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draft

PORTLAND MINE

Weaver Mining District

Located in the Weaver Mining District in parts of Sections 10, 11, 14, 15, 23 and 24, Township 23 North Range 21 West, G&SRB&M.

Patented Property - Portland Mineral Survey #3757, Patents No. 909600, Mohave County Assessors Map #43, Book 307

Sunshine - Mineral Survey #3757, Patent No. 9096000, Mohave County Assesors Map #43, Book 307

Sunshine #2 - Mineral Survey #3757, Patent No. 909600, Mohave County Assessors Map #43, Book 307

OPINION

A complete study of the Mohave County books and records reveal~~s~~ no leins or mortgages are outstanding against the above three patented mining claims. A complete search of Transamerica Title Company records and land records show there are no encumbrances or clouds on the titles.

OWNERS

Mona G. Potter, 2415 Ala Wai Blvd., Honolulu, Hawaii, 96815

Leland M. Wiscombe, Trustee u/t/d 8/12/74, 6750 Hawaii Kai Drive #1005, Honolulu, Hawaii, 96825

June N. Wiscombe, Trustee u/t/d 8/12/74, 6750 Hawaii Kai Drive #1005, Honolulu, Hawaii, 96825

LaVonne G. Clark, 3955 Mapletree Drive, Anaheim, California, 92807

Samuel L. Clark, 3955 Mapletree Drive, Anaheim, California, 92807

TAXES

Sunshine, Sunshine #2; total of 40 acres, Tax Roll #101974, Book 307, Map #43, Parcel 001-9 in the name of Clark, Samuel and LaVonne and Potter, James A., c/o Mona G. Potter, c/o The Bird Cage, 6750 Hawaii Kai Drive, #1005, Honolulu, Hawaii, 91106

Portland; 20 acres, Tax Roll 101975, Book 307, Map #43, Parcel 002-2 in the name of Clark, Samuel and Lavone, and Potter, James A. c/o Mono G. Potter, c/o The Bird Cage, 6750 Hawaii Kai Drive, #1005, Honolulu, Hawaii, 91106

Comment: Taxes are current as of this date.

~~COMMENT~~

~~Taxes are current as of this date.~~

TRV Minerals
c/o Fred Sholz
410 Howe Street
Vancouver, B.C.
V6C-2X1 Canada

Better Luck , filed in Mohave County, Arizona, Book #684, Page 160-161, AMC #119890

Better Luck #1, filed in Mohave County, Arizona, Book #684, Page 162-163, AMC #119891

Better Luck 2 , filed in Mohave County, Arizona, Book #684, Page 164-165, AMC #119892

Portland #1, filed in Mohave County, Arizona, Book #684, Page 166-195, Thru #15
AMC# 119893-119907

Sunshine #3, filed in Mohave County, Arizona, Book #684, Page 196-197, AMC #119908

The above unpatented mining lode claims are held by Fischer-Watt Mining Company, Inc., an Arizona Corporation, P.O. Box 2542, Billings, Montana, 59103. A search of the Bureau of Land Management* maps and records indicate these claims are valid, upstanding todate.* All necessary affadavits and maps have been filed, and there are no intervening claims ~~xxxxxxxxxxxxxx~~ which would jeopradize the titles.

*The Mohave County records, maps, plats, filings have been researched.

Fischer-Watt Mining Co. Inc.

ADMINISTRATIVE OFFICE: 114 TUCKER, SUITE 2
KINGMAN, ARIZONA 86401
PHONE: (602) 753-1622

TO: Carl E. Fischer, M.D. Roswell
FROM: W.P. Durning, D.R. Muchow
SUBJECT: Portland Mine

INTRODUCTION

The Portland Mine is located about 50 road miles northwest of Kingman in the west central portion of the Black Range, Mohave County, Arizona. Past recorded production from the Portland is 132,000 tons grading 0.201 o/T Au from both open pit and underground operations. The Portland is a massive quartz-calcite vein of the Oatman type locally over 30 feet thick and containing low grade gold values throughout. It is estimated that in excess of 100,000 tons of open pit reserves grading +0.10 o/T Au could be proven with a small inexpensive drilling program. Although no sepcific terms have been discussed with the owners it is believed reasonable terms can be negotiated.

OWNERSHIP

The Portland Mine owners are represented by Samuel L. (Lee) Clark, 3955 Maple Tree Drive, Anaheim, California 92807 Office telephone 714/632-1979; Home telephone 714/637-0762.

LOCATION AND ACCESS

The Portland Mine is located in the Weaver Mining District in parts of Sections 10, 11, 14, 15, 23 and 24; T23N R21W. Access is via paved, graded gravel and unmaintained dirt roads. The property is reached by driving 26.6 miles north from Kingman on Highway 93 then 8.8 miles west on the graded gravel Cottonwood Wash Road then 10.9 miles south on a little used but passable dirt road.

LAND STATUS

The Portland Mine area is covered by 3 patented lode claims and 19 unpatented lode claims which may now be invalid due to lack of assessment work during 1979. These claims should be re-papered immediately. The unclaimed ground is federal land open for location.

WILDERNESS STUDY AREAS

The Portland Mine and access routes from the main gravel road are surrounded by wilderness study areas north, east, and south of the mine and the Lake Mead National recreation area to the west. The patented Portland Mine claims and the access road to the mine are excluded from the wilderness. Discussions with Roger Taylor, Director of the Kingman BLM indicate that we can legally operate a mine on the patented claims and use the road as it now exists for access. Road improvements and expansion of the mine to the unpatented claims would require BLM approval which would not be unreasonably withheld.

Fischer-Watt Mining has developed a very good working relationship with the BLM and Roger Taylor who is pro-mining if done in a business-like and environmentally sound manner. I would not anticipate any serious problems from the BLM should a production decision be made.

HISTORY AND PAST PRODUCTION

The Portland was discovered about 1920. From 1935 to 1940 it was under option to the Gold Standard Mines Corporation which produced 132,000 tons of open pit and underground ore grading 0.201 o/T Au. In 1939 Gold Standard closed the Portland operations in favor of the Tyro Mine which was closer to their Katherine Mill. In 1937 C.M. Becker made an ore reserve estimate for Gold Standard which showed proven reserves of 287,000 tons grading 0.19 o/T Au in three orebodies. If these figures are accurate then at least 155,000 tons of these reserves should still remain in the mine.

During 1950 Continental Mining Corporation and Shattack Denn Corporation made studies of the Portland but concluded that at post World War II costs the mine could not be profitably operated.

In 1978 and 1979 ASARCO Inc. initiated a surface sampling and hammer drilling program in hopes of developing a large low grade open pit reserve. The drilling results were disappointing and they returned the property to its owners.

In October, 1980 D. Muchow and W.P. Durning visited the property and concluded that further evaluation of the property was justified.

GEOLOGY

The principal rock types in the Portland Mine area are a thick sequence of Tertiary volcanic flows and tuffs which are underlain by preCambrian granite. There are two principal veins, the North vein which strikes nearly N-S and dips from 20-35°E and the South vein which strikes nearly E-W and dips 47° to the north.

The Main or North vein has been extensively explored and developed. Two open cuts, two inclined shafts and two tunnels explored the vein and these developments provided most of the 132,000 tons of ore mined. The vein is massive quartz and calcite varying from 10 to 30 feet in thickness and everywhere carries +0.01 o/T Au. Best values seem to be within 10 feet of the hanging wall and it is believed that this is where the majority of the ore was mined. The main vein shows a surface outcropping of 10' to 30' of massive vein material over an exposed strike length of 800 feet. The vein unfortunately, has not been everywhere sampled in the hanging wall zone but where it has been sampled results in excess of 0.10 o/T Au are common. Around the north and east margins of the main pit and at the limits of underground stoping nearly every sample collected has run in excess of 0.10 o/T Au in the hanging wall zone. It is within this area that the open pit potential may exist on the property. A second observation is that past development never extended more than 100' below the surface and limited drilling information and underground sampling show values generally +0.10 o/T Au over widths of up to 10 feet. Further geological work is needed in order to adequately evaluate the meaning of old assay results but I believe this will only enhance the ore reserve estimates.

The main vein potential could be evaluated very quickly by completing this surface and underground sampling and geological mapping and by drilling 50-60, 50-100' deep air track holes in the area of massive vein outcrops. I would estimate 2-3 months to be sufficient to adequately test the open pit potential.

The South or Small orebody trends nearly E-W and dips 47°N. It is developed via a 100' incline shaft and shows vein widths which vary from 20" to 72" and grades up to 0.32 o/T Au. The vein appears to widen at depth, increase in value with depth and has never been drilled or adequately explored. The surface vein exposure can be traced for at least 1,000' but has only been explored to an incline depth of 100' in one working. In this incline the vein increases in width from 2-3' at the surface to over 6' at the bottom. The overall weighted grade and width is 0.248 o/T Au and a 4.2' average thickness. It should be noted that ore occurs from the surface down and that with several shallow drill holes it may be possible to define a mineable reserve of +0.20 o/T Au.

GEOCHEMISTRY

Fischer-Watt Mining has collected 15 rock chip geochemical samples in the Portland Mine area. All samples showed anomalous values.

The Geochemical results are summarized below:

Sample #	Description	Width	o/T Au	o/T Ag
Port #1	Select Spl Gn Quartz	N.A.	0.282	2.35
Port #2	Dump Spl. S. Pit	N.A.	0.111	2.95
Port #3	S. Pit NE Wall HW andesite	3'	0.022	.05
Port #4	S. Pit NE Wall HW Quartz vein	8'	0.054	0.70
Port #5	Cutting Spl. P.M. 2 ASARCO RDH	N.A.	0.014	0.45
Port #6	Dump Spl. N. Pit	N.A.	0.046	0.70
Port #7	N. Pit Incline Quartz vein HW vein	7'	0.106	1.75
Port #8	"	6'	0.055	0.35
Port #9	S. Pit adit Quartz vein FW vein (?)	5'	0.039	0.55
Port #10	"	57'	0.035	0.60
Port #11	Dump S. Pit adit	N.A.	0.034	1.20
Port #12	Dump Spl. S. ore body	N.A.	0.088	0.75
Port #13	S. orebody 300' w. of incline	2½'	0.331	0.90
Port #14	S. orebody 50' down incline	3'	0.124	0.40
Port #15	S. orebody 50' down incline	3'	0.134	0.90

The values obtained by FWM are consistent with those taken in the past and provide support for the possibility of developing a mineable orebody at the Portland.

ORE RESERVE ESTIMATE

Appended to this report are all the maps and reports on the Portland Mine available to us through the owners, the Arizona Bureau of Mines and the Mohave County Mining library. All indications are that a mineable reserve still exists at the Portland.

The most compelling evidence for a remaining ore reserve is from a report by Elgin B. Holt, Mining Engineer with the Arizona

Bureau of Mines. Mr. Holt cites a report by Clyde M. Becker made for Gold Standard Corporation in 1937. According to this report which is not available to us, the 1937 proven reserves were 287,000 tons grading 0.19 o/T Au + Ag equivalents. Between 1935 and 1939 132,000 tons grading 0.201 o/T Au were removed which means if Becker's work was accurate at least 155,000 tons grading ±0.19 o/T Au must still remain in the mine. Becker's original estimates, however, cannot be confirmed.

An old assay map dated October, 1935, Plate I, outlines the major underground and open pit reserves at the Portland. Most of the indicated ore appears to have been removed by the Gold Standard operation.

Three other surface and underground assay maps, Plates II, III IV, compiled from data obtained between 1940 and 1950 indicate

#1- The Main vein stopes in the South pit area terminated in ore down dip and to the north averaging 0.10 to 0.20 o/T Au and + 5 feet in thickness. No sampling was done on the south side of the stopes.

#2 - The Main vein stopes in the north pit area terminated in ore both north and south grading 0.10 to 0.20 o/T Au and +5 feet thick. Very limited sampling was down dip.

#3 - Between the South pit and North pit areas much of the massive quartz and calcite vein which remains may be footwall material with values grading from 0.02 to +0.10 o/T Au. This area has never been adequately sampled and may provide a significant tonnage of easily obtainable open pit ore. A few air track holes would give a quick inexpensive estimate of the grade and quantity of the available ore.

#4 - The ASARCO hammer drilling program indicates that values greater than the 0.10 o/T Au occur in the hanging wall of the Main vein down dip from the past productive stopes. Whether the ASARCO values are representative of values to be expected through mining is not known.

#5 - The South orebody shows a proven reserve, estimated by Becker to be, 6,000 tons of 0.4 o/T within the 100 foot incline shaft and the limited drifting from the incline. This estimated grade is higher than the reported mined grade of 0.23 o/T Au. Limited assay data available to us indicates significant tonnages of material grading +0.20 o/T Au probably still exist in the mine but will require further exploration.

METALLURGY

Past production records for the Portland indicate +95% recovery of the values contained in the ore which included both gold and silver. The ore is of the Oatman type and requires grinding to 80% - 200 mesh.

CONCLUSIONS

All available data indicate that the Portland may provide an attractive exploration, mining and milling opportunity for the McCracken partners.

RECOMMENDATIONS

It is recommended that:

1) That the ASARCO lode claims be repaperd.

2) A lease option agreement be negotiated with the present land owners.

3) Further surface and underground geological mapping and sampling be completed at the Portland to verify past sampling results and permit better geological interpretation of the assay values.

4) 50-60 air track drill holes be drilled to test the massive quartz-calcite vein outcropping between the North and South pits of the Main vein.

5) A limited shallow drilling program be initiated in the area of the South orebody to determine its extent and grade.

I.07

I.06

surface, not U.G.

EXPLANATION

ROCK CHIP SAMPLES

1.13 Horizontal sample or sample w/>10' horizontal component.

0.76 Vertical sample or sample w/<10' horizontal component.

1.78 Underground sample (*values in italics*)

Main Vein Complex (projected under cover)

Footwall Breccia (projected under cover)

SILVER VALUES

+ 1.5 oz/ton

1.0 – 1.5 oz/ton

0.5 – 1.0 oz/ton

< 0.5 oz/ton

Hanging wall sample, all values ≤ 0.22 oz

Diamond Drill Hole

Rotary Drill Hole

Prospect Trench

north

surface, not U.G.

ASSAY MAP – SILVER

PORTLAND GOLD MINE

MOHAVE COUNTY, ARIZONA

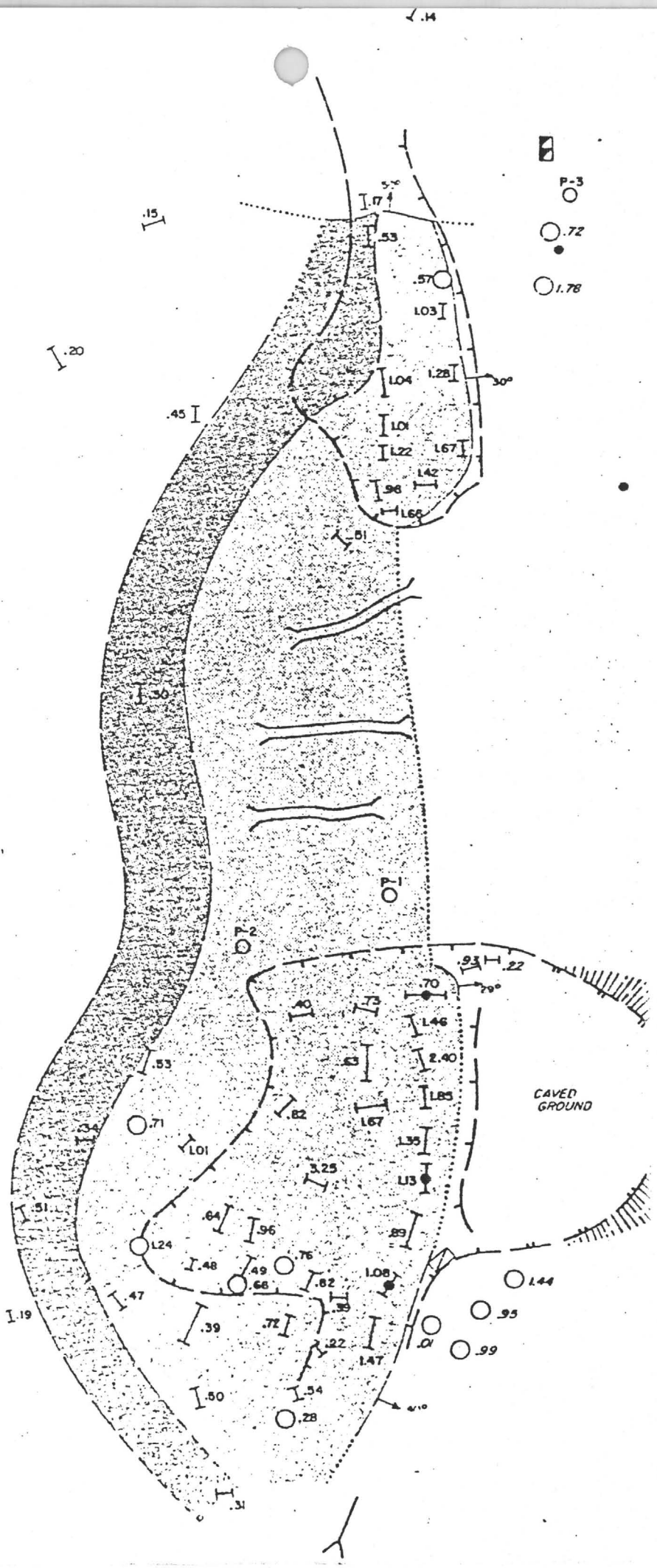
scale 1" = 100'

100'

Brunton Triangulation and Pace Control

S.R. Davis

Oct. 1976


P-3
.72
1.78
.14
.15
.17
.53
.57
1.03
.20
1.04
1.28
30°
.45
1.01
1.22
1.67
1.42
.96
1.66
.51
.30
P-1
P-2
.93
.22
.70
79°
.40
.73
1.46
.53
.63
2.40
1.85
CAVED GROUND
.82
1.67
.71
.34
1.01
1.35
3.25
1.13
.51
.64
.96
.89
L24
.48
.49
.76
.66
.82
1.08
1.44
.47
.39
.95
1.19
.39
.72
.22
.01
.99
1.47
.50
.54
.28
.31

Leon Berger
-Norm Adams-

Portland Mine 10/27/80

Port #17 - et backing workings
6' QV 60% 20% $CaCO_3$
20% and wall vx. Qtz vn
and bx Near Scoring spl.?
prob 2-30' below surface.
SW not reached

Port #18
6' hi spl 90% $CaCO_3$
vn 5% wall vx 5% Qtz.
Near FW. Total thinness.
+12' SW not reached

Port #19
6 1/2' Qtz $CaCO_3$ vn. stunt
w/in 16ft HW. stgly
sheared grn + brn Qtz 80%
20% $CaCO_3$. SW not reached

Port #26
5% and 85% Qtz 10%
$CaCO_3$ - most Qtz grn - rest
grey or white spl. 4' in
HW vn. w/in 6" of HW
at spl 1572

Port #27
6' high e spl 1522
massive Qtz + $CaCO_3$ loc
sanded. ~~Sweeped~~ Swarm of
old workings Total vn
at least 15'

Port #28
Dump spl mod. select
of grn Qtz. from S. pit.
prob 6-8000 T on dump

Port #23 - Dump spl. from
Tunnel spl #22. 75%
Qtz + $CaCO_3$. 25% and. Inside
mine

Port #24 - 7' bx Qtz vn
+ $CaCO_3$. 90% 10% and.
Qtz + $CaCO_3$. both lt grn to
Tan. spl at H-286 #1471

Port #25 - 4' HW QV w/
Qtz + $CaCO_3$ bx w/ 10% wall
vx frags + lt green to horn,
yellow Qtz. e spl 1499.
spl. in this area continue
1-2' into barren HW
and. Face of drift is
not exposed.

