GEAREX ENGINEERING
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SUMMARY

REPORT

ON THE

MINTO CREEK GOLD PLACER PROPERTY

MINTO LAKE AREA

MAYO MINING DISTRICT

MAYO, YUKON TERRITORY

115P9E

FOR

GOLDOREX MINERALS INC.

VANCOUVER, BRITISH COLUMBIA

February 19, 1988

Gerhard von Rosen, P.Eng.

FIGURE "A"

INDEX MAP

OF

YUKON TERRITORY

CANADA

0 200 KM

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SUMMARY

GOLDOREX MINERALS INC., UNDER SUPERVISION OF THE WRITER, PERFORMED AND COMPLETED IN THE FALL OF 1987, A TEST PIT SAMPLING PROGRAM ON THE MINTO CREEK GOLD PLACER PROPERTY IN THE MAYO, YUKON TERRITORY, AREA.

THE RESULTS OF THE PROGRAM INDICATED THE PRESENCE OF PLACER GOLD CONTENT WITHIN A DEPOSIT OF COARSE BOULDER GRAVEL WHICH IS OF SUFFICIENT INTEREST TO WARRANT THE RECOMMENDATION FOR FURTHER ACTIVITIES TO BE UNDERTAKEN DURING NEXT SEASON'S OPERATIONS.

IT APPEARS POSSIBLE THAT THE PLACER GOLD, ACCUMULATED AS A RESULT OF SUCH AN OPERATION, COULD BE SOLD TO OFFSET AT LEAST SOME OF THE CASH OUTLAYS WHICH WILL BE ENCOUNTERED DURING THE IMPLEMENTATION OF THE RECOMMENDED PROGRAM.

THE AREA, OVERLYING THESE GOLD-BEARING GRAVELS, HAS BEEN STRIPPED OF ORGANIC OVERBURDEN, ALLOWING THE EARLY COMMENCEMENT OF BULK PROCESSING OPERATIONS IN THE SPRING.

THE **"PHASE ONE"** PROGRAM IS RECOMMENDED TO ENTAIL BULK SAMPLING AND TEST PITTING OF THE PAY GRAVEL IN THE **'HEITMAN BENCH', "A", "B", & "C"** SECTORS, CULMINATING IN THE DECISION TO COMMENCE **"PHASE TWO"**, COMPRISED OF BULK EXTRACTION OF PRECIOUS METALS, MAINLY PLACER GOLD, FROM THE DEPOSIT OF COARSE BOULDER GRAVEL, EXPECTED TO BE COMMERCIALLY-INTERESTING IN ALL THREE SECTORS.

IT IS ANTICIPATED THAT THE **"PHASE ONE"** PROGRAM, BUDGETED AT **$150,000.**, WILL INDICATE THE PRUDENCE OF CONTINUING WITH **"PHASE TWO"**, ESTIMATED TO COST **$310,000.**, THE PLACER GOLD PROCEEDS OF WHICH SHOULD SERVE TO REPLACE A SIZEABLE PORTION OF THE BUDGETED EXPENSES.

INTRODUCTION

The present report serves to summarize the information at hand todate, while providing a concise rendition of the recommendations included in a recent report by the writer to Goldorex Minerals Inc. (von Rosen, December 19, 1988)

The undersigned has gained comprehensive personal knowledge of portions of the subject property while providing engineering supervision of a test pitting program of the "Heitman Bench", carried out during the period of September-October, 1987.

The abovementioned report described this work, gave the method and results in detail, and, based on the favourable outcome of the tests, included recommendations for a bulk sampling program. This information is reiterated in the subject report.

PLACER CLAIMS

CLAIM NAME	GRANT NO	ANNIVERSARY
Hugo No: 1-3 Cr. Cls.	P2954-P2956	Sept. 3, 1988
Ken Creek Claim	P15740	Oct. 15, 1988
Estelita Creek Claim	P15741	Oct. 15, 1988
Frank Creek Claim	P15742	Oct. 15, 1988
Christina Bench Claim	P15131	Sept. 3, 1988
Pete No: 1-4 Cr. Cls.	P2830-P2833	Sept. 3, 1988
Creek Claims No: 1-2	P15498-P15499	Aug. 9, 1988
Fische #2 Creek Claim	P2106	Sept. 3, 1988
Casten Creek Claim	P15934	Sept. 18, 1988

The claims are recorded in the Mayo Mining District at the Mayo, Yukon Territory, Mining Recorder's office of the Department of Northern Affairs and National Resources.

They lie within map number 115P9E of the National Topographic System. The Hugo, Ken, Estelita, Frank, and Christina claims occur near McIntyre creek near its confluence with Minto creek. The Pete, Fische, Casten, and Creek claims lie on Minto creek.

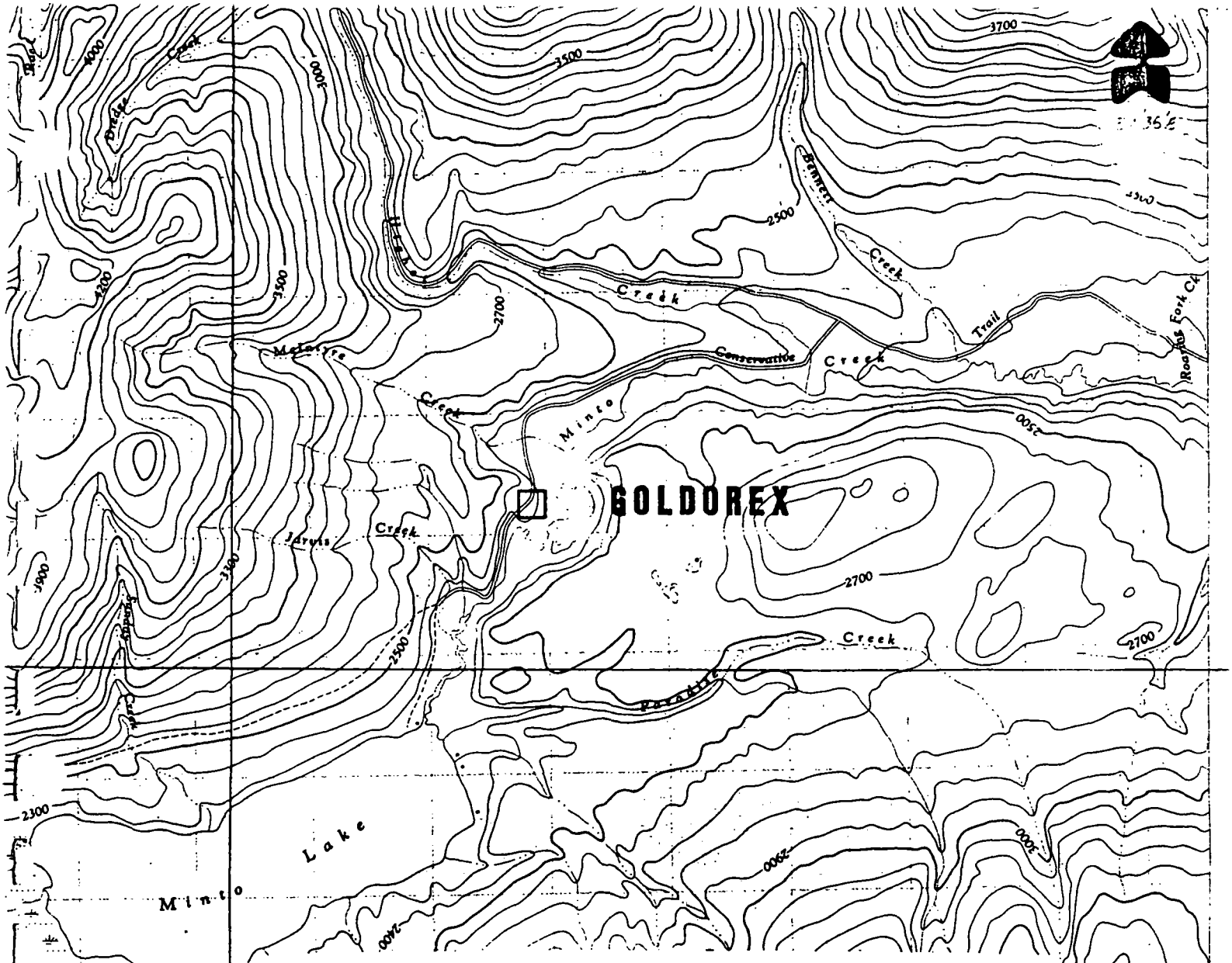
Considerations regarding the surveys, ownership, and contractual relationships, with respect to the claim holdings, lie beyond the scope of this report.

LOCATION & ACCESS

63°43'N 136°07'W 115P9E

The property is easily accessible from Mayo, Y.T. by traveling northward along the Mayo-Elsa-Keno two lane gravel highway, a distance of 11.5 miles to the Minto junction. Then following the dirt road westward, a distance of 9.3 miles, to the Highet junction. Taking the left fork, a distance of 2.2 miles to the property along the Minto creek road until the workings are reached.

Mayo, Y.T. lies about central to the Yukon Territory. It can be reached via the Klondike highway from Whitehorse, Y.T., which is on the Alaska highway. Mayo has an airport with scheduled flights.



SCALE 1:50,000 ÉCHELLE

Miles 1 0 1 2 3 Miles

Metres 1000 500 0 1000 2000 3000 4000 Mètres

Yards 1000 500 0 1000 2000 3000 4000 Verges

CONTOUR INTERVAL 100 FEET
Elevations in Feet above Mean Sea Level
North American Datum 1927
Transverse Mercator Projection

EQUIDISTANCE DES COURBES: 100 PIEDS
Élévations en pieds au-dessus du niveau moyen de la mer
Réseau géodésique nord-américain unifié (1927)
Projection transverse de Mercator

FIGURE B

MINTO LAKE GOLD PLACERS
PROPERTY LOCATION MAP
Mayo, Yukon Territory
115P9E
Mayo Mining Division

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PHYSIOGRAPHY, VEGETATION & CLIMATE

Minto creek, as it empties out of Minto lake (2200'ASL), resembles a brook meandering in the valley extension of the lake along the sides of which several benches remain at different levels, signifying higher detrital terraces.

In several locations there are constrictions in the valley, where apparently bedrock spurs, draped with detrital deposits, have caused the water flow to detour around them.

Most of the terrain is covered by conifers interspersed with aspen and other deciduous trees.

The work area, in question, has reportedly been stripped of vegetation since the writer's visit to the property, in readiness for next season's operation.

Permafrost occurs in those areas that are sheltered from the sun, and where muskeg provides insulation. Stripping of this overburden material from the working area during one season generally causes thawing of this layer, in preparation for the next working period.

During the freezing weather which set in after the subject test pitting program, Mr. Frank Erl organized the stripping operations whereby the organic layer covering the Heitman bench was removed. This fact, along with early snow removal, should allow for an earlier start of the recommended bulk sample program next spring.

The extremely cold weather is to be expected at this latitude during the winter months, when some snow fall provides the necessary runoff in the spring. Summer months are warm, and generally dry.

The placer operating season can be expected to last about 120 days, from around May 15th to September 15th. Operations can actually start earlier if the insulating muskeg and overburden has been stripped in the previous season, and also when snow is ploughed off the workings in the spring.

The working season can, of course, extend further into the fall, as for example this year, when working conditions were excellent at the beginning of October. The effective season was therefore extended to about 150 days.

Commencement of the 1988 field season should be planned with an earlier starting date due to the preparations that have already been made.

LOCAL AMENITIES

Descriptions of various items of equipment, and similar amenities related to placer operations, utilized during the subject sampling operation, follow. It is assumed that some of these considerations would apply to future operations, as well.

BUILDINGS

A useable cabin exists on the tailings area.

MACHINERY

A two-hopper, hydraulic grizzly, combination screen deck, with a conveyor feeding system, was utilized to supply the AEC999. (An innovative live-belt concentrator, capable of winning heavy-metal concentrates from sand at a throughput rate of one cubic yard per minute).

POWER SOURCE

Power for a larger operation needs to be supplied by generators, although the existing sampling plant does include a diesel generation set suitable for batch sampling operations.

EQUIPMENT

A Cat 950 rubber-tired loader was also available, although this item needs to be replaced with more up-to-date equipment when bulk sampling operation are envisaged.

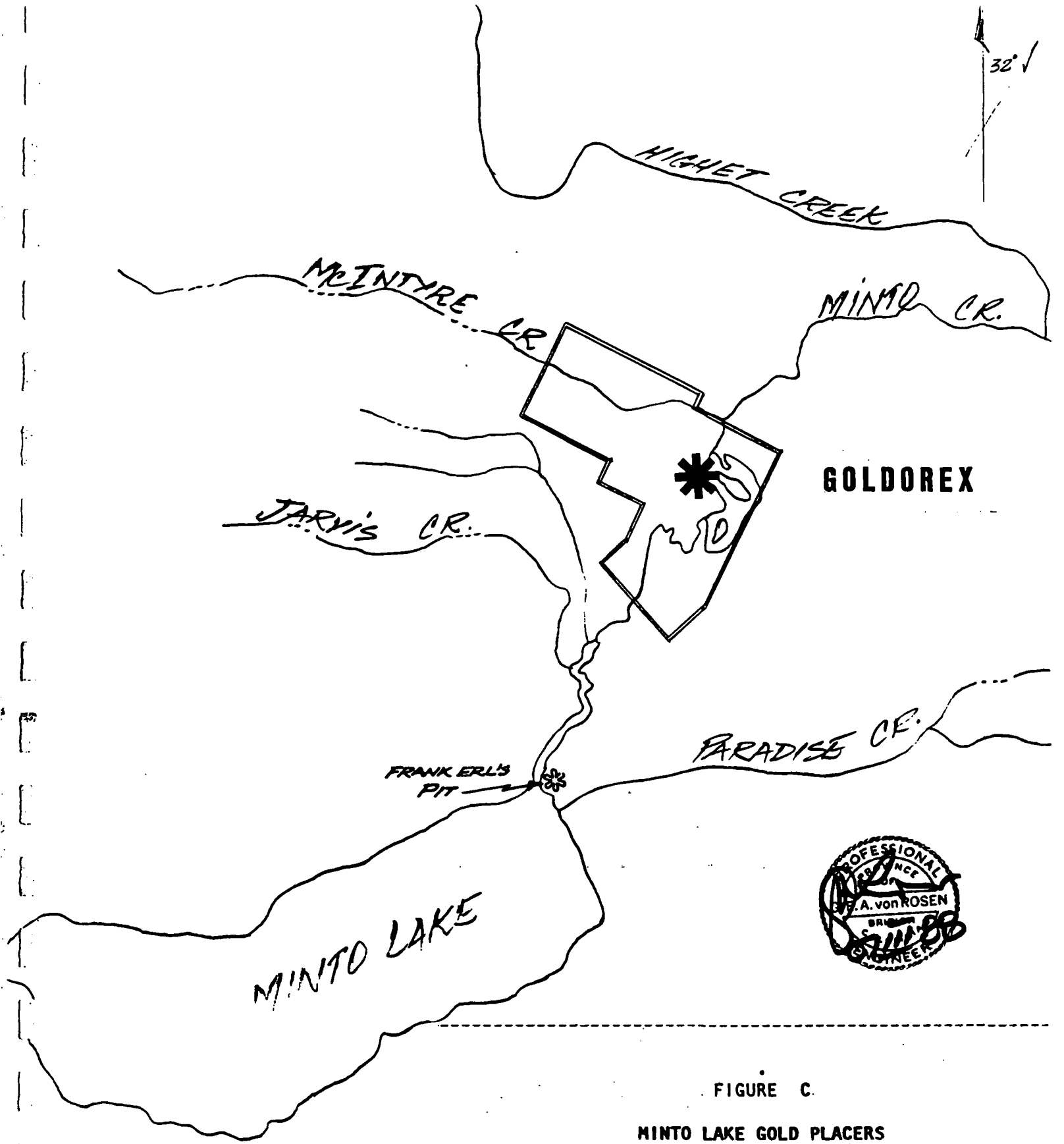

FIGURE C.

MINTO LAKE GOLD PLACERS
CLAIM MAP
Mayo, Yukon Territory
115P9E
Mayo Mining Division

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WATER

Water supply is available from a nearby pond which is fed by Minto creek. Another source, supplying gravity fed water, is being upgraded along McIntyre creek.

WORK SPACE

Plenty of disposal area for tailings and for sediment ponds is available. Two settling ponds, remaining from previous operations, may, if warranted, actually be updated with very little preparatory work.

ENVIRONMENTAL CONSIDERATIONS

It appears likely that water sufficient for next year's bulk sampling operation will be available either from pump extraction of the plentiful ground water of the Minto creek valley, or by gravity from an earth-filled dam on McIntyre creek.

As there are several natural catchment areas available in the near vicinity, there should be no difficulty in the construction of suitable filtering banks surrounding tailings and sediment ponds, which are expected to provide water reclamation in accordance with the regulations.

HISTORY

1903

The earliest historic mention of work in the immediate area is recorded by Keele (1906). The Minto creek area was first staked in the spring of 1906 after fine-grained gold was found on the valley bottom bars within a narrow section of the valley, about one mile below Minto lake.

Winrows of boulders extricated from coarse gravel beds lying at varying elevations, remain as signs of the old timers explorations, and some of these may date back to these times.

1903 - 1904

The bars and flood plains at, or a short distance above Minto creek were worked by sluicing. Water was supplied from McIntyre creek. Testing was done to about 8 feet.

Keele (1905) reports that some shafts were sunk in the Minto creek valley bottom to as much as 100 foot depths, without hitting bedrock.

Robinson (1981) quotes Keele (1905) when he states that "...During 1903 and 1904 the "bars" or "flood plains" at or a short distance above the level of upper Minto creek were worked through sluicing with water supplied from McIntyre creek. Testing is said to have been done to depths "of about eight feet" with yields of "three to five cents to the pan". On the whole, those figures seem exceptionally high. At 140 pans per cubic yard, the figures given, calculate to $4.20 to $7.00/ cubic yard with gold then at about $20.00/Troy ounce. Under $600.00/Troy ounce gold ((approximately the price used in the subject report)) the values stated are on the order of C$125.00 to C$200/cubic yard..."

1916

Cairnes (1916) reported that hydraulic mining operations had been active during the past few years.

At McIntyre creek, as well as at Jarvis creek (closer to Minto lake) white cliffs can be seen standing as remnants of the hydraulic miners' work who fetched water via flumes and ditches, with

an aggregate length of about eight and one quarter miles from McIntyre, McLagan, and Turnip creeks, in order to mine the auriferous layers known to be included in some of the present cliff exposures. The resultant hydraulic tailings fans can still be noted to this day.

Cairnes notes a 20 foot thick bed of gravel which was considered to be pay in 1915.

1965

Mr. Frank Erl, shift boss at Keno Hill mines, explored and staked parts of the Minto lake and creek area. He also upgraded the Conservative trail to an access road. He worked a low bench containing coarse boulder gravels near the exit of Minto creek from the lake, using sluicing methods. Having experienced problems in retaining the flakey gold in the sluice box, he employed a jig in the system. The black sands thus retained contained gold upon amalgamation.

1968-1972

Mssrs. Gus Heitman and Walter Hinnek worked some of the upper bench (present area of interest) utilizing a belly scraper and a sluice box. An estimated 1,000 cubic yards of coarse gravels appear to have constituted the production.

Some of the operational problems included the reported inability of the machine to pick up the boulder gravels, while the large amount of water washing the material down a steeply inclined 3 foot sluice box did not improve the recovery of the flakey and fine grained gold comprising the pay in the deposit.

A further reason for the apparently-inadequate production profits may be the possibility, as suggested by the subject test results, that that portion of the bench (approximately: area "B") includes placer gold grades lower than those found near the northern sector of the bench (area: "A").

1972

Mr. Fred Schomig staked some of the northeast portion of the Heitman bench, as well as lower bench gravels to the north. He reportedly recovered 12 ounces of crude placer gold from about 700 cubic yards of coarse gravels processed at, or near creek level. (approximately C$10.00/bankrun cubic yard)

1979

Wild Boar Enterprises Ltd. and Mr. Fred Schomig coalesced their properties and the latter operated for the group during part of the 1980 season.

1980

Wild Boar Enterprises Ltd. mined the coarse gravels of the Heitman bench and processed the material through Gold Dust Minerals' "Millspex" - type centrifugal drum concentrator. An undefined quantity of material was processed to produce the approximately 150 ounces of crude placer gold which were reportedly recovered.

The operations commenced in July and ended about September 20th, the same year.

1981

The 1981 operation began in June and was stopped in early August due to lack of operating capital. The gold price had plunged from the previous year's high of about US$800 per ounce to the US$300 level, making previously interested investors withdraw their interest.

The combined production for both years is reported to have been about 18,000 cubic yards of material, producing around 365 refined ounces of gold. A reconnaissance of the tailings area shows a tailings volume ranging from 18,000 to 21,000 cubic yards. The gold value per bankrun cubic yard, therefore, calculates out (same parameters as elsewhere in this report) at around C$12.

1987

Mr. Rolf Harms, of Goldorex Minerals Inc., established a sampling plant, utilizing the AEC999 on the lower Schomig bench, for the main purpose of carrying out a pit-sampling program of the property.

During the period before the writer arrived to conduct the sampling program, while setting up and streamlining the testing plant, Mr. Harms processed a volume of about 150 cubic yards of head feed, resulting in a dore gold recovery of 68 grams. The gold value, likewise per bankrun cubic yard, therefore, calculates out (same parameters) at around C$8.

In addition to, and following the test program, a further approximate volume of 33 cubic yards of gravel, obtained from various sites on the property, were run through the system and about 36 grams of dore gold was therefrom obtained. This calculates out to around C$20/bankrun cubic yard. Source material was selected from the richer gravel deposits, defined by the subject test pitting program as being the grey, coarse boulder, gravels. This work was performed after the writer had left the property.

The writer personally carried out and supervised a 34-pit sample program. The sample sites were laid out in such a manner that an approximate grid spacing of 200 feet was approached for the distance between holes.

Gold extracted from about 32 bankrun cubic yards, obtained solely from eight pits within the northern portion of the bench (area "A"), weighed 19.8 grams of dore. Calculated back this is about C$11/bankrun cubic yard.

The program will be described further on in the subject report.

Considerable work with a D8 dozer was carried out after the subject pit sampling operations were terminated due to inclement weather. The Heitman bench was totally stripped of vegetation and other cover. This clearing commences at the Minto lake road and places the lower half of the bench in readiness for further definitive work, planned for the spring of 1988.

A road has also been rehabilitated leading up the south slope of McIntyre creek valley, to the old hydraulic workings. In digging for proper gravels to use for the construction of a dam across McIntyre (to be utilized as the source of next year's gravity water supply) a layer of coarse gravels was discovered. No testing was done due to the cold weather conditions, however, as such coarse gravels are held to be signs for the discovery of placer gold, this is an interesting development, representing a prime target to be explored during the coming season.

