675097

INFORMATION SHEET
Bentinck Graphite Property

5 OCTOBER 1995

THE PROPERTY

Nine (9) mineral claims, (i.e., WM1 to WM9 inclusive), each 500 meters square, shielding a rich graphite deposit of significant size strategically located on the west shore of South Bentinck Arm in British Columbia, Canada; about 375 kilometers in a direct northwest line from the port of Vancouver, on the B.C. mainland. Maps are attached as APPENDIX "A" AND "B".

Sole registered owner of the claims is:

Wallace G. Wing
215, 3631 Chatham Street
Richmond, B.C. V7E 2Z1
(604) ~~271-4527~~ (Home) 273-3611
(604) ~~271-2751~~ (Message)

ACCESS

There is no road access. Charter air flights are available from Bella Coola which is the nearest settlement (about 25 minutes flying time). For mining purposes the site is directly accessible to tug and barge. Surface outcropping of the main ore body are within 50 to 100 meters of the shoreline making excavation of ore and barge loading a relatively simple and inexpensive matter. There are several logging camps within a radius of 5 miles along the west and east side coastlines of the Arm.

OTHER

The full extent of the ore body has not been determined. Hand-trenching at the original discovery site has established an ore body of at least 11 meters wide and 32 meters long. Another surface outcropping is located on the north/south dividing line between claim numbers 659997 and 659998 (WM3 and WM4).

A petrographic study to obtain an indication of graphite flake size, and initial metallurgical testing to determine recovery processes and potentials have been completed; but only from relatively small "grab" ore samples flown from the site. Detailed metallurgical test work using bulk ore samples are now indicated as a result of the aforementioned study and test work. Vancouver Petrographics Ltd. report dated September 1992 and Process Research Associates Ltd. report dated December 9, 1992 refer and a copy of each is attached as APPENDIX "C" and "D".

The graphite carbon content of the grab ore samples averages about 20%. In 1990 the only known graphite mining in North America was in Quebec using ore at 8% or less, in Ontario using ore at 3% or less, and in New Jersey, USA using ore at 6.2% or less. It is not known if any of these are still in operation.

A worksheet of the previous owner done in 1992 purporting to outline costs versus returns of processing 25,000 tons of ore from the site is attached as APPENDIX "E". Current costs/returns would, of course, have to be determined.

TERMS

The registered owner of the claims seeks to sell them outright for the sum of six hundred thousand dollars Canadian funds ($ 600,000 Cdn).

OR

Enter into an option agreement that will provide:

a) one thousand dollars ($ 1,000) per month for up to 1 year with the lessee obliged to carry out and register at least three (3) years of development and assessment work on the property; $12 000 + 9 units @ $210 × 3 yrs = 5670 total 17,670 (yr 1)

b) for an extension of the option for an additional year with an increase in payment to the owner to two thousand dollars ($ 2,000) per month, and, an additional three years of development and assessment work on the property; and $24000 + $5670 (yr 2) = $29,670

c) for the moneys paid to the owner under (a) and (b) above be deducted from the purchase price of six hundred thousand dollars ($600,000). + 29 670

