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#### **QUALITY STATEMENT**

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April 14th, 1938.

Mr. E. D. Morton  
P. O. Box 1268  
Tucson, Arizona

Re: Max-Delta Mine

Dear Mr. Morton:

Mr. Fennell has just brought in the signed copy of the Option Agreement on the Max-Delta of which I am herewith enclosing an exact copy and the original is in my possession and will be forwarded to you if you desire. You will note that Mr. Fennell has not as yet accepted this agreement and does not intend to do so until April 20th so that the next thirty days would be available for the examination of the property during which time you would take no obligation other than that of making a thorough engineering investigation. It is understood that Mr. Fennell will assign this contract directly to you upon your signifying your desire of proceeding thereunder. The assignment and the acceptance are to be made concurrently and this must be done on or before April 20th.

Under the terms of this agreement you would have until May 20th before reaching a decision in respect to subsequent procedure and should you then desire to proceed with the development of the mine it would be necessary to draw up the firm contract of Purchase and Sale under the terms of which you would obligate yourself to spend a certain amount of money each month for development and before the close of the six months maximum period for development, you would be obligated to elect to either abandon or purchase the property and in the latter event, to make the first payment of \$10,000.00.

You will note that there is a payment of \$2,500.00 due by the Ace Mining Company to the previous owners in October of this year and while the letter to Fennell does not specify what is to be done in regard to this, it should be understood that the party holding the option must make some provision to protect the owners so that their title would be in no way endangered by failure to pay this installment. Mr. Fennell tells me that this matter was very thoroughly discussed and that it was understood that it would be fully covered in the firm contract of Purchase and Sale either by permitting the optionee to make the payment from the monthly expenditure for development work provided in the letter or by permitting the optionee to ship a certain amount of ore which he might have won from development work and applying the proceeds from this shipment to the payment due in October. This last arrangement would seem advantageous to the optionee and special provision for same would be made by the owners who otherwise will claim all of the ore which you might extract provided you do not purchase the property.

Mr. Fennell tells me that the residence site which is excepted from the sale of the property has no importance whatever from a mining standpoint and I am sure that this will not affect your

Mr. E. D. Morton

-2-

April 14th, 1938.

Believing that your Company was desirous of taking over some properties of this description, I felt that you were likely to be interested and so informed Fennell who personally knows Mr. Bendelari and some other officials of your Company.

I realize that you and your engineers may come to a different conclusion regarding the merits of the mine and also that the general business and financial conditions are not such as to encourage new mining ventures although this does not apply to operations in gold with the same force that it does to the base metals.

I hope that you will decide to make the preliminary investigation which need not be completed, until May 20th by which time I believe you would have accumulated sufficient data to determine your future policy. Should you purchase and operate the mine I am very sure from our past dealings together that my own connection with this affair will be properly recognized and that I shall be entirely satisfied with any consideration that your Company may think proper for in dealing with Fennell and the other parties I have taken exactly the same position that I would have done if I had been officially representing the prospective purchaser and they understand that I do not expect and would not accept anything from them. I have tried to work down the terms as far as possible and believe that some further concessions can be obtained if you feel that such concessions are essential but it seemed best not to ask for any further changes in the terms until I knew whether you were prepared to have the mine examined. In the event that you do not want to investigate this property, I feel that I should so notify Fennell and the others very promptly but otherwise I will try to hold the deal open for you as long as possible although it does not appear likely that this can be done for more than a couple of weeks as other parties are also in the field.

Yours very truly,

*J. M. C.*

GMC:MF

Enc. 5:

Copy of option letter to Fennell

Maps:

Sketch of Main Workings - Sketch #2  
Surface map of Mining Claims  
Topographic map of Surface  
Assay Plan, Main workings

April 14th, 1938.

decision particularly since the construction of a road to this site by other parties would be helpful in the future to the operator of the mine.

There are several details in connection with this entire transaction which can be ironed out before the final agreement of Purchase and Sale is entered into and I understand that the owners of the property would be willing to modify the terms of the letter in non-essential matters and along the lines which might appear fair and reasonable to both parties.

Mr. Fennell is representing the owners in this proposed transaction and his interests will be protected by them in the event that a sale is made so that your company would not be expected to pay him any commission or consideration. You will recall from our conversation that Mr. Fennell has been a mining operator for a great many years and he therefore looks at a transaction of this kind from the standpoint of the purchaser as well as the standpoint of the seller and I think you will agree that the terms in general are very fair and reasonable.

Please let me hear from you in regard to this just as speedily as possible. I shall be back in the office this coming Monday.

Yours very truly,

*J. M. -*

GMC:MF

P. S. You will recall that I had several maps which were not sent you along with the reports and these are enclosed herewith for your information but in case you do not wish to go ahead, please return them to me as they are the property of Mr. Fennell.

P. S. (Confidential) - The above portion of this letter was dictated in the presence of Mr. Fennell to whom I am giving a copy as I wished to make absolutely sure that he was in agreement with everything that I said. This second postscript is, however, confidential between us and largely intended to explain my own rather peculiar position in this matter.

I have no interest whatever in the Max-Delta Mine and merely a casual acquaintance with some of the owners. I went out to look at it mainly from curiosity and because I had heard it well spoken of by several people and hoped that the owners would really be successful in developing a good little gold mine in the vicinity of Phoenix. Of course, I did not make any proper engineering inspection of the mine but after ~~looking~~ and going through the workings and over the surface and after reading with some care the reports, I reached the conclusion that the property had real possibilities but was never likely to amount to much until it got in the hands of good mining people with sufficient capital to develop the lower grade material and provide proper treatment facilities in case their developments proved satisfactory.

S U M M A R Y

of

SALIENT DETAILS and REPORTS

upon the  
D E L T A M I N E  
of the

ACE MINING AND DEVELOPMENT COMPANY  
Maricopa County, Arizona

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LOCATION: Salt River Mountains, Maricopa Co., Arizona.

TITLE: Perfect: patented.

PROPERTY: Four full sized mining claims and one fraction.

GEOLOGIC: The dominant country rocks are, gneisses, granites, grano-diorite and schists. These are cut by dioritic, pegmaticitic and schistose dykes.

DEVELOPMENT: This consists of shafts, (of which the deepest is 600 feet), levels, of which the longest is 1,800 feet), raises, winzes, crosscuts and tunnels. This work aggregates about 10,000 lineal feet--2 miles--of development work upon the various claims.

VEINS: Average from 2 ft. to 5 ft. up to 8 ft. and 10 ft. in width.

ORE OCCURRENCE: Ore shoots and lenses average in length from 25 ft. to 200 ft.; in width from 10 ins. to 42 ins. plus, and in places up to 6 ft. plus for mill ore.

PHYSICAL CHARACTERISTIC OF ORE:

Simple, non-complex, values carried in a quartz-pyrite gangue with occasional small quantities of galena.

ORE VALUES: Shipping ore, \$22.50 to \$45.00 per ton. Mill ore, \$8.00 to \$12.00 per ton.

PROPORTION OF VALUES: in ore. Gold, over 95%. Silver, less than 5%. Occasionally, little lead. No copper.

PRODUCTION TO DATE: Approximately \$300,000.00 (assay value.)

Shipping records and smelter liquidation statements accounting for over 75% of this production are extant.

ORE RESERVES: For the past five years lessees, working in one small area of the mine have shipped ore continuously but, as is customary, have paid no attention to the development of any ore reserves--they extracted practically all ore as opened up.

As a sequel to these methods of mining and extraction there remains but little ore in sight--as computed from ore exposures on two or more sides. On the other hand, exposed on one side (generally in the backs of tunnels and in the hanging or foot wall of drifts) there are thousands of tons of potential mill ore, in association with which no doubt the usual proportion of higher grade ore will be uncovered.

To illustrate the above: accompanying this summary is a record of samples taken of mill ore in August 1937. At the date of this sampling practically no shipping ore was in sight: notwithstanding this lack of ore reserve, since that date, around \$75,000.00 (assayvalue) of the higher grade ores have been shipped--this without the performance of any development work.

The extraction of this ore was made by three to four lessees--an example of the low cost of mining in this mine.

**EQUIPMENT AND ACCESSORIES:** Compressor; 300 cubic foot. Drills, piping, rails, steel sharpening outfit, blacksmith and tool shop, all usual tools and accessories, ore bins and one cabin.

**REDUCTION PLANT:** The ore is non-complex and carries over 95% of its valuable content in gold. These advantages favor low first cost of mill, low milling costs and high recovery.

**FLOW SHEET:** This would probably consist of: preliminary coarse grinding (crusher), medium fine grinding (rolls or ball mill), hydraulic separator, fine regrinding (ball mill) and products to flotation machines and concentrating tables. Such a plant is the most economical to operate and the least expensive to erect.

**PROBABLE RECOVERY:** Around 95%.

**WATER:** Sufficient water in lower workings for all mining and preliminary milling purposes. This, with current inflow and by repumping, might suffice for 50 ton to 100 ton mill; if not, water can be developed upon or adjacent to Company's property within one mile.

**MARKET:** Favorable marketing contracts for crude ore have been made with several southern Ariz. smelters; present contract is amongst the most favorable. Total transportation cost mine to smelter is \$1.75 per ton.

It would no doubt be possible to make even more favorable contracts for the marketing of concentrates and flotation product from a mill.

CECIL G. FENNELL

Phoenix, Arizona  
September, 1939

EXTRACTS FROM REPORT OF PHILIP MCKAIG, MINING ENGINEER

on THE MAX DELTA MINE - April, 1909.

HISTORY

Now as regards former history of this zone (or properties). Tradition has it (quoting Mr. McClarty, recent owner) that the Maximillian yielded many thousands of dollars, the ore being carried from the mountainside by a pack train, where it was loaded into wagons, thence taken to the river where it was put through an Arrastre yielding from \$15.00 to \$60.00 per ton. Mr. McClarty also tells me a man (whose name I have forgotten) owning the property before him, extracted about \$30,000.00 from the apex of the Maximillian claims.

In all the small gulches leading to the crest of the hill (see map No. 1) evidences of ancient placer workings are to be seen very extensively. Great, long, running windows of rock are to be seen piled out of the way on either side of these gulches.

The character and conditions of the ground here and strike and dip of the Maximillian lode go to show that these gulches were fed by the breaking down of said vein.

GENERAL GEOLOGICAL FEATURES

The formation or country rock is Gneiss, which blends into the granite about a mile distant in the direction of Telegraph Pass.

Veins throughout the immediate district, or so far as I was able to examine are true fissures of Gneiss, which is highly silicified, The vein matter is quartz and metal bearing minerals. The walls of the vein are well depicted, showing slight motion, segregations of gougy matter, etc., and in fact so far as I can see, prove in every respect true fissures. The distribution of the ore seems to be very regular throughout. Mineralization has gone on at a slow pace, of which the crystalized and crystalline nature of the gangue bear the fullest evidence. Under such conditions it is to be expected that segregations of mineral bearing matter in a more compact form from the general matrix took place, wherever the slightest

chemical change in the general matrix gave occasion for Displacement.

This often gives rise to very rich ore streaks accompanied by a poor quartzose stratum but in this case, I believe the metal is very evenly diffused, throughout the fissure.

These fissures will widen and narrow as the local pressure of surrounding country prescribe, but will carry the matrix and ores to an indefinite depth, which points to large and deep ore chutes.

The values in the ore are in the sulphides; with pyrite (near the surface only of which I can speak, the ore is very heavily oxidized).

#### REMARKS

The location of the Delta No. 1 and Maximillian and the surface arrangement is such as that nature has provided an ideal mill site to which the ore could be brought to the mill by aircal trams by gravity. Both claims have lots of space for using dumps.

I would suggest for the immediate present on the Delta the sinking of the present shaft to a depth of not less than 150 feet, and drifting from 150 to 200 feet on the vein both ways. This would give (providing the ledge held in strength and values) say 150 x 400 x 500 - 30,000 cubic feet of ore, and allowing 15 cubic feet per ton would give 20,000 tons of ore in sight, or at \$15.00 per ton \$300,000.00. I would also advise running a tunnel in either on the Maximillian lode or from a point most suitable, (to be determined later) to cut the ledge. Such a place or point could be accurately selected without doubt giving 700 or 800 feet of backs. It might take probably 500 to 700 feet of work to do this.

It is impossible to estimate at this time with any accuracy the amount of ore that would be opened up (other than to say possibilities appear to be enormous), however, let us take as a conservative estimate say a block of 700 x 200 x 5 feet, which would give 1,450,000 cubic feet of ore, and estimating 14 feet to a ton would equal 103,571 tons of ore, valuing at \$10.00 a ton, we would have \$1,035,710.

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THE MAX DELTA MINE

By J. P. Steele, E. M.

Los Angeles, Calif.  
June 6th, 1916.

Mr. Wm. S. Jennings, Sup't.,  
The Max Delta Gold Mining Co.,  
Phoenix, Arizona.

Dear Sir:

I hereby submit my report on the examination recently made by me, at your request, on the Max-Delta Gold Mining Company's property.

This property is situated 9 miles south of Phoenix, Arizona. Maricopa County, in the Salt River Mountains. The veins are true fissures and the strike is northwest and southeast. The formation is Gneiss, with numerous Diorite dykes running nearly north and south. Commercial ore is found in the veins where the diorite dikes cross the leads.

The Company's holdings comprise 22 mining claims; in all about 400 acres, 8 of the claims are patented. Six of these patented claims have been selected by the Company for development, having the most promising surface showings. Maximillian, Leggat, Delta, Delta No. 2, Hall and Thompson are the names of the patented claims examined by me; also the Oro Grande claim upon which patent is pending.

The Maximillian and Leggat claims were the first ones visited by me. There are two leads on this property. These two leads come together at No. 2 tunnel. Both leads run lengthwise of the claim.

Commencing my examination on top of the mountain where the vein outcrops, I found 3 feet of quartz that assayed \$32.00 gold per ton. Continuing down the mountain to tunnel No. 1, I found this tunnel was driven on the lead 30 feet, all in ore. The ore at this point 200 feet below the apex, was 12 feet wide and showed a value of \$27.00 per ton. Continuing on down the mountain, I came to tunnel No. 2. This is in 60 feet on the lead, all in ore. This ore in the face of this tunnel is 14 feet wide, and the sample taken clean across the face, ran \$8.40 gold per ton.

Here is where the lead splits. That part of the lead going

to the right, looking down the mountain, about 100 feet below tunnel No. 2 there is a tunnel No. 3 about 45 feet long on this lead. Samples taken from 4 feet of ore gave a value of \$16.00 gold per ton.

Going back to the main lead, and down the mountain to tunnel No. 4, which has been driven 250 feet on the lead, I found 4 feet of ore. The several samples taken along this ore body gave an average of \$12.00 gold per ton.

Continuing on down the mountain to the Leggatt tunnel which is in 65 feet on the lead, I found 6 feet of ore that assayed \$12.60 gold per ton. The Leggatt tunnel is 700 feet below the outcrop, giving backs of that depth from the Leggatt tunnel to the apex of the lead.

The different openings show a tonnage of approximately 36,000 tons, having an average value of \$18.00 gold per ton, giving a gross valuation of \$584,000.00.

The second claim visited was the Hall. Here is a shaft 54 feet deep, and a tunnel over 100 feet in length with a winze 54 feet deep, sunk from this tunnel. These were the only openings in the Hall examined by me. There not being enough development work on the other leads of which there are several, to justify an opinion as to tonnage and permanency.

The Hall shaft has been sunk to a depth of 54 feet. There is 4 feet of ore that gave an average value of \$21.00 gold per ton. This leads outcrops on the surface 400 feet in length.

The tunnel and winze show 2 feet of \$20.00 gold ore. The estimated tonnage exposed by the Hall shaft, tunnel and winze, is approximately 3,125 tons of a gross value of \$65,000.00. The \$21.00 ore predominating in tonnage as well as value.

The Thompson claim was the next claim visited and inspected by me.

I found a shaft 124 feet deep. The shaft was started on the ore body which, on the surface is 6 feet wide, the lead carrying the ore body, faulted to the west. That is back of the shaft into the footwall. This condition shows in a cross cut at the bottom of the

shaft driven into the footwall. The ore from the collar of the shaft to a depth of 40 feet gave a value of \$12.00 gold per ton. The ore exposed in the cross-cut at the bottom of the shaft assayed \$9.20 gold per ton.

