CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
3550 N. Central Ave, 2nd floor
Phoenix, AZ, 85012
602-771-1601
http://www.azgs.az.gov
inquiries@azgs.az.gov

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pcd Willcott files

UNIVERSAL COPPER COMPANY

5613 E. MABEL
TUCSON, ARIZONA

JAMES E. GAYLOR, PRESIDENT

PHONES: 792-0877
298-5516

HEINRICHS GEOEX
GEOPHYSICAL ENGINEERS
TUCSON, ARIZONA

REC'D DEC 1 1969 DBC

BOX 5671 TUCSON, ARIZONA 85703
Phone: (AREA 602) 623-0578

Geology Department

Gentlemen: RE: Sale of Copper Property

Enclosed are a geology map (compiled by Dr. Willard C. Lacy of the University of Arizona at Tucson), assays, and a report on 85 claims which include my 14 claims that I am offering for sale or royalty.

The Troy Copper Co. (an eastern stock company), between 1900 and approx. 1912 had grouped 85 copper claims forming a 4-mile long oval extending NE and SW. My 14 claims are on the extreme SW end; referred to in the report as the "West Group". Inspiration Copper Co. recently spent a number of months doing geophysical work and drilling on their property north of and contiguous to my 14 claims and around the old townsite of Troy. No drilling has been done on my claims. My claims consist of the old Alice Mine workings and the 2,200-foot long Pratt Tunnel which shows on Dr. Lacy's map.

At the turn of the century this was perhaps the largest copper mining operation in Arizona. According to the old reports the richest copper ore was taken from the Alice Mine. In those early days the miners only worked the carbonate ores because they were unable to process sulphide ores. Therefore, all of the sulphide ores remain untouched. Ore that was under 7% copper was too low to mine profitably in those days. The old reports indicate that 50,000 tons of high grade carbonate ore was mined from the Alice Mine in 1902 running from 8% to 16% copper for an average of 12%. Since the Alice Mine workings (4 levels) and the Pratt Tunnel are caved-in, this property is offered simply as a raw prospect. The surface area is extremely broken and difficult to geologize. I believe that a modest amount of drilling will prove enough copper ore to justify expansion. Because the property is unproven at the moment as to whether it will or will not support a sizeable mining operation--underground or open pit--I believe it would be better for both parties to agree to an equitable royalty. The property is free and unencumbered and I will give a reasonable exploration and drilling option to any substantial company who will contract to perform the various phases of development within reasonable time limitations.

Dr. Lacy stated to me that there might be between 1,000,000 and 2,000,000 tons of "high-grade copper ore" in and near the Alice Mine. If this averaged 5% copper at current prices it would approximate $100,000,000 worth of copper. I doubt whether any other mine in Arizona--large or small--started with a better looking base. Yet, invariably, nearly all of the big mines in Arizona have continued to expand their reserves from year to year.

In addition to such potential high-grade copper ore, the Pratt Tunnel cuts through over 200 feet of low grade copper ore. Also, for your easier evaluation, here are some quotes from the enclosed report and from the "Copper Handbooks" at the U. of A. Library pertaining to my property:

"A map compiled by the writer (Mead circa 1904) several years ago when the ore body was exposed, is a geological section of the ore exposure of the shaft of the third and fourth levels (Alice workings). The ore exposed at that time was high grade and assayed from 6 to 12% copper. The Alice Shaft went down on the Alice Vein. It was 3 feet wide at the top and had widened out to 11 feet at the bottom of the shaft at 350-foot depth."

Vol. III of Copper Handbook, 1903 states, "Vein is 3' to 11' in width and gaining in width at bottom of Alice Shaft. Smelter returns for 1902 gave an average of 10% copper. 200 feet of drifting east from the Pratt Tunnel should hit the Alice Vein about 150 feet lower than the bottom of the Alice Shaft."

John C. Devine said in the old report, "The work done on the east side of the Alice Shaft on the lowest level cut a porphyry fault running somewhat across the general trend of formations and it is this fault that produced some very high grade ore and appeared to be making downward with increasing strength. It would require driving the Pratt Tunnel five or six hundred feet east in order to cut this ore, and considering the pitch of the ore body, a stoping backing of about 400 feet would result from this development." This fault was probably the south end of the Climax Fault mentioned in next paragraph.

Devine further reports with reference to the Climax Fault: "The prominent features of this fault are its strength and regularity, traceable on its surface as it is for a distance of more than 2,000 feet. Copper values are to be seen along the fault at several points where surface work has been done." I walked the length of this fault with a geologist and picked up a lump of chrysocolla copper ore from the surface that assayed 36% copper.

The 1905 Copper Handbook (Vol. V) states, "The Buckeye winze is said to show a 25-foot vein of malachite, giving smelter returns of 6 to 10% copper." My claims run right up to the edge of the Buckeye dump. The Pratt Tunnel could be extended to reach this copper ore.

These old reports and maps have proven fairly accurate as far as I have been able to tell. Any minor discrepancies appear to be personal differences by the 4 men reporting rather than any intention to deceive. John Devine (now deceased) had an outstanding reputation among mining men in his time according to my investigations. If you consider the enormous fluctuations in copper prices in those years (a drop of 31% in 1902, for example) you can understand why copper mining operations might have stopped in this relatively remote area and in later years new mines were opened in easy-to-get-to places. Today, however, the economics of mining this property are excellent. It is only 2-1/2 miles at a raise of approx. 1,000 feet from the railroad, excellent highway, and the Gila River to the adit of the Pratt Tunnel. This road could easily be built today, whereas, in the old days such road building was not even considered. This property lends itself well to block-caving, or it could be open pitted if enough copper ore were blocked out to justify it. This is the best copper ore in the world to process as it is very high in silica. The silica in places runs as high as 95%. There is a trace of gold and silver in the ore. In some places the gold should be a worthwhile by-product. Another extremely valuable factor is the fact that this copper property is within spitting distance of 7 copper smelters and only a half hour by rail to the new copper refinery that Newmont is planning to build at San Manuel (Magma Copper). This property is in the very heart of Arizona's "Copper Porkchop".

The way the faults and beds are making nearly straight down into the earth they could very well go down for a mile as the ore did at the Magma mine at Superior, nearby. After nearly 50 years, Magma at Superior is still taking out extremely high-grade copper ore from a depth of 5,000 feet. When they started down on a vein they didn't look as good as the Alice Mine looks today. Yet they have sold over a billion dollars' worth of copper.

Several firms attempted to reach the Alice bodies during World Wars I and II but gave up when they ran out of money and the copper price took a sharp drop. The Government engineers thought enough of this property to give an R.F.C. loan during World War II, but the first ore body was never reached.

This mine can be put into operation quickly and profitably. Some of the ore blocking could be done by drifting on high grade ore. There would be no need to block all the ore before starting to mine. Millions of dollars' worth of ore could go right out the Pratt Tunnel while the over-all blocking program was being carried out. Another tunnel could be driven later to the bottom of the ore simply by starting further down the mountainside, which will be closer to the Gila River, the railroad, and the highway. Ore can be removed from the side of the mountain by a stripping operation. Large tonnage may be blocked out by relatively inexpensive tunnel drilling and drifting.

Because President Johnson virtually depleted nearly all of our copper stockpile, any military emergency could put this country into an extremely critical short position on copper, despite expected production increases in the immediate future. As our population explodes, the demand for copper increases.

Copper ore bodies are almost impossible to find in Arizona any more. Numerous companies have had top-notch geologists and engineers working for years and spending hundreds of thousands of dollars on drilling (mostly in the most unlikely places) only to finally pack up their tents and silently steal away. They would have been miles ahead if they hadn't been so independent and had put their time and effort on a property that had such a proven copper history as the Alice Mine and surrounding claims and the Climax Fault.