year (1) + (2) = $47,340

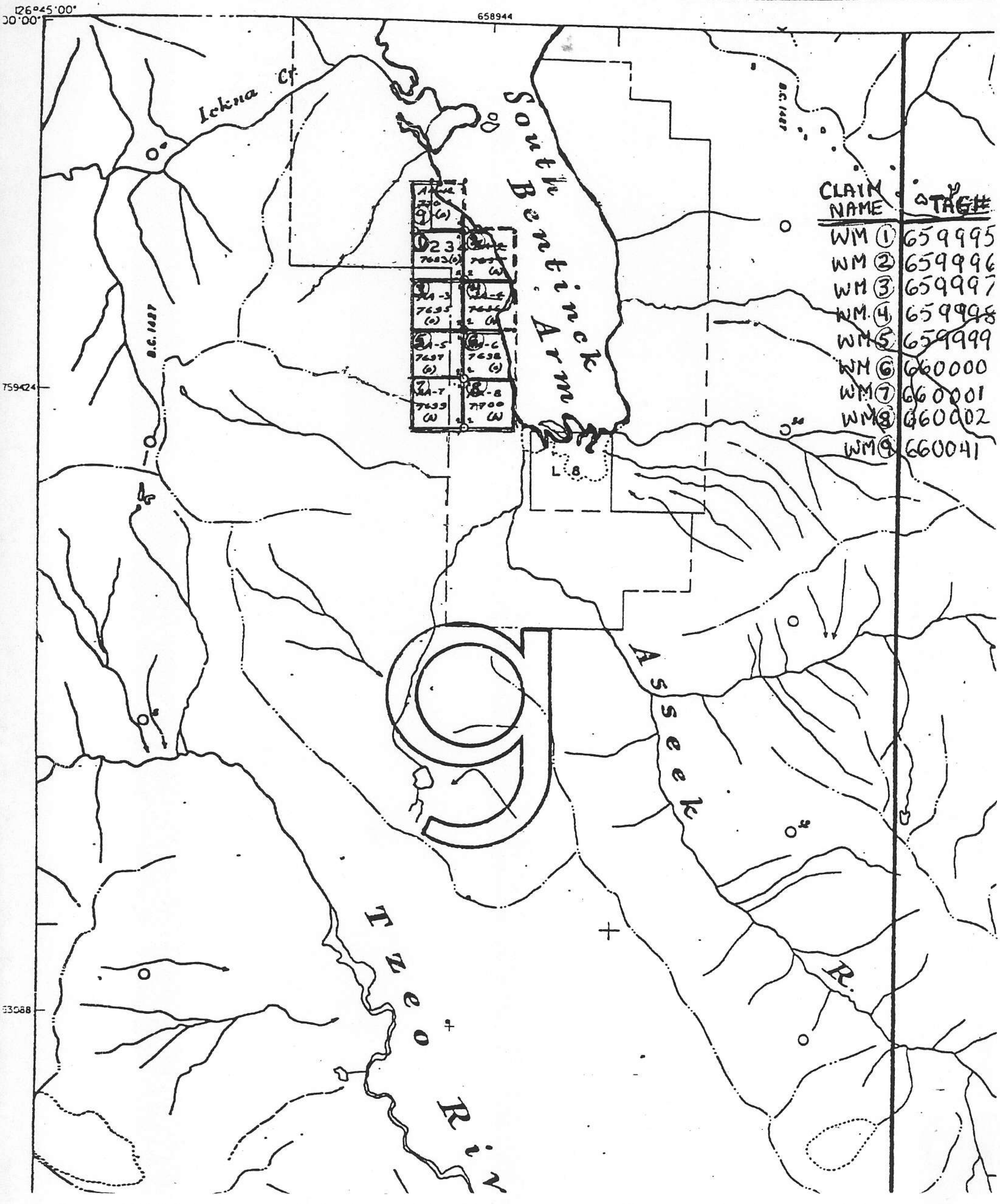
N.B. More detailed technical information on the various ore processing flowsheets, testwork procedures and results of the initial metallurgical testing done by Process Research Associates Ltd. (APPENDIX "B") is available on request from the registered owner.

/Attachments

Assessment Work: $100/unit + $10 recording fee for first 3 years
$200/unit + $10 recording fee year 4 →

92M/5E

APPENDIX "A"



APPENDIX "B"


Claims
WM1 to WM9
VANDERHOOF
PRINCE GEORGE
QUESNEL
WILLIAMS LAKE
Anahim Lake
Bella Coola
Hagensborg
TWEEDSMUIR
Highest point in British Columbia's Coast Mountains
MT WADDINGTON 4016
QUEEN CHARLOTTE STRAIT
PORT HARDY
PORT McNEILL
CAMPBELL RIVER
COURTENAY
COMOX
POWELL RIVER
WHISTLER
SQUAMISH
VANCOUVER
NEW WESTMINSTER
NANAIMO
PORT ALBERNI
DUNCAN
VICTORIA
BELLINGHAM
JUAN DE FUCA STRAIT
128°
127°
125°
6

APPENDIX "C"

Vancouver Petrographics Ltd.

