115 P

LEO TUKUMS LTD. SUBMISSION,

004688

CLEAR CREEK, Y.T.

JULY 1980

OCT 16 1980

KERR ADDISON MINES LIMITED

(FOR INTER-OFFICE USE ONLY)

To D.A. Lowrie **From** W.M. Sirola

Subject Clear Creek Placer Deposits, McQuesten Area - 115-K-14 **Date** October 14, 1980.

I.D.B.
A.H.G.
P.S.C.
W.J.
D.
LR

Enclosed herewith is a copy of our file on these deposits.

You will see from the current correspondence that we attempted to obtain a copy of the drill logs from Mr. Tukums but he replied that the owner is reluctant to part with it. He wonders if he could meet with a Kerr Addison representative in Toronto - "if we have an office there".

The merits of the Clear Creek claims depend entirely on what was left by the dredge. Since the Creek was meticulously drilled prior to dredging, the drilling information is vital to any kind of preliminary appraisal of what is left. It cannot simply be assumed that only the low grade areas were left because slide rock apparently covers portions of both banks of the Creek and presumably would not have been touched by the dredge. This colluvium cover is shown on the accompanying figure 2.

Mr. Tukums is asking $5,000 per claim for 98 claims or 50% of 98 claims or a total of $245,000.

If we are to evaluate this situation, we must have the logs or we forget about the whole thing. Perhaps if you have time to have a brief skirmish with this material, you could let me or Leo Tukums know and Mr. Tukums might be prepared to ship copies of the logs to Toronto despite his reluctance to send them to Vancouver.

The "area" assumption in John D Campbell's report is not relative to previous production - and thus any valuation based on that assumption is meaningless

Bill

.....
W.M. Sirola,
Regional Exploration Manager.

WMS/al: Encl.

The ground is not thawed upstream from the old operation ?

W. S. is correct - The logs are essential

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REALTOR

(519) 576-1110

16 TILLEY COURT, KITCHENER, ONTARIO N2B 2Y9

Oct. 8th,1980.

W. M. Sirola
Kerr Addison Mines Ltd.,
Suite 703
1112 West Pender Street
Vancouver,BC. V6E 2S1.

Dear Sir:

In reply to your Sept. 29th. letter, please be advised that the owner has only one copy of the drill sheets with claim numbers thereon and is reluctant to part with it. Furthermore it is bulky, perhaps too bulky to trust to the mails these days.

He suggests therefore that we could have a meeting with him in Cambridge, Ont. or that he and I could meet with your people in Toronto, should you have an office there.

Any way this could be set up ?

Cordially,

Leo Tukums.

KERR ADDISON MINES LIMITED
SUITE 703 - 1112 WEST PENDER STREET
VANCOUVER, B.C. V6E 2S1
PHONE 682-7401

September 29, 1980.

Mr. Leo Tukums,
Leo Tukums Limited, Realtor,
16 Tilley Court,
Kitchener, Ontario,
N2B 2Y9.

Dear Mr. Tukums:

Thank you for sending me the geological report by John D. Campbell.

It would make our evaluation much easier if we had the drill-log information from the map provided by W.J. Scott. Mr. Campbell's figures 3 and 4 indicate that there were holes drilled on either side of the dredge channel. Some of these drill holes are indicated by an uncoloured circle which means that these holes are less than 60¢ per cu. yd. at $107 gold. If we had the information on these drill holes, we would have some indication of what to expect from the unmined areas on either side of the channel.

I gather that the leases have been converted into claims and it would be helpful if we had the claim numbers and the record numbers for the 95 claims involved.

Yours very truly,

W.M. Sirola,
Regional Exploration Manager.

WMS/al:

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Clear Cr. Placers
McQuesten Area 115P

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PER

Rent-Free Coal Property Leases
50 miles (80 km) m/l
southwesterly of Calgary, Alberta.

- 3360 acres (1359.74 ha.)
- Rent-free until reclassified, then $ 1.oo per acre per annum. Leases are 15 years commencing 1974-5 and renewable for an additional 15 years.
- Estimated coal reserves to a depth of 1000 ft. (300 m) is 16 million tons.
- Price $ 175,000.oo
- Full additional data available.

Respectfully submitted

Leo Tukums

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16 TILLEY COURT, KITCHENER, ONTARIO N2B 2Y9

Sept. 5th,1980.

William M. Sirola,P.Eng.
Kerr Addison Mines Ltd.,
703 Fidelity Life Bldg.,
1112 West Pender Street
Vancouver, B.C. V6E 2S1.

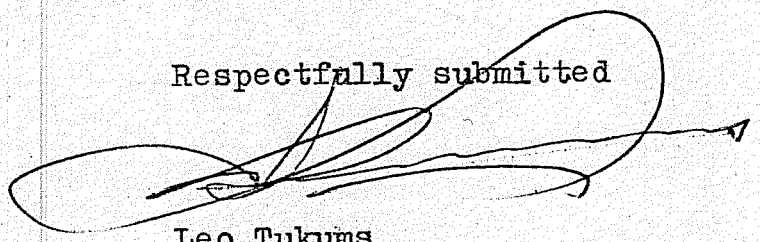
Dear Sir:

re: Yukon Gold Placers
Left Fork, Clear Creek.

As requested, please find attached the report on this property of John D. Campbell.

I'd appreciate your evaluation of it.

Respectfully submitted



Leo Tukums

PS Could some rent-free coal leases s/w of Calgary be of interest. Brief description enclosed.

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(519) 576-1110

16 TILLEY COURT, KITCHENER, ONTARIO N2B 2Y9

cc W. Sinda
Any interest?
115K 14

FOR SALE

Gold Placers, Left Forks, Clear Creek.
Yukon Territory, Canada.

==========

- 50% share of 98 Claims, (at ca. 40 acres per Claim is ca. 3920 acres.)
- Asking $ 5,000.oo per Claim - ($ 245,000.oo) with terms open to offer.
- All Claims in good standing.
- Remaining 50% share available subject to seperate negotiation.
- Entire property can be worked.
- Drill sheets available.
- Geologists Report available. (Indicated therein, a potential of 14,000 troy ounces of Gold at a fineness of 900 ! Nearly 8,000,000 sq.mt. area open to further sluicing.
  Note: In this regard if the technology invented by Gustav Schmid for his Cogasa Gold operation at 60 Mile River were applied, the potential of four times above noted Gold yield is possible, plus recovery of other heavy metals such as tungsten, copper, silver, lead, zinc,etc.)

Respectfully submitted,

Leo Tukums

GOLD PLACERS
LEFT FORK, CLEAR CREEK,
YUKON TERRITORY

by John D. Campbell, Ph.D., P.Geol.

