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10/23/2000

ARIZONA DEPARTMENT OF MINES AND MINERAL RESOURCES FILE DATA

PRIMARY NAME: DELTA

ALTERNATE NAMES:

MAX-DELTA  
HALL PAT. CLAIM  
MAXAMILLION PAT. CLAIMS  
LEGGAT PAT. CLAIM  
RICHARD STANTON PAT. CLAIMS  
ORA GRANDA PAT. CLAIM  
THOMPSON PAT. CLAIM  
MONTANA CLAIM

MARICOPA COUNTY MILS NUMBER: 383

LOCATION: TOWNSHIP 1 S RANGE 3 E SECTION 19 QUARTER NW  
LATITUDE: N 33DEG 19MIN 44SEC LONGITUDE: W 112DEG 05MIN 53SEC  
TOPO MAP NAME: LONE BUTTE - 7.5 MIN

CURRENT STATUS: PAST PRODUCER

COMMODITY:

GOLD LODE  
SILVER  
COPPER  
IRON GOETHITE

BIBLIOGRAPHY:

ADMMR DELTA MINE FILE  
ADMMR "U" FILE  
BLM MINING DISTRICT SHEET  
ELSING M & HEINEMAN R AZBM BULL 140 P 94  
WILSON E, CUNNINGHAM J & BUTLER G AZBM BULL  
137 P 166-167  
ADMMR MAPS (UPSTAIRS, ROLLED PHX OFFICE) [7] ?  
- MAPS UNDER MAX DELTA, DELTA & PARKVIEW  
ADMMR MAX DELTA COLVO FILE  
BUSCH, J.E., PHOENIX MTN PARK, DOI, 1925

Photo File DELTA

THE DELTA MINE, Maricopa County  
(Formerly "Max-Delta Mine")

For Maps (3 rolls) see SECTION #6

\* *Negatives*  
BROWN MAP CABINET, TOP OF  
now in alphabetical rolled file  
MINE OWNERS REPORT FILES,  
also map listed as Park View Gold Mine is  
~~SOUTH MINE~~ also Max Delta Mine

See: ABM Bul 137 p 166

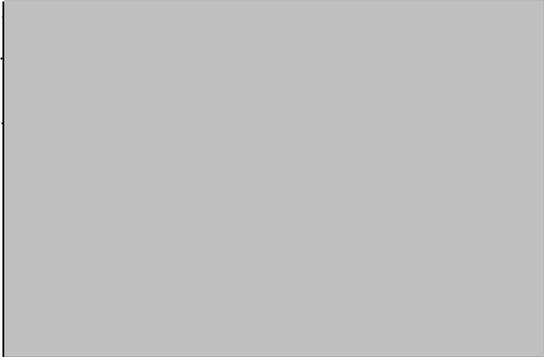
ABM Bull. 140, p. 94

BSBM "U" File

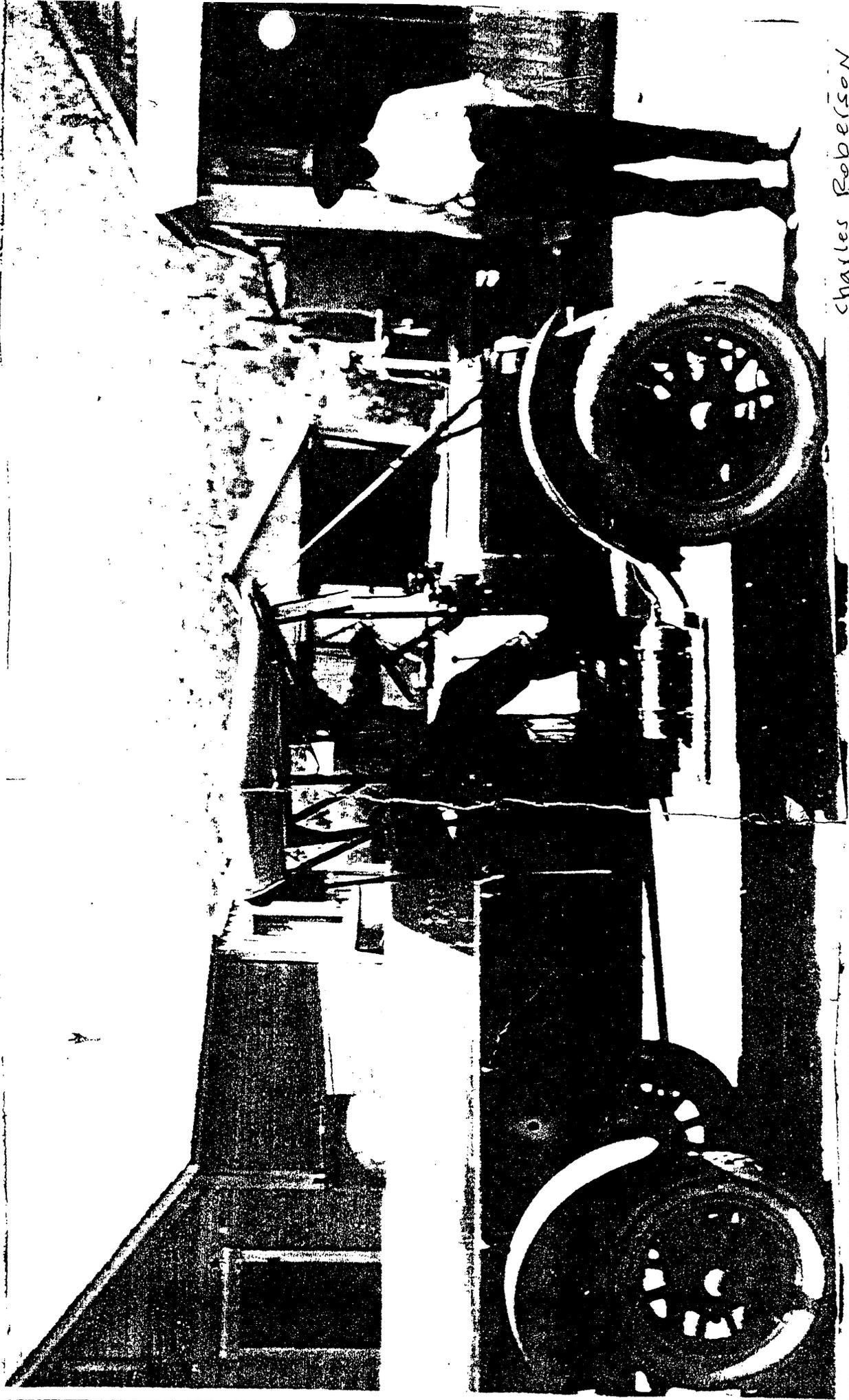
MILS Sheet sequence number 0040130249

*Colvo - Max Delta*

Mining Journal 4-15-42



Max Delta Mine  
South Mts.  
ca. 1919



Charles Robertson

## CONCENTRATED MINING ACTIVITIES FROM ARIZONA, NEW MEXICO AND OLD MEXICO

### COCHISE

Reports from the Hill Top Metal Mines Company indicate that a good body of ore has been struck in their lower tunnel. Arrangements are being made to ship via San Simon to El Paso.

At a meeting of the board of directors of the Calumet and Arizona Mining Company, Capt. William Mershom of Saginaw, Mich., hit the keynote when he said that "when taxes here are around two cents a pound and about five-eighths cent elsewhere, it should be easy to understand why Arizona mines, hundreds of miles from their market, are handicapped.

The articles of incorporation of the Washington Mines Development Company have been amended to make their headquarters at Bisbee. The San Lorenzo Mining Company articles have been amended likewise.

