

Kruger Mtn

Property File

082 ESW 106



Department of Energy, Mines and Resources
Ministère de l'Énergie, des Mines et des Ressources

Mines Branch
Direction des mines

001608

File Number
No à rappeler

MINERAL PROCESSING DIVISION

40 Lydia St.
Ottawa 1, Ont.
April 17, 1969

| | | |
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| DEPT. OF MINES AND PETROLEUM RESOURCES | | |
| Rec'd APR 21 1969 | | |
| Sit | | |
| J.W.M.C. | | |

1810

Mr. J.W. McCammon,
Geologist,
Department of Mines and
Petroleum Resources,
Victoria, B.C.

Dear Mr. McCammon:

I am replying to your letter of April 3 about the Richter Pass nepheline syenite - which I assume, is the deposit on the top of Kruger Mountain.

We have had samples come in on two occasions in the past few years. On the first occasion we did some work for Gordon Milbourne, of Vancouver, and I enclose a copy of our Test Report MPT 60-110 on this work. On the second occasion we were asked by Mr. R.A. Rudkin, of Edmonton, to do some beneficiation work. I enclose a copy of my letter of July 13, 1965, in reply to Mr. Rudkin. I think the letter sums up my opinion pretty well. I do not think this material can be treated to produce an economic ceramic material.

I have the specification for nepheline syenite of one fibre glass producer. The most important item is the maximum of 0.7 per cent Fe₂O₃. The total spec. is as follows:

Chemical Analysis

| | Min. | Max. |
|--------------------------------|-------|-------|
| SiO ₂ | 58.0% | 68.0% |
| Al ₂ O ₃ | 23.5% | 24.5% |
| Fe ₂ O ₃ | | 0.7% |
| CaO | | 0.9% |
| MgO | | 0.25% |

J.W. McCammon
April 17, 1969
Page 2

| | | |
|--|-------|-------|
| Total alkali (Na ₂ O:K ₂ O = 2:1) | 14.3% | 15.4% |
| LOI | | 1.0% |

Screen Analysis

| | <u>Min.</u> | <u>Max.</u> |
|------------------|-------------|-------------|
| On 28 mesh, dry | | 0.0% |
| On 100 mesh, wet | | 1.0% |
| On 200 mesh, wet | 5.0% | 10.0% |

This is not necessarily standard. Each consumer would have to be consulted. The ranges of SiO₂, Al₂O₃ and total alkali reflect what the Blue Mountain nepheline syenite contains and the consumer's requirement for uniformity. These ranges might be different for an acceptable nepheline syenite from another source.

When you asked for consumption figures more recent than 1967. I presume you had been looking at the figures in the 1967 review, which were only for 1966. Total Canadian consumption for 1967 is reported to be 59,552 short tons. But like all reported consumption figures it should be treated with some scepticism. I can give you even a less precise figure for Western Canada - about 10,000 short tons in 1967. This figure is based on my guesswork, because some companies, like Dominion Glass, report a total for all plants and not for each plant. Of this 10,000 tons, about 60 per cent is glass grade, between 15 and 20 per cent apparently is for fibre glass, and a large part of the rest is for whitewares. Please don't pass these figures around very widely.

Yours sincerely,



J.E. Reeves

JER/mn

Mineral Processing
Division

40 Lydia Street,
Ottawa 1, Ontario,
July 13th, 1965.

Mr. R.A. Rudkin,
11344 - 68th Street,
Edmonton, Alberta.

Dear Mr. Rudkin:

Thank you for the samples from Kruger Mountain and the detail in your letter of July 7th. We appreciate getting as much information as possible about a deposit.

Your samples are virtually identical in appearance with some we worked on in 1960 for Mr. Gordon Milbourne of Vancouver. The samples were ground and screened to give minus 35 plus 100 mesh fractions, which were beneficiated as much as possible with a highly selective laboratory electromagnetic unit, the Frantz Isodynamic Separator. The products were so contaminated with tiny dark inclusions and the iron content was so obviously much greater than 0.1 per cent Fe_2O_3 that I did not even have chemical analyses done. The grains of the mafic minerals are so irregular or so tiny that their nearly complete liberation in the particle size range for glass-grade nepheline syenite is impossible. Your sample OB-1 appears to come from the same place as one of Mr. Milbourne's samples, on the south-east side of the high knoll at about 4,000 feet, and would, I suspect, give the same sort of results. I feel certain that this deposit would not be a commercial source of high-quality nepheline syenite for the glass and other ceramics industries, and regret that I can see no reason for recommending any further work.

I am sending you a sample from the northeast end of the Blue Mountain deposit. Please note the lightness of colour and also the discrete nature of the mafic minerals. The only deposit of nepheline syenite in British Columbia that I know of that is at all similar (except for part of the Ice River Complex, which is in parkland) is at 10,000 feet, on the peak of Trident Mountain in the Big Bend area.

Yours sincerely,



J.E. Reeves,
Nonmetallic Minerals Section.

