CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
1520 West Adams St.
Phoenix, AZ 85007
602-771-1601
http://www.azgs.az.gov
inquiries@azgs.az.gov

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Arizona Department of Mines and Mineral Resources Mining Collection

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PRINTED: 12/17/2002

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES AZMILS DATA

PRIMARY NAME: CENTROID CONSOLIDATED MINE

ALTERNATE NAMES:
- ROBINSON GROUP
- COPPER HILL
- DESERT
- BLACK REEF
- HARRIS GROUP

LA PAZ COUNTY MILS NUMBER: 42

LOCATION: TOWNSHIP 7 N RANGE 12 W SECTION 18 QUARTER SW
LATITUDE: N 33DEG 56MIN 47SEC LONGITUDE: W 113DEG 33MIN 21SEC
TOPO MAP NAME: SALOME - 15 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:
- COPPER SULFIDE
- COPPER OXIDE
- GOLD LODE
- SILVER

BIBLIOGRAPHY:

- KEITH, S.B., 1978, AZBM BULL. 192, P. 143
- ADMMR CENTROID CONSOLIDATED MINES FILE

October 10, 1957

CENTROID MINE
Cunningham Pass

Yuma County

The Minnesota Mining & Development Co.
Regional Office N. of Wenden

Idle

Centroid Mine
Salome 15' (sec. 18, T. 7N, R. 12 W.)
Yuma County

references: Arizona Dept. of Mineral Resources Centroid Consolidated Mines (file)

Current owners: Centroid Consolidated Mines, 2947 N. 18th Street, Phoenix, Az. 85016 (from 1/4/74 information) Albert M. Reguly, President

the group of mining claims (sec. 6, 7, 12, 18, 19 of T. 7N., R. 12 W., and sec. 8, 13, 14, 19, 24, 27, 28 of T. 7N., R. 13 W.) consists of 12 patented and 19 unpatented claims (1955 information)

no specific information on mine

Corporate Inquiry
File Number: -0036666-9 MERGED WITH OTHER CORPORATION 08/31/1999
Corp. Name: CENTROID CONSOLIDATED MINES CO.

Domestic Address

P O BOX 1268
1110 W LAXTON
SHOW LOW, AZ 85901

Statutory Agent Information

Agent Name: WALLACE N PHELPS
Agent Address:
1110 W LAXTON
P O BOX 1268
SHOW LOW, AZ 85901
Agent Status: APPOINTED 06/09/1999
Agent Last Updated:

Officer and Director Information

Name:	ALBERT M REGULY
Title:	PRESIDENT/CEO
Address:	2947 N 18TH ST
	PHOENIX, AZ 85016
Date Assigned: 08/01/1959	**Last Updated:** 03/05/1998
Name:	THOMAS A PHELPS
Title:	SECRETARY
Address:	10216 N 34TH PL
	PHOENIX, AZ 85028
Date Assigned: 05/21/1979	**Last Updated:** 03/05/1998

Additional Corporate Information

Business Type: MINING	**Corporation Type:** PROFIT
Incorporation Date: 04/15/1936	**Corporate Life Period:** PERPETUAL
Domicile: ARIZONA	**County:** MARICOPA
Approval Date: 04/22/1936	**Original Publish Date:** 04/15/1936
Status: MERGED WITH OTHER CORPORATION	**Status Date:** 08/31/1999
Expiration Date:	**Renewal Date:** 04/22/1961

Annual Reports

File Year	File Month	Date Received	Reason Returned	Date Returned	Extension
1999	08	06/14/1999			
1998	08	10/08/1999	REPORT RETURNED, CHECK DEPOSITED	09/22/1999	
1997	08	02/05/1998			
1996	06	12/30/1996			
1995	06	10/16/1995			
1994	06	10/17/1994			
1993	06	10/15/1993			
1992	06	10/15/1992			
1991	06	10/15/1991			
1990	06	10/16/1990			
1989	06	10/17/1989			
1988	06	10/17/1988			

Amendments

Amendment Date	Amendment Type	Publish Date	Publish Exception
04/22/1991	NAME CHANGE	06/05/1991	
04/17/1951	AMENDMENT	06/07/1951	

Name Changes / Mergers

Description	Corporation Name	Date
MERGED TO	**CENTROID CONSOLIDATED MINES CO. (NO RECORD)**	**08/31/1999**
CHANGED FROM	**CENTROID CONSOLIDATED MINES**	**04/22/1991**

PHONE AL 3-1731

CENTROID CONSOLIDATED MINES

Copper • Gold • Silver

PROPERTIES:
CUNNINGHAM PASS
WENDEN, ARIZONA

BUSINESS OFFICE:
650 NORTH 1ST AVE.
PHOENIX, ARIZONA

C. J. LUNENSCHLOSS, PRESIDENT
A. M. REGULY, [redacted]-PRESIDENT
A. C. HAIGLER, VICE-PRESIDENT
W. R. MURHAMER, VICE-PRESIDENT
J. C. KOSTOLNIK, SECRETARY
G. F. BLAIR, TREASURER
[redacted]

RECEIVED
MAY 12 1958
DEPT. MINERAL RESOURCES
PHOENIX, ARIZONA

840 ACRES COPPER - GOLD MINING PROPERTY

FORTY FIVE contiguous standard lode mining claims, including twelve patented, located in the Ellsworth Mining District, eight miles north of Wenden - a Santa Fe Railroad loading point, Yuma County, Arizona.

Desire qualified party to further develop the property on a lease and option-to-purchase basis or on a participation plan.

A County maintained road passes through the property. The El Paso Natural Gas Co. pipe line and a high Tension power line parallel the road.

Buildings (housing, warehouse, shower and tool sheds) and some mining equipment.

Maps and reports covering developments to date are available.

For complete information contact or write to:

Joseph C. Kostolnik
650 N. First Ave.
Phoenix, Arizona

Albert M. Reguly

CLASS OF SERVICE

This is a full-rate Telegram or Cablegram unless its deferred character is indicated by a suitable symbol above or preceding the address.

WESTERN UNION

JOSEPH L. EGAN
PRESIDENT

271

SYMBOLS

DL = Day Letter
NL = Night Letter
LC = Deferred Cable
NLT = Cable Night Letter
Ship Radiogram

The filing time shown in the date line on telegrams and day letters is STANDARD TIME at point of origin. Time of receipt is STANDARD TIME at point of destination

.SA284 PD=YUMA ARIZ 6 104P

1947 MAY 6 PM 1 32

ROGER MANNING EM=

ARIZONA MINERALS DEPT HOME BUILDERS BLDG PHNX=

=TRANSFER OT TITLE J P BICKEL TO H C LAUX=

=W B HARRIS.

H.G.?

.LAUX NTO MANNING EM

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

A-13.1.1

~~[redacted]~~

[redacted]

Round Top. T. Long
Gold Nugget T. L. Long
Gold Queen.
Dripping Springs

Mainline

P.O. Box 512
~~[redacted]~~
F. A. Gansneder
Central Nev. Milling Corp.

Shipping ore
Twining Lab.
Fresno PO Box 1731

In Lorne

Andrew Thickstun.
Min. Engr.

Desert Mine

T. 7 N., R. 12 W.

Yuma County

reference: Arizona Dept. of Mineral Resources
Desert Mine Yuma County Cunningham
Pass (file)

present owner: ?

past owner: R.C. Robinson of Wenden, Az.
and D.W. Hall of Salome in 1919

the property consists of 11 unpatented claims

the workings at the mine included
3 shafts

Geology of the area: schist with large
masses of granite-porphyry and
pegmatite and aplotic dikes. Other
intrusions include dikes of diabase or diorite.

Mineralization: copper and gold

no info. since 1919

5.) A diamond drill hole should be run from the bottom of the main 300 foot vertical shaft south parallel with the existing crosscut and at a downward angle of 45° in order to penetrate the October fault-vein at approximately 600-ft. below the surface; thus doubling the known vertical section. Ore content, leaching action and secondary enrichment factors can then be studied as guides in deeper shaft sinking plans.

Results of these steps will form the basis of future mill installation planning; an essential phase not practical to consider in detail at this time.

From a mine safety viewpoint the present hoist plant should be retained at the collar of the Horse Whim incline; although contemplated mining operations will be conducted through the main vertical shaft and hoist when installed.

Dewatering of the Black Reef incline on the Robert E. Lee Claim should be left until all the above steps have been completed and a mill is under construction. At such a time the pump installations with a connecting pipeline will be needed for milling operations, thus reducing out of pocket costs.

Trespass damage by the dual electric power lines would best be resolved on the basis of the most advantageous substation and permanent rate schedule possible.

It is believed that this program will disclose and develop ample copper ore tonnage to warrant a rather large mill unit. Because of freight and recovery charges, smelter shipment is not recommended; other than desired 50-ton car lots from each of the separate deposits for volume sampling purposes.

Geologic and mineralogic indications show marked leaching effect and the probability of appreciable deeper secondary enrichment. Several earlier mine reports and a very recent complete claims survey map provide record details.

Respectfully submitted,

Edwin W. Mills, E.M.

R. Burton Rose, M.A.

When and if Lt. Harris returns to his property, it will be necessary for him to once again collect his data together, because it is upon this and other information that he is basing a justification for further work on the property and in order to do so, it will be imperative for him to once again take each of his observations beneath the ground and in each of the twelve or more shafts and probably with an engineer .

The cost of such a repetition of work will be predicated upon the costs of underground work and the costs of entering each shaft with safety.

While he is not here to assist in an estimate, the undersigned has estimated the cost of putting these shafts in condition as follows:

HORSE WHIM SHAFT,	$ 150.00
Receiver and one man for five days,	550.00
Incline Shaft	1200.00
BOB'S SHAFT	100.00
MAIN VERTICAL SHAFT.	1600.00
Machinery, and rehabilitation,	4400.00
HANCOCK SHAFT	20.00
CENTROID SHAFT	600.00
Hoist and compressor five days	350.00
	$ 8970.00

It will be noted that no allowance has been made for caving beneath the ground and in order to once again get the data which has been so ruthlessly destroyed or carried away,- the costs might be several times the above estimate. Therefore the writer believes that the above estimate very fair.

On the other hand, we have an investment in the properties of between $ 125,000.00 and $ 150,000.00, all of which would be considered a total loss without the data that has been collected while these funds were being disbursed, and even though the government agents would allow a claim of $ 8,970.00 for the theft of valuable files , or as an appeasement to duplicate them if possible , the crime is still there and the results rather vague.

It must certainly be recognizeable that were we dealing with persons instead of an emergency act by the U.S.Government, a suit for $ 100,000.00 or more or an effort to put some person or persons in safe keeping would be in order.

In addition to the above estimate for entrance to underground workings , I have additional claims invalving personal belongings, damages to buildings, the looting of well stocked houses, etc. etc. all of which was and is very much in evidence.

I would appreciate your Mr Holt visiting the properties at this time and remarking in letter form on the above estimate. As poisonous gases are emenating from the various workings I cannot look any further than the surface, and do not know what damage has been done thro' the neglect of protecting the shafts against the flow of surface water over the collars and below.

Very truly,

W.B.Harris

W.B.HARRIS.

Yuma, Arizona.
P.O.Box 1481
November 18,1944

Arizona Minerals Division,
Homebuilders Bldg.,
Phoenix, Arizona.

attention of E.B.Holt, Field Engineer.

Gentlemen,-

On or about the 12th. day of August 1943, for the use of Camp Bouse, an area used by the U.S.Army , the properties of Centroid Cons. Mines, located nine miles in a northerly direction from the R.R.Station, Wenden, in northern Yuma County, State of Arizona, were seized by the agents of the Government under an emergency act and the authority of the Commander in Chief of the United States Armed Forces.

At that time there was a caretaker on the property , the buildings and contents were intact, and the water in the main shaft was being pumped regularly and the collar being taken care of so that rains would not be allowed to flow down the shaftway and ruin the foundations. This item was of value to the properties of at least $ 300.00 monthly.

The Government Agents forced the caretaker to leave and immediately after gave the possession of the property to a goat herder and his several Mexican goat workers.

The owners of the properties were not allowed to visit the properties but during the spring of 1944 a vist was made in company with the Deputy Sheriff of the County of Yuma and it was found that,-

The collar of the main shaft and about four of the top sets had gone down in the shaft,-
That it was evident that rains had swept down the hill and flowed into the shaft,-
That timbers had evidently been removed from the shaft and carried away,-
That the head frame had sagged to one side,-

and that there must have been much damage below the collar where it could not be examined.

Further,- all the buildings had been broken into,-
The contents looted,- and

That the Government agents had NEVER had the properties under safeguard.

An examination of the other shafts would and did reveal that timbers had been carried away and that each and every one would have to have considerable work and expense before they could be entered again.

Besides the personal effects of Mrs Virginia J Harris, the many, many items that each building contained, including clothing that had been carried away, the office had been broken into and each and everything torn apart, thrown around and many valuable items removed. Among those valuable items was a file made by Lt. Robert W.Harris, now somewhere overseas, which he compiled during a period of about three years and which covered in detail all the known information about each mining claim in the various groups and also much valuable information in each shaft down to the 300 foot level and along cross cuts and drifts. Lt. Robert W.Harris is the Secretary of Centroid Consolidate Mines, the largest stockholder, and ready with capital to continue the work started.

FRANCISCAN RETREAT CENTER

Casa de Paz y Bien

5802 EAST LINCOLN DRIVE • POST OFFICE BOX 220
SCOTTSDALE, ARIZONA 85252-0220 • PHONE (602) 948-7460

August 28, 1990

Mr. Leroy Kissenger
Department of Mines & Mineral Resources
Minerals Building
State Fair Grounds
Phoenix, AZ 85007

Re: Centroid Consolidated Mines

Dear Mr. Kissenger,

Thank you for your courtesy on the phone today. I enclose a copy of certificate #447 issued by Centroid Consolidated Mines on November 29th, 1951 in favor of Casa de Paz y Bien, Franciscan Retreat House.

As I explained, I am doing a review audit of the "Casa's" activities and discovered this certificate in their files. Would you be kind enough to advise me if such a corporation does exist today and if so, where I can seek additional information as to its value.

Please address your reply to my attention here at the Casa.

Thank you again for your help.

Ted Jablonski
Certified Public Accountant

tj/cr

encls.

8/31/90 - FEK - Called Mr. Jablonski - gave him a general recap of the file - said that the Co. ceased their receivership in mid 1950's - also I don't believe the Stock Certificate has any value for the Renewal Center, but he should check w/Co. Corporation Commission on existence of the Co. If it is worth it to them, they should renew the Franchise records,

INCORPORATED UNDER THE LAWS OF
THE STATE OF ARIZONA.

NUMBER 447

SHARES **50**

Centroid Consolidated Mines

CAPITAL STOCK $300,000.00

3,000,000 SHARES, COMMON

This Certifies that **CASA de PAZ Y BIEN FRANCISCAN RETREAT HOUSE** is the owner of **FIFTY** Shares of the Capital Stock of Centroid Consolidated Mines, FULLY PAID — NON ASSESSABLE transferable only on the books of the Corporation by the holder hereof in person or by Attorney upon surrender of this Certificate properly endorsed.

In Witness Whereof, the said Corporation has caused this Certificate to be signed by its duly authorized officers and its Corporate Seal to be hereunto affixed this 29th day of November A.D. 19 51

Virginia J Harris
SECRETARY

M B Harris
PRESIDENT

BY [signature]
AUTHORIZED SIGNATURE

COUNTERSIGNED
[illegible]

© GOES 509

THIS CERTIFICATE IS NOT VALID UNLESS COUNTERSIGNED BY TRANSFER AGENT

Centroid Consolidated Mines

CERTIFICATE FOR

_____ SHARES

OF

CAPITAL STOCK

PAR $.10

ISSUED TO

_____

DATED

For Value Received, _____ hereby sell, assign and transfer unto _____

_____ Shares

of the Capital Stock represented by the within Certificate, and do hereby irrevocably constitute and appoint _____ Attorney

to transfer the said Stock on the books of the within named Corporation with full power of substitution in the premises.

Dated _____ 19 _____

In presence of

_____

NOTICE. THE SIGNATURE OF THIS ASSIGNMENT MUST CORRESPOND WITH THE NAME AS WRITTEN UPON THE FACE OF THE CERTIFICATE, IN EVERY PARTICULAR, WITHOUT ALTERATION OR ENLARGEMENT, OR ANY CHANGE WHATEVER.

Prospectus

CENTROID CONSOLIDATED MINES filed

909 North First Street

Phoenix, Arizona

Prospectus

CENTROID CONSOLIDATED MINES

909 North First Street
Phoenix, Arizona

Telephone AL 4-2511

P. O. Box No. 2236

Incorporated under the laws of the State of Arizona - 1936

CAPITALIZATION:

Total authorized capital	$300,000.00
3,000,000 shares common stock	Par $0.10

Fully paid and non-assessable

THE COMPANY OFFERS TO THE PUBLIC: 100,000 shares of its common capital stock at a selling price of $0.50 per share. The per unit and aggregate offering price, commissions and net proceeds to issuer is set forth in the following table:

	Offering Price	Underwriting Discounts and commissions	Net Proceeds to Issuer
Per unit	$ 0.50	$ 0.10	$ 0.40
Aggregate	50,000.00	10,000.00	40,000.00

TRANSFER AGENT

First National Bank of Arizona—Trust Department

The shares of stock are offered subject to prior sale and to withdrawal, cancellation or modification of the offer without notice.

NOTE: This prospectus has been filed with the Securities Department of the Arizona Corporation Commission, and also with the Federal Securities and Exchange Commission, under its regulations exempting from registration offerings not exceeding $300,000.00. The offering herein described has been registered with the Arizona Corporation Commission.

BECAUSE THESE SECURITIES ARE BELIEVED TO BE EXEMPT FROM REGISTRATION UNDER THE FEDERAL SECURITIES ACT, THEY HAVE NOT BEEN REGISTERED WITH THE SECURITIES AND EXCHANGE COMMISSION, BUT SUCH EXEMPTION, IF AVAILABLE, DOES NOT INDICATE THAT THE SECURITIES HAVE BEEN EITHER APPROVED OR DISAPPROVED BY THE SECURITIES AND EXCHANGE COMMISSION, OR THAT SAID COMMISSION HAS CONSIDERED THE ACCURACY OR COMPLETENESS OF THE STATEMENTS IN THIS COMMUNICATION.

No person has been authorized to give any information or to make any representations other than those contained in this prospectus, and if given or made, such information or representations must not be relied on as having been authorized by the company or by any person named in this prospectus. The statements herein contained are made as of the date of this prospectus unless another date is specified.

August 5, 1952

PURPOSE OF OFFERING

The aggregate net proceeds to the issued will be expended, as nearly as can be estimated, as follows:

	Estimated
Administration, legal and engineering	$ 7,500.00
Drifting, cross-cutting, sinking, Horse whim ore body	15,000.00
New head frame, power house, B. S. Shop, setting 25 H. P. hoist, incidental tools, etc., rehabilitation of timbering, main vertical shaft	10,000.00
Diamond drilling from the main shaftway	5,000.00
Timbering in main shaft and cross cut on 300 foot level	2,500.00
TOTAL	$40,000.00

Priority of expenditure of the funds will be in the order above listed.

Some of the officers and directors may assist in selling the securities herewith offered for sale, in which event, they would be entitled to and would be paid, the commission of Ten ($0.10) Cents per share, noted above. THE CORPORATION, CENTROID CONSOLIDATED MINES, RESERVES THE RIGHT TO WITHDRAW THIS OFFER WITHOUT PRIOR NOTICE.

CORPORATE DATA

The company was organized in the year 1936, as a mining company, under the laws of Arizona. The Articles of Incorporation, as amended, authorize the issuance of 3,000,000 shares of common capital stock, of a par value of $0.10 per share.

1,680,950 shares have been issued and are outstanding.
1,319,050 shares are unissued.

3,000,000 total shares authorized.

PROPERTIES

The principal assets of the corporation are set forth on the attached balance sheet. A survey map of the properties is also attached. The claims consist of:

Jubilee Group
Hancock Group
Centroid Group
Black Hawk Group
Oversight
and
Capella Group

Comprising 37 unpatented mining claims, approximately 1-½ miles on the strike of the several vein systems and one mile wide. 23 of the claims are surveyed and mapped by J. W. Waara, U. S. Mineral Surveyor; 4 claims unsurveyed. These latter lie easterly from Jubilee 4, contiguously.

Location

Lying astride of and surrounding Cunningham Pass, Yuma County, Arizona, the mining claims groups are part of Sec. 7, 18 and 19, Range 12 west, Gila and Salt River Base and Meridian, and Sections 12, 13 and 24, Range 13 west, Gila and Salt River Base and Meridian.

A Yuma County map is attached, upon which as been drawn the approximate location of the Centroid properties, eight miles northerly from the A.T.&S.F. Railroad Station, at Wenden, Arizona, and the surrounding mining properties which have been producers of valuable minerals. The Swansea Copper mine, a producer of much copper, lies approximately 20 miles northwesterly from Centroid property. Its ore is similar to that of Centroid.

Geology

Pre cambrian, intruded by quartz porphyry, diabase, diorite, granite porphyry, pegmatite—and near the shears an ancient marine lime. (A map of the regional geology, showing the location of the Cunningham Pass, taken from Arizona State Geologic Map, is attached).

Structure

A wide mineralized fault runs through the Centroid Properties for over a mile, making its way finally through Cunningham Pass both northwest and southeast, presumably burying itself

northwesterly in Butler Valley and southeasterly in McMullen Valley. A claim map attached shows the approximate location of this mineralized fault and its theoretical extensions both northwesterly and southeasterly.

Westerly from the main mineralized fault, and extending both northwesterly and southeasterly, is an area spoken of by mining engineers as (1) a shear zone, or, (2) several parallel shears. The claim map attached shows the approximate location of this shear zone or the several parallel shears, with their theoretical extensions.

Atop the foothills, further west, is the principal outcrop of the Centroid properties. This apex of an important junction of wide mineralized veins, a fracture zone and intruded diorite in the vein matter, is prominent with outcropping copper stained porphyry. The claim map attached shows the approximate location of this outcrop.

Mineralization

Copper, gold, silica and iron appear to predominate.

Development

During the past fifty years (and probably before the year 1900—but of which we have no authentic information) intermittent prospecting has been carried on in the Cunningham Pass District. However, most of this prospecting has been done in search of high grade outcrops that would produce shipping grade ores. This type of prospecting, when carried on, has resulted in intermittent shipments of profitable ores, but has not properly prospected the district's possibilities as to the existence of large low grade deposits. Even so, this type of development has opened up pay ores near the surface, and such ores have been shipped to smelters from the mining properties known as the Critic, Bullard, Little Giant, Cuprite and Robinson. This last mentioned (Robinson) is now the location of the Centroid properties.

The present development of Centroid properties is being concentrated on large outcrops and adjoining mineralized areas in an effort to prove that these large veins and junctions will develop into large low grade deposits, or produce the much sought for secondary copper with gold and silver.

On the mining claim Hancock No. 2, open cuts found good grades of shipping ore and a shaft was sunk to a depth of fifty feet on a diorite contact which produced more evidence in the form of oxydized shipping grade of copper-gold ore. Along the foothills (being the westerly portion of the Centroid properties) every mining claim showed satisfactory mineralization in holes, shafts, open cuts and tunnels, the minerals exposed or shipped to the smelter being predominantly of gold, silver, copper, iron and silica.

Of late years, shafts were sunk on the mining claims Jubilee No. 5, Centroid No. 4 and Jubilee No. 2, each one encountering most encouraging deposits of oxydized and leached ores, and opening up wide, crushed (brecciated) shears or mineralized faults. Geological and mining engineering advice appears to indicate strongly that greater depth is necessary. Diamond drilling is advised.

On the mining claim Jubilee No. 5 is located the main vertical shaft. This shaft was sunk to the 300 foot level and a long cross cut sent forward for 600 feet, cutting at 200 feet from the shaft bottom a diorite dike, from 200 feet to 300 feet, a zone of porphyry and gneis, and from 300 feet to 326 feet, a wide, brecciated mineralized fault, so crushed and open that the downward percolating waters have impoverished the 26 feet of crushed, quartz porphyry; the secondary values are presumed at a greater depth. This fault or shear is known as the October vein and carries some pyrite, some chalcopyrite, and in places bornite carrying gold was found covered with a black oxide of copper or what might be termed in other districts—sooty chalcocite. (Note: The water being pumped from this shaft is of a red rusty color). This main vertical shaft and its underground workings on the 300 foot level was done by a former owner, Consolidated Arizona Mines, and under the immediate supervision of its then General Manager, W. B. Harris, who is at this writing the President and General Manager of Centroid Consolidated Mines.

A sketch map of this shaft and its underground workings is attached with a cross section of the immediate area correlating the main shaft with the Horse Whim Workings on the adjoining mining claim Jubilee No. 2; here, the Centroid company has, during the past eighteen months, widened and straightened out the shaft to the 200 foot level, extended the upper drifts, sunk the shaft to a depth of 386 feet, and completed over 500 feet of drifting and crosscutting in an oxydized and leached ore body.

A former owner, in the early part of this century, dug a prospect hole to about 100 feet, using a horse whim to pull his muck from the shaftway. During 1937 this shaft was sunk to 215 feet by the present owners, Centroid Consolidated Mines. The present development and all improvements have been, from the collar of the Horse Whim Shaft, and all underground workings to the present incline depth of 386 feet, prosecuted in its present stage by the present owners, Centroid Consolidated Mines.

The extension of the west drift, now in ore, for another 200 feet added to the work planned east of the shaft, should allow our geologists and mining engineers to properly appraise what appears at this time to be an important discovery. With this work done, perhaps before, the main vertical shaft will have been de-watered and a diamond drill hole sent approximately parallel to the south cross cut so as to cut the October Vein at or about the 700 foot level. A laboratory examination of the cores will be made, directed by our consulting geologist and mining engineer, and upon justifiable evidence, the daimond drilling operation will be extended.

Unless dips and strikes are opened up, as in the case of the Horse Whim ores, so that they may be seen, especially where they junction in the case of the Horse Whim Ores, with the October Vein, and possibly form along a junction, valuable ore bodies, diamond drilling directed by a qualified mining engineer would be the most feasible, most economical and most satisfactory. The objectives in this proposed diamond drilling would be the Horse Whim ores at a greater depth than the 300 foot main vertical shaft whether they be primary or the much sought for secondary copper.