An ore strike of gold and silver ore averaging \$45 per ton has been reported from Ash Canyon in the Huachucas. The owners, Frank Jones and D. P. Boyle, are planning on a small milling plant.

Ore at the rate of sixty-eight carloads a day is being handled to the Douglas smelters from Bisbee. This is getting back to capacity at a rapid rate.

The Johnson Copper Company, under the direction of Manager James Tong, is driving into some rich ore on their property at Johnson.

The Parent Mining Company has filed articles of incorporation announcing its principal offices at Willcox.

The Phelps-Dodge Corporation annual report shows a loss of over eight million dollars, four million of which was arbitrary paper depreciation and \$100,000 a month was charged off as shutdown cost. Deliveries of copper during the year aggregated about 135,000,000 pounds.

A steam plant and hoist is being installed on the Solstice mine in the Tombstone district by Frank Winters. Development work will start as soon as the plant is installed.

A bond and lease has been granted on the 22 patented claims of the Copper Queen Extension Mining Company at Bisbee. The option has been granted to T. A. Hughes and J. M. McGregor.

### GILA

The Inspiration annual report shows a loss of \$1,790,421, against a surplus of \$2,294,276. In spite of being shut down during the greater part of the year, the report shows much progress and announces some plans of importance.

Samples of ore running about \$130 per ton in free silver have been dazzling the people of Globe recently while on exhibition there. The ore was brought in by Chris Leopold from the Sleeping Beauty district.

The Gold Copper Mines Company have brought out ore samples running as high as \$26,000 per ton and a great many samples running from sixteen to seventeen hundred dollars. There is much excitement in Winkelman over the find and arrangements are being made for a more complete

program of development on this property. The property is under bond and lease to J. K. Ramey.

The new smokestack at the Inspiration power house has been put into service, although it was completed about eighteen months ago. Lessened production did not require the use of the new plant, according to Superintendent W. W. Jourdin.

### GREENLEE

All details are completed for the starting of the erection of the 100-ton mill at the Stargo mine. The money is available, and the work, which is to be under the direction of the General Engineering Company of Salt Lake City, is to start at once.

The first work to be undertaken by the Phelps-Dodge Corporation at their Morenci plant is the enlargement of the No. 6 concentrator, which work will cost about \$600,000. Work has been started on the reconstruction of the smelter stack of the A. C. smelter.

### MARICOPA

Work has started on the property of the Arizona Quicksilver Corporation, whose mines are in the Mazatzal mountains. Eight men are employed, and as soon as the machinery that is now on the road is installed an additional force will be put on.

The Max Delta mine, six miles south of Phoenix, is to install a larger mill. A test mill has been worked for some time and the work has proven very satisfactory, and a larger mill is now planned.

### MOHAVE

The Tom Reed mill at Oatman is now handling custom ore from the United American and the Telluride mines. The ore being handled averages about \$20.

At the present time there are eleven mining companies doing diamond drilling in the Oatman district.

The Hibernia mine, in the Wallapai mountains, one of the old silver mines of the district, is developing an old ore shoot by a long crosscut tunnel and is but a short way away from the shoot.

The Tom Reed-United Eastern apex arguments before the state supreme court

have been completed and the case is now in the hands of the court for decision.

The new mill of the Signal Mines Company is nearing completion and will be put into commission about May 1. The mill is 150-ton daily capacity, although they plan on operating on a 100-ton basis now.

The Oatman Combination Mining Company has been granted authority to sell 300,000 shares of Cash Entry Mining Company stock at 5 cents a share and 100,000 shares of treasury stock at 10 cents.

The south drift of the 200 level of the Nancy Lee is reported to be in ore that gives values up to \$50 per ton. The development work is being carried on with much rapidity.

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DELTA MINE

MARICOPA COUNTY

NJN WR 4/1/88: Supplied mine locations to Bruce Christiansen, Mine Inspectors Office, for their mine safety programs. While visiting, Mr. Christiansen also explained the low priority the City of Phoenix Park and Recreation Department places on posting all the openings to the Max Delta (file) South Mountain Park, Maricopa County.

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KAP WR 5/6/88: D. W. Jaquays brought in a number of originals and copies of underground mine maps for the Park View Gold Mine in the South Mountains. The maps cover the property known as the Delta (file) in Maricopa County. Mr. Jaquays reported that he direct shipped gold ore from the property during the period of January 1940 through 1942. The mine was closed under the L-208 Presidential closing order during WWII. He also reported milling 7,000 tons of ore that ran 0.5 tr oz Au/ton at the property during the same time which has left about 7,000 tons of tailings that run about 0.08 tr oz Au/ton and 80% SiO<sub>2</sub>.

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Arizona Department of Mines and Mineral Resources  
INFORMATION FROM MINE CARDS IN MUSEUM

ARIZONA

MM K456 Gold ore

MARICOPA COUNTY

188 SALT RIVER MTS. DIST.

PHOENIX,

Park View Mine or Max Delta  
Mine

MILS # 383

8-AKA's

Delta (file)

## Economic Geology

The South Mountains contain the Salt River mining district, a past source of gold, silver, and copper (Wilson and others, 1934; Wilson, 1969). Mineral deposits were discovered before 1900 and recorded production occurred sporadically between 1913 and 1942. Nine mines yielded nearly 7,000 oz of gold, 5,000 oz of silver, and 28,000 lb of copper (Arizona Bureau of Geology and Mineral Technology, 1984, unpublished file data). These commodities would be worth approximately \$2.7 million at May 1984 prices, with gold accounting for 97.6 percent of the total value. Silver and copper represent 1.7 and 0.7 percent, respectively, of the net worth.

The Delta or Max Delta Mine, the largest producer in the district, accounted for nearly 90 percent of the gold, silver, and copper production. It yielded more than 6,200 oz of gold and 4,300 oz of silver. The average recovered grade of the mined ore was 0.45 oz of gold per ton, 0.32 oz of silver per ton, and 0.09 percent copper. The highest recorded

assays of shipped ore were evidently 2.5 oz of gold and 1.5 oz of silver per ton; however, some mineralized samples contained more than 14 oz of gold per ton. The average recovered grade of ore produced from mines other than the Delta Mine was 0.55 oz of gold and 0.45 oz of silver per ton.

Most gold mines and prospects are located in Precambrian Estrella Gneiss within several kilometers of Telegraph Pass Granite (Figure 65). Gold occurrences are aligned along a north-northwest trend that parallels the intrusive contact between gneiss and granite. This spatial distribution of gold occurrences is largely coincident with the western Tertiary dike swarm.

Mineralization is consistently associated with quartz veins and stockworks that are up to 8 ft in width. One of the mined stopes in the Delta Mine is reportedly 100 ft long, 100 ft along dip, and 5 ft wide. The ore contains pyrite, chalcopyrite, arsenopyrite, and minor amounts of galena. Limonite, hematite, and



Figure 65. Distribution of gold mines and prospects in the South Mountains. Areas with mines and prospects are shown in black. Tertiary plutonic rocks are patterned.

Selected dikes of the western dike swarm are shown with hatched lines.

several copper minerals, including chryso-colla, are present in ores that have been oxidized. Calcite, siderite, and gypsum are also locally associated with the gold-bearing quartz veins. Some veins have apparently been offset by gently dipping faults.

The age and orientation of the quartz veins are of particular interest in evaluating the relationship between mineralization and the various episodes of plutonism and deformation. Age of the veins is tightly constrained by crosscutting relationships between the veins, deformational fabric in the host rocks, and middle Tertiary dikes. The mineralized veins discordantly crosscut both the Precambrian crystalloblastic foliation and the Tertiary mylonitic fabric. A number of quartz veins are mylonitic, but it is uncertain whether these particular veins are mineralized. Several mine reports indicate that there is a close association between mineralized veins and the north-northwest-trending middle Tertiary felsic and dioritic dikes; one of the veins in the Delta Mine is reportedly crosscut by a diorite or microdiorite dike. These relationships suggest that mineralization is middle Tertiary in age, probably around 25 m.y. B.P.

