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CONSOLIDATED COPPERMINES CORPORATION

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MEMORANDUM

FROM John Hope, Chief Geologist

CITY December 24, 1945

TO C. I. Cook, General Manager

DATE Kimberly, Nevada.

SUBJECT The Cyclopic Mine.

On December 16th and 17th, Mr. Lester Kitch and I briefly examined the Cyclopic Mine in Mohave County, Arizona.

LOCATION:

The Cyclopic Mine is located approximately thirty-nine miles north of the town of Chloride, Arizona, at the head of what is known as Cyclopic Wash. It lies on the east slope of the White Hills and the west side of Hualpai Valley, northeast of Red Lake. The property is connected by a well maintained graded gravel road to U.S.Highway 93. A topographic map of the area showing points of interest is included in this report.

OWNERSHIP:

At the present time, the ownership of the property is in a somewhat doubtful state. A Mr. Jess Leyton and partner, of Chloride, held at one time quite a large number of claims but allowed all to lapse with the exception of five along the strike of the deposit. Mr. Kitch and I were informed by Mr. Leyton that he also failed to file an "intention to hold" for last year on those five claims. Consequently, as far as is known, the property is open ground since none of the claims had been patented. However, it is entirely possible that Mr. Leyton would have some legal rights in view of the present conditions affecting yearly assessment work.

In addition to Mr. Leyton, another individual named Peterson holds some ground near the mine. Mr.Peterson is holding this ground solely for the water rights, he has one well pumping water for cattle he has in the area. We were informed by Mr. Leyton that Mr.Peterson would probably turn over his property quite reasonably but with the provision that he be furnished enough water for his purposes.

In view of the above, it would seem that the property could be acquired very reasonably. It is my opinion that Mr. Leyton's rights, whatever they may be, could be purchased for approximately $3000.00. Also it is entirely possible that Mr. Peterson's property would not be needed; it would be unlikely that he holds the only ground in the area with an underground water supply.

Factors Involved in Acquiring a Water Supply: This is discussed here since an adequate water supply is one of the first necessary factors to be considered in evaluating the property's worth as a prospect. Whether or not such a supply could be located within an economic distance and in quantities sufficient to operate a 500 ton/day mill might very well be the determining factor in the decision to even commence preliminary development of the deposit. To operate such a mill (500 tons/day) approximately 200 gallons/minute through 24 hours would be needed. Of this, nearly 50 percent would be recoverable which may be considered as surplus to take care of all other needs.

It appears to be quite probable that such a supply could be located. The economic possibility of obtaining water from the Colorado River seems remote due to the distance involved, nearly sixteen airline miles, and the head against which the water would have to be pumped, nearly 2300 feet. Therefore, a plan of drilling for water in the Hualpai Valley seems to be the most economic. The mine is about six miles west of the floor of the valley and nearly eight miles to the north of Red Lake. The Hualpai Valley is an undrained basin in that locality and flood waters gather in the lowest parts of the valley, forming Red Lake which contains water for periods varying from a few days to several months. The flood waters gradually evaporate and sink into the unconsolidated gravel fill of the valley. If a water supply were located in Hualpai Valley, the water would have to be lifted about 800 feet to the mine plus, of course, the vertical distance from the water table to the valley floor. The distance of pumping should not exceed six miles.

A bulletin of the United States Geological Survey states, "From surface indications the Hualpai Valley would seem to have an underground water supply. It is an undrained basin into which Truxton Creek empties (see map), and contains standing water for considerable period".

Also, the well drilled by Mr. Peterson at one time furnished sufficient water for the operation of a 100 Ton/day mill, and this well is undoubtedly located in or near the Hualpai Valley.

Therefore, it seems reasonable to expect that sufficient water could be located without too much undue expense.

GEOLOGY AND WORKINGS:

In the brief time of our examination, very little of the geologic features of the deposit was seen. Flash floods have covered most of the surface exposures with sand and gravel while oxidization and alteration obscures what little else might have been seen. Outcrops are sparse and some surface work will have to be done before any geologic mapping in detail can be carried out.