I do not give any tonnage on the Thompson showings, as there will have to be considerable more development work done to justify a given tonnage at this point.

The next claim visited was the Delta No. 2. There is a shaft 35 feet deep on the Delta No. 2 lead. At this depth there is a level 112 feet long that has been driven on the lead. The ore shoot extending the full length of the level, and a carload of ore 43 tons, shipped from this level gave smelter returns of \$26.70 fold per ton.

From this level there has been a winze sunk 54 feet on the lead. The ore in the winze averaged 3 feet in width and gave an average value of \$10.20 per ton.

There is a cross-cut tunnel that cuts this level 60 feet south of the above mentioned shaft.

There is another cross-cut tunnel on this claim that starts 400 feet east of the shaft and 100 feet lower down. There is also a raise from this tunnel that connects with the winze, giving ventilation and egress for the ore in the opening above.

There was some samples of ore taken from this lower level that assayed \$200.00 gold per ton. These rich assays were eliminated in arriving at the value in the ore.

The total number of tons of ore in sight on this claim is 3,5000 containing a gross value of \$75,000.00.

The high grade ore here predominating in value and size.

The main Delta workings was the next place visited and inspected by me.

The development work on this claim consists of a shaft 500 feet deep, with a 25 H.P. Fairbanks-Morse Gasoline Hoist, and a 40 H.P. Gasoline engine that operates a Sullivan compressor Power drills being used to do the work on this claim. There has been so far, two ore

commercial shoots exposed on the first level of the Delta. This level has been extended a distance of 700 feet, including crosscuts and drifts.

The first ore shoot is going south, 115 feet long, and it will average 5 feet wide. With an average value of \$16.20 gold per ton. The second ore shoot on this level is 80 feet south of ore exposed on this level that has been recently broken into. Where it was cut there was 2 feet of quartz that assayed \$12.60 per ton. Back of this quartz there was 3 feet of mineralized vein material that assayed \$5.80 gold per ton. I did not allow for any tonnage at this last place.

Going to the second level my inspection showed a drift of 115 feet south of the shaft and 60 feet north of the shaft, with an ore shoot 150 feet in length, with an average width of 5 feet and values of \$11.80 gold per ton. The south end of this shoot of ore was 7 feet wide and <sup>a</sup> sample taken from a winze at this point gave returns of \$22.40 gold per ton. A picked sample ran \$86.60. These high grade assays were not taken into consideration by me in arriving at the general average value of the ore on this level.

From the second level I descended to the third level. The drift at this point has been driven a distance of 136 feet south, and at a distance of 105 feet from the shaft, a crosscut has been started to the west, to cut the vein and ore in the west lead, or the ore bodies exposed in the levels above, one and two. In sinking the shaft the lead faulted at a point 20 feet below the second level. It split at that point. The shaft following the easterly trend of the lead. This vein carries copper values as well as gold, and the general character of the ore is different from the ore in the west lead.

The oreshoot on this level is about 100 feet long and 5 feet wide. No drifting having been done to the north. I could not estimate the length on that side of the shaft. An average of the samples taken gave a value of \$8.10 gold per ton.

The fourth level has been extended a distance of 90 feet south. This level was run on the contact between the Gneiss and Diorite. There

is no ore here to speak of.

The fifth level was full of water, so an inspection could not be undertaken at this time.

The total tonnage and value shown by the workings on the Delta are as follows:

1st shoot	100 foot level	3,250 tons	@ 16.20 a ton	\$52,650.00
2nd "	" " "	3,400 "	@ 11.20 " "	31,280.00
2nd level	" " "	4,625 "	@ 9.80 " "	54,575.00
3rd "	" " "	<u>3,125</u> "	@ 8.10 " "	<u>25,312.00</u>
Total ore tonnage and value 14,400				\$163,817.00

The Oro Grande was the last claim visited and inspected by me. There is an immense tonnage of low grade ore exposed on this claim. Of 10 samples taken by me from the outcrop, I got an average of \$5.20 gold per ton.

There is about 200,000 tons in sight of this low grade ore. When your mill is in operation, a great deal of this ore could be mixed with the high grade ore taken from the other claims. My opinion of the ore showings on the Oro Grande is that at this time it would not be advisable to take it into consideration as to future development work as outlined by me. But it undoubtedly is a very valuable asset to your Company and it will, no doubt, be worked in time by your Company and its gold values recovered at a handsome profit.

Future development should be as follows:

The Maximillian and Leggat ore bodies are developed to that point that no other work is necessary until a mill is erected. Then a reamway should be built from the mine to the mill and the ore extracted and trammed to the mill.

The Hall shaft should be carried down 100 or 200 feet deeper; Drifts run each way on the lead, and a connection made with the ore body exposed in the tunnel and winze on the east lead, also privisions should be made to do considerable cross-cutting from the shaft, as I found 3 leads different from the two prospected by the shaft and tunnel, that carries good values. From \$16.00 to \$42.00 gold per ton.

To accomplish this work a small hoisting and compressor plant

should be installed, and power drills used.

The Thompson shaft should be explored further by extending the cross-cut started at the bottom of that shaft by windlass, to a point back of the shaft that will determine the width and values of the ore body at that point. Then if favorable, a hoist can be erected and development work carried on to any point desired.

Delta No. 2. The development work now being carried on should be continued, i.e., drifting on the lead to the south. This direction carries you into the mountain and you are getting depth to your ore bodies exposed in the drift above.

There is a 6 feet of \$18.00 ore exposed in the face of the upper drift. This point is 50 feet south of the face in the lower tunnel. By extending this lower tunnel, it is only a question of time until you will get under the point in the drift overhead that shows the 6 feet of \$18.00 ore.

This work can be carried on by hand work.

Main Delta - The cross-cut now being carried on at the 300 foot level should be extended as contemplated to the west lead. When the lead is cut at this point, a drift north and south should be driven on the ore body to determine its dimensions and value, also a raise to connect with the level above should be made. At the time cross-cuts should be extended from the 4th and 5th levels to connect with the west lead, and upraises run to connect with the level above.

This work should determine the Company's future operations and when this west lead is cut by the work mentioned as being necessary, and the ore bodies explored to find the extent, character and value, then and not until that time should the question of a mill be discussed.

The present work completed on the Delta up to the present time does not show the character of the ore at the lower levels, for the reason that you have not so far cut the ore bodies at those levels.

The surface ores are oxidized, while everything points to a sulphide ore in depth.

Cost of future development, and the capacity of your mill.

I would not recommend a plant less than 100 tons per 24 hours.

With a mill of this size, you should have 4 years supply of ore to draw on. Take 300 workings days per year, - this would mean 30,000 tons per year or 12,000 tons in sight before the mill would start operating.

As at present you can be sure of just about one half of that amount, you will have to develop the balance before the mill question comes up.

This tonnage can be developed in the Delta, Delta No. 2, Hall, and Thompson as advised by me. As to funds for future development work and the erection of your mill. A modern mill with pumping plant will cost in the neighborhood of \$75,000.00 complete and already to run. The necessary development work upon the different claims with equipment will require about \$40,000.00 .

The tramway, roads, and incidental expenses will require close to \$35,000.00. Altogether you should have on hand funds to the amount of \$150,000.00 to carry your Max-Delta to a successful end.

The mine is there and developed to that point where it is only a question of funds and management. And in conclusion, will say that the showings of ore so far developed, and the values contained therein place your property out of the gambling stage, and into a business proposition.

The amount considered by me, \$150,000.00, as necessary to place your company in the dividend paying column is very modest, when compared with the money already expended by you gentlemen, and the showings of commercial ore already developed.

This is one of the mining properties examined by me that I can strongly advise the owners to go ahead and further development and I do so heartily.

Respectfully submitted,

(Signed) J. P. Steele, E. M.

REPORT OF PRELIMINARY EXAMINATION

on the

DELTA GROUP

of the

ACE MINING & DEVELOPMENT COMPANY

Phoenix, Arizona.

R. E. Prince

2

Mr. Homer L. Gibson, Managing Director,  
Dayton Consolidated Mines Co.,  
Virginia City, Nevada.

*Jan*  
1938

Dear Mr. Gibson:

In accordance with your request I met Mr. Dohlaine and Mr. Simkins at Phoenix, Arizona, for the purpose of securing data for a preliminary report on the property of the Ace Mining and Development Company. To accomplish this it was necessary to spend part of one week, December 13th to 18th, at the property.

As a result of that time spent and work, I am submitting the following report of my observations accompanied by property, topography, geology and assay maps, and as an additional source of information a copy of a report by Mr. Arthur L. Flagg on the "Delta Group of the Ace Mining and Development Company"; and photostatic copies of the tabulated returns for one hundred twenty-nine smelter shipments.

The Delta group of claims is located ten miles south of Phoenix in the South Mountains in a track of land known as South Park. The group consists of nine patented mining claims known as Delta, Delta #2 Richard Staunton, Hall, Thompson, Maximillion, Leggat and Oro Granda; and six unpatented mining claims known as Ace #3, #4, #5, #6, #7, and #8. With the exception of the Oro Granda, these claims form one continuous group. The present operators report that the title to the property is good and have a certificate of search to prove that.

Between 1916 and 1923, an attempt was made to operate this property under the name of the Max-Delta Mine. Very little is known regarding this operation aside from the apparent fact that important geological conditions relating to the fault system; and the reported statements that the potential possibilities of a good mine was used by the mine manager as a source of revenue. During this period considerable work was done on the Delta and Delta #2 claims which included the sinking of the 550 ft. incline shaft and the establishment of the various levels. Below the present 300 level, the downward extension of the veins was lost and the work done below that level has the appearance of more or less aimless wandering in the hanging wall formation. It is very questionable if any of this work below the 400 level will be of any value for future operations except as a source of water. It is reported that a flow of water sufficient to operate a 25 ton cyanide plant was encountered when the southwest branch of the 600 level was driven. During this operation an unknown small tonnage of ore was mined above the 300 level and milled in the local plant.

In the latter part of 1933, the present operators took over the property and began to make shipments, to the smelter, of ore extracted from the veins above the 300 level. As a result the upper levels were extended to the present positions as long as shipping ore could be obtained. During this time no attempt was made to perform desirable development work to find the downward extension of principle ore shoot on the Delta claims, or to develop ore bodies on other claims in the group having favorable prospects. The failure to do this work is attributed to time spent in solving the fault system affecting the ore body found in the Delta claim and lack of funds to allot to that work. During the past four years they have shipped one hundred-sixty cars of ore to the smelters or approximately eight thousand tons. The accompanying photostatic copies of smelter shipments represent 6212 (dry) tons of ore, having a gross value of \$127,648.00 and containing 0.587 oz. of gold and 0.539 oz. of silver per ton or a gross value of \$20.96 per ton. It is estimated that the average cost of shipping and treating

the ore including smelter deductions and penalties was in excess of \$8.46 per ton in addition to a probable high mining cost of \$2.00 per ton. It is interesting to note that the bulk of this ore was taken from the Delta ore shoot and intersecting veins. The balance was obtained from separated points where the ore could be obtained with no other expense than mining or loading of float found scattered on the surface. The cost of production of some of the ore must have been very high as it was transported by burros to a central loading platform and the inability to use adequate mining equipment. This applies to the small quantity of ore obtained from the open cut workings on the Maxamillion vein.

Good roads cross the property and extend within five hundred feet of nearly all the working on the several claims. In this connection it is interesting to note that the City of Phoenix maintains the roads. This is due to the fact that the United States government has deeded the South Mountains to the city for use as a park. This deed does not convey the mineral rights to the city.

The present source of power for mining operations is obtained from gasoline engines. Electrical power on this property will be available upon the construction of a little less than five miles of power line. This will cost about five thousand dollars and should be done at once if any future work is done. It is possible that the cost of this line can be reduced through cooperation with the local C.C.C. camp.

No assured supply of water has been developed other than that encountered on the 600 level of the Delta Mine at this time. This supply is not known to be adequate to conduct a desirable milling operation. It may be possible to develop sufficient water from wells drilled on or near the claims or by installing a suitable pumping plant on the Gila River about three miles distant. The conditions involved are not sufficiently understood to warrant an accurate estimate of the cost. For that reason it would be well to allow at least seventy-five hundred dollars for that purpose. Water for drilling is now hauled in.

These claims are located in an area of Pre-Cambrian gneisses and schists which have been intruded with pegmatite dykes. This gneiss-schist-pegmatite structure has been cut by several dark, fine-grained diorite dykes closely associated with the veins. The relation these dykes bear to veins is not fully understood, although a vein has been observed to cut a dyke, and the large dyke in the Delta mine is found near the principle ore shoot in the hanging wall.

The outcrops of the veins found on the Delta, Delta #2, Richard Staunton, Hall, Thompson and assumed to be in the Delta #3 are inconspicuous on the surface. Where they can be seen they appear as narrow seams of banded quartz containing large partially-oxidized sulphides. These seams vary in width from two to eight inches. Those that have been worked have been found to widen with depth to two or three feet and in places as much as four feet. It is possible to see some of these seams on the surface that have not been worked on. The croppings of the Maxamillion and Oro Granda veins are more prominent on the surface where widths varying between three and five feet can be seen. The Oro Granda vein can be seen to extend at least three hundred feet northeast of discovery. The Maxamillion has been exposed through a vertical range of eight hundred feet and can be seen to extend more than one thousand feet southward from the Maxamillion tunnel.

On the Delta claims two parallel veins having a general strike of N 30° W and dipping 70° to 80° to the east have been found and worked with considerable success. These veins have been marked on the

"Assay Plan" and are shown to intersect a vein striking N 10° W and dipping 45° to 50° east. There is sufficient evidence to assume that there are more veins parallel to those striking N 30° W. But due to the lack of adequate surface prospecting and underground work this assumption can not be proved at the present.

The steep veins are filled with a dense-glassy quartz containing large irregular-shaped pyrite and a small amount of chalcopyrite and a more uniform distribution of precious metals. This quartz has been fractured permitting partial oxidation of some of the sulphides. The flat vein is filled with a dense-white quartz containing smaller quantities of pyrite with a noticeable increase of siderite (iron carbonate) and a less regular distribution of gold and silver as the vein is followed beyond the influence of the intersection with the steep veins. These veins cut across the planes of greatest weakness in the gneiss and the schist, and are generally separated from the foot wall and hanging wall by thin layers of fault gouge. Intervain slipping is frequently seen in the flat vein. Where these slips leave the vein and enter the hanging wall, narrow steep easterly-dipping seams of vein material follow out into the hanging wall. Some of these seams are wide enough to mine and have produced good ore.

While it has only been possible to observe the veins at shallow depths there is little doubt but what this form of mineralization will continue for greater depths, and gold and silver can be expected in the ore in about the same quantities found in the ore above the 300 level. Also the veins will maintain an average width of three feet and mining width in excess of five feet can be expected in the downward extension of the principle ore shoot occurring at the intersection of the steep and flat veins.

This ore shoot has been worked to a depth of less than one hundred feet. On the 20 level it was about one foot long, while on the 300 level it was more than one hundred-sixty feet long. If the 301 S. Drift is extended about one hundred feet, the flat vein will intersect the steep vein found in the 100 S. Drift and another good ore shoot may be expected.

This apparently simple vein system is complicated by two systems of normal faulting. The first and least exposed is a fault striking N 45° W and dipping 40° E. Underground, the fault is observed to cut off the veins a few feet below the 300 level in the incline shaft. The amount of displacement along the fault is not known and cannot be very great. This is based on the relative position of the footwall of the "Acid Dyke" found in 302 E. Crosscut and 401 W crosscut. If the 401 W crosscut is driven ahead fifty feet it will cut the downward extension of the ore shoot mined above the 300 level. The influence of this fault on the veins probably does not extend more than one hundred feet south of the incline shaft but does extend to the veins found in the Delta #2, #3. This can be seen by studying the surface topography and has been roughly located on the accompanying topographical map.

The second system consists of a series of flat normal faults which appear to be a regional and to have been responsible for the difficulty encountered by the earlier operators. These faults have a variable strike and dip between 28° and 30° to the southeast. They have displaced the upper segments of the vein from four to six feet to the east. In addition they have developed the appearance of a series of over-lapping lenses. The following sketch is offered to illustrate the phenomena.

This last described fault system was noted in the Oro Granda and the Maxamillion veins.