On the 375 foot level, reference is here made to the map attached and marked at different points, B, C, D, E, F and G, with Assay Index. These assays were taken from the better looking ore showings, and are selected samples taken from ore in place. On the same map attached, there is marked point A. At this point a wide exposure, gradually rolling toward the October Vein and heading toward the gossan outcrop, asayed 1.6% copper over a width of fourteen feet. As all headings on the 375 foot level show a thoroughly oxydized and leached area it is planned to extend each of the headings and ascertain if possible, the limits of the oxydized and leached area or reach an objective presumably on a wall where the oxydization and the leaching is less pronounced and pay ore in volume may be mined. It is presumed that the junction of veins, diorite in the vein matter, intrusive porphyry and the downward extension of the fracture zone will be met ahead in the extreme west drift on the 375 foot level.

Ore and Vein Forming Agencies

1. Brecciation.
2. Introduction of hematite, usually as cement in breccia veins, but also as massive bodies, veins and stringers. The brecciation is due probably to the granite porphyry intrusion; the hematite pervades the pegmatites—therefore it is later.
3. Introduction of siderite, chalcopyrite and pyrite.
4. Deposition of quartz, chalcopyrite and pyrite; oxidation and secondary enrichment have been very pronounced.

Engineering Analysis

W. Tovote, E. M. reports on the properties as follows:

"The Desert Vein (NOTE: one of the big outcrop) has a remarkable outcrop of hematite and quartz, surrounded by wide areas of crushed chloritized porphyry. Copper stain is found as well in the hematite quartz, as in the altered decomposed porphyry. The vein occurs at and near a schist-granite-porphyry contact and diorite dikes are intruded in the vein zone. The big outcrop is apparently due to the intersection of several veins." (Copy of the Tovote report is dated January, 1919 and is on file with the Arizona Corporation Commission at Phoenix, Arizona.

Charles H. Dunning, E. M., reports as follows:

"Your property has most excellent geological conditions for the formation of large and profitable ore bodies. The development already completed has made an excellent showing and tends to prove the theories which the surface conditions indicate." (Copy of the Dunning report is dated 1935 and is on file with the Arizona Corporation Commission at Phoenix, Arizona).

Edwin Walter Mills, E. M. states:

"I consider the geological conditions of your entire mining claims area to be very favorable and to warrant the conclusion that further prospecting and development work will surely lead to the discovery of large and profitable ore bodies." (Copy of Mr. Mills' report is dated March, 1937 and is on file with the Arizona Corporation Commission at Phoenix, Arizona).

R. Burton Rose, M. S., Mining Geologist, San Jose, California, says in a letter dated April 8, 1952:

"Geologic and mineralogic indications show marked leaching effect and the probability of appreciable deeper secondary enrichment."

MANAGEMENT AND CONTROL

The name, address and business experience of each officer and director of the company is stated below:

Mr. William B. Harris—President, General Manager and Director.
P. O. Box 2236
Phoenix, Arizona
Telephone: AL 4-2511

Mr. Harris has had forty years mining, prospecting, millwriting and mine construction experience, in a supervisory capacity.

Mr. Robert W. Harris, Vice-President and Director
P. O. Box 1021
Phoenix, Arizona
Telephone: AL 4-2511

Mr. Robert W. Harris has had five years mining and prospecting experience, three years supervising of labor, five years office work and accounting, and fifteen years as a corporation executive.

Mrs. Virginia J. Harris, Secretary-Treasurer and Director
P. O. Box 2236
Phoenix, Arizona
Telephone: AL 4-2511

Mrs. Harris served as a member of the Arizona State Legislature for two years, where she was chairman of the Mines and Mining Committee, and a member of the Committee on Corporations, Banking and Insurance. Twenty-five years as a corporation executive.

Mr. A. C. Haigler, Assistant Secretary and Director
1211 North First Street
Phoenix, Arizona
Telephone: AL 3-3065

Mr. Haigler has had thirty years mining experience.

Mr. Glen F. Blair, Director
4626 South Central Avenue
Phoenix, Arizona
Telephone: BR 6-0274

Mr. Blair has had several years mining experience in Utah and Arizona. Twenty-six years as business executive in his own business, agriculture and allied pursuits.

The controlling interest in the outstanding stock is held as follows:

W. B. Harris	18,634 shares
W. B. Harris and Virginia J. Harris	410,000 shares
W. B. Harris and Virginia J. Harris, as joint tenants with right of survivorship	176,783 shares
Virginia J. Harris	50,000 shares
Robert W. Harris and W. B. Harris	50,000 shares
Robert W. Harris	29,014 shares
A. C. Haigler	3,320 shares
A. C. Haigler and Violet Haigler	16,610 shares
Glen F. Blair	17,000 shares

Upon the organization of the company in 1936, 551,958 shares were issued to W. B. Harris, Trustee. The consideration for this original issue was the conveyance to the company of the entire physical assets of Consolidated Arizona Mines, an Arizona corporation, which were purchased by Mr. Harris at execution sale under a judgment in his favor against that company, in the amount of $38,823.87.

The actual cost of the properties to Mr. Harris was $38,823.87. The total consideration of $55,195.80 reflects the actual cost, plus expense of maintenance and upkeep of the properties, engineering reports, taxes and miscellaneous expense incurred over a period of approximately two years.

The stock now held by the Harris family, i.e., W. B. Harris and Virginia J. Harris, and their son, Robert W. Harris, over and above the original issue mentioned, was issued in consideration of actual cash, labor and services rendered the company since its organization.

Mr. A. C. Haigler acquired 320 shares by direct purchase, and 16,610 shares were issued him in consideration of services rendered over a period of twelve months.

Mr. Glen P. Blair acquired his stock interest by direct purchase for cash.

CONTRACTS AND LITIGATION

Lease to Capella Copper Company

During 1952, Centroid Consolidated Mines leased to Capella Copper Company, an Arizona corporation, the undeveloped mining claims owned by the company, designated on the attached claims map as the "Capella Leasehold." Capella Copper Company has a total authorized capital of $750,000.00, divided into 3,000,000 shares of a par value of $0.25. Initially 33,000 shares of Capella stock were issued to each of the original incorporators, Mr. Albert C. Haigler, Mr. Glen F. Blair and Robert W. Harris, son of Mr. William B. Harris. The consideration for the issue was services and expense in organization of the company, and locating additional claims adjoining the Capella Leasehold.

This stock, aggregating 99,000 shares, has been placed in escrow with the First National Bank, Phoenix, Arizona, Trust Department, under an agreement that it may be released only on order of the Arizona Corporation Commission, and the owners of such stock shall not be entitled to sell or transfer the same without the consent of the Arizona Corporation Commission, and shall not, pending such escrow, participate in any distribution of assets to stockholders until after the owners of all other securities shall have been paid in full. By agreement, all voting rights in the escrowed stock remains in Centroid until such time as Capella shall have issued to Centroid 51% of its total authorized capital stock, under the terms of the lease agreement.

The stock structure of Capella is so arranged that Centroid Consolidated Mines will at all times retain voting stock control of Capella, the latter being a subsidiary corporation. Each member of the Board of Directors of Capella Copper Company is a member of the Board of Directors of Centroid Consolidated Mines. Mr. Albert C. Haigler is President, Mr. Glen F. Blair is Secretary-Treasurer, and Mr. William B. Harris is Vice-President. These officers constitute the Board of Directors of Capella Copper Company.

The lease with Capella Copper Company contains the following important provisions:

1. Capella has agreed to pay Centroid as rental for the five-year term, 251,000 shares of the capital stock of Capella.

2. Capella agrees to institute a diamond drilling development to cost $50,000.00.

3. At the completion of the diamond drilling, Capella agrees to work continuously with reasonable diligence.

4. During the term of the lease (five years) Capella Copper Company is granted the option to extend the term of the lease an additional forty-five years, the rental for the extended term being 51% of the authorized capital stock of Capella.

5. No ore royalty is payable. Capella is entitled to all ores mined from the leasehold.

The performance of the obligation of Capella to carry on the diamond drilling program is contingent upon its ability to finance such program. Present plans of Capella are to sell sufficient of its capital stock to finance the drilling program.

In a lengthy report on the Capella Leasehold, Mr. R. Burton Rose, M. A., Mining Geologist, states:

> "Deposition of the copper ore deposits, a prime Capella objective, is controlled by movement on the intersecting fault system after the hematite deposition and prior to the copper ore impregnation (and to a lesser degree) by channels left open. In this concept, the

major shear zone provided the access path for the copper solution from a deep-seated source and should contain the greatest copper ore accumulation."

The Number Two drill hole is pointed so that the Black Hawk vein and dikes showing copper content in the outcrops and a typical copper gossan, will be cut at an approximate vertical depth of 200 feet. Further diamond drilling is contemplated by Capella Copper Company upon completion of the preliminary diamond drilling advised by Mr. Rose. Mr. Rose further states in his report on Capella Copper Leasehold:

"Extreme leaching in the major shear zone near pole 340 (Note: in the vicinity of diamond drill hole No. 1) indicates the presence of a secondary enrichment zone at an indeterminate depth."

Hence, shallow drill holes first, deeper drilling later.

Vega Lease and Option to Purchase

A map of the Centroid properties under lease and option to Russell D. Van Houten and Edward S. Tanner is attached. This option includes the mining claims Centroid No. 1, Centroid No. 3, Centroid No. 21, Centroid No. 22, Centroid No. 23, Centroid No. 24 and Centroid No. 25 surveyed by J. W. Waara, U. S. Mineral Surveyor, and is referred to as the "Vega" leasehold. This block of marginal claims lying south of the Centroid principal development is cut through with one major fault in which there has been intruded a thoroughly oxydized diorite dike, and there are extensions of both shears and veins having their origin at or near the "Big Outcrop" reported upon by W. Tovote, Geologist and mining engineer.

The term of the lease is ten years; rental $700.00 by April 30, 1953 and $3,500.00 per year thereafter for nine years.

Lessees have the option to purchase the claims for Seventy Thousand ($70,000.00) Dollars, rental and royalty to apply on the purchase price. Lessees agree within a reasonable length of time, after the completion of all preliminary details, to diamond drill and develop the properties.

Lessees are believed to be responsible operators and the development should add much to the progress of Centroid, and of the Cunningham Pass District; certainly potential copper deposits should be explored at this time.

Litigation

The company has filed a complaint against the United States of America in the Federal District Court, District of Arizona, seeking $10,000.00 damages arising out of the construction by the Bureau of Reclamation of power lines across the company's claims without procuring easement or permission from the company.

Attention is called to what experience has taught us in the past—that all great mines once were prospects.

The history of all is very much the same, in that for years the prospector dug holes in the rocks in a "trial and error" operation which seldom, if ever, reached the desired objective. Discouragement and failure usually resulted. Rich outcrops were scarce and massive pay dirt for the most part was beyond the limits of pick and shovel work. Of late, however, science has made the game a lesser gamble; geophysical reconnaisance may now locate and map barriers, reefs, domes, faults and a probable loci for ores. Hazards and costly mining may thus in many cases be reduced. True, the science of mining has not reached a stage of perfection but the help it can give today is far superior to what the miner had access to at the turn of the century.

Conclusion

The undersigned believes that the plan of development of Centroid Consolidated Mines will result in the discovery of valuable ore bodies, and in handing you this prospectus, it has occurred to us that you might consider it a favor to be invited to join in an attractive speculation, which we recommend as such.

CENTROID CONSOLIDATED MINES,

a corporation

BY: (signed) W. B. HARRIS
President

(From Phoenix Gazette July 5, 1952)

COPPER REMAINS KING

"Official figures for 1951 show that Arizona again led all other states in the nation in the production of zinc, copper, lead, gold and silver.

The total value of the minerals was $235,289,045, a healthy 17% higher than in 1950.

Copper of course was far and away the most profitable single mineral produced. Slightly more than $200,000,000 worth of copper ore was extracted. Gold, silver, lead and zinc production, all fell off last year, due to exhaustion of veins. But COPPER REMAINED KING!

In view of the major new copper deposits now being developed, there is no reason to believe copper won't keep its crown firmly in place for many years to come."

ASSAY INDEX

See sketch map of Main Vertical Shaft and Horse Whim Shaft underground workings.

(A) 14 foot face, west drift, 375 foot level - Gold, $0.35 Copper - 1.60%
(B) Face, East Cross cut, 375 foot level - Gold, $0.35; Silver $0.72; Copper - 1.80%
(C) Bottom of shaft - Gold, $1.40 Copper - 2.45%
(D) At 300 feet, shaft bottom - Gold $0.35 Copper - 7.60%
(E) At 215 foot level, drillings - Gold, $0.35; Silver $0.36; Copper - 1.40%
(F) Drift 150 foot level, Gold, $14.00 Copper - 8.95%
(G) Drift 150 foot level, oxydized shoot, Gold, $33.60; Silver $0.54; Copper - 32.90%
(H) Drift 215 foot level, slacked material from walls, oxydized, Gold $0.35
Copper - 4.20% (By fire assay. Leaching gives higher content)

Yuma, Arizona
July 26, 1952

Board of Directors
Centroid Consolidated Mines
Wenden, Arizona
Gentlemen:

At your request, we have made an examination of the accounts of your corporation for the period of from January 1, 1952 to July 25, 1952. Attached you will find Balance Sheet of Centroid Consolidated Mines as of July 25, 1952.

This Balance Sheet has been prepared from data obtained from the records of your corporation and data received from Mr. W. B. Harris, President of the Board of Directors, and is a result of the consolidation of all receipts and expenditures of the corporation since its inception to April 24, 1951, and detailed records from that date to July 25, 1952.

Inasmuch as all expenditures to this date have been for development, exploration and fixed assets, the total of such expenditures has been capitalized and is reflected in the Balance Sheet under "Fixed Assets". For this reason, no Profit and Loss Statement has been prepared, the same not being applicable.

No attempt has been made to place an actual value on the assets of the corporation, the values as shown by the Balance Sheet being stated at cost to the corporation.

In my opinion, the following Balance Sheet reflects substantially the true financial condition of your corporation on July 25, 1952, taking into cosideration all records submitted to us for examination, and subject to the foregoing comments.

Respectfully submitted,

LAWLER & CROWDER, ACCOUNTANTS

By: *E. G. Lawler*
E. G. Lawler, Partner

CENTROID CONSOLIDATED MINES

BALANCE SHEET

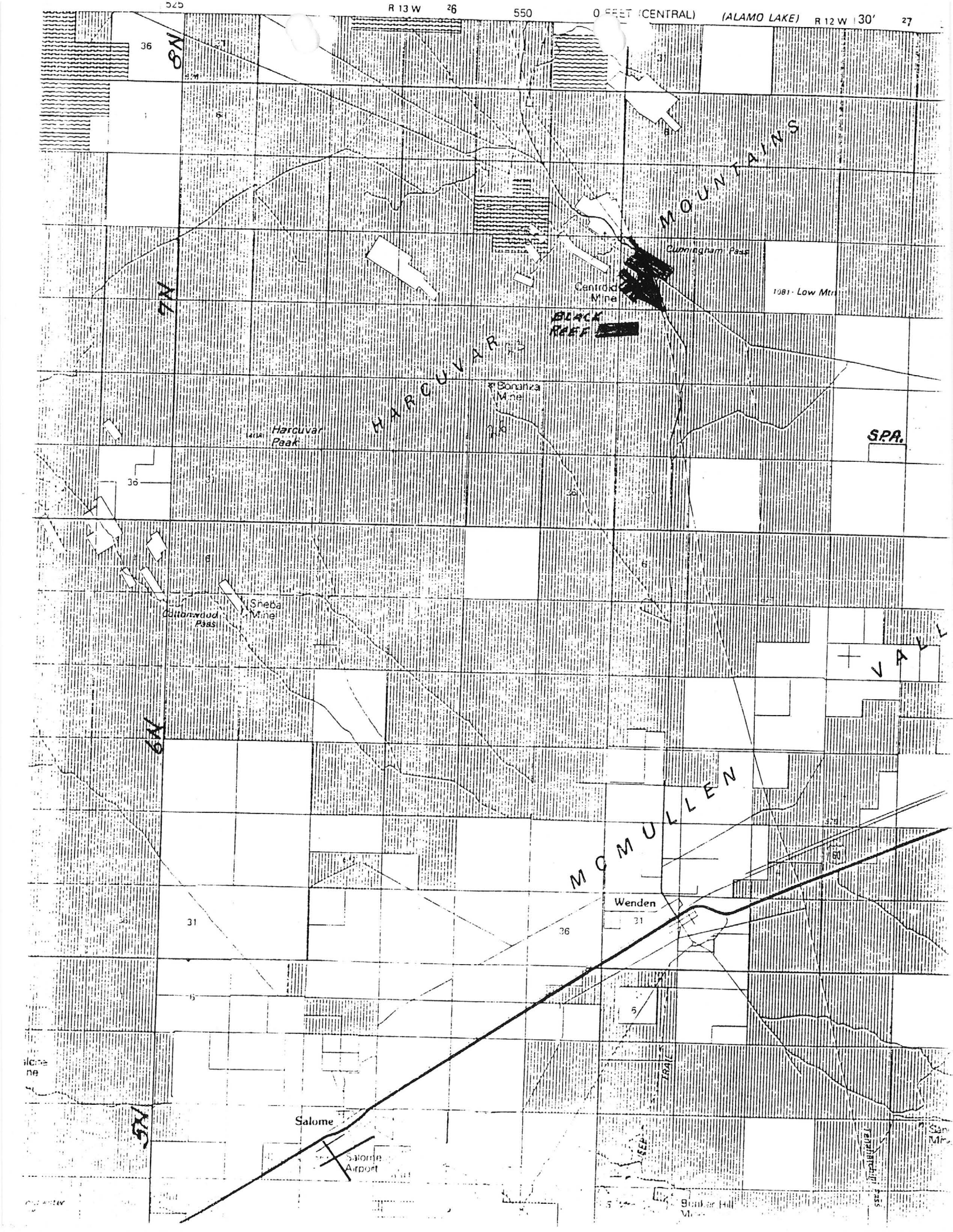
July 25, 1952

A S S E T S

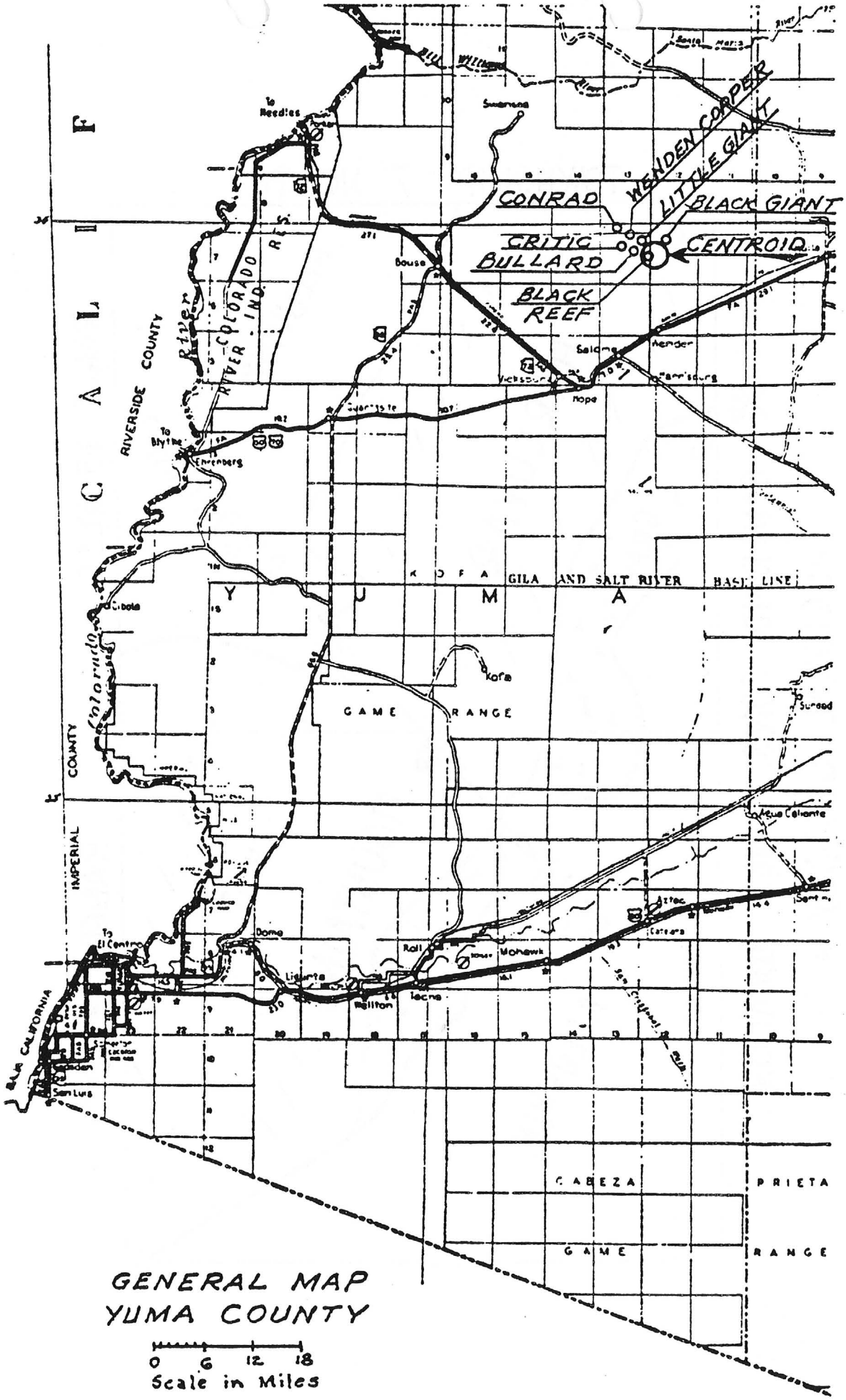
CASH ON HAND AND IN BANKS:			
First National Bank of Arizona - Phoenix			$ 2,503.52
ACCOUNTS RECEIVABLE:			
Canyon Copper Co.		4,481.62	
Vega Copper Co.		200.00	
Other		50.00	4,731.62
FIXED ASSETS:			
Mining Claims - Cost	38,823.87		
Development & Exploration Cost to Date	128,554.66	167,378.53	
Buildings	15,983.69		
Machinery & Equipment	10,341.37		
	26,325.06		
Less: Reserve for Depreciation	3,225.66	23,099.40	190,477.93
OTHER ASSETS:			
Insurance Deposit			510.00
TOTAL ASSETS			$ 198,223.07

L I A B I L I T I E S

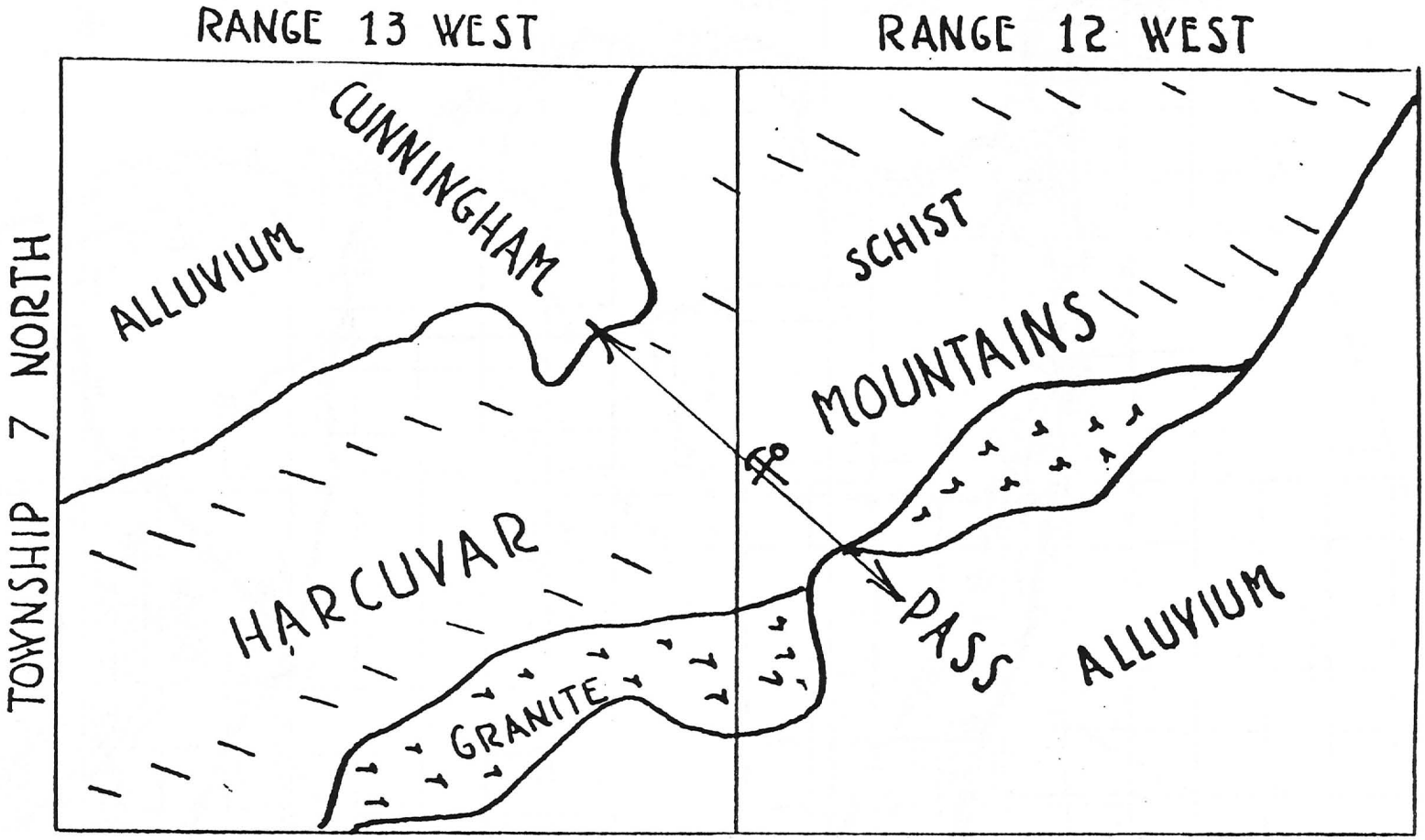
ACCOUNTS PAYABLE:		
Harmon V. Averyt	250.00	
Harry I. Newman	100.00	
William A. Snyder & Samuel J. Rhose	720.00	
Virginia J. Harris	1,601.10	
Other	46.34	2,717.44
CONTRACTS PAYABLE:		
First National Bank of Arizona	424.65	
Commercial Credit Corp.	466.02	890.67
Federal Withholding Tax Payable		22.30
Total Liabilities		3,630.41
CAPITAL & SURPLUS:		
3,000,000 shares authorized, 10¢ per share Par Value outstanding 1,680,950 shares (unissued 1,319,050 shares)	168,095.00	
Less: Purchase Discounts & Selling Commissions Paid	22,745.84	
	145,349.16	
Paid in Capital Surplus:		
Premium of 15¢ per share paid for 328,290 shares stock sold over and above par value	49,243.50	194,592.66
TOTAL LIABILITIES AND CAPITAL		$ 198,223.07