8080 GLOVER ROAD, LANGLEY, B.C. V3A 4P9
PHONE (604) 888-1323 · FAX (604) 888-3642

Report for: M.J.V. Beattie,
Beattie Consulting Ltd.,
2955 West 38th Ave.,
VANCOUVER, B.C., V6N 2X2

Job 61
September 1992

Samples: BCL-020 Series #1, #2, #3, #4

Summary:

Sample BCL-020 #1 is a fine grained **quartz-graphite-plagioclase-biotite-pyrrhotite schist** containing minor sphalerite and trace chalcopyrite. Biotite is concentrated in a few patches up to 5 mm across.

Sample BCL-020 #2 is a **quartz-graphite-tremolite-(pyrrhotite-biotite-plagioclase) schist**. Tremolite forms porphyroblastic grains. Graphite flakes are very fine to fine grained and commonly are warped moderately. Patches of pyrrhotite (altered to pyrite) and minor chalcopyrite are associated with graphite clusters.

Sample BCL-020 #3 is a **quartz-plagioclase-graphite-microcline-diopside-tremolite-(pyrrhotite-biotite-tourmaline) schist**.

The rock is a fine grained schist dominated by quartz with less plagioclase and much less graphite, microcline, diopside, and tremolite, and minor pyrrhotite/pyrite, biotite, tourmaline, and sphalerite.

Sample BCL-020 #4 is a fine grained **quartz-plagioclase-diopside-graphite-(microcline-pyrrhotite-tourmaline) schist**. It also contains minor sphalerite and trace chalcopyrite. Graphite occurs mainly in clusters of grains less than 0.5 mm in size, with less abundant free grains averaging 0.2-0.5 mm in size.

Assuming that the preferred quality of graphite is coarse, single, undeformed flakes, the samples were ranked as follows: excellent (Sample 1), good (Sample 3), fair (Sample 4) , poor (Sample 2).

John G. Payne
(604)-986-2928

Sample BCL-020 #1 Quartz-Graphite-Plagioclase Biotite-Pyrrhotite Schist

The rock is a fine grained schist dominated by quartz and graphite, with less plagioclase and biotite, minor pyrrhotite and sphalerite, and trace apatite and chalcopyrite. Biotite is concentrated in a few patches up to 5 mm across.

quartz	50-55%
graphite	20-25
plagioclase	12-15
biotite	7- 8
pyrrhotite/pyrite	1- 2
sphalerite	0.5
apatite	0.1
chalcopyrite	trace

Quartz forms anhedral grains averaging 0.2-0.7 mm in size.

Graphite forms well developed, mainly undeformed flakes averaging 0.5-1.2 mm in length, with a few up to 2 mm long. It also occurs in patches up to 2 mm in size of very fine to fine grained aggregates, commonly showing deformation textures. It also forms stubby flakes averaging 0.1-0.2 mm in size, mainly intergrown with biotite and plagioclase, but also occurring in some patches of finer grained quartz.

Plagioclase forms anhedral, equant grains averaging 0.5-1 mm in size, with a few up to 1.5 mm long. Some coarser grains appear to be porphyroblastic. Composition is An40 by the Michel-Levy method using the extinction angle of albite twins (22°), combined with a comparison of R.I. with quartz (slightly greater than quartz). Grains are fresh. In a few patches of coarse plagioclase, many grains contain abundant, equant inclusions of graphite averaging 0.02-0.07 mm in size.

Biotite forms disseminated flakes averaging 0.3-0.8 mm in size. Pleochroism is from pale straw to bright brownish red. It is concentrated strongly in a few patches up to 5 mm across as aggregates of anhedral grains intergrown with much less quartz and graphite. In these patches, graphite forms abundant, equant flakes averaging 0.05-0.1 mm in size.

In the core of the large patch is an anhedral grain 1.5 mm across of bright red sphalerite. Similar sphalerite grains up to 0.4 mm in size occur elsewhere, mainly associated with pyrrhotite and graphite.

Pyrrhotite (altered to pyrite) forms disseminated patches averaging 0.1-0.2 mm in size and locally up to 0.8 mm long. Many of these have delicate, concentric alteration textures. Chalcopyrite forms a few grains up to 0.07 mm in size associated with pyrrhotite. Lensy patches of pyrrhotite and sphalerite and minor chalcopyrite are intergrown intimately along cleavage planes in a few grains of graphite.