The deposit is essentially a flat dipping brecciated zone in an altered granite. The zone strikes northwest and seems to dip gently to the northeast towards the Hualpai Valley. Dark grey quartz has intruded the zone, recementing the brecciated fragments. The instrusion of silica and the shearing must have been more or less contemporaneous since a high percentage of the quartz shows evidence of brecciation. The outcropping ore consists of kaolinized fragments of country rock cemented by quartz and limonite. The gold is probably associated with both the quartz and limonite. A thin section of one sample taken showed it to be nearly 50 percent quartz and 20 percent limonite, the remainder being fragments of altered granite.

The mineralized zone has been opened up by a pit nearly 2000 feet long and 50 feet wide; however, at no place is the pit over 30 feet deep. The proportion of the material mined to that milled is unknown since no production figures are available. It is known that some ore was stoped from a 300 foot incline which is believed to have averaged nearly $7.00 per ton. There are also several hundred feet of old drifts and stopes, but none of underground workings are accessible. No maps or assay plans have ever been made of the workings; consequently, practically nothing is known of the character of the deposit. Whether the ore is sporadic and occurs in high grade zones or lenses or whether the entire zone is mineralized will be determined only when some planned extensive exploration work has been done. The deposit to date has been only superficially explored making it difficult to estimate what thickness and lateral extent of ore might be expected if the property were to be treated as a low grade, large tonnage proposition. However, the strike length of the deposit, nearly one mile, and its position in regard to the topographical features of the area, the zone dips nearly the same as the topography, makes at least the physical aspects of the property attractive.

SAMPLING:

During the time of our brief examination, six samples were taken. Five samples were taken at random along the walls of the above mentioned pit where exposures permitted. These are listed below:

C.C.C. Sample No.	Location	Oz. Au/ton	Oz. Ag/ton
3190	30' cut at north end of pit	0.11	0.21
3191	30' cut in hanging wall of #3190	Trace	0.01
3192	50' cut in pit	0.09	0.19
3193	50' cut in pit	0.18	0.17
3194	cut at extreme southeast end of pit	0.01	0.08

Sample #3191 was evidently cut in the hanging wall of the ore zone and may be thrown out. The other four samples show an average of $3.40/ton in gold. In addition to the above, one sample was taken of a tailings pile of approximately 1000 to 1500 tons which assayed 0.20 oz. Au/ton and 0.22 oz. Ag/ton.

Mr. Leyton stated that the metallurgy of the ore is excellent, a 90% gold recovery may be obtained by leaching. Mr. P. J. Johnson is now running a preliminary leaching test on the rejects of the above samples.

CONSOLIDATED COPPERMINES CORPORATION

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MEMORANDUM

FROM

CITY

TO

DATE

SUBJECT The Cyclopic Mine.

SUMMARY AND RECOMMENDATIONS:

In view of the above given data, it is believed that the property deserves further investigation. The favorable features affecting this recommendation are listed briefly below:

1. The size and occurrence of the deposit.
2. It's topographical location, making the deposit amenable to large scale mining and to a low development cost. Churn drilling would be a perfect method of exploration and development.
3. The evident wide spread mineralization as evidenced by the mining and development done to date, which is also borne out by the few samples listed above.
4. The simple metallurgy which, if true, would simplify and lower milling costs.
5. And finally the small expenditure necessary to acquire the property.

The one unfavorable feature of the property is the lack of water; however, it seems probable that this difficulty could be overcome by drilling in the Hualpai Valley.

The first work to be done if the property were acquired would be the staking out of sufficient claims to cover the mineralized area and extensions. When this has been done, some work with a bulldozer would be necessary to clean out the pits to allow a large scale sampling job to be done. Later if the sampling indicates that further work would be warranted, the 300 foot incline should be cleaned out and sampled. While the above work is being carried out, all of the geologic features of the area should be mapped in an effort to locate the structural controls of the deposit.