525
R 13 W
26
550
0 FEET (CENTRAL)
(ALAMO LAKE)
R 12 W
30'
27
8N
7N
6N
5N
MOUNTAINS
Cunningham Pass
Centroid Mine
1081 - Low Mtn
BLACK REEF
HARCUVAR
Bonanza Mine
Harcuvar Peak
S.P.A.
Sheba Mine
Cottonwood Pass
VALL
MCMULLEN
Wenden
Salome
Salome Airport
Bunker Hill



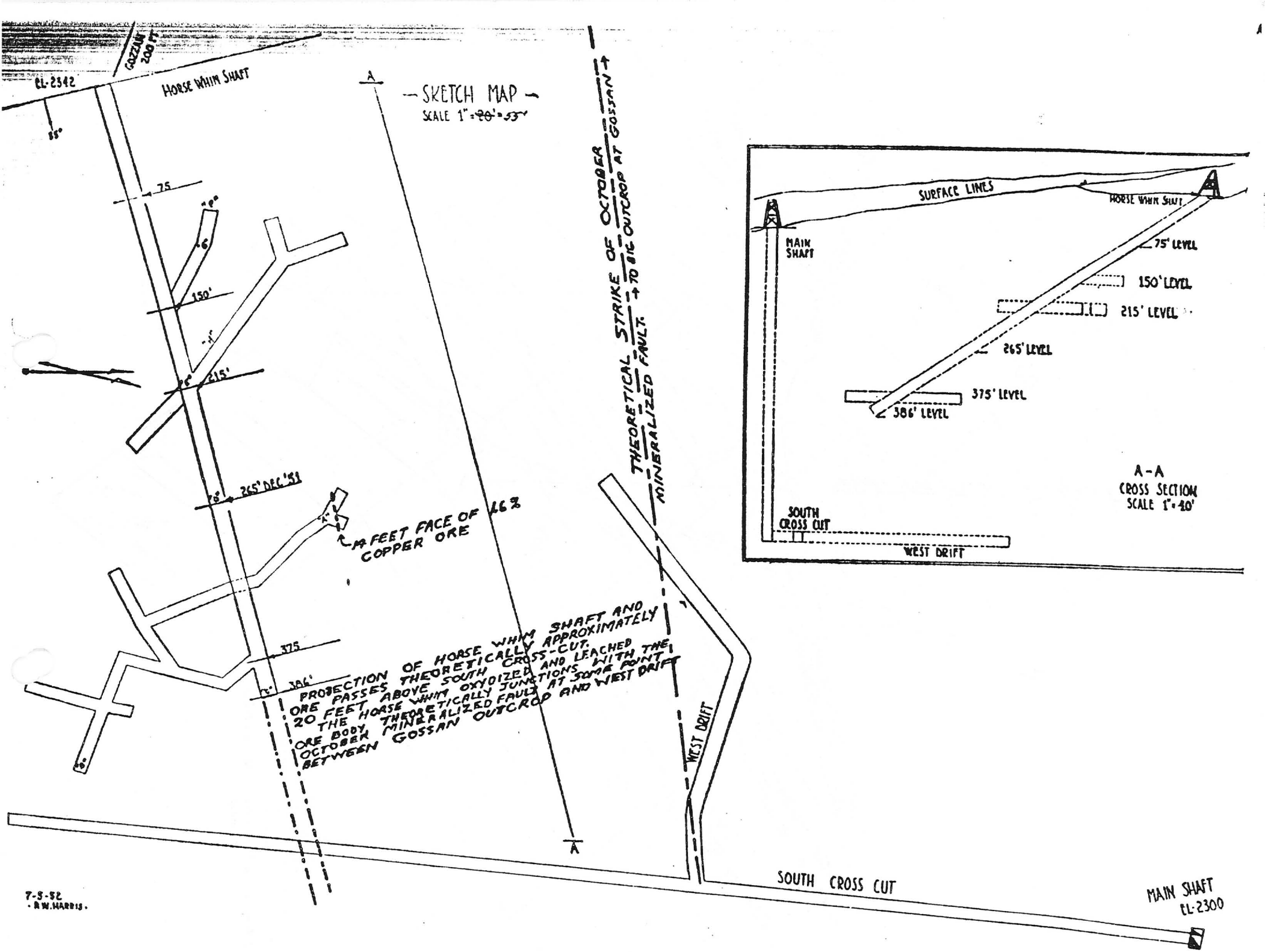
GENERAL MAP
YUMA COUNTY



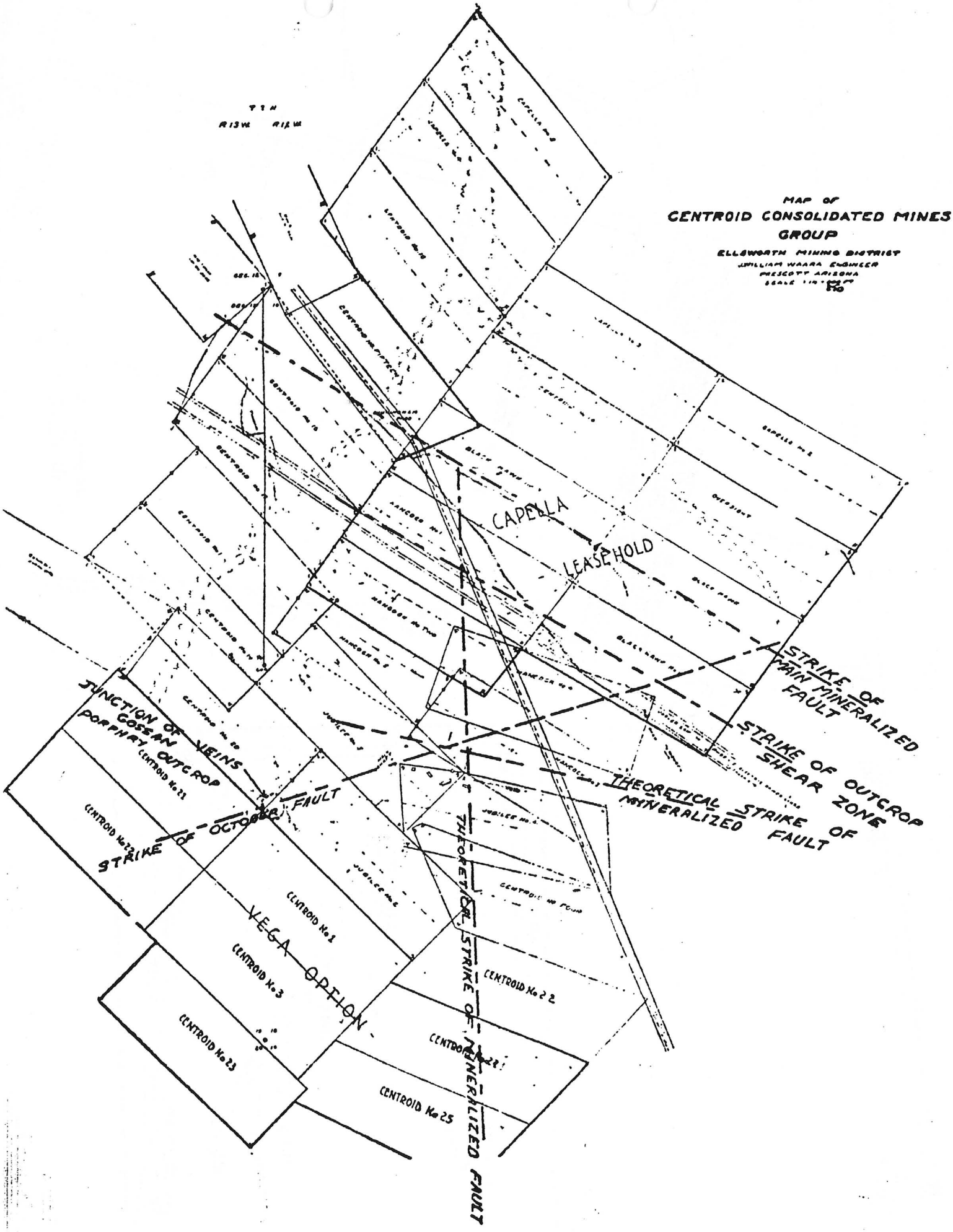
CENTROID CONS. MINES LOCATION

REGIONAL GEOLOGY *

* ARIZONA STATE GEOLOGIC MAP



EL-2342
GOZZAN 200 FT
HORSE WHIM SHAFT
— SKETCH MAP —
SCALE 1" = 20' = 55'
75
150'
215'
265' DEC '51
14 FEET FACE OF 16% COPPER ORE
375
386'
PROJECTION OF HORSE WHIM SHAFT AND ORE PASSES THEORETICALLY APPROXIMATELY 20 FEET ABOVE SOUTH CROSS-CUT. THE HORSE WHIM OXYDIZED AND LEACHED ORE BODY THEORETICALLY JUNCTIONS WITH THE OCTOBER MINERALIZED FAULT AT SOME POINT BETWEEN GOSSAN OUTCROP AND WEST DRIFT
THEORETICAL STRIKE OF OCTOBER MINERALIZED FAULT. → TO BIG OUTCROP AT GOSSAN →
WEST DRIFT
SOUTH CROSS CUT
MAIN SHAFT EL-2300
SURFACE LINES
HORSE WHIM SHAFT
MAIN SHAFT
75' LEVEL
150' LEVEL
215' LEVEL
265' LEVEL
375' LEVEL
386' LEVEL
A-A
CROSS SECTION
SCALE 1" = 40'
SOUTH CROSS CUT
WEST DRIFT
7-5-52
R.W. HARRIS


MAP OF
CENTROID CONSOLIDATED MINES
GROUP
ELLSWORTH MINING DISTRICT
WILLIAM WARRA ENGINEER
PRESCOTT ARIZONA
T 9 N
R 13 W R 12 E W
CAPELLA
LEASEHOLD
STRIKE OF MAIN MINERALIZED FAULT
STRIKE OF OUTCROP SHEAR ZONE
THEORETICAL STRIKE OF MINERALIZED FAULT
JUNCTION OF GOSSAN VEINS
PORPHYRY OUTCROP
CENTROID No 23
STRIKE OF OCTOBER FAULT
VEGA OPTION
CENTROID No 1
CENTROID No 3
CENTROID No 23
CENTROID No 22
CENTROID No 25
THEORETICAL STRIKE OF MINERALIZED FAULT

BLACK REEF MINING CLAIM

PROPERTY: Four (4) full patented lode claims, 82.644 acres on the south side of Cunningham Pass, Harcuvar Mountains, located in the Ellsworth Mining District, eight (8) miles north of Wenden, a Santa Fe railroad loading point, Yuma County, Arizona. Easily accessible, situated less than one-half (1/2) mile from recently paved road to Saguaro Recreational and Administrative Area near Alamo Dam [redacted] on Bill Williams River. El Paso Natural Gas pipe line, and Arizona Public Service power line are available within one-half (1/2) mile.

DEVELOPMENT: The main shaft, 6x8 feet in the clear of the timbers, located on the Robert E. Lee claim, is described as follows: Strike North 35° East, dip for first 80 feet 64°; next 400 feet 78°. Total depth of shaft 480 feet. On the 80 foot level there is a 4x6 drift bearing South 85°-30' West - 35 feet; another North 85°30' East - 100 feet. On the 175 foot level a drift bearing South 85° West - 35 feet; another North 85° East - 115 feet. On the 300 foot level a drift bearing South 85°-30' West - 260 feet; thence South 81° West - 255 feet, thus making 515 feet on the West side of the shaft on the 300 foot level. Total development work in excess of 1280 feet. Original cost of improvements in 1924 estimated at $32,470.

Excerpts from the MINES HANDBOOK, 1924, Volume XVI, page 260:

ORE: Carries chalcopyrite and bornite associated with limonite and siderite. An ore shoot on the 300 foot level is said to show $3.00 to $40.00 gold (equivalent ounces per ton .145 to 1.983), 3% to 35% copper and high iron values. Vein is two to three feet wide with swell to six feet at 100 feet in depth.

The following statements are taken from a geological report dated August 30, 1957, as prepared by R. E. Mieritz, P. E. Mining Consultant.

STRUCTURE: "This structure is unlike any in the district since its gangue material is siderite, an iron carbonate. Examination of the dump material indicates sulphide copper mineralization is present as chalcopyrite, chalcocite, and bornite. Some oxides are also present. The siderite outcrop is a distinct landmark as a protrusion above its surroundings by four to six feet and visible for 500 feet along its east-west strike. Very little blood red specular hemetite was evidenced within this structure. No doubt there is much tonnage that could be developed.

RESERVES: "Inferred reserves are estimated at 75,000 tons of four (4) percent copper, amounting to approximately $1,625,000 of $.27 copper in place."

NAME OF MINE: Centroid

COUNTY: Yuma W
DISTRICT: Ellsworth
METALS: Cu,Ag

OPERATOR AND ADDRESS:		MINE STATUS	
DATE:		DATE:	
5/1/44	George H. Andrews, Wenden	5/1/44	Closed---In newly restricted army range. not in 1966

1-10-40

Harris, W. B., President
Centroid Consolidated Mines
~~Wenden, Arizona~~ Box 1481, Yuma

See Centroid Consolidated Mines
Re - Field Engineers Report
See CENTROID CONS. MINES - re claim against Govt. 11-18-44
See CENTROID - re assays 7-23-46
See CENTROID - re assays 2-4-47
See H file re Black Reef property 5-2-47

CENTROID CONSO. MINES

Cu, Au, Mn

Yuma 14 - 2 T 7 N, R 12 W

W. B. Harris, Box 1481, Yuma '43

L1	L2			
Wally	**Phelps**			
L3				
L4				
L5			L6	FAX
Showlow, AZ			**602-212-0312**	
TOLLFREE	MISCPHONE			
	928-537-1448			
EMAIL				
COMMENTS				
owner of Centroid Mine				
HOLIDAY	NEWSLTR	SOURCE	DATE	TEMP
	F	**N**	**10/10/2002**	

CENTROID CONSOLIDATED MINES

Albert M. Reguly, Pres., Centroid Consolidated Mines, 2947 N. 18th Street, Phoenix, Arizona, 85016, 266-8331. JHJ from information given to him on 1/4/74

WR GM 2/2/78 - Mr. Behunin controls the Centroid Consolidated Mines. They are constructing a 1,000 tons/day mill in the Socorro Reef property. His property is in Salome; can be reached at P.O. Box 136, Salome, Arizona. 3/2/78 sef

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NJN WR 4/24/81: Letters written to Mrs. R.E. Metzger, P.O. Box 969, Sedona, Arizona 86336, concerning the stock she owns in Centroid Consolidated Mine (file). I talked to the Arizona Corporation Commission, Incorporating Division, and they said the company was not on the list of active corporations.

RRB WR 1/28/83: Al Reguly, phone 266-8331, president of Centroid Consolidated Mining and Milling and owner of the Black Reef Mine, Ellsworth District, La Paz County, was in to discuss typical leases. He said that Richard Shefsky of Az-Kan refining at the old Forepaugh airport has sampled the dump at the Black Reef and claims that it assays from 1.0 to 2.0 oz/ton gold. They want to lease the dump and truck it to Forepaugh where they can extract 95% of the gold in their pilot plant. See last week's report.

RRB WR 5/1/87: Al Reguly of the Centroid Consolidated Mining & Milling Co. reports that Russell Twifford (sp?) who is doing the metallurgical work at the Oro Grande, ran some assays on samples from Centroid Consolidated (file). The two that he read to me were, in ounces per ton, .068 &.08 gold, .66 & .41 platinum,.184 & .17 palladium and .60 & .286 rhodium.

Centroid Consolidated
(f)
La Paz County

Prospectus

Black Reef

CENTROID CONSOLIDATED MINES

909 North First Street
Phoenix, Arizona

Telephone AL 4-2511

P. O. Box No. 2236

Incorporated under the laws of the State of Arizona - 1936

CAPITALIZATION:

Total authorized capital	$300,000.00
3,000,000 shares common stock	Par $0.10
Fully paid and non-assessable	

THE COMPANY OFFERS TO THE PUBLIC: 100,000 shares of its common capital stock at a selling price of $0.50 per share. The per unit and aggregate offering price, commissions and net proceeds to issuer is set forth in the following table:

	Offering Price	Underwriting Discounts and commissions	Net Proceeds to Issuer
Per unit	$ 0.50	$ 0.10	$ 0.40
Aggregate	50,000.00	10,000.00	40,000.00

TRANSFER AGENT

First National Bank of Arizona—Trust Department

The shares of stock are offered subject to prior sale and to withdrawal, cancellation or modification of the offer without notice.

NOTE: This prospectus has been filed with the Securities Department of the Arizona Corporation Commission, and also with the Federal Securities and Exchange Commission, under its regulations exempting from registration offerings not exceeding $300,000.00. The offering herein described has been registered with the Arizona Corporation Commission.

BECAUSE THESE SECURITIES ARE BELIEVED TO BE EXEMPT FROM REGISTRATION UNDER THE FEDERAL SECURITIES ACT, THEY HAVE NOT BEEN REGISTERED WITH THE SECURITIES AND EXCHANGE COMMISSION, BUT SUCH EXEMPTION, IF AVAILABLE, DOES NOT INDICATE THAT THE SECURITIES HAVE BEEN EITHER APPROVED OR DISAPPROVED BY THE SECURITIES AND EXCHANGE COMMISSION, OR THAT SAID COMMISSION HAS CONSIDERED THE ACCURACY OR COMPLETENESS OF THE STATEMENTS IN THIS COMMUNICATION.

No person has been authorized to give any information or to make any representations other than those contained in this prospectus, and if given or made, such information or representations must not be relied on as having been authorized by the company or by any person named in this prospectus. The statements herein contained are made as of the date of this prospectus unless another date is specified.

August 5, 1952

GLOBAL VENTURES
P. O. BOX 1442
GILBERT, ARIZONA 85234

TO: Mr. Al Reguly
2947 N 18th St.
Phoenix, Arizona 85016

01/11/93

FROM: Global Ventures
P. O. Box 1442
Gilbert, Arizona 85234
(602) 963-0682

ASSAY REPORT

S. No:	Wt:	Method:	Au:opt	Pt:opt	Pd:opt	Rh:opt
R1	30g	Acidified brine leach	.128	nd	.102	nd
R2	15g	Mag/SJ/Aqua Regia/AA	.23	.777	.19	.058
R3	15g	Mag/SJ/Aqua Regia/AA	.19	.21	.256	.106
R4	15g	Mag/SJ/Aqua Regia/AA	.14	.93	.09	nd
R5	15g	Mag/SJ/Aqua Regia/AA	.19	.64	nd	.128
R6	15g	Mag/SJ/Aqua Regia/AA	.217	.27	.08	nd
R7	30g	Acidified brine leach	.136	.39	.039	.078
		AVG.	.176	.59	.116	.093 AMR

NOTE: #2 thru #6 was first magnetized then 2 mls of Scavox added for 30 minutes then 50/50 aqua regia added to medium heat for 2.5 hours.

#1 & #7 was run using the same leach that we use in the plant west of Phoenix and leached for only 3 hours.

CHARGES: Dry & pulverize and split 7 samples @$7.50: $[redacted]
Chemical assay @$25.00:---------- [redacted]

[redacted]

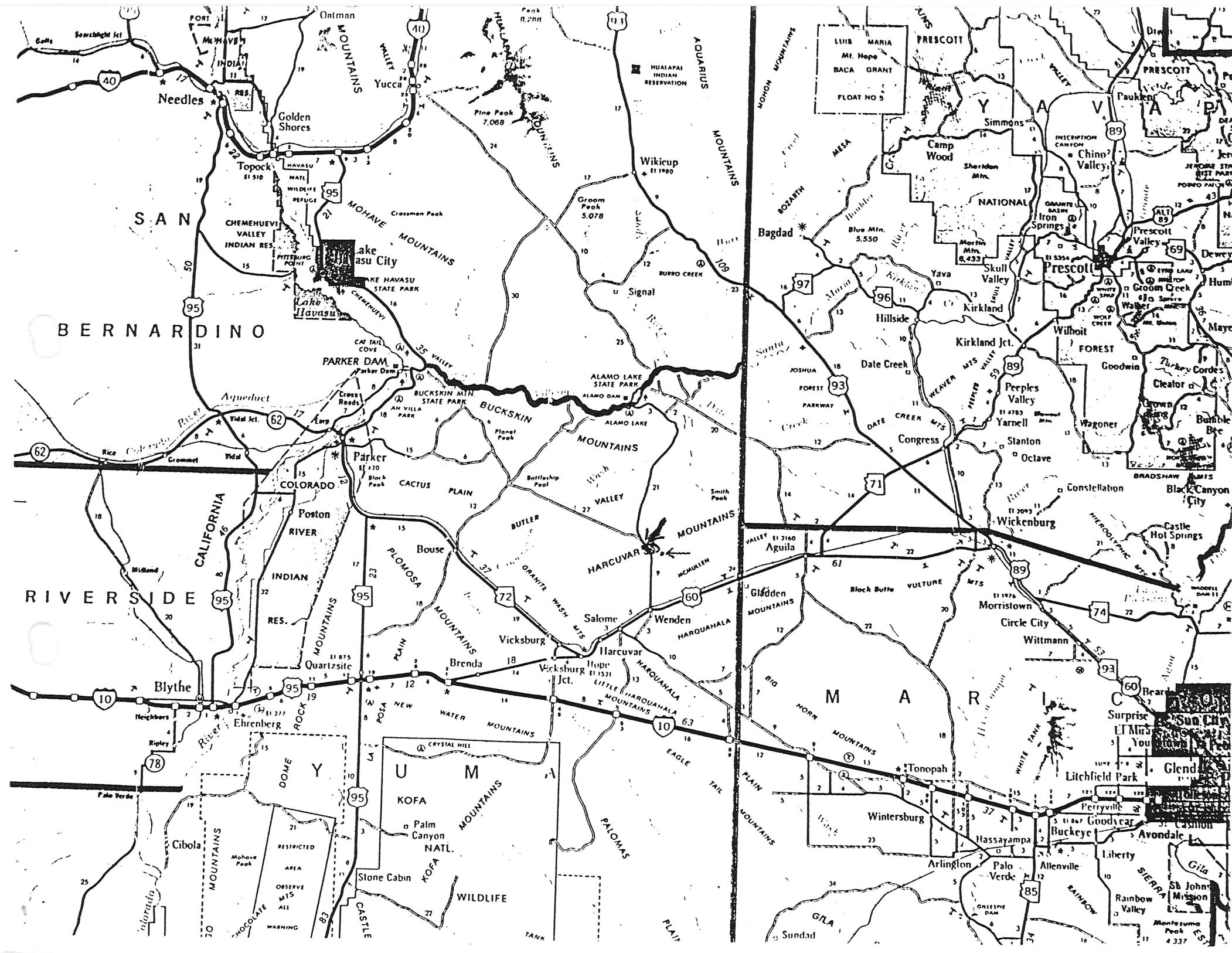
Pd:---------- [redacted]

Balance due at your convenience:---------- [redacted]

Thank you very much for your business.

RUSSELL TWIFORD- ASSAYER

Note: Samples taken from holes dug (about 1 ft. deep) after removal of Saguaro plants. AMR.