JER:em



Department of Energy, Mines and Resources
Ministère de l'Énergie, des Mines et des Ressources

Mines Branch
Direction des mines

File Number
N° à rappeler

MINERAL PROCESSING DIVISION

40 Lydia Street,
Ottawa 1, Ontario.
April 9, 1970

Mr. Donald R. Mason,
Western Technical Manager,
Canadian Industries Limited,
1155 West Georgia Street,
Vancouver 5, B.C.

Dear Mr. Mason:

This will reply to yours of March 24 enquiring about the sample of nepheline syenite from Kruger Mountain submitted to us for assessment. Specifically, comparison with Blue Mountain was requested.

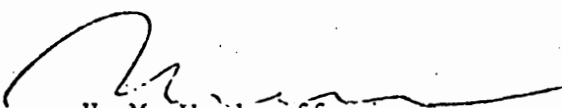
Our mineralogist reports that the Kruger material is of finer grain size than Blue Mountain material, has more inclusions, and more iron-bearing minerals. Below 100 mesh the Kruger grains are cloudy and probably contain inclusions.

On March 2 the sample was turned over to our Milling Section for processing tests. Their initial approach was to reduce a representative portion of the sample to -20 mesh, then screen the -20 mesh into a series of sized fractions. Each size fraction was passed through a high intensity wet magnetic separator. The Fe_2O_3 content of the non-magnetic fractions was determined, and, as expected, decreased in magnitude with decreasing fineness of particle size. The -65+100 mesh contained 0.36% Fe_2O_3 , the -100+200 mesh 0.20%, the -200+325 mesh 0.24%, and the -325 mesh 0.71%. With suitable dispersing agents the -325 mesh would undoubtedly be improved.

The above initial results coincide with the mineralogical prediction and indicate that iron as low as the 0.07% Fe_2O_3 obtained for Blue Mountain are unlikely from Kruger Mountain. However, there are many grades of nepheline syenite sold and material in the 0.2 to 0.3% Fe_2O_3 range should be marketable. For example, "Lakefield" B-25 for fibreglass contains 0.4% Fe_2O_3 .

It is our intention to pursue this matter further, and if improvements result they will be passed along to you.

Yours very truly,


H. M. Woodrooffe,
Chief

APR 13 1970

Krugel Mtz
082 ESW 106
follow up documents missing



INTERNATIONAL MINERALS & CHEMICAL CORPORATION

February 14, 1969

Mr. Ken Butler
R. R. 1
Osoyoos, B. C.
Canada

Note:
we still
have ~200 lbs
of sample on
hand.

Dear Mr. Butler:

We have completed the evaluation of the nepheline syenite samples which you sent me. This material was treated as follows:

1. It was crushed to -20 mesh, fines removed, exoloned, and a chemical analysis on the non-magnetics determined. The chemical analysis is as follows:

magnetic
residue

| | |
|--------------------------------|-------|
| LOI | .8% |
| SiO ₂ | 58.3 |
| Al ₂ O ₃ | 22.2 |
| Fe ₂ O ₃ | 1.2 |
| CaO | 1.5 |
| MgO | Trace |
| Na ₂ O | 6.3 |
| K ₂ O | 9.3 |

2. The unexoloned portion of the sample was then screened on a 50 mesh screen. The -20 +50 mesh fraction was exoloned and the non-magnetic portion analyzed for iron. The iron content of the -20 +50 mesh fraction was 1.76%
3. The -50 mesh material was exoloned and the Fe₂O₃ content determined. This iron content is 0.57%.

Buttons of all three non-magnetic products were fired at cone 9. Button #1, which contained 1.2% Fe₂O₃ was gray in color and semi-vitreous. Button #2 contained 1.76% iron (-20 +50 mesh) and was overfired and glazed and is mottled olive in color. Button #3 which contained 0.57% iron and is the -50 mesh material is off-white in color; however very porous.

From the above we have concluded that if the sample received is representative of your nepheline syenite deposit that at the present time, at least, it cannot compete quality-wise with material produced from Ontario. The non-magnetic iron is too high for any use other than colored glass. Also, the alumina is approximately 1% less than the Blue Mountain, Ontario nepheline syenite. The total alkali (soda plus potash) compares favorably with the Blue Mountain material.

N.S.

Leisure Section

April 18, 1969

Jan 17/69

BOATING

Out of the sheds

New Plants Brighten Boat Builders' Lives

By DON TYRELL

There's real activity going on among boating trades in the Vancouver area, despite the rugged weather.

Modern plants have been erected by several builders and the cramped quarters of other years have given way to plants especially designed and built for their present use.

Floor layouts are better and working conditions far superior to the made-over sheds and surplus buildings used in the trade's formative years.

In Richmond I visited Dave Palmer's bright concrete Beaver Glass plant to view three of the Bill Garden-design Rawson 30 he's turning out under licence for Canada. This Rawson 30 has to be seen to be believed for size. For a thirty-footer it's huge with sleeping accommodation for seven and interior room that would do credit to a large power cruiser.

Dave says the Rawson 30's no racer but she'd be hard to beat for family accommoda-

Western Auto Marine Investments in North Vancouver.

Three Gulf Commanders are inside Enno's building for finishing while the fourth hull awaits its turn outside. There's standing room only inside Enno's plant as work proceeds on his own line of 31-foot fibreglass cruisers and a Discovery-37 fibreglass sloop, first of a new line moulded at ICL Engineering from Peter Hatfield design.

