



CONTACT INFORMATION  
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The following file is part of the John E. Kinnison mining collection

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PILLAR, LOWELL AND ASSOCIATES  
CONSULTING MINING & GEOLOGICAL ENGINEERS  
5115 NORTH ORACLE ROAD  
TUCSON, ARIZONA 85704  

---

(602) 887-5341  
TWX 910-952-1172 PLA TUC

L. CLARK ARNOLD  
CONSULTING GEOLOGIST

February 17, 1983

Mr. John E. Kinnison  
3142 E. 4th Street  
Tucson, Arizona 85716

*Demetrie Wash prospect  
(Devil East)  
Pima Dist  
Pima County A3*

Dear John:

This letter will confirm our discussions earlier today in which you suggested a possible covered CAP-type exploration drilling target situated in Section 12 and 13, T.18S., R.12E., Pima County, Arizona. This target based upon favorable outcrops known to you and situated in the northwest quarter of Section 13.

We will undertake to investigate and if appropriate, include the area as a CAP target with you as originator.

Yours very truly,



L. Clark Arnold

LCA:sbc

# OUTCROP MINERALIZATION AT DEMETRIE AREA

1 } Strong Ser-Clay with "Live" Limonite capping

General limits of weak and discontinuous alt. w/ lim after pyrite

Limits Pervasive Alteration

ANACONDA ORE BODY

GLANCE FAULT

ABANDONED RD

ESPERANZA MILL

SIERRITA ORE BODY

ESPERANZA ORE BODIES

Limits of Pervasive Alteration

ROAD TO HWY

OLD

TWIN BUTTES RD

To Nogales Hwy

DEMETRIE TARGET AREA NOT DRILLED

## LAYERED ROCKS

Tertiary Silver Bell Formation

T-K CLASTICS

Cretaceous Amole group

PALEOZOIC Sediments

Pre-Cambrian granite

## LARAMIDE INTRUSIVES

Monzonite

Granite

# GENERAL GEOLOGY DEMETRIE PROSPECT TWIN BUTTES AREA PIMA COUNTY, ARIZONA

Scale : 1 inch = 1 mile







## ATTACHMENT D

Brief descriptions of the following were given by Harrison Schmitt in a report to Duval, 10-8-58.

### DUVAL DRILL HOLES

Nos. 37, 43, 44: "These holes showed low grade alteration only, and the copper assays of the core samples are mostly less than .05%."

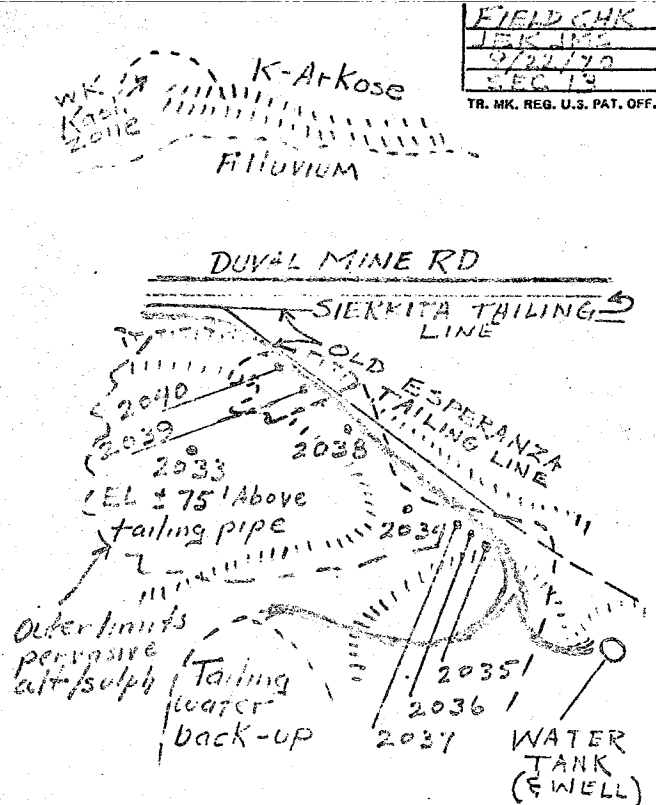
DDH 43: "was drilled to a depth of 310 feet.... The core contains minor pyrite in cracks and disseminated. There is a trace of chalcopyrite. No assays exceed .08% copper and most are less than .04%."

DDH 44: 0 - 20' alluvium  
20 - 305' clastic formation, with some granite intercepts. No assays exceeded .09% copper.

### AMERICAN EXPLORATION DRILL HOLES

A - 1	310' TD	Granitic
A - 2	279' TD	Clastic (?)
A - 3	276' TD	Granitic
A - 4	414' TD	Granitic
A - 5	519' TD	Granitic

With the exception of A - 2, which was apparently cored in bedrock most of its length, the others were sunk through alluvium and cored "into bedrock a few feet." "All encountered relatively fresh bedrock. A slight amount of pyrite usually can be seen."



NOTE  
3 sample area - T K Arkose  
w/ granite lenses on SE  
and porphyry dikes on NW.

FIELD SKETCH  
DEMETRIE PROSPECT

DISTANCES BROSEST

AREA OF "GOOD" LIVE  
LIMONITE IN RED

### Samples

- 2033 - Fine - gr. sericitic. Siltstone? 1/2% total former sulph., after py.  
Cu: 22 ppm Mo: < 2 ppm
- 2034 - Local patch, fn.-gr. sericitic, 1/2 - 1-1/2% total former sulph. prob. after  
py. Hem floods rock.  
Cu: 42 ppm Mo: 5 ppm
- 2035 - Diorite, strongly weathered. Rd. cut. No mineralization.  
Cu: 76 ppm Mo: < 2 ppm
- 2036 - Arkosic cgl. wk. sericite. 1/2% lim. after py. Rd. cut.  
Cu: 32 ppm Mo: < 2 ppm
- 2037 - Laramide gr. - typical facies. Fresh. Rd. cut.  
Cu: 96 ppm Mo: < 2 ppm
- 2038 - Granite (?) St. alt. spotty "live lime." Suggestion of "shatter bx." - poorly  
developed. So. edge of best exposure on rd. cut.  
Cu: 116 ppm Mo: < 2 ppm
- 2039 - Porphyry (?) - could be gr. Strong sericite, coarse flakes. "Live lim" lining  
in generally open cavities. 3% total former sulph.  
Cu: 150 ppm Mo: 5 ppm
- 2040 - Best "live lim," in porphyry, st. ser., coarse flakes. BX texture. Most "live lim"  
in open spaces between BX frags. Some drusy qtz. 3-4% total former sulph.  
Cu: 288 ppm Mo: 7 ppm



HARRISON SCHMITT  
MINING GEOLOGIST  
COTTAGE SANATORIUM ROAD  
SILVER CITY, NEW MEXICO

RECEIVED  
NOV 3 1970

TUCSON  
KAISER EXPLORATION & MINING CO.  
August 8, 1958

J. E. K

NOV 3 1970

C-343

DUVAL SULPHUR & POTASH COMPANY  
17th Floor Mellie Esperson Building  
Houston 2, Texas

Attention: Ben Messer, Assistant Resident Manager, Esperanza Project

Subject: Appraisal of ore possibilities of sec. 13, T. 18 S., R. 12 E.  
and the W.W. sec. 18, T. 18 S., R. 13 E., Arizona State commercial leases No. 344 and 343 respectively.

Part of the parcel described above is proposed for a tailing site. The area in general was studied by us several years ago. After this work, diamond drill holes 37, 43 and 44 were drilled. These holes showed low grade alteration only, and the copper assays of the core samples are mostly less than .25%. It was concluded that the area in general was poorly mineralized and that the chance for disseminated ore bodies was too small to justify further drilling.