Summary

The Left Fork, Clear Creek site of Hart-Mills & Scott Logie placer properties, is located at latitude 63° 50' north and longitude 137° 15' west in central Yukon.

In excess of 20,000 ounces of gold have been won from the properties in the past and as much as 14,000 ounces may remain to be won.

In the upstream half of the properties the gold is fine and relatively evenly distributed; in the downstream half, the gold is coarse, pockety and easily missed by drilling, but more abundant and valuable as jewellry.

Remaining ground includes valley-bottom alluvium, low benches, and tributary streams; some of it is shallow and some of it is covered by colluvial fans (slide rock) of unknown thickness.

Nine valley-bottom locations and three tributary streams are recommended for further methodical examination by drill-holes or by trenches.

Authorization and Decleration

1.1 Following preliminary talks with Mr. Alex Mills, Toronto, Ontario the author visited the properties now held by Hart-Mills Placers Ltd., and Scott-Logie Ltd. on Left Fork, Clear Creek, Y.T. in July 1974. Authority to proceed with a report on the placer gold prospects of the properties was given by Mr. Mills and Mr. Robert Hart, Cambridge, Ontario on November 7, 1975.

1.2 Further to the report Mr. W.J. Scott, Whitehorse, Y.T., turned over to the author a most valuable copy of a detailed plan of Left Fork, Clear Creek, dated April 1917 on a scale of 1 in. = 100 feet, showing the operations of Clear Creek Placers Ltd. from 1940 to 1952, complete with drill-holes, minimg operations, yardages and calculated values.

The following report is based on published maps (National Topographic Series, geological, land survey), on interpretation of three series of black and white air photographs, and on the information contained in the Clear Creek Placers Ltd. 1947 detailed plan.

1.3 The author declares that neither he nor his family or associates has any proprietary interest in any mining or other venture in the area of investigation.

General

2.1 Location. Left Fork, Clear Creek is located at latitude 63° 50' north and longitude 137° 15' west (Fig.1.) in the central part of Yukon Territory, about 240 miles north northwest of Whitehorse and about 65 east scutheast miles of Dawson.

Hart-Mills and Scott-Logie properties, beginning at the main forks of Clear Creek, consist of two placer leases (2000 feet wide) on Left Fork (a 1-mile placer lease, number 2983, and a 5 mile placer lease, number 3074), a two-mile placer-lease (number 3080) on Barney Creek, the main right-bank tributary, discovery claims (1500 feet long) on Bell Creek, 65 Pup and the unnamed right-bank pup below Barney Creek, and a 1-mile bench claim (1000 feet wide; number 3549) on the right bank below the unnamed pup.

Main Clear Creek enters the Stewart River about 34 miles west of Stewart Crossing of the Whitehorse-Mayo highway (Y.T.hwy.no.2); its main forks lie 24 miles upstream, and its Left Fork, with a

drainage area of about 23.4 square miles, is 12 long.

2.2 History. Gold was first discovered on Clear Creek in the aftermath of the Klondike gold rush of 1897. In the ensuing years, numerous small operations recovered gold; Big Alex Mc Donald, the " Klondike King " worked out his final years here, and, up to 1937, the two brothers Dumont consistently worked cuts on Left Fork, one near Barney Creek and another about 4 miles farther upstream.

Subsequently the whole of the Left Fork was aquired by Clear Creek Placers Ltd., of Dawson, Y.T. who operated open cuts in 1940 and 1941, then built a diesel dredge of 2.5 cu.yard capacity bucket. The dredge began operation in August 1942, 1 mile below the mouth of Barney Creek and, in the following 10 years, dug its way upstream 6 1/2 miles; on August 12,1952, it was shut down and dismantled.

Through the 1960's, the fixed price of gold and the rising cost of labor and supplies prevented operations in Clear Creek, but interest has revived recently with the dramatic rise in gold prices. About 1972,Mr. W.J.Scott and associates leased the lower 6 miles of Left Fork together with adjacent properties on tributary pups, thus forming the basis for Hart-Mills & Scott Logie properties.

2.3 Access. The main access to the Left Fork,Clear Creek properties is by way of a 29-mile summer truck road beginning at Barlow Junction, mile 47 of the Stewart Crossing - Dawson highway (Y.T. hwy.no 3) and traversing the ridge-tops at timberline. Additional access is provided by a 2350-foot landing-strip,suitable for small aircraft,on the tailing-piles south of the mouth of 65 Pup.

2.4 Climate-Flora. Climate on upper Clear Creek is severe in the long winter but warm,occasionally hot in the short summer,with winds always light in the deep valleys but occasionally moderately strong on the ridge-tops.

As befits a typical dry continental climate, termerature is very variable. July temperatures may easily exceed 30° C (90° F) but frost may be expected in any month; winter temperature probably regularely decends below -45° C (-50° F). The closest recording weather stations to Clear Creek are at Mayo, 45 miles east southeastward and at Elsa about 50 miles to the east; some climatic data from there are presented in Table A

Table A

Climatic Data,central Yukon Territory	Mayo	Elsa
elevation	1625 feet	3000 feet
annual average precipitation	11.2 inches	15.7 inches
highest daily mean maximum temperature (July)	22° C	19.5° C
lowest daily mean minimum temperature (January)	-29° C	-25.8° C
annual mean temperature	-3.5° C	-4.3° C

At Clear Creek, as elsewhere in central Yukon Territory, the long term annual mean temperature is well below freezing, in consequence, the ground below a thin layer thawed in summer, is frozen permanently to great depth; the resulting " permafrost " is a major consideration in all placer mining operations.

Operating data of the dredge (Table B) indicates time of spring breakup and fall freezup. Usually the dredge was able to begin operations 1 to 2 weeks after ice melted off the dredge-pond and continued digging 1 to 2 weeks after ice began to form again.

Table B

Dredging seasons,Clear Creek,Y.T.

year	began dredging	shut down
1942	first run in August	October 26
1943	June 1	October 17
1944	June 2	October 23
1945	June 18	October 19
1946	June 1	October 20
1947	May 29	October 29
1948	June 2	November 6
1949	June 16	October 17
1950	May 25	October 28
1951	May 30	October 9
1952	June 2	dismantled August 12.

Local flora is typical of the sub-arctic open-forest-tundra with a few dense groves of well formed white spruce and balsam poplar

in the alluvial soils of lower valley bottoms an open growth of large white spruce or aspen poplar on warm,south-facing lower hillsides, and elsewhere, where permafrost is never more than a few inches below the surface, a mat of mosses,lichens and heaths with a widely-scattered stand of stunted black spruce trees.Timberline is about 4000 - 5000 feet.