A ferro-cement boat with a glass-like finish was moved east, to Toronto boat show from Tony Asher's plant in North Vancouver. The 31-foot hull built under the Seacrete system in Tony's yard was designed by North Vancouver naval architect Frank Carius.

I rubbed my hands over that smooth finish and figured it would be next to impossible to tell it from a well-finished fibreglass hull if blindfolded.

Tony told me the surface had been touched with fine sandpaper to take paint.

The Seacrete system, in use in England for some years, let out under licence and approved yards by its English developers.

There are some new girls in town attracting considerable attention. They're blown late figureheads, replicas of old-time ships' figureheads, and are currently decorating the window of Alan Lever's Dunsmuir Street antique shop. They're up to 4 1/2 feet in height and there's a mermaid among them who'd turn any sailor's head.

The first three Soling class sloops, the new 29-foot Olympic boat, arrive in Vancouver this week. Four have already been bought locally including one to be skippered by Dave Miller and another for Dr. Jack Balmer.

licence regarding samples.

of the Department said he would make a minimum directly and

of the two composition:

percentage

apatite and particularly europium, on should also

be in a impurities you at that time.

BRITISH COLUMBIA RESEARCH COUNCIL

H. E. A. von Hahn
H. E. A. von Hahn
Division of Applied Chemistry

BRITISH COLUMBIA RESEARCH COUNCIL

3650 WESBROOK CRESCENT - VANCOUVER 167, B. C.

(604) 224-4331

April 18, 1969

Mr. Ken Butler,
Prospector,
R. R. #1,
Osyoos, B. C.

Dear Mr. Butler:

I was given by our Mr. D. C. Lloyd the correspondence regarding your nepheline syenite deposit, together with two cut rock samples.

To develop a flotation process for removing the non-magnetic iron impurities, it will be necessary to identify the minerals in which iron occurs. I took up this question with Dr. J. A. Gower of the Department of Geology, University of British Columbia. Dr. Gower said he would be glad to prepare a thin section of your nepheline rock and make a mineralogical examination. He suggested that you write him directly and send a suitable sample.

Dr. Gower also kindly made a quick examination of the two samples left with us and indicated the following tentative composition:

| <u>Mineral</u> | <u>Approximate Percentage</u> |
|--|-------------------------------|
| Orthoclase | 37 0 |
| Nepheline | 37 0 |
| Biotite | 10 |
| Richterite | 10 |
| Apatite, Spene, Magnetite, Zircon, and unidentified | 5 0 |

He felt that because of the apparent presence of apatite and spene, the rock should be checked for rare earths, particularly europium, and also for columbium and tantalum. The presence of zircon should also be verified.

Following the mineralogical examination we shall be in a position to determine the feasibility of removing the iron impurities by flotation, and will be glad to take up this matter with you at that time.

Yours very truly,

BRITISH COLUMBIA RESEARCH COUNCIL

H. E. A. von Hahn
H. E. A. von Hahn

Division of Applied Chemistry

HEAvH/lm

BRITISH COLUMBIA RESEARCH COUNCIL

3650 WESBROOK CRESCENT - VANCOUVER 167, B. C.
(604) 224-4331

July 9, 1969

Mr. Ken Butler,
Prospector,
R. R. #1,
Osyoos, B. C.

Dear Mr. Butler,

This is to acknowledge your letter of June 27, 1969.

A recent discussion between myself and Dr. J. A. Gower revealed that he had prepared thin sections from the samples taken during May from your nepheline syenite deposit. Dr. Gower's examination of the thin sections indicated the minerals to be essentially the same as those mentioned in my letter to you of April 18, 1969. In addition plagioclase and hornblende were identified. The total amount of the dark minerals appears to be about 3%. *nepheline 37.7%*
orthoclase 32.6%

This examination indicated that the ~~main non-magnetic iron bearing minerals are biotite and hornblende~~. It seems that these minerals will have to be removed by flotation. You probably remember that flotation was already suggested by H. E. Reed of the Great Northern Railway Company in his letter to you of March 10, 1969, as a possibility for removing the non-magnetic iron from the rock.

We would be prepared to do preliminary test work for you on a laboratory scale to determine the feasibility of floating biotite and hornblende from the ground rock. About two weeks would be required to do this work, which would include a literature survey and the flotation experiments. The cost would be about \$1,000.00.

With regard to this project, it occurred to us that the British Columbia Department of Mines and Petroleum Resources might be asked for financial support. If you wish to pursue this possibility, we would be glad to approach the minister of the department on this matter. We shall await your word before proceeding further.

If there are any other matters you wish to raise regarding your deposit, please do not hesitate to contact me.

Yours very truly,

B. C. RESEARCH

H. E. A. von Hahn

H. E. A. von Hahn
Division of Applied Chemistry

HEAvH/lm

cc. Dr. J. A. Gower



GOVERNMENT OF CANADA

MEMORANDUM

Dr. J.T. Fyles
Assist. Sr. Deputy Minister

January 23, 1979.

Please have staff acknowledge the attached letter for the Minister's signature, add any comments they might have and send a copy to the Premier.