Since this work was done, the American Exploration and Mining Company drilled five diamond drill holes on the east and south sides of the area (see map). One of these, A3, is in the area proposed for tailing disposal. These holes were all drilled through the alluvium and into bedrock for a few feet. All encountered relatively fresh bedrock. A slight amount of pyrite usually can be seen. The bedrock in all but No. A2 was igneous rock largely a granitic type probably the oligoclase granite common to the district.

The bedrock outcrop in the NW $\frac{1}{4}$  of sec. 13 is composed largely of fine-grained siliceous clastic rock, a coarse agglomerate, anophyseal of granitic and porphyritic rocks and dikes of dark andesite (?). This ground has been broken, in places brecciated, and slightly to moderately altered. It is marked by brown limonite stains and up to 1 mm. films of the same mineral on cracks.

DDH 43 was drilled to a depth of 310 feet in the above outcrop. (The core contains minor pyrite in cracks and disseminated. There is a trace of chalcopyrite. No assays exceed .08% copper and most are less than .04%.)

DDH 44 cut 20 feet of overburden and then is logged to have cut volcanic and intrusive rock down to the bottom of the hole at 305 feet. Some granite was reported that may represent an apophysis and therefore nearness to an intrusive contact. The so-called volcanic rock is presumably

a clastic rock based on later studies. There are no assays exceeding .07% copper in this hole.

Since holes A1, A3 and A4 in or close to sec. 18 were in granitoid rock, there must be an intrusive contact and/or fault between holes A3 and A1 in the east and holes 43 and 44 on the west. If this is the case, since no ore is likely to occur in the granitoid rock, it would seem as if the contact zone of clastic rock on the west has been adequately prospect and that no further holes are needed in the E $\frac{1}{2}$  of sec. 13 and the W $\frac{1}{2}$  of sec. 18.

Should a mineralized block of ground large enough to constitute a disseminated copper ore body lie in the open areas between or in the vicinity of holes 44, A3 and A1, in other words in the area of the proposed tailing pile, the cores of these holes should show much more alteration and higher assays for copper. Such an ore body to be commercial, unless the grade and thickness were abnormally high, would need to be at least 1500-2000 feet in diameter. The average distance between 44, A3 and A1 holes is around 3800 ft.

Conclusions: The area comprised of sec. 13 and the W $\frac{1}{2}$  of sec. 18 has been geologically studied and tested with 8 diamond drill holes in order to appraise its possibilities for disseminated copper ore. The fairly good looking outcrop area in the NW $\frac{1}{4}$  of sec. 13 was checked by hole 43 with poor results. The ground explored by all the holes is weakly altered and the copper assays of the cores were all below .14% and mostly below .05% copper.

The best area appears to be a zone of clastic rock in the W $\frac{1}{2}$  of sec. 13. The part of this area proposed to be covered by tailing would seem to have been adequately tested by holes 44 and A2. The proposed tailing area in the E $\frac{1}{2}$  of sec. 13 and the west part of 18 would seem to be largely, if not entirely, underlain by granite and porphyry which is fresh and unaltered where cut by holes A1, A3, A4 and A5.

Should there be an ore body of critical size between the holes, particularly between and around holes 44, A1 and A3, it would seem that there should be conspicuous alteration in these holes and more substantial copper assays such as would be expected in peripheral areas and as has been the case around the Esperanza ore body.

The above considered, I feel that the chance for an ore body in the area of the proposed tailing site is too small to justify further testing by drilling. Geophysical testing is not likely to be of much use considering the type of ore looked for, i.e., one in which magnetite is not normally found.

cc. W. P. Morris  
G. E. Atwood



Harrison A. Schmitt



RECEIVED

NOV 3 1970

TUCSON  
KAISER EXPLORATION & MINING CO.

August 6, 1958

c-343

J. E. K.

NOV 3 1970

Mr. Obed Lassen, State Land Commissioner  
State of Arizona  
Capitol Annex Building  
Phoenix, Arizona

Dear Sir:

At your recent request, the area in and adjacent to sections 13 and 14, in T. 18 S., R. 12 E. and the west  $\frac{1}{2}$  of the west  $\frac{1}{2}$  of section 18, T. 18 S., R. 13 E. was re-examined.

All of the land to be covered by tailing from the Esperanza Mill has a natural cover of from fifty to four hundred feet of alluvium over the bed rock. Diamond drill hole cores obtained by our own drilling and those submitted to us by the American Exploration and Mining Company indicate no mineralization of economic importance. From the trend of the granite and cretaceous (?) clastic rocks as exposed on the surface in the area and as seen in the diamond drill cores it appears that most of the bedrock beneath the tailing pond in the east  $\frac{1}{2}$  of section 13 and in the west  $\frac{1}{2}$  of the west  $\frac{1}{2}$  of section 18 is barren oligoclase granite. The west  $\frac{1}{2}$  of section 13 is mostly underlain by cretaceous elastics. These appear to be weakly altered. The only metallization shown is a small amount of finely disseminated pyrite, less than 2%, with scant traces of chalcopyrite occasionally. The strongest alteration and metallization might be expected along the contact of the older cretaceous elastics and the younger tertiary (?) granite where brecciation is strongest. Our drill holes No. 43 and No. 44 appear to be near the contact and in part are in strongly broken ground yet carry no appreciable metallization.

In my opinion, the chances for a disseminated orebody that could be mined by open cast methods occurring beneath the tailing pond are extremely unlikely.

Very truly yours,

Don M. Clippinger  
Don M. Clippinger  
Senior Geologist

Feb 16 1983

Demetree Wash Prospect  
JEK

Paved  
Dunal Road

Sierrita Tailings  
Pipe line

Not to Scale  
Distances as Noted

30' D-3  
Porphyry. cse pervasive sericite.  
Bx-pipe texture well developed,  
Plus some NE sheeted zones.  
Vuggy w/ best humite. Between Bx  
frags. Rotation uncertain but probably not.  
Good w/ maroon infill. hum / silicified  
copper content  
orig + 1%. Total  
sulfides to 67%  
5% pyrite  
5% K. arkose  
outcrop

Cse gr arkose or a  
igneous porphy. Texture  
largely gone due to intense  
cse - sericite. Black ind.  
hum w/ red streak - mostly  
on fracts. Has suggestion  
of coarse Bx texture.

Spotty 1/2 - 3%

former sulfides -  
ext fair Cu content.

K(?) arkose and arkose cgl  
and silty cgl. Silic, pervasive  
wk to mod sericite. Tramp  
brown hum / py + some maroon  
hum / cgl? - ext low orig  
copper content. To tal sulf  
orig 1/2 - 1 1/2 %.

butter hum zones.

D-1

Best  
hum / cgl  
copper } Bx  
texture  
well developed

Tailings - Esperanza #11  
inactive - Partly soil covered  
w/ grass needed.

N 30° W +

Road

Washed out

N



Demetrio Ponzal

Sec 13 April 25 1983

T 185 R 12E

11 33 AM

Call to State Land Dept

Feb 22 PP filed.

Has not been offered  
at this date.

stated that properties  
are being randomly  
inspected to determine  
bond.

AMERICAN SMELTING AND REFINING COMPANY  
Tucson Arizona

J. E. K.

JAN 06 1966

January 5, 1967

To: J. H. Courtright

From: S. I. Bowditch

Exploration Potential Northeast  
of Beach Mining Property  
Pima Mining District  
Pima County, Arizona

I refer to Mr. Kinnison's memorandum to you of Dec. 28, 1966, above caption (except he had the first two lines reversed). In accordance with the suggestion contained in the third paragraph of his memorandum, I have investigated the ownership of the area, particularly section 13, in which the greater part of the mineralized area is thought to occur.

Section 13, T18S, R12E, is State Land. Duval has commercial lease C-343N covering all this section. At one time Duval had a mineral lease here as well, but canceled it after the commercial lease was issued, in 1957. The greater part of the area of interest is covered by the Duval tailings pond. In order to obtain its commercial lease Duval had to prove to the State's satisfaction that the ground was unmineralized. Harry Fieldman had a prospecting permit on this section in 1964, but this was canceled by the commissioner.