2.4 Bedrock Geology. Clear Creek lies entirely within the McQuester map area (National Topographic Series sheet 115P) of which the bedrock geology has been ably described by Bostock 1964. The drainage basin of Left Fork is entirely underlain by rocks of the Yukon Group, a thick confused sequence of moderately folded and metamorphosed, largely sandy clastic rocks with minor limestone included, Proterozoic or Early Cambrian in age (see also Green,1972). The clastic rocks are cut by numerous largely acidic intrusive bodies,probably Mesozoic in age,that are particularely abundant east and north of Left Fork,Clear Creek where many are large enough to be mappable (Bostock,1964,). It is these intrusives that largely are responsible for the widely disseminated gold veinlets, which, through erosion, became placer deposits. ?

3.Geomerphology and Surface Geology

3.1 General. The Left Fork,Clear Creek valley is typical of small valleys in wast central Yukon Territory, relatively straight and very narrow and deep,with a nearly uniform gradient and a flat valley-floor; walls are steep in their lower parts but less so at higher elevation as they rise to broad,gently rolling ridges. At the forks, the valley-bottom elevation is about 2370 feet, and rises in 6 miles to about 2860 feet at the upper end of Hart-Mills & Scott-Logie properties. At roughly uniform intervals, about a dozen small tributary streams enter the Left Fork, all approximately at right angles; the largest of these is Barney Creek (Fig.1.).Following the usual Klondike custom,most tributaries,especially the small ones are termed " pups ".

3.2 Gravels. The only surficial deposits known from Left Fork,Clear Creek, aside from the almost universal blanket of moss and peat, are colluvium (broken rock and mud in the process of sliding down the valley walls) and alluvium (residual silts,sands and gravel in the valley bottom); no till or other diagnostic glacial deposit is known. In consequence, it is beleived that the area, in common with much of west-central Yukon Territory was never glaciated (Bostock, 1966; Hughes et.al. 1969) and thus escaped the scouring action of the ice. It is likely that the drainage area and conditions of erosion have maintained essentially constant since the present cycle of erosion was initiated far back in Tertiary times, and there has been no catastrophe to interfere with the slow accumulation of placer gold from the adjacent numerous low-grade bedrock veins by differential erosion.

3.3 Both alluvium and colluvium are clearly indentifiable in air photographs of Clear Creek. While several colluvium processes are seen to be at work on the valley walls, most eroded material reaches the valley-bottom in the form of " fans ", steep little delta-shaped masses of broken rock at the foot of the wall, spreading out over the alluvium. Miners call the fans " slide-rock " and recognize them as major hinderances to placer mining.

3.4 Most alluvial deposits, consisting of flat-lying silts, sands and gravels, lie very close to stream-level on the relatively flat valley-bottom, but some of the " benches " lie discernably (to air-photo examination) above stream level; most of these are " low", i.e. have the base of their alluvial deposits below the top of the adjacent valley-bottom alluvium.

3.5 Air photographs clearly distinguish between that part of the valley-bottom alluvium that has been worked over for gold (virtually vegitation-free) and the remainder that has never been worked, (vegitated); soil and plant growth in the sub-arctic climate is so slow that workings well over one-half century old area easily discernible. The more prominent alluvial and colluvial features of Left Fork,Clear Creek within the Hart-Mills & Scott-Logie properties have been plotted in Figure 2.

3.6 The gradient of the Left Fork is relatively uniform,decreasing quite evenly from about 150 feet per mile at the upstream limit of

Hart-Mills & Scott-Logie properties to about 25 feet per mile in below the mouth of Barney Creek,then, in the final mile above the downstream limit of the properties at the forks, increasing again to about 100 feet per mile.

In this steeper one-mile stretch,the creek changes character somewhat; it is incised 5 - 15 feet into the valley floor leaving almost continuous low benches on either side which are, at least in part, covered by colluvial fans. No dredging, and little or no other mining appears to have been done in this region.

4. Survey and Plan.

4.1 Base-line. The Government of Canada has surveyed an arbitrary base-line which approximates the course of Left Fork,Clear Creek (Fig.1.) with flexures marked by reference-points (designated WP 0, WP 2,etc.); all placer leases and claims are related to this. All base-lines and placer properties including Hart-Mills & Scott-Logie properties are shown on the Government Lease-map, Sheet 115P / 14 ("Clear Creek") scale 1 in. = 1/2 mile, from which figure 1 and figure 2 were modified.

4.2 The detailed Clear Creek Placers Ltd. map of 1947,scale 1 in.= 100 feet,turned over to the author by Mr. W.J.Scott, delineates base line and reference points much more accurately than the 1 in.= 1/2 mile lease map;correct base-line intervals derived from it are given in figure 5.

4.3 The 1947 map carries a most detailed record of gold values; on the one hand it shows the position of 20 lines of drill-holes, each line extending across the floor of the valley and consisting of 4 - 9 holes (127 in total) together with data from each hole (depths, gold values). Figure 1 shows position of all the lines, while figures 3 and 4, diagrams in which the longitudinal scale is one-tenth the transverse scale,and the base-line is arbitrarily straightened and centred, show all the lines with all the drillholes.

4.4 The 1947 map also shows the progress of the gold dredge,its swath and the position and shape of the working front of the dredge pond at each time of " cleanup " or gold recovery from the sluice boxes. The dredge progressed by taking successive sweeps across its swath,i.e. across the width of the valley so that each cleanup record is comparable to an " average " value of a line of drill-holes.

Dates are given on the 1947 map for all cleanups (usually at approximately 2-week intervals) beginning with the first in August,1942; from the cleanup of June 19,1943, total number of cubic yards dug since the last cleanup are also recorded, and beginning with June 14,1944, average values per cubic yard of recovered gold aswell. Thus the map shows both exploratory estimates of gold values and actual recovery values. The dredge-swath is shown diagrammatically in figures 3 and 4, but space did not permit showing cleanups.

5.Values.

The 1947 Clear Creek Placers Ltd. detail map is only source of quantitative information on gold values of Left Fork,Clear Creek available to the author. This information is summarized in figure 5 by plotting gold values per cubic yard of material moved against distance in feet upstream from the forks.

5.1 The " fineness " (purity in parts of pure gold per 1000 parts of mined gold) of Clear Creek gold is given by Gilbert (1974) as ranging from 828 to 860 which compares favourably with the simple-average fineness of 801 for all the 87 Yukon creeks recorded by Gilbert. But for purposes of calculation,the 1947 map assumed a fineness of 900 for Left Fork,Clear Creek gold and the present author is continuing in this assumption; the 4.7% discreptancy is negligible compared with the sampling errors.