Orientation of the veins is similar to the systematic orientation of middle Tertiary dikes, aplites, and extensional fractures. Most gold-bearing veins strike north-northwest or northwest, although other orientations are described in unpublished mine reports (Figure 66). Several veins dip approximately  $60^{\circ}$  to the east, an attitude that is essentially

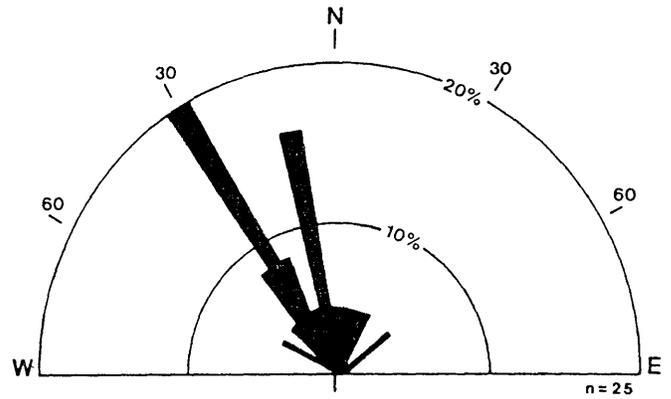


Figure 66. Strike-frequency diagram of gold-bearing veins in and near the Delta Mine.

perpendicular to the mylonitic foliation and lineation in the host rocks. The steep, easterly dip of the veins is geometrically coordinated with the gentle, westerly dip of the mylonitic foliation. The veins evidently are the same age as numerous dikes that are syn- to postkinematic with respect to mylonitization. The veins and dikes were both emplaced into north-northwest fractures that opened in response to east-northeast extension. In essence, the veins may be large gash fractures that formed during middle Tertiary extension. The gold ore was probably deposited by hydrothermal fluids that emanated from either the Telegraph Pass Granite or the related middle Tertiary dikes.

DELTA MINE

J. J. Reynolds U. of Ariz.  
h.D. and Az. Bur of  
Geology Bulletin (both in  
preparation). 1981.

ECONOMIC GEOLOGY

The South Mountains contain the Salt River Mining District, a past producer of gold, silver, and copper. Mineralization in the district was discovered prior to 1900 and recorded production occurred sporadically between 1913 and 1942. Nine mines in the district yielded nearly 7,000 ounces of gold, 5,000 ounces of silver, and 28,000 pounds of copper.

██████████ (Arizona Bureau of Geology and Mineral Technology File Data). These commodities would be worth approximately three million dollars at July 1981 prices, with gold accounting for 97.7 percent of the total value. Silver and copper represent 1.5 and 0.8 percent, respectively, of the net worth.

The Delta (or Max Delta) Mine was by far the largest producer in the district. It accounted for nearly 90 percent of the gold, silver, and copper production in the district. It yielded over 6,200 ounces of gold and 4,300 ounces of silver. The average recovered grade of the mined ore was 0.45 ounces of gold per ton, 0.32 ounces of silver per ton, and 0.09 percent copper. The highest assays of shipped ore were evidently 2.5 ounces of gold ██████████ and 1.5 ounces of silver per ton. However, some individual samples of ore contained over 14 ounces of gold per ton. The average recover<sup>d</sup> grade of ore produced from mines other than the Delta Mine was 0.55 ounces of gold ██████████ and 0.45 ounces of silver per ton.

Rough Draft

The orientation of the veins is reminiscent of the systematic orientation of middle Tertiary dikes, aplites, and extensional fractures.

[REDACTED]

The gold-bearing veins dominantly strike north-northwest or northwest, although many other orientations are also [REDACTED] described in the unpublished mine reports. The modal strike of veins mentioned in the reports is N30°W and the average dip is approximately 60 degrees to the east (Figure ). This attitude of the veins is essentially perpendicular to the mylonitic foliation and lineation in the host rocks. The steep easterly dip of the veins is geometrically coordinated with the gentle westerly dip of the mylonitic foliation. This geometric coordination is imperfect, but nevertheless suggests that the veins and mylonitic fabric might be somehow related. The veins are approximately the same age as numerous dikes that are syn- to late-kinematic with respect to mylonitization. The veins and dikes were both emplaced into north-northwest fractures that were opening in response to east-northeast extension. In essence, the veins may be large gash fractures that formed [REDACTED] during or immediately after mylonitization. The gold [REDACTED] ore was probably deposited by hydrothermal fluids that emanated from either the Telegraph Pass Granite or the related middle Tertiary dikes.

The age and orientation of the quartz veins are of particular interest in evaluating the relationship between mineralization and the various episodes of plutonism and mylonitization. The age of the veins is tightly constrained by cross-cutting relationships between the veins, deformational fabric in the host rocks, and middle Tertiary dikes. The mineralized veins discordantly cross-cut both the Precambrian crystalloblastic foliation and the Tertiary mylonitic fabric. A number of quartz veins are mylonitic, but it is uncertain whether these particular veins are mineralized. Several mine reports indicate that there is a close association between mineralized veins and the north-northwest-trending, Tertiary felsic and dioritic dikes. Both suites of dikes are now known to be middle Tertiary in age. [REDACTED]

[REDACTED] Finally, one of the veins in the Delta Mine is reportedly cross-cut by a diorite or microdiorite dike. These relationships require that mineralization is middle Tertiary in age, probably occurring between 25 and 22 m.y.B.P.

A majority of the gold mines and prospects are located in Precambrian Estrella Gneiss within several kilometers of the Telegraph Pass Granite. The gold occurrences are alligned along a north-northwest trend that parallels the intrusive contact between the gneiss and granite. This spatial distribution of gold occurrences is largely coincident with the western Tertiary dike swarm. Mineralization is consistantly associated with quartz veins and stockworks that are up to 8 feet in width. One of the mined stopes in the Delta Mine is reportedly 100 feet long, 100 feet along dip, and 5 feet wide. Pyrite and chalcopyrite are widely reported in the underground workings (Arizona Bureau of Geology and Mineral Technology File Data). In addition, the author has observed arsenopyrite and trace amounts of galena on the dump of the Delta Mine. Limonite, hematite, and several copper minerals, including chrysocolla, are present in ores that have been oxidized. Calcite, siderite, and gypsum are also locally associated with the gold-bearing quartz veins. Some veins have apparently been offset by gently dipping faults.

State of Arizona  
Bureau of Geology and Mineral Technology  
Geological Survey Branch  
845 N. Park Ave., Tucson, Arizona 85719  
(602) 884-2733

MBS n



RECEIVED  
SEP 22 1981  
DEPT. MINERAL RESOURCES  
PHOENIX, ARIZONA

Ken,  
Here is the rough  
draft about S. mountains  
deposits. Please feel free to  
throw this in your files  
about the max Delta  
mine.

Cheers,  
Steve

ACE MINING AND DEVELOPMENT COMPANY

SUPPLEMENTARY REPORT.

*Copied*

Since the original report, dated April 5th, 1935, was prepared the writer has been in frequent touch with the operations at the property but has done no additional geological work or systematic sampling. During this period operations have been carried on continuously and shipments made as formerly.

