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James Doyle Sell Mining Collection

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Oliver B Keloy

1/13/87

No interest in deep drilling at CWT Property

? on Salome Prospect.

Deep holes not encouraging from present exploration

One hole cutting, core logs, assays available to recheck any changes in upper part.

How much Au-Ag sampling done?

OLIVER B. KILROY  
INVESTMENTS  
SUITE 110 - 4625 EAST BROADWAY  
BROADWAY TERRACE  
TUCSON, ARIZONA 85711  
TELEPHONE 795-6114

December 11, 1986

Mr. Jim Sell  
ASARCO  
1150 N. 7th Avenue  
Tucson, Arizona 85705

Dear Mr. Sell:

Enclosed is some background information about the CWT property and my hydraulic system patents, related concepts and uses.

I am also enclosing my La Paz County prospect since it may be of interest as a straight exploration project. However, it also has some additional potential since it may be an area of interest for missile basing and since Arizona Public Service might be a partner if uranium is found to alternatively supply the Palo Verde nuclear station; also, it indicated the underground workings would be of interest for a future pumped storage project in its network since one of its high voltage power lines is adjacent to the claims.

Relative to the CWT property, it is my feeling that the pediment west of the claims contains some of the postulated "magma chamber" and, possibly, a low pressure tangential ore body whose location would be remote enough for a missile base. Also, I've just talked with Tucson Electric Power and found out that the Anamax mine site is in its power system area. Whether or not a pumped storage facility using the pit for the upper reservoir after the underground reserves were brought back via a tunnel to a mine and missile site on the CWT property is something I believe to be a possibility worth investigating.

In any event, I believe I have developed good quality information about the CWT property and believe there may be an opportunity for reducing the net capital investment via my dual installation concept. Also, since the "D-M" article refers to locating the Midgetman missile base, the MX missile base is yet to be located. I would hope that the deep oil shale reserve area would be used similarly to that proposed for the CWT property. Thus, the oil shale reserves are my ultimate target.

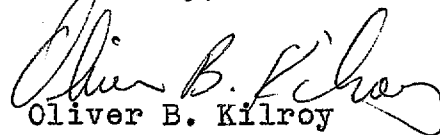
I will appreciate your firm reviewing the enclosed infor-

