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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

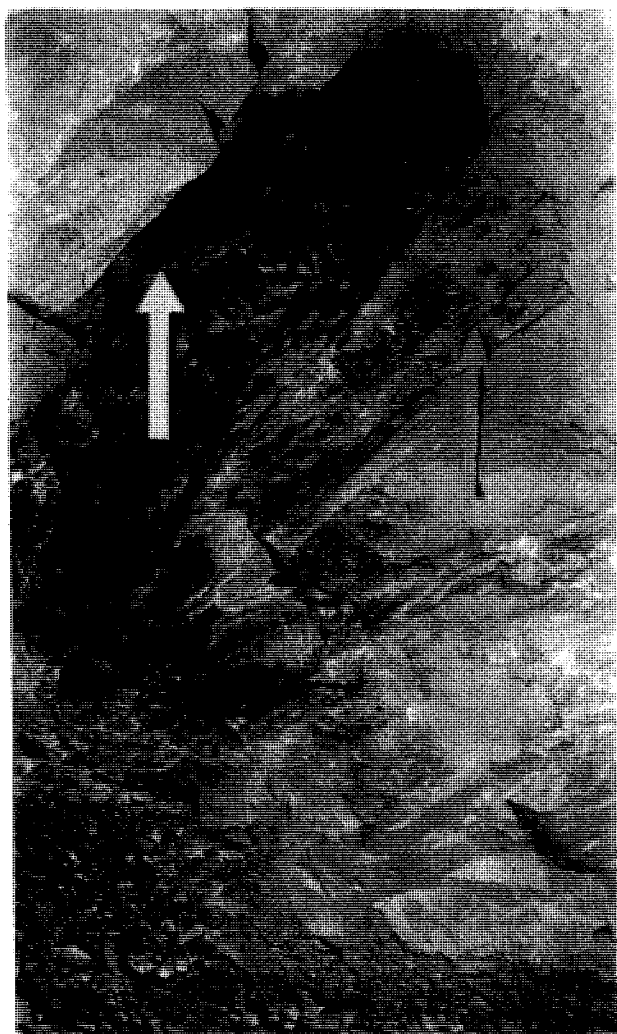
COMMODITY:

GOLD LODE  
SILVER  
COPPER  
IRON GOETHITE

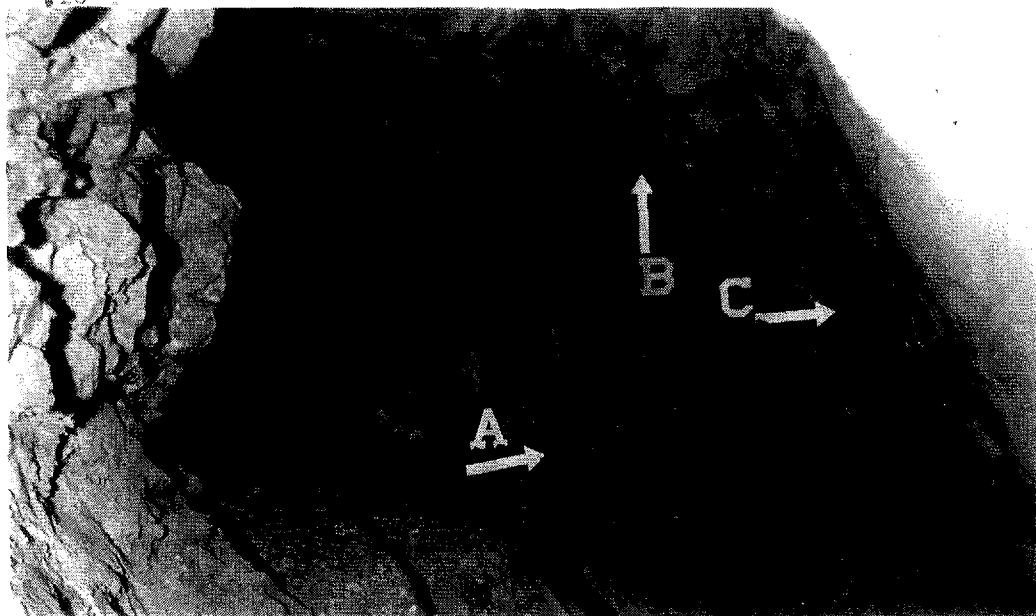
BIBLIOGRAPHY:

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



Beginning of drift from Sta. 311, S 10 00W.  
White arrow indicates hanging-wall of the  
quartz vein; dark arrow indicates foot-  
wall of vein and marks limit of mineral-  
ization into foot-wall. Quartz foot-wall is  
distinct between two arrows.

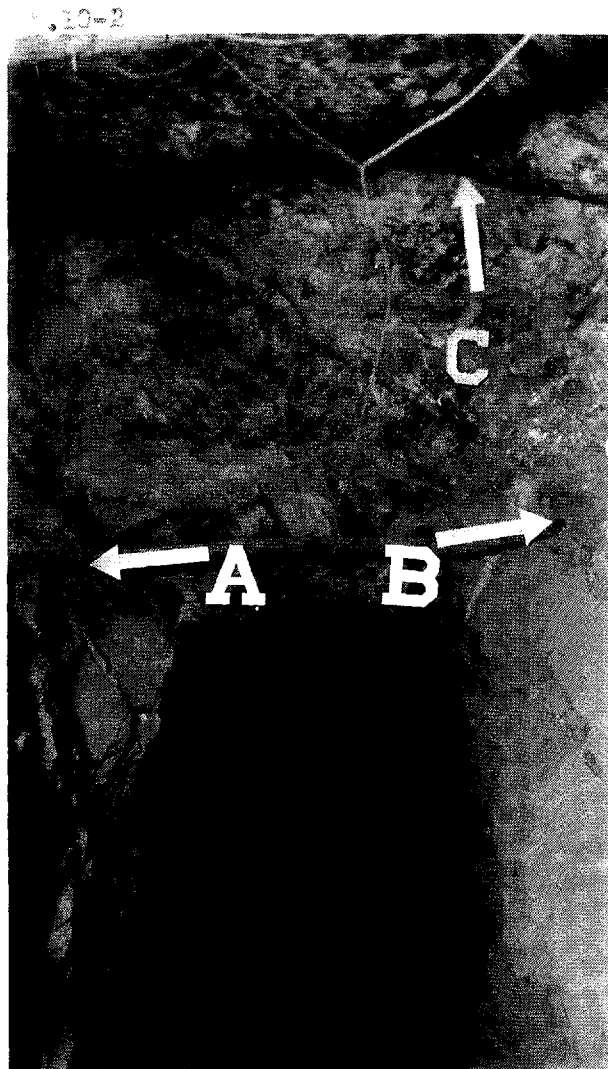


From Sta. 203 N 56 30W

- A - Hanging-wall of "Sheft Vein"
- B - Foot-wall of "Flat Vein", which widens rapidly from this point south (in direction of camera)
- C - Hanging-wall of "Flat Vein" and probable segment of foot-wall of "Straight Vwin"

Note: Letters 8-in high.  
Arrows 16-in long.



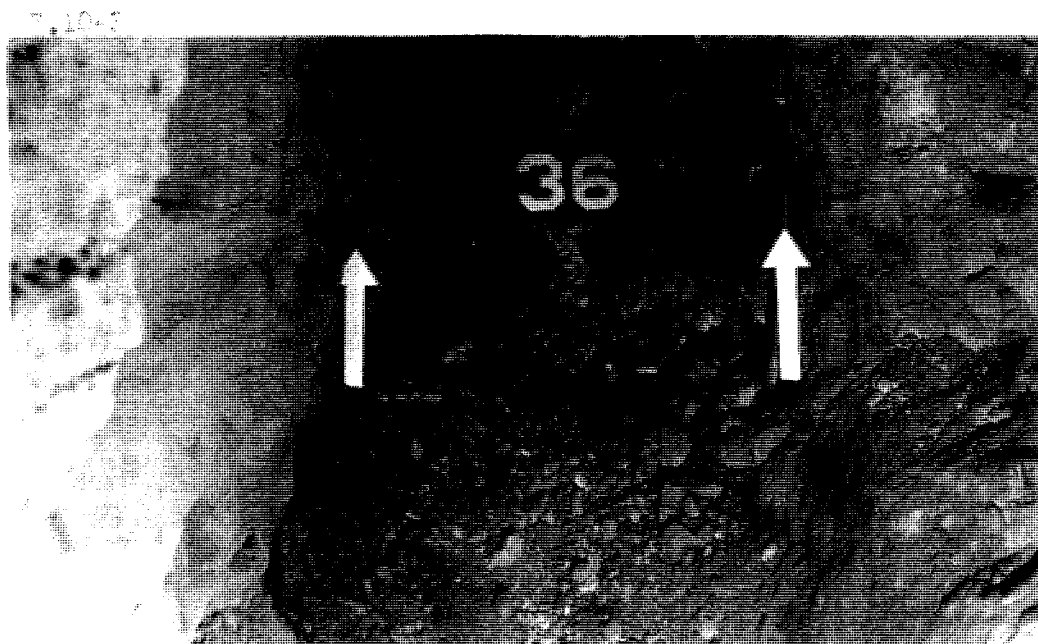


From Sta. 208 towards Sta. 207 or N 28 40W

A- Foot-wall of "Straight Vein"

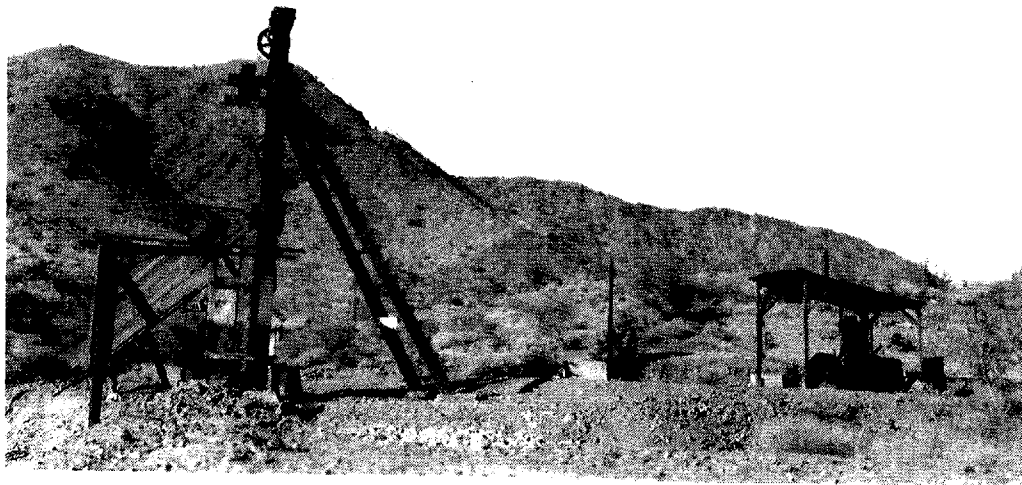
B - Hanging-wall of "Straight Vein" and Foot-wall  
of "Flat Vein"

C - Hanging-wall of "Flat Vein"



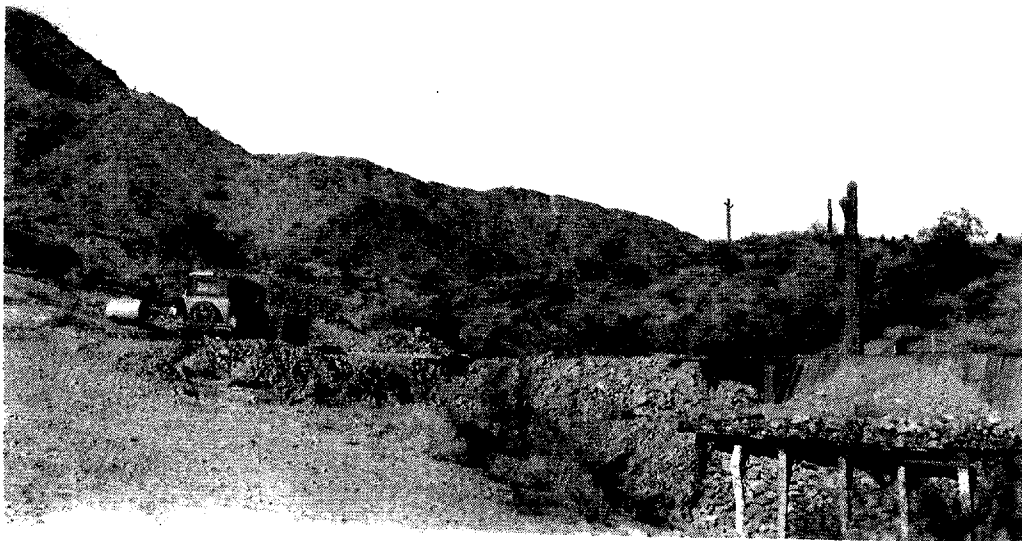
From Sta. 216, top of raise from 300 level to 200 level, looking S 41 00E. Face shows 36 inches of ore. This is "Straight Vein" on which drift in run from 310 south.

D-238-1



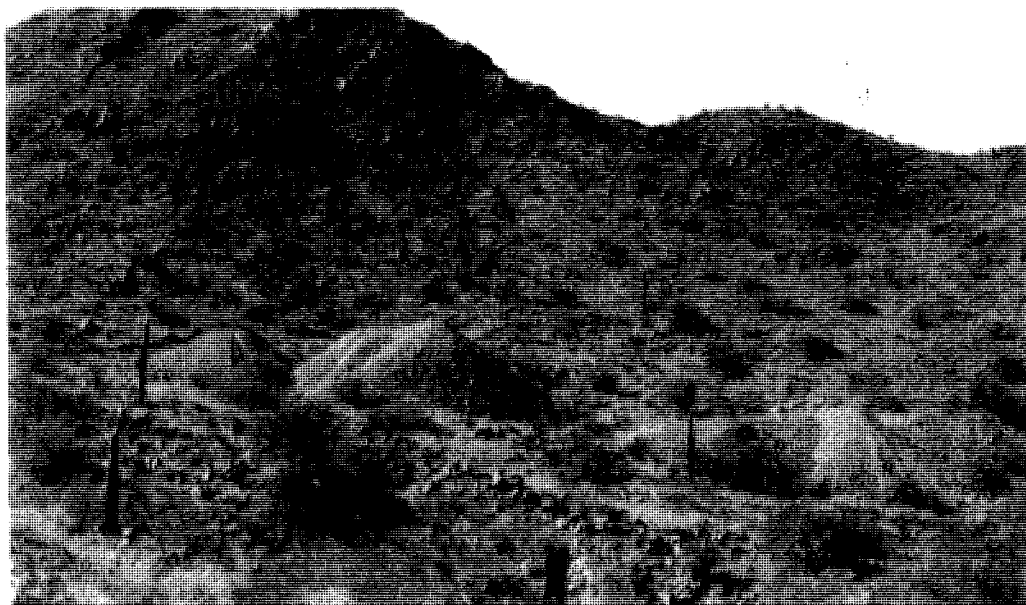
Hall Shaft headframe and hoist.

D-238-2



Tinney Lease, north of Hall Shaft.

D.237-5



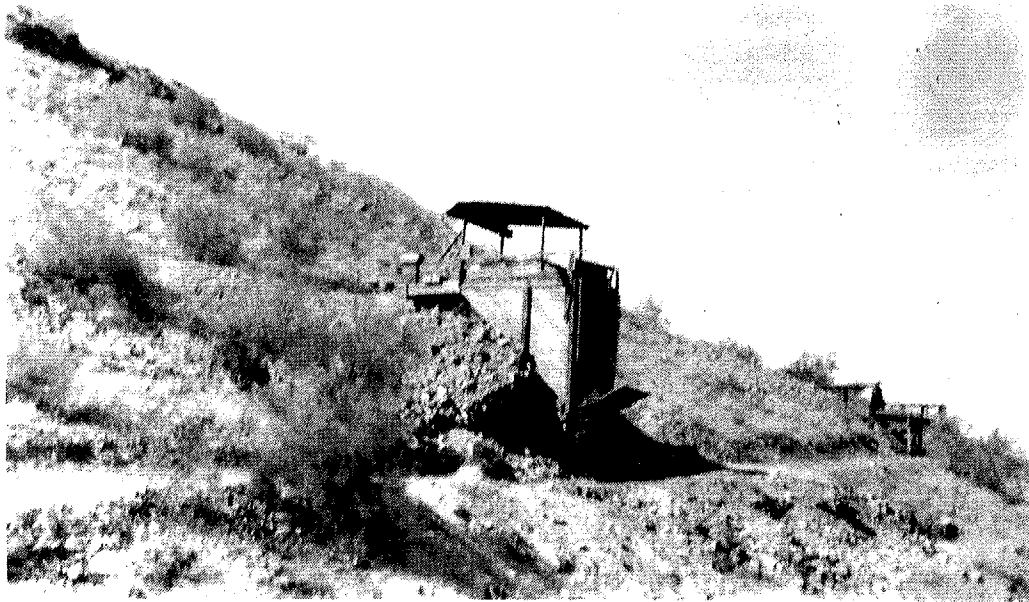
Delta Shaft dump and 200-level dump.