The strike of the Maxamillion vein is S 5° E and the dip varies between 47° E to 70° E. The vein filling is a shattered dense-white quartz containing considerable sulphides. In the near surface workings the sulphides have been completely oxidized and in places leached out. This vein varies in width between three and five feet and contains the largest potential ore reserve to be found on any of the claims in the group. Some very high grade ore has been found in the surface cuts. The vein has been exposed in the Leggat and the Maxamillion tunnels and four open cuts through a vertical range of eight hundred feet and a lateral extent of more than one thousand feet along the croppings.

The strike of the Ora Granda vein is N 52° E dipping 43° S.E. This vein can be seen in cross section only at the open cut. Here the vein is four feet wide and split by an intervein slip. The vein filling consists of a dense white quartz containing large sulphides which have been highly oxidized and leached out where favorable conditions existed. This vein probably contains the lowest grade ore to be found on the claims. In spite of that and due to the lateral extent, it should be thoroughly prospected.

Very little is known regarding the vein worked from the Hall shaft since this working was under water. From the description given by the present operators the vein is the northward extension of the steep veins worked in the Delta claims. The vein is reported to be in good ore of shipping grade and to be three feet wide. The vein has been worked on the surface by open cuts for more than two hundred feet north of the shaft. In these workings the width of the vein varied between a seam to two feet. In the open cut furthest to the north very high grade gold ore was found associated with the mineral jarosite.

The present operators have extracted almost all of the ore that could be mined in the known ore shoots above the 300 level in the Delta Mine and the other workings that could be obtained with little development or preparatory work. For that reason and the element of time involved samples were taken at such places as appeared to be of value in future development of the property. It will be noted in the sample description that some samples were cut from the floor of the 100 S. Drift. In connection with these samples, all the loose material was removed and dusted from the place the cut was to be made. The sample was then broken out with a moil in pieces large enough to be picked up with the fingers and thus avoid any fine material that fall in from the sides of the cut. The shattered condition of the vein made this possible. This procedure became necessary due to inability to sample the vein above the level.

The following samples except where mentioned in the description were obtained from channels cut by moiling and collecting the cuttings on a canvas sheet. The samples were placed in cleaned canvas sample bags and carried to the shop on the Delta claim. Here they were put through a Chipmunk crusher and reduced with a Jones Sample Splitter. They were then placed in doubled paper bags, tied and removed from the property.

Upper Tunnel

Sample	Width	Description	Oz.Au.	¢Au.	Oz.Ag.	¢Ag.	Total
1	1.75'	Qtz. vein with large sulphides Copper stained cut from back of drift from gneiss footwall to white fault gouge on hanging wall Check on #2 Flagg Assay Map	1.56	54.60	1.04	0.80	55.40
2	1.1'	Crushed gneiss with qtz. seams. Cut from the back of drift from white gouge at end of #1.	0.04	1.40			1.40
3	2.1'	0.5' crushed qtz. & gneiss on footwall 0.9' gneis and 0.7' qtz. Cut from back of drift see Location on Map. Check on Flagg #4 (2 ft. in)					
4	1.84'	Crushed qtz. and gneis 40 ft. in. From right wall. Check on sample #9	0.60	21.00			21.00
5	1.8'	Crushed gneis and a little qtz. Cut from the right wall of the drift 50 ft. in	0.24	8.40			8.40
6	2.8'	Finely crushed qtz. & gneiss fault drag not known to be ore. Small raise at end of level. See location on map. This is a post mineral flat fault S45° W Dip 28° S	0.00	0.00			0.00
7	1.75'	Crushed qtz. with small inclusion of gneis cut from floor of drift from footwall to hanging wall 131 ft. in	0.48	16.80			16.80
8	1.7'	Qtz. and silicified gneis cut from floor of drift. 111 ft. in. See location on map	0.24	8.40			8.40

9	1.3'	Qtz. and gneis. Sulphides in the qtz. Cut from floor of drift 101 ft. in. See location on map	0.12	4.20		4.20	
10	1.7'	Mainly gneis with some qtz. stringers cut from floor of drift at end of #9 and extending to the hanging wall. See location on map.					
11	3.4'	2.7' qtz. Balance qtz. seams in the gneis cut from the footwall to the hanging wall from the floor of drift 91' in. See location on map.	0.20	7.00	0.20	0.15	7.15
12	3.5'	Vein, qtz. stringers in gneis last 1.0' Crushed gneis. Cut from floor of drift from footwall to hanging wall 71' in. Dip of vein 75° E	0.24	8.40			8.40
13		Composite sample made up from the rejects from the above samples	0.36	12.60			12.60
14		Ore dump near collar of 500 ft. incline shaft. Sampled to a depth of 4 ft. and estimated to contain 400 tons of ore at	0.08	2.80			2.80
		This dump represents ore taken from the incline shaft while in the vein it has been carefully picked over by several sets of leasers.	0.12	4.20			4.20

Samples #2 Level

15	1.4'	Crushed qtz. under flat fault. Upper end of lense cut from right wall of drift. See location on map	0.20	7.00			7.00
16	2.5'	Crushed qtz. with thin fault gouge on the footwall. Check on #32 cut from right wall of drift. See map	0.20	7.00			7.00
17	2.7'	Altered gneis with calcite and large sulphides on footwall. Cut from back of small stope from foot wall toward the hanging wall. See map.	0.10	3.50			3.50

18	4.0'	Crushed qtz. cut from end of 17 to hanging wall. See location on map	0.08	2.80	2.80
19	2.0'	Qtz. Cut from south wall of raise at the junction of steep hanging wall vein and a flat vein 30 ft. up raise. See location on map	0.44	15.40	15.40
20	1.9'	Qtz. with sulphides from north wall of raise (15' no. #19) junction of steep hanging wall and flat vein. 32' up raise. See location on map	0.28	9.80	9.80
21	3.5'	Qtz. containing siderite (iron carbonate) cut from the south wall of raise 15' up. See location on map	0.12	4.20	4.20
22	2.3'	Crushed qtz. part of a segment of a vertical vein cut from footwall to intervein slip. See location on map.	0.20	7.00	7.00
23	2.5'	Crushed qtz. with a few large sulphides and copper stain. Cut from intervein slip to hanging wall. See location on map. Cut 42' in drift.	0.52	18.20	18.20
24	3.2'	Crushed qtz. cut from footwall to .7' beyond the intervein slip at the face of the drift. Dip of vein 70° E. Strike of vein N 27° W See location on map	0.08	2.60	2.80
25		Grab sample from muck pile at small raise	0.06	2.10	2.10
26	4.2'	Crushed qtz. cut from back of drift. See location on map. 1.16' of qtz. on footwall, grey and very hard. Samples 22, 23, 24 & 26 are from 201 N. Drift. Samples 15, 16, 17, 18, 19, & 20 and 21 are from the vein on the 200 S Drift.	0.12	4.20	4.20
27		Composite of sample rejects from samples #15 to 26 inclusive	0.14	4.90	4.90
Samples from Maxamillion Vein					
28	1.8'	Qtz. seams in gneis strike S. 30° E Dip 32° NE cut from hanging wall toward qtz. in under cut near apex of Maxamillion vein.	0.32	11.20	11.20
29	2.2'	Cut from face of under cut #28 qtz. and gneis upper 1' qtz., sulphides oxidized 1.2' intervein slip fault gouge on footwall.	0.72	25.20	25.20
30	3.0'	Footwall gneis with qtz. seams and siderite. Cut near front end of under cut near apex of Maxamillion vein.	0.20	7.00	7.00
31	3.8'	Qtz. & gneis with oxidized sulphides cut from face of open cut on Maxamillion vein. Cut from footwall to hanging wall Steep vein in 60 ft.	0.24	8.40	8.40

32	2.5'	Cut from face of open cut. Contains limonite and gypsum. From flat vein and separated from #31 by section of gneiss. Dip 50° E cut from footwall to hanging wall.	0.10	3.50	3.50
33	3.0'	White qtz. Cut from left wall of drift from hanging wall toward footwall above the floor. 30' out from #31 and 32 in open cut.	0.28	9.80	9.80
34	5.33'	White qtz. stained with limonite. White qtz. cropping under open cut and east of vein worked in open cut from gneiss footwall to intervein slip.	0.24	8.40	8.40
35	2.6'	White qtz. cut from intervein slip to gneiss hanging wall. Samples 34 and 35 a complete section across a large qtz. lense.	0.40	14.00	14.00
36	2.5'	White qtz. cut from left wall of main Maxamillion tunnel 12 ft. back from the fact at point where vein enters the left wall of the drift. Check on Flagg's #121.	0.06	2.10	2.10
37	2.2'	1.3' crushed qtz. balance hard white qtz. Crushed qtz. stained with limonite and contains remains of sulphides 46' from face.	0.02	0.70	0.70
38	3.0'	Qtz. with sulphides with copper stain cut from left wall of drift. 81' back from face	0.06	2.10	2.10
39	5.0'	Qtz. limonite stained, containing oxidized sulphides. Cut from the back of the drift from the F.W. to H.W. vein vertical	0.04	1.40	1.40
40	4.0'	Shattered qtz. stained with limonite & containing oxidized sulphides. Cut from F.W. to H.W. Thin gouge on footwall. Cut from south wall of raise.	0.16	5.60	5.60
41	3'	Shattered qtz. stained with limonite and containing oxidized sulphides cut from hanging wall to foot wall from the north wall of raise.	0.56	19.60	19.60
42		Composite from the rejects from samples 36 to 41 inclusive.	0.20	7.00	7.00
43	3.4'	1.0' qtz. on hanging wall silicious limestone dyke 1.6' schist with qtz. stringers on footwall 30 ft. south of Little Jim shaft at face of 45' level.	0.8' 0.32	11.20	11.20
44	1.4'	Qtz. & silicified schist. 6' above #43.	0.72	25.20	25.20
45	1.3'	Qtz. 30 ft. in Little Jim tunnel right side of drift. The vein is in contact with a diorite dyke & split into three veins. This sample is from the vein on the hanging wall of the dyke. Dyke 7' wide.	0.40	14.00	14.00

46	2.2'	Shattered white qtz. on foot- wall of Diorite dyke - same location as 45. Silicified limestone dyke on footwall of vein.	0.28	9.80		9.80
47	2.2'	White qtz. cut from south wall of winze 480' in Lower tunnel West Delta.	0.40	14.00		14.00
48	2'	White qtz. with large sulphides casts cut to intervein slip from croppings of Oro Granda Vein. Strike N 52° E Dip 430 SE.	0.04	1.40		1.40
49	2.6'	White qtz. with pyrite cut from intervein slip (lower end of #48) to footwall.	0.02	0.70		0.70
50		Dump sample from croppings of Oro Granda Vein. Material from the same croppings	0.12	4.20		4.20
51		Samples #48 & 49 were cut Dump sample from vein mater- ial 3.5' Young American qtz. vein.	0.10	3.50		3.50
52		Chippings from cropping of qtz. vein on Russell Claim				
53	1.4'	Qtz. at intersection of flat and vertical veins, at the face of the Leggat tunnel.	0.10	3.50		3.50
54	3.0'	White qtz. cut from back of Leggat tunnel 10' from face.	Lost			
55	2.7'	Qtz. Cut from hanging wall toward the footwall from the left wall of Leggat tunnel (Upper section of vein stoped to the surface.)	0.00	0.00		0.00

Main Delta Tunnel #5 Level

56	2.0'	Qtz. & sheared silicified schist cut from hanging wall toward footwall from the back of drift. See location on map	0.28	9.80		9.80	
57		Muck Pile from 6' of footwall schist broken by leasors in small stope above the level. See location on map	0.08	2.80		2.80	
58	1.7'	Crushed qtz. & silicified schist face of south drift 301 S. Drift. See location on map. This vein has been stoped to the 2nd level. Ore shoot 65' long.	0.12	4.20		4.20	
59	2.8'	Crushed Vein material Fault drag cut from south wall of underhand stope. Sample 6' below floor of level. See lo- cation on map.	1.32	46.20	0.84	0.65	46.85
60	3.0'	Crushed Vein material Fault drag. Cut from No. wall of underhand stope 5' below floor of level. See location on map.	0.08	2.80		2.80	

Upper Tunnel (#100 S. Drift)

Total footage of samples out across the vein	21.94 ft.
Average width (Samples 1,2,3,4,5,7,8,9,10,11 & 12)	2.44 ft.
Average Value	\$ 13.42 per ton

Sample #6 post mineral flat fault drag known not to be ore and omitted from the above calculation for that reason.

First Level (#200 S. Drift)

South end

Total footage of samples out across the vein	16.40 ft.
Average width (Samples 16,17,18,19,20 & 21)	3.28 ft.
Average value	\$ 6.18 per ton

Sample #15 is the top of an ore shoot that does not extend above the level end is separated from the above samples by a flat fault. For that reason it is not included in the above calculation.

First Level (200 N. Drift)

Total footage of samples out across the vein	12.20 ft.
Average width (22,23,24,26)	4.06 ft.
Average Value	\$ 7.229 per ton

Second Level (300 S. Drift)

Total footage out across the vein	7.80 ft.
Average width (Samples 26, 59 & 60)	2.93 ft.
Average Value	\$20.40 per ton

Maxamillion Vein. All samples including those taken in the Leggat Tunnel but excluding 34 & 35 as they are from a quartz lense in the footwall of the Maxamillion Vein. #30 is also excluded as it is the only sample from the footwall.

Total footage of samples out across the vein	37.10 ft.
Average width (Samples 28,29,31,32,33,36,37,38,39,40,41, 53 and 55)	3.09 ft.
Average value	\$ 6.79 per ton

Footwall Maxamillion Vein Samples #34 & 35

Total footage out	7.93 ft.
Average Value	\$ 10.23 per ton

Little Jim Level

Total footage of vein out	4.8 ft.
Average width sample #43 & 44	2.4 ft.
Average Value	\$15.28 per;ton

Samples 45 & 46 are from the vein in the Little Jim Tunnel and are of interest only as to the quality of ore mined. At this point the vein has been stoped below and above the level to the surface.

Oro Granda Vein

Total Footage out from vein	4.6 ft.
Width of Vein	4.6 ft.
Value of ore	\$ 1.00 per ton

Young American #51. This sample is from a claim that is open for location and should be included in the group.

Russell claim, Sample #52, is of interest as this claim should be included in the group.

The above samples were assayed at the Dayton Mine, Silver City, Nevada.

Attention is called to the accompanying Assay Map and Plan of the Main Workings in the Delta. The samples taken on this visit are marked in with red ink and can be compared with those obtained by the present operators and used by them to direct their work.

It is impossible to make an estimate of the tonnage of assured ore in the Delta Mine or any of the other claims. Therefore the following estimates are dependent on the success and extent of the future development work and the precious metal content of the ore found.

Speculative Estimate of Ore.

Delta Mine at least four thousand tons below the 300 level from the downward extension of the principal ore shoot to a depth of 100 ft. below the 300 level.

Three or more thousand tons from the intersection of the flat vein and the steep vein that may be found by extending the 301 S. Drift.

Two thousand tons by extending 300 S. Drift 200 ft.

One thousand tons of salvage ore from the stoped area.

Total speculative ore that may be obtained from the Delta Mine 10,000 tons

Maxamillion Vein

By extending the Leggat tunnel 300 ft. beyond the present face and raising on favorable prospects. It may be possible to develop at least 20,000 tons

Hall Shaft

This shaft is vertical and the level is one hundred feet below the collar of the shaft. If the conditions reported exist, this working may be expected to produce thirty-five hundred tons of ore by extending this level south 300 ft. 3,500 tons

Total estimate of speculative ore 33,500 tons

This ore should have mill value of at least \$10.00 per ton.

This estimate must be considered as optimistic but justifiable due to the favorable geological conditions.

Any ore developed can be mined by shrinkage stoping with the use of very little timber to support the walls. Also the ore will part from the walls with little dilution. It is estimated that the ore can be mined and milled for \$5.75 per ton.

Mining	\$2.00
Milling	1.75
Tailing Loss	.50
Overhead and Misc. charges	1.50
	<hr/>
	\$5.75

**Delta Mine**

In developing the Delta Mine, a diamond drill can be used to advantage to prospect the vein and footwall below the 300 level. It is estimated that two thousand feet of drilling would be the maximum required.

