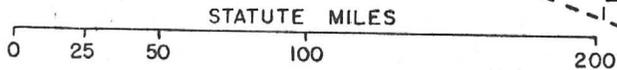
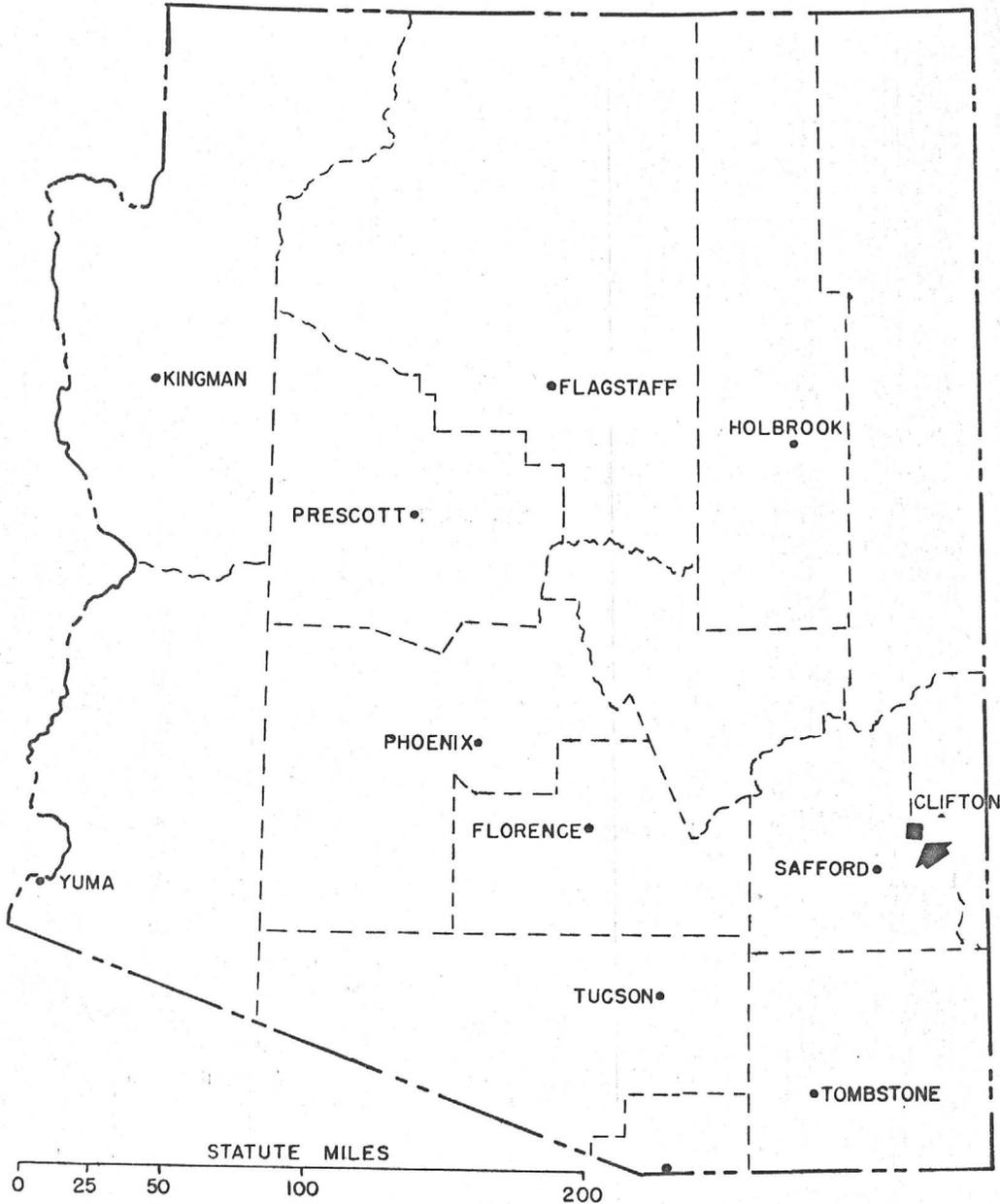


GENERAL LOCATION  
of  
CLIFTON-SAFFORD AREA  
for  
ESSEX INTERNATIONAL, INC.

ARIZONA



HEINRICHS  
**GEOEXPLORATION COMPANY**

|   |  |   |
|---|--|---|
|  | <u>AUSTRALIA</u><br>(SYDNEY)<br>39 Hume Street<br>Crows Nest, NSW<br>Phone: 439-1793 | <u>U.S.A.</u><br>Post Office Box 5964<br>Tucson, Arizona 85703<br>Phone: (602) 623-0578<br>Cable: GEDEX, Tucson |
|---|--|---|

GEOPHYSICAL ENGINEERS

## INTRODUCTION

At the request of Mr. Howard Lanier of Essex International Inc., Heinrichs GEOEXploration Company is conducting a geological reconnaissance, for the purpose of presenting an exploration program, over various (4) properties in the Safford-Clifton-Morenci Area, Arizona. This report is being submitted at the end of the initial reconnaissance stage as a recommendation for the second phase of program planning.

The properties under consideration were brought to the attention of Essex by Mr. Guy Anderson, a Safford attorney, who has at least nominal control of all but the Nail Keg group which is apparently held by Mr. Alf Claridge. All of these properties are adjacent to, or very near, operating mines or a mine apparently now in the development stage. For general information refer to: The Safford Copper Deposit, Lone Star Mining District, Graham County, Arizona, by Robinson, R.F. and Cook, Annan in; The geology of the porphyry copper deposits (Titley and Hicks).

The Nail Keg, Knob Hill and Horseshoe are all located a few miles north of Safford and can be reached by good dirt roads. The Knob Hill and Horseshoe claim groups are presently under lease to Producers Chemical Corporation who are presently developing the San Juan (Peacock) as an oxide leaching operation. The San Juan property also has good sulfide potential at depth. The Blue Crystal is located about 15 miles northeast of Safford adjacent to the Sanchez property under development by Inspiration Copper Company.

The terms copper oxide or oxide copper as used in this report actually refer to the common group of non-sulfide oxidized copper minerals which include the carbonates and silicates (etc.) of copper as well as true oxides of copper.

## PROPERTY APPRAISAL

### Nail Keg - A021

This property is approximately 23 claims, some of which overlap or are overlapped by adjacent claims. The exact number of claims, their names and position and location established on the ground, is the first thing that must be done if this property is to be acquired. These claims lie mostly in Sec., 3, T. 6 S., R. 26 E., and are covered by alluvium, with some

volcanic rock outcrop. Two drill holes were found in the field, A5 and A21 and an A19 is also indicated on the claim map. Near A21 an induced polarization electrode was found and a newspaper partly buried at this location was dated 8 April 1969. Copper mineralization is very slight on the surface of this property.

The north boundary of the Nail Keg group is coincident with the south boundary of the Phelps Dodge property now under development. Phelps Dodge's shaft  $1\frac{1}{2}$  miles north is almost complete and some underground development is reported underway. The San Juan property (Peacock) now under development by Producers Chemical for oxide copper is immediately adjacent to the Nail Keg group, to the east, their respective west and east boundaries being coincident. The property is thus strategically located between two mines reportedly soon to be in production with the San Juan actually producing some copper during the development stage. The possible ore deposits are concealed, probably 1500 - 2000 feet deep and a complete I.P. program is strongly recommended for this property.

#### Blue Crystal - A017

This claim group consists of approximately 240 claims mostly located in Sections 28, 29, 30, 32, 33 and 34 T. 55, R. 28 E., Sections 3, 4, 5, 9 and 10 T. 6S., R. 28 E. The area is approximately one hour's drive from Safford on mostly fair quality dirt roads until you get on to the property which has some roads that are driveable in four wheel drive vehicles. Bonita Creek runs along the southwest edge of the claim group and is part of the City of Safford water supply. Inspiration Consolidated Copper Company has claims that adjoin these on the southwest and are developing their Sanchez property at this time although the actual mine area is a few miles away.

This property has mostly volcanic rock and Gila Conglomerate on the surface. Some of this is shown on the map and report by W.C. Lacy which is attached. A few thin fracture fillings of chrysocolla and chalcocite have been tested by small workings, but are not economically significant. They do indicate however, that these volcanics are probably pre-mineral in age. Phelps Dodge has drilled 3 holes on the property and AMAX two holes. At this time no information is available on these holes other than that in Lacy's report. The orientation and nature of the mineralized

fractures suggest that a possible shear zone may exist such as exists at the Phelps Dodge-Kennecott areas that is an aid in concentrating the copper mineralization. Considerable effort would be required to work this out as it is only slightly more than speculation now.

The geochemical data shown on the map is presently of very little practical use, and has very little bearing on solving the problems here. The area of alteration should be examined and sampled. Lacy's recommendation to drop the claims south of the Bonita Fault as mapped, should be held in abeyance until more is known of the property on a definite quantitative basis.

This represents a "blind ore body" exploration target and will require concentrated effort and considerable attention to properly evaluate it. A complete I.P. program is recommended over this property.

#### Yakie - A016

The Yaki claim group comprises some 75 claims mostly in sections 3 and 4 T. 5S., R. 30 E., about one mile due east of Clifton, Arizona. A paved road runs along the south and western boundaries of the claim group. The Clifton Cemetary is located on the south boundary of the claim group. Possibly some additional land may be included, primarily sections 33 and 34 and part of 32 in T. 4 S., R. 30 E. This needs to be checked on during any preliminary negotiations.

Part of the area is covered with alluvium, a small part in the northwest corner has some sedimentary rocks but most of the outcrop is granitic rock that is fairly well weathered on the surface. All rock types are red stained. Some minor copper oxide stains are visible locally. One very small adit is shown on the map.

This property probably does not have much of a chance to make a mine but probably warrants a few lines of I.P. on a wildcat basis to be certain nothing is overlooked.

#### Cuprite - A014

The Cuprite group is 16 patented claims in sec. 29, 30 and 31 and 32 T. 3 S., R. 29 E., and some state lease land

in Sec. 32. Phelps Dodge owns the ground around this property at least on the east and south sides. The property lies about a mile from the northwest corner of the Phelps Dodge Morenci Pit.

This property can be approached to within  $\frac{1}{2}$  mile by driving on a paved road, but accessibility is extremely difficult from there on. The terrain is rugged and the only way to cover the property is on foot. A helicopter would speed up any further reconnaissance of this property. Permission to cross Phelps Dodge ground or to use their roads would make things much easier, if a helicopter is not available.

At this time only a small part of the claim group has been examined. There is a shaft, drift with winze, and moderate sized dump on the Cuprite claim. Some copper mineralization is present along a six to eight foot siliceous vein. A road about  $\frac{1}{2}$  mile long would have to be constructed up the canyon at considerable cost from the new by-pass road Phelps Dodge is building. Malachite, pyrite, hematite and probably some cuprite was found on the dumps at this mine. The patented claim corner common to the Cuprite, Cuprite No. 2, Eunice and Ironsides claims was found. These claims and parts of adjoining claims were looked over, but no other mineralization was seen. The rock here is granitic with some staining and minor alteration around the vein on the Cuprite claim. Conglomerates and quartzite are found westward at the top of the canyon. The potential of this part of the property is not very promising, but the rest of the property should be carefully examined.

#### RECOMMENDATIONS

Several years ago when this area was quiet, exploration-wise, Kennecott and Phelps Dodge had sufficient time (and area) to work out the geology and run district wide geological and geophysical exploration programs to search for the most advantageous locations to spend their exploration dollars. This situation no longer exists as most of the ground hereabouts has been claimed as a result of the large amount of development going on here by the major producers. Because of this, and their strategic locations adjacent to properties which are under development or already producing, the Nail Keg and Blue Crystal groups should have very high priorities for a preliminary geophysical reconnaissance examination and probable subsequent

drilling. The possibility here of acquiring large areas of ground in favorable areas is important and in this particular case the often considerable geologic expense required to selectively eliminate large portions of an area under consideration is not needed because this is already defined as the claim-group perimeters.

On the Nail Keg and Blue Crystal properties the possible "ore bodies" apparently do not come to the surface and probably lie between 1000 and 2000 feet deep on both properties. Because of the depth and rugged terrain at the Blue Crystal will make exploration fairly expensive, approximately 20,000 - 25,000 dollars may be required to process both claim groups, prior to drilling. These costs include the necessary supervision, claim checking etc.

The Cuprite claim group evaluation at this instant consists primarily of geologic reconnaissance only and until the entire property has been examined quantitative recommendations cannot be made. This may take some time and effort and possibly could be done in conjunction with other work going on in the area. A more specific program would be forthcoming at the end of that examination.

The further exploration and evaluation of the Yakie should consist of locating a few claim corners to be sure of their actual position on the ground, the running of a few wildcat I.P. lines partly on speculation and partly to be applied as the annual labor requirement to hold the ground from third party entry.

If all of these claim groups can be obtained as a single package deal with an absolute minimum amount, or no cash consideration, to get on to the property, and provided that assuming and fulfilling the annual assessment work obligations rather than making any rental payments for a couple of years, can be made acceptable to the owners, then these claims should be taken up and processed as soon and as completely as possible.

Respectfully submitted,  
HEINRICHS GEOEXPLORATION COMPANY

*Donald B Cooley*

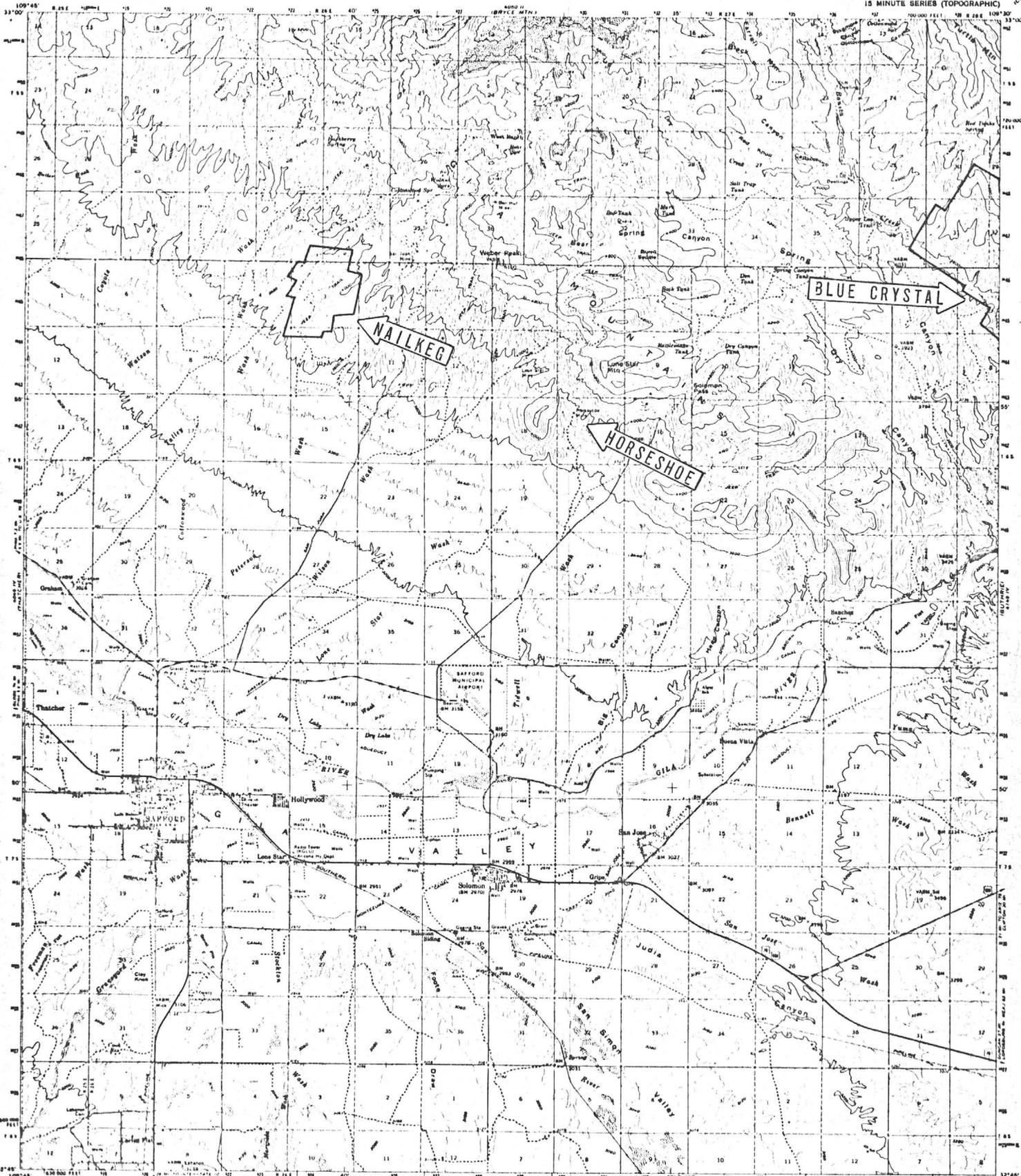
Donald B. Cooley  
Senior Geologist

APPROVED:

*W. E. Heinrichs, Jr.*  
Walter E. Heinrichs, Jr.  
President

Box 5964  
Tucson, Arizona 85703  
October 1970

GEOEX Job 532-70



Mapped, edited and published by the Geological Survey  
Control by USGS and USC & GS  
Topography from aerial photographs by photogrammetric methods  
and by planimetry between 1963 and 1967  
Photometric projection 1927 North American datum  
10,000-foot grid based on Arizona coordinate system and zone  
1000-meter universal Transverse Mercator grid lines  
zone 12 shown in blue  
Red line indicates area in which only  
landmark bearings are shown  
Where omitted, land lines have not been established

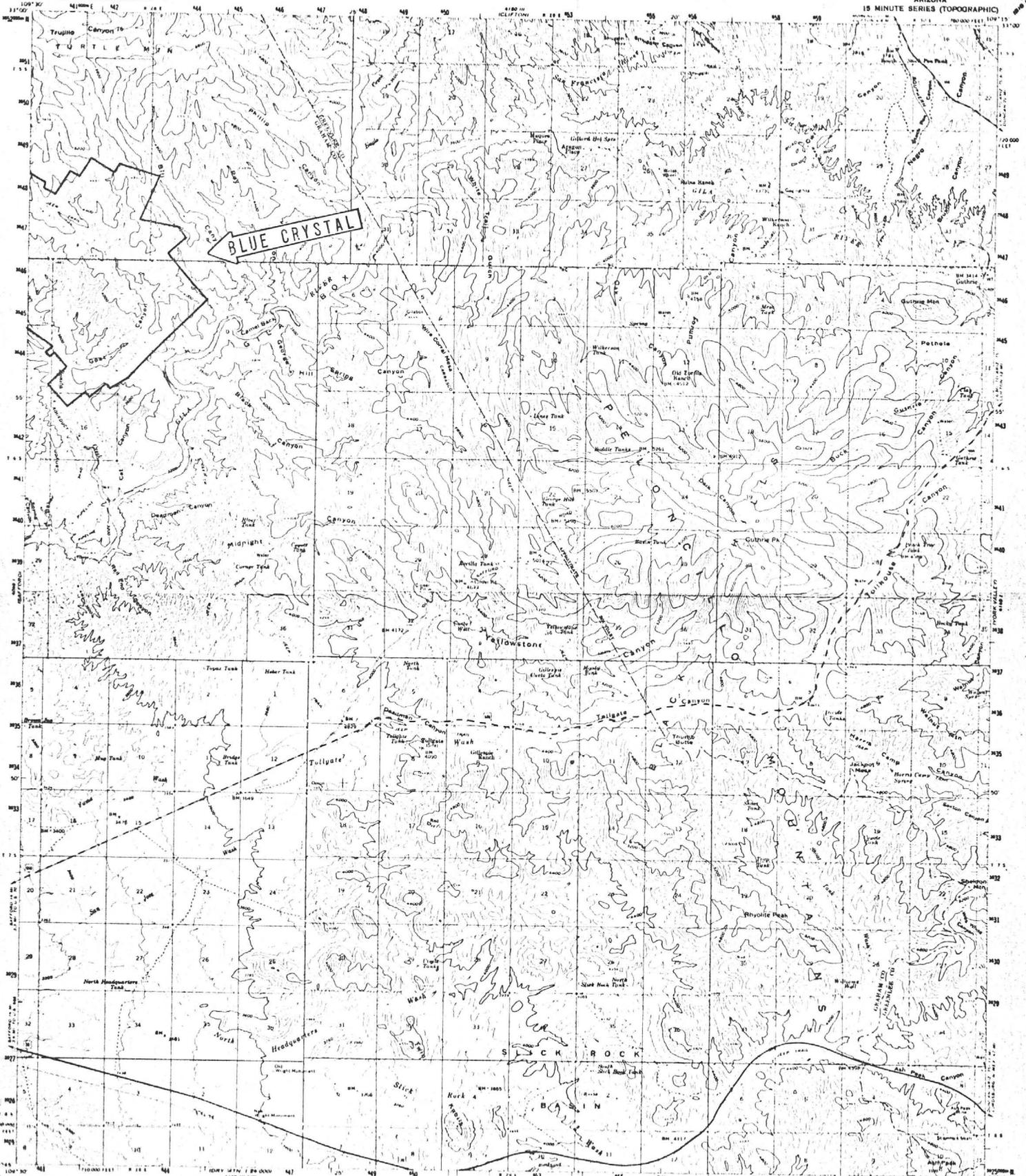


ROAD CLASSIFICATION

|             |                 |
|-------------|-----------------|
| Heavy duty  | Light duty      |
| Medium duty | Unimproved dirt |
| U. S. Road  |                 |



THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS  
FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR WASHINGTON, D. C. 20242  
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND STRIPS IS AVAILABLE ON REQUEST



BLUE CRYSTAL

Mapped, edited, and published by the Geological Survey  
Control by USGS and USCAS  
Topography from aerial photographs by photogrammetric methods  
Aerial photographs taken 1957. Epoch, mean 1960  
Projection: projection 1927 North American datum  
10,000-foot grid based on Airy spheroid system 1881 zone  
1000-foot Universal Transverse Mercator grid lines  
zone 12, datum on spheroid  
Dashed land lines indicate approximate boundaries  
Land lines unshaded in parts of 5 and 6 S. R. 26 E

SCALE 1:62,500  
CONTOUR INTERVAL 80 FEET  
DOTTED LINES REPRESENT 80 FOOT CONTOURS  
DASHED LINES REPRESENT 160 FOOT CONTOURS  
DASHED LINES REPRESENT 320 FOOT CONTOURS  
DASHED LINES REPRESENT 640 FOOT CONTOURS

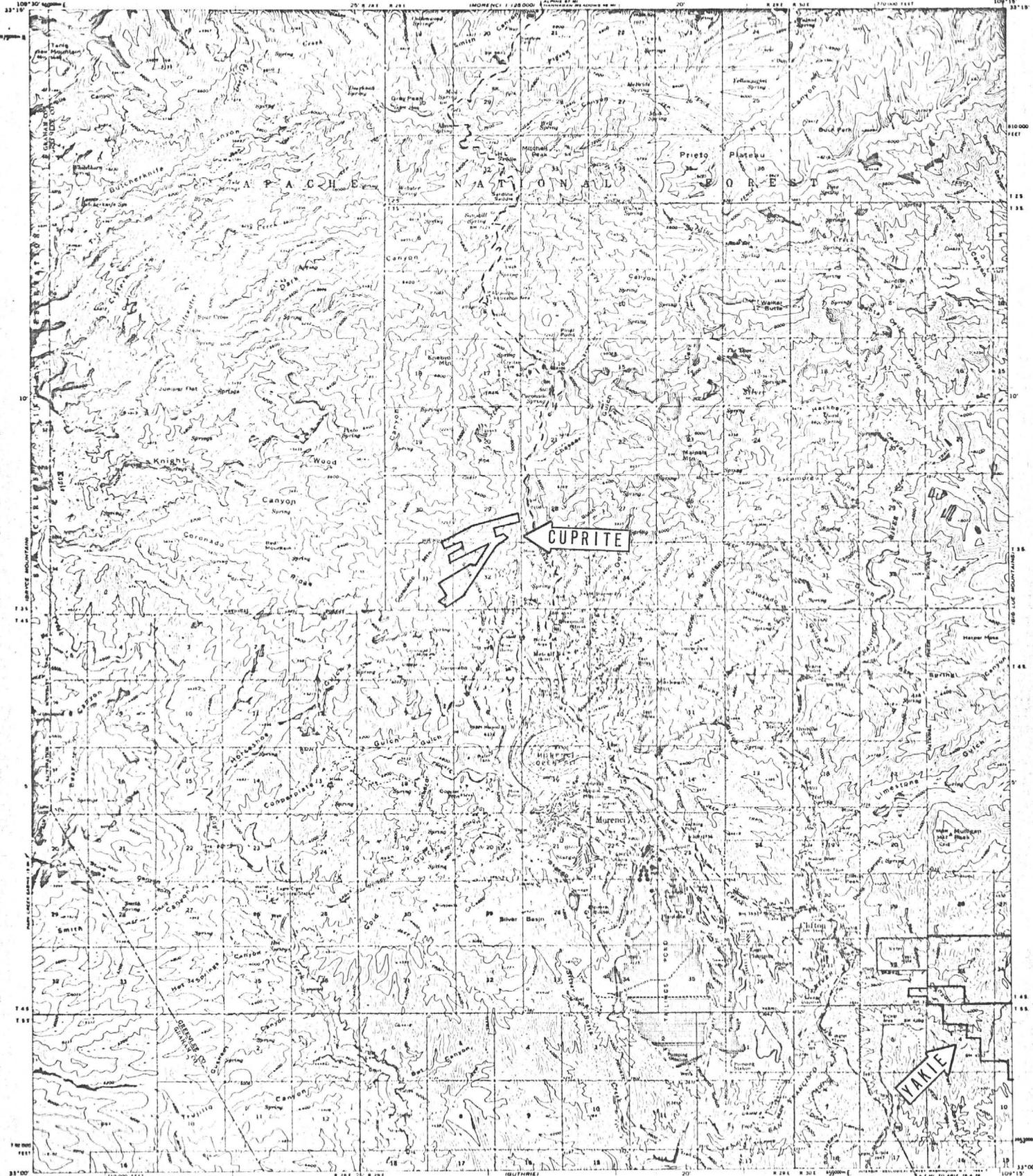
ROAD CLASSIFICATION  
Heavy duty —————  
Medium duty - - - - -  
Light duty .....  
Unimproved dirt .....  
U.S. Route □



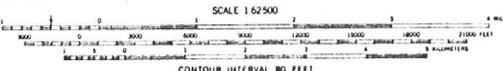
THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS  
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225 OR WASHINGTON, D.C. 20242  
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

OUTHRIE, ARIZ.  
N3245—W10915/15  
1960

AMS 6149 IV—SERIES V798



Mapped, edited and published by the Geological Survey  
Control by USGS, USGAS, and U.S. Soil Conservation Service  
Topography by photogrammetric methods from aerial  
photographs taken 1959. First checked 1962.  
Polyconic projection. 1927 North American datum.  
10,000-foot grid based on Arizona coordinate system, east zone  
1,000-meter Universal Transverse Mercator grid ticks,  
same 12, shown in blue.  
Where applicable, spot heights are in feet. 051201-1002

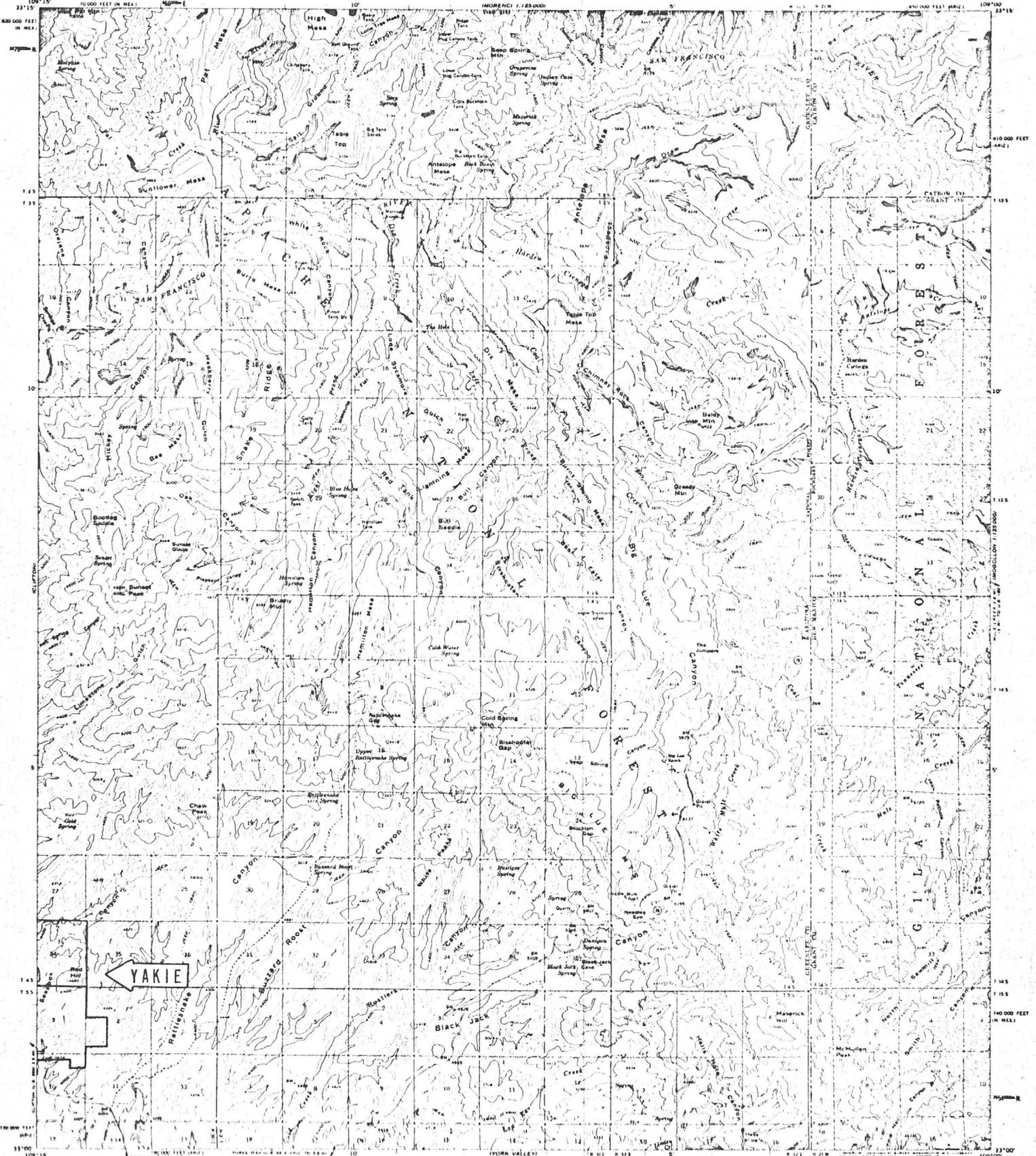


ROAD CLASSIFICATION  
Medium duty ——— Light duty ———  
Unimproved dirt .....  
U.S. Route □



This map complies with NATIONAL MAP ACT REQUIREMENTS  
FOR SALE BY U.S. GEOLOGICAL SURVEY, BUREAU OF GEOGRAPHIC NAMES, WASHINGTON 25, D.C.  
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

CLIFTON, ARIZ.  
N 1005 W 10013-13  
1962



Mapped, edited, and published by the Geological Survey  
Control by U.S. USCGS and U.S. Soil Conservation Service  
Topography by photogrammetric methods from aerial  
photographs taken 1957 and 1959. Field checked 1962.  
Polyconic projection, 1927 North American Datum.  
15' (3048) foot grid based on Arizona coordinate system, east zone  
and New Mexico coordinate system, east zone.  
1000-meter Universal Transverse Mercator grid lines  
zone 12 shown in blue.

SCALE 1:62,500

CONTOUR INTERVAL 80 FEET  
DATUM IS MEAN SEA LEVEL

ROAD CLASSIFICATION  
Light duty —————  
Unimproved dirt .....  
State Route ○

ARIZONA

BIG LUE MTS. ARIZ - N MEX.  
81100 - 811500 - 18

1962

## PROPERTY SUMMARY

### MORENCI-BANNER-B.Y.U. PROSPECT

#### LOCATION

Approximately 110 airline miles northeast of Tucson, Arizona and can be reached from Tucson by paved road driving east on U.S. 10, 96 miles to the junction of State Highway 666 and U.S. 10. Turn north on State 666, 22 miles to Safford, Arizona; thence turn on State 666, 40 miles to Morenci and the property which is 1½ miles east of Chase Creek. All or portions in Sec. 25, 26, 35, 36, T.3S., R.29E. and 1 & 2, 11, 12, T.4S., R.29E., Greenlee County, Arizona.

#### SIZE

Approximately seven square miles of patented and unpatented mining claims.

#### TYPE DEPOSIT

It is part of the Morenci stock and the principal ore bearing rock is the monzonite porphyry. Principal mineralization occurs in the form of sulfides in highly fractured zones.

#### ESTIMATED RESERVES

An excellent possibility exists of developing an economic deposit of extremely large tonnage (1 billion tons) of low grade copper ore (0.3% to 0.6% Cu).

#### MINING PLAN

Open pit and bench using standard industry known techniques.

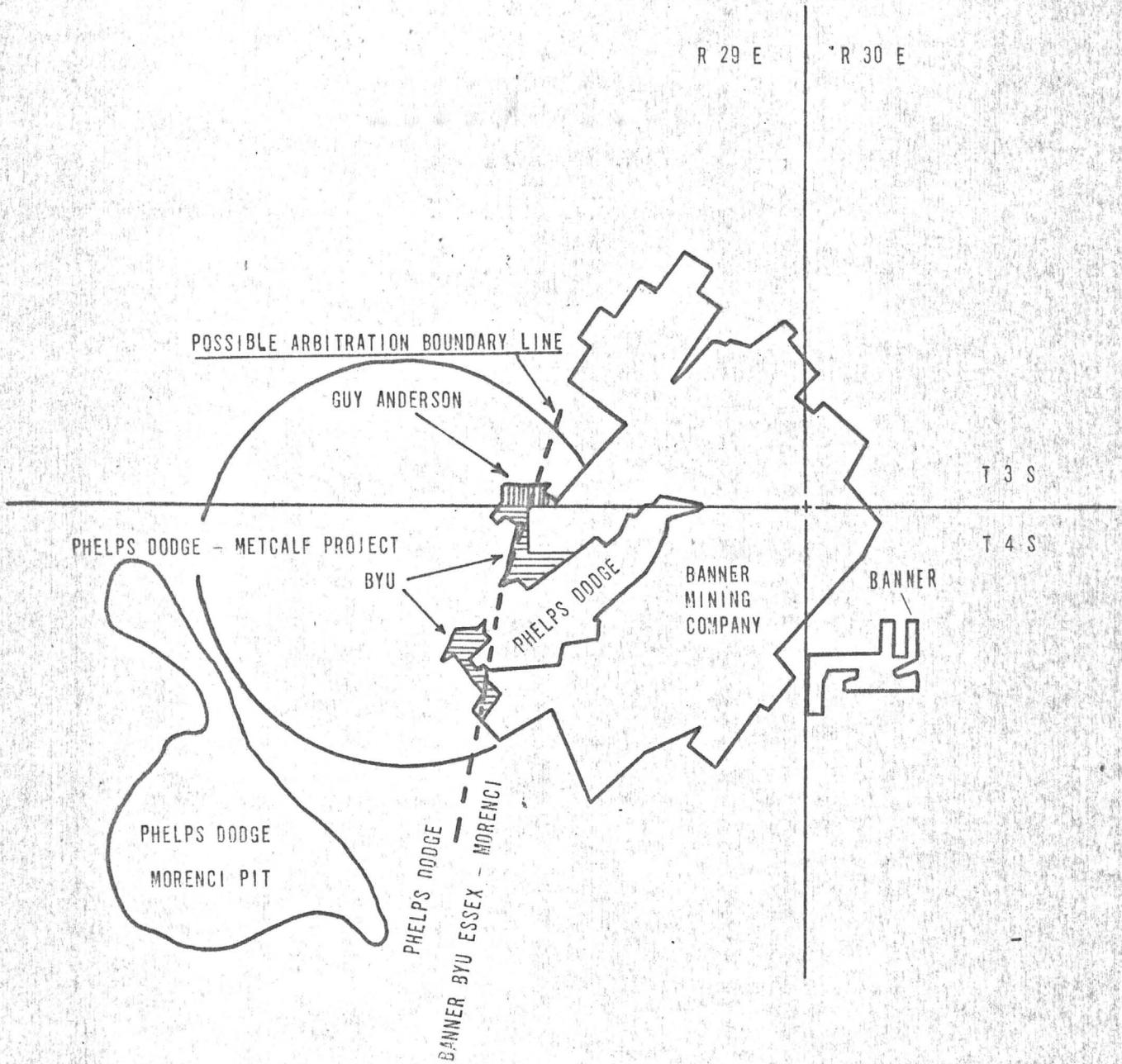
#### PROCESSING PLAN

Traditional concentrator mill system upgrading the ore to 25%-30% Cu and shipping the concentrates to a smelter.

#### EXPENDITURE SCHEDULE

Details not developed.

ESSEX INTERNATIONAL, INC.