5.2 Gold values are expressed on the detail map as cents per cubic yard of gravel dredged. In 1947,when the original calculations were made,pure gold was pegged at US $ 35.oo per troy ounce,or Can. $ 38.5o per troy ounce (the Canadian dollar was pegged then at 90 cents US).

However,with the freeing of both gold prices and the Canadian dollar,prices have risen considerably but fluctuated considerably;

for the purposes of this study a conservative pure-gold price of C'd'n.$ 120.oo per troy ounce is assumed.

All the values on the 1947 map have been re-calculated by hand, and all value-indications on figures 3,4 and 5 are on the new "1976" basis.

5.3 Comparison of exploration estimate values with final recovery values.

5.3a. The dredge progressed upstream within the present Hart-Mills & Scott-Logie properties from the time of its construction, August 1942, until about October 4,1948. In that period it processed about 1,803,000 cubic yards of alluvium (estimated from records on 1947 map) covering an area of about 5,250,000 square feet (estimated by planimeter) and recovered about 19,500 troy ounces of gold. The average grade was 116.4 cents per cubic yard, or about 40.0 cents per square foot.

5.3b. Drill-hole values are obtained by extrapolating from the known volume of each hole and the value of gold recovered from it. Standard hole diameter is about 6 inches (open hole 5 5/8 inches to 6 inches: cased hole 7 1/2 inches) and the drill holes in Left Fork,Clear Creek varied in depth from 5 feet to 19 feet, so that hole volumes may vary from about 0.03 cubic yards to about 0.22 cubuc yards, Where placer gold is very fine and very uniformly disseminated,drill holes can consistently forecast recoveries, but where gold is coarse and, in consequence, relatively unevently distributed, drill-hole values are certain to be erratic (the so-called " nugget effect " of statisticians; see also Nordale 1947).

5.3c. The"zone of influence" of each drill hole was assumed to extend half-way to the adjacent drill-hole in the line and half-way from each line to the next; outside zone-intervals of outside holes and of lines with no near neighbor (lines numbered 51.56, 37.8 and 25.0) were assumed to be equal to the inside intervals of the same holes or lines. Zones of influence were thus 10 to 20 times as long as broad.

5.3d. Using " zone of influence " as weighting, a weighted average was calculated for values,in each line of drill-holes within the dredge-swath.

5.3e. Initially, both dredge-recovery values and dredge-swath drill hole line average values were plotted against distance in feet upstream from the forks. Both curves were then smoothed by averaging in 4's, weighted by the longitudinal (between - lines) intervals. Drill hole line 49.3 had an anomalously high average value (the "nugget effect") while dredge cleanups between drill hole lines 44.0 and 41.0 had anomalously low values because the boat was working in unknown poor ground to get around a large area worked in 1940 and 1941 as open cuts for which no values are recorded (Fig.3.); these values were omitted from the smoothing calculations.

Figure 5 shows the two smoothed curves,with two spot-values added to extend the dredge-recovery information downstream; 1. the cleanup average for total 1942, the first year of operation reported on the 1947 map without breakdown; 2. a reported value for an old cut,of unknown reliability. The transverse average value for the isolated drill-hole line at the forks, designated number 0.0, is also to be considered a spot-value extending the exploratory estimate (drill-hole) curve downstream.

5.4 Two observations are inescapable:

a. The exploratory estimate (drill-hole) curve and the actual recovery (dredge) curve agree reasonably well with each other.
b. Except for spot-values, the highest consistent values in both curves are recorded in the one-and-one-half mile stretch of creek between the mouths of Barney Creek and 65 Pup.

Two secondary observations may be made: upstream from 65 Pup,values are lower but very consistent; downstream from Barney Creek, values appear (on the basis of the two spot-recovery-values and the anomalous line 49.3) to be very erratic, with barren intervals and rich pockets.

5.5 An attempt was made to estimate values in remaining ground lateral to the dredge-swath by averaging (by weighting on a zone of

influence basis) drill-hole values in each line outside the dredge-swath. However the out-of-swath drill-holes are few in number and poorly distributed to represent the remaining ground and the averages obtained (plotted as spot-values on figure 5) are erratic and mostly somewhat low.

Lines 51.56 and 50.56, the only available evidence representing values in the downstream, steeper, one-mile section of creek, are also somewhat low.

5.6 No quantitative information is available on values in any tributary stream; as far as known, none has ever been worked seriously, and no workings show up on the air photographs.

5.7 With presently available data, firm estimates cannot be made of recoverable gold values in the remaining unworked ground of Left Fork, Clear Creek although considerable gold is beleived to be present (see below).

6. Discussion and Recommendations.

6.1 It is outside the authors competence to determine break-even points for mining operations. However, as general guidelines, the 60 cent per cubic yard and the 75 cent per cubic yard level (corresponding roughly to the 20 cent and 25 cent levels of 1947) are indicated on figures 3,4 and 5.

6.2 Erratic values below Barney Creek in both recovery records and drill-hole averages undoubtedly reflect the coarser nature of the gold found there; much of it probably is in the form of nuggets.

The coarse gold cannot have moved down the full length of Left Fork, Clear Creek since there does not appear to be indication of it in the uniform gold values (believed to reflect fine gold) recorded above 65 Pup; it must have moved into the creek from the hills on either side, either down the valley walls or down Barney Creek or 65 Pup.

Clearly, both Barney Creek and 65 Pup merit major attention, and the proprietors were very wise to stake them.

6.3 The present proprietors have made their 1973, 1974 and 1975 bulldozer cuts in the lateral-remaining ground just below the N.B. mouth of Barney Creek on the right bank of Left Fork, and barely in the mouth of Barney Creek itself. They report verbally:

a. Values of gold recovered are greatly in excess of expectations on the basis of the out-of-swath drill-hole values of lines 46.0 , 45.0 and 44.0 ;

b. Most of the gold is coarse with a few nuggets approaching 1 ounce in weight (nuggets command a premium price in the jewellry market).

Their observations are in line with the conclusions occasioned by the dredge-swath data, and indicate, in feet, that lateral remaining ground may, at least on occasion, be as rich as dredge-swath ground.

6.4 For the numerous patches of lateral-remaining ground in the upstream part of the properties, above 65 Pup, evidence is somewhat scanty. Out-of-swath drill-hole average gold values here are, unlike those in the coarse-gold ground of the downstream part of the valley, clearly in line with dredge-recovery values (Fig.5.), and, at the same time, the dredge-recovery record is, as noted above, very uniform; at least the larger lateral-remaining areas and low benches here could be worth close examination.