Apatite forms a few anhedral grains up to 0.3 mm in size.

Sample BCL-020 #2 — Quartz-Graphite-Tremolite-(Pyrrhotite-Biotite-Plagioclase) Schist

The schist is dominated by quartz with less abundant graphite, porphyroblastic grains of tremolite and much less pyrrhotite, biotite, and plagioclase. Graphite flakes are very fine to fine grained and commonly are warped moderately. Patches of pyrrhotite (altered to pyrite) and minor chalcopyrite are associated with graphite clusters.

quartz	65-70%
graphite	17-20
tremolite	7- 8
biotite	1- 2
pyrrhotite	1- 2
plagioclase	1- 2
apatite	minor
chalcopyrite	trace

Quartz forms aggregates of moderately to strongly interlocking grains averaging 0.05-0.2 mm in size. Textures suggest that original coarser grains (up to 0.5 mm in size) were strained strongly and recrystallized. A few patches up to 2 mm across are dominated by coarser grained quartz (original grains up to 0.8 mm in size) showing similar deformation and recrystallization textures.

Graphite forms flakes averaging 0.1-0.5 mm in length. Most are ragged and warped moderately, and occur in clusters averaging 0.2-0.8 mm in size. A few, commonly coarser and grains from 0.7-1.0 mm long are parallel to foliation.

Tremolite forms anhedral to subhedral, equant to elongate prismatic grains averaging 0.5-1.5 mm in size, with a few over 2 mm long. It is pale green in color and very weakly pleochroic. Some grains contain a few rounded to lensy inclusions of quartz from 0.1-0.2 mm in size; these do not show the strained and recrystallized texture of quartz away from tremolite.

Biotite forms ragged flakes averaging 0.2-0.5 mm in size. Pleochroism is from light to medium reddish brown.

Plagioclase forms scattered, anhedral grains averaging 0.1-0.2 mm in size.

Apatite forms a few subhedral, prismatic grains up to 0.3 mm long.

Pyrrhotite (altered to pyrite/oxide?) forms grains averaging 0.03-0.1 mm in size, and locally up to 0.2 mm across. These occur in clusters averaging 0.2-0.5 mm in size, and locally up to 1 mm across. Patches commonly are intergrown coarsely with graphite.

Chalcopyrite forms anhedral grains up to 0.08 mm across, commonly associated with pyrrhotite.

Sample BCL-020 #3 . Quartz-Plagioclase-Graphite-Microcline-Diopside Tremolite-Pyrrhotite-Biotite-Tourmaline) Schist

The rock is a fine grained schist dominated by quartz with less plagioclase and much less graphite, microcline, diopside, and tremolite, and minor pyrrhotite/pyrite, biotite, tourmaline, and sphalerite.

quartz	50-55%
plagioclase	17-20
microcline	5- 7
graphite	4- 5
diopside	4- 5
tremolite	3- 4
tourmaline	1
biotite	1
sphalerite	0.3
chalcopyrite	trace

Quartz forms equant grains averaging 0.2-0.5 mm in size. Some patches are recrystallized to much finer subgrain aggregates.

Plagioclase forms equant grains averaging 0.2-0.3 mm in size, and a few grains up to 0.7 mm across. It also occurs in lenses and patches of extremely fine grain size associated with microcline and quartz. These lenses and patches and the recrystallized nature of some quartz patches indicate that the rock was slightly to moderately cataclastically deformed.

Microcline forms equant grains averaging 0.1-0.4 mm in size. Commonly along borders of microcline and plagioclase are grains averaging 0.1 mm in size of myrmekite.

Graphite forms about equal amounts of free grains and clusters of grains averaging 0.2-0.5 mm in size.

Diopside forms equant, anhedral grains averaging 0.2-0.4 mm in size, and a few prismatic grains up to 0.7 mm long.

Tremolite forms anhedral, prismatic grains averaging 0.5-0.7 mm long and a few up to 1 mm long. It is pale greenish yellow in color.

Pyrrhotite forms patches averaging 0.2-0.3 mm in size, and a few from 0.5-1.3 mm across of grains averaging 0.05-0.2 mm in size. Alteration is complete to secondary pyrite and minor non-reflective material showing delicate concentric alteration textures in individual grains.