Needles
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Topock
Yucca
Oatman
Wikieup
Signal
Bagdad
Prescott
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Kirkland
Skull Valley
Yava
Hillside
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Date Creek
Peeples Valley
Yarnell
Wagoner
Congress
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Octave
Constellation
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Aguila
Morristown
Circle City
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Tonopah
Wintersburg
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Arlington
Palo Verde
Buckeye
Litchfield Park
Goodyear
Avondale
Surprise
Sun City
Glendale
Peoria
Parker
Parker Dam
Lake Havasu City
Lake Havasu
Cibola
Blythe
Ehrenberg
Quartzsite
Brenda
Vicksburg
Salome
Wenden
Harcuvar
Hope
Bouse
Poston
Parker
Aqueduct
Colorado River
Gila River
Bill Williams River
Alamo Lake
Alamo Dam
Parker Dam
Buckskin Mtn. State Park
Lake Havasu State Park
Cat Tail Cove
Chemehuevi Valley Indian Res.
Havasu Natl. Wildlife Refuge
Colorado River Indian Res.
Fort Mohave Indian Res.
Hualapai Indian Reservation
Kofa Natl. Wildlife Refuge
Kofa Palm Canyon
Kofa Stone Cabin
Restricted Area Observe Min. Alt.
Warning
Mohave Mountains
Mohon Mountains
Aquarius Mountains
Hualapai Mountains
Pine Peak 7,068
Groom Peak 5,078
Crossman Peak
Burro Creek
Buckskin Mountains
Harcuvar Mountains
Granite Wash Mts.
Harquahala Mountains
Little Harquahala Mountains
Plomosa Mountains
Rawhide Mountains
Dome Rock Mountains
Chocolate Mountains
Castle Dome Mountains
Eagle Tail Mountains
Palomas Plain
Cactus Plain
Butler Valley
Bouse Wash
Vulture Mountains
Gladden Mountains
Big Horn Mountains
White Tank Mountains
Plain Mountains
Gila Bend Mountains
Sierra Estrella
Rainbow Valley
Sheridan Mtn.
Blue Mtn. 5,550
Martin Mtn. 6,433
Bradshaw Mts.
Weaver Mts.
Date Creek Mts.
Hieroglyphic Mts.
Joshua Forest Parkway
Prescott Natl. Forest
Granite Basin
Inscription Canyon
Iron Springs
Chino Valley
Paulden
Simmons
Camp Wood
Mesa
Bozarth
Humboldt
Kirkland Valley
Wilhoit
Goodwin
Cleator
Cordes
Crown King
Bumble Bee
Black Canyon City
Castle Hot Springs
Luis Maria Mt. Hope Baca Grant
Float No 5
Riverside
San Bernardino
La Paz
Yavapai
Maricopa
Interstate 10
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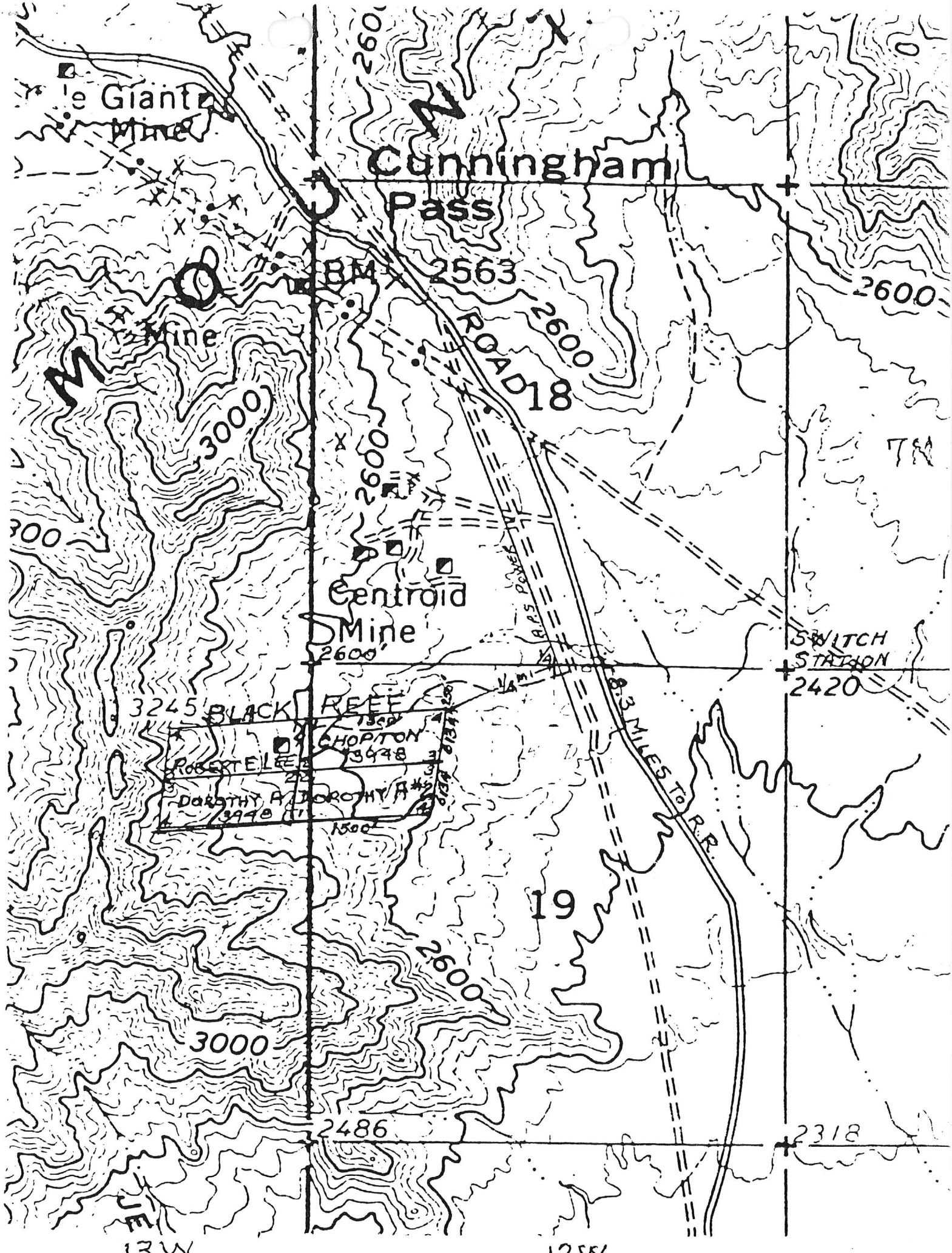

le Giant Mine
Cunningham Pass
BM 2563
2600
ROAD 18
Mine
3000
2600
Centroid Mine
2600
SWITCH STATION
2420
3245
BLACK REEF
1500'
CHOPTON
3948
ROBERT E LEE
DOROTHY A
3948
1500'
8.3 MILES TO R.R.
19
2600
3000
2486
2318
13W
12W

BLACK REEF MINING CLAIMS

PROPERTY: Four (4) full patented lode claims, 82.644 acres on the south side of Cunningham Pass, Harcuvar Mountains, located in the Ellsworth Mining District, eight (8) miles north of Wenden, a Santa Fe railroad loading point, ~~Yuma~~ LA PAZ County, Arizona. Easily accessible, situated less than one-half (1/2) mile from recently paved road to Saguaro Recreational and Administrative Area near Alamo Dam ~~now under construction~~ on Bill Williams River. El Paso Natural Gas pipe line, and Arizona Public Service power line are available within one-half (1/2) mile.

DEVELOPMENT: The main shaft, 6x8 feet in the clear of the timbers, located on the Robert E. Lee claim, is described as follows: Strike North 35° East, dip for first 80 feet 64°; next 400 feet 78°. Total depth of shaft 480 feet. On the 80 foot level there is a 4x6 drift bearing South 85°-30' West - 35 feet; another North 85°30' East - 100 feet. On the 175 foot level a drift bearing South 85° West - 35 feet; another North 85° East - 115 feet. On the 300 foot level a drift bearing South 85°-30' West - 260 feet; thence South 81° West - 255 feet, thus making 515 feet on the West side of the shaft on the 300 foot level. Total development work in excess of 1280 feet. Original cost of improvements in 1924 estimated at $32,470, when gold was $20.67 per oz. Early reports indicate that the shaft could provide 25,000 gals/day water supply

SPACE → Excerpts from the MINES HANDBOOK, 1924, Volume XVI, page 260:

ORE: Carries chalcopyrite and bornite associated with limonite and siderite. An ore shoot on the 300 foot level is said to show $3.00 to $40.00 gold (equivalent ounces per ton .145 to 1.983), 3% to 35% copper and high iron values. Vein is two to three feet wide with swell to six feet at 100 feet in depth.

The following statements are taken from a geological report dated August 30, 1957, as prepared by R. E. Mieritz, P. E. Mining Consultant.

STRUCTURE: "This structure is unlike any in the district since its gangue material is siderite, an iron carbonate. Examination of the dump material (about ~~4~~ .0007c avg. 0.15 ozs, Au) indicates sulphide copper mineralization is present as chalcopyrite, chalcocite, and bornite. Some oxides are also present. The siderite outcrop is a distinct landmark as a protrusion above its surroundings by four to six feet and visible for 500 feet along its east-west strike. Very little blood red specular hemetite was evidenced within this structure. No doubt there is much tonnage that could be developed.

RESERVES: "Inferred reserves are estimated at 75,000 tons of four (4) percent copper, amounting to approximately $1,625,000 of $.27 copper in place." ~~(At current price of $.81 per pound represents approximately $4,875,000 not including gold or silver~~ values.)

OK

OWNERS: Albert M. Reguly and Mrs. Cornelia M. Phelps. Phone (602) 266-8331
2947 North 18th Street, Phoenix, Arizona 85016. Phone " 996-6264

ENCLOSURE: General Map of ~~Yuma~~ LA PAZ County showing the approximate location of the Black Reef mining claims together with the surrounding mining properties which have been producers of valuable minerals.

PRICE&TERMS: OPEN TO NEGOTIATION.

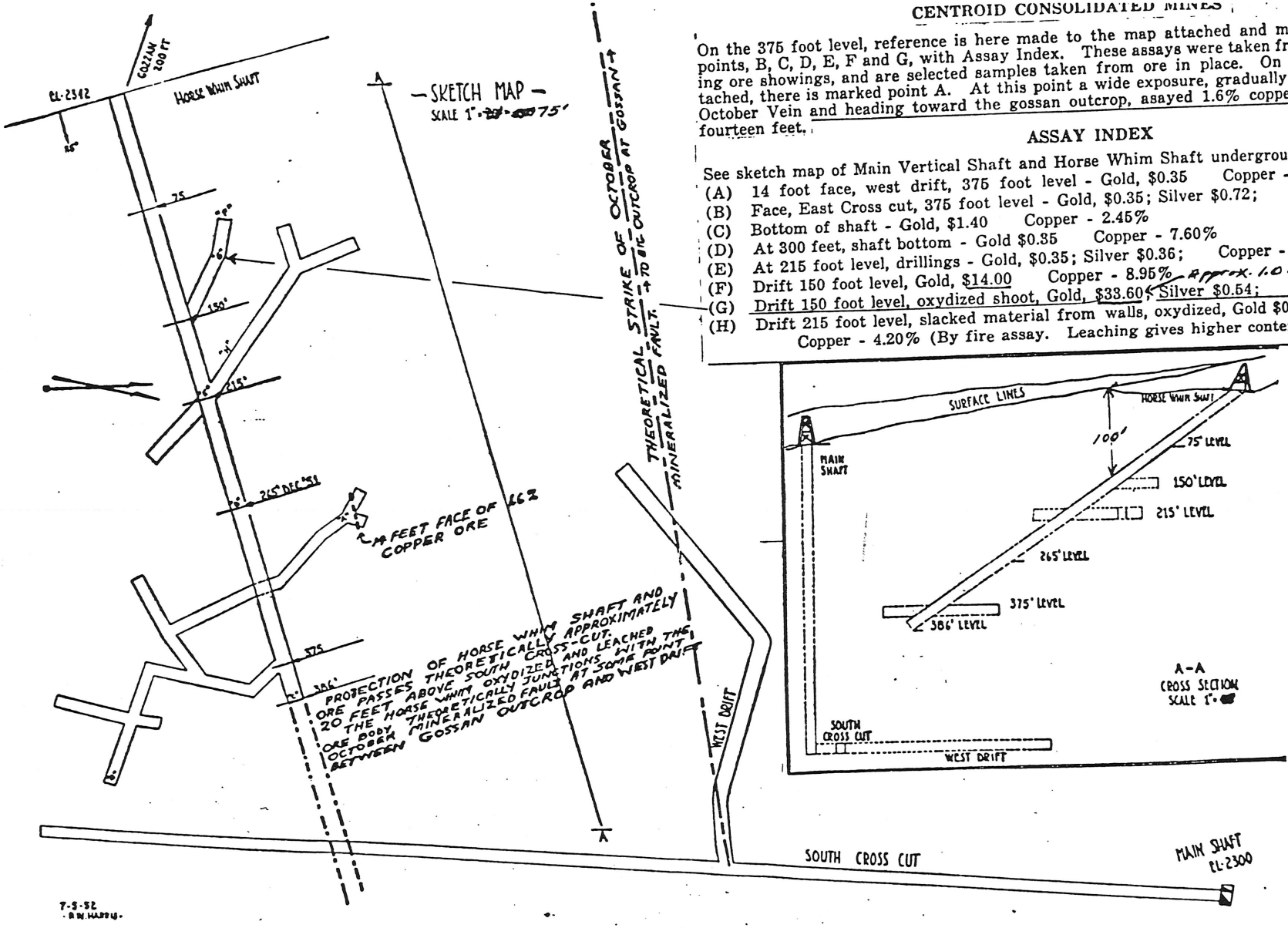
CENTROID CONSOLIDATED MINES

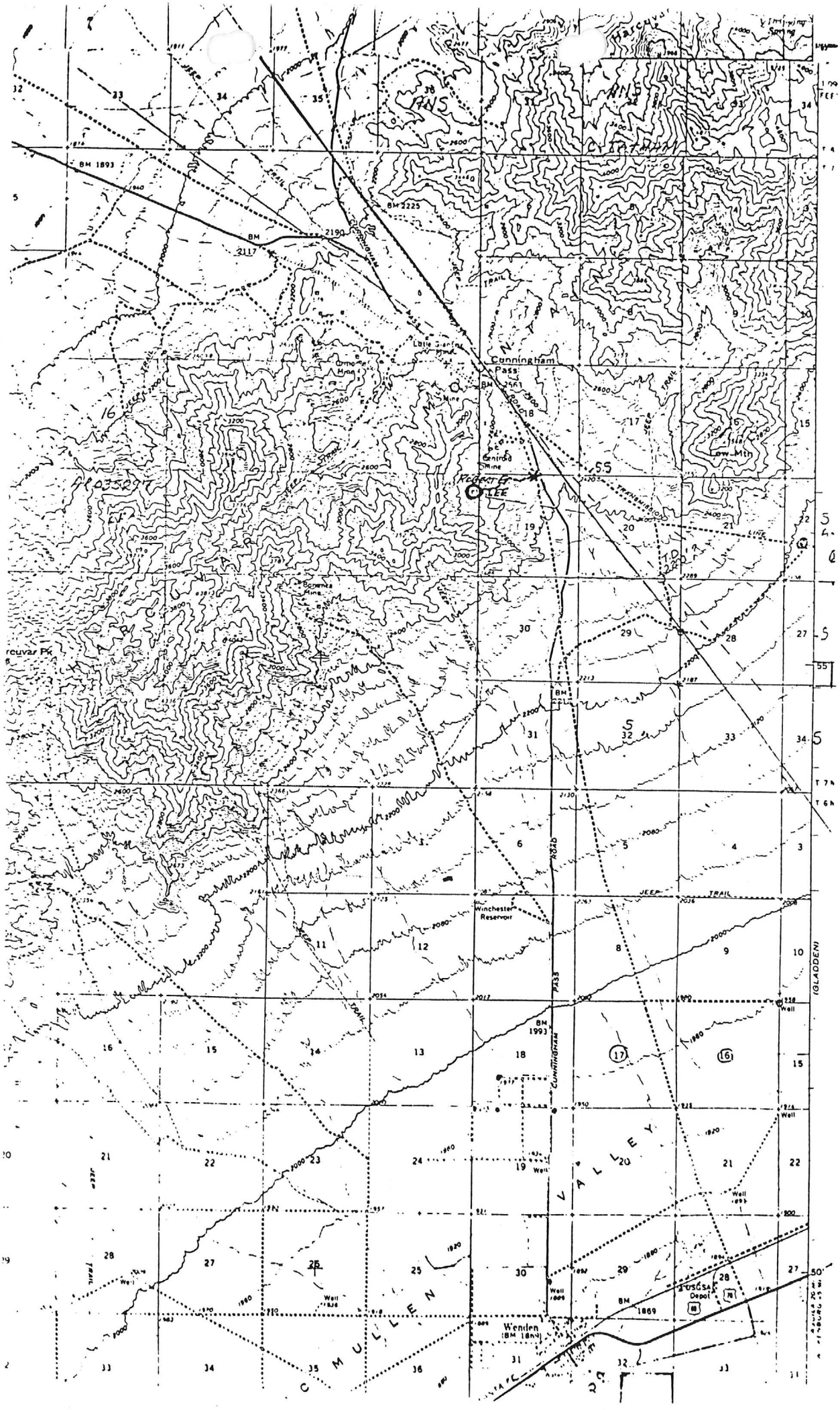
On the 375 foot level, reference is here made to the map attached and marked at different points, B, C, D, E, F and G, with Assay Index. These assays were taken from the better looking ore showings, and are selected samples taken from ore in place. On the same map attached, there is marked point A. At this point a wide exposure, gradually rolling toward the October Vein and heading toward the gossan outcrop, asayed 1.6% copper over a width of fourteen feet.

ASSAY INDEX

See sketch map of Main Vertical Shaft and Horse Whim Shaft underground workings.

(A) 14 foot face, west drift, 375 foot level - Gold, $0.35 Copper - 1.60%
(B) Face, East Cross cut, 375 foot level - Gold, $0.35; Silver $0.72; Copper - 1.80%
(C) Bottom of shaft - Gold, $1.40 Copper - 2.45%
(D) At 300 feet, shaft bottom - Gold $0.35 Copper - 7.60%
(E) At 215 foot level, drillings - Gold, $0.35; Silver $0.36; Copper - 1.40%
(F) Drift 150 foot level, Gold, $14.00 Copper - 8.95% Approx. 1.0 oz/ton
(G) Drift 150 foot level, oxydized shoot, Gold, $33.60; Silver $0.54; Copper - 32.90%
(H) Drift 215 foot level, slacked material from walls, oxydized, Gold $0.35 Copper - 4.20% (By fire assay. Leaching gives higher content)





Cunningham Pass
Centroid Mine
Low Mtn
Winchester Reservoir
Wenden
USGSA Depot
JEEP TRAIL
CUNNINGHAM PASS ROAD
(GLADDEN)

934 Ce

ALUES
est Quotation

r

er

IS CERTIFIES
submitted for assay
s follows:

(Registered)

Arizona Assay Off

Phone ALpine 3-4001

Phoenix, Arizona
P. O. Box 1148

CENTROID CON. MINES

Short Ton
Short Ton Unit
Long Ton
Long Ton Unit

MARKS	SILVER PER TON Ozs.	Tenths	VALUE PER TON	GOLD PER TON Ozs.	100ths	VALUE PER TON	TOTAL VALUE PER TON of Gold & Silver	PERCENTAGE Copper			RE
.1 } same face					.75	$26.25		6.35	4'8"	cut	all so
.2					.35	$12.60		1.71	4'8"	cut	cut
.3					.24	$8.40		1.20	6"	cut	face of
.4 } same face					.71	$24.85		3.70	4'6"	"	
.5					.03	$1.05		.55	4'6"	"	
.6					.24	$8.40		2.00	4'8"	"	
				AVG	.39		AVG	2.58			

s $ 31.50

Assayer ARIZONA ASSAY OFFICE

Art-Press Printers

5793
942 Ce Mar. 24, 1958

CHAS. A. DIEHL
(Registered)

815 North First Street
Phoenix, Arizona
P. O. Box 1148

ALUES
Quotation

Arizona Assay Office

Phone ALpine 3-4001

CENTROID CONSOLIDATED MINES.

IS CERTIFIES
bmitted for assay
follows:

Short Ton 2000
Short Ton Unit 20
Long Ton 2240
Long Ton Unit 22.4

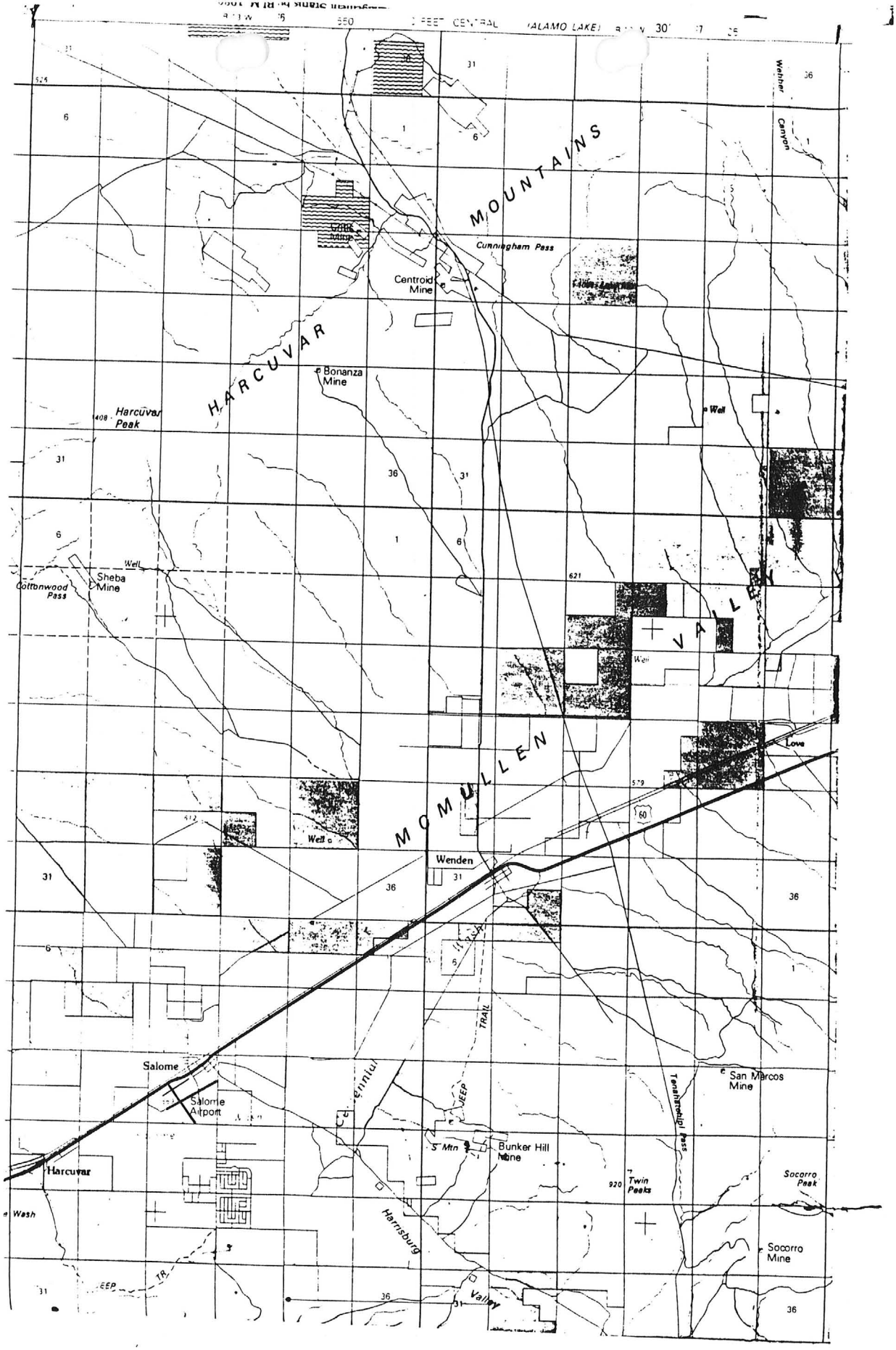
ARKS	SILVER PER TON Ozs.	Tenths	VALUE PER TON	GOLD PER TON Ozs.	100ths	VALUE PER TON	TOTAL VALUE PER TON of Gold & Silver	PERCENTAGE Copper	REMARKS
	0.1			1.90		$66.50		22.55	
							Taken from vein beginning of T drift		
				4" Outcrop			Centroid # [illegible] claim		

Arizona Assay Office

4.00 Paid

$

Assayer


HARCUVAR MOUNTAINS
MOMULLEN VALLEY
Cunningham Pass
Centroid Mine
Bonanza Mine
Harcuvar Peak
Sheba Mine
Cottonwood Pass
Wenden
Salome
Salome Airport
Harcuvar
Bunker Hill Mine
San Marcos Mine
Socorro Peak
Socorro Mine
Twin Peaks
Harrisburg Valley
Love
Well
60

Centroid Consolidated Mines

Description: The property consists of twelve (12) patented and thirty-three (33) unpatented lode mining claims covering approximately 840 acres on both sides of Cunningham Pass (Elev. 2565') in the Harcuvar Mountains, overlooking McMullen Valley to the south with agricultural development and Butler Valley to the north. The claims are located in the Ellsworth Mining District, about eight miles north of Wenden (Elev. 1869')--a Santa Fe railroad loading point, Yuma, County, Arizona. This difference of about 700 feet elevation represents less than a two (2) percent grade between Federal Highways 60 and 70 at Wenden up to the pass.

This property is easily accessible by a recently paved road from Wenden to the Saguaro Recreational and Administrative Area near the [redacted] Alamo Dam and Reservoir Site on the Bill Williams River. About one and one-quarter miles of this road passes through the property. The El Paso Natural Gas pipe line and Arizona Public Service power line traverse the property.

Geology: Pre cambrian, intruded by quartz porphyry, diabase, diorite, granite porphyry, pegmatite - and near the shears an ancient marine lime.

Structure: A wide mineralized fault runs through the Centroid properties for over a mile, making its way finally through Cunningham Pass both northwest and southeast, presumably burying itself northwesterly in Butler Valley and southeasterly in McMullen Valley. Westerly from the main mineralized fault and extending both northwesterly and southeasterly, is an area spoken of by mining engineers as (1) a shear zone, or (2) several parallel shears. Atop the foothills, further west, is the principal outcrop of the Centroid properties. This apex of an important junction of wide mineralized veins, a fracture zone and intruded diorite in the vein matter, is prominent with outcropping copper stained porphyry.

Mineralization: Copper, gold, silica and iron appear to predominate.

Development: During the past sixty-five years intermittent prospecting has been carried on by individuals or groups with limited capital in the Cunningham Pass District. However, most of this prospecting has been done in search of high grade outcrops that would produce shipping grade ores. This type of prospecting, when carried on, has resulted in intermittent shipments of profitable ores, but has not properly prospected the district's possibilities as to the existence of large low grade deposits. Even so, this type of development has opened up pay ores near the surface, and such ores have been shipped to smelters from the mining properties known as the Critic, Bullard, Little Giant, Cuprite and Robinson. This last mentioned (Robinson) is now the location of the Centroid properties.

On the mining claim Hancock No. 2, open cuts found good grades of shipping ore and a shaft was sunk to a depth of fifty feet on a diorite contact which produced more evidence in the form of oxydized shipping grade of copper-gold ore. Along the foothills (being the westerly portion of the Centroid properties) every mining claim showed satisfactory mineralization in holes, shafts, open cuts and tunnels, the minerals exposed or shipped to the smelter being predominantly of gold, silver, copper, iron and silica.

Shafts were sunk on the mining claims Jubilee No. 5, Centroid No. 4 and Jubilee No. 2, each one encountering most encouraging deposits of oxydized and leached ores, and opening up wide, crushed (brecciated) shears or mineralized faults. Geological and mining engineering advice appears to indicate strongly that greater depth is necessary.

On the mining claim Jubilee No. 5 is located the main vertical shaft.. This shaft was sunk to the 300 foot level and a long cross cut sent forward for 600 feet, cutting at 200 feet from the shaft bottom a diorite dike, from 200 feet to 300 feet, a zone of porphyry and gneis, and from 300 feet to 326 feet, a wide, brecciated mineralized fault, so crushed and open that the downward percolating waters have impoverished the 26 feet of crushed, quartz porphyry; the secondary values are presumed at a greater depth. This fault or shear is known as the October vein and carries some pyrite, some chalcopyrite, and in places bornite carrying gold was found covered with a black oxide of copper or what might be termed in other districts--sooty chalcocite.

A sketch map of this shaft and its underground workings is attached with a cross section of the immediate area correlating the main shaft with the Horse Whim Workings on the adjoining mining claim Jubilee No. 2. The Horse Whim shaft has been widened and straightened out to the 200 foot level, extended to a depth of 386 feet and over 500 feet of drifting and cross-cutting have been completed in an oxydized and leached ore body.

On the 375 foot level, reference is here made to the map attached and marked at different points, B, C, D, E, F and G, with Assay Index. These assays were taken from the better looking ore showings, and are selected samples taken from ore in place by the former management. On the same map attached, there is marked point A. At this point a wide exposure, gradually rolling toward the October Vein and heading toward the gossan outcrop, assayed 1.6% copper over a width of fourteen feet. All headings on the 375 foot level show a thoroughly oxydized and leached area.