Incidentally, I was told that formerly the State required drilling to a depth of only a few hundred feet to prove lack of mineral, but that just recently, as a result of Anaconda's deep ore, the State now requires that holes go to 2000 feet.

Section 14, to the north of the Beach property, is also covered by Duval's commercial lease, and also by a prospecting permit issued to Clare F. Filatrout, et al, (pals of Fieldman?) dated April 4, 1964.

In Section 12, the north 3/4 is pretty well covered by patented mining claims, now owned, I believe, by Banner. The SW 1/4 SW 1/4 belongs to Duval, which owns surface and mineral rights. The SE 1/4 SW 1/4 and S 1/2 SE 1/4 is owned by the Boyd Land and Cattle Company (Anaconda) but mineral rights belong to the Federal government.

The Boyd Land and Cattle Company also owns the surface of Section 7 of T18S, R13E, and the mineral belongs to the Federal government.



Section 18, T18S, R13E, is also State Land. Duval has a commercial lease on at least part of the surface, but I seem to have neglected to note the exact area. Prospecting permits have been issued and reissued for odd parts of the section, chiefly to Woolsey and his pals. At present a prospecting permit for one odd shaped part is held by R. L. Stanton, who slipped in between two Woolsey refilings, and a permit for another piece is held by one Paul Zaches.

In summary, Section 13 covers the most interesting area, and is open for an application for a prospecting permit, but as most of the area of interest is now under Duval's tailings pond, any work would immediately involve a dispute with Duval, and any mining would require moving the tailings to some other location.

S. I. Bowditch

SIB:bam  
cc: JEKinnison ✓



AMERICAN SMELTING AND REFINING COMPANY  
Tucson Arizona

December 28, 1966

J. E. K.

DEC 28 1966

TO: J. H. COURTRIGHT

FROM: J. E. KINNISON

BEACH MINING PROPERTY  
EXPLORATION POTENTIAL NORTHEAST OF  
PIMA MINING DISTRICT  
PIMA COUNTY, ARIZONA

Dean Forrester of the College of Mines (U. of A.) sent a letter and maps to you (Att. C), regarding the subject property (Beach). You asked me to handle it. The Beach property (both federal and state) is centered 4 miles southeast of the Esperanza mine, outside the limits of alteration.

The Beach property has no mineral value. His claims cover unmineralized Silver Bell formation which both Blucher and I have examined in the past.

The maps which were with Forrester's letter shows a third claim holder in this area, and the location of the Beach claims are very close to the Esperanza mill. These factors both suggest that the Duval Corporation may not now have mineral rights as extensive as they once did.

I recommend immediate company attention to the area north-east of Beach, principally in section 13, where altered porphyry and arkose contain strong "live limonite" and sericite, on a hill bounded by alluvium. This would entail a property investigation in record and possibly on the ground, so that we will know just who owns what in the prospective area. The possible copper deposit--which has not been drilled to my knowledge--is outlined on the Pima district geology map in my Cholla Flat report (1961). I have sketched the salient features on Attachment B (map). Other files for reference are listed on the following page (Att. A). If Duval does not now own the mineral rights over this prospect, and the ground is in the hands of individuals, then I urge that Asarco take an option with the intention of following through with drilling.

As you know, there are geologic uncertainties inherent to this prospect, but I think it is one of the best now known to us in Arizona.

  
JOHN E. KINNISON

JEK/mcg

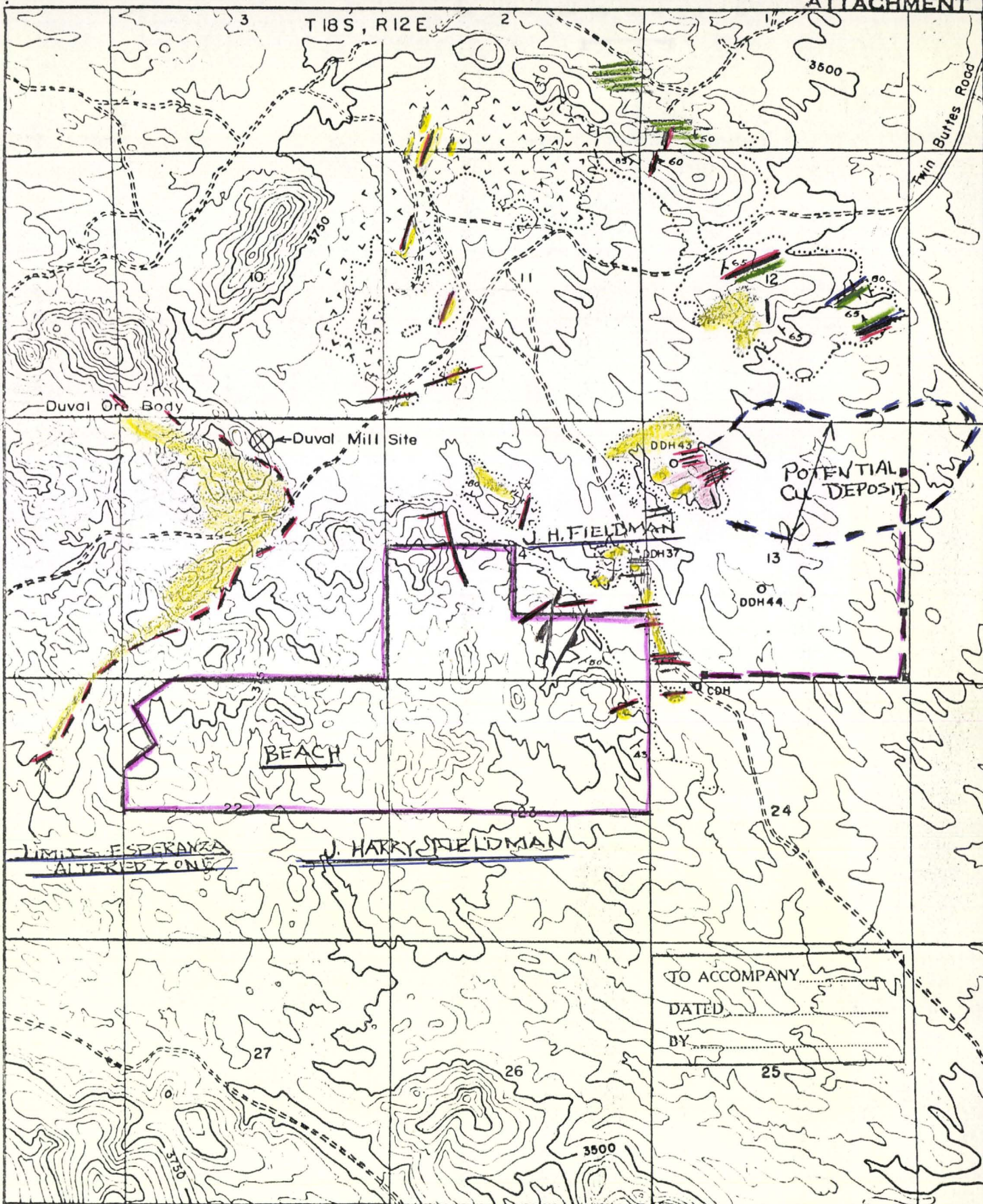
Attachments

cc: JHCourtright, 1 extra

ASARCO FILE REFERENCES  
ESPERANZA AREA

1. File memo to Kenyon Richard: 1957 by A. G. Blucher  
"Porphyry Copper Prospect East Duval Area."
2. Report to Kenyon Richard: Sierrita Mountains, 1960,  
by A. G. Blucher.
3. Report to Kenyon Richard: Cholla Flat-Twin Buttes  
Area, 1961, by J. E. Kinnison.





