YUKON TERRITORIAL GOVERNMENT
EXPLORATION INCENTIVES PROGRAM
PROJECT EIP-88-007

PLACER EXPLORATION ON FORTYMILE RIVER:

Sampling

April 1, 1988 - December 31, 1988

PLACER CLAIMS:
P11187-P11190, P11206, P11205

DREDGING LEASE:
DL83/5

TRANSVERSE MERCATOR PROJECTION CO-ORDINATES
141°47' longitude - 64°21' latitude
PLACER CLAIM SHEET 116C-7

prepared by
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1 INTRODUCTION

This report covers exploration work completed under the Yukon Territorial Government's Exploration Incentives Program, between April and September of 1988. This work is a continuation of exploration work carried out under the Exploration Incentives Program in 1987.

1.1 OVERVIEW

The Fortymile is a swift flowing river emptying into the Yukon River approximately 45 miles below Dawson City. The river originates in Alaska and the lower 23 miles are located in the Yukon Territory.

Gold was first discovered on the Fortymile in 1886, and it became the site of the first major gold rush in the Yukon Territory. The river has been dredged in some locations and has been extensively mined on the American section.

We have been mining and prospecting on the Fortymile and its tributaries since 1974. We have completed drilling, bulk sampling, and other exploration on the river. We have had a producing mine for the past 7 years.

A more detailed description of the river, its history, and our previous mining and exploration activity is given in our 1987 Exploration Incentives report.

1.2 PROJECT DESCRIPTION

Exploration work performed in the 1988 season was a continuation of the exploration work which we did on the property in the 1987 season. Last year's program concentrated on achieving cursory examination of as much of the middle section of the Fortymile as time and terrain would allow. It consisted of prospecting work with pick, shovel, and gold pan, followed by backhoe-excavator trenching from which numerous small samples were analysed for gold content. Activity this year was more specific. This work consisted of three programs as follows:

1) Further evaluation of some of the bar ground was made by taking hand samples from trenches.
2) Previously exposed bedrock was bulk sampled.
3) A bulk sample of bar and adjacent bank ground was processed.

1.3 EQUIPMENT USED

The following equipment was used in the exploration program:

- Cat 213 hydraulic excavator, equipped with 36 inch rock bucket and long (9 foot 6 inch) stick.

- D6C Cat dozer equipped with angle blade and ripper.

- 920 Cat wheel loader.

- placer gravel screening plant with double screen decks, 3/4 inch and 3/16 inch mesh openings, complete with electrical generator and submersible electric water pump

- 4x4 fuel and welding service trucks.

- Goldhound spiral gold wheel with four lead riffle pattern, 24 inches in diameter, with water pump.

2 PROGRAM ONE

We took more samples from some of the trenches which we had dug on the bars in the 1987 season. We found that the samples which we took last year varied considerably in grade. We felt that larger volume samples would help to establish more uniform grade figures. Samples taken last year weighed approximately 7-8 lb., and we thought that the small size of the samples may have been responsible for the erratic values which we found. Sampling of the spill piles from these trenches was done in the spring, before breakup levelled the piles and filled the trenches.

2.1 WORK DESCRIPTION

This work consisted of taking samples from trenches which we excavated in the river bars during last year's exploration work. We took 26 samples of 100 lb. each. We sampled 13 trenches, taking two 100 lb. samples from each trench. Work was done on two left limit bars upstream of Marten Creek. Locations of sample sites are shown on map M1. Samples gathered in 20 litre oil pails which had been washed with gasoline and were lined with plastic bags in order to prevent sample contamination. We took gravel from various parts of the trenches in an attempt to get a representative sample. However, we had a bias towards southern exposed parts of the piles, since it was easier to obtain gravel where the sun had been thawing the surface. We hauled the pails of gravel back to our camp using a sled and dogs. Samples were dumped on clean polyethylene sheeting for processing after breakup when water was available.

These samples were processed through the gold wheel, using the method outlined on pages 6 and 7 of our 1987 exploration report. We evaluated the gold which we recovered using the procedure outlined on pages 8 and 9 of our 1987 report. See tables T1 and T2 for grade figures obtained. Because the price of gold continues to fluctuate, rather than determining the value in dollars per yard, we determined the value in terms of how many yards it would take to produce one ounce of raw gold.