D.237-6



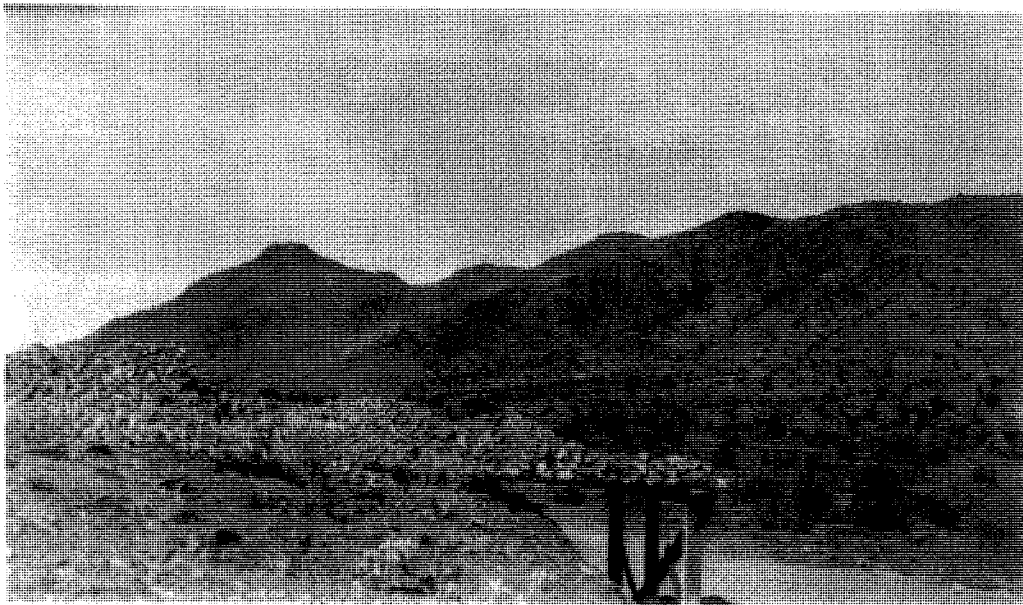
Delta 300-level dump, blacksmith shop and ore bin

D-237-4

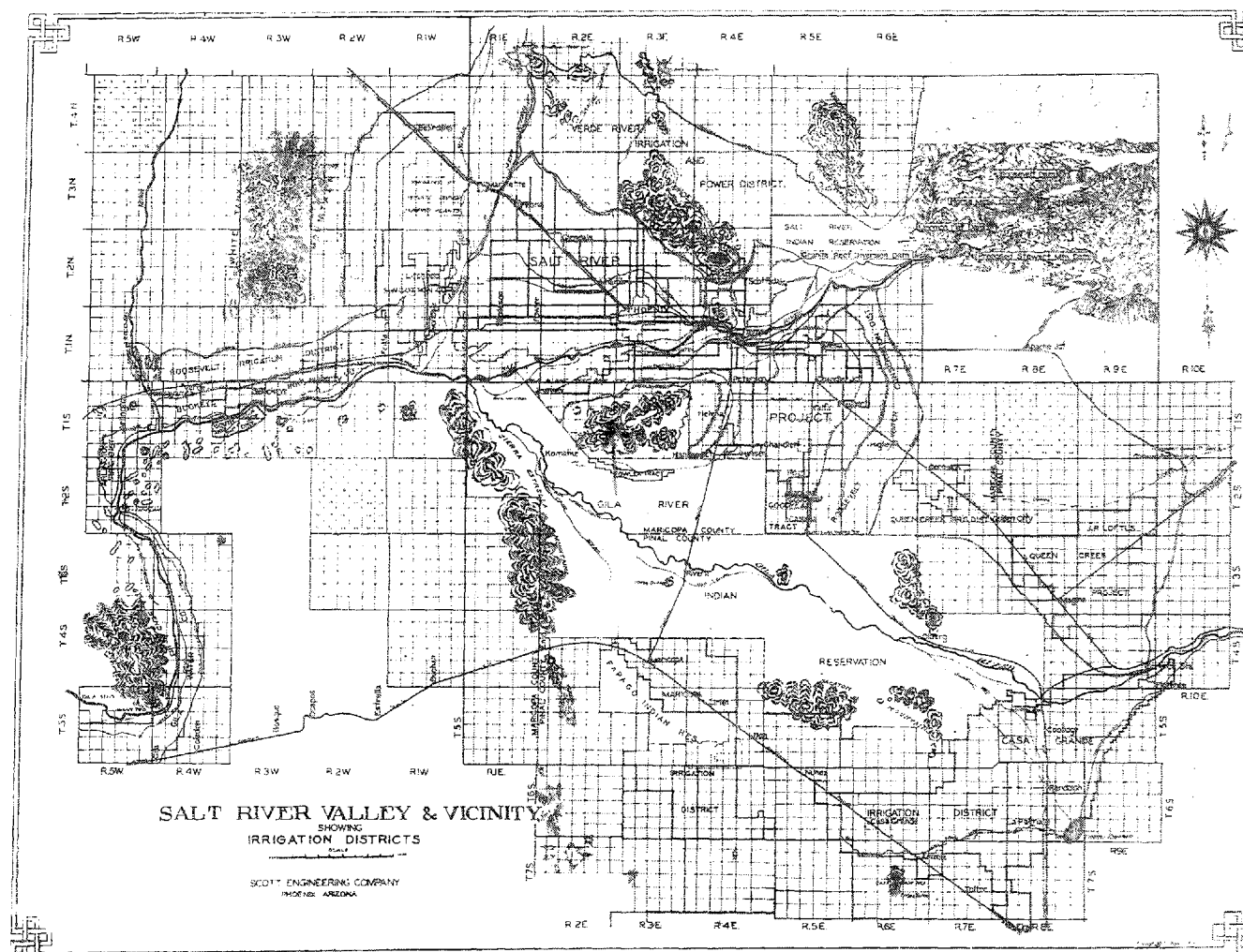


Delta loading bin and platforms.

D.237-2



Max-Leggatt loading platform.



A.L. FLAGG - 1935

Report on Delta Group -  
Ace Mining + Development Co.  
Maricopa County  
Arizona

REPORT

on

DELTA GROUP

ACE MINING & DEVELOPMENT CO.

Maricopa County      Arizona

Phoenix, Arizona  
April 5th, 1935

A. L. Flagg  
Consulting Engineer



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, this past year of operation has not made any serious inroad on the ore available. Instead it has opened up much ground, making possible a clearer understanding of the nature of the vein system, and exposing a considerable volume of mill ore in the main Delta workings. Until this situation is accurately set out in detail on an assay map, no positive statement can be made regarding the volume and value of such ore, but it is the opinion of those who have mined the ore that has been shipped, men of long experience, that a minimum of 50 tons per day, that will average \$8.00 in gold, can be mined from above the lowest adit on the main Delta 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  
December 1st, 1934.

Respectfully submitted,

*A. L. Flagg*

## MAX\*DELTA MINE SAMPLING

In cutting the samples described on the following pages, large amounts of material were taken. The samples were cut with (a) moils, (b) drift picks or (c) a stoper 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 shipmunk crusher twice, then put through a sample splitter. One half of the final cut was sent to the assayer and one half 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-DELTA MINE SAMPLES

- 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. 101 (portal) across 18 inches solid quartz on foot wall; light copper stains. 2.42 oz. gold
- 2A-At location No. 2; across 18 inches crushed vein material between quartz of No. 2 and hanging wall. 0.04 oz. gold
- 3- Ten feet south of No. 2. samples; across 9 inches quartz like No. 2 with less copper but more iron sulphides. 0.96 oz. gold
- 3A-At location No. 3; 18 inches of crushed vein material similiar 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 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. 0.30 oz. gold
- 7- Ten feet south of No. 6; across 20 inches, on foot wall 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 foot wall side of vein. 0.30 oz. gold
- 8A-At location No. 8; across 3-ft crushed vein filling from quartz of No. 8 hanging wall; some quartz stringers. 0.06 oz. gold
- 9- Ten feet south of No. 8; across 12 inches solid quartz in small raise from back of drift. 0.44 oz. gold
- 10- At Sta. 102, approximately 10-ft. south of No. 9; across 28 inches of quartz on footwall; two other quartz stringers not included. 1.50 oz. gold
- 11- Ten feet south of No. 10; across 12 inches quartz at the north end of small stope. 0.54 oz. gold
- 12- In back of small stope, approximately 10-ft. south of No. 12; across 18 inches crushed vein filling, some quartz. 0.30 oz. gold
- 13- In back of small stope, approximately ten feet south of No. 12; 20 feet above the rail, across 2-ft. mostly quartz. 0.52 oz. gold
- 14- In back of small stope, approximately 10-ft. south of No. 13, about 12-ft. above rail across 24 inches crushed vein filling and quartz with the quartz predominating. 1.32 oz. gold

Max-Delta Samples

Page 2

- 15- In back of small stope, approximately 10 feet south of No. 14, across 36 inches crushed quartz and vein filling, 10-ft above rail. 0.72 oz. gold
- 16- Ten feet back from face upper tunnel, across 42 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. 203, at north end of underhand stope; 6 inches quartz on hanging wall, 6 inches crushed vein. 0.24 oz. gold
- 18- Across 12 inches in footwall, in "glory hole" around old shaft, about 25-ft above rail, 200 level. 0.10 oz. gold
- 19- Across 35 inches directly above No. 18. 0.80 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 84 inches quartz and crushed vein filling. 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. 0.38 oz. gold
- 26- Across 24 inches, mostly quartz, on 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 manway at chute no. 5, about 8-ft above rail, just above platform. 0.10 oz. gold
- 29A- In stope off 200 level; above chute no. 5, 20-ft above rail and over platform, across 36 inches, mostly quartz. 0.28 oz. gold
- 29B- Opposite No. 29A, in stope above chute No. 5, 200 level, across 16 inches quartz and crushed vein on south side of stope. 0.80 oz. gold
- 30- Sta. 207 plus 8-ft north end of stope; across 6-ft. of crushed material, ore in wall. 0.16 oz. gold

Max-Delta Samples

Page 3

- 30A- Across 33 inches of mineralized footwall, under No. 30, in the footwall. 0.10 oz. gold
- 31- In center of back of stope at Sta. 207 plus 8-ft, across 6-ft. of crushed material, mostly quartz. 0.16 oz. gold
- 32- In 200 level; approximately at Sta. 208, across 30 inches of hard dull quartz. 0.24 oz. gold
- 33- In 200 level ( on vertical of "B" vein ) across 6 inches crushed quartz and vein filling. 0.28 oz. gold
- 34- In 200 level, on "B" vein, in short crosscut near Sta. 213 across 10 inches, north side. 0.80 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 300 level, in north face of drift, across 10 inches quartz in hanging wall vein, 5-ft back from face. 0.04 oz. gold
- 36- On 300 level; 11-ft south of No. 35, across 16 inches crushed vein with very little quartz. 0.12 oz. gold
- 37- On 300 level; 3-ft. south of face of north drift, across 18 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 of chute, same location as No. 38, across 48 inches of 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 50 inches quartz, firm and dull, about ten feet 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 36 inches crushed vein on footwall side. 0.10 oz. gold
- 43B-On 300 level; at location No. 43, across 24 inches of dull quartz next above No. 43. 0.02 oz. gold
- 43C-On 300 level; at location No. 43, across 36 inches, crushed vein and quartz, east of 43B.
- 43D-On 300 level; at location No. 43 across 48 inches, next east of 43C, all crushed vein material. 0.08 oz. gold
- 44- On 300 level; across 36 inches in face of small drift started near location Nos. 43 to 43D, 6 inches quartz on west, 0.06 oz. gold

Max-Delta Samples

Page 3

- 45- On 300 level; from N side of manway in chute at Sta. 306  
across  $7\frac{1}{2}$  feet. 0.08 oz. gold
- 46- On 300 level; north side of crosscut, opposite chute near  
Sta. 306 (old) cross 30 inches 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.  
0.36 oz gold
- 50- On 300 level; just 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 108 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 12-ft  
below No. 56, across 30 inches crushed vein material.  
0.38 oz. gold
- 58- On 300 level; around turn from Sta. 308 ( old ) plus 5-ft across  
41 inches. 0.12 oz. gold
- 59- On 300 level; at north end of first underhand stope, just beyond  
Sta. 308 (old) 5-ft. below rail, across 48 inches. 0.40 oz. gold
- 60- On 300 level; as same underhand stope, about 8-ft. below rail  
level, across 36 inches. 0.80 oz. gold
- 61- On 300 level; directly above No. 60, about rail level, across  
30 inches, hangingwall showing sulphides. 0.48 oz. gold

Max-Delta Samples

Page 5

- 62- On 300 level; above No. 60 at rail level, across 24 inches of quartz on the footwall. 0.40 oz gold
- 63- On the 300 level; in south end of new stope, south side of raise, about 12-ft. above rail, across 36 inches in footwall showing sulphides with little or no quartz. 0.80 oz. gold
- 63A-Approximately the same cut as No. 63, coarse. 0.36 oz. gold
- 64- On 300 level; at north end of next underhand stope, three feet below rail level, across 24 inches quartz. 0.28 oz. gold
- 65- On 300 level; at bottom of north end, same underhand stope, across 48 inches, including 10 inches footwall mineralized. 0.82 oz. gold
- 66- On 300 level; at bottom south end same underhand stope, about 8-ft. below rail, across 36 in. (ore in both walls still). 0.32 oz. gold
- 67- On 300 level; directly above No. 66 at nearly rail level, across 24 inches, but still ore in both walls. 0.14 oz. gold
- 68- On 300 level; in raise near south end, last underhand stope, across 48 inches about 30 feet above rail. 0.12 oz. gold
- 69- On 300 level; in raise location No. 68, some 5-ft lower, across 18 inches footwall material and heavy sulphides. 0.56 oz. gold
- 70- On 300 level; fifteen feet from face, across 12 inches crushed vein material, in back of drift, no quartz.  $\frac{1}{2}$  0.10 oz. gold
- 71- On 300 level; across 12 inches of quartz in face of drift, as of October 1, 1934. 0.82 oz. gold
- 72- Above the 200 level; location No. 73, sample gob, 0.16 oz. gold
- 73- Above 200 level; sample of gob in new stope. 0.20 oz gold
- 74- On 200 level; in inclined raise, at first chute, 12 inches of quartz dipping west. 0.26 oz. gold
- 75- On 200 level; at location No. 74, in raise on east side, across 36 inches, hangingwall streak ("A" vein). 0.34 oz. gold
- 76- To 90 inclusive, outside small samples, on subsequent list.
- 91- On 400 level; or 10 inches on hangingwall 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, much quartz. 0.68 oz. gold

Max-Delta Samples

Page 6

- 92- On 400 level; one foot south of No. 91, across 24 inches white quartz, some siderite, no hematite. 0.08 oz. gold
- 93- On 400 level; 10-ft south of No. 92, across 30 inches white quartz, some iron stain, some sulphides, no hematite. 0.02 oz. gold
- 94- On 400 level; 10-ft. south of No. 93, across 14 inches 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 are quartz, rest crushed vein material. 0.06 oz. gold
- 96- On 400 level; Sta. 402 plus 33 ft, across 18 inches crushed material and 2 inches quartz. 0.04 oz. gold
- 97- On 400 level; 10-ft. south of No. 96 across 12 inches crushed material and fine quartz, in fault breccia. 0.06 oz. gold
- 98- On 400 level; 10-ft. south of No. 97, across 20 inches fault breccia under smooth wall. 0.10 oz. gold
- 99- On 400 level; 10-ft. 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 station 402 about 12 feet, across 36 inches of siderite and sulphides, with some quartz. 0.04 oz. gold
- 102- On 400 level; incrosscut west from Sta. 402, at face 36 inches down the south face of crosscut. 0.06 oz. gold
- 102A-On 400 level; in crosscut, west from 402, at face across 48 inches north side. 0.08 oz. gold
- 102B-On 400 level; incrosscut west from 402, at face across 49 inches north side. 0.08 ex. gold
- 106- In 500-ft incline, just under platform at 300 level, across 48 inches dull quartz. 0.08 oz. gold
- 107- In 500-ft. incline shaft, on north side, about 30-ft. down from No. 106, across 36 inches. 0.10 oz. gold



Max-Delta Samples  
Page 7

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 wall 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-ft. south of  
D-1; depth of hole 60 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-ft. south of D-3  
depth of hole 60 inches, 0.02 oz. gold
- D-5 On the 4-- 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 36 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 Sta. 402, depth of  
hole 62 inches, 0.02 oz. gold
- D-10 On the 400 level; at sample 101, above heavy  
sulphides area and probably into dike, 63 inches,  
0.04 oz. gold

Max-Delta Outside  
Samples  
Page 8

The following samples are from locations outside the main workings (Sketch No. 2) with the exception of a few samples of old fill which ran into and still lies in the shaft. It is not claimed that the whole property has been sampled thoroughly as yet, for there are many shallow openings, as well as inconspicuous outcrops, which have not been investigated. In addition to the samples listed herein a great many more have been taken by the Company or by leasees. These are not described because no accurate sampling information is available as to the exact location or the sampling conditions.

