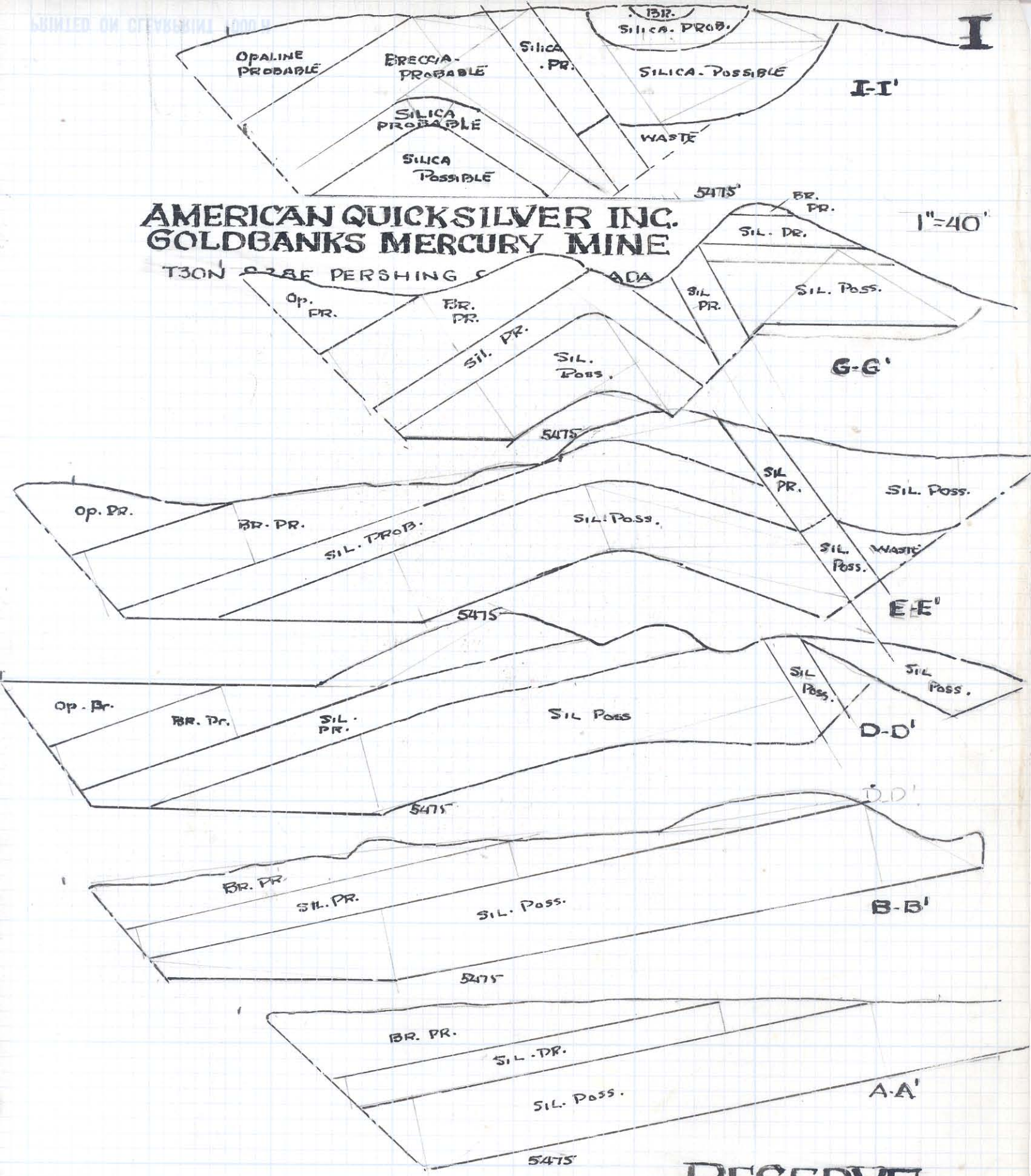


RESERVE WORK SHEET

RENO, NEVADA
MARCH 25, 1965

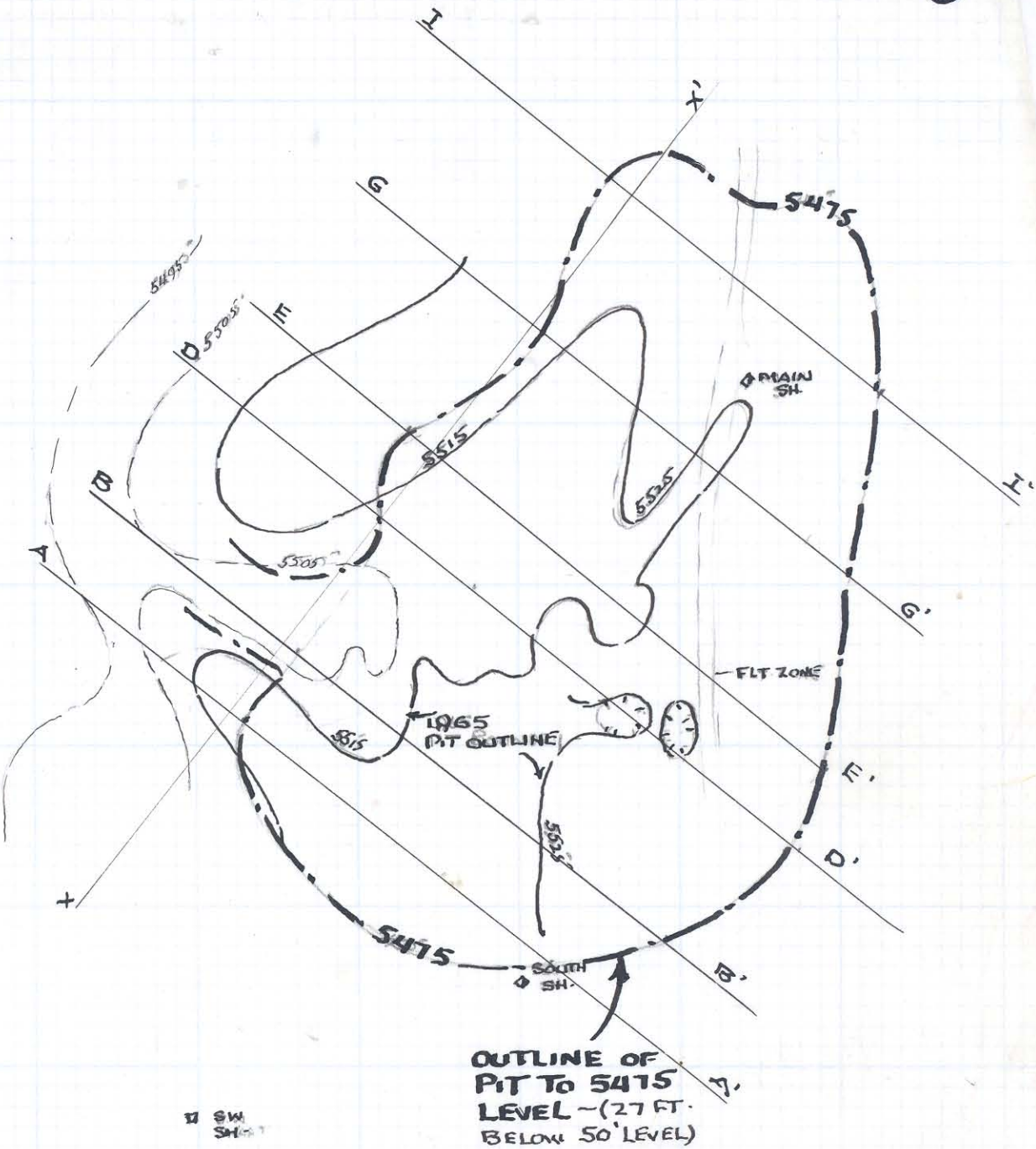
DAVID L. EVANS
CONS. GEOL.

60000 0014 (2130)

25 TON PLANT - 1965 -

6000 0014 (2130)

J



AMERICAN QUICKSILVER INC.
GOLDBANKS MERCURY MINE

T30N, R38E. PERSHING CO. NEVADA

PIT OUTLINES

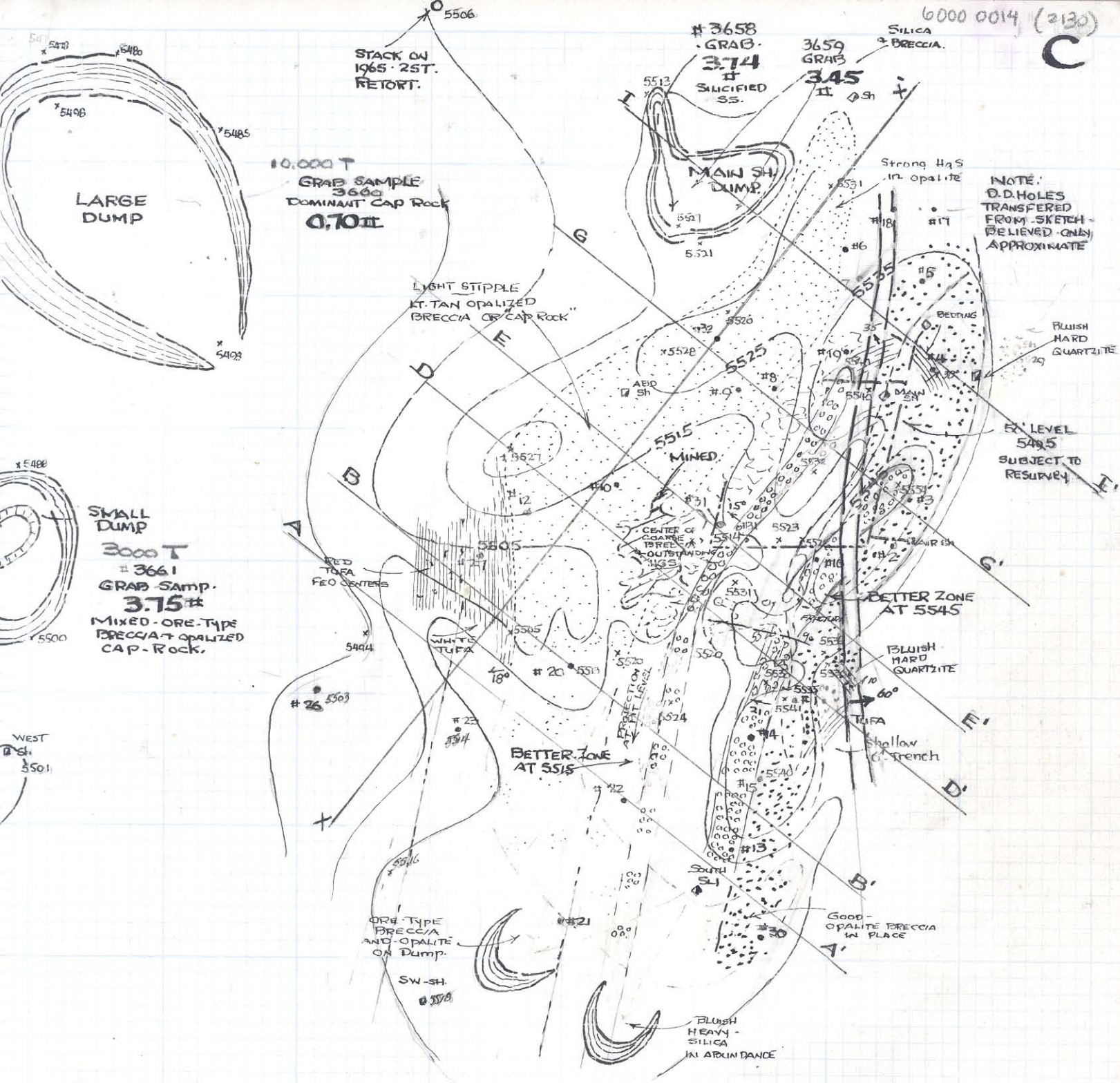
1" = 100'

RENO, NEVADA - MARCH 25, 1965

DAVID L. EVANS CONS. GEOLOGIST.

6000 0014 (2130)

C



AMERICAN QUICKSILVER INC.
GOLDBANKS MERCURY MINE
T30N, R38E - PERSHING CO., NEVADA

SURFACE GEOLOGY
ACTIVE AREA
1 IN = 100 FT.

RENO, NEVADA
MARCH 15, 1965

DAVID L. EVANS
CONS. GEOLOGIST

NOTE: CONTROL - BRUNTON INTERSECTION - D.L.E.

6000 0014 (2130)

Gold Banks - Report March 30 - 1965 -

Ready for Submission until.
Assay - Values proved
erroneous - By Check assaying -.

Replaced By Final Report
April 14, 1965 -

1700 Royal Drive

March 30, 1965

Mr. J. C. Carlile,
The J. C. Carlile Corporation,
Cooper Building,
1009 17th Street,
Denver, Colorado.

Dear Mr. Carlile:

Please find attached my report entitled "An Analysis of the Goldbanks Mercury Property", the result of recent field efforts at the property site, in Pershing County, Nevada, south of Wunnemucca. An original and five copies are provided.

It will be obvious that the report has been written with mixed emotions. While not accepting the tonnage and gradeestimates atrributed to this property, I do consider the property to have a reserve of ore, economic under careful management, an operating program tailored to the lower grade and physical characteristics of the ore, and a continued favorable market.

Note, too, that I have not proceeded with my original plan of outlining, in detail, an exploratory program for the outlying mineralization. Whereas, constant reference has been made to the West zone and the fact that it deserves attention, discussion, plans and the cost of such a program have been deleted.

It was felt that additional pages would detract from the main purpose of the report, ie: to emphasize reserves in the proved area and the geological background for calculating them as done.

The opportunity of assisting on this program has been very much appreciated.

Yours very truly,

nDavid LeCount Evans.

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DAVID LE COUNT EVANS, CONSULTING GEOLOGIST

DAVID LE COUNT EVANS, CONSULTING GEOLOGIST

An Analysis of the

GOLDBANKS MERCURY PROPERTY

American Quicksilver Inc.
Pershing County, Nevada

FOREWORD:

Examined at the request of Mr. J. C. Carlile of Denver, Colorado, field work on this property started on March 6, 1965. Following a second period of field examination and sampling, as well as office preparation, work on the project was completed March 26.

Reserves, in place, amount to 264,000 tons assaying 4.11 pounds of mercury to the ton; all tonnage is in Probable or Possible categories, and reserves are confined to the pit area. This is in marked contrast to an originally reported 250,000 of 6 pound material, estimated for a block, bottoming 27 feet above the base of our reserve; another million tons, suggested by operators as a possibility with continued depth, has not been verified. Only, if relationships mapped to the 50 level repeat themselves below the 50 level, is there any possibility of more mineralized tonnage below the limits of our block.

Reserves of dump material, reported by others at 60,000 tons of 4 pound rock have been reduced by this study to 6,580 tons of 4.02 pound rock. Of this, 3,000 tons have been shipped, leaving 3,580 tons, 560 tons of which averages 9.69 pounds to the ton. The 6,580 tons is that part of a total tonnage from dumps, amounting to 20,740 tons, which might be commercial. 14,160 tons with an indicated value of 0.7 pounds per ton is obviously non-commercial.

Total reserves, including dumps, amount to 267,580 tons, averaging 4.11 pounds to the ton. This represents 14,500 flasks of mercury, which on the basis of 90% recovery equals 13,150 flasks of recoverable mercury.

The property has much in its favor. Future disposition is considered a matter of collaboration between economist, engineer and geologist.

PURPOSE OF REPORT:

To report factually on the geological background and to provide an estimate of ore reserves, tied to geological detail and careful sampling, is the purpose of this report.

Our report outline has been standardized over the years; references to mining costs, the possibilities of profit or loss, etcetera, may suggest encroachment into non-geological fields; however, it is believed that no geologist can approach a property's true potential without due consideration of such factors. Included though they are, ultimate decisions along such lines lie with the specialists in those fields.