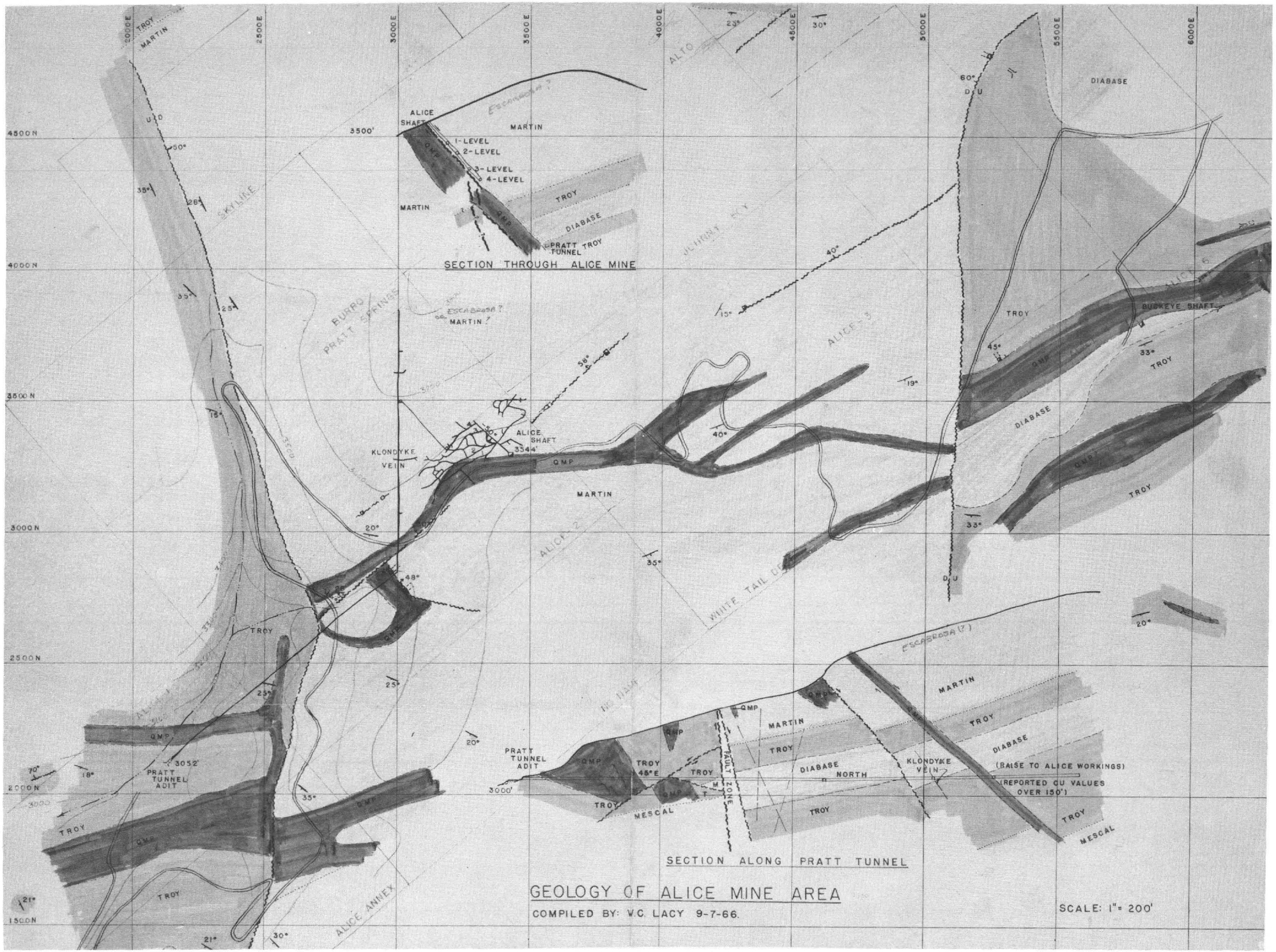
Furthermore Russia is working overtime to place Communist regimes in copper-producing countries in Africa and South America, as well as building the world's largest submarine fleet to cut off American imports. In future years the United States won't be able to produce one-half as much copper as she consumes, because our mines will be petering out rapidly because of the huge tonnages of ore being milled daily. Here in Arizona some of our open pit copper mines are hauling out over 50,000 tons of ore per <u>day</u>, to get from 10 to 15 pounds of copper per ton of ore. As Unions force mining, milling, and smelting costs up, much of the "reserve" ore here that is marginal now will become unworkable and will remain waste rock forever. So when certain mining companies claim they have reserves for a certain number of years, they are not reckoning with over-population, inflation, and the "Unthinkable War".

This property is perhaps the only one in Arizona where a relatively small investment might result in a billion-dollar bonanza, and where you could start producing quickly enough to cash in on the current shortage of copper and record high price.

If interested in making a copper mine or pit out of this property, please have a geologist evaluate it for you as soon as possible. I will show him the property and assist him in every way I can. I can also show him additional maps, data, etc. This proposition will remain open until all parties have made preliminary examinations and made their respective proposals. I am seeking a fair and equitable proposition from a good company. No promoters will be included.

Very sincerely yours,

James E. Gaylor
President of Universal Copper Co.



GEOLOGY OF ALICE MINE AREA

COMPILED BY: V.C. LACY 9-7-66.

SCALE: 1" = 200'

30 So. Main St.
P. O. Box 1889

JACOBS ASSAY OFFICE

Phone 2-0813

REGISTERED ASSAYERS

DUPLICATE

Certificate No. 53452 Tucson, Arizona, April 4th, 1958

Sample Submitted by Mr. Universal Copper Corp

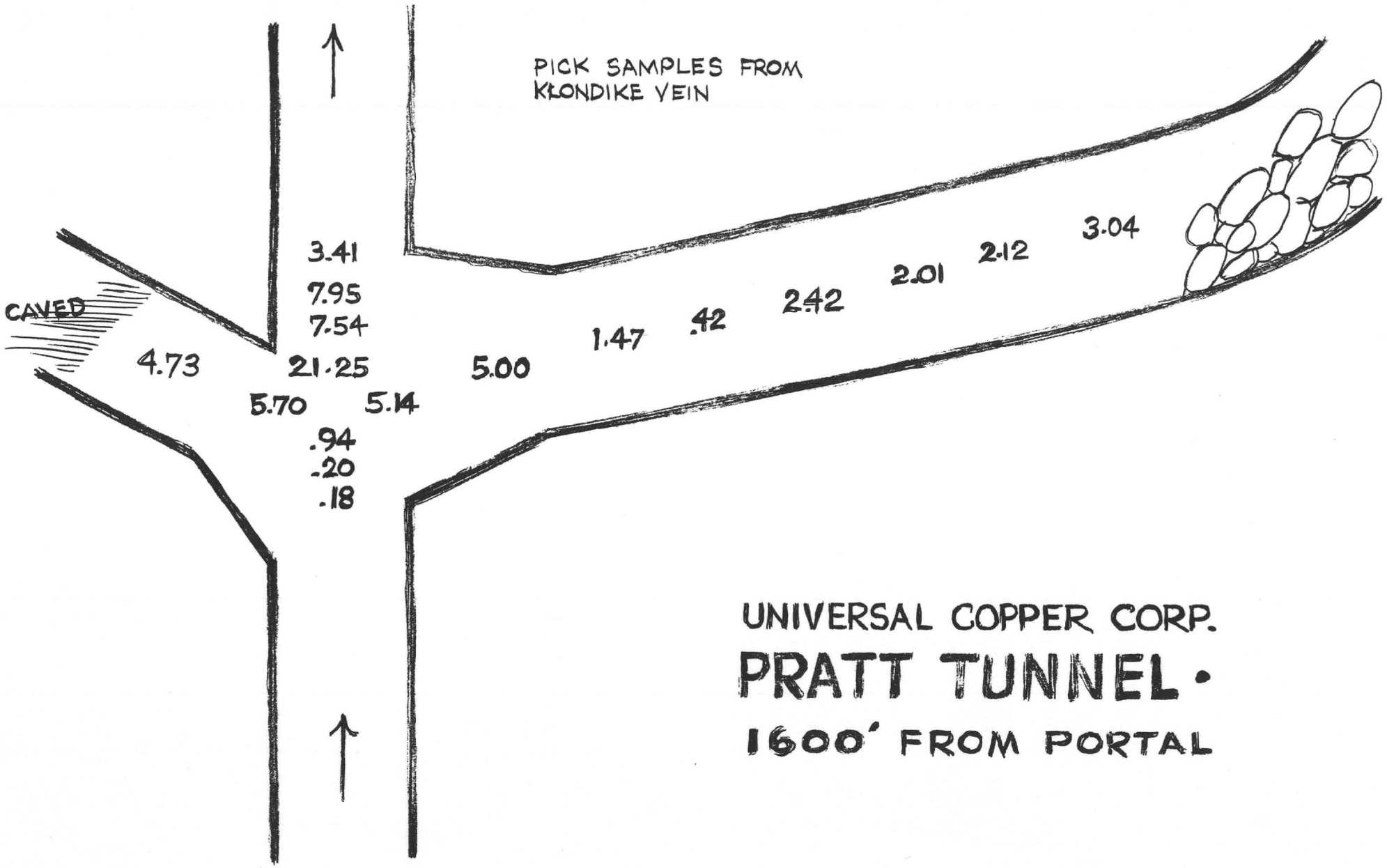
SERIAL	SAMPLE MARKED	GOLD Ozs. per ton ore	GOLD Value per ton ore *	SILVER Ozs. per ton ore	COPPER Per cent Wet Assay	LEAD Per cent Wet Assay	Per cent Wet Assay
			$				
156231	0				3.04		
32	1				2.12		
33	2				2.01		
34	3				2.42		
35	4				0.42		
36	5				1.47		
37	6				5.00		
38	7				5.14		
39	8				5.70		
40	9				4.73		
41	T1				0.18		
42	2				0.20		
43	3				0.14		
44	4				21.25		
45	5				7.54		
46	6				7.45		
47	7				3.41		

* Gold Figured $35.00 per oz. Troy

Charges $ 25.50

Very respectfully,

Ben P. Jacobs



UNIVERSAL COPPER CORP.

PRATT TUNNEL.

1600' FROM PORTAL

TROY-ARIZONA COPPER COMPANY

ENGINEERS

The following well known engineers have been employed to examine the property:

LEO VON ROSENBERG

Mr. Von Rosenberg was on the property at various times from 1912 to 1916, studying its geology, securing and adding desirable claims and sinking test shafts.

ROY G. MEAD

Mr. Mead was employed from 1912 to 1916 by the Department of the Interior as Mineral Examiner of the General Land Office. This work took him all over California and Arizona and enabled him to study the geology and various classes of mining and development work in these states. He has passed upon the holdings of many of the important companies operating in Arizona and has done much work in the mineral belt in which Troy is located.

G. G. WALD

At the time Mr. Wald made his examination of the property he was in the employ, as engineer, of the Ray Consolidated Copper Company located about five and one half miles from Troy, and consequently thoroughly understood this territory.

JOHN C. DEVINE

Mr. Devine was employed by the Ray Consolidated Copper Company for a period of ten years. About 1916, at which time he was Assistant Superintendent at the Ray Mines, he voluntarily resigned and has given his personal attention to our property. He has done a large amount of shaft and tunnel work at the mine and consequently is the best informed man about the underground conditions there.