Letter To: Mr. Jim Sell, ASARCO, Tucson, Az.  
December 11, 1986

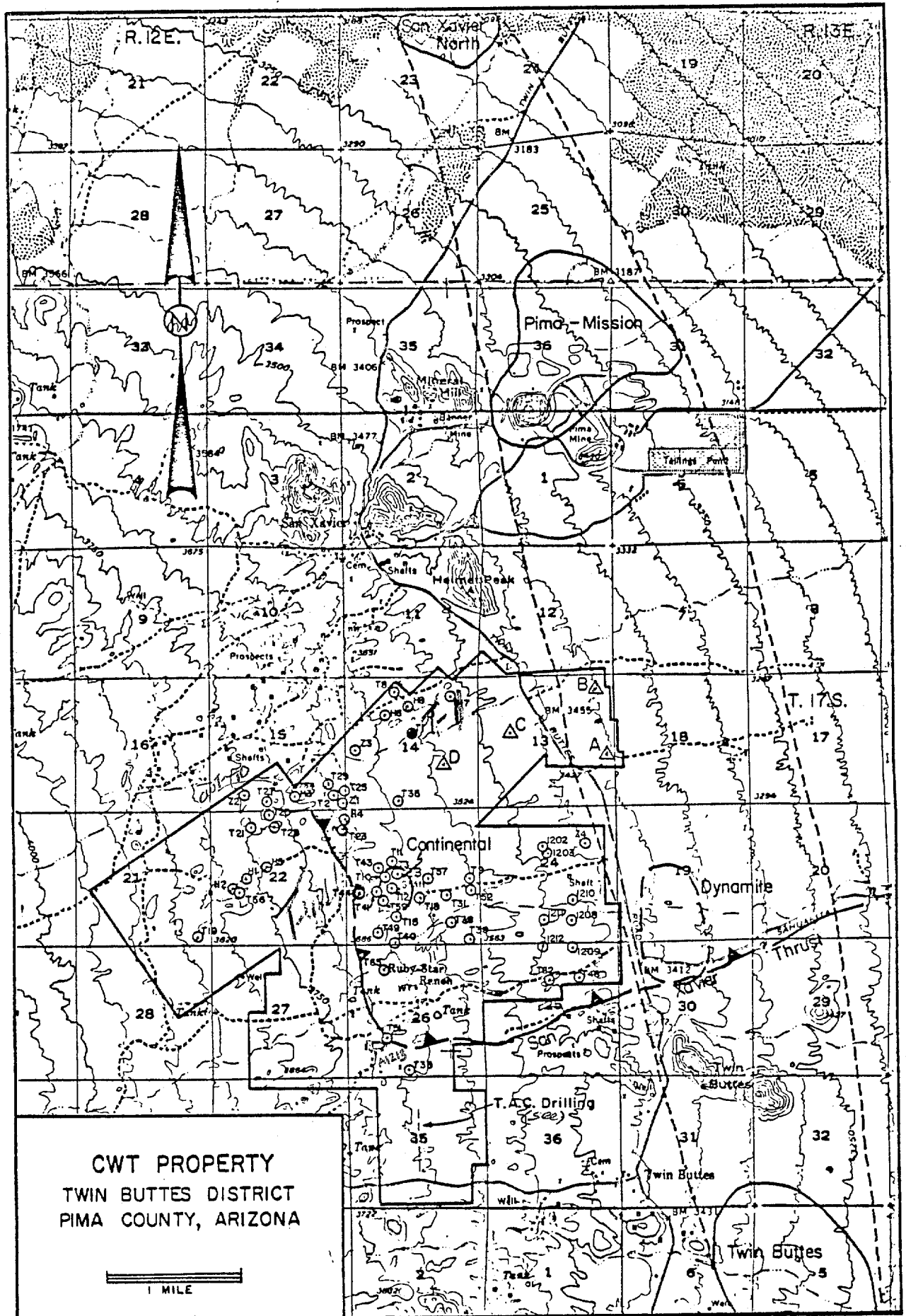
Page 2

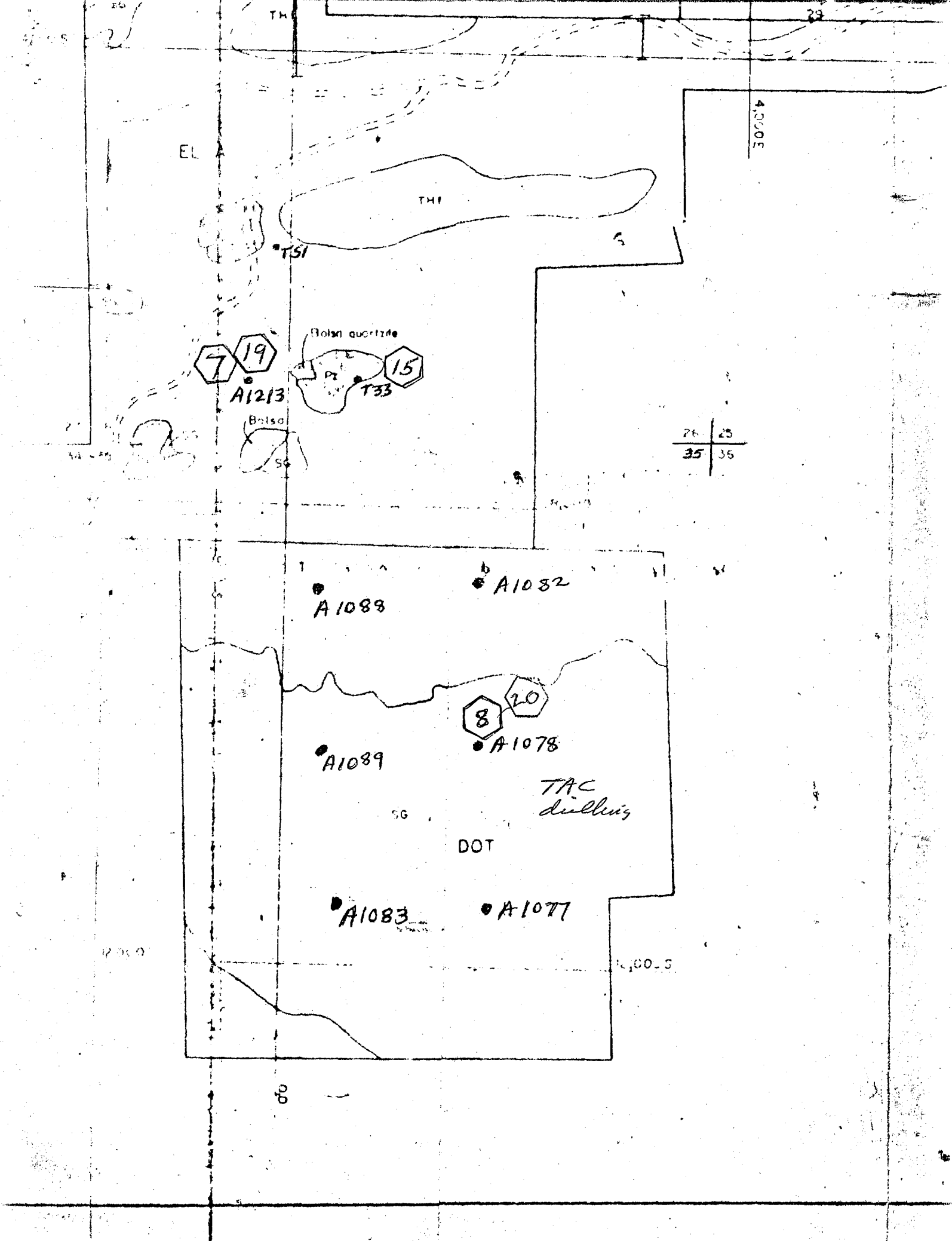
mation and will contact you after the first of the year to see if you think the risk of deepening one or both of the useable holes on the CWT property is justified relative to the potential I believe exists as indicated above.