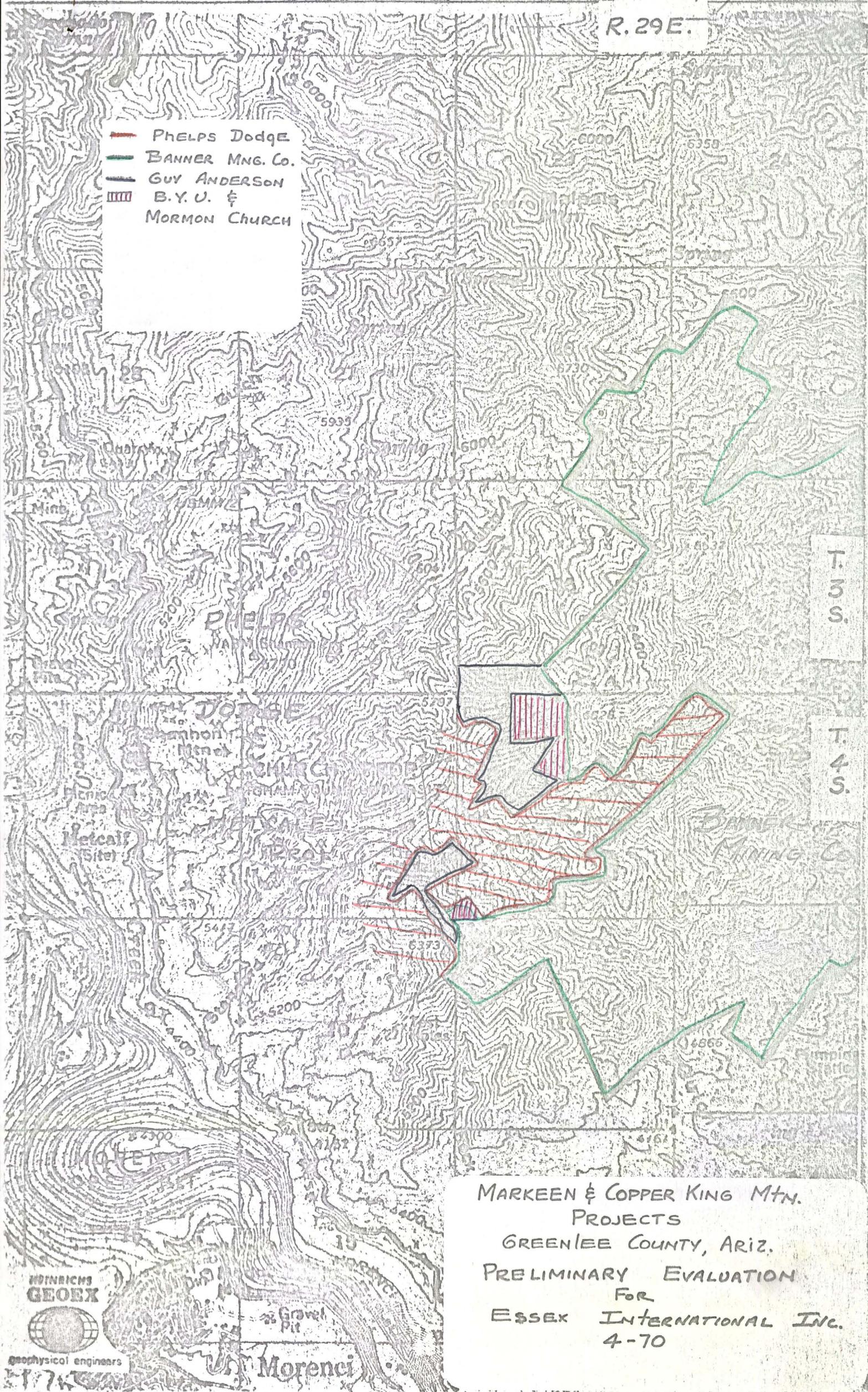




Georex Copy

R. 29 E.

-  PHELPS DODGE
-  BANNER MNG. Co.
-  GUY ANDERSON
-  B. Y. U. & MORMON CHURCH



T. 3 S.

T. 4 S.

MARKEEN & COPPER KING Mtn.  
 PROJECTS  
 GREENLEE COUNTY, ARIZ.  
 PRELIMINARY EVALUATION  
 FOR  
 ESSEX INTERNATIONAL INC.  
 4-70

WINNIE'S  
GEORX



geophysical engineers

Morenci

PRELIMINARY RECONNAISSANCE EXAMINATION

Date: 5-70

By:

Name of Property: MARKEEN &  
COPPER KING Mtn.  
Location:

State: ARIZONA County: GREENLEE

District: MORENCI

Date of this Report:

By: E. G. H.

Map & Aerial Photo Ref.: U. S. G. S. QUAD. "Clifton 15."

Extent of Property: Elisabeth Group #1-5 - 48 acres

STATE LEASE  
Ownership (Name & Address):

Leased or Optioned to (Name & Address):

B. Y. U. & MORMON CHURCH  
Facilities: & GUY ANDERSON

?

(a) Accessibilities (Roads, Trails,

CHASE Creek etc.):  
FROM Morenci

(f) Water: CAN be developed

(b) Air Fields: Clifton

(g) Labor: LOCAL

(c) Power: CAN be developed (h) Climate: Mountain Arid

(d) Telephone: MORENCI

(i) Supply Source: Clifton, MORENCI &  
TULSON

(e) Housing: MORENCI

(j) Miscellaneous:

Type of Deposit: (Describe briefly under following headings; Structure, Lithology, Mineralogy, Stratigraphic conditions, Physiographic conditions, Reserves, Possible Extensions, Geology, Geophysics & Drilling):

PART OF the Morenci stock principal ore bearing rock is the monzonite porphyry

Mine Workings: (Brief description of methods used, map to be attached if available)

Considerable road cuts, drill sites, pits & small workings

Production Data: (Past, present and possible future)

Unknown - None

Sampling and Analysis: (By whom--Results)

None

PRELIMINARY RECONNAISSANCE EXAMINATION

Mining Equipment on Property: \_\_\_\_\_

Date: \_\_\_\_\_

By: \_\_\_\_\_

Mill Equipment on Property: \_\_\_\_\_

Misc. Equipment on Property: \_\_\_\_\_

Camp Facilities: \_\_\_\_\_

Ore Reserve Estimates: \_\_\_\_\_

Recommendations and Conclusions:

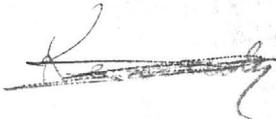
*The properties unquestionably have value because of their proximity to the Morenci Pit & the new Metcalf development. However by themselves the properties would be extremely difficult to mine. The most likely partners logically would be P. D. or BANNER. Third parties would only muddy an already unclear situation, from an economic mining method aspect.*

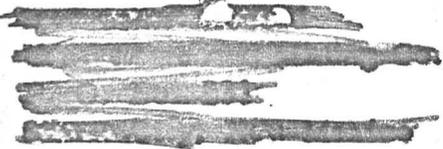
References: (Bibliography, Maps, Former Workers or Engineers)

*Titley & Hicks, 1966*

*Kennedy, Richard R. 1967*

*Moolick & DUREK*

  
April 8, 1967

  
Dear Mr. 

GEOLOGIC REPORT OF THE ELSBETH AND STATE LEASE  
MORENCI DISTRICT, ARIZONA

It is the objective of this report to discuss the economic potential of the Elsbeth and State Lease property that is situated in the Morenci, Arizona porphyry copper district, and to make suggested recommendations as to an exploration and development program concerning these properties.

Location

The Elsbeth and State Lease are located in Greenlee County, in southeast Arizona. The Morenci District is about 15 miles west of the Arizona-New Mexico state border.

The properties are located about five miles north-northeast of the town of Clifton, and about 1-1/2 miles northeast of the Morenci Copper Pit owned by the Phelps-Dodge Corporation.

The properties are situated on Markee Mountain at an elevation of 5-6,000 feet in Sections 2, 3, 10 and 11 of Township 4 South, Range 29 East, G. S. R. M. (Refer to the attached location map) The Elsbeth claims situated at an elevation of 6,000 feet are some 2,000 feet above Chase Creek Highway 666.

The Elsbeth group consists of five fractional, lode mining claims (48 acres). The Elsbeth #1-5, the State Lease consists of the Cornell, Princeton, Yale, Columbia, Amherst, Stanford and Tulane claims (67 acres).

Mr. Mike Riebold  
April 8, 1967

Page Two

Access to the property is gained by driving up Chase Canyon, Highway 666, some five miles northwest of Clifton. From this point access is via dirt roads which were established by Phelps-Dodge for exploration drilling activities. The only other access is by horseback or on foot over a somewhat longer route.

#### Previous Work

Walderman Lindgren published a classic study of the district in 1905 as U. S. G. S. Professional Paper 43. B. S. Butler and E. D. Wilson provided a supplementary report published in 1938 by the Arizona Bureau of Mines as Bulletin 45. A. B. Parsons summarized the historical and production data of the district in the porphyry coppers (1933, 1956 and 1957). The most recent work to be published is the excellent Geology of the Porphyry Copper Deposits Southwestern North America, Titley and Hicks (1966). Included in this publication is a paper by R. T. Moolick and J. J. Curek titled "The Morenci District". Numerous other geologists have studied and reported on this area.

#### General Geology

In order that the information may be presented more thoroughly, the following data is presented for the district as a whole, since it also applies equally well to the property under consideration.

Regional Setting. Morenci is in the transitional zone between two major physiographic provinces; the Basin and Range, and the Colorado Plateau. The topography is rugged with moderate to steep relief.

Rock Types. Rocks in the district represent a sequence that ranges from Precambrian to Tertiary.

The Precambrian rocks range from meta-sedimentary pinal schist to quartzite and granite. The Precambrian rocks are overlain by about 1,000 feet of Paleozoic quartzite, limestone and shale. Remnants of Cretaceous sedimentary rocks overlay the Paleozoic sequence, and in turn, are overlain by a Tertiary series of basalts, rhyolites and andesites

Mr. Mike Riebold  
April 8, 1967

Page Three

The most important sequence of Precambrian intrusive rocks consists of a stock or laccolith and associated dikes of probable Cretaceous age. The stock-like body consists of diorite porphyry, quartz monzonite porphyry and granite porphyry. The monzonite porphyry has the greatest aerial exposure and is the principal ore-bearing rock.

Structure. The Morenci area is one of intricate and abundant regional and local structures. An early sequence of faulting produced a characteristic northeast "grain" to the district. The main Precambrian intrusive, along with the associated dikes and veins all evidence this northeast trend. The exposed laramide intrusive is approximately 10 miles long and from 1 to 4 miles in width. Elongation is in the northeast dimension. In general the sedimentary beds dip southwest, and some large folds with a northwest plunge are reported in the district.

Late Tertiary normal faulting is reported by Moolick (1966) to strike predominantly northwest. The Coronado, San Francisco and Kingbolt faults (Chase Creek) are the most prominent fault features in the area.

The ore body at Morenci is highly fractured, with the fractures generally oriented northeast or northwest.

At least three breccia pipes are known in the area and all show an elongation to the west or northwest. These breccia pipes are apparently closely associated with a late barren hydro-thermal development.

#### General Mineralization Characteristics

In the Morenci Pit the chalcocite enrichment blanket ranges from 50 to 1,000 feet in thickness and thickens as it dips eastward. According to Moolick, a sericite-quartz alteration is characteristic of the area east of Chase Creek suggesting the possibility of an ore conduit in that area.

Strong weathering, however, has produced a hematite-goethite-jerosite capping that is noted for its absence of copper minerals. However, the primary ore is known to consist largely of pyrite and chalcopyrite.

Mr. Mike Riebold  
April 8, 1967

Page Four

Elsbeth #1-5

These five fractional lode claims located along the crest of Markee Mountain consists of 48 acres of some of the best situated land in the Morenci District. The area covered by the claims is largely quartz monzonite with a highly indictive leached capping, sericite and quartz alteration, fault and breccia zones that are unquestionably related to the Morenci Pit structures. The eastern segment of the claims cover an area where Precambrian granite is locally exposed, but field evidence suggests that the older granite is underlain at no great depth by the favorable quartz monzonite.

In the adjacent areas and in road cuts, sulfides are exposed just a few feet below the surface.

State Lease Group

This group os seven lode mining claims consists of approximately 67 acres and are located on the southwest slope of Copper King Mountain and contiguous on the north with the Elsbeth #6.

This area is one of more erratic, but nevertheless, important copper mineralization found along northeast trending fault veins, fractures and quartz monzonite dikes. Fair capping is present and confirms a southeast trend. Banner Mining Company has drilled two holes adjacent to the claim line. The area has potential, but can best be tested by a drilling program.

Mineralization. H. Clyde Davis (1965) indicates that sludge cuttings from diamond drill holes adjacent to the Elsbeth group of claims indicates mineralization over a 1,000 depth that will average 0.70% copper. It is expected that at least the copper, silver and gold values that are obtained from the Morenci Pit will be realized under the Elsbeth claims and elsewhere.

The following table is an indication of the estimated values on the Elsbeth claims #1-5 based on such factors as depth, market price per pound of copper, waste, recovery, etc.

Area - 48 acres or 2,100,000,000 cubic feet per 1,000 feet of depth.  
This is equal to 175,000,000 tons of ore per 1,000 feet of depth.

TONNAGE VALUE TABLE\*

|   | Depth<br>1000 Feet         |                         | Depth<br>2000 Feet         |                         | Depth<br>3000 Feet         |                         |
|---|----------------------------|-------------------------|----------------------------|-------------------------|----------------------------|-------------------------|
|   | lbs. Cu/<br>less 20% waste | Net Value<br>@ .35¢/lb. | lbs. Cu/<br>less 20% waste | Net Value<br>@ .35¢/lb. | lbs. Cu/<br>less 20% waste | Net Value<br>@ .35¢/lb. |
| 2 | 5,600,000,000              | \$1,960,000,000         | 11,200,000,000             | \$3,920,000,000         | 16,800,000,000             | \$5,880,000,000         |
| 1 | 2,800,000,000              | 980,000,000             | 5,600,000,000              | 1,960,000,000           | 8,400,000,000              | 2,940,000,000           |
| 8 | 2,240,000,000              | 784,000,000             | 4,480,000,000              | 1,568,000,000           | 6,720,000,000              | 2,352,000,000           |
| 6 | 1,680,000,000              | 588,000,000             | 3,360,000,000              | 1,176,000,000           | 5,040,000,000              | 1,764,000,000           |
| 5 | 1,400,000,000              | 490,000,000             | 2,800,000,000              | 980,000,000             | 4,200,000,000              | 1,470,000,000           |

\*Tonnes Calculated as follows:

12 cubic feet = 1 ton

48 acres = 2,100,000,000 cubic feet per 1,000 feet of depth

2,100,000,000 cubic feet = 175,000,000 gross tons of ore per 1,000 feet of depth

Net tons ore = gross tons less 20% for waste

Net pounds copper content = net tons ore x 2,000 lbs x % copper

ton

Value of copper = net pounds copper x .35¢/lb.

Mr. Mike Riebold  
April 8, 1967

Page Six

### Recommendations

Both the Elsbeth and State Lease should be drilled, and it is so recommended. At least three holes should be drilled on the Elsbeth claims in the saddle of Markee Mountain in the breccia zone related to a northeast fault zone. Total drilling requirement/6,000 feet for vertical holes. The initial holes should be vertical, with supplementary angle holes as required. The angle holes, of which three are recommended, are designed to cut the vein and breccia structures. Total drilling requirement/4,500 feet for angle holes. This would mean a total of approximately 10,500 feet of drilling. Diamond drilling costs are estimated at \$12 per foot for a total of \$126,000.00.

Assuming that the drilling will yield favorable results, then an underground exploration and development program can be initiated. Due to the land ownership situation, it would be advisable to run a long drift or tunnel, beginning in Hickory Spring Gulch, back to the southwest under the property. A proposed tunnel of this type would be approximately 10,500 feet in length and would cost about \$85 per foot to complete (assuming normal mining conditions). Such a tunnel would provide at least 2,500 feet of mining backs. Estimated cost/\$900,000.00. Several fault veins could be drifted on as the tunnel advances into the area under the Elsbeth acreage or under State Lease. Once under the properties, large scale block caving techniques could be employed to mine the ore.

### Milling

A moderate to large scale mining operation will require milling facilities. Very likely, land is available for purchase and water can be developed to meet needs.

Land acquisition for a mill site requirements will likely cost between \$500,000 to \$600,000. Mill costs are estimated to be about \$2,000 per ton of daily capacity. That is, a mill constructed to handle 20,000 tons per day will cost approximately \$40,000,000.

Respectfully submitted,

Dr. Richard R. Kennedy  
Consulting Geologist

RRK/bar

September 9, 1970

MEMO:

To: Don Cooley

From: E.G.H.

Subject: Assignment for period of September 9, 1970 through approximately September, 1970

It is Essex Management's desire to reconnoitre geologically the following properties of Guy Anderson all located in the Safford-Morenci Area. In order of priority they are:

1. Cuprite A014
2. Nail Keg A021
3. Blue Crystal (No specific property maps available except from Guy Anderson) A017
4. Yakie A016

If time permits (not likely) some general comments and a quick appraisal of the possible mineral potential on the San Juan and Morenci Banner - B.Y.U. properties would be useful but not essential at this time.

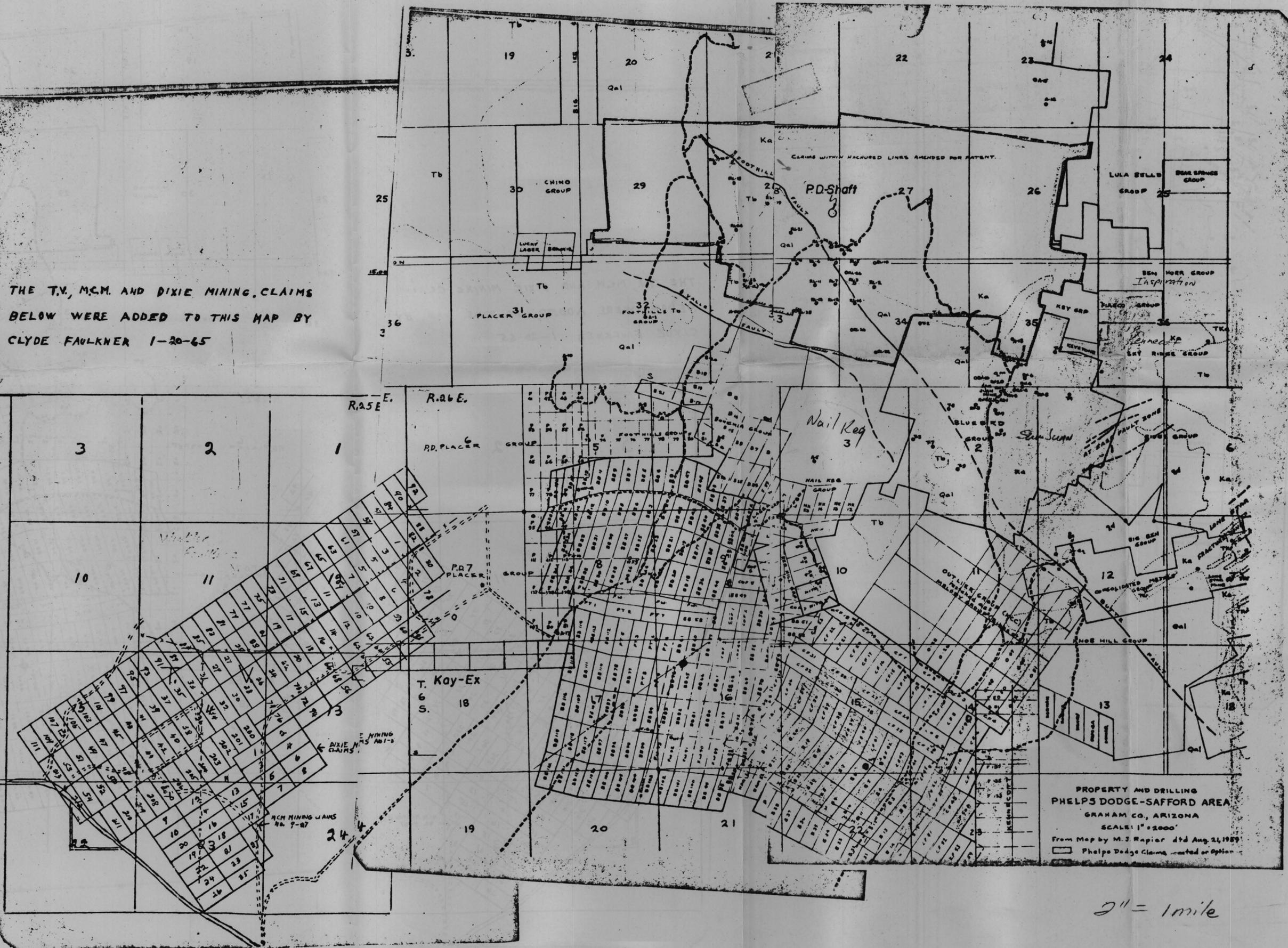
I think it would be useful to combine all the geological and geophysical data that is available from public sources into a set of overlays at a common scale. This would be a formal presentation to Essex Management.

Guy Anderson can furnish some additional maps and by prior arrangement a helper - guide if you want to make use of his help. This may be useful on the Cuprite property as this prospect is difficult to get into.

If I can be of any help to you please let me know.

Please use the prospect numbers and the budget allotment number on your time sheet so that there will be a minimum of delay in billing Essex. The budget allotment number for your activity will be G3-01.

THE T.V., M.C.M. AND DIXIE MINING CLAIMS  
 BELOW WERE ADDED TO THIS MAP BY  
 CLYDE FAULKNER 1-20-65



PROPERTY AND DRILLING  
 PHELPS DODGE-SAFFORD AREA  
 GRAHAM CO., ARIZONA  
 SCALE: 1" = 2000'  
 From Map by M.J. Rapier dtd Aug. 24, 1929  
 Phelps Dodge Claims - shaded or outlined

2" = 1 mile

September 14, 1970

To: E.G.H.

From: D.B.C.