The writer prepared a progress report, dated December 08, 1987, in which the 1987 test work was described in detail.

LOCAL GEOLOGY

Glaciation has played a major role in the positioning of the auriferous detrital deposits of the Mayo placer mining area.

BEDROCK

Bedrock exposures were observed by the writer to consist of phyllitic schist at several localities.

At least three pits bottomed in this type of bedrock material.

COARSE BOULDER GRAVEL: HEITMAN BENCH

Sediments deposited upon bedrock comprised of phyllitic schists within the area of study, consisted of coarse boulder gravels (considered to be the "pay" gravels in the area), on the upper surface of the Heitman bench, while more finer-grained sands and gravels constitute most of the sedimentary section to be encountered at the abrupt drop-off, near the edge of the bench. Indeed, it appears as though a sequence of deposition has draped gravels over a bedrock knoll, providing very little top cover (as this consists mainly of boulder gravel), while the sides of the bench consist of several tens of feet of bedded sands and gravels.

This material consists of well-washed, poorly sorted coarse sand, intermixed with pebbles,

cobbles, and boulders ranging in size to over two feet in diameter. The polished round boulders may originate in an area farther east of this vicinity, as the local rocks appear to be mostly schists.

A very evident positive aspect of these gravel deposits is that they appear to be devoid of fine silt and clay, thereby alleviating the problem of scrubbing of the headfeed, and silting of the tailings area.

FLOW DIRECTION

The imbricate structure in the smaller-sized gravels indicate a south- west-ward direction of water flow.

OVERBURDEN

A veneer of some finer grained gravels overlie the boulder gravels in the sequence at Heitman bench. Overlying these is an 'overburden' layer consisting of 'dirty' buff-coloured sands and silts, which appear to gain in thickness towards the west, starting approximately at the Minto lake road. At the base of the hill to the west these may accrue to 10 or 20 feet in thickness. It is highly possible that the coarse boulder gravels still underlie this material near the base of the hill.

COARSE BOULDER GRAVELS

Similar coarse, grey gravels were excavated at the water pit on the Schomig bench level.

Other cobble, and boulder gravel layers are said to occur at intervals at higher levels within the sedimentary sequence comprising the hills to the west.

MCINTYRE CREEK

HYDRAULIC SHOWINGS

The buff-coloured scars of the oldtimer's hydraulic operations can be seen on the southern side, right side, of McIntyre creek, about 1/2 mile upstream from the Minto lake road. The sedimentary section here looks similar to that of the hydraulic workings near Jarvis creek, closer to Minto lake. It consists of silt, sand mixtures, which are interbedded with gravel.

A boulder layer, consisting of large boulders, reportedly up to 4 feet in diameter, has been uncovered at the base of this section. It is plausible that the old timers were attempting to cut down into this deposit by using the hydraulic methods employed elsewhere in the region. Coarse boulder gravels, in the general area of Minto lake, are historically good indicators of placer gold deposition, hence this discovery is a potentially important one.

TEST PIT SAMPLING PROGRAM

A sampling program, consisting of test pitting and analysis of the excavated samples for gold, was carried out during the fall of 1987 over the "Heitman Bench", which consists of a near-surface layer of auriferous 'coarse boulder gravels'.

The test pits were made by a 960 F.E. loader to a nominal depth of ten feet. The pits were spaced at about 250 foot spacings.

The samples, which consisted of 'pay gravel', where possible, had a volume of about four bank-run cubic yards.

The samples were concentrated on a 'live belt concentrator', termed the "ORLON AEC999". The concentrates were tabled in Vancouver. The table 'supercons' were screened to capture +12 mesh gold flakes (which were collected by hand picking), the remainder was subjected to amalgamation. After acidizing, the gold was cupelled, and the dore gold bead weighed.

The combined weights of particle gold plus dore gold were used in calculating the gold value per unit in-situ cubic yard.

RESULTS OF PLACER TESTING PROGRAM

The presentation of the results of the testing program, depicted on table #1, shows the total weight of gold obtained for each sample, for two categories, based on the screen size of the gold particles. Those remaining on an approximately 12 mesh screen were hand picked and weighed; those passing through the screen were amalgamated and collected in a dore button.

The weight of both, the flakes and the button, are shown, in addition to the total weight of placer gold retained during the process of concentration.

The following points were considered when the in-situ (bank run) volume, shown, of retained gold was calculated: (1) a swell factor of 120%, and (2) a fineness factor of 82%. The only other factor applied was when the front end loader buckets were considered to be less than 'struck full'. No efficiency factor was introduced to reflect the gold losses.

The price of gold is here taken at US$450/fine troy ounce; the currency exchange rate is taken at US$1.00=C$1.30.

The values extracted from the samples, after taking the correction factors into consideration, ranged between about C$4 and C$15 of fine gold per 'bank run' cubic yard, for the coarse, grey, boulder gravels. These are considered to be the 'pay gravels'.

Similarly, the extracted values for the overlying materials ranged from less than one dollar to around C$2 per 'bank run' cubic yard. For those materials below the pay gravels, gravels showed comparable values, but several samples, from the lower cliff face, gave values between C$2 abd C$3.

Table 2 is a presentation of all evaluations, available to the writer, made on materials obtained from the various zones of the Heitman bench and surroundings. It includes some large volume extractions, as well as pan sample results.

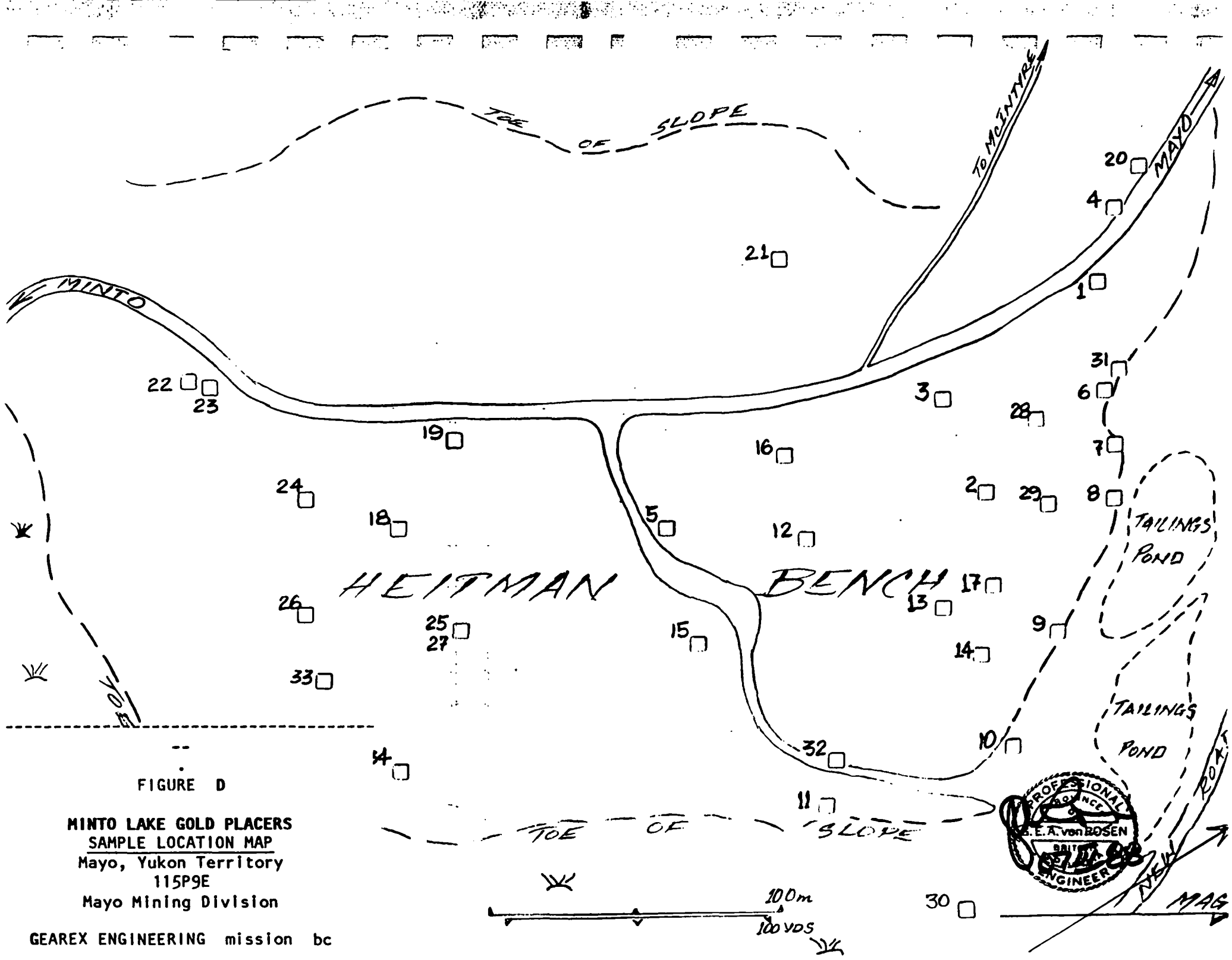

FIGURE D

MINTO LAKE GOLD PLACERS
SAMPLE LOCATION MAP
Mayo, Yukon Territory
115P9E
Mayo Mining Division

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TABLE 1

RESULTS OF PIT TESTING PROGRAM

Sample #	AREA	Particle Weight grams	Bead Weight grams	Total Dore grams	Volume cuyds	Grade C$/yd
1	A	0.260	1.669	1.929	4	7.44
2	A	0.527	1.711	2.238	4	8.63
3	A	0.875	3.098	3.973	4	15.32
4	A	0.162	1.601	1.763	4	6.79
5	A	0.499	1.822	2.321	4	8.95
6	I	0.098	0.652	0.750	4	2.89
7	I	0.000	0.050	0.550	4	2.35
8	I	0.070	0.665	0.735	4	2.83
9	I	0.092	0.402	0.494	4	1.91
10	I	0.019	0.193	0.212	4	0.81
11	J	0.058	2.417	2.475	4	9.55
12	A	0.465	2.785	3.250	4	12.53
13	A	0.313	2.651	2.964	4	11.43
14	I	0.028	0.587	0.615	4	2.37
15	B	0.053	0.211	0.264	3	1.36
16	A	0.545	1.006	1.551	4	5.98
17	I	0.068	0.172	0.240	4	0.93
18	B	0.427	0.599	1.026	4	3.95
19	B	0.137	0.793	0.930	3.5	4.09
20	A	0.085	0.718	0.803	4	3.10
21	C	0.187	0.277	0.464	4	1.79
22	B	0.661	0.594	1.255	4	4.84
23	F	0.052	0.658	0.710	4	2.75
24	B	0.394	0.719	1.113	4	4.29
25	H	0.029	0.209	0.238	3.5	1.05
26	L	0.000	0.162	0.162	4	0.62
27	H	FA	FA	0.099	4	0.39
28	I	FA	FA	0.170	4	0.66
29	I	0.000	0.084	0.084	4	0.32
30	J	0.099	0.876	0.975	4	3.76
31	I	0.000	0.093	0.093	4	0.36
32	I	0.047	0.559	0.606	4	2.34
33	H	0.000	0.586	0.586	4	2.26
34	K	0.044	0.259	0.303	4	1.16

NOTES:

Sample Number: chronologic order of pit samples
Area: sector of Heitman bench.
Particle Weight: particles larger than passing through 12 mesh were manually separated, counted and weighed.
Bead Weight: the dore bead cupelled from the amalgam was weighed.
Total Dore: particle weight + bead weight. (about 82% gold)
Volume: bankrun volume after considerations like, swell factor (120%), etc. were applied.
Grade: Canadian dollars of fine gold per bankrun cubic yard.
Parameters used were: price of pure gold = US$450 per troy ounce; US$1.00=C$1.30; 1 troy ounce = 31.103 grams; the fine-ness of this placer gold (dore gold) is about 820 (82% pure).

TABLE 2

SUMMARY TABLE OF GOLD ANALYSES

Sample	Area	Description	Sample Size (cuyd)	C$/cuyd
0632	HeitA	Top-old road cut	-1	5.00
GX01	HeitA	Pit-coarse gravel	4	7.44
GX02	HeitA	Pit-coarse gravel	4	8.63
GX03	HeitA	Pit-coarse gravel	4	15.32
GX04	HeitA	Pit-coarse gravel	4	6.79
GX05	HeitA	Pit-coarse gravel	4	8.95
GX12	HeitA	Pit-coarse gravel	4	12.53
GX13	HeitA	Pit-coarse gravel	4	11.43
GX16	HeitA	Pit-coarse gravel	4	5.98
GX20	HeitA	Pit-coarse gravel	4	3.10
BULK	HeitA	18,000 cuyd/365tr.oz.	18,000	12.00
BULK	HeitA	150 cuyd/68g.dore	150	8.00
BULK	HeitA	33 cuyd/36g.dore	33	20.00
TEST	HeitA	32 cuyd/19.8g.dore	32	11.00
0628	HeitB	Wall-long cut	-1	0.25
GX15	HeitH	Pit-coarse gravel?	3	1.36
GX18	HeitB	Pit-coarse gravel	4	3.95
GX19	HeitB	Pit-coarse gravel	3.5	4.09
GX22	HeitB	Pit-coarse gravel	4	4.84
GX23	HeitF	Pit-finer gravel	4	2.75
GX24	HeitB	Pit-coarse gravel	4	4.29
0640	HeitD	Bank cut	-1	2.53
GX21	HeitC	Pit-coarse gravel?	4	1.79
GX25	HeitH	Pit-finer gravel	3.5	1.05
GX27	HeitH	Pit-finer gravel	4	0.39
0626	HeitH	Pit dump	-1	0.22
0627	HeitH	Fines bench cut	-1	0.24
GX06	HeitI	Pit-finer gravel	4	2.89
GX07	HeitI	Pit-finer gravel	4	2.35
GX08	HeitI	Pit-finer gravel	4	2.83
GX09	HeitI	Pit-finer gravel	4	1.91
GX10	HeitI	Pit-finer gravel	4	0.81
GX14	HeitI	Pit-finer gravel	4	2.37
GX17	HeitI	Pit-finer gravel	4	0.93
GX28	HeitI	Pit-finer gravel	4	0.66
GX29	HeitI	Pit-finer gravel	4	0.32
GX31	HeitI	Pit-finer gravel	4	0.36
GX32	HeitI	Pit-finer gravel	4	2.34
0633	SchoJ	Road cut-opp.sluice	-1	2.78
0634	SchoJ	Back of cut	-1	56.66
0635	SchoJ	Cut-wall layer	-1	0.24
0636	SchoJ	Base of cut	-1	0.71
0637	SchoJ	Cut-boulder layer	-1	0.71
0638	SchoJ	Internal road cut	-1	39.01
0639	SchoJ	Internal road cut	-1	-
GX11	SchoJ	Pit cut into base of slope	4	9.55
GX30	SchoJ	Bottom of water supply pond	4	3.76
GX34	HeitK	Pit-finer gravel	4	1.16
0629	HeitL	Fines above bedrock	-1	0.17
0630	HeitL	Southwest excavation	-1	1.07
0631	HeitL	Fines on bedrock	-1	0.34
GX26	HeitL	Pit-in phyllite bedrock	4	0.62
GX33	HeitL	Pit-finer gravel	4	2.26

NOTES: GX=Gearex, Schom=Schomig, Heit=Heitman, A=area A, C$/cuyd at C$585fine bankrun; the tabulation, shown above, combines the writer's observations with values shown on table 4, page 10 (Robinson, 1981)

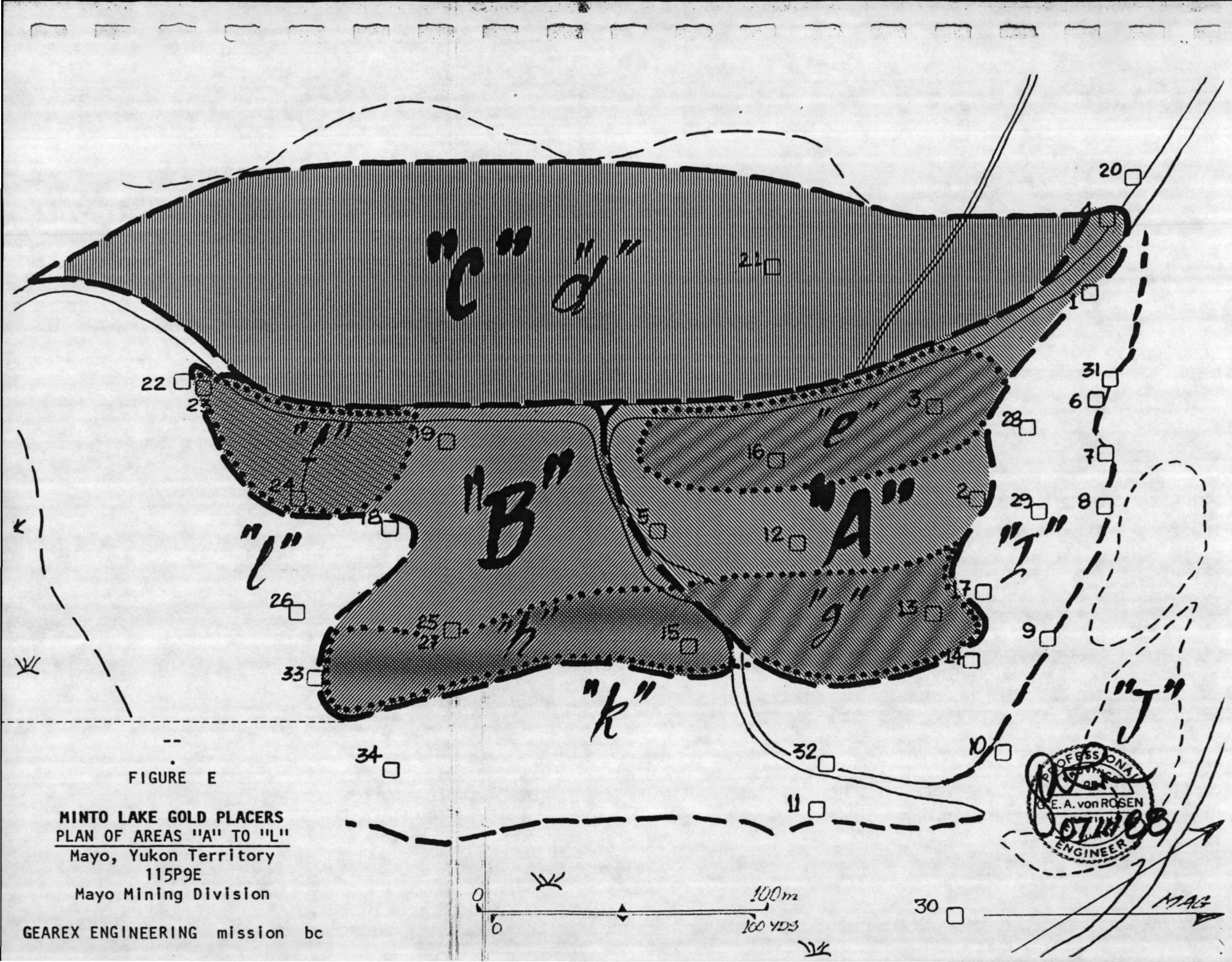


FIGURE E

MINTO LAKE GOLD PLACERS
PLAN OF AREAS "A" TO "L"
Mayo, Yukon Territory
115P9E
Mayo Mining Division

GEAREX ENGINEERING mission bc

VOLUME & GRADE OF AURIFEROUS GRAVELS

Table #3 exhibits the area/volume/grade measurements obtained by compiling the pit testing results with a string/compass survey of the Heitman bench.

The 'pay gravels', for the purpose at hand, are to be found with high certainty within areas "A" and "B", and with less certainty within area "C". Overburdened areas are designated "D", "E", "F", "G".

The thickness of the 'pay gravels' are judged to be approaching 15 feet.

At a nominal depth of 10 feet for the coarse, grey, boulder (pay) gravel, the available volume is about 42,300 cubic yards for area "A", and the same for area "B".

The west half of the Heitman bench ("C/D"), still basically unexplored, has the potential of doubling the volume of 'pay gravels' in this proximate zone.

A summation of the evaluation follows:

TABLE 3
VOLUME/VALUE: AURIFEROUS GRAVELS

SECTOR		"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"
AREA	(yd2)	14,112	14,112	251,160	251,160	4,784	2,751	4,306	4,425
DEPTH	(yd)	3.3	3.3	?	?	2.0	2.0	3.0	3.0
VOLUME	(yd3)	46,572	46,572	?	?	9,568	5,502	12,917	13,276
GRADE	(C$/yd3)	9.62	4.46	?	?	2.00	2.00	2.00	2.00
VALUE		C$448,000	207,700	?	?	19,100	11,000	25,800	26,500

NOTE FACTORS USED: fine gold at US$450, US$1=C$1.30; 1 gram dore = 0.8 gram fine; 1 cubic yard, bankrun = 1.20 cubic yard, loose.

The area investigated during the subject operation comprises about 100,000 square yards. The total area claimed (14 creek claims; one bench claim) encompasses about 1.6 million square yards.

ECONOMICS: ORE/WASTE EQUATION

Although some of the parameters, needed to prepare a complete ore/waste equation, are not available at this stage of exploration, it is still possible to offer a pro forma estimate of the outcome if the bulk extraction were carried out.

TABLE 4

PRO FORMA PROFIT ANALYSIS

SECTOR	AREA	VOLUME	GRADE	VALUE
"A" "ORE"	14,100	46,600	(+) C$9.62	C$448,000
"E" "WASTE"	4,800	9,600	(-) C$1.00	C$ 9,600
"G" "WASTE"	4,300	12,900	(-) C$1.00	C$ 12,900
"E + G"	9,100	22,500	(-) C$1.00	C$ 22,500
"A-(E+G)"	5,000			C$ 425,500
"A" SCREENING (5:1)		46,600	(-) C$2.00	C$ 93,200
"A" CONCENTRATING		9,300	(-) C$5.00	C$ 46,600
"A" SUNDRY		46,600	(-) C$1.00	C$ 46,600
"A" DIRECT COSTS				C$ 186,000
"A" BALANCE		NIL		(+) C$ 239,500

"B" "ORE"	14,100	46,600	(+) C$4.46	C$ 207,700
"F" "WASTE"	2,800	5,500	(-) C$1.00	C$ 5,500
"H" "WASTE"	4,400	13,300	(-) C$1.00	C$ 13,300
"F + H"	7,200	18,800	(-) C$1.00	C$ 18,800
"B-(F+H)"	6,900	27,800		C$ 188,900
"B" SCREENING (5:1)		46,600	(-) C$2.00	C$ 93,200
"B" CONCENTRATING		9,300	(-) C$5.00	C$ 46,600
"B" SUNDRY		46,600	(-) C$1.00	C$ 46,600
"B" DIRECT COSTS				C$ 186,000
"B" BALANCE		NIL		(+) C$ 2,900

DISCUSSION

Several points should be discussed relative the merits of the property. They are as follows:

A) The subject test pitting program focussed entirely on testing the coarse, grey, boulder-gravel layer found on the Heitman bench, for the purpose of providing indications of the placer gold values, reported therein, by previous operators, as for example:

1) The 1980-1981 operation processed approximately 20,000 cubic yards of gravel from the northern portion of the same bench, selling 365 ounces of fine gold. This calculates at about C$12/bank run cubic yard (using the subject-report conversion factors).

