YUKON TERRITORIAL GOVERNMENT
EXPLORATION INCENTIVES PROGRAM
PROJECT EIP-90-050

PLACER EXPLORATION ON FORTYMILE RIVER:

Sampling
April 1, 1990 - December 22, 1990

DREDGING LEASE:
DL83/4

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

prepared by
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FORTYMILE PACIFIC JOINT VENTURE
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1. BACKGROUND

1.1 Description of the Fortymile River

The Fortymile is a swift flowing river with an average grade of 7 feet per mile. While most of the drainage is located in Alaska, the last 23 miles of the river flow through the Yukon, emptying into the Yukon River 46 miles downstream from Dawson City. The river channel meanders and has many bends. The area has not been glaciated.

The wetted perimeter of the river averages 700 feet, with a main channel of approximately 200 feet at average flow. The Fortymile drains approximately 17,000 square kilometres, with a flow varying from 0 in the late winter to a two year flood of 800 cubic meters per second. The mean flow during the mining season is 100 c.m.s. The drainage of the Fortymile is considered to be arid with an average annual rainfall of 13 inches, which includes an average of 60 inches of winter snowfall.

Due to the arid climate, the Fortymile has a very low flow during the summer, exposing large gravel bars. These gravel bars make up the mineable reserves of the dredging leases, because the main channel flows on bedrock. The water level fluctuates with summer rainfall from very low water levels to high enough to cover the bars and keep them scoured free of overburden and vegetation. The gravel bars are thawed, making them suitable for dredging.

TYPICAL FORTYMILE RIVER BAR

1.2 Gold Production History

Gold was first discovered on the Fortymile River in 1886; this discovery led to the first major Yukon gold rush. In 1887 $200,000 worth of gold,

more than 14,000 ounces, were mined with pick, shovel, and rocker, by some 200 miners. The town of Fortymile was established at the confluence of the Fortymile and Yukon Rivers. As well as fine bar gold, coarse nuggets were being found. The Fortymile district was the first area in which wood fires were used to thaw shafts in order to gain access to the rich gravel and coarse gold at bedrock depths.

Between 1906 and 1911, a dredge worked the Fortymile 8 miles upriver from its mouth. This project was abandoned with the advent of the First World War. In the early 1930's, another dredging operation began 11 miles upriver from the mouth, at the confluence of Bruin Creek and the Fortymile River. On the American section of the river, mining has been continuous and extensive, with numerous dredging and cat operations.

The Fortymile Pacific Joint Venture successfully started dredging on a river bar on the property in the 1990 season. This operation was initiated after exploration undertaken last year showed reserves to be viable.

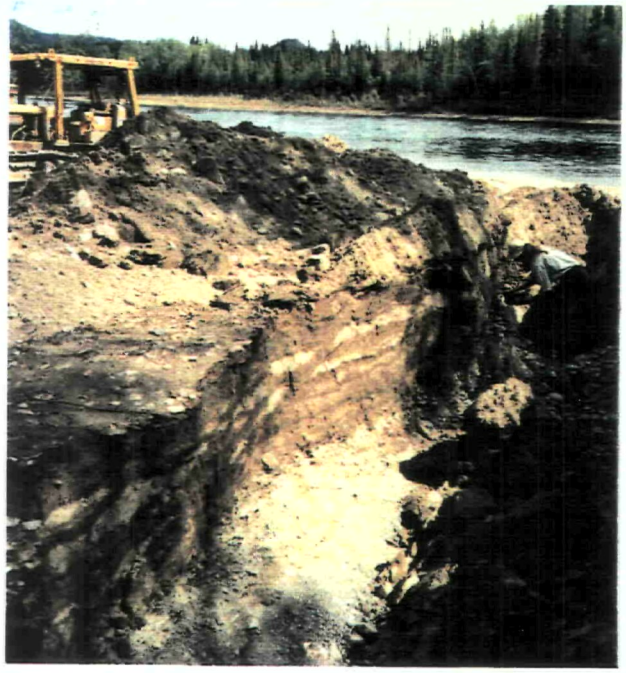
2. PROJECT DESCRIPTION

The Fortymile Pacific Joint Venture controls 22 claims from claim P23935 to claim P23937, and the portion of Dredging Lease 83/2 fronting these claims, on the Fortymile River. This exploration project was conducted on this two and a half mile stretch of river, the lower end of which is situated approximately five miles from the confluence of the Fortymile and the Yukon Rivers. The upper section of the property is bounded by the Fortymile River canyon. See map M1 for the location.