Lennox

ASSISTANT DEPUTY MINISTER
MINERAL RESOURCES

REC'D JAN 25 '79

D.W. Back
Executive Assistant to the
Minister of Energy, Mines
and Petroleum Resources

DWB/sb
Attachment.

| DEPUTY MINISTER M. & P. R. | | |
|----------------------------|------|---------|
| REC'D JAN 24 '79 F | | |
| REFERRED TO | DATE | INITIAL |
| A.D.M. | ✓ | |
| A.D.P. | | |
| A.S. | | |
| M.R. | | |
| | | |
| | | |
| FILE | | |

0164

*copies to: Premier
Mrs. McCarthy - ATTN:
Ed Gould*

Etc Etc.

Krugar Mountain Syenite (Butler claims) are highly regarded by the various Gov. Heads - R.A. Wyman, Head, industrial mineral milling section Ottawa, also H.E. Von Hahn, B.C. Research & Div. of applied Chemistry, Vancouver, and many others. It is estimated by Ottawa and Victoria that there is approx. 800 Million Tons. This when I had 3 and 4 claims - there are now, Nine Units.

Robert Kaiser of Aero Systems Div.
Lowell, Mass. USA

Dr.
Ronald Moskowitz
Ferrofluids Corp.
Boston, Mass. USA

Re.

Magnetic Fluids or Mobile Magnets

Separation of mineral ores of different densities by using magnetic fluids whose own density is controlled by magnetic forces.

Impurities can be eliminated by flotation.

This could be an economically feasible method of extraction. magnetic fluids are really suspensions and collections of tiny particles of magnetized material in ordinary liquids (size of a virus) they mix in the liquid and not sink to the bottom, like mobile magnets.

E. Butler

S. C. Butler

8504-1122-1000 P. R. 101
 OFFICE OF THE MINISTER OF PETROLEUM & ENERGY
 Osoyoos, B.C. V0H 1V0
 REFER TO
 BY DESK BY MAIL BY TELETYPE
 FOR IMMEDIATE ACTION 156
 COPY TO

W. R. Bennett, Premier B.C.
 J. J. Hewitt, Minister of Mines & Energy
 & Petroleum Resources

Dear Sir,

Re. The 25 Million Fibreglas Plant at Mission
 as recorded in B.C. Gov. News, Jan/79

I wish to point out the following.

I have a (nine unit) Nepheline-Syenite claim
 (approx. 1 square mile) These claims are situated
 5 miles West of Osoyoos, Lat. $49^{\circ}01'30''$ Long $119^{\circ}35'$
 These claims meet the "Ottawa Bureau of Mines

specifications", for the following
 Fibreglas, Wool, Coloured Glass, Water pipe, Boat Parts
 Car Tops, Coloured Building Blocks (Pat Part cement added)
 Etc Etc.

'Krugar Mountain Syenite' (Butler claims) are
 are highly regarded by the various Gov. Heads -
 R. A. Wynman, Head, industrial mineral mining section
 Ottawa, also H. E. H. Von Hahn, B.C. Research & Div.
 of applied Chemistry Vancouver, and many others.
 It is estimated by Ottawa and Victoria that there is
 approx. 800 Million Tons. This when I had 3 and 4
 claims - there are now, Nine Units.

The Building^{blocks} referred to are much lighter in weight and are being used in the East (Can).

The Netherlands Countries use the building blocks, paper etc for complete houses, also complete houses of Nepheline-Syenite.

Below you will see the comparison between the Butler Neph-Syenite and the Blue Mountain Neph-Syn.

Blue Mountain is the only Neph Syn Co. in Canada.

I am enclosing a copy of an analysis of the Blue Mountain, Ontario nepheline syenite in both the raw and quarry refined state:

| | Butler | Blue Mountain Raw | Blue Mountain Quarry Refined |
|--------------------------------|--------|----------------------|---------------------------------|
| LOI | .8% | - | - |
| SiO ₂ | 58.3 | 59.1 | 60.6 |
| Al ₂ O ₃ | 22.2 | 23.1 | 23.4 |
| Fe ₂ O ₃ | 1.2 | 2.2 | .05 |
| CaO ³ | 1.5 | .76 | .67 |
| MgO | Trace | .17 | Trace |
| Na ₂ O | 6.3 | 0.5 | 0.5 |
| K ₂ O | 9.3 | 3.9 | 4.0 |

As you can see your alumina and alkalis total about 38% which compares favorably with the Ontario material. It is, as you know, the alumina and the alkalis that the glass companies are after. The problem with your material, as you can also see, is the iron. Note that the Blue Mountain material refines to a .05 iron, whereas it would appear that your material has some non-magnetic iron which would not come out in any process short of flotation. [^] "Magnetic Fluids" is the answer.

I have taken up this matter with Northwest Glass Company here in Seattle and they say that if the alumina is 22%, the Fe₂O₃ can be as high as .2%.

Samples taken and analyzed which from scattered rocks, drilling would show greater white material. By using B.C. Neph-Syenite would create hundreds of jobs. The iron Fe₂O₃ too does not interfere with the various usage of Neph-Syn. I have the data referring to "Magnetic Fluids".