A number of leasing operations have been carried on but almost all of these have been in virgin ground. Only in a few instances have leasers worked in any of the old workings. No record has been kept of their discoveries and no attempt to keep a separate record of their production. Whether these operations produced one car or more they have been of value to the Company in that they have given further information on the geology and proven the wide distribution of pay ore in quantity.

The operations of the Company have not been confined to the main Delta workings. As no surveys have been made it is rather difficult to make definite statements concerning the work done since April 1935. In the Delta workings the bulk of the work has been stoping. Possibly ten to twenty feet of drifting has been done in the No. 1 (100 level) tunnel. In the 200 level the north face was advanced thirty feet or more and a stope carried above this additional drift for a height of eight to ten feet. The maximum width of ore here was six feet and in the face now is about four feet. A corresponding stope was brought up on the same shoot from the 300 level.

On the 300 level the south face has been advanced probably about 100-ft beyond a point directly under S 33 on the original assay map, and shipping ore is being produced from this face today. The drift to the southwest from Sta. 311 has been driven perhaps forty feet and the ore stoped up to the 200 level. At about 25-ft north of Sta. 311 a winze was sunk 50-ft and a stope carried north from the bottom about 25-ft and up to the 300 level.

Near the loading bin, from the elevation of the 300 level, a shaft was sunk 35 feet. Considerable stoping was done here and ore was found on the west side of the big dike. This operation, known as the Little Jim, produced several cars of very good ore.

Some exploratory work was done in the upper West Delta and a small shoot in a cross-vein stoped out. Probably 30 to 40-ft of work was done here.

The original adit on the Stanton claim, not mentioned in the former report, was carried ahead about 100-ft and several cars shipped.

An old adit on the Thompson, just north of the Hall shaft, was carried ahead over 50-ft and ore stoped out to the surface.

On the Maximillion possibly sixty feet of new work has been done and a few cars of ore shipped.

In addition to the above new work there are several shallow shafts of not over 25-ft depth, with drifting therefrom, and a number of open cuts, shallow but long. These were all made by leasers and in every instance proved to be profitable operations. The limiting factor was usually the lack of adequate equipment for carrying the work deeper.

During this period 114 cars of ore were shipped. The weight (dry), the assay value in gold and the net returns are given herewith. It is impossible to segregate the cars and say which came from the main Delta. Though it is possible to determine those shipped by leasers no separate listing has been made.

The shipments are as follows:

Car.No.	Dry Tons.	Oz Gold.	Net Returns.
62	40.51	0.42	358.25
63	39.1545	0.41	340.33
64	55.0155	0.32	318.59
65	24.5545	0.62	366.54
66	32.9165	0.74	596.49
67	28.675	0.71	493.67
68	54.7735	0.55	706.73
69	36.605	0.42	329.73
70	26.9975	0.41	231.93
71	36.046	0.61	517.79
72	Umpire	0.05	52.23
72	48.521	0.56 *	669.35
73	49.163	0.87	1055.58
73	Umpire	0.018 x	23.14
74	46.9005	0.73	836.69
74	Umpire	0.04 *	35.13
75	35.809	0.56	492.61
76	35.8085	0.54	452.59
77	46.9955	0.65	729.55
78	37.034	0.77	703.20
79	43.415	0.88	950.98
80	45.352	0.67	757.71
81	29.3335	0.49	327.88
82	42.135	0.54	531.85
83	55.8545	1.14	1626.05
83	Umpire	0.00 * 1.05Ag	30.61
84	50.282	1.00	1275.34
84	Umpire	0.04 x	58.28
85	50.609	0.89	1122.31
86	56.1925	0.83	1148.42
86	Umpire	0.03 x	84.09
87	25.338	0.55	323.18
88	54.5885	0.76	1016.03
89	55.8855	0.60	781.45
90	48.672	0.75	891.11
92	54.9845	0.72	960.05
91	Umpire	0.028 x	41.61
92	31.7325	0.59	444.45
92	Umpire	0.02	5.01
93	56.3785	0.40	905.91

Car No.	Dry Tons	Oz Gold	Net Returns.
94	38.6415	0.53	474.21
94	Umpire	0.025 *	26.50
95	37.907	0.77	704.51
95	Umpire	0.03 *	32.96
96	45.421	0.67	727.27
97	56.024	0.45	555.15
98	56.6775	0.52	679.50
99	56.907	0.42	508.87
100	36.927	0.38	298.00
101	37.103	0.39	295.57
102	34.202	0.48	370.02
103	47.322	0.51	553.61
104	33.462	0.53	410.87
105	39.757	0.55	508.12
106	34.947	0.57	469.60
107	34.115	0.58	470.49
108	47.4985	0.60	663.69
109	27.641	0.53	337.17
110	48.7475	0.30	247.59
111	43.057	0.25	149.28
112	39.2715	0.47	413.65
113	54.189	0.51	633.60
114	33.9035	0.40	281.03
115	45.1735	0.69	749.48
116	36.7865	0.62	558.47
117	44.6985	0.56	587.70
118	43.857	0.55	563.92
118	Umpire	0.01 x	7.71
119	36.62	0.53	449.64
120	43.9855	0.66	691.53
121	55.527	0.38	428.42
121	Umpire	0.03 x	53.64
122	48.157	0.39	450.42
123	37.516	0.26	144.42
124	34.551	0.64	526.35
125	38.7695	0.50	444.92
126	31.606	0.95	755.76
127	34.861	0.34	224.14
128	27.8275	0.46	284.78
129	28.326	0.88	617.72
130	35.6605	0.92	821.63
131	30.5615	0.62	472.01
132	33.82	0.40	282.72
133	34.339	0.47	364.00
134	26.344	0.37	118.66
135	39.0855	0.67	843.00
136	27.544	0.41	234.23
137	35.5355	0.40	297.17
138	30.993	0.64	471.65
139	52.407	0.34	337.34
140	33.329	0.38	256.37
141	41.4825	0.28	186.62
142	55.963	0.27	233.97
143	38.907	0.30	200.09

Begin 1936

Begin 1937

Car No.	Dry Tons	Oz Gold	Net Returns.
144	28.7035	0.52 ✓	256.27
145	28.5675	0.50 ✓	326.81
146	32.66	0.67 ✓	525.94
147	33.462	0.54 ✓	435.84
148	34.1253	0.77 ✓	638.09
149	49.3325	0.68 ✓	710.36
149 150	Unpire	0.018 x	19.61
150	49.743	0.25 ✓	175.52
151	28.3335	0.20 ✓	55.95
152	32/2945	0.30 ✓	166.21
153	33.4455	0.22 ✓	85.39
154	47.208	0.28	212.57
155	35.1845	0.40	296.08
156	52.8855	0.65	820.49
157	31.284	0.70	530.98
158	34.165	0.40	285.89
159	44.714	0.38	346.87
160	36.8495	0.37	272.10
161	45.688	0.37	340.23
162	37.455	0.34	241.05
163	45.499	0.30	229.25
164	35.759	0.33	215.09
165	29.591	0.30	148.28
166	35.5885	0.29	167.88
167	35.873	0.30	180.63
168	31.055	0.37	226.58
169	18.7605	0.32	94.65
170	45.987	0.30	231.98
171	32.83	0.40	271.29
172	32.951	0.55	421.93
173	44.930	0.40	349.50
174	28.225	0.315	155.54
175	28.8685	0.65	462.59

345.14

Begin 1938

6/25/38

*Handwritten notes:*  
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Without going into details which would require supporting maps based on surveys it is sufficient to say that none of the work done since April 1935 has disclosed any feature which can be interpreted as detrimental to the future of the property. Several areas previously unprospected have been proven definitely to contain ore. At least two unknown veins, the equal in physical characteristics and gold content to any known vein, have been discovered and have yielded shipping ore. No effort has been made to block out mill ore but much mill ore has been opened up, which is apparent to anyone with mining experience. The small volume of shipping ore removed to date has in no wise been a serious inroad on the future possibilities of the property. Summing up the results of the work done since the report of 1935 one is justified in saying that everything has contributed to a better understanding of the property and has given no reason for feeling that it cannot be made a successful and profitable enterprise when adequately equipped.