John Hope

JH/mc

Boulder Canyon
Fortification Hill
BOULDER DAM
36°
Mt Wilson
Detrital Wash
Salt Spring Wash
Hualpai Wash
Grapevine Wash
Duncan's
Squaw Pk
Mill
CYCLOPIC MINE
White Hills
M O H A
Red Lake
HUALPAI VALLEY
TRUXTON CREEK
Pilot Knob
Mt Perkins
Mt Davis
69
Mt Upton
FERRY
Lost Spring
Pyramid Canyon
Chloride
Golconda
Mineral
KINGMAN
Louise
SANTA FE
RIVER
COLORADO
6
7
8
9
10
11

CONSOLIDATED COPPERMINES CORPORATION

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MEMORANDUM

FROM John Hope, Chief Geologist

CITY Kimberly, Nevada

TO C. I. Cook, General Manager

DATE June 21, 1946

SUBJECT Cyclopic Mine, Mohave County, Arizona.

In accordance with your instructions, I returned to Arizona on June 19, 1946, to inform Messrs. Layton and Larson, the owners of the Cyclopic Mine, that the Company did not intend to exercise their option to purchase.

Upon conferring with Mr. Layton, it was decided to stop the relocation work being done on the property by Mr. James Murray of Kingman. Mr. Layton agreed to accept $50.00 to be divided equally between himself and Mr. Larson in return for which the Company was to receive a release from the option agreement.

On visiting the mine, it was discovered that Mr. Murray had completed the discovery work on four claims, namely, the Morris, Ward, Hope, and Joana claims. Mr. Murray agreed to release the Company from his contract for the sum of $390.00, this amount being the contract price for four shafts at $80.00 per shaft plus a $70.00 bonus. Mr. Murray was very pleased with this settlement since his helper was threatening to quit.

Mr. Layton had in the meantime discussed the deal with Mr. Larson, and Mr. Larson stated that he believed the Company should either finish the relocation work or pay Messrs. Layton and Larson $100.00 each. I thereupon paid each of them $100.00 and received a signed release.

The total cost of these releases was $590.00 and the releases have been filed by Mr. Eaby.

While in Kingman, I instructed Miss Carrow, the county recorder for Mohave County who was preparing an abstract on the property, to drop the entire matter and to render the Company a statement for her services. At the same time, I filed for Messrs. Layton and Larson the location notices for the above named four claims.

Therefore, the entire deal was terminated to everyone's satisfaction.

John Hope

JH/mg

REPORT
on the

CYCLOPIC MINE
Mohave County
Arizona

J.Hope

CONSOLIDATED COPPERMINES CORPORATION

COPY

MEMORANDUM

FROM John Hope, Chief Geologist

CITY Kimberly, Nevada

TO C. I. Cook, General Manager

DATE June 14, 1946

SUBJECT Cyclopic Mine, Mohave County, Arizona.

Introduction:

In a report dated December 24, 1945, the writer recommended a further investigation of the Cyclopic Mine, located in Mohave County, Arizona.

On May 13, 1946, I accompanied you, Mr. Sirkegian, Mr. Proctor, and Mr. Kitch on a brief examination of the property. Following this, Mr. Kitch and I remained in Arizona for nearly two weeks to do the necessary preliminary work.

Following is my report on the work done to date and the conclusions drawn from that work.

Ownership:

In our discussion with Mr. J. E. Layton on May 13, 1946, it was learned that the property was not open for location as we had been previously led to understand. Mr. J. E. Layton and Mr. Albin Larson hold a deed from the previous owner and this deed covered title to seventeen mining claims. However, Mr. Layton and Mr. Larson filed "intentions to hold" for only eleven claims, the remaining six being deeded to a brother-in-law of Mr. Layton and have since been allowed to lapse.