## EXPLANATION

- |            |   |   |
|------------|---|---|
|            | Andesite Dikes  |   |
|            | Granite   | Including Monzonite (?) Facies                                    |
|            | Pre-Mineral Rocks   | Paleo. Ls., Cret. and or Tert Arkose<br>Congl., Ss., and Rhyolite |
| ALTERATION |   |   |
|            | Strong Alteration   | Abund. Sericite, Silica & Limonite after Cc-Py                    |
|            | Weak Alteration   | Sericite, Silica, Occas. Limonite                                 |
|            | Garnet, Epidote, Silicates, Fe, Mn Ox, etc.                 |   |
|            | Easternmost and Southernmost Duval Claim Monuments Observed |   |

ADDITIONS BY:  
JEK, DEC. 1966

## EAST DUVAL AREA

PIMA COUNTY ARIZONA

Scale: 1 inch = 1/2 mile

Geology by A. Blucher

June, 1957

Topography from U.S.G.S.

Map No. 1369



AMERICAN SMELTING & REFINING CO.  
Tucson Arizona

June 11, 1957

FILE MEMORANDUM TO:

Mr. Kenyon Richard

PORPHYRY COPPER PROSPECT  
EAST DUVAL AREA

Dear Sir:

At your request a limited study has been made of the eastern portion of the Duval Sulfur and Potash holdings near Twin Buttes, Arizona in order to determine the following: (1) The general geologic relationships within the area. (2) The degree of porphyry copper type alteration, if any, and its areal limits. (3) The possibility of the extension of this alteration beneath the alluvium to the northeast and east.

The area in question is approximately 2 1/2 miles square, centering about 2 miles SSW of Twin Buttes and 1 1/2 miles east of Duval's new millsite. About 70% of the area is covered by alluvium, the principal outcrops being along two northwest trending groups of hills in the northeastern and southwestern quadrants.

Excluding the paleozoic limestones which outcrop only along the northern boundary the principal rocks exposed are arkoses and arkosic conglomerates which generally strike NE and are steeply dipping. They have a minimum thickness of about 2500 ft. in this area. A portion of them appear to have undergone regional metamorphism to varying degrees. Along the southwestern ridge there outcrops a formation which bears a close resemblance to the Cat Mountain Rhyolite and appears to conformably overlie the arkoses to the north. Further southeast along this ridge there outcrops an arkosic conglomerate which differs from the previously mentioned ones in that nearly all fragments are sub-rounded to sub-angular fragments of various porphyritic rocks. This formation strikes northeast and dips moderately southeast. It is separated from the rhyolite by a thick gougy fault.

These sediments have been intruded by a medium-grained equigranular rock---granite or quartz monzonite---which outcrops in the northwest and in scattered outcrops in the southern part of the area near the zones of most favorable alteration. In the latter instances it is somewhat finer grained and in places almost a porphyry but shows no alteration even immediately adjacent to altered sediments.

Along the fault separating the rhyolite from the conglomerate and along a fault within the rhyolite have been intruded andesitic (?) dikes.

The most favorable zone of alteration is on a low hill in the south central part of the area. The arkose and conglomerates have been strongly sericitized and silicified, and in a few places brecciated with abundant live limonite in vugs and on fractures. Unfortunately these "hot spots" are of very limited areal extent and are separated by wide zones of equal sericitization and silicification but almost no limonite. However, the best alteration is at the extreme edge of the outcrop and alluvium covers what should be better ground.

- 2 -

File Memo.  
Porphyry Copper Prospect

Three diamond drill holes and one old churn drill hole were located along this altered fringe. The diamond drill holes were drilled by Duval, but the churn drill hole was just south of the southernmost Duval monument found and may have been drilled previously. The sludge from these holes was sampled and assayed and ran about 0.03% Cu. However, with the possible exception of DDH 44, these holes were not wisely located.

It would be safe to make the following assumptions: (A) Although the exposed altered areas show some very favorable gossan, it is definitely spotty. (B) The altered area does extend beneath the alluvium and the alteration appears to increase as you approach the covered portion. (C) Drilling to date has not proven or disproven the mineral worth of the area.

Sincerely,

  
ARTHUR G. BLUCHER, JR.

# THE UNIVERSITY OF ARIZONA FOUNDATION

MARTIN GENTRY  
President

LAWSON V. SMITH  
Vice President

FRANK M. VOTAW  
Secretary-Treasurer

SAMUEL C. McMILLAN  
Executive Director

December 15, 1966,

Mr. J. H. Courtright  
American Smelting & Refining Co.  
1150 N. 7th Avenue  
Tucson, Arizona

J. H. C.

DEC 19 1966

Do you know  
this ground?

JEK -  
READ AND RETURN \_\_\_\_\_  
PREPARE ANSWERS \_\_\_\_\_ HANDLE \_\_\_\_\_  
FILE \_\_\_\_\_ INITIALS \_\_\_\_\_

Dear Mr. Courtright:

Mr. Charles P. Beach, an alumnus of the University of Arizona, has entered into an agreement with the University of Arizona Foundation for the disposition of certain mining interests in the Twin Buttes area, Pima County, Arizona, identified on the enclosed maps and described as follows:

J. E. K.  
DEC 21 1966

24 unpatented federal claims and fractions in  
Sections 22 & 23, T18S, R12E.

Mineral leases (state) Nos. 949 & 1000 and Pros-  
pecting permits (state) Nos. 917 and 590 both in  
Sections 14 & 23, T18S, R12E.

Mr. Beach has directed that the net proceeds realized from the sale of these properties shall be distributed equally by the Foundation to the College of Mines and Department of Athletics.

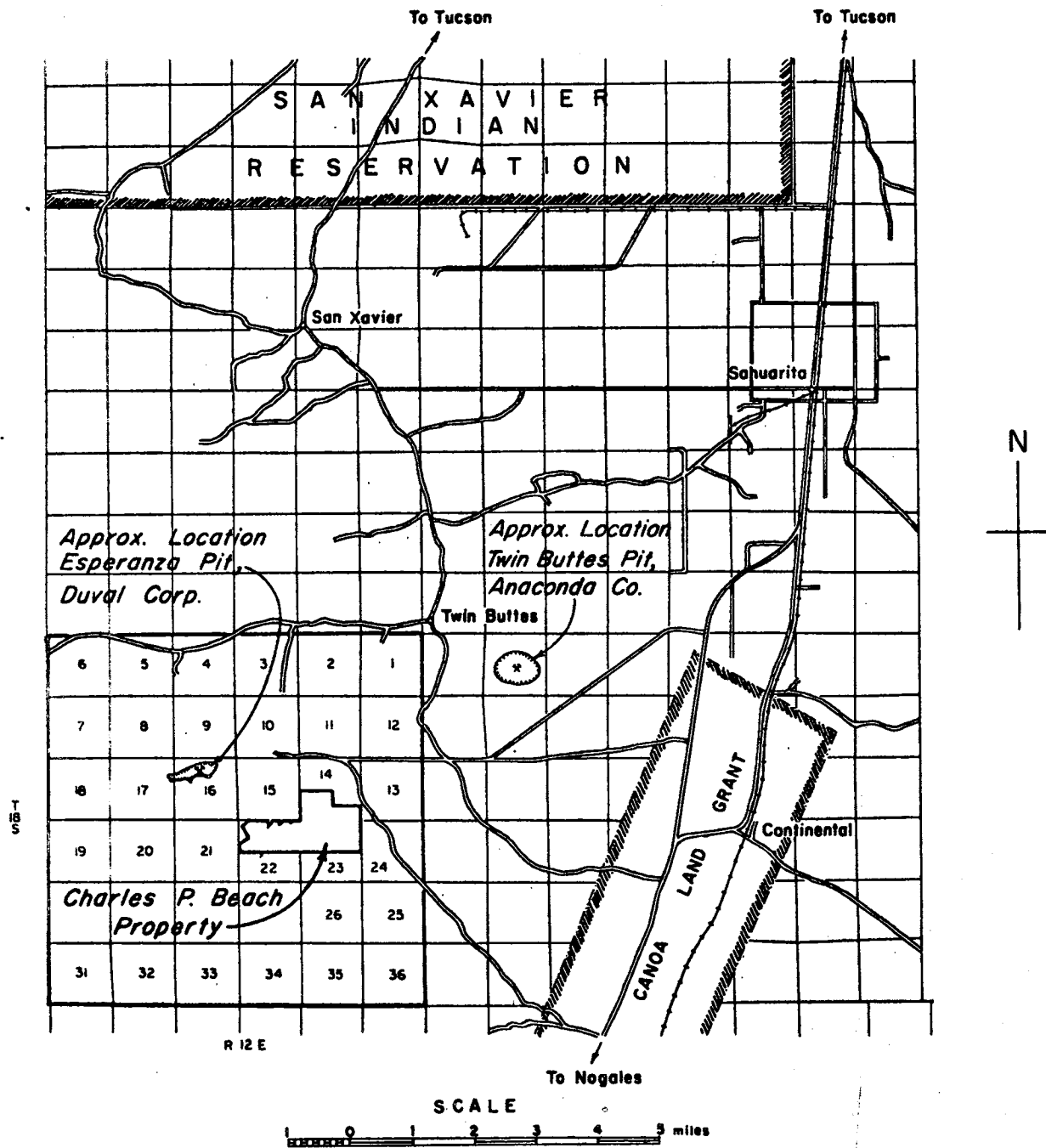
The undersigned have been named by the Foundation to act in presenting this matter to major corporations. If your company is interested in these holdings, please address correspondence to University of Arizona Foundation Committee, Student Union P.O. Box 21000, Tucson, or phone Dean Forrester at 884-1401 or Mr. McPherson at 623-5507.