- 76 From open cut, south side of road, on Delta No.2 claim.  
Only shattered outcrop, vein not in place.  
0.54 oz. gold
- 77 From shaft 10-ft. deep, east side of draw, northeast of Hall shaft; Vein Str. N. 17 W, Dip 80, East; 10 inches quartz.  
1.10 oz. gold
- 78 On knoll west of No. 77; shallow shaft, 8-ft. deep, vein str. S 40 E, dip W 87; 12 inches quartz on hanging wall, 10 inches crushed vein fill (horse?) 4 inches quartz on foot wall.  
1.50 oz. gold
- 79 Sample of about one ton on dump of 125-ft. incline shaft on Thompson claim (ore shipped). 3.08 oz. gold
- 80 Open cut on ridge north of Hall shaft vein strike S 30 E, dip 47 W; across 36 inches quartz and schist lenses.  
.40 oz. gold
- 81 On ridge north of Hall shaft; shallow open cut, showing broken outcrop 20 inches wide, Str S 25 E, dip W 67.  
0.48 oz. gold
- 82 Shallow opening in gulch on Thompson claim, near south end; flat vein 6 inches, Str. S 20 W.  
0.74 oz. gold
- 83 At "Double Incline Shaft" on Thompson claim; vein Str. S 20 E, dip 69 W, 4 to 10 inches broken quartz.  
3.32 oz. gold
- 84 Open cut on ridge NE of 125-ft incline shaft; vein Str N 5 E, dip E 82; 4 to 10 inches quartz with heavy iron stain.  
1.26 oz. gold
- 85 Narrow quartz stringer on N side of road, Se of Hall Shaft; a pile of 300 lbs shipped. Vein Str N 15 E vein irregular.  
0.42 oz. gold
- 85A North of No. 85 about 50-ft; in shaft 10-ft deep a 7 inch quartz stringer; possibly not in place.  
0.88 oz. gold

Max-Delta Outside Samples  
Page 9

- 86- South side of road, near No. 85 shallow open cut; vein Str. S 12 W; dip 78 E; 7 inches quartz. 0.36 oz. gold
- 87- Pile of ore shipped, about 700 lbs. 0.24 oz. gold
- 88- From outcrop east side of gulch, east of Thompson, location of new claim; across 3 feet. 0.08 oz. gold
- 89- Across 10 inches quartz, north side 2-ft. hole Maxamillion claim, near SW corner. 14.04 oz. gold
- 90- Open cut south of Hall shaft, Str S 8 E, shattered quartz, outcrop definite walls not visible, quartz blocks 10 to 14 inches in thickness, probable width of streak. 0.52 oz. gold
- 91-108-ommitted
- 108- Flat from flat, south end Ora Granda 0.04 oz. gold
- 109- Float from flat south end of Ora Granda 0.02 oz. gold
- 110- Float from south end Ora Granda 0.02 oz. gold
- 111- Across 10 inch outcrop in draw, S 5 E 100-ft. from south end of rhyolite dike west of Sta. 100, Str S 25 W. 0.08 oz. gold
- 112- Float in main Delta wash at S end Rhyolite dike (F11) at junction with east draw. 0.02 oz. gold
- 113- Adit on old "Montana"; open cut 15-ft. tunnel, 10-ft, across 4 inches gouge and crushed quartz and 8 inches solid quartz. 0.16 oz. gold
- 114- From open cut above sample No. 113, 8 inches quartz on E side; Vein Str S 10 E, dip E 70. 0.02 oz. gold
- 115- Across 16 inches soft gouge-like material with some crushed quartz, directly under No. 115. 0.30 oz. gold
- 116- Across 16 inches quartz in opening east of trail near "Glory hole" on Maxamillion on peak. 0.88 oz. gold
- 117- Across 30 inches firm quartz and 4 inches of gouge same location Nos. 115 and 116, but above. 0.46 oz. gold
- 118- On east side old "Glory Hole " Maxamillion, across 16 inches soft material, including 4 inches waste; above No. 117. 0.26 oz. gold
- 119- Across 30 inches quartz in "Three Way Tunnel" near north end line of Maxamillion claim. 0.46 oz. gold

Max-Delta Outside Samples  
Page 10

- 120- Across 54 inches about 30-ft. above portal of 150-ft. tunnel on Maxamillion claim; west streak. 0.26 oz. gold
- 121- On east wall in 150-ft. tunnel, on Maxamillion claim; 12-ft. back from face where vein goes into east wall. 0.06 oz. gold
- 122- 44-ft. back from face 150-ft. tunnel, on Max claim, across 36 inches, on hanging wall 20 inches glassy quartz, 16 inches spongy quartz. 0.04 oz. gold
- 123- In 150-ft. tunnel on Maxamillion ; across 26 inches north side small raise about 50-ft. in tunnel. 0.32 oz. gold
- 124- Same location No. 123; 24 inches on east side. Principally quartz, breccia and crushed country rock. 0.04 oz. gold
- 125- Across 18 inches face of Leggat tunnel, including 8 inches of crushed wall rock on hanging wall side. 0.06 oz. gold
- 126- In face Leggat tunnel, across 12 inches solid quartz, iron stained. 0.24 oz. gold
- 127- In Leggat tunnel, 12-ft. back from face, across 28 inches of milky quartz. 0.02 oz. gold
- 128- In Leggat tunnel, 18 feet from face across 12 inches quartz similar to No. 127, on footwall side. 0.04 oz. gold
- 129- In Leggat tunnel, at No. 128, across 18 inches crushed wall rock to hanging wall. 0.02 oz. gold
- 130- Across 22 inches quartz above the portal of the Leggat tunnel, below junction, of lenses. 0.22 oz. gold
- 131- Above No. 130, across 24 inches of quartz in the east lense only. 0.12 oz. gold
- 132- Above No. 130, across 12 inches west lense. 2.26 oz. gold
- 133- Loose fill in shaft just under 300 level. 0.40 oz. gold
- 134- Coarse material cut of No. 133. 0.24 oz. gold
- 135- Fines out of No. 133. 0.42 oz. gold
- 136- Loose fill in shaft, lower down. 0.20 oz. gold
- 137- Loose fill at 30-ft. below 300 level in shaft. 0.18 oz. gold
- 138- Loose fill in shaft below 300 level. 0.20 oz. gold
- 139- Across 9 inches in north end botom of hole from which No. 99 sample was taken. 1.02 oz. gold

Max-Delta  
Samples  
Page 11

140- Across 10 inches beyond No. 139.

0.64 oz. gold

141- Ore pile at No. 139.

0.82 oz. gold

142- Ore pile at No. 139.

0.68 oz. gold

*W. L. Slugg*

# ESTIMATE

Ace Mining and Development Co.

## A. BUILDINGS.

Compressor House,	950.00	
Warehouse and fittings	1900.00	
Assay Office and equipment	1225.00	
Blacksmith Shop and fittings	450.00	
General Office and fittings	1250.00	
Powder Magazine	90.00	
Hoist House	350.00	
Change House and furnishings	1100.00	
Garage (shed)	500.00	7815.00

## B. MINING EQUIPMENT

Portable Compressor	3500.00	3750.00
Compressor I-R XRB-2 530 cu.ft	3875.00	
85 HP Engine for compressor	3518.00	
Fuel Tanks, 12,000 gal.	300.00	
Tank fittings and pipe	108.00	
Water Supply tank 2000 bbl	1939.00	11740.00
Hoist 3500 lb Cap.	1472.31	
40 HP Engine for hoist	2694.00	
500-ft 3/4 in cable	100.00	
Skip for incline shaft	110.00	
2 Mine cars	220.00	
2 I-R Drifters @ \$450	900.00	
3 Water tanks, air & water hose	224.55	
2 Mountings, columns & arms	340.00	
2 Stopers @ \$285	570.00	6630.86
Extra drill parts	150.00	
1 ton steel	17.00	
30 M Ft HM Timbers	810.00	977.00
Pipe: 3", 2 1/2", 1 1/2", 1", 1 1/4"	687.19	
Ventube	250.00	937.19
Truck 2 1/2 ton	3500.00	
Fuel tank (for truck 500 gal)	122.50	
Water Tank " " " "	135.00	3757.00
Total, buildings and equipment		\$ 35,607.05

Estimate: Ace Mining and Development Company

C. DEVELOPMENT.

The 100 Level:

100-ft drifting @ \$8.53	853.00	
50-ft crosscutting @ 8.53	426.50	
75-ft raising @ 9.74	730.50	2010.00

The 200 Level:

From south face;		
225-ft drifting @ 8.53.00	1929.25	
50-ft crosscutting @ 8.53	426.50	
50-ft raising @ 9.74	487.00	2842.75
From Sta. 213		
100-ft drifting @ 8.53	853.00	853.00

The 300 Level:

From south face;		
225-ft drifting @ 8.53	1929.25	
50-ft crosscutting @ 8.53	426.50	
50-ft raising @ 9.74	487.00	2842.75
From Sta. 311;		
100-ft drifting @ 8.53	853.00	
25-ft crosscutting @ 8.53	213.25	1066.25

The 400 Level:

250-ft drifting @ 8.53	2132.50	
100-ft crosscutting @ 8.53	853.00	
50-ft raising @ 9.74	487.00	3472.50

Maxmillien Vein System:

100-ft drifting @ 8.53	853.00	
50-ft crosscutting @ 8.53	426.50	
50-ft raising @ 9.74	487.00	1766.50

Leggat Vein System:

300-ft drifting @ 8.53	2559.00	
100-ft crosscutting @ 8.53	853.00	
100-ft raising @ 9.74	974.00	4386.00

Stanton Vein System:

200-ft drifting @ 8.53	1706.00	
100-ft crosscutting @ 8.53	853.00	
100-ft raising @ 9.74	974.00	3533.00

Hall, Thompson, etc

Lump sum	4000.00	
Emergency fund	10000.00	12000.00

Total development \$ 36772.75

Estimate: Ace Mining and Development Company

D. WATER SUPPLY SYSTEM.

Well:

14" well, 150-ft deep	1300.00	
Pump house	400.00	
10,000 settling basin & sump	400.00	2100.00

Pump and Engines:

150 GPM turbine pump, installed	900.00	
5 x 10 triples 107 GPM "	3300.00	4200.00

10 HP Stover Diesel engine	700.00	
50 HP Diesel and start equip.	3650.00	4350.00

Pipe Line:

13,200-ft 3½" Std blk pipe	5940.00	
Laying pipe	1920.00	
Valves and fittings	400.00	7660.00

Total Water Supply	\$ 18310.00
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E. Mill 50 Tons daily capacity, all flotation.

Estimated cost of mill installed	\$ 35,000.00
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RECAPITULATION.

Buildings and Equipment	35,607.05
Development Program	36,772.75
Water Supply	18,310.00
50 ton Mill	35,000.00
TOTAL:	\$ 125,689.80



Estimate: Ace Mining and Development Company.

The following details of unit costs used in the preceeding estimates are based on actual operating experience at the Delta Mine over the period referred to and were prepared by Howard Gentry, the Superintendent for the Ace Mining and Development Company.

DRIFTING: 5 x 7 drift, 5-ft round.

1 miner @ \$5, 1 helper @ \$4, 1 mucker @ \$4	13.00
6 sets steel, 4 pc to set; sharpening @ 15¢ ea	3.60
Powder for 9 holes, 30-lbs @ 16¢	4.80
Caps and fuse; 50-ft fuse, 9 caps,	.70
Fuel: 20 gal gas @ 12¢, oil 25¢	2.65
Track and air pipe and laying 50¢ foot	2.50
Breakage per round (steel)	1.00
Total	\$ 28.25

To this is added: compensation insurance, overhead and 25% as a safety factor, giving a total of, -per foot \$ 8.53

CROSSCUTTING: 5 x 7, 5-ft round

Per foot same as drifting \$ 8.53

RAISING: 5 x 7 vertical or inclined, 5-ft round.

2 raise men @ \$5, 1 trimmer @ \$4	14.00
Powder, 25-lbs @ 16¢	4.00
Caps and fuse	1.25
Fuel: 20 gal gas @ 12¢, 25¢ for oil	2.65
Steel; 5 sets, 4 changes 24 pcs @ 15¢ ea	3.60
Stulls, air pipe, ladders etc	3.60
Breakage per round	1.00
Cost of chute	2.50
Total	\$ 32.00

To this is added: compensation insurance, overhead and 25% as a safety factor, giving a total, per foot cost 9.74

SINKING: 5 x 7 incline, to 50-ft, 4-ft round.

2 shaft men @ \$6, 1 hoist man @ \$5	21.00
Powder: 30-lbs @ 16¢	4.80
Fuse and caps	1.30
Fuel: 30 gal gas @ 12¢, 30¢ oil (drilling)	3.90
10 gal gas @ 12¢, oil 20¢ (hoisting)	1.40
Sharpening: 8 sets, 3 changes, 24pc @ 15¢ ea	3.60
Picks and bars	.50
Skids, ladders etc	3.00
Breakage per round	2.00
Total	\$ 41.50

To this is added compensation insurance, overhead 25% for safety factor, giving total per foot cost \$ 15.10

ACE MINING & DEVELOPMENT COMPANY

GEOLOGICAL REPORT

The geological studies of the Delta Mine, property of the Ace Mining & Development Company, have been divided into three purely arbitrary parts, a division based in part on the immediate requirements of the operating company, in connection with its development, and in part on the natural geographical divisions of the property. The first area to be mapped and studied in detail comprises those parts of the Delta and the Delta No. 2 claims shown in Sketch 2, which accompanies this report. The second unit takes in the Delta No. 3, the Hall and Thompson claims. The third unit deals with the Meggat and Maxamillion claims.

In the absence of any petrographic studies, the rock classification used in this report necessarily will be subject to revision and correction. The immediate requirements of the operators do not make it necessary to draw fine distinctions of rock classification. On the other hand more detail than is available with respect to the nature and the composition of the ores is really desirable. The matter of ore genesis will not be discussed in this report.

# ACE MINING & DEVELOPMENT COMPANY

## GEOLOGICAL REPORT

### PART I

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

The principal features of the gneissic formation are: (1) the general predominance of dark colored minerals; (2) conspicuous deformation in certain sections which probably antedates the period of ore deposition; (3) its blocky nature; (4) occasional weaker or softer zones which sometimes have considerable influence on the physical nature of the ore deposit; and (5) a striking irregularity in the distribution of the several most conspicuous characteristics.

In a preliminary report on the property, dated December 1, 1934, on page two, the occurrence of three veins of different strike and dip was mentioned. It is probable that the descriptions of the separate veins may require modification after more work is done. At the present time it seems that the vein striking N 10 W with a low dip to the east probably has a northeasterly strike. As development proceeds and more is learned about the individual veins, and their inter-relation more accurate statements can be made as to the age, position and importance of each vein.

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

An appreciation of these fundamentals is essential to the proper and successful development of the property. Even a

partial solution of this problem requires a large amount of detailed mapping. The most essential data are shown on the two underground geological maps attached hereto.

The drift on the 400 level appears to have been driven entirely along a fault which shows many indications of considerable movement, without a clue as to the probable extent or direction of such movement. Nothing definite can be said as to its relative age. The fault breccia is very fine and the fault zone moderately wide. Along with the fault, commencing at the shaft and extending southward about forty feet on the hanging wall side of the fault is a small amount of quartz, carrying low gold values. This quartz ends abruptly against a block of unaltered gneiss. Beyond this point the hanging wall shows sulphides, in the gneiss, in varying amounts. This wall has never been crosscut.

The Shaft Fault (Fault "A" on the maps) and this 400 level fault, (Fault "B" on the maps) appear to intersect on the 400 level about at the shaft. The calculated intersection on the 300 level is shown in Figures I and II on "Underground Geology I". In figure I is the graphic method of determining the angle and course of this intersection. If these deductions are correct it is very evident that neither of these two faults will ever interfere with the further development of the steeper dipping veins as they are followed along their strike to the south.

In the face of the east crosscut just south of the shaft on the 300 level is an exposure of a rhyolite dike. The crosscut was not carried into the dike far enough to afford any dependable information as to the strike, dip or width. It is assumed that this is the foot-wall of the same dike exposed in the crosscut to the west, directly under in the 400 level. In calculating the probable movement of this dike vertical and horizontal (horizontal only at right angles to the plane of the dike) this exposure is assumed to have the same strike and dip as the foot-wall below. It is believed that the dike is faulted by the "A" fault, evidence of great disturbance beginning at a point about 20-ft. east of the centerline of the 300 level drift from which this crosscut takes off, and extending right to the dike. In Figure III the displacement of the dike is shown (Underground Geology I). The calculations indicate that the so-called "Shaft Vein" and possibly much of the profitable shoot in Zone I<sup>1</sup>, Underground Geology II, are to be sought southwest of the shaft at about 70 feet distance.