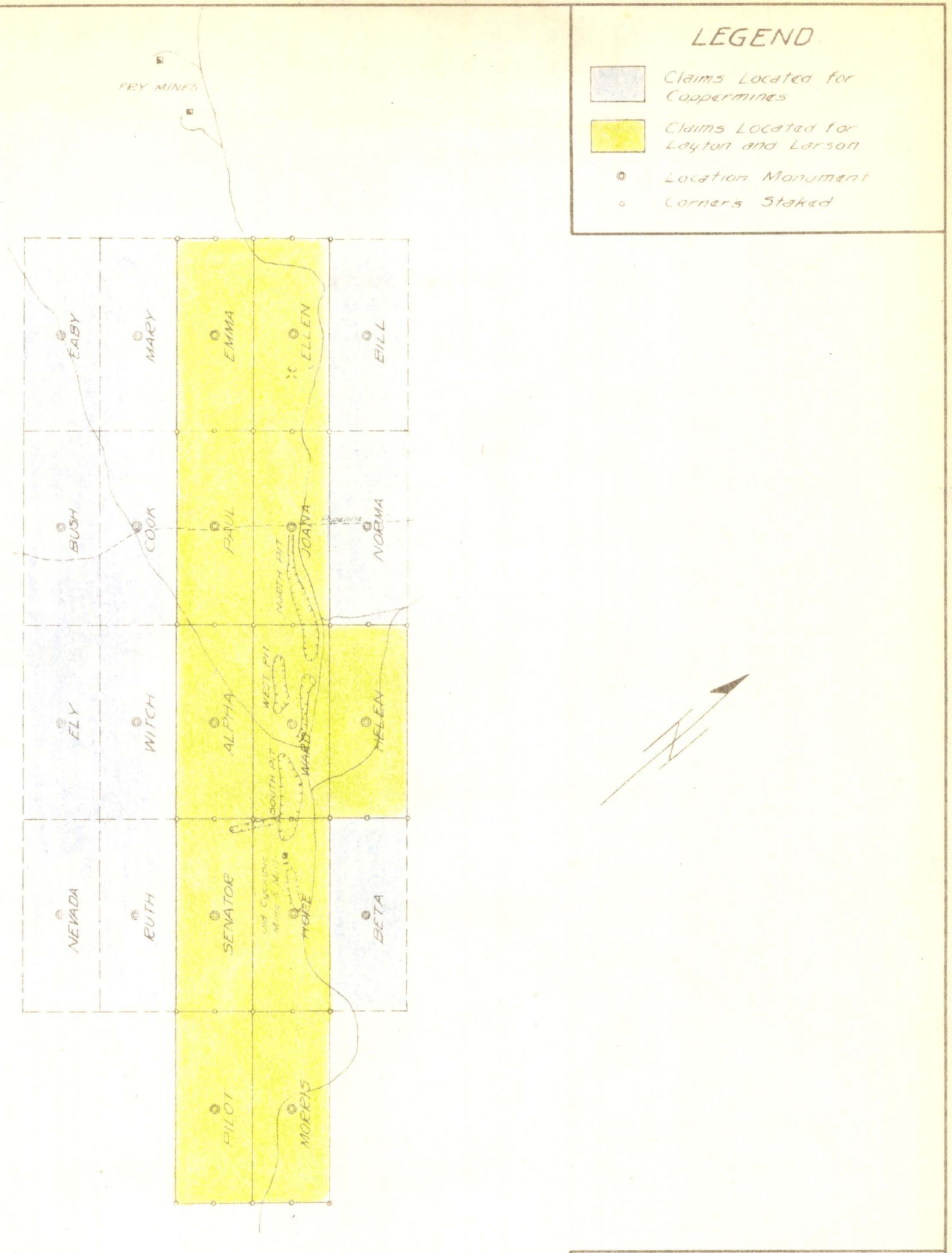
Therefore, eleven claims on the property are owned by Messrs. Layton and Larson. In running down these claims in the field, it was discovered that no one could identify either the corners or location monuments. It was there upon decided that the only procedure open to us was to relocate the eleven claims in the owners names. This was done, and a contract let for the necessary eleven discovery shafts.

