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**The British Flag Prospecting and Mining Syndicate N.L.
Directors Report
For the half year ending December 31st 1906.**

**The shareholders of The British Flag Prospecting and Mining Syndicate
N.L. King Island.**

Ladies and Gentlemen,

We have much pleasure in submitting for your information, our report together with the Balance Sheet for the past half-year. Since our last half yearly meeting active operations on the Fraser River leases have been discontinued. This was found advisable in the interests of the company for several reasons. In the first place it was found impracticable to work the open face, with the appliances at our command during the winter months. Secondly it was found that with our small trial plant we could not work to a profit by the payment for and recovery of the tin contents of the sand only. Thirdly, the experimental plant erected had now demonstrated the possibility of separating the mineral values. I had proved the payable nature of the deposit, provided adequate machinery were introduced and lastly, we considered that from the tests carried out we had gained sufficient information to warrant us in inviting the introduction of necessary capital from outside sources.

With this view authority was sought by us, obtained by you at an extraordinary meeting to dispose of these leases and subsequently an option over the property was granted to W.C.G Moor M.A.F.I.F.G.S representing Messer, Defries & Sons of London. This option expired on the 31st of December and we may expect to hear from this gentleman before the date. Should Mr Moor fail to exercise his option, it is our intension to take immediate steps place the property elsewhere, as we have had several other enquires in relation to the same.

The Balance sheet shows a debit of £394.15.9: but when the £137.10 Calls due are paid in (the greater part of which we have been assured will be paid) the debit balance will be reduced to £255.14.7. It is the intension of your Directors to continue regular monthly Calls until this debit balance is wiped off or until the Fraser River bases are disposed of. We have every confidence in the future of this property provided a moderate amount of capital is introduced to secure proper labour saving machinery for handling the deposit.

The average amount of Concentrates obtained per cubic yard treated 9lbs is very satisfactory and had we been in a position to extract the gold and monazite values locally, the sand would probably have shown a fair profit even worked on the limited scale and by the primitive methods adopted in our experimental trial. The General Manager whose report will be found attached has been engaged making a general inspection of the Southern half of the island. Other promising lodes and deposits have been located, which will doubtless receive further attention at a future date.

Yours Faithfully
Signed A.J. Winterbottom
Vice Chairman
Certified to be a true copy
H.W. Pivett Zaruae
General Manager

King Island
11th Jan 1907

**To The Directors of the British Flag Prospecting & Mining syndicate N.L.
King Island, Tasmania**

Gentlemen,

I have the honor herewith to submit my report on the Company's leases at the Fraser River and the tests carried out there, under your directions together with the results obtained and the information gathered by me during the past year, as to the nature of the best means of working this deposit.

Character of the surrounding Country

The Fraser River runs approximately from East to West and within a few chains evidently marks a change in the character of the country immediately south of the Fraser River. The rocks consist of metamorphic schists, slates and sandstones stained greenish here by chlorite, highly mineralised in places and apparently of the upper silurian and devonian formation, 1 mile south of the river an intrusive dyke of serpentine occurs. The formation in the vicinity of the river is somewhat disturbed but the strike is apparently about N.W. whilst the dip is to the southward. The country is hilly rising to between 200 to 300 feet and entirely covered with large dead eucalypti (blue gum variety). North of the Fraser River no rock is visible. A level sandy beach extending north for over 20 miles the only break occurring some 4 miles from the Fraser, where a fossiliferous limestone of tertiary age crops out, the bedding being horizontal. In land the country is broadly undulating and gradually reaches an elevation of 150 to 200 feet above sea level. The underlying formations to mostly consist of talcose and mica schists, non rocks of igneous being visible until the vicinity of the Sea Elephant Hills is reached and here a bold outcrop of syenitic granite occurs. The formations everywhere are covered by some 10 to 30 feet of a kind of pipe clay, gritty with quartz wash in places and occasional beds of bog ironstone. The country consists of open plains with a peaty surface and these plains extend nearly to the north end of the island and in places fully 8 miles back from the coast, it is a difficult one for the prospector and could be best tested by boring.

The occurrence of the Deposit

The deposit worked by your company is located on the North of the Fraser River fronting on and extending west seawards. Starting at the Fraser, it runs North for about 60 chains (having an average width so far as proved, of about 2 chains from high water mark, the possibly it may extend inland for a considerable distance), as a undulating flat; the undulations running parallel with the coast line. On the southern portion near the works, the depressions between the ridges are of a swampy nature. Immediately at the back the land rises sharply to a terrace some 30 feet above the flat.

The depth of the deposit which is a heavy black sand, specific gravity 4.2, composed of spinel, garnet, zircon, magnetite and titanium, iron, continuing cassiterite (tin), monazite (thorium), gold and osmiridium and of laminated structure, the richer bands occurring nearest the bottom. Is about 75 feet at the foot of the terrace, deepening seawards to 15 to 20 feet. The sand overlies an old beach composed of medium sized cobbles, of the same nature as the rock south of the Fraser, and continuing a large quantity of pyrite lumps and nodules of secondary origin and containing no mineral of value. This wash or beach overlies a false bottom of brownish sand, giving place in parts to pipe clay and porphyry formation was uncovered, and it is noticeable that here the best tin and gold so far have been won. This formation should be further prospected. Both the sand and the wash are in places cemented with the oxide of iron, principally where the water from the higher land filters through the sand to the beach.