Sincerely,

  
Oliver B. Kilroy

OBK/ed





DRILL HOLE DATA			
NO	LOCATION SECTION	DRILLED BY	DEPTH DRILLED
1	14	PIMA	1500
2	24	ANAMAX	1362
3	23	BEAR CREEK	1143
4	23	BEAR CREEK	1140
5	23	BEAR CREEK	1311
6	23	BEAR CREEK	1231
7	26	ANAMAX	1480
8	25	ANAMAX	739
9	25	ANAMAX	1245
10	24	ANAMAX	1784
11	24	ANAMAX	1766
12	24	ANAMAX	1571
13	14	BEAR CREEK	1109
14	23	BEAR CREEK	1255
15	26	BEAR CREEK	334
16	23	BEAR CREEK	1540
17	15	BEAR CREEK	197
18	21	RUSS TODD	450
A	23	T-41 BEAR CREEK	1069
NOTE: THE ABOVE LISTED DRILL HOLES REPRESENT A SMALL PORTION OF THE HOLES DRILLED ON THE PROPERTY.			

Probable  
Drill Hole #

23 ?

A 1208

T-57

T-12

T-31

T-39

A 1213

A 1078

A 1212

A 1202

? 4

A-1210

2475 T-1

T-10

T-33

T-52

?

?

3402'

19 15 CWT PROPERTIES #10 805  
20 23 CWT PROPERTIES #11 1110

1998

CORNER  
E LOCATION  
REFERENCE NUMBER  
ND BOUNDARY  
NDARY  
LIMIT KNOWN ORE BODIES  
POLE LINES

TWIN I  
GENERALIZED AT

# THE ANACONDA COMPANY

940 WEST PRINCE ROAD, TUCSON, ARIZONA 85705

GEOLOGICAL DEPARTMENT  
GEOPHYSICAL BRANCH OFFICE



3 November 1967

Mr. John G. Roscoe  
Manager, Continental Exploration  
4202 East Poe Street  
Tucson, Arizona 85711

Dear John:

The inclosed drawings are the results of our IP work on your property this year. There is a good possibility that the results have been influenced by fences, pipelines, and buildings in the immediate area of your workings.

Unless the anomaly is influenced by surface effects it appears to be representing a sulfide concentration 500 to 700 feet SSE of your shaft. The anomaly trends roughly N 30° W including your present shaft location.

This work should be considered as a recon coverage. If it were not for the buildings, etc. the anomaly would appear significant and would warrant additional detail work.