The contract was let to a Mr. James Murray of Kingman, and calls for eleven discovery shafts at a total of $892.00 payable upon completion and due checking of the shafts. This work is being done at the present time, and will be paid for by Coppermines.

In return for this relocation work, Coppermines received an option to purchase the eleven claims for the sum of $1000.00.

In addition to the claims of Messrs. Layton and Larson, eleven additional claims were located by Mr. Kitch and myself in our names for the company. No corners were staked out on these claims and no location work was contemplated until the property had been thoroughly sampled, or until the mine could be evaluated.

All of these claims are shown on the accompanying map.



PROPERTY MAP of CYCLOPIC MINE

MOHAVE COUNTY
ARIZONA

Scale: 1" = 1000'

Geology:

The geologic features of the property have not been mapped to date. This work was also waiting on the sampling results. However, in carrying out the above mentioned work, the general features of the deposit were noted.

In my previous report, it was stated that the values occurred in a "flat dipping brecciated zone in an altered granite". Subsequently it was discovered that the "altered granite" was a brecciated, kaolinized, and seriticized quartz monzonite. This monzonite lies on a southwest dipping fault contact with an altered basalt flow. It is probable that the basalt is later or younger than the monzonite, as surface float indicates the presence of basalt dikes cutting thru the monzonite.

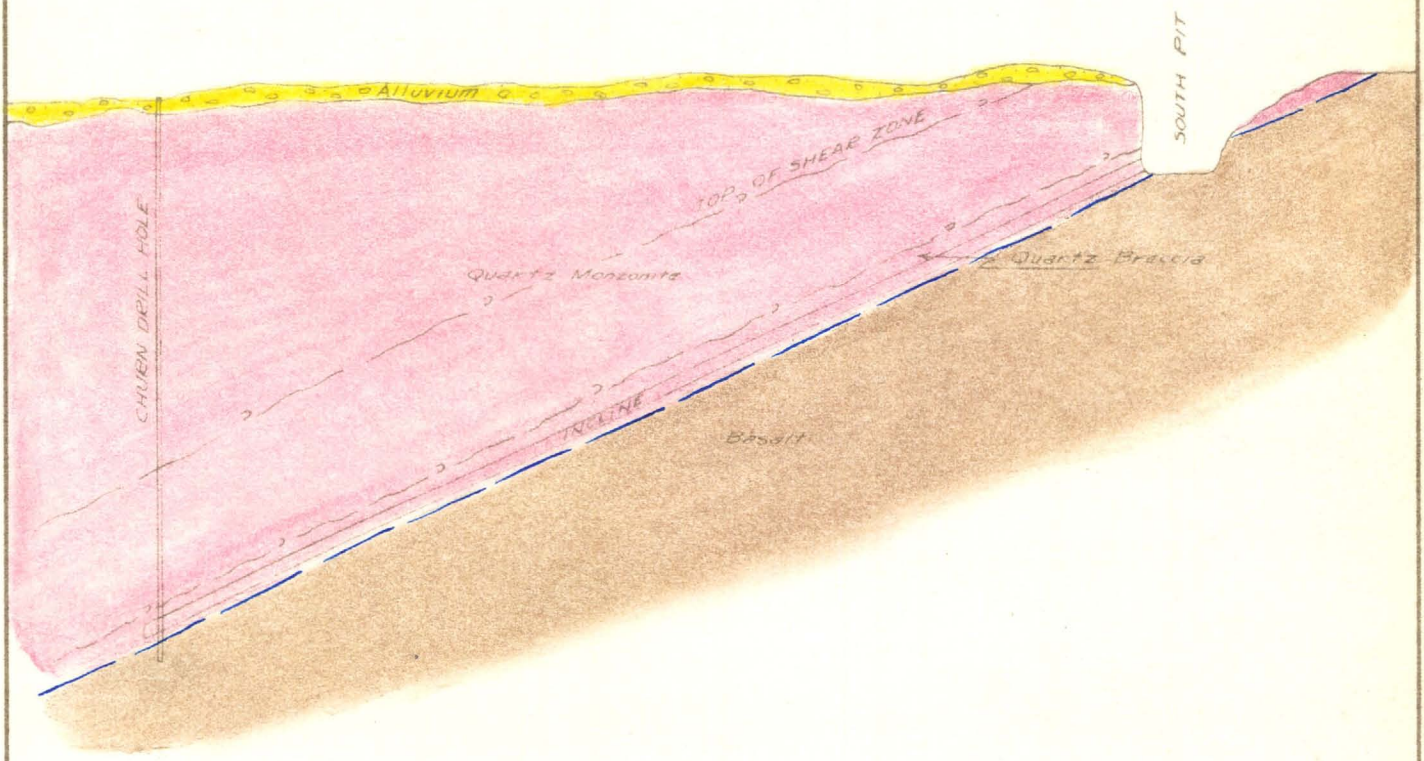
Essentially, then, the deposit is a gently dipping shear zone of which the brecciated monzonite is the hanging wall and the basalt the footwall. Near the footwall, the breccia is higher in quartz and evidently it is this material which carries the values.