CONCLUSIONS:

It has been concluded that:

(1) With the writer's approach controlled by easily mapped and recognized geological units, a reasonably sound tonnage figure is assured. But, aware that the merit of samples depends on the choice of what to sample as well as personal sampling methods, sampling should be further pursued by those on the ground.

(2) The property and project are viewed favorably. Mineralization is extensive, both in the pit area and to several thousand feet away from the active area. The many attractive features indicate an economic possibility if mined and treated judiciously, and assuming that the price of quicksilver stays above the $320 per flask level.

(3) Every effort should be made to mesh this promising deposit with an economically sound program, geared to 4 to 5 pound rock, and with good engineering supervision.

(4) The continuity from mining area to other regional exposures and trends is undeniable; exploration further afield is merited.

RECOMMENDATIONS:

This report recommends that:

(1) Our 'grade' figure be the target for more sampling by those active at the property. Urged, especially, is a program of evenly spaced samples for the 50 foot level in the underlying silicified unit.

(2) The proposed expansion of the operation to 200 tons per day (with its $700,000 capital requirement) be reviewed in light of these reserves, and that a more realistic approach to the exceptional hardness of the ores, and consequent effect on mining and milling cost estimates, be adopted.

PROCEDURES:

Field work followed accepted methods. From an initial base line, observations were controlled by Brunton Compass surveying; points were determined by intersection and pacing, with usable elevations determined by vertical angles. Samples were limited to those cuts which would evaluate the units selected for mapping. The pit area was mapped at 100 scale and the regional picture at 400 scale.

Office analysis was expedited by the construction of vertical sections at 40 scale, both for purposes of correlation and the calculation of reserves.

Reserves have been worked out by outlining the ore per vertical section, then estimating the square area of ore per section, and using the intervals between sections to determine the cubic content per block between sections; a factor of 15 cubic feet per ton was used for tonnage of rock in place, and 21 cubic feet per ton for dump material.

LOCATION:

With reference to affixed Plat A, the Goldbanks Mercury property lies in the Goldbanks Mining District in sections 11 and 14, Township 30 North, Range 38 East, Pershing County, Nevada, 38 miles from Winnemucca. It is reached by

DAVID LE COUNT EVANS, CONSULTING GEOLOGIST

taking the Grass Valley road from Winnemucca and at 29 miles (just beyond Leach Hot Springs) turning southwest on a desert road, for another 9 miles, to the property, at the pit area.

GENERAL AND LIMITING CONDITIONS:

Access: It is reached by good gravel road for the first 29 miles, and then dusty, but serviceable, road over the last nine miles. Rail and truck services are available at Winnemucca.

Power;
Communication: There is no power close to the property; the last lines observed were in the ranching area, roughly, 20 miles north. A gas transmission line crosses the area 3.5 miles to the east; telephone can be made available by installing three and one half miles of line from the east, from a line in which the property has membership.

Water: Two springs were reported by Mr. Kaasch. Supply appears adequate for the operation in mind. In the valley to the north, excellent supply for irrigation lies at 50 feet of depth.

Timber: No timber exists in the area.

Labor: Labor is plentiful in these Nevada towns, but the quality of labor is problematical; wages appear to vary from $2.00 to $2.50 per hour.

Taxes: Company reports indicate a 48% federal tax on Mercury for net income, after a 23% depletion allowance. State taxes have not been investigated, but Nevada taxes should be small or non-existent.

Mill sites: These are more than adequate.

Tailings: Disposal presents no problem. Burned rock has been stacked in dumps in the past; the access road could benefit from any and all tailings.

Climate: Year round operation would be assured. Climate at this 5,500 feet of elevation is a dry desert variety. Summers provide day-time temperatures to 100, followed by cool nights; moisture should not exceed 10 inches. Summer cloudbursts will temporarily hamper transportation.

LEGAL TITLE:

With reference to affixed Plat B, that area completely outlined represents the entire 534 acres held, I understand, by the Bradley Mining Company of San Francisco. It is our understanding that all is held by location with no claims patented. These consist of Redman claims 1, 2, 3, 4, 5, 7, 8, 9, 10, 11A, 12, 13, 14, 15, 16, 18, 20, 21, 22, 23, 24, and 25, and Redman Extension Claims 1, 2, 9, and 10.

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Under lease to American Mercury Inc. are 15 of these claims, covering 300 acres, and including Redmans 1, 2, 3, 4, 5, 7, 12, 15, 18, and 20, and Redman Extensions 1, 2, 9, and 10. The selected area is shown in cross-hatch on Plat B.

American Mercury Inc. reports that claims are held "under a lease arrangement of 10% of the money recovered for metals mined and sold, less freight, insurance and brokerage of $200 per month. The lease expires March 1, 1970, with an option to renew for an additional ten years at the election of the lessee. It is free and clear of all encumbrances other than payment of royalties."

HISTORY OF PROPERTY AND DISTRICT:

Bulletin No. 5, Volume XXXVIII, of the University of Nevada Bulletin, "Quicksilver in Nevada", released in December 1944, reports as follows:

> "The deposit was first developed in 1913 by the Nevada Quicksilver Company, and in 1914 the same individuals, operating as the Goldbanks Quicksilver Company, produced nearly 400 flasks---------".
>
> In 1915 pipe retorts were replaced with a 50 ton Herreshoff furnace which operated throughout 1916 and until July 10, 1917 when it burned down. 1,100 flasks had been recovered by this plant but it was never rebuilt.
>
> "--------property was idle until 1937. From 1937 to 1941, Melvin McCoy leased the ground and retorted 300 flasks of quicksilver. In June 1941 the property was taken by the Bradley Mining Company --------", and although considerable development, diamond drilling and stripping was done by the end of 1943, only small amounts of quicksilver were recovered by the Opalite mill at McDermitt, to which ores were shipped.

It has been reported that others trying to operate the property, since 1944, have failed because of poor mining and sampling practices.

Measurements of the pit, underground workings and dumps, and published observations to the effect that materials furnaced equalled tonnages to dumps, suggest that this property from 35,000 tons mined, provided 17,000 tons to retorts and furnace. Producing a total of 1,800 flasks or 136,800 pounds of quicksilver, the value in place of the 35,000 tons, therefore, would amount to 4.59 pounds of recoverable mercury or about 5.1 pounds in place, based on a 90% recovery factor. The fact, that under 'reserves' the value of our block of Probable Ore is 4.59 pounds is a matter of coincidence.

GEOLOGY:

Introduction:

It has been inferred that mineralization continues in depth to an underlying barren rhyolite, at the bottom of the 200 foot shaft. This can neither be confirmed nor denied, since the lower reaches of the shaft were inaccessible. However, at the 50 foot level mineralization does end at a contact with underlying fine sandstone, silt and probably silty shale.

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Reference is made to attached Plats C, D-1, D-2, D-3, E, F, G and H, all of which present the geological background better than the written text.

Petrology:

Shown on the Legend sheet, in order of increasing age, are seven mappable units; six of these comprise the total observable rock thickness; the seventh, faulting, effected the original, orderly arrangement of the six units. Comments per unit are as follows:

Tufa (in gray): a soft porous to powdery, thinly bedded deposit, probably from hot-spring action, of no commercial value and a nuisance, since it covers underlying occurrences of possible significance.

Cap Rock or Opaline Breccia (brown): prominent only in the pit area; a mass of angular chert or silicified fragments, similar to those in the underlying breccias, but cemented with a very brittle, semi-translucent white to tan chert, locally opaline. The rock is platey and would crush with little effort. Locally, it shows bright cinnabar in quantity, but the overall mass is of low tenor. It is likely that it once covered the area, but has now been reduced to local patches, where protected from erosion. It attains 60 feet of thickness on the north flank of the pit, but occurs only in traces along the unexplored trend, west of the active mining area.

Tight Breccia and 'Better' Breccia (orange and red): underlie the opaline breccia; two colors are used but they represent only porosity differences. Breccia fragments have been derived from the underlying, highly silicified zone. Some of the fragments suggest an original sandiness; many of the fragments carry disseminations or thin seams of the black, metallic mineral, metacinnabar. The breccia fragments are held together by later silica carrying the normal red cinnabar. The metacinnabar and cinnabar are chemically the same; both are mercuric sulphides. The breccia mass is, for the most part, compact and hard. Locally, however, it has been softened and opened up until almost spongy. The unit provides one of the two principle ore zones. Total thickness amounts to 20 feet of which the lower ten feet provide the best values.

Silicified Unit (yellow): Underlying the breccias and, originally a sandstone, the unit is the product of complete silicification. The silica has been accompanied by the black metacinnabar. Throughout the silica mass, some sand grains can still be spotted under magnification. The silica is for the greater part white to light gray, but in places it assumes a grayish blue coloration. A selected sample of the 'blue' carried 10.25 pounds of mercury to the ton, suggesting that the color is due to finely divided metacinnabar in the silica.

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On the 50 foot level the mass shows original bedding, reflecting the original sedimentary or clastic nature of the unit. Some of the metacinnabar mineralization has selectively replaced thin beds.

For two reasons this unit is considered the critical unit of the deposit. First, of our total of 264,000 tons, 186,000 tons are estimated as 'siliceous' tonnage, and sampling to date suggests that if the overall grade is to be raised, it must come from this member; and, last, mining and crushing costs will be greatly increased by the hardness of this member. The unit has 35 feet of thickness; all of it has been included under Probable or Possible reserve.

Thinly Bedded Clastics (green): Consisting of thinly bedded fine sandstone, siltstone and probably silty shale, this unit underlies the mineralized section. Color varies from white to buff to red, with the last dominant. The rock is soft and without value.

Structure:

With reference to Plats D-1, D-2, D-3 and H, an original gentle, regional, westerly dip of the rocks has been adjusted by weak folding to abrupt faulting. The zone of breccia and gouge, at the 50 foot level, indicates such a line of movement. Reverse faulting is indicated.

Localized areas of tufa throughout the area suggest the existence of other faults or lines of movement, which in time might be added to the picture.

Mineralization:

Commercial possibilities are limited to cinnabar and metacinnabar, both mercuric sulphides of identical chemical composition. Metacinnabar is dominant in the siliceous unit. Accompanied by clear white to bluish-gray silica, the metacinnabar occurs as replacements in the bedding, as disseminations in the silica and as thin fillings along cracks. Cinnabar, probably later, is also in the siliceous unit but in lesser amounts.

Cinnabar favors the overlying 'Better' breccia; metacinnabar, also present, is limited to fracture fillings or disseminations in the fragments of the breccia. The cinnabar occurs cementing the broken fragments from the silicified mass, mineralized by the earlier metacinnabar.

Iron oxide penetrates exposures to about two feet. The exploration of adjoining areas will require probing beneath the oxidized outcrops.

Sequence of Events:

To appreciate remaining but undeveloped possibilities, an analysis of the geological causes behind these effects must be attempted.

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Disregarding the breccia units which are only the redistribution of rock units by movement, the original rocks of the series were sedimentary sandstones, siltstones and probably shales. Mineralizing solutions and gases have the same affinity for porosity and permeability as oil and natural gas. It is believed that the 35 foot silificied unit was originally a porous sandstone layer and that silica and metacinnabar followed this favorable channel, up the regional dip from the west, possibly from a fault, following the major valley west of the property.

The area of interest lies in the region characterized by Basin Range structure. The Grass Valley trend could be a "Graben", or block, dropping between two terminating major faults. Any crowding of such a block would require compensating readjustment and movement. An excellent line of readjustment would be the contact between the hard silicified unit and softer overlying rocks. Steady movement along that line would effect the upper contact, providing the sharp fragments of the overlying breccia mass.

A second period of mineralization could well cement the brecciated mass, with its fragments carrying some of the earlier metacinnabar mineralization. This second period would provide the cinnabar of the overlying breccia zones and the opaline cap rock with minor cinnabar at the top, as well as the minor streaks and disseminations of cinnabar in the underlying silicified unit.

The above sequence of events would justify the exploration of the trend west of the property where the same units exist.

And the above, with an indicated 35 feet of thickness for the silicified unit, would eliminate additional possibilities with depth UNLESS, beneath the present erminating sedimentary unit, there might exist another porous unit, comparable to the silicified unit, described above.

DEVELOPMENT:

Turning to Plats C and J, a clean surface in conjunction with a sizeable open pit has provided a reasonably good idea of the deposit and rock relationships. Plat F, a detailed reconnaissance of the 50 foot level, reflects the structural disorganization in a line of faulting, which has assisted in the evaluation of the silicified unit and its true relationship to total reserves.

All point to other development through which promising relationships can be further clarified, if made accessible; by this the writer means that

A. on the 50 foot level (see Plat F)

1. ladders in the air raise to surface and 30' raise at the north end of the drift would provide needed access for critical mapping and channel sampling;

2. substantial ladders and testing for bad air in the 200' shaft, below the level, would indicate ore going below level, or ending as suggested;

3. the cleaning out and shoring up of caved areas would check the projected trend of the 'better' breccia on the 50 foot level.

B. On Plat C

1. Ladder ways in inaccessible West Shaft, SW Shaft and South Shaft would, not only, add to geological relationships, confirming or destroying projections, but also, provide more sample detail for the adjustment of reserve estimates.

All sections carry the notation "1943 D.D.H. values included but not substantiated". The Bradley Mining Company, in 1943-1944, drilled the property. Most of it was by diamond drill, and a minor amount by churn drill. Assaying was done by the laboratory at Sulphur Bank, California. The value of this effort is questionable. In some cases, intervals and values check the picture; in others values in holes are completely out of line with the results from current sampling and assaying.

The writer's reaction is that cores in boxes, still at the property, are too small (smaller than EX) to be reliable. It has also been suggested on good authority that drilling was done without adequate supervision. This appears confirmed through the lack of everything except some assay information; no logs per hole were kept, there is no record of percentages of recovery; some of the cores, laced with very obvious metacinnabar, still at the well site, were never cut and sent for assay.

It seems, too, that sites were picked without preliminary study since many of the holes were drilled on the footwall side of mineralisation, with mineralised structure diverging from the hole with depth. Suffice it to say that for the record these holes have been shown on section, but a strict acceptance of information, of doubtful value, has not interfered with interpretation.

Other shafts on the property have been completely lost. Short tunnels or cuts on the trend west of the mining area have been encouraging as far as they go; in this connection, on Plat C, note at the north of the sheet the comment 'Ab'd producing mine'. The production at the north end, as well as 1 to 1.5 pound values in the oxide zone, 700 feet to the south, should be followed up.

SAMPLES:

Hardness of host rock, and lack of time or powered tools, forbade any attempt at channel sampling.

Concerning the 'Better' breccia, much of the material was soft enough to provide good bulk samples for quartering. Face samples in the active pit area were repeated for a check. A further check was provided by sampling material stockpiled, after mining from the same face.

All other mine samples were chip samples, with every effort made to save material in the proper proportion.

Value estimates for the 50 foot level have been based on two carefully selected dump samples, from the 200' Shaft dump, the first from that portion, seemingly representing shaft advance, and the second from a larger part, suggesting level development.

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Concerning dumps, the sinking of a series of shafts on the larger 14,000 ton dump was out of the question; a mixture of material from trenches on top, and from the steeply inclined face was sent for assay. The disappointing 0.70 pound material was 90% opalite breccia.

Other dumps, sampled on a like basis provided or nearly provided values which had been reported.