Ore and Vein Forming Agencies:

1. Brecciation
2. Introduction of hematite, usually as cement in breccia veins, but also as massive bodies, veins and stringers. The brecciation is due probably to the granite porphyry intrusion; the hematite pervades the pegmatites - therefore, it is later.
3. Introduction of siderite, calcopyrite, and pyrite.
4. Deposition of quartz, calcopyrite and pyrite; oxidation and secondary enrichment have been very pronounced.

Engineering Analyses: W. Tovote, E.M., reports on the properties as follows:

"The Desert Vein, one of the biggest, has a remarkable outcrop of hematite and quartz, surrounded by wide areas of crushed chloritized porphyry. Copper stain is found as well in the hematite quartz, as in the altered decomposed porphyry. The vein occurs at and near a schist-granite-porphyry contact and diorite dikes are intruded in the vein zone. The big outcrop is apparently due to the intersection of several veins."

Charles N. Dunning, E.M., reports as follows:

"Your property has most excellent geological conditions for the formation of large and profitable ore bodies. The development already completed has made an excellent showing and tends to prove the theories which the surface conditions indicate."

R. Burton Rose, M.S. Mining Geologist, San Jose, California, says:

"Geologic and mineralogic indications show marked leaching effect and the probability of appreciable deeper secondary enrichment."

Conclusions as submitted by R. E. Mieritz, P.E. Mining Consultant:

"The Ellsworth Mining District in which the property is located, is a forgotten but a good potential copper producing district as evidenced by some early production reports and records from 1918 to 1924. The principal interest at that time being the gold and silver associated with the copper mineralization. The present interest should be the production of copper. The associated gold and silver values would support a milling operation.

"The Centroid Property is in a setting of much surfaced exposed copper and iron mineralization as evidenced in the many cuts, pits and shafts within and without the property.

"Development of a low grade copper body in the vicinity of the Horse Whim area is highly possible. The possibility exists to the north and northeast of the existing drill exploration completed as of this writing.

"The development of high-grade copper is possible in the fissure system to the north of the Horse Whim area and same must definitely be explored by drilling.

"That District-wise, sufficient moderate grade copper material could be developed and available to a mill servicing the district and the sulphide mineralization evidenced on the property and in the district should easily be amendable to a simple flotation process with expected high recoveries."

Corporate Data

The company was organized in the year 1936, as a mining company, under the laws of Arizona. The Articles of Incorporation, as amended, authorize the issuance of 3,000,000 shares of common capital stock with a par value of $0.10 per share, fully paid and non-assessable.

Approx. 2,250,000	shares have been issued and are outstanding.
750,000	shares are unissued.
3,000,000	total shares authorized

The corporation remains in good standing with the Arizona Corporation Commission. The last offering to the public was in 1952, at a selling price of $0.50 per share.

CONCLUSIONS

The writer forwards the following conclusions which are founded and resulting from a personal examination and study of the Centroid Property.

(1)- The Ellsworth Mining District in which the Property is located, is a forgotten but a good potential copper producing district as evidenced by some early production reports and records from 1918 to 1924. The principal interest at that time being the gold and silver associated with the copper mineralization. The present interest should be the production of copper. The associated gold and silver values would support a milling operation,

(2)- The Centroid Property is in a setting of much surfaced exposed copper and iron mineralization as evidenced in the many cuts, pits and shafts within and without the property,

(3)- Development of a low grade copper body in the vicinity of the Horse Whim area is highly possible. The possibility exists to the north and northeast of the existing drill exploration completed as of this writing,

(4)- The development of high-grade copper is possible in the fissure system to the north of the Horse Whim area and same must definitely be explored by drilling.

(5)- That District-wise, sufficient moderate grade copper material could be developed and available to a mill servicing the district and,

(6)- The sulphide mineralization evidenced on the property and in the district should easily be amendable to a simple flotation process with expected high recoveries.

(Report R.E.M. 8-30-57)

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine: CENTROID, Cu. Date: February 27, 1943

District: Ellsworth Engineer: Earl F. Hastings

Subject: Reconstruction Finance Corporation Mining Loan.

Docket No. C - 145
Date Application Received - February 23, 1943
Date of Report February 27, 1943

1. Name and address of applicant (correspondent):
George H. Andrews, Box 14, Wenden, Arizona.

2. Character of project and estimated cost thereof:
Cu. Rehabilitate Cuprite shaft, 150 plusft. in depth; No. 1 tunnel, 225 ft. in length; and No. 2 Winze, 50 ft. in depth. $3,420.00.

3. Location of property:
Ellsworth Mining District, Cunningham Pass (9 miles north of Wenden) Yuma County, Arizona.

4. Applicant's interest in or ownership of property:
Applicant holds lease and option from Centroid Consolidated Mines, owners, at 10% royalty and, beginning June 16, 1943, a minimum monthly royalty of $100.00.

5. Loan requested:
$5,000.00.

6. Loan recommended:
None.

7. Comments:
(A) Added to the docket are: 1 - Report by Elgin B. Holt, Field Engineer, Dept. of Mineral Resources, dated January 10, 1940.
2 - Report by Elgin B. Holt, Field Engineer, Dept. of Mineral Resources, dated February 18, 1943.
3 - Memo from Elgin B. Holt, Field Engineer, Dept. of Mineral Resources dated February 18, 1943.

(B) The accessible portion of the vein, exposed for a length of approximately 250 ft. in Tunnel No. 1 and a surface open cut, shows a pay streak averaging 1 foot in width and a maximum width of 2 ft. at any one place.

The applicant elsewhere reports the Cuprite vein, in inaccessible workings, to vary from 4 to 24 inches in width. This would indicate the same approximate average as the exposed portion.

(C) The assays docketed average (numerically) 4.8% copper. Individual cuts show erratic content; above average assay value is generally noted in below average widths.

The William Wilkinson affidavit claims 6 carload shipments of 8 to 10% copper ore from the No. 1 Tunnel area.

These shipments, representing so little tonnage would not measureably increase the general average indicated by the sampling presented.

(D) It appears that the conditions of width, copper content, and irregularity do not show promise of a sufficient copper production to warrant the granting of this loan. The ratio of development footage to production tonnage is in an unfavorable balance to the extent that required expenditures of men, material and money, per pound of possible copper production, is considered unwarranted.

The area is entirely in the prospect stage and there is no precedence as a basis for anticipating deposition habits.

ARIZONA DEPARTMENT OF MINERAL RESOURCES

Earl F. Hastings
Projects Engineer.

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

DEPT. MINERAL RESOURCES RECEIVED FEB 20 1943 PHOENIX, ARIZONA

Mine CENTROID CONSOLIDATED MINES Date February 18, 1943.

District Ellsworth, Yuma Co., Arizona. Engineer Elgin S. Holt

Subject:

R E P O R T

OWNER: Centroid Cons. Mines, W. B. Harris, Pres., Wenden, Arizona.

LESSEE: George H. Andrews, Wenden, Arizona.

METALS: Copper and gold; copper predominating.

AREA & LOCATION:

This property, consisting of 38 mining claims, is located in Yuma County, Arizona, 9 miles north of Wenden, a station on the Santa Fe Railroad, with which place it is connected by a good level graded road, kept in repair by the county.

VISIT:

The writer visited this property on February 12, 1943, in company with George H. Andrews and Edwin W. Mills, at which time the mine was being operated by lessee with a crew of three men and ore was being extracted for shipment to a smelter.

GEOLOGY - VEINS:

The country rock consists of a granite-gneiss complex, intruded by numerous diorite dikes. Seven major veins traverse property in a N. W. - S. E. direction; dip of these veins being 35 to 50 degrees N. E.

MINE WORKINGS:

Mine workings of property consist of 7 shafts from 50 to 300 feet deep; also around 1500 feet of drifts, adits and cross-cuts. Much of this work was poorly directed and seems to have been carried out to prove geologic theories of engineers rather than to follow ore-bearing veins found outcropping on surface. Per Mr. Harris, there is a cross-cut on the 300-foot level of main shaft which intersects a mineralized fault zone around 100 feet in width, showing gold-bearing chalcopyrite

occuring in bunches, balance of mineralized fault material being thoroughly leached. Hence, Harris believes if proper depth could be attained in this area, a paying mine would be found at one or more points of junction of the major veins with the said mineralized fault. Mr. Harris stated, in an interview with me during January, 1940, that for years "chloriders" have mined and shipped high grade copper-gold ores from small surface veins, in the Cunningham Pass area, where this property is located; and that the main problem in said area is to get depth on the larger veins in order to determine once and for all whether commercial ore in quantity can be found in these larger veins, which show extensive leaching action in the surface workings on the same.

PRODUCTIVE AREA:

The main production from the Centroid group has been derived from the Centroild No. 17 claim, formerly known as the Cuprite claim, and which is now being worked by lessee. The Cuprite vein strikes N. 15 degrees W., and dips 60 degrees E. It is developed by a shaft 150 feet deep, in bad condition, and is only partly accessible for sampling. Also a tunnel has been run on vein 222 feet in length, from which a winze was sunk to an approximate depth of 50 feet. Mr. William Wilkinson, of Wenden, has informed me that the principal production from all of these workings consisted of 6 car loads of ore, which he shipped during 1912-13, averaging around 12 per cent copper and $29.00 gold per ton, figuring gold at $20.00 per ounce for that metal. The Cuprite vein is around 4 feet wide, with a pay-streak of chalcopyrite and bornite ore, on the hanging wall, from 4 inches to 24 inches in width. This pay streak is the source of the shipping ore mentioned.

ASSAYS:

The following list of assays was furnished me by Mr. Andrews, from ten samples cut by Lester Huthmacher, a miner who is working for Andrews, on February 16, 1943, along the Cuprite vein, in the tunnel

CHARLES H. DUNNING
MINING ENGINEER

Sept 19, 1955.

Centroid Consolidated Mines Co.,
650 North 1st Ave.,
Phoenix, Ariz.

Gentlemen:-

Per request from your management I have examined the cores from your recent drill holes and beg to submit my opinions and advice as based on this recent drilling.

This drilling has been well done and has accomplished a great deal. The holes have proven that the formation is copper bearing and probably in large areas. Your drilling has not encountered ore zones of mineable size and commercial grade, and the problem now is to find such zones by further exploring the most favorable areas.

The old Horse Whim shaft and workings had encountered some good showings of ore that seemed to get better with depth. My thought in advising your first drill hole was to crosscut this zone, and trend, at further depth.

This was done in your hole #3 and you did cut several wide zones, mineralized with copper, between depths of 246 ft to 546 ft. This might be considered as one zone 300 ft (or more) thick but which contains several barren intrusives. When the more acid types of rocks (quartz porphyry, monzonite, etc) are encountered they generally contain copper. The later basic intrusions may contain a very little but from experience cannot be expected to constitute commercial orebodies.

While there are some thin layers in the acid type formations of commercial grade they are probably irregular and would not justify the preparation and development necessary to mine them. The problem thus is to explore this structure at further depth with the hope that at some point the whole mass may be low grade commercial, or that there may be consistant bands of higher grade that could be mined in a selective manner. In this connection it should be born in mind that most large orebodies have margins of low grade, and it becomes necessary to find the "eye".

Your situation is still highly speculative but I believe a drill hole to cut this zone at further depth is fully justified. Such a hole could best be started about 100 ft further east than #3 and drilled at a steeper

angle - say 60°. This would cut the same strata about 200 feet deeper. Correlation in detail between such a hole and the log of your #3 would be valuable information, and the trends established could be of great importance. Such a hole would be about 650 feet deep.

Your other holes further east, #4 and #5 have not produced as good results. Evidentally the Cunningham Pass fault cut in #4 carries no mineralized zone of importance, and hole #5 did not attain sufficient depth to show anything. There are possibilities for #5 at further depth but I would prefer to devote available resources to exploration at further depth on the general Horse Whim zone - as suggested above.

Your Mr. Balir has kept excellent sketch/logs of the holes and I will not attempt to repeat same here. Such logs should always be taken and preserved as correlation of findings between holes is often of great importance.

Respectfully Submitted,

May 18th, 1955.

Centroid Consolidated Mines,
Phoenix, Ariz.

Gentlemen:-

Persuant to request from the Directors of your company I have made an examination of your holdings north of Wenden, Ariz., with view to locating the sites for a diamond drilling program, which should ultimately total 1000 to 1500 feet.

Two sites are selected at present with others to be deferred until some results from the first two holes are obtained.

Site # 1.

Approximately 100 ft toward the Horse Whim shaft from the corner of the shed/garage nearest to said shaft. Point the hole at a downward angle of 45 degrees, directly toward the shaft.

This should crosscut at a favorable angle and depth the mineralized conditions found in the lower reaches of the Horse Whim workings. Sketch attached shows that such a hole 500 feet in length should pass through the alignment of said shaft at a depth of about 700 feet on its present dip (33 degrees) or about 300 ft vertical. This would be about twice as deep as its present bottom.

Site #2.

This is designed to cut, at a depth below surface conditions, the very favorable gozzan exposed in and about the small shaft which is located as per sketch about 225 ft inside the Black Hawk #1 claim, from its #1 corner. I have called this the "Gozzan Shaft". Select the drill site as far up the hill as convenient at approximate right angles to the gozzan outcrop. Point the hole toward the shaft or outcrop at a downward angle of 60 degrees. Approximately 200 ft of hole should cut the fault/gozzan if it maintains its apparent dip, but you better plan for somewhat more hole in case the dip changes or you find something too interesting to leave.

Other Sites.

Other sites might include something to cut the so-called October Vein at a greater depth than the crosscut from the vertical shaft; and a general hole to tap the favorable mineralized condition which is apparent between site #2 and the camp.

However I would prefer to await partial results from either or both of the above holes before making exact selections.

Respectfully Submitted,

mentioned and from an open cut on the said vein on top of the ridge above the tunnel referred to:

No.	Place	Width-inches	Cu-%	Gold-ozs.	Total Value
1	Tunnel	4	5.3	0.08	$16.64
2	"	12	1.1	0.08	4.53
3	"	16	2.9	0.20	13.44
4	"	18	2.2	0.20	11.48
5	"	12	1.4	0.47	18.28
6	"	24	5.9	0.68	37.78
7	"	18	7.2	0.39	31.59
8	"	10	11.4	0.02	32.00
9	Open cut	4	8.7	0.28	32.88
10	" "	3	14.1	pending	pending

NOTE: The above assays were made by John C. Herr, Wickenburg Ore Market, February 17, 1943.

OPERATIONS: PLANNED:

Lessee plans to raise capital sufficient to defray the cost of rehabilitating and unwatering the 150-foot shaft referred to, and also for the purpose of cleaning out and retimberimbering where necessary the 50-foot winze. The object of this work is to make these workings accessible for sampling. Also, when and if the said work has been carried out, and in the event a thorough sampling of the vein ~~XX~~ should prove satisfactory, lessee then plans to carry forward such work as may be found necessary in order to block out a new supply of shipping and milling ore, such as is now indicated by the former shipments mentioned from property, as well as by the assays set forth above.

WATER:

Domestic water is now hauled from Wenden, 9 miles distant. Mill water would have to be pumped from Centenial Wash, from a well, near Wenden.

POWER:

The newly constructed Parker-Phoenix power line crosses property; but before this power could be made available, an expensive transformer station would have to be erected in this area. Hence, it would be necessary to install Diesel power in order to carry out heavy exploratory work or milling operations.

Elgin B. Holt,
Field Engineer.

COPY

MAGMA COPPER COMPANY
Superior , Arizona.

Smelter Lot # 1466 Shipper Lot # M 694 Bought of Centroid Cons Mines.

Settlement # 1032 Date December 7,1936

Car S.P. 92495 Net weight Dry 77,371 38.6855 Tons.
N.Y.Quotations Date Nov 30,1936 Copper at .10275 per pound.
Gold at $32.20 per ounce.

Assay and analysis.

Copper	.91
Silver	.40
Gold	.43
Iron	24.4
Lime	.6
Alumina	3.5
Silica	53.4
Sulphur,	None.

Value of shipment, net,- $421.62
Dec 1936

****

Values of shipment as of Sept 15,1950

Gold	$ 172.48
Copper	581.00
	$ 753.48

The above shipment was taken from the hanging wall Horse Thim Sheft fifty feet above where an economic body of copper-gold ore was discovered a month after. Vertical depth 110 feet. Predicted by both Tovote and Mills.

CHARLES H. DUNNING
MINING ENGINEER
PHOENIX. ARIZONA

OFFICE
817 W. MADISON ST.
PHONE ALPINE 3-6272

RESIDENCE
1635 W. EARLL DR.
PHONE AMHERST 5-1132

November 3, 1955

Centroid Consolidated Mines Company
Phoenix, Arizona

Gentlemen:

Pursuant to your request I have made an examination of your Centroid group of mining claims. The purpose of the examination was to supply the technical data to attend anapplication for a DMEA exploration loan.

LOCATION

The group consists of 12 patented and 19 unpatented mining claims located in the Cunningham Pass area of the Ellsworth Mining District, 10 miles north of Wenden, Yuma County, Arizona.

The legal description of the claims is attached elsewhere to this application.

GEOLOGY

The terrain consists of a basement of granite gneiss, varying in phase through true schist, to pegmatite. This old intrusion has been invaded by later intrusions of a basic type. These, together with mountain building, caused faulting and brecciation, and the later intrusions were accompanied by mineralizing solutions that have deposited copper in favorable channels and zones.

The geology of the location has been well studied and written up by Dr. Wayne E. Kartchner, under date of June 15, 1953, and reference is made to his report. One opinion expressed therein is of special interest and is as follows:

> "Hematite and siderite are intimately associated with the chalcopyrite, indicating deposition by the same processes. Presence of the siderite suggests the present topographical surface is at approximately the upper horizon of copper mineralization and deposition.
>
> Small stringers of chalcocite were seen cutting into the chalcopyrite giving evidence of secondary sulphide enrichment even at the shallow depth of the Horse Whim shaft. This feature gives promise of more en-

richment in deeper zones."

The main Cunningham Pass fault cuts through the easterly portion of the property, causing the "pass" through the mountains. Whether this is post-mineral, or pre-mineral, or what the displacement was, is unknown to me, but it does not seem to effect any of the economic aspects under consideration.

HISTORY and DEVELOPMENT

The oldest work on the group was the Van Eck shaft on the Jubilee No. 2 claim. This shaft is supposedly 322 feet deep, at an incline of 54 degrees. It was sunk about 1906. I know of no one who is familiar with the under-ground works, but I do know that some years ago the dump contained a considerable quantity of both carbonate and sulphide copper ore, which has since been gleaned and removed. There appears to be very little geological reason for sinking the shaft where it is.

The "Main Shaft" was sunk by Wm. B. Harris in the 1930's. It is vertical and attained a depth of 350 feet with a long crosscut to the south at the bottom. This crosscut, cut at least one copper mineralized zone, called the "October Vein", but general mineralization was sparse, indicating that further depth, or a different location for exploration, was necessary.

The Horse Whim shaft was sunk on an incline of 40 degrees, starting on an iron outcrop, and following the dip of the formation. Various "leads" were followed by crosscuts and drifts, with some showing of copper ore in irregular occurrences.

A diamond drill hole was put down from a location approximately 900 feet northeast of the collar of this shaft, at a course toward the shaft, and a dip of 45 degrees to intersect this zone at about 600 feet on its dip, or 475 feet vertical. Log of this hole, together with cores, are available for inspection.

Cores were not systemically assayed, but several zones were cut showing copper mineralization, although below commercial grade. This additional depth has shown a distinct improvement over the conditions in either the Horse Whim or ver-

tical shafts.

After removal of the drill, when the cores were re-examined, it was discovered that the last bit of core again showed copper mineralization.

Another diamond drill hole was put down on the Black Hawk claim, at a vertical angle of 55 degrees, to cut the Cunningham Fault zone. The zone, itself, did not core, but some 21 feet in the east wall showed a small copper content.

The outcrop of this fault is heavily mineralized with iron in places, but although the fault zone has no doubt been tested in many places, it has never produced a copper orebody.

DISTRICT HISTORY

Practically adjoining the Centroid group on the northwest is the old Critic Mine, that has had a considerable record of profitable copper production. The Arizona Department of Mineral Resources files show a definite record of direct shipments, without dates, of 1772 tons averaging .75 oz gold, and 11.5% copper. Total production of $500,000 was estimated by Elgin Holt, field engineer for the department, in a report dated: January 10, 1940.

Directly adjoining the Centroid on the north is the Little Giant. The dump indicates a shaft of several hundred feet in depth, and to my personal knowledge this dump, like the Van Eck, contained considerable copper some years ago. It has since been gleaned. There is no authentic data that I know of regarding the underground developments.

MINING FACILITIES

A high tension commercial power line, from Parker Dam to Phoenix, passes over the property. Also, a main natural gas line.

Ample water could no doubt be obtained from wells put down in the valley between the mine and Wenden.

The ten miles of road to the railroad at Wenden is a well

maintained county highway.

Reasonable freight rates have long been established from Wenden to the various smelters.

Mining activity of many types supplies an experienced labor pool in the district.

REFERENCE to MAPS

A map is attached showing the central portion of the claims, the past development, holes already drilled, and the drill holes advised for further exploration.

EXPLORATION ADVISED

Following Dr. Kartchner's theory that improvement should be expected in copper content (and therefore in size) of commercial ore zones; and considering the fact that drill hole No. 3 had again penetrated copper bearing rock at its bottom, I would advise putting down another hole parallel to this, about 150 feet to the east, and deeper. The results should be correlated with the previous hole, and would show trends, or consistency, or lack of consistency, and also explore the formation at further depth. If successful, the first hole (i.e. No. 3) could then be deepened.

On the entire group the area showing the best surface mineralization in a zone about 200 feet wide coursing through near the west corner of Hancock #2, with a northerly course, and headed directly for the Little Giant workings.

A south-west northeast ridge cuts through this zone, and there are cuts showing considerable copper in sub zones trending north and south, on the south side, top, and north side of this ridge.

Here there should be two diamond drill holes cutting the whole zone at a 45 degree angle from strategic points to the east; one on the south side of the ridge, and one on the north, cutting the zone at 400 to 500 feet depth. Good drill sites are available, and length of the holes would be approximately the same as the depths cut.

CHARLES H. DUNNING
MINING ENGINEER

On the Black Hawk #1 claim a drill hole was started with a south-west course and a 45 degree vertical angle. This only reached a depth of 216 feet - too shallow to prove anything. This is fairly potent territory and this hole should be continued to a depth of over 500 feet to properly explore this region.

The above program sums up as follows:

Hole No.	Site	Course	Dip	Depth
6	Centroid #16	West	45	500
7	Centroid #17	West	45	500
8	Near Camp	South-west	55	800
9	Deepen old #5	Southwest	45	300
				2100 Total

The above exploratory program should prove whether or not a coordinate drilling program is justified.

Respectfully submitted,

Chas H Dunning

REGISTERED MINING ENGINEER
CERTIFICATE EXPIRES
CHARLES H. DUNNING
DEC. 31, 1955
ARIZONA, U.S.A.

R.BURTON ROSE, M.A.
Mining Geologist
San Jose, California

A L L I E D
G E O P H Y S I C S

April 8, 1952

Centroid Consolidated Mines
P.O. Box 2236
Phoenix, Arizona

Attention: Mr. William B. Harris

Gentlemen:

It is a pleasure to have recently examined your mine holdings in Cunningham Pass, Yuma County, Arizona; especially since they indicate favorable geologic structure and associated copper ore deposition, coupled with a sound ownership background.

As an overall resume we would like to make the following recommendations:

1.) Rehabilitate the 300 foot main vertical shaft and its 600-ft. south crosscut located on the Jubilee #5 Claim; since surface examination indicates relatively little re-timbering (collar not caved) and only a few feet of water.

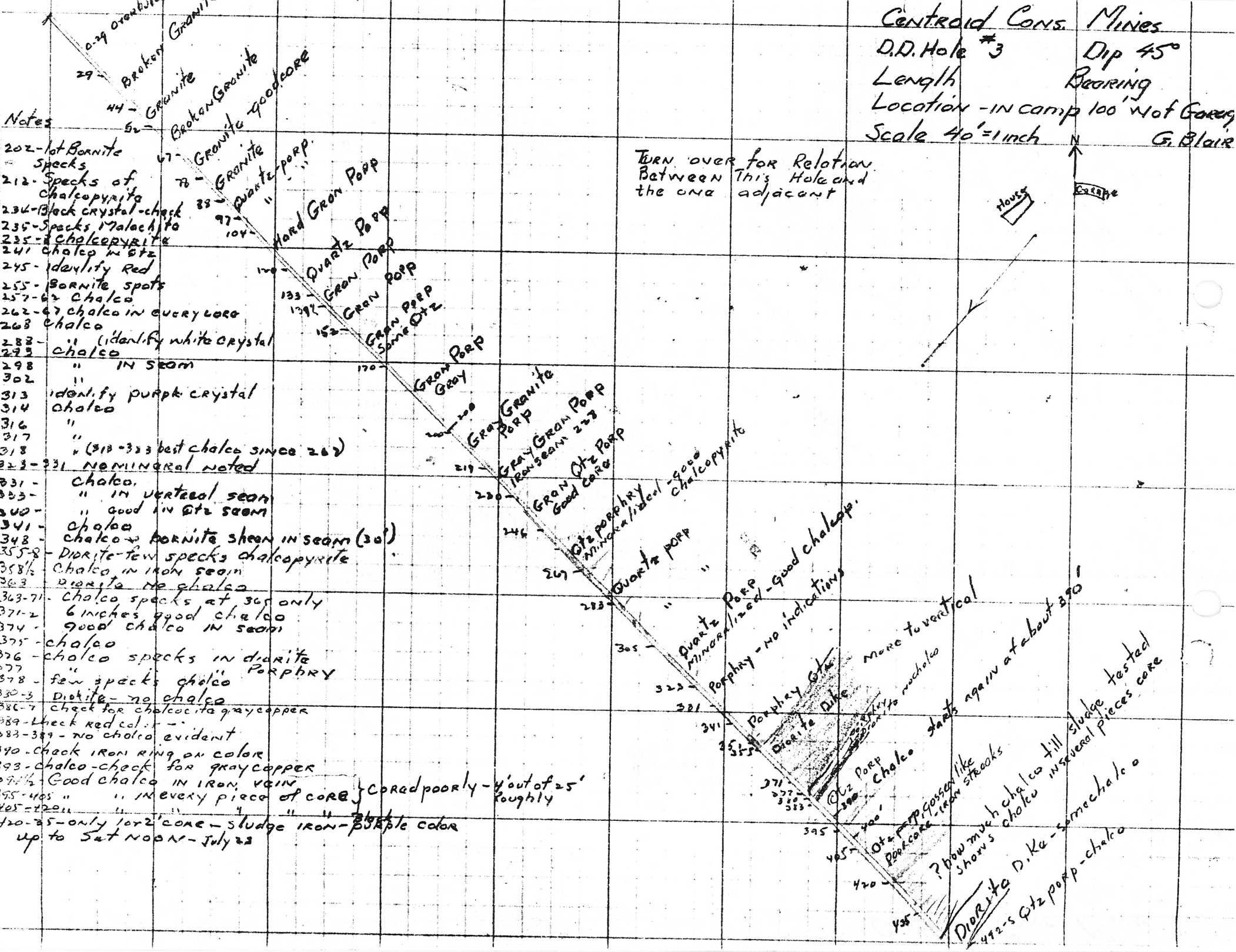
2.) Following the above step, a raise connection to the bottom of the Horse Whim incline located on the Jubilee #2 Claim should be surveyed. A raise for the exploration of this ground area and connection with subsequent dual surface access will be much less costly than continued incline shaft sinking.