As will be noted on the accompanying property map, three pits were worked on the outcrop. These are called the south pit, the west pit, and the north pit. The west pit is so located because the outcrop or zone was faulted to the southwest. At the south end of the south pit, more faulting is in evidence, probably the zone has been offset again to the southwest. No attempt has been made to locate this faulted segment. A generalized section thru the deposit accompanies this report.

As was discovered by sampling, all of the sheared and brecciated monzonite does not carry values. It was on the supposition that it did that the property was first recommended. Practically all the material mined from the pits was milled and quite evidently, a large percentage of this material was this sheared and brecciated monzonite. The quartz breccia lying above the basalt and in the monzonite carried practically all of the values. In the south pit, this breccia face has been covered by flash floods and consequently no samples could be taken.

However, it may be safely assumed that the deposit is a thin (up to 10 ft. thick) zone of quartz breccia lying on a basalt floor. Such a deposit could hardly be worked profitably by open cut methods due to the high stripping ratio and evidently the mineralization was too sporadic to warrant mining and development by underground methods.

A 300 foot incline was driven down the dip from the floor of the south pit. This incline was driven, according to reports, on top of the basalt footwall. Reports vary as to the ore encountered in this working.



GENERALIZED SECTION
THRU
CYCLOPIC ORE BODY
LOOKING NORTHWEST
Scale 1" = 60'

It is known that some stoping was done from the incline but no data is on hand as to grade and thickness of the ore mined. At the present time, the incline is unfortunately filled with gravel and sand washed down by flash floods.

Mr. Layton reports that some churn drilling was done on the property to determine the extent of the values down the dip. One hole was seen which connects to the end of the incline and Mr. Layton stated that, as he remembers , the hole was drilled first and the incline later driven to it so evidently some values must have been located by the hole. A letter has been written to the individual who presumably did this drilling requesting information as to the drilling results. To date no answer has been received.

Sampling:

At the time when Mr. Kitch and I were doing the necessary relocation work, we took 63 samples of the various workings. These samples indicated that a thorough sampling job was necessary before the property could be evaluated. Consequently in the early part of this month, Verne Tompkins, Lester Kitch, and I returned to the mine and cut 94 samples of the existing pit walls on the hanging wall sides. In addition, six tailings samples were taken.