Sincerely yours,

*J. D. Forrester*  
J. D. Forrester, Chairman  
Dean, College of Mines  
Orville McPherson  
Frank Votaw

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# **MAP INDEX** **CHARLES P. BEACH PROPERTY**



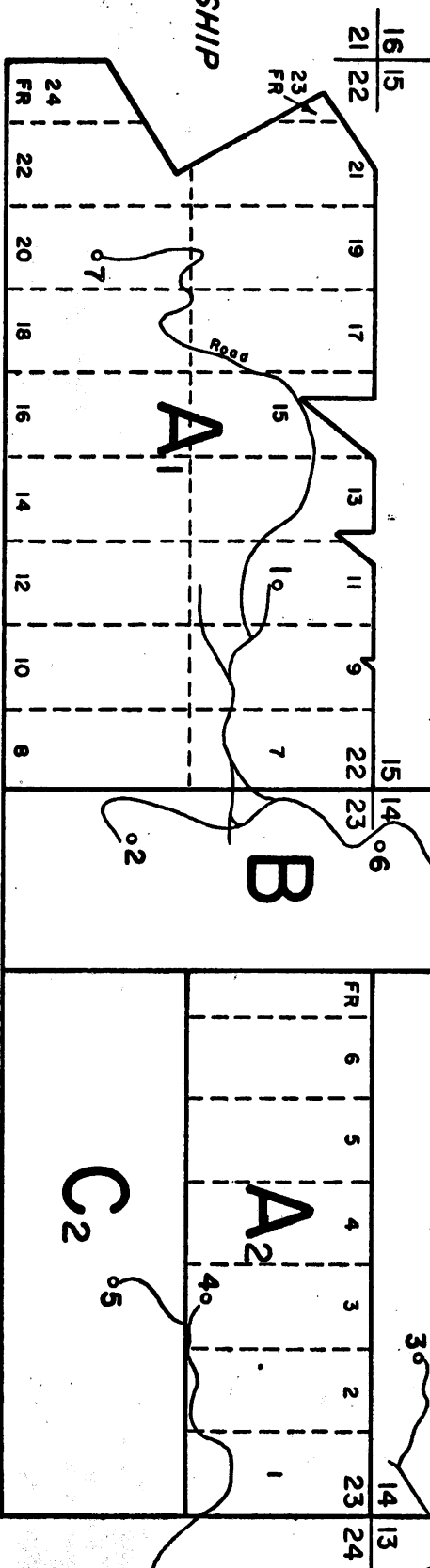
T 18 S, R 12 E

J. HARRY  
FIELDMAN, ET AL

OWNERSHIP

DUVAL CORPORATION  
OWNERSHIP

DUVAL  
CORP.  
OWNERSHIP



J. HARRY FIELDMAN, ET AL  
OWNERSHIP

CHARLES P. BEACH PROPERTY

Scale 4" = 1 Mile

A1-A2 - Unpatented Lode Claims (Federal)

B - Mineral Lease (State)

C1-C2 - Prospecting Permits (State)

○ - Approx. Drill Hole Locations

STATE LAND DEPARTMENT OF THE STATE OF ARIZONA  
BEFORE THE STATE LAND COMMISSIONER

RECEIVED  
JAN 4 1971  
TUCSON  
KAISER EXPLORATION & MINING CO.

1 IN THE MATTER OF THE FILING OF )  
2 PROSPECTING PERMIT ON THE FOLLOWING )  
3 DESCRIBED LAND: )

4 ALL OF SECTION 13, TOWNSHIP 18 SOUTH, )  
5 RANGE 12 EAST, 640.00 ACRES, GILA AND )  
6 SALT RIVER BASE AND MERIDIAN )

7 FILED BY: HOLT, INC. )

REJECTION OF  
APPLICATION FOR  
PROSPECTING PERMIT  
NO. 19644

8 From the Records of the State Land Department, the  
9 Commissioner finds:

10 FINDINGS:

11 I. Holt, Inc., 818 West Miracle Mile, Tucson, Arizona,  
12 filed application for Prospecting Permit No. 19644 on the above  
13 described land on November 2, 1970, in the office of the State  
14 Land Department.

15 II. That the lands above described are presently held  
16 by Duval Corporation, lessee, under State of Arizona Commercial  
17 Lease No. 343 for a period ending March 15, 1974, for the purpose  
18 of disposal and storage of mine waste and mineral tailings inci-  
19 dental to its mining and milling operations adjoining.

20 III. That prior to and since the issuance of Commercial  
21 Lease No. 343, Duval Corporation has submitted to the Department  
22 data acquired through an intensive drilling program sufficient to  
23 convince the Department that the disposal area embraced by Com-  
24 mercial Lease No. 343 is barren of minerals to the degree that  
25 their exploitation would be of no practical value to the State.

26 CONCLUSION:

27 Being fully advised in the premises, the Commissioner  
28 finds:

29 I. That the use being made of the above described lands  
30 under Commercial Lease No. 343, is the highest and best use.  
31  
32

RECEIVED  
DEC 4 1970

TUCSON  
KAISER EXPLORATION & MINING CO.

1 II. That under the above named circumstances, the  
2 normal operations required under State of Arizona Prospecting  
3 Permit are not compatible with the use authorized under Commer-  
4 cial Lease No. 343.

5 III. That on the basis of the evidence as mentioned in  
6 Finding III above, and in accordance with long-standing policy  
7 and procedures of the Department acting under the provisions of  
8 the statutes governing the issuance of Mineral Leases of claims  
9 on State of Arizona land, the subject land is not susceptible to  
10 the issuance of a Mineral Lease or Leases thereon.

12 IV. That it is not in the best interest of the State of  
13 Arizona to approve the subject application.

14 ORDER:

15 IT IS THEREFORE ORDERED that application for Prospecting  
16 Permit No. 19644 filed on November 2, 1970, be and the same is  
17 hereby rejected.