The exploration work conducted on the property this year is a continuation of the work begun in 1989. Last year we determined that a production-scale dredging operation on the river bars would be viable and would be able to meet environmental standards. This year we concentrated our exploration work on proving up the quantity and grade of gravels available for dredging on the property.

We wanted to determine if it would be feasible to dredge closer to the river bank than we had attempted in our bulk sampling program last year. The areas immediately adjacent to the river banks are typically covered

with 2 - 10 feet of sand. We dug trenches through the sand layers, extending from the river flood bank to the start of the exposed gravel zone, on the bar which we had sampled last season. We did this to determine the depth of the sand overburden, and the grade of the underlying gravels.



BANK TRENCHING

We were particularly interested in evaluating a large island/bar at the lower end of the property. This island appeared to have large reserves of gravel. We excavated a series of pits to bedrock on the island. These pits were sampled to obtain an indication of grade, and of yardage available.

Sampling of the pits on the island revealed that the character of the gold on the island was different from that which we had recovered from bars along the shoreline. We processed a bulk sample with the dredge plant on the island to determine how the grade as determined through sampling related to the grade recoverable in a production setting. The volume of gravel which we processed was 200 loose cubic yards.

We took a series of 100 lb. samples from the island to give us more information about the character and grade of gravels from the island. We thought that larger samples would provide a better reflection of grade than our standard 6 pound samples.

We also did some exploration work on the next two bars up river from the bar on which our work was focused last year. An access route was cleared and swampy areas were filled in order to get heavy equipment up to these bars. This preliminary access will form the route for construction of a road when we start mining these upper river bars. We dug a series of

test pits on these two bars. We took samples from these pits to determine grade and to obtain information for yardage estimates.

TEST PIT ON BAR

Mobilization for the project in the spring included clearing the access road of snow both to provide early access, and to prevent spring run-off damage which causes washouts. Equipment and supplies were brought into the site from Dawson. Demobilization included moving all equipment to high ground to protect it from breakup and high water next spring. All pits and trenches were backfilled after they were sampled, to allay concerns by D.F.O. that fish could become trapped in the excavations.

3. EQUIPMENT USED

The following equipment was used:

- 213 Cat hydraulic excavator, equipped with 36 inch rock bucket and long (9 foot 6 inch) stick was used for access route construction, excavation of sample pits, and feeding the processing plant during the bulk sample.
- D6C Cat dozer with angle blade and ripper was used for clearing the road of snow in the spring, access route construction, moving equipment on the site, filling in sample pits, reclamation work from bulk sampling and other general duties.
- 920 Cat loader was used for lifting and general duties.
- Cat model 12 grader was used in snow clearing.
- Trommel with 4 foot diameter barrel was used for the bulk sample.
- 35 KW generator with 220 volts, 3 phase was used to power the trommel and pump.

- 4 inch Flygt 13 horsepower electric submersible pump was used for water supply for bulk sample processing.
- service truck with tools and wire-feed welder/generator was used to power the cleanup equipment as well as for maintenance and repairs.
- 1 ton fuel truck was used for hauling fuel from Clinton Creek fuel supply base.
- Gold Hound 4 lead spiral gold wheel was used to process samples.

4. RESULTS

Results of samples taken, and of yardage estimates made, are tabulated in the accompanying tables.

Our investigation of the area of Bar "A" adjacent to the river flood bank showed that the sandy layer tends to get deeper closer to the bank. The gravels underlying this sand show indications of very good pay, but the deposits are small relative to the amount of overburden. The colours are fine.

The most promising area identified in this work is the south portion of Island "B". Grades here were relatively high, and the size of the colours is larger, on average, than those recovered from sampling on the mainland. Graphitic schist was encountered on bedrock in some of the pits on the island. Past experience has shown that this is a good indicator of high gold values, and this was proved out with sampling. Gravels on the north side of the island closer to the main channel of the river graded somewhat lower, though still within the minable range. We have not processed the concentrate from the bulk sample we took on the island because the gravel froze into the sluice runs. We will process this concentrate in the spring when it thaws.

