte is said to have encountered only minor mineralization.

4. Ajo Area, Pima County, Arizona - area stretches from the New Cornelia Mine of Phelps Dodge south to the Puerto Blanco Mountains -- includes a portion of the Organ Pipe National Monument.

Potential

Working on the cluster theory (that the New Cornelia cannot sit alone) the area to the south marked by copper occurrences in the Gunsight Hills, on the Monument (Knox-Arizona's properties at Copper Mtn.), in the adjacent Growler, Bates and Puerto Blanco Mountains is an area worthy of a substantial inspection effort. The Cornelia quartz monzonite (the mineralized intrusive at Ajo) may be related to similar intrusives in the Gunsight Hills and possibly to potential areas between -- now masked by alluvium. Targets are of the New Cornelia type.

Approach

As with the Black Mountains Area, magnetics available thru Superior could be scrutinized with some field checking during the 30 day data examination period to determine if that data -- coupled with available surface mineral indications warranted a committment to expend reasonably substantial exploration funds.

General Comments

New Cornelia is #12 in national ranking (1972) as a copper producer, producing some 30,000 tpd raw ore -- grade about +.55% Cu.

The majority of the proposed area of prospecting (area of magnetic coverage) is overlain by pediment cover/basin fill making prospecting without geophysical tools largely a matter of geologic projection from altered and/or mineralized outcrop.

The presence of Phelps Dodge Corporation in the Ajo area and their apparent unsuccessful exploration outside New Cornelia has led to speculation as to the paucity of additional promise for porphyry type ores in extreme western Pima County. The isolation of the area has also detracted from concentrations of exploration.

5. Oro Blanco Mining District, Santa Cruz Co., Arizona - situated principally in Secs. 17 thru 20, T23S, R11E, about 3 miles south of the old camp of Ruby and 2 miles north of the Sonora border.

Potential

Reports of wide fault zone occurrences of precious metals (at least to 35' wide) at Tres Amigos and mineralized country rock at the Margarita -- (200'l X 100'w X 80') silicified and sericized country rock, with much material running 0.3 oz Au and 0.5 oz Ag give rise to possibilities for bulk low grade precious metals ore bodies.

The presence of non-penalty (+0.75% Cu) in ores directly shipped from vein faults in the area and the reported presence of numerous exotic copper shows along parallel NW trending structures may indicate deeper copper potential.

Past Production

From 1873 to 1932, $1.13 million in gold and silver was shipped from the numerous small mines of the District.

Current Activities

Exxon is conducting a regional geochemical study extending from Peña Blanca Canyon to the Baboquivari Range. They are also sampling tailings at Ruby. Beaver Exploration Company (Hudsons Bay) may be sampling on Arizona Western Gold Mining Properties within the District. A Mr. Ed Grossman is currently mining on a small scale from one of the prospects in the Oro Blanco area.

Suggested Exploration Procedure

1. Examine the District -- week of September 16.

2. Compile all information available from published literature and private reports (Arizona Department of Mineral Resources, Phoenix), pertaining to the District.

3. If warranted, undertake reconnaissance geologic work and geochem sampling of the District to 1) pinpoint areas with possible near surface, bulk gold-silver potential and 2) locate possible copper rich zones for deeper copper potential tests.

4. Possibly proceed with property acquisition and testing of 1) and/or 2) of 3 above.

The Oro Blanco District may hold potential for either open pit gold-silver ore or deeper copper possibilities. The property situation is said not to be extremely complex. Perhaps an area $1\frac{1}{4}$ X $1\frac{1}{2}$ - 2 mi. is involved - mostly unpatented lands. There are numerous reports and a myriad of prospects -- so this is a "piecing it all together" project. An initial examination will be made the week of September 16, after which a more firm opinion can be expressed.

Possible Proposal for Sharing of the Aeromagnetic Data of The Superior Oil Company for Select Arizona Areas

Earlier this week I discussed with Mr. B.F. Dickerson, III, Manager, Minerals Division, The Superior Oil Company, the possible availability to PKK and an unidentified major mining company of aeromag data* from select Arizona areas.

Superior would be amenable to an arrangement where they would supply aeromagnetic data (including aeromag contour maps, aeromag and altimeter tapes, aerial photo negatives, reports of aeromag interpretations and possibly geologic base maps 7½ min. scale (same scale as aeromag contour maps)).#

The data would be available, probably under the following arrangement:

1. Superior would furnish basic magnetic contour maps covering several predetermined select areas for scrutiny by IMC-PKK, for a period of 30 days.