19 This Order is subject to appeal as in such cases is  
20 provided by the Laws of the State of Arizona.

21 GIVEN under my hand and Official Seal of the State Land  
22 Department this 3rd day of December 1970.

24 STATE  
25 LAND  
26 DEPARTMENT  
27 SEAL

STATE LAND COMMISSIONER  
By: J. Ryan  
ASSISTANT COMMISSIONER FOR  
WATER AND MINERAL RESOURCES

31 CERTIFIED #569069 HOLT, INC.  
32 CERTIFIED #569070 DUVAL CORP.

J. E. K.

DEC 21 1970

RECEIVED  
INTELLIGENCE MEMORANDUM

DEC 21 1970

TO  
ATT. F. O'Neill  
710 KC

DATE

December 18, 1970

TUCSON  
KAISER EXPLORATION & MINING CO.FROM  
ATJ. J. Durek  
748 KC

COPIES TO

D. Day - with Rejection Notice  
✓ J. Kinnison - TucsonSUBJECT Southwest Project - Legal  
State Prospecting Permit

An application for a State Prospecting Permit was filed November 2nd by the Tucson office, using Holt, Inc. as agent. Notice was received December 3rd that the application was rejected because a commercial lease had been issued to Duval Corp. for tailing disposal and because the lands are deemed to be non-mineral in character. A copy of this rejection notice is attached; notice has not yet been received regarding a subsequent application for a contiguous tract.

The Assistant Land Commissioner who signed the rejection notice, J.C. Ryan, was questioned about possible recourse. He stated that the ruling is statutory and cannot be reversed, and remedy can be sought only through the Superior Court of Maracopa County within thirty days.

Applications for these lands have been refused three times, and the Land Department is now rigid in its position. They are satisfied that the area offers no opportunity for open pit mining (presumably because of surface burial by tailing), and they have sufficient reason to believe that even at depth the potential mineral royalty to the State would be inadequate to warrant mining approval. In any case, Mr. Ryan stated that they would demand a bond against damage to existing milling facilities that would be so large as to make any mining attempt unrealistic. He expressed their right and obligation to protect surface users.

Prospecting permits allow exclusive exploration of State lands without location of claims or perfecting discoveries. These lands can also be acquired by State Mineral Lease, which requires prior claim location and mineral discovery. The requirement of prior discovery is not generally enforced where lands are not contested, but the lease application would surely be rejected in this case.

It is possible to prospect on these lands, with no rights other than trespass and with liability for all damage to existing installations. Therefore, drilling could be done by simple entry, and claims could be located and a lease application could be submitted only if mineable mineralization was found. This has probably never been done. Any prior lease tends to discredit subsequent lease applications, but the Commissioner must defend any ruling as promoting the highest and best use. Mining is almost unassailable in this regard.

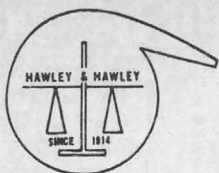


A reasonable case could be made on court appeal that a geologic possibility exists for commercial mineralization. The appeal would be made at Phoenix, rather than the jurisdiction where the lands are located. All judges are elected and Phoenix is least enraptured with the established mining companies, but the Superior Court judges from the lesser counties often sit in other jurisdictions on a fee basis. There have been appeals regarding the amount of the bond set by the Land Department, but it is not known if there have been any court appeals of rejections of permit applications.

I am refraining from now expressing an opinion, but will first invite John Kinnison to review the expectations of discovery in light of the legal obstacles to any further action.

JJD:jh

Enclosure - Notice of Rejection for  
Permit No. 19644



Registered Assayers

# HAWLEY & HAWLEY

ASSAYERS AND CHEMISTS, INC.

1700 WEST GRANT ROAD - TELEPHONE 622-4836 - POST OFFICE BOX 5934

TUCSON, ARIZONA 85703

**J. E. K.**

THE SOUTHWEST'S LEADING ASSAYERS AND REPRESENTATIVES

OCT 02 1970

Branch Representatives at Buyer's Plants:  
Phelps Dodge Corp., Douglas, Arizona; ASARCO, El Paso, Amarillo, Texas and Hayden, Arizona

IDENTIFICATION	Gold ozs.	Silver ozs.	Lead %	Copper %	Zinc %	Mo. %			
				ppm		ppm			
2033				22		< 2			
2034				42		5			
2035				76		< 2			
2036				32		< 2			
2037				96		< 2			
2038				116		< 2			
2039				150		5			
2040				288		7			
8 Cu, ppm @\$1.50							\$ 12.00		
8 Mo, ppm @\$2.50							20.00		
							\$ 32.00		
5% air pollution surcharge							1.60		
City pickup							1.50		
8 samples prepared @\$.85							6.80		
							\$ 41.90		

CC: Kaiser Exploration & Mining Company  
ADD: Attn: Mr. J. E. Kinnison  
CITY: P.O. Box 3605, College Station  
ADD: Tucson, Arizona 85722  
CITY:

REMARKS:

Trace Analysis

Analysis Cert. By

City Pickup \$ 1.50

Preparation \$ 6.80

Analysis \$ 33.60

ACC:

Date Spl.  
Received

Date  
Compl.

\$

HH3

KAISER EXPLORATION & MINING CO

5/23/70

5/30/70

UL 3447/4

41.90

To: **HAWLEY & HAWLEY**  
Assayers and Chemists, Inc.

From: KAISER EXPL & MIN CO  
A/Hn J. E. Kinnison  
P.O. Box 3605, 85722  
(Tucson)

- ☐ Single Analysis  
☐ Verified Analysis\*  
☒ Geochemical Analysis  
☐ Spectrographic Analysis