Sphalerite forms anhedral grains averaging 0.1-0.15 mm in size, mainly associated with graphite and pyrrhotite/pyrite and a few patches up to 0.6 mm in size in quartz-plagioclase.

Tourmaline forms equant grains averaging 0.1-0.2 mm in size and a few prismatic grains up to 0.3 mm long. Pleochroism is from light orange to dark brownish red and locally black.

Biotite forms ragged flakes averaging 0.1-0.2 mm in size. Pleochroism is weak from pale to light brown, suggesting that the mineral is altered partly towards muscovite.

Chalcopyrite forms equant grains averaging 0.02-0.05 mm in size, mainly associated with pyrrhotite/pyrite.

Distribution of Graphite

Graphite grains were classified according to 1) whether they were free grains or occurred in clusters and 2) on grain size. "Free" grains also includes aggregates of parallel flakes, which would be expected to separate readily into free grains on crushing and processing. Two traverses were made across each section; the samples are uniform enough that these give a semi-quantitative estimate of the graphite distribution (Table 1). Results are compiled in Table 2 to show the total amount of graphite flakes in the given size ranges.

Table 1. Distribution of Graphite (%)
(size and texture classification)

Sample	Free Grains (sizes in mm)					Clusters (sizes in mm)			
	<0.2	0.2-0.5	0.5-0.8	0.8-1.2	>1.2	<0.2	0.2-0.5	0.5-0.8	0.8-1.2
1	7	13	16	7	5	13	29	9	1
2	5	11	2	1	-	70	11	-	-
3	13	29	9	1	-	25	19	1	3
4	5	15	7	-	-	42	26	5	-

Table 2. Distribution of Graphite (%)
(size classification)

Sample	<0.2	0.2-0.5	0.5-0.8	0.8-1.2	>1.2
	(sizes in mm)				
1	20	42	25	8	5
2	75	22	2	1	-
3	38	48	10	4	-
4	47	41	12	-	-

Conclusions:

The samples are ranked as follows in terms of coarseness of grain size and ease of liberation of single graphite flakes:

1. Excellent - Sample 1
2. Good - Sample 3
3. Fair - Sample 4
4. Poor - Sample 2

Although it has the poorest quality of graphite, the high graphite content of Sample 2 may improve its classification, depending on the quality of the product desired.

John G. Payne
John G. Payne,
604-986-2928

APPENDIX "D"

PRELIMINARY MINERAL PROCESSING TESTWORK ON THE BENTINCK GRAPHITE PROPERTY

prepared for:

RESOLUTE RESOURCES LTD.

attention:

Dr. M.J.V. Beattie, P.Eng.

prepared by:

PROCESS RESEARCH ASSOCIATES LTD.
9145 Shaughnessy Street
Vancouver, B.C. V6P 6R9

Bernhard Klein

BERNHARD KLEIN, Ph.D.
Senior Metallurgist

December 9, 1992

1 SUMMARY AND RECOMMENDATIONS

Grab samples of graphite ore from the Bentinck property were subjected to preliminary flotation and gravity concentration testwork. The main objective of the testwork was to produce high grade saleable graphite products. Specifically, tests were performed to produce high grade +48 mesh, -48 mesh +100 mesh, and -100 mesh products. The tests involved processing the ore using various stages of grinding, flotation and gravity concentration. From the preliminary tests the following results were achieved.

Table 1. Summary of results from processing testwork on graphite ore.

Product	Grade (% C)	Yield (Wt. %)	Carbon Recovery (%)
+48 mesh	92.5	2.08	10.5
-48 +100 mesh	78.3	8.18	35.0
-100 mesh	64.9	11.3	40.0
Total		21.6	85.6

Although the combined recovery of graphitic carbon was only 85.6%, at the rougher flotation stage of the test the recovery was 99.8%. Since the graphitic carbon was recoverable at this stage, there is a real possibility of increasing the final recovery.

The results from the third test were significantly better than those from the first two tests. This improvement is attributed to the increased grind used for the third test. It was found that the particles were more resistant to breakdown from grinding than was expected and therefore grinding times had to be increased substantially to significantly improve particle liberation. It is expected that further improvements will be made by optimizing the grinding conditions. Specifically, tests to evaluate the effects of different grinds at various stages of the process should be investigated. In addition, changes in the flotation procedures and reagent dosages and gravity concentration procedures could also lead to improved results.