The dredge curve (Fig.5,) has a notable upswing at the mouth of Bell Creek indicating that the prominent low bench opposite the mouth, and Bell Creek itself, might carry considerable values.

6.5 The lowermost steep mile of Hart-Mills & Scott Logie properties appears never to have been worked over for gold; either there is little gold present, or the old-timers were technically unable to cope with conditions encountered. On present information, the author cannot determine the true situation, but in view of the erratically high gold values known from just upstream of the section further investigation seems warranted.

6.6 Much of the untouched lateral-remaining ground and low benches, including the continuous benches along the lowermost steep mile of creek, is partially covered with colluvial fan material (" slide-rock").

From a mining point of view, this constitutes additional barren material that has to be moved and has to be included in yardage calculations. Gold values under the fans would have to be proportionally greater to warrant mining them, although there is no technical hinderance, using modern bulldozers and draglines, to the operation.

6.7 Consideration to areas instead of yardage may allow at arriving at a very rough estimate of remaining gold values.

The following areas have been determined by air photograph interpretation and planimetry:

	Approximate area square feet.
Total alluvium lateral to dredge swath, including low benches, bare or fan-covered	3,500,000
Total alluvium downstream from dredge operation to main forks, bare or fan-covered	2,500,000
Total alluvium within property in Barney Creek (65 Pup and Bell Creek not considered here)	1,900,000
Grand total remaining	7,900,000

* Assuming the remaining ground carries values averaging half the average value of the already worked-over ground, i.e. about 20.0 cents per square foot (far richer pockets or sections undoubtedly exist; see above), remaining gold values in Hart-Mills & Scott-Logie properties may total as much as $ 1,500,000.oo ; equivalent to about 14,000 troy ounces with a fineness of 900.

Note again that the foregoing calculations consider only areas; distribution of gold, thicknesses of gravel or of fans can only be determined by ground examination. Yes !!

6.8 Recommendations

a. The author believes that considerable amounts of gold remain to be found in the Hart-Mills & Scott-Logie properties on Left Fork, Clear Creek. Upstream from the mouth of 65 Pup, the gold is believed to be relatively fine and evenly distributed, but from 65 Pup downstream it is believed to be relatively coarse and more or less erratically distributed, The possiblity of finding coarse gold in 65 Pup and Barney Creek is great.

b. A drill program should be undertaken to test selected remaining ground and low benches, as follows (Fig.2):
   - bench, right-bank, fan-covered, one quarter to one-half mile above forks:
   - bench, left-bank, fan-covered, opposite reference point WP 2:
   - remaining ground, left-bank, fan-covered one-half mile above reference point WP 2, upstream to above mouth of Barney Creek:
   - remaining ground, right-bank, mostly uncovered, upstream from unnamed pup below Barney Creek:
   - mouth of 65 Pup:
   - bench, right-bank, fan-covered, opposite mouth of Bell Creek:
   - mouth of Bell Creek:
   - low bench, right-bank, partly uncovered, extending one-half mile upstream from refernce point WP 15:
   - narrow low bench and remaining ground, left-bank, uncovered, extending three-eigths mile upstream from head of previous bench:

c. Drill-holes, or (if, as seems likely, the alluvium is very shallow) trenches should be sunk in Barney Creek and 65 Pup, and possibly also in Bell Creek and the unnamed pup downstream from Barney Creek. Gradients of each should be surveyed.

d. Drill-holes need not be spotted in formal "lines" but, at least below the mouth of 65 Pup, several should be grouped relatively closely together to mitigate the " nugget effect ".

e. In mining the coarse gold expected downstream from 65 Pup, a simpl sluicebox is undoubtedly adequate to recover all gold, but upstrea where the gold is believed to be finer, it is recommended the box be modified e.g. by lenthening it or by installing undercurrent tables or other refinements.

WRONG ASSUMPTION Ground already worked was selected pay zones

7. Literature Cited.

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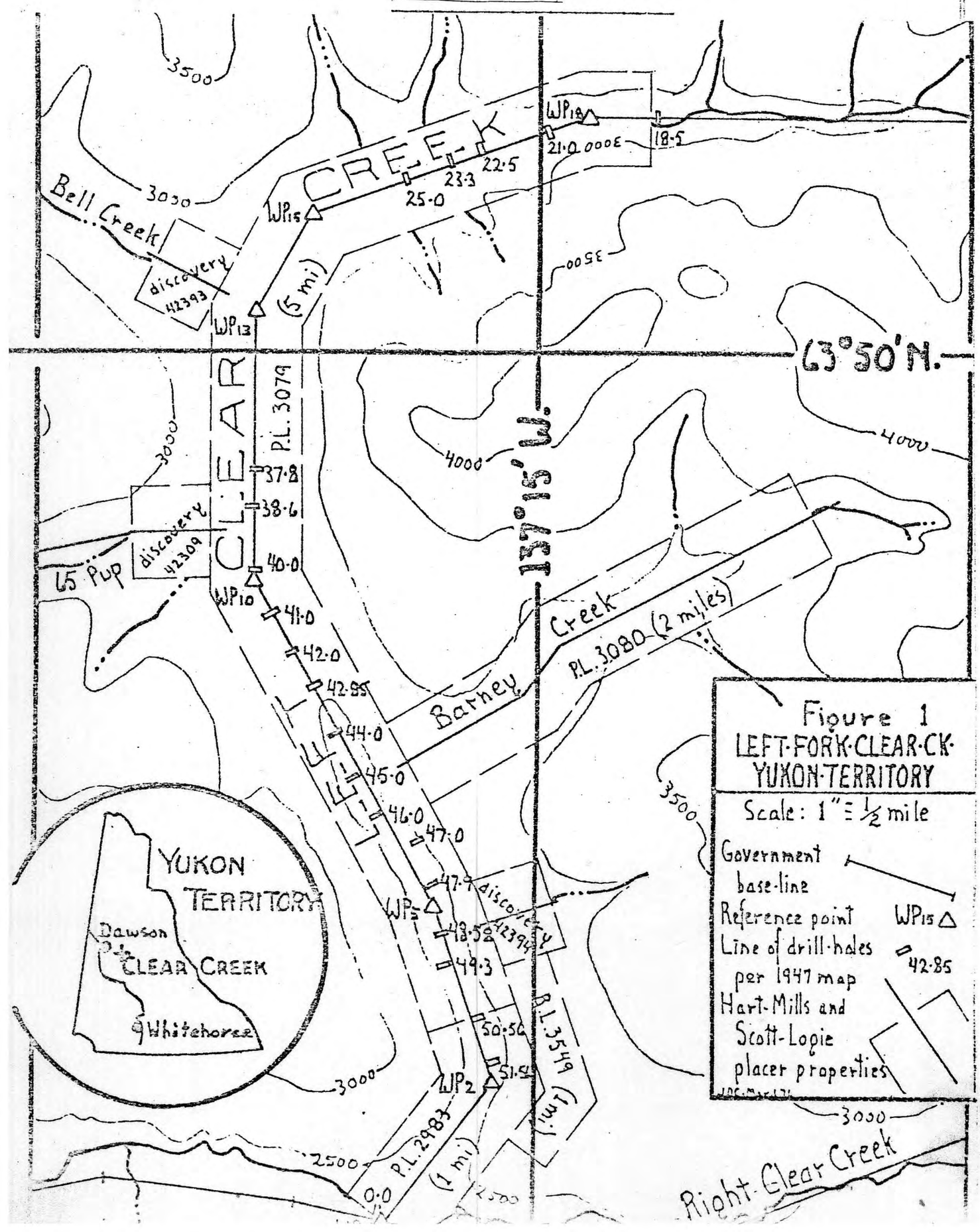