Sample results are listed below. Rather than in numerical order, they have been assembled on the basis of category:

A. Opaline Cap:

Sample #	Location	Lbs/Ton (Caldwell)	Quiet
3656	Opaline; above breccia in south side of pit	0.99	0.76
3657	Opaline; 150' west of 3656	1.37	0.66
3660	Opaline; 14,000 ton dump	0.70	0.10
3665	Opaline; dump; SW shaft	1.67	0.18
3670	Opaline; north side of pit opposite sample 3657	0.81	0.10
3673	Opaline; 100' NE of 3670	0.83	0.06
3672	Opaline; 200' NE of 3670	3.13	1.04

B. Tight Breccia:

3652	South edge of pit; 3 foot cut above 'better' breccia	2.47	1.42
3651	Same; 9 ft. cut above 3652 oxidized	1.21	0.24
3654	3 ft. cut; 30' from 3654	1.55	0.86
3661	Grab from smaller 4,000 ton dump	3.75	2.48
3671	NE end of pit; 30 foot cut across tight breccia, some 'better' breccia	2.37	1.52 - 1.63
3674	Tight breccia from dump of South Shaft	1.53	0.28

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C. 'Batter' Breccia:

Sample #	Location	Lbs/Ton	Caldwell / Quiet
3653	3' in top of zone, northeast of active cut	2.50	— 1.90
3655	7' cut in south face in active cut	4.39	- 3.28
3669	Top 3-1/2 ft; to check 3655	0.37	0.28
3668	Bot. 3-1/2 ft; to check 3655	5.56	3.14 -3.29
3667	3655, 3669 and 3668 further checked by this sample from 6 ton stock-pile	3.39	2.28 -2.33
3662	5' of breccia from face of inclined crosscut, east of mining face	7.63	7.04
3664	across 8 feet of breccia in pit above and south of pit mining face	4.90	2.15
3666	See Plat D-3, section G-G'; from breccia at crest above pit	7.97	5.90

D. Silicified Unit:

3658	200' Shaft dump; shaft portion	3.74	- 2.28 2.38
3659	same; workings portion	3.45	1.90 2.17
3663	50' chip sample around workings back of pit at pit level	4.85	- 2.60
3675	Selected sample of gray-blue silica, above upper cut, and below breccia	10.25	0.06
3676	See Plat G and 'stockpile' at west limit of Section R-R'; probably sorted material	9.69	19.10

E. Dumps:

3660	Opaline; 14,000 ton dump	0.70	0.10
3661	Smaller dump SW of 3660	3.75	2.48
3658	Dump from 200' shaft	3.74	2.28
3659	Dump from 200' shaft	3.45	1.90
3676	Stockpile on Plat G	9.69	19.10 19.18

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F. Miscellaneous:

Sample #	Location	Lbs/Ton	
3677	See Plat G; west limit of Section S-S'; oxidized better breccia	1.50	- 0.96
3678	Same area, within 15 feet of 3677; both faces cleaned first by blasting	1.09	0.14
3679	Same section; east limit of S-S'; grab from 30' of diamond core with metacinnabar stringers	1.37	0.06

Analyses listed above are all the work of Mr. Roy Caldwell, Consulting Mining Engineer and assayer of Winnemucca. Mr. Caldwell was the Chief Chemist for the old National Mine until its closing, three years ago.

ORE RESERVES:

Summary:

Total reserves amount to 267,580 tons with average grade of 4.11 pounds of mercury per ton. Of this total only 3,580 tons of 4.02 pounds represent remaining dumps of shipping grade. Indicated are 14,500 flasks.

Ore in place, totaling 264,000 tons at 4.11 pounds is subdivided into 138,000 tons of PROBABLE ore at 4.59 pounds and 126,000 of POSSIBLE at 3.59 pounds. With reference to the 4.59 pound figure, attention is directed to the 4.59 estimate for the value of the 35,000 tons mined from this property under "History of Property". This is a coincidence, since figures were reached from separate directions, with no attempt made to match the grades. It is considered, however, significant.

It is believed that somewhere, along the unexplored West trend, efforts might be made to find a similar reserve.

Procedures, as described on page 2, involve the estimating of tonnage by the cross section-interval method. Plat I is a composite of work sections, outlining those areas included. Work sheets are not attached, but remain on file. 15 cubic feet to the ton is the factor employed.

Average values per unit were determined from assays, listed preceding this Reserve discussion. Personal judgment has been employed in the selection and averaging of values.

Dump tonnages have also been calculated by vertical section, using field survey sheets. Values per dump are from grab samples. 21 cubic feet per ton is the factor used.

Obvious is the fact that our preliminary estimate of March 18 has been increased considerably. Tonnage has been doubled and grade brought up by 0.66 pounds.

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72,000 tons of this increase of 132,159 tons of 'in place' ore is the result of the facts that a 35 feet of thickness has replaced the original 30' for the silicified unit, and that the trend has been extended another 200 feet to the southwest. The remaining increase of 60,159 tons reflects the fact that the contemplated pit has been deepened from the 50 level to 27 feet below. Increase in grade has resulted from continued sampling and some check sampling.

The above extensions are justified. The area around the South Shaft (near Section A-A') shows great quantities of the grayish blue silica. Our sample No. 3675 indicates the potential of this material.

Tonnages:

The following table summarizes the tonnage of material in place:

		PROBABLE			POSSIBLE	GRAND
Block	Breccia	Silica	Opaline	Total	Silica	TOTAL
East of I-I'	4,666	3,255	1,820	9,741		9,741
I-I'----G-G'	15,173	12,927	5,631	33,731	22,140	55,871
G-G'----E-E'	14,426	14,700	4,766	33,892	31,641	65,533
E-E'----D-D'	8,323	7,550	2,450	18,323	19,300	37,623
D-D'----B-B'	11,646	13,222	2,333	27,201	37,146	64,347
B-B'----A-A'	4,623	5,846	-----	10,469	15,773	26,242
West of A-A'	2,143	2,500	-----	4,643	----	4,643
In Place Totals	61,000	60,000	17,000	138,000	126,000	264,000

Grade:

Grades per geological unit have been calculated as follows:

Opaline Unit

Sample #	Grade	Average	Final Average
3656	0.99	0.99	
3657	1.37	1.37	
3660	0.70	0.70	
3665	1.67	1.67	
3670	0.81	0.81	
3672	3.13	3.13	
3673	0.83	0.83	
			1.36

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Breccias

Tighter Breccia

Sample #		Grade	Average	Final Average
3651	(9')	1.21		
			1.60	
3652	(3')	2.47		
3654		1.55	1.55	
3661		3.75	3.75	
3671		2.37	2.37	
3674		1.53	1.53	
				2.16

'Better' Breccia

3655	4.39		
		3.68	
3668&3669	2.96		
3662	7.63	7.63	
3664	4.90	4.90	
3666	7.97	7.97	
			6.04

Both: 20 ft. of Breccia

10' @ 2.16 and 10' @ 6.04 — 4.10

Silicified Unit

Probable ore;
10' true width

3663	4.85	4.85	
3676	9.69	9.69	
3658&3659	3.59	3.59	
			6.02

Possible ore;
25' true width

3658&3659 — 3.59

Dumps:

Large dump	14,160 tons @ 0.70 pounds	0.1
Small dump	4,000 tons @ 3.70 pounds	2.48 (original)
200 Ft. Shaft	2,020 tons @ 3.59 pounds	2.08
West stockpile	560 tons @ 9.69 pounds	

Note: dumps of ore grade remaining amount to 3,580 tons @ 4.02 pounds per ton.

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Tonnage and Grade:

The following summarizes all reserves:

PROBABLE

Type	Tons	Lbs/Ton	Average Lbs/Ton
Breccia	61,000	4.10	
Siliceous	60,000	6.02	
Opaline	17,000	1.36	
All Prob.	138,000	4.59	
POSSIBLE			
Siliceous	126,000	3.59	
TOTAL IN PLACE	264,000		4.11
DUMPS	3,580	4.02	
GRAND TOTAL	267,580		4.11

Recapitulation:

Reserve in place to the 50 foot level amounts to 169,000 tons of 4.11 pounds of mercury to the ton. This is to be compared to the same block, recently listed, of 250,000 tons of 6.0 pounds of mercury to the ton.

TREATMENT METHODS:

Treatment of ores by Gould rotary furnace is contemplated. For purposes of cost estimates, figures supplied by American Quicksilver's recent brochure have been put to use, with some increases for additional crushing and grinding.

All concur that ores will be mined from open pit. Reference is made to attached Plat J, showing the outline of the present pit, as well as the limits of the proposed pit, transferred from submitted sections. Mining costs have also been increased, as outlined below, because of the exceptional hardness of the ore.

COST ESTIMATES:

Mining:

For a 200 ton operation, with labor force of six men, in exceptionally hard rock, mining and delivery to furnace has been estimated at $2.31 per ton. This is in line with general consensus, reached in a recent discussion, of $2.50 per ton. The $2.31 figure is backed by a per item-breakdown in personal files.

Milling:

American Mercury has estimated milling at $3.50 per ton. For several reasons, especially that of indicated increases in crushing costs, and for purposes of conservative cost estimates, the figure has been increased to $5.00 per ton.

Overall Costs:

Using the above and American Mercury's table arrangement, costs of operation amount to:

Mining	$2.31
Milling	5.00
Overhead	1.00
Miscellaneous	1.00
Total	$9.31 per ton

2.50
4.00
1.50
1.50
8.50

METAL PRICES:

Engineering and Mining Journal's average for February 1965 is $475 per 76 pound flask, or $6.25 per pound. The all time high of $490 per flask in November and December 1964, has been only exceeded by odd lots which reportedly reached about $505 per flask. These peaks are not expected to last.

Mr. Gordon Gould in a paper presented before the National Western Mining Conference, at Denver, in February 1965, competently analyzed mercury market and price expectations, as follows:

1- Referring to an established 3% annual increase in the mercury price, based on records from 30 years before World War I, he concluded: "We have an average price for the next ten years of about $320, not an unreasonable figure when we note the 1964 average price of $314.79 per flask."

2- He further concluded that with Spanish and Italian mines increasing production to benefit from the $320 or better price, they will be able to meet only about one half of the increase in demand; the remainder will have to come from the world's lower grade mines that can operate profitably only with a price greater than the $320 per flask."

3- Gould finally concluded that in view of the situation an adjustment is due, and the price could well settle out at somewhere between $375 and $425 per flask.

CONSIDERATION OF PROFIT OR LOSS UNDER INDICATED PRICE EXPECTATIONS

For purposes of roughly testing out the property's economic possibilities, two approaches are tried, the first based on a price of $320 per flask, and the second on $400 per flask. Acknowledged is the use of the form from American Mercury's March 1965 brochure.

Quicksilver Inc's - January 1965 - Report.

DAVID LE COUNT EVANS, CONSULTING GEOLOGIST

Approach I

Assuming run of mine based on Evans sampling and study at 4.11 pounds per ton, a 90% recovery and mercury selling at $320 per flask or $4.21 per pound.

		Per Day	Per Month
Gross Profit: 200x4.11x4.21x0.90		$3,114.56	$93,436.80
Less:	Operating expenses at $9.31 per ton	1,862.00	55,860.00
	Selling expenses at $6.00 per flask	58.00	1,740.00
		1,194.56	35,836.80
	Royalty at 10% of gross	311.46	9,343.68
	Net before Lease payments	883.10	26,493.12
	Lease payment on property	441.55	13,246.56
		441.55	13,246.56
	Depletion; 23% of gross	716.35	21,490.50
	Income subject to tax	(274.80	(8,244.94)
	Taxes at 46%	----	------
	Add back depletion allowance	716.35	21,490.50
	Estimated retained income	$441.55	$13,246.56

Approach II

As above, but based on an average of $400 per flask or $5.26 per pound of mercury.

Gross Profit: 200x4.11x5.26x0.90		$3,891.35	$116,740.50
Less:	Operating expenses at $9.31 per ton	1,862.00	55,860.00
	Selling expenses at $6.00 per flask	58.00	1,740.00
		1,971.35	59,140.50
	Royalty at 10% of gross	389.14	11,674.05
	Net before Lease payments	1,582.21	47,466.45
	Lease payment on property	791.10	23,733.22
		791.11	23,733.23
	Depletion; 23% of gross	895.01	26,850.30
	Income subject to tax	(103.90)	(3,117.17)
	Taxes at 46%	----	------
	Add back depletion allowance	895.01	26,850.30
	Estimated retained income	791.11	23,733.23

DAVID LE COUNT EVANS, CONSULTING GEOLOGIST

RECAPITULATION:

Regarding the above 'Profit or Loss' tables, Approaches I and II indicate net profits of $2.21 and $3.96 per ton, respectively.

267,580 tons of reserve at $2.21 per ton provides a net profit of $591,351. The same tonnage at $3.96 per ton amounts to $1,059,616. Size of reserve indicates a four year operation.

In view of the $700,000 of estimated capital requirements, needed to underwrite a 200 ton per day operation, these figures indicate that the success of the operation, as planned, depends very much on a continued favorable market, as well as additional reserves.

Respectfully submitted,

David LeCount Evans

1700 Royal Drive,
Reno, Nevada.

March 30, 1965

DAVID LE COUNT EVANS, CONSULTING GEOLOGIST

6000 0014 (2130)

DAVID LE COUNT EVANS
CONSULTING GEOLOGIST
RENO, NEVADA
1790 Royal Drive

April 14, 1965

Mr. J. C. Carlile,
The J. C. Carlile Corporation,
Cooper Building,
1009 17th Street,
Denver, Colorado.

Dear Mr. Carlile:

Please find attached my report entitled "An Analysis of the Goldbanks Mercury Property", the result of recent field efforts at the property site, in Pershing County, Nevada, south of Winnemucca. An original and five copies are provided.

It will be obvious that the report has been written with mixed emotions. While not accepting the tonnage and grade estimates attributed to this property, I do consider the property to have a reserve of ore, economic, as a small property, under careful management, an operating program tailored to the lower grade and physical characteristics of the ore, and a continued favorable market.

Note, too, that I have not proceeded with my original plan of outlining, in detail, an exploratory program for the outlying mineralization. Thereon, reference has been made to the West zone and the fact that it deserves attention, discussion, plans and the cost of such a program have been deleted.

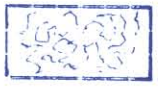
The opportunity of assisting on this program has been very much appreciated.

