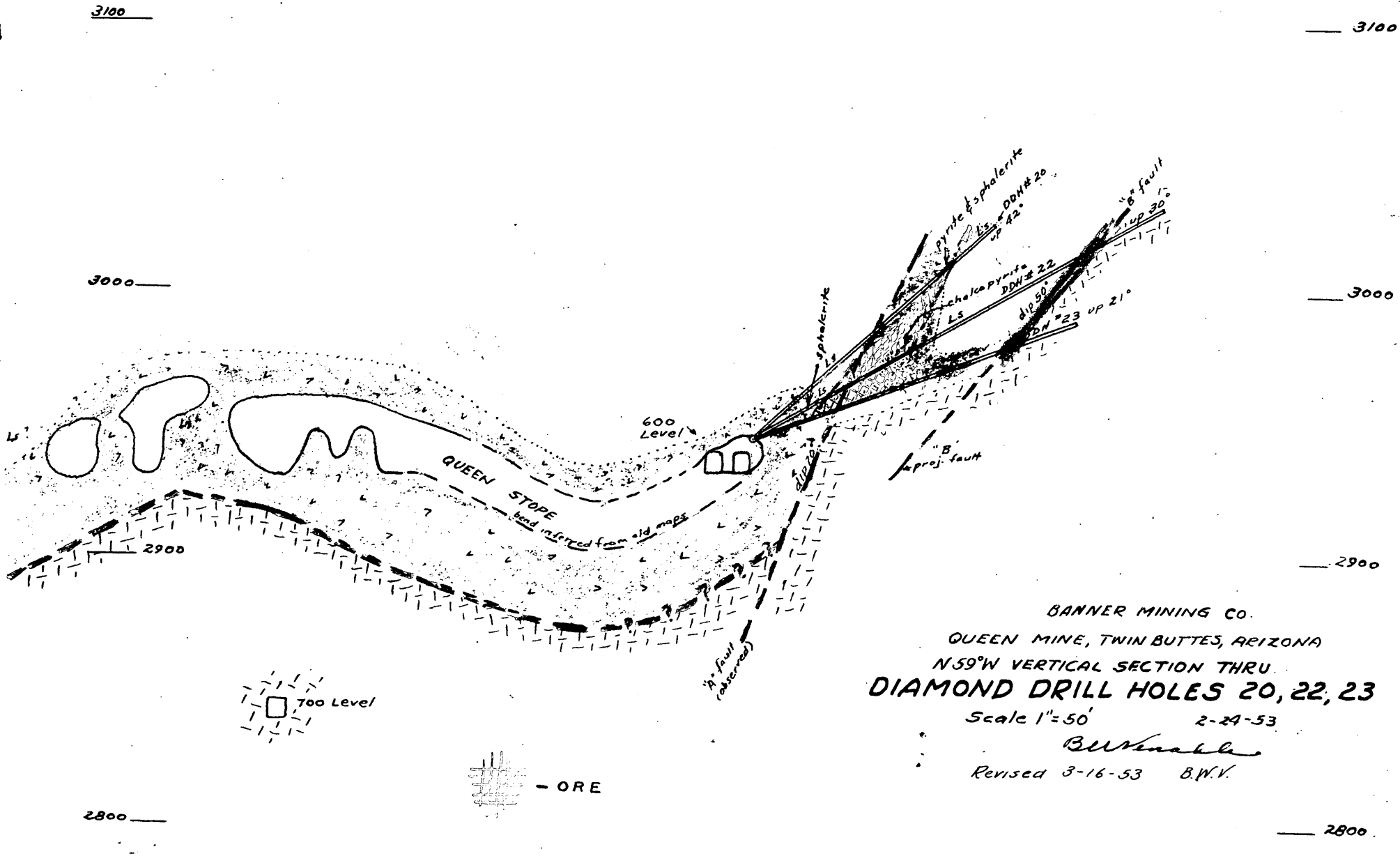


BANNER MINING CO.

QUEEN MINE, TWIN BUTTES, ARIZONA

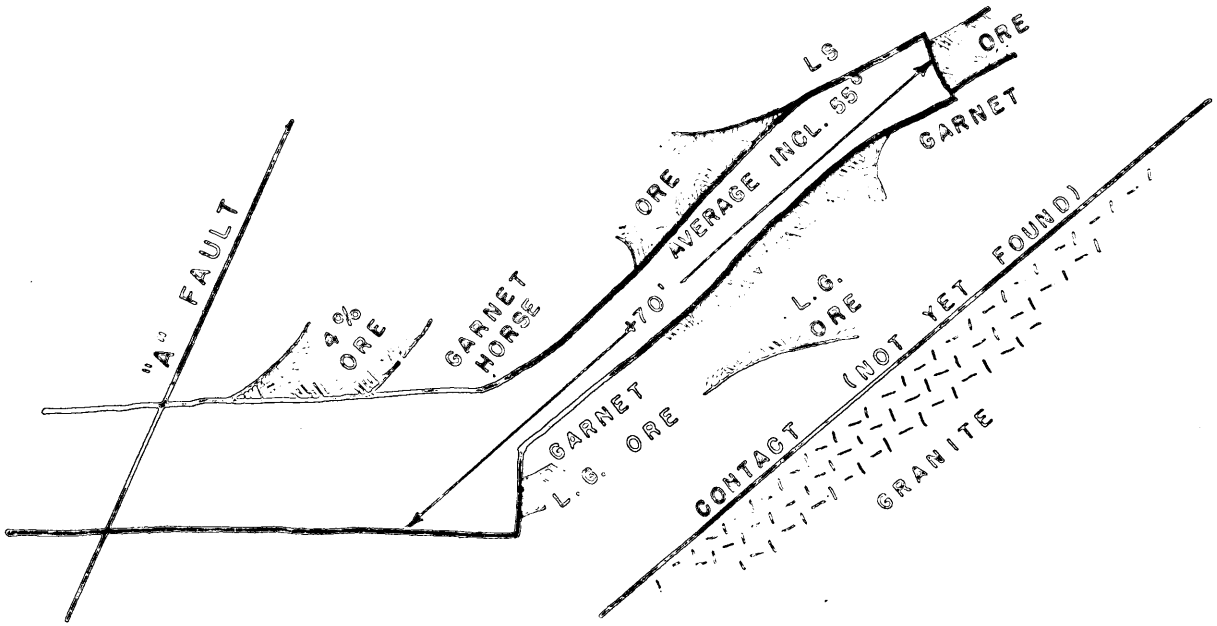
N59°W VERTICAL SECTION THRU

DIAMOND DRILL HOLES 20, 22, 23

Scale 1" = 50' 2-24-53

B.W. Kenable

Revised 3-16-53 B.W.K.



NO SCALE

DMA 269X-B

APRIL 1953

LONGITUDINAL VERTICAL SECTION THROUGH QUEEN WEST RAISE

ROUGHLY NORTH-SOUTH

BANNER MINING COMPANY'S TWIN BUTTES MINE

PIMA COUNTY, ARIZONA

Extra copy

June 1, 1953

Defense Minerals Administration
224 New Customhouse Building
Denver 2, Colorado

Re:- Contract #I-DMA-Z-33, regarding the Twin Buttes Mine Southeast of Tucson, Arizona.

Gentlemen:-

We have under consideration at this time our request of April 7, 1953 for an amendment to our Contract #I-DMA-Z-33. This requested amendment was for the purpose of allowing us to expend the balance of work and funds left in this project west and southwest of the Queen Shaft. This is the only area under this exploration project in which commercial ore has been found.

It is my understanding that until this amendment is processed that no further work can be done under the contract without express permission of the field team.

We feel that this amendment should be completed to allow Banner Mining Company to charge the crosscutting, diamond drilling and raising ahead up through April 30th, 1953 to the project. The raise was 43 feet high as of the above date.

The contract requires at its completion or termination that we furnish an estimate of ore reserves. It is impossible to make a reliable estimate on the basis of the diamond drill holes only.

To determine the rough extent of the ore located in the diamond drill holes, it was necessary to do some crosscutting and raising in the ore. We were certainly not justified in developing the area or preparing it for mining on the basis of the drill holes only as they were drilled in one plane.

Arizona law requires a second outlet (which would have to be the Queen Shaft) before mining can commence. This would entail a large expenditure and would require a fairly large block of ore to justify same.

From what we know now, after raising about 70 feet in the ore body above the 7th level of the Queen Mine, we would like to make preparations to develop and mine some of this orebody while the price for copper remains at its present high level. We also intend to develope

this same orebody at higher levels in the Queen Shaft. We also intend to do exploration work west and southwest of the present faces on the Queen 7th level that may be covered by an amendment as asked for in our letter of April 7th, 1953.

In view of this varied work program for the coming months which will involve elaborate accounting and cost breakdowns which, I am sure, may involve conflicts in allowable costs under the Exploration Project, we believe that the best arrangement all around will be to terminate the Exploration Project as of April 30, 1953. We are making this as a formal request for termination as of this date.

In asking that the exploration project be stopped, we want to make it clear that Barnes Mining Company realizes its obligation under Exploration Contract #I-[illegible]-33 and is willing that royalties be paid the Government on all ores shipped from the mining claims named in this contract and amendments according to terms of paragraph 4h of the contract form.

Please advise us at an early date of your decision in this matter.

We have not received checks for the Government's share in this project since the one covering the month of December 1952. Our reports through March have gone in on schedule. The report for the month of April is being held in abeyance pending completion of the requested amendment.

Yours very truly,

Barnes Mining Company

A. B. Barnes
Manager

ABB:eob

July 8,1953

Defense Minerals Administration
224 New Customhouse Building
Denver 2, Colorado

Re:- DMA Contract No. I-DMA-E-33, Docket Number 269-X-8, Pertaining to the Twin Buttes Property South of Tucson, Arizona.

Gentlemen:-

Due to conditions which have arisen in our diamond drilling program at this property since amendment number 7 to the contract was approved, we find that further revision of this amendment is necessary. This application is a revision of our letter dated April 7, 1953.

During March we realized it was necessary to diverge from amendment 7 and that it would be necessary to amend the contract to provide for a more flexible drilling program, I discussed with Mr. T.M. Romslo of the Bureau of Mines, the necessary changes in the drilling program. At this time Mr. Romslo agreed that the changes were necessary and that Banner should ask for an amendment to the contract to provide for the necessary flexibility to meet conditions as new data from the drilling became available. Due to pressing matters in arranging a contract with the Government for production of ores from the Mineral Hill Mine, DMA-269-XA, it has not been possible for me to prepare the application for the amendment to allow for the necessary flexibility and changes in the drilling program until this date. Considerable work had been completed before it was realized that we had diverged to some extent from the amendment #7 to the contract. It was my impression that this amendment was considerably more flexible in its provisions for laying out directions and depths of exploratory work.

We request that the total footage of 2,760 feet as set forth in the contract and amendment number 7 be allowed to complete the diamond drilling in the two zones as shown on the attached map, and as described below.

All drilling to be subject to prior approval of the DMEA field representative.

(1) Scorpio Annex Area - Zone - 1

Allow for diamond drilling to prospect for favorable areas along contact at intersections with quartz-pyrite fissures and faults in Zone 1.

(2) West Queen Area - Zone - 2

Allow for diamond drilling in Zone 2 to test for ore mineralization in faulted segments along the contact west of the present workings in the Queen Mine.

We propose that the 250 feet of crosscutting as set forth in amendment 7 of the contract at the west end of the 7th level of the Queen Mine be amended to allow for the same footage of crosscutting, drifting and raising on courses to be determined by geological information and data developed in the drilling program. The raising as referred to above to consist of a maximum of 50 feet, an amount sufficient to indicate enough ore to justify its being developed. All of this work to be subject to the prior approval of the DMEA field representative.

It is understood that this proposed amendment shall not be construed to increase the estimated total cost of the project, the aggregate total amount which the Government may pay or the percentage of the costs which the Government may pay under the provisions of Article 2 of the contract form.

We urge that this amendment be handled as expediently as possible and that it be considered as a request for the revising of Amendment 7.

Many thanks for your consideration in this matter.

Yours very truly,

Banner Mining Company

A. B. Bowman

A. B. Bowman
General Manager

ABB:ecb

DEPARTMENT OF THE INTERIOR
Bureau of Mines
RECEIVED
AUG 4 1953

MINING DIVISION
REGION IV

July 14, 1953

Memorandum

To : W. H. King, Chief, Mining Division, Region IV

From : Chief, Mining Methods Br., Mining Div., Region IV

Subject : Proposed Amendment No. 8 to contract I-BM1-233, Docket MM-269KB, Banner Mining Co.'s Twin Buttes Mine, Pima County, Ariz.