Figure 1
LEFT-FORK-CLEAR-CK-
YUKON-TERRITORY

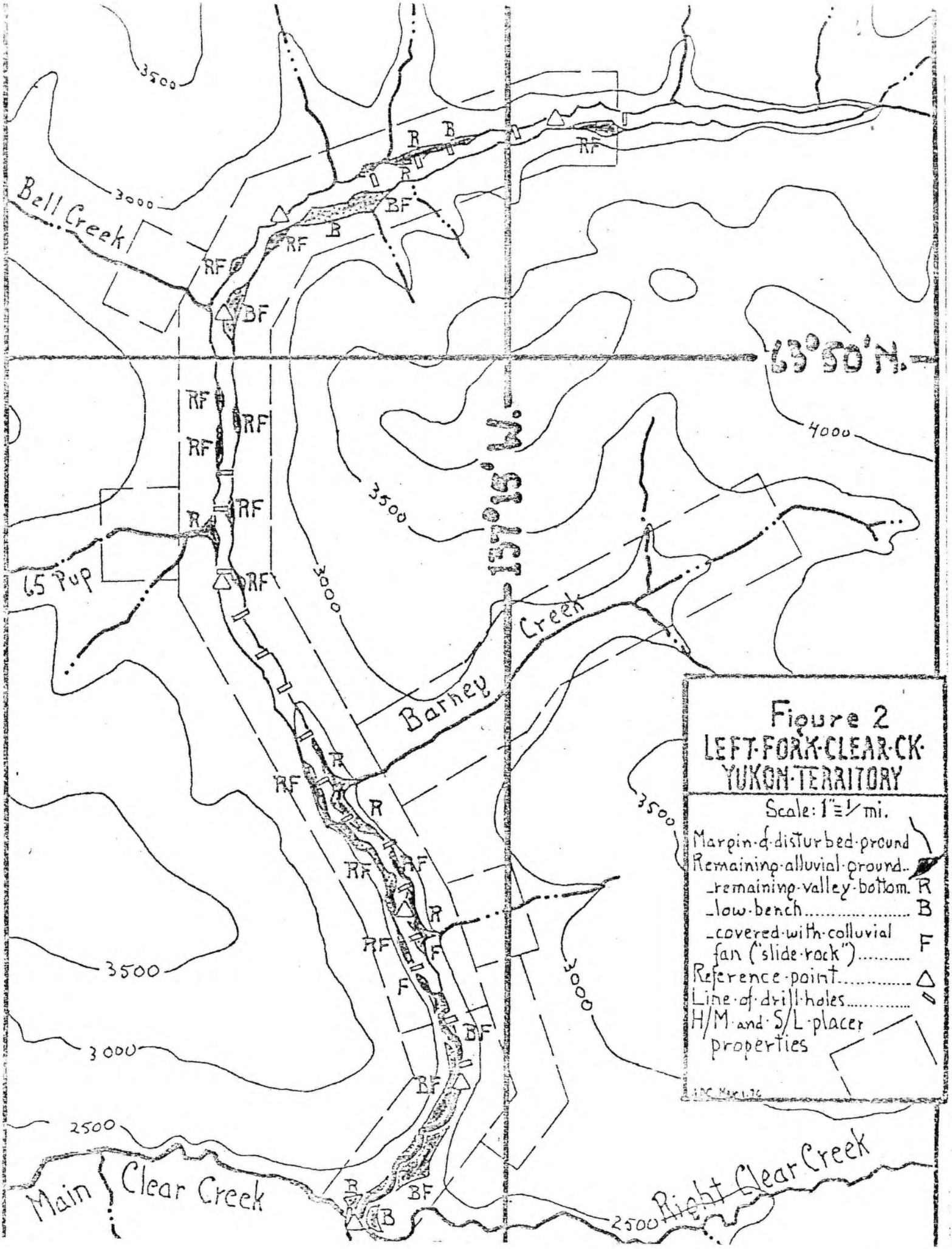
Scale: 1" = ½ mile

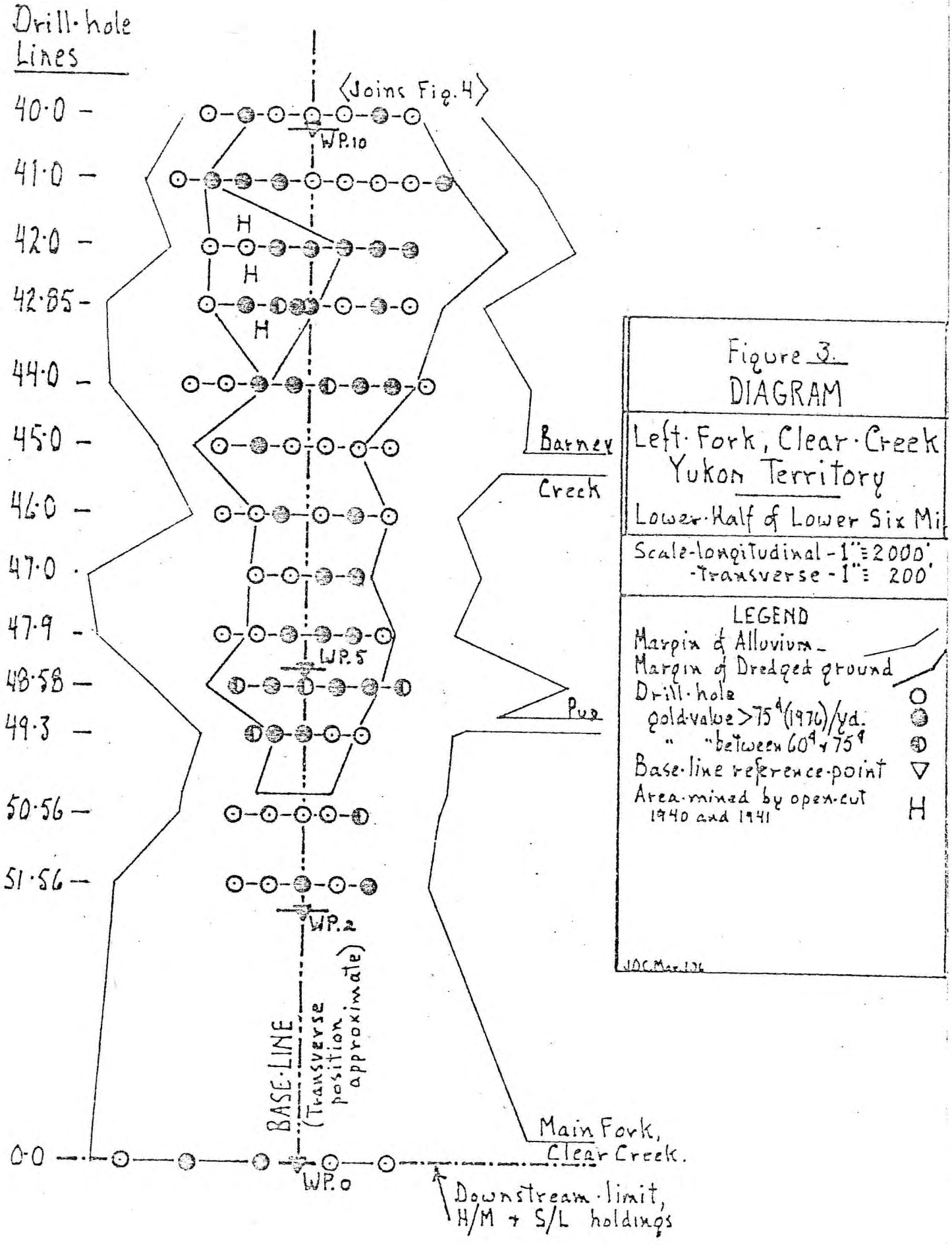
Government base-line

Reference point WP15 △

Line of drill-holes per 1947 map 42.85

Hart-Mills and Scott-Logie placer properties


Bell Creek
Barhey Creek
65 Pup
Main Clear Creek
Right Clear Creek
63°50'N.
139°15'W.
3500
3000
4000
2500
RF
R
B
BF
F
Figure 2
LEFT FORK CLEAR CK
YUKON TERRITORY
Scale: 1" = 1/ mi.
Margin of disturbed ground
Remaining alluvial ground..
-remaining valley bottom. R
-low bench..... B
-covered with colluvial
fan ("slide rock")..... F
Reference point..... △
Line of drill holes.....
H/M and S/L placer
properties


Drill-hole Lines
40·0 –
41·0 –
42·0 –
42·85 –
44·0 –
45·0 –
46·0 –
47·0 –
47·9 –
48·58 –
49·3 –
50·56 –
51·56 –
0·0
<Joins Fig. 4>
WP.10
H
H
H
WP.5
WP.2
WP.0
BASE-LINE (Transverse position approximate)
Barney Creek
Pup
Main Fork, Clear Creek.
Downstream limit, H/M + S/L holdings
Figure 3.
DIAGRAM
Left Fork, Clear Creek
Yukon Territory
Lower Half of Lower Six Mi
Scale-longitudinal - 1" = 200'
-Transverse - 1" = 200'
LEGEND
Margin of Alluvium
Margin of Dredged ground
Drill-hole
gold-value > 75¢ (1976)/yd.
" "between 60¢ + 75¢
Base-line reference-point
Area mined by open-cut 1940 and 1941
H
JDC. Mar. 176