2. IMC-PKK would at the end of 30 days select any or all areas for exploration. Superior would then make all selected area data available. On areas viewed but not selected for exploration, IMC-PKK would naturally return all data supplied, uncopied.

3. IMC-PKK would agree to expend a specific amount in exploration, on areas selected for further examination (possibly $50,000 per area over a 3 year period, including overhead and land acquisition costs).

4. Should IMC-PKK expend the required amounts per area, Superior would have the opportunity to acquire a 50% participating interest** in any properties taken by IMC-PKK. The total time of obligation to offer participation to Superior would be 5 years from receipt of data.

---

* The aeromag data of Superior is high quality data, prepared by Canadian Aero under the direct supervision of Superior Oil geophysical personnel. Line spacings are ½ mi.-500' ground clearance.

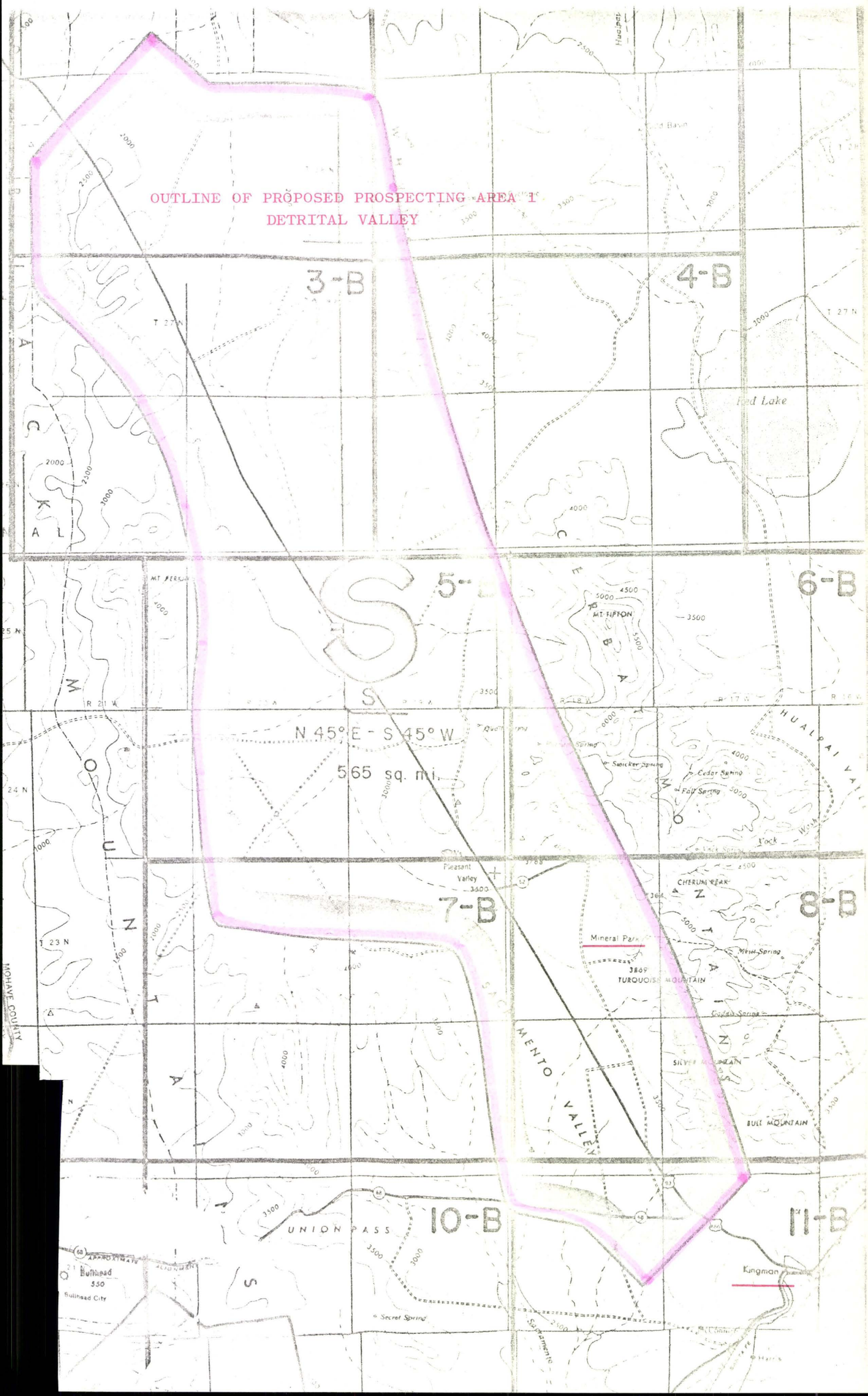
We estimate the current value of the data for the 3 areas to be as follows: Area 1 - $7,800; Area 2 - $11,200; Area 3 - $4,000; Total - $23,000.