Work last year showed that, on average, it takes 163,484 colours to make 1 troy ounce of Fortymile gold. We are using 3,200 lb. as the weight of 1 yard of gravel. We assumed sample weights of 100 lb., after weighing a

few of the samples. Using these figures, we calculated the number of yards required to make 1 ounce of gold from the samples as follows:

1. number of samples per yard:
   3,200 lb. per yard ÷ 100 lb.per sample = 32 samples of 100 lb.
2. number of colours per yard:
   number of colours per sample x 32 samples per yard.

3. number of yards per ounce:
   163,484 colours per ounce ÷ number of colours per yard.

For example, if a 100 lb. pail of gravel yielded 70 colours, the number of yards processed per ounce of gold recovered would be calculated as follows:

1. 70 colours/sample x 32 samples/yard = 2,240 colours/yard

2. 163,484 colours/ounce ÷ 2,240 colours/yard = 73 yards/ounce.

2.2 CONCLUSIONS

The bar gold is extremely fine, with none over 20 mesh, and more than half under 100 mesh. Taking larger samples yielded more uniform results than we obtained with 7-8 lb. samples. We think there is a need for bulk samples in order to obtain grade figures which are accurate enough to use in production planning.

2.3 TABLE T1

GRADE FIGURES FOR BAR "f"
(as determined from 100 lb. samples)

TRENCH	SAMPLE	COLORS	GRADE YD/OZ	COMMENTS	GRADE TRENCH YD/OZ	GRADE DEPOSIT YD/OZ
1	1	75	68	mostly larger flakes		
	2	68	75	lots of black sand	71.5	
2	1	62	82	large flakes		
	2	169	30		56	
3	1	77	66	1/2 large flakes		63
	2	82	62	lots of garnet	64	
4	1	72	71	more fine colours		
	2	103	50	in this trench	60.5	

2.4 TABLE T2

GRADE FIGURES FOR BAR "e"

(as determined from 100 lb. samples)

TRENCH	SAMPLE	COLORS	GRADE YD/OZ	COMMENTS	GRADE TRENCH YD/OZ	GRADE DEPOSIT YD/OZ
1	1	67	76	mostly finer colours		
	2	62	82	quite a few garnets	79	
2	1	49	104	fine colours		
	2	62	82		93	
3	1	93	55	bigger flakes		
	2	102	50		52.5	
4	1	432	12	black schist (bedrock)		
	2	468	11	lots black sand	11.5	
5	1	67	76	about half colours		89.4
	2	35	146	big flakes	111	
6	1	140	36	mostly fine colours		
	2	168	30		33	
7	1	27	189	garnets		
	2	48	106		147.5	
8	1	42	122			
	2	47	109		115.5	
9	1	38	134			
	2	27	189		161.5	

3 PROGRAM TWO

This portion of the exploration program consisted of analysis of bedrock exposed at our previous mine location. We had talked to geologists in the Dawson area who were exploring the theory that some of the placer gold found in the district had migrated up through the bedrock, rather than having been reconcentrated by mechanical sorting of the watershed. We had heard that graphitic schists were associated with gold presence. Our previous mining experience had confirmed that when we moved through an area of graphitic schist bedrock, our pay grade at least doubled.

Mining over the past 6 years had left approximately 19 acres of bedrock exposed, which had already been mined to a depth of 5 feet. The bedrock consisted of various different rock types.

The object of this sampling was to test the theory of graphitic schist being associated with placer gold presence. We hoped to be able to get a better understanding of how deep the gold penetrated the bedrock, and whether it would be advantageous to be mining it to a greater depth than 5 feet.

3.1 WORK DESCRIPTION

Our first test consisted of excavating a pit in the floor of the abandoned cut, as shown in map M1. The bedrock consisted of a graphite schist accompanied by some yellow stained crumbly bedrock. Part of it was overlain by a limestone cap of approximately 3 feet in thickness. See table T4 for results. This bulk sample was processed with the screening plant, slowed down to a rate of between 10 to 18 yards per hour, depending on the distance of the test pit from the processing equipment.

We were encouraged by the results obtained from this test pit, however, we were unsure if these results represented an anomaly. We dug a series of trenches across a section of the bedrock, as shown on the map M1. Spill piles from these trenches were hand sampled and processed with the gold wheel. The results of this sampling are shown in table T3. We followed the hand sampling with a bulk sample run where we processed the 6 trenches together as one unit. The sluice was cleaned up and the concentrate was processed with the gold wheel. The results of this bulk sample are shown in table T4.