Yours very truly,

David LeCount Evans

DLE:sh

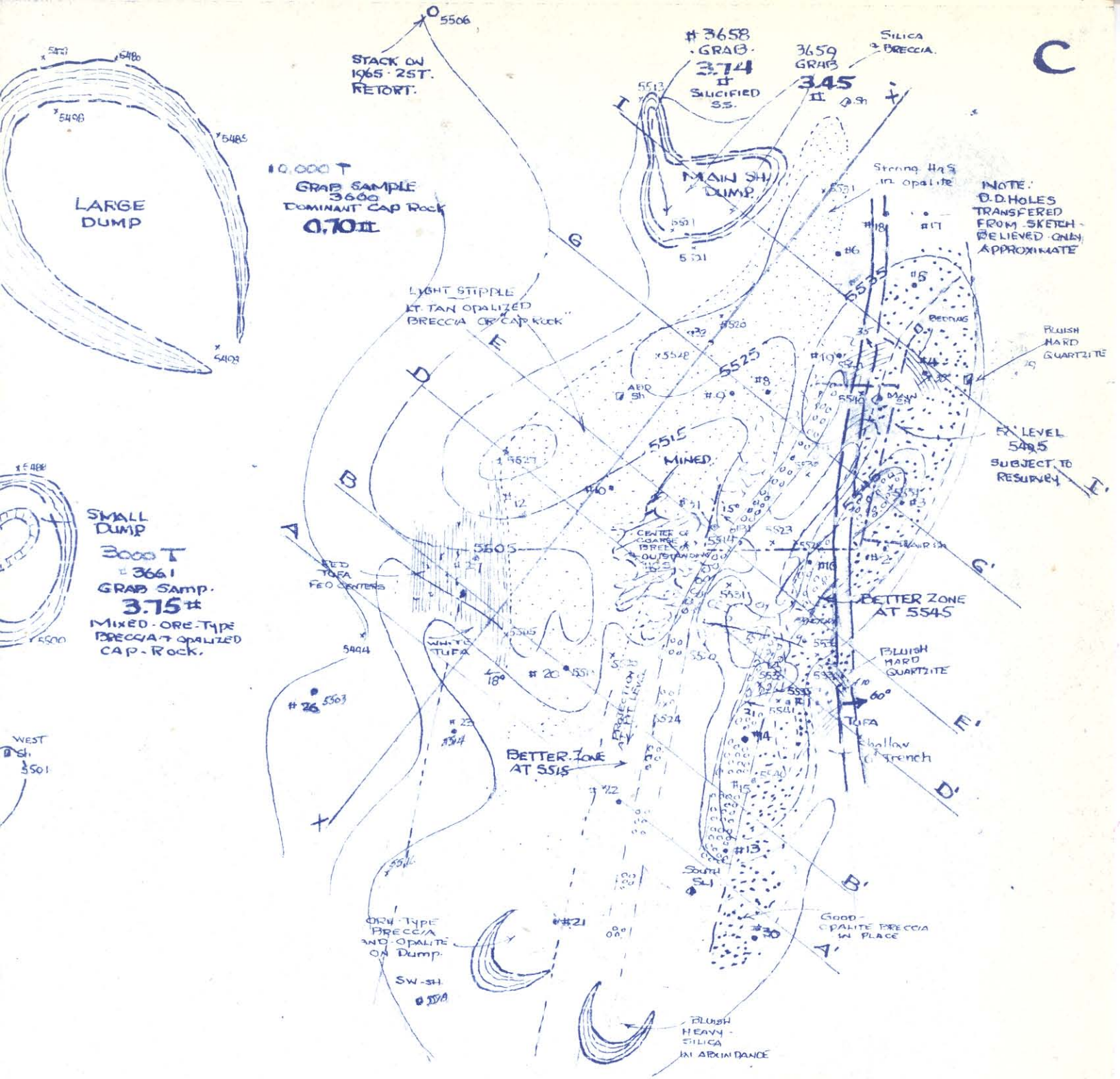
LEGEND

SYMBOL AND COLOR	DESCRIPTION
	Faulting; zone carries angular fragments silicified sand & clastics, laced with stringers black metallic mineral considered metacinnabar
	Tufa; probable hot spring product; white to buff some with red iron oxide weathers to powdery soil
	Cap rock breccia;angular fragments white,buff,yellow black chert semented by white to tan chert some opal(?) platey & brittle; locally with bright cinnabar
	Brecciated to incipient breccia fragments of silicified clastics; very tight with only nominal porpsity
	"Better" breccia,white angular fragments silicified clastics laced with black veinlets metacinnabar cemented with cinnabar and silica; cinnabar usually coated with gray discoloration. Locally very porous possibly from re-solution; usually hard and compact
	White to gray to grayish blue massive very hard 95% silica; traces of an original graininess from primary sandstone-silt character. Definitely layered indicating bedding; replacement of thin favorable beds by black mineral, also following cracks; considered probable metacinnabar
	Thinly bedded soft fine sandstone, silt & silty shale; gray,buff to red

AMERICAN QUICKSILVER INC.
GOLDBANKS MERCURY MINE
T30N R38E PERSHING CO. NEVADA

RENO, NEVADA
MARCH 25, 1965

DAVID L. EVANS
CONS. GEOLOGIST



AMERICAN QUICKSILVER INC.
GOLDBANKS MERCURY MINE
T30N, R38E - PERSHING CO., NEVADA

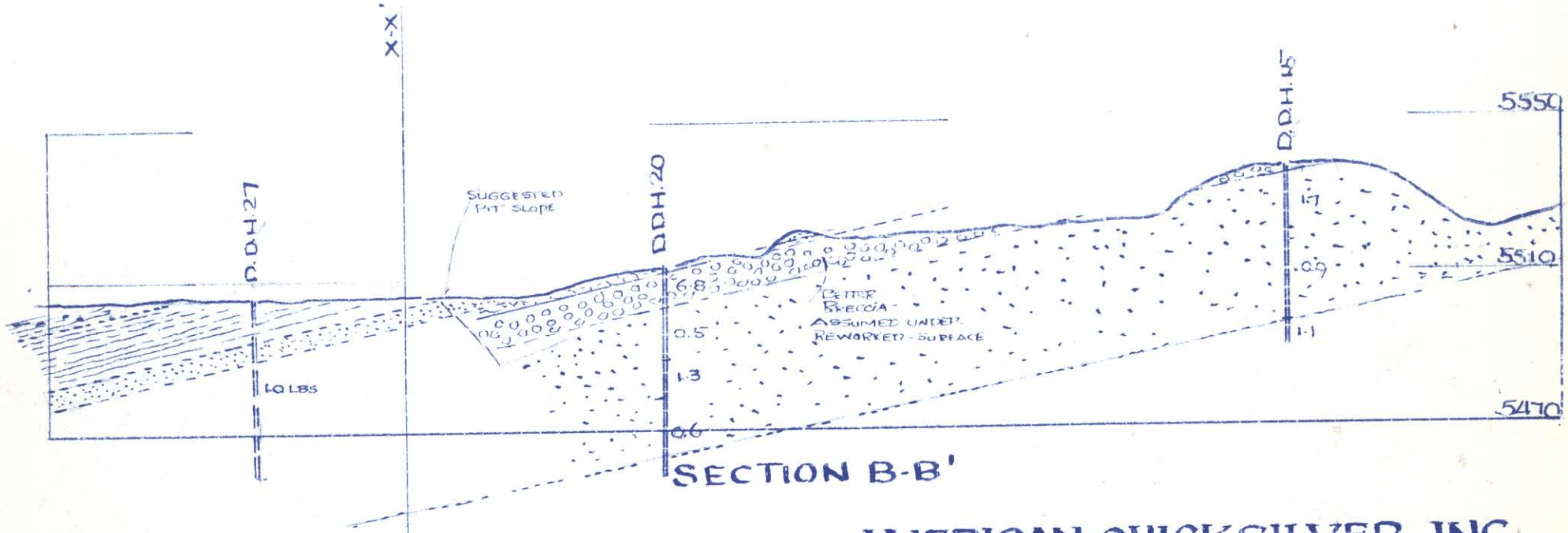
SURFACE GEOLOGY
ACTIVE AREA

1 IN = 100 FT.

RENO, NEVADA
MARCH 15, 1965

DAVID L. EVANS
CONS. GEOLOGIST

NOTE: CONTROL - BRUNTON INTERSECTION - D.L.E.



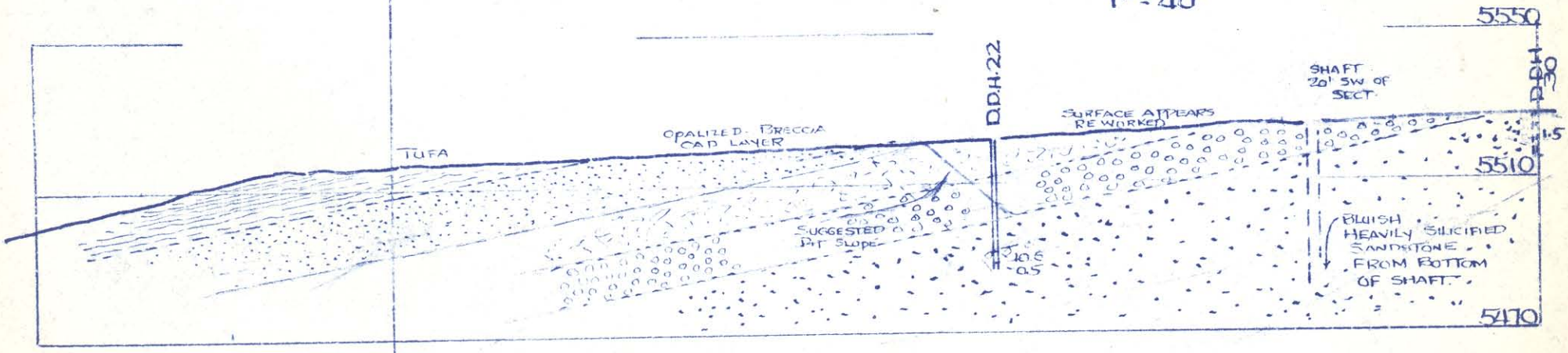
SECTION B-B'

AMERICAN QUICKSILVER INC.
GOLDBANKS MERCURY MINE

T30N, R38E PERSHING CO. NEVADA

CROSS SECTIONS

1" = 40'



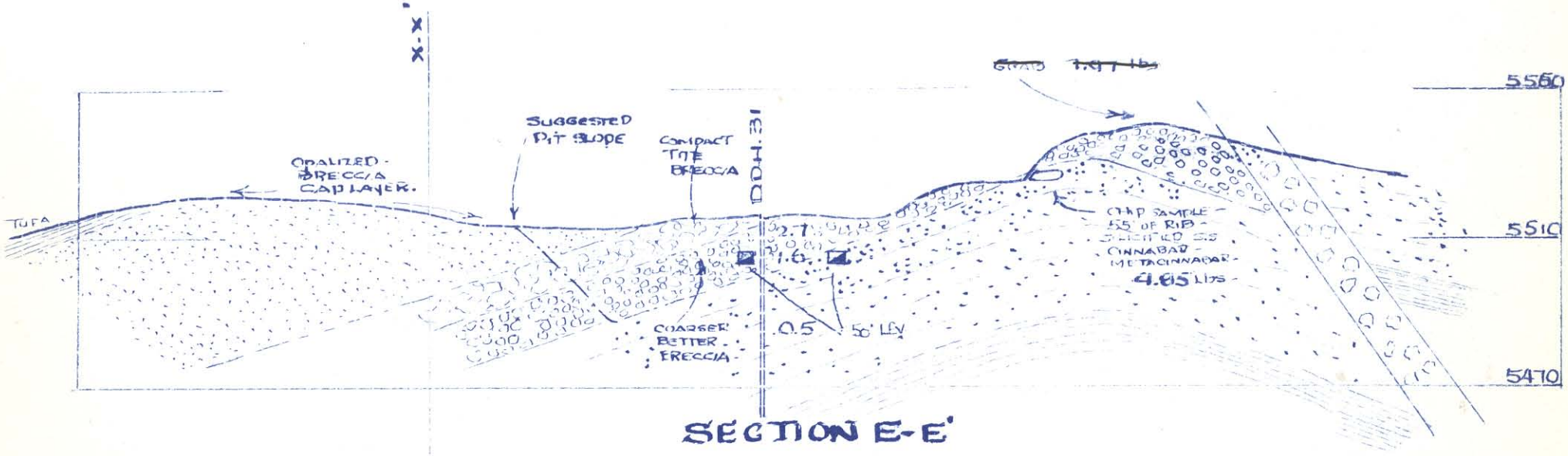
SECTION A-A'

1943 D.D.H. VALUES INCLUDED BUT NOT SUBSTANTIATED.

RENO, NEVADA
MARCH 15, 1965

DAVID L. EVANS
CONS. GEOLOGIST

D-1



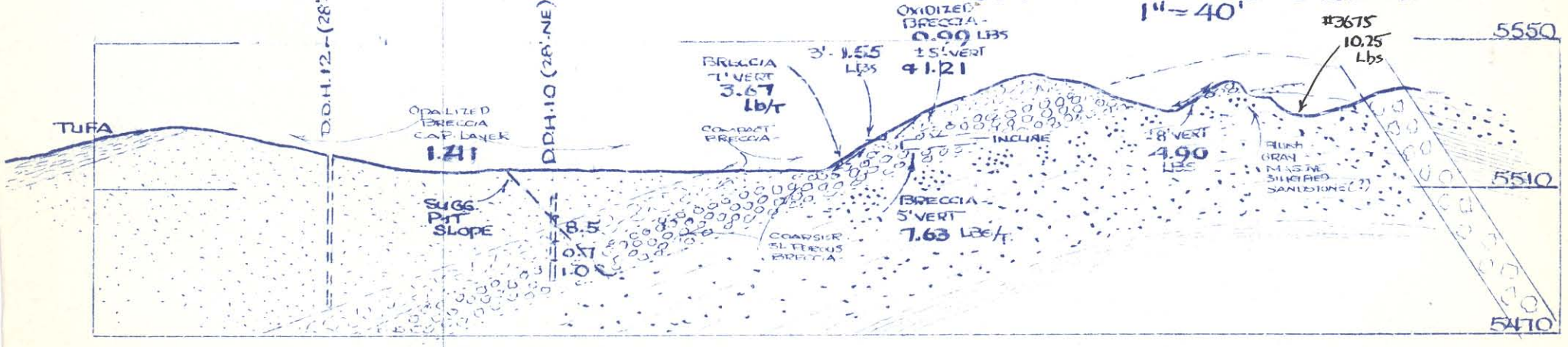
SECTION E-E'

AMERICAN QUICKSILVER INC.
GOLDBANKS MERCURY MINE

T30N, R38E, PERSHING CO. NEVADA

CROSS SECTIONS

1" = 40'



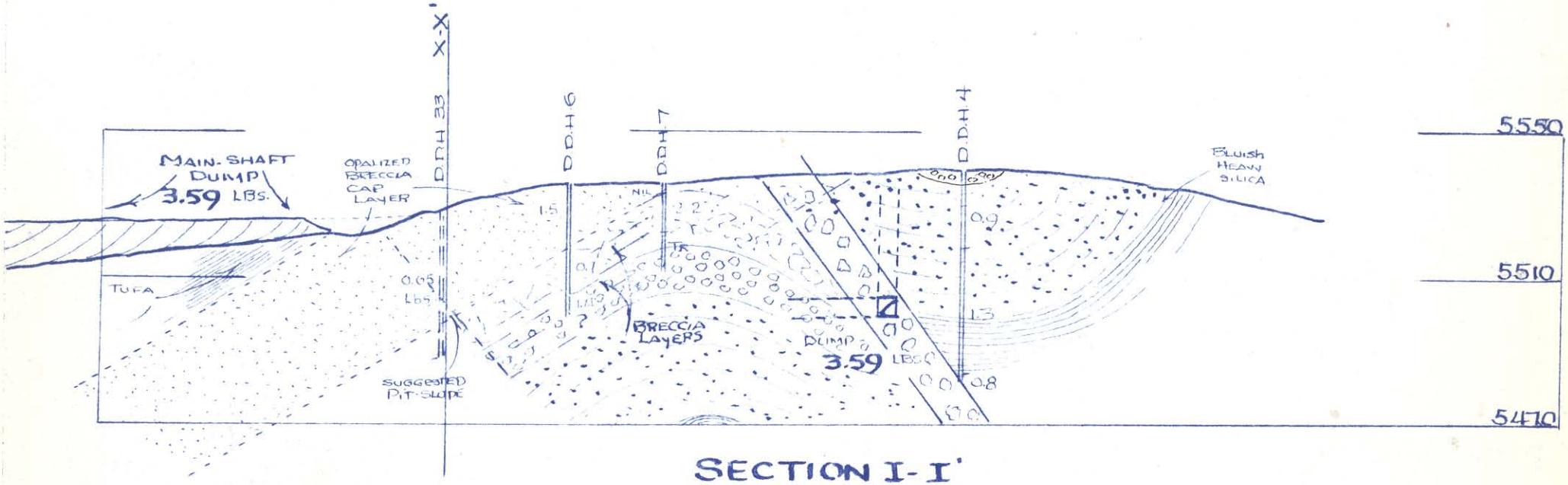
SECTION D-D'

1943 D.D.H. VALUES INCLUDED BUT NOT SUBSTANTIATED

RENO, NEVADA
MARCH 15, 1965

DAVID L. EVANS
CONS. GEOLOGIST

D-2



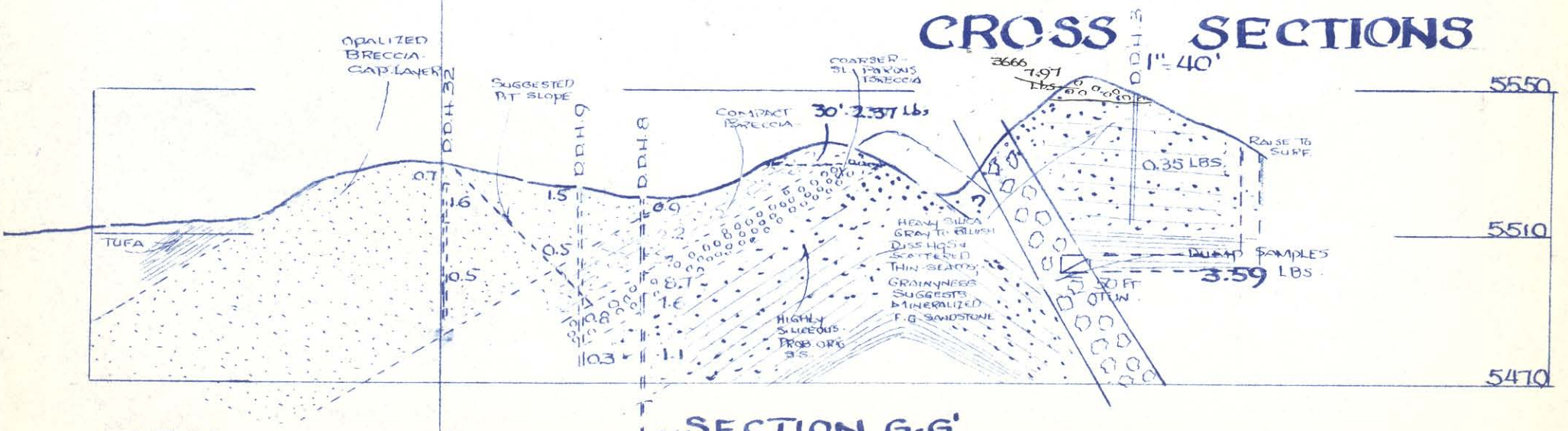
SECTION I-I'

AMERICAN QUICKSILVER INC.
GOLDBANKS MERCURY MINE

T30N. R38E PERSHING CO. NEVADA

CROSS SECTIONS

1" = 40'



SECTION G-G'

1943 D.D.H. VALUES INCLUDED BUT NOT SUBSTANTIATED

PROB. SLUDGE ASSAYS.