Yours truly
G.C. Butler

495-6069,

8504-12 div^m R.R. 1
Osroyos. B.C. Feb. 1979

Z.D. Hora
Industrial Min. Specialist,
Victoria.

Dear Sir - Re- Nephelin-Syn.

I have enclosed all I have re-the Neph-Syn claims.

Ken-my Son who owned the Buck claims passed away while golfing.

I know that he was trying to recover various reports, I do not know from whom.

My Grandson has done all the work (staking the 9 unit claim), etc.

I am a 2 war vet, just 87, not too old. I would appreciate any help that you can give. Bethlehem Copper had a option, but added one claim to the 3 claims before dropping the option - this due to ignorance of the N.D.P.

However thank you for any anticipated help.

George C. Butler.

MINISTRY OF MINES
AND PETROLEUM RESOURCES

Rec'd FEB 14 1979

ASB/DH

2529



January 30, 1979

Mr. G.C. Butler
8504 - 12 Ave., RR #1,
Osoyoos, B.C.
VOH 1V0

Dear Mr. Butler:

Thank you for your letter regarding the nepheline syenite claims near Osoyoos.

As you mentioned in your letter, the mineral from your claims is highly regarded by Mr. R.A. Wyman from the Industrial Minerals Milling Section and several other authorities on the subject. Since we do not have any such report in our files and as the results of tests made in 1960 and 1969 by J.E. Reeves from the Mineral Processing Division of the Dept. of Energy, Mines and Resources, Ottawa, on Kruger Mountain nepheline syenite are not encouraging, I would like to get familiar with your data before making any recommendations.

In any case, it should be mentioned that the market for nepheline syenite in Western Canada and adjacent states is just a fraction of the market in the East, currently being supplied by Ontario producers. Considering the recent price of this product at around \$21 per ton, processing costs might be prohibitive for smaller scale operations.

However, I would like to assist you in the evaluation of your property in any way I can. As a beginning, it would be appreciated if I could borrow your reports on laboratory testing, which will be promptly returned to you.

Yours very truly,

Z.D. Hora
Industrial Minerals Specialist

ZDH/dlb



23 February 1979

Mr. G. C. Butler
8504 - 12 Ave.
R.R. #1
Osoyoos, B.C.
VOH 1V0

Dear Mr. Butler:

Please find enclosed your correspondence on nepheline syenite claims. I really appreciate the opportunity to get familiar with your data and I wish to express my thanks. In brief, combining your and my sources of information, the following summary can be made:

In 1973, Bethlehem Copper collected 17 large samples from outcrops of ash grey salic variety of rock (Buck claims 1-4) and analyzed its iron content. Values ranged from a minimum of 3.76% to a maximum of 7.42% and averaged 5.60% Fe_2O_3 . This corresponds fairly well with microscopic descriptions by CIL of 7 thin sections which are included in the 1969 report by W. R. Bacon and where the amounts of dark minerals (biotite, garnet, hornblende) range from 15% to 33% with average value of 24%. The size of dark minerals in the rock matrix ranges according to the same report from 0.05 mm up to 2 mm. Since the glass industry is using the grain size between 0.1 mm to 0.6 mm, the finer grains of dark minerals will inevitably remain intergrown with larger grains of nepheline and feldspar without any chance of being removed by available processing methods. This will result in high Fe_2O_3 values in processed material no matter what type of beneficiation will be applied. Therefore, the approximate values of processed rock should be expected to be around 0.36% to 0.20% Fe_2O_3 , as indicated by the results reported by H. M. Woodroffe on April 9, 1970. Therefore, within the reach of potential markets, only the fibreglass production should be considered for this quality nepheline syenite and Fiberglass Canada Ltd., 48 St. Clair Ave. W., Toronto, Ontario, M4V 1M7 would be the only larger potential consumer of mineral from your deposit for its plants in Edmonton and Mission. The main problem I can foresee is whether the size of their production combined with production and transportation costs will justify the investment in processing facility, considering the recent price of nepheline syenite at around \$21.00 per ton. I have arranged to obtain some necessary production data of Fiberglass Canada Ltd. through our Ministry of Economic Development in order to make my recommendations in this case. However you should try to get in touch with officials of Fiberglass Canada in Toronto. Sometime later this year I am planning a visit of your claims.

Yours very truly,

Z. D. Hora, P. Geol.
Industrial Minerals Specialist
Mineral Resources Branch

ZDH:nhc
encl:



Department of Energy, Mines and Resources
 Ministère de l'Énergie, des Mines et des Ressources

Mines Branch
 Direction des mines

File Number
 N° à rappeler

9

MINERAL PROCESSING DIVISION

40 Lydia St.
 Ottawa 1, Ont.
 April 17, 1969

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| DEPT. OF MINES AND PETROLEUM RESOURCES | | |
| Rec'd APR 21 1969 | | |
| 514 | | |
| JWMC | | |

1810

Mr. J.W. McCammon,
 Geologist,
 Department of Mines and
 Petroleum Resources,
 Victoria, B.C.

Dear Mr. McCammon:

I am replying to your letter of April 3 about the Richter Pass nepheline syenite - which I assume is the deposit on the top of Kruger Mountain.