Because the bulk sample from the 6 trenches showed similar grade to the first bedrock pit, we followed up with 5 pits of various shapes and processed each pit separately as a bulk sample. The locations, sizes and gold obtained from the pits are outlined on table T4.

The sampling was done in areas where the excavator could dig effectively, since some of the bedrock could not be dug easily, and was hard on both the earthmoving and processing equipment.

3.2 CONCLUSIONS

We have no reason to believe that the gold would not continue deeper than we excavated. However, we did notice that as we dug deeper the rock became more solid and this would make mining more difficult and costly.

Some of the gold recovered from these samples was different than that which we recovered when we had originally mined the bench. Approximately 35% of the gold was coarse, over 10 mesh. Normally we would expect approximately 3% of gold over 10 mesh in a cleanup. Much of the gold was angular and a good portion had quartz adhering to it. In some cases, we obtained pieces of quartz with bits of gold embedded in it. Some of the gold had a different appearance than the which we had mined out of this cut previously, for example much of the coarse gold was a dull copper colour, as opposed to the bright light yellow colour typical of Fortymile gold. As well, some of it was porous. The purity of the gold recovered was the highest we have ever obtained at 86.5%. Normally Fortymile gold is 84.5% pure.

3.3 TABLE T3

RESULTS OF HAND SAMPLING BEDROCK TRENCHES

TRENCH	SAMPLE	WEIGHT	COLOURS	COMMENTS
	1	7	0	
1	2	8	2	1 large peice (14 mesh)
	3	8	6	
	4	8	0	
	1	7	3	flakey
2	2	6.5	2	flakey peice
	3	6.5	4	1 flake, 3 colours
	4	8	0	
	1	7	0	
3	2	7	0	no colours
	3	7	0	
	4	7	0	
	1	6.5	3	fine, little concentrate
4	2	7	4	fine
	3	7	0	fine colours
	4	7	7	fine colours
	1	7	3	good size flakes
5	2	7	0	
	3	7	0	
	4	7	7	3 flakes, 4 colours
	1	7	1	flake
6	2	7	0	fine colour
	3	7	2	1 flake, 1 colour
	4	7	1	1 flake

3.4 TABLE T4

RESULTS OF BULK SAMPLING BEDROCK PITS ANS TRENCHES

TRENCH	DIMENSIONS IN FEET	YDS^3 EXC 1.25 SWELL	GOLD RECOVERED OUNCES	COMMENTS
1	30 x 20 x 15	417	5.3	39% +10 mesh not much concentrate
2	6 x 80x6x12	1,600	15.3	23% +10 mesh
3	30 x 20 x 15	417	4.5	19% +10 mesh
4	12 x 80 x 15	417	4.7	40% +10 mesh
5	30 x 20 x 12	222	3.1	39% +10 mesh
6	30 x 25 x 15	521	4.7	22% +10 mesh
7	30 x 20 x 15	417	5.1	28% +10 mesh

TOTAL YD^3 EXCAVATED (includes 1.25 swell factor)	4011 yd.^{3}
TOTAL OUNCES RECOVERED	42.7 oz.
PROJECTED NUMBER OF YARDS TO PRODUCE 1 OUNCE	93.9

4 PROGRAM THREE

This portion of the exploration project consisted of a bulk sample taken from river bar and adjacent bank gravel. The location of this bulk sample is shown on map M1. We noticed that the grade figures had improved with the 100 lb. samples taken earlier this season as compared with the smaller samples taken last season. We wanted to see how the grade from a small scale production run would compare with the samples taken previously. If bulk sample results were similar to results from smaller samples, this would give us confidence in the accuracy of our previous sampling. We assumed that the bank gravel was an extension of the bar gravel, and decided to test the bar and bank gravel as one sample, since they both panned similarly.

4.1 WORK DESCRIPTION

We took samples from the bank gravel adjacent to BAR "f" and processed them through the gold wheel. We found the bank gravel similar in grade to the grade projected from our bar sampling. In order to obtain reserve estimates on the bank gravel, we stripped 15 feet of muck off the bank to expose the gravel layer. This made bank gravel available, along with the bar gravel, for the bulk sample test. We moved our processing equipment to the site, a distance of approximately 3 miles. The site was prepared and the equipment was set up. A 350 yard bulk sample of bar and bank gravel was processed. The concentrate was processed through the gold wheel. Results of this bulk sample are given on table T5.