Enclosed are original and 5 copies of the following:

(1) Request for an amendment to Contract I-BM1-233 by the Banner Mining Co. with map;

(2) Report by Bureau of Mines engineer with maps, recommending approval of this amendment and explaining what has been done since Amendment No. 7 was approved.

This amendment request originally was submitted by the company in April after it was found that Amendment No. 7 was not being followed. This original request later was returned to the company for revision.

Although somewhat late in making this recommendation, I recommend that this request for an amendment be approved so that all or part of the work done since Amendment No. 7 was approved may be paid for.

Walter R. Storms

Walter R. Storms

CC W. H. King (5)
MM-269KB
LD
WRStorms:frj

quartz-pyrite fissures or faults. Hole 25 then was drilled at the maximum upward inclination possible from the existing drill station. It also tested a favorable zone in this upthrown block east of the Queen ore body at a higher horizon than penetrated by holes 12, 13, 24 and 26. The possibility of encountering ore was based on the finding of ore in the up-thrust block west of the Queen ore body.

Although no ore was encountered by the above holes, there is a geologic possibility of ore occurrence at still higher horizons. Testing of the higher horizons of this zone, by drilling from other mine workings or from the surface, may be done later by the company.

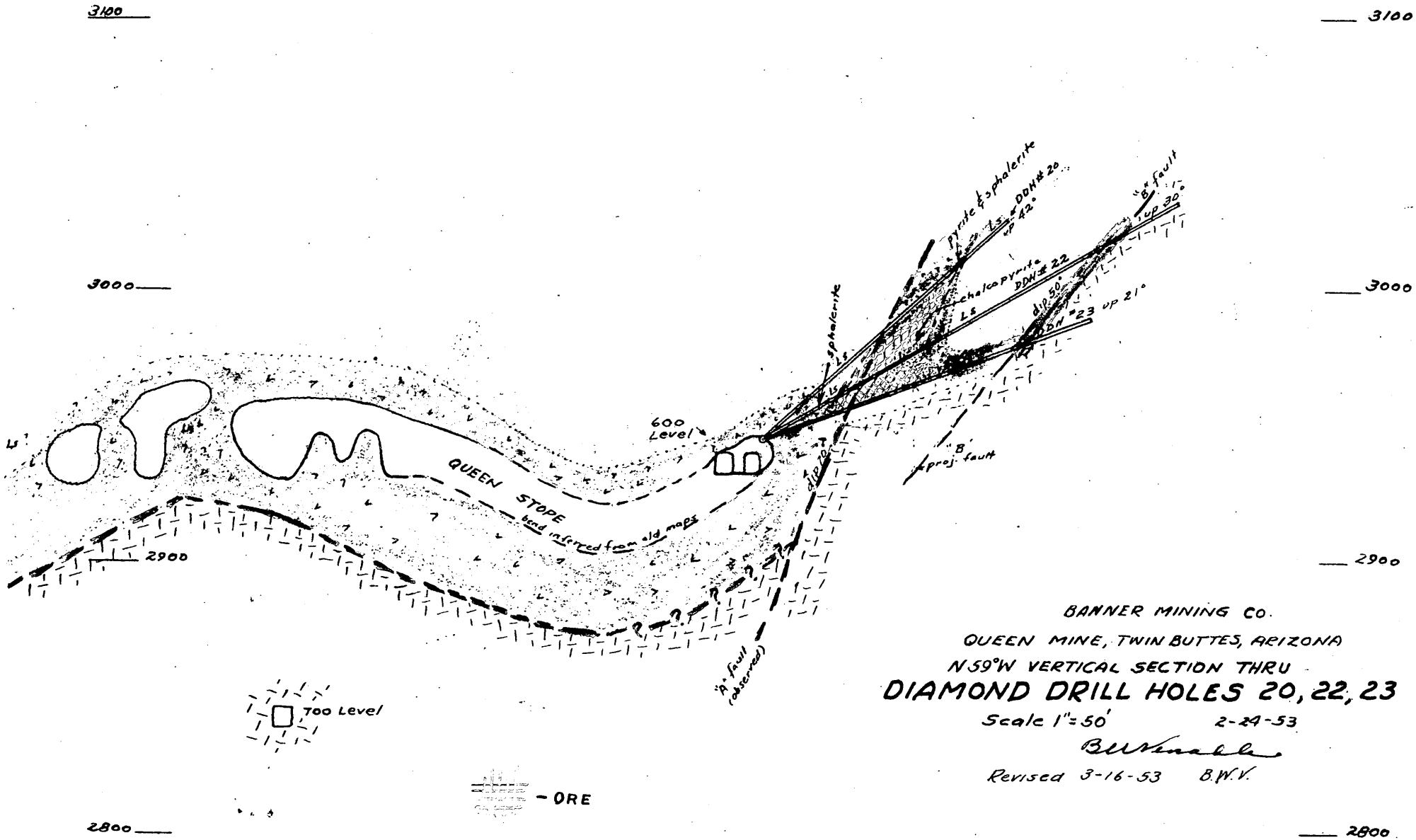
DRIFTS, CROSSCUTS AND RAISE

The 250 feet of crosscut in a southerly direction from the 525 level, Glance mine, as authorized by Amendment No. 7, will not be driven because results of diamond drilling in this area were unfavorable.

The 250 feet for drifting and crosscutting, and the 50-foot raise as requested in proposed Amendment No. 8, are for: Drifting through the ore zone of holes 20, 22, and 23 to a drill site to be established for testing of the contact west of "B" fault; the 50-foot raise will be driven to determine if the above ore zone is extensive enough to justify development.

T M Romslo

T. M. Romslo, Mining Engineer
Mining Methods Branch
Mining Division, Region IV



BANNER MINING CO.

QUEEN MINE, TWIN BUTTES, ARIZONA

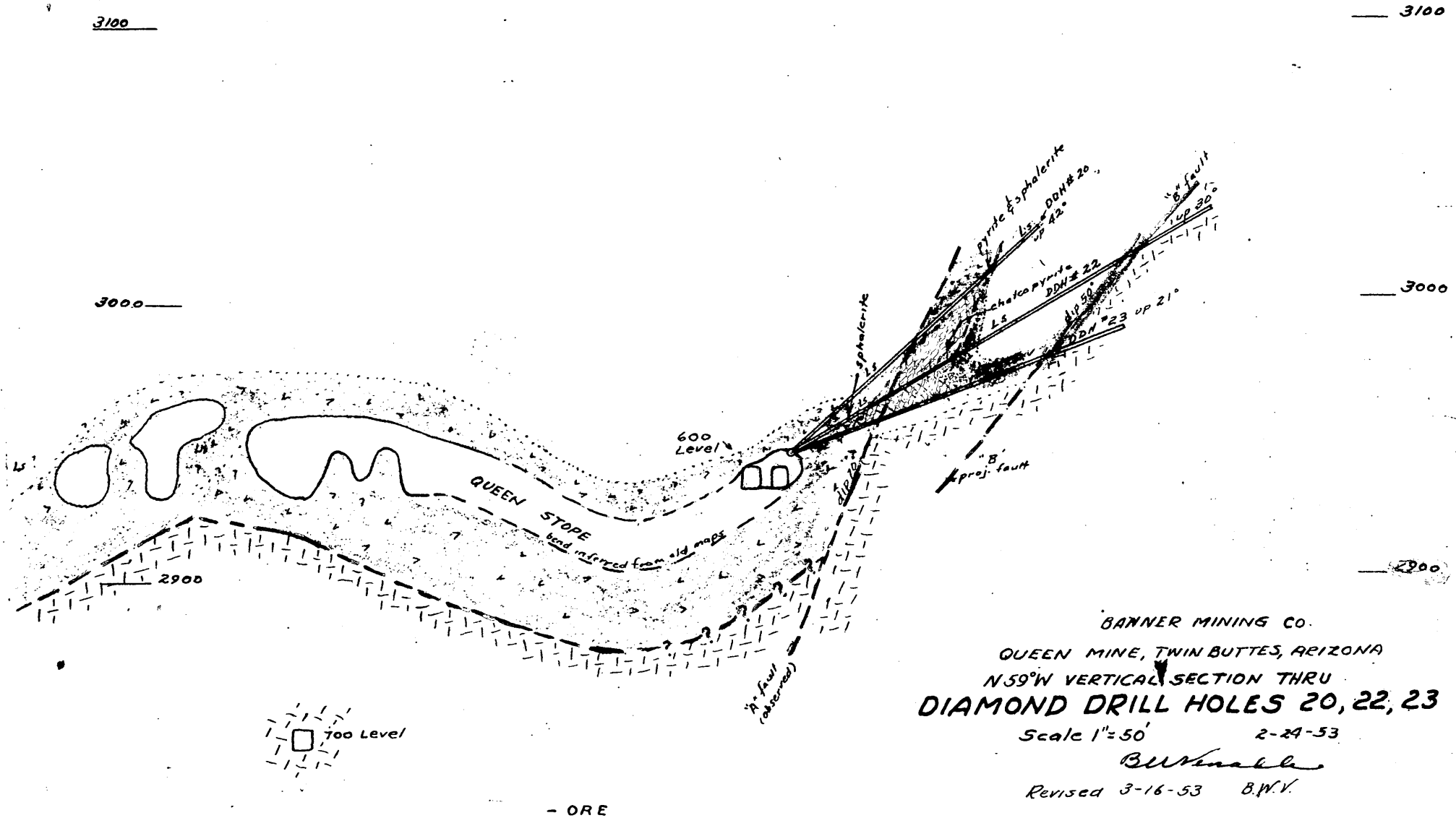
N 59°W VERTICAL SECTION THRU

DIAMOND DRILL HOLES 20, 22, 23

Scale 1" = 50' 2-24-53

B.W. Vinable

Revised 3-16-53 B.W.V.



BANNER MINING CO.

QUEEN MINE, TWIN BUTTES, ARIZONA

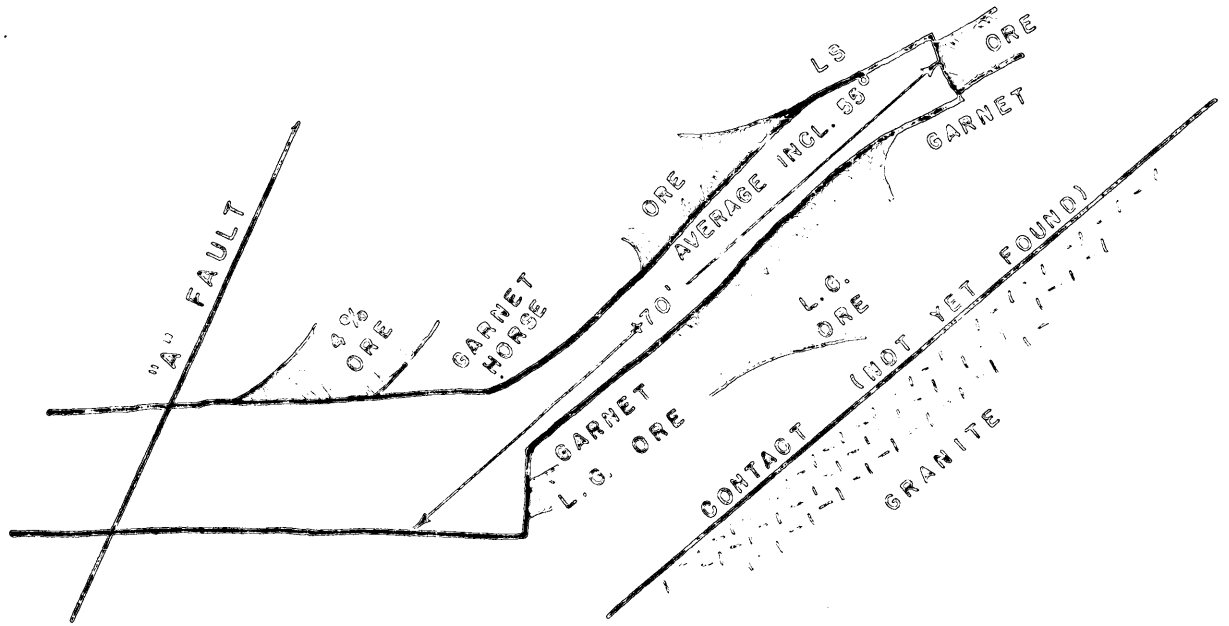
N 59°W VERTICAL SECTION THRU

DIAMOND DRILL HOLES 20, 22, 23

Scale 1" = 50' 2-24-53

B.W.V.

Revised 3-16-53 B.W.V.