We have had samples come in on two occasions in the past few years. On the first occasion we did some work for Gordon Milbourne, of Vancouver, and I enclose a copy of our Test Report MPT 60-110 on this work. On the second occasion we were asked by Mr. R.A. Rudkin, of Edmonton, to do some beneficiation work. I enclose a copy of my letter of July 13, 1965, in reply to Mr. Rudkin. I think the letter sums up my opinion pretty well. I do not think this material can be treated to produce an economic ceramic material.

I have the specification for nepheline syenite of one fibre glass producer. The most important item is the maximum of 0.7 per cent Fe₂O₃. The total spec. is as follows:

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.... 2

Handwritten signature

J.W. McCammon
April 17, 1969
Page 2

| | | |
|--|-------|-------|
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Screen Analysis

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When you asked for consumption figures more recent than 1967. I presume you had been looking at the figures in the 1967 review, which were only for 1966. Total Canadian consumption for 1967 is reported to be 59,552 short tons. But like all reported consumption figures it should be treated with some scepticism. I can give you even a less precise figure for Western Canada - about 10,000 short tons in 1967. This figure is based on my guesswork, because some companies, like Dominion Glass, report a total for all plants and not for each plant. Of this 10,000 tons, about 60 per cent is glass grade, between 15 and 20 per cent apparently is for fibre glass, and a large part of the rest is for whitewares. Please don't pass these figures around very widely.

Yours sincerely,



J.E. Reeves

JER/mn



Mineral Processing
Division

40 Lydia Street,
Ottawa 1, Ontario,
July 13th, 1965.

Mr. R.A. Rudkin,
11344 - 68th Street,
Edmonton, Alberta.

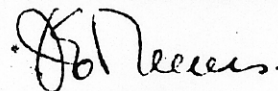
Dear Mr. Rudkin:

Thank you for the samples from Kruger Mountain and the detail in your letter of July 7th. We appreciate getting as much information as possible about a deposit.

Your samples are virtually identical in appearance with some we worked on in 1960 for Mr. Gordon Milbourne of Vancouver. The samples were ground and screened to give minus 35 plus 100 mesh fractions, which were beneficiated as much as possible with a highly selective laboratory electromagnetic unit, the Frantz Isodynamic Separator. The products were so contaminated with tiny dark inclusions and the iron content was so obviously much greater than 0.1 per cent Fe_2O_3 that I did not even have chemical analyses done. The grains of the mafic minerals are so irregular or so tiny that their nearly complete liberation in the particle size range for glass-grade nepheline syenite is impossible. Your sample OB-1 appears to come from the same place as one of Mr. Milbourne's samples, on the south-east side of the high knoll at about 4,000 feet, and would, I suspect, give the same sort of results. I feel certain that this deposit would not be a commercial source of high-quality nepheline syenite for the glass and other ceramics industries, and regret that I can see no reason for recommending any further work.

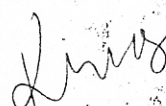
I am sending you a sample from the northeast end of the Blue Mountain deposit. Please note the lightness of colour and also the discrete nature of the mafic minerals. The only deposit of nepheline syenite in British Columbia that I know of that is at all similar (except for part of the Ice River Complex, which is in parkland) is at 10,000 feet, on the peak of Trident Mountain in the Big Bend area.

Yours sincerely,



J.E. Reeves,
Nonmetallic Minerals Section.

JER:em



B.C. RESEARCH



3650 Wesbrook Crescent, Vancouver 167, Canada.

Phone (604) 224-4331 • Cable 'RESEARCHBC' • Telex 04-507748

9

August 11, 1969.

Mr. Ken Butler
Prospector
R. R. #1
Osyoos, B.C.

Dear Mr. Butler:

Regarding the questions raised in your letter of 31st July, 1969, I wish to say the following:

1. Nepheline Syenite at present is not considered as ore for alumina on the North American continent. Alumina is extracted from nephelite (nepheline) in the U.S.S.R. This fact is mentioned briefly on p. 20 of Minerals Facts and Problems, Bulletin 630 U.S. Bureau of Mines; 1965 (see attached copy.)

2. Nepheline syenite and its economics are discussed in detail in "Industrial Minerals and Rocks" pp. 354 to 362, 1960, 3rd edition, published by A.I.M.E. Of particular importance are the points raised on p. 360. I am enclosing a copy of these pages.

3. The main use of nepheline syenite is in glassmaking and pottery. In addition "finely ground material is used as an extender pigment in paint and as a filler for plastics and rubber, and as an inert carrier for insecticides." These latter uses are probably minor.

4. Potential users not too distant from your deposit and located in British Columbia, Alberta and Washington are:

Vancouver, B.C.

Dominion Glass Co. Ltd.,
Canadian Potteries Ltd.,

Vernon, B.C.

Consumer Glass

Edmonton, Alberta

Peace River Glass (fiberglass)
Fiberglass Canada Ltd.,

Redcliff, Alberta

Dominion Glass Co. Ltd.,

Medicine Hat, Alberta

Sunburst Ceramics,

Handwritten:
NOTE:
[Signature]

B.C. RESEARCH



3650 Wesbrook Crescent, Vancouver 167, Canada.

Phone (604) 224-4331 • Cable 'RESEARCHBC' • Telex 04-507748

August 13, 1969

Dr. John Convey, Director,
Mines Branch,
Department of Energy, Mines and Resources,
555 Booth Street,
Ottawa, Ontario.