Subject: Safford-Anderson Prospect Investigation - Interim Report

The Nail Keg and Blue Xtals Groups are in areas of good potential mineralization. The Nail Keg shows practically no mineral at the surface but P.D. and Producers Minerals are both developing mines near by. The Blue Xtal has an area of small veinlets with chrysocolla and chalcocite showing. These veinlets are not sufficiently large to be important at this time.

By reason of their physical location both of these properties probably deserve a reasonably thorough investigation. In both cases the target will be a blend ore body and probably between 1000' and 2000' deep. A strong carefully oriented and controlled geophysical program should be undertaken to locate the best possible drilling targets. An I.P. line that may have been responsible for drill holes A5 and A21 on the Nail Keg Group was found in the field. An old newspaper at one electrode was date 10 April 1969.

A couple of hours was spent on the Horseshoe area. The situation is approximately the same here. Some oxide copper is showing in the workings on this property. A notice on this property indicates that O.L. Hill and Producers Chemical (?) may have a lease on it.

The man Anderson wants to send along with me is asking 5.80/hr. I'll check with you before taking him.

I'll be at the Sandra Motel in Safford and will be looking at the Cuprite and Yaki next week.

Don

Cuprite

PRELIMINARY RECONNAISSANCE EXAMINATION

Date:

By:

Name of Property: *Cuprite* State: *ARIZONA* County: *Greenlee*

Location: *Sec. <sup>29</sup> 32, T. 35. R. 29E* District: *Morenci*

Date of this Report: *4-27-70* By: *E. G. H.*

Map & Aerial Photo Ref.: *U.S. G. S. 15' Quad. "Clifton  
B.L.M. Survey plat 2854*

Extent of Property: *10 patented claims balance of Sec. 32 unpatented  
and state leases.*

Ownership (Name & Address): *Guy Anderson et al* Leased or Optioned to (Name & Address):  
*?*

Facilities:

- (a) Accessibilities (Roads, Trails, *very rugged area. Up etc.*): (f) Water: *CAN be developed*  
*Chase Creek to North O.B. 1 mi. from Garfield Gulch & 4000' west from main*  
(b) Air Fields: *Clifton* (g) Labor: *local road up dry wash in a*  
*prominent steep canyon.*  
(c) Power: *CAN be developed* (h) Climate: *Mountain desert*  
(d) Telephone: *Morenci* (i) Supply Source:  
(e) Housing: (j) Miscellaneous:

Type of Deposit: (Describe briefly under following headings; Structure, Lithology, Mineralogy, Stratigraphic conditions, Physiographic conditions, Reserves, Possible Extensions, Geology, Geophysics & Drilling):

*Numerous faults & veins adjacent to & parallel the primary mineralized structure. The mineralization on the dump appears to be mainly iron oxide with some copper oxide staining & pyrite. Appears to have considerable strike length.*

Mine Workings: (Brief description of methods used, map to be attached if available)

*Reportedly there is a winze 400' deep located about 60' from an adit on the dump. I personally crawled into the adit & did see the winze though I was unable to measure the depth.*

Production Data: (Past, present and possible future)

*No information*

Sampling and Analysis: (By whom--Results)

*None*

Mining Equipment on Property: *None*

Mill Equipment on Property: *None*

Misc. Equipment on Property: \_\_\_\_\_

Camp Facilities: \_\_\_\_\_

Ore Reserve Estimates: \_\_\_\_\_

Recommendations and Conclusions: The exposed surface indications suggest a small very limited underground type operation unless <sup>intersections of</sup> ~~cross~~ faulting increased the width of the mineralization at depth. To check this possibility out a few I.P. lines (2) could detect the approximate depth & width of sulphides. If the I.P. survey results were encouraging then perhaps a drilling program should be undertaken to develop grade & tonnage estimates. The property because of its proximity to the Morenci Pit should be

References: (Bibliography, Maps, Former Workers or Engineers) Carefully mapped geologically.  
Donald E Cole, Clyde Davis

Titley, S.R. & Hicks C., 1966

Moolick, R.T. & Durek J.J., 1966

VANCE BACON, 1960

## PRELIMINARY EXAMINATION OF CUPRITE GROUP OF CLAIMS

By: Vance Bacon, April, 1960

### SUMMARY

The Cuprite Group of sixteen patented mining claims is located approximately three miles north of the Morenci Open Pit Mine. Pre-cambrian granites have been intruded by Early tertiary diabase and by monzonite porphyry. Widely spaced veins and veinlets containing iron oxides, quartz, and occasionally chrysocolla may be seen outcropping at various places on all the claims. The general trend of the mineralization is to the northeast although some intersection of fault veins is occasionally indicated.

All previous workings on the claims have been of very limited extent, the greatest amount having been done on the Cuprite claim. Some excellent gossan and ore specimens were found in abundance on the dump on this claim. The underground workings were not easily accessible at the time of this examination, however the surface indications coupled with the favorable appearance of the dump material tend to suggest good possibilities for ore for a considerable length along a mineralized fault zone.

Favorable gossan also appears along fault veins on the Montezuma Chief, Roosevelt, and Dutch claims.

There seems little doubt that some ore is present on the claims; the principal problem is development to determine the amount. Some drilling in conjunction with drifting off the present underground workings, would be necessary to determine the grade and vertical extent of the enriched zone and of the overlying oxidized ore zone.

### LOCATION:

The claims are situated in Sections 29, 30, 31, and 32, township 3 South, Range 29 East, G & S R M. They are about five miles northerly from the town of Morenci. Access to the Cuprite Mine may be gained by driving up U. S. 666 to the first large gulch heading west beyond the Garfield Lime Quarry. This is about 8.2 miles by road from the Clifton Post Office. By walking about 4,000 feet up this gulch from the highway the mine may be reached. Access to other claims in the group may be gained by hiking from the Cuprite Claim or by walking up Santa Rosa Gulch (the lower portions of which are covered by waste dumps from the Morenci Mine).

The Cuprite claim is about a mile northwesterly from the Molinar (or Black Cat) Mine in Garfield Gulch. This was the most recent producing small mine in the immediate vicinity; it was closed in 1936.

#### HISTORY:

The claims were located from 1903 to 1905. They were surveyed for patent in July and August of 1910 by Lamar Cobb for the Cuprite Copper Co. A total of \$20,174.00 worth of work was claimed on the patent application. This consisted of 5 tunnels, 2 winzes, 2 crosscuts, 11 shafts, 1 raise, 5 cuts, and 1 drift. As near as could be determined from this examination, no work has been done since patent (No. 2834) was granted.

Most of the work appears on the Cuprite and the Montezuma Chief. 217 feet of tunnels and 521 feet of shafts, winzes, and raises were claimed on the Cuprite. 156 feet of tunnels, drifts, and cuts and 115 feet of shafts were claimed on the Montezuma Chief.

It is said that some ore was shipped from the Cuprite claim, although no records were available on tonnage or grade.

The Coronado Mine, situated about a mile south of the southerly portion of the claims, was once one of the major producers in the district and still contains a large tonnage of ore.

#### GEOLOGY:

An original basement of pre-cambrian granite has been first intruded by dikes of a slightly younger granite than by aplitic granite. Both of the younger intrusive granites are believed to also be pre-Cambrian in age. The entire area is presumed to have at one time been covered by the normal column of Paleozoic rocks found elsewhere in the district. During late cretaceous or early tertiary time (about 70,000,000 years ago), the area was again intruded by igneous rocks, this time by diabase and by monzonite porphyry. Some faulting accompanied this intrusion. Almost simultaneously, but slightly

following this came the hydrothermal mineralizing solutions which caused the mineralization that is now indicated along the various fault zones intersecting the claim area.

A period of erosion followed the mineralization and resulted in the removal of the entire column of Paleozoic sedimentary rocks. Some oxidation, leaching, and redeposition has occurred during the erosional activity and resulted in a zone of enriched sulfide mineralization below a near-surface zone of oxide mineralization.

The fault veins in the claim area contain considerable breccia and some slickensides. Their displacement is unknown, but is probably not great. They are all connected, by various minor slips and dislocations, to two major mineralized faults of the district -- the Coronado Fault, to the South, and the Chase Creek Fault to the east.

Although the pyrite mineralization which has followed the faults in this area could reasonably be expected to persist at depth and even become stronger, the zone containing the enrichment normally could not be expected to extend more than about 200 feet below the bottom of the oxide zone in this environment. Several of the mineralized fault zones on the claims occasionally widen, but in most instances the strength of mineralization diminishes in proportion to its distance from the main portion of the fault vein.

The topography of the area is extremely rugged, the elevation ranging from about 5,100 feet above sea level at the highway to over 7,000 feet less than a mile to the west on the Togo claim.

In general the granite is not greatly altered and has a rather blocky to angular appearance. On the Dutch and Montezuma Chief claims, however, there has been a general bleaching of the granite in areas measuring over 100 by 400 feet.

## MINERALIZATION:

Several widely spaced, northeasterly trending, faults and fractures have been mineralized by hydrothermal solutions, resulting in a deposition of pyrite and chalcopyrite along veins and in places disseminated into the surrounding wall rock. The fault vein upon which the Cuprite and the Ironsides claims were located may be traced for a distance of over 3,000 feet, although exposures are limited over much of this length due to a thin cover of talus over the hillsides. The surface exposures in the vicinity of the Cuprite Mine show the width of the fault zone varying from two to ten feet. Considerable brecciation (cemented by quartz and iron oxides) is in evidence. No Copper minerals are visible on the surface due to the effects of leaching and oxidation. Much of the capping, however, appears quite favorable.

A study of the dump material at the Cuprite indicates most of the old workings were in the oxidized zone. The dumps contain strong iron oxide, considerable chrysocholla and cuprite, and a rather limited amount of sulfides (mostly pyrite and minor chalcopyrite with some enrichment by chalcocite). The sulfides are assumed to have been mined from the deepest shaft (which had a depth of 400 feet). Many of the pieces of mineralized granite and porphyry on the dump exhibit disseminated coarse blebs of iron oxide and cuprite with weak to moderate chrysocholla staining the kaolinized matrix. A random sample of an average piece of this material gave an assay of 4.28% copper, .69 oz. silver, and .18 oz. gold. Many places containing a much higher percentage of copper were in abundance throughout the dump area, but none were taken for assay.

From the surface indications, it appears that a possible ore zone may be expected for a length of over 1,000 feet, a width averaging perhaps 5 feet and a vertical extent of perhaps 100 feet consisting of both oxides and sulfides.

Since the amount and extent of chalcocite enrichment will be the determining factor of the amount of ore existing in the sulfide zone, it will be necessary to reopen the old workings and drill exploratory test holes from underground stations.

Another area which has possibilities for containing some ore is a zone of

Intersection between two mineralized fault zones which may be found near the center of the Dutch claim. One of the fault veins may be traced for 2,500 feet east into the Gem claim where some excellent ore is visible on the dumps. The other fault vein strikes northeasterly through the Roosevelt claim. Both of these fault veins contain nearly continuous favorable iron oxide gossan along their entire length. A small caved working is in evidence on the Roosevelt claim, however the dump indicates that this working was entirely in the oxidized zone and shows only iron oxides (hematite, limonite, magnetite). At this working the fault zone is about eight feet wide and has a steep dip (about  $85^{\circ}$ ) to the southeast. In the vicinity of intersection of these two fault veins, numerous intersecting iron oxide veinlets may be found on the surface over an area measuring about 150 by 400 feet. A zone of 1% copper mineralization averaging at least 100 feet thick could reasonably be expected in the enriched portion of the sulfide zone under this capping. The major fault veins would be expected to average considerably higher grade, of course.

The nearby Daisy and Gem claims were both good producers at one time in the history of the district.

The dumps from the workings on the Montezuma Chief show a considerable amount of chrysocolla. Only minor amounts of iron oxides and cuprite are present. This mineralization, also, has occurred along a northeasterly trending fault zone. Although a zone of fracturing and weak mineralization measuring perhaps 200 by 400 feet surrounds these workings, the mineralization does not appear of sufficient strength to make ore averaging much over 0.7% copper except along the major fault zone. Even here, the width of the fault is insufficient to provide possibilities for a commercially feasible mining operation.

#### CONCLUSIONS AND RECOMMENDATIONS:

Although there are no open pit ore possibilities indicated either on or near this group of claims, the aforementioned mineralized fault veins do offer definite possibilities for developing limited tonnages of commercial copper ore. It should be pointed out that mineralized rock which could, in localities closer to a railroad,

be classified as "ore" could not qualify as such in this locality at the present time due to the haulage problem and lack of a nearby custom mill. At the present price for copper, an average grade of 5% copper ore would probably be the lowest grade that could be economically mined and shipped from these claims. There is a chance for 1,000,000 tons of 1% copper ore to be about equally distributed between the Dutch and the Cuprite claims. Of this, about one fifth, or 200,000 tons, would have a chance to average over 3% copper. During times of high copper prices, perhaps a lower average grade could be economically mined. Naturally, any tonnage estimates at the present time are little more than guesses and must be based on an evaluation of the spotty exposures of capping along the fault veins on the surface. This capping is completely leached and, in most instances, only quartz and iron oxides remain. The appearance of the iron oxides was compared to that of the iron oxides found over some nearby mines containing known ore along similar fault veins in granite.

It is recommended that approximately \$10,000.00 be spent on the Cuprite claim. This money could be spent as follows: about \$1,000.00 on improving access and cleaning out old shafts and drifts; about \$4,000.00 extending the drifts on the lowest level open; about \$5,000.00 core drilling from underground stations established in the drifts. An intermediate evaluation could be made after reopening the old workings.

The foregoing information is accurate to the best of the author's knowledge, but necessarily is somewhat limited due to restrictions as to the amount to be spent for the examination.

Signed /s/ Vance N. Bacon

Geologist

## SUPPLEMENTARY REPORT ON CUPRITE CLAIMS

This report is primarily a proposal on the potentials of the Cuprite shaft. Little can be added to the excellent report of Mr. Vance Bacon in 1961 of the geological description.

Beginning at Highway 666 at an elevation of 5000 feet, the principal fault structure appears westerly for a distance of 4075 feet to the shaft collar. There is a 20 percent grade upwards, which puts the shaft collar at an elevation of 5813 feet.

By walking up the south slope you arrive at the foot of the old dump. This dump consists mainly of iron oxides. On top of the dump is a later one of copper oxides and copper sulphides. On the north side of the upper dump an adit is found. This drift extends about 130 feet to a cave from the surface. The back is highly decimated and brecciated due to fault gauge. Eighty feet from the adit is a winze dipping  $82^{\circ}$  to the north. Directly above the winze is a raise to the surface. The winze is reportedly 400 feet deep. But due to a water seepage on the west wall, only 75 feet of the vein can be sampled, because of the water level, and the winze being plugged by boulders and timber. Channel samples were cut on the east wall at 70 feet and at 60 feet. On the west wall there is water running. Also an abundance of chalcantite. Chalcantite is rare, found only in arid regions as a supergene mineral, occurring near the surface in copper veins, and derived from the original copper sulphides by oxidation. Often deposited on iron from the waters in copper mines. This should prove valuable in a potential leaching operation.

There are numerous parallel veins and there are fault structures adjacent to and parallel to the vein on which the shaft was sunk. Some of these fault structures show leaching.

About 1300 feet from the highway is the first showing of mineralization in the form of iron stain and specular hematite. These stains and fissures follows the rest of the length to the shaft, and beyond for a distance of over

5000 feet. There are three possibilities to determine the ore evaluation. Two of these proposals would necessitate a road being built for approximately 4000 feet, with considerable drilling and blasting. An estimate of \$6.50 per foot has been stated, or \$26,000. If in the event a road were considered, and diamond drilling from the surface instigated, you could probably realize a cost of \$6.25 per foot of core. It would take quite a number of holes to determine the extent and values of the ore, due to the complex fault structures and parallel veins, and it is doubtful if a true picture could be made available.

The second proposal is reopening the shaft and diamond drill from underground. But this seems unfeasible due to the costs of shaft work, pumping, power, hoist, headframe. In all, a shaft can be considered to cost at least twice as much as a drift.

The third proposal would be a drift from the highway to the shaft, following the vein or fault structure. The adit could be high enough to build a bin for ore or waste, under which trucks could be loaded by gravity feed. During the drifting cross veins could be investigated and diamond drill stations blasted out to drill for depth and width. There is also the reasonable possibilities of ore being shipped during development. A drift of 1 percent grade would give a back of approximately 700 feet at the shaft. The elevation increase to 7,000 feet at the highest which would give considerable more back in the event stopes were considered. Also with 1 per cent grade, there would be no pumping problems, unless a leaching operation were considered. In which event the water would most likely be recirculated. Below is an estimate of driving 3,000 feet of 5 feet by 7 feet drift. I was not conservative in my estimates, and considered just two shifts. Some of these items are priced as used equipment.

EXPENDABLES

|                                  |                    |
|----------------------------------|--------------------|
| Drill steel for 3,000 feet ----- | \$3,000.00         |
| Powder, primers, fuse -----      | 12,000.00          |
| Fuel and upkeep -----            | 3,000.00           |
| Labor -----                      | <u>45,000.00</u>   |
| <b>Total Expendables -----</b>   | <b>\$63,000.00</b> |

COST per foot \$21.00 per foot

NON-EXPENDABLES

|  |                  |
|--|------------------|
| 600 cubic feet per min. compressor -----           | \$15,000.00      |
| 3 Jackleg drills -----                             | 3,200.00         |
| Mucking machine -----                              | 3,000.00         |
| 2 haulage motors -----                             | 4,000.00         |
| 20 cars -----                                      | 2,000.00         |
| 3,000 feet of 1" and 2" pipe and connections ----- | 2,000.00         |
| 3,000 feet of track with accessories -----         | 4,500.00         |
| Lamps and charger -----                            | 500.00           |
| Battery charger -----                              | 1,000.00         |
| Blower -----                                       | 1,100.00         |
| 3,000 feet of vent bag -----                       | 1,600.00         |
| Air and water hoses -----                          | 300.00           |
| Drill steel grinder -----                          | 1,500.00         |
| Miscellaneous -----                                | 10,000.00        |
| <b>TOTAL -----</b>                                 | <b>49,700.00</b> |

Expendables and Non-expendables -----\$112,700.00

The above does not include the paper work involved setting up such an operation, such as insurance and bookkeepers fees. Also does not include haulage cost from the potential mine. No timber cost were included, inasmuch as there appears to be an abundant supply on the claims. If in the event ore was encountered and mined while drifting, a 1 percent copper ore would pay for the mining cost. This is calculated for 3½ tons of ore per linear foot advance of a 5 foot by 7 foot drift, which would run \$22.40. This of course does not include non-expendables or haulage cost to a mill or smelter.

The above information is correct to my knowledge.

*Donald E. Cole*

Donald E. Cole  
Mining Engineer

July 1, 1964



September 21, 1970

PROGRESS REPORT

TO: E. Grover Heinrichs

FROM: Don Cooley

SUBJECT: Safford-Anderson Property Investigations  
14 September through 17 September 1970

Spent the morning of 14 September arranging guide service with Vernon Teeter, Route 1, Box 961, Safford to be taken into the Cuprite Property and getting maps from Anderson. The afternoon was spent on the Blue Xtal property.

Tuesday, Teeter took me into the Cuprite Mine which does show some oxide and sulfide copper along a 6' to 8' siliceous vein. There is some copper there but determining how much will be very expensive. A difficult road would have to be built and P.D. is closing off the best access route with a new road at this time. The terrain is steep, loose and quite brushy and further investigations could be quite expensive.

Wednesday was spent in looking at some of the claims in the Cuprite group. The patented claim corner common to the Cuprite, Cuprite #2, Ironsides and Eunice claims was found. This examination showed additional mineralization but was not complete because of difficult access.

Thursday was spent in looking over the Yakie claims. These claims lie just east of Clifton and are partly accessible by a paved road and by a few dirt roads. Very much exploration will require some road building or a long period of time will be required to accomplish the work. The hills are red stained and may be slightly mineralized but I cannot get very excited over these claims.