Port #20 - bx and + Qtz vn.
bx Tectonic ~~fa~~. over 58"
at same local as H-38,38A.
Adj limit of workings

Port #21 HW bx w/
20% green Qtz - 70%
slc and + 10% $CaCO_3$
6' TK spl. alt H-35,35A
local.

Port #22 HW ~~et~~ $CaCO_3$
vn + ord bx w/ ~~wt~~ white Qtz
+ $CaCO_3$. Immediately below
HW and. No green Qtz. If
spl. runs. U. sig. & indicates
good tonnage potential if black?
6' TK

Portland (cont.)

#2 Adit – B = N25°E approx. 81 paces (220')
25' in → x-cutt. stretch AH. = N40°E, 33-45° S.E.
?19 → 5' [illegible] 20-70% [illegible]
[illegible]
Port 10 → 57' of chips along E. wall of drift. – vn. material (qtz-c.c.)
Was stope above this drift.
Port 11 → dump below (S.) #2 adit – 50-60% wh-grn. qtz., 20-30% wh. blk. fe.c., rest host
Note: #2 sngl. – from dump above + N. of #2 adit. large log hole there

S. Incline (decline) ≈ 1,000' S. of #2 Adit
↘ dip 47°N. – vn. dip. – note change from before (easterly dip)
Port 12 → dump from incline 80% qtz, red. grn.
Port 13 → 3-400' W. of incline, vn. 2-3' wide, 60% grn qtz, c.c., host. sngl – 2' wide – W. of Rd., AH = 50-60° dip to NE.

All adits, inclines, etc. follow contact of h.w. of qtz. vein + overlying usually aglomeratic anit. – commonly hem. stained.

Port 15 – 50' E of incline, in workings – hard vn. to 3' below here vn. = 70% silic. host (volc.), 20%-30% grn. qtz. – + mnr. c.c. extremely tuff rock. – overlying H.W. is agglom. tuff (?) – includes grn qtz. frags. Dip 35° to (N15°E). – near H. 4

Port-14 → 3' – qtz. – 30% wallrock – near H9 + H9A.

Port-16 → adit – Rk. [illegible] N – qtz. H 6 sngl.

Tues. → [illegible]

Portland ⊗ - NW side → gneiss, NE - flow(and?) + congl. (?)

[illegible]

Port 2 → chips (10% grn gtz. + gtz.) - 5. [illegible]

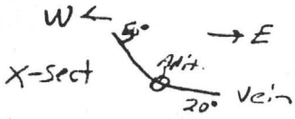
3 → 3' channel chip → highly hem. alt. tuff. agglomerate(?) - volc. frags - + [illegible] attitude here - dip 25° E - strike x N-S, lower 2" of rmpl. = hem. gouge - above h.w. of vein

Port 4 → 8' thickness, ⊥ to vein (h.w. of vein) - weak mn. stain gtz - mnr. cc., 10% alt. wallrock (inclusion in vein) - 90% gtz - cc. (vein)

Port. 5 → PM-12 drill chips - 15% gtz. pebbles - 85% alt. wall rock & powder.

Port 6 → dump on N end of property - 90% gtz (grn. wh.) - + cc., rest is host.

Note:- local geol → very complex structure, Vein (= 25-30' thick est) is very flat & further to W. steepens slightly to maybe 50°.



X-sect Vein - approx all (25-30' thick) - Adit + incline commonly follow

baked contact between h.w. of gtz. vein. & overlying tuff-agg. (?) w/ gouge in middle

#1 Adit.

Port 7 → 7' ⊥ to vn. - h.w. to flow drift (f.w. not exp). broad + feox stn. - fg. grn. to wh. gtz. - mnr. cc. 10% wallrock

Port 8 → 6' ⊥ to vn., - h.w. to sill, slight (wk) Feox. stain bottom 3'. - 20% c.c., 75% gt. (f.g. wh. to grn) 5% wallrock. 15' dd. #77 (Asarco).

MCR80-100 dump sample from Democrat Mine in Hualapai. Can't find outcrop of any decent vein - little stringers of qtz-py vlts in deeply weathered biotite adamellites. Lots of x-cutting white c.g. granite or pegmatite dikes. Dumps are primarily qtz-py vein - quite gossany.

10/31/90

COOL, PARTLY CLDY

TODAY'S OBJ:

SAMPLE PORTLAND MINE w/ DON

IN N. PIT:

PORT-30: 1.5' THICK OF DEEPLY FE & CLAY-ALT ~~vole~~ ANDESITE (?) — has .1 mm to .5 mm STRINGERS of white cc ON HW of vein. N12W, 21 NE.

vertical chip

-31: directly below 30. 5.0' THICK N18W, 18NE mixed clay - lim - goethite - w/ variable qtz content (some zones mostly lim - clay, some mostly qtz-replaced ~~vole~~ vol'c). Perhaps 60-70% qtz wall.

vertical chip

-32 - Don collects

-33: 3.1' vertical chip sampl. 70-80% green & porcelain like y. - w

-52: 4' high chip smpl. of coarse cc + green qtz (~30-40%) - green qtz is later than cc + may have recrystallized it into the rosettes. Below 51 - ~~partly~~ This sample not 4' thick

-53: 10' high chip smpl as 52 - following down dip slope - only a couple feet ~~dip~~ thickness ~~to~~ (not sure how much)

Now go to incline on "LITTLE OREBODY"
About 30' down, next to smpl HIAL take PORT-54 - 4.0' thick banded + partly vuggy green qtz + cc on top + red ~~gon~~ (limonitic) qtz on bottom.

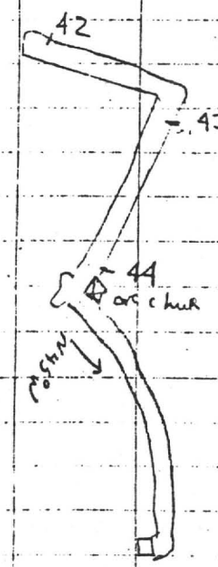
-55: 4.2' thick green qtz + cc at HW - red-brown qtz + cc at FW. N80W, 47NE - no banding lots of bx textures, some bx fragments of siliceous - at taken where small drift intersects incline

FROM SHAFT, 60 ~ 250' N85W to diggings on vein. - here's PORT-59 - 2.5' THICK (FW NOT seen) of white cc + pods of green qtz E-W, 46N (30-51% green qtz) - ~~End~~

Find outcrop of ~~and~~ thin (<1.5') zone of silicification ~80' W of here, but can't find any mineral W of here. Either pinches out, or is faulted off at the N15W trending valley line I think it pinches out.

From Bottom of 92' shaft

1" = 40'



N

Port. 44 → 5' high, just S. of ore chute - chip - 70% cc - 20% host 10% qtz - Vn. Breccia - in Shaft of N. Pit

PORT-45: 6' high chip smpl of ~~agglomerate~~ poorly consolidated, slightly calichified fanglomerate. contains some fragments of qtz vein ~~and~~ - up to 60% locally. Also poorly sorted or unsorted matrix of qtz vein fragments, clays, qtz, volcanic fragments.

PORT-51: 6.5' high chip smpl of calcite + qtz + silicified latite fragments. Green qtz most abundant at top of vein (75%) - mostly white cc at bottom. Cc locally as large rosettes looking down pit, get avg. attitude N14E, 29SE.

Basalt dike 1-2' thick cuts vein - in places concordantly + in places discordantly

MCR80-100 dump sample from Democrat Mine in Hualapai. Can't find outcrop of any decent vein - little stringers of qtz-py vlts in deeply altered biotite adamellites. Lots of x-cutting white c.g. granite + pegmatite dikes. Dumps are primarily qtz-py vein - quite gossany

10/31/80

COOL, PARTLY CLDY

TODAY'S OBJ:

SAMPLE PORTLAND MINE w/ DON

IN N. PIT:

PORT-30: 1.5' THICK OF DEEPLY FE + CLAY-ALT ~~vole~~ ANDESITE (?) — has .1 mm to .5 mm STRINGER of white cc ON HW of vein. N12W, 21 NE.

vertical chip

-31: directly below 30. 5.0' THICK N18W, 18NE mixed clay + lim - goethite - w/ variable qtz content (some zones mostly lim - clay, some mostly qtz-replaced ~~vole~~ vol'c). Perhaps 60-70% qtz overall.

vertical chip

-32 - Don collects

-33: 3.1' vertical chip sampl. 70-80% green, porcelain like qtz - w.

abundant white + pinkish clays. No lim or goethite. Doesn't go to FW of vein since it is covered by talus. D27W, 27NE

[Vein is concordant w/ volcanics

PORT-36: IN SMALL STOPE AT TOP OF WORKINGS FROM N. PIT ~~on~~ INCLINE - NEXT TO SMPL H4 Massive white cc, locally v. c. grained, has bx fragments of silicified volcanic wallrocks. 6.2' high + looks to go deeper since we're not out of vein at bottom. v. minor qtz. <5%

-40: 5.5' high at W end of drift (x-cut sort of) Clay + cc alt wallrock + massive white + brown cc as irregular pods + v lts.

1st slicked flt surface at end of x-cut has a N75E, 52SE w/ normal movement

-41: 5.7' high chip - more vein goes another 2' higher when viewed from corner - bottom of vein not seen. Massive pink + white qtz + cc - top half is 75% qtz - bottom of sample mostly cc - up to 100% "

Port42 - in E drift below Shaft of N. Pit near H-18 (4' from face) 5½' smpl. of vein bx = 10-15% host rock (latite) + the rest brn-grn-wh. c.c. - locally vein contains much more bx frags of host (to 60%) Att. not obtainable. (Cut by several thin c.c. stringers - random orientation to 1" thick)

PORT 43: W. of #42 + right next to H16 (a v. carefully channelled smpl) - all white - pink + gey cc w/ unsupported large bx fragments of wallrocks 5.5' high

Au Ag

.122 1.35 Port 36 → next to H-4 (=.198) - 6.2' - goes deeper, massive wh. c.c., locally coarse grained - bx frags silic - wh. wha < 5% qtz

.292 1.8 Port 37 → in decline E of N. pit - @ H-10 (.26 - not located prop. on map.) - 6' wide smpl. not to hw or fw (3' from h.w. - f.w. buried). Att.: N25°E, Dip = 32°E
Smpl = 70% c.c. - 20% qtz, 10% host (in pers. 15-15 qtz-host)

.444 1.4 Port 38 → 5' wide smpl: 90% c.c. - 10% Qtz - in deep hole to N. in decline E. of N. Pit Att.: N15°W - 30°E

.005 .05 Port 39 → next to H-9 → .33 5' wide smpl. - 90% c.c. - 10% qtz + silic bx frags - v.h. locally bxed - little hem, from h.w. down - f.w. not exposed
Att.: N5°W, 18°E (very undulating contact w/ h.w.)

.021 .10 Port 40 → 5.5' high - FACE drift - clay c.c. alt. wallrock.
massive wh-brn cc in pods/veins slick - N75°E - 52°SE - normal
here host is highly altered intrusive (?)
Major fault 15' from face: N40°E (-50°), 65°SE. - here porphyritic dike (latite) 2-2½' wide - gouge (hem stain) on hwt fw. maj. structure. - intrusive in f.w., in h.w. bxed intr. w/ vein bx. General fault contact w/ vein / intrusive.
If fault is normal, vein is @ surface to W. or eroded.

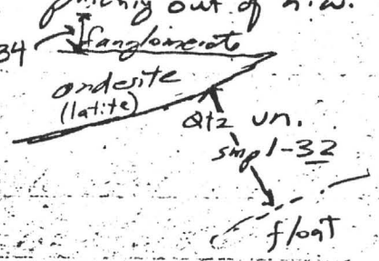
.052 .75 Port 41 - decline from N. Pit - 5.7' high - vein goes another 2' higher - bottom not seen - Massive pink-wh-qtz-c.c.. Top ½ is >75% qtz - bottom mostly cc.

Perry

FRI- Oct. 31

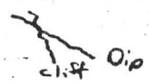
PORTLAND - Pete & I

Au	Ag	
.009	<.05	Port 30 → 1.5' deeply fred- clay alt. andesite - .5. 1mm stringers white cc. on h.w. of vein - N12°W - 21°E
.032	.2	Port → 31 → 5.0' thick - mixed lim.-+ clay + qtz., locally irg c.c. - soft w/ clay to hard → ≈70% Qtz. N18°W; 18° N.E.
.142	.8	Port 32 → S end of N. Pit 10' from top wall - un. alt. - = ≈ N-S; 34° E dip (note - just below latite H.W. near pinching out of h.w. which is overlain by qtz bearing fanglomerate.



Smpl = 6.7' thick = 90+%
qtz. = 5% host + poss. 5% c.c.
some hem stain - does not go to f.w.
(15-20# smpl)

.196	2.8	Port 33 → 3.1' wd. chip - 70-80% - grn. Qtz - white to pink clay, smpl doesn't go to f.w. AH N27°W, 27°NE
.144	.80	Port - 34 → S. end of N. Pit (10-15# smpl) - seeable - sketch - into overlying fangl. for 3½' thick (true x-sect.) - very representative due to soft nature of unit - ≈ 30-40% Qtz - rest is clays + caliche matrix. AH of fangl here N10°W - 10°E (rough cont w/ latite ~~~ general dip).
.020	.6	Port 35 - S end of N. Pit - 20' below 32 - here 90% qtz - silica material + host - smpl - 4' wide (overlain by 1½' thick latite which is overlain

Au	Ag	
.043	.7	Port 52 – 4' high – coarse c.c. – 30-40% Grn. Qtz. Below expl. 51 – does not repr. true thick. S. Pit.
.011	.15	Port 53 – 10' high dip as above – down dip slope
.317	1.4	Port 54 – 30' down L.O.B. inclined left – H-142 – 4' ft. banded, vuggy grn. qtz. + cc. – red. limestone Qtz on F.W.
.035	.2	Port-55 – on E facing wall @ S. entrance to S. Pit. Rough chip channel over 15' width – pred. grn. qtz @ top w/ pred. white massive cc. (rossettes of interlocking blades) to 2 or 3' dia. w/ assoc. qtz.
.052	.65	Port-56 – Higher on cliff than 55; ≈ 15' of chips of Grn. Qtz – slightly H. Ged as only grn qtz was bagged. But Grn. Qtz makes up 60-90% of total volume here. Vein still appears to dip E here so this cliff is vert. cut thru dip slope.  – What happens to Vn. to S. ??? Either dips S below surface, dies, or is faulted.
Little Ore Body		
.055	.7	Port 57 → near base of inclined shaft of L.O.B. (little ore body) Att. = N85°E, 52°N. Smpl. = 6' ⊥ to Vn. – Rough chip channel. 20% Qtz – 20% c.c. – 10% host (porph. latite) rest is silicified mass.

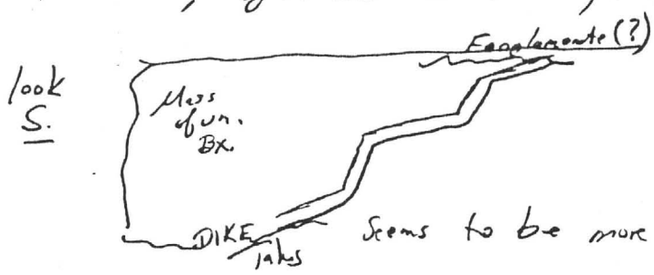
Incl. Shaft is choked off ≈ 60 or 70 ft. down.

→ Appears fanglomerate formed after vein – then later mineralization caused silicification & either c.c. sol. or wallrock metamorph of caliche

Note: Appears silicified but is actually f.g. hard c.c. matrix
Not really silic (48 & 49) – latest Note: is some silicification, usually see to c.c.

Au	Ag	
.032	.65	Post 49 – W. of 48 – clearer exposure – hill top here is primarily silic(?) boulders on top – in x-sect appears to be calcareous cement of fangl. – grn. Qtz frags scarce to absent here.
.015	.3	Post 50 → Grab from on top of hill W. of S. Pit – of silic + calcareous matrix w/ frags of host, W. of S. side of S Pit from dump of diggings – probably 30-40% grn qtz. Not sure where grn. qtz. came from. Possibly here close enough to h.w. of vn. or partially in h.w. of vn.
.021	.40	Post 51 – chip smpl from S. wall of S. Pit 6.5' – c.c. + qtz + silic latite frags – Grn Qtz Banding – to 75% + top of vn – bottom – white c.c. – lg. rosettes. Dip → N14°E, 29°SE – for vein here (and dike fm.) N. of smpl on S. side of Cut. Grn. Qtz cuts c.c. rossettes

Note: on N. side of Cut (S. side of Pit) – Andesite Dike appears ∥ to vn. att, then cuts across vn, 10-15', then again ∥ vn, again cuts across 6', then follows h.w.