RENO, NEVADA
MARCH 15, 1965

DAVID L. EVANS
CONS. GEOLOGIST

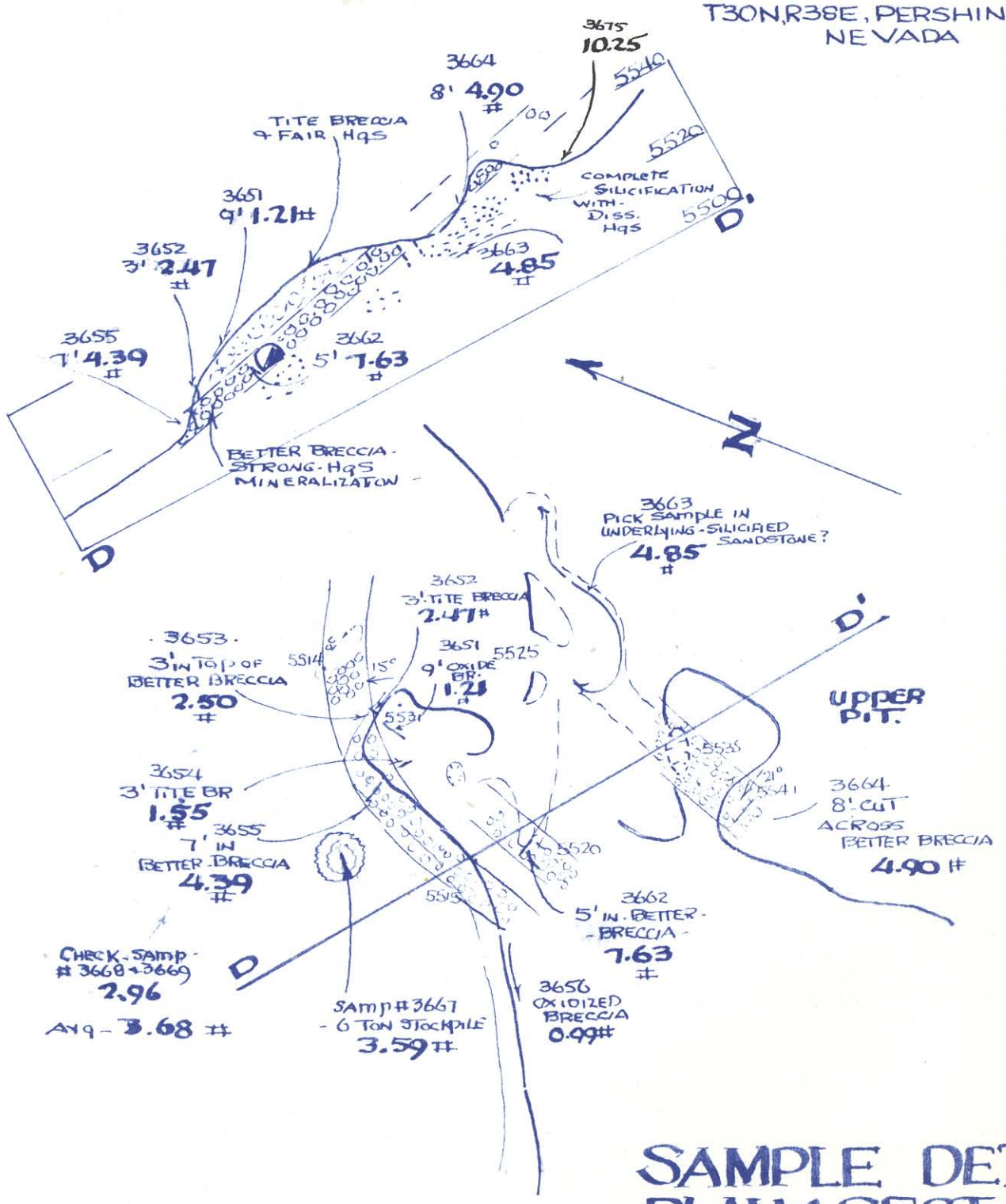
D-3

E

AMERICAN QUICKSILVER INC.

GOLDBANKS MERCURY MINE

T30N, R38E, PERSHING CO. NEVADA



SAMPLE DETAIL PLAN & SECT. D-D'

1" = 40'

RENO, NEVADA
MARCH 15, 1965

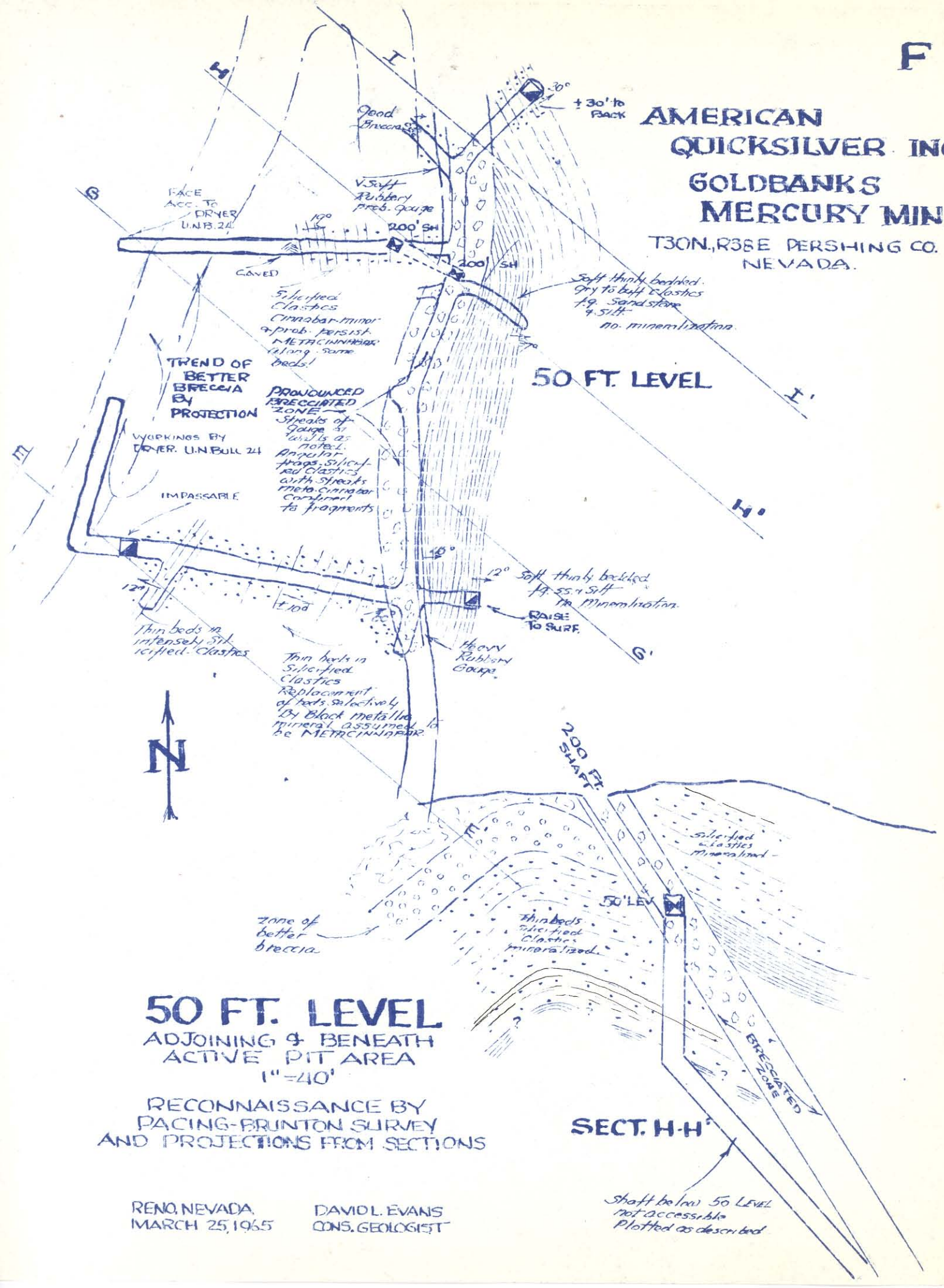
DAVID L. EVANS
CONS. GEOLOGIST

F

AMERICAN QUICKSILVER INC.

GOLDBANKS MERCURY MINE

T30N., R38E PERSHING CO. NEVADA.



50 FT. LEVEL

ADJOINING & BENEATH ACTIVE PIT AREA

1" = 40'

RECONNAISSANCE BY PACING-BRUNTON SURVEY AND PROJECTIONS FROM SECTIONS

SECT. H-H'

Shaft below 50 LEVEL not accessible Plotted as described

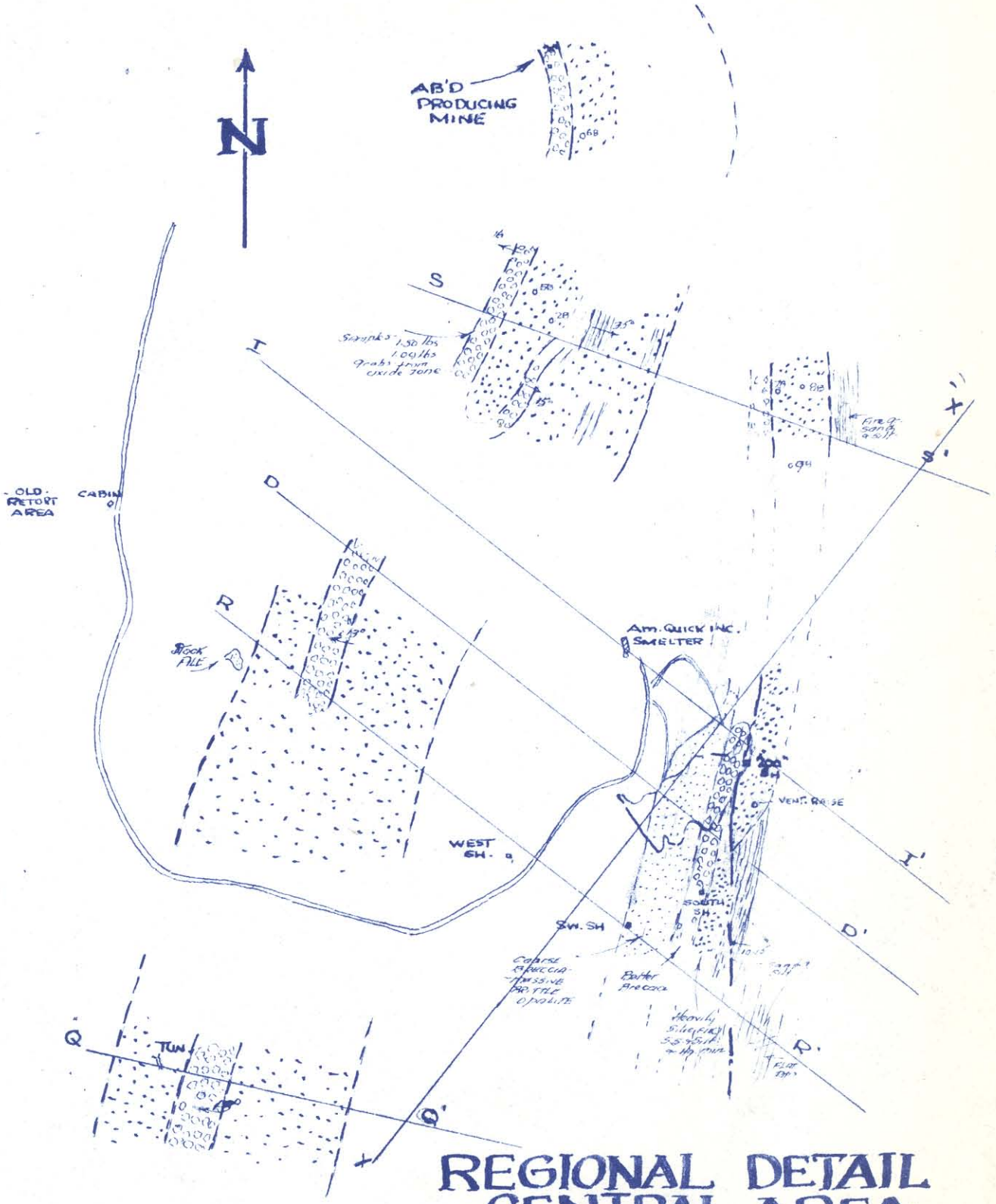
RENO, NEVADA. MARCH 25, 1965

DAVID L. EVANS CONS. GEOLOGIST

AMERICAN QUICKSILVER INC.
GOLDBANKS MERCURY MINE

T30N, R38E, PERSHING CO. NEVADA

G



REGIONAL DETAIL CENTRAL AREA

1"=400'

RENO, NEVADA
MARCH 25, 1965

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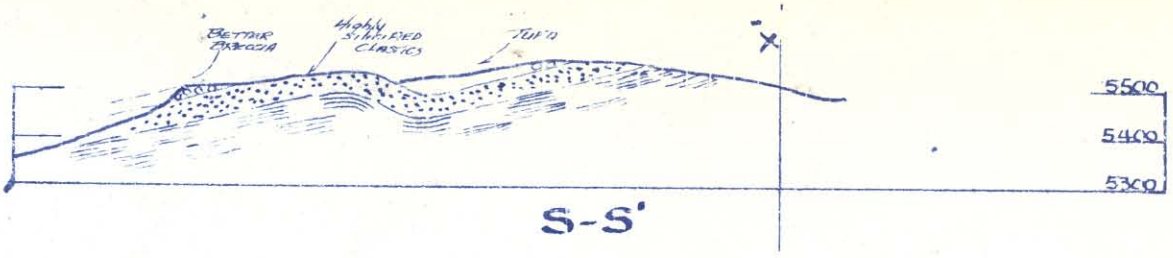
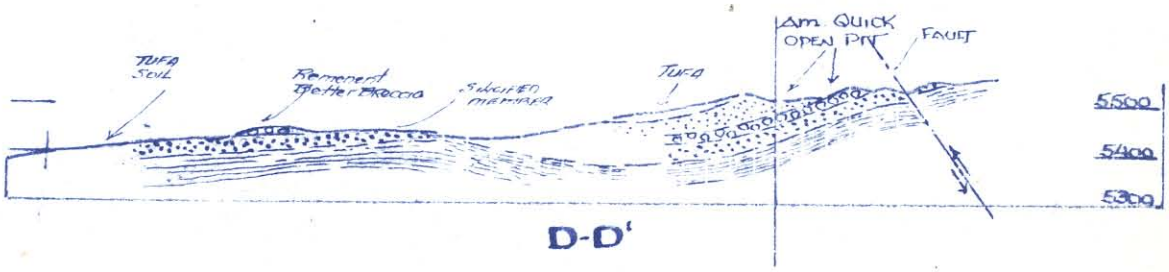
CONS. GEOLOGIST.