Mr. E. Grover Heinrichs  
Page Number Two  
September 21, 1970

I do not recommend any additional time be spent on the Yakie, Nail Keg or Blue Xtal properties unless Essex is willing to run an I.P. survey over them. I strongly recommend that an I.P. program, in some detail, be run over the Blue Xtal and Nail Keg properties.

Both Anderson and Teeter were touting the Cuprite tunnel as the best mine in the world. There is some mineralization there but not enough to warrant the expense required to look for it. After returning to Tucson Anderson called me. He had Clyde Davis in his office and was perturbed that I wasn't still in Safford but I had no idea Davis was coming. They both reprimanded me for not looking at the Montezuma Chief and Section 32 telling me that it is the best looking ground in the district. The main reason for not getting on the other claims at that time was that there are not enough daylight hours to get there and back by the route I was shown because I tried to reach them. If you want the rest of it looked at, another route of access will have to be worked out or a helicopter used.

Please advise me of your wishes.

Donald B. Cooley

DBC/md

Enclosed:

One copy of W.C. Lacy report with reproducible map on Blue Crystal Property.  
Furnished by: Clyde Peters - 3150 E. Behan Street, Tucson, Arizona

Yakie

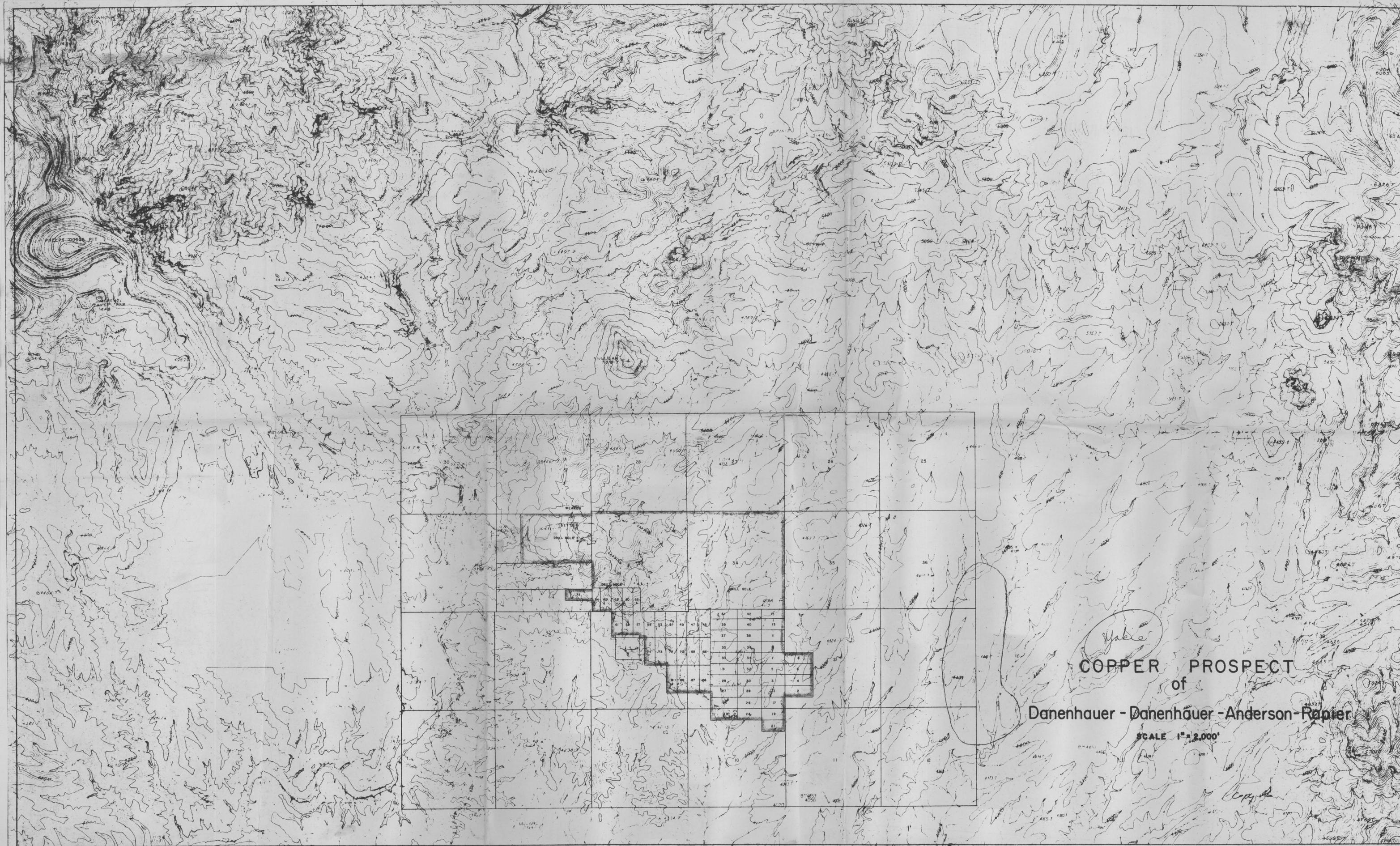
G 3-01

PROSPECT AND PROJECT ACCOUNT NUMBERS

ARIZONA

| <u>Prospect<br/>Number</u> | <u>Name</u>                                  | <u>Project<br/>Acctg. No.</u> | <u>Status</u>  |
|----------------------------|--|-------------------------------|----------------|
| A001                       | BS&K - - - - -                               |                               | I              |
| A002                       | Mame (Aztec) - - - - -                       |                               | A              |
| A003                       | North Star - - - - -                         | A003P1-670                    | A              |
| A004                       | San Juan (G. Anderson) - - - - -             |                               | I              |
| A005                       | Pinal Copper (Greenback) - - - - -           |                               | A              |
| A006                       | White Mesa - - - - -                         |                               | I              |
| A007                       | Copper Butte - - - - -                       |                               | I              |
| A008                       | Pima Oxide (Annesley) - - - - -              |                               | A              |
| A009                       | Cuprite - North Santa Rita - - - - -         |                               | A              |
| A010                       | Copper Mtn. (Yuma County) - - - - -          |                               | A              |
| A011                       | Gibson (Kayser) - - - - -                    |                               | I              |
| A012                       | Hagen - - - - -                              |                               | A              |
| A013                       | Burno - - - - -                              |                               | A              |
| 532 } A014                 | Cuprite (G. Anderson) - - - - -              |                               | A ✓            |
| 532 } A015                 | Banner-B.Y.U., Morenci - - - - -             |                               | A ✓            |
| 532 } A016                 | Yakie (G. Anderson) - - - - -                |                               | I ✓            |
| 532 } A017                 | Blue Crystal (G. Anderson) - - - - -         |                               | I ✓            |
| 532 } A018                 | Knob Hill (G. Anderson) - - - - -            |                               | I ✓            |
| 532 } <del>A019</del>      | <del>San Simon (G. Anderson) - - - - -</del> |                               | <del>I ✓</del> |
| 532 } A020                 | Horse Shoe (G. Anderson) - - - - -           |                               | I ✓            |
| 532 } A021                 | Nail Keg (G. Anderson) - - - - -             |                               | I ✓            |
| A022                       | Bell Western - - - - -                       |                               | A              |
| A023                       | Korn Kob (Kayser) - - - - -                  |                               | A              |
| A024                       | Waer (Kayser) - - - - -                      |                               | I              |
| A025                       | Copper Coin - - - - -                        |                               | A              |
| A026                       | Jacobs Lake - - - - -                        |                               | A              |
| A027                       | Savanic - - - - -                            |                               | A              |
| A028                       | Grand Gulch - - - - -                        |                               | A              |
| A029                       | Hacks Canyon - - - - -                       |                               | A              |
| A030                       | Copper Mountain - - - - -                    |                               | A              |
| A031                       | Cobre Grande - - - - -                       |                               | I              |
| A032                       | Antelope - - - - -                           |                               | A              |
| A033                       | The Fuell - - - - -                          |                               | A              |

A - Active  
I - Inactive



PRIZEPS DOGGE PIT

WEAVER

DRILL HOLE

DRILL HOLE

*Yake*

COPPER PROSPECT  
of  
Danenhauer - Danenhauer - Anderson - Rapier

SCALE 1" = 2,000'

*Copy*

|    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |    |     |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|
| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|-----|

GENERAL LOCATION  
of  
CLIFTON-SAFFORD AREA  
for  
ESSEX INTERNATIONAL, INC.

**ARIZONA**



**HEINRICHS  
GEOEXPLORATION COMPANY**

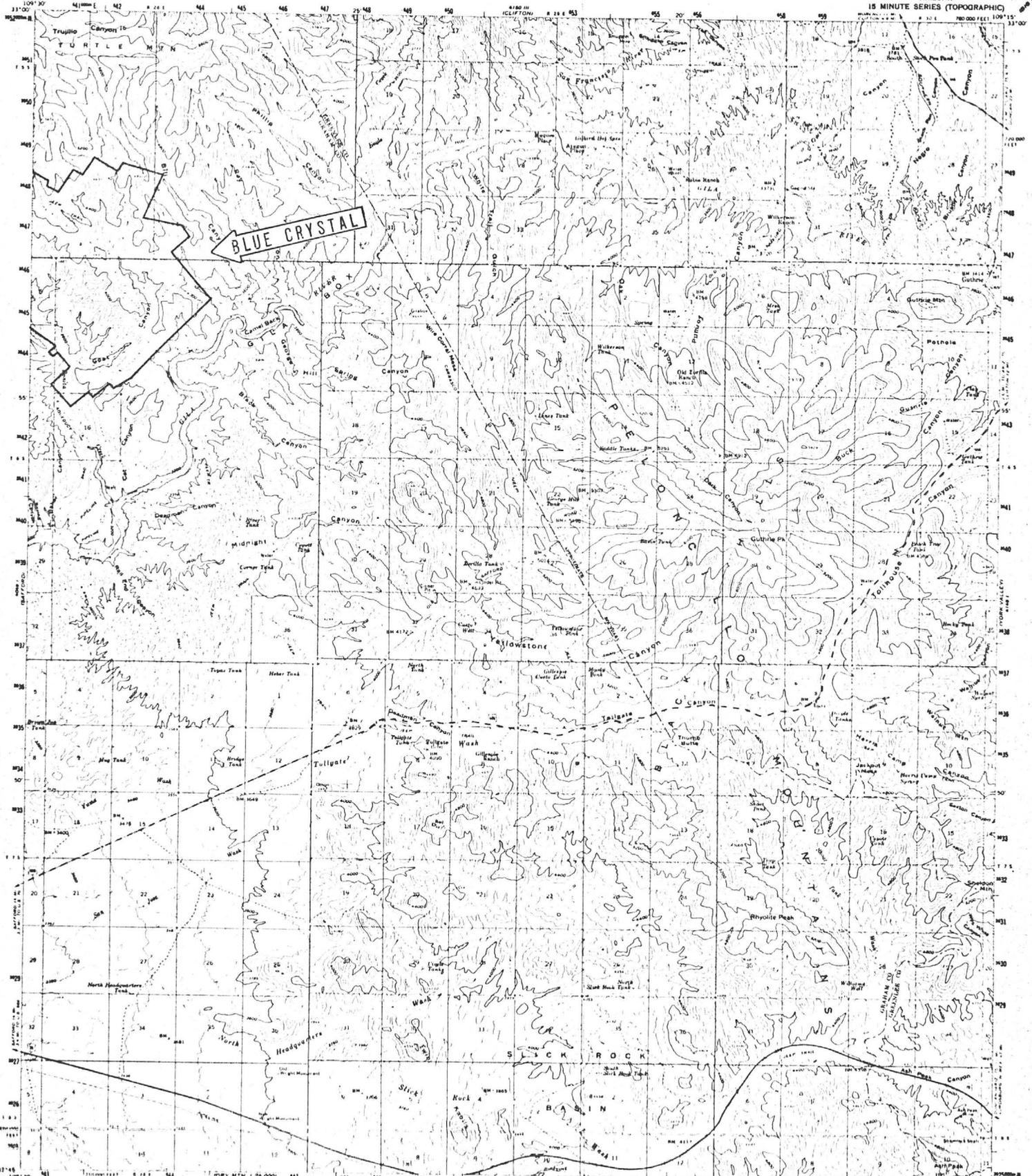
|   |                  |                       |
|---|------------------|-----------------------|
|  | <b>AUSTRALIA</b> | <b>U.S.A.</b>         |
|   | (SYDNEY)         | Post Office Box 5964  |
|   | 39 Hume Street   | Tucson, Arizona 85703 |
|   | Crows Nest, NSW  | Phone: (602) 623-0578 |
| <b>GEOPHYSICAL<br/>ENGINEERS</b>  | Phone: 439-1793  | Cable: GEOEX, Tucson  |

GENERAL LOCATION  
of  
CLIFTON-SAFFORD AREA  
for  
ESSEX INTERNATIONAL, INC.  
**ARIZONA**



**HEINRICHS  
GEOEXPLORATION COMPANY**

|   |                  |                       |
|---|------------------|-----------------------|
|  | <b>AUSTRALIA</b> | <b>U.S.A.</b>         |
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| <b>GEOPHYSICAL<br/>ENGINEERS</b>  | Phone: 439-1793  | Cable: GEOEX, Tucson  |



BLUE CRYSTAL

Map edited and published by the Geological Survey  
Control by USGS and USACGS  
Topography from aerial photographs by photogrammetric methods  
Aerial photographs taken 1957. Field check 1960  
Projection: projection 1927 North American datum  
10 000-foot grid based on Arizona coordinate system 8841 zone  
1000-foot Universal Transverse Mercator grid ticks  
Zone 12 shown in blue  
Dashed land lines indicate approximate locations  
Land lines unshaded on parts of 1:50,000 and 1:250,000  
UTM GRID AND 1983 MAGNETIC NORTH  
DECLINATION AT CENTER OF SHEET

SCALE 1:62,500

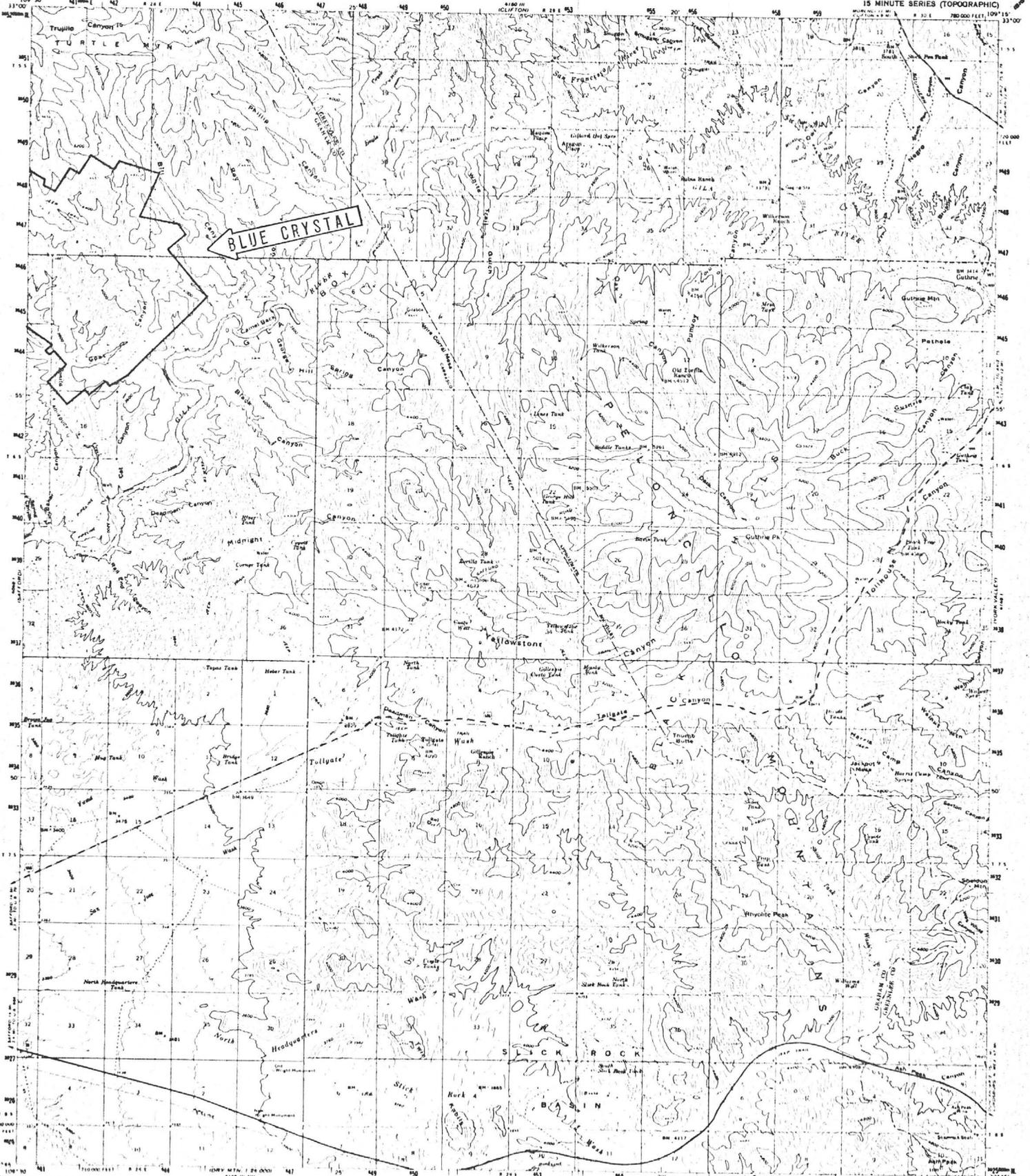
CONTOUR INTERVAL 80 FEET  
DOTTED LINES REPRESENT APPROXIMATE  
DATUM IS MEAN SEA LEVEL

ROAD CLASSIFICATION  
Heavy duty Light duty  
Medium duty Unimproved dirt  
U.S. Route

QUADRANGLE LOCATION

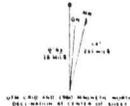
OUTHRIE, ARIZ.  
N3245-W10915/15  
1960  
ANS 4149 IV-SERIES V798

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS  
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225 OR WASHINGTON, D.C. 20242  
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST



BLUE CRYSTAL

Mapped, edited, and published by the Geological Survey  
Control by USGS and USCAGS  
Topography from one of photographs by photogrammetric methods  
Aerial photograph taken 1957 (zone 1, scale 1:60,000)  
Projection projection 1927 North American datum  
100-foot grid based on the 1927 datum  
1:62,500 scale (vertical contour interval 100 feet)  
1:62,500 scale (horizontal contour interval 100 feet)  
1:62,500 scale (vertical contour interval 100 feet)  
1:62,500 scale (horizontal contour interval 100 feet)