Superior had a similar arrangement with Conoco in several Arizona areas, including at least the Deluge Wash area. They are said to have performed little work.

** Need for such a substantial interest could possibly be reduced if Duval were a participant at Detrital Valley and/or Black Mtn.

5. Should IMC-PKK not expend the required amounts, they would return all copies of the data to Superior and agree to independently undertake no further exploration within the subject area within the succeeding 18 months.

6. If submitted an exploration opportunity during the ensuing 18 month period by a third party, IMC-PKK would necessarily offer participation to Superior -- allowing 30 days for a decision.


OUTLINE OF PROPOSED PROSPECTING AREA 1
DETRITAL VALLEY
3-B
4-B
5-B
6-B
7-B
8-B
10-B
11-B
N 45° E - S 45° W
565 sq. mi.
Red Lake
MT TIPTON
HUALPAI VALLEY
Pleasant Valley
CHERUM PEAK
Mineral Park
TURQUOISE MOUNTAIN
SILVER MOUNTAIN
BULL MOUNTAIN
SACRAMENTO VALLEY
UNION PASS
Kingman
Bullhead
Bullhead City
MOHAVE COUNTY
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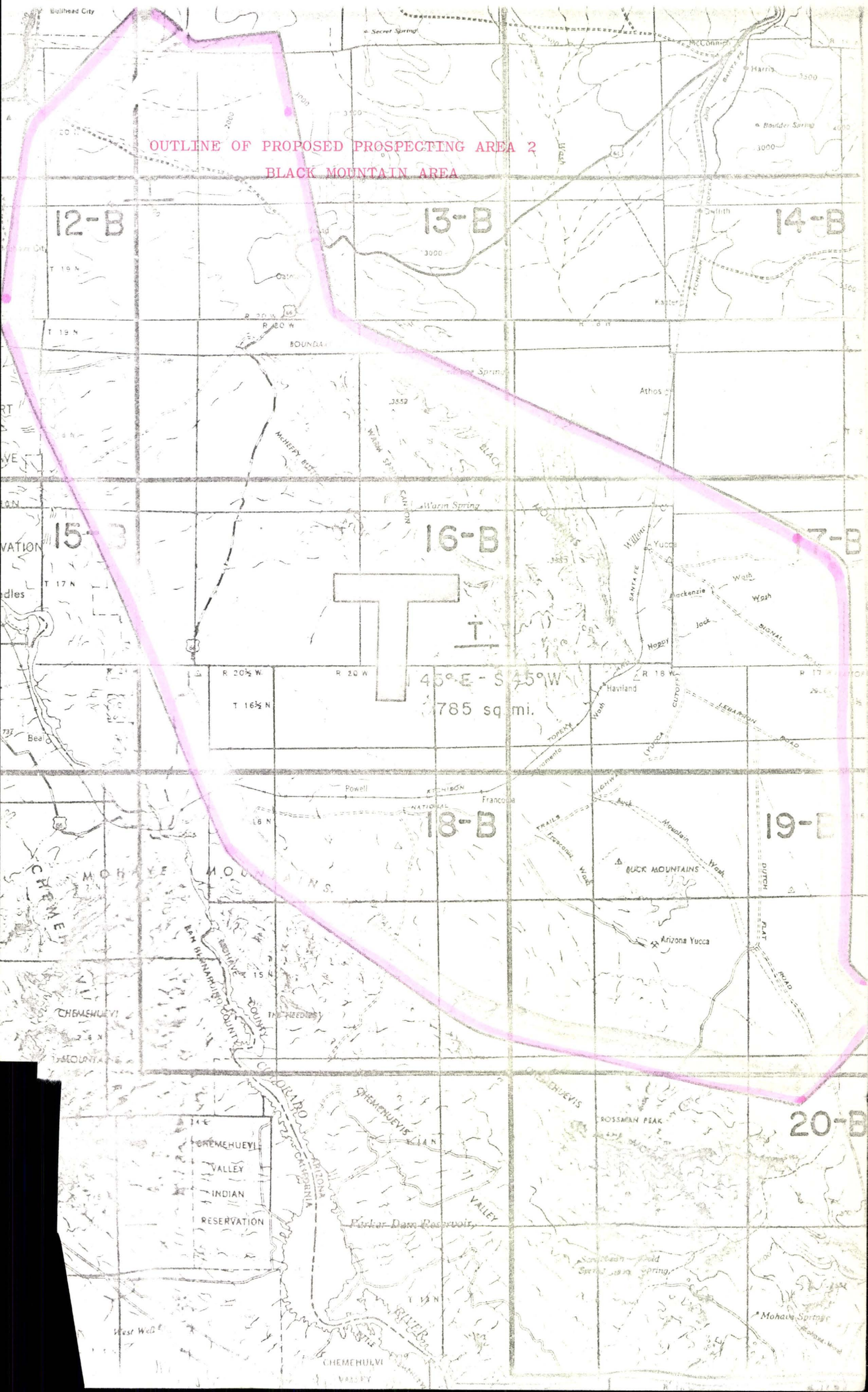
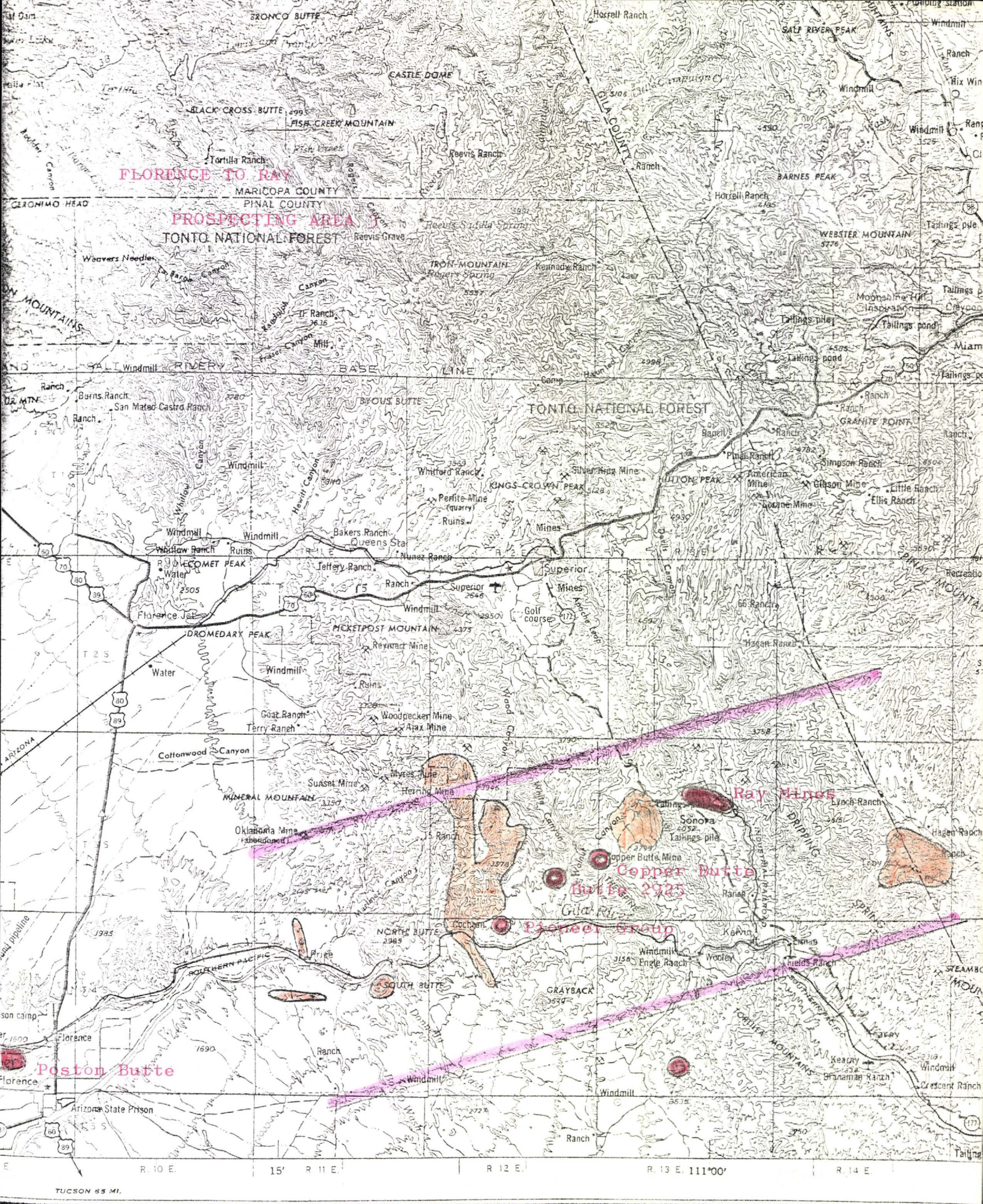
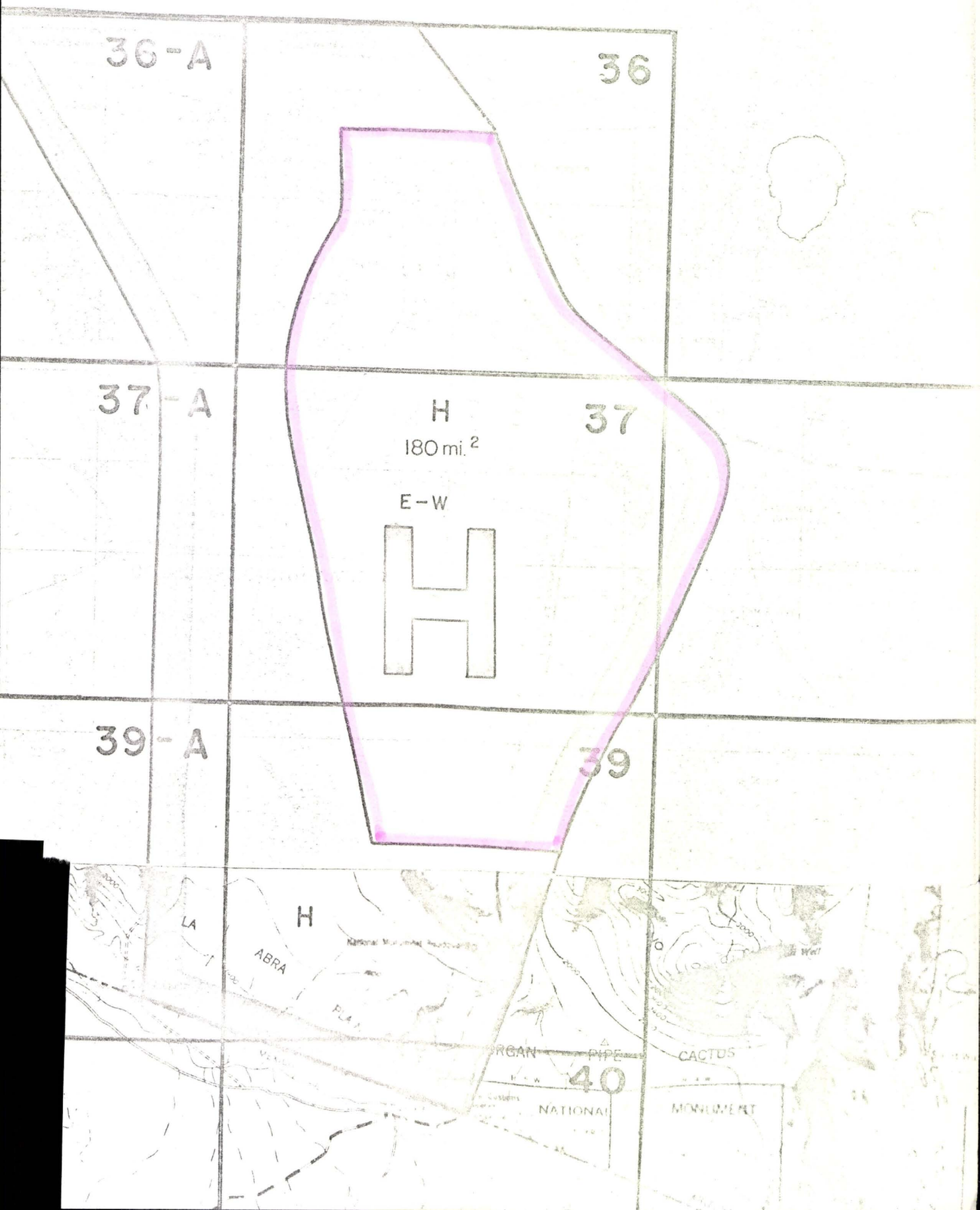
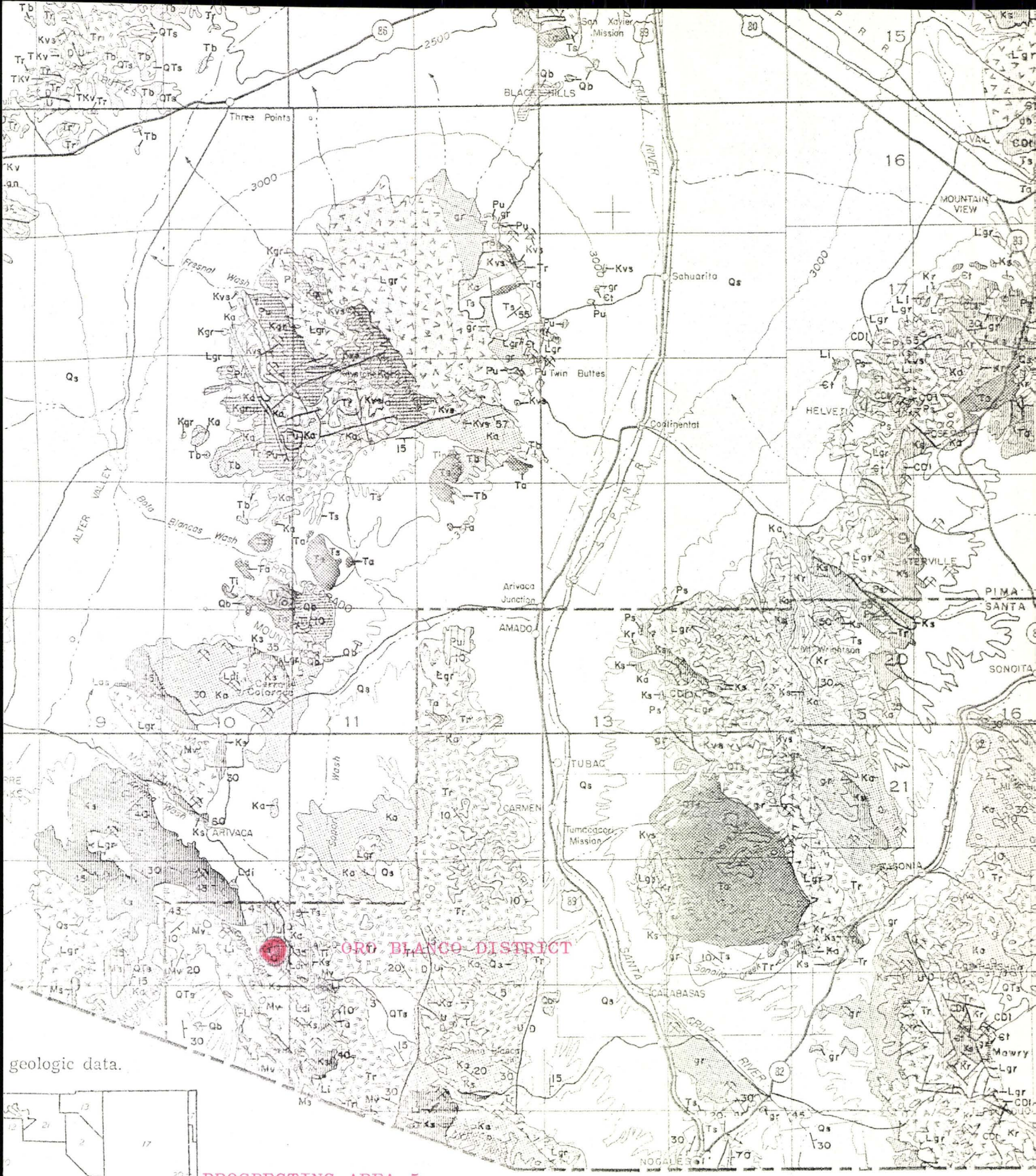
T 23 N
R 21 W
R 18 W
R 17 W
R 16 W