On the second (II) map of underground geology the major features of the first four levels are shown. Very little work is done on the fifth level (see Assay Map) and no detailed mapping was done there. The bottom level or whatever other work may be below this fifth level is under water and so inaccessible. So far as is known there is no dependable map of any of these lowest workings.

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

Part II  
(Outline)

The detailed mapping of the area to be covered in Part II is not completed. Preliminary investigations indicate several promising shoots and surface sampling is very satisfactory. The deepest work in this section, now inaccessible, is reported to show a considerable width of mill ore. From this area, leasers have shipped during the past eighteen months several hundred tons of ore that has been profitable, and compared favorably in its gold content with the ore from other locations on the property.

Part III  
(Outline)

Nothing but preliminary investigating and some surface sampling has been done in this section. The detailed work here bids fair to be of very great importance because of the possible large tonnage of mill ore. No other portion of the property seems to promise so much in the way of large tonnage for a similar area as is to be found here. The contour of the land makes it possible to develop it cheaply, by tunnels, and quickly. Ore can be delivered by a gravity tramway to any feasible mill site on the whole property. From very shallow and limited surface workings more than 500 tons of ore have been shipped by leasers. The average gold content was over 0.70 ounce to the ton and some very high assays have been had on surface samples.

Though on some parts of the Delta property the geology is undoubtedly somewhat complicated there is no indication of the kind of problems impossible of solution. Accurate observation of the features as the development proceeds will be of great help in solving any problem that is met with. Nothing has been observed about the property to indicate definite limits beyond which further prospecting is almost certain to be futile. On the contrary such evidence as is available creates confidence in the future of the property. Past production records, positive ore in the principal Delta workings, and the probable ore indicated at many places where leasing operations have been carried out profitably, give assurance of a sufficient volume of ore to justify the starting of a comprehensive development program, which may be expected to indicate, very shortly, the advisability of providing a mill on the property.

Phoenix, Arizona  
April 5, 1935

Respectfully submitted,

*A. L. Ellogg*

Miscellaneous exploration in this area, as suggested in the Geological Report, to the extent of about \$2500 is justified. In this connection the use of some standard portable diamond drill might prove advantageous and such a drill can be used very profitably on other parts of the property.

It has been suggested that a crosscut be driven from the lower West Delta tunnel (see Sketch 2) to connect with the 500 feet incline shaft. This would intersect the shaft at a point about sixty feet below the 300 level and the length of the crosscut would be six hundred feet. The cost of such a crosscut is estimated to be \$15,000. It would afford a cross-section of the less extensively explored area on the west of the main Delta workings and, of course, would accomplish what the projected crosscut from the 400 level would do with respect to the faulted segments.

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

If these larger plans of development outlined above are carried out no elaborate program is necessary for the Hall-Thompson group for the present. The work suggested above is calculated to afford enough ore to supply a suitable mill for some time to come. However, from time to time some exploratory work should be done on the Hall-Thompson group. The Donivin-Tinney lease area should be explored at depth and certainly the 125-ft. incline shaft should be investigated. For this work it would seem that not more than \$5000 need be provided for the first year.

The above development programs calls for an expenditure of \$65,000 if all the projects are undertaken. This is believed to be ample for the work contemplated and sufficient to open up the property to a point where actual production will take care of all further development. To this sum must be added the cost of the necessary equipment. Such equipment as there is on the ground now is satisfactory for the sort of work in progress but it is not suited to the proposed work. Very little will be required in the way of buildings and almost nothing for roads. Suitable mining equipment is the most important thing. The estimated cost of all the requirements is \$35,000.

Four zones are laid out on the "Underground Geology II" map, by which it is hoped to express a little more clearly the conditions due to vein intersections and the small amount of post-mineral movement. No satisfactory theory can be formulated concerning the supposed faulting of the veins on each other until more ground has been opened up. To differentiate between the several veins more must be known about the specific nature of individual veins and more positions must be mapped. It is believed that most of this necessary information will be disclosed in the normal progress of exploration without any special or expensive side development.

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

Zone I is an area of limited horizontal extent. It seems to indicate a section containing but one of the veins, rather erratic in strike, with a moderately steep dip to the east. No much high grade ore has been taken from this zone. Values are low but the width of the vein is very much greater at some points than anywhere south of the shaft. Certain prominent characteristics of higher grade shoots in other parts of the mine have been observed near the present ends (north) in this zone. Extension of the drift on the 300-ft. level northwesterly might disclose other shoots of shipping ore. On its dip, in this zone, this vein is affected by the "A" fault.

During the early part of the present operations Zone II was the most productive part of the property. Stope widths of five feet (wall to wall) of ore carrying almost an ounce to the ton were seen. This zone is an area of intersections. Apparently the three vein systems, noted previously, intersect with this zone at these levels. If the calculated effect of the disturbance along the "A" Fault is proven this zone of intersections should prove profitable for quite a depth below. One of the determining factors in the question of what depth is the relative strikes and dips of the veins that are involved. It is believed that this zone still has some possibilities above the 300 level. The most abundant evidence remaining of the real nature of this zone, i. e., that is a zone of intersections, is to be found in the stoped section above the 200 level. Some dependable data can still be obtained from the "Intermediate Level" and pillars left in the stopes.

Zone III is a transition area. The so-called "Flat vein" has not been identified here and there is strong evidence to support the belief that there has been a shifting of positions be-

## 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 five 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 and steel, blacksmith shop for hand sharpening and loading terminals. 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-foot 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 developed by drilling wells in 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 very good road. Ore is hauled in trucks to Phoenix and loaded for 75¢ a 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 southerly 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, 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 per cent. There is neither lead nor zinc. Sulphides of iron are found at practically all horizons.



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

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

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

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

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

Respectfully submitted,

*A. L. Flagg*

## RECOMMENDATIONS

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

Naturally the area described in Part I of the Geological Report is the most attractive because it has the most extensive development now and the most is known about this particular section. As is indicated in that report there is a known tonnage of ore with an average gold content that will yield a very satisfactory profit, if treated on the ground. There is also a small amount of ore used in the gob above the 200 level and a dump, estimated to contain 9000 tons which the original operators planned to mill. In this connection it might be mentioned that there are many hundreds of tons of material on dumps scattered over the property which can be treated to a profit on the ground.

There are two important pieces of development work possible in this section. The first is the further exploration of the two veins in Zone IV, which is now in progress. All the work done on these veins beyond the point where they separate has paid for itself. The new drift just begun on the S 10 W vein gives promise of doing as well. However, it is going to be expected that leaner zones will be encountered with ore of a grade that cannot be shipped. In any development plan it is desirable to allocate at least \$10,000 for the immediate exploration of these two veins on and above the 300 level. Further development of these veins would follow as a matter of course in the normal operation of the property.

The most economical manner in which these two veins can be opened up below the 300 level is through a winze. If the raise now being put through to the 200 level is carried through to the surface, such a winze could be started directly under the raise and the sinking carried on from the surface, as an independent operation. The probable cost of completing the connection with the surface will be about \$1000. To this should be added some \$4000 to explore below the 300 level.

The cost of driving the proposed crosscut on the 400 level, southwest from the shaft to cut the faulted segments of the vein opened above in Zones I and II will be about \$2000. Another \$500 should be allowed for any possible incidental expense that may be incurred in preparing for this work.

The original discovery on these claims is said to have been made on the crest of the ridge at an elevation of approximately 2600 feet above sea level, on the Maxamillion claim. Near the surface, this vein has a low dip and can be traced for 600 to 800-ft. along its strike on the surface, showing widths from 3 to 12 feet. Numerous small openings made many years ago, are said to have yielded about \$30,000.00 in gold. The vertical range on this vein from the highest point on the crest to the lowest working on the north slope, is about 400-ft., which would be over 600-ft. measured on the dip. No systematic development has been done on this part of the property but previous sampling in the old openings give very promising indications of a large amount of milling ore above an adit which would enter about 800-ft. below the highest point and would have a length of over 700-ft. when vertically under the original discovery. At present ore is being shipped off this part of the property.

Near the north end of the Maxamillion claim a spur takes off this vein with a more northerly strike. This vein is known as the Leggat vein. Not much work has been done on it. There is 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 of the shaft and nothing is known about the lowest 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 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 strike and dip 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 consist of (1) a 62-ft crossout 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 crossout 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 crossout 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 feet 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 year sixty 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 ten cars from the Maxamillion vein and three cars from the Hall shaft, all of which was mined by leasers. The following tabulation gives the weight and content of the various shipments.

<u>Lot</u>	<u>Dry Weight</u>	<u>Oz. Gold</u>	<u>Oz. Silver</u>	<u>% Copper</u>
1	108434	0.815	0.50	0.07
2	107936	0.920	0.80	0.08
3	114226	1.070	0.90	0.03
4	118670	0.845	0.80	0.00
5	94536	0.467	0.37	0.18
6	113850	0.392	0.46	0.09
7	118012	0.689	0.64	0.06
8	116622	0.612	0.50	0.18
9	117298	0.500	0.44	0.06

Tabulation (cont.)

<u>LOT</u>	<u>DRY WEIGHT</u>	<u>OZ. GOLD</u>	<u>OZ. SILVER</u>	<u>% COPPER</u>
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	117336	0.753	0.56	0.06
14	116158	0.740	0.58	0.05
15	120330	0.720	0.51	0.05
16	118100	0.504	0.52	0.04
17	113930	0.517	0.73	0.06
18	107988	0.532	0.72	0.05
19	119980	0.547	1.10	0.05
20	100336	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)	206058	0.750	0.58	0.08
31				
32	102584	0.627	0.65	0.08
33	103099	0.560	0.00	0.00
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	0.547	0.50	0.06
40	116324	0.445	0.43	0.07
41	115978	0.600	0.46	0.05
42	110542	0.630	1.53	0.27
43	113672	0.425	0.34	0.06
44	112374	0.417	0.34	0.09
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
54	117000	0.510	0.29	0.05
55	108940	0.620	0.40	0.08
56	118880	0.520	0.50	0.07
57	118740	0.72	0.60	0.20
58	57780	0.50	0.50	0.15
59	94080	0.72	0.80	0.40
60	106480	0.59	0.80	0.40
61	78500	0.50	0.40	0.23

tween the S 25-30 E vein of steep easterly dip and the S 5-10 W vein of more gentle dip easterly. It is not clear as yet which vein has had the greater movement, neither can it be determined which is the older. This zone is believed to have some possibilities above the 200 level.

Zone IV is an area of more regular conditions. It would seem that the two veins mentioned above, the S 25-30 E and the S 5-10 W veins begin to take their normal courses and they may be expected to continue with more or less regularity. Southward neither will be affected by either the "A" or the "B" fault except at very great depths. Neither of these veins have been explored to any great extent and each gives promise of an attractive volume of ore of a very good grade.

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

Until further exploratory work is done in Zone III no positive tonnage of ore can be credited to this area. However, it is believed that this zone can furnish from between the 300 and 200 levels, not less than 2126 tons of ore with an average gold content of about 0.30 ounce per ton.

In Zone IV, there is indicated in the S 20-30 E vein between the 100 and 300 levels approximately 4200 tons of ore with a gold content of 0.858 ounce to the ton. No definite tonnage can be assigned to the S 5-10 W vein between these levels. It is interesting to note that in the drift on this vein, just begun at the 300 level there is a total width of 66 inches of "pay rock". This face sampled in four different samples shows an equated gold content of 0.571 ounce to the ton. Such width and value, if consistent for any considerable distance along the strike, will add a considerable volume to the ore reserves.

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

ESTIMATED COST  
OF  
PROPOSED DEVELOPMENT PROGRAM  
OF  
ACE MINING AND DEVELOPMENT COMPANY.

Phoenix, Arizona,  
August 10th, 1936

*A. R. Slagg*  
Consulting Engineer.

The Ace Mining and Development Company began operating at the Delta Mine in October 1933, and shipped the first car of ore on the 11th of December of the same year. Since then operations have been carried on continuously, with the exception of the thirty day period each summer when the smelter does not receive custom ore.

Between December 1, 1933 and August 1, 1936 the Company shipped 120 cars of ore to the smelter. The total dry weight amounted to 5878.667 tons. The total gold content was 3497.456 ounces, or an average of 0.5949 ounces to the dry ton. The total gross value of the gold alone was \$122,410.96. The combined freight and smelting charges amounted to \$45,918.10 on these shipments.

While these operations were in progress a partial study of the geology was made and a very small amount of development work was done. Certain important factors bearing on future of the property have been worked out and a much clearer knowledge of the determining geology has been gained.

The work done to date has been of such a nature that it does not "block out" ore in the most strict application of the term but the conditions in the mine are such that an intelligent study of the present situation will indicate very clearly that a time has been reached when a more pretentious plan of operation is quite in order.

The following plan of development and expansion is believed to be warranted and it is conservative. The plan is divided into four parts:

- A - B      Buildings and Equipment
- C           Development
- D           Water Supply
- E           Mill of 50 tons daily capacity



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF MINESIN COOPERATION WITH THE BUREAU OF THE MINT  
WASHINGTON, D. C.

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For Use By  
DEPARTMENT OF THE INTERIOR  
and  
FEDERAL DEFENSE AGENCIES  
ONLYPRODUCTION AND DEVELOPMENT OF  
METAL MINES IN 1941 (LODE MINES)Please indicate any change  
necessary for correct name  
and address.Park View Mining Co.  
522 Lima Trust Bldg.  
Lima, OhioMining district or region Salt River Mtns.  
Owner of mine AL FLAGG & C. E. McLEAN-TRUSTEES  
Street 823 E. VAN BUREN  
Town PHOENIX State ARIZONA

Please reply to the following questions and return the schedule as promptly as possible in the enclosed envelope, which requires no postage.

Only with your express permission will your individual figures be disclosed; otherwise they will be held confidential. If you desire a copy of the published report please check here IF YOU HAD NO OUTPUT PLEASE SO STATE AND ANSWER REMAINING PERTINENT QUESTIONS.

## 1. DESCRIPTION AND LOCATION OF OPERATION:

- (a) Name of mine or claims Delta (Ace)
- (b) State ARIZONA County Maricopa Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_
- (c) Post office of mine PHOENIX Shipping point PHOENIX Name of railroad SOUTHERN PACIFIC R.R.
- (d) Name and address of company or individual operating mine and date of any change in 1941  
THE PARK VIEW MINING CO.
- (e) State how long you operated in 1941, giving dates JAN. 1ST TO DEC. 31ST.

## 2. TONNAGE FOR 1941 (Tons of 2,000 pounds—dry weight, or if wet, so state):

	CRUDE ORE	OLD TAILING, OLD SMELTER SLAG
	Tons	Tons
Total crude ore and other material sold to or treated in—		
A. Amalgamating and cyaniding mills, with or without concentrating equipment (underline name of process used).....		
B. Mills for concentrating only (report details on attached form) <u>WET</u>	<u>4708.30</u>	
<u>CRUDE ORE SHIPPED TO SMELTER</u>	<u>143.23</u>	
C. <del>Copper, lead, or zinc smelter (state which)</del> <u>WET</u>		
D. Leaching or other plants (state kind).....		
Total crude ore, old tailings, etc., sold or treated in 1941.....	<u>4851.53</u>	
E. CONCENTRATES PRODUCED		

## 3. TOTAL METALS IN ORE, BULLION, CONCENTRATES, PRECIPITATE, ETC., 1941 (Assay Content):

	CRUDE OUNCES		FINE OUNCES
	Before melting	After melting	
Gold in—			
A. Mill bullion and precipitate (fineness.....)			
C. Material sold to smelters (except E).....	x x x x x x x x	x x x x x x x x	<u>56.64326</u>
D. Material sold to leaching or other plants.....	x x x x x x x x	x x x x x x x x	<u>958.50684</u>
E. Concentrates produced.....	x x x x x x x x	x x x x x x x x	<u>1015.15020</u>
TOTAL GOLD.....	x x x x x x x x	x x x x x x x x	
Silver in—			
A. Mill bullion and precipitate (fineness.....)			
C. Material sold to smelters (except E).....	x x x x x x x x	x x x x x x x x	<u>41.4300</u>
D. Material sold to leaching or other plants.....	x x x x x x x x	x x x x x x x x	<u>807.4849</u>
E. Concentrates produced.....	x x x x x x x x	x x x x x x x x	<u>848.9149</u>
TOTAL SILVER.....	x x x x x x x x	x x x x x x x x	
	C IN SMELTING MATERIAL	D IN LEACHED OR OTHER MATERIAL	E IN CONCENTRATES
	Pounds of metal	Pounds of metal	Pounds of metal
Copper content (wet assay).....			<u>811.685</u>
Lead content (wet assay).....			
Zinc content.....			