3.) Primary development objective on the south crosscut 300-ft. level should be the running of an east drift on the south side of the October fault-vein to cut the Van Eck vein. Drifting in both directions is then suggested in order to develop ore reported at the bottom of the Van Eck incline and to disclose the structural relationship of this vein with the October fault-vein and the diorite dyke 100 feet north.

4.) Further sinking of the Bob shaft located on the Centroid #4 Claim is important. This zone is particularly promising as seen in the surface trenching and at the collar of the prospect incline. No connection underground to the 300 foot level crosscut is warranted because of the separation distance.

Centroid Cons. Mines
D.D. Hole #3 Dip 45°
Length Bearing
Location - in camp 100' W of Garage
Scale 40' = 1 inch G. Blair

Turn over for Relation Between This Hole and the one adjacent



Notes

202 - lot Bornite Specks
212 - Specks of Chalcopyrite
234 - Black crystal - check
235 - Specks Malachite
235-8 Chalcopyrite
241 Chalco in Qtz
245 - Identify Red
255 - Bornite spots
257-62 Chalco
262-67 chalco in every core
268 Chalco
288 - " (identify white crystal
293 chalco
298 " in seam
302 "
313 identify purple crystal
314 chalco
316 "
317 "
318 " (313-323 best chalco since 262)
323-331 No mineral noted
331 - chalco.
333 - " in vertical seam
340 - " good in Qtz seam
341 - chalco
348 - chalco - bornite sheen in seam (30')
355-8 - Diorite - few specks chalcopyrite
358½ - Chalco in iron seam
363 Diorite no chalco
363-71 - Chalco specks at 365 only
371-2 6 inches good chalco
374 - good chalco in seam
375 - chalco
376 - chalco specks in diorite
377 " " Porphry
378 - few specks chalco
380-3 Diorite - no chalco
386-7 check for chalcocite graycopper
389 - check red color
383-389 - no chalco evident
390 - check iron ring on color
393 - chalco - check for graycopper
394½ - Good chalco in iron vein
395-405 " " in every piece of core } Cored poorly - 4' out of 25' roughly
405-420 " " " " " " Black
420-35 - only 1 or 2' core - sludge iron - purple color
up to Sat noon - July 23

DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine Centroid Consolidated Mines. Date January 10, 1940.

District Ellsworth, Yuma Co. Engineer Elgin B. Holt

Subject:

SYNOPSIS REPORT

OWNER: Centroid Cons. Mines, W. B. Harris, Pres., Wenden, Arizona.

LOCATION: Property, consisting of 39 mining claims, is located in Yuma County, 9 miles north of Wenden, with which place it is connected by a good level graded road, kept in repair by the County.

METALS: Copper, gold and manganese.

VEINS: Seven major veins traverse property. These veins are from 1 to 50 feet in width and strike from N. W. to S. E.; dip 35 to 50 degrees N. E.

DEV. WORK: Consists of seven shafts from 50 to 300 feet deep; also 1500 feet of drifts and cross cuts. There is a cross cut on 300 ft. level of main shaft which intersects a mineralized fault 100 feet wide, showing chalcopyrite and gold ore which occurs in bunches, balance of mineralized fault material being thoroughly leached. Hence, it is believed if proper depth is attained a paying mine could be found at one or more points of junction of the major veins with the said mineralized fault.

Mr. Harris stated that for many years "chloriders" have mined and shipped high grade gold-copper ore from small surface veins; that the problem of the Cunningham Pass area, in which mines under discussion are located, is to get depth on the larger veins in order to determine once and for all whether commercial ore in quantity can be found in these larger veins.

BUILDINGS: There are 15 dwelling houses and other buildings on property.

WATER: Domestic water is now secured from a well at mine. Mill water would have to be pumped from Centenial Wash, near Wenden, a distance of 9 miles.

POWER: The newly constructed Parker-Phoenix power line crosses property. However, in order to make this power available, an expensive transformer station would have to be erected in this area, the cost of which could hardly be met by one company.

COPY

May 2, 1947

Mr. W. B. Harris
Box 1481
Yuma, Arizona

Dear Mr. Harris:

I have searched the Public Survey Records on the Black Reef property and have found the following information which I am sure will be of value to you.

This property, according to their records, was located in 1915 by C. W. McKee - 1/2 interest, E. C. Diefendorf - 1/4 interest, and H. A. McKee - 1/4 interest and was patented March 26, 1924 by H. G. Laux. The main shaft on the Robert E. Lee claim is described as follows:

> Strike North 35° East, dip for first 80 feet 64°; next 400 feet 78°. Total depth of shaft 480 feet. On the 80 foot level there is a 4 x 6 drift bearing South 85°-30' West - 35 feet; another North 85°-30' East - 100 feet. On the 175 foot level a drift bearing South 85° West - 35 feet; another North 85° East - 115 feet. On the 300 foot level a drift bearing South 85°-30' West - 260 feet; thence South 81° West - 255 feet, thus making 515 feet on the West side of the shaft on the 300 foot level.

The above gives a total of 480 feet of shaft work and 800 feet of drifting for a grand total of 1280 feet of development work. From the looks of the dump the owners must have shipped some of the ore obtained through the development. There is no mention at any place in the surveyor's notes of any stoping having been done on this property.

I delivered the samples to Charles Diehl's assay office yesterday afternoon and you will hear from him direct. I instructed him to assay all of the samples for copper, gold and silver with the exception of the two taken on top of the mountain, which I had assayed for gold and silver alone. I will write you further when I get the results of his analyses.

I have been unable to learn the name of the last owner of these claims who was supposed to have lived in Phoenix. If you get

this information please forward it to me so I can look the man up and find out whether or not there has been any work done other than mentioned in this letter. Mr. Diehl was quite impressed with the ore obtained from the Black Reef.

Regards,

Roger I. C. Manning
Field Engineer

RICM:mh

COPY

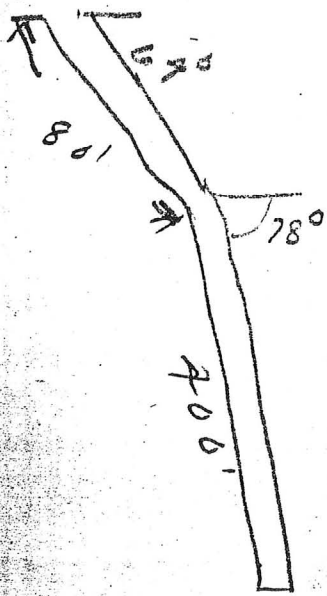
RE L

shaft

from Cor #2

Bears N 29° 30' W 340' (6x8) clear

480' Deep. N 35° E

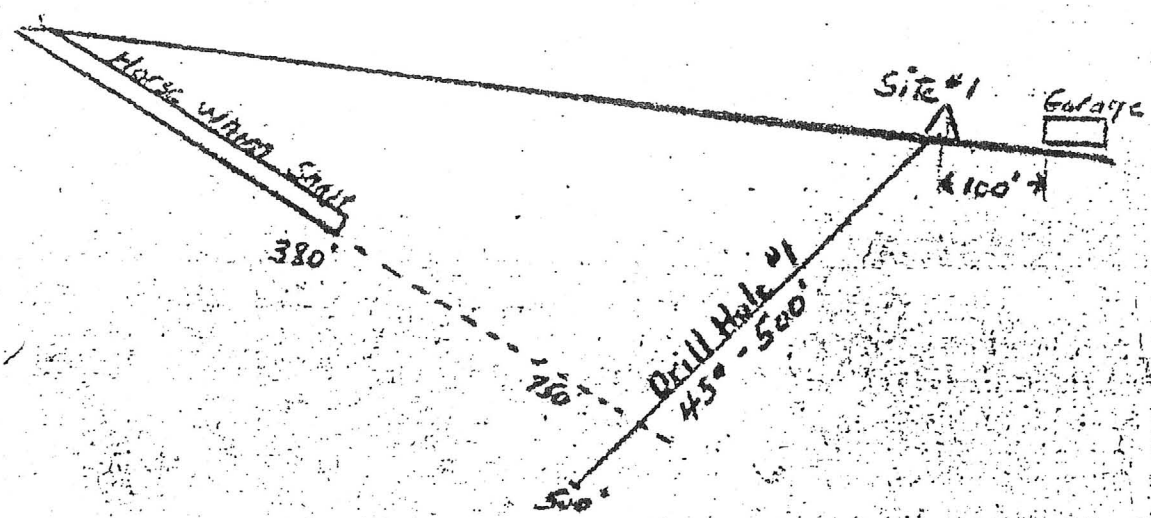


4x6

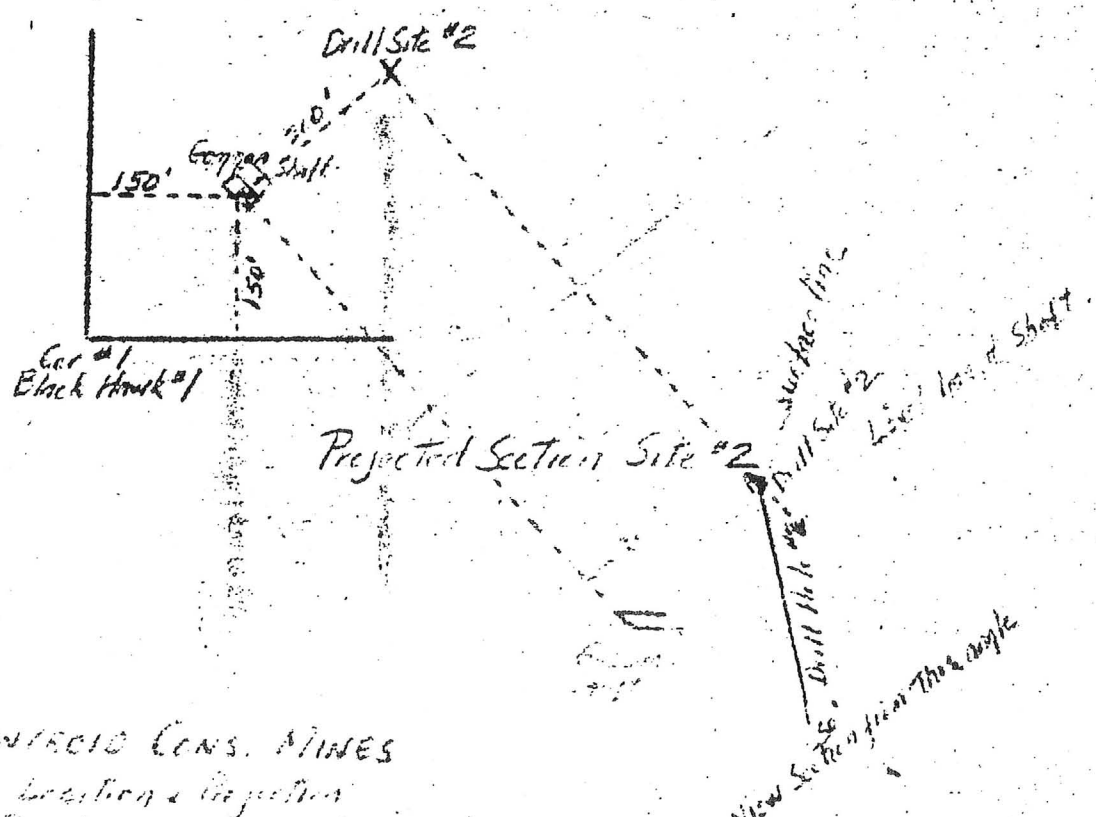
-80	Drift	S85°30'W	35'
-80	"	N85°30E	100'
-175	"	S85°W	55'
-175	"	N85°E	115'
-300	"	S85°30W	260'
		S81°W	255
			800

H. G. Laux 3-26-1924 Patented

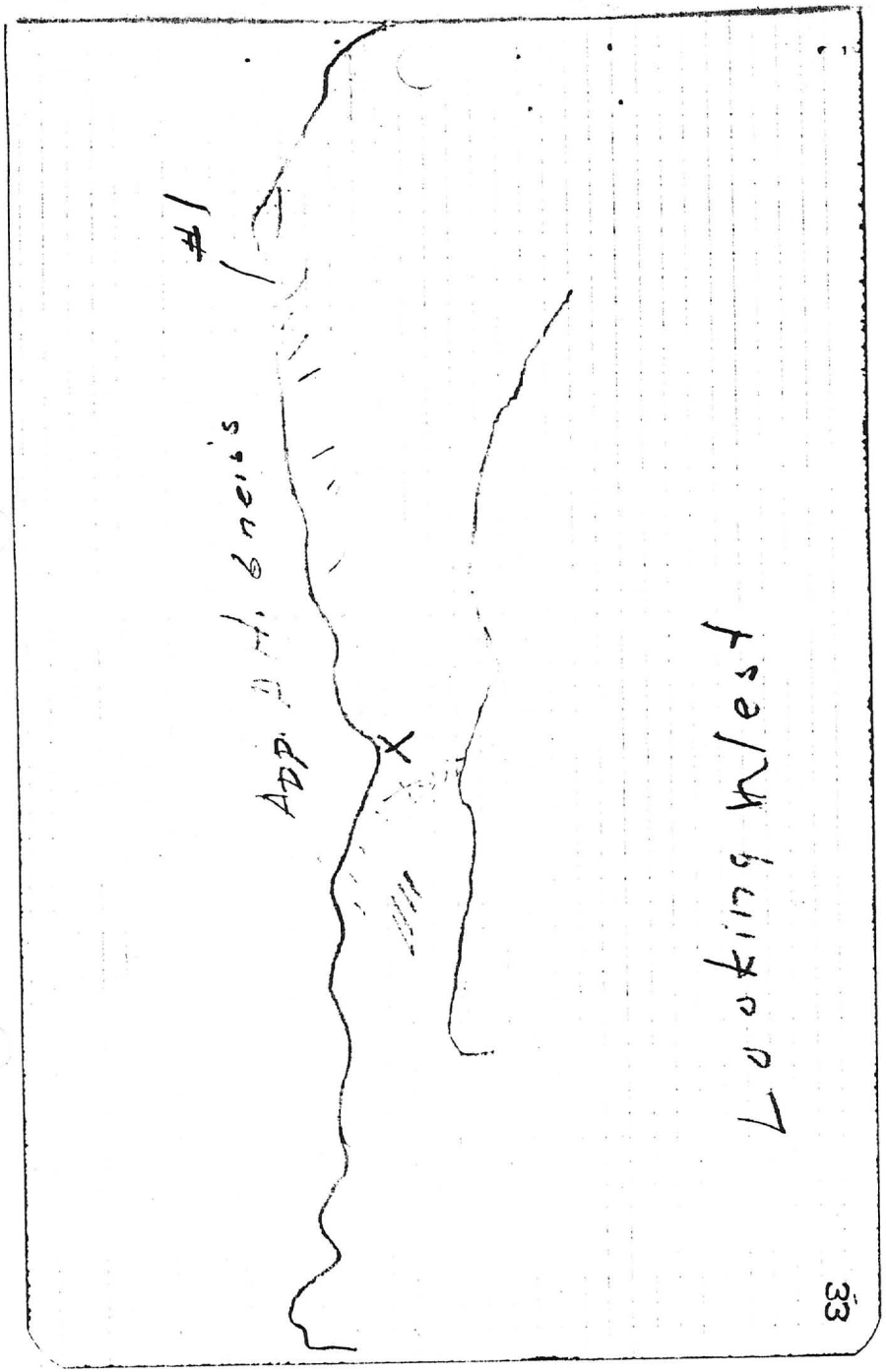
C. W. Mckee 1/2
E C Diefendorf 1/4
H A Mckee 1/4



Plan View Site #2



CONTROLD CONS. MINES
Location & Projection
Proposed Drill Holes
[illegible]
May 1983 [illegible]
Scale 200' = 1"



#1 Damp main shaft.
REL.

2 Outcrop REL
200' E of shaft, 30's
vein 4' wide dip 66
strike EYW

3 X outcrop

Black Reef

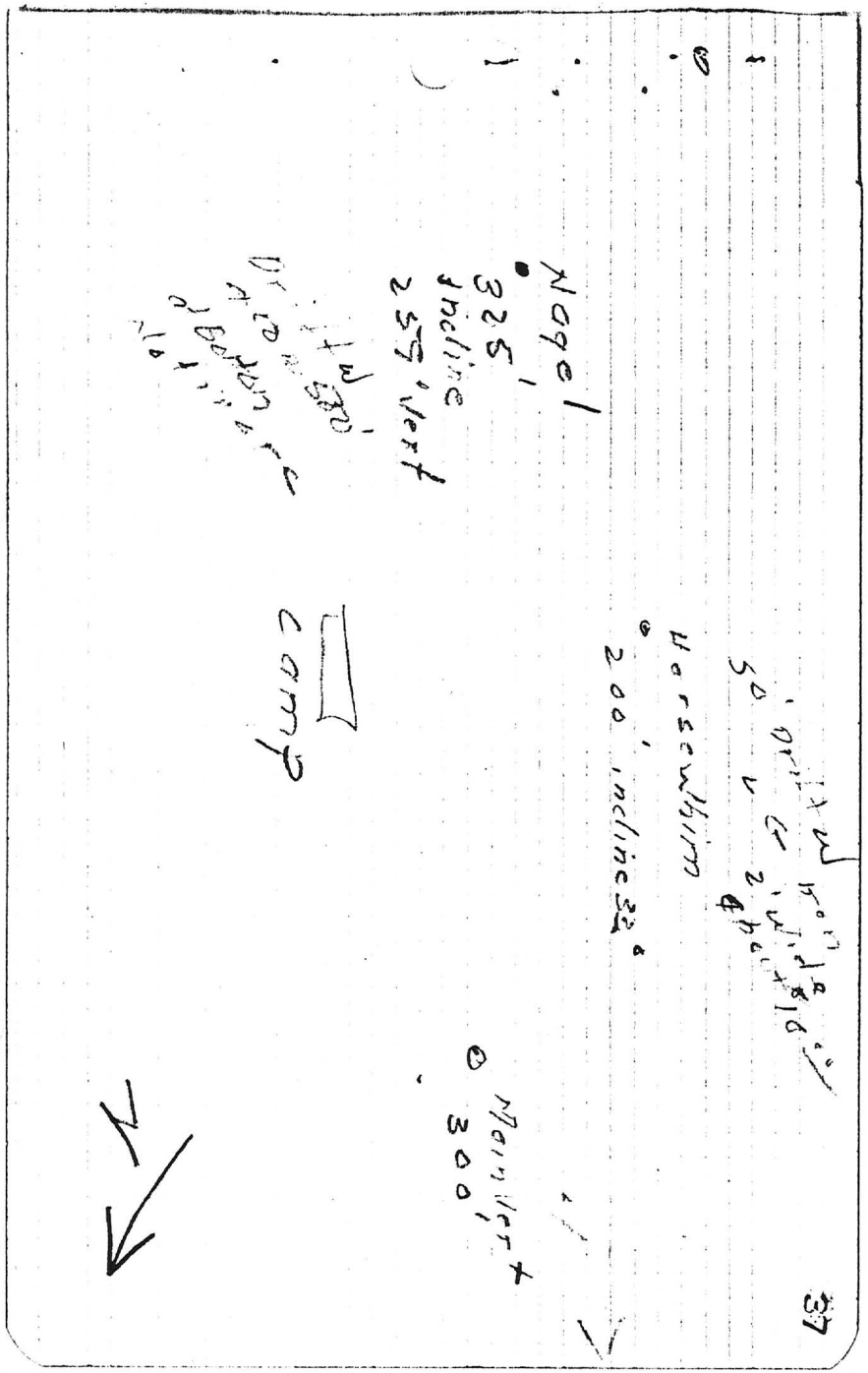
Located

Patented ?

Worked 20's

Shut down

Concrete work
4-9-17
by H.E. Laux



37

1-30-47

3325' El. A-1-07' } 24'
A-1-17'
3500 El
2950 " shaft
sample A1 Au 17

Country Rock Gneiss
Dips 50° N strikes E.W.

Dacite Dykes H & FW of Vein.

Water ½ mile NE in Wash 60' shaft caved in. 50' to water
?

Water level
El. Black Hawk 2500
" L Giant 2400
2425
Well

38

Call for

Reverse Gear for
1936 Std Chev. Coupe
(Low reverse unit)

If not available what
would complete trans.
Cost. new or used.

4300 N

4200 W S Hole

4250 top S

4225 E Side Hole

S

4100 ~~[illegible]~~

4050 [illegible]

#1 Incline 45° N
or 325' 9 1/2 Conv
El.

or #2 incline 27° N
250' 9 1/2 Conv.
El

or #3 Vert
El
300' 1 1/2 Conv

#4 incline 51° NE
El
150' N 45° W

#5 vert 20'
El
Sample

Centroid

Wm Harris

Wenden

No. 369 Ha

Phoenix, Arizona,
Nov. 20, 1947.

CHAS. A. DIEHL

ARIZONA ASSAY OFFICE

Mail: P. O. Box 1148 — 815 North First Street — Phone 3-4001

THIS CERTIFIES That samples submitted for assay by Mr. W. B. Harris
Wenden, Arizona
contain as follows per ton of 2000 lbs. Avoir.

MARKS	SILVER Ounces	SILVER Tenths	VALUE (OZ.)	GOLD Ounces	GOLD Hndths	VALUE $35.00 oz.	TOTAL VALUE Of Gold & Silver	% PERCENTAGE COPPER	REMARKS
Gravel sample		.1			.01	$.35		2.81	

Charges $ 2.00

Assayer ARIZONA ASSAY OFFICE

No. 320 Ha

Phoenix, Arizona,

May 2, 1947

CHAS. A. DIEHL

ARIZONA ASSAY OFFICE

Mail: P. O. Box 1148 — 815 North First Street — Phone 3-4001

THIS CERTIFIES That samples submitted for assay by MR. W. B. HARRIS contain as follows per ton of 2000 lbs. Avoir.

MARKS	SILVER Ounces	SILVER Tenths	VALUE (OZ.)	GOLD Ounces	GOLD Hndths	VALUE (OZ.)	TOTAL VALUE Of Gold & Silver	PERCENTAGE Copper	PERCENTAGE Iron	REMARKS
			90¢			$35.00				
B.R. 1		.3		.06		$2.10		.45	38.20	Dump
2		.2		.08		2.80		1.85	29.61	Outcrop east of shaft
3		.1		.01		.35		.01		Outcrop west of shaft
4		.2		Trace				.30		Outcrop west of shaft
5		.2		.04		1.40		.30		Across vein 12' below surface in shallow shaft 200' east of main shaft
	1, 2 and 5		-	Samples of Robert E. Lee Claim						
	3 and 4			Samples of Dorothy "A" Claim						

Charges $ 13.00

Assayer ARIZONA ASSAY OFFICE

No. ~~331xD6~~ 318 Ha

Phoenix, Arizona,

CHAS. A. DIEHL

May 2, 1947

ARIZONA ASSAY OFFICE

Mail: P. O. Box 1148 — 815 North First Street — Phone 3-4001

THIS CERTIFIES That samples submitted for assay by MR. W. B. HARRIS contain as follows per ton of 2000 lbs. Avoir.

MARKS	SILVER Ounces	SILVER Tenths	VALUE (OZ.)	GOLD Ounces	GOLD Hndths	VALUE (OZ.)	TOTAL VALUE Of Gold & Silver	PERCENTAGE	REMARKS
			~~20¢~~			$35.00			
Al-0		.1	~~¢~~	.09		$3.15		7')	
								)	Top of ridge
Al-1		.1		Trace				17')	

Charges $ ~~2.50~~

Assayer ARIZONA ASSAY OFFICE

No. 319 Ha

Phoenix, Arizona,
May 2, 1947

CHAS. A. DIEHL

ARIZONA ASSAY OFFICE

Mail: P. O. Box 1148

815 North First Street

Phone 3-4001

THIS CERTIFIES That samples submitted for assay by MR. W. B. HARRIS BLACKHAWK contain as follows per ton of 2000 lbs. Avoir.

MARKS	SILVER Ounces	SILVER Tenths	VALUE (OZ.)	GOLD Ounces	GOLD Hndths	VALUE (OZ.)	TOTAL VALUE Of Gold & Silver	PERCENTAGE		REMARKS
			~~90¢~~			~~$35.00~~		Copper		
BLACKHAWK X		.2			.02	$0.70		.01	Across vein 4' 0"	
Y		.1			Trace			.02	Footwall	
Z		.3			.02	0.70		.01	Hangingwall	

Charges $ 6.00

Assayer ARIZONA ASSAY OFFICE

No. 302 Ha

Phoenix, Arizona,

CHAS. A. DIEHL

Jan. 30, 1947.

ARIZONA ASSAY OFFICE

Mail: P. O. Box 1148 — 815 North First Street — Phone 3-4001

THIS CERTIFIES That samples submitted for assay by Mr. W. B. Harris. contain as follows per ton of 2000 lbs. Avoir.

MARKS	SILVER Ounces	SILVER Tenths	VALUE (OZ.)		GOLD Ounces	GOLD Hndths	VALUE ($35. OZ.)		TOTAL VALUE Of Gold & Silver		% PERCENTAGE COPPER				REMARKS
		.1				.04	$1.	40			.15				

Charges $ 2.00

Assayer ARIZONA ASSAY OFFICE

Ed Hoff

File Harris property Yuma County

No. 289 Ha

CHAS. A. DIEHL

Phoenix, Arizona, 2 Dec 1946

ARIZONA ASSAY OFFICE

Mail: P. O. Box 1148 — 815 North First Street — Phone 3-4001

THIS CERTIFIES That samples submitted for assay by Mr. W. B. HARRIS contain as follows per ton of 2000 lbs. Avoir.