The conclusions and recommendations presented in this report are based on results produced using grab ore samples. Further development work should be conducted on a proper bulk sample obtained by trenching and drilling.

2 INTRODUCTION

Grab samples from the Bentinck graphite property near Bella Coola, British Columbia were subjected to preliminary processing tests. The objectives of the tests were:

a. To produce high grade graphite products, and

b. To maximize the yield of these graphite products.

Various grinding, flotation and gravity concentration procedures were used to produce three products including:

a. +48 mesh concentrate,

b. -48 mesh +100 mesh concentrate, and

c. -100 mesh concentrate.

Of these products, the +48 mesh concentrate is potentially the most valuable and therefore processing was focused on optimizing the production of this product.

3 PROCEDURES & RESULTS

The samples that were received were prepared for head assays and subsequently subjected to processing testwork. The following describes the samples that were received, the processing test procedures and the associated metallurgical results.

3.1 Sample Description

Three samples were received including:

a. a composite sample

b. sample 102010, and

c. sample 102013.

The composite sample consisted of one rock plus several bags of rock chips. Samples 102010 and 102013 consisted of rock chips. All samples had a dark grey colour and contained significant amounts of visual coarse graphite grains. Each sample was jaw and cone crushed to -6 mesh. The composite sample was riffled into eleven 2 kg charges, three of which were used for process testwork. Representative cuts of samples 102010 and 102013 were obtained by riffling and were then analyzed in duplicate for graphitic carbon. Three analytical methods were compared:

a. Leco
b. loss on ignition (L.O.I.)
c. double loss on ignition (D.L.O.I.)

The results of the analyses are as follows.

Table 2. Results of graphitic carbon analyses on Bentinck samples.

Sample	LECO (% C)	L.O.I. (% C)	D.L.O.I. (% C)
#102010	7.23	9.87	8.06
	7.20	9.89	8.09
#102013	15.10	16.8	16.0
	15.20	16.8	16.0

The results presented in the table indicate that each method produces a different result. The D.L.O.I. procedure includes a step to burn off volatiles making it more accurate than the L.O.I. procedure. Since the D.L.O.I. graphitic carbon assay is determined from a weight difference, it is not very accurate for low level determinations. The Leco analysis is performed on a small sample making it less accurate for samples with high graphitic carbon contents. For these reasons, graphite analyses were performed using the Leco procedure for low level determinations and the D.L.O.I. procedure for high level determinations.

Head grades for the composite samples were determined from metallurgical balances. The grades ranged from 17.5% graphitic carbon (test 1) to 18.4% graphitic carbon (test 2).

3.2 Processing of Bentinck Ore

Three different procedures were used to produce the three graphite products. The procedures are shown schematically in Figures 1, 2 and 3 and are described in detail in the Appendix. The procedures involved crushing the ore sample to - 6 mesh and splitting the sample into 2 kg charges for subsequent tests involving grinding, flotation and gravity concentration.

3.2.1 Graphite Float Test 1

The graphite float test 1 procedure is presented in Figure 1 and described in more detail in the Appendix. The process involved grinding the 2 kg sample to approximately 95% -20 mesh and floating the ore to produce a cleaned graphite flotation concentrate. The actual grind was 91.8% -20 mesh and 37.1% -100 mesh. This concentrate was then screened at 48 mesh from which the +48 mesh fraction was upgraded using gravity processes to produce the +48 mesh concentrate. The -48 mesh fraction was reground to improve liberation and then refloated. This flotation concentrate was screened at 100 mesh producing the +100 mesh and -100 mesh concentrates. The balances for the entire procedure are presented in the Appendix. The following table summarizes the main results.

Table 3. Product yields and grades produced from graphite float test 1.