NO SCALE

DMA 269X-B

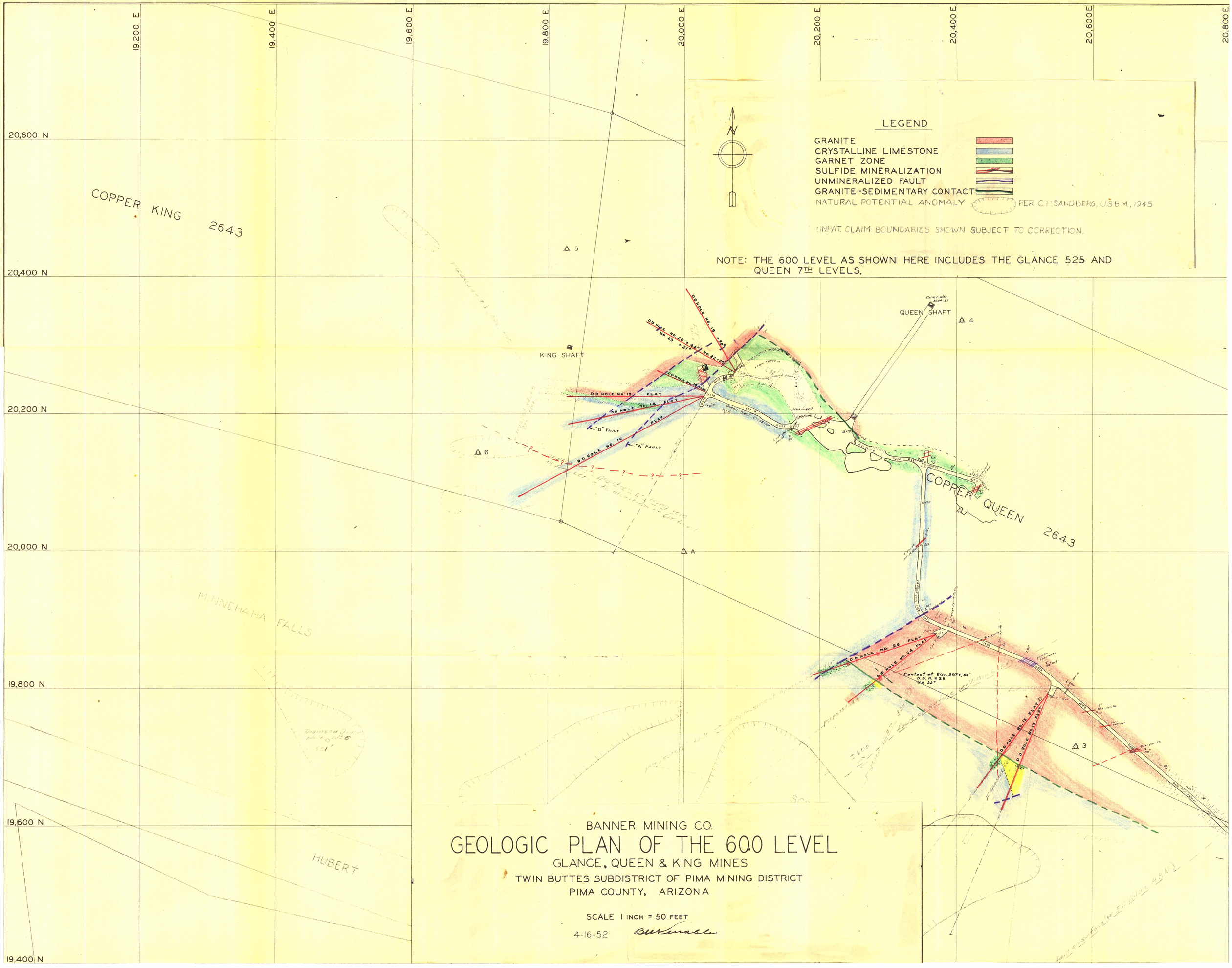
APRIL 1953

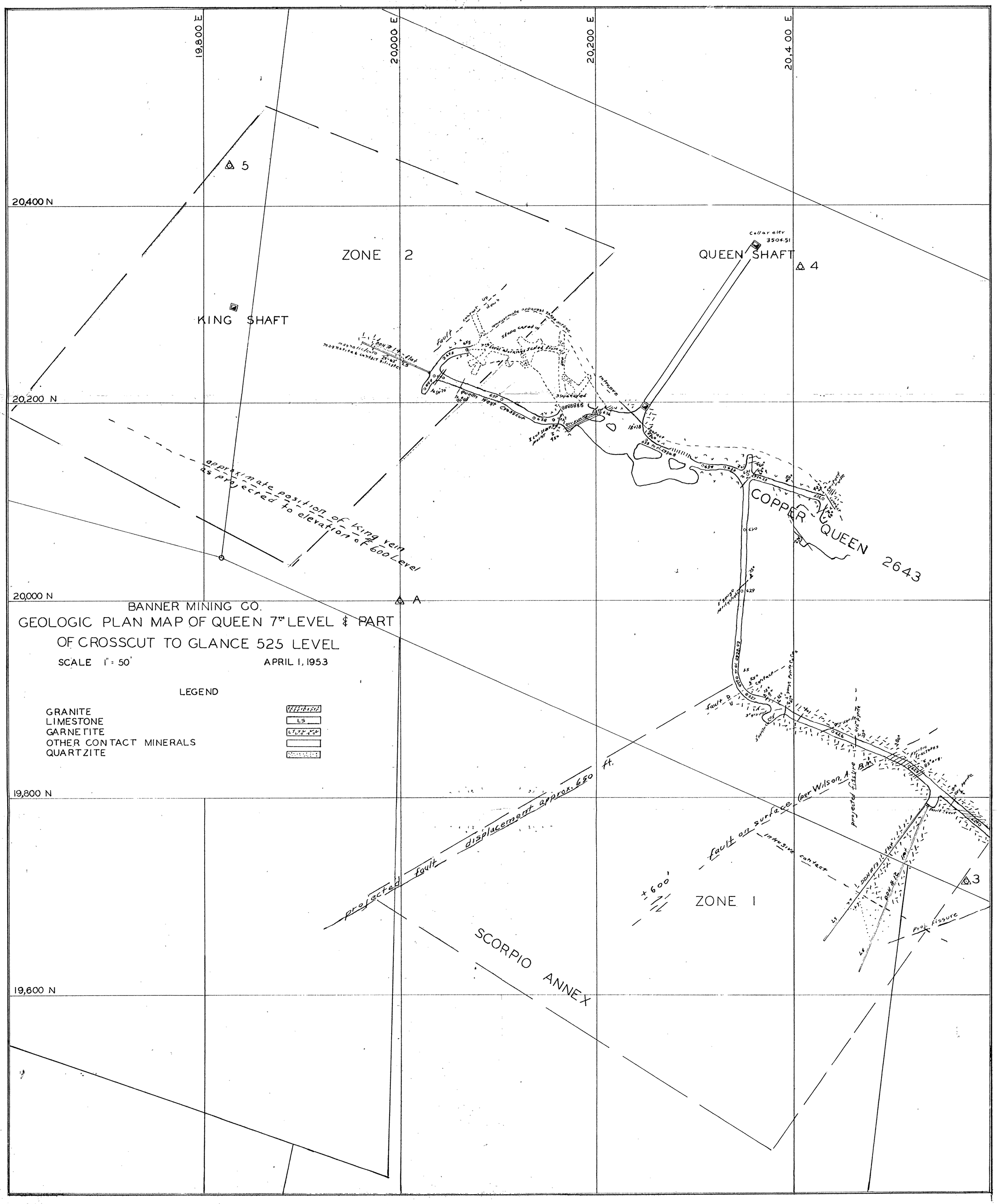
LONGITUDINAL VERTICAL SECTION THROUGH QUEEN WEST RAISE

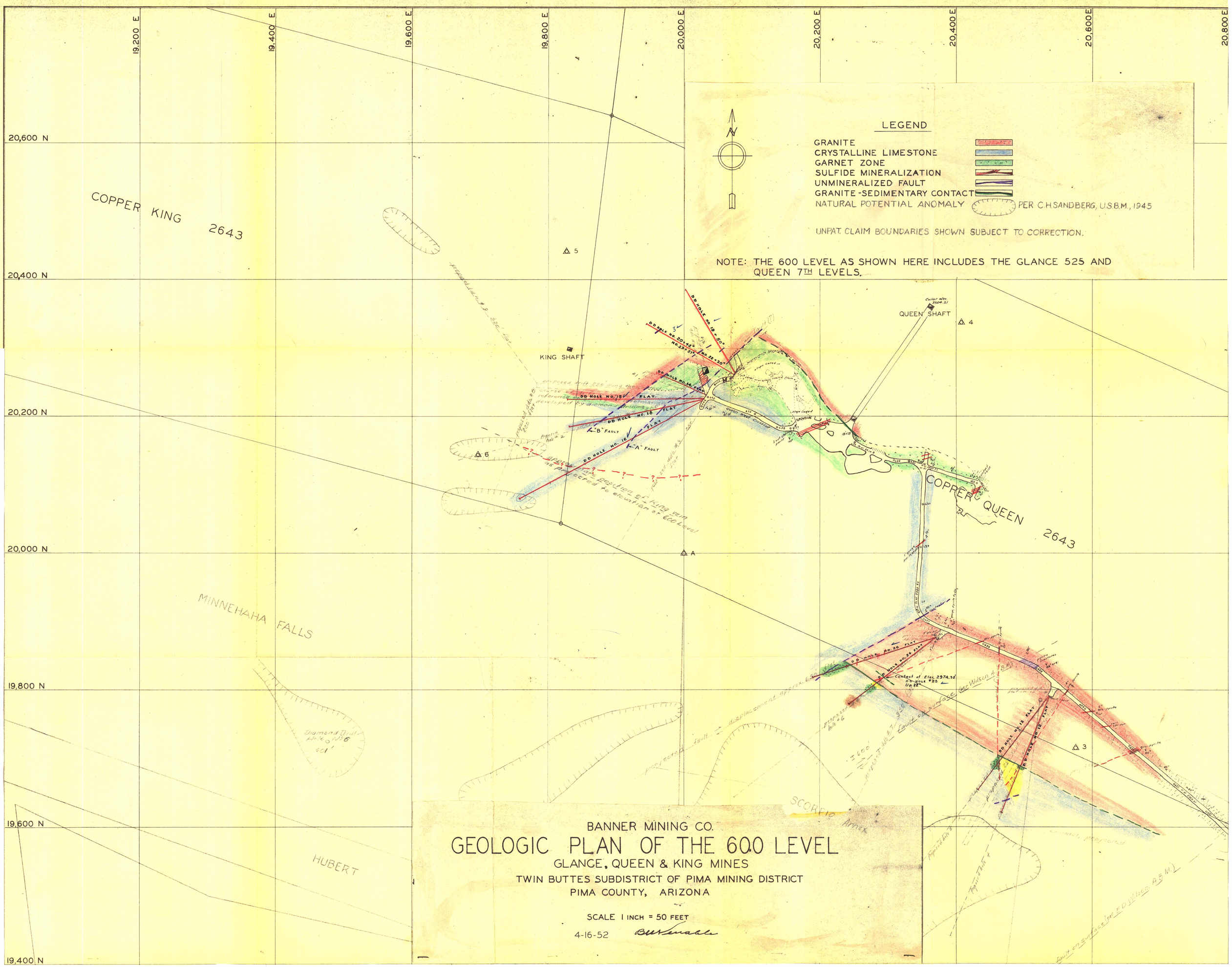
ROUGHLY NORTH-SOUTH

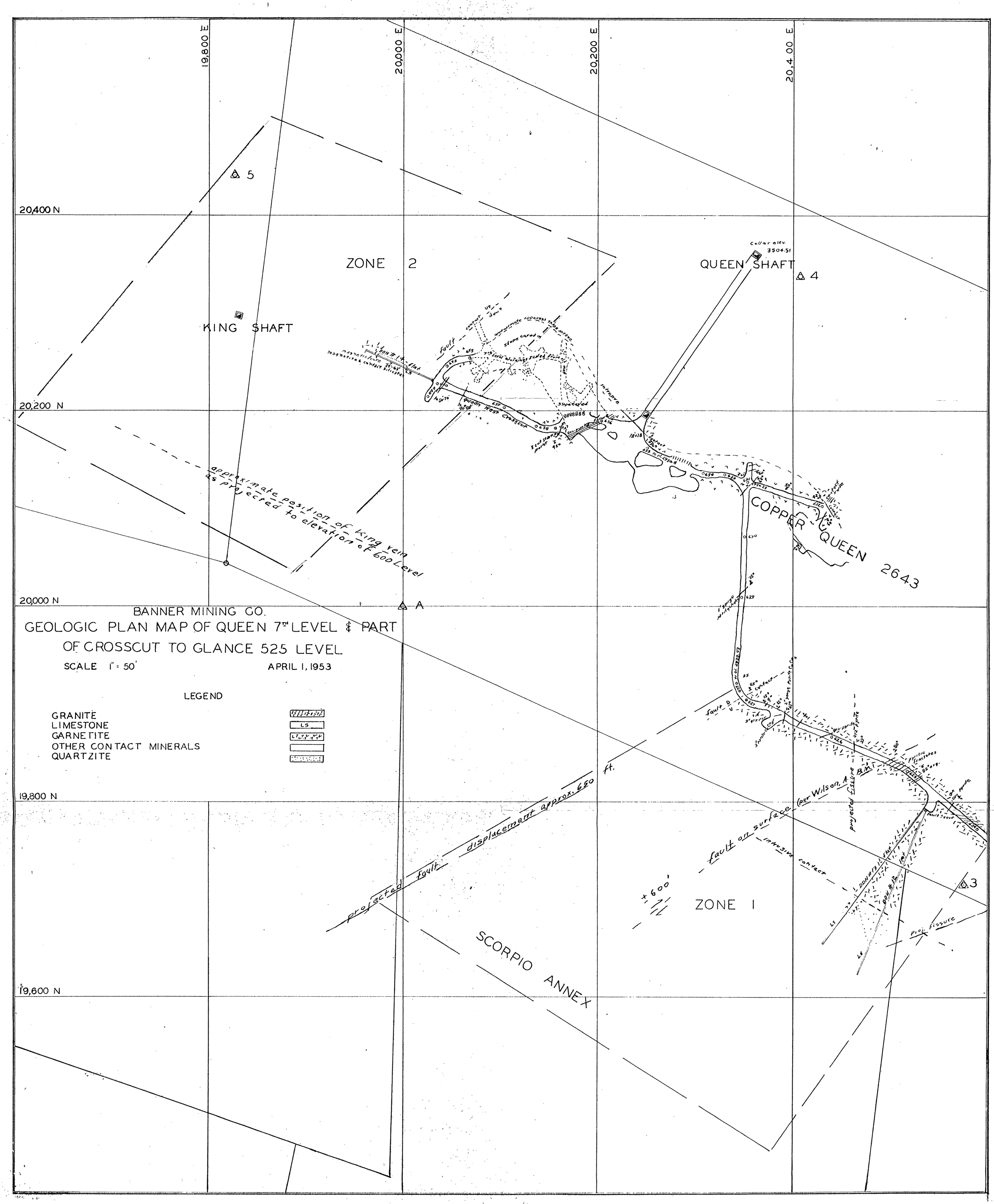
BANNER MINING COMPANY'S TWIN BUTTES MINE

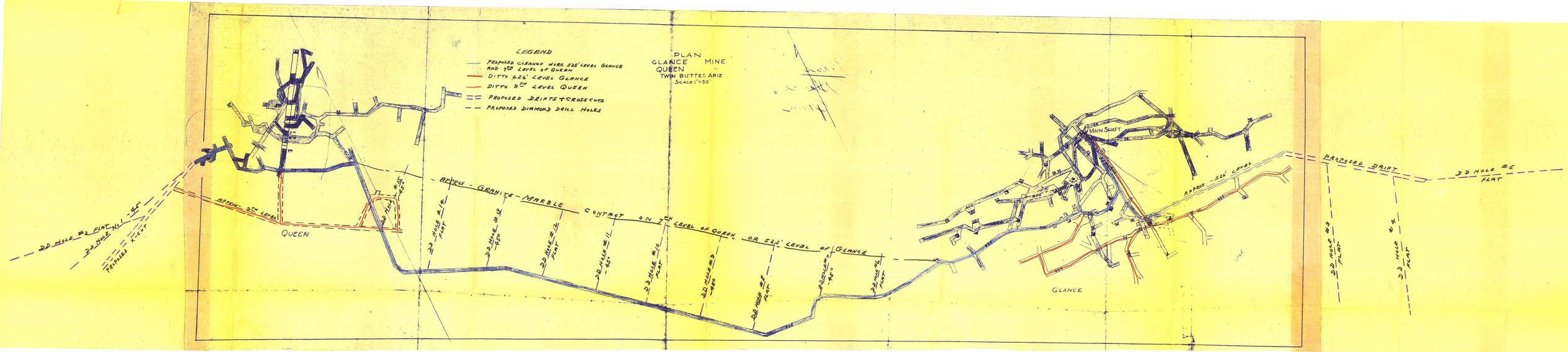
PIMA COUNTY, ARIZONA

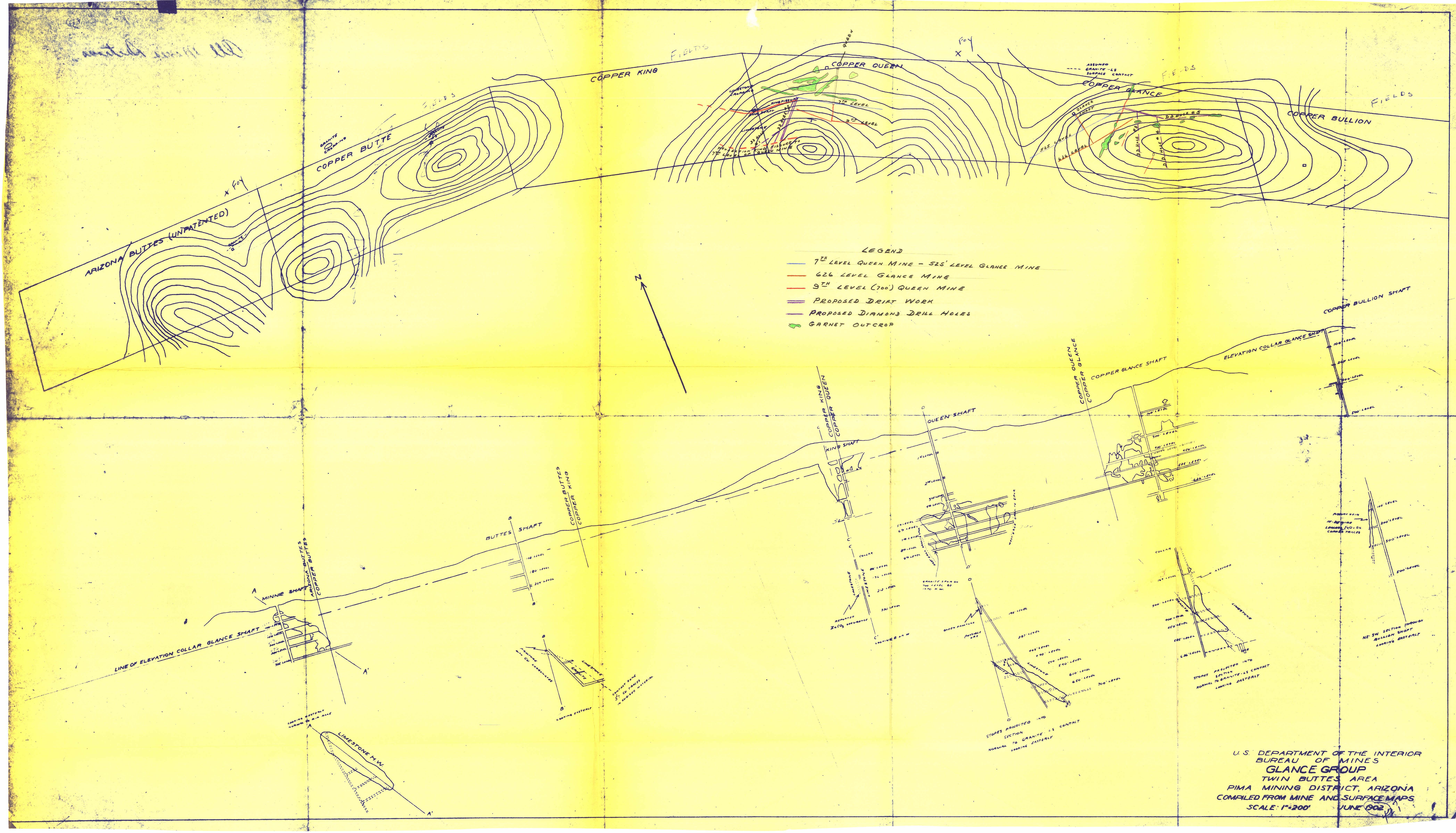

19,200 E
19,400 E
19,600 E
19,800 E
20,000 E
20,200 E
20,400 E
20,600 E
20,800 E
20,600 N
20,400 N
20,200 N
20,000 N
19,800 N
19,600 N
19,400 N
LEGEND
GRANITE
CRYSTALLINE LIMESTONE
GARNET ZONE
SULFIDE MINERALIZATION
UNMINERALIZED FAULT
GRANITE-SEDIMENTARY CONTACT
NATURAL POTENTIAL ANOMALY