Bars "C" and "D" showed that they could be dredged with the method we have developed. Generally, work on Bars "C" and "D" indicated that grades tend to diminish further upriver. We did, however, encounter graphitic schist in one pit on Bar "D", with the expected higher values as compared with the other pits on that bar. It is reasonable to expect that this graphitic schist underlies more of the bar, and thus grade

recovered when mining this bar will probably be higher than the grade calculated from samples from the pits.

5. CONCLUSION

This exploration project successfully identified enough gravel with grades sufficient to support a long term dredging operation. We operated a dredge on part of the property in the 1990 season, mining reserves proved up by exploration work performed in the 1989 season. We found that grades projected by sampling pits on the bars were in the same range as the grades recovered in mining. In areas where the depth of the gravel was shallower, more bedrock was excavated and processed. These shallower areas produced more gold than sampling had predicted; this was probably due to the increased depth of bedrock processed. We think that a larger excavator with longer reach would be more effective in digging bedrock where the gravel is deeper and thus increase the total yield of gold.

Identification of these reserves has assured us gravel volume to last for several seasons. We will be mining the reserves proved up by this exploration program using the same dredging method we successfully employed on the reserves which we mined this past season.

6. TABLES

INFORMATION FOR THE INTERPRETATION OF TABLES

Work done with Fortymile gold previously has shown that, on average, it takes 163,484 colours to make one troy ounce of Fortymile gold.

The weight of one bank cubic yard of gravel was assumed to be 3,200 lb.

Small samples were assumed to have a weight of 6 lb. because experience has shown that to be the average weight of a 9" by 12" sample bag full of river gravel. Larger samples were taken in 5 gallon pails. This size of sample has been previously determined to have an average weight of 100 lbs.

Grade figures have been calculated in terms of the number of bank yards required to produce one troy ounce of unrefined gold. These calculations were made from the samples as follows:

1. number of samples per yard =
   3,200 lb. per yard / X lb. per sample
2. number of colours per yard =
   number of colours per sample x samples per yard
3. number of yards per ounce =
   163,484 colours per ounce / number of colours per yard

For example, if a six lb. sample of gravel contains four colours, then the number of bank yards required to produce one ounce of gold is calculated as follows:

1. 3,200 lb. / 6 lb. = 533 samples/yd.
2. 4 colours x 533 samples = 2,132 colours/yd.
3. 163,484 colours per oz. / 2,132 colours per yard = 77 yd. per oz.

TABLE 1

RESULTS OF 6 LB. SAMPLES FROM EXCAVATIONS ON BAR "A"

EXCAV # & DEPTH	SAMPLE #	COMMENTS	# COLOURS	GRADE YDS/OZ	AV GRADE YDS/OZ
	1.1	coarse cobbles	1	306	
	1.2	sandy	0	--	
	1.3	1 flake	8	38	
TRENCH	1.4	tightly packed gravel	18	17	
#1	1.5		1	306	76
	1.6		0	--	
12 ft.	1.7	little black sand	0	--	
deep	1.8		0	--	
	1.9	1 flake	9	34	
	1.10		2	153	
	1.11		4	77	
	1.12	1 flake	6	51	
	2.1		9	34	
	2.2	from trench floor	39	8	
	2.3	fine colours	3	102	
TRENCH	2.4		50+	6	
#2	2.5		80+	4	11
	2.6		7	43	
12 ft.	2.7	1 flake	22	14	
deep	2.8	fine colours	30	10	
	2.9		50+	6	
	2.10	tailings	4	77	
	2.11	tailings	3	102	

TABLE 1, continued

RESULTS OF 6 LB. SAMPLES FROM EXCAVATIONS ON BAR "A"