2) The 1987 batch sampling operation, as reported by Mr. Harms, returned about 68 grams of dore gold from 150 cubic yards, obtained from mainly the northern portion of the bench. This calculates at about C$8/bank run cubic yard.

3) The 1987 pit testing program, supervised by the writer, focussed on defining the grade and volume of the Heitman bench deposit. Its results highlighted the northern portion of the 'pay gravel' deposit, which averaged about C$9, while also indicating an adjoining sector, to the south, that averages about C$4/bank run cubic yard.

4) The second 1987 batch run, as reported by Mr. Harms, returned about 36 grams of dore gold from 33 cubic yards, obtained mostly from the better sites as reported from the test pit results. This calculates at C$20/bank run cubic yard.

It is probable that more gold is captured during the process of bulk sampling and carrying out actual production runs, than that collected during a test pit sampling operation. Hence, the writer's values may be conservative.

B) Alluvial materials above this 'pay' gravel, as well as beneath it, were also tested in order to explore the possibility of mining the total height of the bench.

C) A distinct drawback of the subject testing program was the inability to sample the total section of 'pay gravel' in one pass. A large backhoe, necessary for such an arrangement, was not available. The next year's recommended 'bulk sample' program will be able to overcome several problems encountered during the subject test program by:

1) excavating the 'pay zone' to its full vertical extent, and by:

2) increasing the efficiency of the operation by treating much greater volumes of material per sample (bulk sampling.)

The Heitman bench could supply head feed from a height of about 60 feet above the level of the valley bottom. The 'pay gravels', however, comprise a layer of about 15 feet, covering the top of the bench.

D) The results of the project indicate that adequate grades of placer gold exist, within the 'pay gravels', to provide enough incentive to support the recommendation for further work on the property.

E) The 'pay gravels' in question, specifically those on the 'Heitman bench', have the following positive attributes:

1) They are clean-washing; i.e. low sliming/silting factor.

2) Medium- to fine-grained gold has been documented to occur within the 'pay gravels', ranging in grade from around C$4 to C$15 per bankrun cubic yard, in both overburden and non-cover areas, with estimated depths from a few feet to possibly 15 feet.

The very approximate total of contained placer gold within the Heitman bench (A+B) has a present in-situ value of around $650,000.

3) "Overburden" contains gold, as well. The decision of the overburden economics needs to be made at a future date.

4) Accessibility to the property is ideal. No roads need to be built for access.

5) Water exists nearby. Stored, gravity-water may be available from McIntyre creek. Water from Minto creek can be pumped.

6) Environmental considerations have not shown any causes detrimental to a placer operation. The area to be tested has already been stripped, ready for excavation. The tailings ponds, used in previous operations, are still in existence.

7) A future operation needs only a camp, a power generation system, a screening plant, a fine-grained gold concentrator, rolling stock, ancillary equipment, etc., and labour, to start a bulk sampling program. The writer has been advised, by the management of your company that the AEC999 is available for next season's operation. The writer is familiar with this device, and expects it to be a most-suitable adjunct to the flow sheet.

F) These encouraging results together with the ideal layout of the situation, provide sufficient incentive for further work, the recommendations for which, to be detailed later.

G) As previously mentioned, the 'Heitman bench', with its documented gold occurrence within the 'pay gravels', represents a prime target for development. A program of bulk testing of these gravels, as well as of any other deposits that appear of interest in the vicinity, will indicate the actual tenor of the 'pay', as well as providing grade indications of prospective deposits, in a more definitive manner than small batch, test pit determinations, herein described. Test pitting is still a viable method, and suggested for use on some portions of this property.

H) The volume of the 'pay' gravels, as defined by the 'Heitman bench' is admittedly small, however, the simple logistics of mining and treatment of this gravel layer, in addition to the indicated gold values therein contained (the subject report indicates that the gold content of areas "A" + "B" could range around C$655,000.), make this an ideal situation for a season's bulk processing program which promises the return on some, if not all, of the investment.

This gold is contained in a near-surface gravel deposit, (but mining and stripping costs need, of course, to be considered), provide the possibility of recapturing a sizeable portion of the venture capital necessary to fund next season's explorations.

Perusal of Table #3 will show that of the two 'pay gravel' blocks, Area "A" and "B", Area "A" is certainly the one to start bulk extraction from, once a closer approximation of the tenor is established by further bulk testing.

I) The total area explored in the subject project measured about 100,000 square yards. As the fifteen claims, in question, comprise a total area of around 1.6 million square yards, it is evident that there is ample room for further explorations.

As only a small portion of the claimed area has been prospected with modern-day mechanical equipment, one can surmise that the placer gold production potential of the area has not, as yet, been exhausted.

J) Complementary to the foregoing is the following information which was reported to the undersigned by Mr. Frank Erl, who supervised the bulldozer work (carried out subsequent to the writer's stay at the property): after freeze- up, during the recent stripping operation at the Heitman bench, the dozer worked on the dam some distance up McIntyre creek. An exposure of coarse boulder gravel was discovered. The news of this discovery is certainly interesting, and provides a prime target for exploration which could be undertaken as an adjunct to the planned bulk sample program of the known gravels.

K) There are several other areas within the claimed area, that have, as yet, not been explored. As the flow direction of the streams depositing many of the gravel beds, investigated in the pits, appears to be in the southwestern direction, it would seem interesting to explore those areas 'upstream' of the Heitman bench. This possibility is further enhanced by the knowledge that some of the placer gold is decidedly hackly, suggestive of a short stay in the tumultuous streams which must have moved the gravels.

Similarly, the 'Pete' claims, to the north, have not been studied by the writer, however coarse gravel has been reportedly been discovered by the stripping crew, on a hillock located a short distance to the north of the Schomig bench. It seems reasonable to anticipate this gravel sequence to continue northward at the same elevation. Further exploration is warranted.

CONCLUSIONS

1) Although the results of the subject test pitting program are encouraging, it should be noted that they do not suggest that the reserves are proven. Neither do the grade calculations necessarily reflect the true grade of the deposit. (There is a good chance that the true grade will increase over the figures quoted in this report, this fact, will, however, only be known when the bulk extraction has been completed.)

By the same token, it is evident that the values are attractive, and that the possibility exists that, at the very least, a major portion of the production outlays can be recaptured from the proceeds of the bulk sample production.

As the information on Table #3 suggests, area "A" is the block to start excavating from initially. If the results are better than indicated with the information at hand, then the operation can move into area "B".

2) It was evident from observation of the tabling operation, that a large proportion of fine grained gold was concentrated by the AEC999. With further refinements of the test pit sampling program, it is entirely possible that an even greater amount of this fine grained gold could have been secured.

3) The "pay gravels" of the Heitman bench can be divided into three sections.

i) As shown on Table #3, areas "A" & "B" encompassing the now-stripped bench, east of the Minto lake road, which comprises about 90,000 cubic yards of gravel underlying an area of about 28,000 square yards. The thickness of this bed is expected to reach possibly 15 feet. The average thickness has not been determined. Some sections are covered with low-paying material ($2/yd).

The grade of the gravels (US$450/1.30Can), on the average, may be about C$4.50 per in-situ cubic yard for area "B", and in the area of C$9.50 per in- situ cubic yard for area "A".

Other operations, with a higher throughput of similar gravels, have reported higher gold receipts. It is possible that the grade calculated on the receipts of gold, obtained from a bulk extraction operation, will be found to improve on the pit sample results.

ii) The third area "C", consisting of the adjoining land to the west, with possibly 250,000 square yards of area, may, upon exploration, prove to harbour similar coarse gravels. This possibility needs to be explored by deep-pit trenching.

4) A recently-discovered layer of boulder gravel occurs up McIntyre creek, about 1/2 mile up from the road. This discovery, including the intervening area, needs to be explored, and constitutes one of the primary exploration targets for next season.

5) A small portion of the total claimed area has been explored during the subject sampling program. (About 6%).

RECOMMENDATIONS

GENERAL

Further exploration expenditures are recommended on this property. As the suspected commercial status of the "A" portion of the Heitman bench is as yet, not confirmed, a phased work program is hereby suggested, in which the first phase will focus on substantiating these indicated reserves, while also investigating the "B" and "C" sectors.

In the event that the outcome of the first phase is favourable, a further phase, during which a large portion of the Heitman bench will be excavated and processed for precious metal content, will, hopefully provide a sizeable return of the capital outlays, in the form of retrieved placer gold.

In addition to this (Phase Two) operation, there will be further attention given to the "B" and "C" sectors, the result of which should give reserve indications for those areas of the Heitman bench.

OVERVIEW: PHASE ONE

Work on the property should consist of:

a) bulk sampling of the north end of area "A" of the Heitman bench, focussing on the pay gravels, but including the overburden, and the bench deposit below the pay gravel.

b) in addition to bulk sampling, further test pitting of area "B" of the Heitman bench, including the overburden and the gravels underlying the pay gravel.

c) test pitting of area "C" of the Heitman bench; this again should include the testing of the overburden. Follow-up by bulk sampling.

OVERVIEW: PHASE TWO

Based on results, encouraging further work, the following may be recommended:

a) perform bulk extraction of precious metals from the pay gravels found on the "A" portion of the Heitman bench.

b) continue with testing, if necessary, of the "B" and "C" zones. Such work would include test pitting, bulk sampling, and similar procedures. The decision to expand the bulk extraction operation onto area "B" and/or "C" will be made during this phase. Hence, it is possible that bulk extraction will become a continuous operation progressing from one area to the next, starting with "A" and ending with "C".

It is hereby recommended that this activity can be carried out in a logical manner, somewhat along the following lines:

LOGISTICS: PHASE ONE & TWO

PREAMBLE

The change over from the first phase into the second phase, can in reality occur very smoothly, as the evaluation of both, batch, and bulk samples, can generally be made by performing an on-the-spot qualitative analysis of the black sand concentrates, as they are collected at the end of the AEC999.

It is anticipated that based on the on-site decision of the engineer-in-charge the transition from one phase to the next will occur without disruptive interruption of the operation.

PREPARATION

1) In anticipation of the execution of the following program recommendations, it is adviseable to strip the roads and work areas of snow, in the spring, several weeks in advance of the actual work commencement on the property.

2) Excavation of the 'pay gravels', especially near the north edge of the Heitman bench, area "A", could commence immediately. These same gravels, in other sectors of the bench, are covered with a few, to several feet of overburden which will have to be contended with. Those overburden-covered areas within about 100 yards of the bench edge, could conceivably be stripped by dozing the waste gravels over the edge. This material can be useful as road fill for the construction of the new road which has been started around the base of the Heitman bluff.

The overburden in other areas can be simply be stripped into the mining excavation, as the work-face proceeds.

BULK TESTING

1) A bulk testing program should be undertaken, as soon as practicable, consisting of a wet screening operation, capable of handling up to 60 cubic yards per hour of screened material, feeding onto an AEC999 (the AEC999 has a rated capacity of handling 60+ cubic yards of -1/4" head feed, per hour).

2) In the event that the gold-winnings are of economic interest, the decision can be made, on-site, to excavate and treat the rich gravels on a continuous basis. This scenario is expected to occur on area "A" of the Heitman bench; the commencement of this work would signify the change over into "Phase Two" operations.

3) Certain periods can be set aside for the treatment of batch tests which will be delivered from the outlying exploration programs.

4) At a maximum production rating (Phase Two operations), during a nominal 10 hour shift, about 500 cubic yards of screened material will have been handled. Depending on the screening ratio, this may project to an operation capable of handling about 2,000 cubic yards of bankrun materials per day. It is anticipated, however, that the average production throughput will not reach this amount.

This is not to suggest, therefore, that this (peak) production rating is to be the norm, as there will be periods when actual production will be interrupted due to sample site changes, break downs, etc. As the working quite short (when the days are counted), it is advisable, however, to be able to operate at peak capacity, whenever possible. On the other hand, the fact that the duration of the daylight hours is very long, again serves to 'extend' the working season.

5) This property has been shown to contain commercially-interesting gold concentrations in the smaller gold sizes; a problem for normal-gravity gold concentrators, which, while handling large volumes of feed, must be able to retain the finer gold fractions. The AEC999, used during the subject program, was shown to have retained a portion of this fine grained gold. Hence, considering its capacity, it is a suitable fine-grained-gold saving device to be used in a project such as the one recommended herein.

6) This program should be established in such a manner that the full thickness of the 'pay' gravel, plus some of the underlying material, can be run through the system. Extreme care in the handling of the concentrate will allow the retention of that very fine-grained gold fraction, noted during the subject program.

EXPLORATION: TEST PITTING

This work will commence during the "Phase One" program, and continue during the "Phase Two" expansion of the project.

A test pitting program should be undertaken at the same time, utilizing a backhoe with over 20 foot reach, this should be focussed on the following sectors of the property:

1. Area "B".
2. Area "C".

SEQUENCE

1. The bulk sample and test pitting programs can be run concurrently, and separately of each other.

2. The bulk-screening operation will produce the minus 1/4 inch sand which can be stockpiled. The AEC999 will can be supplied from these piles.

3. It is adviseable to commence excavation at the northern edge of the bench, that is, the northern edge of area "A". A volume of over 46,000 cubic yards is available from area "A", with an average grade of over C$9.00.

4. The process of screening area "A" gravels (over 46,000 yd3), at a nominal rate of 2000 cubic yards per day, would take around 23 days, at maximum throughput. The AEC999 should encounter no problems in dealing with this production rate, however, as the plant will be handling batch work in addition to this, the overall rate is difficult to predict with certainty.

5. It is anticipated that, after a relatively short period of time, the decision can be made on the commercial sense of commencing "Phase Two" bulk extraction operations of the area "A" gravels. Continued testing will also indicate the viability of continuing into areas "B" & "C". area "B", where the grade appears to be less.

6. While the actual bulk extraction is continuing, there will be times for 'batch work' set aside, when the otherwise continuous concentration process of the bulk screening undersize is interrupted, while the samples, trucked in from the test pit diggings, are treated as 'batches'.

7. As an evaluation of the tenor of the test pit results can be made continuously, while the samples are processed over the AEC999, decisions can immediately be made to decide upon the upgrading of the sampling method. In other words, if the newly-explored area shows encouragement, one can proceed to excavate a bulk sample from the site.

8. It is necessary that the first phase program needs to be carried out in order to 1) define the commercial extractibility of placer gold from the "A" and "B" portions, and 2) to investigate the very intriguing possibility of finding coarse "pay gravels" on the "C" portion of the same bench.

In the manner that the operation is planned, a gradual and smooth transition from one phase to the next can be accomplished, without curtailing the precious field season. Thereby allowing the possibility of entering into a cash-flow mining operation without losing too much time.

OPERATIONS SCHEDULE

Early commencement of operations is possible for reasons stated before. The installation of facilities can therefore start late in April, depending on weather conditions.

Immediate use of the AEC999 facility is visualized because this operation is independent of the bulk screening plant. Batch testing of, for example, test pit samples, is possible at any time, because the facility can be cleaned with relative ease to allow the 'switch-over'.

The operation should be able to, immediately after plant installation, produce a black sand concentrate from which the placer gold can be extracted.

Table #4, on the following page, is intended to provide an approximate overview of the operations schedule during next season:

TABLE 5
SCHEDULE OF OPERATIONS

Working Season	May	June	July	August	Sept	October	Novem
	PHASE ONE			PHASE TWO			
1. Procurement	.....						
2. Camp Installation and Mobile Equipment on site	.....						
3. Installation of Screening Plant	.....						
4. Installation of AEC999 facility	.....						
5. Screening of Bulk Samples	.....	.....	.....	.....	.....	.....	.....
6. Operation of AEC999	.....	.....	.....	.....	.....	.....	.....
7. Stripping of Overburden		.....	.....	.....	.....	.....	.....
8. Sampling of Test Pits	.....	.....	.....	.....	.....	.....	.....
9. Processing of Samples & Concentrates	.....	.....	.....	.....	.....	.....	.....
10. Screening of Bulk Samples (new discoveries)		.....	.....	.....	.....		
11. Processing of Bulk Concentrates Gold Winning	.....	.....	.....	.....	.....	.....	.....
12. Processing of Batch Concentrates	.....	.....	.....	.....	.....	.....	.....
13. Engineering Supervision	.....	.....	.....	.....	.....	.....	.....
14. Demobilization							.....
15. Engineering Documentation							.....

EQUIPMENT, SUPPLIES, & MANPOWER

Excepting possibly manpower (some may be available in Mayo), nearly all of the equipment and supplies must be procured either in Whitehorse, Y.T., or points south.

The trailers, comprising the camp, could be assembled from nearer centers.

The rolling stock will probably have to be held under lease for the duration of the season.

The screening operation could likely be contracted out on a volume of undersize production basis. Should this appear uneconomical, the other route would be to lease the plant from equipment suppliers farther south.

EQUIPMENT FOR BULK TESTING OPERATION

The proposal is to:

a) establish a screening plant, capable of wet-screening to provide a 1/4-inch (minus) sand product. The capacity of the plant could be up to 2000 cubic yards per day. The product would be stockpiled separately for each source area. An immediate decision can be made of the approximate grade of the material when it is passed over the AEC999. It will thereby be possible to direct the excavation point of the bulk testing program.

The equipment used for bulk testing can be upgraded to accommodate a bulk processing operation, when the decision is made to continue with the Phase Two recommendations.

b) establish a method whereby exploration pit samples are trucked from site of origin to the AEC999 facility for batch treatment.

c) establish a system that will allow the screening of bulk samples from which the minus-one-quarter sand will be trucked to the AEC999 facility.

On the other hand, the AEC999 facilities can be set up to provide on-site screening.

c) establish an analytical facility which will be able to extract the gold from the above-mentioned samples.

Equipment required for this operation will be:

Trailers, bunkhouse, cookshack, office, shop, gold room, etc.
966D F.E. Loader(s)
Bulldozer
225 Hoe, 20' reach
Dump truck, 12 yd3
Screen deck
Conveyors and stackers
AEC999, fine-grained gold concentrator and screening facility
Genset
Pumps
Spares inventory
Gold recovery building

Depending on arrangements made, screening and other operations could be provided for on a contract basis.

The manpower needed for the project will vary, depending on the aforementioned arrangements, it is probable, however, that possibly 10 people will be employed on site.

Consumables will entail food, fuel, parts, and sundries. Food and fuel will be the greatest items.

Mobilization and demobilization, as well as other transportation costs, as for example small vehicle rental and operation, need to be included in the cost estimate.

ITEMIZED ESTIMATED COSTS

The estimated budget allocations for the recommended Phase One program are as follows:

PHASE ONE

Mobilization, setting up, demobilization	$30,000.
Operation of hoe and dump truck	$25,000.
Operation of screening unit	$20,000.
Operation of AEC999	$30,000.
Operating costs, general	$25,000.
Engineering, supervision, reporting	$20,000.
Total Estimated Costs of Phase One.....	$150,000.

PHASE TWO

The commencement of this phase of the recommendations, is dependent on the favourable outcome of the previous phase results.
For the purpose of this estimate, the costs are approximated according to contract rates, bid on other projects.

BULK SCREENING OPERATION

Taking the Heitman 'pay gravels' into consideration, these are estimated to have a volume for areas "A"+"B" of about 90,000 cubic yards, having a tentative combined value in fine gold of C$656,000. The operation consisting of excavating the gravels, screening them, stockpiling the 1/4" undersize, and removing the waste should cost less than $2.00 to perform, especially if the size of the contract is firm for the 45,000 cubic yards expected to be excavated from area "A" during the first stage. It is assumed that around 2,000 bankrun cubic yards per day can be processed in a nominal 10 hour shift. As this is summer time, it should be remembered that the days are long, allowing for longer operation than the normal 10 hours.
The estimated costs for the screening operation is therefore C$90,000.

OPERATION OF AEC999 FACILITY

The throughput capabilities of the AEC999 system are faster, of course, than the screen production of undersize 1/4" sand. The ratio of undersize to bankrun gravel may be something around 1:5 for the coarse gravels.
The AEC999 will be operating on a constant basis, processing the bulk sample fines, as well as the test-pit batch samples. This process of switching between the on-going bulk sample runs, and batch samples, is possible because it takes little time to clean the system between runs, which, of course, is important for the propriety of the tests.
On continuous runs the AEC999 is able, with this kind of clean sand, to handle a throughput of 60 cubic yards per hour. The operation of this facility can, again, be extended due to the length of the northern day.
The daily throughput could, therefore, be more than 600 cubic yards.
The cost per yard of head feed for this system is considered to be around $5.00. This would add about C$1.00/cubic yard to the total mining costs of the bankrun material.
These costs would therefore be estimated at C$45,000.

WASTE DISPOSAL

The Heitman bench, or bluff, upon which the 'pay gravels' are layered, rises about 60 feet above the valley floor, called the Schomig bench.
It is a simple matter to move waste and overburden over the edge of the bluff.
Waste water treatment should be of no problem, as the two tailings ponds, of the original operations, are still intact.
The bankrun cubic yard costs for the overburden removal costs are judged to be less than C$1.00.
Area "A" has about 22,400 cubic yards of overburden, hence the stripping costs should not exceed $23,000 by much.

WATER SUPPLY

Water is plentiful at the level of the Schomig bench, wherefrom it can be pumped to the usage area.
Water is generally also available from McIntyre creek. A dam on this creek, started in the fall of 1987, should be able to supply gravity-fed water to the plant, once the pipes are in.
No extra costs are itemized on the issue of water supply. The costs can be prorated into the other budget areas.

POWER GENERATION

A powerful generation system was an integral part of the AEC999 facility. It is expected that this will again be available.
Power generation for other aspects are, again, prorated into the other budgets.

OPERATIONAL COSTS

Considering that the screening performed under contract, there should be no extra costs involved with this. However, there will be other outlays, wages, fees, expenses, maintenance, repairs, analyses, assays, etc., which need to be considered. A daily expenditure of C$500 per day is anticipated for each of the 100 days during which these outlays could occur.
The total estimated operational costs are C$50,000.

EXPLORATION

An estimate of the extra costs, attributable to explorations of the remainder of the claims, must encompass the hoe and a dump truck. These will, of course, be also be used elsewhere during the operations.
The costs due to explorations is estimated at C$47,000.

SUPERVISION & ENGINEERING

The fees and expenses involved in providing engineering consultation, supervision, and reporting will accrue to about C$55,000.