PER C.H. SANDBERG, U.S.B.M., 1945
UNPAT. CLAIM BOUNDARIES SHOWN SUBJECT TO CORRECTION.
NOTE: THE 600 LEVEL AS SHOWN HERE INCLUDES THE GLANCE 525 AND QUEEN 7TH LEVELS.
COPPER KING
2643
KING SHAFT
QUEEN SHAFT
COPPER QUEEN
2643
MINNEHAHA FALLS
HUBERT
D.D. HOLE No. 15 FLAT
D.D. HOLE No. 16 FLAT
D.D. HOLE No. 16
"B" FAULT
"A" FAULT
D.D. HOLE No. 18
D.D. HOLE No. 20
D.D. HOLE No. 22
D.D. HOLE No. 23
D.D. HOLE No. 24 FLAT
D.D. HOLE No. 26 FLAT
D.D. HOLE No. 13 FLAT
D.D. HOLE No. 12 FLAT
Contact at Elev. 2974.32'
D.D.H. #25
UP 22°
BANNER MINING CO.
GEOLOGIC PLAN OF THE 600 LEVEL
GLANCE, QUEEN & KING MINES
TWIN BUTTES SUBDISTRICT OF PIMA MINING DISTRICT
PIMA COUNTY, ARIZONA
SCALE 1 INCH = 50 FEET
4-16-52