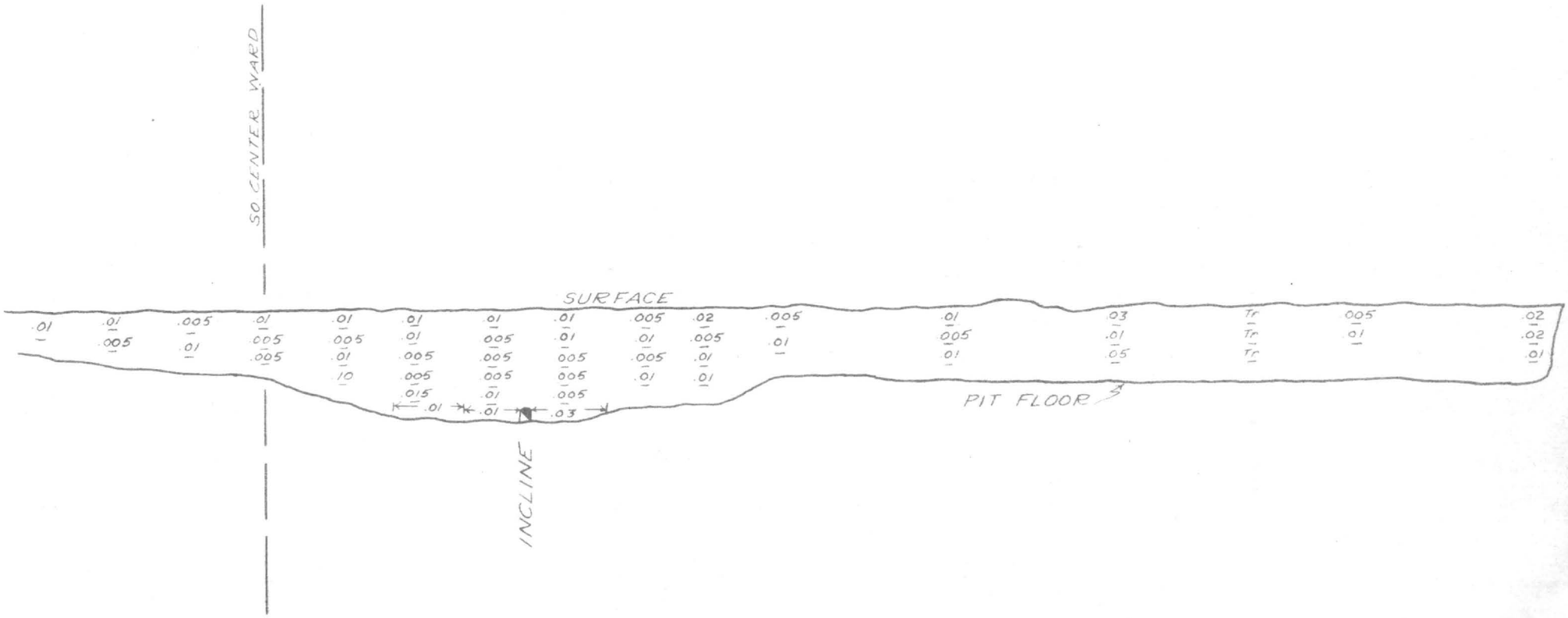
The last 94 samples are shown, together with their assays, on the accompanying profiles of the pit walls. The tailing samples of the largest and newest tailings pile showed an average gold content of 0.05 oz./ton or $1.75/ton. Evidently the metallurgy was far from perfect. The samples taken from the smallest and oldest tailings pile averaged 0.11 oz. Au./ton or $3.85/ton.

As may be seen from the included sample profiles, the results were disappointingly low. It is impossible to justify the fact that practically all of the material mined from the pits was milled. It is quite evident that the dilution of waste to ore must have been extremely high during the past operations.

The sampling results show quite clearly that the belief that the entire zone of brecciated monzonite was mineralized and could be handled as low grade ore was erroneous. The deposit is evidently narrow and sporadic in occurrence and could be handled, if at all, only as a small tonnage operation.

Summary and Conclusions:

From the above given data, it is obvious that the property does not warrant further attention or investigation. The company will necessarily have to finish the relocation work on the claims of Messrs. Layton and Larson since that work was more or less the price of the option.