TOTAL ESTIMATED RECOMMENDED BUDGET

PHASE ONE

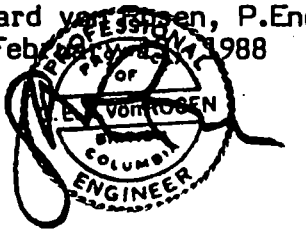
Mobilization, setting up, demobilization	C$ 30,000.
Operation of hoe and dump truck	C$ 25,000.
Operation of screening unit	C$ 20,000.
Operation of AEC999	C$ 30,000.
Operating costs, general	C$ 25,000.
Engineering, supervision, reporting	C$ 20,000.
TOTAL ESTIMATED COSTS OF PHASE ONE PROGRAM.....	C$ 150,000.

PHASE TWO

Operation of screening contract	C$ 90,000.
Operation of AEC999 facility	C$ 45,000.
Operation of waste removal program	C$ 23,000.
Operation of exploration program	C$ 47,000.
Operating costs, sundry.	C$ 50,000.
Engineering, supervision, and report	C$ 55,000.
TOTAL ESTIMATED COSTS OF PHASE TWO PROGRAM.....	C$ 310,000.

Respectfully submitted,

Gerhard van Tonder, P.Eng.
February 24, 1988



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von Rosen, Gerhard . 1988, January 26 : Letter report regarding 'short program' of exploration on Minto Creek Gold Placer Property for Goldorex Minerals Inc.

CERTIFICATE OF QUALIFICATIONS

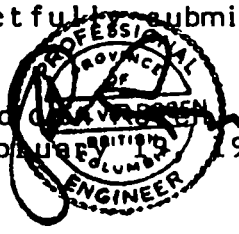
I, Gerhard von Rosen, reside in Mission, British Columbia, at 33176 Richards Avenue.

I have been practicing my profession of consulting geologist since my graduation from the University of British Columbia in 1962 with a Bachelor of Science, and in 1966, with a Master of Science degree in Honours Geology.

I have prepared the subject report from information gained during my visit to the Minto creek property on September 22 - October 5 1987, and from references cited. In the main, it is a summary of a previous report written by the undersigned.

I have received the fees and expenses invoiced regarding the preparation of this report, as this is my sole remuneration. I have no interest in the company, its properties, or its shares, neither do I expect to receive any.

Respectfully submitted,



Gerhard von Rosen, P.Eng.
February 19, 1988

R E P O R T O N :

MINTO CREEK - McINTYRE CREEK PLACER PROPERTY
MAYO MINING DISTRICT
MAYO, YUKON

NTS 115P9E

Latitude: 63° 43'N.

Longitude: 136° 07'W.

Prepared For:

GULDERAND MINING CORPORATION
Vancouver, British Columbia

Prepared By:

CANADIAN GRAVITY RECOVERY INC.
920-625 Howe Street
Vancouver, British Columbia
V6C-2T6

David R. Brown
Michael D.Philpot

NOVEMBER, 1988

MINTO CREEK - McINTYRE CREEK PLACER PROPERTY -

T A B L E O F C O N T E N T S

MINTO CREEK - McINTYRE CREEK PLACER PROPERTY

T A B L E O F C O N T E N T S
[continued]

LIST OF FIGURES

LIST OF APPENDICES

1.0 SCOPE OF REPORT

This report summarizes the results of the placer evaluation programme on claims in the Minto Creek - McIntyre Creek drainage, Yukon. The work was conducted by Canadian Gravity Recovery Inc. at the request of Gulderand Mining Corporation during September and October, 1988 and consisted of:

1) geologic and geomorphic mapping,
2) test pit sampling and related sample reduction,
3) preliminary efficiency tests on the current mining production system.

A total of 33 test pit samples were processed; 28 from the Minto Creek portion and 5 from the McIntyre Creek claims.

The property covers two separate exploration targets. The first target was the most recent boulder gravel which occurs as the uppermost unit on isolated remnant benches along Minto Creek. The second target was the gravel contained in the modern gulch of McIntyre Creek.

2.0 CONCLUSIONS

1) As there is demonstrable increasing gold concentration from oldest to youngest gravel, there is a possibility that exploration in the swamp, which is the modern drainage of Minto Creek, might uncover auriferous gravel occurring beneath the swamp cover. There is no data to either support or discredit this conclusion although there is reported to be at least 100 feet (30.5 m.) of organics and silt in the swamp covered areas.

2.1 MINTO CREEK

1) On the Minto Creek portion of the claim block, the greatest concentration of gold [0.0269 oz/cubic yd. (1.091 g/cubic meter)] was found in a small wedge of gravel (broad channel sequence) on the northeast corner of the Central Bench. Recent mining activity has obscured the contacts, but a reasonable estimate infers approximately 6,000 cubic yards (4,588 cubic meters).

2) The largest volume of auriferous gravel is contained within a boulder gravel unit which occupies the lower half of the most recent gravel sequence. The boulder gravel varies in thickness from 6 - 9 feet (1.83 - 2.74 m.).

3) The recent gravel sequence occurs at the top of three isolated remnant benches in the Minto Creek valley - the Northern, Central and Southern Benches. There is an indication that the grade of the boulder gravel increases to the south and, as such, the Southern Bench (which could not be investigated due to access problems) is an attractive exploration target. The grade of this bench would increase if a significant proportion of the yardage is composed of the broad channel gravel sequence.

4) Gold distribution within the boulder gravel varies considerably over short lateral and vertical distances. There is a clear indication that residual concentration has caused an enrichment in the upper portion of the unit but there is no evidence of a basal concentration even when the channel bottom is on bedrock.

5) The calculated reserve base is (grade reported in pure gold per unit volume) : [see Figure 2]

A) Northern Bench : INDICATED, 33,219 cubic yards of boulder gravel at a grade of 0.0043 oz/yd. (25,399 cubic meters at 0.1763 g/m.) with stripping ratio of < 0.1 : 1.

B) Central Bench (east half) : INDICATED, 47,303 cubic yards of boulder gravel at a grade of 0.0091 oz/yd. (36,168 cubic meters at 0.3719 g/m.) with stripping ratio of < 1 : 1.

C) Central Bench (northeast corner) : INDICATED, 6,000 cubic yards of broad channel gravel at a grade of 0.0269 oz/yd. (4,588 cubic meters at 1.091 g/m.) with stripping ratio of < 0.1 : 1.

D) Central Bench (west half) : INDICATED, 112,223 cubic yards at a grade of 0.0041 oz/yd. (85,806 cubic meters at 0.1679 g/m.) with stripping ratio of < .1 : 1. The established grade is calculated on total section and does not reflect the true grade of the boulder gravel. An estimate of boulder gravel reserves, based upon the assumption that grade and thickness figures are similar to the east half (which is a reasonable deduction), suggests that the reserve base of the west half is better expressed as : GEOLOGICALLY INFERRED, 102,449 cubic yards at a grade approaching 0.009 oz/yd. (78,332 cubic meters approaching 0.3662 g/m.) with stripping ratio of 1 : 1.

E) Southern Bench : GEOLOGICALLY INFERRED, 81,511 cubic yards at a grade between 0.0043 - 0.0091 oz/yd. (62,323 cubic meters at 0.1763 - 0.3719 g/m.) with stripping ratio of < .1 : 1.

5) Selective mining could increase the grade of material processed but reduce overall available volume of boulder gravel.

2.2 McINTYRE CREEK

1) The grade of recent creek gravel is too low [0.0011 - 0.0037 oz/yd. (0.0448 - 0.1505 g/m.)] to be of interest.

2) The grade of the "glory hole" gravel is too low [0.0007 oz/yd. (0.0285 g/m.) to be of interest.

3.0 RECOMMENDATIONS

1) No further work or expenditures is recommended on the McIntyre Creek claims.

2) If mining is conducted on the property in 1989, the Southern Bench should be investigated by test pits or bulk sample to determine grade and yardage.

3) The potential for economic gravel within the present Minto Creek channel should not be overlooked. However, the environmental considerations should be clarified with the appropriate government agencies before contemplating any exploration.

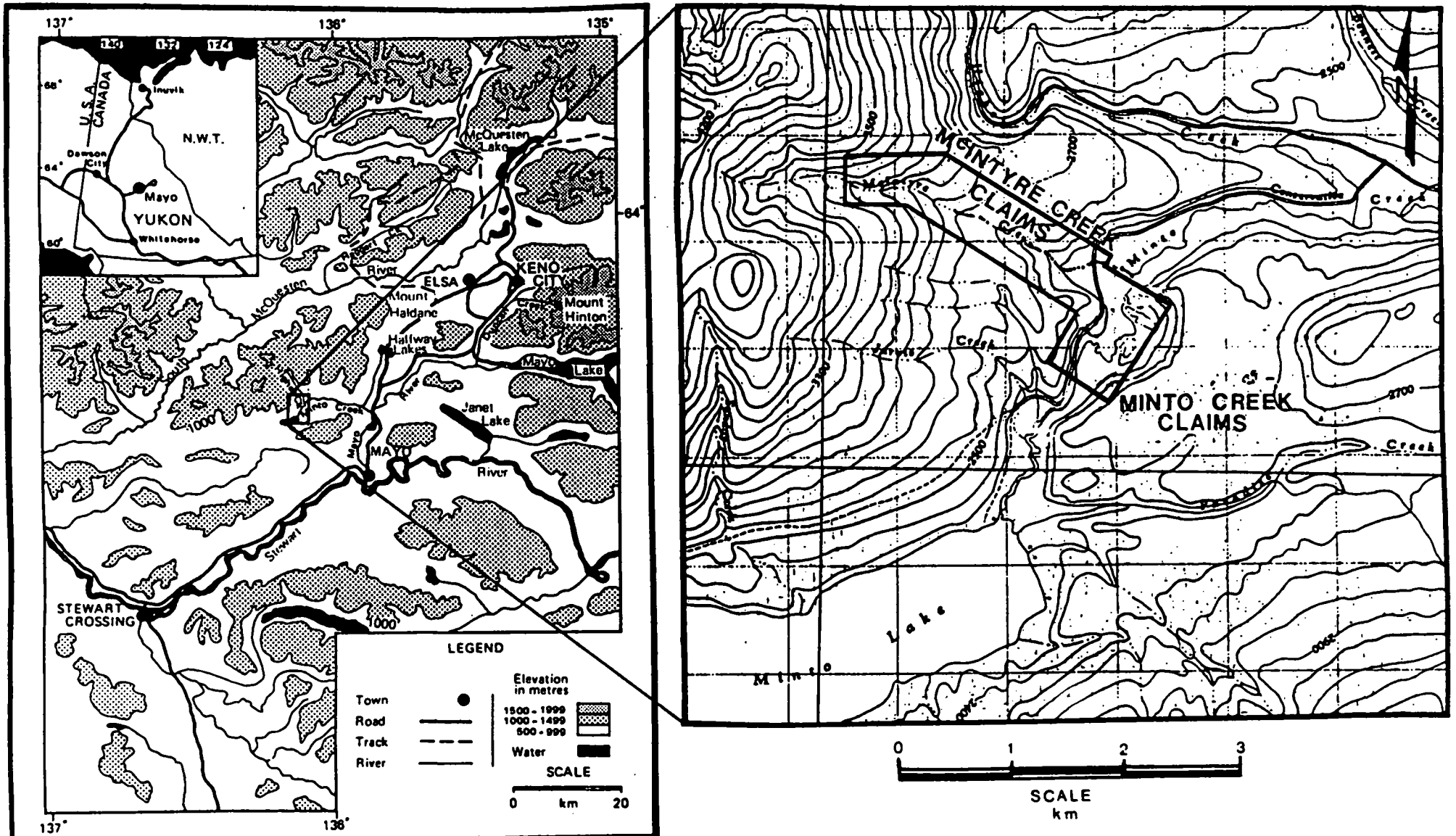


FIGURE 1: LOCATION MAP, GULDERAND PROPERTY

11/88

4.0 GENERAL PROPERTY DESCRIPTION

The Gulderand property is located 12 miles (19 km.) northwest of Mayo, Yukon at longitude 136°07'W., latitude 63°43'N. on NTS 115P9E (Figure 1). The claim summary is contained in Appendix F.

Access to the property is at mile 10 (16 km.) of the Minto Lake Road which intersects the Mayo-Keno highway at mile 11.5 (18.5 km.) north of Mayo. Both gravel roads are government maintained.

For ease in reporting, the property is divided into the two different physiographic terrains; the first being that area which encompasses the prominent benches along Minto Creek and which is the site of current mining activities (Minto Creek), and the second encompassing the small gulch of McIntyre Creek (McIntyre Creek), [Figures 2 and 3].

4.1 Minto Creek

This portion of the claim group covers three remnant gravel benches along the flanks of Minto Creek (Figure 2). At this point, the underfit Minto Creek occupies a broad, older meander approximately 1,000 feet (300 m.) wide. This area, which forms the base of all slopes, is composed of swamp organics and silt to a tested depth of 17 feet (5.2 m.). Some shafts were sunk in the valley bottom as early as 1905 to depths of up to 100 feet (30 m.) without hitting bedrock.

The benches sit approximately 40 feet (12.2 m.) above the swamp, at an elevation of 2265 feet (678 m.) above sea level. Beyond the bench tops and also where erosion has totally removed the bench gravel, the walls of the valley slope moderately upward to the top of a second well defined bench at an elevation of 2550 feet (777 m.) above sea level. These large slopes are composed of outwash silts and gravel.

The slopes and benches are covered with birch, aspens, pine and spruce. The Central Bench, which is the site of the current mining operation, has been cleared and stripped to the east of the Minto Lake Road.

4.2 McIntyre Creek

McIntyre Creek is a small east-flowing tributary of Minto Creek. Its headwater tributaries join in a small broad valley [at an elevation of 3300 feet (1006 m.) above sea level] and then enters a confined bedrock valley which widens out at the upper end of the old placer workings (Figure 3). These workings are contained in a broad perched valley at an elevation of 2650 feet (808 m.) above sea level and 425 feet above the elevation of

Minto Creek. Downstream from the workings, the creek flows through another confined valley - this time composed of silt - before exiting into a swamp at the base of the silt slope.

5.0 PROPERTY HISTORY

5.1 Minto Creek

Gold was first discovered on Minto Creek in 1903 and small scale mining and exploration was conducted in the next several years. Reports of the exceptional grade are due to the effects of residual concentration and in no way reflect the overall grade on the property. Indeed, the reported values of 0.200-0.350 oz/cubic yard (8.14 - 14.24 g/cubic meter) in 1903 - 1904 are over 20 times higher than the grade as established in recent testing. It is little wonder that small yardage was moved, since, once out of the surface enriched gravel, the virgin material could not support mining costs of those days.

Apparently, little if any work was done on the property until 1968. In this year, the southern end of the central bench was mined by belly scraper and sluice. As the scraper could not operate in the boulder gravel and the sluice could not recover the fine gold, the operation was unsuccessful. The amount of gold recovered is unknown but could only be insignificant. It has been estimated that no more than 1,000 cubic yards (765 cubic meters) of low energy gravel were mined.

In 1972, the northern end of the central bench was mined for one season with about 10 refined ounces (311 g.) produced from at least 700 cubic yards (535 cubic meters).

From mid-1979 through to 1981, the northern portion of the Central Bench was mined by Wild Boar Enterprises. It appears that no more than 500 refined ounces (15,552 g.) was produced from an unknown volume of gravel.

In 1987 and through to the end of 1988, the northern section of the Central Bench was again mined. The amount of gold produced was less that 500 refined ounces from an unknown volume of material.

5.2 McIntyre Creek

A very minor amount of exploration was conducted in the valley of McIntyre Creek during the initial discovery years. This is understandable in light of the very low values which were undoubtedly encountered. There is a reported hydraulic operation on the south facing slope of the prominent bluff, however, this surficial disturbance was a result of road building, not mining.

In the early 1980's, mining was attempted in the broad valley of the central creek segment. There is significant disturbance, but little was actually mined and the production must surely have been less that 100 refined ounces.

6.0 GEOLOGY

6.1 General Geologic Setting

The formational history is dominated by two fluvial cycles: the first, an agrading episode; and the second, a downcutting event through the previously deposited unconsolidated sequence.

At least one recognizable glacial advance is known in the area. After retreat, bedrock channels were cut and filled with auriferous gravel. At the completion of the channel cycle, a thick sequence of outwash silts and gravel were deposited. This system, which was deposited at the margins of a large glacial lake, forms the prominent bluffs along both flanks of the valley.

The ensuing downcutting cycle carved the large valley now occupied by Minto Creek. This was a multi-phase event which involved periods of downcutting, deposition and flow reversals. It is also the direct formational agent for the placers on Minto Creek, more so than on McIntyre Creek.

Bedrock is exposed in many locations on the property. At the Minto Creek area, bedrock forms distinct knobs and ridges which outcrop up to 25 feet (7.6 m.) above the swamp. The gravel deposits mantle these knobs, but the distribution of gravel suggest that original channel flow was unaffected by their presence. Bedrock is found close to surface everywhere in the drainage of McIntyre Creek with much of the upper portion of the creek flowing on bedrock.

6.2 Detailed Gravel Descriptions

6.2.1 Minto Creek Gravel

Of the three remnant benches on this portion of the property (Figure 2), only the Northern and Central Benches have been explored in mining cuts and test pits. It is unlikely that testing of the southern bench will produce inconsistencies in the chronologic sequence of gravel which are described below from oldest to youngest.

6.2.1.1 Basal Gravel

These oldest gravel are exposed in pits on the Northern Bench and along the western half of the mining face at the current processing plant. The maximum tested thickness is 12 feet (3.7 m.), but the true thickness is unknown.

The unit is a tan, compact, polylithic cobble gravel. The compactness of the unit is due to weak induration by carbonate cement. No other gravel unit on the property was cemented to any extent. Approximately 25% of the unit is composed of low energy gravel and sand. There are numerous, thin [4 - 6 inch (1.6 - 2.4 cm.)], low matrix beds of manganese stained pea gravel found throughout the sequence, but the matrix of the unit as a whole is clean sand with little silt and no clay. Well rounded quartz comprises 10% to 20% of the gravel-sized material.

The gravel was originally deposited in a braided river sequence which flowed to the north. Cut and fill channels are numerous and range between 10 - 25 feet (3.0 - 7.6 m.) wide and 2 - 6 feet (0.6 - 1.8 m.) thick. To the west, the cut and fill nature of the sequence changes to a more broad channel depositional character and it is difficult to determine which phase is more prevalent throughout the unit as a whole.

This unit contains boulder gravel beds occurring as distinct cut channels. One of these, exposed in the large trench at pit 26, measures 120 feet (37 m.) wide and 8 feet (2.5 m.) thick. There is also boulder gravel present beneath the processing plant but the dimensions of this channel could not be determined.

6.2.1.2 Broad Channel Sequence

This unit occurs on the eastern half of the cut face by the current processing plant. It overlies the basal gravel on the west side of the cut. The contact with the basal gravel unit is obscured by coarse tailings but the broad channel sequence is clearly younger. Original flow of the channel was from north to south.

This unit is exposed for a 15 foot (4.6 m.) thickness but the true thickness is unknown. The sequence is a well stratified [6 - 12 inches (2.4 - 3.7 cm.)], dark brown, interbedded unit of cobble gravel and lower energy pea gravel. Sand, in distinct lenses, comprises less than 5% of the sequence, but forms a large part of the total volume of the unit as the matrix in gravel beds. This gravel is much less compact than the basal gravel and, overall, is of lower energy.

Cut and fill features are rare in the sequence. Only two cut channels were observed. The apparent dip of the beds (-4° @ 135°) suggests that this unit represents the preserved right limit segment of a broad south-flowing channel. The unit pinches

out to the west and, because of its original trend, it is preserved as a small wedge on the northeast corner of the Central Bench.

6.2.1.3 Recent Boulder Gravel

The unit name is somewhat misleading as boulder gravel comprises approximately 50% of the sequence and is found as the basal member. This unit, as a whole, represents a thick graded sequence from high energy at the base to low energy at the top. The thickest intersection, and the one that is generally representative of this unit, is found in pit 23. Here, 8 feet (2.4 m.) of low energy gravel and sand overlie at least 8 feet of boulder gravel. The total thickness of the boulder gravel is unknown but is not expected to greatly exceed 8 feet.

The upper portion of the sequence is characterized by interbedded sand and fine gravel. The gravel is pea to pebble-sized with a clean sand matrix. Occasionally, cobble gravel beds up to 2 feet (0.6 m.) are found. The gravel-sized material is rounded and polylithic with diorite comprising the majority of the stones. The total lack of induration, compaction, and fine particles in the matrix (which act as a binding agent) result in a unit which is loose and sloughs easily.

The boulder gravel unit contains rounded, predominantly diorite boulders, up to 2.5 feet (0.76 m.) in diameter, in a "matrix" of cobble-pebble gravel. As is the case in the low energy member, this unit also sloughs readily. The irregular thickness of the unit, as intersected in test pits (Appendix B), reflects the original depositional character of the high energy cycle. The thicker boulder gravel intersections are situated close to or at the centers of the numerous cut and fill channels which characterize this specific high energy horizon. The channel bottoms rest either on bedrock or basal gravel.

6.2.2 McIntyre Creek

Two gravel units are present on the claims and are listed from oldest to youngest.

6.2.2.1 "Glory Hole" Gravel

This low energy, broad channel gravel unit (Figure 3) is the upstream counterpart of the Jarvis Creek Gravel. On Jarvis Creek, the channel measures at least 650 feet (198 m.) wide and 70 feet (22 m.) thick. In the "glory hole" cut, on the right limit of McIntyre Creek, the gravel is exposed over a vertical range of 35 feet (10.6 m.) but channel width could not be determined. This unit lies near the base of the thick silt outwash sequence and may, in sections, lie on bedrock. This unit is one of the oldest gravel sequences in the area.

The unit is composed of low energy pebble gravel with thin cobble interbeds every 4 - 5 feet (1.22 - 1.52 m.) through the section. A very few boulders are present but never exceed 12 inches (4.7 cm.) in diameter. This polylithic, well rounded gravel is supported in a silty-sand matrix. The unit is not compacted, in spite of its depth of burial, nor is it indurated. At this point in the channel, flow was from the north to the south.

6.2.2.2 Recent Creek Gravel

McIntyre Creek is a recent stream which downcut the silt sequence in response to either uplift of the region or a lowering of the base level of erosion. The cause is of no consequence but the valley forming process is, since the total lack of well developed gravel, throughout most of the creek length, suggests that formational processes occurred intermittently. The only true gravel that has been formed by McIntyre Creek is located at the slope break near the mouth of the creek where it exits into the swamp. Upstream from this point, bank material is mostly slough, whereas well developed gravel is confined to a very thin envelope immediately adjacent to the small brook that is McIntyre Creek.