Total net value received,  
according to settlement sheets (freight \$ 1340.10 and treatment \$ 1436.74 deducted) \$ 30667.45

If preferred, fill in figures for tons of ore and mail settlement sheets, which will be returned promptly

Please reply to the questions on the back of this schedule

[OVER]



4. MISCELLANEOUS:

- (a) What disposition was made of the products in 1941? ORE & CONCENTRATES SOLD TO INT.  
(Give name of smelter or mill to which ore was sold; United States assay office, mint, bank, or others to whom bullion was sold)  
SMELT. & REFINING CO. (MIAMI PLANT) AND AMERICAN SMELT. & REF. CO. (HAYDEN PLANT)
- (b) In whose name was product shipped? THE PARK VIEW MINING CO.
- (c) If ore is treated at custom plant, give name and location \_\_\_\_\_

- X (d) How is the mine developed? \_\_\_\_\_  
(For example, by vertical shaft \_\_\_\_\_ feet deep, by drifts \_\_\_\_\_ feet, tunnel \_\_\_\_\_ feet long)

- X (e) What was amount of development done in 1941? Shaft \_\_\_\_\_ feet; drifts \_\_\_\_\_ feet;  
tunnel \_\_\_\_\_ feet; diamond drilling \_\_\_\_\_ feet.

- X (f) Are the ores sold or treated in 1941 considered oxidized or sulfide? BOTH

- X (g) What minerals are contained in ore? BALL

- (h) What is the general character and capacity of reduction plant at mine? 50 TON MILL & FLOTATION  
(For example, 100-ton concentration mill, 300-ton flotation mill, 75-ton cyanide plant, etc.)

- X (i) What additions were made to plant in 1941? 2

- (j) Treatment processes \_\_\_\_\_  
(Give treatment in brief at your plant of crude ore; concentrates; tailing)

- (k) Total dividends to end of 1941, \$ NONE Dividends paid in 1941, \$ NONE

- (l) What distance and in what direction is the mine from the nearest shipping point? NINE MILES - SOUTH

- (m) Remarks (please mention important changes in 1941):

- CARRIED WITH ORE PRODUCTION ONE & TWO  
(n) How many days per week was mill operated? \_\_\_\_\_ Number of shifts? \_\_\_\_\_

THE PARK VIEW MINING CO.  
(Name of company)

(Date)

(Signature)

(Official position)

(Address)

Do you object to the publication in MINERALS YEARBOOK of figures furnished on this schedule in such a manner as to disclose your production? YES  
(Yes or no)



6-957  
W. O. 7  
(August 1940)UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF MINESIN COOPERATION WITH THE BUREAU OF THE MINT  
WASHINGTON, D. C.

CONFIDENTIAL

For Use By  
DEPARTMENT OF THE INTERIOR  
and  
FEDERAL DEFENSE AGENCIES  
ONLYPRODUCTION AND DEVELOPMENT OF  
METAL MINES IN 1941 (LODE MINES)Please indicate any change  
necessary for correct name  
and address.D. W. Jaquays, Secy.  
2213 W. Monroe St.  
Phoenix, ArizonaMining district or region Salt River Mtns.  
Owner of mine AL FLAGG & C. E. MCLEAN - TRUSTEES  
Street 823 E. VAN BUREN  
Town PHOENIX State ARIZONA

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## 1. DESCRIPTION AND LOCATION OF OPERATION:

- (a) Name of mine or claims Delta (Ace)
- (b) State ARIZONA County Maricopa Section \_\_\_\_\_ Township \_\_\_\_\_ Range \_\_\_\_\_
- (c) Post office of mine PHOENIX Shipping point PHOENIX Name of railroad SOUTHERN PACIFIC RR.
- (d) Name and address of company or individual operating mine and date of any change in 1941  
THE PARK VIEW MINING CO
- (e) State how long you operated in 1941, giving dates JAN. 1ST TO DEC. 31ST.

## 2. TONNAGE FOR 1941 (Tons of 2,000 pounds—dry weight, or if wet, so state):

	CRUDE ORE	OLD TAILING, OLD SMELTER SLAG
	Tons	Tons
Total crude ore and other material sold to or treated in—		
A. Amalgamating and cyaniding mills, with or without concentrating equipment (underline name of process used)		
B. Mills for concentrating only (report details on attached form) <u>WET</u>	<u>4708.30</u>	
C. <u>CRUDE ORE SHIPPED TO SMELTER</u> <u>WET</u>	<u>143.23</u>	
D. Leaching or other plants (state kind)		
Total crude ore, old tailings, etc., sold or treated in 1941	<u>4851.53</u>	
E. CONCENTRATES PRODUCED		

## 3. TOTAL METALS IN ORE, BULLION, CONCENTRATES, PRECIPITATE, ETC., 1941 (Assay Content):

	CRUDE OUNCES		FINE OUNCES
	Before melting	After melting	
Gold in—			
A. Mill bullion and precipitate (fineness_____)			
C. Material sold to smelters (except E)	x x x x x x x x x	x x x x x x x x x	<u>56.64336</u>
D. Material sold to leaching or other plants	x x x x x x x x x	x x x x x x x x x	
E. Concentrates produced	x x x x x x x x x	x x x x x x x x x	<u>958.50684</u>
TOTAL GOLD	x x x x x x x x x	x x x x x x x x x	<u>1015.15020</u>
Silver in—			
A. Mill bullion and precipitate (fineness_____)			
C. Material sold to smelters (except E)	x x x x x x x x x	x x x x x x x x x	<u>41.4300</u>
D. Material sold to leaching or other plants	x x x x x x x x x	x x x x x x x x x	
E. Concentrates produced	x x x x x x x x x	x x x x x x x x x	<u>807.4849</u>
TOTAL SILVER	x x x x x x x x x	x x x x x x x x x	<u>848.9149</u>

	C IN SMELTING MATERIAL	D IN LEACHED OR OTHER MATERIAL	E IN CONCENTRATES	TOTAL POUNDS
	Pounds of metal	Pounds of metal	Pounds of metal	
Copper content (wet assay)	<u>811.685</u>	<u>—</u>	<u>811.685</u>	<u>811.685</u>
Lead content (wet assay)	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>
Zinc content	<u>—</u>	<u>—</u>	<u>—</u>	<u>—</u>

Total net value received,  
according to settlement sheets (freight \$ 1340.10 and treatment \$ 1436.74 deducted) \$ 30667.45

If preferred, fill in figures for tons of ore and mail settlement sheets, which will be returned promptly

Please reply to the questions on the back of this schedule

[OVER]



4. MISCELLANEOUS:

(a) What disposition was made of the products in 1941? ORE & CONCENTRATES SOLD TO INTERNATIONAL  
(Give name of smelter or mill to which ore was sold; United States)

SMELT. & REFINING CO. (MIAMI PLANT) AND AMERICAN SMELT. & REFINING CO. (HAYDEN PLANT)  
assay office, mint, bank, or others to whom bullion was sold)

(b) In whose name was product shipped? THE PARK VIEW MINING CO.

(c) If ore is treated at custom plant, give name and location \_\_\_\_\_

(d) How is the mine developed? Tunnel & Drifts 1230  
(For example, by vertical shaft \_\_\_\_\_ feet deep, by drifts \_\_\_\_\_ feet, tunnel \_\_\_\_\_ feet long)  
100 -

(e) What was amount of development done in 1941? Shaft \_\_\_\_\_ feet; drifts \_\_\_\_\_ feet;

tunnel \_\_\_\_\_ feet; diamond drilling \_\_\_\_\_ feet.

(f) Are the ores sold or treated in 1941 considered oxidized or sulfide? Mixed BOTH

(g) What minerals are contained in ore? Sold Silver & Copper

(h) What is the general character and capacity of reduction plant at mine? 50 Ton Flotation  
(For example, 100-ton concentration mill, 300-ton

flotation mill, 75-ton cyanide plant, etc.)

(i) What additions were made to plant in 1941? Mill started January 1941

(j) Treatment processes Flotation  
(Give treatment in brief at your plant of crude ore; concentrates; tailing)

(k) Total dividends to end of 1941, \$ NONE Dividends paid in 1941, \$ NONE

(l) What distance and in what direction is the mine from the nearest shipping point? NINE MILES - SOUTH

(m) Remarks (please mention important changes in 1941):

(n) How many days per week was mill operated? \_\_\_\_\_ Number of shifts? \_\_\_\_\_

THE PARK VIEW MINING CO.  
(Name of company)

Sept 28, 1943  
(Date)

[Signature]  
(Signature)

Manager  
(Official position)

132 W. Hancock St  
(Address)

Phoenix, Arizona

Do you object to the publication in MINERALS YEARBOOK of figures furnished on this schedule in such a manner as to disclose your production? No  
(Yes or no)



Number 1 Name of mine PARK VIEW District SALT RIVER MTS. County MARICOPA State ARIZONA

 SHIPMENTS OF CRUDE ORE IN 1941. PLEASE ENTER EACH SETTLEMENT CERTIFICATE SEPARATELY  
 & CONCTS.

NAME OF SMELTER OR OTHER PURCHASER	SHIPMENT DATE	SETTLEMENT DATE	MATERIAL SHIPPED (DRY WEIGHT)	SETTLEMENT ASSAYS					ANALYSES								SETTLEMENT VALUES				
				Gold	Silver	Copper (Wet assay)	Lead (Wet assay)	Zinc	SiO <sub>2</sub> or Insol	Fe	Mn	S	CaO	As <sub>2</sub> O <sub>3</sub>	Sb	Bi	Cd	Net Value Received	Freight	Treatment	Gross Value*
				Pounds	Ounces per ton	Ounces per ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent			
{ INT. SMELT. & REF. CO. (MIAMI PLANT)	1-22-41	1-29-41	9 715	4.44	4.06				24.6	32.4		29.8						\$ 640.71	\$ 22.03	\$ 45.00	\$ 707.74
	2-28-41	3-7-41	10 369	3.5725	2.795				37.5	22.8		18.1						541.07	23.72	41.33	606.12
	3-3-41	3-7-41	12 279	5.445	4.825				31.8	25.9		24.8						1015.03	27.32	53.98	1096.33
AM. SMELT. & REF. CO. HAYDEN PLANT		1-20-41	9 890	4.100	3.00				33.1	26.4		27.9						612.78	27.20	23.78	663.76
		1-30-41	9 612	3.600	2.10				36.4	22.5		20.6						511.74	27.40	26.38	564.52
" " " "	3-4-41	3-6-41	60 476	.43	.20				87.0	3.0								259.53	54.95	105.83	420.31
" " " "		3-13-41	11 757	7.24	5.30				23.3	31.0		32.0						1340.70	33.40	25.57	1399.67
" " " "		3-22-41	11 702	8.44	6.75	.17%			26.2	28.2		26.1						1569.36	33.55	24.78	1627.69
" " " "		3-24-41	58 430	.328	.20				73.3	3.7								155.30	52.13	102.25	309.68
" " " "		4-2-41	12 826	5.66	4.50	.24%			34.7	23.6		20.3						1128.77	36.15	27.44	1192.36
" " " "		4-9-41	12 239	6.22	4.45	.23%			27.2	25.8		25.1						1188.91	34.15	26.42	1249.48
" " " "		4-16-41	10 649	5.35	4.30	.24%			32.6	23.4		23.1						880.57	31.10	23.64	935.31
" " " "		4-16-41	10 562	.89	.40	.22%			79.1	6.0								93.86	27.25	30.77	151.88
" " " "		4-23-41	10 753	5.46	5.50	.14%			25.3	27.0		26.1						950.74	31.70	24.57	1007.01
" " " "		4-30-41	11 184	4.96	4.10				33.6	22.8		21.3						820.27	31.15	23.82	875.24
" " " "		5-3-41	9959	.87	.48				50.3	15.2								83.81	30.40	25.81	140.02
" " " "		5-9-41	10 323	4.88	4.30	.30%			32.0	24.2		22.7						775.63	28.90	23.06	827.59
" " " "		5-8-41	30 948	.292	.36				84.1	2.8								50.08	41.84	54.16	146.08
" " " "		5-12-41	9 231	3.06	2.70	.16%			44.8	17.0		16.4						415.14	27.15	21.15	463.44
" " " "		5-20-41	10 031	4.06	3.60	.27%			33.2	21.3		20.0						616.86	29.40	22.55	668.81
" " " "		5-28-41	10 506	6.10	5.90	.50%			34.1	21.8		19.6						1004.78	29.95	23.38	1058.11
" " " "		6-3-41	10 786	7.33	7.40	.56%			30.6	24.4		23.8						1255.78	29.60	23.87	1309.25
" " " "		6-11-41	18 408	1.656	1.76	.18%			40.5	16.5		15.2						465.65	55.85	42.80	564.30
" " " "		6-24-41	11 966	5.01	4.05	.24%			27.2	26.8		28.2						925.29	32.20	25.94	983.43
" " " "		6-26-41	10 361	3.827	3.15	.24%			31.6	22.3		21.8						596.77	28.75	24.68	650.20
" " " "		7-8-41	9 772	3.64	3.56	.82%			30.0	25.6		24.7						540.57	26.10	22.10	588.71
" " " "		7-17-41	11 549	5.44	5.80	.26%			24.1	29.3		29.0						980.71	31.35	25.21	1037.27
" " " "		7-22-41	9 596	5.24	5.01	.28%			32.5	24.8		25.2						779.65	26.45	21.79	827.89
" " " "		7-29-41	10 582	6.63	5.70	.30%			28.7	26.2		28.4						1103.40	28.85	23.52	1155.77
" " " "		8-2-41	10 008	4.33	3.95	.24%			35.9	21.8		19.8						662.61	27.05	22.51	712.17
" " " "		8-6-41	10 245	5.21	4.00	.28%			33.0	26.5		24.6						824.60	27.75	22.93	875.28
" " " "		8-28-41	53 697	.40	.41				83.2	2.5								211.57	57.10	97.47	360.08
" " " "		8-19-41	12 017	.385	.36	.26%			46.4	18.2		16.2						7.71	34.10	32.94	74.75



Number 2 Name of mine PARK VIEW District SALT RIVER MTNS, County MARICOPA State ARIZONA

 SHIPMENTS OF CRUDE ORE IN 1941. PLEASE ENTER EACH SETTLEMENT CERTIFICATE SEPARATELY  
 & CONCENTS.

NAME OF SMELTER OR OTHER PURCHASER	SHIPMENT DATE	SETTLEMENT DATE	MATERIAL SHIPPED (DRY WEIGHT)	SETTLEMENT ASSAYS					ANALYSES								SETTLEMENT VALUES			
				Gold	Silver	Copper (Wet assay)	Lead (Wet assay)	Zinc	SiO <sub>2</sub> or Insol	Fe	Mn	S	CaO	As <sub>2</sub> O <sub>3</sub>	Sb	Bi	Cd	Net Value Received	Freight	Treatment
			Pounds	Ounces per ton	Ounces per ton	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent				
AM, SMELT. & REF. CO. HAYDEN PLANT		9-4-41	65241	.42	.32				76.4	3.2							\$ 270.83	\$ 57.66	\$ 114.17	\$ 442.66
" " " "		10-10-41	9284	6.54	5.70	.30%			31.0	27.5		26.3					953.65	25.45	21.25	1000.35
" " " "		10-23-41	10477	5.33	4.20	.20			36.8	23.5		24.7					864.54	28.50	23.33	916.37
" " " "		10-31-41	10170	6.30	5.12	.15			32.0	24.8		24.1					1003.12	28.00	22.80	1053.92
" " " "		11-11-41	10341	8.26	5.50	.20			24.3	28.6		30.2					1352.96	28.10	23.10	1404.16
" " " "		11-18-41	11247	6.44	5.40	.20			30.3	24.5		24.9					1136.22	31.45	24.68	1192.35
" " " "		12-9-41	11360	7.23	5.50	.15			24.0	28.3		29.8					1295.00	31.45	24.88	1351.33
" " " "		12-18-41	9770	5.19	4.40	.20			36.9	20.3		18.5					781.30	29.50	22.10	832.90
TOTALS -----																	30667.45	1340.10	1436.74	33444.29
NOTE: - THE ABOVE RECORD INCLUDES ALL SHIPMENTS OF BOTH CONCENTRATES AND CRUDE ORE																				
																	App 9800 Ozes.			
A.S. & R. HAYDEN PLANT	3-4-41	3-6-41	60476	.43	.20				81.0	3.0							259.53	54.95	105.83	420.31
		3-24-41	58430	.328	.20				73.3	3.7							155.30	52.13	102.25	309.68
		4-16-41	10562	.89	.40				79.1	6.0							93.86	27.25	30.77	151.88
	5-7-41	5-8-41	30948	.292	.36				84.1	2.8							50.08	41.84	54.16	146.08
		8-25-41	55697	.40	.41				83.2	2.5							211.57	51.10	97.47	360.08
		9-4-41	65241	.42	.32				76.4	3.2							270.83	57.66	114.17	442.66
TOTALS -----																	1041.11	284.93	504.65	1830.69
NOTE: - THE ABOVE SIX LINES SHOWS ALL SHIPMENTS OF CRUDE ORE MADE DURING 1941.																				





UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF MINES

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THE INTERIOR ONLY

## CONCENTRATION DATA

(Data used in totals only)  
DRY TONS

1. Material treated:

Crude ore ..... 4708.3  
Old tailings .....  
Total material concentrated .....