Tailings were panned to give an indication of losses. Samples were taken off the end of the sluice box by passing a gold pan quickly under the run. Because of the density of the tailings, all of which were under 1/4 mesh, we kept samples small, around 1 lb. in weight. All of the samples yeilded gold, and most of them had substantial values. We did not attempt to assign values to the tailings loss, but estimate that it could match what we were recovering. Most of the gold found was fine, although there were also larger flakes present. All of the samples had a large proportion of black sand. Tailings loss results are outlined in table T6. It can be seen from this table that gold loss is substantial.

4.2 CONCLUSIONS

The composition of the gravel had more -1/4 inch sands than were present in the bench gravel which we had been mining previously. This gravel was easier to wash because it was sandier and less compacted. There is more black sand in the bar gravel, making recovery of the gold more difficult.

The grade figures were better than we expected based on previous sampling work, from both 7-8 lb. and 100 lb. samples. The gold is finer in size than any other gold we had mined on the Fortymile. Tailings samples had gold present, suggesting the need for better recovery.

4.3 TABLE T5

BULK SAMPLE FROM BAR

EXCAVATION SIZE:	6 ft. deep average x 28 ft. wide x 45 ft. long
YARDS SLUICED:	350
OUNCES RECOVERED:	5.95
GRADE:	350 yds. ÷ 5.95 = 1 oz. of gold in 58.8 yd. of gravel

4.4 TABLE T6

TAILINGS LOSSES FROM BULK SAMPLES

SAMPLE	WEIGHT LBS.	COLOURS	COMMENTS
1	2	11	small colours, lots of black sand
2	1	17	8 flakes, lots of black sand & garnet
3	1	9	flakes, black sand
4	1	14	fine colours
5	.5	8	
6	1	25	5 flakes, fine colours
7	1	12	2 big flakes, lots of black sand
8	.5	9	3 flakes, garnets, black sand

5 SUMMARY OF RESULTS

Bedrock to a depth of 20 feet showed an average pay grade of 1 ounce in 93.9 yards.

Trenches on BAR "e" showed a pay grade of 1 ounce in 89.4 yards, as determined by the evaluation of 100 lb. samples. Total number of yards in the bar is 100,000, so that 1,119 ounces are delineated.

Trenches on BAR "f" showed a pay grade of 1 ounce in 63 yards, as determined by the evaluation of 100 lb. samples.

The bulk sample from BAR "f" and adjacent bank gravel showed a pay grade of 1 ounce in 59 yards. There are 46,875 yards in the bar and 250,000 in the bank for a total of 297,975 yards in the deposit, delineating a total of 5,048 ounces. 100,000 yards of overburden must be stripped.

6 RECOMMENDATIONS

Finding that the gold reserves extend down into the bedrock at least 20 feet, 15 feet more than we had previously mined, has implications for the overall probable reserve figures for the property. More work should be done testing bedrock on benches of different elevations, to compare values with the bedrock tested this season, which was on a high bench. It seems likely that the bedrock under the river gravels may be similar in composition and will expand the probable reserves in the dredging leases, as well as improving the grade figures for this ground.

Much of the gold was of traditional placer origin, since it was well rounded and flat. Because the bedrock which we excavated was soft and decomposed, gold could migrate into it to great depth. It seems improbable that the numerous angular nuggets and the quartz laden raw looking nuggets could have been driven to such bedrock depth without being ground up and worn smooth from the sorting action necessary to deposit gold this far into bedrock. As well, the darker coloured gold which was present suggests an origin which is different from that of the gold which is normally found.