EXTRACTS FROM ENGINEERS' REPORTS

GEOLOGY

LEO VON ROSENBERG:

"The geology of the area in which the property of the Troy-Arizona Copper Company is situated, is more or less complex. Briefly stated, the rocks of the locality are granite, granodiorite, diabase, porphyry, limestone, quartzite, schist and conglomerates. The diabase, granite, granodiorite and the porphyry, occur as intrusions. The porphyry occurs mainly in the form of a very strong and persistent dikes, cutting through the granite, diabase, etc. Very probably the diabase was the first intrusion into the sedimentary rocks (sandstone, limestone, etc.,) when they were still in the horizontal position. The intrusion of the diabase was followed by the intrusion of the granite rocks, which caused the displacement of the diabase and further tilting of the sedimentary rocks. Then occurred the intrusion of the porphyry, followed by the ore deposition. It might be stated that the intrusions of the porphyry are closely related to the ore deposition although the diabase may also have been a mineralizing agency. At various times the whole area was subject to much faulting and shattering.

The porphyry dykes are from a few to fifty feet in thickness, and in some cases are much thicker. They have a general northeasterly and southwesterly strike; in the eastern portion of the property, they assume a more easterly and westerly course. The dip of most of the dykes is rather steep. The ore occurs along the fault fissures in the granite and diabase (usually along or near the porphyry dykes) and also in the fractures of the sedimentary rocks, and along the bedding planes of the same. The mineralogical character of the ore is virtually the same as that of the ores produced in the various mines at Globe, Cananea, Clifton, etc.

The ores consist of carbonates of copper and of the various copper and iron oxides and sulphides. The predominating gangue is quartz. Generally stated, the ore bodies carrying oxides occur mainly on the contact of the different sedimentary rocks, also on the contact of the sedimentary rocks and porphyry and diabase.

The sulphide ores will be found mainly in veins occurring in granite rocks, and in the porphyry and diabase. However, secondary copper ores may also be found in the veins associated with the intrusive rocks, especially in the upper portions of these veins."

GEOLOGY: East Group of Claims

ROY G. MEAD:

"Briefly stated, the geological formation underlying the group in question, consists of a basal granite exposed over the northern and eastern part, which is overlain in the south by sedimentary series consisting of quartzite and limestone which is traversed in an easterly direction by diabase and porphyry dikes. There has been considerable faulting and displacement of the sedimentary beds, which renders the geological structure more or less complex. However, the pronounced faulting offers a very favorable condition for ore deposition.

Two mineralizing dikes traverse the area in an easterly direction; one a diabase dike averaging one hundred feet in width, lying between the granite and limestone; the other a porphyry dyke averaging two hundred feet in width, lying between the quartzite on the south and the limestone on the north, along which is exposed the Rattler vein. The porphyry dyke caused a faulting of the sedimentary beds, resulting in a drop or displacement of several hundred feet on the north side, and the present position of the limestone which is apparently below and underlying the quartzite.

The porphyry dyke, in my opinion, the source of the mineralization in the limestone designated as the Queen vein, as well as the source of the mineralization in the Rattler vein. Owing to the fact that the limestone is a soluble rock, it offered a favorable condition for the deposition of copper and iron from the mineralized solutions coming from the porphyry dyke, and there resulted there from the Queen vein. As the mineralization extended upward from the dyke, it follows that it became weaker the farther it got from the porphyry dyke, consequently, the richer ore bodies are to be expected near the dyke, which fact is being proven by the work now being carried on in the Rattler workings; the deeper work now showing an ore with a higher copper content and less magnetite than the ores found nearer the surface. While large bodies of secondary sulphide ore are to be expected in the limestone beds, the future of the property as a steady producer of copper, depends upon the development of the primary sulphide ores which will no doubt be found below the limestone in the Rattler vein and in the porphyry dyke. In view of the extensive body of secondary ores in the limestone, the source of which is from the porphyry dyke, there is every reason to believe that the primary ores will be very extensive and of a commercial grade.

The diabase dyke lying between the limestone and the granite is of later origin than the porphyry dyke, and no doubt was intruded after the faulting of the sedimentary rocks. This dyke has had very little mineralizing effect upon the adjacent limestone. The dyke is, however, very much altered near the surface, showing indications of being mineralized below the surface, and it is quite probable that if explored with depth that it will be found to contain primary ores. The old Sisson shaft was sunk on the contact of the diabase and limestone, and it is reported that low grade sulphide ores were encountered in the bottom of the shaft."

GEOLOGY: West Group of Claims.

ROY G. MEAD:

"The geologic formation underlying the area embraced by the west end group is more or less complex owing to extensive faulting and displacement, caused by the numerous

eruptive dykes which traverse the area. Briefly stated, the formation consists of a basal granite and diabase overlain by a sedimentary series consisting of quartzite, limestone, schist and conglomerate. The diabase occurred in the form in intrusions, and displaced the sedimentary beds. After the intrusion of the diabase the formation was subjected to movement and displacement by faults followed by later intrusions of porphyry in the form of strong persistent dykes cutting the granite, diabase and sedimentary beds. The ore disposition followed the intrusion of the porphyry dykes and its source is traceable to the primary mineralization which came up with the porphyry dykes.

There are no less than twelve porphyry dikes traversing the group, all of which have had an important bearing on the mineralization of the area and with exploration at depth will be found to contain primary copper sulphides in sufficient quantity to be commercial ore under the present modern methods of mining and ore reduction.

The dikes vary from fifty to one hundred feet in width, and in many cases are considerably wider. They are, with few exceptions, nearly vertical and traverse the property in a general northeasterly and southwesterly direction. The secondary surface ore bodies occur along the contact of the porphyry and limestone, and are known as contact ore bodies when occurring near the porphyry dikes, and replacements ore bodies when occurring in the limestone.

The surface showings and conditions on the property are quite similar to those on some of the principal copper mines of Arizona, such as Magma Mine, Old Dominion and Copper Queen, where rich surface carbonate ores were found in limestone and other sedimentary rocks, the source of which was traceable to primary sulphide ores occurring at depth in porphyry and diabase dikes."

GEOLOGY:

G. G. WALD:

"The country rocks are quartzite, limestone, diabase, porphyry and granite. The overlying sedimentary formations have been shattered, faulted and tilted by the intrusion of the porphyry and later of the diabase. These eruptive rocks were intruded, in places, into the bedding places of the sedimentaries, and also followed up planes of weakness developed at angles to the bedding planes. These fissures and dikes strike generally in the northeast to southwest direction. There is one marked exception to this general rule, the Climax fault, N 10 degrees E, and dips 60-65 degrees to the NW, cutting the numerous NE-SW faults at angles varying from 45 to 60 degrees. The Climax fault is a strong fissure; on the Climax No. 3 a width of 30 feet between well defined walls was measured. Just north of here the fault swings around into the northwest and widens out. The space between the walls is filled with crushed drag from the quartzite and lime beds it cuts, and both porphyry and diabase have been intruded into the fault. On the surface it is strongly iron stained, and at many places it shows stains and stringers of copper carbonate. At the point at which the shaft is located, the fault material is especially leached and koalinized; further to the north the outcrop is more siliceous.

The fissures and faulting of the sedimentary formations by the intrusion of the igneous rocks has created an ideal condition for the deposition of minerals from mineral bearing solutions. The values consist of carbonates and silicates of copper, and chalcopyrite and chalcocite, the sulphides of copper. As far as developed, this mineralization has been found to consist of replacement ore bodies in the sedimentary beds adjacent to faults of intrusive dikes and of contact ore bodies between igneous rocks or between an igneous rock and the sedimentary deposits. The ores were deposited from vapors and mineral bearing water accompanying and emanating from the igneous intrusions. In this section the porphyry and diabase are both mineral carriers and mineralizing agents. Note the Magma mine, where the ore body is associated with porphyry dike intruded into a fault fissure cutting the sedimentary beds. The diabase is not as favorable for ore deposition, but at Globe and Ray, sulphide and oxide ores have been found in the diabase, usually as a contact.

Development to date, has disclosed several mineralized areas almost exclusively on the NE-SW veins and faults. The Buckeye, Alice and Rattler-Sisson workings are examples of this ore occurrence. Although considerable ore was shipped and smelted, the ore bodies were of low grade and of limited extent.

Pratt Tunnel; On the Pratt tunnel dump, a pure crystalline quartzite, with disseminated values in chalcocite, was found. The tunnel is now inaccessible, and no assay maps are available, at the mine. The map shows that two beds of the brecciated quartzite were cross-cut near the end of the tunnel; the first, 30 feet wide, was drifted on for 120 feet, and the second, 260 feet wide, was drifted on for 80 feet. It is reported that this quartzite ran 2% copper; and the fact that the drifts were driven on the quartzite, and at no other part of the tunnel, indicates that encouraging values were encountered. However, at that time ore of 2% copper content had no commercial value. This quartzite ore could be cheaply milled, and as it will have a high ratio of concentration, would be pay ore today, if a sufficient tonnage was developed. A sample taken of this quartzite on the surface of the dump ran trace copper; a second, taken below the surface, where values had been concentrated by surface waters since the rock was mined, ran 5.1% copper. These samples merely show that there is copper in the quartzite. If the old assay maps or data are extant and show the copper values reported, it would pay to open up the Pratt tunnel, as there is a possibility here of developing a considerable tonnage of low grade ore."

GEOLOGY:

JOHN C. DEVINE:

"The formation consists of limestone, quartzite, granite, diabase, and porphyry. The latter eruptives occur in the form of intrusions, having caused minor displacements in some instances of the overlying sedimentaries. These displacements are usually marked by distinct brecciation, and ore deposits of varying degree of importance are in evidence along these lines of faulting.