DIAGRAMMATIC SAMPLE PROFILE

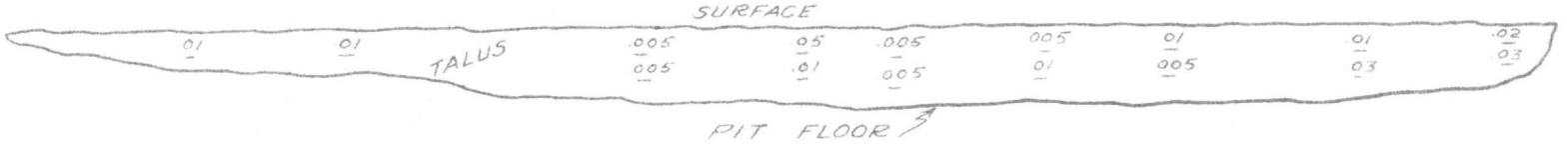
OF

HANGING WALL FACE OF SOUTH PIT

SCALE: 1" = 40'

LOOKING SOUTHWEST

VALUES IN OZ. GOLD PER TON



DIAGRAMMATIC SAMPLE PROFILE

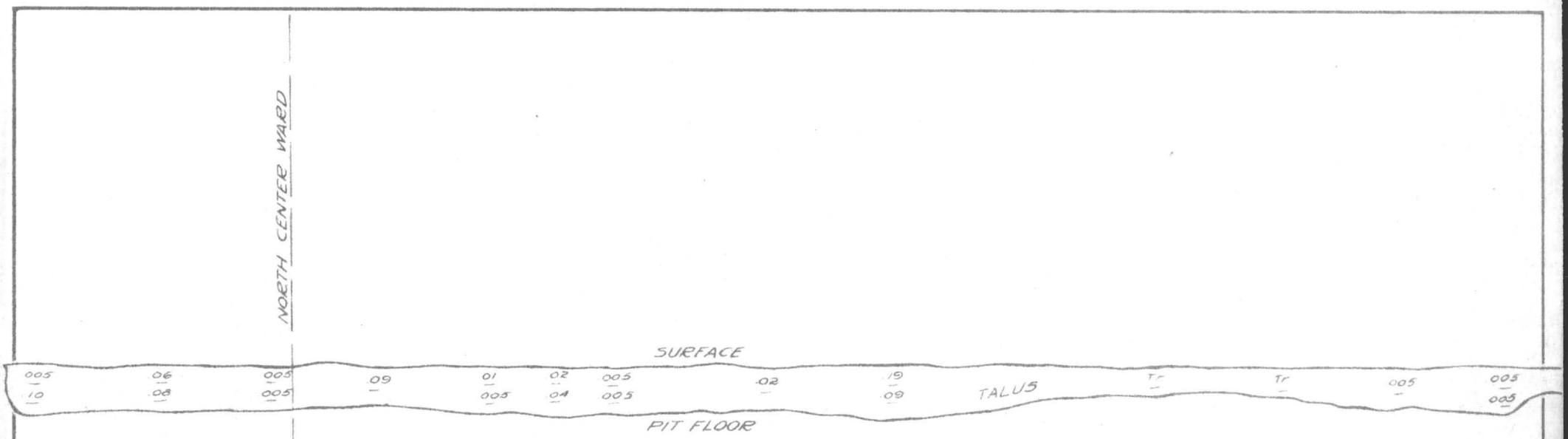
OF

HANGING WALL FACE OF WEST PIT

SCALE: 1" = 40'

LOOKING SOUTHWEST

VALUES IN OZ. GOLD PER TON



DIAGRAMMATIC SAMPLE PROFILE

OF

HANGING WALL FACE OF NORTH PIT

SCALE 1" = 40'

LOOKING SOUTHWEST

VALUES IN OZ GOLD PER TON

CONSOLIDATED COPPERMINES CORPORATION

COPY

MEMORANDUM

FROM

CITY

TO

DATE

SUBJECT Cyclopic Mine, Mohave County, Arizona. Page 4.

Therefore, when this work has been completed, it is recommended that the company complete their obligations in the deal and that Messrs. Layton and Larson be informed that the company will not take up their option to purchase.

JH/mc

John Hope