2. Are ores sulphide, mixed, or oxidized? (Underline which.)

3. Classification of material treated: Gold-silver ore, copper ore, copper-lead ore, lead ore, lead-zinc ore, zinc ore.  
(Underline which.)

4. Alkalinity of flotation circuits:  
(State in pH units.)

Copper circuit .....  
Lead circuit .....  
Zinc circuit .....  
Iron circuit .....

5. Screen analysis of flotation feed:

+ 48 mesh ..... percent  
- 48+ 65 mesh ..... percent  
- 65+100 mesh 10 ..... percent  
- 100+150 mesh 90 ..... percent  
- 150+200 mesh ..... percent  
- 200 mesh ..... percent

6. Percent solids in flotation feed .....

## METALLURGICAL DATA

	DRY TONS	ASSAYS						
		GOLD	SILVER	COPPER (Wet assay)	LEAD (Wet assay)	ZINC	IRON	INSOL.
		Ounces per ton	Ounces per ton	Percent	Percent	Percent	Percent	Percent
Total mill feed.....	<u>4708.3</u>							
Gravity copper concen- trate.....								
Gravity lead concen- trate.....								
Gravity zinc concen- trate.....								
Other gravity concen- trate.....								
Gravity tailing to waste.....								
Flotation feed.....	<u>4708.3</u>							
Flotation copper concen- trate.....								
Flotation lead concen- trate.....								
Flotation zinc concen- trate.....								
Flotation iron concen- trate.....								
Other flotation concen- trate.....								
Flotation tailing.....								

(OVER)



# FLOTATION REAGENTS USED

REAGENT	KIND AND GRADE	QUANTITY USED		Give approximate tons of ore treated with each reagent
		TOTAL POUNDS	PER TON OF ORE MILLED	
Pine oils.....		100.57 gal	1.0288	3470.1
Cresylic acid.....		40 gal	.15	1079.4
Ortho-toluidin.....				
Coal-tar creosotes.....				
Coal-tars.....				
Wood-tar creosotes.....				
Pine-tar oils.....				
Petroleum products.....				
Blast-furnace oils.....				
Water-gas tars.....				
Other oils (state names):.....				
Ethyl xanthates (sod. or pot.).....				
Butyl xanthates.....				
Amyl xanthates.....	Z-5	1779 lbs	.81	2189.0
Other xanthates.....				
Aerofloat.....				
Sodium aerofloat.....		10.25	.00155	662.4
Other dithio-phosphates:.....				
Thio-carbanilid.....				
Alpha-naphthalamine.....				
Oleic acid.....		7.75 gal	.01	1061.4
Sodium oleate.....				
Sulphuric acid.....				
Sodium carbonate.....				
Sodium hydroxide.....	Ash	4204 lbs	.88	4708.3
Lime.....				
Cement.....				
Sodium sulphide.....				
Copper sulphate.....		1230.75	.329	2739.6
Sodium cyanide.....				
Sodium sulphite.....				
Sodium silicate.....				
Zinc sulphate.....				
Sodium dichromate.....				
Aluminum sulphate.....				
Sodium sulphate.....				
208	Am Cyanide	652 lbs	.1785	3648.0
242	" "	31 gal	.0012	4368.3
301	" "	295 lbs	.087	3307.9
404	" "	45 lbs	.02	2425.0
425	" "	104.5 "	.045	2422.4
TOTAL REAGENTS.....				

Date May 26 - 1942

THE PARK VIEW MINING CO. Company

(Signed)



6-850  
W. O. 22  
(July 1939)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF MINES  
WASHINGTON

FOR USE BY  
DEPARTMENT OF  
THE INTERIOR ~~ONLY~~  
AND NATIONAL DEFENSE  
AGENCIES ONLY

# DATA FOR MILLING PLANT

Please reply to the following questions and return the schedule as promptly as possible in the enclosed envelope, which requires no postage. A separate report should be prepared for each mill that was in operation during the year. Additional blanks will be furnished upon request.

## 1. DESCRIPTION AND LOCATION OF MILL:

- (a) By what name is mill known? PARK VIEW When built? DEC. 1940  
(Give local name) (State what year)
- (b) What years was mill in operation? 1941
- (c) Where is mill located? AT PARK VIEW MINE, SALT RIVER MOUNTAINS  
NINE MILES SOUTH OF PHOENIX, ARIZONA  
(Name gulch, stream, or distance and direction)  
from nearest post office. Give name of post office)
- (d) Character of ore treated (underline which): Dry siliceous gold, dry siliceous silver, copper, lead, zinc, silver-lead, lead-zinc, lead-zinc-iron, or other combinations of minerals (specify)
- (e) Is all crushing done at mine or mill? YES Source and quantity of power for mill? Diesel  
(Water, steam, electric current, or gas)
- (f) How is ore brought to mill? TRAMMED FROM MINE Distance of mill from mine? 100 yds  
(Wagon, auto, rail, or aerial tramway)
- (g) What is daily (24-hour) capacity of mill? 50 tons. Daily average treated during 1941 100 tons.
- (h) What processes are used (underline which)? Amalgamation, cyanidation, chloridizing roast, concentration (dry or wet), flotation, magnetic separation, electrostatic, acid leaching, chloride volatilization, or other processes (specify)
- (i) Is mill used for custom ores? NO From what mines was ore treated during 1941? NONE  
(Yes or no)
- (j) Give a brief description or flow sheet of treatment process used:

(k) How many days per week was mill operated? 6 Number of shifts? Two



## 2. MILLING EQUIPMENT USED:

MILL OPERATING EQUIPMENT	NUMBER	KIND OR MAKE	SIZE OR CAPACITY	REMARKS
Crude ore bins.....	1		50 TON	
Fine ore bins.....	1		10 TON	
Crushers, jaw type.....	1			
Crushers, gyratory.....				
Do.....				
Crushers, cone.....				
Crushers, disk.....				
Stamps.....				
Amalgamation plates.....				
Trommels.....				
Screens, stationary.....				
Screens, vibrating.....				
Rolls, coarse.....				
Rolls, intermediate.....				
Rolls, fine.....				
Rod mills.....				
Do.....				
Tube mills.....				
Do.....				
Ball mills.....	1			
Do.....				
Do.....				
Chile mills.....				
Other grinding mills.....				
Jigs.....	1			
Tables.....	1			
Do.....				
Vanners.....				
Classifiers, hydraulic.....				
Do.....				
Classifiers, mechanical.....	1			
Do.....				
Classifiers, all other.....				
Flotation machines, pneumatic.....				
Do.....				
Flotation machines, mechanical.....				
Do.....				
Flotation machines, "Sub-A".....	1			
Do.....				
Flotation machines, all others.....				
Do.....				
Thickening tanks.....	1			
Do.....				
Filters.....				
Do.....				
Dryers.....	1			
Roasting machines.....				
Agitation tanks.....				
Leaching tanks.....				
Magnetic separation machines.....				
Pumps.....	2			
Other equipment.....				
Do.....				
Do.....				

Date .....

THE PARK VIEW MINING CO.

(Company)



279

6-382  
(August 1938)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF MINES

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THE INTERIOR ONLY

**CONCENTRATION DATA** for 1941

(Data used in totals only)  
**DRY TONS**

WET

4708.3

1. Material treated:

Crude ore .....

Old tailings .....

Total material concentrated .....

2. Are ores sulphide, mixed, or oxidized? (Underline which.)

3. Classification of material treated: Gold-silver ore, copper ore, copper-lead ore, lead ore, lead-zinc ore, zinc ore.  
(Underline which.)

4. Alkalinity of flotation circuits:  
(State in pH units.)

Copper circuit .....

Lead circuit .....

Zinc circuit .....

Iron circuit .....

5. Screen analysis of flotation feed:

+ 48 mesh ..... percent  
- 48+ 65 mesh ..... percent  
- 65+100 mesh 10 ..... percent  
- 100+150 mesh 90 ..... percent  
- 150+200 mesh ..... percent  
- 200 mesh ..... percent

6. Percent solids in flotation feed .....

**METALLURGICAL DATA**

	WET DRY TONS	ASSAYS						
		GOLD	SILVER	COPPER (Wet assay)	LEAD (Wet assay)	ZINC	IRON	INSOL.
		Ounces per ton	Ounces per ton	Percent	Percent	Percent	Percent	Percent
Total mill feed	4708.3							
Gravity copper concen- trate								
Gravity lead concen- trate								
Gravity zinc concen- trate								
Other gravity concen- trate								
Gravity tailing to waste								
Flotation feed	4708.3							
Flotation copper concen- trate								
Flotation lead concen- trate								
Flotation zinc concen- trate								
Flotation iron concen- trate								
Other flotation concen- trate								
Flotation tailing								

(OVER)

6--8514



## FLOTATION REAGENTS USED

REAGENT	KIND AND GRADE	QUANTITY USED		Give approximate tons of ore treated with each reagent
		TOTAL POUNDS	PER TON OF ORE MILLED	
Pine oils.....		100.57 GAL	.0288	3470.1
Cresylic acid.....		157. QTS	.145	1079.4
Ortho-toluidin.....				
Coal-tar creosotes.....				
Coal-tars.....				
Wood-tar creosotes.....				
Pine-tar oils.....				
Petroleum products.....				
Blast-furnace oils.....				
Water-gas tars.....				
Other oils (state names):.....				
Ethyl xanthates (sod. or pot.).....				
Butyl xanthates.....				
Amyl xanthates.....				
Other xanthates.....				
Aerofloat.....				
Sodium aerofloat.....		10.25 LBS	.00155	662.4
Other dithio-phosphates:.....				
Thio-carbanilid.....				
Alpha-naphthalamine.....				
Oleic acid.....		600 cc. + 7.75 QTS		1061.4
Sodium oleate.....				
Sulphuric acid.....				
Sodium carbonate.....				
Sodium hydroxide <i>Ask</i> .....				
Lime.....				
Cement.....				
Sodium sulphide.....				
Copper sulphate.....		1230.75 LBS	.329	3729.6
Sodium cyanide.....				
Sodium sulphite.....				
Sodium silicate.....				
Zinc sulphate.....				
Sodium dichromate.....				
Aluminum sulphate.....				
Sodium sulphate.....				
CAUSTIC SODA.....		4204 LBS	.88	4708.3
2-5.....		1779 "	.87	2189.0
208.....		652 "	.1785	3647.9
242.....		31 GAL	.00712	4368.3
301.....		2945 LBS	.087	3307.9
404.....		45 "	.0193	2425.0
425.....		1045 "	.045	2422.4
TOTAL REAGENTS.....				

Date Mar 26 - 1948

THE PARK VIEW MINING Co. Company  
(Signed) \_\_\_\_\_



## City of Phoenix

PUEBLO GRANDE MUSEUM AND CULTURAL PARK  
ARCHAEOLOGY SECTION

July 18, 2001

Nyal J. Niemuth  
Mining Engineer  
Department of Mines and Mineral Resources  
1502 W. Washington Street  
Phoenix, AZ 85007

Dear Nyal,

Enclosed for your archives is the published article I wrote on the history of mining in the South Mountains. I must apologize that the Arizona Historical Society did not credit the Department of Mines and Mineral Resources for three photographs in the article. I never saw the photo captions, so I did not know they hadn't provided the proper credits. Fortunately, the Historical Society did include my acknowledgments where you, Diane Bain, and the Department of Mines and Mineral Resources are thanked for your assistance.

Please make this article available to anyone interested in mining in the South Mountains.

Sincerely,

Todd Bostwick  
Phoenix City Archaeologist

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ON THE COVER: (*Front cover*) Hettie Toia—Chiricahua Apache (1886-1901). F. Rinehart photo. Omaha, Nebraska, 1899. *AHS/SAD* #59731. (*Back cover*) Apache mother and child. *AHS/SAD* #60486. *Courtesy Arizona Historical Society.*

# GOLD—GOLD—GOLD

## The Rise and Fall of Mining in Phoenix's South Mountain Park

by

Todd W. Bostwick

**H**ARD-ROCK, OR LODE, MINING has been an important economic activity in Arizona since early territorial times. Although the state is famous for its copper production, gold and silver deposits greatly influenced settlement beginning in the 1860s. By the 1890s, at least seventeen major gold mines, most of them short-lived, had been in operation in Arizona. Some of them—for example, the Vulture mine near Wickenburg—are well known, while others are long forgotten. Twenty-first century Phoenixians may be surprised to learn that for more than sixty years—from the 1880s to the mid-1940s—gold was mined sporadically inside South Mountain Park, a rugged set of ridges on the southern edge of the city. Eventually yielding more than 7,000 ounces of gold, along with lesser amounts of silver and copper, the South Mountain mines were most productive during the 1930s, at the very time that the federal government and the City of Phoenix were spending large sums of money to convert the mountains into the nation's largest municipal park. The story of mining in the South Mountains reveals some of the conflicts that arose in the West when public land was converted from mining to recreational use.<sup>1</sup>

---

Todd Bostwick is Phoenix City Archeologist at Pueblo Grande Museum and Cultural Park. For information and other assistance during his research, he wishes to thank Diane Bain, Fay Freed, Bruce Dinges, Michael Goodman, Dan Gronseth, Bill Jacobson, Roger Lidman, Doug Lindsey, Nyal Niemuth, Robert Trennert, and Etta Wolverton. Thanks also to the Arizona Department of Mines and Mineral Resources; the Arizona Historical Foundation; and the City of Phoenix Parks, Recreation and Library Department.

Totals on 1941 Production of the eliminating  
the figures representing the production shipment  
does not reflect the results from the mine.

These figures are hand booked AR 17 and  
represent 5 months operation to May 31st.

1	Gold Concentrate	110.518	
2	Quartz Gold	497.7187	
3	Value @ \$35.00	\$17,419.17	
4	" @ \$32.32	\$16,101.51	⊗
5	Silver - oz	\$417.076	
6	" Paid for	\$261.80	
7	Smelter Cost	506.31	
8	Transportation	534.27	
9	Royalty	1332.40	
10	NET for P.V.M.	13,473.37	⊗

11 { % of \$ for the operation of the  
mine is  $\frac{\text{line \#10}}{\text{line \#4}} = 85.5\%$  based on  
what the smelter pays.

12 { % of \$ for operation of mine based on \$35.00  
per oz. is  $\frac{\text{line \#10}}{\text{line \#3}} = 79\%$

13. For 1940 this % is 56.5% of what was paid.

SKH



FCK 1941

## PRODUCTION RECORD

THE PARK VIEW MINING CO.  
PHOENIX, ARIZONA

LINE NO.	DATE	LOT NO.	MILLED TO DATE	TONS				ANALYSIS (PER TON)								RECOVERY & GROSS VALUES PAID				SMELTING COST					TOTAL COST PER LOT	TRANSPORTATION			PAYMENTS			
				WET		DRY		AU	AG	ALS	SI	S	FE	CU	OZ PER LOT	AT 35.00	PAID BY SMELTER	OZ PER LOT	PAID	BASE RATE	PEN. ALTY	EXCESS	TOTAL TON	SAMPL. CHARGE		RAIL	TRUCK	TOTAL	ROYALTY PAID	SMELTER CHECK	NET TO P.V.M.	
				CRUDE	CONCT.	CRUDE	CONCT.																								OZ	OZ
1	1-20-41	1	1	34.6				4.45	4.0	3.1	0.2	2.1			202745	7.161	6350.1	14.25	\$ 25													
2	1-22-41	2	2	34.6				4.515	4.4	3.1	0.2	2.1			215673	7.516	6348	14.24	13.6													
3	1-23-41	3	3	34.6				4.515	4.4	3.1	0.2	2.1			173016	6.182	5517	14.1	5.03													
4	1-24-41	4	4	34.6				5.12	5.0	3.1	0.2	2.1			175216	6.182	5517	14.1	5.03													
5	1-25-41	5	5	34.6				5.12	5.0	3.1	0.2	2.1			334126	11.1	10740	24.22	12.7													
6	1-26-41	6	6	34.6				5.12	5.0	3.1	0.2	2.1			13022	4.1	321	6.47	3.8													
7	1-27-41	7	7	34.6				5.12	5.0	3.1	0.2	2.1			403443	12.1	13016	31.53	1.2													
8	1-28-41	8	8	34.6				5.12	5.0	3.1	0.2	2.1			41344	11.1	1611	24.43	2.1													
9	1-29-41	9	9	34.6				5.12	5.0	3.1	0.2	2.1			95225	3.5	3133	5.43														
10	1-30-41	10	10	34.6				5.12	5.0	3.1	0.2	2.1			32225	1.5	1211	1.12	1.1													
11	1-31-41	11	11	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
12	1-32-41	12	12	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
13	1-33-41	13	13	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
14	1-34-41	14	14	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
15	1-35-41	15	15	34.6				5.12	5.0	3.1	0.2	2.1			30225	1.2	1211	1.12	1.1													
16	1-36-41	16	16	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
17	1-37-41	17	17	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
18	1-38-41	18	18	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
19	1-39-41	19	19	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
20	1-40-41	20	20	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
21	1-41-41	21	21	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
22	1-42-41	22	22	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
23	1-43-41	23	23	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
24	1-44-41	24	24	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
25	1-45-41	25	25	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
26	1-46-41	26	26	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
27	1-47-41	27	27	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
28	1-48-41	28	28	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
29	1-49-41	29	29	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
30	1-50-41	30	30	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
31	1-51-41	31	31	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
32	1-52-41	32	32	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
33	1-53-41	33	33	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
34	1-54-41	34	34	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
35	1-55-41	35	35	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
36	1-56-41	36	36	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
37	1-57-41	37	37	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
38	1-58-41	38	38	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
39	1-59-41	39	39	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
40	1-60-41	40	40	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
41	1-61-41	41	41	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
42	1-62-41	42	42	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
43	1-63-41	43	43	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
44	1-64-41	44	44	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
45	1-65-41	45	45	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
46	1-66-41	46	46	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1													
47	1-67-41	47	47	34.6				5.12	5.0	3.1	0.2	2.1			21225	1.2	1211	1.12	1.1										</			