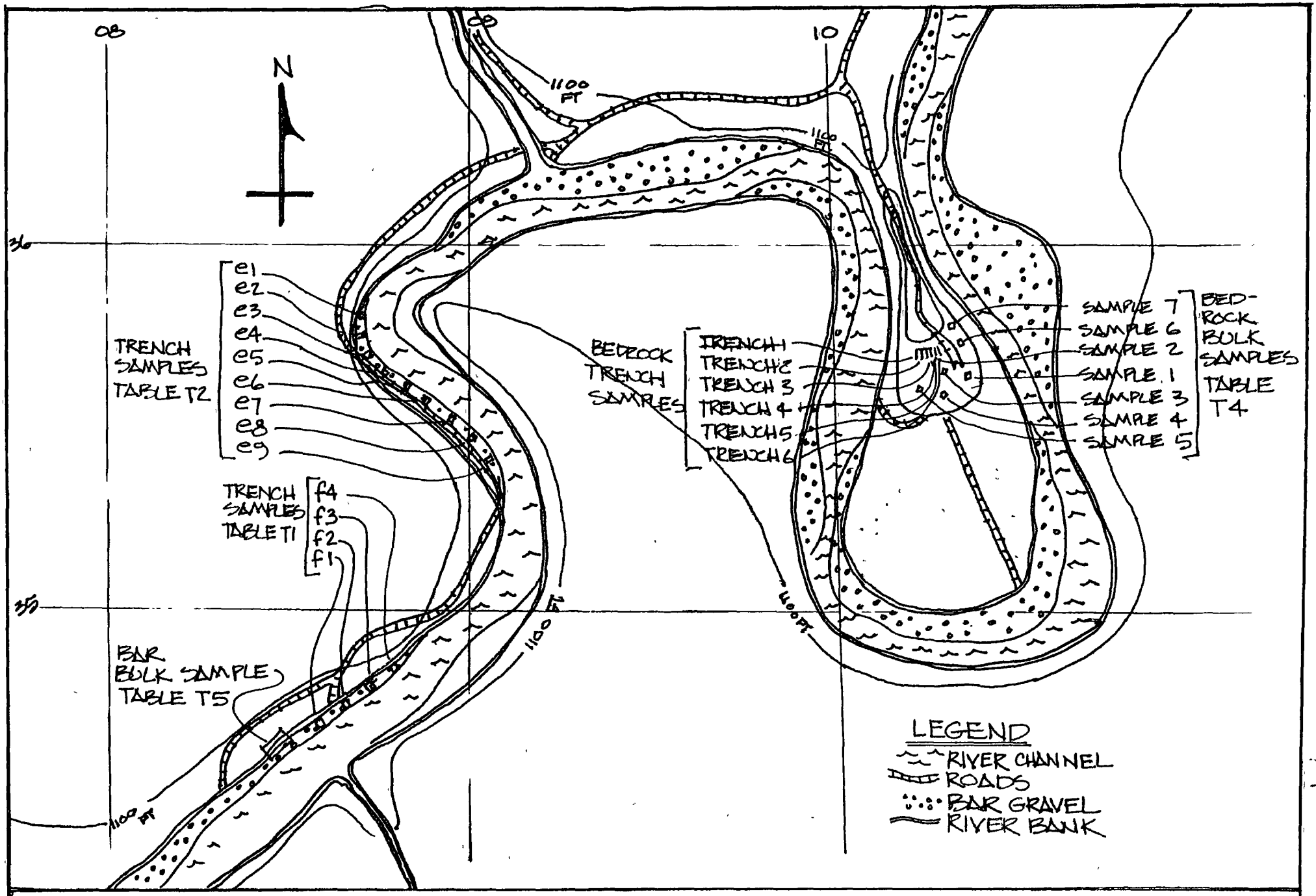
While the bedrock showed good grade, mining straight bedrock is costly, due to the increased wear on both the processing equipment and the earth moving equipment. We estimate that it costs approximately 1/3 more to mine the bedrock section compared with the gravel section.

It was pointed out to us by a visiting geologist that the bedrock excavations may deliniate east-west faults. We will be looking for geological trends of this nature in the bedrock as we continue development of the property.