MARKS	SILVER Ounces	SILVER Tenths	VALUE (OZ.) 90¼¢	GOLD Ounces	GOLD Hndths	VALUE (OZ.) $35	TOTAL VALUE Of Gold & Silver		% PERCENTAGE Copper				REMARKS
GOSSAN		.2	$ .18		.01	$ .35			TRACE				

Charges $ 2.00

Assayer ARIZONA ASSAY OFFICE.

Chas A Diehl

No. 260 Ha

Phoenix, Arizona,

CHAS. A. DIEHL

July 17, 1946.

ARIZONA ASSAY OFFICE

Mail: P. O. Box 1148

815 North First Street

Phone 3-4001

THIS CERTIFIES That samples submitted for assay by Mr. W. B. Harris. contain as follows per ton of 2000 lbs. Avoir.

MARKS	SILVER Ounces	SILVER Tenths	VALUE (OZ.)	GOLD Ounces	GOLD Hndths	VALUE (OZ.)	TOTAL VALUE Of Gold & Silver	% PERCENTAGE COPPER	% PERCENTAGE LEAD			REMARKS
No. 1-Small piece	Contains about 1% Specularite.							.02				
No. 2-Two chunks	Shows casts of Chalcopyrite							.15				
of yellow limonite.								.04				
No. 3-Large pieces	Resembles pure kaolin but ironstained.							None				
REMARKS:	Sink on the No. 3 near No. 2.											

Charges $Paid

Assayer ARIZONA ASSAY OFFICE

No. 208 De

Phoenix, Arizona,
17 July 1946

CHAS. A. DIEHL

ARIZONA ASSAY OFFICE

Mail: P. O. Box 1148

815 North First Street

Phone 3-4001

THIS CERTIFIES That samples submitted for assay by Department of Mineral Resources contain as follows per ton of 2000 lbs. Avoir.

MARKS	SILVER Ounces	SILVER Tenths	VALUE (oz.) 71¢	GOLD Ounces	GOLD Hndths	VALUE $35	TOTAL VALUE Of Gold & Silver	% PERCENTAGE Copper	REMARKS
Harris Limonite		.2	$ .14		.02	$ .70	$ .84	.02	

Charges $ 2.00 Paid 7/20/46

Assayer ARIZONA ASSAY OFFICE.

C
O
P
Y

THE DESERT MINE IN CUNNINGHAM PASS, ARIZ.

Report by W. TOVOTE

LOCATION:

T7N-R12W Sec. 18 OR sec. 13, T7N. R13W KAP 5-3-7

The DESERT MINE is located just West of Cunningham Pass, a low saddle in the Harouvar Mountains, Yuma County, Arizona. The mine is on the south slope of the mountain range and the country descends from here on easy downward grade to Wenden on the Santa Fe Railroad, Arizona & California Branch, the nearest railroad point, which is approximately ten miles to the south. The road connecting the mine with Wenden is in fairly good condition; only the short branch from the main Cunningham Pass road to the mine, about one quarter of a mile in length, is in need of repair. Four miles of the main road in the immediate vicinity of Wenden are over sandy ground and liable to be cut up considerably during the dry season; the blance is on good gravel bottom.

The climate is typical desert climate, splendid winters and hot summers.

THE PROPERTY:

The property consists in eleven unpatented mining claims, owned by R. G. Robinson, Wenden, and held under option by D. W. Hall of Salome.

DEVELOPMENT:

Considerable development work has been done on the ground without leading to favorable results, but the work was not done with due regard to the geological features of the property or the district generally, and the outcome cannot be accepted as final as far as the possibilities of the mine are concerned.

The principal workings are:

Shaft No. 1, an incline 200 ft. deep, with short lateral cuts and about 50 ft. of drifting on the bottom level.

Shaft No. 2, the main-shaft, and incline 325 ft. deep with over 500 ft. of laterals, most of these near the bottom of the shaft and at present under water.

Shaft No. 3, an incline about 70 ft. deep.

Shaft No. 1 and No. 2 are on the Copper Hill claim, Shaft No. 3 is on the Amanda claim. Beside these workings there are a great number of shallow shafts, tunnels and cuts.

EQUIPMENT:

The property is well equipped. It contains a camp on the Copper Hill claim, consisting of two corrugated iron buildings, the larger of which was designed as combination office-bunk house-warehouse; it is 100 ft. x 30 ft.

and in good condition. The smaller could be utilized as a dwelling or bunk house.

At shaft No. 2 is a 25 HP Fairbanks-Morse gasoline hoist and a 9" by 8" Ingersoll Rand compressor, well housed in a corrugated iron building. The shaft has a good wooden headframe; the hoist about 400 ft. of ½" cable, several buckets and other accessories. A pump was on the bottom level at the time of my last visit to the mine, when the water had been taken out. It is supposed to be there still, but not in good condition. An air-receiver, five tanks, piping, blacksmith outfit and other minor equipment are on hand.

At Shaft No. 1 is a horse-whim.

The mine is therefore in excellent condition for immediate resumption of work. The flow of water is not heavy and can easily be handled by bailing.

GEOLOGY:

The Cunningham Pass district is an area of schist, invaded by large masses of granite-porphyry, which send out pegmatitic and aplitic dikes. Other intrusions are dikes of diabase or diorite, or both. Near Cunningham Pass these dikes resemble diabase, but farther west they are decidedly diorite. Possibly there is a still later intrusion of a semibasic porphyry.

The veins of the district strike NW/SE and dip generally to the NE. Deviations to almost due North/South and East/West are found, but the most important oreshoots are found along veins of the intermediate directions, and N 65 W and N 30 W seem to be the most favored directions.

The mineralization is twofold and consists in copper and gold; both occur independently as well as jointly in the veins. The principal gangue minerals are quartz, hematite and siderite. Gold seems to be more closely connected with the hematite and quartz, copper with the siderite, but both mineralizations blend into each other . Chloritization is the principal rock alteration along the veins.

Very high grade ore has been produced from the district, about 18% copper is perhaps the average of past shipments; more attention has been paid to the copper heretofore than to the gold because it is more easily recognized and sorted, but I have the impression that many a workable gold vein has been overlooked and that the future will bring considerable research in this direction. Shipments of ore, assaying as high as $100, in gold are on record, but exceptional. Past shipments average probably close to $10 in gold, accessory with copper, but as mentioned before gold veins, irrespective of copper, need more careful investigation.

The vein-forming agencies are documented as follows:

1. Brecciation.
2. Introduction of the hematite, usually as cement in breccia veins, but also as massive bodies, veins and stringers. The brecciation is probably due to the granite-porphyry and pegmatite intrusion; the hematite pervades the pegmatite and is therefore later. It might be due to the diorite intrusion.
3. Introduction of siderite, chalcopyrite and pyrite.
4. Deposition of quartz, pyrite and chalcopyrite.

The copper depesition has very frequently followed the pre-exisiting hematite

veins and these have been followed generally in prospecting. Quartz, pyrite, chalcopyrite veins have been prospected independently, but are most important where they join the older hematite veins. Oxidation and secondary enrichment have been very pronounced and most of the ore, mined heretofore, has come from horizons affected by these agencies. Minerals of these horizons are: malachite, azurite, cuprite and chalcocite; but a good deal of straight chalcopyrite-pyrite ore has also been mined profitably, which could be considered strictly primary even if there is sometimes an indication that chalcopyrite also might locally be a product of secondary processes.

Successful mines have been the Bullard and the Critic which started on very good ore bodies right from the grass roots down. Lately the Little Giant mine has shipped considerable ore of very good grade, found below very uninviting outcrops. A good many other properties and veins have produced occasional shipments, mostly from short and shallow surface ore bodies, mined by prospectors and leases, which abandoned the work as soon as the visible ore was exhausted. The veins explored were usually tight stringer veins and the ore-shoots at their best short irregular lenses which could be mined only because the ore was of very good grade and attractive self-fluxing quality. There was a number of very strong veins with big hematite-quartz croppings in the district which appeal to me as decidedly worth testing because they embody all the features of the proven veins and very frequently show copperstain and copper ore locally. It is peculiar that practically no serious development work has been attempted on these veins up to now. Probably the most attractive of these is the Desert vein.

THE DESERT VEIN:

The Desert vein has a remarkable outcrop of hematite and quartz, surrounded by wide areas of crushed, chloritized porphyry. Copperstain is found as well in the hematite-quartz as in the altered decomposed porphyry. The vein occurs at and near a schist/granite-porphyry contact and diorite dikes are intruded in the vein zone. The big outcrop is apparently due to the intersection of several veins. The entire width of the outcrop is locally up to 100 ft. and more on the surface, but the actual width of the vein is considerable less because the flat dip of the bein gives an exaggerated impression. Still the vein is remarkably strong and wide and will probably average over 25 ft. in width over large sections. Besides the main vein there are several minor veins on the property, some of which disclose fair copper showings in superficial workings.

The intersection area, marked by the big outcrop, is on the side of the hill over 500 ft. NW from Shaft No. 1, the nearest working of any moment. The intersection line should draw away from this shaft even farther in depth.

Shaft No. 2 is about 500 ft. farther south beyond Shaft No. 1 and the workings from Shaft No. 2 in depth are about abreast of Shaft No. 1. It would require probably an additional 750 ft. of drifting from here, before the workings on this level would enter the favorable area, indicated by the big outcrop. The long draft from Shaft No. 2 shows a very strong and wide vein of altered, crushed and partly chloritized porphyry, impregnated with pyrite and chalcopyrite locally, and permeated by hematite in seams and flakes. Brecciation is very pronounced; one small shoot of good chalcopyrite ore with siderite and hematite was encountered, showing that copper mineralization is to be expected. While the vein explored is undoubtedly one of the veins, responsible for the big outcrop. It is only one of two or more which produce this outcrop in their intersection zone.

Beside this main intersection, the vein system of the Desert Mine indicates several more favorable intersection points, none of which have been explored so far. Their exact location can only be approximately located because the veins are largely buried under desert gravel below Shaft No. 2.

As mentioned before, good copper showings are found in a number of places and the veins are in every way exactly like the others, which have been proven productive, but even more encouraging is the fact that one branch of the Desert vein can almost certainly be traced across the summit of the mountain into Bullard ground and is identical with the Bullard bein which has a very good record of past production.

While copper ore might perhaps be limited to the vicinity of intersection points on this property, the possibilities of finding good ore along this vein appear as very good to me. If ore should be encountered along this vein, the chances are that it will be found in fairly large bodies commeasurate with the strength and size of the veins and since the general character of the Cunningham Pass ore is so very attractive, I consider the Desert an excellent prospect which invites development work to decide once and for all whether there are possibilities in this district beyond the narrow stringer veins hitherto exploited.

The ground in the old workings is soft and rather heavy, and the flooding will have caused considerable damage; therefore I would not advise to utilize the old workings for further prospecting, but rather to abandon them altogether and prospect the property anew in immediate proximity to the big outcrop.

$10,000 judiciously spent, should be sufficient to decide xxx merits of the prospect and while this amount is an xxxxxxx it seems to me well advisable on the strength of xxxxxx geological characteristics of the property to risk xxxxxx development work.

Respectfully submitted

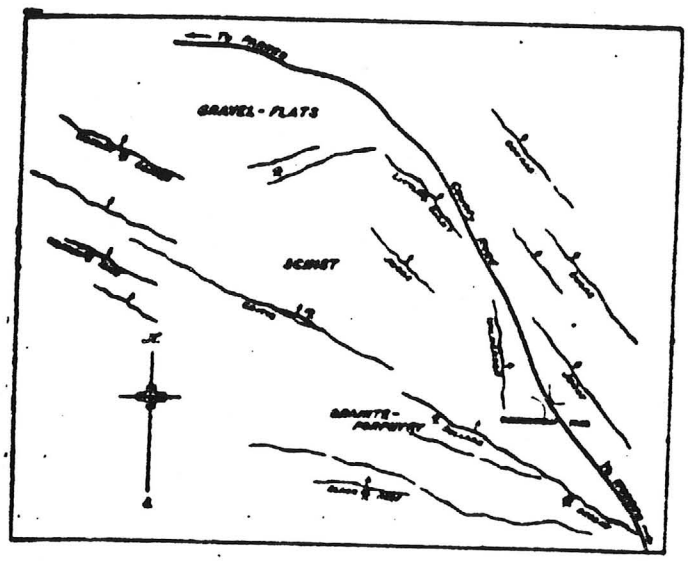
January 7th, 1919

(Signed) W. Tovote

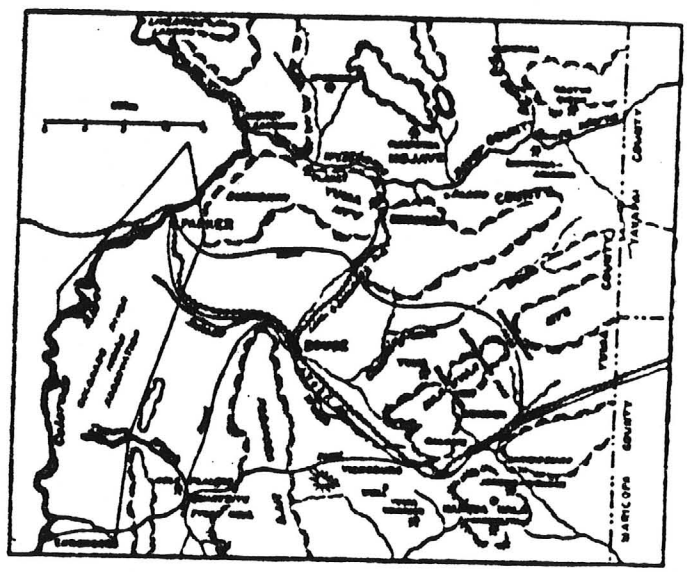
Cunningham Pass District, Arizona

By W. TOVOTE

The Cunningham pass country, in northern Yuma county, Arizona, recently has been attracting considerable attention. This is less because of the amount of ore being mined than for the fact that the ore is high-grade and of excellent character for smelting. Three mines are now producing steadily, others are in process of development, and small shipments are being made by lessees from undeveloped properties. The district is about 10 miles north of Wenden on the Arizona & California



SKETCH SHOWING PART OF VEIN-SYSTEM NEAR CUNNINGHAM PASS



SKETCH OF THE PARKER CUT-OFF DISTRICT IN YUMA COUNTY

branch of the Santa Fe system. It is part of the Ellsworth mining district.

Cunningham pass is a low saddle in the Harcuvar mountains. The main traveled road from points in central Arizona to Parker used to lead through this pass, but in recent years a new highway has been constructed along the railroad, which now takes most of the through-traffic. The country is a typical semi-desert. Water is scarce and wells supply most of the drinking water. Small towns and settlements have grown wherever water has been found in sufficient quantity. Vegetation is scanty, the mesquite and palo verde being the principal shrubs, and some ironwood is found along the arroyos.

Mining near Cunningham pass dates back at least 20 years. The Critic and the Bullard mines were started on rich surface-ores, and both produced for awhile. The Critic is credited with an output of $500,000 and the Bullard with $150,000. The Bullard was opened by four short tunnels, the longest being 320 ft., with a maximum depth of about 225 ft. vertically. Ore was also developed in two shafts. The ore-shoot in the tunnels was partly stoped and the mine closed because the owner did not care to operate it, while prospective buyers were reluctant to meet his price and terms. The mine has been worked intermittently since by lessees. The Critic is a shaft-mine. It was opened to the 400-ft. level and partly stoped, some good orebodies being overlooked. Lessees have operated it since with indifferent success, until J. Nohlecheck, about two years ago, opened several good ore-shoots, increasing the reserves steadily, while making regular shipments.

Two years ago H. Barkdoll, superintendent of the Old Dominion Copper Mining & Smelting Co., at Globe, and his associates, acquired the Wenden Copper mine, sank a shaft 200 ft. deep, shipped ore and then closed. Adjoining the Wenden are the Conrad claims, which were purchased by El Paso people who organized the Wenden King Mining Co. Considerable money was expended without much to show for the expenditure, and the enterprise came to grief. Activity lagged again, until recently a rather remarkable showing was made in the Little Giant mine. Here two lessees had stoped out a small surface-shoot of high-grade copper ore, ranging from 2 to 15 in. wide. At 35 ft. this gave out, but the new owners acquired a lease and option and continued sinking. At 75 ft. the vein suddenly widened to about two feet, and was followed for about 70 ft., yielding ore assaying from 15 to 20% copper. Sinking was resumed and the ore improved in value. A new level at 125 ft., driven for over 100 ft., revealed excellent ore, in some places being 40 in. wide. About 200 tons of ore was shipped from development work alone, which returned more than $50 per ton net. This new development has

been widely advertised [illegible] number of new companies and lessees are entering the district.

GEOLOGY. The Cunningham pass country is worn down to the old gneiss or schist basement of pre-Paleozoic age. The schist is apparently derived mostly, if not exclusively, from intrusive rocks. Acid and semi-acid rocks, like biotite-gneiss and granite, prevail. The schist strikes N.60°E. and dips 25 to 30° to the north-west. Contorted and folded areas interrupt the uniformity. Paleozoic strata do not appear within five miles of Cunningham pass. The schistose complex has been invaded by intrusives. Two of these are prominent in the mineralized area and have probably influenced the ore deposition. They are: A granitic intrusion of the quartz-monzonite type, sending out numerous pegmatitic and aplitic dikes; and a semi-basic to basic intrusive, ranging from coarse hornblende-diorite to dense porphyritic dikes, resembling diabase. The latter strike generally north-west, while the pegmatite dikes lie in all directions and are irregular in outline, forming a network of dikes, sills, and penetrations in the schist. Both systems of intrusives are cut by the veins and sometimes are distinctly displaced.

The most important veins strike about 60 to 70° north-west and dip to the north-east. Flat and steep dips alternate, varying from 30 to 90°. Even reversals of dip have been found at places. Cross-veins striking N. 30°W. are similar to the main-veins in character and mineralization. Others with a course from north to N. 10°W. seem to carry more gold and less copper. Bedded veins with a strike about N.60°E. are ore-bearing, but likely to prove irregular. The chief importance of all the smaller veins is their enriching influence upon the main veins at intersection-points. Enrichment occurs as well in strike-intersections as in dip-crossings.

Composite stringer-veins predominate, usually with one fissure that is likely to persist over considerable distances. From the evidence available the veins must have been re-opened several times, and the principal fissure appears frequently in several displaced sections, joined by a network of stringers, giving the impression that the main mineralization shifted from one branch of an intricate fracture-system to another abruptly. The dislocating fractures had a course about N.30°E.

The mineralization indicates two distinct periods. The principal gangue of one period of mineralization is quartz, while the other period is characterized by iron, principally as hematite. Both are associated with copper and gold. The strong influence exerted upon the veins by the pegmatite dikes leads me to consider the pegmatite as responsible for the acid mineralization. The iron mineralization I attribute to the semi-basic intrusives. Seams and veinlets of hematite are frequent in the pegmatite dikes, from which it appears that the pegmatite antedates the basic mineralization in the veins, and that considerable replacement of quartz by hematite must have taken place. The hematite has been altered to limonite superficially, but not to any large extent. It occurs massive and in its micaceous variety. The latter is considered a more favorable sign of ore. It is probably due to st[illegible] pressure and is coincident with areas of folding and contortion along the veins. These frequently have produced a false secondary schistosity, and often make the veins appear to conform to the schistosity, where they actually do not. Other gangue-minerals found are siderite, dolomite, and ankerite. Of these siderite is the most important and is closely associated with chalcopyrite. Possibly the hematite has been derived from siderite by metamorphism. Apparently post-mineral barite is common; less frequent is calcite, which is probably secondary. The metallization introduced chalcopyrite and pyrite with accessory gold. Silver is found, but seldom exceeds two ounces per ton, while the gold ranges from $2 to over $50 per ton. The copper has undergone considerable secondary concentration. Chalcocite, cuprite, and malachite are the principal products, while native copper, azurite, and chrysocolla are rarer. The ore generally assays higher than would be judged by its appearance, owing to a penetration of the hematite gangue by cuprite. Exceptional cuprite is found in perfect transparent crystals, accompanied by velvety malachite. The primary chalcopyrite is very pure and usually greatly in excess of the accompanying pyrite.

The orebodies are roughly lenticular, and vary from stringers to about four feet in width. A series of lenses, joined by narrow stringers, has produced a maximum stoping-length of 450 ft., and about the same proven depth in the Critic mine, the most extensively explored property in the district. The Bullard has an ore-zone about 150 ft. long. Favorable places for ore are folded areas, pegmatite-contacts, and the vicinity of basic intrusives. Intersection-zones increase the grade as well as the quantity of the ore.

The average grade of ore shipped from the district in the past was about 18 to 20% copper with about $10 gold per ton. Chalcocite-stringers only a few inches wide are mined, and on being followed they will widen suddenly to several feet of solid ore and then contract again. While careful sorting is required where the vein is narrow, the ore breaks remarkably clean in the bigger shoots. The number of men employed is small. A mine employing 10 men and shipping 200 tons per month should make a good profit, as the net smelter returns are from $50 to $70 per ton. The haul to Wenden costs about $4.50 per ton by team, but is now being done for less by trucks. The roads are fairly good and the grades not heavy. The Jerome scale of wages prevails, but labor is not very satisfactory, because many people dislike the hardships of the desert. The Bullard has shipped over 100 tons per month, working only two to three men, and the same ratio would be possible in most mines, if they were properly opened and employed power drills. The ore commands a ready market on account of its self-fluxing quality. The Clarkdale, Humboldt, Hayden, Sasco, and Douglas smelters have been receiving ore from the district. Cunningham pass is one of the few 'poor man's' copper districts in Arizona.

CREOSOTE has advanced to $2.10 per pound. The demand is active.

May 5, 1947

Mr. W. B. Harris
Box 1481
Yuma, Arizona

Dear Mr. Harris:

Mr. Charles A. Diehl was by for a few minutes and left the results of the analyses of the samples that I took on my recent visit to your property in the company of Mr. William Snyder. He also left the attached invoice.

The samples of the gold vein at the top of the ridge are rather low in both gold and silver and I am surprized in this for we took particular pains to get a representative sample and it most certainly does not correspond with the values you state were found in a previous sample. The reason we took two samples was that the character of the rock changed rather abruptly in our judgment and this most certainly is borne out by the assays. Sample Al-0 was taken across 7 feet on the east end of the ridge and sample Al-1 across 17 feet immediately west of Al-0.

The samples of the Black Hawk, marked "X, Y and Z", show a slight increase in the total mineral content, but this shaft is not yet down deep enough to render any decision.

On the Black Reef samples Nos. 1, 2 and 5 were taken on the Robert E. Lee claim and Nos. 3 and 4 were taken on the Dorothy "A" claim. On samples Nos. 3 and 4 there is very little mineralization, but since these were taken on the outcrop I do not place too much importance on them. Sample No. 1 was the grab sample that we took from the dump and the values are disappointing in everything except gold, but I am afraid we did not get a representative sample of the ore as practically all of the mineralization was on the outside of the rock and none appeared when we broke it, which most certainly was not the case on 80% of the rock that we examined.

Sample No. 2 showed considerably better values even though it was taken from the outcrop approximately 150 feet east of the shaft. Sample No. 5 was taken by your miner in the shallow shaft approximately 200 feet east of the main shaft on the Robert E. Lee claim.

From the above I am still of the opinion that your best bet at present is to retimber the Robert E. Lee shaft at the collar so that you will be able to sample the veins on the levels already developed.

I will write you further in regard to this property when I return from my trip to the southern part of the state.

Yours very truly,

Roger I. C. Manning
Director

RICM:mh
Encs.

February 4, 1947

Mr. W. B. Harris
Box 1481
Yuma, Arizona

Dear Mr. Harris:

We are enclosing a copy of the Arizona Assay Office's analysis of your sample left to us on January 29, the results of which show an encouraging increase in values of gold and copper even though they are slight.

We are also enclosing statement from Mr. Diehl which was erroneously sent to this office.

Wishing you the best of luck.

Sincerely,

Roger I. C. Manning
Field Engineer

RICM:LP
Enc.

August 2, 1946

Mr. W. B. Harris
Box 1481
Yuma, Arizona

Dear Mr. Harris:

The sample I took from the dike on my recent visit to your property as been classed by the Arizona Bureau of Mines as rhyolite porphyry.

Yours very truly,

Roger I. C. Manning
Field Engineer

RICM:LP

University of Arizona
TUCSON

COLLEGE OF MINES
ARIZONA BUREAU OF MINES

July 26, 1946

Mr. R. Manning
Department of Mineral Resources
304 Home Builders Building
Phoenix, Arizona

Dear Mr. Manning:

The classification of the rock (our No. 22535) you left at the Bureau of Mines has been completed.

The rock is a rhyolite prophyry as you thought.

I am sorry this was not done sooner, but I did not get around to finishing the thin section until this week.

I trust this information will prove satisfactory.

Yours very truly,

John W. Anthony

John W. Anthony
Assistant Mineralogist

Harris

July 23, 1946

Mr. W. B. Harris
P. O. Box 1481
Yuma, Arizona

Dear Mr. Harris:

Replying to your letter of July 20 I don't know who you mean by "Witty" but the following is the name and address of the surveyor in Prescott and suggest that you contact him personally.

Richard L. Merritt
Court House
Prescott, Arizona

Yours very truly,

Roger I. C. Manning
Field Engineer

RICM:LP

July 22, 1946

Mr. W. B. Harris
P. O. Box 1481
Yuma, Arizona

Dear Mr. Harris:

Your check in the amount of $2.00 has been received, and we are forwarding this to the Arizona Assay Office to cover payment of the Limonite assay.

Yours very truly,

Secretary

lp

Yuma, Arizona.
P.O.Box 1481

July 20,1946

Mr Roger Manning, E.M.
304 Homebuilder's Building.
Phoenix, Arizona.

c/ o Department of Mineral Resources, STATE OF ARIZONA.

Dear Mr Manning,-

First allow me to thank you for the interest which you took in my problem at Cunningham Pass; it was a pleasure to be with you that day despite the intense heat of the morning.

Your letter re survey by Mr Jones at hand. This I have not decided on as yet: believe that I should get a similar bid from the surveyor in Prescott which Mr Dunning spoke of. However, there might be nothing gained although the bid price seems to be rather high: the claims are easily accessable and easily surveyed. I wonder if you could get a figure from " Witty " ????