The gravel found in pits 1 and 3 is the only true grey gravel observed in the area. The unit is confined to a small fan shaped area which measures no more than 50 feet wide at its maximum with a longitudinal length of no more that 250 feet. The thickest intersection was in pit 3 to a depth of 15 feet, when extreme slough and water influx forced abandonment of the pit. The unit is a cobble to boulder gravel composed of round to sub-round stones up to 12 - 15 inches (4.7 - 5.9 cm.) in a clean sand matrix. The bed is clast-supported and generally unstratified. There is a definite increase in gravel size upstream, a feature to be expected because of the origin of the deposit. The unit lacks any compaction and induration, and, as a result, it sloughs readily.

7.0 PLACER SAMPLING PROGRAMME

7.1 Test Pit Excavation Procedures

The sample test pit pattern was designed to test the various gravel sequences on the property in sufficient detail to determine (at least to the indicated reserve category) the grade and yardage of the individual members. To this end, a total of 33 samples were processed from the property; 28 from the Minto Creek portion and 5 from the McIntyre Creek claims.

The pits were excavated with a Bantam C-266 backhoe, capable of digging to 21 feet (6.4 m.) under the most ideal of conditions. Every attempt was made to separate high energy gravel from low energy units, hence, two samples per pit are found in 7 of the pits (Appendices B -E). As Gulderand had excavated 14 pits, to the west of the road on the central bench (Figure 2), 5 of these were processed rather than excavating new pits.

Owing to the proximity of the pits to the mobile test plant, trucking of the samples was not required. Rather, once the pits were completed, a loader was used to secure a representative sample from the pit excavated pile. Test pit logging was conducted as the pits were excavated.

7.2 Test Pit Sample Reduction Procedures

The representative sample obtained from pit excavated material was transported by the loader to CGR's mobile test plant. To ensure that volume measurements were controlled, the loader bucket was volumed at the start of the project. The reduction of loose yards to bank yards assumed a 25% gravel expansion (swell) factor.

The sample material was pre-washed and fed into a 5 foot by 24 inch trommel. The entire length of the trommel consists of 3/8 inch tapered punch plate. Oversize material, after thorough cleaning in the trommel, was discarded. Undersize was gravity fed to a Syntron screening unit equipped with spray bars. From here, the minus 3/8 inch - +12 mesh fraction was gravity fed to a YT 12 pulsating jig. Jig feed was controlled to ensure a uniform flow of material across the bed. Upon completion of a sample run, the first four jig baskets were cleaned as were the jig hutches (minus 8 mesh). The jig basket material was panned, whereas the jig hutch material was hand fed on to the Gemeni table for separation.

The minus 12 mesh material from the Syntron screen was gravity fed into a SALA pump which carried this fraction in a 40% slurry to the top of a Humphreys Cyclone. The cyclone dewaters the slurry and the concentrates are gravity fed to the single start Riechert Mark VII spiral. Concentrates from the spiral flow directly on to a Gemeni table, spiral middlings are recirculated, and the tailings are directed back through the jig circuit.

The constant head tank, which provides water to the Gemini table, negates pressure fluctuations and allows optimum table efficiency. The free gold and table concentrate splits were bagged separately from the table middlings. All gold recovered in the table splits was amalgamated with triple distilled mercury which was tested for purity prior to amalgamation.

Digestion procedures followed standardized guidelines accepted throughout the industry.

All gold recovered from amalgamation and panning were weighed on a Mettler AE 163 electronic scale, accurate to 0.01 milligrams.

During the test programme, every effort was made to ensure that gold loss through the CGR system was minimized. These steps included: 1) thorough cleaning and flushing of all parts within the system after every run,
2) periodic panning of jig tailings,
3) periodic panning and/or tabling of spiral tailings,
4) periodic panning and re-tabling of table middlings and tailings.

Gold loss was insignificant in every check by panning or re-tabling of material exiting the system.

The recovered gold values for the samples are listed in Appendices B - E. The reported fineness of 820 has been applied to the recovered placer gold weights for the calculation of grade in troy ounces of pure gold per bank cubic yard.

7.3 Processing Plant Efficiency Test

Initial studies were conducted on the current Gulderand mining processing plant and system. The methods and results of this study are contained under separate cover as it is unrelated to the economic evaluation of the property.

8.0 DISCUSSION OF RESULTS

The sample results for both portions of the property are contained in Appendices B - E. Without exception, all units tested contained gold, but the highest values are confined to the two most recent gravel units on the Minto Creek claims. The grades on McIntyre are uniformly low and uninteresting.

In the following discussion, grade is quoted in troy ounces of pure gold/bank cubic yard (grams pure gold/cubic bank meter). This assumes a gravel swell factor of 25% and a conversion from placer gold to pure gold using a fineness of 820. To avoid cumbersome repetition, the values will read as "oz/yd (g/m)" for grade and "yards (m.)" for volume.

8.1 Minto Creek

The sample results (Appendices B - E) indicate that,although all gravel units are auriferous, the higher gold concentrations are contained in the two younger gravel sequences (broad channel gravel and the boulder gravel).

The oldest gravel unit (basal gravel) was investigated in-6 pits; three on the Northern Bench (pits 28,29,30), and three on the Central Bench (pits 19,19A,26). The values ranged between 0.0006 - .0027 oz/yd. (0.0247 - 0.0986 g/m.), with a weighted average grade of 0.0018 oz/yd. (0.0739 g/m.) over 10 vertical feet (3.05m.). This unit contains boulder gravel channels (pit 26) and the grade of 0.0063 oz/yd. (0.0074 g/m.) reflects the higher energy of this channel. However, the overall grade of the unit is sub-economic.

The broad channel gravel unit was tested in one pit (pit 20) and returned the highest grade on the property [0.0269 oz/yd. (1.091 g/m.)]. This high grade cannot be reconciled with the relatively low energy character of the gravel - a feature which was consistent throughout the 15 vertical feet (4.57 m.) of the exposure. The true thickness of the unit is not known but it is at least 20 feet (6.1 m.).

The recent gravel sequence was investigated by sampling in 15 pits. In pits excavated under the direction of CGR, the boulder gravel was sampled separately from the lower energy gravel comprising the upper half of the sequence (pits 23 & 25), and from the basal gravel (pits 17,18,24,26-30). Total pit samples were processed for those pits previously excavated by Gulderand (pits 5,6,12,14,16). The effect of surface enrichment was studied in pit 1/28 and slough concentration was examined in pits 21 and 22. The results are as follows:

1) The boulder gravel returned grades ranging between 0.0047 -0.0156 oz/yd (0.0903 - 0.6358 g/m.) across thickness from 5.5 - 10.5 feet (1.67 - 3.20 m.). There is no correlation between thickness and grade.

2) The boulder gravel on the Northern Bench returned a weighted average grade of 0.0043 oz/yd. (0.1763 g/m.) across 8.3 vertical feet (2.54 m). By omitting pit 30, the grade is increased to 0.0062 oz/yd. (0.2503 g/m.)

3) The boulder gravel on the east half of the Central Bench returned a weighted average grade of 0.0091 oz/yd. (0.3719 g/m.) across 8.5 vertical feet (2.59 m.).

4) The sample results from unsupervised pits on the west half of the Central Bench returned a weighted average grade of 0.0041 oz/yd. (0.1679 g/m.) across 9.3 feet (2.83 m.).

5) The upper, low energy gravel member of the recent gravel sequence was examined in the top samples in pits 23 and 25. This unit returned a weighted average grade of 0.0022 oz/yd. (0.0895 g/m.) across 6.75 feet (2.06 m.).

6) Surface enrichment (residual concentration) is demonstrated in pit 1/28. The upper 1.5 feet has a grade of 0.0131 oz/yd. (0.5330 g/m.). The underlying boulder gravel returned a grade of 0.0029 oz/yd. (0.1180 g/m.) from the same material as in the upper 1.5 feet (0.46 m.)

7) Slough concentration was examined in pits 21 and 22. The range in grades, from 0.0015 - 0.0091 oz/yd. (0.0610 - 0.3702 g/m.), are in the range of undisturbed boulder gravel grades. There appears to be no slough concentration of gold.

8.1.1 Minto Creek Reserve Calculation

8.1.1.1 Northern Bench

The maximum dimensions of this elliptical shaped bench are 720 feet (219 m.) long and 200 feet (61 m.) wide. The following measurements are used:

1) surficial area on top of bench of 11,300 square yards (9448 square meters)
2) average thickness of 2.77 yards (2.53 m.)
3) material comprising slope from top of bench to vertical depth of 2.77 yards around perimeter of 500 yards (457 m.)

The calculation is: INDICATED 33,219 cubic yards (25,399 cubic meters) at a grade of 0.0043 oz/yd. (0.1763 g/m.).

Higher grade blocks within the bench can be defined numerically but these would be difficult to define on a practical level.

8.1.1.2 Central Bench

The dimensions of the Central Bench are 317 yards (290 m.) long in a north-south direction and 217 yards (198 m.) wide. The east and west halves are equal in area.

For the west half, the following measurements are used:

1) surficial area of 36,201 square yards (30,268 square meters)
2) average thickness 3.1 yards (2.83 m.)

The calculation is: INDICATED 112,223 cubic yards (85,806 cubic meters) at a grade of 0.0041 oz/yd. (0.1679 g/m.).

The upper portion on the east half of the bench has been extensively mined. The problem is not determining grade but rather the estimation of boulder gravel mined. The following measurements are used (based upon 50% of material remaining):

1) surficial area of 16,715 square yards (13,975 square meters)
2) average thickness 2.83 yards (2.59 m.)

The calculation is: INDICATED 47,303 cubic yards (36,168 cubic meters) at a grade of 0.0091 oz/yd. (0.3719 g/m.)

This is a reasonable yardage considering the amount of previous mining from an original reserve calculated at 94,607 yards (72,337 m.) of boulder gravel.

The dimensions of the wedge of broad channel gravel outline a triangular area with dimensions; 180 feet (60.0 m.) along the base, 90 feet (30.0 m.) in height. The following measurements are used:

1) surficial area of 900 square yards (752 square meters)
2) thickness (minimum) 6.7 yards (6.1 m.)

The calculation is: INDICATED 6,000 cubic yards (4,588 cubic meters) at a grade of 0.0269 oz/yd. (1.091 g/m.).

8.1.1.3 Southern Bench

No testing was conducted on this bench, however, using parameters established on the Northern and Central Benches, a reasonable estimate of geologically inferred reserves can be calculated. Two old test pits on this bench confirm the presence of gravel at surface, and it is inconceivable that the recent gravel has not been deposited here.

The Southern Bench has a measured surface area of 29,111 square yards (24,340 square meters). The thickness of the gravel is estimated at 2.8 yards [average of Northern Bench (2.77 yd.) and Central Bench (2.83 yd.)]. The calculated reserve is: GEOLOGICALLY INFERRED 81,511 cubic yards (62,323 cubic meters) at a grade ranging between 0.0043 - 0.0091 oz/yd. (0.1763 - 0.3719 g/m). The grade of the bench could increase dramatically should a significant proportion of the yardage be comprised of the broad channel gravel sequence.

8.2 McIntyre Creek

The results of test pit samples on this portion of the property (Appendices C & E) are uniformly sub-economic. The recent McIntyre Creek gravel was investigated in four pits which returned consistently low values [0.0011 - 0.0037 oz/yd. (0.0048 - 0.1505 g/m.)]. The "glory hole" gravel sequence returned a grade of 0.0007 oz/yd. (0.0825 g/m.) consistent, if not sightly greater, than this sequence where it is exposed on Jarvis Creek.

9.0 CHARACTER OF GOLD

The gold which was recovered during the evaluation programme was well worn and flat regardless of the gravel unit from which it was derived. No gold was found that was greater than 10 mesh and the bulk of the values lies between minus 30 mesh to plus 70 mesh.

A P P E N D I X A

STATEMENT OF QUALIFICATIONS

DAVID R. BROWN, consulting geologist for CANADIAN GRAVITY RECOVERY INC., with business address at 920-625 Howe Street, Vancouver, British Columbia, V6C-2T6, does hereby certify:

THAT I : graduated from Brock University (1971) with an Hon. B.Sc. majoring in Geology.

THAT I : from 1969 to the present, have been actively engaged in various disciplines related to mineral exploration.

THAT I : personally consulted on a daily basis at the Gulderand Property on Minto Creek-McIntyre Creek during the months of September and October, 1988.

THAT I : was engaged by Gulderand Mining Corporation to conduct placer mapping and sampling on the property.

THAT I : have no interest in Gulderand Mining Corporation or the subject property nor do I expect to receive any.

THAT I : approve of this report or direct quotes being used for Prospectus, Statement of Material Facts, or News Release provided all excerpts are taken ;in context of the relevant passages.

Dated this 8th day of November, 1988 at Vancouver, B.C.

David R. Brown

STATEMENT OF QUALIFICATIONS

MICHAEL D.PHILPOT, president of CANADIAN GRAVITY RECOVERY INC., with business address at 920-625 Howe Street, Vancouver, British Columbia, V6C-2T6, does hereby certify:

THAT I : graduated from the University of British Columbia (1978) with B.Sc. degree majoring in geology and graduated (1986) from City University with an M.B.A. majoring in business administration.

THAT I : from 1978 to the present, have been actively engaged in various disciplines related to the mining industry.

That I : personally consulted at the Gulderand Property during the month of September.

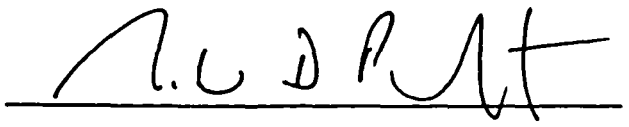
THAT I : was engaged by Gulderand Mining Corporation to conduct a placer evaluation programme on the property.

THAT I : have no interest in Gulderand Mining Corporation or the subject property nor do I expect to receive any.

THAT I : am a Fellow of the Geological Association of Canada.

THAT I : approve of the report or direct quotes being used for Prospectus, Statement of Material Facts, or News Release, provided all excerpts are taken in context of the relevant passages.

Dated this 8th day of November, 1988 at Vancouver, B.C.



Michael D. Philpot

APPENDIX B : TEST PIT SUMMARY DATA, MINTO CREEK

NOTE : 1) distances are in feet
2) grade is in troy ounces of pure gold/bank cubic yard
3) * denotes pits previously excavated by Gulderand which had sloughed, hence, actual pit depths are greater.

PIT NUMBER	TOTAL DEPTH	GEOLOGIC From	To	Description	ANALYTICAL From	To	Grade
GD-1	1.5	0.0	1.5	BOULDER GRAVEL	0.0	1.5	0.0131
GD-28	18.5	1.5	10.5	BOULDER GRAVEL	1.5	10.5	0.0029
		10.5	20.0	PEBBLE-COBBLE GRAVEL	10.5	20.0	0.0016
GD-2*	5.0	OLD SLOUGHED PIT			NO SAMPLE TAKEN		
GD-3*	11.0	0.0	1.5	ORGANICS & SILT	NO SAMPLE TAKEN		
		1.5	6.0	PEBBLE-COBBLE GRAVEL			-
		6.0	11.0	WALL SLOUGH			
GD-4*	10.0	0.0	1.3	ORGANICS AND SILT	NO SAMPLE TAKEN		
		1.3	4.0	PEBBLE-COBBLE GRAVEL			
		4.0	5.5	SAND			
		5.5	6.5	SAND & PEA GRAVEL			
		6.5	10.0	BOULDER GRAVEL			
GD-5*	12.0	0.0	1.5	ORGANICS AND SILT	1.5	12.0	0.0103
		1.5	7.0	PEBBLE-COBBLE GRAVEL			
		7.0	12.0	BOULDER GRAVEL			
GD-6*	7.5	0.0	1.5	ORGANICS & SILT	1.5	7.5	0.0030
		1.5	7.5	BOULDER GRAVEL			
GD-7*	9.0	0.0	0.3	ORGANICS & SILT	NO SAMPLE TAKEN		
		0.3	6.3	SILT			
		6.3	9.0	PEBBLE-COBBLE GRAVEL			
GD-8*	8.0	0.0	0.5	ORGANICS & SILT	NO SAMPLE TAKEN		
		0.5	2.5	SILT			
		2.5	5.0	SILT-PEA GRAVEL			
		5.0	8.0	PEBBLE GRAVEL			
GD-9*	11.0	0.0	11.0	SILT	NO SAMPLE TAKEN		
GD-10*	20.0	0.0	20.0	SILT	NO SAMPLE TAKEN		
GD-11*	12.0	0.0	3.5	ORGANICS & SILT	NO SAMPLE TAKEN		
GD-12*	11.0	0.0	1.5	ORGANICS & SILT	1.5	11.0	0.0024
		1.5	4.0	PEBBLE GRAVEL			
		4.0	7.0	SAND-PEA GRAVEL			
		7.0	11.0	BOULDER GRAVEL			

GD-13*	14.0	0.0	1.5	ORGANICS & SILT	NO SAMPLE TAKEN		
		1.5	5.0	PEBBLE GRAVEL			
		5.0	7.0	SAND			
		7.0	8.0	PEA GRAVEL			
		8.0	10.0	PEBBLE GRAVEL			
		10.0	14.0	COBBLE GRAVEL			
GD-14*	12.0	0.0	1.5	ORGANICS & SILT	1.5	12.0	0.0019
		1.5	12.0	SAND,PEA-PEBBLE GRAVEL			
GD-15*	4.0	0.0	4.0	SWAMP ORGANICS & SILT	NO SAMPLE TAKEN		
GD-16*	13.0	0.0	3.0	SILT	3.0	13.0	0.0023
		3.0	6.0	SAND & PEA GRAVEL			
		6.0	13.0	COBBLE GRAVEL			
GD-17	-	AVERAGE FEED:COBBLE-BOULDER GRAVEL					0.0034
GD-18		SELECTIVE FEED:BOULDER GRAVEL					0.0108
GD-19	19.0	0.0	7.0	PEA-PEBBLE GRAVEL	7.0	19.0	0.0006
		7.0	19.0	COBBLE-PEBBLE GRAVEL			
GD-19A	19.0	IDENTICAL LOCATION AND INTERVAL AS GD-19					0.0018
GD-20	10.0	0.0	10.0	COBBLE-PEBBLE GRAVEL	0.0	10.0	0.0269
GD-21*	-	-	-	COBBLE-PEBBLE GRAVEL	-	-	0.0091
GD-22*	-	-	-	COBBLE-PEBBLE GRAVEL	-	-	0.0015
GD-23	16.0	0.0	1.0	SILT	1.0	8.0	0.0022
		1.0	8.0	PEBBLE GRAVEL	8.0	16.0	0.0047
		8.0	16.0	BOULDER GRAVEL			
GD-24	10.5	0.0	1.0	SILT	0.0	9.0	0.0156
		1.0	2.5	PEBBLE GRAVEL	9.0	10.5	0.0032
		2.5	9.5	COBBLE-BOULDER GRAVEL			
		9.5	10.5	BEDROCK			
GD-25	16.0	0.0	0.5	SILT	0.5	7.0	0.0021
		0.5	7.0	PEBBLE GRAVEL	7.0	16.0	0.0056
		7.0	16.0	COBBLE-BOULDER GRAVEL			
GD-26	19.0	0.0	8.0	BOULDER GRAVEL	0.0	8.0	0.0063
		8.0	19.0	COBBLE PEBBLE GRAVEL	8.0	19.0	0.0027
GD-27	7.0	0.0	2.5	ORGANICS & SILT	2.5	7.0	0.0064
		2.5	7.0	BOULDER GRAVEL			
GD-28		(see pit GD-1)					

GD-29	16.0	0.0	1.5	ORGANICS & SILT	1.5	7.0	0.0095
		1.5	7.0	BOULDER GRAVEL	7.0	16.0	0.0024
		7.0	15.5	PEBBLE-COBBLE GRAVEL			
		15.5	16.0	BEDROCK			
GD-30	11.5	0.0	0.3	SILT	0.3	9.5	0.0011
		0.3	9.5	COBBLE GRAVEL	9.5	11.5	0.0014
		9.5	11.0	PEBBLE GRAVEL			
		11.0	11.5	BEDROCK			
EXP-1	8.0	0.0	8.0	TAILINGS	NO SAMPLE TAKEN		
EXP-2	17.0	0.0	1.0	TAILINGS	NO SAMPLE TAKEN		
		1.0	6.0	SWAMP ORGANICS & SILT			
		6.0	17.0	SILT & CLAY			
EXP-3	20.0	0.0	2.5	SILT SLOUGH	NO SAMPLE TAKEN		
		2.5	3.0	ORGANICS			
		3.0	18.0	SILT SLOUGH			
		18.0	20.0	MOSS			
EXP-4	5.0	0.0	0.5	ORGANICS	NO SAMPLE TAKEN		
		0.5	4.0	GREY SILT			
		4.0	4.5	ORGANICS			
		4.5	5.0	FROZEN GREY SILT			
EXP-5	5.5	0.0	1.0	ORGANICS	NO SAMPLE TAKEN		
		1.0	2.5	GREY SILT			
		2.5	5.0	ORGANICS & SILT			
		5.0	5.5	FROZEN SILT			
EXP-6	4.5	0.0	4.0	ORGANICS & SILT	NO SAMPLE TAKEN		
		4.0	4.5	FROZEN SILT			
EXP-7	5.0	0.0	4.5	ORGANICS & SILT	NO SAMPLE TAKEN		
		4.5	5.0	FROZEN SILT			

APPENDIX C : TEST PIT SUMMARY DATA, McINTYRE CREEK

NOTE: 1) distances are in feet
2) grade in troy ounces pure gold/bank cubic yard

PIT NUMBER	TOTAL DEPTH	GEOLOGIC From	To	Description	ANALYTICAL From	To	Grade
MC-1	10.5	0.0	2.0	ORGANICS	5.0	10.5	0.0037
		2.0	5.0	SILT			
		5.0	10.0	BOULDER GRAVEL			
		10.0	10.5	BEDROCK			
MC-2	19.0	0.0	0.5	ORGANICS	16.0	19.0	0.0017
		0.5	14.0	SILT & GRAVEL SLOUGH			
		14.0	16.0	SILTY CLAY			
		16.0	19.0	COBBLE GRAVEL			
MC-3	15.0	0.0	1.0	ORGANICS	1.0	15.0	0.0028
		1.0	15.0	BOULDER GRAVEL			
MC-4	35.0	0.0	35.0	PEBBLE-COBBLE GRAVEL	0.0	35.0	0.0007
MC-5	15.0	0.0	1.0	ORGANICS	3.0	15.0	0.0011
		1.0	3.0	SILT & GRAVEL			
		3.0	15.0	SLOUGH & GRAVEL			
EXP-1	15.0	0.0	15.0	COBBLE BOULDER GRAVEL	NO SAMPLE TAKEN		
EXP-2	16.0	0.0	1.0	ORGANICS	NO SAMPLE TAKEN		
		1.0	16.0	COBBLE GRAVEL			
EXP-3	19.0	0.0	9.0	SLOUGH SILT & GRAVEL	NO SAMPLE TAKEN		
		9.0	19.0	SILT			
EXP-4	18.0	0.0	18.0	SILT	NO SAMPLE TAKEN		
EXP-5	18.0	0.0	18.0	SILT	NO SAMPLE TAKEN		
EXP-6	12.0	0.0	0.3	ORGANICS	NO SAMPLE TAKEN		
		0.3	5.0	ORGANICS & SILT			
		5.0	12.0	SILT & PEA GRAVEL			

APPENDIX D : TEST PIT TECHNICAL DATA, MINTO CREEK

NOTE: 1) lengths reported in feet (meters)
2) volume reported in bank cubic yards (bank cubic meters)
3) raw gold recovered reported in grams
4) grade reported in troy ounces pure gold/bank cubic yard (grams pure gold/bank cubic meter) using reported fineness of 820.