Cross cutting and drifting from the 401 W crosscut	200 ft.	\$1000.00
Drifting on the vein in the 301 S. Drift	150 ft.	750.00
Drifting on the vein in the 300 S. Drift	200 ft.	1000.00
Misc. crosscuts on the 300 level	100 ft.	500.00
Raises from the 301 S. Drift to the 100 S. Drift	200 ft.	1500.00
Sinking of vertical shaft from the 300 level if the ore shoot is found below that level	100 ft.	2500.00
Diamond Drilling	2000 ft.	<u>3000.00</u>
<b>Total</b>		<b>\$10250.00</b>

To the above figure a sum of 10000.00 should be added for such equipment as compressor, drills, sharpening equipment and a small hoist.

Total Development fund required for the Delta Mine \$20 250.00

**Maxamillion and Leggat Claims**

Prospecting for the vein below the Leggat Tunnel		250.00
Drifting on the vein	500 ft.	2500.00
Raising above the Leggat level	500 ft.	3750.00
Misc. mining equipment & prospecting		<u>7000.00</u>
<b>Total Development fund</b>		<b>\$13500.00</b>

**Hall Shaft**

Drifting on the vein	300 ft.	1500.00
Sinking of shaft	100 ft.	2500.00
Raising	200 ft.	1500.00
Misc. Cross cuts	200 ft.	1000.00
Hoist and Misc. Mining Equipment		<u>7500.00</u>
<b>Total Development fund</b>		<b>\$14000.00</b>

**Oro Granda**

Prospecting the Oro Granda Vein by extending the present drift	300 ft.	1500.00
Crosscutting	200 ft.	1000.00
Raising	100 ft.	750.00
Misc. equipment		<u>3000.00</u>
<b>Total</b>		<b>\$ 6250.00</b>

Total cost of all development and prospecting work	\$54,000.00
Cost of Power Line	5,000.00
Cost for developing water	7,500.00
	<u>\$66,500.00</u>

This figure should be increased 30% to compensate for any error in estimating 20,000.00

Total to be appropriated for Development and prospecting **\$86,500.00**

It must be recalled that by doing the above proposed work as soon as possible four independent producing units can be developed. As a prospect and a more or less undeveloped mine the above expenditure is justified. An additional sum of between \$75,000.00 and \$100,000.00 should be available for the construction of a suitable mill if that should be needed. It is not anticipated that a sufficient quantity of shipping ore will be developed to warrant the expenditure for development and prospecting.

The terms upon which this property can be purchased from the Ace Mining and Development Company should be more equally adjusted. Their cash purchase price is twenty thousand dollars with the condition that the purchaser assume an obligation to pay ten thousand dollars to the owner during the next two years. Or they will sell the property under the terms of a bond and lease for sixty thousand dollars and the purchaser assume the obligation of ten thousand dollars. The total purchase price under terms of a bond should not be more than fifty thousand dollars including the ten thousand dollars due the owner. It is thought that both the terms for cash or under bond and lease can be more favorably revised.

I wish to extend my appreciation to Mr. Arthur L. Flagg, Mr. Don Scott and Mr. H. P. Mackintosh for their efforts in providing the accompanying maps, and also to Mr. Howard Gentry, the mine superintendent, for his assistance.

R. W. Prince

The Ace Mining and Development Company is composed of eight stockholders, each being a member of the board of directors. The following is a list of the officers and members of the company:

- Mr. Don Scott, president, operates the Arizona Blue Print Shop and the Scott Engineering Co., 606 Ellis Building, Phoenix, Arizona
- Mr. H. P. Mackintosh, Sec.-Treas., Assistant County Engineer, P. O. Box 597, Phoenix, Arizona.
- Mr. Howard Gentry, Mine Superintendent, P. O. Box 597, Phoenix, Arizona
- Mr. Arthur L. Flagg, Consulting Geologist and Mining Engineer, Phoenix, Arizona.
- Mr. Claude E. MacLane, Owner Arizona Testing Lab., P. O. Box 1888, Phoenix, Arizona.
- Mr. Fred H. Ensign, Retired Electrical Dealer, Phoenix, Arizona.
- Mr. William Snow, Mine Operator, near Bisbee, Arizona.
- Mr. Jim O'Haver, Miner, Phoenix, Arizona.

Attorney for the Company, Mr. Robert H. Armstrong, of the firm of Armstrong, Kramer and Roach, First National Bank Bldg., Phoenix, Arizona.

ACE GOLD MINING AND DEVELOPMENT COMPANY

MAX DELTA MINE

KEY

TO SAMPLING BY CECIL G. FENNELL made Aug. 3rd and 5th, 1937

(Samples taken as character or type samples indicative of large tonnages of medium grade MILL ORE only)

Symbol	Where Taken	Average width ore	Oz Gold	Value @ \$35 oz gold by Ariz. Test Lab. Assay.
<b>MAXIMILLIAN CLAIM</b>				
M 1 C	Tod large open cut on vein #2, at apex of both vein and mountain. #1. 2280 Ore left on hanging wall, dipping about 35 d into ore taken below, see sample M.2.M which follows. Large channel cut at right angles to vein	22"	0.26	\$9.10
M 2 M	Open cut and tunnel on vein #2. El. 2220. Broken ore piled at end of tunnel ready for sorting for high grade ore for shipment. In taking large grab samples pieces of shipping ore rejected. Represents average width of ore in several places of	56"	0.24	8.40
M 3 T	Main tunnel, El. 1720. Strike N 13 W. Ore shoot dipping about 85 to SE. Driven on vein. Sample taken at raise on ore, about 100-ft from portal. Two channel cuts at right angles to ore shoot: 1 cut 48" wide, 1 cut 28" wide. Average width	38"	0.16	5.60
<b>ORO GRANDE CLAIM</b>				
O 4 C	Large open cut (this ore exposure would permit of "glory hole" mining) on ledge as mentioned below. El. 1705 Course of ore at surface N 10 E Grab sample - about 300 lbs - taken from ore piles (many tons in each pile) of ore broken from surface workings all over ledge of dense blue-white quartz carrying but few metallics. Represents over 50 tons broken ore. Average width of ledge (ore) on surface at elevations of 1830', 1705' and 1665' at right angles to dip of ore body (Average width of ore on surface on horizontal plane across ledge about 28-ft) The ore as exposed in the ledge rock without any noticeable variation in its texture and components shows on the mountain flank (sloping at about 2g d) for over 500 feet.	15'	0.18	6.30

MAX DELTA CLAIM

D 5 B Level. #2 Breast of level (on Aug.5th)  
 driven on course of N 55 W. One large  
 60 lb - channel cut at right angles  
 to ore shoot. 62" 0.16 5.60

(As these samples were taken to  
 indicate probable tonnages of mill  
 ore in taking sample two streaks of  
 apparently rich "shipping" ore were  
 avoided.)

SAMPLES taken by MINE FOREMAN  
 For guidance in ore extraction for shipment

MAX DELTA CLAIM

Lab. No.	Mine No.			
23993	967	Character sample of footwall	0.14	\$4.90
23994	968	Shipping ore from face of drift, same as D 5 B above, taken six feet back of breast as given above, and included shipping ore referred to in #D 5 B and is for 3 ft less width	26" 0.92	32.20

(The foregoing is copied from tabulation  
 supplied to the Ace Mining & Development  
 Company, by C. G. Fennell. Copy by A.L.F.  
 2/12/38)

Extracts from Report by J. P. Steele, E. M.

on THE MAX DELTA MINE

Los Angeles, Calif.  
June 6th, 1916.

I hereby submit my report on the examination recently made by me, at your request, on the Max-Delta Gold Mining Company's property.

This property is situated 9 miles south of Phoenix, Arizona, Maricopa County, in the Salt River Mountains. The veins are true fissures and the strike is northwest and southeast. The formation is Gneiss, with numerous Diorite dykes running nearly north and south. Commercial ore is found in the veins where the diorite dikes cross the leads.

The Maximillian and Leggat claims were the first ones visited by me. There are two leads on this property. These two leads come together at No. 2 tunnel. Both leads run lengthwise of the claim.

Commencing my examination on top of the mountain where the vein outcrops, I found 3 feet of quartz that assayed \$32.00 gold per ton. Continuing down the mountain to tunnel No. 1, I found this tunnel was driven on the lead 30 feet, all in ore. The ore at this point 200 feet below the apex, was 12 feet wide and showed a value of \$27.00 per ton. Continuing on down the mountain, I came to tunnel No. 2. This is in 60 feet on the lead, all in ore. This ore in the face of this tunnel is 14 feet wide, and the sample taken clean across the face, ran \$8.40 gold per ton.

Here is where the lead splits. That part of the lead going to the right, looking down the mountain, about 100 feet below tunnel No. 2 there is a tunnel No. 3 about 45 feet long on this lead. Samples taken from 4 feet of ore gave a value of \$16.00 gold per ton.

Going back to the main lead, and down the mountain to tunnel No. 4, which has been driven 250 feet on the lead, I found 4 feet of ore. The several samples taken along this ore body gave an average of \$12.00 gold per ton.

Continuing on down the mountain to the Leggatt tunnel which is in 65 feet on the lead, I found 6 feet of ore that assayed \$12.60 gold per ton. The Leggatt tunnel is 700 feet below the outcrop, giving backs of that depth from the Leggatt tunnel to the apex of the lead.

The different openings show a tonnage of approximately 36,000 tons, having an average value of \$18.00 gold per ton, giving a gross valuation of \$584,000.00.

The second claim visited was the Hall. Here is a shaft 54 feet deep, and a tunnel over 100 feet in length with a winze 54 feet deep, sunk from this tunnel. These were the only openings in the Hall examined by me. There not being enough development work on the other leads of which there are several, to justify an opinion as to tonnage and permanency.

The Hall shaft has been sunk to a depth of 54 feet. There is 4 feet of ore that gave an average value of \$21.00 gold per ton. This leads outcrops on the surface 400 feet in length.

The tunnel and winze show 2 feet of \$20.00 gold ore. The estimated tonnage exposed by the Hall shaft, tunnel and winze, is approximately 3,125 tons of a gross value of \$65,000.00. The \$21.00 ore predominating in tonnage as well as value.

The next claim visited was the Delta No. 2. There is a shaft 35 feet deep on the Delta No. 2 lead. At this depth there is a level 112 feet long that has been driven on the lead. The ore shoot extending the full length of the level, and a carload of ore 43 tons, shipped from this level gave smelter returns of \$26.70 gold per ton.

From this level there has been a winze sunk 54 feet on the lead. The ore in the winze averaged 3 feet in width and gave an average value of \$10.20 per ton.

There is a cross-cut tunnel that cuts this level 60 feet south of the above mentioned shaft.

There is another cross-cut tunnel that cuts this level 60 feet south of the above mentioned shaft.

There is another cross-cut tunnel on this claim that starts 400 feet east of the shaft and 100 feet lower down. There is also a raise from this tunnel that connects with the winze, giving ventilation and egress for the ore in the opening above.

There was some samples of ore taken from this lower level that assayed \$200.00 gold per ton. These rich assays were eliminated in arriving at the value in the ore.

The total number of tons of ore in sight on this claim is 35,000 containing a gross value of \$75,000.00.

The high grade ore here predominating in value and size.

The main Delta workings was the next place visited and inspected by me.

The development work on this claim consists of a shaft 500 feet deep, with a 25 H.P. Fairbanks-Morse Gasoline Hoist, and a 40 H.P. Gasoline engine that operates a Sullivan compressor Power drills being used to do the work on this claim. There has been so far, two ore commercial shoots exposed on the first level of the Delta. This level has been extended a distance of 700 feet, including crosscuts and drifts.

The first ore shoot is going south, 115 feet long, and it will average 5 feet wide. With an average value of \$16.20 gold per ton. The second ore shoot on this level is 80 feet south of ore exposed on this level that has been recently broken into. Where it was cut there was 2 feet of quartz that assayed

\$12.60 per ton. Back of this quartz there was 3 feet of mineralized vein material that assayed \$5.80 gold per ton. I did not allow for any tonnage at this last place.

Going to the second level my inspection showed a drift of 115 feet south of the shaft and 60 feet north of the shaft, with an ore shoot 150 feet in length, with an average width of 5 feet and values of \$11.80 gold per ton. The south end of this shoot of ore was 7 feet wide and a sample taken from a winze at this point gave returns of \$22.40 gold per ton. A picked sample ran \$86.60. These high grade assays were not taken into consideration by me in arriving at the general average value of the ore on this level.

From the second level I descended to the third level. The drift at this point has been driven a distance of 136 feet south, and at a distance of 105 feet from the shaft, a crosscut has been started to the west, to cut the vein and ore in the west lead, or the ore bodies exposed in the levels above, one and two. In sinking the shaft the lead faulted at a point 20 feet below the second level. It split at that point. The shaft following the easterly trend of the lead. This vein carries copper values as well as gold, and the general character of the ore is different from the ore in the west lead.

The ore shoot on this level is about 100 feet long and 5 feet wide. No drifting having been done to the north. I could not estimate the length on that side of the shaft. An average of the samples taken gave a value of \$8.10 gold per ton.

The fourth level has been extended a distance of 90 feet south. This level was run on the contact between the Gneiss and Diorite. There is no ore here to speak of.

The fifth level was full of water, so an inspection could not be undertaken at this time.

The total tonnage and value shown by the workings on the Delta are as follows:

1st shoot	100 foot level	3,250 tons @ 16.20 a ton	\$52,650.00
2nd "	100 foot level	3,400 " " 11.20 " "	31,280.00
2nd level	" " "	4,625 " " 9.80 " "	54,575.00
3rd "	" " "	<u>3,125 " " 8.10 " "</u>	<u>25,312.00</u>
Total ore tonnage and value		14,400	\$163,817.00

The Oro Grande was the last claim visited and inspected by me. There is an immense tonnage of low grade ore exposed on this claim. Of 10 samples taken by me from the outcrop, I got an average of \$5.20 gold per ton.

There is about 200,000 tons in sight of this low grade ore. When your mill is in operation, a great deal of this ore could be mixed with the high grade ore taken from the other claims. My opinion of the ore showings on the Oro Grande is that at this time it would not be advisable to take it into consideration as to future development work as outlined by me. But it undoubtedly is a very valuable asset to your Company and it will, no doubt, be worked in time by your Company and its gold values recovered at a handsome profit.

(Signed) J. P. Steele

THE DELTA MINE

Flagg Report  
Sept 7th.  
34

The property of the Ace Mining and Development Company, formerly the Max-Delta Mine, is in Maricopa County, State of Arizona. It is in the northern portion of the Salt River Mountains, that portion familiarly known to the residents of Phoenix as the "South Mountains". It is ten miles from the civic center of Phoenix to the property.

There are nine patented and three unpatented mining claims in the property. With the exception of the Ora Granda, which sets apart from the rest, the claims are all in one group.

The equipment on the property at the present time is very limited. It consists of a portable compressor, a small gasoline hoist, drills, track, cars, pipe steel, blacksmith shop for hand sharpening and a loading terminal. All of the original equipment, even to mine timbers and the collar of the shaft, was removed many years ago. Though simple the equipment on the property meets all the most immediate requirements.

There is no water developed on the property. It is reported that the 500-ft. inclined shaft furnished enough water for the 25-ton mill which was on the property at one time. There is also some water in the Hall shaft. In all probability water can be had by drilling wells on the property not over 200-ft. deep.

There are no transportation difficulties. Seven miles of the road from Phoenix is either paved or oiled. The rest of the road is a very good road. Ore is hauled in trucks to Phoenix and loaded for 75¢ per ton.

The claims lie on the north slope of the mountains, at elevations ranging from 1200 to 2600 feet above sea level. The country rock is a complex of gneiss and schist, with a general northerly dip at low angles. There are frequent local variations due to faulting. Several fine grained, dark dikes, probably diorite occur and there is at least one lighter colored, porphyritic dike, of an acid composition,

provisionally called rhyolite. Irregular dikes of aplite and pegmatite are abundant throughout the range. Outcrops of veins, dikes, excepting the pegmatite dikes are inconspicuous. In marked contrast is the abundance of quartz float on the mountainside.

The veins are fissures cutting across the gneiss with a general NW to SE strike and easterly dip. The country rock on either side of the veins, more particularly noticeable at lower depths, is more or less silicified, the mineralization extending out into the walls for an undetermined distance. The vein filling is largely quartz, with altered inclusions of country rock. Gold is the principal metal. Silver is present in small amounts and copper to the extent of less than one half of one percent. There is neither lead nor zinc. Sulphides of iron are found at practically all horizons.