\*Verified Analysis will be run unless otherwise specified

9/23 ..... 1987

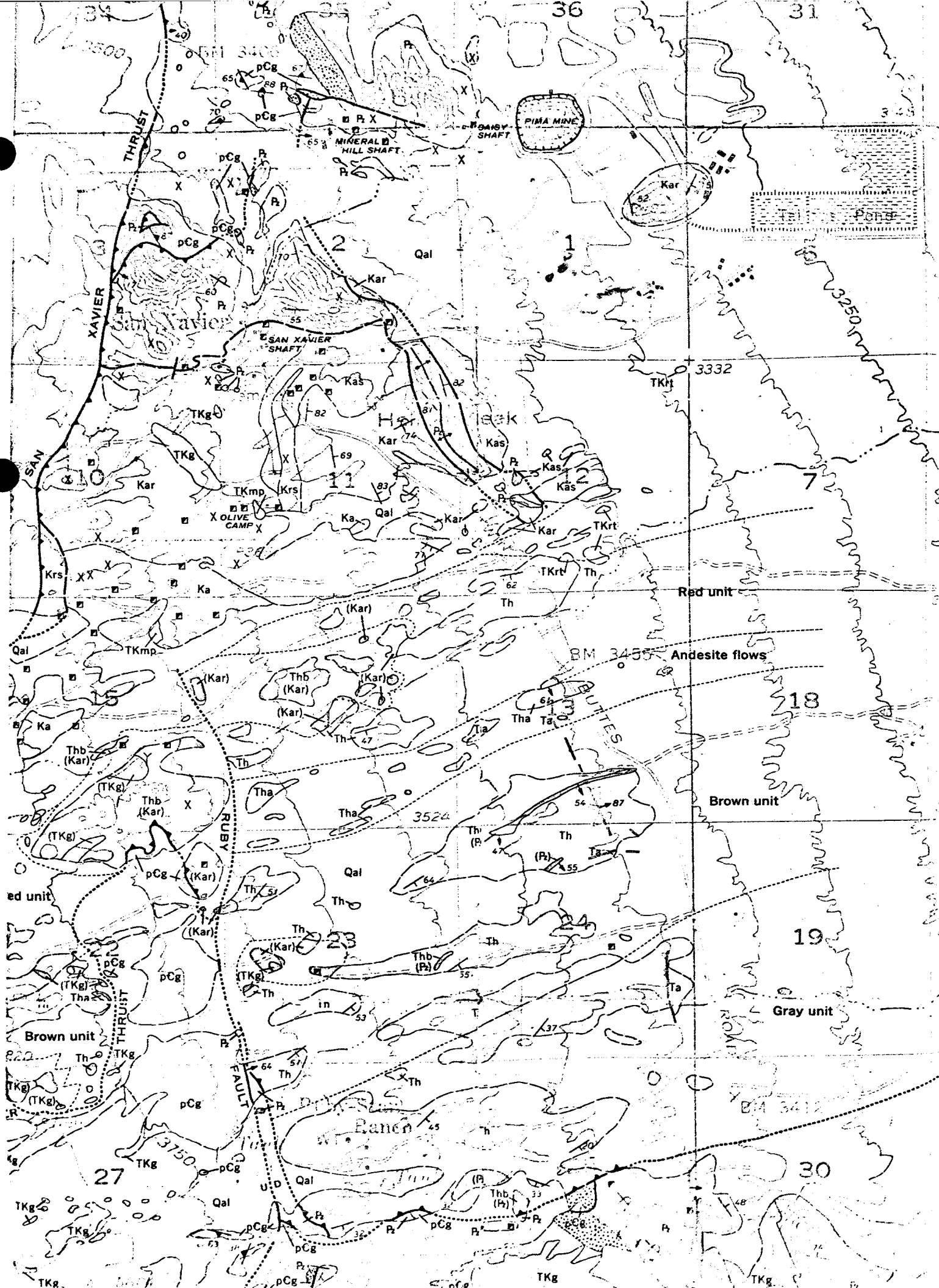
**(For Customer's Use)**

Save Receipts and pulps.

Alt area east of Esperanza  
in Sec. 13, near Tailing pond.

Page.....of.....pages

[illegible]





P. O. Box 3605  
903 University Boulevard  
Tucson, Arizona 85722

October 30, 1970

Mr. Donlon LoBiondo  
Vice President  
Holt, Inc.  
818 West Miracle Mile  
Tucson, Arizona 85705

Blind Subject: Demetrie Prospect, Pima  
County, Arizona

Dear Don:

This letter will confirm our telephone conversation of October 30, and authorize Holt, Inc., as a consultant in land search, to undertake the following:

1. Determine the status of mineral rights on state land in Section 13, T 18 S, R 12 E.
2. Determine the nature of the commercial lease held by Duval Corporation on this ground.
3. If the mineral rights on Section 13 are found to be unappropriated at this time, apply immediately in the name of Holt, Inc., for a prospecting permit. You will transfer this prospecting permit application to Kaiser Exploration and Mining Company by means of a quitclaim deed.
4. If the mineral rights are held by others, I wish to know the names of the individuals or the corporations involved, with their addresses.

I may wish additional land search in the surrounding vicinity, but you are advised to wait until instructed before proceeding beyond Section 13. As I mentioned, any data available on drill holes in Section 13, usually required to demonstrate non-mineral characteristic before a surface lease is granted by the state, would be desirable.

Very truly yours,

JEK/bl  
b. c. c. Dr. T. F. O'Neil  
File  
Blue

John E. Kinnison  
Regional Geologist

Dr. T. F. O'Neil  
Oakland, California

October 30, 1970

J. E. Kinnison  
Tucson, Arizona

File  
Blue

Demetrie Copper Prospect,  
Pima County, Arizona

The attached letter to Holt, Inc., requesting them to perform a land search on Section 13--the most crucial area in regard to the subject prospect--is self-explanatory. Mr. Vickers authorized this work, and left the choice of the firm to do this search up to me. I have chosen Holt, Inc., in large part because they can do this work immediately, and I now have reason to believe that time is important.

I have not yet written a report on the prospect, but will describe it briefly as follows:

Intense alteration, accompanied by sporadic limonite derived from chalcocite is exposed adjacent to an alluvial-covered area near the tailing pond from Duval's Esperanza mill. As far as I am aware, the possible extension under alluvium is totally unexplored.

No doubt, Duval will object in some manner to exploration in this area, although I do not believe they can legally do anything about it. We may wish to offer this to Duval as a joint venture, but in the meantime I feel we should protect our interest by obtaining a state prospecting permit if the land is open, as it was about two years ago.

Part of my interest in this prospect stems from work for Asarco. However, they flatly rejected it two years ago due to proximity to Duval, and I therefore feel ethically free to proceed.

JEK/bl

J. E. K.

NOV 18 1970

Tel Call to Hobson

Mailed Application prospecting  
permit W 1/2 Sec 18 (Demetrius  
project) and it has been received  
in pht - no further word.

Demetris - See 13 -  
Commenced work till 1974 .

Bond of about 12,000

Schmitt Report -  
Clippenger Report -

1 application denied in  
1965 -

Lobiondo Report on Telephone

J.E.K.

NOV 2 1970

↓  
they have applied for <sup>prop.</sup> permit



J. E. K.

NOV 11 1970

Called LeBeau  
and asked to apply  
for W $\frac{1}{2}$  of Sec  
18 T12S R13E

will do in person tomorrow  
if someone goes to PTH,  
or send Reg letter  
if not.

J. J. Durek  
Oakland, California

154 file  
February 26, 1971

J. E. Kinnison  
Tucson, Arizona

File  
Blue

Demetrie Copper, State Prospecting  
Permit, Pima County, Arizona

Enclosed are three standard application forms for an Arizona State prospecting permit, so that the Oakland legal department may apply for same on the subject prospect.

In regard to this new application, I have the following comments to make:

1. We should probably apply only for the north half of Section 13, T 18 S, R 12 E--the area of most immediate interest.
2. The prospecting permit can be filled out using the same wording used by Holt, Inc., (attached for reference) with one exception. Under Item No. 6 regarding the crossing of other state lands to reach the land under application, we should list this answer as "yes." The access which has been described will cross the south half of Section 13, which is also state land, before entering the north half.
3. If, at the time the prospecting permit is submitted, it is accompanied by documentation for our geologic opinion--which differs from the conclusions drawn by Duval--I believe we can refer each critical interpretation to a situation already acknowledged by Harrison Schmitt, in his letter to Ben Messer of Duval, August 8, 1958. The letter by Donn M. Clippinger to the State Land Commissioner, August 6, 1958, should probably be passed over. Clippinger offers his opinion that a potential open-pit deposit beneath the tailing pond is extremely unlikely, but does not document this opinion in the detail which is given by Harrison Schmitt.

Kaiser's position would be as follows:

1. The north half of Section 13 is penetrated by only one drill hole (Duval No. 43) on the extreme western edge. This area is large enough to contain a commercial deposit. In this regard, Harrison Schmitt states, Page 2: "Such an orebody to be commercial, unless the grade and thickness were abnormally high, would need to be at least 1,500' - 2,000' in diameter." The dimensions of the area in the north half of Section 13, which has not been evaluated by drilling, is approximately 4,000' in an east-west direction and up to 2,500' north-south. Thus, without disagreeing on Schmitt's generalization of area required for a commercial deposit, we can argue that an undrilled area of ample size in fact does exist.

2. We should emphasize that the surrounding drill holes sunk by Duval, and also by the American Exploration and Mining Company, were for the most part weakly mineralized and that they contained recognizable, although very small, quantities of copper sulphide. In other words, they were not barren in the sense of meaning no mineralization at all. While we must recognize that usually there is a relatively wide area of rather strong mineralization, but with very low copper values, peripheral to a commercial deposit, for various technical reasons this is not always the case. Therefore, the weak mineralization with traces of copper sulphides may be significant.

3. Our principal reason for wanting to explore this area is that on a small hill in the northwestern quarter of Section 13, adjacent to alluvium on the eastern edge of that hill, there is a well-mineralized outcrop with evidence that copper sulphides formerly existed in the capping. Harrison Schmitt recognized that this outcrop was mineralized when he stated, Page 1: "This ground has been broken, in places brecciated, and slightly to moderately altered. It is marked by brown limonite stains and up to 1 mm films of the same mineral on cracks." Our position must be that we believe that Harrison Schmitt underrated the importance of this outcrop. Additionally, we should point out that the outcrop is now much better exposed by an embankment along a road, which was not present at the time when Schmitt made his examination on the ground.