Massive outcrops of iron gossan mark the proximity of the mineralized portions on the western half of the property, and on the eastern half, large bodies of magnetic iron are found closely defining the mineral zone."

DEVELOPMENT:

LEO VON ROSENBERG:

"The development done by the former company, consisting of several shafts, a number of levels, tunnels, etc., was largely ill-advised. It is of no particular importance, and probably will be of little use in future operations.

A new plan of development has been inaugurated. Recently a new shaft was started in Climax 2 claim, situated on the south slope of Climax Hill. This shaft has reached a depth of 80 feet. It is in the meta-diabase. The territory embraced in the south slope of Climax Hill shows prominent croppings of hematite. Judging from these surface showings, and from the openings already made, it is reasonable to expect that by further development, large bodies of valuable copper ore will be opened up, in this part of Climax Hill. It is reported that a considerable amount of very rich ore was taken from the shallow workings of Climax 3 claim, and also from the Copper Glance claim. Assays of a number of samples taken from the various openings on Climax Hill showed good copper values.

A new shaft was started on the California claim, situated on the east slope of Climax Hill. This shaft is now 100 feet deep. It is a meta-diabase. In the bottom, the material is heavily mineralized, showing iron pyrite. The shaft should be sunk about 200 feet deeper, cross cuts should then be run about 500 feet northwesterly and about 200 feet southerly. Judging from the surface indications, consisting of heavy gossan (hematite and limonite) about six veins should be intersected by these cross cuts. It is reasonable to assume that some of these veins will be found to carry workable copper ore in quantities.

When the veins have been opened up, levels should then be run on them in a southwesterly direction; ultimately these levels should be connected by cross cuts with the new Climax 2 shaft.

It is reasonable to expect that with the development recommended, a large copper mine will be opened up in Climax Hill."

THE RATTLER MINE:

"The vein of the Rattler is reached by a short tunnel driven in a southerly direction, mainly through diabase and lime. The vein is intersected at a point 150 feet from the mouth. The workings consist of various drifts and a number of large, irregular chambers from which ore has been extracted. The vein is exposed in most of the workings. It lies at an angle of about 20 degrees, dipping to the south. The thickness of the vein varies from 2 to 8 feet. The ore is magnetite. There are a number of faults or slips. Apparently several veins course through the Rattler claim.

According to the assays of a number of samples taken from the ore exposures, the ore carries from 2 to 9% copper; 30% silica; 4% sulphur; 32% iron oxide; 10% magnesia; some alumina and a small amount of lime. The returns of ore shipped in quantity several years ago to the Humboldt Smelter, near Prescott, Arizona, show the average as follows:

Copper 3.55%; Silica 30%; Iron 24%; Lime 0.5%; Sulphur 3.8%

Thirty-two tons of sorted ore shipped as a test, in January 1914, to the smelter of the American Smelting and Refining Company at Hayden, Arizona, contained:

Copper 5.22%; Iron 30.8%; insolubles 19.2%.

The gold and silver contents of the ore amount to about $1.50 a ton.

The indications are that even with a comparatively moderate amount of development work, a considerable tonnage of this class of ore could be made available. The workings of the old Sisson mine, the shaft of which is about 400 feet west of the Rattler mine, are now inaccessible below the first level. On this level at the shaft, a very strong vein of red hematite is exposed. The surface showing in the eastern part of the Copper Reef claim adjoining the Rattler claim on its west end line, is exceedingly favorable. The cropping of rich ore should be followed by an incline. With a moderate amount of prospect work, very likely quite a tonnage of rich ore could be extracted. The vein exposed by the croppings is no doubt a continuation of one of the Rattler veins.

It is reported that very good sulphide ore was encountered in the lower Sisson mine workings. This class of ore, mixed with copper bearing magnetite would made a good smelting product.

The development proposed might be supplemented by diamond core drilling."

DEVELOPMENT: (West group of claims)

ROY G. MEAD:

"The Alice vein traverses the Dime, Alice and Maggie claims, and is a contact vein having a limestone hanging wall and a granite porphyry dike for a footwall. The general strike of the vein is about north 60 degrees east, and the dip about 45% to the northwest. The vein filling is iron oxide accompanied with copper carbonate ores and altered porphyry. This vein has been explored to a depth of about 350 feet by means of the Alice incline shaft and the Pratt tunnel, and a large tonnage of carbonate ores extracted, which had a copper content in excess of 10%. The development work on this vein, while quite extensive work, was done for the purpose of extracting the carbonate ores, and not with the view of developing the primary ore bodies; therefore, sufficient depth has not been attained to reach the primary ores.

In the Pratt tunnel, which reached a distance of 2300 feet, sulphide ore in shattered quartzite was encountered at a distance of about 1600 feet from the portal and at a vertical depth of about 500 feet. The mineralization consists of fine particles of copper sulphide and native copper extending over 50 feet in width near the granite porphyry dike, the average copper content being 2.5%. This mineralization is undoubtedly the Alice vein exposed at a depth below the limestone, and the mineralization in the quartzite is traceable to the granite porphyry dike. The fact that the values are in the quartzite is conclusive evidence that further depth is required in order to reach the primary sulphide ores. The ore developed in the tunnel, is, however, at the present time, commercial ore, although when the tunnel was driven several years ago, it was considered too low grade, as at that time, the possibility of mining low grade ores was not an established fact.

The Alice shaft follows the vein filling between the limestone and porphyry and the ore deposits encountered are typical of the secondary ores worked in the early days by the principal copper mines which are today getting their output from primary sulphides in porphyry. There is no record of the tonnage of carbonate ores obtained from the workings, and the shaft is now inaccessible. A map compiled by the writer several years ago when the ore body was exposed is a geological section of the ore exposure of the shaft of the third and fourth levels. The ore exposed at that time was high grade and assayed from 6 to 12%.

The fact that the mineralization near the surface in the limestone is so pronounced, together with the fact that there is a large area of mineralization in the quartzite, now commercial ore, exposed in the deeper workings, is conclusive evidence that the porphyry will be found to contain workable deposits of primary sulphide ores when developed below the leached zone. The surface showing, together with past developmental work, warrants systematic exploration, which in my opinion will lead to the development of a large copper producing mine."

DEVELOPMENT:

JOHN C. DEVINE:

"For convenience in the discussion of the development I shall divide the property into two groups, viz; the East and West end.

Taking up the east end of the group, the Rattler vein is found traversing the group and prominently outcropping for a distance of several thousand feet. Deposits of low grade ore are in evidence at several points along the outcrop, and on the Rattler claim, whereat most of the development has centered, a large body of magnetite has been opened that carries copper values ranging from 2% to as high as 5%.

Considerable ore has been shipped from this deposit and more is available for shipment at this time.

The vein of magnetite lies on a diabase footwall and beneath an altered limestone hanging wall, the values below the oxidized zone consisting of finely divided particles chalcopyrite and bornite very evenly disseminated throughout the entire mass.

The development as it stands today has exposed considerable ore of milling grade and some more that could be shipped at a profit.

Continued development to the west closely following the ore strata would undoubtedly open an extensive body of commercial ore.

The ore now developed in this end of the property and probable ore that can be readily added to the reserves by following the ore on the second level of the vertical shaft, places this property in the position wherein immediate shipments can be started.

Thousands of tons of low grade milling ore in the mine and stockpiled on the surface offer immediate opportunity for the first unit of a reduction plant, and it can therefore be stated that this end of the property has passed beyond the prospective stage of development, and with little expense it could be placed in the producing class. Proper experiments should be made in order to determine the best and most efficient process of recovering the copper values from these low grade ores. In view of the high percentage of iron or magnetite contained in the ore, the writer believes that separation by magnetic attraction, will give satisfactory results. If flotation seems necessary, this unit could easily be added afterward.

Taking up the west end of the property which embraces all of the area west of the camp, we find the development well advanced, and with comparatively little further development this end of the property could also be made to produce ore, the volume of which would depend entirely on the magnitude of operations.

Traveling west from the camp we come first to the Climax shaft which is equipped with a hoist and compressor and has reached a total depth of 500 feet vertically. This shaft was designed to explore what is known as the Climax fault, an intrusion of porphyry 40 to 50 feet in width, carrying copper values in the oxidized zone in the form of carbonates, and evidencing a very much leached condition and indicating that when the primary zone is reached, high grade copper should be found in quantity.

The prominent features of this fault are its strength and regularity, traceable on its surface as it is for a distance of more than 2000 feet. Copper values are to be seen along the fault at several points where surface work has been done.

The shaft was started in the porphyry but left it within the first 100 feet, the porphyry having pitched sharply to the west. At the 500 foot level a cross cut was started to cut the porphyry, but this work never reached the contact due to the suspension of operations. It is estimated that 150 feet of drifting will cut the vein. This work should be completed and the shaft should be sunk 225 feet deeper and a drift started to the west with the ultimate purpose of exploring the very favorable ground lying between the Climax shaft and the Alice mine.

The approximate cost of finishing the development at this point as indicated would be about $20,000.00 and the work could be accomplished in three to four months after the shaft was unwatered.

The next development of importance on the west end of the property is centered on the Alice and adjoining ground, and is very extensive. However, due to a long period of idleness considerable of this work is inaccessible at this time. Much ore has been mined from this part of the property, mostly high grade copper, and in the writer's opinion, will be the inevitable result of intelligent development through the Pratt tunnel on the west end.