Seems to be more vn. below Dike

Vein does appear to Dip S. here

Au	Ag	Next 3 samples from Shaft of N. Pit (42-44)
.167	.85	Port 42- in farthest E. drift near H-18 (4' from face) .02 sample: 5½' of vn. bx - 10-15% host (latite) & the rest grn-brn, wh. c.c., locally vn. bx contains up to 60% bx frags - Ht. not attainable. - cut by several thin cc. stringers of random orientation
.064	.2	Port 43 - W. of #42 & right next to H-16. .07 wh-gry-pink cc w/ bx frags of host - 5.5' high
.117	.6	Port 44- 5' high - S. of ore chute - chip - 70% c.c - 20% ho 10% Qtz. - Vn. Bx. Note: there was a small amount of stoping above chute.
.419	2.	Port 45- S end of N. Pit in Fanglomerate w/ Qtz frags
.027	.5	Port 46- Chip channel from x-cut of fangl. - 4' wide - "lean" - preds latite, granite, & caliche - maybe 3% Qtz
.05	2.65	Port 47- On top of hill W. of S. Pit even w/ its N. end (or = 40' nort of N end) - Chip channel in fangl. cut - 4' high - same % as 46. - lean
.198	1.2	Port 48 - chip channel of calide cemented fangl - also silicified boulders Ridge just W. of S. Pit (= middle). volc. & granite frags.

poss in fwa Un. spl
H-9 Port # 13 gave u.
different values.

Port # 63 Duplicate
H-13' w/ 0.11 o/T
Au. spl across 8'-40% $CaCO_3$
Un No Qtz. 60% wall rx

Port # 64 across 22'
spl 70% peg qtz 30% Un.
$CaCO_3$. No Qtz. rx actually
c mina bx

Port # 65 petr Surf spl

Port # 65A in raise ~
4' HW Un? exposed along N-S
60 w ft. spl 90% $CaCO_3$ 10% grn qtz

Portland Mine
12/2/80
N. Pit shaft
Port # 61 at end of
drift spl 4' ⊥ to Un
strict poss in HW
near SCO contact Un
below contact SCO Un
bx? spl 90% $CaCO_3$
10% wall rx frags No
Qtz seen. Near spl #-5
but H-8 in rx this
Iso $CaCO_3$. No Qtz in
Un @ this local

Port # 62
spl @ H-16 90% $CaCO_3$ Un
10% wall rx peg qtz band.

Port # 68 San cis above
but along next 30'. If
spls run thence
continues N. from stopes

Port # 69
HG. Dump spl bandd
green qtz from Sm
incline shaft.
2/9/81
Port 70
spl bx and bxly on
bx of hill Un. If runs
v. intensely up to 20' Th
Port 71 on strike 200'
N. of 70 as above

5
236
90
21,240

Port # 66 30,000
HW Un upper 14' above
haul tunnel. shows distinct
HW w/ and to flt some to
bx qv, $CaCO_3$ on below. Tr
FeOx Qtz > $CaCO_3$. wall rx
<10%. Lower 10' not
sampled.

~~Port # 67. Next 10' below
[illegible] into fwa~~
Un. Massive Qtz to $CaCO_3$
Port # 67 a series of
5' hi vert spl along
Hanging wall spl along
40' length

1435 S. 10th AVE.
P. O. BOX 1889

DUPLICATE

Jacobs Assay Office

Registered Assayers

PHONE 622-0813

TUCSON, ARIZONA 85702

Certificate No. 60390

Oct. 20 1980

Sample Submitted by Mr. Fisher-Watt

SAMPLE MARKED	Gold oz. per ton			Silver oz. per ton	
Red 1	1	252		2	35
2	1	111		1	75
3	0	102		0	10
4	1	54		1	70
5	1	14		1	45
6	1	46		1	70
7	1	116		1	75
8	1	55		1	35
9	1	39		1	55
10	1	35		1	00
11	1	34		1	30
12	1	13		1	75
13	1	331		1	70
14	1	124		1	40

SAMPLE MARKED	Gold oz. per ton			Silver oz. per ton	
Red 15	1	134		0	90
16	Trace			<0	05

~~* Gold Figured $35.00 per oz. Troy~~

Very respectfully,

Charges $ 10.00 < free than

1435 SOUTH 10TH AVENUE
TUCSON, ARIZONA 85713

Jacobs Assay Office

Registered Assayers

Since 1880

PHONE 622-0813

Certificate No. 60650

TUCSON, ARIZONA 85703 Nov. 4, 1980

Sample Submitted by Mr FISHER-WATT

SAMPLE MARKED	GOLD Ozs. per ton ore	GOLD Value per ton ore	SILVER Ozs. per ton ore	COPPER Per cent Wet Assay	LEAD Per cent Wet Assay	Per cent Wet Assay	Per cent Wet Assay
PORT-17	0.258		1.00				
18	0.146		0.30				
19	0.230		0.55				
20	0.105		0.50				
21	0.206		1.10				
22	0.098		0.55				
23	0.071		0.40				
24	0.158		0.50				
25	0.174		0.25				
26	0.085		0.20				
27	0.494		0.35				
28	0.081		0.55				
			11				

* ~~Gold Figured $300.00 per oz. Troy~~

Charges $ 78.00

Very respectfully,

[signature]

1435 S. 10th AVE.

Jacobs Assay Office

Registered Assayers

PHONE 622-0813

Certificate No. 60704

TUCSON, ARIZONA 85713 Nov. 10 1980

Sample Submitted By Mr. FISHER-WATT

SAMPLE MARKED	GOLD Ozs. per ton ore	GOLD Value per ton ore *	SILVER Ozs. per ton ore	LEAD Per cent Wet Assay	COPPER Per cent Wet Assay	Per cent Wet Assay	Per cent Wet Assay
PORT -30	0.009	$	< 0.05				
-31	0.032		0.20				
32	0.142		0.80				
33	0.196		2.80				
34	0.144		0.80				
35	0.020		0.60				
36	0.122		1.35				
37	0.292		1.80				
38	0.444		1.40				
39	0.005		0.05				
40	0.021		0.10				
41	0.052		0.75				
42	0.167		0.85				
43	0.064		0.20				
44	0.117		0.60				
45	0.419		2.00				
46	0.027		0.50				
47	0.050		2.65				
48	0.198		1.20				
49	0.032		0.65				
50	0.015		0.30				
51	0.021		0.40				
52	0.043		0.70				
53	0.011		0.15				
Little ore body, < 54	0.317		1.40				
s.f.t. 55	0.035		0.20				
56	0.052		0.65				
57	0.055		0.70				
58	0.041		0.25				
59	0.007		0.80				
62	0.577		2.95				

< LESS THAN

~~* Gold figured $100.00 per oz. Troy~~

Very respectfully,

Charges $20.50

No. 1

	CORES	
	AU.	AG.
0'	.10	1.28
	.18	1.06
	.03	1.03
	.03	0.90
	.03	0.87
25'	.03	0.95
	.02	0.70
	.05	0.57
	.02	1.36
	.03	1.59
50'	.05	1.60
	.02	1.14
	.03	1.02
	.07	0.71
	.13	0.78
75'	.36	0.79
	.03	0.34
	.09	0.53
	.05	0.21
	.03	0.03
100'	.30	0.75
	.24	1.12
	.03	0.91
	.05	0.80
	.02	0.24
125'	.01	0.00

No. 2

	CORES	
	AU.	AG.
0'	.10	0.83
	.05	2.60
	.05	1.45
	.05	0.93
	.02	0.47
25'	.03	0.36
	.12	0.88
	.03	1.12
	.03	1.11
	.01	0.72
50'	.02	0.38
	.04	0.76
	.03	0.71
	.03	0.77
	.23	0.84
75'	.06	0.50
	.09	0.85

No. 3

	CORES	
	AU.	AG.
0'	.09	0.37
	.11	0.41
	.40	0.71
	.31	0.47
	.03	0.19
25'	.05	0.20
	.07	0.31
	.25	0.33
	.34	0.35
	0.14	1.22
50'	.04	1.23
	.03	[illegible]

No. 4

0'	.12	[illegible]
	.14	[illegible]
	.10	0.41
	.20	[illegible]
	.19	[illegible]
25'	.07	[illegible]
	[illegible]	[illegible]
	.41	[illegible]
	[illegible]	[illegible]
	.22	0.39
50'	[illegible]	[illegible]
	.03	[illegible]

PORTLAND MINE ASSAYS

		AU.
No.	350	.05
	175	.12
	170	.25
	521	.02
	522	.02
	523	.01
	524	.03
	525	.02
	1031	.30
	1030	.67
	1028	.02
	1564	.34
	1565	.11
	1568	.17
	1569	.14
	1570	.19
	1467	.13
	1468	.06
	1469	.06
	1470	.03
	1478	.12
	1479	.11
	1480	.24
	1481	.17

Don
Please make 2000
copies & bring to office
Fri

GEOLOGICAL REPORT

ON THE

PORTLAND GOLD MINES PROPERTY

MOHAVE COUNTY, ARIZONA

for

CEDAR CITY MINES LTD. (N.P.L.)

January 14, 1975
Vancouver, B.C.

L. Sookochoff, P.Eng.,
Consulting Geologist

TABLE OF CONTENTS

PART A

SUMMARY AND CONCLUSIONS..... i
RECOMMENDATIONS..... iv

PART B

INTRODUCTION..... 1
PROPERTY..... 1
OWNERSHIP..... 2
LOCATION AND ACCESS..... 2
TOPOGRAPHY..... 3
CLIMATE..... 3
WATER..... 3
POWER..... 4
TRANSPORTATION..... 4
SUPPLIES..... 4
HISTORY..... 4
i PRODUCTION 5
ii SAMPLING..... 5
iii DIAMOND DRILLING..... 6
iv ROTARY DRILLING..... 8
GENERAL GEOLOGY..... 10
LOCAL GEOLOGY..... 10
MINERALIZATION..... 11
"LITTLE ORE BODY"..... 11
"SOUTH TUNNEL ORE BODY"..... 12
"NORTH TUNNEL ORE BODY"..... 13
ORE RESERVES..... 15
POTENTIAL ORE..... 15
EXPLORATION PROGRAMME..... 17
ESTIMATE OF COSTS OF EXPLORATION PROGRAMME.... 17

TABLE OF CONTENTS (Cont'd)

	PAGES
CERTIFICATE.....	19
BIBLIOGRAPHY.....	20

MAP INDEX

TITLE	SCALE
LOCATION MAP	1" = 45 miles
CLAIM MAP	1" = 600 feet
GEOLOGY	1" = 400 feet
WORKINGS AND SAMPLING	1" = 100 feet

PART A

SUMMARY AND CONCLUSIONS

The Portland Gold Mines property consists of 3 patented claims and is located in the Oatman District in Sections 14 and 15, Township 23N, Range 21W, Mohave County, Arizona. Access is via paved and gravelled roads north and west of Kingman, Arizona.

The semi-arid climate is favourable for year-round operations.

All logistics involved in an exploration programme are excellent.

Railroad facilities are available in Kingman, Arizona, some 45 road miles from the property.

Exploration and development has been carried out by various owners and leasors with the bulk of production totalling 132,000 tons occurring during 1935 and 1939. The production came primarily from the "South Tunnel Ore Body" where the bulk of the ore was mined by open pit methods. Minor production came from the "Little Ore Body" with limited tonnage from the "North Tunnel Ore Body."

Extensive sampling has been done on the property since production ceased in 1939. Reported ore reserves of approximately 300,000 tons averaging $6.64/ton at $35.00 gold, which, at today's prices, would be $33.20/ton ($175.00 gold).

A total of 335 feet of X-ray diamond drilling was done in the open pit area of the "South Tunnel Ore Body" most of which showed values in the country rock to a depth of 130 feet with a grade of 0.08 oz Au/ton and 0.96 oz Ag/ton in the footwall area of the main limestone unit.

Percussion drilling in December of 1974 intersected zones containing significant gold and silver values. The best intersection was a 25 foot section of .076 oz Au/ton and 0.82 oz Ag/ton which at recent metal prices would be valued at $17.40/ton.

Other significant intersections were of .075 oz Au/ton and 0.33 oz Ag/ton over 10 feet and .085 oz Au/ton and 0.52 oz Ag/ton also over 10 feet.

Assays within the footwall and hangingwall of the main zone were generally less than .025 oz Au/ton.

The method of air percussion drilling that was utilized was not adequately equipped for full recovery of the cuttings to assess the actual value of the intersections. Therefore it is felt that core drilling as a follow-up programme could possibly reflect the values of previous core drilling and former and recent detailed sampling.

The property is underlain by altered andesites and siliceous limestone of Tertiary Age. A thrust fault marks the hanging wall contact between the limestone and andesite. The zones trend northerly and dip at a low angle to the east. The drilling and pit development in the "South Tunnel Ore Body" suggests a thickness of at least 200 feet.

The mineralization appears to be sub-microscopic and may possibly be colloidal in nature.

The potential ore in the vicinity of the "North Tunnel Ore Body" and the "South Tunnel Ore Body" workings and the possible extensions could be in the range of several million

tons of low grade ore which could be developed with a detailed drilling programme.

The topography is such that any such tonnages developed would be amenable to inexpensive open pit mining methods.

RECOMMENDATIONS

It is recommended that a programme consisting of diamond drilling, geological mapping and prospecting be carried out on the property. Additional claims should be staked to cover all possible extensions of the mineralized zone.

It is also recommended that Cedar City Mines Ltd (N.P.L.) allocate the sum of $50,000.00 to implement the recommended exploration programme.

Respectfully submitted,

L. Sookochoff, P.Eng.,
Consulting Geologist

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
LAURENCE SOOKOCHOFF

January 14, 1975

Vancouver, B.C.

GEOLOGICAL REPORT

ON THE

PORTLAND GOLD MINES PROPERTY

MOHAVE COUNTY, ARIZONA

for

CEDAR CITY MINES LTD. (N.P.L.)

PART B

INTRODUCTION

The following report has been compiled from information obtained by the writer during a personal examination of the surface and underground workings located on the property on December 8-18th inclusive, 1974; from a study of available past records of work and production carried out by previous and present owners, and from public and private publications.

PROPERTY

The property consists of three contiguous patented claims, namely, the Portland, Sunshine and Sunshine No. 2 (U.S. Patent No. 3757) and 6 located claims, the Shirley 1-6 incl.

OWNERSHIP

The patented claims are owned jointly by the following:

Mona G. Potter,
Apartment # 5
305 East California Street,
Pasadena, California

Samuel L. Clark and Lavonne G. Clark
3955 Maple Tree Drive,
Anaheim, California 92807

Leland M. Wiscombe and June N. Wiscombe,
4341 Wilderness Court,
Birmingham, Alabama, 35213

The patented claims are held under option from the above owners.

LOCATION AND ACCESS

The property is located in Sections 14 and 15, Township 23, North, Range 21 West, Gila and Salt River Base Meridian, as shown on Mohave County Assessors Map 43, Book 307.

The property is accessible by paved and gravelled roads from Kingman, Arizona and is reached by travelling 27 miles north from Kingman on the paved Boulder-Kingman Highway U.S. 93. The Cottonwood Wash Road heads west from the highway and is travelled for a distance of 8.9 miles. From this point the mine access road heads southwesterly to the property, a distance of some 11 miles.

A truck or four-wheel drive vehicle is required for the last eleven miles.

All the workings are accessible by roads.

TOPOGRAPHY

The topography is relatively gentle with very slight relief as is typical of the western foothills area of the Black Mountain Range.

CLIMATE

The semi-arid climate is characterized by high summer temperatures with low humidity and mild winters. The annual precipitation is only from 6 to 9 inches, making it a favourable climate for year round operations.

WATER

Water is non-existent on the surface but wells could supply sufficient water for exploration. The Colorado River is located five miles to the west of the property.

POWER

Diesel electric power would be necessary for the initial stage of development but hydroelectric power would be available from the Kingman-Boulder power line for future milling purposes.

TRANSPORTATION

Truck transportation to railhead in Kingman would be available.

SUPPLIES

Most supplies would be obtainable from Kingman, Boulder City and Phoenix in Arizona or Las Vegas, Nevada.

HISTORY

From information available, the first records of development and production were during the period between 1935 and 1939. The development work consisted of some 700 feet of lateral work and some 400 feet of incline shaft.

Considerable trenching or open cutting has been done in the area of the outcropping of the three main workings. Open pit mining was carried out on the middle or "South

Tunnel Ore Body". The pit measures approximately 300' x 200' x 75'.

(i) Production

Past recorded production totalled 132,000 tons of ore which netted $7.89/ton based on $35.00/oz of gold. The ore was mined and shipped to the Katherine mill a distance of some 10 miles.

Production figures from August 13 to August 25, 1935 show 516.20 tons of ore shipped with a weighted average grade of 0.347 oz Au/ton and 1.22 oz Ag/ton.

Recovery of the metals by the cyanidation process was 93% of the gold. Silver recovery was not recorded.

The Katherine Mine flooded in 1939, hence the mill was shut down followed by the cessation of operations at the Portland Mine.

(ii) Sampling

During July 1940 Dr. Emil J. Rausch sampled all the underground workings and surface exposures. A total of 203 samples were cut which gave an average grade for the three

developed workings and surface areas of $7.03/ton in gold values at $35/00/oz Ag. At present day prices the value would be approximately $35.00/ton.