Also I have received , assay from Chas. Diehl for Limonite. This assay shows a trace of Gold, Silver and copper.

I tne meantime I have received a report from Chas. Diehl of a sample which I left with him,- but not taken as deep as you took the limonite. I am enclosing a copy of this assay which I had run and also check for $ 2.00 to pay for the work which you had done.

Thanks for your help. Best wishes from the son and Mrs Harris.

Sincerely,

W.B.HARRIS.

July 17, 1946.

Mr. W. B. Harris,
Box 1461,
Yuma, Ariz.

Dear Mr. Harris:

I talked with the surveyor, Mr. Jones, when I returned from Wenden, and am giving the figures he gave me below. These figures are approximate and it might be well for you to correspond with him in regard to the work. He says that he will be able to do the work within a month after you notify him.

Patent application $35.00 first claim, $10.00 each additional.
Certified copy of location notice $1.25 each.
Surveying $150.00 per claim.
General Land Office $5.00 per acre or $105.00 for a full claim.

He recommended a survey for amended location since monuments have been destroyed and particularly if you desire to disregard the old locations. For this he will charge $60.00 per day and expenses for himself and two men.

Very truly yours,

Roger Manning.

Arizona Federation of Women's Clubs
SOUTHWESTERN DISTRICT
P. O. Box 1481
YUMA, ARIZONA

****

DEPT. MINERAL RESOURCES
RECEIVED
NOV 25 1944
PHOENIX

Yuma, Arizona.
P.O.Box 1481
November 24,1944.

Mr Charles Dunning, E.M.
Homebuilders Building,
Phoenix, Arizona.

Dear Charlie,-

I met Mr Holt at Wenden and with him visited the mining camp north of Wenden on the 18th.

He noted many changes in the place since he last saw it and saw that considerable damage had been done to the shafts.

I am rather behind the eight ball in this affair because all the time that the troops were in charge, or someone, I was busy at Yuma and had very little time to spare in contact ing government agents . In fact according to communications received I expected them to contact me.

However,- all buildings had been entered, and much loot ing had been done. Especially so in the office building where all records were kept and files which were deemed valuable.

For your information Bob' files had been carried away and all the samples from the 300 foot level in the main shaft. It was upon this data that my son expected to interest capital and go ahead with work which would follow the information so collected.

He , being in the service, I am at loss just what to do to protect him. It is apparent that in order for him to attempt to duplicate his work which covered a long time, the shafts would have to be put in shape and entrance made possible.

I have estimated , very modestly, what I believe this could be done for,- predicated of course on his being here to do it.

What I desired mostly was an indication that my estimates were in line. Kindest regards.

Sincerely,

W.B.HARRIS.

Arizona Federation of Women's Clubs
P. O. Box 1481
YUMA, ARIZONA

November 29,1944.

DEPT. MINERAL RESOURCES
RECEIVED
NOV 30 1944
PHOENIX

DEPARTMENT OF MINERAL RESOURCES,
STATE OF ARIZONA.
304 Homebuilders Building,
Phoenix, Arizona.

attention of Mr. Chas Dunning.

Dear Mr Dunning,-

In accordance with a request that Mr Holt visit the mining properties of Centroid Consolidated Mines, in northern Yuma County, and remark on the costs of an estimated rehabilitation of the entrances to shafts, the writer acknowledges the receipt of Mr Holts findings in letter form.

I wish to thank you and Mr Holt for the service given: if ever I was at a disadvantage, it is now.

No doubt you have scanned my letter to Mr Holt which set forth the facts as I have noted. It would appear that the Government Agents have handled the affair in quite a unique manner.

However, there are certain aspects of a claim being made which might be made easier if a disinterested party had agreed that estimates were reasonable. This Mr Holt has done and I am very grateful for his interest.

To you, I can only wish good luck as I always have.

Mayhaps, sometime, something will mature that will be partly in keeping with the troubles that I have had bucking the line. Mayhaps, in that very vague future we may be able to complete something that has been started. If such a thing should come to pass I feel that I will have you to thank for many, many favors.

My very best regards to Mr Elgin Holt.

Sincerely,

W.B.HARRIS.

Yuma, Arizona
P. O. Box 1431
November 18, 1944

Department of Mineral Resources
304 Home Builders Building
Phoenix, Arizona

Attention: Mr. Elgin B. Holt, Field Engineer

Gentlemen:

On or about the 12th day of August, 1943, for the use of Camp Bouse, an area used by the U. S. Army, the properties of Centroid Cons. Mines, located nine miles in a northerly direction from the R. R. Station, Wenden, in northern Yuma County, State of Arizona, were seized by the agents of the Government under an emergency act and the authority of the Commander in Chief of the United States Armed Forces.

At that time there was a caretaker on the property, the buildings and contents were intact, and the water in the main shaft was being pumped regularly and the collar being taken care of so that rains would not be allowed to flow down the shaftway and ruin the foundations. This item was of value to the properties of at least $300.00 monthly.

The Government Agents forced the caretaker to leave and immediately after gave the possession of the property to a goat herder and his several Mexican goat workers.

The owners of the properties were not allowed to visit the properties but during the spring of 1944 a visit was made in company with the Deputy Sheriff of the County of Yuma and it was found that:

The collar of the main shaft and about four of the top sets had gone down in the shaft.

That it was evident that rains had swept down the hill and flowed into the shaft.

That timbers had evidently been removed from the shaft and carried away.

That the head frame had sagged to one side.

And that there must have been much damage below the collar where it could not be examined.

Further, all the buildings had been broken into, the contents looted, and

That the Government agents had NEVER had the properties under safeguard.

An examination of the other shafts would and did reveal that timbers had been carried away and that each and every one would have to have considerable work and expense before they could be entered again.

Besides the personal effects of Mrs. Virginia J. Harris, the many, many items that each building contained, including clothing that had been carried away, the office had been broken into and each and everything torn apart, thrown around and many valuable items removed. Among those valuable items was a file made by Lt. Robert W. Harris, now somewhere overseas, which he compiled during a period of about three years and which covered in detail all the known information about each mining claim in the various groups and also much valuable information in each shaft down to the 300 foot level and along cross cuts and drifts. Lt. Robert W. Harris is the secretary of Centroid Consolidate Mines, the largest stockholder, and ready with capital to continue the work started.

When and if Lt. Harris returns to his property, it will be necessary for him to once again collect his data together, because it is upon this and other information that he is basing a justification for further work on the property and in order to do so, it will be imperative for him to once again take each of his observations beneath the ground and in each of the twelve or more shafts and probably with an engineer.

The cost of such a repetition of work will be predicated upon the costs of underground work and the costs of entering each shaft with safety.

While he is not here to assist in an estimate, the undersigned has estimated the cost of putting these shafts in condition as follows:

HORSE WHIM SHAFT	$150.00
Receiver and one man for five days	550.00
INCLINE SHAFT	1,200.00
BOB'S SHAFT	100.00
MAIN VERTICAL SHAFT	1,600.00
Machinery and rehabilitation	4,400.00
HANCOCK SHAFT	20.00
CENTROID SHAFT	600.00
Hoist and compressor five days	350.00
	$8,970.00

It will be noted that no allowance has been made for caving beneath the ground and in order to once again get the data which has been so ruthlessly destroyed or carried away, the costs might be several times the above estimate. Therefore the writer believes that the above estimate very fair.

On the other hand, we have an investment in the properties of between $125,000.00 and $150,000.00, all of which would be considered a total loss without

the data that has been collected while these funds were being disbursed, and even though the government agents would allow a claim of $8,970.00 for the theft of valuable files, or as an appeasement to duplicate them if possible, the crime is still there and the results rather vague.

It must certainly be recognizable that were we dealing with persons instead of an emergency act by the U. S. Government, a suit for $100,000.00 or more or an effort to put some person or persons in safe keeping would be in order.

In addition to the above estimate for entrance to underground workings, I have additional claims involving personal belongings, damages to buildings, the looting of well stocked houses, etc., etc., all of which was and is very much in evidence.

I would appreciate your Mr. Holt visiting the properties at this time and remarking in letter form on the above estimate. As poisonous gases are emenating from the various workings, I cannot look any further than the surface, and do not know what damage has been done through the neglect of protecting the shafts against the flow of surface water over the collars and below.

Yours very truly,

W. B. HARRIS

COPY

November 27, 1944

P. O. Box 138
Kingman, Arizona

Mr. John M. Levy
Attorney at Law
Heard Building
Phoenix, Arizona

Dear Mr. Levy:

I am herewith enclosing copy of a letter, dated November 18, 1944, from Mr. W. B. Harris. He has asked me to write you in reply to the same.

By this letter you will note that Mr. Harris alleges, in part, as follows:

"On or about the 12th day of August 1943, for the use of Camp Bouse, an area used by the U. S. Army, the properties of Centroid Cons. Mines, located nine miles in a northerly direction from the R. R. Station, Wenden, in northern Yuma County, State of Arizona, were seized by the agents of the Government under an emergency act and the authority of the Commander in Chief of the United States Armed Forces.

"At that time there was a caretaker on the property, the buildings and contents were intact, and the water in the main shaft was being pumped regularly and the collar being taken care of so that rains would not be allowed to flow down the shaftway and ruin the foundations. This item was of value to the properties of at least $300.00 monthly.

"The Government Agents forced the caretaker to leave and immediately after gave the possession of the property to a goat herder and his several Mexican goat workers.

"The owners of the properties were not allowed to visit the properties but during the spring of 1944 a visit was made in company with the Deputy Sheriff of the County of Yuma and it was found that:

"The collar of the main shaft and about four of the top sets had gone down in the shaft.

"That it was evident that rains had swept down the hill and flowed into the shaft.

"That timbers had evidently been removed from the shaft and carried away.

"That the head frame had sagged to one side, and that there must have been much damage below the collar where it could not be examined.

"Further, all the buildings had been broken into, the contents looted, and

"That the Government agents had NEVER had the properties under safeguard.

"An examination of the other shafts would and did reveal that timbers had been carried away and that each and every one would have to have considerable work and expense before they could be entered again.

"Besides the personal effects of Mrs. Virginia J. Harris, the many, many items that each building contained, including clothing that had been carried away, the office had been broken into and each and everything torn apart, thrown around and many valuable items removed. Among those valuable items was a file made by Lt. Robert W. Harris, now somewhere overseas, which he compiled during a period of about three years and which covered in detail all the known information about each mining claim in the various groups and also much valuable information in each shaft down to the 300 foot level and along cross cuts and drifts. Lt. Robert W. Harris is the secretary of Centroid Consolidated Mines, the largest stockholder, and ready with capital to continue the work started.

"When and if Lt. Harris returns to his property, it will be necessary for him to once again collect his data together, because it is upon this and other information that he is basing a justification for further work on the property and in order to do so, it will be imperative for him to once again take each of his observations beneath the ground and in each of the twelve or more shafts and probably with an engineer.

"The cost of such a repetition of work will be predicated upon the costs of underground work and the costs of entering each shaft with safety.

"While he is not here to assist in an estimate, the undersigned has estimated the cost of putting these shafts in condition as follows:

"Horse Whim Shaft	$150.00
Receiver and one man for five days	550.00
Incline Shaft	1,200.00
Bob's Shaft	100.00
Main Vertical Shaft	1,600.00
Machinery and rehabilitation	4,400.00
Hancock Shaft	20.00
Centroid Shaft	600.00
Hoist and compressor five days	350.00
	$8,970.00"

For your further information, I visited the said properties belonging to Centroid Consolidated Mines, in company with Mr. Harris, on November 18, 1944. I had previously inspected these properties on January 10, 1940, and again on February 18, 1943, and, hence, was somewhat familiar with the same.

On the date of last visit mentioned, November 18, 1944, Mr. Harris had asked me to make this trip in order to compile an estimate of the damages he had suffered during the time while said property was in the hands of the Agents of the Government.

When we arrived at the property and after we had looked it over superficially, I told Mr. Harris frankly that it would be quite impossible for me to make such an estimate, inasmuch as there seemed to be no accurate inventory of the machinery, goods, equipment, etc., available, taken at the time when the said Agents of the Government took the property over on or about August 12, 1943. Again, the mine workings were in such bad condition, timbers having been removed from some of the shafts, and some of the shafts, the main one in particular, being partly full of water, that it was quite out of the question to enter these workings in order to assess any damages.

However, I can testify to the following facts:

1. The buildings at the property had been broken into. Doors and windows had been torn off, and evidently the contents of these buildings had been looted.

2. The collar of the main shaft had been damaged and some of the timbers had been removed. There was evidence that sheet flood waters had gone down this shaft, thereby loosening the collar sets of the shaft which had not been removed.

3. From what Mr. Harris told me, Agents of the Government, after they had ordered his caretaker to vacate property, had not taken the precaution to put guards over the same and safeguard it from looting. That then and thereafter looting of some nature did occur.

4. Also from what I could gather, as the result of said looting all assay maps, assay records, logs of the various workings, smelter returns and much other mine data had been lost. Such loss it would seem is the most serious of all, as most of this data can never be replaced.

In short, I asked Mr. Harris to write me a letter setting forth a rough estimate of the damages his properties had suffered. He complied with my request, as per the copy of letter referred to which is attached hereto, and by which he has estimated the cost of putting the mine workings in condition so the same can be entered with safety, at $8,970.00.

Broadly and from inadequate facts herein set forth, I venture to say it is my firm opinion and belief that the said estimate is conservative. In other words, I believe the loss of the assay data mentioned should alone be assessed at an amount equal to the damages claimed by Mr. Harris.

Very sincerely yours,

Elgin B. Holt
Field Engineer
Department of Mineral Resources

EBH:LP
Enc.

CC: Mr. W. B. Harris
Mr. Chas. H. Dunning

NOTES.

Claims made to the U.S.Government for damages which have accrued to the various workings on the property of Centroid Consolidated Mines are as follows:

Apex Tunnel	$100.00
Horse Whim Shaft	150.00
Incline Shaft	1200.00
Bob's shaft	100.00
Main Vertical Shaft	1600.00
Hancock # 2 Shaft	20.00
Centroid Shaft # 17	600.00
Centroid Tunnel	100.00
	$ 3870.00

The above figures and estimate are for the removal of timber, tools, etc. from the various sites and the cost of repairing the collars and entrances preparatory to an entrance.

The above estimate does not include the extra costs of getting to the points underground by Lt. Harris, where he made his examinations and compiled his data.

Extra costs of going underground (300 feet vertically and several hundred feet in cross cuts.) and 250 feet down two incline shafts and 150 feet down another are estimated as the difference between $ 8970.00 and $ 3870.00 or $ 5200.00

The estimate is believed to be modest: there is a great probability that it might cost over $ 20,000.00 to reach the objectives in the main shaft workings.

W.B.HARRIS.

March 26, 1943

Memorandum for Sam:

I had a visit this morning with George Andrews of Wendon who had an application for an accessibility loan on the Centroid mine turned down and he was very much peeved because it was rejected. He had a letter dated March 15 advising of the rejection.

Will you kindly give me any information you have on what was done on that loan, the analysis and why it possibly was rejected so that I can follow it up in Washington if it seems worthwhile doing so.

Rait said in his letter that the information "did not indicate that the use of loan funds would result in the production of any substantial quantity of copper as an aid to the war effort." This was rather farfetched reason for rejection inasmuch as it was an accessibility loan to be used only for the purpose of determining what he had.

C. F. W.

I am attaching our files on the Centroid Consolidated copper so that you may see why the property was turned down.

EDWIN W. MILLS
SALOME ARIZONA

March 3, 1943

Dear Mr. Holt:

I was delayed a bit in returning your report to you. Mr. Andrews made a copy of the same for his files.

He was in to see me yesterday, and told me of his meeting with Mr. Gohring in Phoenix on Feb. 22nd. His application has been sent on to Washington, so perhaps this is a good omen for a favorable reply to the same.

Mr. Waterman passed through here about three days ago, on his way back to Auburn, Calif. He felt a bit disappointed in having been turned on his application.

I have been keeping pretty busy here working on income tax returns, and also with the OPA Price Panel Board.

Trusting that you are well, and with all good wishes to you, I am,

Yours faithfully,

Edwin W. Mills

Enclosure

CENTROID CONS. MINES,

Geo. H. Andrews, Lessee,
Applying for RFC Loan -
in the sum of $5000.

MEMORANDUM

DEPT. MINERAL ENGINEER
RECEIVED
FEB 20 1943
PHOENIX, ARIZONA

To: J. S. Coupal

From: Elgin B. Holt

I am herewith enclosing my report on the Centroid Cons. Mines group, located 9 miles north of Wenden, and now under lease and option to George H. Andrews, Wenden, Arizona. He is applying for an RFC loan and has arranged for Mr. Edwin W. Mills to assist him in getting up his sketch maps and application.

It seems that the owner of this property, Harris, spent a considerable fortune in badly directed exploratory work, mainly following up pet theories of engineers, instead of following his ore-bearing veins. Most of his work was absolutely thrown away.

Andrews is now developing and investigating the old workings on the Cuprite claim, which is the best showing for fairly quick production of shipping and milling ore on the property. Considerable work has been done on the Cuprite vein and at least 6 car loads of goodly grade copper-gold ore have been shipped. Also, while the Cuprite vein is not large, it is very persistent and seems to be deep-seated. Hence, I recommend that Mr. Andrew's application be given due consideration.

Elgin B. Holt.

2-18

MEMORANDUM

in the sum of $50000.

To: J. S. Coupal

From: Elgin B. Holt

I am herewith enclosing my report on the Centroid Cons. Mines group, located 9 miles north of Wenden, and nowunder lease and option to George H. Andrews, Wenden, Arizona. He is applying for an RFC loan and has arranged for Mr. Edwin W. Mills to assist him in getting up his sketch maps and application.

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Elgin B. Holt.

C
O
P
Y

THE DESERT MINE IN CUNNINGHAM PASS, ARIZ.

Report by W. TOVOTE

LOCATION: Possibly Sec. 18, T 7N, R 12W or Sec. 13, T 7N, R 13W RAP 5-3-79

The DESERT MINE is located just West of Cunningham Pass, a low saddle in the Harouvar Mountains, Yuma County, Arizona. The mine is on the south slope of the mountain range and the country descends from here on easy downward grade to Wenden on the Santa Fe Railroad, Arizona & California Branch, the nearest railroad point, which is approximately ten miles to the south. The road connecting the mine with Wenden is in fairly good condition; only the short branch from the main Cunningham Pass road to the mine, about one quarter of a mile in length, is in need of repair. Four miles of the main road in the immediate vicinity of Wenden are over sandy ground and liable to be cut up considerably during the dry season; the blance is on good gravel bottom.

The climate is typical desert climate, splendid winters and hot summers.

THE PROPERTY:

The property consists in eleven unpatented mining claims, owned by R. G. Robinson, Wenden, and held under option by D. W. Hall of Salome.

DEVELOPMENT:

Considerable development work has been done on the ground without leading to favorable results, but the work was not done with due regard to the geological features of the property or the district generally, and the outcome cannot be accepted as final as far as the possibilities of the mine are concerned.

The principal workings are:

Shaft No. 1, an incline 200 ft. deep, with short lateral cuts and about 50 ft. of drifting on the bottom level.

Shaft No. 2, the main-shaft, and incline 325 ft. deep with over 500 ft. of laterals, most of these near the bottom of the shaft and at present under water.

Shaft No. 3, an incline about 70 ft. deep.

Shaft No. 1 and No. 2 are on the Copper Hill claim, Shaft No. 3 is on the Amanda claim. Beside these workings there are a great number of shallow shafts, tunnels and cuts.

EQUIPMENT:

The property is well equipped. It contains a camp on the Copper Hill claim, consisting of two corrugated iron buildings, the larger of which was designed as combination office-bunk house-warehouse; it is 100 ft. x 30 ft.

and in good condition. The smaller could be utilized as a dwelling or bunk house.

At shaft No. 2 is a 25 HP Fairbanks-Morse gasoline hoist and a 9" by 8" Ingersoll Rand compressor, well housed in a corrugated iron building. The shaft has a good wooden headframe; the hoist about 400 ft. of ½" cable, several buckets and other accessories. A pump was on the bottom level at the time of my last visit to the mine, when the water had been taken out. It is supposed to be there still, but not in good condition. An air-receiver, five tanks, piping, blacksmith outfit and other minor equipment are on hand.

At Shaft No. 1 is a horse-whim.

The mine is therefore in excellent condition for immediate resumption of work. The flow of water is not heavy and can easily be handled by bailing.

GEOLOGY:

The Cunningham Pass district is an area of schist, invaded by large masses of granite-porphyry, which send out pegmatitic and aplitic dikes. Other intrusions are dikes of diabase or diorite, or both. Near Cunningham Pass these dikes resemble diabase, but farther west they are decidedly diorite. Possibly there is a still later intrusion of a semibasic porphyry.

The veins of the district strike NW/SE and dip generally to the NE. Deviations to almost due North/South and East/West are found, but the most important oreshoots are found along veins of the intermediate directions, and N 65 W and N 30 W seem to be the most favored directions.

The mineralization is twofold and consists in copper and gold; both occur independently as well as jointly in the veins. The principal gangue minerals are quartz, hematite and siderite. Gold seems to be more closely connected with the hematite and quartz, copper with the siderite, but both mineralizations blend into each other . Chloritization is the principal rock alteration along the veins.

Very high grade ore has been produced from the district, about 18% copper is perhaps the average of past shipments; more attention has been paid to the copper heretofore than to the gold because it is more easily recognized and sorted, but I have the impression that many a workable gold vein has been overlooked and that the future will bring considerable research in this direction. Shipments of ore, assaying as high as $100, in gold are on record, but exceptional. Past shipments average probably close to $10 in gold, accessory with copper, but as mentioned before gold veins, irrespective of copper, need more careful investigation.

The vein-forming agencies are documented as follows:

1. Brecciation.
2. Introduction of the hematite, usually as cement in breccia veins, but also as massive bodies, veins and stringers. The brecciation is probably due to the granite-porphyry and pegmatite intrusion; the hematite pervades the pegmatite and is therefore later. It might be due to the diorite intrusion.
3. Introduction of siderite, chalcopyrite and pyrite.
4. Deposition of quartz, pyrite and chalcopyrite.

The copper depesition has very frequently followed the pre-exisiting hematite

veins and these have been followed generally in prospecting. Quartz, pyrite, chalcopyrite veins have been prospected independently, but are most important where they join the older hematite veins. Oxidation and secondary enrichment have been very pronounced and most of the ore, mined heretofore, has come from horizons affected by these agencies. Minerals of these horizons are: malachite, azurite, cuprite and chalcocite; but a good deal of straight chalcopyrite-pyrite ore has also been mined profitably, which could be considered strictly primary even if there is sometimes an indication that chalcopyrite also might locally be a product of secondary processes.

Successful mines have been the Bullard and the Critic which started on very good ore bodies right from the grass roots down. Lately the Little Giant mine has shipped considerable ore of very good grade, found below very uninviting outcrops. A good many other properties and veins have produced occasional shipments, mostly from short and shallow surface ore bodies, mined by prospectors and leases, which abandoned the work as soon as the visible ore was exhausted. The veins explored were usually tight stringer veins and the ore-shoots at their best short irregular lenses which could be mined only because the ore was of very good grade and attractive self-fluxing quality. There was a number of very strong veins with big hematite-quartz croppings in the district which appeal to me as decidedly worth testing because they embody all the features of the proven veins and very frequently show copperstain and copper ore locally. It is peculiar that practically no serious development work has been attempted on these veins up to now. Probably the most attractive of these is the Desert vein.

THE DESERT VEIN:

The Desert vein has a remarkable outcrop of hematite and quartz, surrounded by wide areas of crushed, chloritized porphyry. Copperstain is found as well in the hematite-quartz as in the altered decomposed porphyry. The vein occurs at and near a schist/granite-porphyry contact and diorite dikes are intruded in the vein zone. The big outcrop is apparently due to the intersection of several veins. The entire width of the outcrop is locally up to 100 ft. and more on the surface, but the actual width of the vein is considerable less because the flat dip of the bein gives an exaggerated impression. Still the vein is remarkably strong and wide and will probably average over 25 ft. in width over large sections. Besides the main vein there are several minor veins on the property, some of which disclose fair copper showings in superficial workings.

The intersection area, marked by the big outcrop, is on the side of the hill over 500 ft. NW from Shaft No. 1, the nearest working of any moment. The intersection line should draw away from this shaft even farther in depth.

Shaft No. 2 is about 500 ft. farther south beyond Shaft No. 1 and the workings from Shaft No. 2 in depth are about abreast of Shaft No. 1. It would require probably an additional 750 ft. of drifting from here, before the workings on this level would enter the favorable area, indicated by the big outcrop. The long draft from Shaft No. 2 shows a very strong and wide vein of altered, crushed and partly chloritized porphyry, impregnated with pyrite and chalcopyrite locally, and permeated by hematite in seams and flakes. Brecciation is very pronounced; one small shoot of good chalcopyrite ore with siderite and hematite was encountered, showing that copper mineralization is to be expected. While the vein explored is undoubtedly one of the veins, responsible for the big outcrop. It is only one of two or more which produce this outcrop in their intersection zone.

Beside this main intersection, the vein system of the Desert Mine indicates several more favorable intersection points, none of which have been explored so far. Their exact location can only be approximately located because the veins are largely buried under desert gravel below Shaft No. 2.

As mentioned before, good copper showings are found in a number of places and the veins are in every way exactly like the others, which have been proven productive, but even more encouraging is the fact that one branch of the Desert vein can almost certainly be traced across the summit of the mountain into Bullard ground and is identical with the Bullard bein which has a very good record of past production.

While copper ore might perhaps be limited to the vicinity of intersection points on this property, the possibilities of finding good ore along this vein appear as very good to me. If ore should be encountered along this vein, the chances are that it will be found in fairly large bodies commeasurate with the strength and size of the veins and since the general character of the Cunningham Pass ore is so very attractive, I consider the Desert an excellent prospect which invites development work to decide once and for all whether there are possibilities in this district beyond the narrow stringer veins hitherto exploited.

The ground in the old workings is soft and rather heavy, and the flooding will have caused considerable damage; therefore I would not advise to utilize the old workings for further prospecting, but rather to abandon them altogether and prospect the property anew in immediate proximity to the big outcrop.

$10,000 judiciously spent, should be sufficient to decide xxx merits of the prospect and while this amount is an xxxxxxx it seems to me well advisable on the strength of xxxxxx geological characteristics of the property to risk xxxxxx development work.

Respectfully submitted

January 7th, 1919

(Signed) W. Tovote