EXCAV # & DEPTH	SAMPLE #	COMMENTS	# COLOURS	GRADE YDS/OZ	AV GRADE YDS/OZ
	3.1	spill pile, north end	2	153	
	3.2	trench floor, mid trench	10	30	
	3.3	tailings, 2 ft. deep	0	--	
	3.4	trench floor, south end	29	11	
TRENCH	3.5	fine tailings	1	306	
#3	3.6	spill pile, north end	2	153	31
	3.7	at water table, 8 ft. deep	26	12	
15 ft.	3.8	sandy, 9 ft. deep	12	26	
deep	3.9	trench floor	23	13	
	3.10	tailings	0	--	
	3.11	sandy, spill pile	21	15	
	3.12	tailings	0	--	
	3.13	north end, 1 flake	2	153	
	4.1	sandy, south end	33	9	
TRENCH	4.2	north end spill pile	9	34	
#4	4.3	sandy, south end	45	7	18
	4.4	pure sand from rim	0	--	
8 ft.	4.5	north end spill pile	6	51	
deep	4.6	north end	0	--	
	5.1	large colours & flakes	50+	6	
TRENCH	5.2	shale	0	--	
#5	5.3	floor of trench, south end	20	15.3	13
12 ft.	5.4	south end, spill pile	17	18	
deep	5.5	sandy gravel	30	10	
	6.1	bottom, large colours	5	61	
PIT	6.2	bottom, large colours	6	51	
#6	6.3		11	28	45
	6.4	top	5	61	
	6.5	bottom	7	44	

TABLE 1, continued

RESULTS OF 6 LB. SAMPLES FROM EXCAVATIONS ON BAR "A"

EXCAV # & DEPTH	SAMPLE #	COMMENTS	# COLOURS	GRADE YDS/OZ	AV GRADE YDS/OZ
TRENCH	7.1		26	12	
#7	7.2		7	43	19
11 ft. deep					
	8.1	bottom	13	24	
PIT	8.2	bottom	13	24	
#8	8.3	top	10	31	27
	8.4	top	6	51	
	8.5	rim	14	22	
TRENCH	9.1	grey clay, 2 flakes	6	51	
#9	9.2	1 flake	7	43	58
8 ft.	9.3		3	102	
deep					
TRENCH	10.1	trench floor	9	34	
#10	10.2	spill pile	10	31	13
10 ft.	10.3	floor, under 3 ft. sand layer	55+	6	
deep					
	11.1		1	306	
PIT	11.2		4	77	
#11	11.3	fine tailings?	13	24	45
	11.4		8	38	
	11.5	1 flake	8	38	
	12.1	tailings	0	--	
PIT	12.2	tailings	0	--	
#12	12.3	tailings	1	306	259
	12.4	tailings	4	77	
	12.5	tailings	1	306	

TABLE 1, continued

RESULTS OF 6 LB. SAMPLES FROM EXCAVATIONS ON BAR "A"

EXCAV # & DEPTH	SAMPLE #	COMMENTS	# COLOURS	GRADE YDS/OZ	AV GRADE YDS/OZ
TRENCH	13.1	4 flakes, under 4 ft. sand	44	7	
#13	13.2	tailings, little black sand	3	102	13
10 ft.	13.3	near surface	23	13	
deep					
TRENCH	14.1	under 3 ft. sand, 1 flake	36	9	
#14	14.2	tailings	2	153	14
20 ft.	14.3	virgin	30	10	
deep					
	15.1	tailings	0	—	
PIT	15.2	tailings	1	—	
#15	15.3	tailings	1	—	764
	15.4	tailings	0	—	
	15.5	tailings	0	—	
TRENCH	16.1	8 ft. deep, flakes	50+	6	
#16	16.2	12 ft. deep, 4 flakes	19	16	13
12 ft.	16.3	floor at south end	50+	6	
deep					

AVERAGE GRADE BAR "A".....31 YD/OZ *

*This average is exclusive of pits #12 and #14, as these pits were dug in tailings from our dredging operation in 1989.