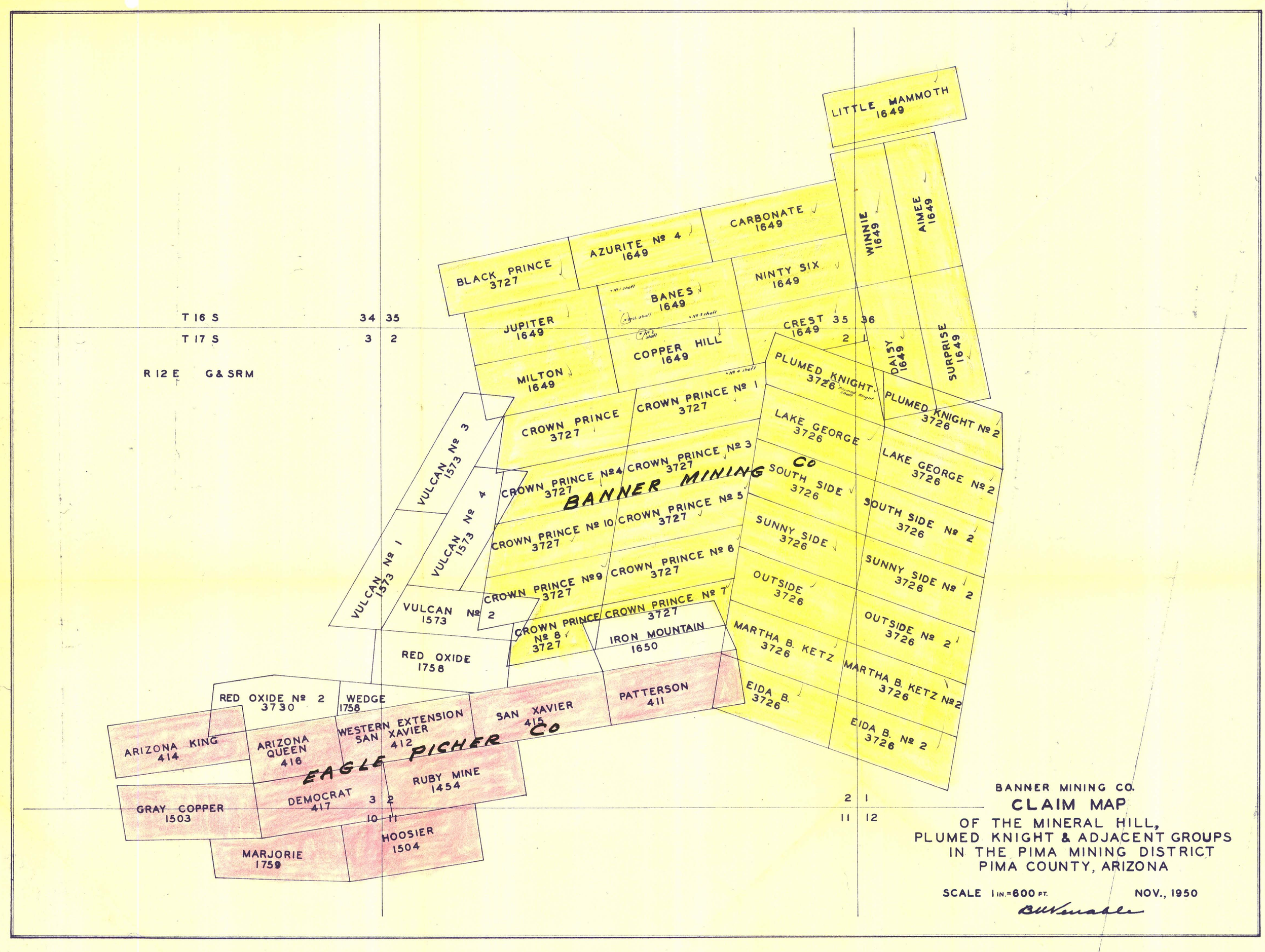

19,800 E
20,000 E
20,200 E
20,400 E
20,400 N
20,200 N
20,000 N
19,800 N
19,600 N
5
4
3
A
ZONE 2
ZONE 1
KING SHAFT
QUEEN SHAFT
Collar elev 3504.51
COPPER QUEEN 2643
SCORPIO ANNEX
approximate position of king vein as projected to elevation of 600 Level
projected fault
fault displacement approx. 650 ft.
fault on surface (per Wilson, A.B.M.)
projected fissure
intrusive contact
Proj. fissure
BANNER MINING CO.
GEOLOGIC PLAN MAP OF QUEEN 7TH LEVEL & PART OF CROSSCUT TO GLANCE 525 LEVEL
SCALE 1" = 50'
APRIL 1, 1953
LEGEND
GRANITE
LIMESTONE
GARNETITE
OTHER CONTACT MINERALS
QUARTZITE


19,200 E
19,400 E
19,600 E
19,800 E
20,000 E
20,200 E
20,400 E
20,600 E
20,800 E
20,600 N
20,400 N
20,200 N
20,000 N
19,800 N
19,600 N
19,400 N
LEGEND
GRANITE
CRYSTALLINE LIMESTONE
GARNET ZONE
SULFIDE MINERALIZATION
UNMINERALIZED FAULT
GRANITE-SEDIMENTARY CONTACT
NATURAL POTENTIAL ANOMALY
PER C.H. SANDBERG, U.S.B.M., 1945
UNPAT. CLAIM BOUNDARIES SHOWN SUBJECT TO CORRECTION.
NOTE: THE 600 LEVEL AS SHOWN HERE INCLUDES THE GLANCE 525 AND QUEEN 7TH LEVELS.
COPPER KING 2643
KING SHAFT
QUEEN SHAFT
COPPER QUEEN 2643
MINNEHAHA FALLS
HUBERT
SCORPIO Annex
DD HOLE NO. 15 FLAT
DD HOLE NO. 16 FLAT
DD HOLE NO. 18
"B" FAULT
"A" FAULT
DD HOLE NO. 26 FLAT
DD HOLE NO. 24 FLAT
DD HOLE NO. 13 FLAT
DD HOLE NO. 12 FLAT
Contact of Elev. 2974.52
DD-HOLE #25
Up 28
Diamond Drill Hole #26
BANNER MINING CO.
GEOLOGIC PLAN OF THE 600 LEVEL
GLANCE, QUEEN & KING MINES
TWIN BUTTES SUBDISTRICT OF PIMA MINING DISTRICT
PIMA COUNTY, ARIZONA
SCALE 1 INCH = 50 FEET
4-16-52


19,800 E
20,000 E
20,200 E
20,400 N
20,200 N
20,000 N
19,800 N
19,600 N
5
4
A
3
ZONE 2
ZONE 1
KING SHAFT
QUEEN SHAFT
Collar elev. 3504.51
COPPER QUEEN
2643
SCORPIO ANNEX
approximate position of King vein as projected to elevation of 600 Level
BANNER MINING CO.
GEOLOGIC PLAN MAP OF QUEEN 7TH LEVEL & PART OF CROSSCUT TO GLANCE 525 LEVEL
SCALE 1" = 50'
APRIL 1, 1953
LEGEND
GRANITE
LIMESTONE
GARNETITE
OTHER CONTACT MINERALS
QUARTZITE
projected fault
displacement approx. 650 ft.
fault on surface (per Wilson, A.B.M.)
projected fissure
intrusive contact
fault
+600'
Proj. fissure


PLAN
GLANCE MINE
QUEEN
TWIN BUTTES ARIZ
SCALE 1" = 50'
LEGEND
PROPOSED CLEANUP WORK 525' LEVEL GLANCE AND 700 LEVEL OF QUEEN
DITTO 625' LEVEL GLANCE
DITTO 9TH LEVEL QUEEN
PROPOSED DRIFTS + CROSS CUTS
PROPOSED DIAMOND DRILL HOLES
MAIN SHAFT
APPROX. 9TH LEVEL
QUEEN
APPROX. - GRANITE - MARBLE CONTACT ON 7TH LEVEL OF QUEEN OR 525' LEVEL OF GLANCE
APPROX. - 525' LEVEL
GLANCE
PROPOSED DRIFT
DD HOLE #2 FLAT N.W. - 45°
DD HOLE
PROPOSED KLUT
DD HOLE #16 - 45°
DD HOLE #15 FLAT
DD HOLE #13 - 45°
DD HOLE #12 FLAT
DD HOLE #11 - 45°
DD HOLE #10 FLAT
DD HOLE #9 - 45°
DD HOLE #8 FLAT
DD HOLE #7 - 45°
DD HOLE #6 FLAT
DD HOLE #3 FLAT
DD HOLE #4 FLAT
DD HOLE #5 FLAT


ARIZONA BUTTES (UNPATENTED)
COPPER BUTTE
COPPER KING
COPPER QUEEN
COPPER GLANCE
COPPER BULLION
FIELDS
LEGEND
7TH LEVEL QUEEN MINE - 525' LEVEL GLANCE MINE
626 LEVEL GLANCE MINE
9TH LEVEL (700') QUEEN MINE
PROPOSED DRIFT WORK
PROPOSED DIAMOND DRILL HOLES
GARNET OUTCROP
N
COPPER BULLION SHAFT
ELEVATION COLLAR GLANCE SHAFT
COPPER GLANCE SHAFT
QUEEN SHAFT
KING SHAFT
BUTTES SHAFT
MINNIE SHAFT
LINE OF ELEVATION COLLAR GLANCE SHAFT
LIMESTONE H.W.
U.S. DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
GLANCE GROUP
TWIN BUTTES AREA
PIMA MINING DISTRICT, ARIZONA
COMPILED FROM MINE AND SURFACE MAPS
SCALE: 1"=200'
JUNE 1902



BANNER MINING CO.

CLAIM MAP

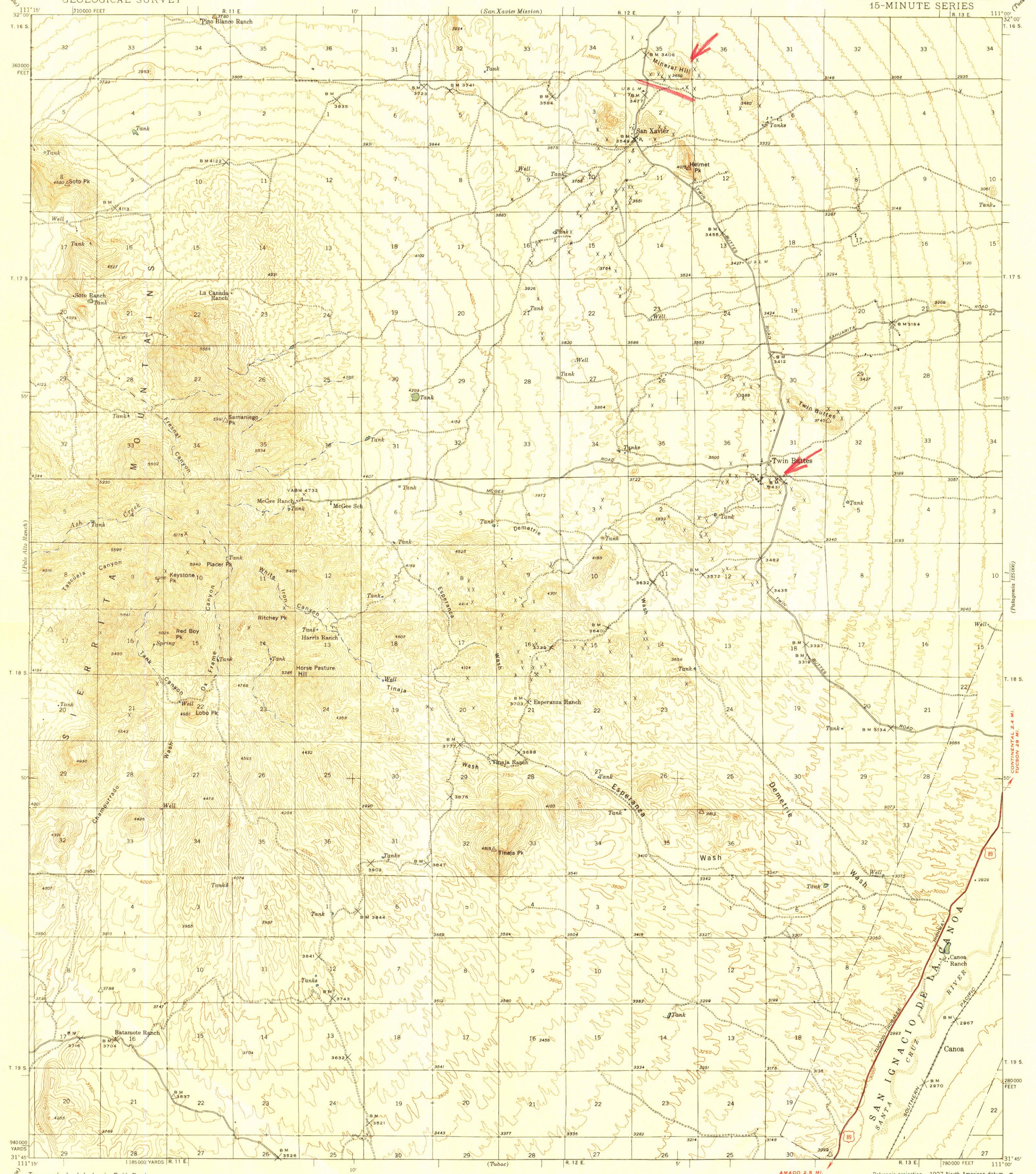
OF THE MINERAL HILL,
PLUMED KNIGHT & ADJACENT GROUPS
IN THE PIMA MINING DISTRICT
PIMA COUNTY, ARIZONA

SCALE 1 IN.=600 FT. NOV., 1950

B.W. Wade

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

ARIZONA
(PIMA COUNTY)
TWIN BUTTES QUADRANGLE
15-MINUTE SERIES



Topography by J. L. Lewis, F. H. Purdy, J. J. Hayes, S. M. Borrell, K. A. Bunker, P. J. Frampton, and G. B. Woolley
Surveyed in 1938–1939

ROAD CLASSIFICATION

HARD-SURFACE ALL WEATHER ROADS — 4 LANE | 6 LANE
Heavy-duty
Medium-duty
Loose-surface, graded, or narrow hard-surface

DRY WEATHER ROADS
Improved dirt
Unimproved dirt

U. S. Route
State Route

TRUE NORTH
MAGNETIC NORTH
14°
APPROXIMATE MEAN DECLINATION, 1939

SCALE 1:62500

1 ½ 0 1 2 3 4 MILES

3000 0 3000 6000 9000 12000 15000 18000 21000 FEET

1 .5 0 1 2 3 4 5 KILOMETERS

Contour interval 50 feet
Datum is mean sea level

Polyconic projection. 1927 North American datum
5000 yard grid based on U. S. zone system, F
10000 foot grid based on Arizona (Central) rectangular coordinate system

TWIN BUTTES, ARIZ.
Edition of 1948

N3145—W11100/15

44

THE TOPOGRAPHIC MAPS OF THE UNITED STATES

The United States Geological Survey is making a series of standard topographic maps to cover the United States. This work has been in progress since 1882, and the published maps cover more than 47 percent of the country, exclusive of outlying possessions.