Clyde M. Becker, M.E. reported proven ore reserves calculated from some 700 feet of development work at 287,000 tons with an average value of $6.64/ton @ $35.00 gold. Today's prices would impart a value of approximately $33.00/ton. Mr. Becker's tonnage breakdowns were as follows:

Little Ore Body	6,000 tons @ $14.00/ton	($70.00)
South Tunnel Ore Body	200,000 tons @ $ 6.14/ton	($30.00)
North Tunnel Ore Body	81,000 tons @ $ 7.24/ton	($36.00)

Recent personal contact was made with John Boissenault, P.Eng. of Timmins, Ontario, regarding sampling carried out by him during 1974. His results of 40 samples gave a weighted average grade of 0.22 oz Au/ton and 1.50 Ag/ton.

(iii) Diamond Drilling

A total of 4 short X-ray diamond drill holes were drilled in the open pit area of the "South Tunnel Ore Body."

HOLE NO. 1 - was located near the south end of the pit; was drilled at -45° with an azimuth of 305°; was collared in the footwall of the main limestone unit, and averaged 0.08 oz Au/ton and 0.96 oz Ag/ton for a length of 130 feet. The hole, plus the main zone and hangingwall portion, suggests a thickness of at least 200 feet.

HOLE NO. 2 - was located near the middle of the pit; was drilled at -10° with an azimuth of 295°; was also collared in the footwall of the limestone unit, and averaged 0.0612 oz Au/ton and 0.90 oz Ag/ton over a length of 85 feet.

HOLE NO. 3 - was located at the north face of the pit and was drilled at +8° with an azimuth of 330°; was collared in the limestone unit and drilled along the zone for a length of 60 feet. The hole averaged 0.318 oz Au/ton and 0.67 oz Ag/ton over its entire length. A five foot section between 45 and 50 feet assayed 2.16 oz Au/ton and 1.22 oz Ag/ton.

HOLE NO. 4 - could not be located in the pit but it averaged 0.224 oz Au/ton and 0.45 oz Ag/ton for a length of 60 feet.

(iv) Rotary Drilling

Six rotary drill holes were drilled during December 1974. The more significant results were as follows:

P-1 - located near the north edge of the South Ore Body and drilled to a depth of 90 feet where the hole broke into some old workings on the main zone. Thus the hole was assumed to be all in the hanging wall and values were up to .025 oz Au/ton and .25 oz Ag/ton.

P-2 - located 100 feet south west of P-1 and was drilled to a depth of 230 feet. The hole was completely in the footwall of the main zone. Values ranged up to .025 oz Au/ton and 0.15 oz Ag/ton.

P-3 - located east of the east wall of the North Ore Body and was drilled to a depth of 120 feet. A 25-foot section from 60 to 85 feet averaged .076 oz Au/ton and 0.82 oz Ag/ton. At recent metal prices this would indicate a value of $17.40/ton.

P-4 - located near the Little Ore Body and drilled to a depth of 30 feet. This hole was all in overburden and was abandoned due to caving.

P-5 - located near the Little Ore Body and drilled to a depth of 120 feet. The more significant intersection was from 100 to 110 feet where assays averaged .075 oz Au/ton and 0.33 oz Ag/ton. At recent metal prices this would indicate a value of $14.44/ton.

P-6 - located near the Little Ore Body and drilled to a depth of 40 feet. A 10-foot section from 30 to 40 feet returned assays averaging 0.085 oz Au/ton and 0.52 oz Ag/ton which would be valued at $16.95/ton. The top part of the hole assayed up to 0.025 oz Au/ton and 0.10 oz Ag/ton.

GENERAL GEOLOGY

The Oatman District is generally underlain by rocks consisting of Tertiary lava flows resting on an underlying Precambrian crystalline complex. The lava flows and associated tuffs vary in composition and texture from basalt to rhyolite. The units trend north-south and dip eastward at a low angle.

The Oatman andesite is the most significant formation in the area as all known mineral deposits in the area are generally found in or associated with it. The lavas are generally intensely altered.

Intrusive dykes and stocks of rhyolite porphyry form prominent topographical features in the area.

LOCAL GEOLOGY

The property is underlain by interbedded silicified and crystalline limestone and altered andesite. A thrust fault marks the contact between the andesite and the hangingwall of the limestone units. The fault zone is marked by shearing and hematite gouge. The fault action has probably played a role in brecciating the limestone unit as well as the

footwall and hangingwall andesites. Deuteric quartz has been introduced into the limestone unit and in some areas colloform structure was noted. The highest gold and silver values occur within the limestone.

Quartz and calcite have pervaded into the hangingwall and footwall andesites which carry significant gold and silver values.

MINERALIZATION

The only visible metallic mineral noted in the mineralized rock was rare minute pyrite cubes. The gold and silver minerals appear to be sub-microscopic which suggests that the minerals may be colloidal in nature. Such a case would conceivably be the reason for the pervasiveness of the gold and silver values evident in both the limestone and altered andesite.

A total of three main workings exist on the property over a distance of approximately one-half a mile.

"Little Ore Body"

The "Little Ore Body" workings consist of a cut along the strike of the surface exposure of the limestone unit and some

underground development including a 100 foot deep inclined shaft and some stoping. The silicified limestone unit strikes at 290° and has a dip of -30° to the north east. The actual thickness of the zone could not be determined as the footwall was not exposed in the underground workings. A chip sample taken approximately 50 feet down the -45° incline shaft assayed 0.16 oz Au/ton and 0.06 oz Ag/ton across a width of 7.0 feet. Previous assaying of the "Little Ore Body" gave a value of $70.00 per ton based on present day values for gold with a 6,000 ton ore reserve.

The zone could be the same zone that the other two workings are on or could well be a parallel unit. There are several limestone units within the vicinity of the property. Several trenches have traced the zone for over 300 feet along the surface.

"South Tunnel Ore Body"

The "South Tunnel Ore Body" is located approximately 1200 feet at 10° from the "Little Ore Body" workings.

The development consists of a 200 foot long drift above which some stoping has taken place and an open pit has been developed above the drift. The open pit has dimensions of about 300' x 200' x 75'. The zone strikes at 310° and dips N.E. at -30°.

The work done in the pit and underground, plus the diamond drilling carried out in the pit, suggests a mineralized section of at least 200 feet in thickness. The limestone unit varies between 12 and 25 feet thick where worked.

Previous sampling of the underground and surface exposures on the zone averaged $6.14/ton ($30.00) for an ore reserve figure of 200,000 tons.

A 14-foot chip sample cut in the stoping that was done in the southeast corner of the pit assayed 0.08 oz Au/ton and 0.58 oz Ag/ton.

A chip sample cut along the wall of the last 100 feet of the 200-foot long drift which was along the footwall area of the limestone horizon, assayed 0.02 oz Au/ton and 0.62 oz Ag/ton.

"North Tunnel Ore Body"

Approximately 800 feet at 10° from the open pit on the "South Tunnel Ore Body" a surface cut and underground development represent the work carried out on the "North Tunnel Ore Body." The zone here strikes at 000° and dips at -33° to the east.

Previous sampling gave a grade of $7.24 ($36.00)/ton for a reserve figure of 81,000 tons.

A chip sample cut from the main stope area assayed 0.18 oz Au/ton and 1.60 oz Ag/ton across 8.4 feet. The zone is exposed in the workings for 30 feet.

Samples cut in a shaft which has been sunk on the zone averaged $10.46 ($52.00) across 30.5 feet.

The zone has been developed by parallel winzes to a depth of 50 feet and 150 feet respectively with minor sub levels.

A crosscut driven at 250° into the footwall of the main zone has revealed the presence of another limestone unit which has been exposed across a 10-foot width with the face of the crosscut remaining in the limestone.

Underground chip sampling by the writer within a drift near the "North Tunnel Ore Body" revealed an average grade of 0.19 oz Au/ton and 0.26 oz Ag/ton over 72 feet which included 12 feet of 0.39 oz Au/ton and 0.47 oz Ag/ton. The true width of this section is not known.

ORE RESERVES

Ore reserves calculated from the workings totalled approximately 300,000 tons with a value of $7.03/ton ($35.00 gold). At present day prices this would be approximately $35.00/ton which would represent a grade in both instances of about 0.20 oz Au/ton. The silver associated with the ore should average around 1.0 oz Ag/ton.

POTENTIAL ORE

With the advent of a much higher price for gold and silver than prevaled over the past 30 odd years, and with the knowledge of low grade gold and silver values in the altered volcanics forming the footwall and hangingwall of the better mineralized silicified limestone, the potential for developing large tonnages of low grade ore are excellent.

The topography of the hangingwall area reflects a dip slope to some extent and could render the mineralized zone to be amenable to cheap open pit mining methods with a favourable ore to waste ratio.

The apparent dimensions of that portion of the zone developed by the "South Tunnel Ore Body" and the "North Tunnel Ore Body", within the limits of the underground workings and between

the workings, are 1,500 feet x 500 feet x at least 200 feet. The actual thickness of the mineralized section has yet to be determined.

Several million tons of open pitable ore could possibly be developed with a detailed drilling programme.

EXPLORATION PROGRAMME

Diamond drilling should commence at once to establish strike length, depth and thickness of the zone.

In conjunction with the drilling, geological mapping and prospecting should be carried out over the area including that area which should be staked to cover all extensions of the known zones and to cover other possible zones.

Some bulldozer work will be required to provide access to drill sites and to trench other areas on the property that have yet to be tested.

ESTIMATE OF COSTS OF EXPLORATION PROGRAMME

Diamond Drilling 2000 feet @ $15/foot	$30,000.00
Assaying - 400 assays @ $10/assay including shipping	4,000.00
Geological mapping and prospecting	2,000.00
Engineering and Supervision	4,000.00
Travel and Living Expenses	3,000.00
Bulldozer - Roads and Drills etc	1,500.00
Staking	1,000.00
Contingencies	4,500.00
	$50,000.00

It is estimated that the above programme should take approximately three months to complete.

Upon the successful completion of the above programme, a second phase should be initiated to further delineate the zone. This should consist of a 10,000 foot drilling programme that should have a total estimated cost of approximately $150,000.00.

Respectfully submitted,

Laurence Sookochoff, P.Eng.,
Consulting Geologist

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
LAURENCE SOOKOCHOFF

January 14, 1975

Vancouver, B.C.

CERTIFICATE

I, LAURENCE SOOKOCHOFF, of the City of Vancouver, in the Province of British Columbia, do hereby certify:

That I am a Consulting Geological Engineer and an associate of T.R. Tough & Associates Ltd., with offices located at 519-602 West Hastings Street, Vancouver, British Columbia.

I further certify:

1. That I am a graduate of the University of British Columbia (1966) and hold a B.Sc. degree in Geology.
2. I have been practising my profession for the past eight years.
3. I am registered with the Association of Professional Engineers of British Columbia.
4. This report is based on information obtained by the writer from a personal examination of the property December 8-18th, 1974 and from public and private publications as listed in the bibliography.
5. I do not own any direct or indirect interest in the property described herein nor in the securities of Cedar City Mines Ltd. (N.P.L.) nor do I expect to receive any therein.

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA LAURENCE SOOKOCHOFF

Laurence Sookochoff, P.Eng.
Consulting Geologist

January 14, 1975
Vancouver, B.C.

BIBLIOGRAPHY

1. Geology and Ore Deposits of the Oatman and Katherine Districts, Arizona, by Carl Lausen - Bulletin 131 - Arizona Bureau of Mines.

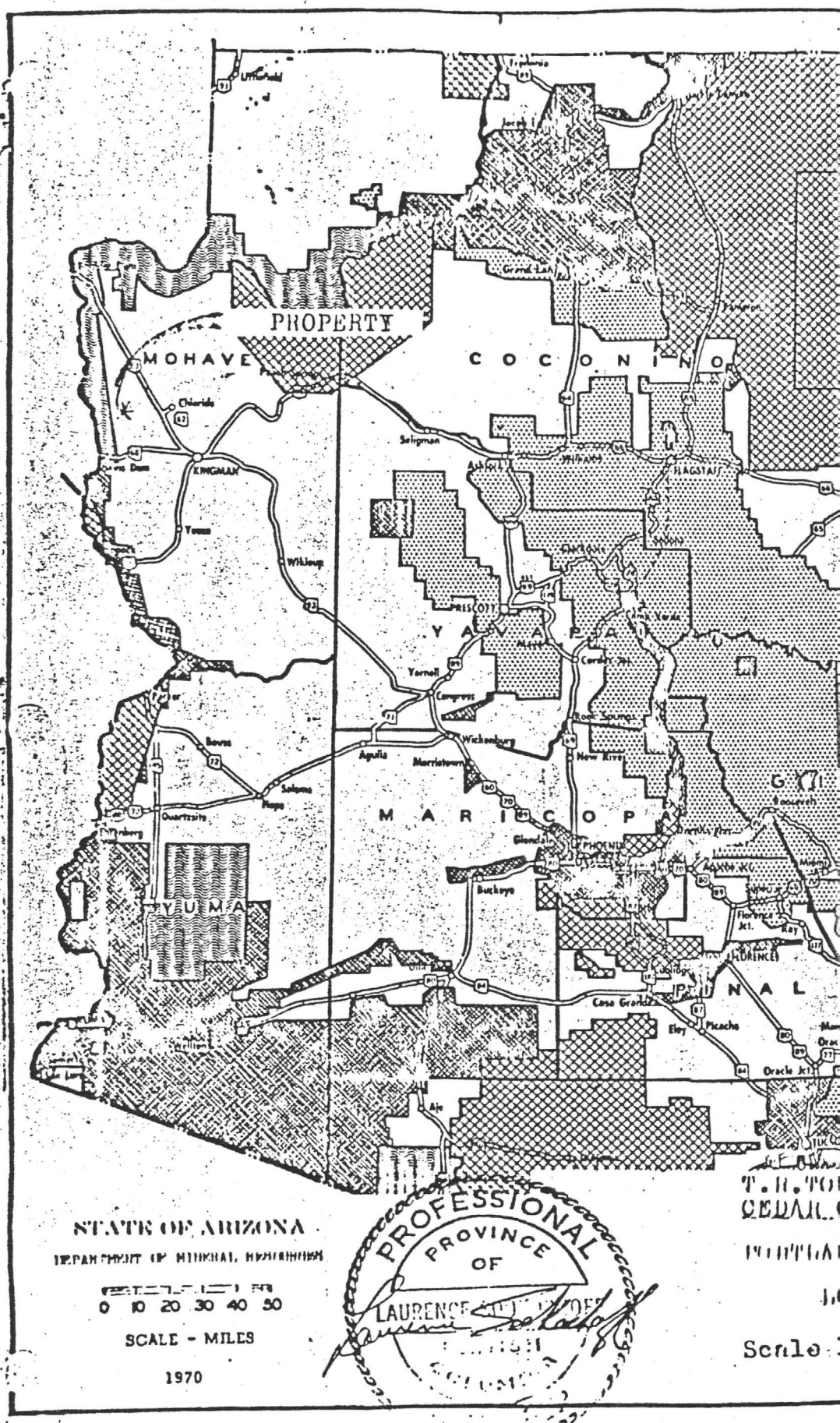
2. Reconnaissance Report Portland Mine, Mohave County, Arizona, June 1973 by Dudley L. Davis, M.E.

3. Report on the Portland Mine by Dr. Emil J. Rausch, July 1940.

4. Report on the Portland Mine by Clyde M. Becker, circa 1940.

5. Report on the Victoria Gold Mines Inc. Oatman District, Arizona by J.P. Ryan, M.E. January 4, 1948.

6. Report; Victoria Gold Mines Inc. Oatman; Arizona, by J. Carlton Bray M.E. 1946.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Ashfork
Williams
FLAGSTAFF
Chino Valley
PRESCOTT
Yarnell
Congress
Wickenburg
Aguila
Morristown
Rock Springs
New River
Bouse
Salome
Hope
Quartzsite
Tonopah
Gila Bend
Buckeye
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Mesa
Florence Jct.
Ray
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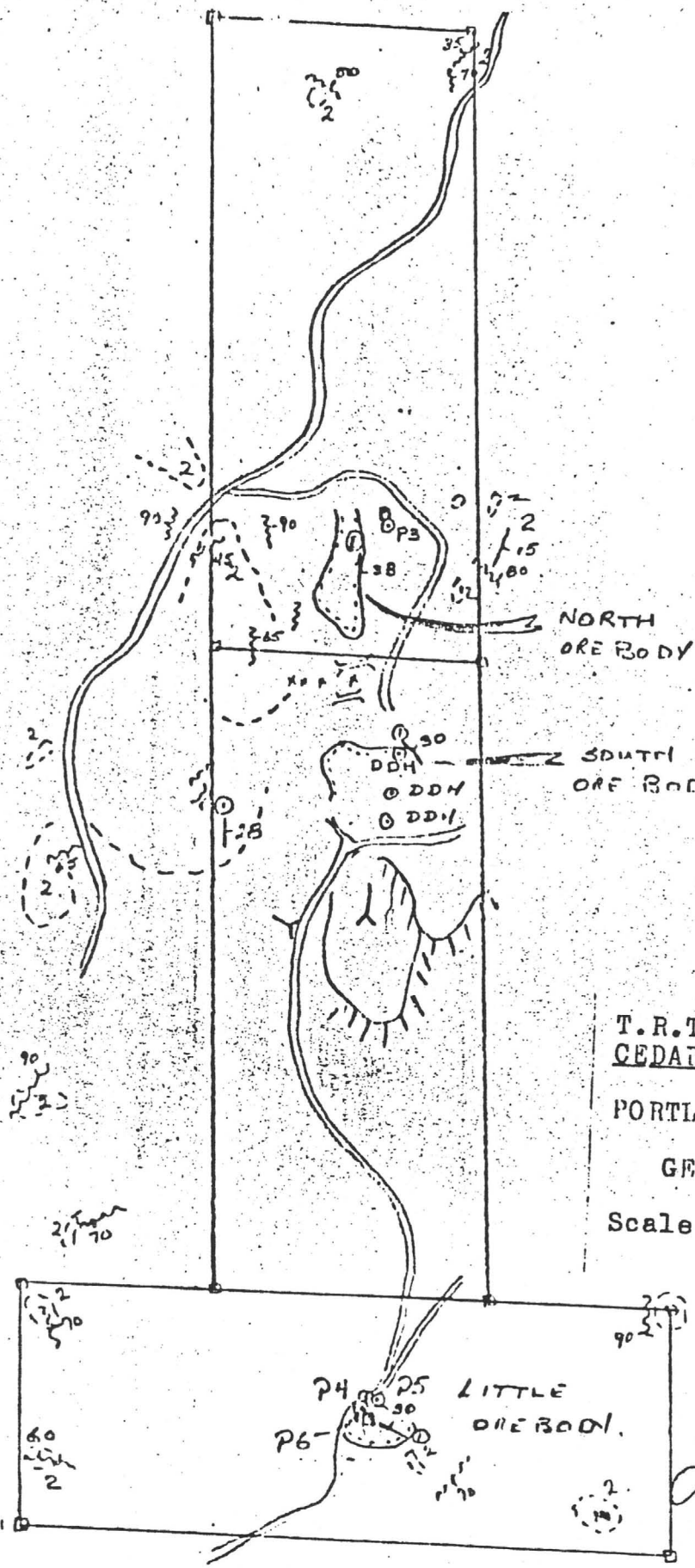
LAURENCE