OUTLINE OF PROPOSED PROSPECTING AREA 2
BLACK MOUNTAIN AREA
12-B
13-B
14-B
15-B
16-B
17-B
18-B
19-B
20-B
T
45° E - S 45° W
785 sq. mi.
Bullhead City
Secret Spring
McConnico
Harris
Boulder Spring
Griffith
Kaster
Athos
Warm Spring
Yucca
Haviland
Powell
Francoma
BUCK MOUNTAINS
Arizona Yucca
MOHAVE MOUNTAINS
CHEMEHUEVI
CHEMEHUEVI VALLEY INDIAN RESERVATION
CHEMEHUEVIS VALLEY
CROSSMAN PEAK
Parker Dam Reservoir
Mohave Springs
West Well
CHEMEHUEVI VALLEY
T 19 N
T 17 N
T 16½ N
R 20 W
R 18 W
R 20½ W
BOUNDARY
McHEFFY BUTTE
BLACK MOUNTAINS
SANTA FE
TOPEKA
LEBANON ROAD
DUTCH FLAT ROAD
SIGNAL
Mackenzie Wash
Jack Wash
Willow
Happy
Beal
Mountain Wash
Francoma Wash
Yucca Wash
Arizona
California
Colorado River
Mohave County
San Bernardino County
Cutoff
Trails
Highway
Kitchison National
Cheme