The maps are published on sheets that measure about 16½ by 20 inches. Under the general plan adopted the country is divided into quadrangles bounded by parallels of latitude and meridians of longitude. These quadrangles are mapped on different scales, the scale selected for each map being that which is best adapted to general use in the development of the country, and consequently, though the standard maps are of nearly uniform size, the areas that they represent are of different sizes. On the lower margin of each map are printed graphic scales showing distances in feet, meters, miles, and kilometers. In addition, the scale of the map is shown by a fraction expressing a fixed ratio between linear measurements on the map and corresponding distances on the ground. For example, the scale $\frac{1}{62,500}$ means that 1 unit on the map (such as 1 inch, 1 foot, or 1 meter) represents 62,500 of the same units on the earth's surface.

Although some areas are surveyed and some maps are compiled and published on special scales for special purposes, the standard topographic surveys and the resulting maps have for many years been of three types, differentiated as follows:

1. Surveys of areas in which there are problems of great public importance—relating, for example, to mineral development, irrigation, or reclamation of swamp areas—are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{31,680}$ (1 inch = one-half mile) or $\frac{1}{24,000}$ (1 inch = 2,000 feet), with a contour interval of 1 to 100 feet, according to the relief of the particular area mapped.

2. Surveys of areas in which there are problems of average public importance, such as most of the basin of the Mississippi and its tributaries, are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{62,500}$ (1 inch = nearly 1 mile), with a contour interval of 10 to 100 feet.

3. Surveys of areas in which the problems are of minor public importance, such as much of the mountain or desert region of Arizona or New Mexico, and the high mountain area of the northwest, are made with sufficient detail to be used in the publication of maps on a scale of $\frac{1}{125,000}$ (1 inch = nearly 2 miles) or $\frac{1}{250,000}$ (1 inch = nearly 4 miles), with a contour interval of 20 to 250 feet.

The aerial camera is now being used in mapping. From the information recorded on the photographs, planimetric maps, which show only drainage and culture, have been made for some areas in the United States. By the use of stereoscopic plotting apparatus, aerial photographs are utilized also in the making of the regular topographic maps, which show relief as well as drainage and culture.

A topographic survey of Alaska has been in progress since 1898, and nearly 44 percent of its area has now been mapped. About 15 percent of the Territory has been covered by maps on a scale of $\frac{1}{500,000}$ (1 inch = nearly 8 miles). For most of the remainder of the area surveyed the maps published are on a scale of $\frac{1}{250,000}$ (1 inch = nearly 4 miles). For some areas of particular economic importance, covering about 4,300 square miles, the maps published are on a scale of $\frac{1}{62,500}$ (1 inch = nearly 1 mile) or larger. In addition to the area covered by topographic maps, about 11,300 square miles of southeastern Alaska has been covered by planimetric maps on scales of $\frac{1}{125,000}$ and $\frac{1}{250,000}$.

The Hawaiian Islands have been surveyed, and the resulting maps are published on a scale of $\frac{1}{62,500}$.

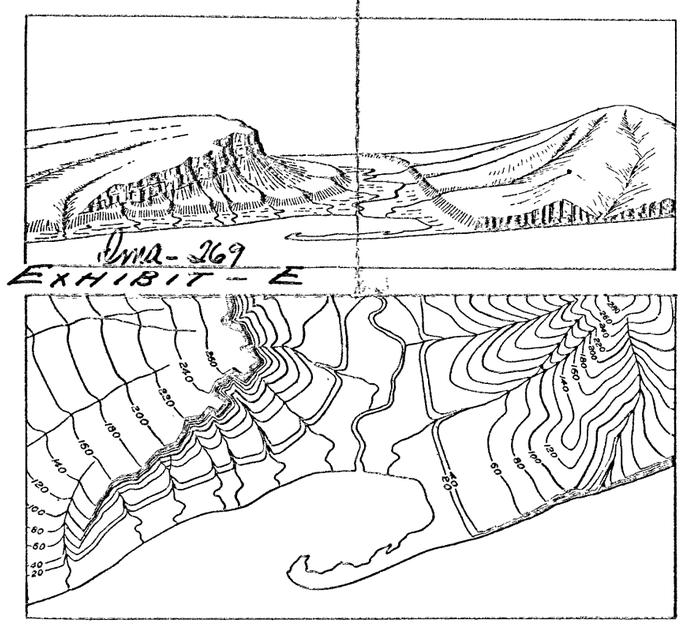
A survey of Puerto Rico is now in progress. The scale of the published maps is $\frac{1}{30,000}$.

The features shown on topographic maps may be arranged in three groups—(1) water, including seas, lakes, rivers, canals, swamps, and other bodies of water; (2) relief, including mountains, hills, valleys, and other features of the land surface; (3) culture (works of man), such as towns, cities, roads, railroads, and boundaries. The symbols used to represent these features are shown and explained below. Variations appear on some earlier maps, and additional features are represented on some special maps.

All the water features are represented in blue, the smaller streams and canals by single blue lines and the larger streams by double lines. The larger streams, lakes, and the sea are accentuated by blue water lining or blue tint. Intermittent streams—those whose beds are dry for a large part of the year—are shown by lines of blue dots and dashes.

Relief is shown by contour lines in brown, which on a few maps are supplemented by shading showing the effect of light thrown from the northwest across the area represented, for the purpose of giving the appearance of relief and thus aiding in the interpretation of the contour lines. A contour line represents an imaginary line on the ground (a contour) every part of which is at the same altitude above sea level. Such a line could be drawn at any altitude, but in practice only the contours at certain regular intervals of altitude are shown. The datum or zero of altitude of the Geological Survey maps is mean sea level. The 20-foot contour would be the shore line if the sea should rise 20 feet above mean sea level. Contour lines show the shape of the hills, mountains, and valleys, as well as their altitude. Successive contour lines that are far apart on the map indicate a gentle slope, lines that are close together indicate a steep slope, and lines that run together indicate a cliff.

The manner in which contour lines express altitude, form, and grade is shown in the figure below.



The sketch represents a river valley that lies between two hills. In the foreground is the sea, with a bay that is partly enclosed by a hooked sand bar. On each side of the valley is a terrace into which small streams have cut narrow gullies. The hill on the right has a rounded summit and gently sloping spurs separated by ravines. The spurs are truncated at their lower ends by a sea cliff. The hill at the left terminates abruptly at the valley in a steep scarp, from which it slopes gradually away and forms an inclined tableland that is traversed by a few shallow gullies. On the map each of these features is represented, directly beneath its position in the sketch, by contour lines.

The contour interval, or the vertical distance in feet between one contour and the next, is stated at the bottom of each map. This interval differs according to the topography of the area mapped: in a flat country it may be as small as 1 foot; in a mountainous region it may be as great as 250 feet. In order that the contours may be read more easily certain contour lines, every fourth or fifth, are made heavier than the others and are accompanied by figures showing altitude. The heights of many points—such as road intersections, summits, surfaces of lakes, and benchmarks—are also given on the map in figures, which show altitudes to the nearest foot only. More precise figures for the altitudes of benchmarks are given in the Geological Survey's bulletins on spirit leveling. The geodetic coordinates of triangulation and transit-traverse stations are also published in bulletins.

Lettering and the works of man are shown in black. Boundaries, such as those of a State, county, city, land grant, township, or reservation, are shown by continuous or broken lines of different kinds and weights. Public roads suitable for motor travel the greater part of the year are shown by solid double lines; poor public roads and private roads by dashed double lines; trails by dashed single lines. Additional public road classification if available is shown by red overprint.

Each quadrangle is designated by the name of a city, town, or prominent natural feature within it, and on the margins of the map are printed the names of adjoining quadrangles of which maps have been published. More than 4,100 quadrangles in the United States have been surveyed, and maps of them similar to the one on the other side of this sheet have been published.

Geologic maps of some of the areas shown on the topographic maps have been published in the form of folios. Each folio includes maps showing the topography, geology, underground structure, and mineral deposits of the area mapped, and several pages of descriptive text. The text explains the maps and describes the topographic and geologic features of the country and its mineral products. Two hundred twenty-five folios have been published.

Index maps of each State and of Alaska and Hawaii showing the areas covered by topographic maps and geologic folios published by the United States Geological Survey may be obtained free. Copies of the standard topographic maps may be obtained for 10 cents each; some special maps are sold at different prices. A discount of 40 percent is allowed on an order amounting to $5 or more at the retail price. The discount is allowed on an order for maps alone, either of one kind or in any assortment, or for maps together with geologic folios. The geologic folios are sold for 25 cents or more each, the price depending on the size of the folio. A circular describing the folios will be sent on request.

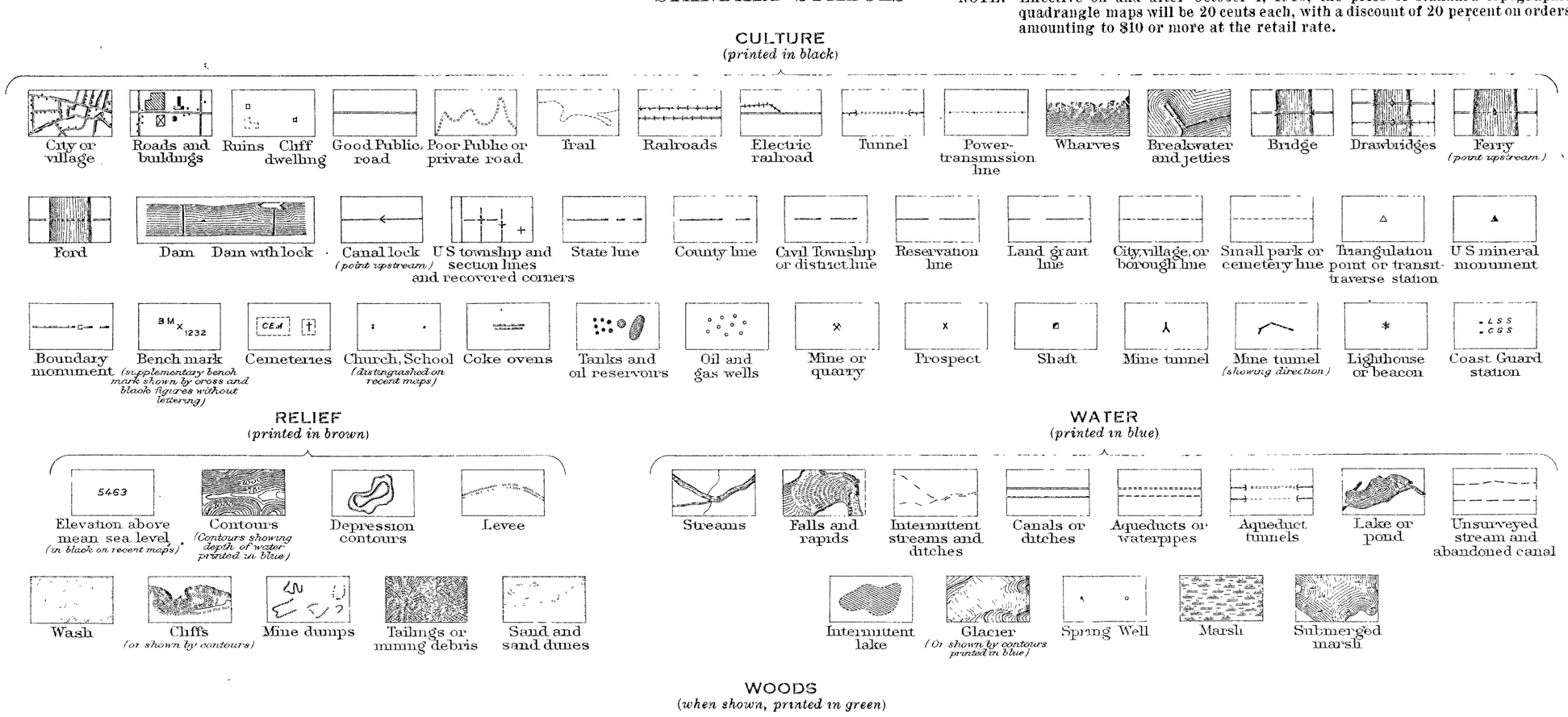
Applications for maps or folios should be accompanied by cash, draft, or money order (not postage stamps) and should be addressed to