LEGEND

- ALTERED ANDES
- LIMESTONE
- OPEN PIT
- SHAFT OR WINZ
- BEDDING
- FAULT OR FRACTURE
- PORTAL OF DRIFT OR CROSSCUT

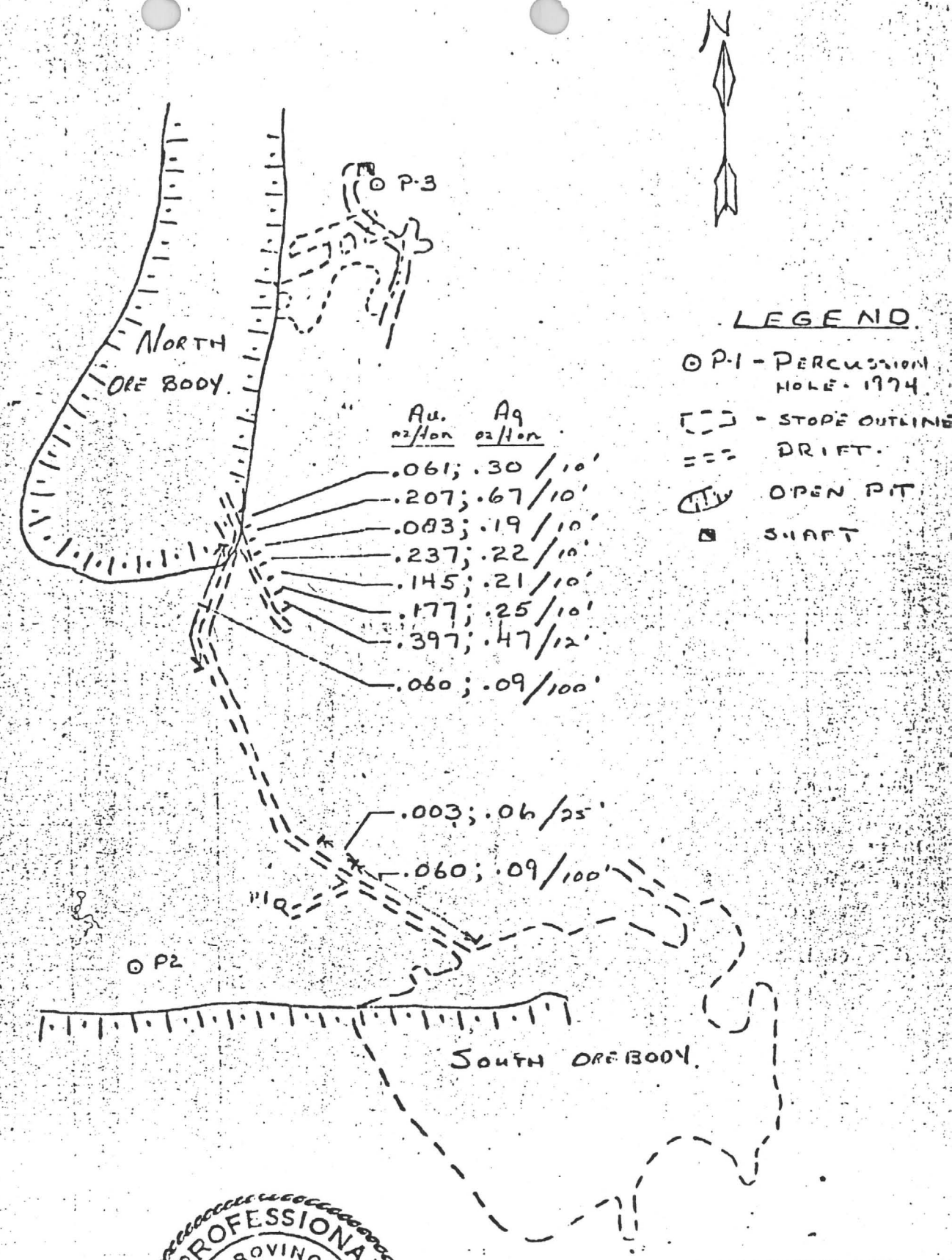
T.R.TOUGH & ASSOCIATES LTD.
CEDAR CITY MINES LTD.

PORTLAND GOLD MINES PROPERTY

GEOLOGY

Scale 1"-400ft.

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
LAURENCE SOO-OCHOFF



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CEDAR CITY MINES LTD.

PORTLAND GOLD MINES PROPERTY

WORKINGS & SAMPLING

Scale 1"-100ft.

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
LAURENCE SOOROCHOFF

T.R.TOUGH & ASSOCIATES LTD.
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PORTLAND GOLD MINES PROPERTY

CLAIM MAP

Scale 1"-600ft.

RECONNAISSANCE REPORT

PORTLAND MINE

[illegible] COUNTY, ARIZONA

[illegible] 1972 [illegible]

INTRODUCTION

The Portland gold property was visited at the request of Mr. Leland Wiscombe, 2704 North 19th Street, Hueytown, Alabama. Mr. Wiscombe is part owner of three patented lode claims and has optioned the remaining ownerships.)

?? D. must have misunderstood Wi's position.

The property consists of three patented claims, the Portland, Sunshine and Sunshine No. 2 (U.S. Pat. No. 3757). The principal mine, called the Golden Door, reportedly produced $200,000 in gold during 1935 to 1939. Ore was trucked to the Katherine mill about 18.2 miles to the south. The property has been idle since the Katherine mine flooded and the mill stopped operating.

LOCATION AND ACCESS

Mohave County assessor's Map 43, book 307 shows the property lies in sections 14 and 15, Township 23 N, Range 21 W, Gila and Salt River Base and Meridian.

Access from Kingman, Arizona is 26.6 miles westerly on hiwey 93 (toward Boulder Dam) thence left (southwest) 8.8 miles on the Cottonwood Wash road, thence left (south) 3.5 miles to a spring which has been fenced, thence 6.6 miles left (down the wash) to a gate in the fence, thence 0.3 miles to a little-used road which

leaves the wash on the left (east) side and thence 0.8 miles to the mine. The last 7.7 miles is down an easily traversed wash where no road is visible at times. A FWD vehicle is recommended but not really necessary for this part of the trip.

GENERAL GEOLOGY & ORE RESERVES

The area where the Portland Mine is located can be considered a continuation of the Oatman District which has been well-reported in geological literature. The mine is situated just above the extensive alluvial fans which reach from the foothills west to the Colorado River. To the east are andesite and rhyolite flows and tuffs of the same series seen at Oatman, Arizona.

Gold ore occurs in a fault breccia zone which trends generally north and dips 20 to 50 degrees east. This zone can be seen on the surface for about one-half mile and probably continues to the south under alluvial fans referred to above. The fault is probably a thrust of major proportions and can be expected to persist with depth.

Over the crest of a low hill south of the "Little Ore Body" (Dr. Emil J. Rausch's report) the vein follows a "dip-slope" in part and so is available for open pit mining. Dr. Rausch estimated 60,000 tons which averaged $6.75 per ton at $35.00 per oz. gold. This amounts to $23.60 per ton at todays price.

My assays showed that gold ore of this grade has $3.50 per ton in silver as well so that the probable grade of the open pit ore is about $27.00 per ton.

Dr. Rausch also estimated the "South Tunnel" orebody contained 200,000 tons of ore which averaged $6.14 per ton in gold which, re-calculated at todays price for gold and silver amounts to $21.49 in gold and $3.40 in silver making a total of $24.89 per ton.

Production recorded prior to October 15, 1938 amounted to 2,391.79 tons which had a value of $27,575.98. Assuming this is a gross assay value it would be worth $96,516.00 today or about $40.38 per ton gross value.

MILLING

Ore from the Portland Mine was milled at the Katherine mill where 93% recovery was made by cyanidation. Silver recovery is not recorded but should have been about 60% of gross values. ?

If the reserves estimated by Dr. Rausch can be proven by a drilling program and there is about 300,000 tons of ore having a recovered value of $23.25 in gold and $2.10 in silver, this amounts to $7,605,000 total recoverable value. A deal can be made for the Katherine mine and water which flooded it in 1939 could be used for milling this ore.

RECOMMENDATIONS

1. Make a deal for the Katherine mine, to assure a water supply for milling.

2. Drill the Portland Mine on a 50-foot grid to prove Dr. Rausch's ore reserve estimate.

3. Use drill cuttings to prove metallurgical amenability of the Portland ore to cyanidation.

4. If these steps prove successful, financing the project will be easily accomplished.

Respectfully submitted,

Dudley L. Davis

Enclosures - Assay reports
Map
Old letters

Dann Mill

January 9, 1950

Mr. S.S. Shattuck

Portland Mine

I arrived in Kingman January 2nd and contacted Mr. Jones who gave me some additional information regarding the Portland Mine. We made an appointment to go out to the mine Tuesday January 3rd.

Portland Mine:

On january 3rd we drove out to the Portland, went through the mine and covered the surface. I was very impressed with what I saw and, having only a limited experience with mines, can only say that I agree with Mr. Wilcox in his statement concerning the potentiality of the mine.

Producer Mill:

We then visited the Producer Cyanide Plant where in 1941 ore from 80 different mines were treated on a custom basis. This plant has a 250 ton capacity, having been built in 1937. It is in excellent condition and is complete. I was told that the plant was available for $100,000.00 with a tentative cost of $50,000.00 to move and set it up at the Portland Mine.

Later I had a long talk with Mr. Bob Payne who was, for two years, superintendent of the Producer Mill. He said that on all the ores treated a recovery of from 95-98% recovery was made paying for 92%, thus averaging about 0.48¢ a ton additional profit over the milling charge. Mr. Payne also said that although he did not mill any ore from the Portland Mine he did run tests attaining a recovery of 98% by grinding to 80% minus 200 mesh which is some finer than required by most of the other ores.

Goldroad Mill:

The Goldroad cyanide plant which was also built in 1927 was then examined. It has a capacity of 400 tons and although the crushing plant and half of the grinding circuit is gone, the rest of the plant is in excellent condition. The price of this plant is $50,000.00 including all mine equipment which is considerable.

While at the Goldroad Plant which is near Oatman we were in the vacinity of the Victoria and Lexington properties owned by a company of which Mr. Jones is President. We went over the properties of which the only value gained was to accentuate the tremenduous possabilities of the country as a gold producer.

Records of Portland ore treated:

I was very fortunate in Mr. Jones obtaining, through a bookeeping firm, the yearly report for the fiscal year ending on October 31, 1938 of the Gold Standard Mines Corporation. This was the company at whose Katherine Mill the Portland ore was treated.

In this report it was stated that from 1934 to October 31, 1938 a total tonnage of 315,807 tons was treated from nine different mines of which 118, 870 tons were from the Portland

Dann Mill

January 9, 1950

Mr. B.S. Shattuck

Portland Mine

Page "4"

COPY

Power Purchased	0.4279
Property Ins.	.0229
Property Tax	.0075
Total other costs	0.4583
Total Milling costs	1.2173

JSH

J. S. HAMILTON
Mill Supt.

JSH/LD
c.c. Mr. Thomas Bardon
Mr. H. F. Mills
Mr. J. A. Wilcox

Denn Mill

January 9, 1950

Mr. S.S. Shattuck

Portland Mine

It seems from the available information, making allowances for increased costs and based on a production of 600 tons or better per day that a milling cost of $1.50, including pumping water from the river, and a mininb cost not to exceed $2.00 per ton can be made. Other costs should not exceed 50¢ per ton making a total cost of $4.00 per ton. (I mention a production of 600 tons per day because that would be a minimum tonnage that could be treated in the Producer and Goldroad Cyanide Plants if they were moved to the mine).

I understand that the Portland can be bought for $50,000.00 and Mr. Jones tells me that a 90 day examination period would be allowed.

Milling cost of the Katherine Cyanid Plant for the fiscal year of 1938 on 63,562 tons.

	Cost per ton
Salaries and wages	0.3187
Compensation Ins.	.0153
Unemployment tax	.0090
Old Age Benefit Tax	0.0030
Total Emp. Cost	0.3460
Treatment Materials	0.1667
Grinding Balls	.1012
Ball Mill Liners	.0366
Gas, Oil and grease	.0100
Other supplies	.0179
Repairs and Replacements	0.0301
Total material & Sup.	0.3625
Sampling	0.0384
Warehousing	.0121
Total Service other Dept.	0.0505

Denn Mill

January 9, 1950

Mr. S.S. Shattuck

Portland Mine,

The cost of reducing the ore to bullion and marketing same was $1.27 per ton of which a breakdown follows at the end of this report.

A breakdown of each ore milled was made giving the actual gross recovered value for the Portland as $7.99 per ton. At no place in the report could be found a gross value of an ore or a percentage of recovery, but by calculating from gross values reported for royalty purposes for the Portland, an average gross value of $8.34 was established with a mill recovery of 95.80%.

The Gold Standard Mines Corporation either owned or leased most of the properties from which ore w as received. The Portland was leased and follow ing is a report of the operation.

Portland ore milled in 1938, 27,925 tons.		
Gross recovered value per ton		$7.99
Marketing and Milling	1.27	
Mining Royalties and Hauling	4.47	
Camp, board and Administration	.55	
Operating profit		1.70
Depreciation etc	.59	
Net Profit		1.11

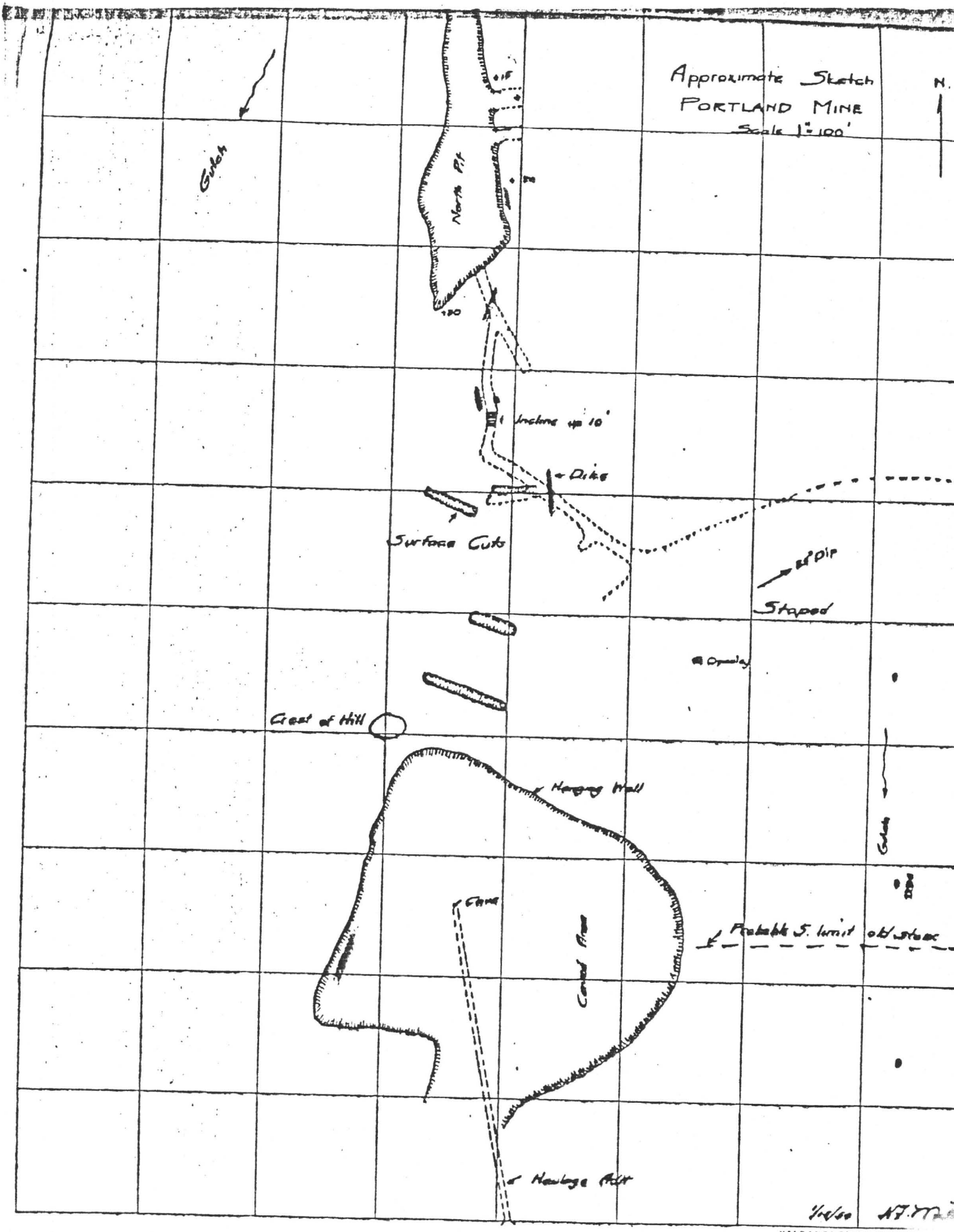
The milling cost was based on an average daily tonnage of 174 tons.