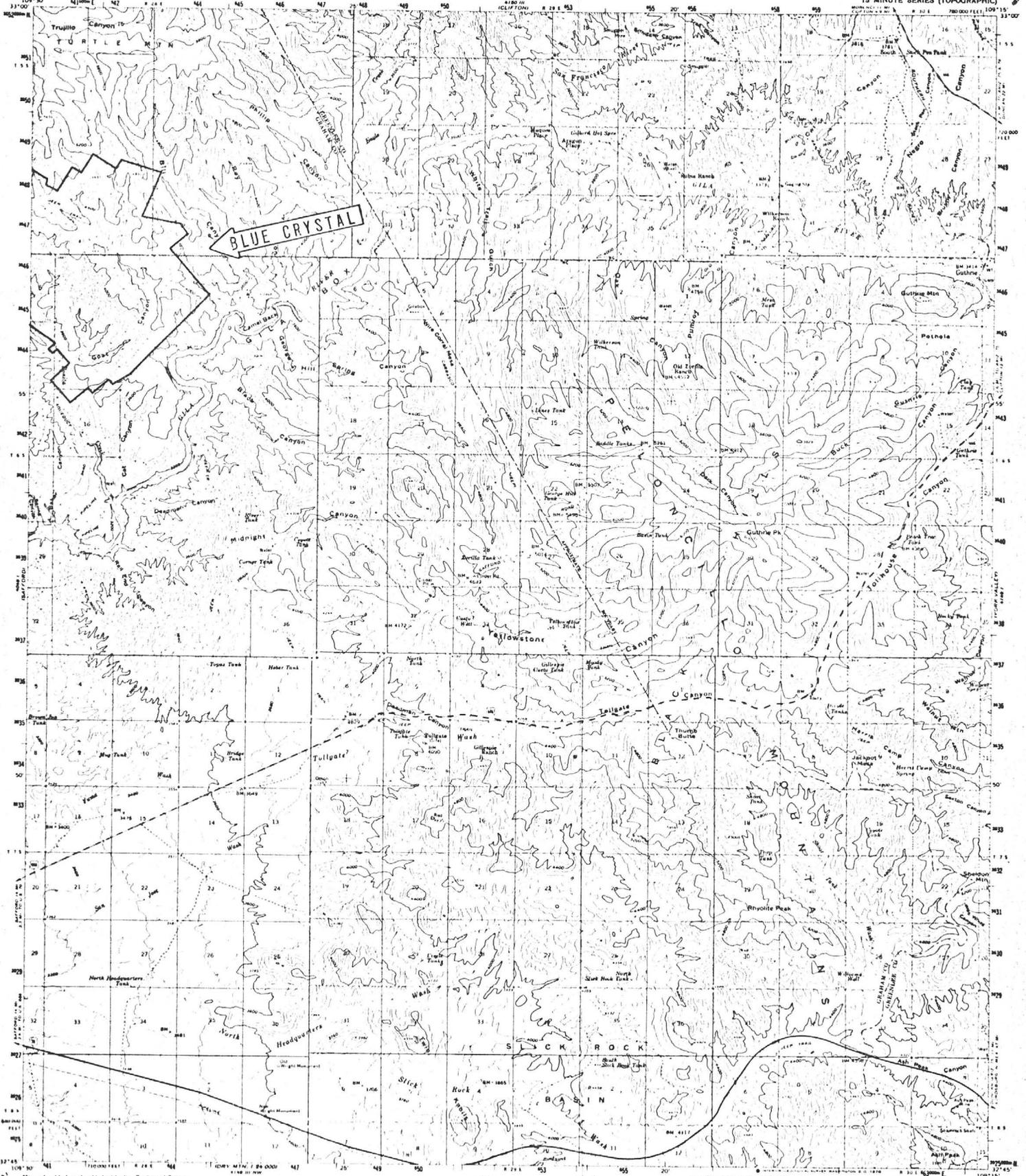


SCALE 1:62,500  
VERTICAL INTERVAL 100 FEET  
HORIZONTAL INTERVAL 100 FEET  
UNITED STATES DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY  
WASHINGTON, D. C. 20548

ROAD CLASSIFICATION  
Heavy duty  
Medium duty  
Light duty  
Unimproved dirt  
U.S. Route

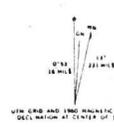
THIS MAP COMPLETES WITH NATIONAL MAP ACCURACY STANDARDS  
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225 OR WASHINGTON, D.C. 20242  
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

OUTHRIE, ARIZ.  
N3245-W10915/15  
1960  
AMS 4169 IV-SERIES V798



BLUE CRYSTAL

Mapped, edited and published by the Geological Survey  
Control by USGS and USC&GS  
Topography from aerial photographs by photogrammetric methods  
Aerial photographs taken 1957. Field check 1960.  
Position projection: 1927 North American datum  
10,000 foot grid based on Arizona coordinate system, east zone  
1000 meter Universal Transverse Mercator (UTM) ticks,  
zone 12, shown in blue.  
Dashed and lines indicate approximate locations  
Land cover unshaded in parts of 15, 5 and 6. S. 28 E.



SCALE 1:62,500  
CONTOUR INTERVAL 80 FEET  
DOTTED LINES REPRESENT 40 FOOT CONTOURS  
DATUM IS MEAN SEA LEVEL

ROAD CLASSIFICATION  
Heavy duty Light duty  
Medium duty Unimproved dirt  
U.S. Route

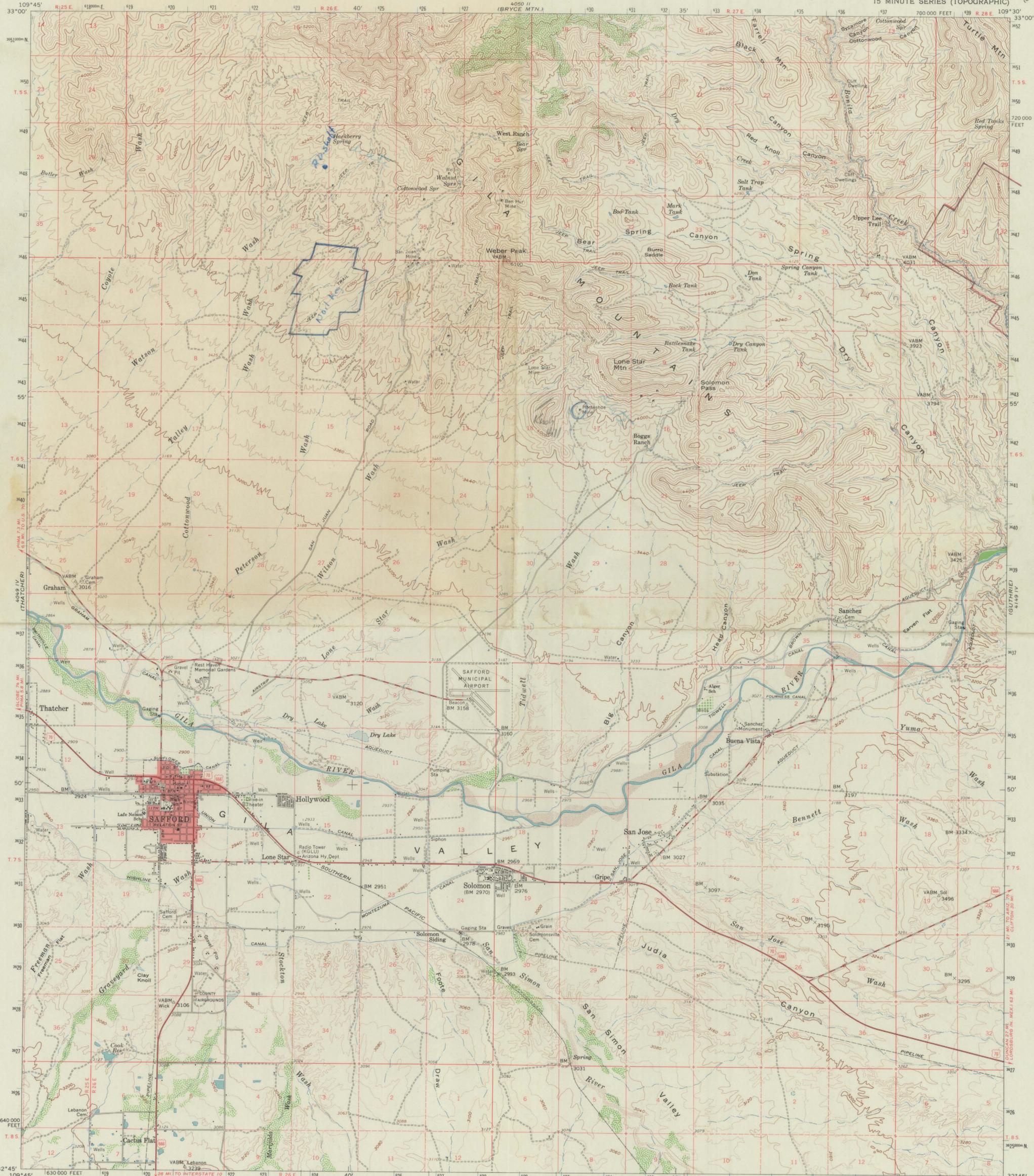


THIS MAP COMPLETES WITH NATIONAL MAP ACCURACY STANDARDS  
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225 OR WASHINGTON, D.C. 20242  
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

OUTHRIE, ARIZ.  
N3245-W10915-15  
1960  
AMS 4148 IV-SERIES V798

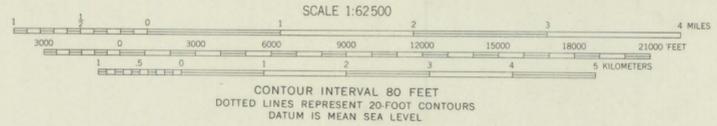
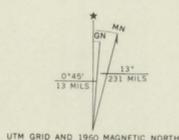


Scale ?



I.P. April 1969  
Doling Jensen D.H. Star

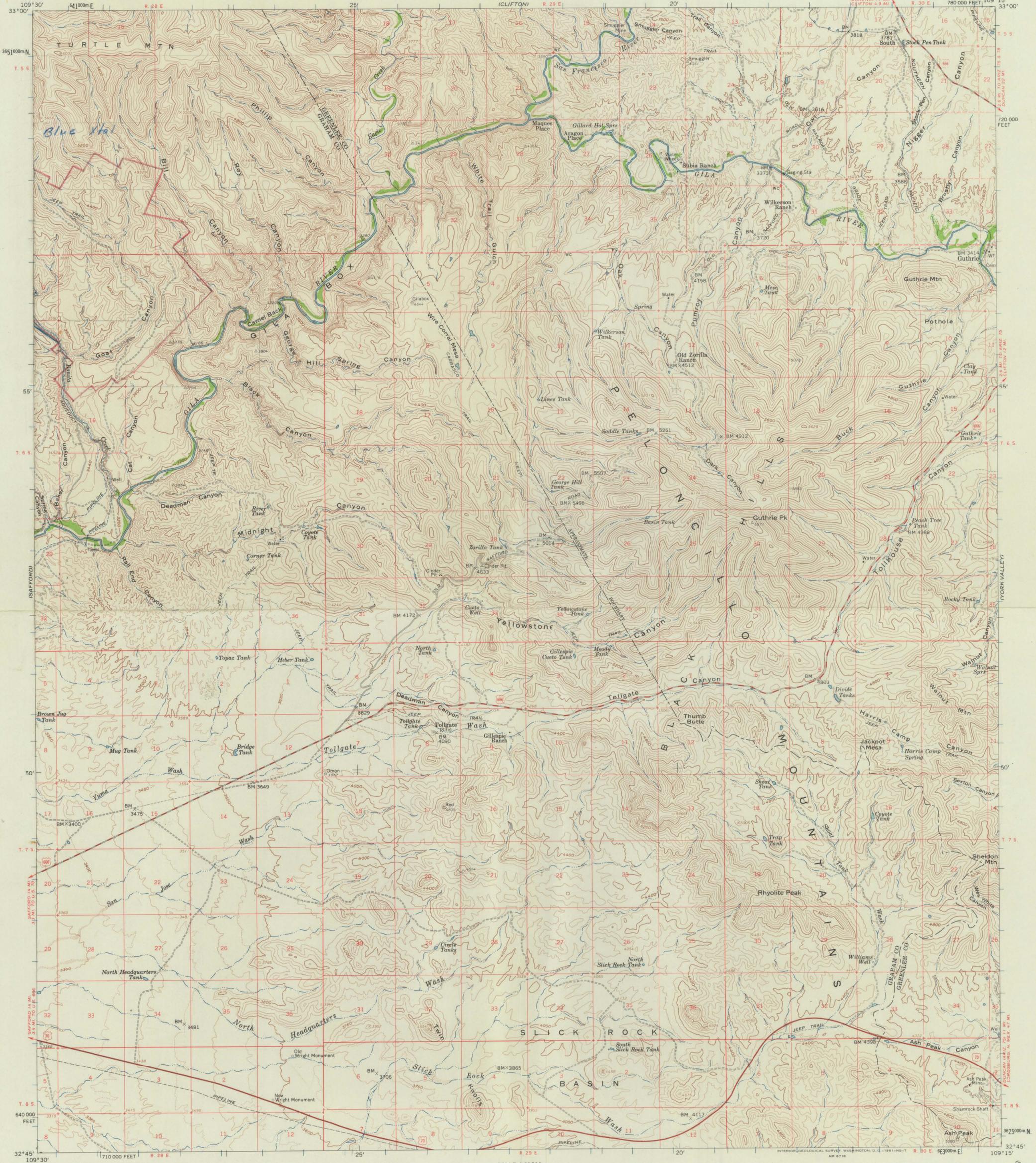
Mapped, edited, and published by the Geological Survey  
Control by USGS and USC&GS  
Topography from aerial photographs by photogrammetric methods  
and by planimetric surveys 1960. Aerial photographs taken 1957  
Polyconic projection. 1927 North American datum  
10,000-foot grid based on Arizona coordinate system, east zone  
1000-meter Universal Transverse Mercator grid ticks,  
zone 12, shown in blue  
Red tint indicates area in which only  
landmark buildings are shown  
Where omitted, land lines have not been established



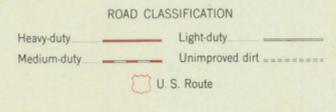
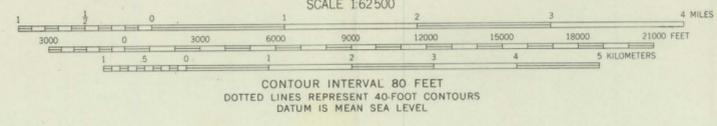
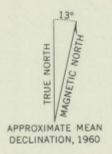
ROAD CLASSIFICATION  
Heavy-duty ——— Light-duty ———  
Medium-duty ——— Unimproved dirt - - - - -  
U.S. Route

CONTOUR INTERVAL 80 FEET  
DOTTED LINES REPRESENT 20-FOOT CONTOURS  
DATUM IS MEAN SEA LEVEL

SAFFORD, ARIZ.  
N3245—W10930/15  
1960  
AMS 4049 I—SERIES V798

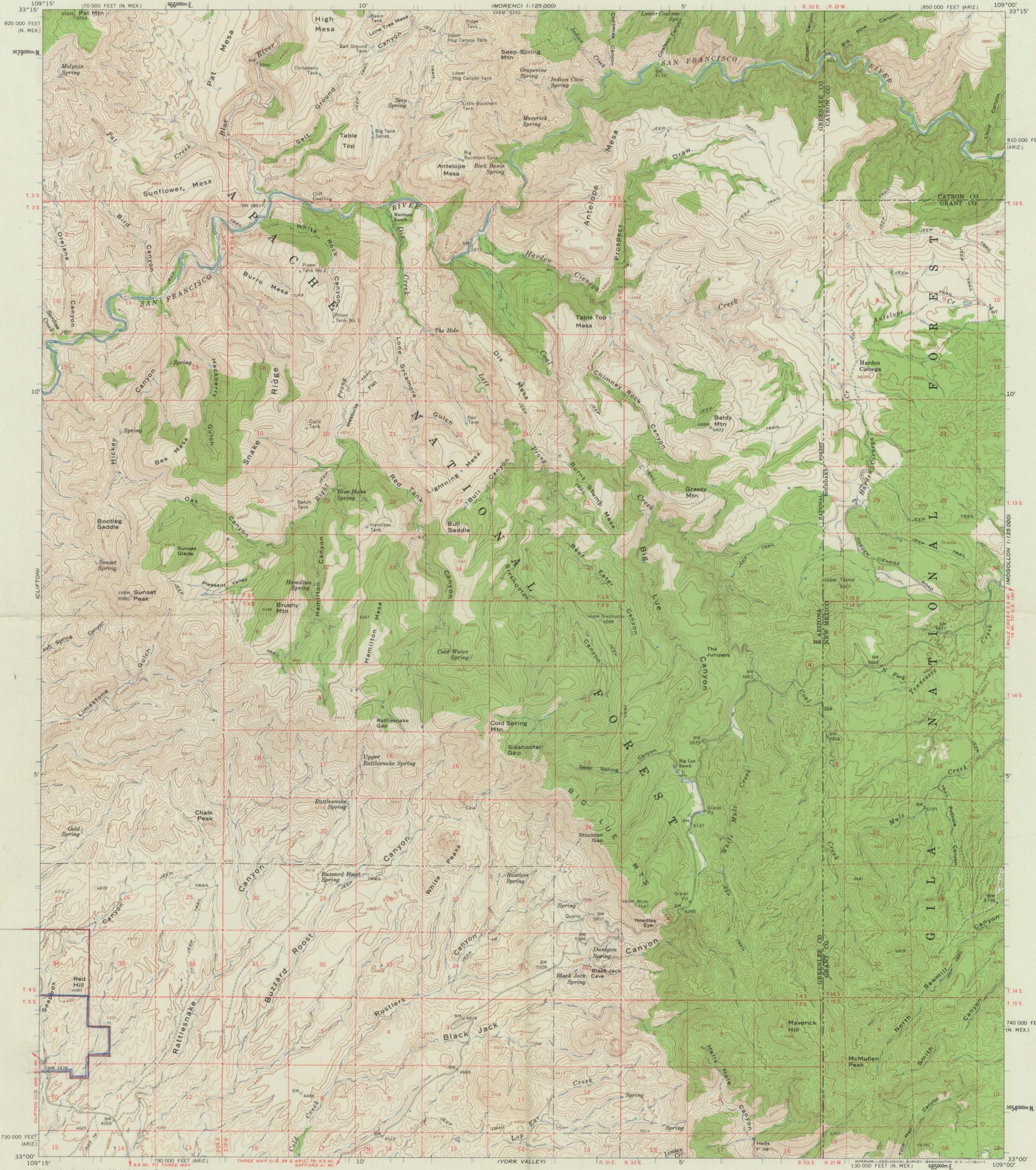


Mapped, edited, and published by the Geological Survey  
Control by USGS and USC&GS  
Topography from aerial photographs by photogrammetric methods  
Aerial photographs taken 1957. Field check 1960  
Polyconic projection, 1927 North American datum  
10,000-foot grid based on Arizona coordinate system, east zone  
1000-meter Universal Transverse Mercator grid ticks,  
zone 12, shown in blue  
Dashed land lines indicate approximate locations  
Land lines unsurveyed in parts of Ts. 5 and 6 S.-R. 28 E.