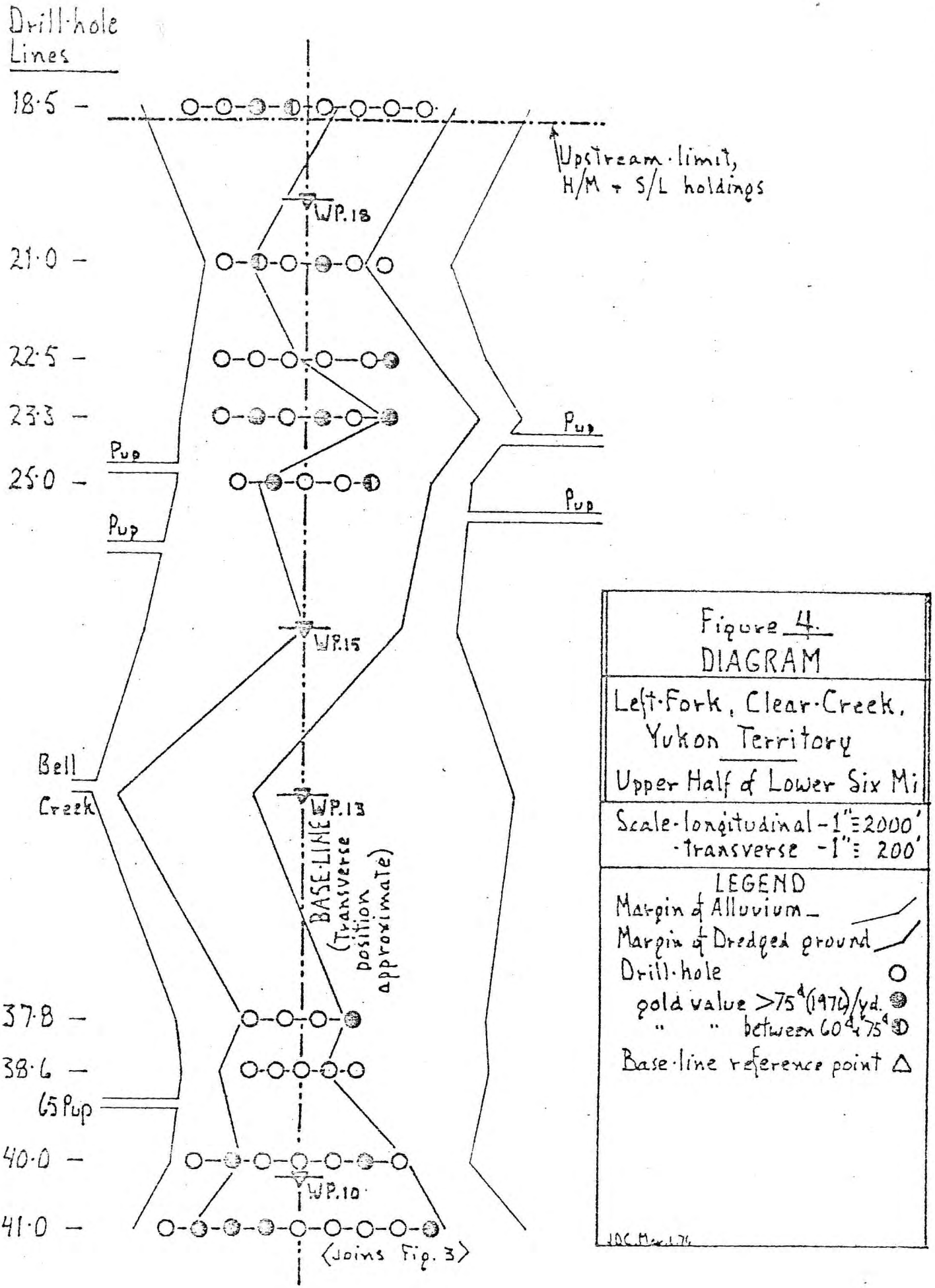


Figure 4.
DIAGRAM

Left Fork, Clear Creek, Yukon Territory

Upper Half of Lower Six Mi

Scale - longitudinal - 1" = 2000'
- transverse - 1" = 200'

LEGEND

Margin of Alluvium

Margin of Dredged ground

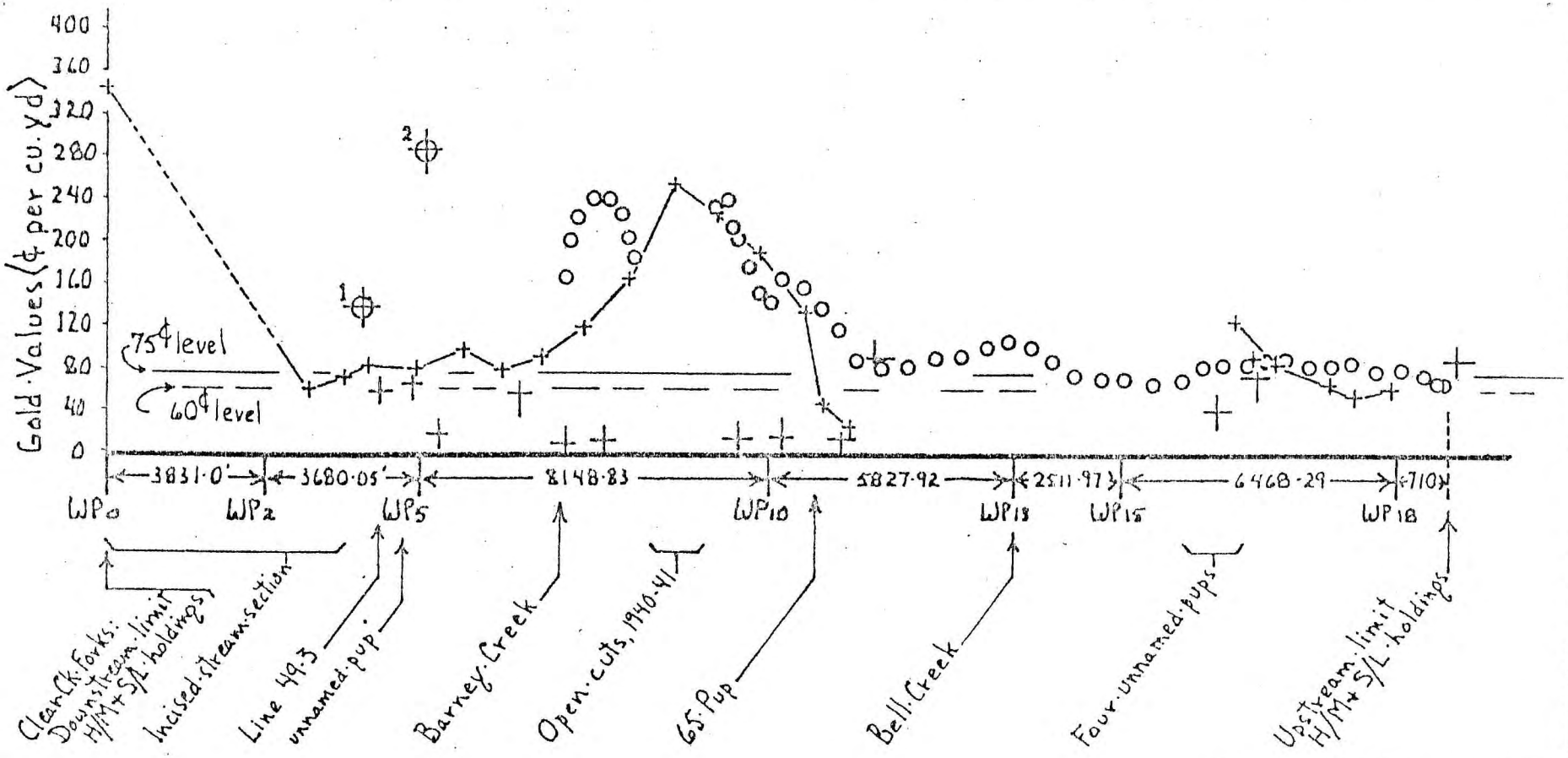
Drill-hole ○

gold value > 75¢ (1976)/yd. ●

" " between 60¢ & 75¢ ◐

Base-line reference point △

JDC May 1976



LEGEND

Values of recovered gold: smoothed curve of dredge cleanup values, June 1944 to Oct 1948, omitting region of 1940-41 open cuts ---------- ooo

Additional recovered gold values: 1. dredge cleanup average for 1942 (first year of operation); 2. reported values from old (pre-1937) cut ---------- ⊕

Gold values indicated by drill holes: smoothed curve of values from drill holes within dredge swath, averaged by line, omitting line 49.3 ---------- +

Gold values indicated by drill holes remaining outside dredge swath, averaged by line ---------- +

Assumed 1976 price of gold: $120.00 C'd'n. per oz.
Assumed fineness of Clear Ck gold: 0.900

Figure 5

LEFT FORK CLEAR CK YUKON TERRITORY

Horizontal scale: 1" = 4000 ft.

Scaled along government base line

JDC Mar 4/76