H

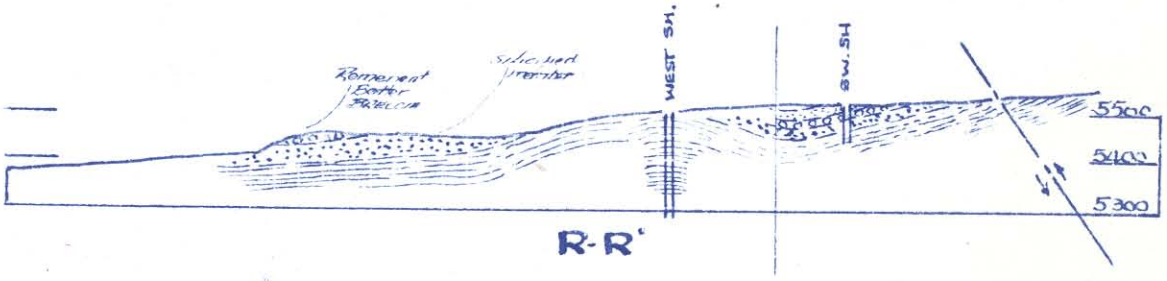


S-S'

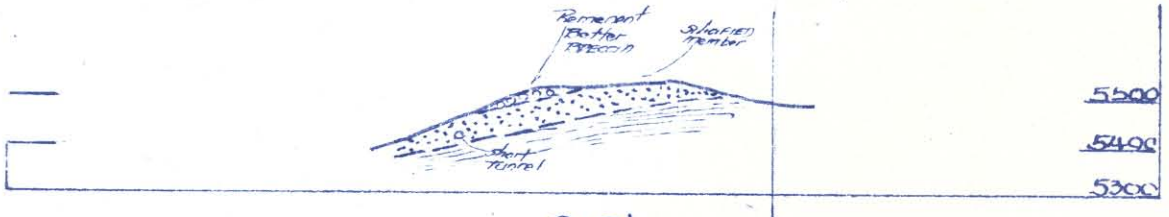
I-I'



D-D'



R-R'



Q-Q'

AMERICAN QUICKSILVER INC.

GOLDBANKS MERCURY MINE

T30N, R38E PERSHING CO. NEVADA

REGIONAL SECTIONS

TO ACCOMPANY PLATE 'G'
1" = 400'

RENO, NEVADA
MARCH 25, 1965

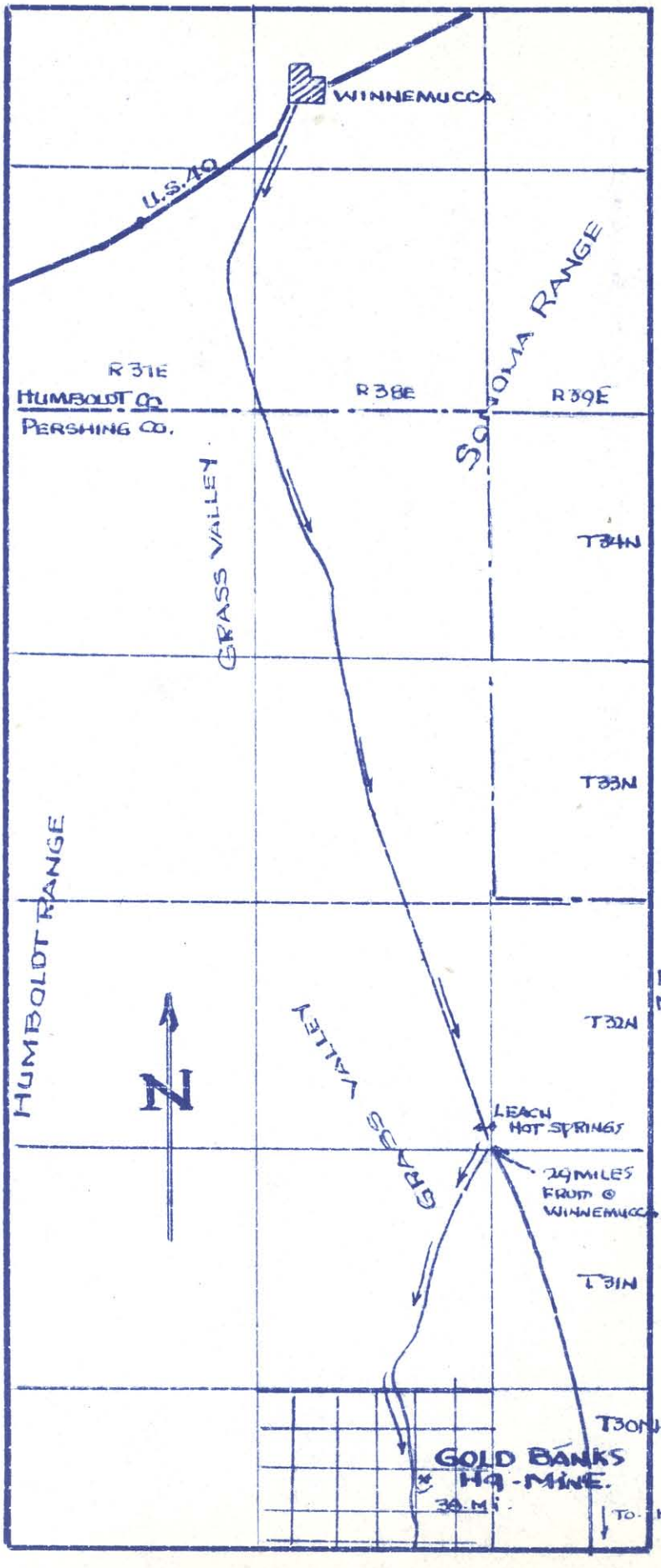
DAVID L. EVANS
CONS. GEOLOGIST

A

AMERICAN QUICKSILVER INC.

GOLDBANKS MERCURY MINE

T30N, R38E, PERSHING CO. NEVADA



INDEX MAP

RENO, NEVADA
MARCH 15, 1965

DAVID L. EVANS
CONS. GEOLOGIST

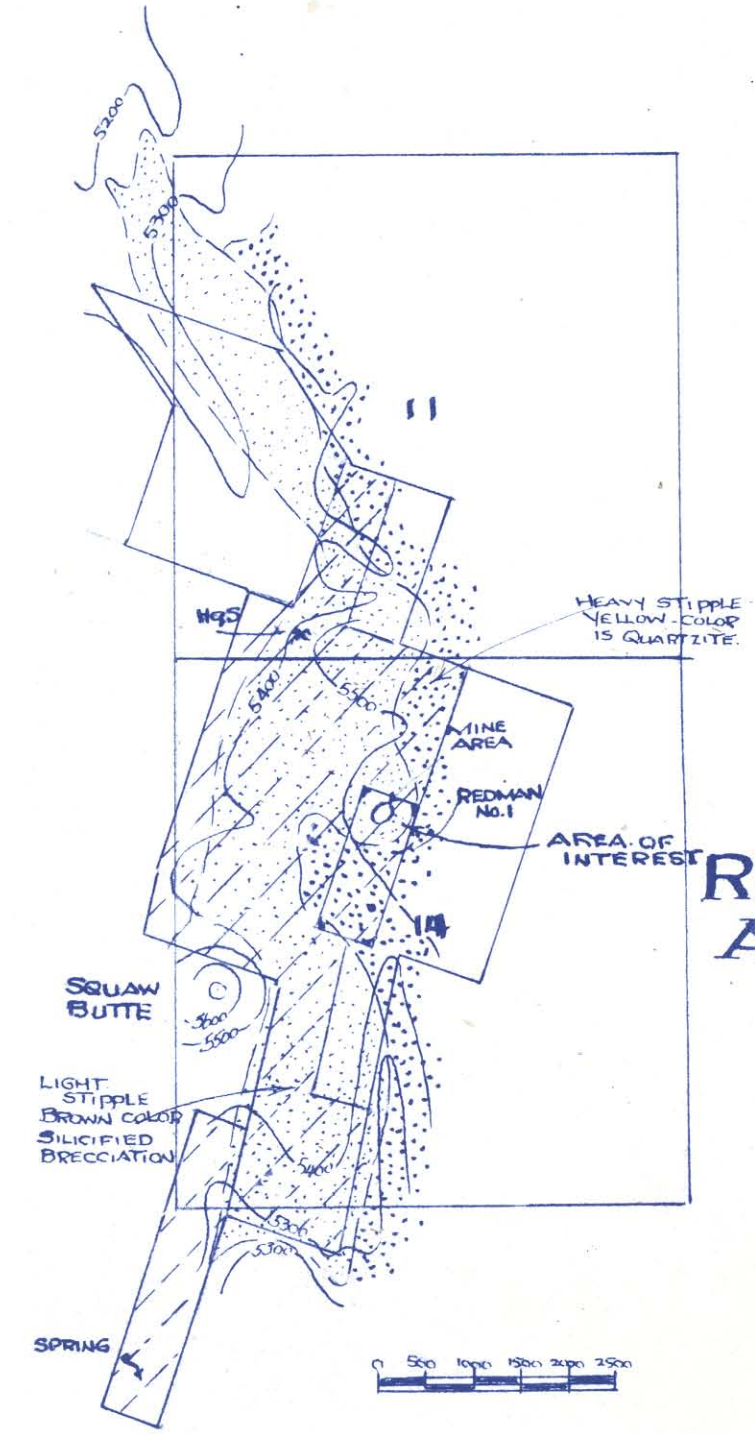
B

AMERICAN QUICKSILVER INC.

GOLDBANKS MERCURY MINE

T30N, R38E, PERSHING CO. NEVADA

R38E



N

T30N

REGIONAL-TRENDS AND PROPERTY

NOTE:
REGIONAL ZONES BY ROBERT DYER - U.S.G.S - 1940

RENO, NEVADA
MARCH 15, 1965

DAVID L. EVANS
CONS. GEOLOGIST.

An Analysis of the

GOLDBANKS MERCURY PROPERTY

American Quicksilver Inc.
Pershing County, Nevada

FOREWORD

Examined at the request of Mr. J.C. Carlile of Denver, Colorado, field work started on March 6, 1965. Followed by a second period of field examination, sampling and office preparation, all was theoretically completed and assays received from Mr. Roy Caldwell, Winnemucca consulting engineer and assayer, by March 26. Although results were far below expectations from an original presentation by lessees to Mr. Carlile, the lower grade and tonnage from original data justified a favorable recommendation.

On the other hand, on the basis of two of Caldwell's assays, checked by Parker of Denver and found 48.7% lower than original returns, the remaining twenty seven samples were sent to Metalluggical Laboratories of San Francisco (Mr. Martin Quist). Cutting their samples from material brought to 1/8 inch size by Caldwell, 'Metallurgical' recovered 51.5% of values reported from Winnemucca. For further verification, pulps from seven of Mr. Quist's samples were rerun by specialists at the Nevada Bureau of Mines, checking Quist determinations within 5%.

Reserves in place amount to 95,000 tons, assaying 5.92 pounds per ton; all tonnage is in probable and possible categories, and reserves are confined to the present pit area; recoverable mercury totals 6,600 flasks. This is in marked contrast to an originally reported 250,000 tons of 6 pound material, carrying 20,000 flasks, for the same area and vertical depth. Nor has this study found justification for a reported, additional 1,010,000 tons, from greater depth, with possible 79,000 flasks of mercury.

Reserves of dump material, reported by others at 10.9 pounds of mercury per ton or 4.16 pounds per ton (the first calculated from values reported per dump and the second by summarizing statement) has been reduced in our study to 560 tons of 19.1 pounds per ton. Our remaining 20,000 tons of 0.8 pound material must be considered without economic possibilities.

Total reserves, including dumps, have been evaluated at 95,600 tons of 6.0 pound rock, representing 6800 flasks of recoverable mercury.

Furthermore, our estimated mining cost of $4.38 per ton is in disagreement with the $1.00 per ton in American Quicksilver's brochure dated January 14, 1965. Too, because of the extreme hardness of the silica-member, another $1.50 per ton has been added to totals for crushing and grinding.

Despite the above, it is believed that the property would provide a resaonable profit for the small operator, although initial large capital requirements might be a stumbling block.

PURPOSE OF REPORT:

To report factually on the geological background and to provide an estimate of ore reserves, tied to geological detail and careful sampling, is the purpose of this report.

Our report outline has been standardized over the years; references to mining costs, the possibilities of profit or loss, etcetera, may suggest encroachment into non-geological fields; however, it is believed that no geologist can approach a property's true potential without due consideration of such factors. Included though they are, ultimate decisions along such lines lie with the specialists in those fields.

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Check page numbers after finally retyped!

DAVID LE COUNT EVANS, CONSULTING GEOLOGIST

CONCLUSIONS:

It has been concluded that:

(1) The approaches used herein of mapping in detail, sampling on the basis of geological units, and analyzing with the use of cross sections assures reasonably sound tonnage and grade figures. The reliance on several assayers contributes to the accuracy of the estimate.

(2) Facts do not support the originally planned program, geared to 200 tons per day. Reserves, however, even with the employment of realistic mining and milling cost estimates, would support a less ambitous program, but only under the most judicous of management.

(3) Every effort should be made to mesh these limited reserves with a well thought-out and economically sound plan of operation, should the operator be attracted by a final net return of about $6.25 per ton in place, based on an average price of $425 per flask.

(4) The continuity from mining area to other regional exposures and trends is undeniable. In the event these reserves warrant active mining, continued exploration in the general area would be merited.

RECOMMENDATIONS:

This report recommends that:

(1) a small operation, not to exceed 100 tons per day be considered, but only, after mining and treating the 7000 tons, shown as an isolated block on the east side of the major fault. This block, consisting of 1000 tons of the breccia unit and 6000 tons of the silica unit, should average about 6.9 pounds per ton, most of it in the form of metacinnabar.

(2) The 25 ton rotary unit at the property be made completely operable, before beginning such a 'trial run'. Such would necessitate the addition of a small crushing and grinding system.

(3) Consideration be given to the use of the services of Centennial Development, Boyle Brothers or some other mining contractor at a contract cost not greater than $5 per ton, to be responsible for the mining only.

(4) The results from the above be used as a guide to an ultimate decision and future planning.

PROCEDURES:

Field work followed accepted methods. From an initial base line, observations were controlled by Brunton Compass surveying; points were determined by intersection and pacing, with usable elevations determined by vertical angles. Samples were limited to those cuts which would evaluate the units selected for mapping. The pit area was mapped at 100 scale and the regional picture at 400 scale.

Office analysis was expedited by the construction of vertical sections at 40 scale, both for purposes of correlation and the calculation of reserves.

Reserves have been worked out by outlining the ore per vertical section, then estimating the square area of ore per section, and using the intervals between sections to determine the cubic content per block between sections; a factor of ~~12~~ 12.5 cubic feet per ton was used for tonnage of rock in place, and 21 cubic feet per ton for dump material.

LOCATION:

With reference to affixed Plat A, the Goldbanks Mercury property lies in the Goldbanks Mining District in sections 11 and 14, Township 30 North, Range 38 East, Pershing County, Nevada, 38 miles from Winnemucca. It is reached by

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taking the Grass Valley road from Winnemucca and at 29 miles (just beyond Leach Hot Springs) turning southwest on a desert road, for another 9 miles, to the property, at the pit area.

GENERAL AND LIMITING CONDITIONS:

Access: It is reached by good gravel road for the first 29 miles, and then dusty, but serviceable, road over the last nine miles. Rail and truck services are available at Winnemucca.