With the property owned, a mill on the property and a minimum of 600 tons per day produced the following figures should be considered. Although labor a nd other costs are up, power costs are the same and reagent costs are very little higher. Therefore, the milling cost plus pumping water from the river should not exceed $1.50 per ton. Royalties amounted to 0.83¢ per ton and trucking about $1.70 per ton. Therefore, on a high tonnage basis mining should come well within $2.00 per ton. With the town of Bullhead within driving distance of the mine, Housing and boarding house would be eliminated.

Summary:

From the available information the following facts were established;

The total tons mined and treated was just over 132,000 tons, with an average gross value of $7.97 per ton based on the royalty reports. The recovery based on actual figures available on 27,925 tons was 95.803% on an average gross value of $8.34 per ton.



"ALBANENE" No. 1926
PAT. OFF.

Humboldt, Arizona,
Jan. 18, 1950.

Mr. Bardon, Pres.,
Shattuck Denn Mining Corp.,
New York.

Tom Newell and I, with Mr. Ray Jones, visited this property on January 13th. The general features of this mine, its past production and grade of ore have been reported on by Joe Wilcox and Jack Hamilton and will not be repeated in this letter. Enclosed is a rough map which I made from Brunton and pacing notes, and several photographs. Accurate maps were not available.

The vein consists of a sheet of metamorphosed silicified rhyolite containing abundant quartz and quartz-calcite. As observed in the south pit and in the underground workings, the vein has a smooth well defined hanging wall which shows iron stains. About 20 feet below this hanging wall, and roughly parallel to it is a basic dike, probably intruded into the structure during a reopening in the vein. Below the dike the footwall material is silicified and brecciated andesite. The metamorphism fades further from the dike, but is pronounced for as much as 40 feet. Below this the andesite is but little altered.

The adit shown at the south end of the map was the haulage level. It is caved at the face, and its course between the cave and the point at which we were able to enter it from the north face of the stope is in doubt. Apparently the portal was in the hanging wall part of the vein, it crossed into the footwall and then turned easterly across the dike. From the north face of the stope the adit trends westerly and again gets below the dike. Just north of this dike is a crosscut 50' long which ends in normal andesite. About 80 feet north of this crosscut a connection has been made to the adit run south from the north pit. This north drift is 10 feet higher in elevation, and the map gives a false impression of an offset in the dike because of the difference in elevation.

The mining in the north pit was from below the dike, which at the south end of the pit is about 30 feet higher than the pit floor. The ore removed from the underground stope was the ten feet immediatly below the hanging wall, and in no place in the stope was the dike visible, indicating that the full thickness of the upper part of the vein was not mined. The stoped areas extend several hundred feet down the dip below the adit level. Part of this stope collapsed because of inadequate pillars, making it apparently impossible to haul ore out the south adit. It is probable that about 80,000 tons came from this stope. Subsequent ore came from shovel operation in the south pit.

The silicified footwall andesite is exposed in the southwest corner of the south pit, and is well shown on the second print which also shows the dike immediatly above.

Without an accurate map it is difficult to approximate tonnage available for shovel mining. The highest point of the hill is about 90 feet above the adit level. Assuming that ten feet is avarage moning thickness, there may be 120,000 tons north of the stope and eastward to a point at which waste stripping becomes excessive. It is possible that with low costs of shovel mining that 20 or even 30 feet of thickness could be extracted. However, with an absence of sampling this is pure speculation. Three drill holes have been put down from a gulch just east of the hill and are said to have penetrated the dike at about 150'. If the assay results on these holes can be obtained, and if the gold content and thickness are favorable the property has some possibilities of underground mining, as there is a possibility of a considerable tonnage if values extend about 1000 feet down the dip below the stope and over the 1000 feet along the strike covered by this map.

It seems reasonable that operating margins on the grade of ore previously extracted would be very low after costs of underground mining, fine-grind milling and either amortization of plant and water and power installation or truck haul and milling costs at the producers mill with its limited capacity. I believe that the remaining tonnage available for shovel mining is too limited to justify the expense of a limited operation.

Mr. Jones advised us that he had notified Kennecott, Howe Sound and the Gould interests that the property was available for sale on the basis of $50,000 cash with $5,000 down to secure refusal of the property for 90 days with the additional $45,000 put into escrow with the deed. This is a shotgun or first come first served proposition. The Portland is certainly not without merit, and an extensive program of drilling might indicate available tonnages sufficient to justify a large enough milling operation for a profitable operation.

H.F.Mills.

Jan. 18, 1950.

Kingman, Arizona,
August 23, 1940

Mr. James A. Potter
Kingman, Arizona

Dear Sir:

Dr. Emil J. Rausch's report on the Portland Mine consisting of one dated July 14th and the other July 30th, 1940, is written in German and based on the samples taken and assayed by Mr. McAllister, Kingman, a copy of which is attached, and the substance of these reports is as follows:

They are addressed to the Continental Mining Corporation, New York City, and that Company is negotiating for the purchase of the property:

Under date of July 14th he states that he began his sampling on the "Little Ore Body" and worked through the "South Tunnel Body" and the "North Tunnel Body", while the sampling wasn't finished to date he did not think the average would vary much from the average shown by the listed samples already taken from the different ore bodies (5) as shown by this assay sheet, which shows an average of $7.03 for the entire mine to that date:

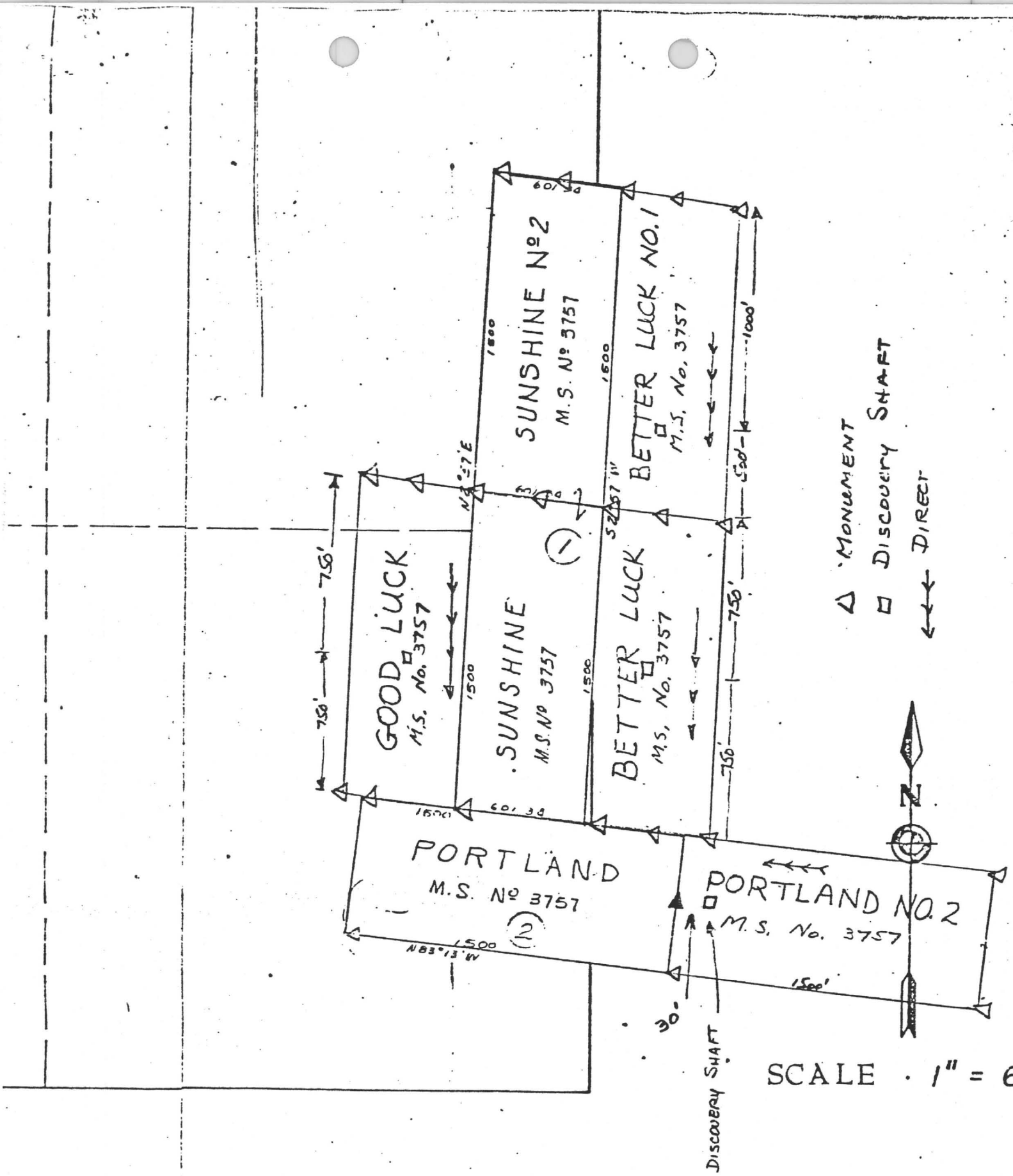
Under date of July 30th he states that he has just completed his sampling, having taken some 203 samples which were run by McAllister of Kingman, and summarizes his work as follows:

(a) That about 60,000 tons could be secured from the "South Tunnel Body" by open-cut work, but he did not think the "Little Ore Body" and the "North Tunnel Body" could be mined by the open-cut method.

(b) That the ore is hard and will have to be broken with powder, but that he does not consider/any problem along that line.

(c) That Brice Covington agrees to take care of the waste and put the ore on the platform or bin for $1.00 per ton, that is, the open-cut work, and that it would cost about $1.80 per ton to mine the lower workings, with a general average of $3.00 per ton for mining and milling: That at a general average of $4.00 mill run there would be a profit of at least $1.00 per ton: That by accepting the Brice Covington offer it would not be necessary to furnish equipment: That it would take an investment of about $100,000 for the project, and that he did not think more than one third (1/3) of the mining could be done by open-cut method: That he expected to get into better ore than the present average of $5.00 or $6.00 per ton upon sinking further. That it was up to them to decide whether they wanted a mine where only 1/3 of the mining could be done by open-cut work.

These reports should be literally translated <u>by someone who understands mining terms in German.</u>



DON McCRA
MOHAVE COUNTY

1/18/74

Assays of samples taken from the Portland Mine - Little Ore Body

1.) Stope:

#1	1405	Distance	—	Zone	3 ft wide	Values	$ 4.92
#2	1391	"	5'	"	3½	"	18.43
#3	1392		5'		3	"	7.77
#4	1393	"	"		3½		5.95
#5	1394		"		3	"	6.24
#6	1395		"		5	"	5.82
#7	1396		"		2½		9.32
#8	1397		"		4		4.62
#9	1398				18	"	6.72
10	1399		"		3		3.01
11	1400				2	"	7.99
12	1401				2½		5.18
13	1402		"		4		5.47
14	1430		12		(Check on #1392)	"	7.71

2.) Footwall Cross Cut: 12.12

3.) Shaft East:

#1a	1403	"	5	"	4 ft wide	"	5.47
#2a	1410		"		4	"	7.01
#3a	1411				4		4.83
#4a	1413		"		4		15.06
#5a	1415		"		4	"	5.75
#6a	1417		"		4	"	4.70

4. Shaft West

#1b	1404		"		4	"	13.80
#2b	1409				4		8.20
#3b	1412				4	"	7.15
#4b	1414				4		7.85
#5b	1416		"		4	"	4.48
#6b	1418				4	"	4.13

Average value per ton of 27 Samples "Little Ore Body" ..... $ 7.39

Assays of Samples taken from the Portland Mine - South Tunnel Body

I.) Lower Stope - near water level:

#1a	1425	"Distance"-5'	4½	Values	$ 11.70
#2a	1427		4½		7.63
#3a	1429		4½	"	7.28
#4a	1431		4	"	13.51

2.) Upper Stope

#1b	1424	"	4	"	9.25
#2b	1426	5	4	"	5.82
#3b	1428	"	4		13.26
#4b	1432		4		7.01
#5b	1442		4	"	6.31
#6b	1443	"	4		8.95
#7b	1444		6	"	15.90
#8b	1445	"	8		10.78
#9b	1446		8	"	7.22
10b	1447	"	4½		7.78
11b	1448		4	"	8.06
12b	1449		4½		5.75
13b	1450		4½		5.12
14b	1477	"	6	"	3.37
15b	1478		4½		5.95
16b	1479		4½		4.48
17b	1480	"	4½	"	7.00

3. Ore Pile - Upper St[illegible] lower end:

#1c	1440	Grab Sample	.....	$3.15
#2c	1441	" "	.....	4.28

Average value per ton of 23 samples "South Tunnel Body" $7.80

Assays of Samples taken from the Portland Mine - South Tunnel Body:

Tope Stope:

#1	1471	Distance	—	3-½ ft wide -		Values	$8.41
2	1472	"	5'	2-½	"	"	8.69
3	1473	"	"	5-½	"	"	8.55
4	1474	"	"	6	"	"	9.32
5	1475	"	"	6-½	"	"	7.08
6	1476	"	"	6-½	"	"	4.91
7	1494			5			3.78
8	1495			5			5.47
9	1496			5			8.55
10	1497		4-½	4-½			8.99
11	1498		"	6			7.36
12	1499	"	5	5			7.71
13	1500	"	"	5			5.82
14	1501			3-½			7.43
15	1502	"	"	4			7.36
16	1503			4-½	"	"	6.66
17	1504	"	"	4-½			7.01
18	1523			4-½	"	"	4.35
19	1524			4-½			4.77
20	1525			4			4.63
21	1526	"	"	4-½	"	"	6.87
22	1527			4			6.52
23	1548			6			4.49
24	1549	"	"	5	"	"	7.28
25	1550	"	"	12	"	"	6.73

Average value per ton of 25 Samples taken from South Tunnel Body Top Stope: ..... $ 6.75

Assays of Samples taken from the Portland Mine - North Tunnel Body:

Main Stope:

		Distance				Values	
#1	1637		—	6	ft wide		$ 11.91
2	1638	"	5'	6	"	"	12.48
3	1639		5	6			6.46
4	1640		5	6			10.10
5	1641		5	6			7.71
6	1642		5	6			13.38
7	1643		"	6			10.45
8	1644		"	6			6.89
9	1645		"	6			4.92
10	1646	"	"	6			6.17
11	1679	"	"	5	"	"	8.68
22	1680		"	6			5.89
13	1681		"	6			4.35
14	1682	"	"	6	"	"	4.49
15	1696	"	"	5	"	"	5.34
16	1697		"	6			5.34
17	1698		"	5			8.14
18	1699	"	2	5	"	"	10.52
19	1700		"	5			10.10
20	1701	"	"	6	"	"	9.18
21	1702		"	5			7.57
22	1703		"	4½			13.38
23	1704	"	"	5	"	"	8.90
24	1705	"	"	5	"	"	10.44

Average value per ton of 24 Samples taken from North Tunnel Body - Main Stope - ..... $ 8.45

Assays of Samples taken from the Portland Mine - Surface:

1. Face at end of Canyon - Rear Entrance to South Tunnel Body:

#1a	1572	Distance	———	7 ft. wide		Values	$ 2.74
#2a	1573	"	5'	7	"	"	16.04
#3a	1574	"	"	7	"	"	4.55
#4a	1575		"	5		"	1.97
#5a	1576		"	5			5.82
#6a	1577			5			3.92
#7a	1578			5			4.07
#8a	1579			5			4.07
#9a	1611	"	"	5	"	"	4.07
#10a	1612			5			4.48
#11a	1613			4			2.94
#12a	1614			5			2.73
#13a	1615	"	"	4	"	"	3.37

2. Footwall at End of Canyon - Rear Entrance to South Tunnel Body

#1b	1571	"	"	Cross Cut	$ 2.17

3. West End Quarry:

#1c	1604	"	5'	5	"	"	2.25
2c	1605	"	5'	5	"	"	2.67
3c	1608		"	5			2.03
4c	1609		"	5			1.54
5c	1610	"	"	5	"	"	2.38

4.) West End Quarry Footwall (not well defined)

#1d	1606	Cross Cut A	.....	$ 2.25
#2d	1607	" " B	.....	2.53

5.) North Tunnel Body - Surface:

#1e	1674	"	——	4	"	"	8.75
#2e	1675	"	10'	5	"	"	11.14
#3e	1676		10'	5	"	"	7.99
#4e	1677		10'	5	"	"	11.78
#5e	1678	"	10'	5	"	"	8.62

6.) North Tunnel Body - Surface Footwall

#1f	1673	Cross Cut	.....	3.93

Average value per ton of 27 samples taken from various parts of the surface of the Portland Mine 4.84

1.) Shaft North Side: - North Tunnel Body:

		Distance				Values	
#1a	1784			4 ft. wide			
#2a	1788		5'	4	"	"	$ 1.83
#3a	1791	"	"	5			3.44
#4a	1793		"	5			7.99
#5a	1832		"	5			3.93
#6a	1833		"	5			5.18
#7a	1835		"	5			3.44
#8a	1808		"	5			4.44
#9a	1809		"	6			1.55
10a	1810		"	6			3.65
11a	1811		"	4			4.28
12a	1812		"	5			7.23
13a	1836		"	6			8.42

2.) Shaft - South Side.

#1b	1786	"	"	5½	"	"	5.74
#2b	1787	"	"	6	"	"	10.86
#3b	1790	"	"	6	"	"	12.27
#4b	1792	"	"	6			12.12
#5b	1794	"	"	7	"	"	10.59

3.) Shaft Footwall (not well defined, partly vein matter)

#1c	1785	Cross Cuts		5	"	"	6.44
#2c	1789	"		5	"	"	3.09
#3c	1805	"		5	"	"	10.79
#4c	1807	"		5	"	"	5.12
							1.33

4.) Shaft North Side, Red Hanging Wall
Cross cuts (7) with average of $ .24 taken but not considered in assay sheet covering the shaft section.

6.) South Tunnel (Shaft)

		Distance		Zone	5 ft. wide		Value	
#1f	1803							
#2f	1804	"	5'	"	6	"	"	$ 7.37
#3f	1806	"	"		6			7.22
#4f	1830		"		6½			8.28
#5f	1831		"		5			5.47
#6f	1834	"	"		5	"	"	5.96

Average value per ton of 28 samples taken from North Tunnel Body Shaft Section ..... $ 6.16

FROM REPORT OF DR. EMIL RAUSCH ON THE PORTLAND MINE - DATED JULY 14, 1940.