PRODUCT	GRADE (% C)	YIELD (%)	RECOVERY (%)
+48 Mesh Gravity Concentrate 1	83.7	0.60	2.89
+48 Mesh Gravity Concentrate 2	73.0	1.00	4.18
+48 Mesh Gravity Concentrate 3	68.2	1.23	4.78
+48 Mesh Gravity Concentrate 4	58.8	0.89	3.01
+48 Mesh Gravity Concentrate 5	71.6	3.24	13.27
+48 Mesh Gravity Concentrate 6	25.2	1.92	2.76
Total +48 Mesh Gravity Conc.	**60.8**	**8.88**	**30.89**
+100 Mesh Concentrate	**51.7**	**7.79**	**23.01**
-100 Mesh Concentrate	**62.1**	**9.38**	**33.28**

For the purpose of this report, yield refers to the weight percent of the total feed and recovery refers to weight percent total graphitic carbon in the feed.

As is indicated in the table, it was possible to produce a +48 mesh product with a carbon grade as high as 83.7% although the yield was only 0.60%. The yield could be increased at the expense of the grade as is indicated by the total gravity concentrate yield of 8.88% and the corresponding grade of only 60.8%. The yield of the +100 mesh and -100 mesh products were good at 7.79% and 9.38%, respectively. However, the grades for these two products were low at only 51.7% and 62.1%, respectively. These results exemplify the trade off between product yield and grade and the need for greater liberation.

Despite using various stages of cleaning flotation throughout the procedure, the flotation concentrate grades were low. The results reveal that the flotation concentrate grades increased as the product particle size decreased. These results can be explained by the improvement in liberation with decreasing particle size. Microscopic examination of the products revealed that the coarse particles are made up of foliated graphite lamellae with silicate grains trapped between the lamellae. Grinding would break apart these foliated particles to produce separable liberated graphite flakes and silicate particles.

Although the graphitic carbon recovery from rougher flotation was 95.6%, the combined recovery from the three products was only 87.2%. Since a higher rougher flotation recovery was achievable, it is likely that the product recovery can be improved. Specifically, 6.5% of the graphitic carbon was lost to the gravity concentration tailings. By re-grinding and refloating this product, additional graphite could be recovered in the -48 mesh +100 mesh and -100 mesh products.

3.2.2 Graphite Float Test 2

Based on the results of float test 1, a second test was planned and carried out. The objective of test 2 was to increase the graphite concentrate grade by increasing the primary grind to improve particle liberation. The grind time was extended to 3.5 minutes producing a slightly finer feed (93.1% -20 mesh and 46.1% -100 mesh). The procedure for float test 2 is presented in Figure 2 and is described in detail in the Appendix. The balances for float test 2 are also presented in the Appendix. The following table summarizes the main results.

Table 4. Product yields and grades produced from graphite float test 2.

PRODUCT	GRADE (% C)	YIELD (%)	RECOVERY (%)
+48 Mesh Gravity Concentrate 1	77.7	1.37	5.77
+48 Mesh Gravity Concentrate 2	60.8	2.11	6.99
+48 Mesh Gravity Concentrate 3	41.0	3.86	8.60
+48 Mesh Gravity Concentrate 4	33.5	2.44	4.44
Total +48 Mesh Gravity Conc.	**48.6**	**9.77**	**25.8**
+100 Mesh Concentrate	**50.6**	**9.30**	**25.6**
-100 Mesh Concentrate	**57.1**	**7.61**	**23.6**

Comparing these results to those obtained from float test 1 reveals that the total gravity concentrate from test 2 has a very similar grade although it has a higher yield. No improvements were made with respect to the +100 mesh and -100 mesh products.

As in the first test, almost all (98.8%) of the graphitic carbon was recovered during the rougher flotation stage of the test. The combined product graphitic carbon recovery was, however, 75.0% which is worse than the recovery achieved in float test 1. The main graphite losses occurred in the rougher cleaner flotation tailings (9.3%) and in the gravity concentration tailings (14.7%). The higher losses from the rougher cleaner flotation are likely the results of lower dosages of Varsol collector. As stated above, the gravity concentration tails could be reground and refloated to increase the recovery in the -48 mesh +100 mesh and -100 mesh products.

APPENDIX "E"

Ore on site is 34 feet wide trenched and measured.

Ore on site is at least 100 ft in length and 100 ft in depth and further.