The Pratt tunnel which was driven a distance of about 2000 feet some years ago, has opened up some ore in two different places. The elevation of this tunnel is about 250 feet deeper than the Climax or Alice shaft, and just brings the development to the primary zone where both primary and secondary sulphides are in evidence quite abundantly. The tunnel cut two distinct ore veins, one known as the Klondike vein measuring four feet in width and averaging about 2% copper. Very little work was done on this vein due to the low tenor of the ore which was not considered at that time commercial. The evolution of metallurgical processes however has demonstrated that low grade ores can be made profitable by applying the modern methods of concentration and flotation.

A second area of low grade sulphides was encountered at 400 feet east of the Klondike vein and this was cross cut a total width of 150 feet. The ore here was not developed to any extent either, due to the above reasons. In both instances the ore occurs in a much shattered and brecciated quartz formation, and a fine separation of the values could be obtained by concentration with a very high ratio of recovery.

This part of the property offers a better opportunity than any other for the opening up of a mine of large proportions, and there is no doubt in my mind that any development extended to the east from this tunnel following the present low grade ore, will from time to time encounter deposits of high grade ore, the existence of which was fairly well determined by the work done from the Alice shaft.

The work done on the east side of the Alice shaft on the lowest level cut a porphyry fault running somewhat across the general trend of formations, and it is this fault that produced some very high grade ore and appeared to be making downward with increasing strength. It would require driving the Pratt tunnel five or six hundred feet east in order to cut this ore, and considering the pitch of the orebody, a stopping backing of about 400 feet would result from this development. An approximate estimate of the cost of reopening the Pratt tunnel and driving east to the ore above mentioned would be about seven months."

ECONOMIC CONDITIONS:

JOHN C. DEVINE:

"The property is so situated with relation to the railroad that transportation facilities should be ideal. The embarking point could be located at Erman Siding, one and one-half miles east of Ray Junction and thus reduce the distance from the railroad to the mines, to five miles. Cheap transportation could be obtained by the use of motor trucks and trailers.

It has been suggested in this connection than an aerial tramway might be considered to deliver supplies to the portal of the Pratt tunnel and transport ore from this end of the property to the railroad. The project is entirely feasible and the distance would be reduced to three and one half miles all down grade to the railroad.

The proximity of the Hayden Smelting plant, a unit of the American Smelting and Refining Company's string of smelters, which lies about fifteen miles east of the property is an economic factor of more than ordinary value. The short railroad haul together with the efficient method of transporting ores and concentrates that could be developed, would contribute largely to the profitable marketing of the low grade ores now available on the property, which have been heretofore not considered commercial, due to inadequate transportation facilities."

CONCLUSIONS:

LEO VON ROSENBERG:

"It is reasonable to expect that with development recommended, the existence of large quantities of workable ore will be demonstrated.

Altogether, the future of the property is very bright. It must be borne in mind that the condition of a number of copper properties, which are now large producers, was at one time not at all as encouraging as is the present showing at the Troy mines.

The Troy-Arizona copper property forms a very attractive mining proposition, which with proper development, has every premise of becoming one of the great copper producers of Arizona.

A few weeks ago I visited the property for the third time. After another examination of the property, I am still more convinced of its great possibilities. There can be developed at least three if not more, great copper mines. One or two great mines will be opened up by the development proposed on Climax Hill. The Copper Glance itself will become a great mine. The showing on Climax Hill is most promising, and it is surprising that this part of the property has been so long neglected. The claims southwest of the Tiger can also be expected to contain workable ore bodies.

I am convinced that by the development proposed to be done on the Manhattan group, large and profitable ore bodies will be opened.

I will not go into details, but I will state that I am much impressed with the great possibilities which the property possesses and I urge that drilling and other development recommended in my report of last year, be begun as soon as possible. With an expenditure of from 100,000 to 150,000 dollars several great copper mines will be opened up on the property."

CONCLUSIONS: East group of claims

ROY G. MEAD:

"In my opinion, the future of the property is very bright, and with well directed development work, large bodies of secondary sulphide ores will be developed in the limestone, which in itself will make the property a very large producer of copper. In addition extensive bodies of primary sulphide ores will be developed by exploring the porphyry dike and the Rattler vein at a sufficient depth below the surface."

CONCLUSIONS: West group of claims

ROY G. MEAD:

"All of the previous development work on the property was done with the end in view of obtaining carbonate ores. This was a time when ore carrying less than 7% copper was considered unprofitable to extract, and before the time of working low grade primary sulphide ores. The history of the property is quite similar to numerous other properties in Arizona, all of which are on a steady producing basis, drawing their output from the primary sulphides encountered in the deep-seated eruptive dikes. With the favorable surface showing on this property and its similarity to the other prominent copper properties in Arizona, I feel justified in my opinion that proper development work will result in a large producing copper mine."

CONCLUSIONS:

G. G. WALD:

"The property lies in the mineral belt of the South West, and surface indications and geological conditions are favorable for the mineralization of the Climax vein, especially at its intersection with the various NE to SW cross faults. The fact that the faults intersect at acute angles is a favorable condition as the zone of shattering is larger than if they cut at right angles. These shattering zones, and also the limestone beds, are most likely to contain ore bodies.

The leached zone will be found to be comparatively shallow and the highest grade ore will be found at the water level at the point of transition from oxidized to sulphide ores.

Revenue could doubtless be derived, and cheap development obtained, by letting leases on the carbonate ores exposed on surface and old workings."

CONCLUSIONS:

JOHN C. DEVINE:

"In conclusion it is to be noted that with the expenditure of an amount somewhat less than $100,000.00 on the east and west end of the property combined, the proposition will be converted into a steady producer and in consequence ample justification for a more elaborate plan of operations will inevitably follow.

The limit or volume of ore that could be mined here once the property is properly opened up, should be very extensive, and judging from a comparison of the formations here with those of other large producers in the district, mining costs could be maintained as low or lower than those of any other property now producing on a large scale. Due to the possibility of considerable high grade ore running 10% or better being encountered on cross faults throughout the area, it can be stated beyond the adventure of a doubt, that commercially the property will average better than 5% on a very large scale of operation."

UNIVERSAL COPPER CORPORATION
2308 E. 17TH STREET
TUCSON, ARIZONA

JAMES E. GAYLOR, PRESIDENT

PHONES: MAIN 4-3288

Dear Mr. President;

Enclosed are maps and reports of what may be developed into a large copper mine in Arizona which I am offering for sale or possible option. The original maps of the Alice Mine and Pratt Tunnel was prepared in 1904 by a Department of Interior geologist (Roy G. Mead) when the Pratt Tunnel was first opened. The eleven faults in this tunnel caved in about 40 to 50 years ago. The Alice Shaft filled in, also, thus sealing the ore in the Alice Mine effectively all these years. After three years of uncaving the Pratt Tunnel is now open, which brings us within 200 feet of the high-grade Alice Vein.

The tunnel cut through approximately 300 feet of brecciated quartzite containing low grade copper. The mineralization was surprisingly uniform throughout. There were two separate areas; the first was 35 feet and contained the 4-foot Klondike vein from which I personally knocked off a good-looking chunk that assayed over 21% copper (see assay map "Pick Samples from Klondike Vein"). The large bed, approximately 260 feet, was so covered with mud that it hasn't been examined thoroughly. The old report mentions a "vein" in there but we haven't found one. See Heinrichs Geoexploration Company's assay map and report prepared April 30, 1959.

Whether this tunnel ore can be profitably milled or not doesn't effect the great potential of this property too much, in my opinion, because there are four areas of copper ore to pick up from the Pratt Tunnel, as follows:

1. Page 7 of old report states, in speaking of Alice Shaft, "A map compiled by the writer (Mead circa 1904) several years ago when the ore body was exposed, is a geological section of the ore exposure of the shaft of the third and fourth levels. (Alice workings.) The ore exposed at that time was high grade and assayed from 6 to 12% (copper)." The Alice Shaft went down on the Alice Vein. It was 3 feet wide at the top and had widened out to 11 feet at the bottom of the shaft at 350-foot depth. Vol. III of Copper Handbook, 1903, states, "Vein is 3' to 11' in width and gaining in width at bottom of Alice Shaft. Smelter returns for 1902 gave an average of 10% copper." 200 feet of drifting east from the Pratt tunnel should hit the Alice Vein about 150 feet lower than the bottom of Alice Shaft.

2. John C. Devine, on page 10 of the old report states, "The work done on the east side of the Alice Shaft on the lowest level cut a porphyry fault running somewhat across the general trend of formations, and it is this fault that produced some very high grade ore and appeared to be making downward with increasing strength. It would require driving the Pratt Tunnel five or six hundred feet east in order to cut this ore, and considering the pitch of the ore body, a stoping backing of about 400 feet would result from this development." They may very well have hit the Climax Fault.

3. Devine reports further (on page 9 of old report), in referring to the Climax Fault, "The prominent features of this fault are its strength and regularity, traceable on its surface as it is for a distance of more than 2,000 feet. Copper values are to be seen along the fault at several points where surface work has been done." I walked this fault out with a geologist and picked up a beautiful lump of chrysocolla copper ore from the surface, that assayed 36½% copper.

4. The 1905 Copper Handbook (Vol. V) states, "The Buckeye Winze is said to show a 25 foot vein of malachite, giving smelter returns of 6 to 10% copper." Our claims run right to the edge of the Buckeye dump. Some of this ore could be picked up by extending the Pratt Tunnel.

These old maps and reports have been proven fairly accurate for three years of uncaving and I believe they will be fairly accurate all the way. Any minor discrepancies appearing in the old report seem to be personal differences by the 4 men reporting and not any intention to deceive by any of them. John Devine (now deceased) had an outstanding reputation among mining men in his time.