1.	Little Ore Body - A V E R A G E	$ 7.39
2.	South Tunnel Body - Lower & Upper Stopes - dump - Average	7.80
3.	South Tunnel Body - Top Stope - Average	6.75
4.	North Tunnel Body - A V ER A G E	8.45
5.	Surface	4.84
	General average for the whole mine - according to above sampling	$ 7.03

Assays of Samples taken from the Portland Mine - South Tunnel Body:

1.) West Stope:

#1a	1712	Distance ——	4½ ft. wide	Values	$ 3.71
2a	1713	5'	6 "	"	3.93
3a	1714	" "	5 "	"	3.93
4a	1715	"	5		6.10
5a	1716	"	4½		4.77
6a	1717	"	5		3.93
7a	1718	"	4½		6.94
8a	1719	"	4½		6.94
9a	1720	"	4½		6.10
18a	1721	"	4½		5.88
11a	1722	"	4		3.86
12a	1736	"	5		6.66
13a	1737	"	4½		4.63
14a	1738	"	5		7.71
15a	1739	"	4 "	"	6.31

2.) West Stope "Footwall" (in fact; vein matter)

#1b	1729	Cross Cuts	.....	"	7.02
#2b	1730	"		"	4.14
#3b	1731	"		"	3.37
#4b	1732	"			3.51
#5b	1733	"		"	3.93
#6b	1734	"		"	4.21
#7b	1735	"		"	3.30
#8b	1766	"		"	8.28
#9b	1767	"		"	4.42
10b	1768	"		"	7.65
11b	1769	"		"	4.64

3.) West Stope Pillars - (Vein matter)

#1c	1762	6' wide	"	5.19
#2c	1765	6½ "	"	3.93

4.) Lower Stope Footwall (Vein matter)

#1d	1763	irregular e—Cross Cut	.....	"	5.12
"2d	1764	" " "	.....	"	5.69

5.) Check Sample

1711 - See 1571 - South Tunnel Body Surface Footwall 1.96

Average value per ton of 31 samples taken from South Tunnel Ore Body West Stope: 5.09

Don, please make 2 copies to bring to Office Cir.

RECONNAISSANCE REPORT

PORTLAND MINE

MOHAVE COUNTY, ARIZONA

[illegible] 70

[illegible]

INTRODUCTION

The Portland gold property was visited at the request of Mr. Leland Wiscombe, 2704 North 19th Street, Hueytown, Alabama. Mr. Wiscombe is part owner of three patented lode claims and has optioned the remaining ownerships.)

?? D.D. must have his understood Wi's position.

The property consists of three patented claims, the Portland, Sunshine and Sunshine No. 2 (U.S. Pat. No. 3757). The principal mine, called the Golden Door, reportedly produced $200,000 in gold during 1935 to 1939. Ore was trucked to the Katherine mill about 18.2 miles to the south. The property has been idle since the Katherine mine flooded and the mill stopped operating.

LOCATION AND ACCESS

Mohave County assessor's Map 43, book 307 shows the property lies in sections 14 and 15, Township 23 N, Range 21 W, Gila and Salt River Base and Meridian.

Access from Kingman, Arizona is 26.6 miles westerly on hiway 93 (toward Boulder Dam) thence left (southwest) 8.8 miles on the Cottonwood Wash road, thence left (south) 3.5 miles to a spring which has been fenced, thence 6.6 miles left (down the wash) to a gate in the fence, thence 0.3 miles to a little-used road which

leaves the wash on the left (east) side and thence 0.8 miles to the mine. The last 7.7 miles is down an easily traversed wash where no road is visible at times. A FWD vehicle is recommended but not really necessary for this part of the trip.

GENERAL GEOLOGY & ORE RESERVES

The area where the Portland Mine is located can be considered a continuation of the Oatman District which has been well-reported in geological literature. The mine is situated just above the extensive alluvial fans which reach from the foothills west to the Colorado River. To the east are andesite and rhyolite flows and tuffs of the same series seen at Oatman, Arizona.

Gold ore occurs in a fault breccia zone which trends generally north and dips 20 to 50 degrees east. This zone can be seen on the surface for about one-half mile and probably continues to the south under alluvial fans referred to above. The fault is probably a thrust of major proportions and can be expected to persist with depth.

Over the crest of a low hill south of the "Little Ore Body" (Dr. Emil J. Rausch's report) the vein follows a "dip-slope" in part and so is available for open pit mining. Dr. Rausch estimated 60,000 tons which averaged $6.75 per ton at $35.00 per oz. gold. This amounts to $23.60 per ton at todays price.

My assays showed that gold ore of this grade has $3.50 per ton in silver as well so that the probable grade of the open pit ore is about $27.00 per ton.

Dr. Rausch also estimated the "South Tunnel" orebody contained 200,000 tons of ore which averaged $6.14 per ton in gold which, re-calculated at todays price for gold and silver amounts to $21.49 in gold and $3.40 in silver making a total of $24.89 per ton.

Production recorded prior to October 15, 1938 amounted to 2,391.79 tons which had a value of $27,575.98. Assuming this is a gross assay value it would be worth $96,516.00 today or about $40.38 per ton gross value.

MILLING

Ore from the Portland Mine was milled at the Katherine mill where 93% recovery was made by cyanidation. Silver recovery is not recorded but should have been about 60% of gross values. ?

If the reserves estimated by Dr. Rausch can be proven by a drilling program and there is about 300,000 tons of ore having a recovered value of $23.25 in gold and $2.10 in silver, this amounts to $7,605,000 total recoverable value. A deal can be made for the Katherine mine and water which flooded it in 1939 could be used for milling this ore.

RECOMMENDATIONS

1. Make a deal for the Katherine mine, to assure a water supply for milling.

2. Drill the Portland Mine on a 50-foot grid to prove Dr. Rausch's ore reserve estimate.

3. Use drill cuttings to prove metallurgical amenability of the Portland ore to cyanidation.

4. If these steps prove successful, financing the project will be easily accomplished.

Respectfully submitted,

Dudley L. Davis

Enclosures - Assay reports
Map
Old letters

Bisbee, Arizona

December 30, 1949

Mr. Thomas Hardon

Portland Mine

You wrote me about the Portland mine near Kingman, Arizona. I contacted a Mr. Payne, whom I know, and who had worked at the Producers' Mill not far from the Portland. He gave a very good report on the property; so I called Mr. R. P. Jones to whom you referred in your letters. I arranged for a visit to the property and was accompanied by Mr. Jones and Mr. Phil Morse. Mr. Jones is very talkative and somewhat on the high-pressure type. However, I found the property to be as they described it. All maps and records were in California and they promised to get these for our inspection.

I believe this mine has some excellent possibilities if properly equipped and mined on a basis of not less than 1,000 tons per day. Milling should be done at the mine.

Mr. Jones has two other properties in the same range of mountains which he declares are equal to, or better, than the Portland owned by Mr. Potter. They are stock companies and will relinquish 60% of the stock for finance money sufficient to place the mine in operation and build a cyanide mill. All these properties are reported to have large tonnages with grades of ore equal to those of the Portland.

Perhaps I have been oversold by the things I saw, but I believe the property warrants further examination. I suggest that Mr. Newell and Mr. Hamilton look the property over and that Mr. Hamilton investigate the metallurgical results obtained on the 132,000 tons milled at the Producers' Mill and at the Catherine Mill.

Herewith you will find my report on the Portland Mine.

J. A. Wilcox

J. A. Wilcox,
Manager

JAW/c
Encls.

THE PORTLAND MINE

KINGMAN, ARIZONA

The Portland Mine in the San Francisco Mining District of Arizona was visited on December 18th. I was accompanied by Mr. R. P. Jones, and Mr. Phil Morse, both of Kingman, Arizona.

LOCATION

The Portland Mine is located in Mohave County, Arizona, 46 miles Northeast of Kingman by road. Twenty-five miles is on Highway 93 to Hoover Dam and 18 miles over a graded county road that is high gear nearly all the way. The Mine site is 4 miles from the Colorado River and will be on the Lake-side of the Lake formed by Davis Dam when completed next year. The mine is at an elevation of 1,400 feet and will be 800 feet above Davis Dam Lake. There is a power line 12 miles distant. Davis Dam and the town of Bull Head, Nevada, will be 12 miles distant.

CLIMATE

The climate is very arid and practically free of snow in the winter. The summers are hot with a minimum of rainfall. Roads are seldom closed by storms.

GEOLOGY

The range of mountains in which the mine is located parallels the Colorado River and is called the River Range. Several big mines are in this range; the Gold Roads, United Eastern, and Gold Standard. The range was built by volcanism in the Tertiary age and is composed of Rhyolites and Andesite intrusions with later Malapois Coverings. Ore occurrences are predominately in Metamorphosed Calcite beds which have become highly silicified. Gold and silver are the only metals to be found and they occur in almost microscopic particles disseminated through quartz.

GEOLOGY (Continued)

The metal bearing structure consists of two parallel veins, one about 20 feet thick and the other about 100 feet thick. The separating horse of waste is from 5 to 10 feet wide. The veins dip to the east at 27° and outcrops across a ridge for 2500 feet. A third vein of 5 foot thickness runs at right angles to the other across the south of the property and it dips to the North at about 40°. The ore is very sicilicious and dense and has a greenish cast.

PRESENT DEVELOPMENT

The mine was developed by a hundred foot shaft which is inaccessable. A tunnel on the surface level runs through the ridge for 800 feet. From this area a considerable tonnage was mined by room and pillar methods. All the ore was mined from the upper or 20 foot vein. No ore was mined from the thicker vein. Part of the tonnage mined was from the surface with shovels and trucks. It is reported that 152,000 tons were extracted and trucked, to the Catherine and Producers Mills, both some 17 miles distant.

Many samples from the thicker veins are reported to indicate equal values with those obtained in mining the thinner vein. The average recovered value reported to me on the 152,000 tons was $7.94 per ton. Closure of the mine was forced by the embargoes placed on gold mines in 1942. Mining was done by antiquated methods and on much too small a scale for the grade of the ore and in view of the large tonnage available. There is no equipment of value on the property.

The owners report 500,000 tons of ore available above the present truck loading deck, and another 500,000 tons down to 100 feet below ground. These figures seem to be fair estimates provided exploration work verified the reported values in the thicker vein.

FUTURE EXPLORATION

Verification of reported tonnage and grade would require about ten drill holes approximately 200 feet deep, and some test runs on ore from outcrops and old dumps. The records of past shipments would be valuable information for comparative

purposes. Chattuck Dann owns all the equipment necessary for drilling and drifting.

MINING METHODS

The first 500,000 tons can be mined with shovels and trucks. Drilling would be by churn drill and it appears secondary blasting will be required. Very little stripping will be required to this depth. During the mining of the surface ore a shaft could be sunk to a depth determined by drilling, and the deeper part of the ore body mined by Room and Pillar methods. I believe mining should be carried on at the rate of 1,000 tons or more, per day.

MILLING

It seems that milling at the mine site is essential. This would require the erection of a 1,000 ton cyanide mill. Water would have to be pumped 4 miles against an 800 foot head from the Colorado River. Power is available 12 miles away. Perhaps the mills at Gold Roads and Producers could be bought and moved. The ore must be finely ground (80%-200 mesh) for good recoveries. The Producers' Mill is reported to have made better than a 95% recovery.

TERMS

The terms are those quoted in your letter of December 2nd. Mr. Jones assured me that titles are clear and there are no liens involved. He stated a period of exploration without cost could be arranged.

ESTIMATED MINING & MILLING COSTS

Mining	150
Milling	175
Marketing	25
Exploration & Development	100
	450
Reported Values	794
Net Earnings	344

CONCLUSION

I feel that this property merits further examination and a more thorough study of mining and milling procedures and costs be made.

J. A. Wilcox

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DEPARTMENT OF MINERAL RESOURCES
STATE OF ARIZONA
FIELD ENGINEERS REPORT

Mine PORTLAND Date March 3, 1944

District Minnesota-Weaver, Mohave Co. Engineer Elgin P. Holt

Subject: Gold Mine Survey

DEPT. MINERAL RESOURCES
PHOENIX
MAR 10 1944
PHOENIX, ARIZ.

R E P O R T

OWNER: J. A. Potter, Kingman, Arizona.

AGENT: E. A. McVicar, Kingman, Arizona.

METALS: Gold with small amount of silver.

AREA: LOCATION: This property, consisting of 3 patented and 5 unpatented claims, is situated in Mohave County, Arizona, 50 miles northwest of Kingman and six miles east of the Colorado River. From Kingman, the property is reached by following U. S. Highway 93 north 28 miles to Pleasant Valley Junction; thence west along the Searchlight road for 10 miles; thence southwesterly about 12 miles to the mine.

HISTORICAL:

Property was discovered about 1920. From 1935 to 1940 it was worked under a lease and option arrangement by the Gold Standard Mines Corporation. During this period approximately 132,000 tons of ore were milled averaging $7.22 gold per ton, according to settlement sheets now on file in McVicar's office in Kingman. The said ore was treated in the Katherine cyanidation plant located 11 miles southeasterly from property, or about 16 miles over a very poor sandy road, over which the ore was hauled by trucks. The property was abandoned during 1940 by Gold Standard due mainly to the fact about that time this company secured control and started operating the Tyro mine, a much larger property and located only 7 miles from the Katherine mill.

GEOLOGY:

Per F. C. Schrader, 1909, "The country rock", of that general area, "consists of the Tertiary volcanic rocks, with rhyolite and green chlorite andesite most abundant."

ORE RESERVES:

During April, 1937, after the Gold Standard company had started work on the Portland mine, Mr. Clyde M. Becker, a very able geologist, reported on that property as follows:

"I estimated that approximately 700 feet of development work on these three ore bodies had proven 287,000 tons of ore of an average value of $6.64 (gold) per ton."

Referring to the cross-vein on the Portland claim, Becker stated: "On the little ore body an inclined shaft had been sunk 100 feet with ore of grade similar in type and values to the south tunnel ore body. A series of assays taken at 95 feet ran 0.18 to 0.44 ounces gold. All carry silver in the approximate ration of 5 to 1 by weight. No other mineral (metallics) is present."

MAIN VEIN:

The main vein, which strikes north to south, is a wide flat vein dipping about 35 degrees easterly. The deepest work on mine is about 100 feet vertically, reaching the permanent water level. The main vein mentioned is exposed on surface for around 1200 feet; but it is believed to extend 500 feet further to the south through a basin where the vein is covered by debris. This vein is wide, averaging 12 feet in thickness, but "bellies" out in places to 20 feet or more in width. The vein gangue is composed of quartz and calcite, with no deleterious metals present. Hence the ore is ideal for treatment by cyanidation, by which process around 97% of gold values should be recovered.

MINE WORKINGS:

The main workings of property consist of the following openings: 1. A 100-foot shaft sunk on the cross-vein, exposing the "Little Ore Body" mentioned by Becker. 2. The South Tunnel which develops the "South Tunnel Ore Body"; and 3. The North Tunnel, which developes the "North Tunnel Ore Body". Also at the bottom of the 100-foot shaft on the cross-vein a drift 100 feet in length has been run on vein, which is from 4 to 6 feet wide of good milling ore. It will be noted that this ore, per Becker, assays from 0.18 to 0.44 ounces gold per ton.

The South Tunnel is about 200 feet in length connecting with the "Big Stope" at back end, which is now partly caved; but ore faces in stope are accessible for sampling.

The North Tunnel starts as an open cut about 100 feet in length on the main vein, and continues south as a tunnel partly on vein and partly in the foot wall to a point where it connects with the "Big Stope" workings. Also there is a shaft 100 feet deep on vein near the mouth of the open cut at north end of property; also a 100-foot drift running south on vein from the bottom of the said 100-foot shaft and connects with a raise to the open cut above. All of these workings are open and accessible for sampling.

MINE SAMPLED BY OTHER ENGINEERS:

After the Portland mine was abandoned by Gold Standard, it was sampled by engineers representing the Continental Mining Company of New York and also by Mette and Hamron of Los Angeles. The average results of both of these samplings gave better than $7.00 gold per ton, according to records in McVicar's office, and which can be examined at any convenient time.