PIT NUMBER	SAMPLE INTERVAL From	To	VOLUME	RAW GOLD RECOVERED	GRADE
GD-1	0.0 (0.00)	1.5 (0.46)	0.750 (0.573)	0.37252	0.0131 (0.5331)
	1.5 (0.46)	10.5 (3.20)	0.600 (0.459)	0.06545	0.0029 (0.1169)
	10.5 (3.20)	20.0 (6.10)	0.600 (0.459)	0.03601	0.0016 (0.0643)
GD-5	1.5 (0.46)	12.0 (3.66)	0.975 (0.745)	0.38189	0.0103 (0.4203)
GD-6	1.5 (0.46)	7.5 (2.29)	0.900 (0.688)	0.10344	0.0030 (0.1233)
GD-12	1.5 (0.46)	11.0 (3.35)	0.600 (0.459)	0.05459	0.0024 (0.0975)
GD-14	1.5 (0.46)	12.0 (3.66)	0.750 (0.573)	0.05328	0.0019 (0.0762)
GD-16	3.0 (0.91)	13.0 (3.96)	0.750 (0.573)	0.06634	0.0023 (0.0944)
GD-17	- -	- -	0.750 (0.573)	0.09788	0.0034 (0.1401)
GD-18	- -	- -	0.975 (0.745)	0.39827	0.0108 (0.4384)
GD-19	7.0 (2.13)	19.0 (5.79)	0.750 (0.573)	0.01725	0.0006 (0.0247)
GD-19A	7.0 (2.13)	19.0 (5.79)	0.525 (0.401)	0.03677	0.0018 (0.0752)
GD-20	0.0 (0.00)	10.0 (3.05)	0.375 (0.287)	0.38216	0.0269 (1.0919)
GD-21	- -	- -	0.488 (0.373)	0.16866	0.0091 (0.3708)
GD-22	- -	- -	0.750 (0.573)	0.04236	0.0015 (0.0606)
GD-23	1.0 (0.31)	8.0 (2.44)	0.600 (0.459)	0.05056	0.0022 (0.0903)
	8.0 (2.44)	16.0 (4.88)	0.600 (0.459)	0.10793	0.0047 (0.1928)
GD-24	0.0 (0.00)	9.0 (2.74)	0.675 (0.516)	0.40007	0.0156 (0.6358)
	9.0 (2.74)	10.5 (3.20)	0.750 (0.573)	0.09099	0.0032 (0.1302)
GD-25	0.5 (0.15)	7.0 (2.13)	0.750 (0.573)	0.05842	0.0021 (0.0836)
	7.0 (2.13)	16.0 (4.88)	0.600 (0.459)	0.12718	0.0056 (0.2272)
GD-26	0.0 (0.00)	8.0 (2.44)	0.675 (0.516)	0.16163	0.0063 (0.2569)
	8.0 (2.44)	19.0 (5.79)	0.750 (0.573)	0.07596	0.0027 (0.1087)
GD-27	2.5 (0.76)	7.0 (2.13)	0.525 (0.401)	0.12802	0.0064 (0.2618)

GD-29	1.5 (0.46)	7.0 (2.13)	0.675 (0.516)	0.24428	0.0095 (0.4067)
	7.0 (2.13)	16.0 (4.88)	0.675 (0.516)	0.06207	0.0024 (0.0986)
GD-30	0.3 (0.10)	9.5 (2.90)	0.675 (0.516)	0.02886	0.0011 (0.0459)
	9.5 (2.90)	11.5 (3.51)	0.675 (0.516)	0.03564	0.0014 (0.0566)

APPENDIX E : TEST PIT TECHNICAL DATA, McINTYRE CREEK

NOTE: 1) lengths reported in feet (meters)
2) volume reported in bank cubic yards (bank cubic meters)
3) raw gold recovered reported in grams
4) grade reported in troy ounces pure gold/bank cubic yard (grams pure gold/bank cubic meter) using reported fineness of 820

PIT NUMBER	SAMPLE INTERVAL From	To	VOLUME	RAW GOLD RECOVERED	GRADE
MC-1	5.0 (1.52)	10.0 (3.05)	0.750 (0.573)	0.10411	0.0037 (0.1490)
MC-2	16.0 (4.88)	19.0 (5.79)	0.750 (0.573)	0.04976	0.0017 (0.0712)
MC-3	1.0 (0.31)	15.0 (4.57)	0.750 (0.573)	0.07899	0.0028 (0.1130)
MC-4	0.0 (0.00)	35.0 (10.7)	0.825 (0.631)	0.02232	0.0007 (0.0290)
MC-5	3.0 (0.91)	15.0 (4.57)	0.375 (0.287)	0.01595	0.0011 (0.0456)

Appendix F : SUMMARY CLAIM INFORMATION

CLAIM NAME	GRANT NUMBER	ANNIVERSARY
Hugo No. 1 Creek Claim	P 2954	September 3, 1988
Hugo No. 2 Creek Claim	P 2955	September 3, 1988
Hugo No. 3 Creek Claim	P 2956	September 3, 1988
Ken Creek Claim	P 15740	October 15, 1988
Estelita Creek Claim	P 15741	October 15, 1988
Frank Creek Claim	P 15742	October 15, 1988
Christina Bench Claim	P 15131	September 3, 1988
Pete No. 1 Creek Claim	P 2830	September 3, 1988
Pete No. 2 Creek Claim	P 2831	September 3, 1988
Pete No. 3 Creek Claim	P 2832	September 3, 1988
Pete No. 4 Creek Claim	P 2833	September 3, 1988
Creek Claim No. 1	P 15498	August 9, 1988
Creek Claim No. 2	P 15499	August 9, 1988
Fische #2 Creek Claim	P 2106	September, 3,1988
Casten Creek Claim	P 15934	September 18,1988
Rex 1 - 10	P 16010 - 16019	

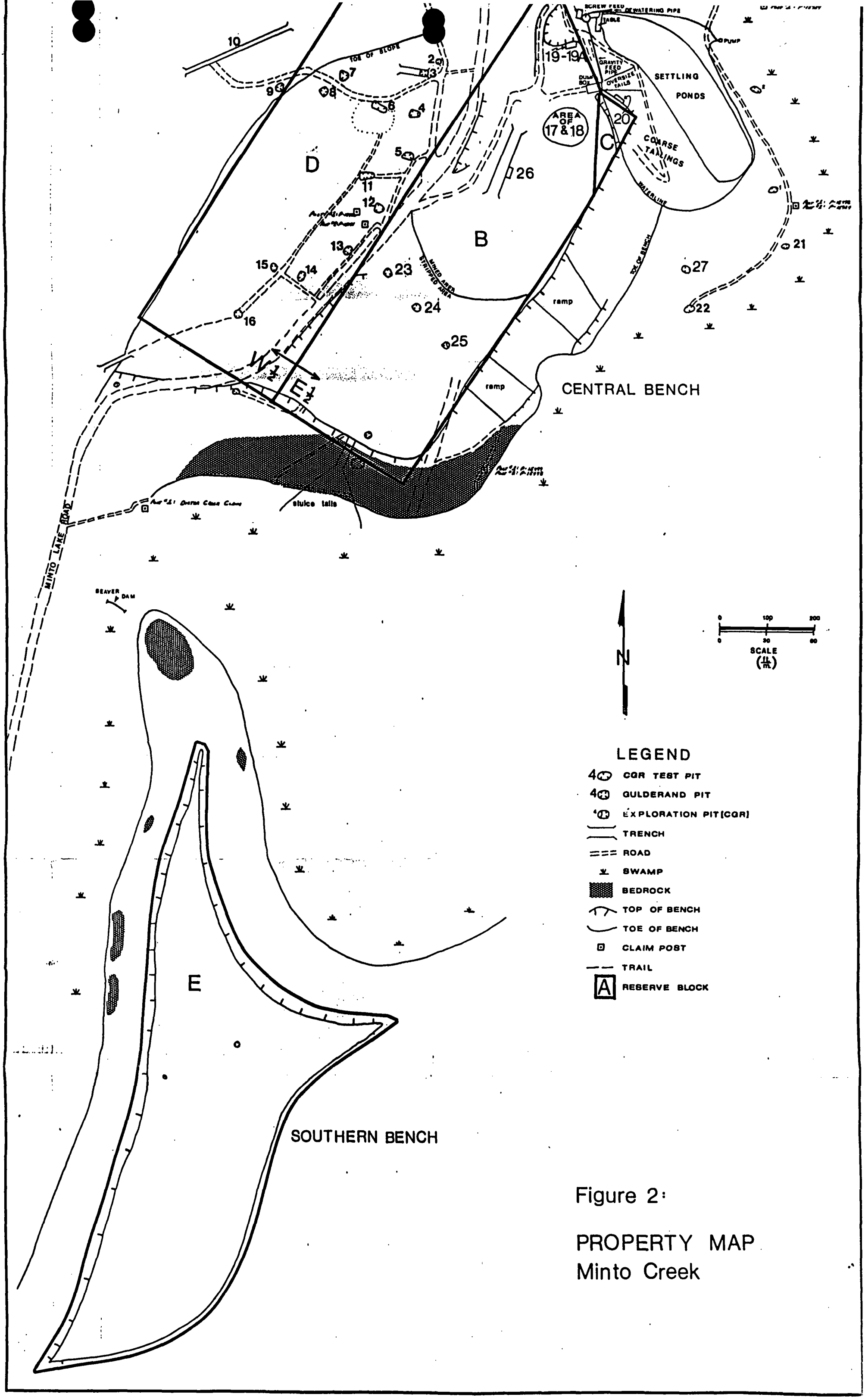


Figure 2:

PROPERTY MAP
Minto Creek

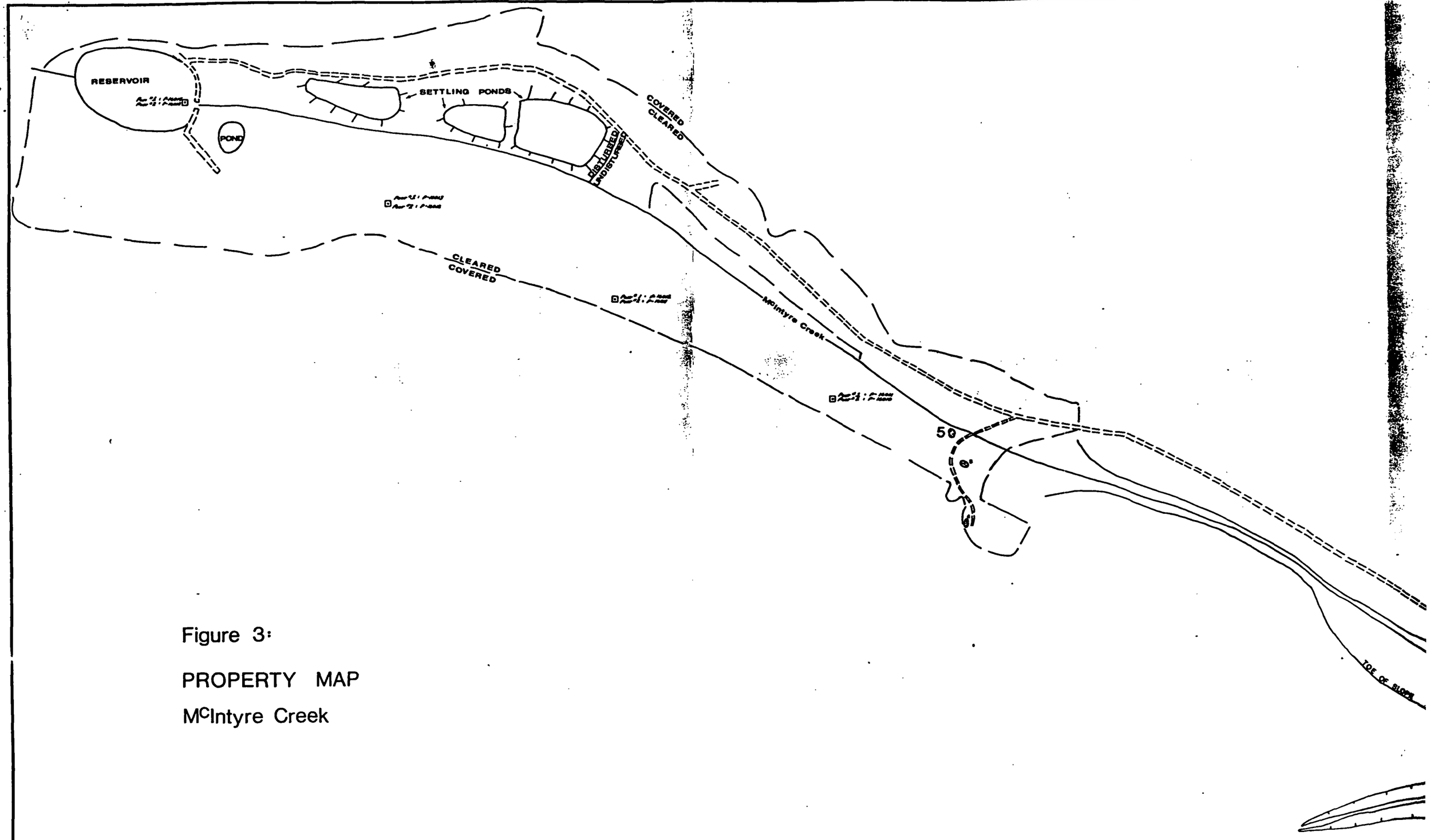


Figure 3:

PROPERTY MAP

McIntyre Creek

Kim Hudson
88-024

Part of 88-024
Kim Hudson
116A -
Antimony Mt
BUZ - HUD claims

Ltd.
Assayers
VANCOUVER.
2C1

To : OreQuest Consultants Ltd.
404 - 595 HOWE ST.
VANCOUVER, B.C.
V6C 2T5
Project :
Comments: ATTN: KIM HUDSON

**Page No. : 1-A
Tot. Pages: 1
Date : 2-NOV-88
Invoice # : I-8826235
P.O. # : NONE

CERTIFICATE OF ANALYSIS A8826235

SAMPLE DESCRIPTION	PREP CODE		Au ppb FA+AA	Al %	Ag ppm	As ppm	Ba ppm	Be ppm	Bi ppm	Ca %	Cd ppm	Co ppm	Cr ppm	Cu ppm	Fe %	Ga ppm	Hg ppm	K %	La ppm	Mg %	Mn ppm
KH-88-03	255	238	75	0.12	11.6	1910	< 10	< 0.5	16	0.06	2.0	8	136	1450	1.77	< 10	< 1	< 0.01	< 10	0.02	48
KH-88-04	255	238	45	2.56	0.6	55	100	0.5	< 2	0.42	< 0.5	18	98	88	4.29	10	< 1	1.06	40	1.07	284
KH-88-08	255	238	60	0.23	7.6	135	< 10	1.5	< 2	0.31	1.0	17	46	2260	>15.00	< 10	< 1	0.01	< 10	0.09	235
KH-88-09	255	238	25	5.84	0.4	5	50	1.5	< 2	3.64	1.0	12	87	95	3.72	10	< 1	0.36	10	0.94	237
KH-88-11	255	238	25	0.19	0.2	320	< 10	< 0.5	38	0.05	< 0.5	2	142	70	2.28	< 10	< 1	0.05	< 10	< 0.01	43
KH-88-12	255	238	20	0.71	0.2	40	< 10	< 0.5	< 2	0.38	< 0.5	5	159	142	3.83	< 10	< 1	0.02	20	0.24	78
KH-88-12B	255	238	760	0.09	65.4	>10000	< 10	< 0.5	182	3.78	66.5	87	60	1115	9.63	< 10	< 1	0.01	< 10	0.91	552
KH-88-25	255	238	35	1.12	1.6	455	130	< 0.5	< 2	0.35	1.5	21	89	246	6.89	< 10	< 1	0.40	10	0.84	336
KH-88-26	255	238	< 5	4.60	< 0.2	145	< 10	< 0.5	2	>15.00	0.5	11	20	52	2.27	< 10	< 1	0.01	< 10	0.02	365
KH-88-27	255	238	25	1.72	< 0.2	15	10	< 0.5	< 2	1.19	< 0.5	3	100	22	3.92	< 10	< 1	0.03	20	0.08	727
KH-88-28	255	238	30	3.31	< 0.2	35	< 10	< 0.5	< 2	2.96	< 0.5	13	43	48	7.38	< 10	1	0.04	10	0.05	612

CERTIFICATION : B. Caglioni

DATE: July 1

TRAVERSE: Travelled from Ross River to Dawson City - all day travelling Stayed at the Downtown

DATE: July 2

TRAVERSE: Made arrangements for field gear and helicopter to return to Dawson early Sept. Got updated claim map. Looked into prospecting silver potential on on Yukon river Carbonatized ultramafics described in Jim Mortenson's mapping. Rent canoe in town - pick up arranged. May be too dangerous in Sept.

DATE: July 3

TRAVERSE: Looked into prospecting Lee Creek Area for epithermal gold target - continuation from last year. Contacted trapper who owns cabin - possible to rent it in September.

July 4, 5, 6, 7

Holiday in Dawson and hitch hiked to Whse.

July 8, 1989

Return to Whse. Tried to contact David Downing and Grant Abbott but neither were available

SEPT 1

Arrived in Whitehorse. Problem getting dog to Dawson. Sent by truck later.

SEPT 2.

Travelled to Dawson City

SEPT 3

Supplies bought in Dawson. Picked up camp gear at Michel Vincent's. Booked Helicopter to Property. Met with Jeff Toohey of Canamax to go to Property

SEPT 4

Set up camp. Toured Jeff Toohey to veins in area to be staked. Snow on property - ugh! Dangerous getting around.

SEPT 5

Began prospecting ridge with HUD claims to trace limestone into the valley. Found extension in creek. Very windy, snowing. Called it a day.

SEPT 6 Put metal tags on 1987 claims

SEPT 7

TRAVERSE: PROSPECTING VALLEY ADJACENT TO HUD CLAIMS.

Mineralized float sampled.

① Qtz vein with vuggy core regions. Up to arsenopyrite pods of fg. tourmaline, mn. cpy

② Silicified, non-foliated argillite with up to 5% dissem pyrr and in thin lets

③ Sst - black-grey on fresh surface. Fr. vfg. dissem py and pods pyrr. Weathered surface is deep orange

SEPT 8

TRAVERSE: SNOWING - stayed in camp.

SEPT 8

Samples taken from float in Antimony Cr.

KH-88-2	Vuggy Qtz with tourmaline, arsenopyrite minor pyrite Float taken from talus slope just (~100m) west and down hill from drill site
KH-88-3	Silicified Argillite with cpy, py, Pyrr Float at same location as KH-2
KH-88-4	same as KH-3 Tour cpy more dissem py
KH-88-5	Silicified argillite ± fg. py, pyrr ± cpy taken from talus slope west of the limestone
KH-88-6	brecciated argillite v.f.g. dissem sulfide, pass sericite

SEPT 9

Staked 2 claims at headwaters of Antimony Cr over old Anaconda Veins.

WP HUD 13
Sept 9, 1988
K. Hudson
900' WEST

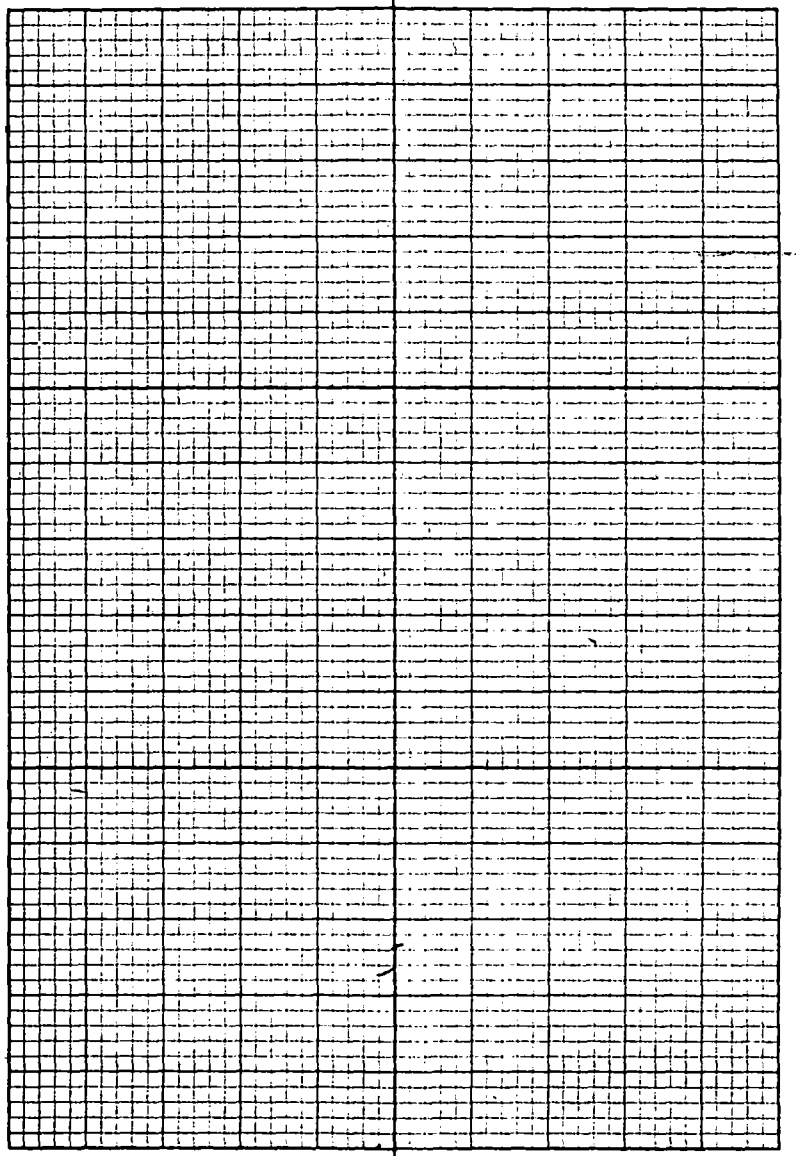
WP HUD 14
Sept 9, 1988
K. Hudson
900' West

SEPT 10

Woke to sound of a helicopter and a stakes walking through camp.