The original discovery on these claims is said to have been made on the crest of the ridge at an elevation of approximately 2900 ft. above sea level, on the Maxamillion claim. Near the surface this vein has a low dip and can be traced for 600 to 800 ft. along its strike on the surface, showing widths from 3 to 12 feet. Numerous shallow openings, made many years ago are said to have yielded about \$30,000 in gold. The vertical range on this vein from the highest point on the crest to the lowest working on the north slope, is about 400 ft., which would be over 600 ft. measured on the dip. No systematic development has been done on this part of the property but previous sampling in the old openings give very promising indications of a large amount of milling ore, above an adit which would enter about 800 ft. below the highest point and would have a length of over 700 ft. when vertically under the original discovery. At present ore is being shipped off this part of the property.

Near the north end of the Maxamillion claim a spur takes off this vein with a more northerly strike. This vein is known as the Leggat vein. Not much work has been done on it. There is shown from 3 to 4 feet of ore along the outcrop over a considerable distance. Previous sampling indicates a gold content sufficiently high to warrant

the expectation of profitable mill ore.

The topography is such that the Maxamillion and Leggat veins can be prospected very cheaply by a system of adits, the lowest of which would attain a maximum depth of nearly 800 ft. measured on the dip. Mill ore from this system could be transported to a mill on the main Delta claim by gravity.

The most extensive development on the whole property is on the Delta No. 1 claim. It consists of an inclined shaft, 500 ft. in depth, with not less than 2500 ft. of tunnels. Two adits, entering from the north, intercept this shaft at levels approximately 50 and 100 ft. respectively from the surface. It is from these two adits and above that most of the shipping ore has been taken during the past nine months. Present operations have not included any of the levels below the lower of these two adits. Water stands in the shaft at about 100 ft. above the bottom and nothing is known about the lower level.

The Delta vein system is an interesting one on which, as yet, not enough information has been compiled to attempt a detailed description. The acid porphyry dike, mentioned above, is seen first in the level next below the lower of the two adits. What its relation, if any, to the veins may be has not been worked out yet. The fundamental facts regarding the Delta vein system are that it consists of three veins, intersecting and faulted on each other, containing overlapping lenticular ore shoots of moderate size in which there are similarly shaped and similarly oriented lenses of quartz of higher grade which constitute the shipping ore. The strikes and dips of the three veins are: (1) Strike N 60 W, Dip 50 NE; (2) Strike N 30 W, Dip 60 NE; (3) Strike N 10 W, Dip 20 (sometimes even less) to 40 NE.

The principal workings of the West Delta system consist of (1) a 62 ft. crosscut tunnel at an elevation slightly higher than the lower adit on the main Delta, from which about 200 ft. of drifting has been done. It was from this part of the property that ore was mined for the little mill years ago. During the present operations ore

has been shipped steadily from this vein. Though the strike of this vein is NW to SE as is the case with the other veins, the dip is to the SW in the upper workings.

From a flat, about 85 ft. lower than the last mentioned working, a long crosscut tunnel of nearly 400 ft. has been driven, together with other work totalling about another hundred feet. This was to explore the west Delta vein at this horizon, and was done many years ago. No work has been done here recently. It is probable that this crosscut will furnish the data necessary for the solution of the faulting in this vein system.

On the Hall claim, north of the Delta, is a shaft 100 ft. deep from which there is some drifting and crosscutting. The ore here is from 3 to 4 ft. in width and recently leasers have taken out two or three cars.

On the Thompson claim, which adjoins the Hall on its north end line there is a shaft 124 ft. deep and several other openings of lesser extent, none of which have been worked during the present operations.

The Ora Granda claim, which lies on a south slope of the mountains about 3000 ft. north of the north end line of the Leggat has not been worked under the present program. The outcrop is one of the most conspicuous on the whole property and the float from it, strewn over a wide area, amounts to many thousand tons. Several old reports on the property credit this claim with a large tonnage of ore that assayed nearly \$5.00 in gold. No systematic sampling has been done yet on this claim by the present operators.

During the past nine months fifty-three cars, each containing more than fifty tons of ore, have been shipped from the property. The most of this ore came from the main Delta workings. There were eight cars from the Maxamillion vein, and three cars from the Hall shaft, all of which were mined by leasers. The following tabulation gives the weight and metal content of the various shipments.

SHIPMENTS FROM DELTA MINE DURING 1934

Lot.	Dry Weight	Oz. Gold	Oz. Silver	%Copper
1	108434	0.815	0.50	0.07
2	107396	0.920	0.80	0.08
3	114226	1.070	0.90	0.03
4	118670	0.845	0.80	0.00
5	94536	0.467	0.37	0.18
6	113850	0.392	0.46	0.09
7	118012	0.689	0.64	0.06
8	116622	0.612	0.50	0.13
9	117298	0.500	0.44	0.06
10	106956	0.581	0.43	0.05
11	113256	0.517	0.41	0.04
12	120602	0.640	0.67	0.06
13	117356	0.753	0.56	0.06
14	116158	0.740	0.58	0.05
15	120330	0.720	0.51	0.05
16	118100	0.504	0.52	0.04
17	113930	0.517	0.73	0.06
18	107988	0.532	0.72	0.05
19	119980	0.547	1.10	0.05
20	100338	0.455	0.81	0.37
21	110563	0.490	0.40	0.27
22	103336	0.490	0.42	0.06
23	105940	0.400	0.30	0.17
24	107674	0.447	0.42	0.07
25	108366	0.617	0.57	0.05
26	87420	0.620	0.20	0.25
27	109494	0.597	0.44	0.10
28	107217	0.540	0.35	0.10
29	118720	0.575	0.41	0.04
30 & 31	206058	0.750	0.58	0.08
32	102584	0.627	0.65	0.08
33	103099	0.560		
34	119770	0.795	0.35	0.09
35	113454	0.580	0.44	0.06
36	111556	0.490	0.53	0.05
37	117236	0.48	0.45	0.14
38	117810	0.720	0.30	0.21
39	113590	0.457	0.52	0.06
40	116324	0.445	0.43	0.07
41	114978	0.600	0.46	0.05
42	110542	0.630	1.53	0.27
43	112374	0.417	0.34	0.09
44	113672	0.425	0.34	0.06
45	116364	0.450	0.36	0.07
46	118760	0.500	0.36	0.07
47	113856	0.427	0.35	0.08
48 & 49	233680	0.443	0.27	0.07
50	117022	0.582	0.49	0.07
51	115098	0.520	0.29	0.07
52	118324	0.535	0.29	0.09
53	115190	0.480	0.32	0.06

Though the <sup>of shipments</sup> above record is very satisfactory it is easily understood that to continue shipping without developing is an unsound policy which cannot be followed indefinitely. While this ore has been mined for shipment no development has been carried on. However, these last nine months operations have not made any serious inroad on the ore available. Instead it has opened up much ground, making possible a clearer

understanding of the nature of the vein system, and exposing a considerable volume of mill ore in the main Delta workings. Until this situation is accurately set out in detail on an assay map no positive statement can be made regarding the volume and value of such ore but it is the opinion of those who have mined the ore that has been shipped, men of long experience, that a minimum of 50 tons per day, that will average \$8.00 in gold, can be mined from above the lowest adit on the main Delta vein system, for a period of two years. The writer agrees with this estimate.

As a potential source of profitable bodies of mill ore the whole property merits serious consideration. The shipment of 3000 tons of ore, at a profit, demonstrates unmistakably the existence of pay values. Such sampling as has been done to date at many places outside the areas from which shipments have been made indicates a widespread distribution of gold values sufficiently high to yield a profit if the ores are milled on the ground. The most promising, undeveloped sources of mill ore,- the Leggat and Maxamillion veins can be prospected to a depth of at least 500 ft. by a system of adits at a very low cost. The cost of exploration on the Hall and Thompson claims will be more expensive but not necessarily very high.

The known distribution of gold over a considerable area, in profitable amount, justifies the exploration necessary to prove the volume of mill ore available, and there is every reason to anticipate a tonnage that will pay a satisfactory return on the investment.

Respectfully submitted,

(Signed) A. L. Flagg.

Phoenix, Arizona  
September 7th, 1934.

Floyd <sup>2nd</sup> R. J.

Cell. 35

SUPPLEMENT TO REPORT ON

THE DELTA MINE

Since the original report on the Delta Mine was prepared (in December 1934) a modest amount of development work has been done. The operations at the property have been kept on a self-sustaining basis, therefore no elaborate progress of development could be undertaken. Quite a sum was invested in necessary mining equipment and replacements so the net result is that very little development was undertaken that could not pay its own way.

During early 1935 a number of leasers were working on various parts of the property. None of these operations were equipped or financed to do anything but the simplest kind of mining. However, they shipped several cars profitably, which provided some revenue for the company, and in addition opened up interesting areas, hitherto wholly unexplored. From the standpoint of increasing ore reserves for the company the work is of little value. On the other hand such work has a very definite value in disclosing very important geological data.

The total amount of the work done by the leasers is probably close to one thousand feet. It is chiefly shallow work; one long "grass-roots" tunnel, several underhand stopes from the surface of considerable length but of no great depth, etc. About 500 tons of ore were produced from this work, having a gold content and the general physical characteristics of the ores from other parts of the property.

The major development was on the Delta and Delta No. 2 claims. It may be summarized as follows: drifting 475 ft; sinking 85 ft.; raising 150 ft; crosscutting 35 ft.

Late in 1934 an outcrop was discovered on the edge of the dump, west of the track from the 300 level to the loading bins. This find, called the Little Jim, was developed first by an underhand stope from the surface. Later a shaft was sunk 53 ft. At a point 23 ft. below the top approximately 85 ft. of drifting was done through a 16 ft. crosscut from the hillside on the east. The ore shoot disclosed in these workings has been stoped out from the 50 ft. level to the surface. The ore in this shoot was about four feet wide and carried a high gold content.

On the 300 level of the Delta the south face was extended along the "straight" vein for a distance of approximately 140 ft. The average width of the ore disclosed was 28.7 inches and the average gold content 0.893 oz. per ton. In the present face the vein is split and narrow. The right hand or footwall streak is expected to widen into the next shoot.

Approximately 20 ft. south of the old face the "flat" or S 10 W vein was passed in this drift. A short drift, not over 25 ft. was driven on this vein. At the junction, probably due to the admixture with the ore from the straight vein the values were high. The average gold content beyond this point has been 0.30 oz. gold over an average width of twenty inches. In the face the vein is widening.

Very recently a winze was started on the east side of the south drift on the 300 level a few feet beyond the original face. The dip of the footwall was rather steep at the beginning but very soon flattened out. At a depth of 6 ft. below the drift the gold content was 0.74 oz. across four feet of vein. At ten feet the gold content dropped to from 0.25 to 0.30 oz. per ton while the width increased to over 50 inches. Down to 35 ft. (present bottom) the width and values have been constant. There is every indication that this winze is going down on the S 10 W vein, which will probably produce a large volume of mill ore.

About 75 ft. south of the point where work was resumed on the south drift 300 level by the present operators a raise was carried to the 200 ft. level. This came into the west crosscut from the north end of the most easterly drift on the 200 level. From the top of this raise drifting was done in both directions a total of about 100 ft. From the north drift a raise was carried to the surface to improve ventilation.

The south face of this original easterly drift was advanced a few feet. Though ore is widening it is still too narrow to provide any amount of ore that can be shipped profitably.

On the same level, the 200, the original north drift from the crosscut from the surface was advanced about 60 ft. The ore here is from five to eight feet wide but not of a grade that will stand shipping. It is mill ore.

Between the main loading bin and the upper West Delta workings are several limited openings which have been made in the past year. The general strike of the vein is the same as in the West Delta, but none of them have been correlated with anything else on the property. Each of these newer works has produced shipping ore, most of it carrying almost an ounce in gold to the ton. When the grade fell below the profitable point, work was discontinued by the leasers.

From the Maxamillion claim a considerable amount of ore was shipped but the work done in mining this ore did not block out any additional reserves. Work on this area was discontinued because the hand drilling was no longer economical and because a considerable difficulty was experienced in getting burros to transport the ore in the summer months. Large volumes of ore, some of it carrying nearly two ounces gold to the ton are exposed in the faces now standing, many of which are three feet wide.

Ore shipments have been carried on steadily and the quantity and quality of the ore shipped since the original general report was made in 1934 are set out in the tabulation which follows.

<u>Lot No.</u>	<u>Dry Weight</u>	<u>Oz. Gold</u>	<u>Oz. Silver</u>
62	79,562	0.42	0.30
63	78,309	0.41	0.30
64	110,031	0.32	0.40
65	49,109	0.62	1.00
66	62,833	0.74	0.45
67	57,350	0.71	0.40
68	109,547	0.55	0.10
69	73,210	0.42	0.20
70	53,995	0.41	0.60
71	72,092	0.58	0.70
72	97,042	0.61	0.20
73	98,328	0.88	0.95
74	93,801	0.73	0.60
75	71,618	0.56	1.00
76	71,617	0.54	0.60
77	93,991	0.65	0.80
78	74,068	0.77	0.70
79	86,902	0.88	0.60
80	90,704	0.67	1.00

<u>Lot No.</u>	<u>Dry Weight</u>	<u>Oz. Gold</u>	<u>Oz. Silver</u>
81	58,667	0.49	0.60
82	84,270	0.54	0.45
83	111,709	1.14	1.00
84	100,564	1.04	0.70
85	101,218	0.89	0.50
86	112,385	0.86	1.02
87	50,676	0.55	0.45
88	109,117	0.76	0.50
89	111,771	0.60	0.50
90	97,344	0.75	0.35
91	109,969	0.74	0.60
92	63,465	0.61	0.60
93	113,157	0.67	0.40
94	77,383	0.53	0.60
95	75,814	0.77	0.80
96	90,842	0.67	0.80

Though ore has been stoped since the geological report of April 5, 1935 was made, a considerable amount of new territory has been opened up during that time. The nature of the work is such that it does not block out ore. It does strengthen the confidence in the future of the property, and makes possible some conclusions which a less intimate knowledge of the conditions in the property might not support. Appraised on the basis of a strict application of the term "positive ore", ore that can be seen, sampled, and measured, on not less than four sides, the volume of ore exposed is not large. However, conditions are such as to justify the belief that a moderate amount of development work such as is indicated in the recommendations under date of April 5, 1935, though not necessarily the whole program will make available enough milling ore to supply a mill of 50 tons daily capacity and that such a rate of production can be maintained for not less than two years.

Respectfully submitted,

(Signed) A. L. Flagg

Phoenix, Arizona,  
October 20, 1935.

Flagg Report  
Dec '34

GEOLOGICAL REPORT

Part I.

Broadly speaking the rock formation in the area to be described in Part I consists of a complex series of dark gneissic rocks, believed to occur as a roof pendant in the granite botholith underlying the South Mountains and adjacent areas. Pegmatite and aplite dikes, one or more rhyolite porphyritic dikes and possibly a fine grained, dark, basic dike of approximate diorite composition have been encountered in the first division of the territory. In the area covered by Part II there are some considerable quantities of a light sericitic schist and a darker rock, which is principally hornblende. These have not been found to any extent in either the other two areas.

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Such records of previous operations as are available indicate that the principal reason for the abandonment of the property by the original operators was the failure to appreciate the true significance of some of the complicated geological structure. There is no indication that any of the previous operators realized that such veins as had been partially prospected in these principal workings were definitely cut off by a fault just below the lowest adit level (300 level) and that the shaft had been sunk from this point in the fault plane. There is no intimation that more than one vein had been recognised in these workings.

An appreciation of these fundamentals is essential to the proper and successful development of the property. Even a partial solution of this problem requires a large amount of detailed mapping. The most essential data are shown on the two underground geological maps attached hereto.

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The Shaft Fault (Fault "A" on the maps) and this 400 level fault, (Fault "B" on the maps) appear to intersect on the 400 level about

at the shaft. The calculated intersection on the 300 level is shown in Figures I and II on "Underground Geology I". In Figure I is the graphic method of determining the angle and course of this intersection. If these deductions are correct it is very evident that neither of these two faults will ever interfere with the further development of the steeper dipping veins as they are followed along their strike to the south.