TABLE 2

RESULTS OF 6 LB. SAMPLES FROM EXCAVATIONS ON ISLAND "B"

EXCAV # & DEPTH	SAMPLE #	COMMENTS	# COLOURS	GRADE YDS/OZ	AV GRADE YDS/OZ
	17.1		1	306	
PIT	17.2		1	306	
#17	17.3	small flake	1	306	382
	17.4		1	306	
	17.5		0	---	
	18.1		1	306	
PIT	18.2	lots of black sand	1	306	
#18	18.3		0	---	382
	18.4		0	---	
	18.5		2	153	
	19.1	large colours	7	44	
PIT	19.2	3/4 of gravel is -1/4"	12	26	
#19	19.3	large flake,1/2 gravel -1/4"	12	26	41
	19.4	from surface	0	---	
	19.5	from bottom of hole	6	51	
	20.1	from bottom of hole	1	306	
PIT	20.2	from near surface	1	306	
#20	20.3	bottom	0	---	306
	20.4	near surface	2	153	
	20.5	big flake	1	306	
	21.1	large flake, bottom of hole	3	102	
PIT	21.2	from bottom of hole	3	102	
#21	21.3		0	---	76
	21.4		11	28	
	21.5		3	102	

TABLE 2, continued

RESULTS OF 6 LB. SAMPLES FROM EXCAVATIONS ON ISLAND "B",

EXCAV # & DEPTH	SAMPLE #	COMMENTS	# COLOURS	GRADE YDS/OZ	AV GRADE YDS/OZ
	22.1	graphit schist, large colours	4	77	
PIT	22.2	from bottom of hole	7	43	
#22	22.3	near surface	3	102	48
	22.4	3/4 of gravel is -1/4"	7	43	
	22.5		11	28	
	23.1	graphitic schist, 1 flake	5	61	
PIT	23.2	top	2	153	
#23	23.3	large colours	9	34	69
	23.4		0	---	
	23.5	top gravels	6	51	
	24.1		3	102	
PIT	24.2	bottom of hole	2	153	
#24	24.3	little black sand	0	---	191
	24.4	flake	2	306	
	24.5		1	306	
	25.1		3	102	
PIT	25.2		1	316	
#25	25.3		2	153	127
	25.4		0	---	
	25.5		6	51	

AVERAGE GRADE ON ISLAND "B".....180 YD/OZ

TABLE 3

RESULTS OF 100 LB. SAMPLES FROM EXCAVATIONS ON ISLAND "B",

EXCAV # & DEPTH	SAMPLE #	COMMENTS	# COLOURS	GRADE YDS/OZ	AV GRADE YDS/OZ
PIT	17.6	fine colours, 2 small flakes	20	255	
#17	17.7	small garnets	42	122	189
PIT	18.6	course cobbles	31	170	
#18	18.7	lots of black sand	25	204	187
PIT	19.6	10 large flakes	60	85	
#19	19.7	1 small nugget	104	49	67
PIT	20.6		18	284	
#20	20.7	fine colours	35	146	215
PIT	21.6	25 large flakes	63	81	
#21	21.7	lots of small garnets	86	59	70
PIT	22.6	graphitic schist	135	38	
#22	22.7	18 large flakes	141	36	37
PIT	23.6	graphitic schist	125	41	
#23	23.7	large colours	92	56	49
PIT	24.6		37	138	
#24	24.7	4 flakes	28	182	160
PIT	25.6	lots of black sand	63	81	
#25	25.7		24	213	147

AVERAGE GRADE ISLAND "B" FROM 100 LB. SAMPLES.....125 YD/OZ

TABLE 4

RESULTS OF PRELIMINARY GRAB SAMPLES FROM BARS "C" & "D"

SAMPLE #	COMMENTS	# COLOURS
1	black sand	1
2		0
3	1 flake	1
4		0
5	lots of garnets	3
6		0
7		3
8		2
9		1
10	1 small flake	4
11		1
12		0
13	>1/2 gravel is -1/4"	2
14		0
15		0
16		1
17	lots of black sand	1
18		0
19		1
20	fine colours	5
21	fine colours	3
22		0
23	1 small flake	2
24		1
25		1

TABLE 5

RESULTS OF 6 LB. SAMPLES FROM EXCAVATIONS ON BAR "C"