Sincerely,

George S. Ryan  
Senior Geophysicist

cc: E. O. McAlister

inc: 1 map

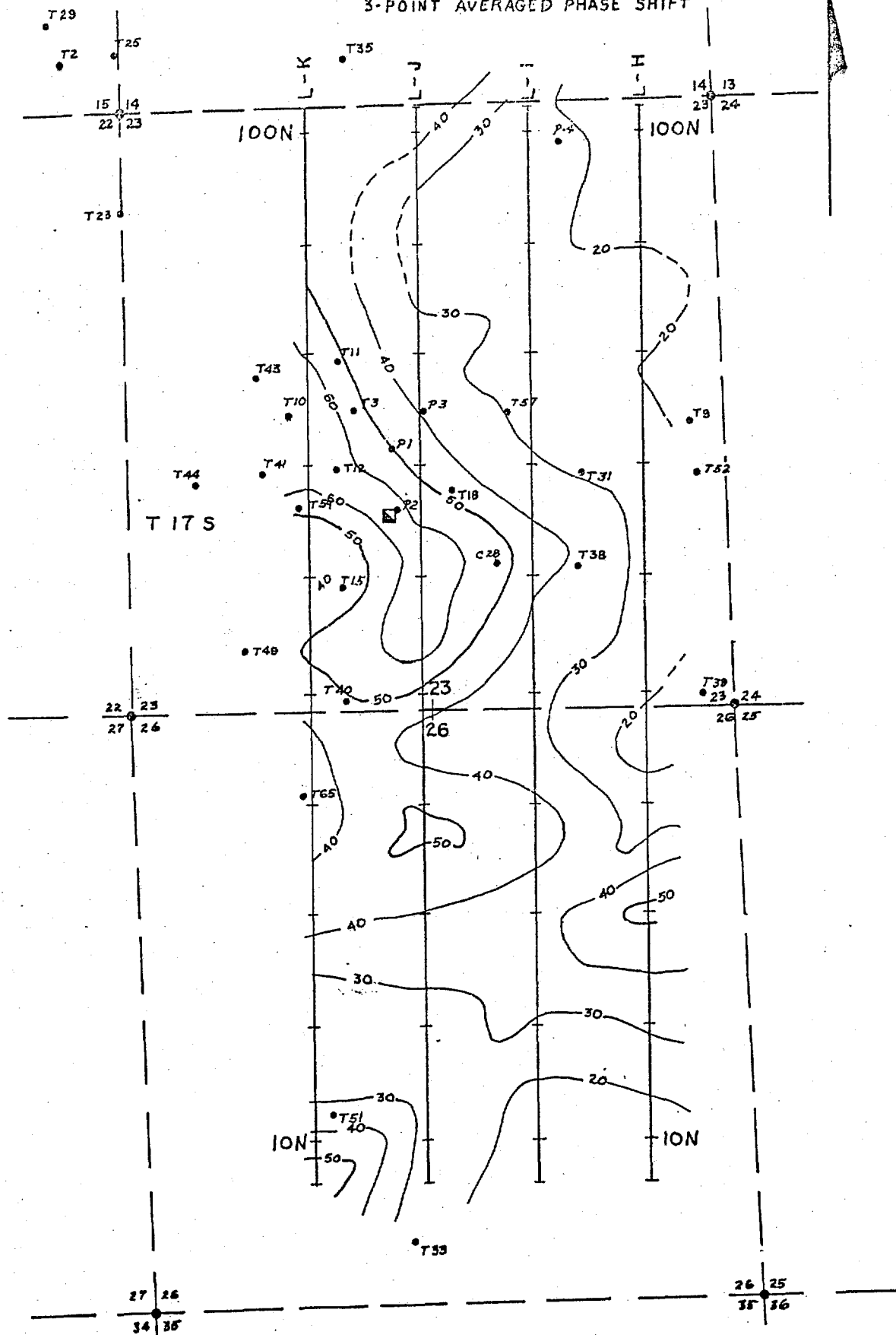
GSR:sa



# 1200 FOOT SEARCH DEPTH

R 12 E

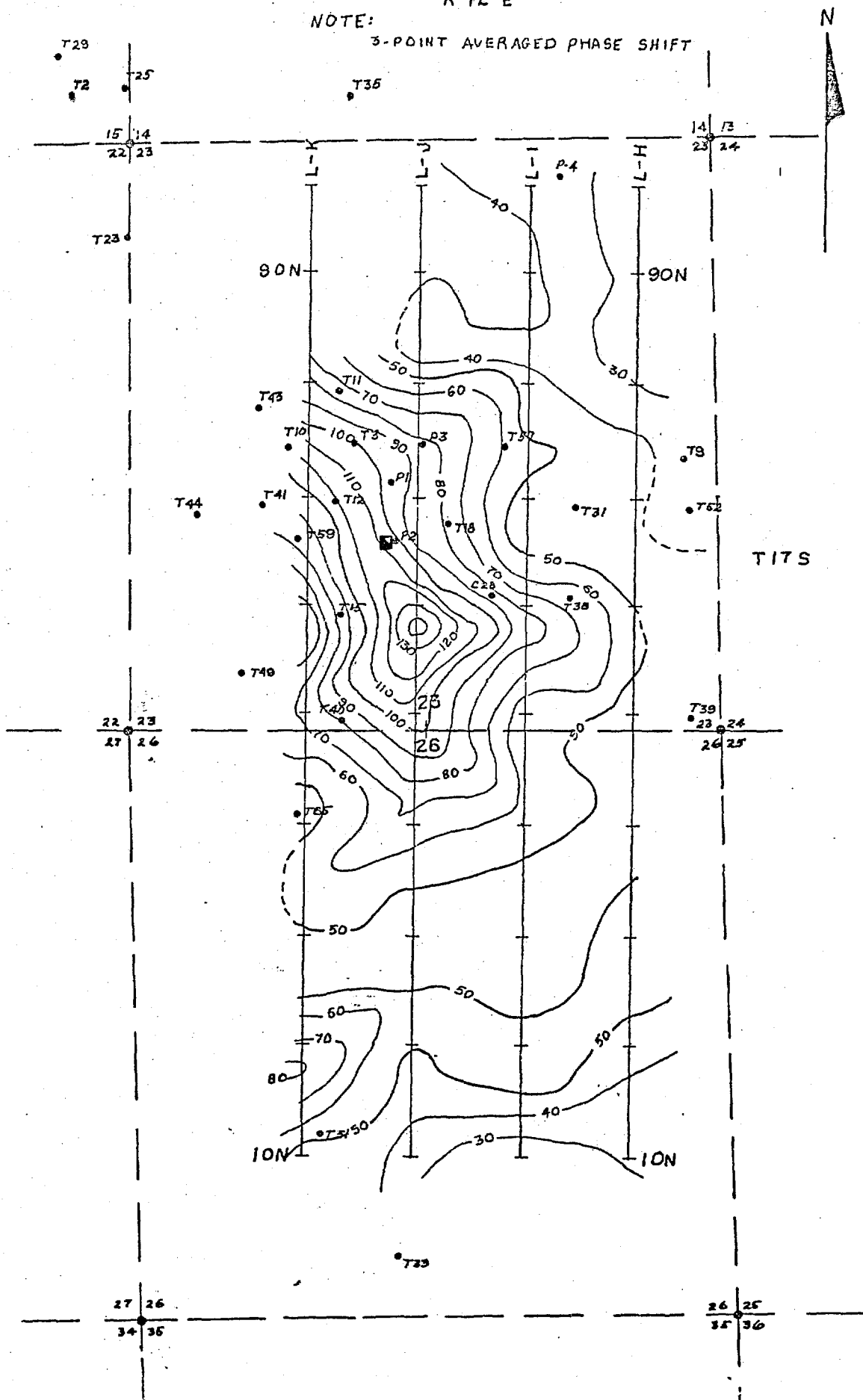
NOTE:  
3-POINT AVERAGED PHASE SHIFT

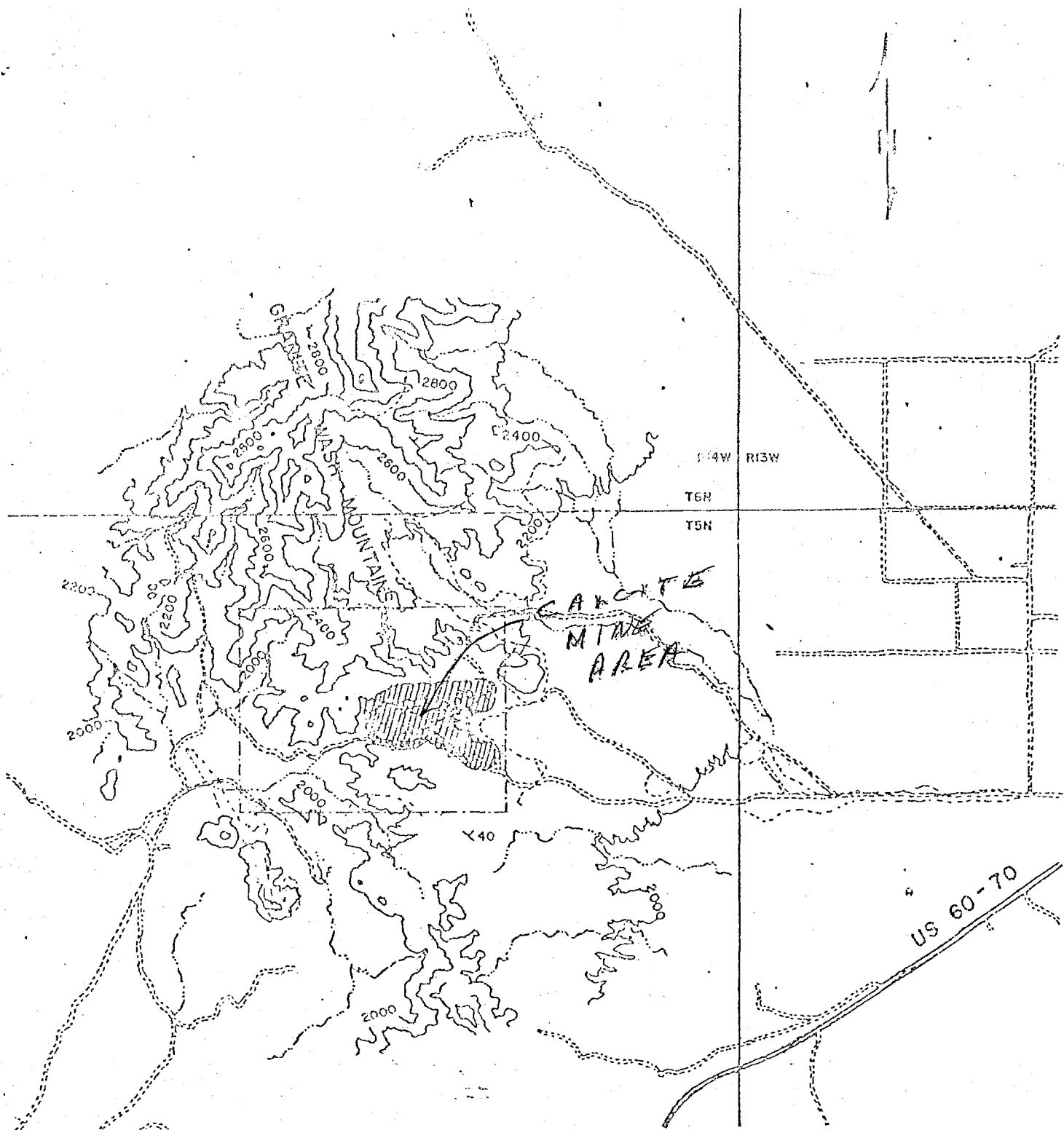








# 2000 FOOT SEARCH DEPTH

R 12 E

NOTE:  
3-POINT AVERAGED PHASE SHIFT

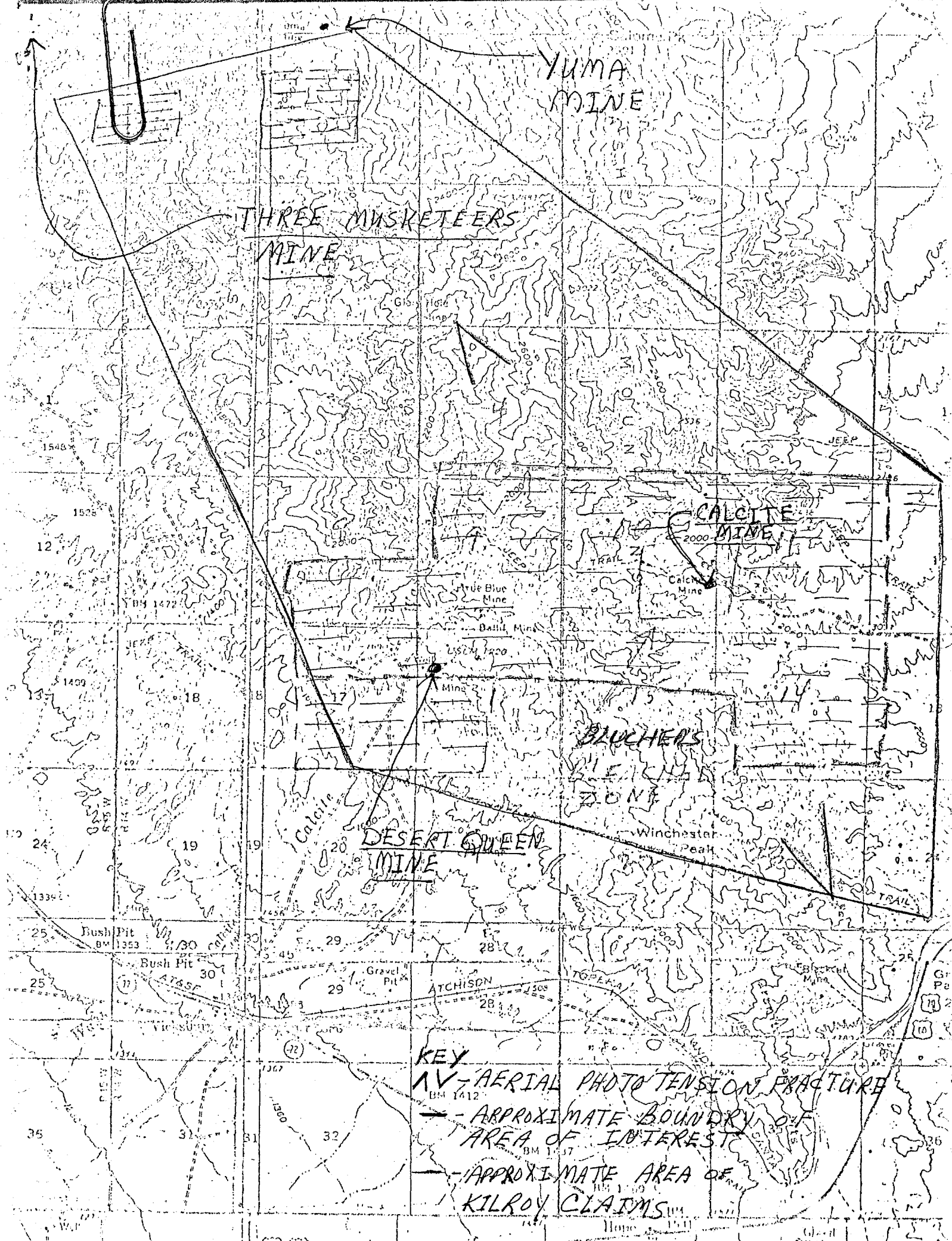




-  SOIL & ALLUVIUM
-  RHYOLITE
-  BIOTITE QTZ. MONZ.
-  HORNBLEND - DIORITE
-  LAYERED ROCKS & DIABASE
-  ALTERED AREA

PRELIMINARY MAP  
 SALOME PROSPECT  
 YUMA CO., ARIZONA

1 inch = 1 mile  
 A. G. Blucher Feb. 1968



KEY  
- - - AERIAL PHOTO TENSION FRACTURE  
- - - APPROXIMATE BOUNDARY OF AREA OF INTEREST  
- - - APPROXIMATE AREA OF KILROY CLAIMS

SALOME AND NORTHWEST SALOME PROSPECTS  
SUMMARIES

WEST FLANK GRANITE WASH MOUNTAINS  
ELLSWORTH MINING DISTRICT  
YUMA COUNTY, ARIZONA

1. In the Salome and NW Salome prospects, there are approximately 130 and 40 claims respectively held by affidavit of labor and owned by Kilroy Enterprises.