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At best any attempt to express in plan such conditions can be only an approximation because geological phenomena do not confine themselves to straight lines or plane surfaces. It is also true that some features not observed, or if observed possibly considered inconsequential, may have influenced the situation profoundly, even to the extent of rendering almost useless some of the conclusions drawn. The zones referred to include only ground above the floor of the 300 level.

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One important result of the detailed geological studies in the main Delta workings is the tentative determination of the probable position of the several veins to the north of Zone III and below the 300 level. The facts can be determined quickly at a small cost by driving a crosscut from the shaft at the 400 level, approximately S 45 W, not to exceed 100 ft. If the conclusions reached by these studies are proven a tonnage of ore at least equivalent to that originally contained in Zones I and II, above the 300 level or about 4000 tons can be reasonably expected over a similar vertical range.

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In Zone IV there is indicated in the S 20-30 E Vein between the 100 and 300 levels approximately 4200 tons of ore with a gold content of 0.858 ounce to the ton. No definite tonnage can be assigned to the S 5-10 W vein between these levels. It is interesting to note that in the drift on this vein, just begun at the 300 level there is a total width of 66 inches of "pay rock". This face sampled in four

different samples shows an equated gold content of 0.571 ounce to the ton. Such width and value, if consistent for any considerable distance along the strike, will add a considerable volume to the ore reserves.

On Sketch 2 the West Delta workings are shown in some detail. On the map of Surface Geology (I) other veins, less extensively prospected but productive in a small way under leasing operations are shown. As yet not enough data are available on these occurrences to make it possible to attempt any detailed description of them. However, during the past eighteen months this part of the property has produced, principally through leasing operations, approximately 1000 tons of ore with a gold content above 0.50 oz. to the ton. Such development as there is has not reached any great depth and it is all very limited.

Summing up the situation in the area covered by Part I, or as much of it as has been studied in detail there appears to be definitely available more than 10,000 tons (10,326) of ore having an average gold content of 0.432 ounce to the ton. This is all above the 300 level and opened by the present development work. There is every reason to anticipate the extension to the south and vertically of the two major veins of Zone IV, in areas of much less post-mineral disturbance. From what is known of them they may be expected to yield a considerable tonnage of very profitable ore.

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### Part III. (Outline)

Though on some parts of the Delta property the geology is undoubtedly somewhat complicated there is no indication of the kind of problems impossible of solution. Accurate observation of the features as the development proceeds will be of great help in solving any problem that is met with. Nothing has been observed about the property to indicate definite limits beyond which further prospecting is almost certain to be futile. On the contrary such evidence as is available creates confidence in the future of the property. Past production records, positive ore in the principal Delta workings, and the probable

ore indicated at many places where leasing operations have been carried out profitably, give assurance of a sufficient volume of ore to justify the starting of a comprehensive development program, which may be expected to indicate, very shortly, the advisability of providing a mill on the property.

Respectfully submitted,

(Signed) A. L. Flagg

Phoenix, Arizona  
April 5th, 1935.

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#### RECOMMENDATIONS

A study of the general report and the geological report on the Delta property of the Ace Mining and Development Company clearly indicates that there is no lack of places in which development can be expected to show satisfactory results. Leasing operations at many points on the ground have indicated the existence of profitable ore bodies. Therefore the determination of a site or sites for further development work becomes simply a matter of the funds available for such work. For that reason all of the more important possibilities will be discussed rather than attempting to lay out a specific plan.

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The next most important development project is on the Leggat and Maxamillion claims, referred to as the "Max" by those familiar with the property. The natural advantages of this situation were pointed out in the general report. Though there is a considerable amount of work done on these two claims nothing can be said about the amount of ore that is developed, except that there are several thousand tons of material on dumps that are suitable for milling. The scattered development have disclosed conditions sufficiently convincing to justify a rather elaborate program of work in this section. A compressor of not less than 350 cu. ft. capacity and the necessary accessory equipment should be provided and the development work carried out with the object of proving up and making accessible the large tonnage of mill ore that is indicated. For this project not less than \$25,000 should be provided.

It is believed that this is the greatest potential source of mill ore on the property.

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No investigation has been made of the water situation. All the water now used about the mine is brought in barrels. The 500 ft. incline shaft is said to have furnished ample water for a small mill in 1916-17 but as the operations of the mill were not steady this information is of doubtful value. The Hall shaft, nearly 100 ft. deep, has some water but there is no accurate data regarding the amount it will produce. If sufficient water cannot be developed in drilled wells in the east-west valley crossing the property an almost limitless supply, far in excess of the property's needs can be had at a short distance north. The development of an adequate water supply is not considered to be a serious problem.

While the underground development is in progress serious thought should be given to the subject of a mill. The rejects from systematic sampling during the last part of 1934 have been saved for testing purposes. For preliminary work this is the most satisfactory material that can be obtained for it is an accurate representation of all the ore exposed at the time the sampling was done. There is probably a ton or more of this material, which is ample. Properly conducted tests will indicate the essential features for the most suitable mill to give the best results. In all probability it will be an all flotation plant. Assuming that it will be and that the capacity is to be 100 tons per 24 hours the probable cost will be \$75,000.

To determine what material in the mine may be classed as ore it is necessary to know the cost of mining and the cost of milling. To arrive at the total cost there should be added to this a sum sufficient to cover the interest on the original investment, the depreciation of the equipment and the depletion of the mine, taxes and amortization.

Past experience in the mine indicates that when the work is properly organized the mining cost should not exceed \$3.00 per ton. In

mill of 100 ton daily capacity, operating on ores of a somewhat similar nature and making recoveries in excess of 90% the costs do not exceed \$3.00 per ton. If to this is added \$1.50 per ton to cover the fixed charges indicated above, then the indicated minimum grade of material that can be mined and milled without any loss is \$7.50; that is the ore must contain at least \$7.50 in recoverable value or it cannot be handled. Sampling to date indicates that the general average recoverable content is quite a bit more than this.

The recommendations may be summarized as follows: (1) the property should be quipped with the necessary machinery and other facilities to insure efficient and economical results in whatever development program is determined upon; the estimated cost of these improvements is put at \$35,000. (2) major development programs on the Delta and Max groups to cost \$20,000 and \$25,000 respectively; (3) mill construction, based on tests of the ore and other pertinent data, to cost \$75,000; In addition alternative or secondary development projects have been suggested involving an expenditure of another \$20,000. If all the projects are carried out the total capital outlay will be approximately \$175,000.

Respectfully submitted,

(Signed) A. L. Flagg

REPORT OF PRELIMINARY EXAMINATION

on the

DELTA GROUP

of the

ACE MINING & DEVELOPMENT COMPANY

Phoenix, Arizona.

R. E. Prince

Jan. 35 (1)

Mr. Homer L. Gibson, Managing Director,  
Dayton Consolidated Mines Co.,  
Virginia City, Nevada.

Dear Mr. Gibson:

In accordance with your request I met Mr. Dahllaine and Mr. Simkins at Phoenix, Arizona, for the purpose of securing data for a preliminary report on the property of the Ace Mining and Development Company. To accomplish this it was necessary to spend part of one week, December 13th to 18th, at the property.

As a result of that time spent and work, I am submitting the following report of my observations accompanied by property, topography, geology and assay maps, and as an additional source of information a copy of a report by Mr. Arthur L. Flagg on the "Delta Group of the Ace Mining and Development Company"; and photostatic copies of the tabulated returns for one hundred twenty-nine smelter shipments.

The Delta group of claims is located ten miles south of Phoenix in the South Mountains in a track of land known as South Park. The group consists of nine patented mining claims known as Delta, Delta #2 Richard Staunton, Hall, Thompson, Maxamillion, Leggat and Oro Granda; and six unpatented mining claims known as Ace #3, #4, #5, #6, #7, and #8. With the exception of the Oro Granda, these claims form one continuous group. The present operators report that the title to the property is good and have a certificate of search to prove that.

Between 1916 and 1923, an attempt was made to operate this property under the name of the Max-Delta Mine. Very little is known regarding this operation aside from the apparent fact that important geological conditions relating to the fault system; and the reported statements that the potential possibilities of a good mine was used by the mine manager as a source of revenue. During this period considerable work was done on the Delta and Delta #2 claims which included the sinking of the 550 ft. incline shaft and the establishment of the various levels. Below the present 300 level, the downward extension of the veins was lost and the work done below that level has the appearance of more or less aimless wandering in the hanging wall formation. It is very questionable if any of this work below the 400 level will be of any value for future operations except as a source of water. It is reported that a flow of water sufficient to operate a 25 ton cyanide plant was encountered when the southwest branch of the 600 level was driven. During this operation an unknown small tonnage of ore was mined above the 300 level and milled in the local plant.

In the latter part of 1933, the present operators took over the property and began to make shipments, to the smelter, of ore extracted from the veins above the 300 level. As a result the upper levels were extended to the present positions as long as shipping ore could be obtained. During this time no attempt was made to perform desirable development work to find the downward extension of principle ore shoot on the Delta claims, or to develop ore bodies on other claims in the group having favorable prospects. The failure to do this work is attributed to time spent in solving the fault system affecting the ore body found in the Delta claim and lack of funds to allot to that work. During the past four years they have shipped one hundred-sixty cars of ore to the smelters or approximately eight thousand tons. The accompanying photostatic copies of smelter shipments represent 6212 (dry) tons of ore, having a gross value of \$127,648.00 and containing 0.587 oz. of gold and 0.539 oz. of silver per ton or a gross value of \$20.96 per ton. It is estimated that the average cost of shipping and treating

the ore including smelter deductions and penalties was in excess of \$8.46 per ton in addition to a probable high mining cost of \$2.00 per ton. It is interesting to note that the bulk of this ore was taken from the Delta ore shoot and intersecting veins. The balance was obtained from separated points where the ore could be obtained with no other expense than mining or loading of float found scattered on the surface. The cost of production of some of the ore must have been very high as it was transported by burros to a central loading platform and the inability to use adequate mining equipment. This applies to the small quantity of ore obtained from the open cut workings on the Maxamillion vein.

Good roads cross the property and extend within five hundred feet of nearly all the working on the several claims. In this connection it is interesting to note that the City of Phoenix maintains the roads. This is due to the fact that the United States government has deeded the South Mountains to the city for use as a park. This deed does not convey the mineral rights to the city.

The present source of power for mining operations is obtained from gasoline engines. Electrical power on this property will be available upon the construction of a little less than five miles of power line. This will cost about five thousand dollars and should be done at once if any future work is done. It is possible that the cost of this line can be reduced through cooperation with the local C.C.C. camp.

No assured supply of water has been developed other than that encountered on the 600 level of the Delta Mine at this time. This supply is not known to be adequate to conduct a desirable milling operation. It may be possible to develop sufficient water from wells drilled on or near the claims or by installing a suitable pumping plant on the Gila River about three miles distant. The conditions involved are not sufficiently understood to warrant an accurate estimate of the cost. For that reason it would be well to allow at least seventy-five hundred dollars for that purpose. Water for drilling is now hauled in.

These claims are located in an area of Pre-Cambrian gneisses and schists which have been intruded with pegmatite dykes. This gneiss-schist-pegmatite structure has been cut by several dark, fine-grained diorite dykes closely associated with the veins. The relation these dykes bear to veins is not fully understood, although a vein has been observed to cut a dyke, and the large dyke in the Delta mine is found near the principle ore shoot in the hanging wall.

The outcrops of the veins found on the Delta, Delta #2, Richard Staunton, Hall, Thompson and assumed to be in the Delta #3 are inconspicuous on the surface. Where they can be seen they appear as narrow seams of banded quartz containing large partially-oxidized sulphides. These seams vary in width from two to eight inches. Those that have been worked have been found to widen with depth to two or three feet and in places as much as four feet. It is possible to see some of these seams on the surface that have not been worked on. The croppings of the Maxamillion and Oro Granda veins are more prominent on the surface where widths varying between three and five feet can be seen. The Oro Granda vein can be seen to extend at least three hundred feet northeast of discovery. The Maxamillion has been exposed through a vertical range of eight hundred feet and can be seen to extend more than one thousand feet southward from the Maxamillion tunnel.

On the Delta claims two parallel veins having a general strike of N 30° W and dipping 70° to 80° to the east have been found and worked with considerable success. These veins have been marked on the

"Assay Plan" and are shown to intersect a vein striking N 10° W and dipping 45° to 50° east. There is sufficient evidence to assume that there are more veins parallel to those striking N 30° W. But due to the lack of adequate surface prospecting and underground work this assumption can not be proved at the present.

The steep veins are filled with a dense-glassy quartz containing large irregular-shaped pyrite and a small amount of chalcopyrite and a more uniform distribution of precious metals. This quartz has been fractured permitting partial oxidation of some of the sulphides. The flat vein is filled with a dense-white quartz containing smaller quantities of pyrite with a noticeable increase of siderite (iron carbonate) and a less regular distribution of gold and silver as the vein is followed beyond the influence of the intersection with the steep veins. These veins cut across the planes of greatest weakness in the gneiss and the schist, and are generally separated from the foot wall and hanging wall by thin layers of fault gouge. Intervein slipping is frequently seen in the flat vein. Where these slips leave the vein and enter the hanging wall, narrow steep easterly-dipping seams of vein material follow out into the hanging wall. Some of these seams are wide enough to mine and have produced good ore.

While it has only been possible to observe the veins at shallow depths there is little doubt but what this form of mineralization will continue for greater depths, and gold and silver can be expected in the ore in about the same quantities found in the ore above the 300 level. Also the veins will maintain an average width of three feet and mining width in excess of five feet can be expected in the downward extension of the principle ore shoot occurring at the intersection of the steep and flat veins.

This ore shoot has been worked to a depth of less than one hundred feet. On the 200 level it was about one foot long, while on the 300 level it was more than one hundred-sixty feet long. If the 301 S. Drift is extended about one hundred feet, the flat vein will intersect the steep vein found in the 100 S. Drift and another good ore shoot may be expected.

This apparently simple vein system is complicated by two systems of normal faulting. The first and least exposed is a fault striking N 45° W and dipping 40° E. Underground, the fault is observed to cut off the veins a few feet below the 300 level in the incline shaft. The amount of displacement along the fault is not known and cannot be very great. This is based on the relative position of the footwall of the "Acid Dyke" found in 302 E. Crosscut and 401 W crosscut. If the 401 W crosscut is driven ahead fifty feet it will cut the downward extension of the ore shoot mined above the 300 level. The influence of this fault on the veins probably does not extend more than one hundred feet south of the incline shaft but does extend to the veins found in the Delta #2, #3. This can be seen by studying the surface topography and has been roughly located on the accompanying topographical map.

The second system consists of a series of flat normal faults which appear to be a regional and to have been responsible for the difficulty encountered by the earlier operators. These faults have a variable strike and dip between 28° and 30° to the southeast. They have displaced the upper segments of the vein from four to six feet to the east. In addition they have developed the appearance of a series of over-lapping lenses. The following sketch is offered to illustrate the phenomena.

This last described fault system was noted in the Oro Granda and the Maxamillion veins.

The strike of the Maxamillion vein is S 5° E and the dip varies between 47° E to 70° E. The vein filling is a shattered dense-white quartz containing considerable sulphides. In the near surface workings the sulphides have been completely oxidized and in places leached out. This vein varies in width between three and five feet and contains the largest potential ore reserve to be found on any of the claims in the group. Some very high grade ore has been found in the surface cuts. The vein has been exposed in the Leggat and the Maxamillion tunnels and four open cuts through a vertical range of eight hundred feet and a lateral extent of more than one thousand feet along the croppings.

The strike of the Ora Granda vein is N 52° E dipping 43° S.E. This vein can be seen in cross section only at the open cut. Here the vein is four feet wide and split by an intervein slip. The vein filling consists of a dense white quartz containing large sulphides which have been highly oxidized and leached out where favorable conditions existed. This vein probably contains the lowest grade ore to be found on the claims. In spite of that and due to the lateral extent, it should be thoroughly prospected.

Very little is known regarding the vein worked from the Hall shaft since this working was under water. From the description given by the present operators the vein is the northward extension of the steep veins worked in the Delta claims. The vein is reported to be in good ore of shipping grade and to be three feet wide. The vein has been worked on the surface by open cuts for more than two hundred feet north of the shaft. In these workings the width of the vein varied between a seam to two feet. In the open cut furthest to the north very high grade gold ore was found associated with the mineral jarosite.