It has been recommended to me by Walter Heinrichs and other experts, to permit some big company to do the proper exploration and drilling, since I am unable to undertake such an extensive program. So I have broken off my work at this stage to try to negotiate a satisfactory arrangement with some big company who is willing and able to carry the ball from this point on. The incline tunnel from the Pratt Tunnel to the Alice No. 4 working level is open as far as we could throw our light beam up it, but it would be risky to walk up to the Alice working without some timbering ahead.

The way the faults and beds are making nearly straight down into the earth, they could very well go down for a half mile or more as the ore did at Ray and Magma mines. Magma is still removing high grade ore from a depth of 4800 feet. As the tunnel is just where the primary ore zone begins the ore should increase in value with further depth. The tunnel at this point is 800 feet under the top of the mountain ridge. Roy Mead stated on Page 7 of old report, speaking of the quartzite beds in the Pratt Tunnel, "The fact that the values are in the quartzite is conclusive evidence that further depth is required in order to reach

the primary sulfide ores."

Work was discontinued in 1902 due to a 31% drop in copper prices that year. The old reports and the Copper Handbooks indicate that 50,000 tons of high grade carbonate ore was mined from the Alice in 1902 running from 8% to 16% copper for an average of 12%. During 1899, 1900, and 1901 the price of copper was over 16¢ per pound (E. & M.J.) and copper ore under 7% was too low in grade to mine profitably, but when the price dropped to 11¢ per pound in 1902 they were unable to continue their operation. The old-timers were unable to process the sulfide ores. Another reason why they had to work extremely high grade ore in the old days, and why the mine was abandoned, was because in 1902 it took a solid week by horse and wagon to make a round trip to Casa Grande (the closest railhead at that time) to bring in coke and petroleum for their little 60-ton matting furnace. There were severe storms and washouts by floods in Arizona in those days that stranded them sometimes for weeks. The railroad that now runs on our side of the Gila River just 2½ miles below the Pratt Tunnel was only a dream to them, while the paved highway along the railroad probably wasn't even dreamed of.

Some of the open-pit copper mines in Arizona are operating on ½ of 1% copper ore. Any mining done on this property should average above 2% copper ore. The silica assayed as high as 96% which is very attractive to the smelters. This mine can be efficiently block-caved, I was told by oneof the pioneers in block-caving in Arizona.

Several firms attempted to reach these ore bodies during World Wars I and II and postwar periods, but gave up when they ran out of money and the copper price took a sharp drop. The government engineers thought enough of this property to give an R.F.C. loan during World War II, but the first ore body was never reached.

This mine is ideally situated right in the heart of the "Copper Pork Chop" of Arizona. It is surrounded by smelters. It is only 17 miles by rail or highway to the American Smelting and Refining Smelter and the new efficient Kennecott smelter at Hayden -- about 30 miles to the huge San Manuel smelter -- 25 miles to the Magma smelter at Superior and about the same distance to the busy Globe-Miami milling and smelting area. It is 5 miles east of Kennecott's big open pit at Ray and 10 miles west of the Christmas mine, which is being prepared for large scale production.

This mine can be put into operation quickly and profitably. Some of the ore blocking could be paid for by drifting on high grade ore. There would be no need to block all the ore before starting to mine. Millions of dollars' worth of ore could go right out the Pratt Tunnel while the over-all blocking program was being carried out. Another tunnel could be driven later to the bottom of the ore simply by starting further down the mountainside, which will be closer to the Gila River, the railroad, and the highway.

No drilling has been done on this property because the many faults and cross-faults have confused the geologists. None have been able to look at the surface and plan a drilling program. But now that 2100 feet of tunnel is open at considerable depth it shouldn't be too difficult to draw a fairly accurate geological picture and pursue an exploration program with little or no waste motion or gamble, such as drilling virgin territory from the surface. I feel sure now that large tonnage could be blocked out by relatively inexpensive tunnel drilling and drifting.

The United States may not be able to postpone the second half of World War II for another 14 years. In the event of a shooting war we will need far more copper than we can produce domestically. Approximately one-third of our copper consumption is imported at present. The huge Russian submarine fleet will certainly shut off some, if not all, of our copper imports.

Workable copper ore bodies are so hard to find in this country today that any company may do a million dollars' worth of searching and drilling and have nothing to show for it but some holes. Certain companies have had men working in this area for years searching and drilling for copper ore and have found nothing to support a profitable mining operation. If this were virgin territory it no doubt would cost any company a considerable amount of money to show what you can see here merely by a pleasant, level and safe walk into the tunnel.

No stock has been sold. I have full control, so any deal can be worked out quickly and easily. The claims are clear and unencumbered. There is no litigation, real or expected. This is not an exclusive offer. Examination and offers are invited. Prompt action is expected.

Sincerely yours,

James E. Gaylor
President

BRANCH LABORATORY: 1086 MARTIN AVENUE • SANTA CLARA • CHERRY 8-5262

ABBOT A. HANKS, INC.
ESTABLISHED 1866

1300 SANSOME STREET • SAN FRANCISCO 11, CALIFORNIA • EXBROOK 7-2464

Engineers
Assayers
Chemists
Metallurgists
Spectrographers
Soils and Foundations
Consulting · Testing · Inspecting

LABORATORY REPORT

Lab. No. C101599

Date May 1, 1959

Submitted by Jacobs Assay Office
P. O. Box 1889
Tucson, Arizona

Sample Mark "Heinrich Comp."

QUALITATIVE SPECTROGRAPHIC ANALYSIS
Metals Found and Estimated Percentage Range

Less than .03%	.03% to .30%	.30% to 3%	3% to 30%	30% to 100%
Titanium Calcium Magnesium Sodium Potassium Zinc Manganese Nickel Cobalt Vanadium Chromium Boron Silver	Aluminum Copper		Iron	Silicon

RECEIVED MAY 4 1959

Remarks

ABBOT A HANKS, INC.

By MARTIN P. QUIST
Spectro-Chemist

CA-106

bob

Mailing List -----James E. Gaylor

Bagdad Copper Corp.
Bagdad, Arizona

American Metal Co. Ltd.
Carteret, New Jersey

American Smelting & Refininf Co.
El Paso, Texas

Anaconda Copper Mining Company
Anaconda, Montana

Inspiration Consolidated Copper Co.
Inspiration, Arizona

International Minerals & Metals, Corp.
11 Broadway
New York 6, N. Y.

International Smelting & Refining
Miami, Arizona

Kennecott Copper Corp.
McGill, Nevada

Magma Copper Co.
P. O. Box 37,
Superior, Arizona

Phelps Dodge Refining Corp.
Laurel Hill, New York

Phelps Didge Corp.
Douglas, Arizona

Tennessee Copper Co.
Copperhill, Tenn.

Miami Copper Co.
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P. O. Box 7187
Tucson, Arizona

Cerro de Pasco Corp.
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New York. N. Y.

Banner Mining Co.
2042 Conner Stravenue
Tucson, Arizona

Copper Cities Division (Miami Copper Co.)
61 Broadway, NY
New York 6, N.Y.

Eagle-Picher Co.
P. O. Box 1040
Galena, Illinois

Lewishon Copper Corp.
P. O. Box 2729
Tucson, Arizona

Duval Sulphur & Potash Co.
17th Floor, Mellie Esperson Bldg
Houston 2, Texas.

Callahan Zinc-Lead Corp.
P. O. Box 144
Gunnison, Colorado

Mr. Annan Cook
Bear Creek Mining Co.
1606 Hobart Bldg
San Francisco, Calif.

Cypris Mines Corp.
523 W. 6th Street
1206 Pacific Mutual Bldg
Los Angeles 14, California

Esbell Construction Co.
P. O. Box 1710
Phoenix, Arizona

Kerr-McGee Oil Industries
P. O. Box 608
Shiprock, N. M.

San Manuel Copper Corp.
P. O. Box 5417
San Manuel, Arizona

Shattuck Denn Mining Corp.
120 Broadway
New York 5, N. Y.

Rare Metals Corp of America
1st Security Bldg.
Salt Lake City 11, Utah.

Mining Division
Aluminum Col of America
1501 Alcoa Bldg
Pittsburgh 19, Penna.

Johns-Manville Corp
Mining Division
22 E. 40th Street
New York 16, N. Y.

Kaiser Corp.
Mining Division
1924 Broadway,
Oakland 12, California

Mountain Copper Co. of California
230 California St.
San Francisco 11, Calif.

Yuba Consolidated Industries, Inc.
351 California St.
San Francisco, 4, Calif.

Utah Construction Co.
1 Montgomery St.
San Francisco, Calif.

Box 970
Cedar City, Utah.

Union Carbide Nuclear Co.
30 E. 42nd St.
New York 17, N. Y.

U. S. Borax & Chem. Corp.
30 Rockefeller Plaza
New York, New York

U. S. Gypsum Co.
300 W. Adams St.
Chicago 6, Illinois

Wah Chang Mining Corp
137 Clarke St.
Bishop, California

American Metal Climax, Inc.
61 Broadway
New York 6, N. Y.

Four Corners Uranium Corp.
220 Mile High Center
Denver 2, Colorado

Vanadium Corp of America
Durango, Colorado

E. I. Du Pont de Nemours & Co.
Pigments Dept.
1007 Market St.
Wilmington, Del.

The Bunker Hill Co.
Bunker Hill Building
660 Market St.
San Francisco 4, Calif.

Monsanto Chemical Co.
Inorganic Chem. Div.
Soda Springs, Idaho.

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La Salle, Illinois.

American Zinc Co.
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St. Louis 1, Missouri

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1 Calumet Ave.
Calumet, Michigan

National Lead Co.
Box 30
Baxter Springs, Kansas

Freeport Sulphur Co.
161 E. 42nd St.
New York 17, N. Y.