2. It seems to be an aerial photograph feature showing in plates 39 and 40 that looks like an upper and lower half of a lense or tension fracture, separated at the center, which is over four and a half miles long. At the center is a curved bleached area which opens to the east, which includes the Calcite mine and which is covered by my Salome prospect.

3. There is some evidence that this is a valid feature or at least there is similar geologic movement and activity within its confines. Since a tension fracture - there is some evidence the feature has the configuration of a cymoid loop - is formed by kinetic forces, one should find the rock within the area similarly affected. The old geologic reports and Sid Williams' petrographic findings indicate the quartz veins have followed the bedding as well as cutting it over a considerable distance in the area, both horizontally and vertically.

I believe the feature is also validated by the fact that the "hot spot" - represented, I believe, by one vein of tourmaline followed by pyrite, see petro. sample #43, indicating a greater degree of activity than at other areas where tourmaline is found - is located about 800 feet NE of drillhole NK#6, the deepest hole recently continued to 2464 feet. This area is approximately along an axis line drawn between the "North Inverted V" and the "South Normal V" shown in the photos and such axis line should receive the greatest forces in its development and, therefore, received the deepest sub-surface penetration.

To account for this feature, the description of the region by Harrison Schmitt in Titley and Hicks is interesting. He cites it as a zone of thrust faulting as well as being within the Texas orogenic zone, itself a left lateral thrust zone, he believes. He also states the crust is thin at a point in the northern part of the Gulf of California, not too far away. Whether or not the crust was ripped to the magma in the area of the Granite Wash Mountains is conjectural.

4. As at CWT, there is evidence of pegmatitic activity followed by a later event that includes hypothermal chlorite - it is high iron, see petro. sample at 1970 feet, NK#6. Also, see Clark Arnold's report on drilling from 1665-2464. The early stage of quartz and microcline becomes more clearly evident

downhole, see petrographic samples at 2234 and 2298, NK#6. Some high ratio zinc/copper zones have been found in the hole along with zeolites which, again similar to the events at CWT, seems to grade into the lower quartz-microcline invasion.