WATER:

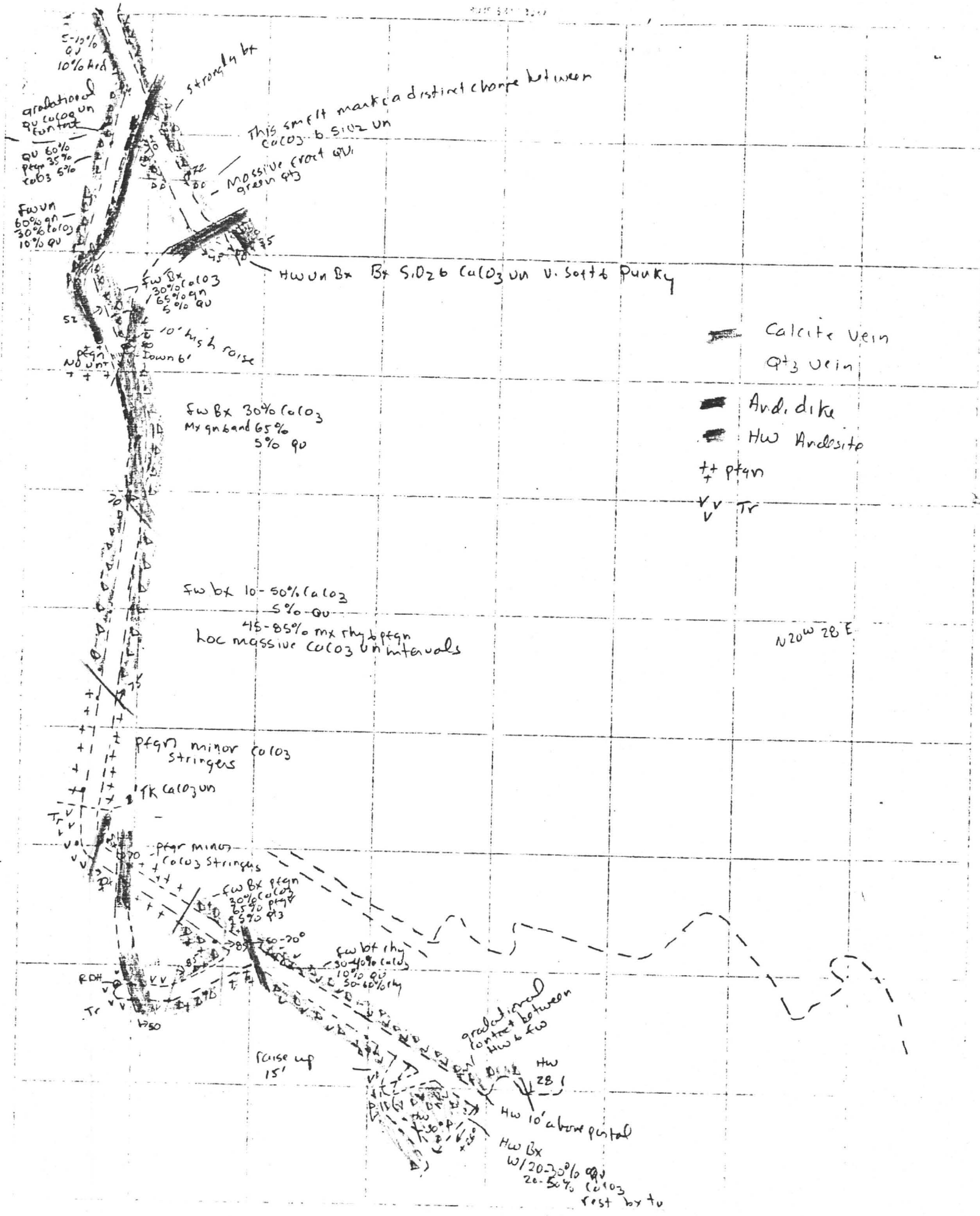
Ample water for milling and domestic purposes could be secured from the Colorado River, six miles from property, by means of an application for a water right from the Arizona Water Commission.

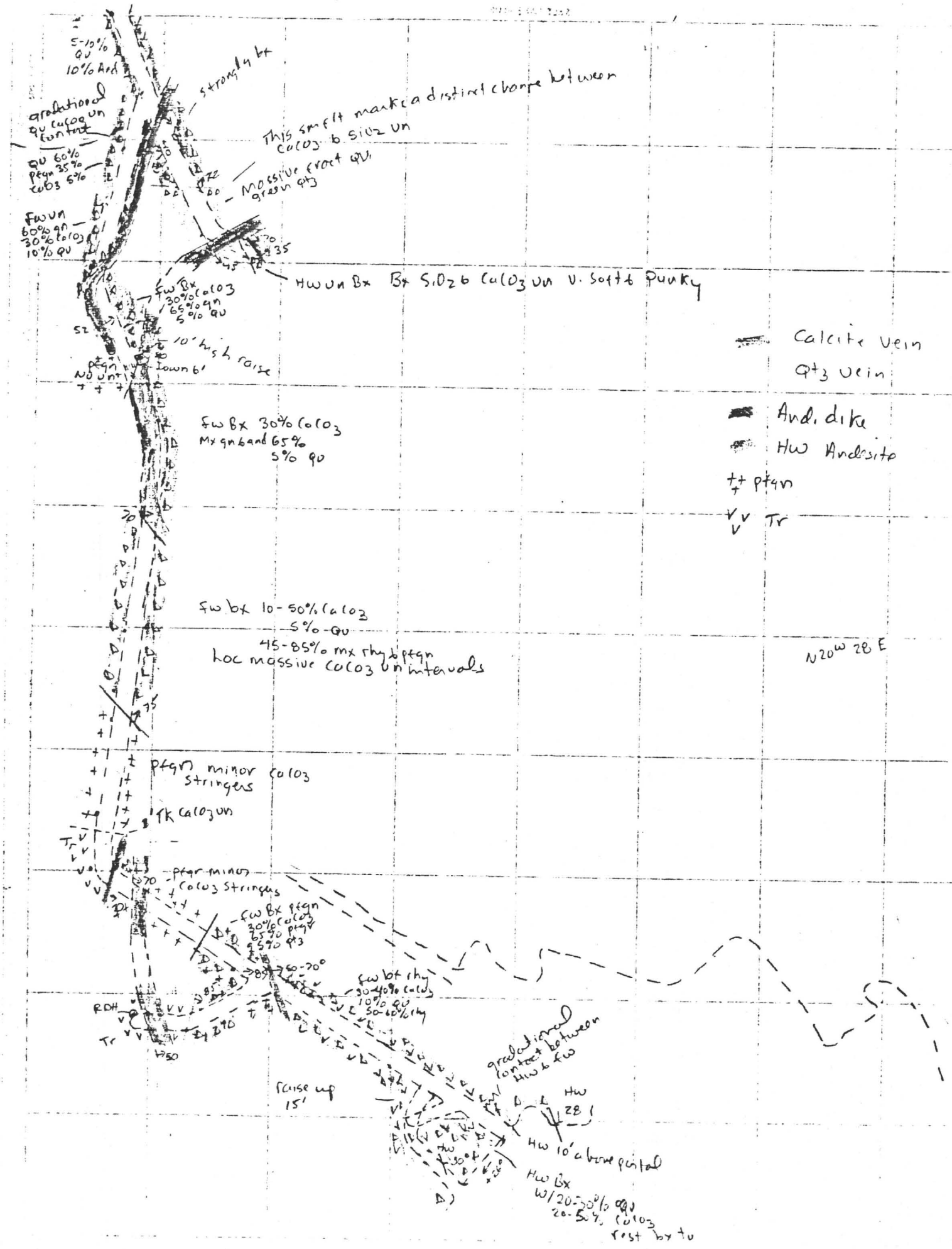
MILLING PLANT:

Further work should be done on the Portland Mine in order to determine its ore reserves, average value of ore, and the capacity of a treatment plant that should be installed at a later time. As additional ore could be secured in quantity for such a plant from four or five other gold mines within a radius of 10 miles of Portland, it is believed that an operation could finally be developed that would result in supplying a mill of large capacity, say from 300 to 500 tons daily, with gold ore of goodly grade over a long period of years.

Elgin B. Holt

Elgin B. Holt,
Field Engineer.


5-10% QV
10% hrd
strong ly bt
gradational qv caco3 un contact
This smelt marks a distinct change between caco3 & sio2 un
QV 60%
ptgn 35%
caco3 5%
Massive crect QV
green qtz
Fw un
60% gn
30% caco3
10% QV
HW un Bx Bx SiO2 & caco3 un v. soft & punky
Fw Bx caco3
30% caco3
65% gn
5% QV
52
10' high raise
ptgn
No unit
Down 6'
Calcite vein
Qtz vein
Andi dike
HW Andesite
ptgn
Tr
Fw Bx 30% caco3
Mx gn band 65%
5% QV
Fw bx 10-50% caco3
5% QV
45-85% mx rhy & ptgn
loc massive caco3 un intervals
N20W 28 E
ptgn minor caco3 stringers
Tr
caco3 un
ptgn minor caco3 stringers
Fw Bx ptgn
30% caco3
65% ptgn
5% qtz
50-70°
Fw bx rhy
30-40% caco3
10% QV
50-60% rhy
RDH
Tr
1750
gradational contact between HW & Fw
raise up 15'
HW
28
HW 10' above portal
HW Bx
w/20-30% QV
20-50% caco3
rest bx tu


5-10% QU
10% And
strongly bt
gradational QU CaCO3 un contact
QU 60% ptqn 35% CaCO3 5%
This small fault marks a distinct change between CaCO3 & SiO2 un
Massive green qtz
FW un 60% qn 30% CaCO3 10% QU
HW un Bx Bx SiO2 & CaCO3 un v. soft & punky
FW Bx CaCO3 30% 65% qn 5% QU
10' high raise down 6'
ptqn No un
Calcite vein
Qtz vein
And. dike
HW Andesite
ptqn
Tr
FW Bx 30% CaCO3 Mx qn band 65% 5% QU
FW bx 10-50% CaCO3 5% QU 45-85% mx rhy & ptqn
loc massive CaCO3 un intervals
N20W 28 E
ptqn minor CaCO3 stringers
Tk CaCO3 un
ptqn minor CaCO3 stringers
FW Bx ptqn 30% CaCO3 65% ptqn 5% Qtz
FW bt rhy 30-40% CaCO3 10% QU 50-60% rhy
RDH
Tr
gradational contact between HW & FW
raise up 15'
HW
28
HW 10' above portal
HW Bx w/ 20-30% QU 20-50% CaCO3
rest bx tu

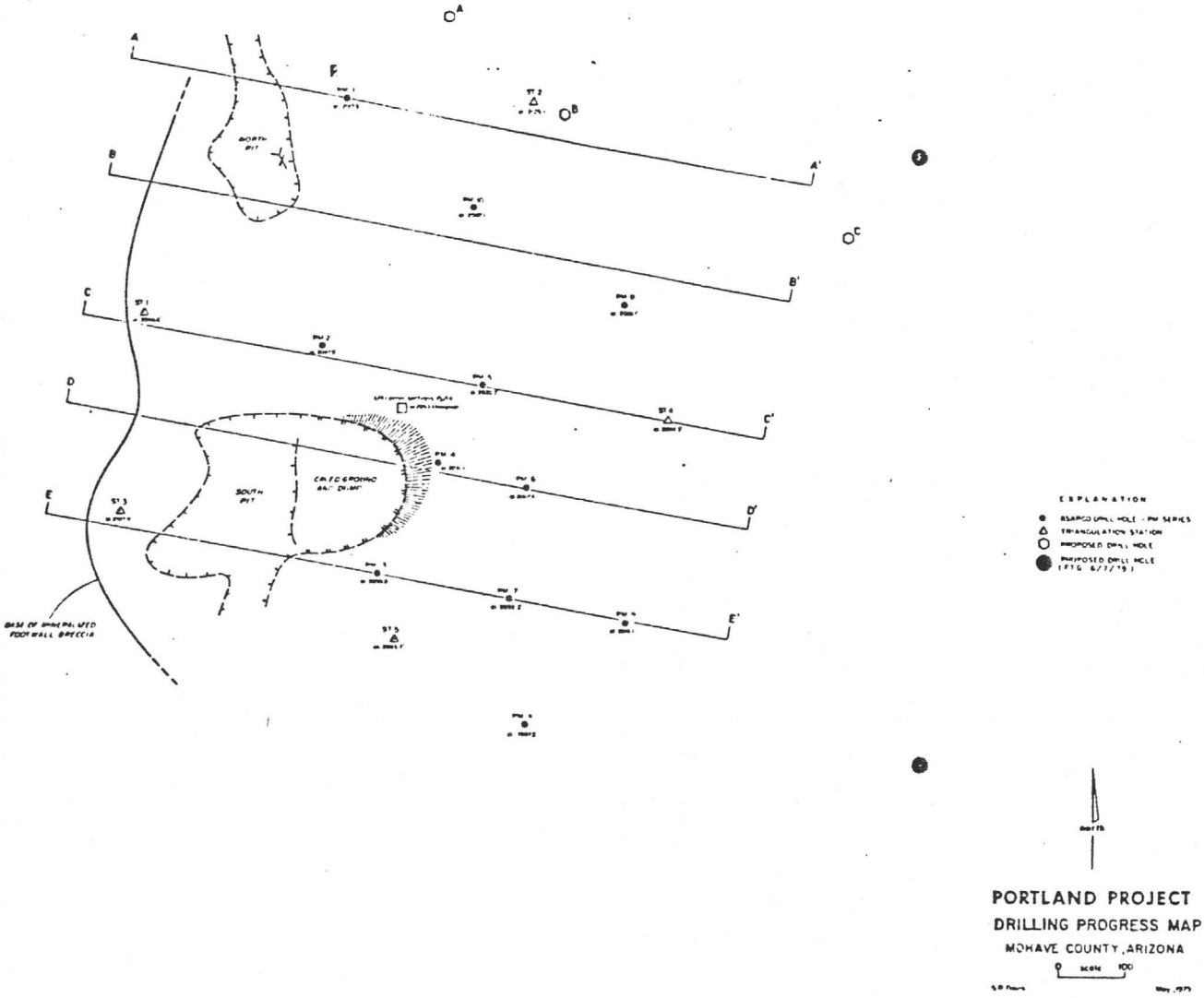
PORTLAND MINES, INC. Report of ore shipped to Gold Standard mill, Aug.13 to Aug.25, 1935.

LOT	AUG.	TONS	PORTLAND ASSAY GOLD	PORTLAND ASSAY SILVER	GOLD STD ASSAY GOLD	GOLD STD ASSAY SILVER	UMPIRE ASSAY GOLD	UMPIRE ASSAY SILVER	AVERAGE VALUE IN DOLLARS.
24	13	34.35	0.354	0.48	0.353	1.05			13.17
25	14	71.95	0.313	1.00	0.260	0.84	0.305	1.10	12.72
26	15	35.55	0.308	1.09	0.267	0.74	0.280	——	
27	20	70.75	0.464	1.76	0.427	1.50			
28	21	65.60	0.450	1.00	0.387	1.19			
29	22	75.00	0.356	1.57	0.300	1.05			
30	23	67.65	0.237	1.33	0.240	0.96			
31	24	68.15	0.254	1.00	0.226	0.77			
32	25	27.20	0.403	1.42	0.373	1.36			

516.26 | 9.31 9
.35

35
35
70
105
12.25

12.72
5.16
13.65
1.27
1.89
6 72.36
132.5



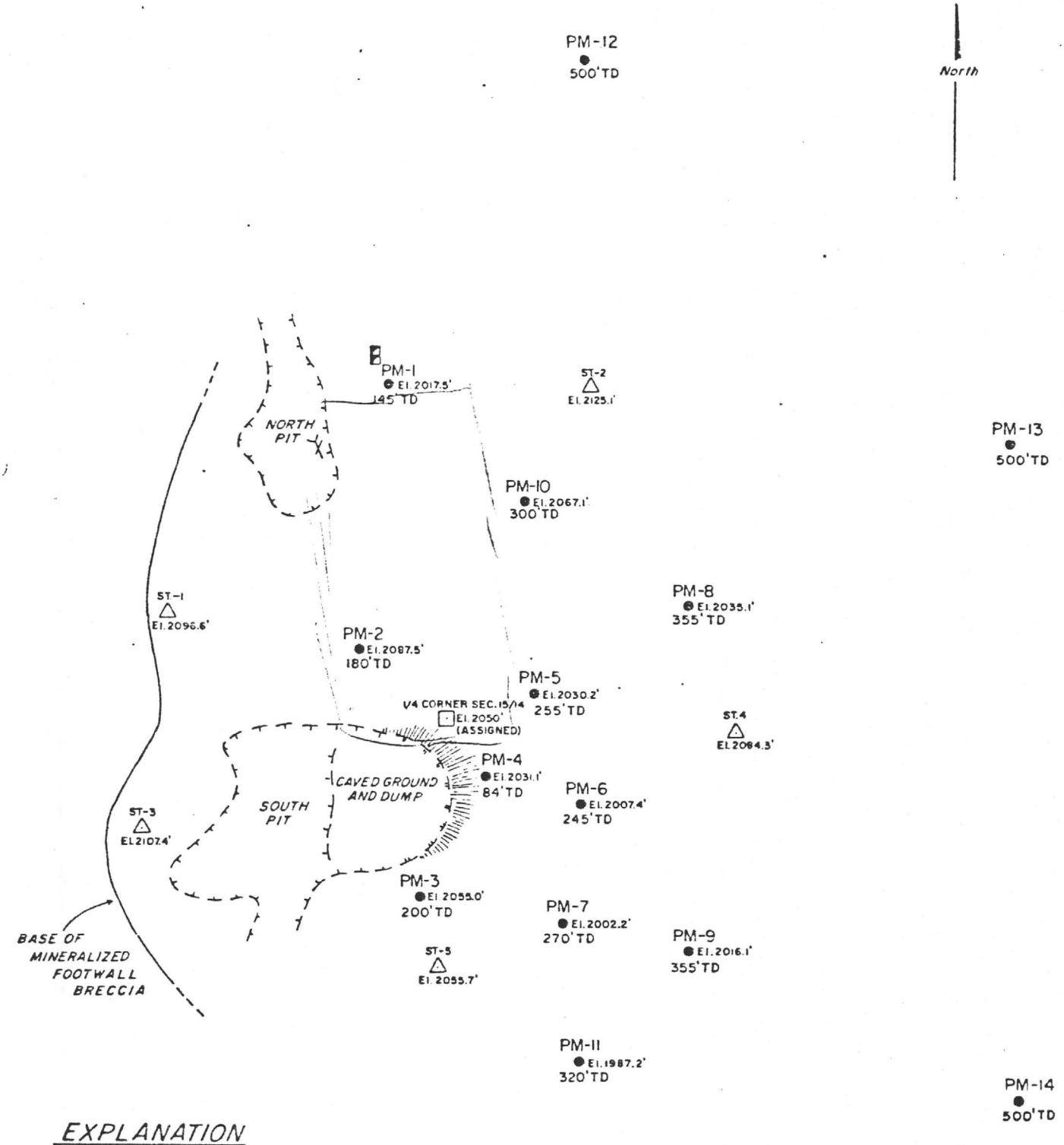
PORTLAND PROJECT

DRILLING PROGRESS MAP

MOHAVE COUNTY, ARIZONA

0 SCALE 100

TO ACCOMPANY	SUPPL. EXPL. AUTH. REQUEST
DATED	6-7-79
BY	F.T. GRAYBEAL



EXPLANATION

● ASARCO Drill Hole - PM Series

△ Triangulation Station

TO ACCOMPANY Monthly Drilling Report
DATED Sept. 26, 1979
BY S. R. Davis

DRILLING PROGRESS MAP

PORTLAND PROJECT
MOHAVE COUNTY, ARIZONA

SCALE: 1" = 200'

0 100' 200'