FOR 1940

## PRODUCTION RECORD

THE PARK VIEW MINING CO.  
PHOENIX, ARIZONA

DATE	LOT NO.	MILLED TO DATE	TONS SHIPPED						ANALYSIS (PER TON)								RECOVERY & GROSS VALUES PAID								SMELTING COST RATES & CHARGES					TRANSPORTATION			PAYMENTS			
			WET		DRY		AU	AG	AL	SI	S	FE	CU	GOLD				SILVER				BASE RATE	PEN-ALTY	EXCESS	TOTAL TON	SAMPL. CHARGE	TOTAL COST PER LOT	RAIL	TRUCK	TOTAL	ROYALTY PAID	SMELTER CHECK	NET TO P.V.M.			
			CRUDE	CONCT.	H <sub>2</sub> O	CRUDE								CONCT.	OZ	OZ	%	%	%	%	OZ PER LOT												AT 35.99	PAID BY SMELTER	OZ PER LOT	PAID
1-4-40	1																																			
2-3-40	2																																			
2-9-40	3																																			
2-14-40	4																																			
2-24-40	5																																			
3-4-40	6																																			
3-11-40	7																																			
3-17-40	8																																			
3-24-40	9																																			
4-1-40	10																																			
4-8-40	11																																			
4-15-40	12																																			
4-22-40	13																																			
5-2-40	14																																			
5-9-40	15																																			
5-16-40	16																																			
5-23-40	17																																			
5-30-40	18																																			
6-6-40	19																																			
6-13-40	20																																			
6-20-40	21																																			
6-27-40	22																																			
7-4-40	23																																			
7-11-40	24																																			
7-18-40	25																																			
7-25-40	26																																			
8-1-40	27																																			
8-8-40	28																																			
8-15-40	29																																			
8-22-40	30																																			
8-29-40	31																																			
9-5-40	32																																			
9-12-40	33																																			
9-19-40	34																																			
9-26-40	35																																			
10-3-40	36																																			
10-10-40	37																																			
10-17-40	38																																			
10-24-40	39																																			
10-31-40	40																																			
11-7-40	41																																			
11-14-40	42																																			
11-21-40	43																																			
11-28-40	44																																			
12-5-40	45																																			
12-12-40	46																																			
12-19-40	47																																			
12-26-40	48																																			
1-2-41	49																																			
TOTAL	51																																			

57.83 = VALUE OF SILVER @ 69.4 PER OZ.

N.T.S. = NOT TESTED  
 \* = ANALYSIS ALLOCATED TO ANALYSIS OF THE SAME ELEMENT  
 8 = ANALYSIS REPORT FOR ANALYSIS OVER, ANALYSIS OF THE SAME ELEMENT

FOR 1940

## PRODUCTION RECORD

THE PARK VIEW MINING CO.  
PHOENIX, ARIZONA

LINE	DATE	LOT NO.	MILLED TO DATE	TONS						ANALYSIS (PER TON)								RECOVERY & GROSS VALUES PAID								SMELTING COST RATES & CHARGES					TRANSPORTATION			PAYMENTS			
				SHIPPED																																	
				WET																																	
				CRUDE	CONCT.	H <sub>2</sub> O	CRUDE	CONCT.		AU	AG	AL	SI	S	FE	CU	OZ	PER LOT	AT 35.00	PAID BY SMELTER	OZ	PER LOT	PAID	BASE RATE	PENALTY	EXCESS	TOTAL TON	SAMPLE CHARGE	TOTAL COST PER LOT	RAIL	TRUCK	TOTAL	ROYALTY PAID	SMELTER CHECK	NET TO P.V.M.		
1	1-24-40	1		411450		1.6	4071870		26	14	12.7	658		3.5				10640462	371116	342001		57110		150	168		218		8892	41145	3169	7254	2123	19102	15993		
2	2-3-40	2		44460		1.3	488170		29	17	7.6	700		3.5				1415493	44592	45742		8249		150			150		7323	4944	3709	8655	3347	30126	24117		
3	2-9-40	3	*	39776		2.7	386960		29	20	12.0	658		4.8				1122184	39276	36258		7739		150	50		200		7739	3777	2923	6960	2454	22088	19105		
4	2-14-40	4		34550		1.1	341700		22	15	11.8	657		3.5				751740	26311	24295		5125		150	45		185		6463	3455	2591	6046	1412	12757	10168		
5	2-26-40	5		47150		2.0	461950		177	13	8.7	723		4.0				822271	22987	26767		6183		150			150		7019	4775	3521	8356	1437	13475	9874		
6	3-4-40	6	*	34250		2.0	335650		332	30	9.4	687		3.8				1114358	39002	36015		10070		150		07	157	235	5270	3425	2569	5944	2732	24589	22020		
7	3-11-40	7	*	39950		1.9	391910		42	08	13.2	652		3.4				470292	16460	15206		3135		150	30		230	156	9170	3945	2936	6971	204	12670	1159		
8	3-17-40	8	*	49450		1.0	481555		305	14	12.2	710		3.0				1493143	52260	47270		6254		150	55		205		10036	4945	3709	8657	3329	32460	26251		
9	3-26-40	9		54790		1.7	533585		285	20	8.5	765		3.2				1534767	53724	49634		10772		150			150		2079	5479	4109	9582	3625	32441	22392		
10	3-25-40	10	*	41110		1.5	404935		437	25	7.1	734		3.7				1769567	61934	57177		10123		150		41	171	412	8146	4111	3023	7174	4492	41427	37345		
11	4-1-40	11		47850		1.2	472760		452	20	10.8	687		3.0				2165241	75782	69968		9455		150	20	47	218		10346	4785	3569	8374	5738	49387	45800		
12	4-8-40	12		50500		1.5	517320		485	35	8.1	735		3.3				2465538	24194	77753		18107		150		50	206		10346	5050	3939	9147	6216	55939	52005		
13	4-15-40	13		50230		1.0	497275		244	25	7.1	740		3.5				1213357	42467	39235		12432		150			150		7459	5023	3767	8190	2675	24077	20311		
14	4-22-40	14		50270		1.3	502675		195	19	9.1	726		2.8				979067	34267	31631		9510		150			150		7530	5027	3215	8462	1967	17112	13247		
15	4-30-40	15		50310		1.5	495335		22	25	6.4	725		4.0				1090221	32158	35234		12339		150			150		7453	5031	3713	8747	2277	23493	16720		
16	5-6-40	16	*	48240		1.1	483630		20	15	5.7	726		3.3				260600	32811	31204		70245		150			150		7045	4824	3663	2547	1407	17117	13504		
17	5-12-40	17	*	53470		2.3	522595		245	30	14.7	751		2.6				1384876	48470	44734		15678		150	18		168		8270	5349	4012	9361	2061	24545	23533		
18	5-20-40	18	*	57120		1.2	574105		305	25	7.4	769		4.0				1898341	66442	61331		14603		150	65		155		9266	5712	4404	10246	4665	41447	37014		
19	5-24-40	19	*	62070		2.3	6195270		411	18	6.6	732		4.0				2700607	171521	158373		21515		150		63	172	412	12225	6177	2137	12326	114494	122326	7442		
20	6-3-40	20	*	61200		3.4	591190		38	26	6.6	725		3.7				2246522	78428	72592		18371		150		23	172	414	10242	6120	4590	10710	5625	50626	46026		
21	6-11-40	21	*	56230		2.1	541310		365	24	8.1	742		3.5				1997681	69919	64523		13135		150		18	166	312	9507	5623	4219	9244	4945	44566	40277		
22	6-17-40	22	*	57700		2.1	567540		37	37	6.2	714		3.0				2260206	79107	73022		22023		250		26	276	412	16407	5770	4490	10477	5063	45565	41075		
23	6-17-40	23	*	61730		2.4	610210		32	32	6.2	714		3.2				3660192	118107	118270		34314		250		63	255	312	27030	6173	4791	20512	7730	69569	60728		
24	6-17-40	24	*	62770		1.2	624030		416	27	6.2	786		3.3				2247728	99670	92003		26327		250		34	284	312	17753	6277	5242	12142	6527	52757	58523		
25	6-17-40	25	*	62770		1.7	624030		414	27	5.2	785		3.3				2265366	103079	95457		25510		250		42	272	412	22042	6277	5242	12142	6527	52757	58523		
26	6-17-40	26	*	59270		1.1	592700		419	40	7.6	785		3.7				2553340	79367	72532		26752		250		39	272	412	22042	5927	5242	12142	6527	52757	58523		
27	6-17-40	27	*	62770		1.5	627700		57	45	7.2	786		3.4				2549270	197722	123557		27247		250		35	275	412	22042	6277	5242	12142	6527	52757	58523		
28	6-17-40	28	*	61730		2.1	617300		62	50	7.4	787		3.8				6360260	222622	205533		49634		250		167	357	412	22042	6173	5242	12142	6527	52757	58523		
29	6-17-40	29	*	55320		2.4	541670		416	46	7.5	787		2.7				2600064	91002	24015		24917		250		55	305		16521	5532	4163	9713	6194	55744	57526		
30	6-17-40	30	*	54400		2.1	532570		57	45	8.3	783		2.7				2716132	95065	87768		23966		250		65	315		16706	5440	4020	9520	6555	57117	54717		
31	6-17-40	31	*	62770		1.7	624030		41	35	8.2	762		3.4				2425375	24832	78381		20704		250		33	283		16741	6277	4518	16542	5562	50654	45936		
32	6-17-40	32	*	59400		2.7	519050		24	30	6.8	712		2.3				1764770	61767	57044		15572		250		10	266		12445	5940	4165	10445	3262	34727	32322		
33	6-17-40	33	*	51700		1.7	520000		41	34	8.2	766		2.1				3122841	74649	68927		17687		250		33	283		14922	5170	3767	9261	4747	44022	40258		
34	6-17-40	34	*	58200		1.8	574660		168	160	8.2	786		4.2				3307722	136770	126311		34470		250		121	317		24417	5820	4374	11977	7497	35471	71116		
35	6-17-40	35	*	57500		1.3	566440		52	40	9.2	766		2.2				2743434	103020	95132		20642		250		17	312	312	21140	5750	4261	10026	6222	61447	57116		
36	6-17-40	36	*	58200		2.1	582000		57	45	7.2	766		3.4				3122687	111441	101677		24671		250		36	336		21162	5820	4261	10026	6222	61447	57116		
37	6-17-40	37	*	60770		1.1	607700		52	42	7.7	766		2.6				3117859	107803	100452		24464		250		19	334		21936	6077	4518	16517	7251	65552			

FOR 1941

## PRODUCTION RECORD

THE PARK VIEW MINING CO.  
PHOENIX, ARIZONA

LINE NO	DATE	LOT NO.	SHIP TO VIEW	SHIP TO ASR/ISSR	MILLED TO DATE	TONS		ANALYSIS (PER TON)								RECOVERY & GROSS VALUES PAID				SMELTING COST				TRANSPORTATION			PAYMENTS																																																																																																																																																																																																																																																																																																																																																																																																																																			
						SHIPPED	H <sub>2</sub> O	AU	AG	ALS	SI	S	FE	CU	GOLD	SILVER	BASE RATE	PEN-ALTY	EXCESS	TOTAL TON	SAMPL CHARGE	TOTAL COST PER LOT	RAIL	TRUCK	TOTAL	ROYALTY PAID	SMELTER CHECK	NET TO P.V.M.																																																																																																																																																																																																																																																																																																																																																																																																																																		
																												WET CRUDE	CONCT	CRUDE	CONCT	OZ	OZ	%	%	%	%	OZ PER LOT	AT \$558	PAID BY SMELTER	OZ PER LOT	PAID	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & CHARGES	RATES & 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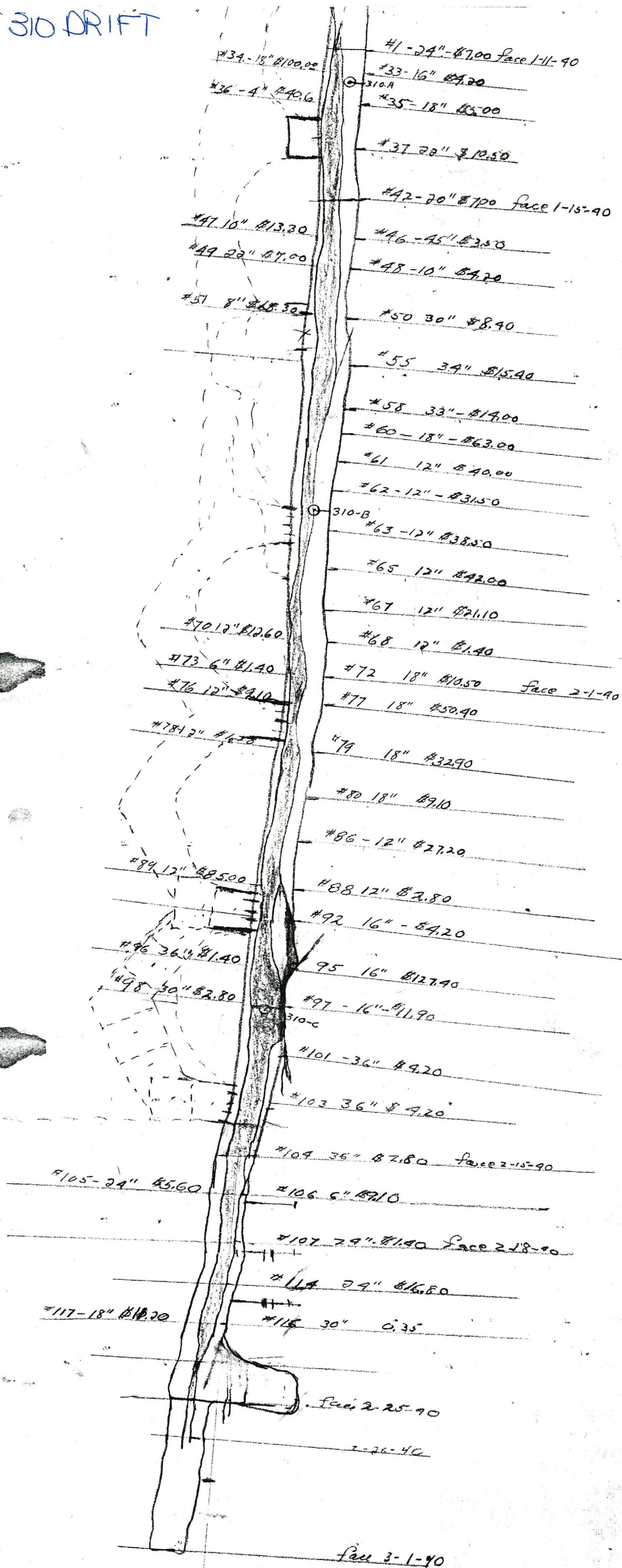
NOTES: @=TABLE CONCENTRATES, \*=-PAYMENT FOR CU. INCLUDED.