5. Another significant finding is the epidote found in the last 160 plus feet of NK#6 which I believe is the border zone over the deep prospect and similar to the epidote that borders the bleached zone at the surface. Art Blucher's alternative that the bleached zone is the barely exposed apex of deep-seated veinlet and disseminated mineralization seems to be right. I believe the solutions have come up through and along the axis line of the fracture, spread out and came to the present surface at the contact between the sediments and the tonalite (hornblende schist) rock that is surrounded by the bleached area. NK#6 has followed along the edge of the apex and has entered the main alteration area by the penetration of the postulated epidote border zone.

6. The pegmatitic activity is widespread as is represented by a more solid stage in the form of quartz veins, pegmatite dikes and aplite (felsite) indicated on McKensie's map going at least from NK#6 east about to the KOANS group of claims and to the felsite outcrop, an east-west distance of a mile.

7. The geochems and spectographs indicate a slight moly anomalism at about 2300 feet, just above the contact with the epidote, which I believe reflects the apex solutions, not the main zone itself; a build-up of titanium and boron in this zone is also significant. There seems to be a reversal of fluorine and phosphorus values in the epidote zone which indicates to me the epidote does border at depth the topaz and fluorite found at shallower depths and in the bleached area. The P was run because of the triplite mineral found in sample #43. Triplite, according to Ransom, is a fluo-phosphate of iron and manganese, a rare mineral usually found with tungsten minerals in pegmatite dikes.

8. I would expect to eventually penetrate a limestone zone if the rocks thus far are Paleozoic. Perhaps the epidote zone indicates going into or being near limestone rather than into a calcic igneous rock. Thus, the pegmatitic activity could be expressed as a limestone replacement orebody. Also, this activity could grade into contact metamorphism or, conceivably, with the amount of fluorine present could result into something similar to Climax where the moly is found in quartz veins with topaz and fluorite.

9. The I.P. anomalism is widespread. The reason for deepening NK#6 was a compromise hole to test the deep anomalism as well as to stay close to the bleached area. If the axis line represents the source, then the possibility exists

SALOME AREA PROSPECTS SUMMARIES  
Page 3

that the volatiles are in and around the bleached zone and grades out into typical mesothermal hydrothermal alteration, lacking the volatiles, as found in NK#3. This would be similar to CWT where it, as the source, grades out to the peripheral orebodies. The more the volatiles, the greater the chance for moly and tungsten. Relative to the situation where tungsten was the main metal, both Utah International and Kennametal have expressed interest in finding reserves and would offer a bailout possibility.

10. The NW Salome prospect has encountered trace amounts of tourmaline in the OBK#1 towards the bottom of the hole which may be related to the photo feature.

11. The Three Musketeers mine, located west of the Yuma mine produced tungsten and rumor has it that drilling has found an economic orebody with significant amounts of gold being involved.

12. At the Topaz claims, 30-40 miles west of the prospects, radioactive material was found with moly and scheelite in quartz veins, see enclosure.

13. I am suggesting that the Salome prospect be deepened to penetrate the epidote zone to see what lies underneath it. However, any option would include all claims in the Salome and NW Salome areas.

ADDITIONAL COMMENTS TO THE SALOME AND NORTHWEST  
PROSPECT SUMMARIES

WEST FLANK - GRANITE WASH MOUNTAINS  
ELLSWORTH MINING DISTRICT  
YUMA COUNTY, ARIZONA

1. The Salome Prospect claim group has been expanded to include about 179 claims, all of which are believed to be valid.

2. In November, 1981, a 6 $\frac{1}{2}$ " hole was air hammered to 1365 feet. The following were encountered from visual examination of the chips and from petrography.

a. The location of the hole, NK #15, approximately at a south contact with the large bleached zone east of the Calcite Mine did not intercept the intense alteration on a continuing basis but, instead, all samples had chips of, one, quartz with hem./mag., two, sericite/muscovite, hem./mag. (intense alteration) and three, less altered gneiss at the top of the hole and sediments - at least in one zone - at the bottom and this less altered rock had chlorite, epidote and hem./mag. with occasional pyrite. This suggests quartz veins with vein walls and nearby rock altered to sericite/muscovite, hem./mag. assemblage.

b. Sulphides in the quartz fragments become evident at depth along with the hem./mag. of up hole which may be significant. Also, pyrrhotite becomes distinctly more evident in patches and veins at depth and its appearance seems to start about 1200-1300 feet where the sedimentary-type rock (calc-shale) seems to be involved and more prominent than pyrite, I believe.

c. In addition to the pyrrhotite, brown biotite becomes much more evident down hole and stilbite (a zeolite) was noted in one petrographic specimen down hole.

d. Because pyrrhotite was encountered in NK #6 from about 1000-2100 feet in intermittent intercepts, a "tarnished pyrite resembling bornite" - probably pyrrhotite - was described with copper in the Calcite Mine and pyrrhotite is present in the Yuma Mine, the drilling of NK #15 becomes more interesting below 1365 feet for the next phase.

e. The confirming of pyrrhotite as a significant mineral in the hydrothermal system gives stronger evidence that pegmatitic activity is indeed involved and makes tungsten a better possibility, in light of the Three Musketeers Mine west of the Yuma Mine, as being a part of the metal-mix in any ore



ADDITIONAL COMMENTS RELATIVE TO THE GRANITE WASH MTNS. PROSPECTS

body that would be found at depth under the prospect.