Consider the depth is only 100 ft. would give you 25,000 tons.
The grade would be minimum of 20% = 400 lbs per ton
25,000 tons of ore grading 20% = 10,000,000 pounds of Carbon

Concentrate of Carbon at $1.20 per lb. = $12,000,000

Concentrate of Carbon flakes is $1.65 to $2.25 per lb.

$12,000,000 of Carbon I believe is only a fraction of Carbon here.
I believe there is millions of tons of ore grading 71.8 % Carbon.

To mine this 100 ft. section.to 100 ft. deep should take 60 to 90 days.

This will give you 5,000 tons of concentrates at $2,400 per ton = $12,000,000

Cost to ship 5,000 tons of ore to Vancouver	$ 39,000.00
Truck to mill site @ 20.00 per ton	100,000.00
Loader 5 days loading	2,500.00
Milling @ $40.00 per ton	200,000.00
Mining	12,000.00
Loader 5 days turn load	2,500.00
	$356,000.00
	extra for road

Value of Carbon	12,900,000
Cost	356,000
	12,544,000

Cost per lb. of Carbon is less than 16 cents

As a result of test 2, it seems that extending the primary grind time by 0.5 minutes did not greatly improve liberation. As stated above, the increased grinding time did not greatly change the size of the feed particles and therefore it is not surprising that the liberation was not improved significantly.

At the end of the test, products were processed further to attempt to improve their grades. This involved regrinding the combined gravity concentration products and panning the +48 mesh fraction. The -48 mesh fraction of the reground material was then combined with the +100 mesh concentrate for further grinding and subsequent flotation. The flotation concentrate produced from this test was then screened at 100 mesh to produce the respective products. As a result of this further upgrading, a +48 mesh pan concentrate with a grade of 82.5% carbon was produced. No significant improvements were made to the grades of other products.

3.2.3 Graphite Float Test 3

A third test was planned incorporating some of the ideas tested at the end of test 2. The resulting process flowsheet is presented in Figure 3 and is described in detail in the Appendix. For this test, the primary grind time was doubled to 7 minutes producing feed that was 47.5% -100 mesh. Despite doubling the grinding time, the particle size was not substantially finer than the feed size for test 2 (46.1% -100 mesh). It is, therefore, apparent that the Bentinck ore particles are more resistant to breakdown by grinding than expected. In test 3, the +48 mesh flotation concentrate was processed through two stages of regrinding and screening prior to gravity concentration. The -48 mesh products were combined, reground and then refloated. Following flotation, the cleaned -48 mesh concentrate was reground one more time and refloated prior to screening to produce the -100 mesh and +100 mesh concentrates. The balances for test 3 are presented in the Appendix. The main results are presented in the following table.

Table 5. Product yields and grades produced from graphite float test 3.

PRODUCT	GRADE (% C)	YIELD (%)	RECOVERY (%)
+48 Mesh Gravity Concentrate 1	93.3	0.40	2.05
+48 Mesh Gravity Concentrate 2	92.8	1.02	5.15
+48 Mesh Gravity Concentrate 3	91.7	0.67	3.34
Total +48 Mesh Gravity Conc.	**92.5**	**2.08**	**10.54**
+100 Mesh Concentrate	**78.3**	**8.18**	**35.02**
-100 Mesh Concentrate	**64.9**	**11.3**	**40.04**

The results show that much higher product grades were achieved using the float test 3 procedure. The combined +48 mesh gravity concentration product grade was greater than 90%. The +100 mesh and -100 mesh concentrates also had significantly higher grades than the respective products from the first two tests. It is therefore evident that product grades can be improved by increasing the grind at various stages of the process.

The combined product graphitic carbon recovery was 85.6% which similar to the recovery from test 1 and is a significantly greater than the recovery from test 2. As with the first two tests, the rougher flotation recovery was very high at 99.8%. The main loss of graphite occurred in the gravity concentration tailings (9.4%). Regrinding and refloating this product would result in improved recoveries to the -48 mesh +100 mesh and -100 mesh products.

Based on the results of test 3, it is evident that grades, yields and recoveries can be improved by changing the processing procedure. The most important process variable seems to be the amount of grinding. For the present set of tests, process variables such as grinding time, were based on experience. It is expected that results could be improved by using what has been learned from these preliminary tests in some additional carefully planned experiments.