Dear Dr. Convey:

Mr. Ken Butler of Osoyoos, B. C. has been in communication with us in recent months regarding the development of his nepheline-syenite deposit located in the Richter Pass area near Keremeos, B.C.

Test work done to date by the Department of Mines and Petroleum Resources, Victoria, B.C. (see enclosed copy of report dated September 23, 1968), and the International Minerals and Chemical Corporation (see enclosed copy of letter dated February 14, 1969) has indicated that this rock cannot be purified sufficiently of iron-bearing minerals by magnetic separation alone to obtain a product of satisfactory quality for glass making. A mineralogical examination by the Department of Geology, University of British Columbia, has indicated that biotite is the main non-magnetic iron bearing mineral contaminating the nepheline-syenite.

It appears that a flotation procedure will have to be developed to remove this mineral from the rock. We have indicated to Mr. Butler that we are prepared to make a preliminary investigation to determine the feasibility of this approach. This work will involve (1) a literature survey on the flotation of biotite and hornblende, and (2) flotation experiments to determine the extent to which these minerals can be removed from the nepheline-syenite.

Continued on Page 2...



Department of Energy, Mines and Resources
Ministère de l'Énergie, des Mines et des Ressources

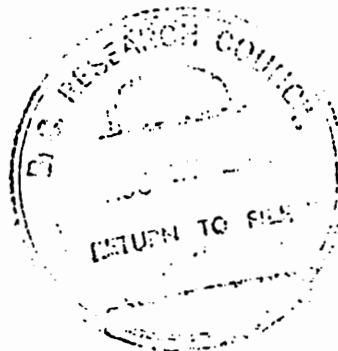
Mines Branch
Direction des mines

File Number
N° à rappeler

555 Booth Street,
Ottawa 1, Ontario.
August 22, 1969

9

Mr. H. E. A. von Hahn,
B. C. Research,
3650 Wesbrook Crescent,
Vancouver 167, B.C.




Dear Mr. von Hahn:

I have your request for a research grant of \$2,000.00 to assist in a project for the beneficiation by flotation of a nepheline syenite rock from Keremeos, B.C. Unfortunately, the Department does not make grants for research of this kind to either industry or research laboratories.

I might point out that we have over the years in our laboratories considerable expertise in the processing of nepheline syenite, and do have facilities for undertaking the laboratory work required.

Yours very truly,


John Convey,
Director



August 13, 1969

The estimated cost of the project is about \$2,000, and the time required about two weeks. We wish to ask whether the Mines Branch would be prepared to support this work financially in the form of a research grant. We feel that this support is worthwhile, because if the work is successful it opens up the possibility of developing a new mining operation in this province.

A full report will be prepared after the conclusion of this program and made available to you.

Yours very truly,

B. C. RESEARCH



H. E. A. von Hahn
Division of Applied Chemistry



A. D. McIntyre
Head, Division of Applied Chemistry

→ cc. Mr. Ken Butler
Encl. 2



B.C. RESEARCH



3650 Wesbrook Crescent, Vancouver 167, Canada.

Phone (604) 224-4331 -- Cable 'RESEARCHBC' -- Telex 04-507748

September 3, 1969

Mr. Kenneth A. Butler,
Prospector,
R. R. #1,
Osoyoos, B. C.

Dear Mr. Butler:

Enclosed is a copy of Dr. Convey's reply to our request for financial assistance from the Mines Branch for flotation beneficiation studies on your nepheline syenite rock.

In reply to your letter of August 20th, 1969 I wish to say that, since no financial assistance is obtainable from the Mines Branch, your sending a copy of my above request to the Minister of Trade and Commerce, the Hon. Jean-Luc Pepin, may have been the right thing to do. I expect that the minister will reply to you directly, and I shall await word from you on further developments.

Yours very truly,

B. C. RESEARCH

H. E. A. von Hahn.

H. E. A. von Hahn
Division of Applied Chemistry

HEAvH/lm
Encl.

Krug



Department of Energy, Mines and Resources
Ministère de l'Énergie, des Mines et des Ressources

Mines Branch
Direction des mines

File Number
N° à rappeler

9

MINERAL PROCESSING DIVISION

40 Lydia Street,
Ottawa 1, Ontario.
April 9, 1970

Mr. Donald R. Mason,
Western Technical Manager,
Canadian Industries Limited,
1155 West Georgia Street,
Vancouver 5, B.C.

Dear Mr. Mason:

This will reply to yours of March 24 enquiring about the sample of nepheline syenite from Kruger Mountain submitted to us for assessment. Specifically, comparison with Blue Mountain was requested.

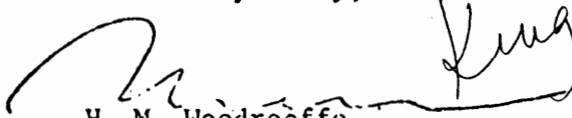
Our mineralogist reports that the Kruger material is of finer grain size than Blue Mountain material, has more inclusions, and more iron-bearing minerals. Below 100 mesh the Kruger grains are cloudy and probably contain inclusions.