Power;
Communication: There is no power close to the property; the last lines observed were in the ranching area, roughly, 20 miles north. A gas transmission line crosses the area 3.5 miles to the east; telephone can be made available by installing three and one half miles of line from the east, from a line in which the property has membership.

Water: Two springs were reported by Mr. Kaasch. Supply appears adequate for the operation in mind. In the valley to the north, excellent supply for irrigation lies at 50 feet of depth.

Timber: No timber exists in the area.

Labor: Labor is plentiful in these Nevada towns, but the quality of labor is problematical; wages ~~appear to vary from $2.00 to $2.50 per hour.~~ are LISTED - UNDER "Cost ESTIMATES"

Taxes: Company reports indicate a 48% federal tax on Mercury for net income, after a 23% depletion allowance. State taxes have not been investigated, but Nevada taxes should be small or non-existent.

Mill sites: These are more than adequate.

Tailings: Disposal presents no problem. Burned rock has been stacked in dumps in the past; the access road could benefit from any and all tailings.

Climate: Year round operation would be assured. Climate at this 5,500 feet of elevation is a dry desert variety. Summers provide day-time temperatures to 100, followed by cool nights; moisture should not exceed 10 inches. Summer cloudbursts will temporarily hamper transportation.

LEGAL TITLE:

With reference to affixed Plat B, that area completely outlined represents the entire 534 acres held, I understand, by the Bradley Mining Company of San Francisco. It is our understanding that all is held by location with no claims patented. These consist of Redman claims 1, 2, 3, 4, 5, 7, 8, 9, 10, 11A, 12, 13, 14, 15, 16, 18, 20, 21, 22, 23, 24, and 25, and Redman Extension claims 1, 2, 9, and 10.

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Under lease to American Mercury Inc. are 15 of these claims, covering 300 acres, and including Redmans 1, 2, 3, 4, 5, 7, 12, 15, 18, and 20, and Redman Extensions 1, 2, 9, and 10. The selected area is shown in cross-hatch on Plat B.

American Mercury Inc. reports that claims are held "under a lease arrangement of 10% of the money recovered for metals mined and sold, less freight, insurance and brokerage of $200 per month. The lease expires March 1, 1970, with an option to renew for an additional ten years at the election of the lessee. It is free and clear of all encumbrances other than payment of royalties."

HISTORY OF PROPERTY AND DISTRICT:

Bulletin No. 5, Volume XXXVIII, of the University of Nevada Bulletin, "Quicksilver in Nevada", released in December 1944, reports as follows:

> "The deposit was first developed in 1913 by the Nevada Quicksilver Company, and in 1914 the same individuals, operating as the Goldbanks Quicksilver Company, produced nearly 400 flasks--------".
>
> In 1915 pipe retorts were replaced with a 50 ton Herreshoff furnace which operated throughout 1916 and until July 10, 1917 when it burned down. 1,100 flasks had been recovered by this plant but it was never rebuilt.
>
> "--------property was idle until 1937. From 1937 to 1941, Melvin McCoy leased the ground and retorted 300 flasks of quicksilver. In June 1941 the property was taken by the Bradley Mining Company --------", and although considerable development, diamond drilling and stripping was done by the end of 1943, only small amounts of quicksilver were recovered by the Opalite mill at McDermitt, to which ores were shipped.

It has been reported that others trying to operate the property, since 1944, have failed because of poor mining and sampling practices.

Measurements of the pit, underground workings and dumps, and published observations to the effect that materials furnaced equalled tonnages to dumps, suggest that this property from 35,000 tons mined, provided 17,000 tons to retorts and furnace. Producing a total of 1,800 flasks or 136,800 pounds of quicksilver, the value in place of the 35,000 tons, therefore, would amount to 4.59 pounds of recoverable mercury or about 5.1 pounds in place, based on a 90% recovery factor. The fact, that ~~under-reserves~~ the value of our block of Probable Ore is ~~4.59 pounds is a matter of coincidence~~ POSSIBLE. AT 5.92 POUNDS, PLUS 10,500 TONS OF OPALITE AT 0.41 POUNDS AND 19,500 TONS OF TIGHT BRECCIA AT 1.17 POUNDS (BOTH TO BE STRIPPED) AMOUNTS TO 4.72 POUNDS - IS A REASONABLE CHECK. CONSIDERING THE ROUGH ASSUMPTIONS OF PIT TONNAGES INVOLVED.

GEOLOGY:

Introduction:

It has been inferred that mineralization continues in depth to an underlying barren rhyolite, at the bottom of the 200 foot shaft. This can neither be confirmed nor denied, since the lower reaches of the shaft were inaccessible. However, at the 50 foot level mineralization does end at a contact with underlying fine sandstone, silt and probably silty shale.

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Reference is made to attached Plats C, D-1, D-2, D-3, E, F, G and H, all of which present the geological background better than the written text.

Petrology:

Shown on the Legend sheet, in order of increasing age, are seven mappable units; six of these comprise the total observable rock thickness; the seventh, faulting, effected the original, orderly arrangement of the six units. Comments per unit are as follows:

Tufa (in gray): a soft porous to powdery, thinly bedded deposit, probably from hot-spring action, of no commercial value and a nuisance, since it covers underlying occurrences of possible significance.

Cap Rock or Opaline Breccia (brown): prominent only in the pit area; a mass of angular chert or silicified fragments, similar to those in the underlying breccias, but cemented with a very brittle, semi-translucent white to tan chert, locally opaline. The rock is platey and would crush with little effort. Locally, it shows bright cinnabar in quantity, but the overall mass is of low tenor. It is likely that it once covered the area, but has now been reduced to local patches, where protected from erosion. It attains 60 feet of thickness on the north flank of the pit, but occurs only in traces along the unexplored trend, west of the active mining area.

Tight Breccia and 'Better' Breccia (orange and red): underlie the opaline breccia; two colors are used but they represent only porosity differences. Breccia fragments have been derived from the underlying, highly silicified zone. Some of the fragments suggest an original sandiness; many of the fragments carry disseminations or thin seams of the black, metallic mineral, metacinnabar. The breccia fragments are held together by later silica carrying the normal red cinnabar. The metacinnabar and cinnabar are chemically the same; both are mercuric sulphides. The breccia mass is, for the most part, compact and hard. Locally, however, it has been softened and opened up until almost spongy. The BETTER BRECCIA unit provides one of the two principle ore zones. Total thickness amounts to 20 feet of which the lower ten feet provide the best ORE values.

Silicified Unit (yellow): Underlying the breccias and, originally a sandstone, the unit is the product of complete silicification. The silica has been accompanied by the black metacinnabar. Throughout the silica mass, some sand grains can still be spotted under magnification. The silica is for the greater part white to light gray, but in places it assumes a grayish blue coloration. ~~A selected sample of the 'blue' carried 10.25 pounds of mercury to the ton, suggesting that the color is due to finely divided metacinnabar in the silica.~~

ESPECIALLY IN THE TOP 10 FEET

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On the 50 foot level the mass shows original bedding, reflecting the original sedimentary or clastic nature of the unit. Some of the metacinnabar mineralization has selectively replaced thin beds.

~~For two reasons this unit is considered the critical unit of the deposit. First, of our total of 204,000 tons, 106,000 tons are estimated as 'siliceous' tonnage, and sampling to date suggests that if the overall grade is to be raised, it must come from this member; and, last, mining and crushing costs will be greatly increased by the hardness of this member. The unit has 35 feet of thickness; all of it has been included under Probable or Possible reserve.~~ MINING THE TOP 10 FEET ARE ORE GRADE; THE REMAINING 25 FEET ARE OF NO INTEREST.

Thinly Bedded Clastics (green): Consisting of thinly bedded fine sandstone, siltstone and probably silty shale, this unit underlies the ~~silicified~~ SILICIFIED section. Color varies from white to buff to red, with the last dominant. The rock is soft and without value.

Structure:

With reference to Plats D-1, D-2, D-3 and H, an original gentle, regional, westerly dip of the rocks has been adjusted by weak folding to abrupt faulting. The zone of breccia and gouge, at the 50 foot level, indicates such a line of movement. Reverse faulting is indicated.

Localized areas of tufa throughout the area suggest the existence of other faults or lines of movement, which in time might be added to the picture.

Mineralization:

Commercial possibilities are limited to cinnabar and metacinnabar, both mercuric sulphides of identical chemical composition. Metacinnabar is dominant in the siliceous unit. Accompanied by clear white to bluish-gray silica, the metacinnabar occurs as replacements in the bedding, as disseminations in the silica and as thin fillings along cracks. Cinnabar, probably later, is also in the siliceous unit but in lesser amounts.

Cinnabar favors the overlying 'Better' breccia; metacinnabar, also present, is limited to fracture fillings or disseminations in the fragments of the breccia. The cinnabar occurs cementing the broken fragments from the silicified mass, mineralized by the earlier metacinnabar.

Iron oxide penetrates exposures to about two feet. The exploration of adjoining areas will require probing beneath the oxidized outcrops.

Sequence of Events:

To appreciate remaining but undeveloped possibilities, an analysis of the geological causes behind these effects must be attempted.

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Disregarding the breccia units which are only the redistribution of rock units by movement, the original rocks of the series were sedimentary sandstones, siltstones and probably shales. Mineralizing solutions and gases have the same affinity for porosity and permeability as oil and natural gas. It is believed that the 35 foot silificied unit was originally a porous sandstone layer and that silica and metacinnabar followed this favorable channel, up the regional dip from the west, possibly from a fault, following the major valley west of the property.

The area of interest lies in the region characterized by Basin Range structure. The Grass Valley trend could be a "Graben", or block, dropping between two terminating major faults. Any crowding of such a block would require compensating readjustment and movement. An excellent line of readjustment would be the contact between the hard silicified unit and softer overlying rocks. Steady movement along that line would effect the upper contact, providing the sharp fragments of the overlying breccia mass.

A second period of mineralization could well cement the brecciated mass, with its fragments carrying some of the earlier metacinnabar mineralization. This second period would provide the cinnabar of the overlying breccia zones and the opaline cap rock with minor cinnabar at the top, as well as the minor streaks and disseminations of cinnabar in the underlying silicified unit.

The above sequence of events would justify the exploration of the trend west of the property where the same units exist.

And the above, WITH ONLY THE TOP 10 FT. OF ORE GRADE with an indicated 35 feet of thickness for the silicified unit, would eliminate additional possibilities with depth UNLESS, beneath the present terminating sedimentary unit, there might exist another porous unit, comparable to the silicified unit, described above.

DEVELOPMENT:

Turning to Plats C and J, a clean surface in conjunction with a sizeable open pit has provided a reasonably good idea of the deposit and rock relationships. Plat F, a detailed reconnaissance of the 50 foot level, reflects the structural disorganination in a line of faulting, which has assisted in the evaluation of the silicified unit and its true relationship to total reserves.

All point to other development through which ~~promising~~ INDICATED relationships can be further clarified, if made accessible; by this the writer means that

A. on the 50 foot level (see Plat F)

1. ladders in the air raise to surface and 30' raise at the north end of the drift would provide needed access for critical mapping and channel sampling;

2. substantial ladders and testing for bad air in the 200' shaft, below the level, would indicate ore going below level, or ending as suggested;

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3. the cleaning out and shoring up of caved areas would check the projected trend of the 'better' breccia on the 50 foot level.

B. On Plat C

1. Ladder ways in inaccessible West Shaft, SW Shaft and South Shaft would, not only, add to geological relationships, confirming or destroying projections, but also, provide more sample detail for the adjustment of reserve estimates.

All sections carry the notation "1943 D.D.H. values included but not substantiated". The Bradley Mining Company, in 1943-1944, drilled the property. Most of it was by diamond drill, and a minor amount by churn drill. Assaying was done by the Laboratory at Sulphur Bank, California. The value of this effort is questionable. In some cases, intervals and values check the picture; in others values in holes are completely out of line with the results from current sampling and assaying.

The writer's reaction is that cores in boxes, still at the property, are too small (smaller than EX) to be reliable. It has also been suggested on good authority that drilling was done without adequate supervision. This appears confirmed through the lack of everything except some assay information; no logs per hole were kept, there is no record of percentages of recovery; some of the cores, laced with very obvious metacinnabar, still at the well site, were never cut and sent for assay.

It seems, too, that sites were picked without preliminary study since many of the holes were drilled on the footwall side of mineralization, with mineralized structure diverging from the hole with depth. Suffice it to say that for the record these holes have been shown on section, but a strict acceptance of information, of doubtful value, has not interfered with interpretation.

Other shafts on the property have been completely lost. Short tunnels or cuts on the trend west of the mining area have been encouraging as far as they go; in this connection, on Plat C, note at the north of the sheet the comment 'Ab'd producing mine'. The production at the north end, as well as ~~1 to 1.5~~ 0.96 pound values in the oxide zone, 700 feet to the south, should be followed up.

SAMPLES:

Hardness of host rock, and lack of time or powered tools, forbade any attempt at channel sampling.

Concerning the 'Better' breccia, much of the material was soft enough to provide good bulk samples for quartering. Face samples in the active pit area were repeated for a check. A further check was provided by sampling material stockpiled, after mining from the same face.

All other mine samples were chip samples, with every effort made to save material in the proper proportion.

Value estimates for the 50 foot level have been based on ~~two carefully selected dump samples, from the 200' Shaft dump, the first from that portion, seemingly representing shaft advance, and the second from a larger part, suggesting level development.~~ CAREFULLY TAKEN SAMPLES FOR THE BOTTOM 25 FT. OF THE SILICEOUS MEMBER (ASSAYED BY ABBOT A. HANKS) AND AN AVERAGE FOR THE BETTER BRECCIA, DETERMINED BY SURFACE SAMPLING. THE VALUE OF THE TOP 10 FT. OF THE SILICEOUS MEMBER (INACCESSIBLE) WAS DETERMINED BY WEIGHING ALL UNITS AGAINST THE TOTAL VALUE, AS REPRESENTED BY THE 2000 TON DUMP WITH 2.28 POUND VALUE.

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Concerning dumps, the sinking of a series of shafts on the larger 14,000 ton dump was out of the question; a mixture of material from trenches on top, and from the steeply inclined face was sent for assay. The disappointing 0.10 pound material was 90% opalite breccia.