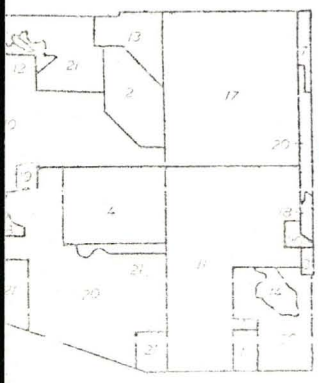

FLORENCE TO RAY
PROSPECTING AREA 1
TONTO NATIONAL FOREST
MARICOPA COUNTY
PINAL COUNTY
GILA COUNTY
BRONCO BUTTE
CASTLE DOME
BLACK CROSS BUTTE
FISH CREEK MOUNTAIN
Tortilla Ranch
Reevis Ranch
Horrell Ranch
SALT RIVER PEAK
BARNES PEAK
WEBSTER MOUNTAIN
GERONIMO HEAD
Weavers Needle
IRON MOUNTAIN
Kennedy Ranch
Moonshine Hill
Inspiration
Tailings pile
Tailings pond
Windmill
Ranch
Burns Ranch
San Mateo Castro Ranch
BYOUS BUTTE
TONTO NATIONAL FOREST
GRANITE POINT
Pinal Ranch
Simpson Ranch
American Mine
Gibson Mine
Little Ranch
Ellis Ranch
Whitford Ranch
KINGS CROWN PEAK
Silver King Mine
HUTTON PEAK
Perlite Mine (quarry)
Ruins
Mines
Bakers Ranch
Queens Sta
Nunez Ranch
Whitlow Ranch
COMET PEAK
Water
Jeffery Ranch
Superior
Golf course
Florence Jct
DROMEDARY PEAK
PICKETPOST MOUNTAIN
Reymert Mine
Hagan Ranch
Goat Ranch
Terry Ranch
Woodpecker Mine
Ajax Mine
Cottonwood Canyon
Myres Mine
Sunset Mine
Herring Mine
MINERAL MOUNTAIN
Oklahoma Mine (abandoned)
Ray Mines
Sonora
Copper Butte Mine
Copper Butte
Butte 2925
Pioneer Group
Cochran
NORTH BUTTE
Kelvin
Windmill
Engle Ranch
Wooley
Fields Ranch
SOUTH BUTTE
GRAYBACK
Florence
Poston Butte
Arizona State Prison
Kearny
Branaman Ranch
Crescent Ranch
Lynch Ranch
Hagen Ranch
R. 10 E.
15'
R. 11 E.
R. 12 E.
R. 13 E.
111°00'
R. 14 E.
TUCSON 65 MI.
Scale 1:250,000
5 0 5 10 15
5 0 5 10 15 20 25

OUTLINE OF PROPOSED PROSPECTING AREA 4
AJO AREA





geologic data.



PROSPECTING AREA 5

GEOLOGIC MAP

OF

PIMA AND SANTA CRUZ C