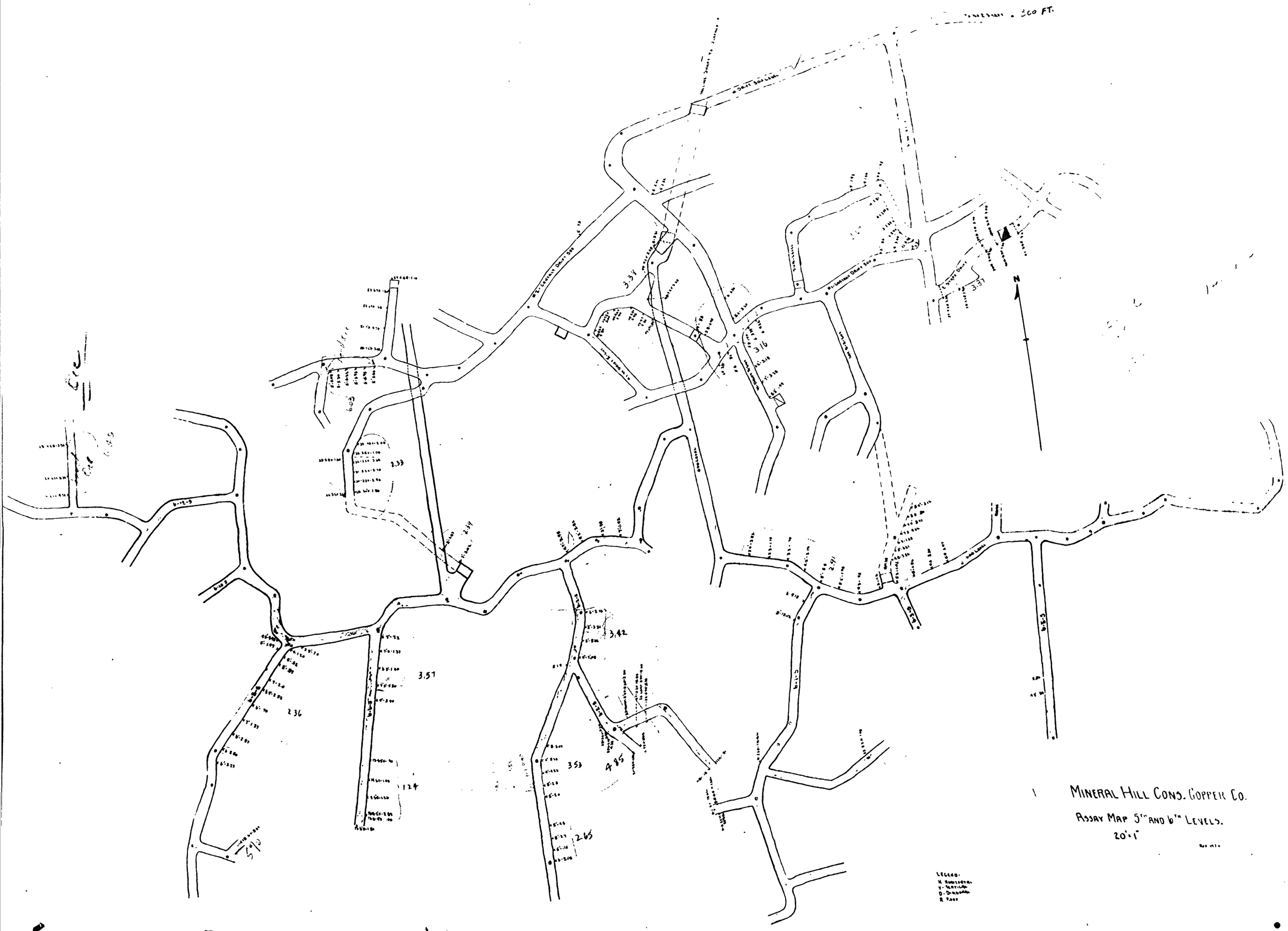
THE DIRECTOR,
United States Geological Survey,
Washington, D. C.

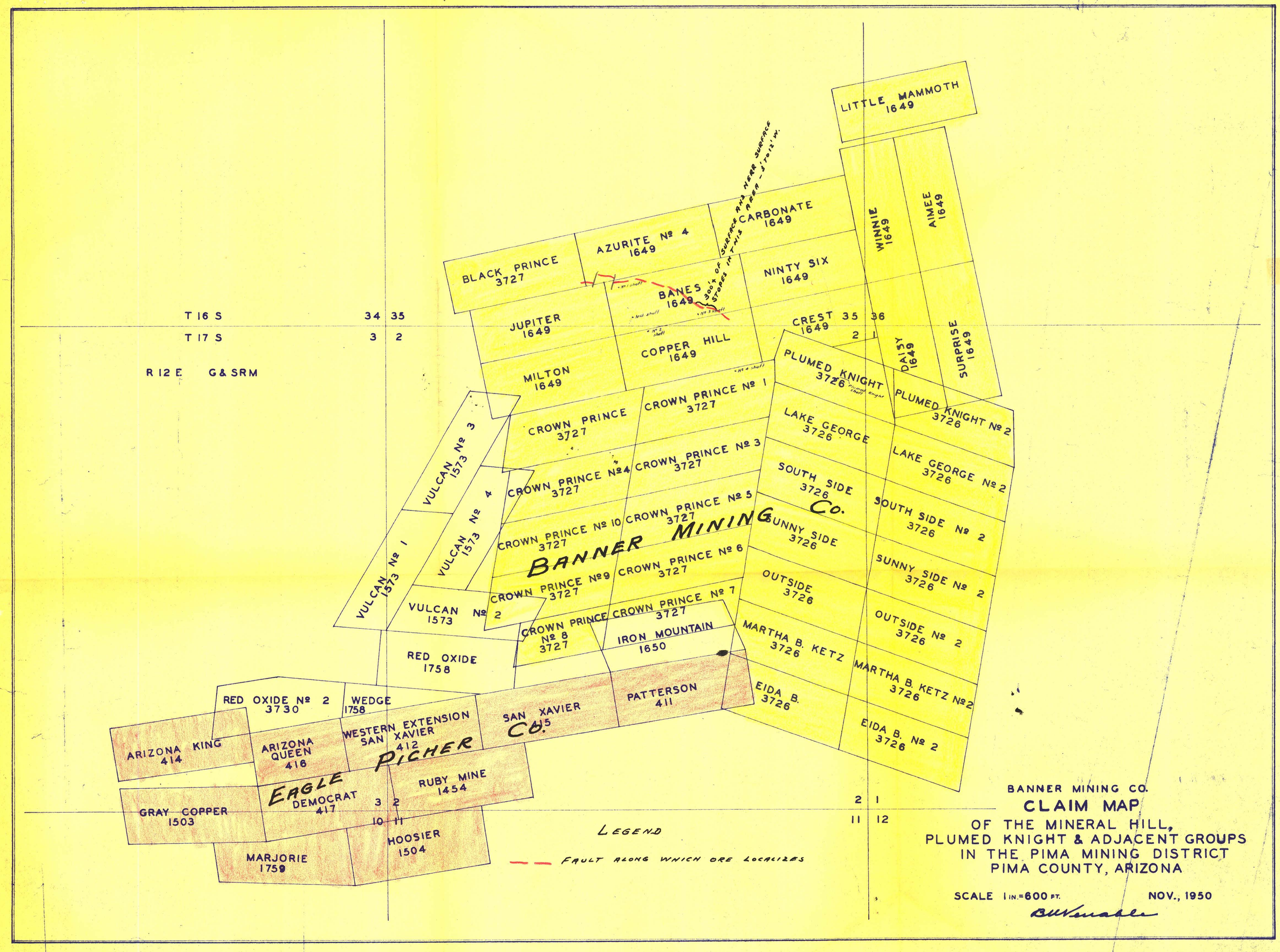
November 1937.

STANDARD SYMBOLS

NOTE:—Effective on and after October 1, 1946, the price of standard topographic quadrangle maps will be 20 cents each, with a discount of 20 percent on orders amounting to $10 or more at the retail rate.




300 FT.
N
3.37
3.39
3.57
3.42
2.36
2.33
2.91
4.85
3.53
2.65
1.24
MINERAL HILL CONS. COPPER CO.
ASSAY MAP 5TH AND 6TH LEVELS.
20'=1"



BANNER MINING CO.

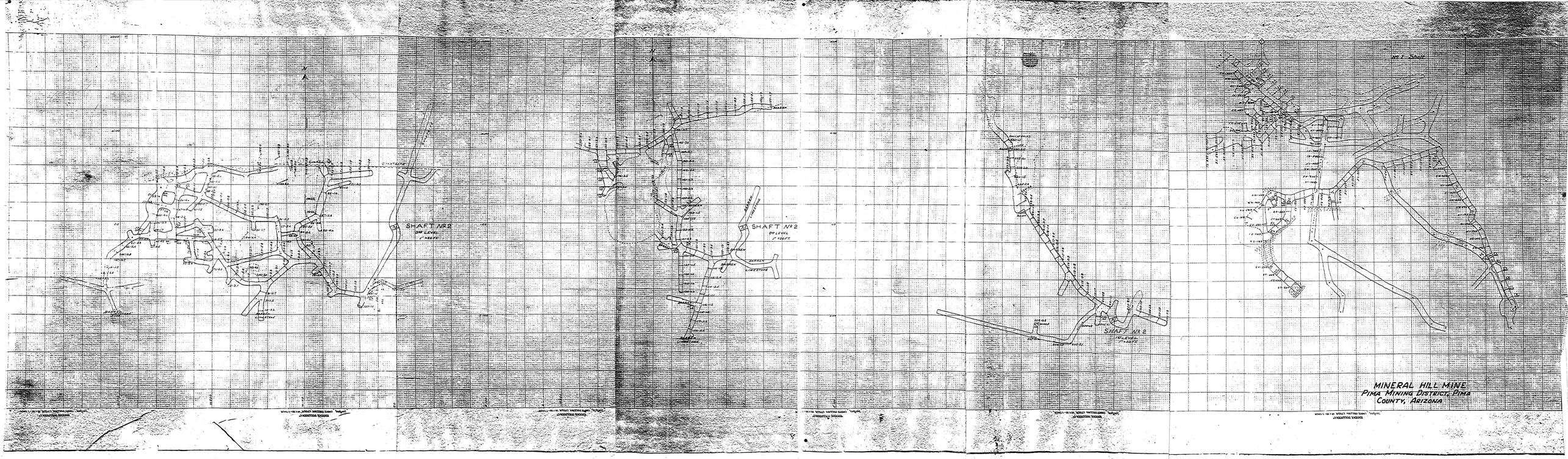
CLAIM MAP

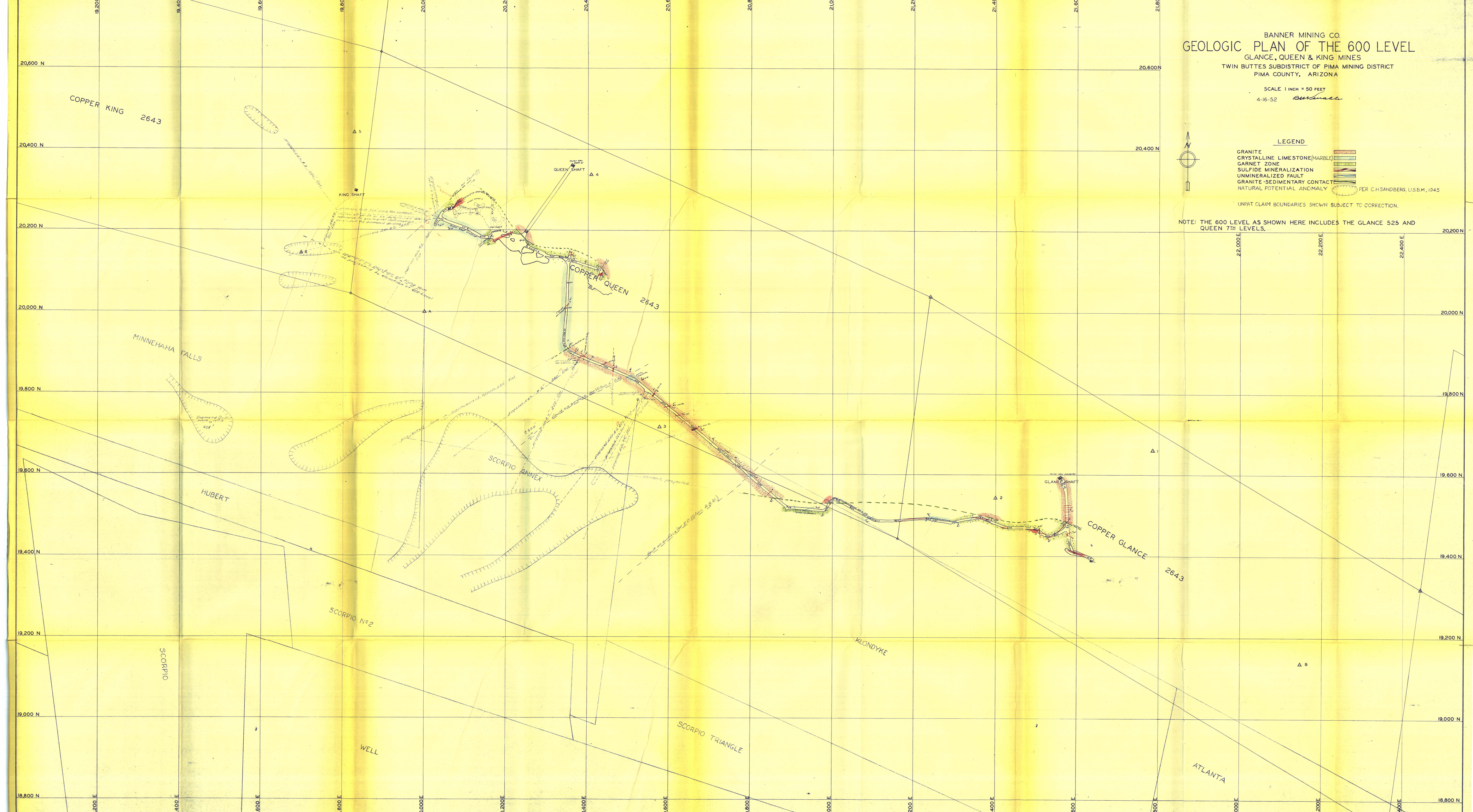
OF THE MINERAL HILL,
PLUMED KNIGHT & ADJACENT GROUPS
IN THE PIMA MINING DISTRICT
PIMA COUNTY, ARIZONA