Respectfully submitted,

*W. E. O.*  
 Cons. Engineer.

Phoenix, Arizona,  
 July 25th, 1938

MAX - DELTA MINE SAMPLING.

*File copy*

In cutting the samples described on the following pages, large amounts of material were taken. The samples were cut with (a) picks, (b) drift picks or (c) a stopper with a broad bit, according to the conditions at the site sampled. The average weight of the individual samples was more than thirty pounds.

Each sample was put through a chipmunk crusher twice, then put through a sample splitter. One half of the final cut was sent to the assayer and one half is preserved by the Company.

The rejects from the splitting operations are still preserved, intact and in the original sacks. It is likely that these will be used later for any preliminary ore testing that may be carried on.

MAX - MELVA MINE SAMPLES

- J. H. [Signature]*
1. Across 12 inches compact quartz, on hanging wall, north side of winze at portal of Upper Tunnel. 1.08 oz gold.
  2. In Upper Tunnel, 3-ft south of Sta. 102 (portal), across 18 inches of solid quartz, on foot wall. Light copper stain. 2.42 oz gold.
  - 2A. At location No. 2; across 18 inches crushed vein material between the quartz of No. 2 and the hanging wall. 0.04 oz gold.
  3. Ten feet south of No. 2 sample; across 9 inches quartz like No. 2, with less copper and more iron sulphides. 0.96 oz gold.
  - 3A. At location No. 3; 18 inches of crushed vein material similar to 2A, but on foot wall side of quartz. Tr gold.
  4. Ten feet south of No. 3; across 26 inches crushed vein filling with few small quartz streaks. 0.04 oz gold.
  5. Ten feet south of No. 4; across 18 inches crushed vein filling, with small amount of quartz. 0.10 oz gold.
  6. Ten feet south of No. 5; across 14 inches similar to No. 5 with a little more quartz. 0.40 oz gold.
  7. Ten feet south of No. 6; across 20 inches, - on footwall 2 inches of firm quartz, balance crushed vein filling. 0.76 oz gold.
  8. Ten feet south of No. 7; across 16 inches of hard quartz on footwall side of vein. 0.30 oz gold.
  - 8A. At location No. 8; across 3 feet of crushed vein filling from quartz of No. 8 to hanging wall; some small quartz stringers. 0.06 oz gold.
  9. Ten feet south of No. 8; across 12 inches of solid quartz in small raise from back of drift. 0.44 oz gold.
  10. At Sta 102, approximately 10 feet south of No. 9; across 26 inches of quartz on foot wall; two other quartz stringers not included. 1.58 oz gold.
  11. Ten feet south of No. 10; across 12 inches of quartz at the north end of small stope. 0.34 oz gold.
  12. In back of small stope, about ten feet south of No. 11 and about 20 feet above the rail, across two feet, mostly quartz. 0.52 oz gold.
  13. In back of small stope, approximately ten feet south of No. 12 across 16 inches crushed vein filling and some quartz. 0.30 oz gold.
  14. In back of small stope, approximately 10 feet south of No. 13, about 12 feet above the rail, across 24 inches crushed vein filling and quartz, with quartz probably predominating. 1.32 oz gold.

15. In back of small Stop, approximately 10 feet south of No. 14, across 30 inches crushed quartz and vein filling, 10 feet above rail. 0.73 oz gold
16. Ten feet back from face of upper tunnel, across 40 inches of back, of which 6 inches on footwall is quartz, rest crushed vein. 0.24 oz gold.
17. On 200 level, approximately opposite Sta. 200, at north end of under-bunk stop; 6-in quartz on hanging wall, 6 in crushed vein 0.24 oz gold.
18. Across 12 inches in footwall, in "glory hole" around old shaft, about 20-ft above rail on 200 level. 0.10 oz gold.
19. Across 30 inches directly above No. 18 0.50 oz gold.
20. On south side of shaft "glory hole", about 20-ft above rail, across 40 inches quartz and crushed vein filling. 0.14 oz gold.
21. On south side of shaft "glory hole", about 5-ft below No. 20, across 7 feet crushed vein material 0.10 oz gold.
22. On 200 level; about 5-ft north of Sta. 205, across 36 inches of shattered quartz. 0.26 oz gold.
23. See Drill Hole Sample No. 9-1.
24. At Sta. 205 on 200 level, across 34 inches crushed vein filling with little or no quartz. 0.20 oz gold.
25. On 200 level; 15-ft south of Sta. 205, across 24 inches with a small amount of quartz. 0.31 oz gold.
26. Across 18 inches, mostly quartz on the east side of drift, just opposite Chute No. 5 0.52 oz gold.
27. Missing.
28. On 200 level, from back of drift on north side of Chute No. 5, across 40 inches, level quartz 0.22 oz gold.
29. On 200 level, across 40 inches on south side of runway at chute No. 5, about 15-ft above rail, just above platform. 0.12 oz gold.
- 29A. In stop off 200 level, above Chute No. 5, 20-ft above rail and over platform, across 20 inches, mostly quartz. 0.25 oz gold.
- 29B. Opposite No. 29A, in stop above Chute No. 5, 200 level, across 16 inches quartz and crushed vein on south side of stop. 0.20 oz gold.
30. Sta 207 plus 8-ft, north end of stop; across 6 feet of crushed material; ore in walls. 0.10 oz gold.
- 30A. Across 32 inches of mineralized foot wall, under No. 30, in the foot wall 0.10 oz gold.

15. In back of small stop, approximately 10 feet south of No. 14, across 36 inches crushed quartz and vein filling, 10 feet above rail. 0.72 oz gold
16. Ten feet back from face of upper tunnel, across 48 inches of back, of which 6 inches on footwall is quartz, rest crushed vein. 0.24 oz gold.
17. On 200 level, approximately opposite Sta. 205, at north end of under-  
haul stop; 6-in quartz on hanging wall, 6 in crushed vein. 0.24 oz gold.
18. Across 17 inches in footwall, in "glory hole" around old shaft,  
about 20-ft above rail on 200 level. 0.10 oz gold.
19. Across 36 inches directly above No. 18. 0.30 oz gold.
20. On south side of shaft "glory hole", about 20-ft above rail, across  
48 inches quartz and crushed vein filling. 0.14 oz gold.
21. On south side of shaft "glory hole", about 5-ft below No. 20, across  
7 feet crushed vein material. 0.16 oz gold.
22. On 200 level; about 5-ft north of Sta. 205, across 36 inches of  
shattered quartz. 0.26 oz gold.
23. See Drill Hole Sample No. D-1.
24. At Sta. 205 on 200 level, across 24 inches crushed vein filling  
with little or no quartz. 0.20 oz gold.
25. On 200 level: 13-ft south of Sta. 205, across 24 inches with a  
small amount of quartz. 0.31 oz gold.
26. Across 24 inches, mostly quartz on the east side of drift, just  
opposite Chute No. 5. 0.52 oz gold.
27. Missing.
28. On 200 level, from back of drift on north side of Chute No. 5,  
across 48 inches, much quartz. 0.02 oz gold.
29. On 200 level, across 48 inches on south side of runway at chute No.  
5, about 8-ft above rail, just above platform. 0.10 oz gold.
- 29A. In stop off 200 level, above Chute No. 5, 20-ft above rail and over  
platform, across 36 inches, mostly quartz. 0.25 oz gold.
30. Opposite No. 29A, in stop above Chute No. 5, 200 level, across 16  
inches quartz and crushed vein on south side of stop. 0.20 oz gold.
30. Sta 207 plus 8-ft, north end of stop; across 6 feet of crushed  
material; ore in walls. 0.10 oz gold.
- 30A. Across 32 inches of mineralized foot wall, under No. 30, in the  
foot wall. 0.10 oz gold.