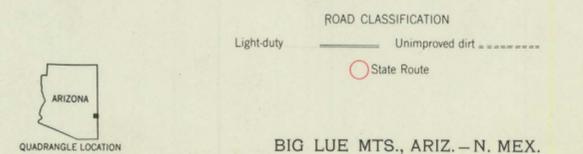
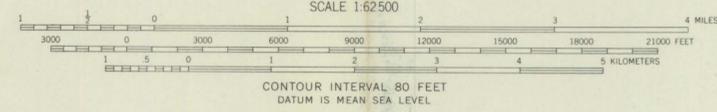
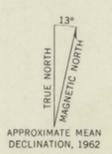


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FOR SALE BY U. S. GEOLOGICAL SURVEY, DENVER 25, COLORADO OR WASHINGTON 25, D. C.  
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

GUTHRIE, ARIZ.  
N3245—W10915/15  
1960

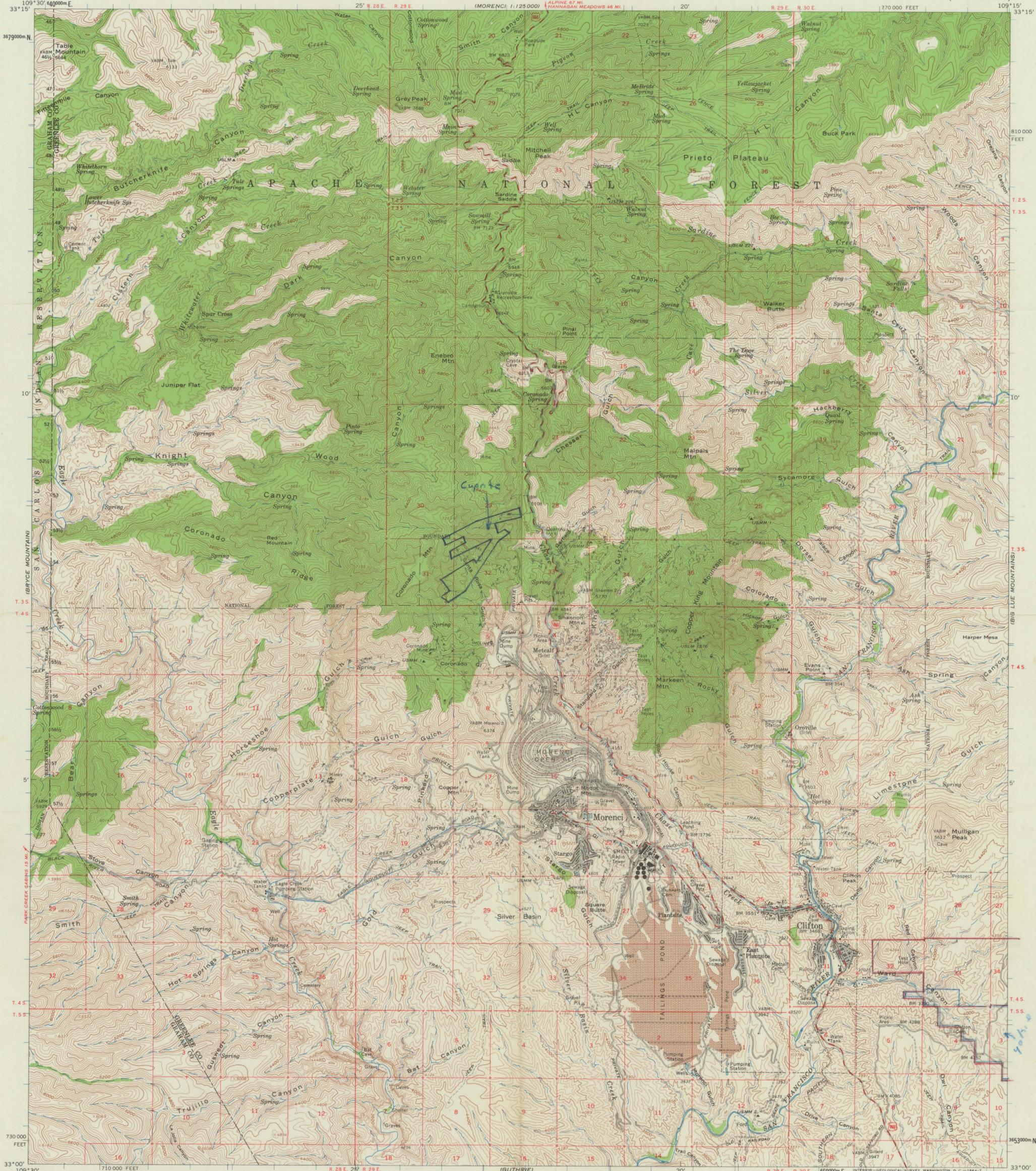


Maped, edited, and published by the Geological Survey  
Control by USGS, USC&GS, and U.S. Soil Conservation Service  
Topography by photogrammetric methods from aerial  
photographs taken 1957 and 1959. Field checked 1962  
Polyconic projection. 1927 North American datum  
10,000-foot grids based on Arizona coordinate system, east zone  
and New Mexico coordinate system, west zone  
1000-meter Universal Transverse Mercator grid ticks,  
zone 12, shown in blue  
Where omitted, land lines have not been established



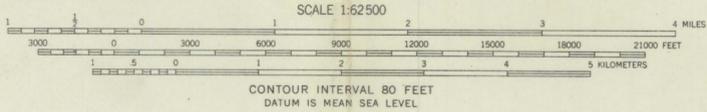
THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS  
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A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

BIG LUE MTS., ARIZ. - N. MEX.  
N3300-W10900/15  
1962



Maped, edited, and published by the Geological Survey  
Control by USGS, USC&GS, and U.S. Soil Conservation Service  
Topography by photogrammetric methods from aerial  
photographs taken 1959. Field checked 1962  
Polyconic projection. 1927 North American datum  
10,000-foot grid based on Arizona coordinate system, east zone  
1000-meter Universal Transverse Mercator grid ticks,  
zone 12, shown in blue  
Where omitted, land lines have not been established

TRUE NORTH  
MAGNETIC NORTH  
APPROXIMATE MEAN  
DECLINATION, 1962



ROAD CLASSIFICATION  
Medium-duty — Light duty  
Unimproved dirt —  
U.S. Route

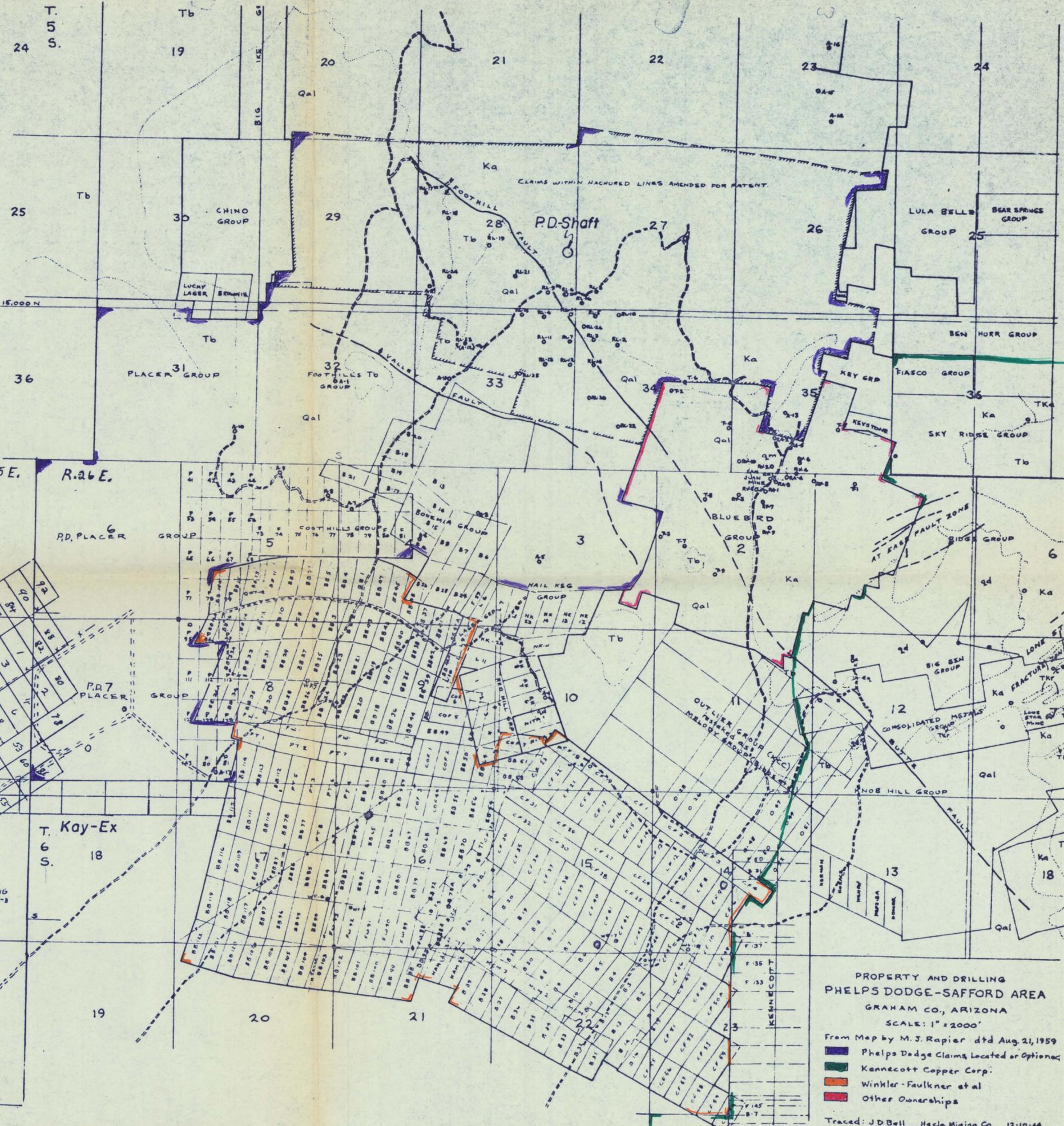
THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS  
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER 25, COLORADO OR WASHINGTON 25, D. C.  
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

CLIFTON, ARIZ.  
N3300—W10915/15

THE T.V, M.C.M. AND DIXIE MINING CLAIMS  
 BELOW WERE ADDED TO THIS MAP BY  
 CLYDE FAULKNER 1-20-65

T. 5 S.

T. 6 S.



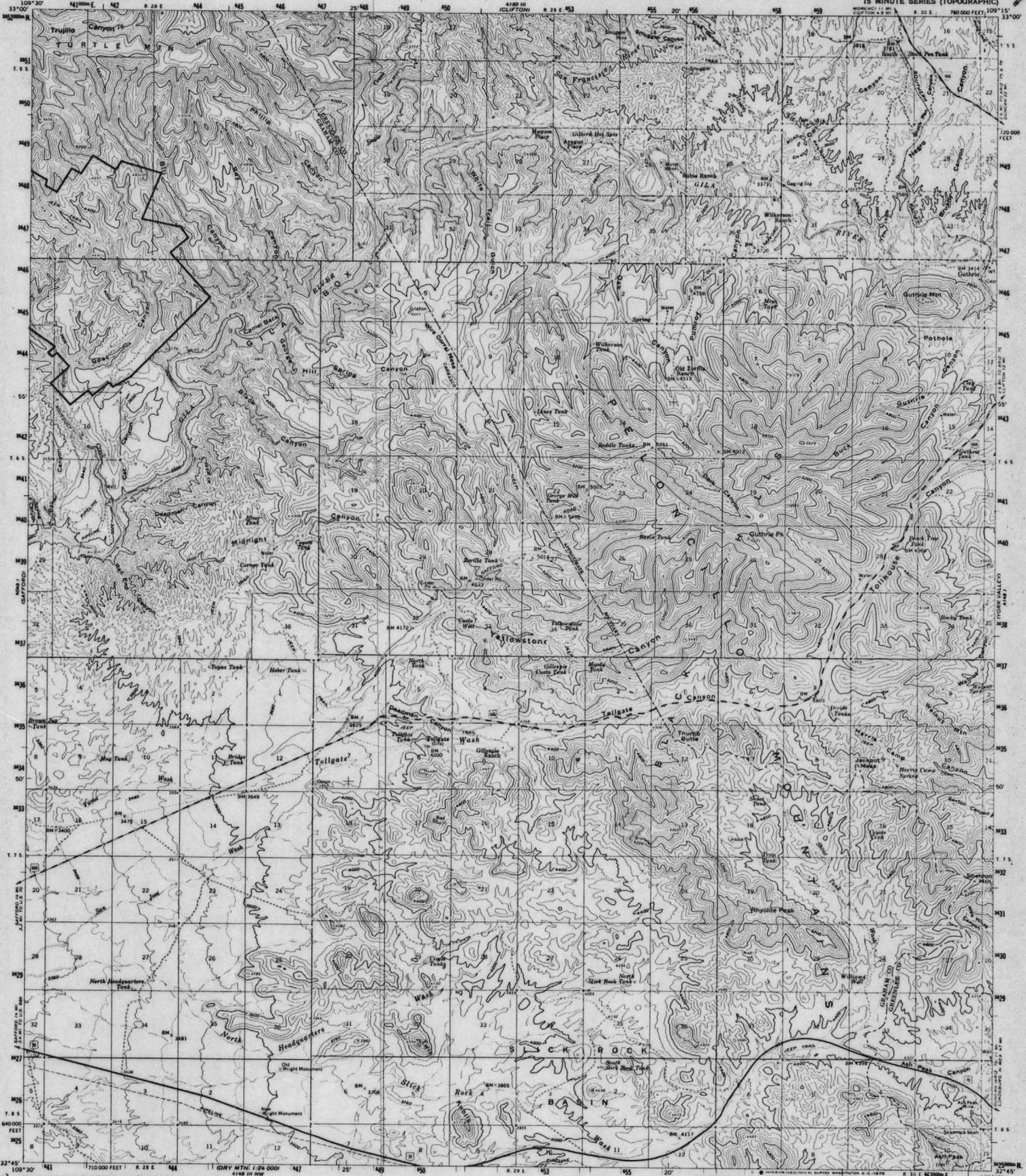
PROPERTY AND DRILLING  
 PHELPS DODGE-SAFFORD AREA  
 GRAHAM CO., ARIZONA  
 SCALE: 1" = 2000'

From Map by M. J. Rapier dtd Aug. 21, 1959

- Phelps Dodge Claims Located or Options
- Kennecott Copper Corp.
- Winkler-Faulkner et al
- Other Ownerships

Traced: J.D. Bell Hecla Mining Co. 12-10-64

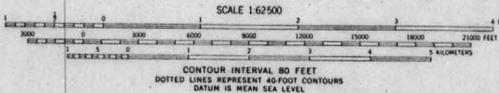




Mapped, edited, and published by the Geological Survey  
Control by USGS and USCAGS

Topography from aerial photographs by photogrammetric methods  
Aerial photographs taken 1957. Field check 1960  
Polyconic projection, 1927 North American datum  
10,000-foot grid based on Arizona coordinate system, east zone  
1000-meter Universal Transverse Mercator grid ticks,  
zone 12, shown in blue  
Dashed land lines indicate approximate locations  
Land lines unsurveyed in parts of T. 5 and 6 S.-R. 28 E.

UTM GRID AND TRUE MAGNETIC NORTH  
DECLINATION AT CENTER OF SHEET



SCALE 1:62,500  
CONTOUR INTERVAL 80 FEET  
DOTTED LINES REPRESENT 40-FOOT CONTOURS  
DATUM IS MEAN SEA LEVEL

WHITLOCK MTS. NE. 1:24,000  
4188 III NE

ROAD CLASSIFICATION

Heavy-duty ——— Light-duty ———  
Medium-duty ——— Unimproved dirt ———  
U.S. Route □



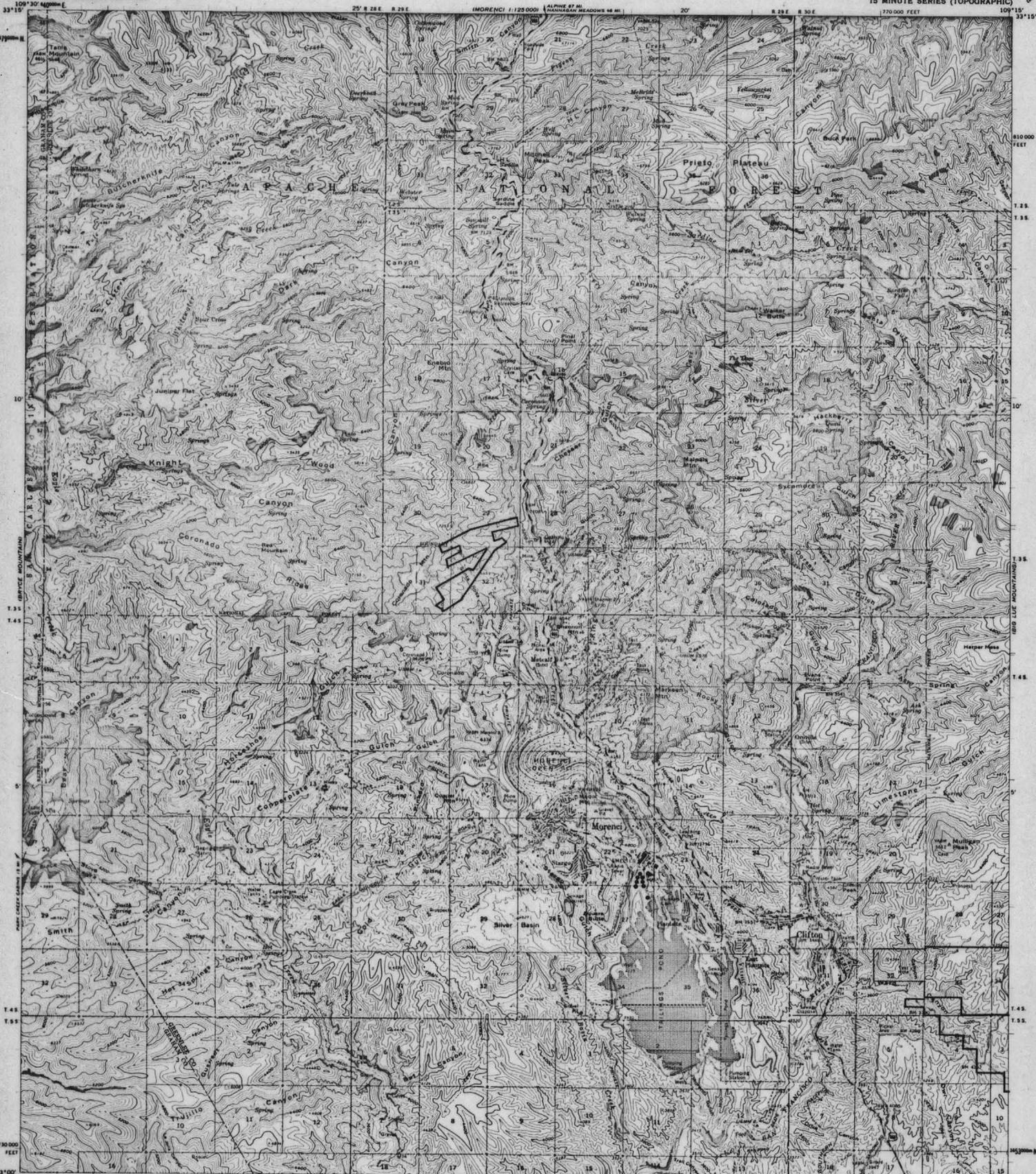
THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS  
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225 OR WASHINGTON, D. C. 20242  
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

GUTHRIE, ARIZ.  
N3245—W10915/15

1960

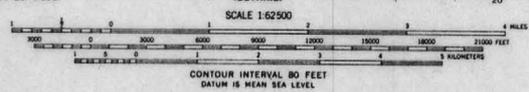
AMS 4149 IV—SERIES V798

1:125,000



Maped, edited, and published by the Geological Survey  
Control by USGS, USCGS, and U. S. Soil Conservation Service  
Topography by photogrammetric methods from aerial  
photographs taken 1959. Field checked 1962  
Polyconic projection, 1927 North American datum  
10,000-foot grid based on Arizona coordinate system, east zone  
1000-meter Universal Transverse Mercator grid ticks,  
zone 12, shown in blue  
Where omitted, level lines have not been established

APPROXIMATE MEAN  
DECLINATION 1962



ROAD CLASSIFICATION  
Medium duty Light duty  
Unimproved dirt  
U. S. Route



THIS MAP CONFORMS WITH NATIONAL MAP ACTUARY STANDARDS  
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CLIFTON, ARIZ.  
N 3300—W 10915/15

1962

532



Map made, edited, and published by the Geological Survey  
Control by USGS and USC&GS  
Topographic data from aerial photography by photogrammetric methods  
Map of Outhrie quadrangle, 1957. 1:50,000 scale, 1956  
Previous publication, 1927. North American datum  
Elevation not based on Arizona vertical datum, and some  
100-foot intervals. Elevation in feet and feet  
above or below sea level  
Control lines indicate approximate locations  
of lines shown on maps of T. 5 and S. 1, 2, 3, 4