EXCAV # & DEPTH	SAMPLE #	COMMENTS	# COLOURS	GRADE YDS/OZ	AV GRADE YDS/OZ
	26.1	top, fine colours	3	102	
PIT	26.2	1/2 of gravel is -1/4"	4	77	
#26	26.3	fine colours	4	77	118
	26.4	<1/2 of gravel is -1/4"	1	306	
	26.5		1	306	
	27.1	top gravel, fine colours	2	153	
PIT	27.2	fine colour	1	306	
#27	27.3	>1/2 of gravel is -1/4"	9	34	85
	27.4	>1/2 of gravel is -1/4"	1	306	
	27.5	larger colours	5	61	
	28.1	fine colours	5	61	
PIT	28.2		0	--	
#28	28.3	very fine colours	4	77	153
	28.4		1	306	
	28.5		0	--	
	29.1		2	153	
PIT	29.2	very fine colour	1	306	
#29	29.3	>1/2 of gravel is -1/4"	1	306	305
	29.4		0	--	
	29.5	very fine colour	1	306	
	30.1		0	--	
PIT	30.2	large colour	1	306	
#30	30.3	fine colour	1	306	382
	30.4		0	--	
	30.5		2	153	

TABLE 5, continued

RESULTS OF 6 LB. SAMPLES FROM EXCAVATIONS ON BAR "C"

EXCAV # & DEPTH	SAMPLE #	COMMENTS	# COLOURS	GRADE YDS/OZ	AV GRADE YDS/OZ
	31.1	small flake	1	306	
PIT	31.2		2	153	
#31	31.3	fine colours	2	153	255
	31.4		0	--	
	31.5		1	306	

AVERAGE GRADE ON BAR "C".....216 YD/OZ.

TABLE 6

RESULTS OF 6 LB. SAMPLES FROM EXCAVATIONS ON BAR "D"

EXCAV # & DEPTH	SAMPLE #	COMMENTS	# COLOURS	GRADE YDS/OZ	AV GRADE YDS/OZ
	32.1	sandy, little black sand	0	---	
PIT	32.2		3	102	
#32	32.3		1	306	382
	32.4		0	---	
	32.5		2	153	
	33.1		2	153	
PIT	33.2	graphitic schist, fine colour	1	306	
#33	33.3	graphitic schist	4	77	109
	33.4	fine colour	1	306	
	33.5	graphitic schist, 1 flake	6	51	
	34.1		0	---	
PIT	34.2		0	---	
#34	34.3	coarse cobbles	2	153	382
	34.4	very fine colours	2	153	
	34.5		0	---	

AVERAGE GRADE BAR "D".....249 YDS/OZ

TABLE 7

VOLUME OF EXCAVTIONS & STRIPPING

VOLUME OF TRENCHES (includes 1.25 swell factor)

TRENCH	DIMENSIONS (FT)	VOLUME (CU. YD.)
1	50 x 6 x 12	167
2	80 x 10 x 12	444
3	60 x 10 x 15	417
4	55 x 6 x 8	82
5	70 x 6 x 12	233
7	55 x 6 x 11	168
9	55 x 6 x 8	122
10	70 x 6 x 10	194
13	50 x 6 x 10	139
14	40 x 6 x 20	222
16	40 x 6 x 12	133

TOTAL VOLUME OF TRENCHES **2,321 CU. YD.**

VOLUME OF PITS

The average pit size is 24 ft. in diameter and 15 ft. deep.
Therefore each pit is 314 loose cubic yards,
including a 1.25 swell factor.
24 pits @ 314 cubic yards each is 7,536 cubic yards.