31. In center of back of slope at Sta. 207 plus 0 ft, across 6 feet of crushed material, mostly quartz. 0.16 oz gold.
32. In 200 level, approximately at Sta. 206, across 20 inches of hard, dull quartz. 0.24 oz gold.
33. In 200 level (on vertical or "B" vein) across 8 inches of crushed quartz and vein filling.
34. In 200 level, on "B" vein, in short crosscut near Sta 212, across 10 inches north side. 0.50 oz gold.
- 34A. On opposite side of short crosscut, at location No. 34, on "B" vein, across 14 inches quartz. 1.00 oz gold.
35. On 200 level, in north face of drift, across 10 inches of quartz in hanging wall vein, 5-ft back from face. 0.04 oz gold.
36. On 300 level; 11-ft south of No. 34, across 10 inches crushed vein with very little quartz. 0.12 oz gold.
37. On 300 level; 3-ft south of face of north drift, across 10 inches of crushed vein filling. 0.10 oz gold.
38. On 300 level; At north side of chute at Sta 305, across 24 inches of dull quartz. 0.08 oz gold.
39. On 300 level; on south side of chute, same location as No. 38, across 48 inches quartz 0.06 oz gold.
40. On 300 level; approximately at Sta. 305 (old), across 48 inches of quartz. 0.16 oz gold.
41. On 300 level; across 20 inches of quartz, firm and dull, about 10 ft south of No. 40. 0.12 oz gold.
42. On 300 level; on south side of 500-ft incline shaft, across 54 inches dull quartz. 0.06 oz gold.
43. On 300 level; about 20-ft north of Sta. 306 (old) across 30 inches crushed vein material on footwall side. 0.10 oz gold.  
On 300 level
- 43A. On 300 level; at location of No. 43, across 24 inches of dull quartz next above No. 43 0.02 oz gold.
- 43B. On 300 level; at location No. 43, across 30 inches crushed vein and quartz, east of 43B. 0.16 oz gold.
- 43C. On 300 level; at location No. 43, across 40 inches, next east of 43 C, all crushed vein material. 0.06 oz gold.
44. On 300 level; across 36 inches in face of small drift started near location of Nos. 43 to 43C, 6 inches of quartz on west. 0.00 oz gold.

45. On 300 level; from E side of man-way in chute at Sta. 306,  
across 7½ feet 0.06 oz gold.
46. On 300 level; north side of crosscut, opposite chute near  
Sta. 306 (old) across 50 inches of quartz, 0.10 oz gold.
47. On 300 level; south side of chute near Sta. 306 (old) across 36  
inches, mostly quartz. 0.30 oz gold.
48. On 300 level; across 36 inches, mostly quartz approximately at  
Sta. 307, old survey. 0.10 oz gold.
49. On 300 level; Above No. 48, just under bulkhead in manway, across 36  
inches; 12 inches quartz, rest crushed vein filling. 0.20 oz gold.
50. On 300 level; just above No. 49, five feet above bulkhead, in manway,  
across 36 inches in pillar. 0.64 oz gold.
51. On 300 level; In back of stope, above 307 raise, across 36 inches of  
vein matter. 0.40 oz gold.
52. On 300 level; location of No. 51, about in center of stope, across  
36 inches vein matter. 0.14 oz gold.
53. On 300 level; in same stope, south side, on pillar next to raise,  
across 106 inches. 0.24 oz gold.
54. On 300 level; in same stope, south side of pillar, location No.  
53, across 40 inches. 0.16 oz gold.
55. On 300 level; in same stope, directly over platform between two  
chutes, across 106 inches. 0.22 oz gold.
56. On 300 level; in same stope, opposite No. 54, on south side of raise  
to 200 level, across 41 inches. 0.22 oz gold.
57. On 300 level; in same stope, on south side of raise, about 15-ft  
below No. 57, across 30 inches crushed vein material. 0.30 oz gold.
58. On 300 level; around turn from Sta. 306 (old survey) plus 5-ft,  
across 41 inches. 0.12 oz gold.
59. On 300 level; At north end of underhand stope just beyond Sta 300  
of old survey, 5-ft below rail, across 48 inches. 0.40 oz gold.
60. On 300 level; same underhand stope, about 6-ft below rail level,  
across 36 inches. 0.80 oz gold.
61. On 300 level; directly above No. 60, about rail level, across 36 inches  
of hanging-wall, showing sulphides. 0.48 oz gold.
62. On 300 level; Above No. 60, at rail level, across 24 inches of  
quartz on the foot-wall. 0.40 oz gold.
63. On 300 level; in south end of new stope, south side of raise, about  
12-ft above rail, across 36 inches in foot-wall showing sulphides with little or  
no quartz. 0.30 oz and 63A. 0.80 oz gold.

64. On 300 level: at north end of next underhand stop, three feet below rail level, across 24 inches quartz. 0.20 oz gold.
65. On 300 level: at bottom of north end, same underhand stop, across 40 inches, including 10 inches of foot-wall wall mineralized 0.67 oz gold.
66. On 300 level: at bottom of south side of same underhand stop, about 5-ft below rail, across 36 inches (ore in both walls still) 0.32 oz gold.
67. On 300 level: directly above No. 66 at nearly rail level, across 36 inches but still ore in both walls. 0.14 oz gold.
68. On 300 level: in raise near south end of last underhand stop, across 40 inches about 30-ft above rail level. 0.12 oz gold.
69. On 300 level: in raise location of No. 68, some 5-ft lower, across 18 inches of foot-wall material and heavy sulphides. 0.56 oz gold.
70. On 300 level: fifteen feet from face, across 12 inches crushed vein material, no quartz, in back of drift. 0.10 oz gold.
71. On 300 level: across 12 inches of quartz in face of drift (as of October 1, 1934). 0.62 oz gold.
73. Above the 300 level, in newer stopes, sample of gob 0.20 oz gold.
72. Above the 300 level: location No. 73, sample of gob 0.16 oz gold.
74. On 200 level: in incline raise, at first chute, from 12 inches quartz, cross vein dipping west.
75. On 200 level: at location No. 74, in raise on east side, across 36 inches, D-wall streak "A" (?) vein 0.34 oz gold.
- 76 to 90, inclusive, outside samples, on subsequent list.
91. On 400 level: 10 inches of quartz on hanging wall side, directly under dike, at beginning of drift from shaft. 0.02 oz gold.
- 91A. On 400 level: directly under No. 91, across 24 inches crushed vein matter, not much quartz. 0.66 oz gold.
92. On 400 level: ten feet south of No. 91, across 24 inches white quartz, some siderite, no hematite 0.06 oz gold
93. On 400 level: ten feet south of No. 92, across 30 inches white quartz, some iron stain, no hematite, some sulphides. 0.02 oz gold.
94. On 400 level: ten feet south of No. 93, across 14 inches of quartz, vein narrowing to south into break. 0.22 oz gold.
95. On 400 level: Sta 402 plus 23-ft across 18 inches of which 4 inches is quartz, rest crushed material. 0.06 oz gold.
96. On 400 level: Sta 402 plus 23 feet. Across 18 inches crushed material and 2 inches quartz. 0.04 oz gold.