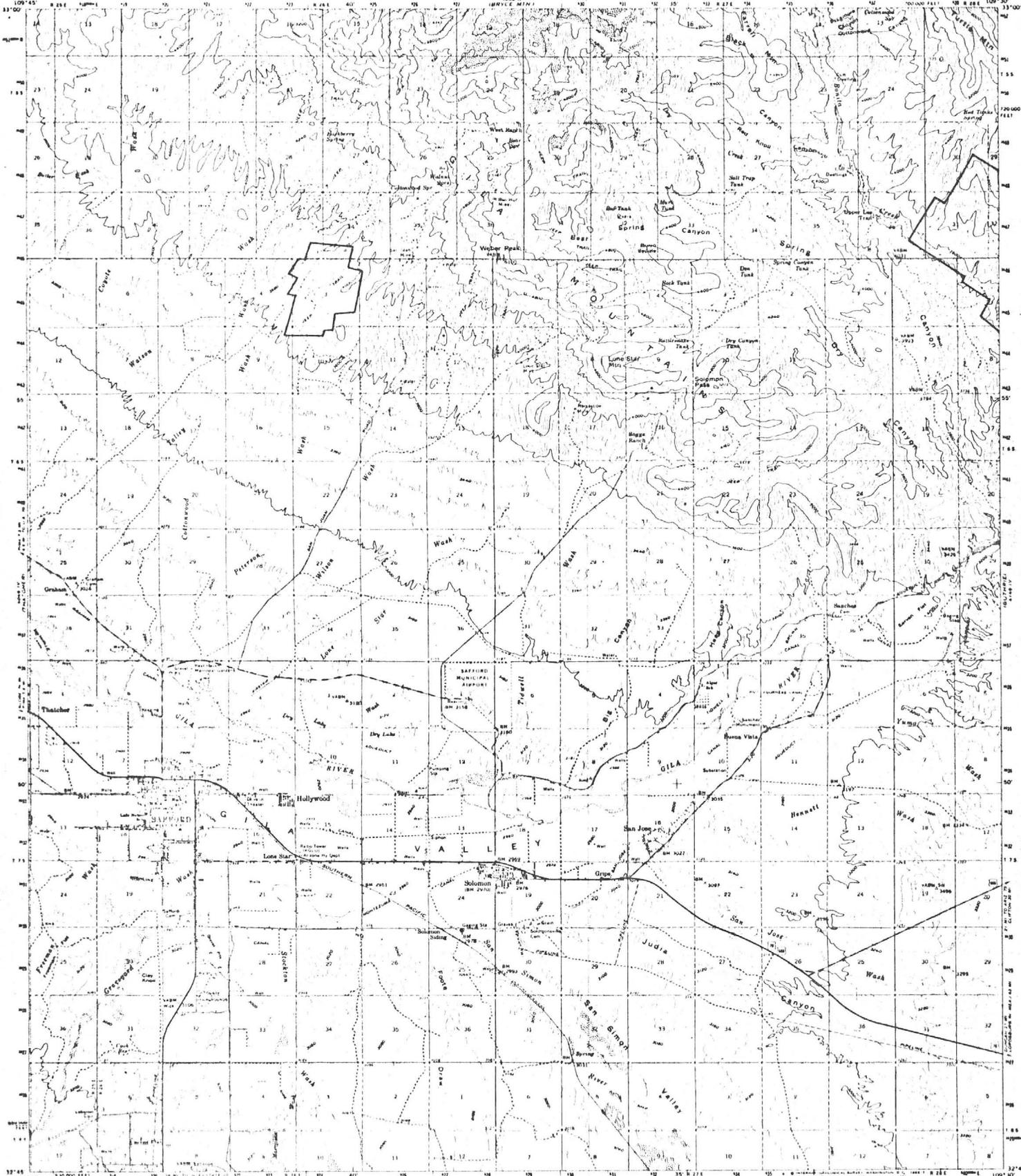
UNIT SURVEY INTERVAL IN FEET  
SOLID LINES REPRESENT 100-FOOT INTERVALS  
(DASHED LINES 500 FEET)

1:50,000  
1:25,000  
1:12,500

ROAD CLASSIFICATION  
Highway  
Main road  
Other road  
U.S. Route

FOR SALE BY U.S. GEOLOGICAL SURVEY, DISTRICT COLLEGE BLDG., WASHINGTON, D.C. 20542  
A COLLIER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

OUTHRIE, ARIZ.  
1:50,000  
1960  
AMS 149 IV, SERIES 1709



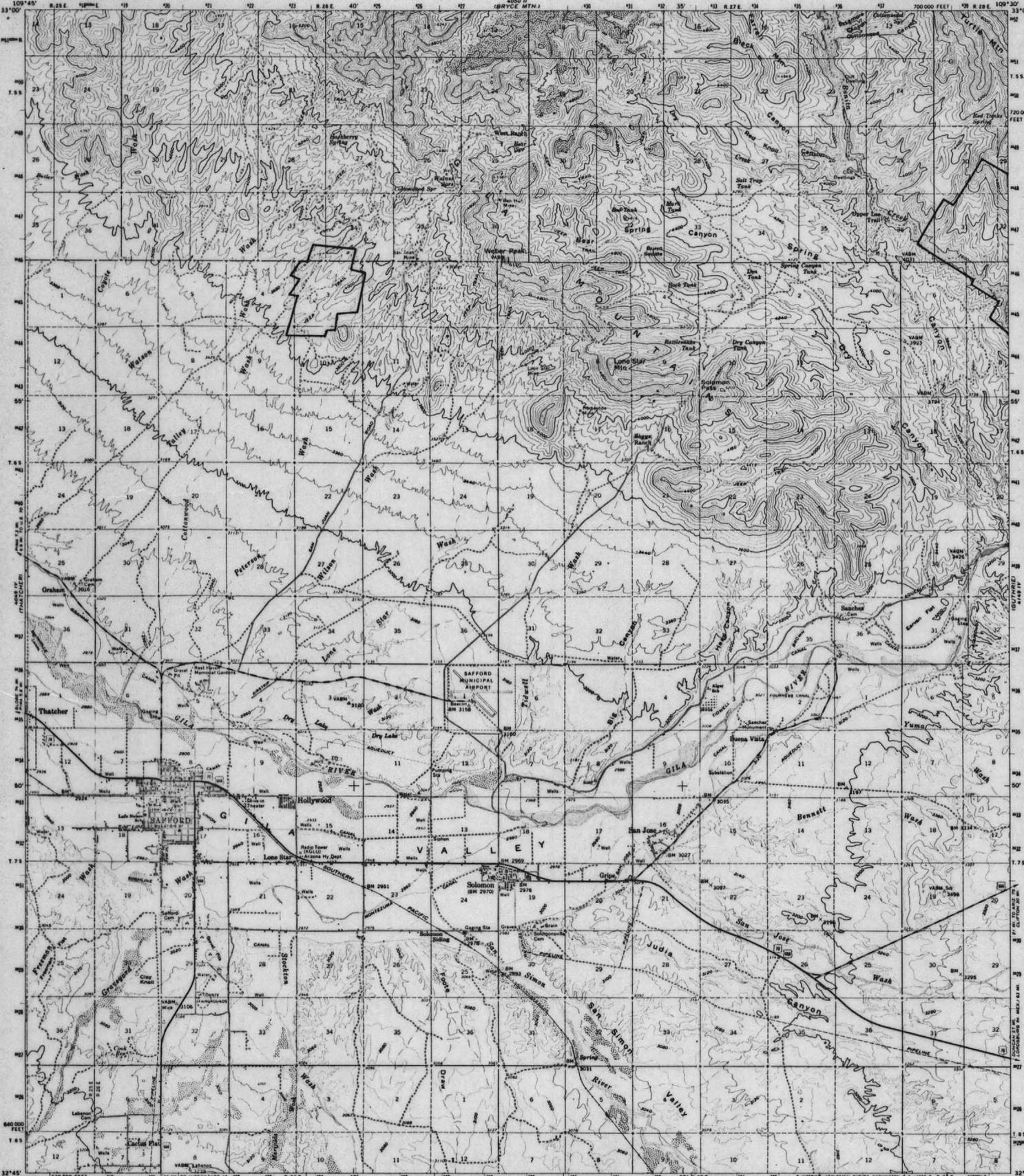
Map made and published by the Geological Survey  
Control by USGS and USCACS  
Topographic base from aerial photographs by photogrammetric methods  
and by plane-table survey, 1962. Aerial photographs taken 1957.  
Projection projection: 1927 North American datum  
10,000-foot grid based on Arizona 100,000-foot system; east and  
1000-meter contour interval; Transverse Mercator grid lines  
are 1.2 inches on line  
Red line indicates area in which only  
contours have been established  
where outlined, and lines have not been established



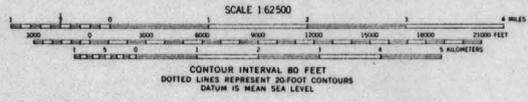
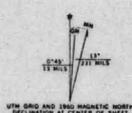
ROAD CLASSIFICATION  
Heavy-duty Light duty  
Medium-duty Unimproved dirt  
U.S. Roads



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A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST



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Control by USGS and USACE  
Topography from aerial photographs by photogrammetric methods  
and by stametal surveys 1960. Aerial photographs taken 1957  
Polyconic projection. 1927 North American datum.  
10,000-foot grid based on Arizona coordinate system, east zone  
1000-meter Universal Transverse Mercator grid ticks,  
zone 12, shown in blue  
Red tint indicates areas in which only  
modern buildings are shown  
Where omitted, land lines have not been established



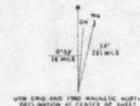
ROAD CLASSIFICATION

|             |                 |
|-------------|-----------------|
| Heavy-duty  | Light-duty      |
| Medium-duty | Unimproved dirt |
| U.S. Route  |                 |

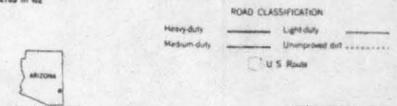
THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS  
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR WASHINGTON, D.C. 20242  
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST



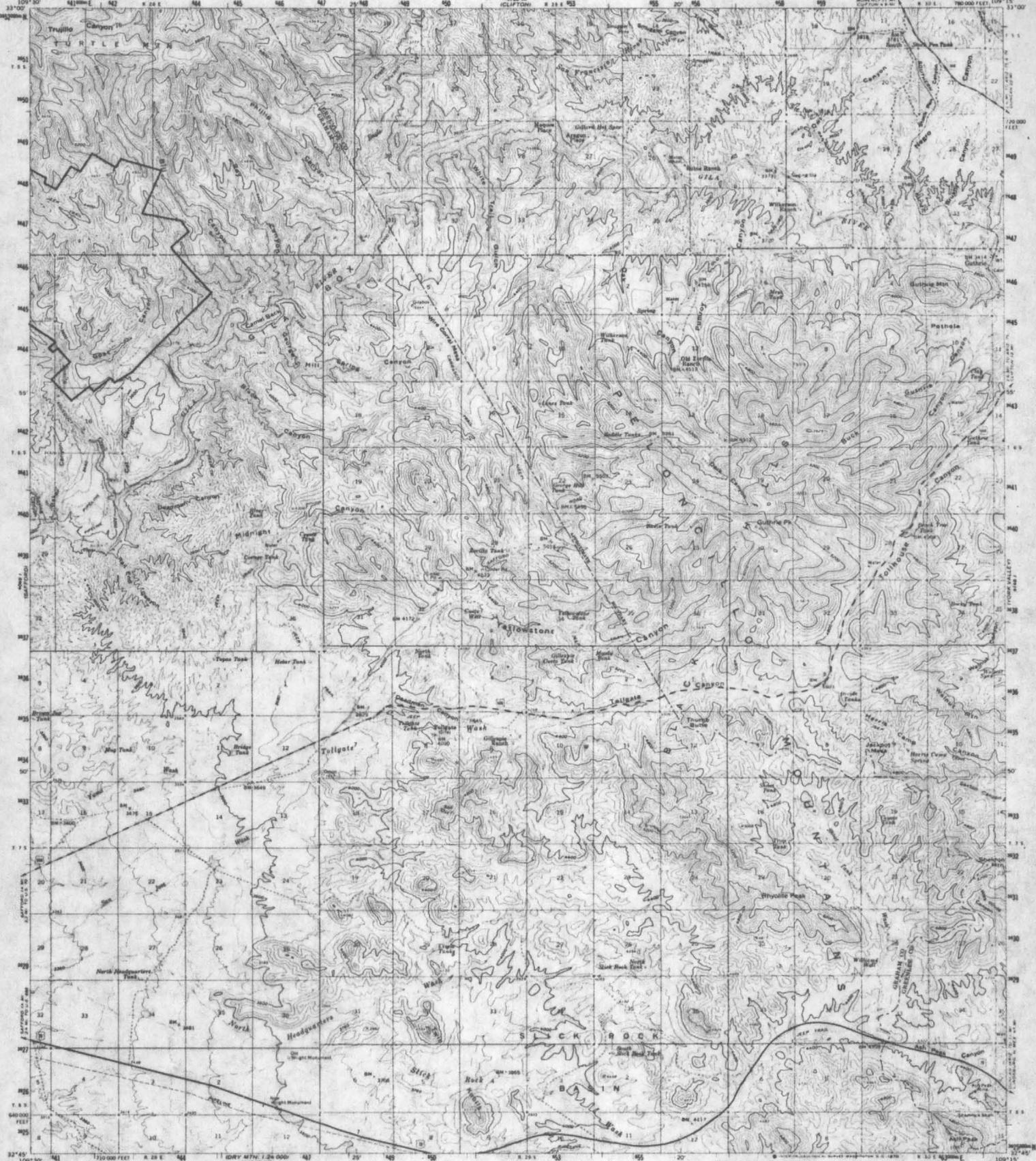
Mapped, edited, and published by the Geological Survey  
Control by USGS and USC&GS  
Topography from aerial photographs by photogrammetric methods  
Aerial photographs taken 1957. Field check 1960  
Polygonic projection. 1927 North American datum  
10,000-foot grid based on Arizona coordinate system, east zone  
1000-meter Universal Transverse Mercator grid, zone 12. Shown in blue.  
Dashed land lines indicate approximate locations.  
Land lines surveyed in parts of T. 5 and S. 4 - 28 E.



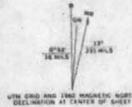
SCALE 1:62,500  
CONTOUR INTERVAL 80 FEET  
DOTTED LINES REPRESENT KNOWN CONTOURS  
DATUM IS MEAN SEA LEVEL



THIS MAP COMPLETS WITH NATIONAL MAP ACCURACY STANDARDS  
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225 OR WASHINGTON, D.C. 20242  
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST



Mapped, edited, and published by the Geological Survey  
Control by USGS and USC&GS  
Topography from aerial photographs by photogrammetric methods  
Aerial photographs taken 1957 Field check 1960  
Polyconic projection, 1927 North American datum  
15,000 foot grid based on Azimut coordinate system, east zone  
1000 meter Universal Transverse Mercator grid ticks,  
zone 12, shown in blue  
Dashed level lines indicate approximate locations  
Lead lines unobserved in parts of T4, 5 and 6 S.-R. 28 E.

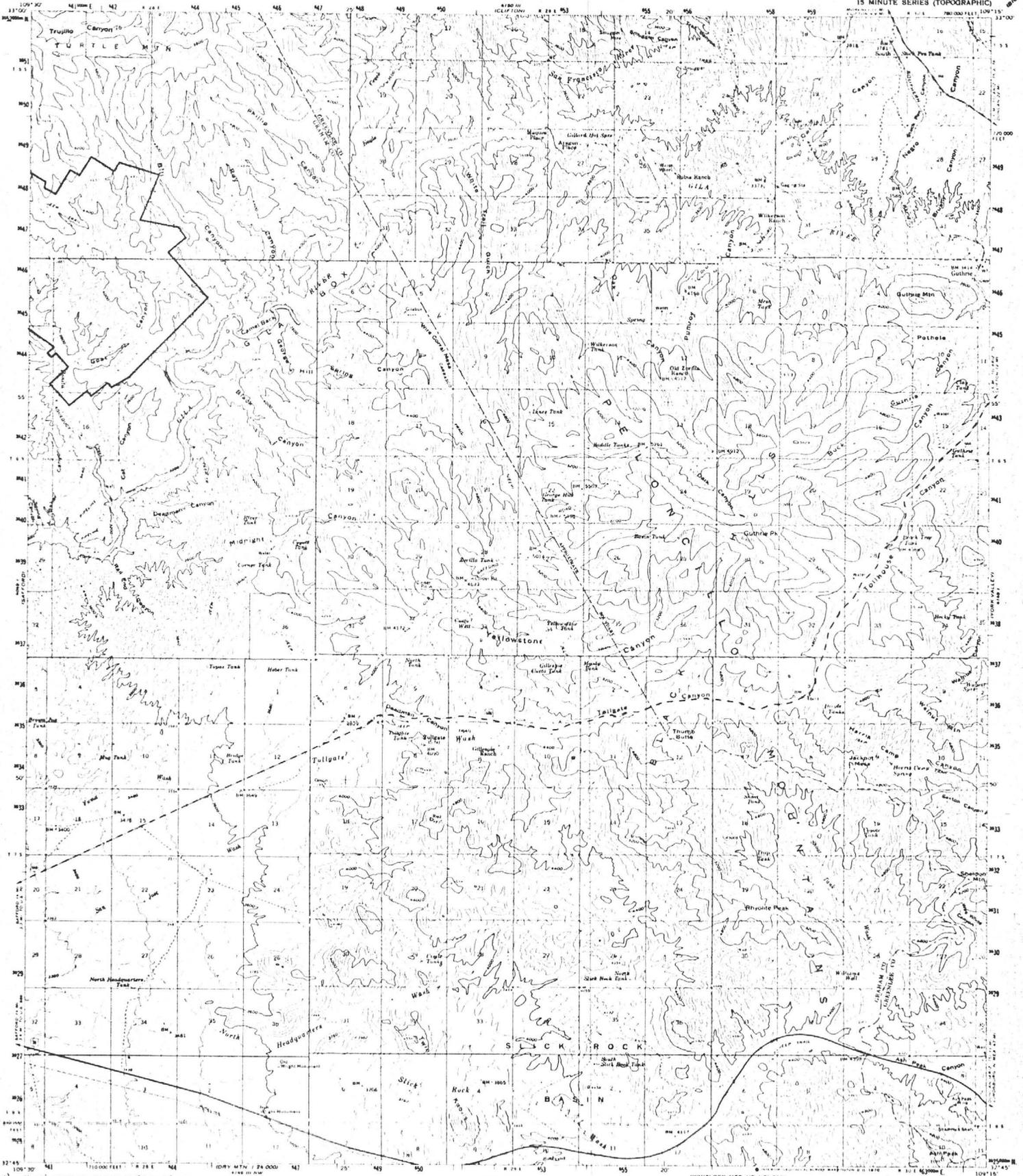


SCALE 1:62,500  
CONTOUR INTERVAL 80 FEET  
DOTTED LINES REPRESENT 50-FOOT CONTOURS  
DATUM IS MEAN SEA LEVEL

ROAD CLASSIFICATION  
Heavy-duty ——— Light-duty ———  
Medium-duty ——— Unimproved dirt ———  
□ U.S. Road

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS  
FOR SALE BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80215 OR WASHINGTON, D.C. 20242  
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

OUTHRIE, ARIZ.  
N3245-W10915/15  
1960  
AMS 6148 IV-SERIES V798



Mapped, edited and published by the Geological Survey  
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Topography from aerial photographs by photogrammetric methods  
Aerial photographs taken 1957. Field check 1960  
Publication projection: 1927 North American datum  
10,000-foot grid based on Arizona coordinate system, east zone  
1000-meter Universal Transverse Mercator grid lines  
zone 12, shown in blue  
Control and lines indicate approximate locations  
Land uses shown in green in parts of 5, 6, 7, 8, 28 E

SCALE 1:62,500

COUNTOUR INTERVAL 80 FEET  
DOTTED LINES REPRESENT ADJUSTED CONTIGUOUS  
DATUM IS MEAN SEA LEVEL

ROAD CLASSIFICATION  
Heavy duty Light duty  
Medium duty Unimproved dirt  
U.S. Route

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS  
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A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST

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