[illegible]



# ASSAY MAP OF 310 DRIFT

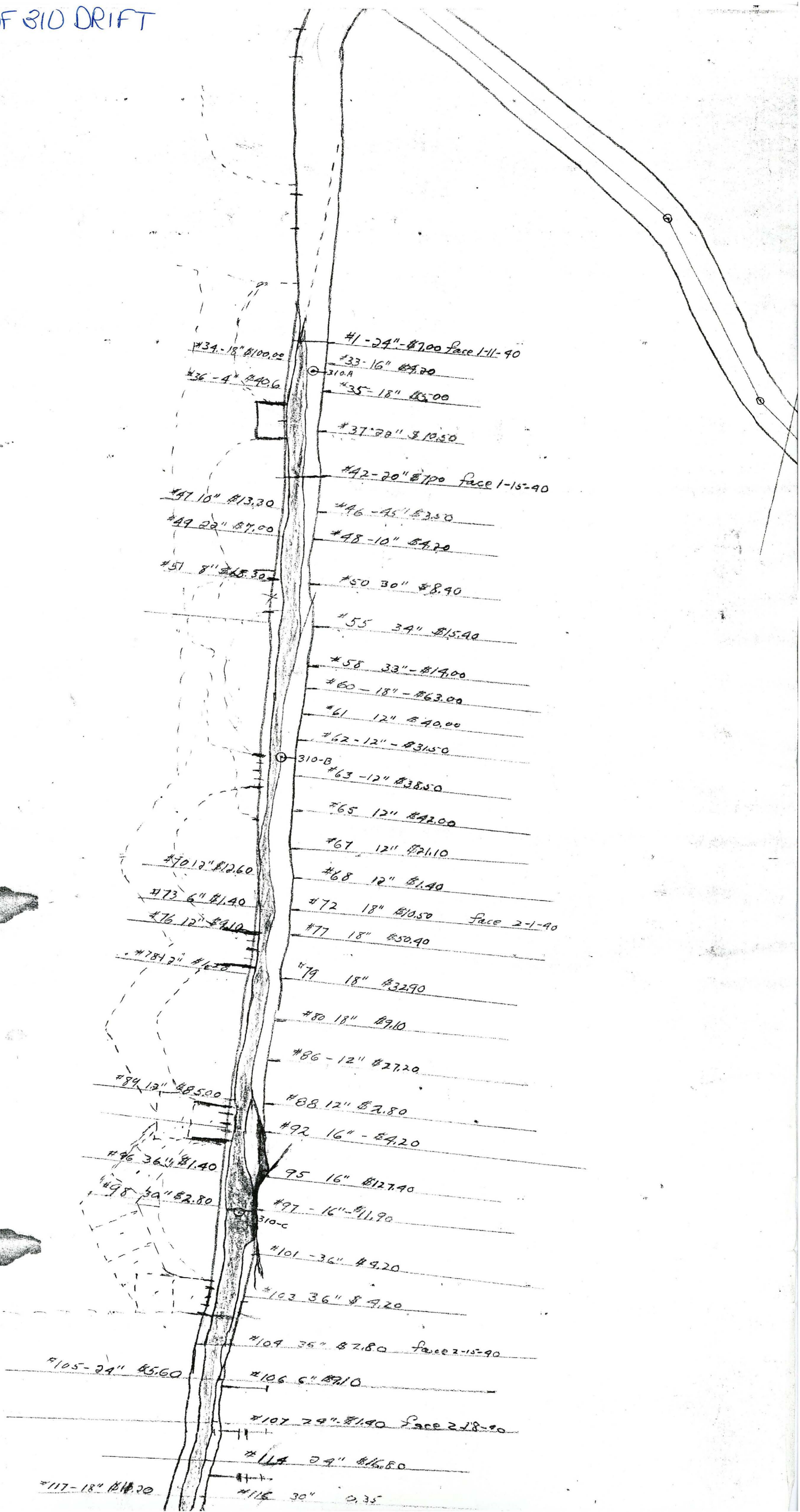
1 of 3



ASSAY MAP OF 310 DRIFT



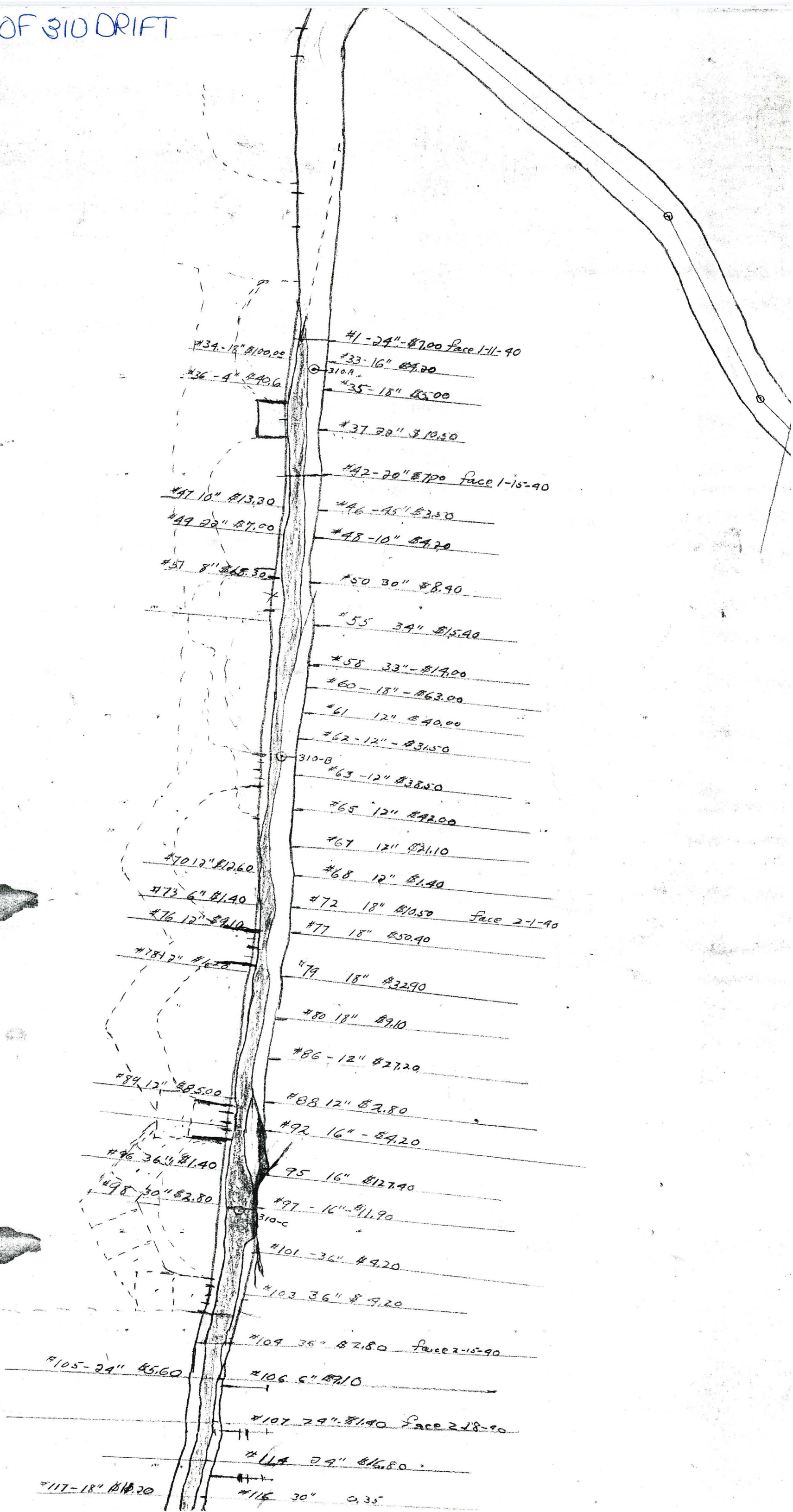
SSAY MAP OF 310 DRIFT  
2 of 3





# ASSAY MAP OF 310 DRIFT

3 of 3

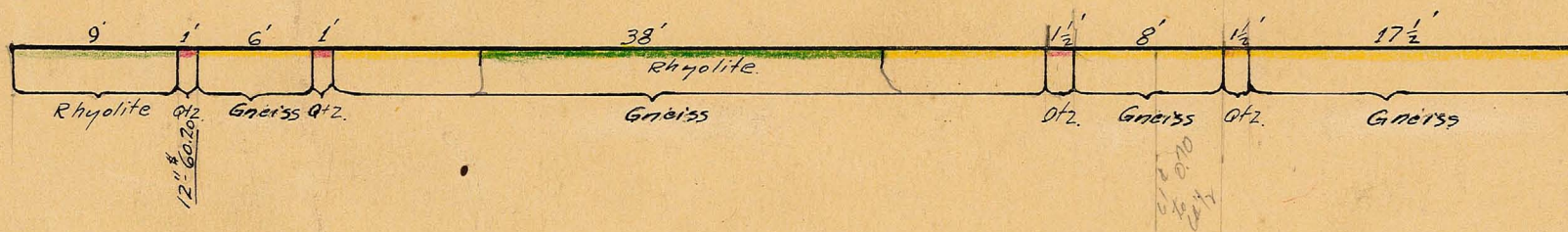




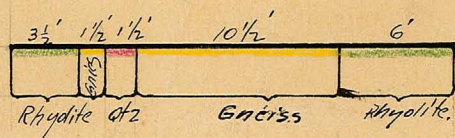
# DIAMOND DRILL RECORD

PARK VIEW MINING COMPANY

Hole No. 4 - 322 - N70°E Total Depth - 83½' + 21°



Hole No. 5 - 322 S60°E Total Depth - 23' - +35°



Hole No. 6 - 322 - S60°W - Total Depth 34' - Horizontal

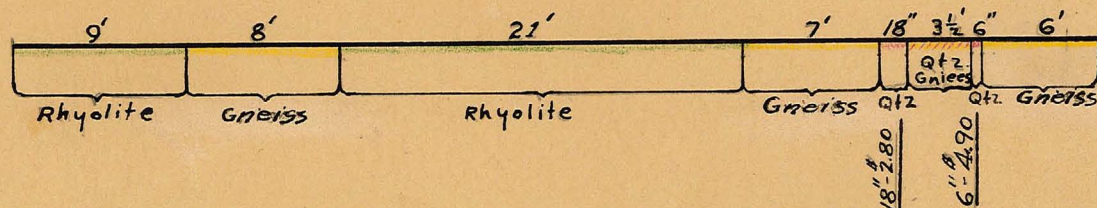




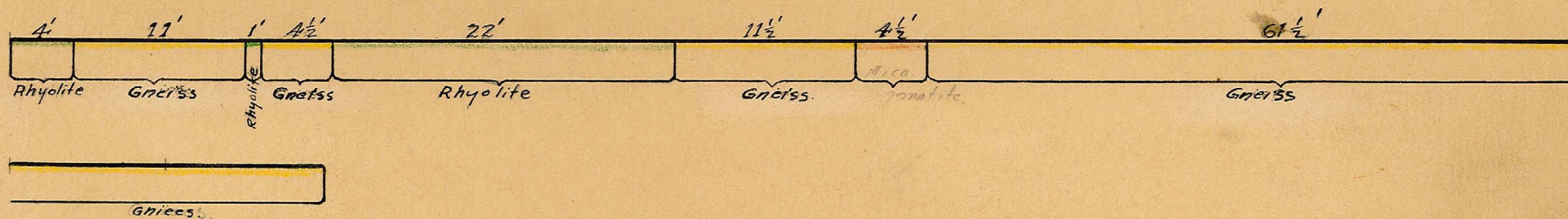
# DIAMOND DRILL RECORD

PARK VIEW MINING COMPANY.

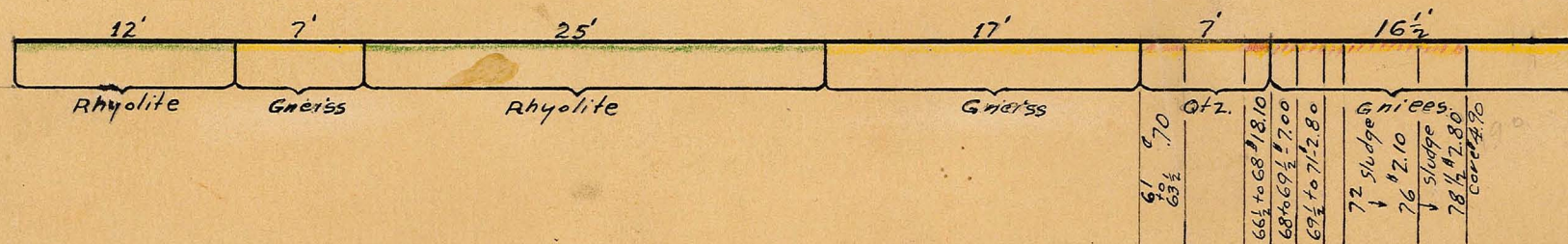
Hole No.1 - 322 E Total Depth -  $56\frac{1}{2}$  ft. Horizontal.



Hole No.2 - 322 -  $560^{\circ}$  E - Total Depth - 120' -  $+5^{\circ}$



Hole No.3 - 322 - EAST - Total Depth  $84\frac{1}{2}$ ' -  $-25^{\circ}$

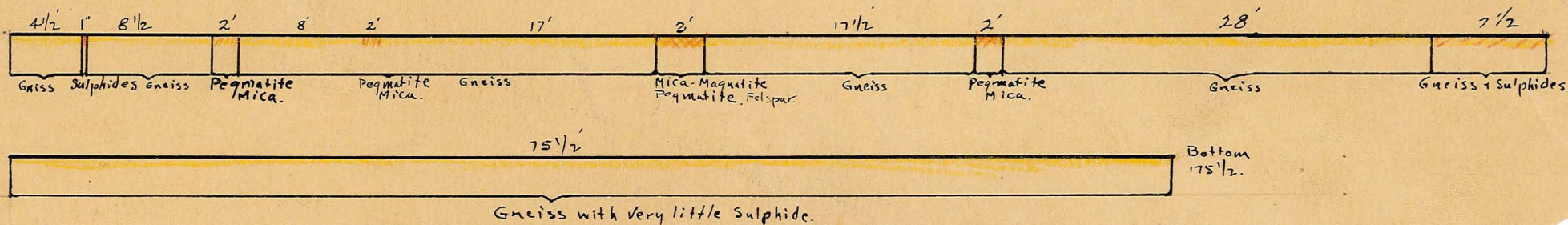




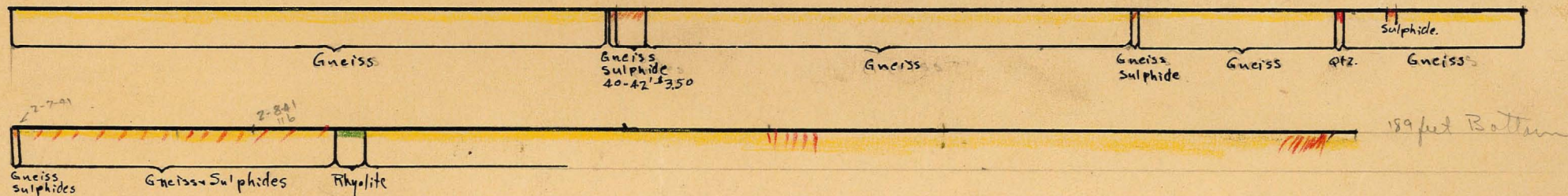
# DIAMOND DRILL RECORD

PARK VIEW MINING COMPANY

Hole No. 314 S45°W Horizontal 175 1/2 feet.

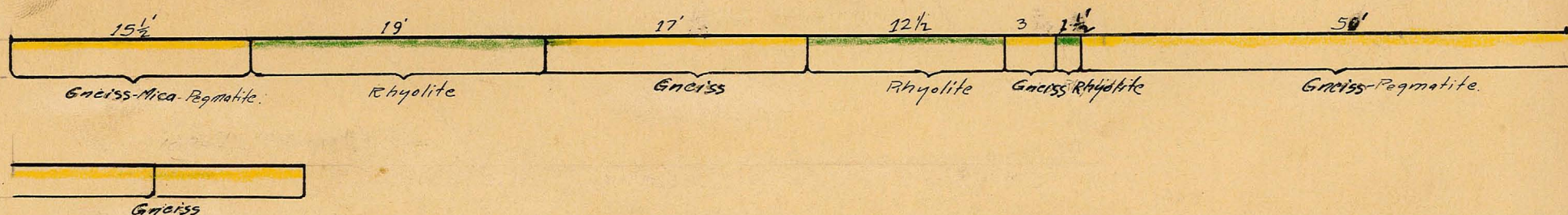


Hole No 310 S. Winze S45°W Horizontal

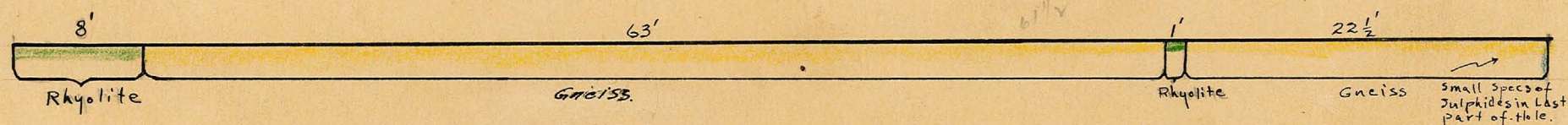




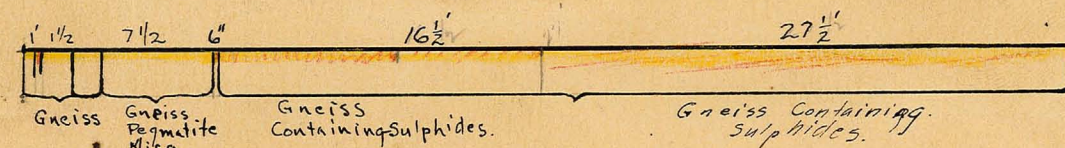
Hole No. 320 N60°E Total Depth - 118½ Horizontal



Hole No. 321 - S55°E Total Depth - 94½ - 40°



Hole No. 321-A-E Total Depth 54½ + 35°30'



Hole No. 321-W Total Depth 24½ + 41°