Other dumps, sampled on a like basis provided ~~or nearly provided~~ values ~~which had been reported~~, LOWER THAN REPORTED EXCEPT THE 'WEST' STOCKPILE

Sample results are listed below. Rather than in numerical order, they have been assembled on the basis of category:

A. Opaline Cap:

Sample #	Location	ASSAYS BY METALLURGICAL LABORATORIES Lbs/Ton	CHECK DETERMINATION LBS/TON
3656	Opaline; above breccia in south side of pit	0.76 ~~0.99~~	
3657	Opaline; 150' west of 3656	0.66 ~~1.37~~	
3660	Opaline; 14,000 ton dump	0.10 ~~0.10~~	
3665	Opaline; dump; SW shaft	0.18 ~~1.67~~	
3670	Opaline; north side of pit opposite sample 3657	0.10 ~~0.81~~	
3673	Opaline; 100' NE of 3670	0.06 ~~0.23~~ ~~0.83~~	
3672	Opaline; 200' NE of 3670	1.04 ~~1.15~~	

B. Tight Breccia:

3652	South edge of pit; 3 foot cut above 'better' breccia	1.42 ~~2.47~~	
3651	Same; 9 ft. cut above 3652 oxidized	0.24 ~~1.21~~	
3654	3 ft. cut; 30' from 3654	0.86 ~~1.33~~	
3661	Grab from smaller 4,000 ton dump	2.48 ~~2.73~~	
3671	NE end of pit; 30 foot cut across tight breccia, some 'better' breccia	1.52 ~~1.77~~	1.84
3674	Tight breccia from dump of South Shaft	0.28 ~~1.33~~	

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Sample #	Location	Assays By Metallurgical Laboratories Lbs/Ton	Check Determination Lbs/Ton
C. 'Better' Breccia:			
3653	3' in top of zone, northeast of active cut	1.90 ~~2.50~~	
3655	7' cut in south face in active cut	3.22 ~~4.39~~	
3669	Top 3-1/2 ft; to check 3655	0.28 ~~0.37~~	
3668	Bot. 3-1/2 ft; to check 3655	3.14 ~~3.36~~	3.45
3667	3655, 3669 and 3668 further checked by this sample from 6 ton stock-pile	2.28 ~~3.39~~	2.39
3662	5' of breccia from face of inclined crosscut, east of mining face	7.04 ~~7.69~~	
3664	across 8 feet of breccia in pit above and south of pit mining face	2.15 ~~4.30~~	
3666	See Plat D-3, section C-C'; from breccia at crest above pit	5.90 ~~7.97~~	
D. Silicified Unit:			
3658	200' Shaft dump; shaft portion	2.28 ~~3.74~~	2.49
3659	same; workings portion	1.90 ~~3.45~~	2.45
3663	50' chip sample around workings back of pit at pit level	2.60 ~~4.85~~	
3675	Selected sample of gray-blue silica, above upper cut, and below breccia	0.06 ~~10.25~~	0.03
3676	See Plat G and 'stockpile' at west limit of Section R-R'; probably sorted material	19.10 ~~21.09~~	19.26
E. Dumps:			
3660	Opaline; 14,000 ton dump	0.10 ~~0.70~~	
3661	Smaller dump SW of 3660	2.48 ~~3.75~~	
3658	Dump from 200' shaft	2.28 ~~3.74~~	2.49
3659	Dump from 200' shaft	1.90 ~~3.45~~	2.45
3676	Stockpile on Plat G	19.10 ~~21.09~~	19.26

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F. Miscellaneous:

Sample #	Location	Assays By Metallurgical Laboratories ~~Lbs/Ton~~	Check Determination Lbs/Ton
3677	See Plat G; west limit of Section S-S'; oxidized better breccia	0.96 ~~1.50~~	
3678	Same area, within 15 feet of 3677; both faces cleaned first by blasting	0.14 ~~1.09~~	
3679	Same section; east limit of S-S'; grab from 30' of diamond core with metacinnabar stringers	0.06 ~~1.37~~	

~~Analyses listed above are all the work of Mr. Roy Caldwell, Consulting Mining Engineer and assayer of Winnemucca. Mr. Caldwell was the Chief Chemist for the old National Mine until its closing, three years ago.~~ METALLURGICAL LABORATORIES - 1142 HOWARD ST - SAN FRANCISCO - IS HEADED BY MR. MARTIN QUIST - FORMER CHIEF CHEMIST FOR ABBOT HANKS. MR QUIST WAS ALSO CHIEF ASSAYER FOR NEW IDRIA - A PROMINENT OLD MERCURY PRODUCER IN CALIFORNIA; IN 1940-1941.

ORE RESERVES:

Summary:

Total reserves amount to ~~267,580~~ 95,600 tons with average grade of ~~4.11~~ 6.00 pounds of mercury per ton. Of this total only ~~5,580~~ 600 tons of ~~4.02~~ 19.1 pounds represent remaining dumps of shipping grade. Indicated are ~~14,500~~ 7,000 flasks.

Ore in place, totaling ~~264,000~~ 95,000 tons at ~~4.11~~ 5.92 pounds is subdivided into ~~131,000~~ 71,000 tons of PROBABLE ore at 5.87 pounds and ~~133,000~~ 24,000 of POSSIBLE at 6.07 pounds. ~~With reference to the 4.59 pound figure, attention is directed to the 4.59 estimate for the value of the 35,000 tons mined from this property under "History of Property". This is a coincidence, since figures were reached from separate directions, with no attempt made to match the grades. It is considered, however, significant.~~

It is believed that somewhere, along the unexplored West trend, efforts might be made to find a similar reserve.

Procedures, as described on page 2, involve the estimating of tonnage by the cross section-interval method. Plat I is a composite of work sections, outlining those areas included. Work sheets are not attached, but remain on file. ~~15~~ 12.5 cubic feet to the ton is the factor employed.

Average values per unit were determined from assays, listed preceeding this Reserve discussion. Personal judgment has been employed in the selection and averaging of values.

Dump tonnages have also been calculated by vertical section, using field survey sheets. Values per dump are from grab samples. 21 cubic feet per ton is the factor used.

~~Obvious is the fact that our preliminary estimate of March 18~~

Obvious is the fact that our estimate of March 18 has been adjusted from 131,841 tons of 3.55 pounds to 95,000 tons of 5.92 pound rock; equally apparent is the complete rejection of recent verbal estimates in excess of 300,000 tons, based on original assay values, proved erroneous by ultimate check assaying. Note that the March estimate included 14000 tons of oplaine reserve and 22,000 tons of tighter breccia, both with ore-potential on the basis of originally received values. The withdrawal of these 36,000 tons from 131,841 leaves a total of 96,000 tons, very close to the 95,000 tons of this report. The rejection of low values in the 36,000 tons, and a,now, more accurate roster of values accounts for the increase in grade.

The loss of tonnage from our temporary 300,000 ton thinking, must be attributed to the 0.2 to 0.3 pound values for the basal 25 feet of the siliceous member, on the 50 foot level, and the plan to strip the 30,000 tons of opalite and tight breccia, rather than send them for treatment.

The following table summarizes tonnages of in-place material:

	PROBABLE			POSSIBLE			
East of Fault	Breccia	Silica	Total	Breccia	Silica	Total	GRAND TOTAL
All	1,000	6,000	7,000				7,000
West of Fault							
NE of I-I'	2,200	1,950	4,150				4,150
I-I'--H-H'	4,400	3,850	8,250				8,250
H-H'--G-G'	4,000	3,700	7,700				7,700
G-G'--E-E'	9,600	9,500	19,100				19,100
E-E'--D-D'	5,800	6,000	11,800				11,800
D-D'--B-B'	5,000	8,000	13,000	5,000	7,000	12,000	25,000
B-B'--A-A'				4,000	8,000	12,000	12,000
SW of A-A'							
Total West of Fault	31,000	33,000	64,000	9,000	15,000	24,000	88,000
Grand Total	32,000	39,000	71,000	9,000	15,000	24,000	95,000

Grade:

Grades per geological unit have been calculated as follows:

Opaline Unit

Sample #	Grade	Average	Final Average
3656	0.76 ~~0.99~~	0.76 ~~0.99~~	
3657	0.66 ~~1.37~~	0.66 ~~1.37~~	
3660	0.10 ~~0.70~~	0.10 ~~0.70~~	
3665	0.18 ~~1.67~~	0.18 ~~1.67~~	
3670	0.10 ~~0.81~~	0.10 ~~0.81~~	
3672	1.043 ~~3.13~~	1.043 ~~3.13~~	
3673	0.06 ~~0.83~~	0.06 ~~0.83~~	
			~~1.36~~ 0.41

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Breccias

Tighter Breccia

Sample #		Grade	Average	Final Average
3651	(9')	0.24 ~~1.21~~	0.71 ~~1.60~~	
3652	(3')	1.42 ~~2.47~~		
3654		0.86 ~~1.55~~	0.86 ~~1.55~~	
3661		2.48 ~~3.75~~	2.48 ~~3.75~~	
3671		1.52 ~~2.37~~	1.52 ~~2.37~~	
3674		0.28 ~~1.53~~	0.28 ~~1.53~~	1.17 ~~2.16~~

'Better' Breccia

3655	3.22 ~~4.39~~	2.55 ~~3.60~~	
3668&3669	1.88 ~~2.96~~		
3662	7.04 ~~7.63~~	7.04 ~~7.63~~	
3664	2.15 ~~4.90~~	2.15 ~~4.90~~	
3666	5.90 ~~7.97~~	5.90 ~~7.97~~	4.41 ~~6.04~~

~~[illegible]~~

~~[illegible]~~ ~~[illegible]~~

Silicified Unit:

An average of samples from material in place, dump saples from the main dump and West stockpile amounts to 7.99 pounds per ton.

By using tonnages, calculated from size of workings in the 50' tunnel and weighting values on the basis of tons per unit, with values of 4.41 pounds for breccia, 0.2 pounds for silica below the 10 feet of ore-bearing silica, and matching this against the 2000 tons of dump material averaging 2.28 pounds, the ten foot unit of ore-bearing silica is valued at 6.25 pounds.

The average of 7.99 and 6.25 is the 7.07 pounds used in these calculations.

Dumps:

Large dump	14,000 tons @ 0.10 pounds	
Small dump	4,000 tons @ 2.48 pounds	(original)
200 Ft. Shaft	2,000 tons @ 2.28 pounds	
West stockpile	600 tons @ 19.10 pounds	

Note: dumps of ore grade remining amount to ~~3,500~~ 600 tons @ ~~4.02~~ 19.10 pounds per ton.

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Tonnage and Grade:

The following summarizes all reserves:

PROBABLE *

Type	Tons	Lbs/Ton	Average Lbs/Ton
Breccia	32,000	4.41	
Siliceous	39,000	7.07	
All Probable	71,000	5.87	
POSSIBLE**			
Breccia	9,000	4.41	
Siliceous	15,000	7.07	
All Possible	24,000	6.07	
Total in Place	95,000		5.92
Dumps	600	19.1	
Grand Total	95,600		6.00

* PROBABLE ORE scaled from sections from Northeast limit, as indicated by surface mapping, to midway between Sections D-D' and B-B'.

** POSSIBLE ORE assumes that ore bearing material will extend to Section A-A', an area of much less control. Nothing taken southwest of A-A'.

These reserves in place, amounting to 95,000 tons of 5.92 pounds are to be compared to the same block, recently listed, of 250,000 tons of 6.0 pounds of mercury to the ton.

TREATMENT METHODS:

Treatment of ores by Gould rotary furnace is contemplated. For purposes of cost estimates, figures, supplied by Gould for American Quicksilver's recent brochure, have been put to use, with some increases for additional crushing and grinding.

All concur that ores will be mined from open pit. Reference is made to attached Plat J, showing the limits of the proposed pit, transfered from submitted sections. Mining costs have also been increased, as outlined below.

COST ESTIMATES:

Summary:

The cost of mining and treating is estimated at $11.38 per ton. These $4.88 above a figure of $6.50 per ton, prepared for American Quicksilver's release of January 14, 1965, are attributed to:

(1) an exceptionally tough and hard ore which will add to mining and milling costs;

(2) costs of labor and fringe benefits, geared to labor contracts, effective September 1965;

(3) a charge of at least $0.55 per ton of mined ore for initial stripping;

(4) the usual charges for maintenance, engineering and supervision, and a reasonable 10% contingency factor.

Cost of Mining: (~~a five day per week operation~~)

Estimates employ the following assumptions:

(1) program to consist of mining five days a week to provide 700 tons per week to plant which would operate for the full seven days;

(2) exceptionally hard material to be broken from benches; estimate 75 feet of hole to break 100 tons; drilling at rate of 35 feet per shift; one rig required with three drillers and three helpers;

(3) a factor of 0.6 tons of material broken per pound of explosive has been applied;

(4) loading into one truck and transporting to plant bins at the rate of 140 tons per shift; water hauling and help on rig to be handled by unskilled mining labor; blasting under the control of supervisor and help at property.

(5) Indicated labor requirements and rates*

3 drillers at $3.00 per hour
3 helpers at $2.59 per hour
1 trucker at $2.90 per hour
1 loader at $3.20 per hour
½ mechanic at $600 per month (est).

and added to totals a flat 15% of labor cost for fringe benefits, as well as the usual FICA, NES, Unemployment and other charges.

* rates per category are the average from 5 current agreements between management and labor, involving major Nevada mining companies.

Cost of Mining: (continued)

Category	Per 40 Hr. Wk 700 Tons	Cost/Ton
LABOR:	$1,235.00	$1.76
Actual Labor $1004.80 Fringe B'fits 150.00 FICA,NES,etc 80.20		
PREPARATION:	389.00 *	0.56
Stripping 30,000 tons @ $389/Week (222 tons)		
SUPPLIES:	~~820.00~~ 820.00	1.17
Powder $580 Fuel 140 Steel 100		
MAINTENANCE	~~96.00~~ 96.00	0.14
10%/year of $50,000 of original investment		
ENGINEERING,ASSAYING,MIS.	100.00	0.14
SUPERVISION:	150.00	0.21
10% for CONTINGENCIES	279.00	0.40
TOTAL COST OF MINING	3,069.00	4.38 **

* considered probably low

** This includes no charge for exploration, a prerequisite for the replacment of mined reserves.

Costs of Treatment:

The figure of $3.50 per ton, based on data prepared by Mr. Gould, assumed a 200 ton per day operation. Having reduced this to 100 tons per day and in view of thee xtreme hardness of the ore, this report increases the figure to $5.00 per ton.

Total Operating Costs:

Mining:	$4.38
Treatment:	5.00
Overhead	1.00
Miscellaneous	1.00
Total Indicated Cost	$11.38 per ton.

METAL PRICES:

Engineering and Mining Journals average for February 1965 is $475 per 76 pound flask of quicksilver, or $6.25 per pound. The all time high of $490 per flask in November and December 1964, has been only exceeded by odd lots which reportedly reached about $505 per flask. These peaks are not expected to last.

Mr. Gordon Gould in a paper presented before the National Western Mining Conference, at Denver, in February 1965, competently analyzed mercury market and price expectations, as follows:

1- Referring to an established 3% annual increase in the mercury price, based on records from 30 years before World War I, he concluded: "We have an average price for the next ten years of about $320, not an unreasonable figure when we note the 1964 average price of $314.79 per flask".

2- He further concluded that with the Spanish and Italian mines, increasing production to benefit from the $320 or better price, they will be able to meet only about one half of the increase in demand; the remainder will have to come from the world's lower grade mines that can operate profitably only with a price greater that the $320 per flask.

3- Gould finally concluded that inview of the situation an adjustment is due, and the price could well settle out at somewhere ~~at~~ between $375 and $425 per flask.

CONSIDERATION OF PROFIT OR LOSS

Except for royalty to owners and payments, of some sort, to lessees, sufficient detail is at hand to estimate indicated profit or loss. Though incomplete, the margin of profit or loss may, even without royalty or property payments, serve a purpose.

Using Mr. Gordon Gould's top figure of $425 per flask (where the price "may well settle out") the following analysis is prepared:

		FOR FULL RESERVE (approx. 3 years)
GROSS PROFIT:	95,000 x 5.92 x 5.59 x 90 per cent	$2,828,894
LESS:	95,000 Tons x $11.38/ton	1,081,100
	marketing at $6/flask	39,960
		1,707,834
	Royalty	?
	Net before lease payment	1,707,834
	Cost of Lease	?
		1,707,834
	Depletion @ 23% of gross	650,645
	Income subject to tax	1,057,189
	Taxes at 48%	507,451
	Net Income	549,738
	Add back depletion	650,645
	Estimated retained income	1,200,383
LESS:	Capital Investment	600,000
		600,383
	Plus Salvage	100,000
	Final Indicated net profit	$ 700.383

RECAPITULATION:

Reserves and costs indicate a profit of no more than $7.37 per ton of reserve of 95,000 tons. This does not include payments to owners and lessees, which will reduce the return per ton appreciably.

Goldbanks Mercury cannot be considered a Bonanze-type property. Nevertheless a profitable operation is indicated.

One should bear in mind that such an approach is a combination of fact and estimate, and that recommendations must be made in the usual atmosphere of a market that is noted for its 'ups and downs'.

Success or failure depends on the grade of reserve and costs of operation. The latter offers legitimate argument but is considered a sound and realistic beginning. The former, it is hoped, can be improved.

In the case of this property, profitable on the basis of one man's analysis of the future price, but very marginal or a losing proposition, should mercury drop below $375 per flask, caution is urged. The recommendations of page 2 provide a forward approach that could pay its own way, proide needed detail on the ore's physical characteristics (before decding on the final flow sheet) and further check grade.

Respectfully submitted

David LeCount Evans.

Reno, Nevada
April 14, 15.