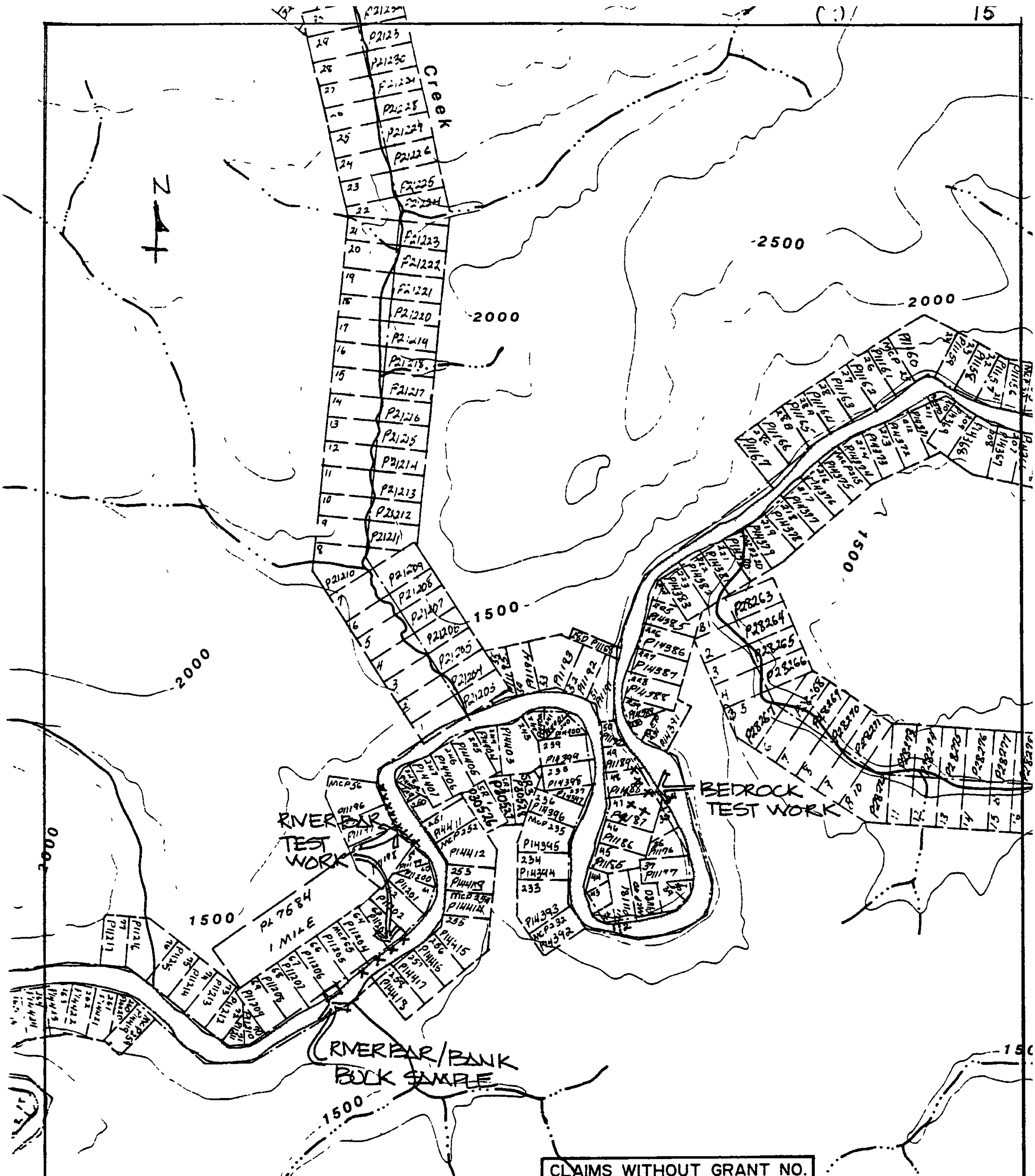
Exploration on the portion of the bars which we tested indicates that this ground has substantial values. While our recovery system is relatively efficient in terms of saving fine gold, it is not good enough for the recovery of this very fine and flakey river gold. The recovery system should be improved for the mining of the river bars.

It has been shown that as sample size increases, grade indication improves. We have theorized from this phenomenon that gold is not distributed evenly through out the gravel section. While it is common for grade to be better on and directly above bedrock, we believe that within the upper gravel section, richer gold pockets occur in distinct layers of the gravel.

APPENDIX 1 - MAPS



MAP M1 WORK LOCATIONS SCALE 1"= 700'



MAP M2
CLAIMS WORK PERFORMED

CLAIMS WITHOUT GRANT NO.		
NAMES	NO.	GRANT NO.
MCP	2	P11138
MCP	29	P11169
MCP	30	P11170
MCP	31	P11171
MCP	32	P11172
MCP	33	P11173
MCP	34	P11174

APPENDIX 2 - SUPPLEMENTARY INFORMATION

PEOPLE WHO WORKED ON THE PROJECT

Bill Claxton	Marten Creek, Fortymile River, Yukon
Leslie Chapman	Marten Creek, Fortymile River, Yukon
Larry Remple	Dawson City, Yukon
Curtis Remple	Dawson City, Yukon
Bob Keddie	Dawson City, Yukon

PREPERATION OF THE REPORT

The report was prepared by L. Chapman and W. Claxton; 150 man-hours were spent compiling data and writing the report.

CLAIMS AND LEASES INVESTIGATED

PLACER CLAIMS:

P11187-P11190, P11206, P11205

Held by Marten Creek Placers Ltd.

Principals: W. Claxton, L. Chapman

DREDGING LEASE:

DL83/5

Held by L. Chapman