TOTAL VOLUME OF PITS **7,536 CU. YD.**

STRIPPING FOR ACCESS

1500 ft x 1 ft deep x 20 ft wide x 1.25 swell factor = **1,388 CU. YD.**

SIDEHILL CUTTING

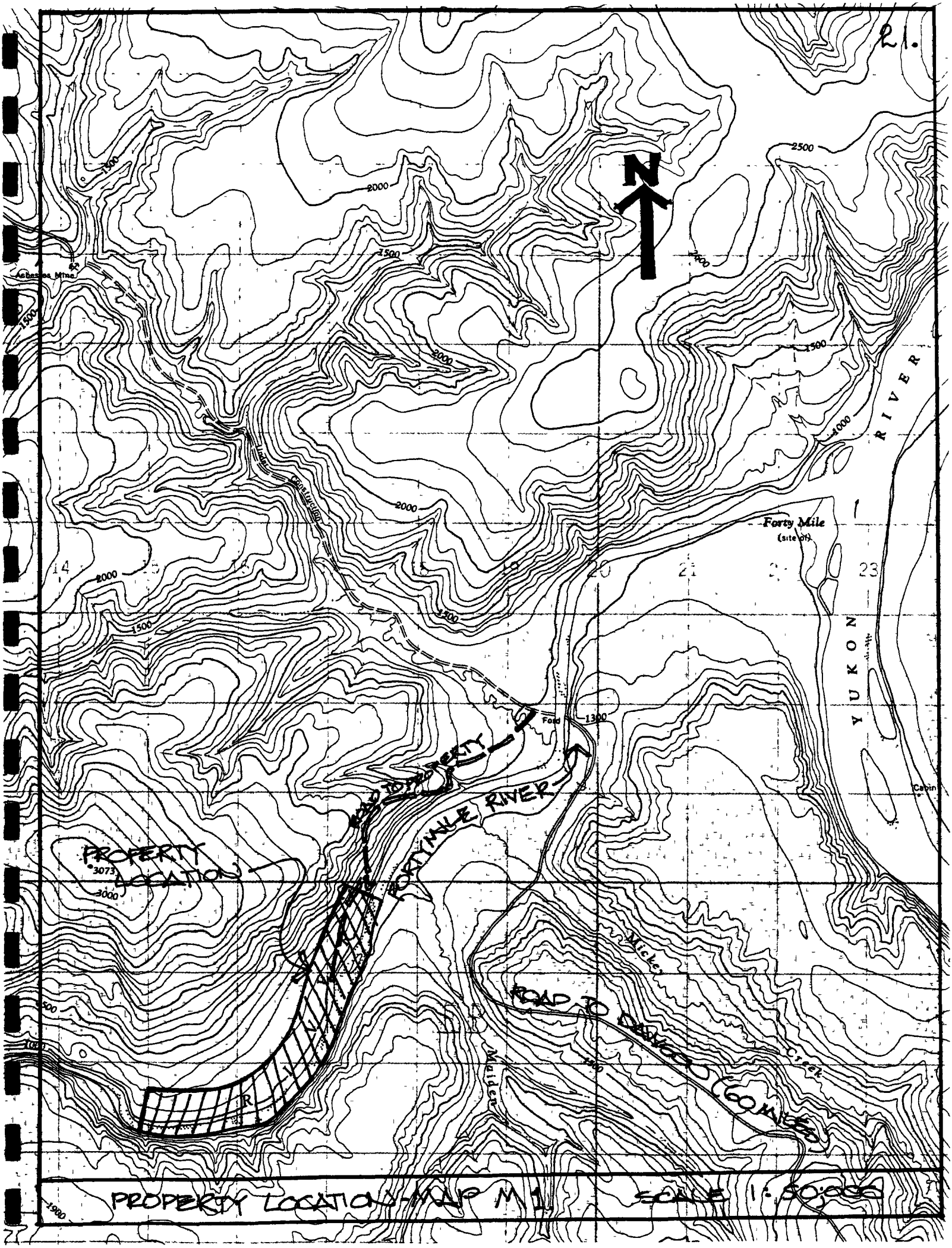
800 ft x 6 ft deep (av.) x 15 ft wide x 1.25 swell factor = **3,333 CU. YD.**