SCALE 1 IN.=600 FT. NOV., 1950

B.W. Snader

#2 SHAFT ABOUT 500 FEET
DD HOLE #2
#3
DD HOLE
DD HOLE
700 LEVEL
APPROX. LOCATION
EXTEND CONTACT DRIFT ON 600 LEVEL FOR 400 FEET
DRILL - 3 DIAMOND DRILL HOLES TO INTERSECT
THE ORE SHOOT NEAR #3 SHAFT ON 600 LEVEL
SEE CLAIM MAP.
#4, 5+6
DD HOLES
LEGEND
PROPOSED REOPENING WORK ON 500 LEVEL
" " " ON 600 LEVEL
" " " ON 700 LEVEL
PROPOSED NEW DRIFT WORK
PROPOSED DIAMOND DRILL HOLES
MINERAL HILL CONS. COPPER CO.
ASSAY MAP 5TH AND 6TH LEVELS.
7-10-37
This photostat copy reduced in size from original. The scale on this copy is:
SCALE 1" = 32'
4
4
Bernsdall Tripoli Corp.
SENECA, MO. U.S.A.


SHAFT Nº2
3rd LEVEL
1st SHAFT
SHAFT Nº2
2nd LEVEL
1st SHAFT
SHAFT Nº2
1st LEVEL
1st SHAFT
No 1 SHAFT
MINERAL HILL MINE
PIMA MINING DISTRICT, PIMA
COUNTY, ARIZONA


BANNER MINING CO.
GEOLOGIC PLAN OF THE 600 LEVEL
GLANCE, QUEEN & KING MINES
TWIN BUTTES SUBDISTRICT OF PIMA MINING DISTRICT
PIMA COUNTY, ARIZONA
SCALE 1 INCH = 50 FEET
4-16-52
LEGEND
GRANITE
CRYSTALLINE LIMESTONE (MARBLE)
GARNET ZONE
SULFIDE MINERALIZATION
UNMINERALIZED FAULT
GRANITE-SEDIMENTARY CONTACT
NATURAL POTENTIAL ANOMALY
PER C.H. SANDBERG, U.S.B.M., 1945
UNPAT CLAIM BOUNDARIES SHOWN SUBJECT TO CORRECTION.
NOTE: THE 600 LEVEL AS SHOWN HERE INCLUDES THE GLANCE 525 AND QUEEN 7TH LEVELS.
N
COPPER KING 2643
KING SHAFT
QUEEN SHAFT
COPPER QUEEN 2643
MINNEHAHA FALLS
SCORPIO ANNEX
HUBERT
GLANCE SHAFT
COPPER GLANCE 2643
SCORPIO No 2
SCORPIO
KLONDYKE
SCORPIO TRIANGLE
WELL
ATLANTA
20,600 N
20,400 N
20,200 N
20,000 N
19,800 N
19,600 N
19,400 N
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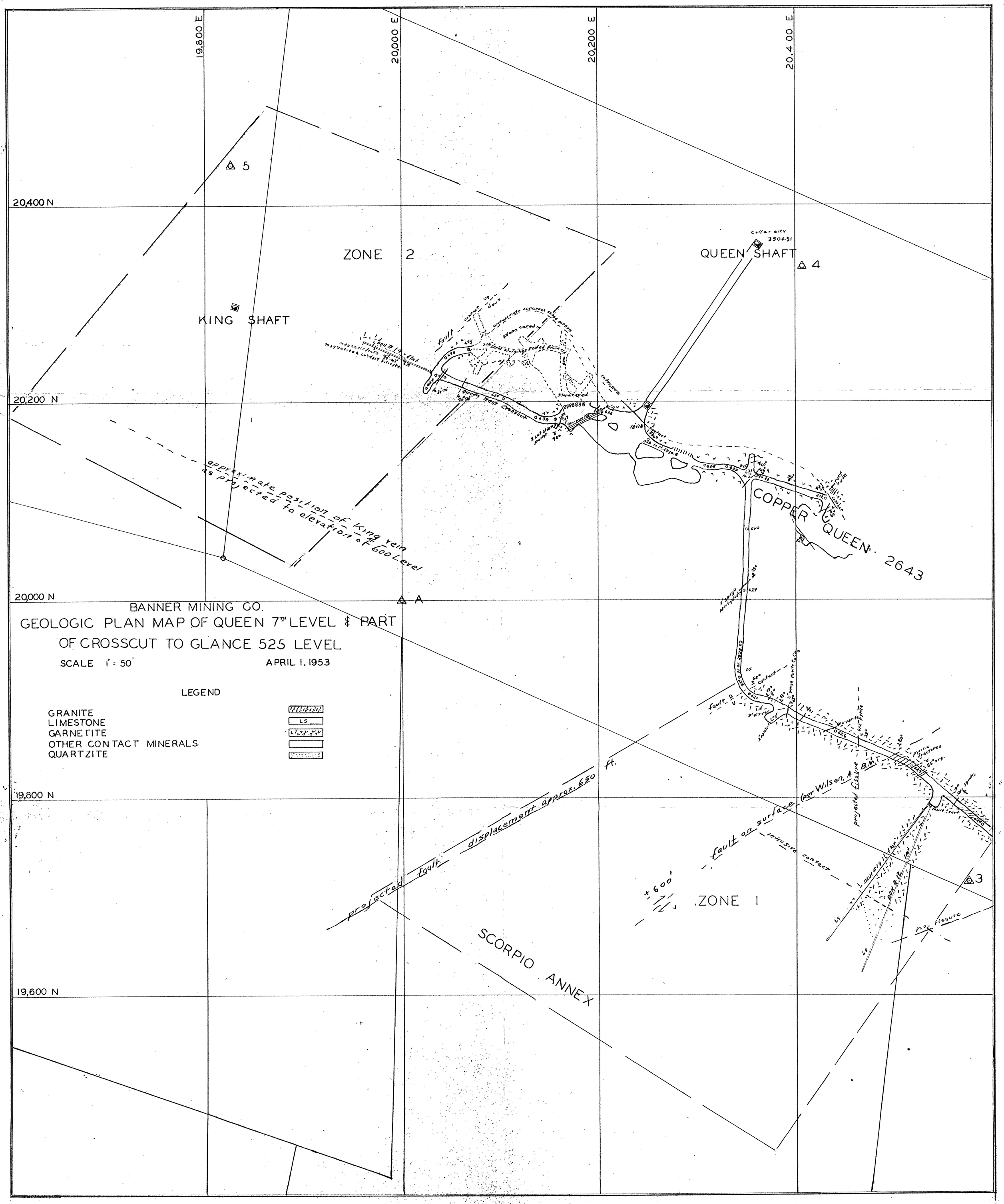
19,000 N
18,800 N
22,000 E
22,200 E
22,400 E



BANNER MINING CO.

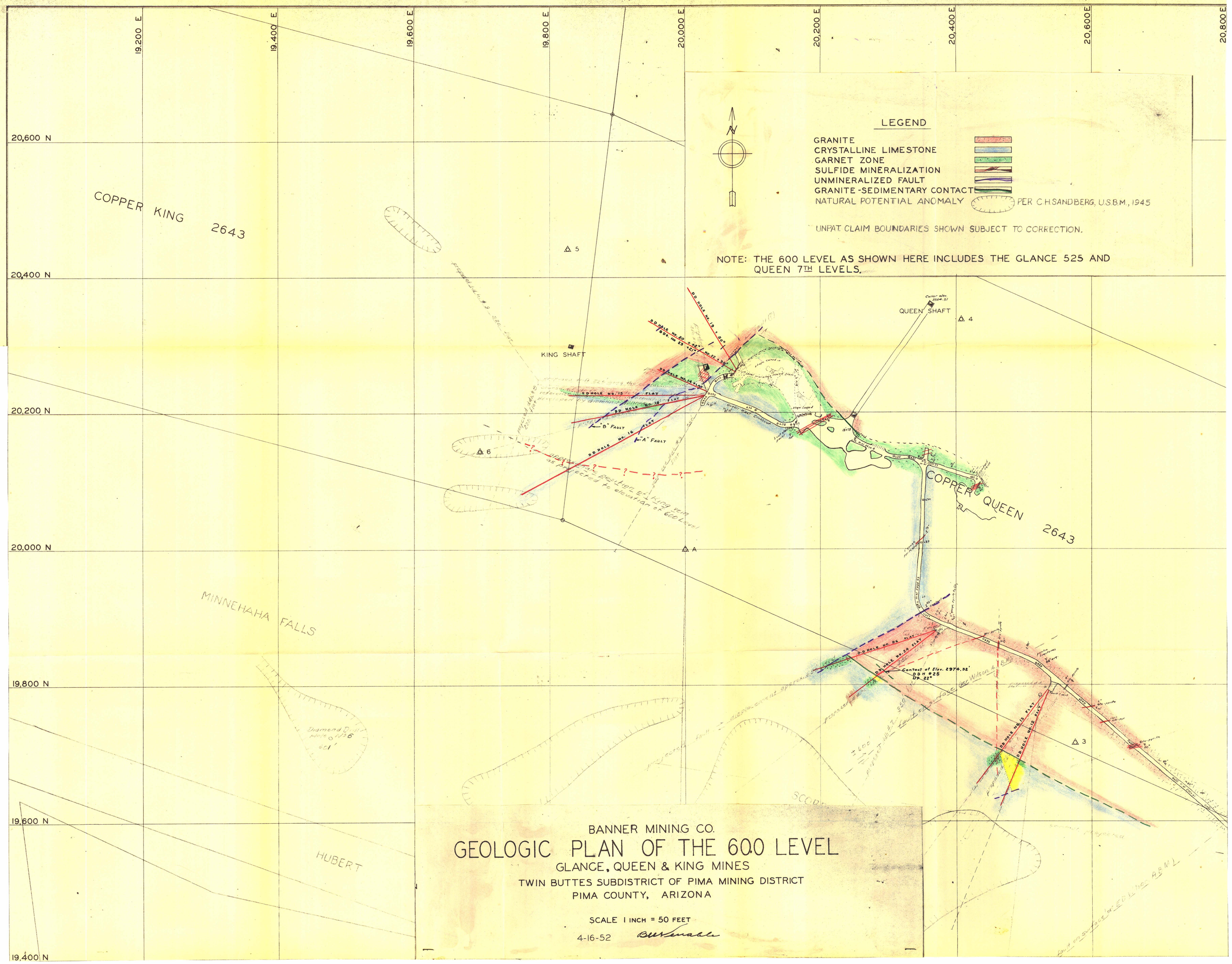
GEOLOGIC PLAN MAP OF QUEEN 7TH LEVEL & PART OF CROSSCUT TO GLANCE 525 LEVEL

SCALE 1" = 50'

APRIL 1, 1953

LEGEND

- GRANITE
- LIMESTONE
- GARNETITE
- OTHER CONTACT MINERALS
- QUARTZITE



BANNER MINING CO.

GEOLOGIC PLAN OF THE 600 LEVEL

GLANCE, QUEEN & KING MINES

TWIN BUTTES SUBDISTRICT OF PIMA MINING DISTRICT

PIMA COUNTY, ARIZONA

SCALE 1 INCH = 50 FEET

4-16-52 B.W. Kinsale