97. On 400 level; ten feet south of No. 96 across 12 inches crushed vein material and fine quartz, in fault breccia. 0.06 oz gold
98. On 400 level; ten feet south of No. 97, across 20 inches of fault breccia under smooth wall. 0.10 oz gold.
99. On 400 level; ten feet south of No. 98, chipped out of hard smooth wall 0.06 oz gold.
100. On 400 level; face across 41 inches crushed material with no appreciable amount of quartz. 0.06 oz gold.
101. On 400 level; north of Sta 402 about 12 feet, across 36 inches of diorite and sulphides, with some quartz. 0.04 oz gold.
102. On 400 level; in crosscut west from Sta 402, in diorite just under dike at contact; siderite and sulphides. 0.08 oz gold.
- 102A. On 400 level; in crosscut, west from Sta 402, at face, 36 inches down south face of rock. 0.06 oz gold.
- 102B. On 400 level; in crosscut, west from Sta 402, at face; across 48 inches on north side. 0.00 oz gold.
106. In 500-ft incline shaft, just under platform at 300 level, across 48 inches of dull quartz 0.08 oz gold.
107. In 500-ft incline shaft, on north side, about 20-ft down from No 106, across 36 inches. 0.10 oz gold.

MAX - DELTA MINE

Drill-hole Samples.

A few test drill holes were drilled into the walls, not for the purpose of adequately prospecting, but more to determine to what extent the gold values might reach into the walls in selected spots. There are not the necessary facilities for deep drilling, which might disclose more important data. In the further development of the property drilling should play an important part. The few holes drilled indicate some values in the walls.

- D-1 On the 200 level; into hanging wall near Sta 205. Depth of hole 65 inches. 0.02 oz gold.
- D-2 On the 200 level; approximately 20 feet south of D-1. Depth of hole 40 inches 0.10 oz gold.
- D-3 On the 200 level; , approximately 11 feet south of D-2. Depth of hole 30 inches 0.02 oz gold.
- D-4 On the 200 level; approximately 12 feet south of D-3. Depth of hole 60 inches. 0.02 oz gold.
- D-5 On the 400 level; at location of cut sample No. 98; Depth of hole 62 inches. 0.04 oz gold.
- D-6 On the 400 level; at location of cut sample No. 97. Depth of hole 56 inches 0.02 oz gold.
- D-7 On the 400 level; at location of cut sample No. 96. Depth of hole 62 inches 0.12 oz gold.
- D-8 On the 400 level; abandoned; bad ground.
- D-9 On the 400 level; opposite Station 402. Depth of Hole 62 inches. 0.02 oz gold.
- D-10 On the 400 level; at Sample 101. above the heavy sulphide area, and probably into dike. Depth 63 inches 0.04 oz gold.

NORTH DELTA.

Ore shipments:

Lot.	875	736	937	64	261	291	348
Date	8/33	10/34	12/34	1/35	3/35	8/37	9/37
Dry Wt.	45.49	41.83	51.13	46.38	35.63	54.76	57.08
Cu.	.05	.50	.25	.15	.16		
Ag.	1.3	.80	.30	.50	.40	.30	.14
Au.	2.51	1.10	.90	.53	.60	.80	.565
Fe.		.68	5.9	6.7	6.3	3.4	4.3
Ca.		1.0	1.2	1.0	1.2		
Al		3.1	7.3	4.1	3.1	5.5	7.0
SiO <sub>2</sub>	84.0	84.0	82.4	81.4	83.0	84.2	82.5
Value	226.37	1186.98	1147.99	571.87	511.68		782.85

Shipments (Continued)

Lot	458	509	572	659
Date	10/37	11/37	11/37	12/37
Dry Wt.	42.29	37.97	55.21	37.69
Cu.				
Ag.	.32	.17	.90	1.00
Au.	.592	.375	.58	.62
Fe.	3.73	2.6	3.0	3.9
Ca.				1.7
Al.	5.2	8.9	8.2	9.0
Si O <sub>2</sub>	85.5	84.3	85.1	78.5
Value	604.88	327.31	858.09	626.85

Additional Assays:

Shaft sample, broken zone 70-ft down on footwall, 3-ft wide	0.74 oz Au
Shaft: foot wall pyrite at 70-ft	1.12 oz Au
Face below fault	0.84 oz Au
10 tons out	0.72 oz Au

Recapitulation of shipments:

Total dry tons shipped	465.432	Total ounces gold	322.4872
Average gold	0.692	Total ounces silver	224.7623
Average silver	0.482		
Value less smelting charges	\$9,255.12		

NORTH BELLA.

Ore shipments:

Lot.	875	736	937	64	261	291	848
Date	8/33	10/34	12/34	1/35	2/35	8/37	9/37
Dry wt.	45.49	41.89	51.13	46.38	35.63	54.76	57.08
Cu.	6.05	.50	.23	.15	.16		
Ag.	1.3	.60	.30	.50	.40	.30	.14
Au.	2.51	1.10	.90	.53	.60	.80	.565
Fe.		.68	5.9	0.7	0.3	3.4	4.3
Ca.		1.0	1.2	1.0	1.2		
Al		3.1	7.3	4.1	3.1	5.5	7.0
SiO <sub>2</sub>	84.0	84.0	82.4	81.4	83.0	84.2	82.5
Value	226.37	1180.58	1147.98	571.87	511.68		782.85

Shipments (Continued)

Lot	458	509	572	659
Date	10/37	11/37	11/37	12/37
Dry wt.	42.29	37.97	55.21	37.69
Cu.				
Ag.	.33	.17	.90	1.00
Au.	.592	.375	.50	.62
Fe.	3.33	2.6	3.0	3.9
Ca.				1.7
Al.	5.2	6.9	8.2	9.0
Si O <sub>2</sub>	85.5	84.3	85.1	78.5
Value	604.88	327.31	658.09	626.85

Additional Assays:

Shaft sample, broken zone 70-ft down on footwall, 3-ft add. 0.74 oz Au  
 Shaft: foot wall pyrite at 70-ft. 1.12 oz Au  
 Face below fault 0.84 oz Au  
 10 tons out 0.72 oz Au

Recapitulation of shipments:

Total dry tons shipped 465.432  
 Average gold 0.642  
 Average silver 0.432  
 Value less smelting charges \$9,255.12

Tot. Au Oz. = 322.4972  
 Tot. Ag Oz. = 224.7623

A.L.F.  
 6/6/36

Ore Shipments 1933-38

KOLFF DELS

NORTH DELTA.

Ore shipments:

Lot.	875	736	937	64	261	291	349
Date	8/33	10/34	12/34	1/35	3/35	8/37	9/37
Dry Wt.	5.49	41.83	51.13	46.38	35.63	54.76	57.08
Cu.	.05	.50	.25	.15	.16		
Ag.	1.3	.80	.30	.50	.40	.30	.14
Au.	2.51	1.10	.90	.53	.60	.80	.565
Fe.		.68	5.9	6.7	6.3	3.4	4.3
Ca.		1.0	1.2	1.0	1.2		
Al		3.1	7.3	4.1	3.1	5.5	7.0
SiO <sub>2</sub>	84.0	84.0	82.4	81.4	83.0	84.2	82.5
Value	226.27	1186.98	1147.98	571.87	511.68		782.85

Shipments (Continued)

Lot	458	509	572	659
Date	10/37	11/37	11/37	12/37
Dry Wt.	42.29	37.97	55.21	37.69
Cu.				
Ag.	.31	.17	.90	1.00
Au.	.592	.375	.58	.62
Fe.	3.70	2.6	3.0	3.9
Ca.				1.7
Al.	5.2	8.9	8.2	9.0
Si O <sub>2</sub>	85.5	84.3	85.1	78.5
Value	604.88	327.31	858.09	626.85

Additional Assays:

Shaft sample, broken zone 70-ft down on footwall, 3-ft wide	0.74 oz Au
Shaft: foot wall pyrite at 70-ft	1.12 oz Au
Face below fault	0.84 oz Au
10 tons out	0.72 oz Au

Recapitulation of shipments:

Total dry tons shipped	465.432	Total ounces gold	322.4972
Average gold	0.692	Total ounces silver	224.7623
Average silver	0.482		
Value less smelting charges	\$9,255.12		

A.L.F.  
6/6/38

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.