White Pine Copper Co.
24 Federal St.
Boston 10, Mass.

Jones & Laughlin Steel Corp.
Negavnee, Mich.

Hanna Coal & Ore Corp.
Iron River, Mich.

Pickands Mather & Co.
700 Sellwood Bldg.
Duluth 2, Minn.

Pacific Isle Mining Co.
2521 First Ave.
Hibbing Minn.

U. S. Steel Corp.
Wolvin Bldg
Duluth 2, Minn.

St. Joseph Lead Co.
250 Park Ave.
New York 17, N. Y.

Homestake
P. O. Box 98
Grants, New Mexico

Phillips Petroleum Co.
Grants, New Mexico.

Potash Co. of America
P. O. Box 31
Carlsbad, New Mexico

International Metals & Chem Corp.
20 Wacker Dr. N.
Chicago 6, Illinois

United Western Minerals Co.
136 W. Palace Ave.
Santa Fe, New Mexico

Newmont Mining Corp.
300 Park Avenue
Ny. 22, N. Y.

Republic Steel Corp.
Republic Bldg.
Cleveland, Ohio

Hanna Nickel Smelting Co.
Box 305
Riddle, Oregon

Bethlehem Cornwall Corp.
701 E. 3rd St.
Bethlehem, Penna.

Homestake Mining Co.
Lead, S. Dakota

Lone Star Steel Co.
Box 12226 Dallas, Texas.

American Zinc Co. of Illinois
Box 577
Dumas, Texas

Texas Gulf Sulphur
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Boston 10, Mass.

Consolidated Copper Mines Corp.
405 Lexington Ave.
New York, New York

Hudson Bay Mining & Smelting Co. Ltd.
247 Park Avenue
New York, N. Y.

United States Smelting Refining & Mining Co.
75 Federal St.
Boston, Mass.

W-9872
Engineering & Mining Journal (McGraw-Hill)
320 W. 42 St.
New York 36, New York.

Note:
Complete sets Pratt-Alice data given to:

Bob & Jim Currie
Walt Heinrichs
George Sebastian
Harry Wright
Larry D'Antonio
Bob Reynolds

PRELIMINARY SAMPLING RECONNAISSANCE

PRATT TUNNEL

WEST TROY Claim Group

Dripping Springs Mining District

Pinal County, Arizona

30 April 1959

for

UNIVERSAL COPPER CORPORATION

2308 East 17th Street

Tucson, Arizona

by

HEINRICHS GEOEXPLORATION COMPANY
P. O. Box 5671
Tucson, Arizona

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Composite, Sample-Assay and Index Map--In Pocket.

PRATT TUNNEL SAMPLING REPORT

INTRODUCTION

At the request of Mr. James E. Gaylor, President of Universal Copper Corporation, Heinrichs Geoexploration Company of Tucson, Arizona, was retained to conduct a preliminary assay sampling program in the Pratt Tunnel.

Location: The Pratt Tunnel is in eastern Pinal County, Arizona, in the Dripping Springs Mountains. It lies about 5 miles south east of Ray, 4 miles northeast of the town of Kelvin and about 2 miles southwest of the no-longer-existent camp of Troy, as shown on the U.S.G.S. 15 minute topographic quadrangle sheet of Ray, Arizona, 1910 edition. Access to the property is over a narrow track-trail-mountain road from the Dripping Springs Valley highway, about midway between Globe and Christmas, Arizona, at the Boice and M K Bar Ranch turn off. Follow the M K Bar Ranch signs to just beyond Troy, then keep to the right to the head of Hackberry Gulch and down the SW slope of the Dripping Springs Mountains.

SITUATION AND PROCEDURE FOLLOWED

On April 20, 1959, a field camp was set up near the portal of the Pratt Tunnel by John W. Marlatt, a geologist, Allen O. Clark, a miner, both of Heinrichs Geoexploration Company, and two assistants obtained locally in Mammoth.

Mr. Gaylor and Mr. Walter E. Heinrichs, Jr. spent the afternoon, this date, conducting the men through the tunnel on inspection to determine working conditions and assigning methods and areas to be sampled.

The re-opening of the tunnel had been recently completed from the portal to a point about 2100 feet in, where quartzite is in contact with dacite (?) porphory. At this point there is old timbering and caving from above that completely blocks the tunnel. From old reports and maps, it appears that the tunnel originally penetrated the Dacite (?) porphory and terminated in another hundred feet or so, presumably again in quartzite.

Passage through the tunnel was found to be barely adequate and arduous in places due to low timbering and gobbed fill. Only the natural air supply was available and it was tight and warm with only minor circulation. The final 230 feet of the tunnel was filled with thick colloidal mud, to a depth of up to three feet, due to blocked drainage by caved material at the inclined raise to the Alice No. 4 workings.

The following day, April 21, 1959, the above mentioned block was partially trenched to drain the rear end of the tunnel, and some timber was set to control further caving at that spot. Also, the length of the tunnel was rough chained to determine the accuracy of the maps, check rock types, and take some dips and strikes. It was decided that a 5 foot horizontal sample would be cut every 25 feet where working conditions were poor, and closer ones where conditions were

somewhat better. Two samples were cut by the end of this day. A visual inspection of these in the daylight the following day forced a slight revision of this plan as the samples showed more mineralization than had been apparent underground. The following three days were fully spent in cutting a total of 36 samples. These were then brought directly to Tucson and directly turned over to the Jacobs Assay Company.

CONCLUSIONS AND RECOMMENDATIONS

The attached composite map shows the approximate location of the claims and more important workings, including the known workings of the Pratt Tunnel, with an expanded scale inset of the northern portion of the tunnel showing the sample locations, data and assay results.

This information, and incidental observation in the area together with the old available reports, suggests that most of the past production came from the old Alice workings and was presumably mostly oxide. It would seem apparent that the Pratt Tunnel was driven to explore and hopefully, develop, the deeper Alice mineralization and the primary ore possibilities. Except for the tunnel-wall leached oxide scale or coating, all of the samples cut and mineralization observed in the tunnel was primary sulfide with minor secondary chalcocite. If appreciable enrichment exists it would appear most likely to occur above the tunnel elevation. The 45° incline from the tunnel to the Alice workings is about 5' x 9' in the clear

and may have been used, or was at least planned as a major transfer route.

The sampling was in, or along the margins, of quartzite--presumed to be the Troy formation. The copper content, though submarginal, rather pervasively mineralized much of the quartzite and appeared as thorough--fine disseminations of chalcopyrite and chalcocite coating with pyrite. The quartzite bedding dips 30° southerly and may be intruded by or overlain by a diabase sill. The diabase as is normally the case, is quite magnetic, but massive magnetite inferred in the old reports was not observed. This Troy-diabase series may be in turn overlain by Martin limestone and underlain by Mescal limestone. Ordinarily, the Martin would be expected to be a much better mineralization host rock than the quartzite. Probably much of the Alice workings are in overlying limestone formation. Both this and/or enrichment factors could account for better ore grades as inferred in the Alice workings. Similar speculation might be made regarding better mineralization in any underlying limestone formation. However, the economics here would depend on primary ore only, as enrichment would not be expected at this depth. Generally speaking, the structure and section are reasonably favorable and locally the mineralization intensity is good. However, the observed extent of hydrothermal alteration is locally not excessive.

For the time being, further sampling should be confined to the readily accessible Alice and other workings if such

exist, or to drilling and new surface exploration. In lieu of a basic more detailed economic geological evaluation of the area, followed possibly by geophysics and favorable drilling results, no heavy reopening or development type expenditure is recommended.

SAMPLING TECHNIQUE USED

Sampling was done by chipping channels with carbide-tipped moils struck by four pound single jacks. The chips were caught on canvas tarpaulins, transferred to sample sacks, labeled as to sample number, interval cut and position, carried out of the tunnel, sealed with wire/lead seals, and kept constantly locked in a vehicle and in our continual custody until turned over to the assayer. Due to the mud and muck underfoot, it was necessary in most cases to have the helpers hold the canvas up against the face while the channels were being cut. This slowed the operation considerably since it allowed only one sample to be cut at a time rather than two simultaneously as was planned.

Due to water being backed up for many years, much of the walls were saturated and coated with green secondary leached copper mineralization, presumably malachite. This made it necessary to first chip off the face of the area to be sampled and cut down the number of samples that might otherwise have been cut. It must be emphasized that although careful procedure was used to get as clean and fresh faces as possible, because of jointing and fracturing of the quartzite some contamination

of the samples was inevitable, due to deposition from the water along these fractures.

ASSAY RESULTS

Certificate No. 53934, of the Jacobs Assay Office, 30 South Main Street, P. O. Box 1889, Tucson, Arizona, dated 29 April 1959, is herewith attached, together with a sample-assay map and sample description table.

Walter E. Heinrichs, Jr.