The present operators have extracted almost all of the ore that could be mined in the known ore shoots above the 300 level in the Delta Mine and the other workings that could be obtained with little development or preparatory work. For that reason and the element of time involved samples were taken at such places as appeared to be of value in future development of the property. It will be noted in the sample description that some samples were cut from the floor of the 100 S. Drift. In connection with these samples, all the loose material was removed and dusted from the place the cut was to be made. The sample was then broken out with a moil in pieces large enough to be picked up with the fingers and thus avoid any fine material that fall in from the sides of the cut. The shattered condition of the vein made this possible. This procedure became necessary due to inability to sample the vein above the level.

The following samples except where mentioned in the description were obtained from channels cut by moiling and collecting the cuttings on a canvas sheet. The samples were placed in cleaned canvas sample bags and carried to the shop on the Delta claim. Here they were put through a Chipmunk crusher and reduced with a Jones Sample Splitter. They were then placed in doubled paper bags, tied and removed from the property.

Upper Tunnel

Sample	Width	Description	Oz.Au.	\$Au.	Oz.Ag.	\$Ag.	Total
1	1.75'	Qtz. vein with large sulphides Copper stained cut from back of drift from gneiss footwall to white fault gouge on hanging wall Check on #2 Flagg Assay Map	1.56	54.60	1.04	0.80	55.40
2	1.1'	Crushed gneiss with qtz. seams. Cut from the back of drift from white gouge at end of #1.	0.04	1.40			1.40
3	2.1'	0.5' crushed qtz. & gneiss on footwall 0.9' gneis and 0.7' qtz. Cut from back of drift see Location on Map. Check on Flagg #4 (20 ft. in)					
4	1.84'	Crushed qtz. and gneis 40 ft. in. From right wall. Check on sample #9	0.60	21.00			21.00
5	1.8'	Crushed gneis and a little qtz. Cut from the right wall of the drift 50 ft. in	0.24	8.40			8.40
6	2.8'	Finely crushed qtz. & gneiss fault drag not known to be ore. Small raise at end of level. See location on map. This is a post mineral flat fault S45° W Dip 28° S	0.00	0.00			0.00
7	1.75'	Crushed qtz. with small inclusion of gneis cut from floor of drift from footwall to hanging wall 131 ft. in	0.48	16.80			16.80
8	1.7'	Qtz. and silicified gneis cut from floor of drift. 111 ft. in. See location on map	0.24	8.40			8.40

9	1.3'	Qtz. and gneis. Sulphides in the qtz. Cut from floor of drift 101 ft. in. See location on map	0.12	4.20		4.20	
10	1.7'	Mainly gneis with some qtz. stringers cut from floor of drift at end of #9 and extending to the hanging wall. See location on map.					
11	3.4'	2.7' qtz. Balance seams in the gneis cut from the footwall to the hanging wall from the floor of drift 91' in. See location on map.	0.20	7.00	0.20	0.15	7.15
12	3.5'	Vein, qtz. stringers in gneis last 1.0' Crushed gneis. Cut from floor of drift from footwall to hanging wall 71' in. Dip of vein 75° E	0.24	8.40			8.40
13		Composite sample made up from the rejects from the above samples	0.36	12.60			12.60
14		Ore dump near collar of 500 ft. incline shaft. Sampled to a depth of 4 ft. and estimated to contain 400 tons of ore at This dump represents ore taken from the incline shaft while in the vein it has been carefully picked over by several sets of leasers.	0.08	2.80			2.80
			0.12	4.20			4.20

Samples #2 Level

15	1.4'	Crushed qtz. under flat fault. Upper end of lense cut from right wall of drift. See location on map	0.20	7.00			7.00
16	2.5'	Crushed qtz. with thin fault gouge on the footwall. Check on #32 cut from right wall of drift. See map	0.20	7.00			7.00
17	2.7'	Altered gneis with calcite and large sulphides on footwall. Cut from back of small stope from foot wall toward the hanging wall. See map.	0.10	3.50			3.50

18	4.0'	Crushed qtz. cut from end of 17 to hanging wall. See location on map	0.08	2.80	2.80
19	2.0'	Qtz. Cut from south wall of raise at the junction of steep hanging wall vein and a flat vein 30 ft. up raise. See location on map	0.44	15.40	15.40
20	1.9'	Qtz. with sulphides from north wall of raise (15' no. #19) junction of steep hanging wall and flat vein. 32' up raise. See location on map	0.28	9.80	9.80
21	3.3'	Qtz. containing siderite (iron carbonate) cut from the south wall of raise 15' up. See location on map	0.12	4.20	4.20
22	2.3'	Crushed qtz. part of a segment of a vertical vein cut from footwall to intervein slip. See location on map.	0.20	7.00	7.00
23	2.5'	Crushed qtz. with a few large sulphides and copper stain. Cut from intervein slip to hanging wall. See location on map. Cut 42' in drift.	0.52	18.20	18.20
24	3.2'	Crushed qtz. cut from footwall to .7' beyond the intervein slip at the face of the drift. Dip of vein 70° E. Strike of vein N 27° W See location on map	0.08	2.80	2.80
25		Grab sample from muck pile at small raise	0.06	2.10	2.10
26	4.2'	Crushed qtz. cut from back of drift. See location on map. 1.16' of qtz. on footwall, gray and very hard. Samples 22, 23, 24 & 26 are from 201 N. Drift. Samples 15, 16, 17, 18, 19, & 20 and 21 are from the vein on the 200 S Drift.	0.12	4.20	4.20
27		Composite of sample rejects from samples #15 to 26 inclusive	0.14	4.90	4.90
Samples from Maxamillion Vein					
28	1.8'	Qtz. seams in gneis strike S. 30° E Dip 32° NE cut from hanging wall toward qtz. in under cut near apex of Maxamillion vein.	0.32	11.20	11.20
29	2.2'	Cut from face of under cut under #28 qtz. and gneis upper 1' qtz., sulphides oxidized 1.2' intervein slip fault gouge on footwall.	0.72	25.20	25.20
30	3.0'	Footwall gneis with qtz. seams and siderite. Cut near front end of under cut near apex of Maxamillion vein.	0.20	7.00	7.00
31	3.8'	Qtz. & gneis with oxidized sulphides cut from face of open cut on Maxamillion vein. Cut from footwall to hanging wall Steep vein in 60 ft.	0.24	8.40	88.40

32	2.5'	Cut from face of open cut. Contains limonite and gypsum. From flat vein and separated from #31 by section of gneiss. Dip 50° E cut from footwall to hanging wall.	0.10	3.50	3.50
33	3.0'	White qtz. Cut from left wall of drift from hanging wall toward footwall above the floor. 30' out from #31 and 32 in open cut.	0.28	9.80	9.80
34	5.33'	White qtz. stained with limonite. White qtz. cropping under open cut and east of vein worked in open cut from gneiss footwall to intervein slip.	0.24	8.40	8.40
35	2.6'	White qtz. cut from intervein slip to gneiss hanging wall. Samples 34 and 35 a complete section across a large qtz. lense.	0.40	14.00	14.00
36	2.5'	White qtz. cut from left wall of main Maxamillion tunnel 12 ft. back from the fact at point where vein enters the left wall of the drift. Check on Flagg's #121.	0.06	2.10	2.10
37	2.2'	1.3' crushed qtz. balance hard white qtz. Crushed qtz. stained with limonite and contains remains of sulphides 46' from face.	0.02	0.70	0.70
38	3.0'	Qtz. with sulphides with copper stain cut from left wall of drift. 81' back from face	0.06	2.10	2.10
39	5.0'	Qtz. limonite stained, containing oxidized sulphides. Cut from the back of the drift from the F.W. to H.W. vein vertical	0.04	1.40	1.40
40	4.0'	Shattered qtz. stained with limonite & containing oxidized sulphides. Cut from F.W. to H.W. Thin gouge on footwall. Cut from south wall of raise.	0.16	5.60	5.60
41	3'	Shattered qtz. stained with limonite and containing oxidized sulphides cut from hanging wall to foot wall from the north wall of raise.	0.56	19.60	19.60
42		Composite from the rejects from samples 36 to 41 inclusive.	0.20	7.00	7.00
43	3.4'	1.0' qtz. on hanging wall 0.8' silicious limestone dyke 1.6' schist with qtz. stringers on footwall 30 ft. south of Little Jim shaft at face of 45' level.	0.32	11.20	11.20
44	1.4'	Qtz. & silicified schist. 6' above #43.	0.72	25.20	25.20
45	1.3'	Qtz. 30 ft. in Little Jim tunnel right side of drift. The vein is in contact with a diorite dyke & split into three veins. This sample is from the vein on the hanging wall of the dyke. Dyke 7' wide.	0.40	14.00	14.00

46	2.2'	Shattered white qtz. on foot- wall of Diorite dyke - same location as 45. Silicified limestone dyke on footwall of vein.	0.28	9.80		9.80
47	2.2'	White qtz. cut from south wall of winze 480' in Lower tunnel West Delta.	0.40	14.00		14.00
48	2'	White qtz. with large sulphides casts cut to intervein slip from croppings of Oro Granda Vein. Strike N 52° E Dip 430 SE.	0.04	1.40		1.40
49	2.6'	White qtz. with pyrite cut from intervein slip (lower end of #48) to footwall.	0.02	0.70		0.70
50		Dump sample from croppings of Oro Granda Vein. Material from the same croppings	0.12	4.20		4.20
51		Samples #48 & 49 were cut Dump sample from vein mater- ial 3.5' Young American qtz. vein.	0.10	3.50		3.50
52		Chippings from cropping of qtz. vein on Russell Claim				
53	1.4'	Qtz. at intersection of flat and vertical veins, at the face of the Leggat tunnel.	0.10	3.50		3.50
54	3.0'	White qtz. cut from back of Leggat tunnel 10' from face.	Lost			
55	2.7'	Qtz. Cut from hanging wall toward the footwall from the left wall of Leggatt tunnel (Upper section of vein stoped to the surface.)	0.00	0.00		0.00

Main Delta Tunnel #3 Level

56	2.0'	Qtz. & sheared silicified schist cut from hanging wall toward footwall from the back of drift. See location on map	0.28	9.80		9.80	
57		Muck Pile from 6' of footwall schist broken by leasors in small stope above the level. See location on map	0.08	2.80		2.80	
58	1.7'	Crushed qtz. & silicified schist face of south drift 301 S. Drift. See location on map. This vein has been stoped to the 2nd level. Ore shoot 65' long.	0.12	4.20		4.20	
59	2.8'	Crushed Vein material Fault drag cut from south wall of underhand stope. Sample 6' below floor of level. See lo- cation on map.	1.32	46.20	0.84	0.65	46.85
60	3.0'	Crushed Vein material Fault drag. Cut from No. wall of underhand stope 5' below floor of level. See location on map.	0.08	2.80		2.80	

Upper Tunnel (#100 S. Drift)

Total footage of samples cut across the vein 21.94 ft.  
Average width (Samples 1,2,3,4,5,7,8,9,10,11 & 12) 2.44 ft.  
Average Value \$ 13.42 per ton  
Sample #6 post mineral flat fault drag known not to be ore and omitted from the above calculation for that reason.

First Level (#200 S. Drift)  
South end

Total footage of samples cut across the vein 16.40 ft.  
Average width (Samples 16,17,18,19,20 & 21) 3.28 ft.  
Average value \$ 6.18 per ton

Sample #15 is the top of an ore shoot that does not extend above the level and is separated from the above samples by a flat fault. For that reason it is not included in the above calculation.

First Level (200 N. Drift)

Total footage of samples cut across the vein 12.20 ft.  
Average width (22,23,24,26) 4.06 ft.  
Average Value \$ 7.229 per ton

Second Level (300 S. Drift)

Total footage cut across the vein 7.80 ft.  
Average width (Samples 26, 59 & 60) 2.93 ft.  
Average Value \$20.40 per ton

Maxamillion Vein. All samples including those taken in the Leggat Tunnel but excluding 34 & 35 as they are from a quartz lense in the footwall of the Maxamillion Vein. #30 is also excluded as it is the only sample from the footwall.

Total footage of samples cut across the vein 37.10 ft.  
Average width (Samples 28,29,31,32,33,36,37,38,39,40,41, 53 and 55) 3.09 ft.  
Average value \$ 6.79 per ton

Footwall Maxamillion Vein Samples #34 & 35

Total footage cut 7.93 ft.  
Average Value \$ 10.23 per ton

Little Jim Level

Total footage of vein cut 4.8 ft.  
Average width sample #43 & 44 2.4 ft.  
Average Value \$15.28 per;ton

Samples 45 & 46 are from the vein in the Little Jim Tunnel and are of interest only as to the quality of ore mined. At this point the vein has been stoped below and above the level to the surface.

Oro Granda Vein

Total Footage cut from vein 4.6 ft.  
Width of Vein 4.6 ft.  
Value of ore \$ 1.00 per ton

Young American #51. This sample is from a claim that is open for location and should be included in the group.

Russell claim, Sample #52, is of interest as this claim should be included in the group.

The above samples were assayed at the Dayton Mine, Silver City, Nevada.

Attention is called to the accompanying Assay Map and Plan of the Main Workings in the Delta. The samples taken on this visit are marked in with red ink and can be compared with those obtained by the present operators and used by them to direct their work.

It is impossible to make an estimate of the tonnage of assured ore in the Delta Mine or any of the other claims. Therefore the following estimates are dependent on the success and extent of the future development work and the precious metal content of the ore found.

Speculative Estimate of Ore.

Delta Mine at least four thousand tons below the 300 level from the downward extension of the principal ore shoot to a depth of 100 ft. below the 300 level.

Three or more thousand tons from the intersection of the flat vein and the steep vein that may be found by extending the 301 S. Drift.

Two thousand tons by extending 300 S. Drift 200 ft.

One thousand tons of salvage ore from the stoped area.

Total speculative ore that may be obtained from the Delta Mine 10,000 tons

Maxamillion Vein

By extending the Leggat tunnel 300 ft. beyond the present face and raising on favorable prospects. It may be possible to develop at least 20,000 tons

Hall Shaft

This shaft is vertical and the level is one hundred feet below the collar of the shaft. If the conditions reported exist, this working may be expected to produce thirty-five hundred tons of ore by extending this level south 300 ft. 3,500 tons

Total estimate of speculative ore 33,500 tons

This ore should have mill value of at least \$10.00 per ton.

This estimate must be considered as optimistic but justifiable due to the favorable geological conditions.

Any ore developed can be mined by shrinkage stoping with the use of very little timber to support the walls. Also the ore will part from the walls with little dilution. It is estimated that the ore can be mined and milled for \$5.75 per ton.

Mining	\$2.00
Milling	1.75
Tailing Loss	.50
Overhead and	
Misc. charges	1.50
	<hr/>
	\$5.75

### Delta Mine

In developing the Delta Mine, a diamond drill can be used to advantage to prospect the vein and footwall below the 300 level. It is estimated that two thousand feet of drilling would be the maximum required.

Cross cutting and drifting from the 401 W crosscut	200 ft.	\$1000.00
Drifting on the vein in the 301 S. Drift	150 ft.	750.00
Drifting on the vein in the 300 S. Drift	200 ft.	1000.00
Misc. crosscuts on the 300 level	100 ft.	500.00
Raises from the 301 S. Drift to the 100 S. Drift	200 ft.	1500.00
Sinking of vertical shaft from the 300 level if the ore shoot is found below that level	100 ft.	2500.00
Diamond Drilling	2000 ft.	<u>3000.00</u>
Total		\$10250.00

To the above figure a sum of 10000.00 should be added for such equipment as compressor, drills, sharpening equipment and a small hoist.

