

Mining Engineer,
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Jan. July 18.

Report of Visit to the Mogul Mining Company Property
on Graham Island.

Location

The property held by the Mogul Mining Company, headquarters at Toronto, is situated in one continuous line of leases similar to the old land grants on the rivers in eastern Canada; i.e. each lease borders the sea and extends landward a predetermined distance. The scope of these leases extends from Massett Sound on the north coast of Graham Island; easterly to the east coast and then southerly along the east coast. It is proposed to add the interior leases to this area as the exploration program warrants. Actual acreage held is an unknown figure to the writer at this time.

Access and Topography

The headquarters of the company is at Limberlost Lodge, seven miles east of the town of Massett, on a fair gravelled road. Massett is reached by boat on a twice monthly schedule run by Union Steamship Lines or else by special charter on Saturdays via P.W.A. There is no radio or telephone communication on the property.

The actual area under consideration at present is a series of sand dunes running parallel to the coast line and indications are that these are alluvial wind deposits. The age of the respective dunes may be determined to some degree by the growth of the trees. The younger trees on the coast and trees of over two hundred years as one moves into the interior. The actual disposition is still taking place so that it is reasonable to expect that should depletion take place by mining, repletion could be going on at the same time. The dunes, while building, reach a good height but due to subsidence the surface of the ground is gently rolling and the overall difference in elevation being seldom greater than twenty feet.

Personnel

The General Manager is Mr. Clare Donaldson who resides at Limberlost and is in daily contact with all the current phases of the operation.

The Field Manager is Mr. Alfred Hegson who superintends all work in the field such as surveying, sampling, etc.

Drilling is contracted by a Vancouver firm Industrial Engineers and at present there is a crew of four working on a two shift bases.

A survey crew of three members (including the field manager) are commencing a traverse and profile of the immediate area under exploration.

The laboratory personnel consists of four students under Mr. Donaldson carrying out work as outlined later on in this report.

A cook and bull cook complete the crew to date.

Dr. W.W. Weber

PROPERTY FILE

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Present Developments

Head-quarters on the island were established at Limberlost Lodge. This old tourist resort has been renovated and with its various buildings has proven to be an ideal setup practically at the heart of the present operations.

Ground crews traversed the area and the various timber roads noting accessibility. The government road to Tow Hill is laid on planks (rotting away) and it was found that the road past Tow Hill leading south and east to the eastern coast is inaccessible to even jeep travel. Should exploration be required here a road program will be necessitated.

At the time of the writer's visit a sampling program was being carried out by three crews using small hand augers six inches in diameter. A depth of fifteen feet in sand was being reached but many holes did not reach this depth due to the presence of rocks or gravel. Samples were taken in five foot lengths, coned and quartered, placed in cans, tagged with the location, etc. and returned to the laboratory for analysis.

A jet drill had been used but for some reason this drill using a $2\frac{1}{2}$ inch casing would not penetrate the gravel zone encountered at plus fifteen feet and until some modification in its use could be found drilling had been discontinued with this method.

A truck mounted churn drill with the appropriate bales is now in use; samples are taken every five feet and it is hoped to reach a depth of sixty-five feet using this method.

The laboratory is in the process of setting up a sampling procedure and a quantitative analysis. A run down of the proposed procedure follows. The samples that arrive from the field are passed through a $\frac{1}{4}$ inch mesh screen. These samples representing five foot intervals in depth are carefully dried then riffled to obtain a one hundred gram representative sample. The minus 10 mesh of this sample is then introduced to a large titration flask along with a measured volume of tetrabromomethane which acts as a heavy media separator. The black sands which collect at the bottom once equilibrium is arrived at are drawn off, then the middlings, and finally the white sands or tails. These are then filtered and washed with methyl hydrate and weighed. The black sands contain the magnetics such as magnetite and ilmenite and the non-magnetics such as rutile, zircon, garnets and gold. By a hand magnet a further separation is obtained giving magnetics and non-magnetics and the magnetics can be further separated by introducing additional layers of paper between the ore and the magnet. It is proposed to complete this part of the analysis by a grain count using a microscope. This will be tedious work but will give the required results if carried out correctly. The plus 10 mesh will have a representative grain count done for purposes of analysis.

Examination of various samples under the microscope leave no doubt as to the procedure's feasibility. As a matter of interest it was noticed that the gold grains appear to be a matrix of flower gold.

Present Developments (cont'd)

The whole procedure is based on previous experience obtained by Mr. Clare Donaldson during a period spent in Australia on a somewhat similar program.

At the time of the writer's visit the percentage of zircon was receiving and warranting considerable attention. A market has already been indicated for the product. Many samples viewed under the mineral lamp showed good concentration (percentage undetermined) the zircon grains showing up with a marked yellow metallic reflection.

Present equipment is adequate and consists of a four wheel drive jeep, a two wheel trailer, one truck Driller's, one jet drill, a second truck on which is mounted a churn drill, and the usual survey and laboratory equipment.

Future Developments

For the time being a heavy drilling and sampling program is to be concentrated on with the aim of locating channels of workable grades. The proposed mining method is to use dredges to handle and separate the sands and gravel. This is the reason for continuing sampling to a depth of sixty-five feet plus which would give the operation a depth of possibly twenty-five feet below low tide.

Concentration would be carried out using screens for sizing to get rid of the gravel; then by heavy media to separate the black sands; followed by magnetic separation and finally by electro static separation to separate the non-magnetics.

Conclusions

No conclusive results are expected until sometime in July at which time final decisions on the exploration program are expected to be made.

There is no concrete evidence that either of the other two companies are in the area. It is believed that they are pursuing a wait and see policy.

Date - May 28th, 1957.

Signed -

Inspector of Mines.

MOGUL MINING CORPORATION LIMITED

EXECUTIVE OFFICE

SUITE 405-25 ADELAIDE STREET WEST
TORONTO, CANADA

Masset,
Queen Charlotte Is.,
B.C.

14713

Aug. 27/57.

Dear Stew,

The job has been closed down and as I did not receive the Clerici Sol. from Toronto, I was unable to get the + 3.4 S.G. minerals out for you.

However, I am mailing a set of East Coast + 2.96 S.G. heavy minerals to you.

what happens from here on, I don't know.

Mr. R.C. Clark of Utah was up last week for a look-see, but don't know what they have in mind.

The weather lately has been wonderful — rather late to leave the place now.

may see you shortly.

Regards

Clare Donaldson

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