SEPT 10

KH-88-7	pyrr rich qtz pebble conglom of Road River Fm (fine qtz in qtz matrix)
	ocp on ridge near Sigyn Peak btwn 2 post along the ridge.
KH-88-8	Skarn ± cpy 8%, pyrr 8%, py, bornite (20% sulf) ± qtz, ~~ars calcite~~ chlorite, amphibole
	Float sample W of camp btwn drill pad & lst?
KH-88-9	fine grained sediment (poss lst or mudst) with 2 stages of silicification, 2% dissem pyrr, py and veinlets - found in creek
KH-88-10	Massive pyrr ± chl and poss bornite
	Float found in creek ~150m west of camp (~100 lb boulder)
KH-88-11	Qtz - tourm vein
	Float found in creek below lst (?).



& SEPT 11

KH	KH-88-12	Skarn, cpy, sphal, pyrr ~~pyrr~~ (~~3% sulf~~) Boulder ~~bx~~ near chl-sulfide showing in creek and from rock slide Blotchy look
	KH-88-13	~~some as 12~~ 10% sulf, crs calcite from creek marcasite, sphal, ~~galena~~ found in creek
KH		
	KH-88-14	m.g. sst ± dissem pyrr, biot py. weathers orange. Open space filled ± crs calcite, tourm.
	KH-88-15	chl-pyrr 10% sulf, silicified, bornite crs grained calcite f.g. diopside Pos SKARN
K		pyrr as dissem & late veinlets Float in creek and scree.
	KH-88-16	Limestone locally recrystallized ± dissem & veinlets of pyrr (3%)
K		silicified locally

SEPT 12

Pulled down camp. Helicoptered back to town.

SEPT 13

Registered claims. Contacted Mike Fekete of Total Energold. Arranged to meet to discuss claims on 15th

SEPT 14

Waited in Dawson

SEPT 15

Met with Mike Fekete of Total Erickson. They believed my claims would lapse and had hoped to pick up all that ground. They staked 180 units covering the contact zone of the intrusion. I gave them a preliminary report I have prepared on my claims. They asked me to deal with the ~~Vancouver~~ Whitehorse office and said they would approach me later

KH

SEPT 16

Return to Whse.
Called David Downing - not in
Grant Abbott out of town

KH

I

I

K

K

GEAREX ENGINEERING
GEAREX MANAGEMENT LTD.

EXPLORATION INCENTIVES PROGRAM DESIGNATION # EIP88-024

GEOLOGICAL

SUMMARY

REPORT

ON A

GOLD PLACER BULK SAMPLING PROGRAM

PERFORMED ON THE

MINTO CREEK GOLD PLACER PROPERTY
GRANT NUMBERS: P2954-P2956, P15740-P15742, P15131, AND
P2830-P2833, P15498-P15499, P2106, P15934
MINTO LAKE AREA

63 o 43'N 136 o 07'W 115P9E

MAYO MINING DISTRICT

MAYO, YUKON TERRITORY

FOR

GULDERAND MINING CORP.

Operations Supervisor: Rolf Harms

March 22, 1989

Author: Gerhard von Rosen, P.Eng.

FIGURE "A"

INDEX MAP

OF

YUKON TERRITORY

CANADA

0 200

KM

TABLE OF CONTENTS

SUMMARY

GULDERAND MINING CORP., DURING 1987, CARRIED OUT PIT TESTING PROGRAM ON THEIR MINTO CREEK PROPERTY, MAYO, YUKON, AS A RESULT OF WHICH A BULK TESTING PROGRAM WAS RECOMMENDED.

THE PURPOSE OF SUCH WORK WAS TO OBTAIN GRADE/VOLUME EVALUATIONS OF THE BENCH GRAVELS, WITH A VIEW OF MAKING A PRODUCTION DECISION ON THE FEASIBILITY OF MINING THE BENCH DEPOSIT AREAS "A", "B", AND "C".

THE 1988 BULK TESTING PROGRAM, SUMMARIZED HEREIN, EXCAVATED ABOUT 25,000 BANK CUBIC YARDS OF MATERIAL FROM WHICH 280 OUNCES OF PURE GOLD WERE RECOVERED. AS THE LOSSES INCURRED DURING THE DE-WATERING STAGE ARE ESTIMATED TO BE HIGHER THAN 20%, IT MUST BE ASSUMED THAT AN APPRECIABLE AMOUNT OF PLACER GOLD, CONTAINED IN THE GRAVELS, DID NOT REACH THE AEC 999 CONCENTRATOR.

THE TENOR OF THE PROCESSED GRAVELS RANGES BETWEEN 0.0092 AND 0.0121 FINE OUNCES TO THE BANK CUBIC YARD.

THE PIT TESTING RESULTS FOR THE EAST 1/2 OF THE HEITMAN BENCH, AFTER DEDUCTING THE VOLUMES EXCAVATED IN THE BULK TESTING PROGRAM, VARY BETWEEN 68,000 CUBIC YARDS GRADING ABOUT 0.0122 OZ/BCY, AND 47,000 CUBIC YARDS GRADING 0.009 OZ/BCY.

IN THE EVENT THAT PRODUCTION IS UNDERTAKEN ON THE PROPERTY IT IS RECOMMENDED THAT THE SOUTHERN BENCH BE INVESTIGATED BY TEST PITS OR BULK SAMPLE TO DETERMINE GRADE AND YARDAGE.

INTRODUCTION

The undersigned, having carried out, during the summer of 1987, an exploration program, test pitting a deposit of gravels lying within a bench on the left margin of Minto creek, near Minto lake, Mayo, Yukon Territory, recommended that a bulk sample should be carried out on these coarse-boulder gravels.

The purpose of such work was to obtain grade/volume evaluations of the bench materials, with a view of making a production decision on the feasibility of mining the bench deposit areas "A", "B", and "C".

During the 1988 placer mining season, Gulderand Mining Corp. carried out a bulk sampling program, supervised by Rolf Harms, designed to evaluate the placer gold content occurring within a bench of gravels at Minto creek, near Minto lake, Yukon Territory.

In the brief subject report, based on documentation provided by Rolf Harms, the writer describes the operation, summarizes the results of the program, and makes further suggestions.

Comprehensive reports dealing with the property are listed in the "Bibliography".

PLACER CLAIMS

CLAIM NAME	GRANT NO	ANNIVERSARY
Hugo No: 1-3 Cr. Cls.	P2954-P2956	Sept. 3, 1989
Ken Creek Claim	P15740	Oct. 15, 1989
Estelita Creek Claim	P15741	Oct. 15, 1989
Frank Creek Claim	P15742	Oct. 15, 1989
Christina Bench Claim	P15131	Sept. 3, 1989
Pete No: 1-4 Cr. Cls.	P2830-P2833	Sept. 3, 1989
Creek Claims No: 1-2	P15498-P15499	Aug. 9, 1989
Fische #2 Creek Claim	P2106	Sept. 3, 1989
Casten Creek Claim	P15934	Sept. 18, 1989
Shan Creek Claim	P15923	Aug. 28, 1989

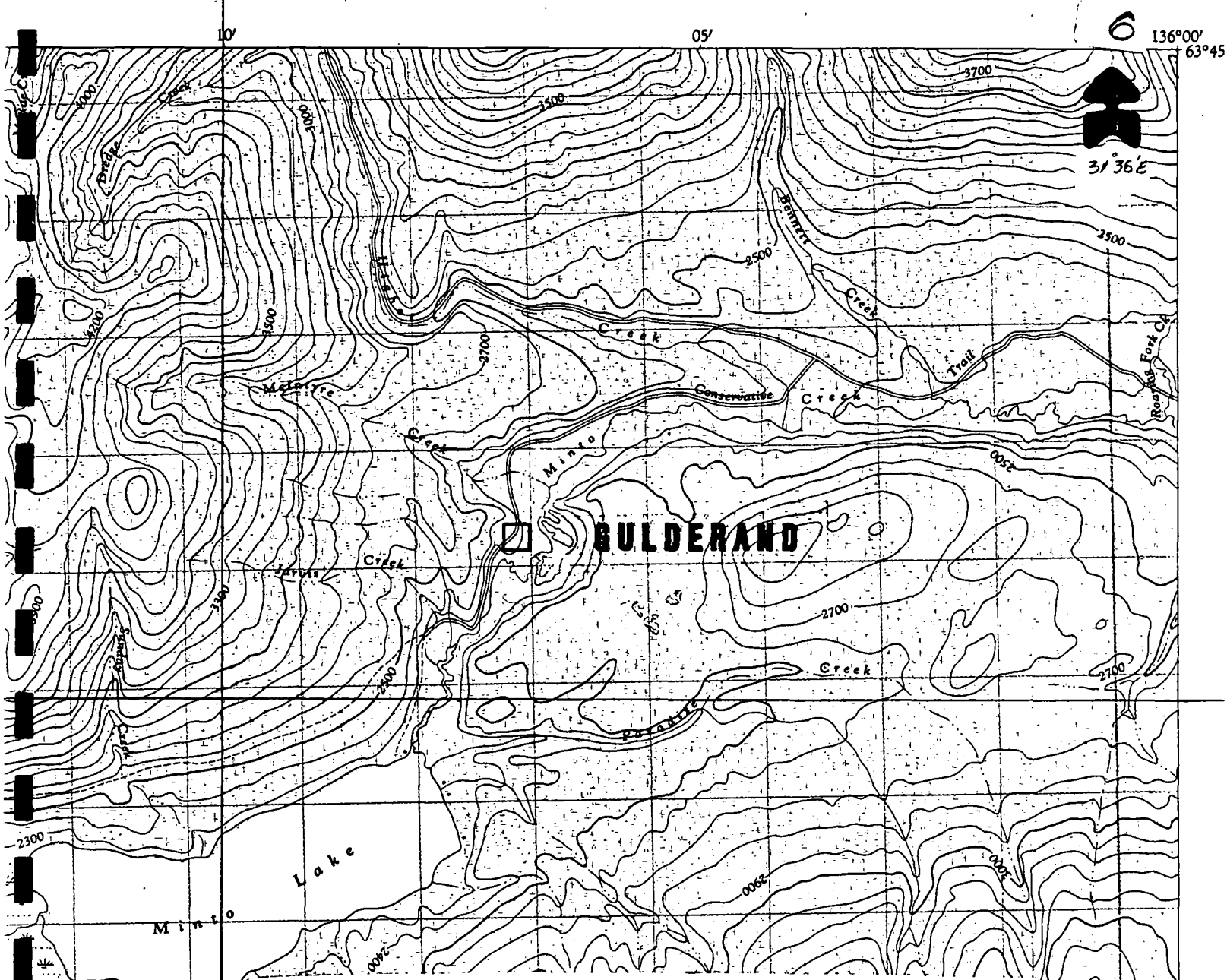


FIGURE B

MINTO LAKE GOLD PLACERS
PROPERTY LOCATION MAP
Mayo, Yukon Territory
115P9E
Mayo Mining Division

GEAREX ENGINEERING mission bc

ERL Enterprises Ltd. of Mayo, Yukon Territory is the owner of the 'Hugo', the 'Ken', the 'Estelita', the 'Frank', the 'Christina', the 'Pete', and the 'No. 1-2 Creek, claims. Gulderand Mining Corp. is testing this property under a joint venture agreement with Chalice Mining Corp., who has a lease agreement between ERL Enterprises Ltd., owners of the property.

Gulderand Mining Corp. purchased the 'Fisch Claim' and the 'Caston Creek Claim' from Ferdinand Schomig.

LOCAL GEOLOGY

The gravel sequence, particular to the bench in question, named the 'Heitman Bench, is of fluvio-glacial origin.

Sediments deposited upon bedrock comprised of phyllitic schists within the bench area, consist of auriferous coarse, boulder gravels (considered to be 'pay gravels' in the general area), on the upper surface of the subject bench, while more finer grained sands and gravels constitute most of the sedimentary section to be encountered at the abrupt drop-off, near the edge of the bench. Indeed, it appears as though a sequence of deposition has draped gravels over a bedrock knoll, providing very little top cover (as this consists mainly of boulder gravel), while the sides of the bench consist of several tens of feet of bedded sands and gravels.

This material consists of well-washed, poorly sorted, coarse sand, intermixed with pebbles, cobbles, and boulders, ranging in size to over two feet in diameter. The polished, round boulders may originate in an area farther east of this vicinity, as the local rocks appear to be mostly comprised of schists.

The coarse boulder gravels are well-washed, and gritty, having very little finer-grained content below coarse sand.

A veneer of finer-grained gravels overlie the boulder gravels in the sequence at Heitman bench. Overlying these, in turn, is an 'overburden' layer consisting of 'dirty' buff-coloured sands and silts, which appear to gain in thickness to the west, starting approximately at the Minto lake road. At the base of the hill to the west, these may accrue to 15 or 20 feet in thickness.

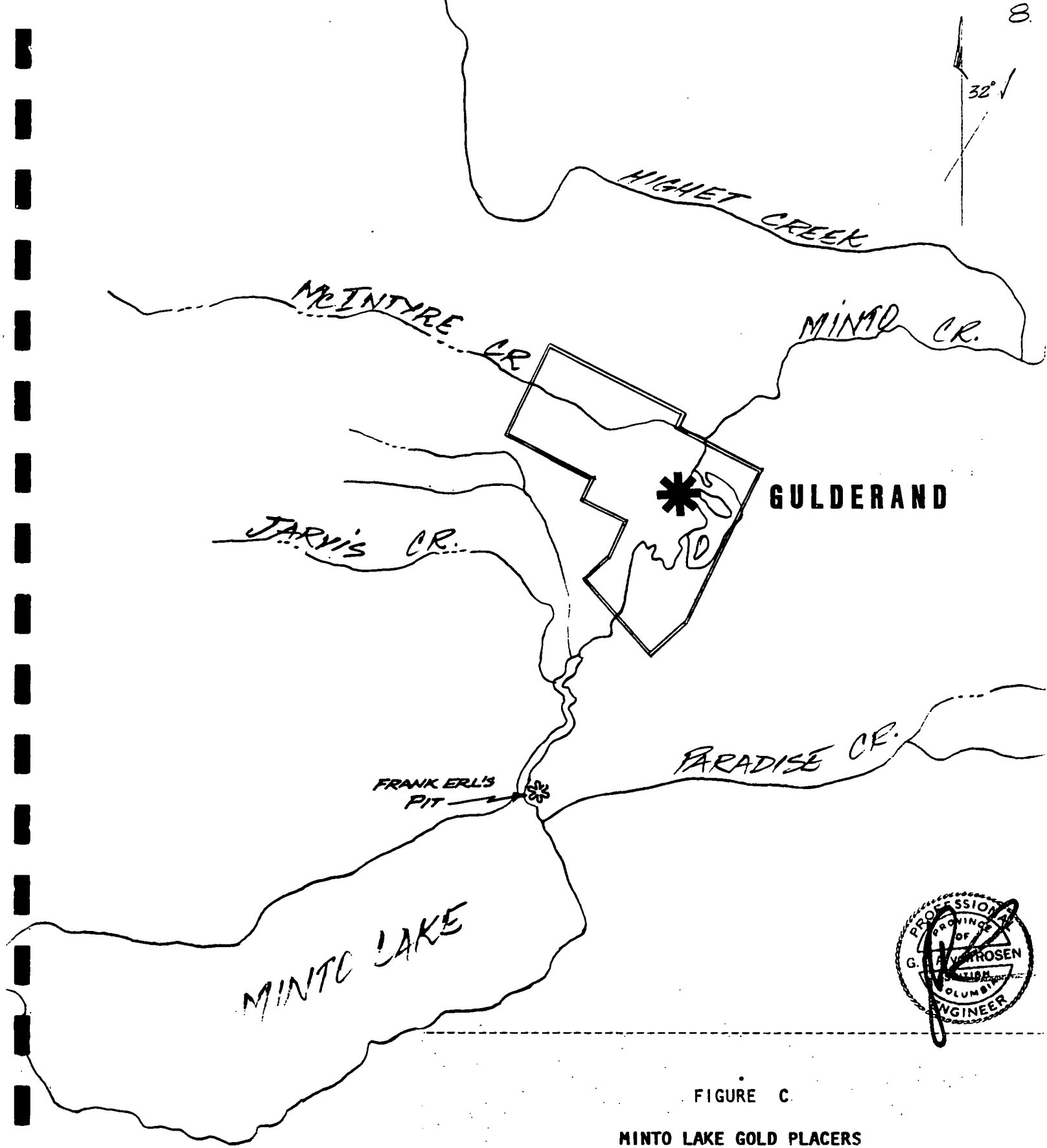


FIGURE C

MINTO LAKE GOLD PLACERS
CLAIM MAP
Mayo, Yukon Territory
115P9E
Mayo Mining Division

GEAREX ENGINEERING mission bc

RESULTS OF PREVIOUS EXPLORATION PROGRAMS

Test pitting programs were completed during two consecutive seasons on the property. The 1987 work, performed by Gearex Engineering, was managed by the undersigned, and summarized in a December 8, 1987 report.

The 1988 testing operation, carried out by Canadian Gravity Recovery Inc., was described in a November 1988 report, authored by David R. Brown and Michael D. Philpot.

The 1987 exploration program was conducted to evaluate the volume and grade of the gravels of the "Heitman" bench.

Thirty four pits were dug with a front end loader to a maximum depth of around 10 feet on a grid of about 200 feet.

The test material was dry-screened and washed over an AEC999, live-belt concentrator. The black sand concentrate was reconcentrated over a Dunham table, the concentrates being subjected to amalgamation. The thereupon recovered gold was refined by cupellation.

The values extracted from the samples, after taking the correction factors into consideration, ranged between about C$3.80 and C$13.00 to the bank run cubic yard, for the coarse, grey, boulder gravels. These were considered to be the 'pay gravels'. Similarly, the extracted values for the overlying materials ranged from less than one dollar to around two dollars per bank run cubic yard. For those materials below the pay gravels, the results showed similarly low values.

Gold is, in the subject report, taken at the presently prevailing price of US$390/fine ounce; the currency exchange rate is taken at US$1.00=C$1.20.

Canadian Gravity Recovery Inc., during the 1988 field season (while the bulk sample operation was underway), carried out a test pitting project over a larger area. The subject Heitman bench was included. This test program was described under separate cover.

VOLUME & GRADE OF AURIFEROUS GRAVELS

The result of the 1987 work program was that certain blocks of gravel had been delineated having indicated grade ranges. The description of these blocks are tabulated as follows:

The table exhibits the area/volume/grade measurements obtained by compiling the pit testing results, utilizing a string/compass survey for control, of the Heitman bench.

The surface area underlain by the coarse, grey gravel, containing numerous large boulders, (the 'pay gravels'), has been calculated from the map of the Heitman bench, prepared by the writer. (figure D)

The gravels, for the purpose at hand, are to be found with high certainty within areas **"A"** and **"B"**, and with less certainty within area **"C"**. The deposits which cover the pay gravels range in thickness of a few inches to possibly 12 feet. These occur in patches which have been designated areas **"D"**, **"E"**, **"F"**, and **"G"**.

The thickness of these favourable gravels within these areas is believed, by the writer, to approach 15 feet. There are variations in this, however, as depth to bedrock varies. Several pits have bottomed on bedrock.

The pay gravels on the Heitman bench, for the purposes of this report, are divided into two adjoining sectors, named **"A"** & **"B"**, a division made on the basis of the available test pit results.

The surface of area **"A"** measures about 14,000 square yards, of which about 9,000 square yards are overburden covered (areas **"E"** + **"G"**). Sector **"B"** covers about the same area and is covered by about 7,000 square yards of overburden (areas **"F"** + **"H"**).

At a nominal depth of 10 feet for the coarse grey boulder (pay) gravels, the available volume is about 46,500 cubic yards for area **"A"**, and the same for area **"B"**.

The estimated depth of overburden is averaged at about 2.5 yards for the overburden. Hence the volume covering area **"A"** is about 23,300 cubic yards, while that covering area **"B"** is about 18,600 cubic yards.

Those 'pay' areas, covered with overburden, were stripped of this material in the late fall of 1987.

A summation of this (1987) evaluation follows:

VOLUME/VALUE: AURIFEROUS GRAVELS

SECTOR	"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"
AREA (yd2)	14,112	14,112	251,160	251,160	4,784	2,751	4,306	4,425
DEPTH (yd)	3.3	3.3	?	?	2.0	2.0	3.0	3.0
VOLUME (yd3)	46,572	46,572	?	?	9,568	5,502	12,917	13,276
GRADE (C$/yd3)	7.69	3.57	?	?	1.60	1.60	1.60	1.60
CONTENT (oz/bcy)	0.0171	0.0079						
VALUE	C$358,000	166,000	?	?	15,000	9,000	21,000	21,000

NOTE FACTORS USED: fine gold at US$390, US$1=C$1.20; 1 gram dore = 0.8 gram fine; 1 cubic yard, bankrun = 1.20 cubic yard, loose.

NOTE: also that decisions, relative to bulk testing, were made last year when the gold price was substantially higher.

Using the same pricing parameters, shown above, the results reported by Canadian Gravity Recovery Inc. (November 1988) are as follows:

SECTOR	CENTRAL BENCH 'EAST HALF'	CENTRAL BENCH 'WEST HALF'
AREA	16,715	36,201
DEPTH	2.83	3.1
VOLUME	47,303	112,223
GRADE	4.10	1.85
CONTENT	0.0091	0.0041
VALUE	193,900	207,600

NOTE: that the 'East Half' of the Heitman bench is comprised of sectors 'A' & 'B' (using Gearex's terminology), however 50% of the pay gravels had been estimated as already excavated as a result of the subject bulk sample program. Hence, the CGR evaluation would relate to 1/2 of the Gearex volume estimation.