Total Development fund required for the Delta Mine \$20 250.00

### Maxamillion and Leggat Claims

Prospecting for the vein below the Leggat Tunnel		250.00
Drifting on the vein	500 ft.	2500.00
Raising above the Leggat level	500 ft.	3750.00
Misc. mining equipment & prospecting		<u>7000.00</u>
Total Development fund		\$13500.00

### Hall Shaft

Drifting on the vein	300 ft.	1500.00
Sinking of shaft	100 ft.	2500.00
Raising	200 ft.	1500.00
Misc. Cross cuts	200 ft.	1000.00
Hoist and Misc. Mining Equipment		<u>7500.00</u>
Total Development fund		\$14000.00

### Oro Granda

Prospecting the Oro Granda Vein by extending the present drift	300 ft.	1500.00
Crosscutting	200 ft.	1000.00
Raising	100 ft.	750.00
Misc. equipment		<u>3000.00</u>
Total		\$ 6250.00

Total cost of all development and prospecting work	\$54,000.00
Cost of Power Line	5,000.00
Cost for developing water	7,500.00
	<u>\$66,500.00</u>

This figure should be increased 30% to compensate for any error in estimating 20,000.00

Total to be appropriated for Development and prospecting \$86,500.00

It must be recalled that by doing the above proposed work as soon as possible four independent producing units can be developed. As a prospect and a more or less undeveloped mine the above expenditure is justified. An additional sum of between \$75,000.00 and \$100,000.00 should be available for the construction of a suitable mill if that should be needed. It is not anticipated that a sufficient quantity of shipping ore will be developed to warrant the expenditure for development and prospecting.

The terms upon which this property can be purchased from the Ace Mining and Development Company should be more equally adjusted. Their cash purchase price is twenty thousand dollars with the condition that the purchaser assume an obligation to pay ten thousand dollars to the owner during the next two years. Or they will sell the property under the terms of a bond and lease for sixty thousand dollars and the purchaser assume the obligation of ten thousand dollars. The total purchase price under terms of a bond should not be more than fifty thousand dollars including the ten thousand dollars due the owner. It is thought that both the terms for cash or under bond and lease can be more favorably revised.

I wish to extend my appreciation to Mr. Arthur L. Flagg, Mr. Don Scott and Mr. H. P. Mackintosh for their efforts in providing the accompanying maps, and also to Mr. Howard Gentry, the mine superintendent, for his assistance.

R. W. Prince

The Ace Mining and Development Company is composed of eight stockholders, each being a member of the board of directors. The following is a list of the officers and members of the company:

- Mr. Don Scott, president, operates the Arizona Blue Print Shop and the Scott Engineering Co., 606 Ellis Building, Phoenix, Arizona
- Mr. H. P. Mackintosh, Sec.-Treas., Assistant County Engineer, P. O. Box 597, Phoenix, Arizona.
- Mr. Howard Gentry, Mine Superintendent, P. O. Box 597, Phoenix, Arizona
- Mr. Arthur L. Flagg, Consulting Geologist and Mining Engineer, Phoenix, Arizona.
- Mr. Claude E. MacLane, Owner Arizona Testing Lab., P. O. Box 1888, Phoenix, Arizona.
- Mr. Fred H. Ensign, Retired Electrical Dealer, Phoenix, Arizona.
- Mr. William Snow, Mine Operator, near Bisbee, Arizona.
- Mr. Jim O'Haver, Miner, Phoenix, Arizona.

Attorney for the Company, Mr. Robert H. Armstrong, of the firm of Armstrong, Kramer and Roach, First National Bank Bldg., Phoenix, Arizona.

ACE GOLD MINING AND DEVELOPMENT COMPANY

MAX DELTA MINE

KEY

TO SAMPLING BY CECIL G. FENNELL made Aug. 3rd and 5th, 1937

(Samples taken as character or type samples indicative of large tonnages of medium grade MILL ORE only)

Symbol	Where Taken	Average width ore	Oz Gold	Value @ \$35 oz gold by Ariz. Test Lab. Assay.
MAXIMILLIAN CLAIM				
M 1 C	<p>Tod large open cut on vein #2, at apex of both vein and mountain. #1. 2280 Ore left on hanging wall, dipping about 35 d into ore taken below, see sample M.2.M which follows. Large channel cut at right angles to vein</p>	22"	0.26	\$9.10
M 2 M	<p>Open cut and tunnel on vein #2. El. 2220. Broken ore piled at end of tunnel ready for sorting for high grade ore for shipment. In taking large grab samples pieces of shipping ore rejected. Represents average width of ore in several places of</p>	56"	0.24	8.40
M 3 T	<p>Main tunnel, El. 1720. Strike N 13 W. Ore shoot dipping about 85 to SE. Driven on vein. Sample taken at raise on ore, about 100-ft from portal. Two channel cuts at right angles to ore shoot: 1 cut 48" wide, 1 cut 28" wide. Average width</p>	38"	0.16	5.60
ORO GRANDE CLAIM				
O 4 C	<p>Large open cut (this ore exposure would permit of "glory hole" mining) on ledge as mentioned below. El. 1705 Course of ore at surface N 10 E Grab sample - about 300 lbs - taken from ore piles (many tons in each pile) of ore broken from surface workings all over ledge of dense blue-white quartz carrying but few metallics. Represents over 50 tons broken ore. Average width of ledge (ore) on surface at elevations of 1830', 1705' and 1665' at right angles to dip of ore body</p> <p>(Average width of ore on surface on horizontal plane across ledge about 28-ft)</p> <p>The ore as exposed in the ledge rock without any noticeable variation in its texture and components shows on the mountain flank (sloping at about 2g d) for over 500 feet.</p>	15'	0.18	6.30

MAX DELTA CLAIM

D 5 B Level. #2 Breast of level (on Aug. 5th) driven on course of N 55 W. One large 60 lb - channel cut at right angles to ore shoot. 62" 0.16 5.60

(As these samples were taken to indicate probable tonnages of mill ore in taking sample two streaks of apparently rich "shipping" ore were avoided.)

SAMPLES taken by MINE FOREMAN  
For guidance in ore extraction for shipment

MAX DELTA CLAIM				
Lab. No.	Mine No.			
23993	967	Character sample of footwall	0.14	\$4.90
23994	968	Shipping ore from face of drift, same as D 5 B above, taken six feet back of breast as given above, and included shipping ore referred to in #D 5 B and is for 3 ft less width	26" 0.92	32.20

(The foregoing is copied from tabulation supplied to the Ace Mining & Development Company, by C. G. Fennell. Copy by A.L.F. 2/12/38)

ACE GOLD MINING & DEVELOPMENT COMPANY

MAX DELTA MINE

KEY

to SAMPLING by CECIL G. FENNELL made Aug. 3rd. & 5th., 1937.

(Samples taken as character or type samples indicative of large tonnages of medium grade MILL ORE only).

Shipping ore not sampled.

Symbol	Where taken	Average Width Ore	Ozs. Gold.	Value @ \$35.00 oz. gold by Ariz. Testg. Lab. assay.
<u>MAXIMILLIAN CLAIM.</u>				
M.1.C.	<p>Top large open cut on vein #2 at apex of both vein and mountain. Ele. 2280</p> <p>Ore left on hanging wall, dipping about 35° into ore taken below--see sample #M.2.M., which follows.</p> <p>Large channel cut at right angles to vein,</p>	22"	0.26	\$9.10
M.2.M.	<p>Open cut and tunnel on vein #2. Ele. 2220.</p> <p>Broken ore piled at end of tunnel ready for sorting for high grade ore for shipment.</p> <p>In taking large grab samples pieces of shipping ore rejected.</p> <p>Represents average width of ore in several places of,</p>	56"	0.24	8.40
M.3.T.	<p>Main tunnel Ele. 1720</p> <p>Strike S. 13° W. Ore shoot dipping about 85° to S.E. Driven on vein.</p> <p>Sample taken at raise on ore, about 100 ft. from portal. Two channel cuts at right angles to ore shoot: 1 cut 48" wide, 1 cut 28" wide. Average width</p>	38"	0.16	5.60
<u>ORO GRANDE CLAIM</u>				
0.4.C.	<p>Large open cut (this ore exposure would permit of "glory hole" mining) on ledge as mentioned below. Ele. 1705'</p> <p>Course of ledge (ore) at surface N. 10° E.</p> <p>Grab sample--about 300 lbs.--taken from ore piles (many tons in each pile) of ore broken from surface workings all over ledge of dense blue-white quartz c carrying but few metallics. Represents over 50 tons of broken ore.</p> <p>Average width of ledge (ore) on surface at elevations of 1830', 1705' and 1665' at right angles to dip of ore body,</p> <p>(Average width of ore on surface on horizontal</p>	<p>{ 15' }</p> <p>{ (ft). }</p>	0.18	6.30

horizontal plane across ledge about 28'  
 The ore as exposed in the ledge rock without any noticeable variation in its texture and components shows on the mountain flank (sloping at about 26°) for over 500 ft.

MAX DELTA CLAIM

D.5.B. Level #2. Breast of level (on Aug. 5th) driven on course of N.55°W.  
 One large--60 lbs.--channel cut at right angles to ore shoot,  
 (As these samples were taken to indicate probable tonnages of mill ore in taking sample two streaks of apparently rich "shipping" ore were avoided).

62"      0.16      5.60

SAMPLES taken by MINE FOREMAN  
 For guidance in ore extraction for shipment.

MAX DELTA CLAIM

Lab. No. Mine No.

23993	967	Character sample of footwall		0.14	4.90
23994	968	Shipping ore from face of drift. Same as #D.5.B., above, taken six feet back of breast as given above, and includes shipping ore referred to in #D.5.B., and is for 3 ft. less width,	26"	0.92	32.20

MINES DEPARTMENT  
 210114

NOTES RE MAX DELTA MINE

March 9th, 1938.

Visited with Cecil G. Fennell & Gentry (Supt). on  
March 8th.

Located just west of South Mountain Park and about <sup>10</sup>/<sub>7</sub> miles  
from Phoenix.

9 patented and ~~1~~ unpatented claims mostly on north slope  
of South Mountains at elevation 1550' to 2650' above sea level. First  
worked back in 80's and said to have produced some high grade ore. Re-  
opened in 1917 by Max-Delta Company which spent a lot of money foolishly,  
and developed mine to depth and built and tried to operate a 25  
ton cyanide mill. Company failed about 1920 and next reopened by  
present crowd "Ace Gold Mining and Development Co.", about 1932 and  
since worked continuously in a small way and have shipped to date  
about 6000 tons with average value \$23. per ton and thru payment of  
10% royalty to the former owners have now nearly completed the purchase  
of the property which they are anxious to resell for about  
\$40,000.

Present shipments about 150 tons per month but hope to soon  
step this up to 200 tons, - keeping grade in excess of \$20.00 per ton.

Principal stockholders of Ace Co. are:

Gentry, - Superintendent

Scott of Scott Engineering Co. of Phoenix.

Arthur Flagg of Phoenix.

Armstrong Jr., of Armstrong, Kramer, and Roach, -Phoenix.

The country is mostly granitic gneiss of pre-Cambrian  
age cut by dykes of diorite, - also pre-Cambrian and later dykes of  
rhyolite and quartzite. There is much faulting all of which is post-  
mineral.

The vein filling and the fault <sup>o</sup>gange (in which values  
sometimes occur) is mostly quartz, stained with iron oxide with which  
good values seem to be associated and with brown iron carbonate (anker-  
ite) which is usually barren and with iron sulphide also carrying good  
values. There is a wide distribution of the oxide of manganese much

of which is in the form of dendrites. The gold is too fine to be seen even with a glass, there is up to 1 oz. silver and up to 0.03% copper; no lead or zinc.

There are three principal vein systems, - on the west the Delta veins which strike north west and seem to join with the Maximillian veins on the south side of the range but near its summit. The main Maximillian vein strikes a little east of north with many branch veins. Some distance east of these and on the north side of the wash is noted the Oro Grande Vein which dips about  $30^{\circ}$  to the East and strikes nearly north.

The Delta and Maximillian veins are in some cases vertical or dip as much as  $50^{\circ}$  to the east, they vary in width from 1' to 8' and the best ore is generally found in the wider swells or lenses. A fair average width would be about 3'. These veins can be traced from the Hill and Gentry shafts north of the wash ~~all~~ up the north slope of the mountain and to a point on the south slope, - a distance of over 6000' and several ore shoots have been found but the total length of shipping ore which has so far been developed is comparatively small.

The outcrops on the Oro Grande only cover a length of about 500 feet and it is developed by two adit tunnels and some pits. The width appears to be 12-15' and according to sampling by Fennell and others the average value where exposed is over \$6.00 per ton. This is purely a prospect and should be further explored and developed on the chance of proving up a substantial ore body of such ore on which the profit after mining and milling might be upwards of \$1.00 per ton.

It seems likely however that the best values will be confined to the outcrops and upper portions of the vein in which case the Oro Grande may prove to have no value.

While the shipping ore in the Maximillian and Delta veins seems to be confined to short shoots and pockets a certain amount of sampling has indicated that both in these veins and along some of the faults there are substantial ore bodies which will have widths in

excess of 3' and run \$8.00 or better per ton.

Because of the contour of the ground it might be possible to develop a vertical height of some 800' in these veins from the main adit or well over 1000' from the Hull or Gentry shafts and working conditions should be favorable and permit mining and milling (by cyanide) ore at the rate of 100 tons per day for about \$4.00 per ton to which royalty (10%) overhead, etc., would add about \$1.00 and leave a net profit of around \$2.00 per ton if 90% of the values were recovered in the mill.

The sections of higher grade ore which would be mined at the same time might sweeten up the average mill heads to \$10.00 or thereabouts.

Have asked Fennell to furnish me with copies of reports and other data as further investigation seems to be well justified.

Property has been examined by Clarence King for Tally and associates in 1937, by Ring and Hatchie for A.S. & R. and by

for an English Syndicate. All reports are said to have been favorable.

G. M. Colvocoresses

REPORT OF PHILIP MCKAIG, MINING ENGINEER

April, 1909.

The Maximillion and Delta Group of properties consist of the Maximillion and Delta No. "1", Rio Blanco, Young American, and Rio Grande (see map); Also seven other claims located this year, namely Delta No. "2", Stanton, Sarilla Leggat, Palmer, Mantle and Jennings.

LOCATION

These properties are situated in Maricopa County, Arizona, about three and one-half ( $3\frac{1}{2}$ ) miles south of the county Base Line. The North and South Township line between Township Two (2) East, and Township Three (3) East, bisecting the Properties. They are in the mountains bearing the local name of Salt River Mountains, which are eight or nine miles ( 8 or 9) miles East of the Sierra Estrella Range. The distance from Phoenix being about seven and one half miles South.

These properties are located and held under the mining laws of the United States. Sufficient work has been done on the first five (5) to permit patents being issued. The remaining seven (7) were located for the first time this year.

AREA

Five mining claims 1500 x 600 feet of 20 acres each. Also seven others of 20 acres each, each making in all 240 acres more or less.

ELEVATION

Being located in a Pass between two ranges of hills and running to the apex on the either side of elevation ranges from about 1200 feet to 2600 feet above sea level.

WOOD AND TIMBER

There is no wood or timber other than a few scrub desert trees but cord wood enough for all camp purposes can be purchased from the Indians at a cost of \$4.00 per cord (128 cubic feet). Rough lumber and timber can be purchased in Phoenix at \$30.00 per 1000. It might be advisable however to ship direct from the coast.

### WATER

Water is abundant in the Salt River Basin, which is un-failing the year around. It can be procured by sinking a well within a mile and one half from the property. Said well if sunk to a depth of one hundred and fifty feet to two hundred feet, would be sure to strike water.

Well drillers will contract to drill and iron a well from two dollars to two fifty per foot (guaranteeing the necessary supply of water). It would require probably two miles of pipe and storage of water by utilizing the same water could be sent the balance of the way by gravity, thus saving power and avoiding much friction.

### CLIMATE

The climate is semi-tropical. The temperature during the hottest months of the year sometimes reaches 116 degrees, at which time the sensible heat will be found to be about 80 degrees. It never gets colder than 30 degrees above zero, which is very seldom, in fact operations may be pushed every day of the year without regard to climatic conditions. The average rainfall is about nine inches per year.

### IMPROVEMENTS

A good wagon road connects the properties and Phoenix. By spending about \$150.00 it could be put in first class shape. This road is open about ten months of the year. The balance of the time the river being impassable. The property, however, can be reached by going by Tempe. Several small tunnels and pits (discovery shafts) and a shaft has been sunk (which will be spoken of later). There is also a good cabin on the property.

### COST OF LABOR

The cost of labor is \$3.50 to \$4.90 per day for skilled miners, and \$2.00 to \$2.50 for laborers.

### HISTORY

Now as regards former history of this zone (or properties). Tradition has it (quoting Mr. McClarty, recent owner) that the