P. O. Box 5671
Tucson, Arizona

30 April 1959

30 So. Main St.
P. O. Box 1888

JACOBS ASSAY OFFICE

REGISTERED ASSAYERS

PHONE Main 2-0813

Certificate No. 53934

Sample Submitted by Mr. Heinrichs Geoexploration Co

Tucson, Arizona, April 29th, 1959

SERIAL	SAMPLE MARKED	GOLD Ozs. per ton ore	GOLD Value per ton ore *	SILVER Ozs. per ton ore	COPPER Per cent Wet Assay	LEAD Per cent Wet Assay	SiLiCA SiO2 Per cent Wet Assay
158346	#1	0.01	$ 0.35	1 0/10	0.40	—	88 1/10
47	2				0.17		
48	3	Trace		0 2/10	0.11		96 0/10
49	4				0.13		
50	5				0.03		
51	6	0.005	0.17	0 7/10	0.32		81 2/10
52	7				0.08		
53	8				0.32		
54	9				0.32		
55	10				0.42		
56	11				0.22		
57	12				0.19		
58	13				0.10		
59	14				0.12		
60	15				0.21		
61	16				0.13		
62	17				0.82		
63	18				0.17		
64	19				0.34		
65	20				0.14		
66	21				0.01		
67	22				0.76		
68	23				0.39		
69	24				0.52		
70	25				0.17		
71	26				0.19		
72	27	0.005	0.17	0.6	0.57		93.8
73	28				0.24		
74	29				0.15		
75	30				0.02		
76	31				0.03		
77	32				0.04		
78	33	Trace		0.2	0.74		
79	34				0.05		
80	35				0.15		
81	36	Trace		0.6	0.40		91.2

Figured $35.00 per oz. Troy

$ 8450

Very respectfully

Ben P. Jacobs

SAMPLE DESCRIPTIONS

SAMPLE NO.	INTERVAL (Measurements are south from the breast of the tunnel. The breast is a caved area where dacite porphory is in contact with quartzite)	WHERE CUT, ETC.
1.	31-36 feet	Channel cut, horizontally on east face in quartzite.
2.	61-66 "	As above.
3.	91-96 "	As above.
4.	121-126 "	As above.
5.	18 inches	Across contact at breast where caved.
6.	1-6 feet	As above for 1, 2, 3, & 4. A little of this could not be scaled first.
7.	6-11 "	As above for 1, 2, 3, & 4.
8.	11-16	" " " " " "
9.	16-21 "	" " " " " "
10.	21-26 "	" " " " " "
11.	26-31 "	" " " " " "
12.	36-41 "	" " " " " "
13.	41-46 "	" " " " " "
14.	46-51 "	" " " " " "
15.	51-56 "	" " " " " "
16.	56-61 "	" " " " " "
17.	66-71 "	" " " " " "
18.	71-76 "	" " " " " "
19.	76-81 "	" " " " " "

SAMPLE NO.	INTERVAL	WHERE CUT, ETC.
20.	81-86 feet	As above for 1, 2, 3, & 4.
21.	86-91 "	" " " " " "
22.	96-100 "	" " " " " "
23.	100-106 "	" " except on west face directly opposite small drift.
24.	151-156 "	Measured south from breast, in quartzite. Channel cut, horizontally on east face.
25.	176-181 "	As above. 181 feet is also the north side of the east leg of cross cut.
26.	Cut vertically. 4 feet	In west side of the cross cut on north face, 15 feet in from the west edge of the tunnel.
27.	5 feet	Cut in east drift of the cross cut, at 40-45 feet in from the east edge of the tunnel. Horizontal cut on south side.
28.	200-205 feet	Measured south from breast. Cut in quartzite in main tunnel, horizontally on east face.
29.	223-228 "	As above for #28 except on west face.
30.	Grab sample.	From material caved down from hanging wall of contact at incline shaft up to Alice #4 Level.
31.	293 Vertical 5 foot cut	Main tunnel, east face, just south of timber, in quartzite or contact with the quartzite.
32.	313-321 feet	South from breast. 8 foot horizontal cut on east face of tunnel across some pyrite seams in quartzite.

SAMPLE NO.	INTERVAL	WHERE CUT, ETC.
33.	8 foot cut	From 6 to 14 feet north from east drift at 1600 feet into tunnel from portal. Cut horizontally on east face.
34.	5 foot cut	50 to 55 feet in, in east drift at 1600 ft. on north face. Cut horizontally.
35.	Vertical cut of 4 feet.	37 feet in, in east drift at 1600 feet on south face.
36.	8 feet	Cut north-south in main tunnel at 1600 ft. cross cut in quartzite breccia. Channel cut overhead.

HEINRICHS GEOEXPLORATION COMPANY
MINERAL ENGINEERING CONSULTANTS AND CONTRACTORS
GEOPHYSICAL, GEOLOGICAL AND ECONOMIC APPRAISALS
TUCSON, ARIZONA

WALTER E. HEINRICHS, JR.
E. GROVER HEINRICHS

PHONE: MAIN 2-4202
806-808 WEST GRANT ROAD
MAIL: P. O. BOX 5671

June 23, 1959

Mr. James E. Gaylor, President
Universal Copper Corporation
2308 E. 17th Street
Tucson, Arizona

Dear Jim:

Thanks for the $30.00 installment on your account. Presume you received our balance due statement of 17 June 1959.

Sorry you are unsatisfied with our report. As mutually understood and agreed, we were hired to give you accurate, realistic, unbiased independent sampling results of the portion of tunnel you selected, more or less consistent with the general time and money allotted by you. As a matter of fact, the volume of data collected, greatly exceeded what would normally be expected under these and the overall conditions involved. You will recall, we were not retained for a basic economic examination, evaluation and appraisal of the property, but only for a specific sampling job. There is absolutely no doubt concerning the validity of our results, as anyone with experience and competence in such matters would agree. What the results mean in the aggregate may be subject to variations in opinion, but no amount of semantics are going to change the basic facts. As they say, "figures don't lie", and it is unfortunate that the results were not more favorable, but I can assure you, it wasn't our fault.

It is not unusual for technical data of this sort not to make sense to a lawyer, just like a complicated legal brief might not make sense to me. We didn't "overlook" anything. Naturally, if time and money were unlimited we would still be sampling and would undoubtedly have eventually included all of the "2 foot and 1 foot veins" and a lot of other things too. I would remind you here, that we obtained the most data possible from the spots you felt were most desirable. Furthermore, I can state right now, that if any two "veins" were not sampled, that if they were, the results would not necessarily be particularly pertinent to your present problem. There are now, and always will be, additional places that could be sampled. The root of exploration is where is the practical or prudent place to stop.

As I have said before, there was no profit to us on your job and we may have even lost money in trying to help you the most we could. Whether you realize it or not, you got an exorbitant amount of service, data and results for what you were billed. We sould like to help you further, and I am certain we could, but we are trying to make our living out of this business, and cannot do it by working for nothing.

Very truly yours,

Walter E. Heinrichs, Jr.

WEH:jh

HEINRICHS GEOEXPLORATION COMPANY
MINERAL ENGINEERING CONSULTANTS AND CONTRACTORS
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TUCSON, ARIZONA

WALTER E. HEINRICHS, JR.
E. GROVER HEINRICHS

PHONE: MAIN 2-4202
806-808 WEST GRANT ROAD
MAIL: P. O. BOX 5671

April 13, 1959

RECEIVED APR 20 1959

Mr. James E. Gaylor
Universaal Copper Corporation
2308 E. 17th Street
Tucson, Arizona

Re: Pratt Tunnel Project
Troy Mine Area

Dear Jim:

Confirming our several phone conversations and discussions with you in our office, it is understood and agreed that at your request, on or about April 20th, 1959, Heinrichs Geoexploration Company will supply two experienced personnel to undertake, supervise and conduct a drift sampling program in your recently reopened Pratt Tunnel located in the old Troy Mine area of the Mineral Creek Mining District, Sections 28 & 33, Twp 3 South, Range 14 East GSRBM, Pinal County, Arizona.

It is estimated that about 60-five foot channel cut type samples will be required to cover the two mineralized zones of interest. The first zone starts at approximately 1600' from the portal and continues 30' - 50'? and the second zone starts at approximately 2000' from the portal and continues 260' ? to end of adit.

A few random samples elsewhere may be taken as indicated and or desired in places such as the winze at the last major cross cut from the portal or other reasonably accessable strategic places.

It is further understood that during the duration of the job you will furnish two helpers to assist Heinrichs Geoexploration men and that Heinrichs Geoexploration will furnish all the normal necessary equipment and supplies for the usual two man--two helper hand sampling procedures and methods, and will keep continuous custody of all samples until delivered by Geoex personnel to your designated assayer in Tucson, Arizona. Geoex personnel will be prepared to independently camp out on the job for ten continuous days.

Heinrichs Geoexploration charges will be at the rate of $125.00 per crew day. In addition $125.00 ~~per day personal supervision by W. E. Heinrichs~~ for report assay & map will be charged and it is anticipated that this will involve only

one day. Personal supervision by W. E. Heinrichs will consist of outlining sample procedures and desired techniques to be followed during the job. Also a vehicular charge of $7.00 per day used plus $0.10 per mile per vehicle will be charged.

Heinrichs Geoexploration agrees to furnish to Universal Copper Corporation a brief report and map summarizing the sample methods and procedures and assay results upon completion of the job.

Safety practices as required by the Federal and State government statutes will b e observed at all times.

If the foregoing is your understanding, please indicate your approval and acceptance of the terms and conditions of this letter by dating and signing in the spaces provided on the enclosed carbon copy and return same to Geoex.

Very truly yours,

HEINRICHS GEOEXPLORATION CO.

by: E. Grover Heinrichs
E. Grover Heinrichs
Vice President & Field Manager

egh:jh

Accepted, Date: April 20, 1959

by: James E. Gaylor
James E. Gaylor
Universal Copper Corporation

HEINRICHS GEOEXPLORATION COMPANY
MINERAL ENGINEERING CONSULTANTS AND CONTRACTORS
GEOPHYSICAL, GEOLOGICAL AND ECONOMIC APPRAISALS
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by: E. Grover Heinrichs

E. Grover Heinrichs
Vice President & Field Manager

egh:jh

Accepted, Date:_____

by:_____

James E. Gaylor
Universal Copper Corporation

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Vice President & Field Manager

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