Phoenix, Arizona,  
September 7th, 1934.

Respectfully submitted,

*A. J. Bet*

Delta Mine

CO

ARIZONA

ACCI, CI received



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	0.44	0.09
7	118012	0.689	0.64	0.06
8	116682	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	0.08
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	0.740	0.35	0.09
35	113454	0.580	0.44	0.06
36	111556	0.490	0.53	0.05
37	117236	0.46	0.45	0.14
38	117810	0.720	0.30	0.21
39	113590	0.437	0.52	0.06
40	116324	0.445	0.43	0.07
41	114978	0.600	0.46	0.05
42	110542	0.620	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 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

NORTH DELTA.

Ore shipments:

Lot.	875	736	937	64	261	291	348
Date	8/33	10/34	12/34	1/35	3/35	8/37	9/37
Dry Wt.	45.49	41.83	51.13	46.38	35.63	54.76	57.08
Cu.	.05	.50	.25	.15	.16		
Ag.	1.5	.60	.30	.50	.40	.30	.14
Au.	2.51	1.10	.90	.53	.60	.80	.565
Fe.		.68	5.9	6.7	6.3	3.4	4.3
Ca.		1.0	1.2	1.0	1.2		
Al		3.1	7.3	4.1	3.1	5.5	7.0
SiO <sub>2</sub>	84.0	84.0	82.4	81.4	83.0	84.2	82.5
Value	226.37	1196.98	1147.98	571.27	511.68		782.85

Shipments (Continued)

Lot	458	509	572	659
Date	10/37	11/37	11/37	12/37
Dry Wt.	42.29	37.97	55.21	37.69
Cu.				
Ag.	.22	.17	.90	1.00
Au.	.592	.375	.58	.62
Fe.	3.23	2.6	3.0	3.9
Ca.				1.7
Al.	5.2	8.9	8.2	9.0
Si O <sub>2</sub>	85.5	84.3	85.1	78.5
Value	604.88	327.31	858.09	626.85

Additional Assays:

Shaft sample, broken zone 70-ft down on footwall, 3-ft wide	0.74 oz Au
Shaft: foot wall pyrite at 70-ft	1.12 oz Au
Face below fault	0.84 oz Au
10 tons out	0.72 oz Au

Recapitulation of shipments:

Total dry tons shipped	465.432	Total ounces gold	322.4872
Average gold	0.692	Total ounces silver	224.7623
Average silver	0.482		
Value less smelting charges	\$9,255.12		

A.L.F.  
6/6/38

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.

*File copy*

THE DELTA MINE.

The property of the Ace Mining and Development Company, formerly known as 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 Maximillion 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 8 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.

REPORT OF PRELIMINARY EXAMINATION

on the

DELTA GROUP

of the

ACE MINING & DEVELOPMENT COMPANY

Phoenix, Arizona.

R. E. Prince

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

Dear Mr. Gibson:

In accordance with your request I met Mr. Dahlaine 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 vein 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 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. and 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)	0.44	15.40			15.40

4	1.84'	Crushed qtz. and gneis 40 ft. in. From right wall. Check on sample #9	10.60	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. and 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 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	0.10	3.50			3.50

large sulphides on footwall. Cut from back of small stope from foot wall toward the hanging wall.

See map

18	4.0'	Crushed qtz. cut from end of 17 to hangingwall. 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 hangingwall 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 and 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. and 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

ORO GRANDE CLAIM (Cont'd.)

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.

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 Co., 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. 3d 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	Tod large open cut on vein #2, at apex of both vein and mountain. El. 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
ORO GRANDE CLAIM				
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)	15'	0.18	6.30

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.

## 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	<u>7,500.00</u>

\$66,500.00

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

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	<u>1.50</u>
	\$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 \$20250.00

### 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 and 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

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.

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 and 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 and 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 56, 59 and 60) 2.93 ft.  
Average Value \$ 20.40 per ton

Maxamillion Vein. All samples including those taken in the Leggat Tunnel but excluding 34 and 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 and 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 and 44 2.4 ft.  
Average Value \$ 15.28 per ton

Samples 45 and 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.

46	2.2'	Shattered white qtz. on footwall of Diorite dyke - same location as 45. Silicified limestone dyke on foot wall 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 foot wall	0.02	0.70		0.70
50		Dump sample from croppings of Oro Granda Vein. Material from the same croppings Samples #48 and 49 were cut	0.12	4.20		4.20
51		Dump sample from vein material 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 #3 Level

56	2.0'	Qtz. and sheared silicified schist cut from hanging wall toward foot wall 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. and silicified schist face of south drift 301 S. Drift. See location on map. This vein has been stoped to the second 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 location 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

32	2.5'	Cut from face of open cut. Contains limonite and gypsum. From flat vein and separated from #31 by section of gneis. Dip 50° E cut from footwall to hangingwall	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 cut from gneiss footwall to inter-vein 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 and 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. and 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 and 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

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 COGGINS TITLE COMPANY

CAPITAL \$100,000.00

PHOENIX, ARIZONA.

Description of property situate in Maricopa County, Arizona  
Those certain Patented Mining Claims from date of recording  
Patents in the office of the County Recorder of Maricopa County,  
Arizona, as shown herein:

"LEGGAT" and "MAXAMILLION" Claims, Patent recorded December  
22, 1913 at 11:05 A. M. in Book 108 of Deeds, at page 113;

"DELTA NO. 3", "DELTA NO. 2", "RICHARD STANTON" and "DELTA"  
Claims, Patent recorded December 22, 1913 at 11:06 A. M. in Book  
108 of Deeds, at page 115;

"ORA GRANDA" Claim, Patent recorded May 1, 1920 at 3:23 P. M.  
in Book 142 of Deeds, at page 491;

"HALL" and "THOMPSON" Claims, Patent recorded May 17, 1921  
at 4:20 P. M. in Book 160 of Deeds, at page 376.

We hereby certify that the following pages numbered from one to  
— 5 — inclusive, compiled from the public records in the offices  
of the County Recorder, Clerk of the Superior Court and Tax Col-  
lector of Maricopa County, Arizona, the City Tax Collector of the  
City of Phoenix, and the records of the Phoenix Division of the  
United States District Court in the office of the Clerk of said  
court, at Phoenix, Arizona, contain a true and correct abstract of  
all instruments of record in said offices affecting the title to  
the real estate above described; that except as set forth herein,  
the records of said offices disclose no unpaid taxes, tax sales,  
judgments docketed against any record owner, or suits pending  
affecting the title to said property, from the dates of the  
recording of Patents as shown herein to date of this Certificate.  
EXCEPT taxes for the year 1935, not yet due.

This abstract does not show matters pertaining to public bond issues.

In testimony whereof, THE COGGINS TITLE COMPANY has caused

these presents to be signed by its President  
and its corporate seal to be affixed this 11th  
day of April, A. D. 1935 at 8:00 o'clock A. M.

THE COGGINS TITLE COMPANY

By L. W. Coggins  
President.