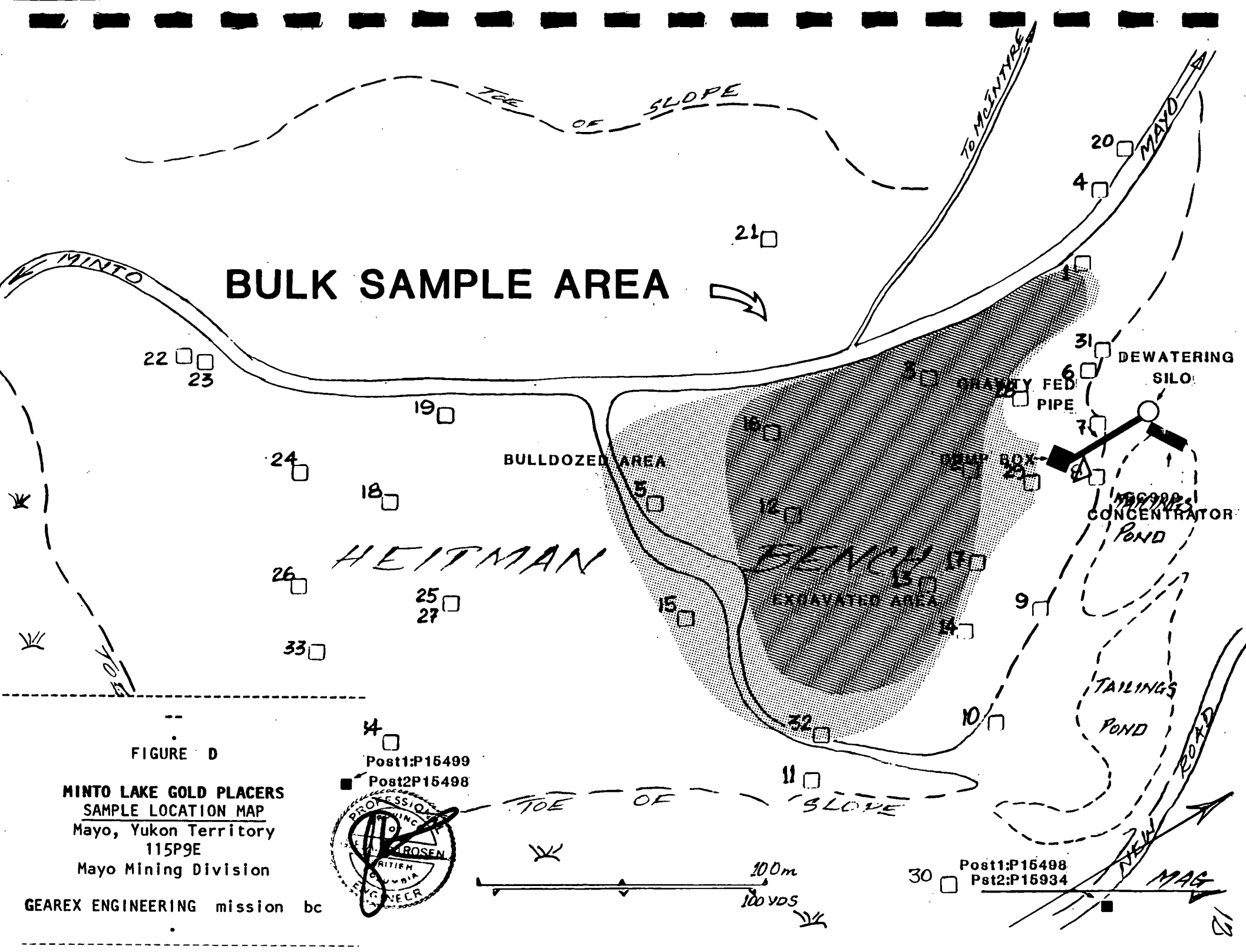


FIGURE D

MINTO LAKE GOLD PLACERS
SAMPLE LOCATION MAP
Mayo, Yukon Territory
115P9E
Mayo Mining Division

GEAREX ENGINEERING mission bc

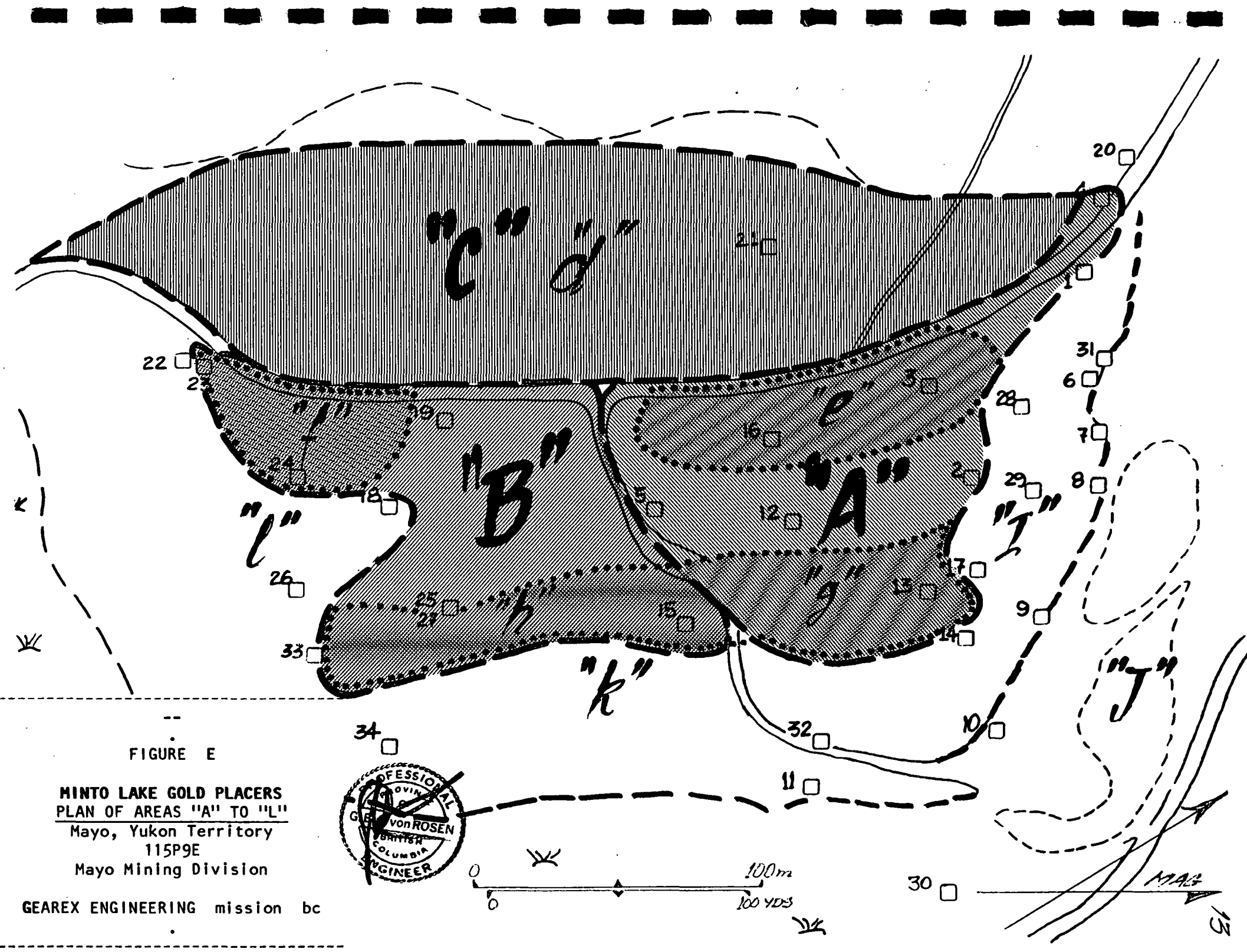


FIGURE E

MINTO LAKE GOLD PLACERS
PLAN OF AREAS "A" TO "L"
Mayo, Yukon Territory
115P9E
Mayo Mining Division

GEAREX ENGINEERING mission bc

ECONOMICS: ORE/WASTE EQUATION

The results of ore/waste calculations were shown in detail within the previous report. In summary it was suggested that, with relation to sector "A" gravels, which amounted to around 46,600 bank cubic yards of coarse boulder gravels grading about $9.62 (at the then-prevaling gold price of US$450/oz), a positive balance of about C$239,500 would accrue when the mining was finished.

Considering that about 50% of the pay gravels have been extracted, as a result of the subject test program, there is evidently some auriferous gravel left.

Because further gravel deposits have been investigated as a result of the test pitting program, carried out by Canadian Gravity Recovery Inc., performed during 1988, additional auriferous coarse boulder gravels have been delineated.

DESCRIPTION OF 1988 BULK TESTING PROGRAM

The following information was supplied by Rolf Harms, superintendent at the site.

LOCATION OF BULK TEST

As the purpose of the bulk test was to evaluate the gravel layers comprising the 'Heitman' bench, the test plant was oriented in such a manner that a wet, grizzly-screen deck was erected at the north-eastern edge of the "A" portion of the 'Heitman bench'. Head feed material was both bulldozed towards this grizzly, as well as carried over by front end loader. Material as far away as 300 to 400 feet was added to the bulk sample. The oversize was dumped over the cliff's edge.

The 3/8th inch undersize slurry was gravity fed through a 12 inch plastic pipe, down towards the east onto the creek level flats where it entered a dewatering silo. From here the slurry was fed via 24 inch sandscrew onto the AEC999 machine.

DURATION

The operation started on June 1st and was terminated October 11th, 1988.

EQUIPMENT

Dump box, 17'x8'.
Grizzly-screen deck, 7'x7', wet.
Water pump, WEDA, 4" submersible, 13.5 Kw.
Silo, dewatering, 15' diameter.
Screw, dewatering, 24" x 30'
Concentrator, AEC999.
Bulldozer, D9G
Front End Loader, Hough 80, 3.5 cu yd bucket.
Front End Loader, Cat 950, 3 cu yd bucket.
Excavator, American, 1.25 cu yd bucket.

CAPACITY

Screening plant: about 150 loose cy/hour.
AEC999 live-belt concentrator: about 1 cy/minute.

MANPOWER

Supervisor, Rolf Harms.
Workers, ranging between 4 and 6.

VOLUME OF OVERBURDEN

Overburden had been stripped the previous year.
About 8000 cuyds were stripped in preparation for next year.

VOLUME OF HEADFEED

About 31,400 loose cubic yards were washed through the system. At a swell factor of about 20%, this translates to a processed volume of about 25,000 bank run cubic yards.

TOTAL GOLD RECOVERED

The raw gold recovery taken from the daily production logs is 280 ounces of placer gold, which in this creek has a fine-ness of about 820.

PRODUCTION STATISTICS: MINTO 1988

Rolf Harms, while supervising the project, kept a daily time record of equipment and manpower.

The bulk sample plant was run at a nominal rate of 90 loose cubic yards of head feed per hour. Considering that the coarse boulder gravel is dominantly comprised of coarser than 3/8 inch sizes one would assume that the ratio of fines to coarse would be in the range of 1:5. Thus the head feed of 90 loose cubic yards would reduce to about 20 cubic yards of minus 3/8 inch feed to the AEC concentrator.

In actual fact, however, the fines amounted to about 1/2 the head feed, as it proved difficult to preferentially excavate the coarse boulder pay gravel, leaving the lower-grade, more sandy gravels behind.

There were instances when the AEC was operating but the feed was curtailed, therefore there is not a direct relationship between AEC operating time and gold production. Another, apparently major, factor that needs to be considered, is the losses of gold encountered during the process of dewatering the fines. Hard data, sufficient to make categorical statements, is not at hand, however indications are that 30% of the fines feed to the AEC were lost in the suspension of the muddy water being extracted during the dewatering stage. It is clear that a potentially large amount of contained placer gold never made it to the concentrating stage. As such is the case, one would have to apply an upgrading factor to the amount of gold recovered.

Variation in the grade of head feed has, of course, is a large consideration in the amount of gold recovered.

It has been reported that considering the number of operating hours, and the nominal throughput of 90 cy/hour, a total bulk sample of 31,410 loose cubic yards has been achieved, from which about 280 ounces of raw placer gold has been extracted.

Using a swell factor of 20%, and considering the raw placer gold to be 82% pure, there were 230 ounces of pure gold extracted from 25,000 bcy. of gravel. A grade of 0.00918 ounces of gold per bank cubic yard can therefrom be calculated. This, at the current, abovementioned prices, calculates to be C$4.14 per bank run cubic yard.

The reader is referred to the tabulation of the daily records.

PRODUCTION HOURS: MINTO OPERATION: 1988

DATE	AEC999	D9CAT	HOUGH80	CAT950	AMEXCAV	RAW GOLD DAILY	OUNCES TOTAL
Jul21	2	10	10	10	10	2	2
Jul23	3	-	3	3	-	3	5
Jul24	5	2	5	5	-	5	10
Jul26	6	2	6	6	-	6	16
Jul27	3	-	3	3	-	3	19
Jul29	4	10*	4	4	-	4	23
Jul30	2	-	2	2	-	2	25
Jul31	3	-	3	3	-	3	28
Aug01	5	-	5	5	-	5	33
Aug02	6	-	6	6	-	6	39
Aug05	3	10	3	3	-	3	42
Aug06	8.5	5	10	10	-	8.5	50.5
Aug07	10	5	10	10	-	10	60.5
Aug08	7.5	-	7.5	7.5	-	7.5	68
Aug09	6	-	6	6	-	6	74
Aug10	8.5	-	10	10	-	8.5	82.5
Aug11	5	-	5	5	-	5	87.5
Aug12	6.5	6	6.5	6.5	-	6.5	94
Aug13	7.5	5	8	8	-	7.5	101.5
Aug14	6	3	7	7	-	6	107.5
Aug15	10	8	10	10	-	10	117.5
Aug16	3	-	4	4	-	3	120.5
Aug17	4	-	5	5	-	4	124.5
Aug18	4	2	5	5	-	4	128.5
Aug19	4	4	5	5	-	4	132.5
Aug20	1	-	2	2	-	1	133.5
Aug21	5	-	6	6	-	5	138.5
Aug22	2	-	3	3	-	2	140.5
Aug23	2	-	3	3	-	2	142.5
Aug24	2	-	3	3	-	2	144.5
Aug25	3	-	4	4	-	3	147.5
Aug27	4	2	5	5	-	4	150.5
Aug28	9	-	10	10	-	9	159.5
Aug30	2	6	3	3	-	2	161.5
Aug31	2	-	3	3	-	2	163.5
Sep01	8.5	5	10	10	-	8.5	172
Sep02	8.5	10	10	3	3	5.5	177.5
Sep04	5	-	6	6	-	5	182.5
Sep05	5	3	8	-	-	2.5	185
Sep06	7	3	8	8	-	3	188
Sep07	8	-	4	3	7	4	192
Sep08	6	7	8	8	-	5	197
Sep09	6	7	6	10	0.5	2	199
Sep10	4	7	5	8	-	2	201
Sep11	9	10	8	10	2	7	208
Sep12	6.5	8	6	7	2	7	215
Sep13	7	8	6	8	5	8	223
Sep14	13.5	10	7	6	3	10	233
Sep15	8.5	7	5	10	-	11.5	244.5
Sep16	7.5	5	-	10	4	5	249.5
Sep17	-	4	-	8	-	-	249.5
Sep18	-	8	-	3	-	-	249.5
Sep19	6.5	2	-	10	-	5	254.5
Sep20	-	-	-	3	-	-	254.5
Sep21	6	-	-	8	-	2	256.5
Sep22	-	-	-	6	-	-	256.5
Sep23	5	3	-	6	-	()	259.5
Sep24	7	5	-	8	-		259.5
Sep25	6	8	-	6	-	52gr	
Sep26	5	8	4	6	-	22gr	263
Sep27	6	8	-	-	-	44gr	
Sep28	6	8	-	-	-	28gr	265
Sep29	7.5	8	8	3	-	87gr	
Sep30	5	6	6	3	-	02oz	270
Oct1-7	17	18	6	16	-	10oz	280
SUM 71	349hrs	247hrs	311hrs	379hrs	36.5hrs	280oz	280oz

COMPARISON OF RESULTS

DESCRIPTION	VOLUME bcy	TENOR oz/bcy	GRADE C$/bcy	CONTENT troy oz
Gearex "A+B"	93,000	0.0120	5.40	1116
Bulk test "A"	25,000	0.0092	4.14	230
Remainder uncorr	68,000	0.0130	5.86	886
Gearex "A+B"	93,000	0.0120	5.40	1116
Bulk test	25,000	0.0092	4.14	230
Losses	25,000	0.0028	1.03	57
Remainder corr	**68,000**	**0.0122**	**5.40**	**829**
CGR East1/2	**47,000**	**0.009**	**4.05**	**423**

From the foregoing comparison it is clear that, of the Heitman bench, (the East 1/2, ie. A+B) there is gold remaining within the coarse boulder gravels.
The total estimated ounces remaining of placer, varies according to the volume estimate made of the 'pay gravel'; this quantity is difficult to define with accuracy as many variables enter into the calculation.

DISCUSSION

1)
The purpose of the subject bulk sampling program was to obtain grade/volume evaluations of the bench materials, with a view of making a production decision on the feasibility of mining the bench deposit areas "A", "B", and "C".

2)

Although much has been gained as a result of the project, there is insufficient data to make a positive decision on bringing the placer mine into full-scale operation. The uncertainty derives from the following factors.

3)

There appears to be lack of definition regarding the actual grade of the material mined, and this is due, in part, to the possibly considerable losses of -3/8 inch gravels (together with a proportionate fraction of the gold) encountered during the dewatering stage of the bulk test plant.

As a decision, to carry on placer mining on a larger scale, needs to be made, and this is to be based upon the grade of the gravels arrived at by virtue of the bulk sample, it is clear that in this case, as there is considerable variation in this volume figure, it is not simple to incorporate this data in the decision-making process.

4)

There is going to be some uncertainty regarding the actual volume of 'pay gravels', (combined with a favourable stripping ratio), that are available for excavation and mining. The differences of opinion accrue partly from the area measurement, and partly from the thickness of the 'pay gravel' bed, that is taken as representing the average depth of material to be excavated.

The volume is calculated by multiplying the area by the thickness.

5)

As a result of the 1988 CGR test pitting program, additional nearby bench deposits of coarse boulder gravel have been discovered and, in part, tested. The known volume of potentially auriferous gravels available for excavation is therefore larger at this time, than when the 1987 testing was completed. The reader is referred to the CGR report.

6)

As regards the subject operations; the bulk sampling operation was frought with many problems, mainly due to equipment down-time. In the very limited working season that is available in this northern location, it is of great importance to have constant throughput of gold-bearing gravels.

The consideration has been offered, that, in order to prevent equipment-related down time, it is adviseable to organize the materials' flow in such a manner that the production can be continued, despite the break downs. To allow such an operation, a flow sheet needs to be devised whereby the screening stage may work separately from

the concentrating plant. In this manner, should break downs occur, they will only influence the one, but not interact with the other end of operations.
This can simply be carried out by stockpiling the fine screen material, and using a front end loader to feed the AEC999.
The draw back in the latter case, is that the dirty wash water, originating at the screen, tends to carry away much of the fine-grained gold, believed to be within the size range entrapment capability of the AEC999. The continuous flow system, having no intermediate stages between screening and concentrating, at least in theory, should be the less wasteful with relation to the winning of fine-grained gold.
7)
In the case of the operation in point, considerable losses of auriferous gravel feed were, apparently, encountered during the dewatering stage at the silo under which the dewatering screw was in operation. Measured losses of up to 30% of 3/8th inch minus fines, which is the gold-bearing size-fraction being fed onto the AEC999, have been reported.
A case in point is that at a total head feed volume of 31,410 loose cubic yards, a feed rate of 1.5 cubic yards per minute, and a therefrom measured loss of 0.1913 grams per minute (Harms, person. communication), a total loss of 129 ounces of pure gold (a loss of 129/(129+230) = 35%) could have been incurred during the season, however, considering that the abovementioned test, being a single spot test, may not have examined the 'average' feed put through the system, the writer believes it to be more reasonable to assume that the (lower) 20% auriferous material loss is the more likely to obtain. Thus the abovementioned loss of 57 ounces (instead of 129 ounces) has been tabulated.
It remains to be decided whether the best manner of gold winning is to perfect the continuous system, whereby all of the muddy-suspension gold is carried over the AEC99, or to convert to a batch system which incorporates the stockpiling of material, which would be less sensitive toward down time.
8)
Another consideration that arose from the methology used, relates to the concept of using a stationary screening plant. Transporting bank-run head-feed gravel towards the hopper, using rubber tired loaders, is satisfactory as long as the roadways are kept well-groomed, and the distance is kept short. Pushing the feed to the pickup areas with a large bulldozer, wherefrom the loaders move it to the hopper, is a much used, and viable method also.
A better method, for future consideration, might be to utilize, firstly, either a mobile

screening plant, which prepares stock piles of fine feed, or secondly, a system whereby the headfeed is conveyed from a dozer trap towards the screening plant.

CONCLUSIONS

The following conclusions can be made:

1) The bulk sampling program at the Heitman bench was successful in that 230 ounces of pure gold were extracted from 25,000 bank cubic yards of the coarse boulder gravel, considered to be 'pay gravel'.

2) Depending on which parameters are taken into consideration the grade of the material, thus treated through the plant, graded between 0.0092 and 0.012 pure ounces of gold to the bank cubic yard.

3) According to some calculations the remaining coarse boulder 'pay gravels', yet to be mined on the Heitman bench, calculate to between about 0.0122 and 0.0130 oz/bcy, over a remaining volume of 68,000 bcy. Other calculations indicate that only 47,000 bcy's are left, grading at 0.009 oz/bcy.

4) The 1988 test work by Canadian Gravity Recovery Inc. has indicated the presence of more coarse boulder gravels, as well as broad channel deposits that contain placer gold, thereby increasing the volume of coarse boulder gravel.

5) Further exploration of the lowest level of gravel, known to contain coarse boulder beds, the surface of which is locally known as the Schomig bench, may lead to the discovery of extensive auriferous deposits reconcentrated by the present Minto creek.

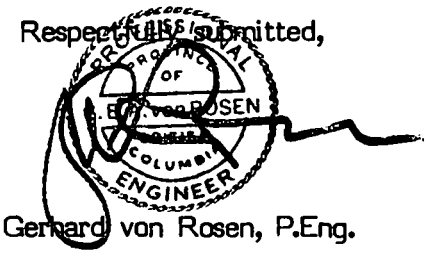
RECOMMENDATIONS

i) The recommendations proffered in the writer's previous reports have, to a large extent been accommodated as a result of the subject bulk sampling program.

ii) The writer concurs with Canadian Gravity Recovery Inc. that if mining is continued on the property, then the southern bench should be investigated by test pits or bulk sample to determine grade and yardage.

iii) Potentially large volumes of auriferous gravel can be expected to occur within the present channel of Minto creek. Environmental considerations, more problematical than those concerned with the bench deposits, need to be addressed when considering exploration of these gravels.

Respectfully submitted,



Gerhard von Rosen, P.Eng.

March 22, 1989

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CERTIFICATE OF QUALIFICATIONS

I, Gerhard von Rosen, reside in Mission, British Columbia, at 33176 Richards Avenue.

I have been practicing my profession of consulting geologist since my graduation from the University of British Columbia in 1962 with a Bachelor of Science, and in 1966, with a Master of Science degree in Honours Geology.

I have prepared the subject report from information gained during my visit to the Minto Creek Gold Placer property during late September and early October, 1987, and from references cited.

I have not visited the property since 1987.

I have received the fees and expenses invoiced regarding the preparation of this report, as this is my sole remuneration. I have no interest in the company, its properties, or its shares, neither do I expect to receive any.

Respectfully submitted,

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA G. R. A. von ROSEN

Gerhard von Rosen, P.Eng.
March 22, 1989