f. It now becomes more interesting to drill the NK #15 deeper for another reason. The NK #6 from 2302 to total depth of 3416 had a common characteristic different from up the hole. The assemblage found was mentioned previously but not the fact that visually the interval was "alive"-looking with colors mainly due to the hematite and piemontite - a manganese mineral related to epidote. This fact, along with an 18 degree drift from vertical putting the bottom of the hole 670 feet SW of the collar and having the drill core give vertical and horizontal information as well, warrants the drilling of the NK #15 deeper to see what the meaning is of the findings in the NK #6, assuming the 2302-3416 interval in NK #6 is propylitic.

g. The generally uniform characteristic of the NK #15 samples indicate to me the hole is near or at the apex of the hydrothermal system as opposed to the NK #10 where the intensely altered rock abruptly changes at about 410 feet and the hole goes into a biotite-chlorite rock.

h. Coincidentally or not, two geologists from Anschutz - one with gold deposit experience and the other having a massive sulphide background were in the area at the time and visited the property. I believe there is an increasing possibility, especially with the deepening of the NK #15, they, along with Phillips, would be interested in the prospect for a combined metals-oil/gas exploration test or at least for one of Phillip's proposed "strat" test looking for deep "Overthrust" and/or sedimentary information.

FURTHER ADDITIONAL COMMENTS TO THE SALOME AND  
NORTHWEST PROSPECT SUMMARIES

WEST FLANK - GRANITE WASH MTNS. -  
ELLSWORTH MINING DISTRICT  
LA PAZ (FORMERLY YUMA) COUNTY, ARIZONA

1. In 1982, the NK #15 was NC wirelined cored from 1365 feet to 2214 feet.

2. The main points of interest are:

a. The intercept of a possible zinc build-up at the 2,000 foot level that roughly corresponds to the encountering of a small zinc geo-chem build-up at roughly the same depth in the NK #6; see Sid Williams petrography and geo-chem work.

b. Pyrrhotite and chalcopyrite seen sparsely down hole that may be related to hornblende in late metamorphic or contact metamorphic event. The rhyolites and diabasic dikes and sills - also considerable quartz - may represent a deep-seated intrusive with a contact metamorphic event at depth.

c. Datolite was encountered at the bottom of the hole which, along with the zeolites, may confirm the remobilization of the hydrothermal solutions carrying the volatiles.

3. In August, 1984, a NX hole, the deepening of NK #10, was drilled to around 1130 feet. It is located approximately 150 feet from the Calcite Mine shaft, being approximately in the center of the bleached zone. The following were noted:

a. gypsum veins were distinctly evident as late veins carrying sulphides and gives greater weight to the possibility that limestone at depth has been acted upon.

b. A 44 foot interval from 984-1028 feet showed a very slight gold-silver anomalism which may be significant in the light of the possible zinc zoning found, a cobalt-nickel anomalism at around 3100 feet in the NK #6 and a finding of tellurium in the Desert Queen Mine, adjacent to the western edge of the claims. If Emmons theory of zoning is correct (among others), an arsenopyrite zone may be below the zinc zone. Arsenopyrite, sometimes carrying cobalt, found in the "Mother Lode" districts of California with the tellurides.

c. Relative to metallization, there is a slight indication that tungsten geo-chem values are slightly anomalous at depth in the NK #6. There is tungsten in the area at

PAGE 2

the Three Musketeers Mine west of the Yuma Mine to the north. Also, a slight copper anomaly is found in the NK #14 east of the Calcite Mine in the pediment and associated with it is a slight niobium anomaly, niobium oftentimes being associated with tungsten.

The potential for oil and gas accumulation at depth is highly speculative but certain facts, interpretations and questions exist and arise which are of interest, I think:

a. The precedent for finding oil and gas under metallization is found in Nevada.

b. Seismic work has been done in the area and a second survey was done south of Salome. A major unconformity is believed to exist below 10,000 feet, as per several mining geologists and confirmed to me by a Phillips' geologist, stemming from interpretation of old seismic work.

c. Wilson's map shows Mesozoic sediments in the area. Assuming this is true as is Schmitt's statement that during Cretaceous time the area of the Texas Zone was the site of thick deposition of near shore sedimentary rock, where are the Cretaceous rocks in the prospect area? Has a sheet of Mesozoic and older ones been thrust over younger ones rather than a simple erosional explanation?

d. The aerial photo tension fracture (cymoid loop?) appears to have been wrenched and this seems to be confirmed by the remobilization of hydrothermal minerals. It is believed these solutions are of Laramide age so that significant post-Cambrian structural deformation has taken place. This deformation may be involved in the considerable "arching" between Wickenburg, Az. and five miles west of the prospect area near Hope, Az., a distance of about sixty miles. Sohio's Mukluk prospect on the North Slope was described as an "arch" and one can speculate as to the significance of the one in the prospect area.

e. Schmitt reports a thin crust was measured in a drill hole in the Gulf of California. I raise the questions, one, would a relatively thin crust be more plastic than a thick one and, two, is the development of the above referred to and unusually large fracture in my prospect area further indication of such plasticity? Also, Schmitt makes the comment that the Texas Zone may be the contact between marine and continental crusts.

f. The drill hole, if successful, could be continued as a stratigraphic test for rock type data.