Origin of the Deposit

Many theories have been advanced to account for this deposit and also for others of a similar nature occurring on the coasts of New South Wales and Queensland. So far as I am aware, no satisfactory explanation of their origin has been forth coming. These sands are all apparently composed of much the same constituents, varying only in the quantity of their mineral contents. Their occurrence and the nature of the surrounding country is similar and the false bottom of brownish sand and occasionally pipe clay are common I believe to all. We must conclude from this that the origin of each of these deposits is of the same nature and must be looked for at the place of their occurrence an not miles away in the interior, or from formations located beneath the level of the adjacent sea. From observations made in other portions of the island (where a small deposit of similar sand exists, around an outcropping greisen, composed of quartz, tourmaline and coarse mica, occurring at the contact of syenite and mica schist). I am of opinion that this deposit has originated locally from the gradual wearing down of a fine-grained friable porphyry or greisen, occurring probably on a contact. The tin may occur either in veins intersecting, the rock, or as an impregnation, or it may be confined to a true fissure lode occurring near the contact. The uniform fineness of the tin and the absence of specimen lies in the wash rather favours a porphyry origin. In either case the matrix will probably be found in close proximity to the present workings. The gold and osmiridium contents are probably derived a pyritic lode formation of a different geological age, and having a different strike and so crossing the cassiterite formation from the quantity of ore distributed along the coast the formation must be of some magnitude. I would again strongly urge the boring of this property.

Working Test of the Deposit

The ordinary sluicing methods were found quite impracticable with this class of ore, and any attempt to work the deposit on these lines would prove disastrous. The cassiterite (tin) is exceedingly fine, the whole of it practically passing through a 100 mesh sieve. The grains are of various colours, ruby red, milky white, yellow grey, grey and black, showing a foxy red colour in the dish and a brownish grey when dry. In order to save this tin and at the same time treat a fair quantity of ore, special tables were constructed locally, a 4 steamer engine (portable) set down, as also a 3000 Gal capacity Worthington pump to provide a water supply. The machinery had its trial run on January 1st 1906 and the work finally suspended on June 30th. During this time the four machines ran for 1290 hours tho the actual working time was much less; much time being absorbed in the earlier stage in alterations and repairs and experimental runs. The following is an analysis of the work done.

Hour's run- 1290- land excavated 1584 Cubic yards.

Land passed over tables- 866- Cub Yds

Marketable ore produced:	Tin	T	C	Q	L	oz	dwt	gro	
		5	10	2	8	Gold	1	13	14

Net Value realised:	Tin	£ 242-19-11-	Gold	£ 7.	2	7
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Average Tin contents @ 50% Per Cub Yd - 9 Lbs

Net value of bulk ore treated for Tin per cub yd 6/-

Costs of excavating and treatment per cub yd 10/8

I estimate fully, a ton of Tin remained in the ore, dumped as too poor to handle at that time. Had the gold and monazite values been extracted on the spot and only the higher grade of ore fed to the tables, a profit would have been certain; but the property would have been impoverished. The 4 machines when in full work, were capable of handling about one cubic yard per hour. The extraction of the ore values by these tables was remarkably good, practically a full recovery being secured; only a trace of Tin and Gold was obtained from tailings, several assays of which were obtained, and most of this was doubtless carried over the tables in cemented pellets of sand. On the whole the machines worked fairly satisfactory, especially the last two constructed; but all are capable of being vastly improved. They have two main faults - first - the wear and tear is excessive - and secondly - the capacity of the machines (tho "equalling and probably exceeding that of any other machine in that class of ore) could be materially increased with advantage.

In my opinion the future successful working of this deposit, depends very largely on improving on the lines already indicated, the present type of machine used and this should be no difficult matter.

The grade of the bulk ore - 9 lbs to the c.yrd tho 'satisfactory, is too low to be treated successfully by the Card or Wifley table, (the ore fed to these should not be less that 6% stuff to be profitably worked). Because tho' their separation is excellent, their capacity per hour in such heavy material, would be considerably below even that of the present type of table in use. One of these tables might however be used with advantage for finally dressing concentrates. It is to be regretted the Company were unable to undertake the extraction of the Gold contents. As in my opinion a loss of fully £ 100 was thus incurred in the ore treated, supposing the Gold contents of the ore passed over the tables were as low as 12 grams to the ton. In no case have assays of the bulk given so low a gold content, and some of the wash dirt treated off the bottom contained fully 10 penny weights of gold to the ton, though this lead was confined to one portion of the paddock worked.

In any future work the excavating and trucking by manual labour, should be superseded by up to date machinery; as also the removal of the tailings.

Future method of working

In my opinion the deposit has been proved, so far as tested, of a sufficiently payable character to warrant the introduction of further capital. So as to equip the mine with proper machinery, and I think the lines most likely to be most successful would be as follows: excavate, preferably by bucket-elevator. Elevate the ore to the terrace - Pass thro' a disintegrator and eliminate stones by - Pass over improved machines of the present type - Dress concentrates on Card or Wifley table - Extract Gold by chlorination (The gold being coated with fibre, will not amalgamate). Extract monazite from seconds by magnetic separation. Tailings to flow to sea by gravitation. As regards motive power everything favours the adoption of electricity, should the capital provided be sufficient to meet the first cost of erection. Ample water power is available close by in the Fraser River for driving a dynamo and the electric current produced, will not only light the works, but drive machinery where required. Water in abundance is available for dressing purposes and may be obtained either by pumping or gravitation.

I have the honor to be Sirs
 Yours faithfully
 H.W. Pivett Zaruae
 General Manager.