4. Regarding the same hill, and the drill hole in it, Harrison Schmitt states: "The fairly good looking outcrop area in the northwest quarter of Section 13 was checked by Hole 43 with poor results." Schmitt also states: "DDH 43 was drilled to a depth of 310' in the above outcrop. The core contains minor pyrite in cracks and disseminated. There is a trace of chalcopyrite. No assays exceed .08% copper and most are less than .04%." The point we must make is that Drill Hole 43 did not evaluate the better mineralized ground on this outcrop. The intense alteration and mineralization, with evidence of former copper sulphides in the capping, lies northeast of the collar of Drill Hole 43, and this intense alteration has faded out in a southwesterly direction before reaching the area of Drill Hole 43.

As a concluding remark, and at the risk of repetition of statements in previous letters, I would like again to emphasize my belief that our legal department in Oakland should attempt to consult with Victor Verity on this matter, since he may be able to judge in advance the reaction which the State Land Department will give this new application, and is perhaps in a better position to estimate the possible outcome if the matter is ever taken before superior court. I certainly do not wish to imply any lack of confidence in our Oakland legal department, I simply feel that an attorney personally familiar with the Arizona State Land Commission should be consulted.

JEK/bl



J. J. Durek  
Oakland, California

December 24, 1970

J. E. Kinnison  
Tucson, Arizona

1 ex. for D. Day - with rejection notice  
File  
Blue

Demetrie Copper Prospect,  
State Prospecting Permit

I am forwarding two copies of the decision of the Arizona State Land Department rejection of application for Prospecting Permit No. 19703. This application was filed to cover the west half of Section 18, T 18 S, R 13 E, adjoining our previous application on the east.

Following our telephone discussion of last Tuesday, December 22, I have the following brief comments for the record.

1. The exploration possibilities hinge on my interpretation of a small outcrop and the projection of this area beneath adjacent alluvium. The details are listed in my report on the property. This is a valid prospect, and I feel it deserves a reasonable amount of expense in further action to surmount the prospecting permit rejections.

I rate the chances of finding an independently mineable copper deposit as reasonably good, perhaps 1 in 4 or 1 in 5. The chances of finding a small deposit of few million tons, which would have limited value to an outside company in the district, is also a possibility.

2. Concerning the method of procedure at this time, I personally believe the route of appeal through the courts would be best. As an alternative, you have suggested that we should enter the ground by simple trespass, and attempt by drilling to make a discovery which the land department would be forced to accept. Although we probably would not be in jeopardy of an outside party making a prior discovery, there is still another objection to this route. I believe that our company's reputation could be damaged in mining circles by using such a procedure due to direct conflict with Duval's commercial lease, without the benefit of the legality of a prospecting permit. Perhaps I am overly sensitive in this regard, but I believe this is a point to consider.

3. The details of legal procedure for appeal can best be reviewed between our Oakland legal department and Victor Verity here in Tucson. Your comment that we might find the appeal being heard by a judge from Maricopa County is a good point, but perhaps there are methods whereby visiting superior court judges from the mining counties might hear the case. Also, adverse ramifications of such an appeal, which may exist unknown to me, should be discussed with Verity and our own legal department. For example, will Duval be able to enter the case via a counter suit to protect their own



interest? I believe we should quickly consider all possibilities next week and if no really adverse reactions are in sight, we should attempt to place this on the court calendar.

4. In presenting the appeal, we will have an obligation to present it as an appeal based on different geological interpretations made by qualified and experienced exploration geologists. We should avoid, in so far as possible, creating a situation whereby a precedent might be set which would allow any wild-eyed speculator to force the land department to grant exploration permits without valid expert opinion. In this regard, I am registered as a geologist in the State of Arizona, so that my opinion should be valid in court. Also, we could probably obtain expert testimony for our side from Kenyon Richard, who is personally aware of the exploration possibilities here.

JEK/bl  
Encls.

STATE LAND DEPARTMENT OF THE STATE OF ARIZONA  
BEFORE THE STATE LAND COMMISSIONER

DEC 21 1970

RECEIVED  
DEC 21 1970

1 IN THE MATTER OF THE FILING OF )  
2 PROSPECTING PERMIT ON THE FOLLOWING )  
3 DESCRIBED LAND: )

4 LOTS 1 - 4; E2W2 OF SECTION 18, )  
5 TOWNSHIP 18 SOUTH, RANGE 13 EAST, )  
6 311.08 ACRES, GILA AND SALT RIVER )  
7 BASE AND MERIDIAN )

8 FILED BY: HOLT, INC. )

TUCSON  
KAISER EXPLORATION & MINING CO.

REJECTION OF  
APPLICATION FOR  
PROSPECTING PERMIT  
NO. 19703

9 From the Records of the State Land Department, the  
10 Commissioner finds:

11 FINDINGS:

12 I. Holt, Inc., 818 West Miracle Mile, Tucson, Arizona,  
13 filed application for Prospecting Permit No. 19703 on the above  
14 described land on November 13, 1970, in the office of the State  
15 Land Department.

16 II. That the lands above described are presently held  
17 by Duval Corporation, lessee, under State of Arizona Commercial  
18 Leases Nos. 343 and 961 for periods ending March 15, 1974 and  
19 February 25, 1979, respectively, for the purpose of disposal and  
20 storage of mine waste and mineral tailings incidental to its  
21 mining and milling operations adjoining.

22 III. That prior to and since the issuance of Commercial  
23 Leases Nos. 343 and 961 Duval Corporation has submitted to the  
24 Department data acquired through an intensive drilling program  
25 sufficient to convince the Department that the disposal area  
26 embraced by Commercial Leases Nos. 343 and 961 is barren of  
27 minerals to the degree that their exploitation would be of no  
28 practical value to the State.

29 CONCLUSION:

30 Being fully advised in the premises, the Commissioner  
31 finds:  
32

I. That the use being made of the above described lands

1 under Commercial Leases Nos. 343 and 961, is the highest and best  
2 use.

3 II. That under the above named circumstances, the normal  
4 operations required under State of Arizona Prospecting Permit are  
5 not compatible with the use authorized under Commercial Leases  
6 Nos. 343 and 961.

7  
8 III. That on the basis of the evidence as mentioned in  
9 Finding III above, and in accordance with long-standing policy and  
10 procedures of the Department acting under the provisions of the  
11 statutes governing the issuance of Mineral Leases of claims on  
12 State of Arizona land, the subject land is not susceptible to the  
13 issuance of a Mineral Lease or Leases thereon.

14 IV. That it is not in the best interest of the State of  
15 Arizona to approve the subject application.

16  
17 ORDER:

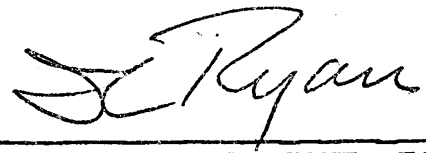
18 IT IS THEREFORE ORDERED that application for Prospecting  
19 Permit No. 19703 filed on November 13, 1970, be and the same is  
20 hereby rejected.

21 This Order is subject to appeal as in such cases is pro-  
22 vided by the Laws of the State of Arizona.

23 GIVEN under my hand and Official Seal of the State Land  
24 Department this 15th day of December 1970.

25  
26  
27  
28 STATE  
29 LAND  
30 DEPARTMENT  
31 SEAL

STATE LAND COMMISSIONER

28  
29 By:   
30 ASSISTANT COMMISSIONER FOR  
31 WATER AND MINERAL RESOURCES

32  
CERTIFIED #569074 HOLT, INC.  
CERTIFIED #569075 DUVAL CORP.