TOTAL EXCAVATING & STRIPPING **14,578 CU. YD.**

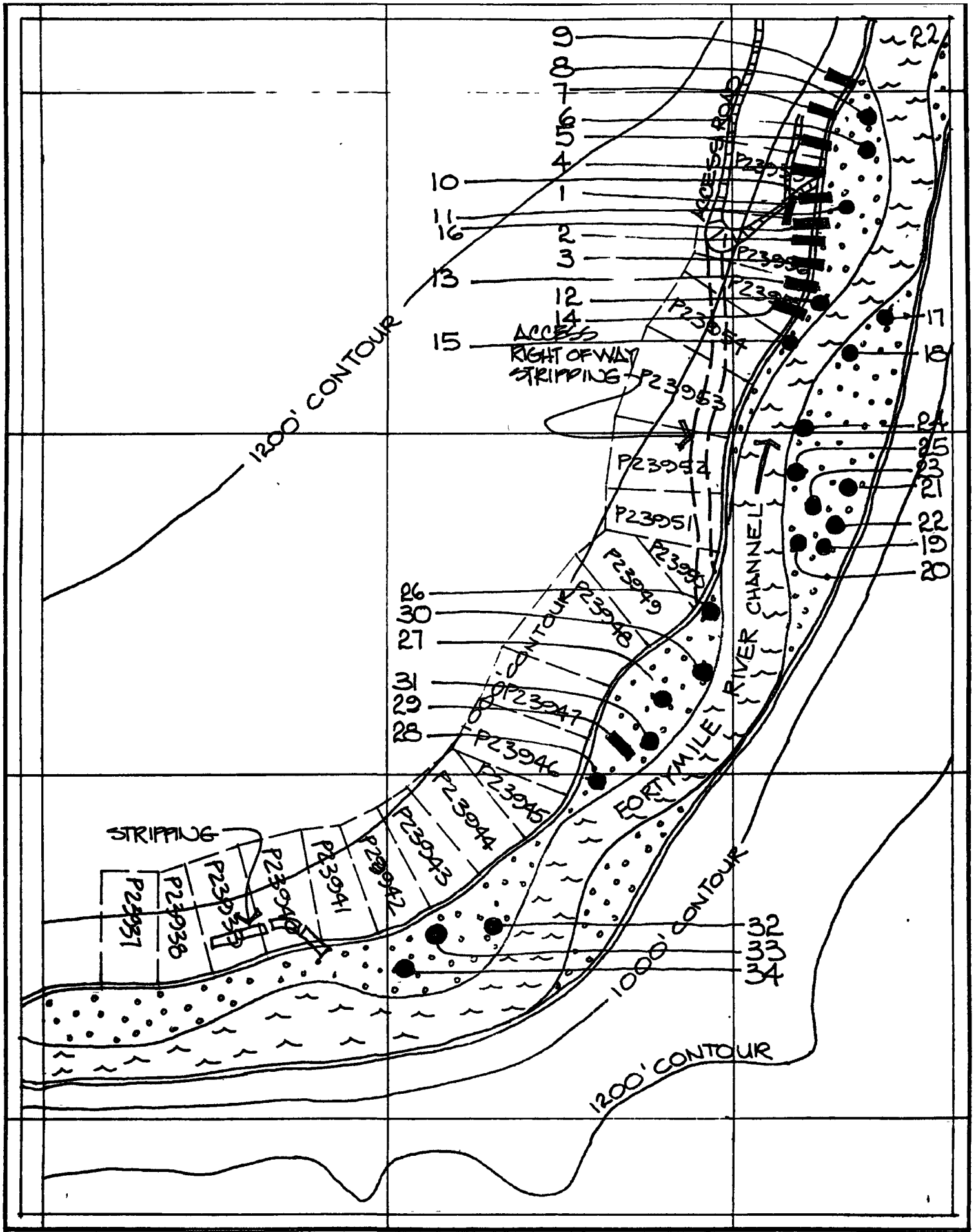
TABLE 8

GRADES & VOLUMES

BAR	GRADE - YD/OZ	VOLUME - BANK CU YD	ESTIMATED RAW OZ
A	31	29,333	946
B	180	362,500	2,014
C	216	50,000	213
D	249	200,000	803
TOTAL RESERVES		641,833 BANK CU YD	3,994 RAW OZ



PROPERTY LOCATION - MAP M 1 SCALE 1:50,000



MAP M-2 WORK LOCATIONS SCALE: 1"=1000' APPROX.

8. SUPPLEMENTARY INFORMATION

PEOPLE WHO WORKED ON THE PROJECT

Bill Claxton	Marten Creek, Fortymile River, Yukon
Leslie Chapman	Marten Creek, Fortymile River, Yukon
Keith Svendsen	Dawson City, Yukon
Ron McCready	Dawson City, Yukon

PREPARATION OF THE REPORT

The report was prepared by Leslie Chapman and Bill Claxton.

PROPERTY INVESTIGATED

Dredging Lease DL83/4, held by Bill Claxton.