On March 2 the sample was turned over to our Milling Section for processing tests. Their initial approach was to reduce a representative portion of the sample to -20 mesh, then screen the -20 mesh into a series of sized fractions. Each size fraction was passed through a high intensity wet magnetic separator. The Fe_2O_3 content of the non-magnetic fractions was determined, and, as expected, decreased in magnitude with decreasing fineness of particle size. The -65+100 mesh contained 0.36% Fe_2O_3 , the -100+200 mesh 0.20%, the -200+325 mesh 0.24%, and the -325 mesh 0.71%. With suitable dispersing agents the -325 mesh would undoubtedly be improved.

The above initial results coincide with the mineralogical prediction and indicate that iron as low as the 0.07% Fe_2O_3 obtained for Blue Mountain are unlikely from Kruger Mountain. However, there are many grades of nepheline syenite sold and material in the 0.2 to 0.3% Fe_2O_3 range should be marketable. For example, "Lakefield" B-25 for fibreglass contains 0.4% Fe_2O_3 .

It is our intention to pursue this matter further, and if improvements result they will be passed along to you.

Yours very truly,


H. M. Woodrooffe,
Chief

APR 13 1970

Seattle, Washington
Northwest Glass.

To determine the possible amounts of nepheline syenite required by these firms and the economics of bringing your property into production, a detailed feasibility study is required. This would include a market study, and a technical feasibility study on the mining and processing economics.

If you wish to determine the cost of these studies I would suggest that you take up this matter with Mr. G.S. Crawford of our Technical Services Division. It might be best if you could visit him for this purpose at a mutually convenient date.

Yours very truly,

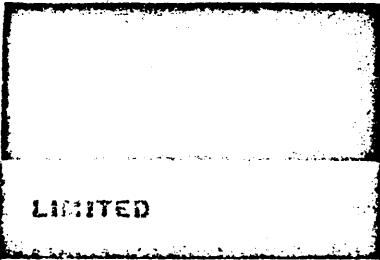
B.C. RESEARCH

H. E. A. von Hahn.

H.E.A. von Hahn,
Division of Applied Chemistry

HEAVH/cc
Encls. (2)
cc: Mr. D. Lloyd

Krug



WESTERN NEPHELINE LIMITED

#10 - 600 - 6 Avenue S.W.
CALGARY, ALBERTA

AREA CODE 403
TELEPHONE 266-1601

March 22, 1968

Mr. K. Butler
R. R. #1
Osoyoos, B.C.

Dear Ken,

Further to our telephone discussion of today I propose the following:

| | | |
|----|----------------|------------|
| 1. | April 15, 1968 | \$3,500.00 |
| | Jan. 1, 1969 | 5,000.00 |
| | Jan. 1, 1970 | 5,000.00 |
| | Jan. 1, 1971 | 5,000.00 |
| | Jan. 1, 1972 | 5,000.00 |
| | Jan. 1, 1973 | 5,000.00 |
| | Jan. 1, 1974 | 10,000.00 |

2. Should the mine go into production before 1974 you would begin to receive the \$10,000.00 per year at the beginning of production sales.

3. Should we wish to ~~drop~~^{drop} the option we will give you 90 days notice.

If this meets with your approval I will call Toronto and have them confirm the deal.

Yours very truly,

Bob Addinell

REA/pjd

B. C. RESEARCH



3650 Wesbrook Crescent, Vancouver 167, Canada.

Phone (604) 224-4331 • Cable 'RESEARCHBC' • Telex 04-507748

September 3, 1969

Mr. Kenneth A. Butler,
Prospector,
R. R. #1,
Osoyoos, B. C.

Dear Mr. Butler:

Enclosed is a copy of Dr. Convey's reply to our request for financial assistance from the Mines Branch for flotation beneficiation studies on your nepheline syenite rock.

In reply to your letter of August 20th, 1969 I wish to say that, since no financial assistance is obtainable from the Mines Branch, your sending a copy of my above request to the Minister of Trade and Commerce, the Hon. Jean-Luc Pepin, may have been the right thing to do. I expect that the minister will reply to you directly, and I shall await word from you on further developments.

Yours very truly,

B. C. RESEARCH

H. E. A. von Hahn.

H. E. A. von Hahn
Division of Applied Chemistry

HEAvH/lm
Encl.

B.C. RESEARCH



3650 Wesbrook Crescent, Vancouver 167, Canada.

Phone (604) 224-4331 • Cable 'RESEARCHBC' • Telex 04-507748

August 11, 1969.

Mr. Ken Butler
Prospector
R. R. #1
Osoyoos, B.C.

Dear Mr. Butler:

Regarding the questions raised in your letter of 31st July, 1969, I wish to say the following:

1. Nepheline Syenite at present is not considered as ore for alumina on the North American continent. Alumina is extracted from nephelite (nepheline) in the U.S.S.R. This fact is mentioned briefly on p. 20 of Minerals Facts and Problems, Bulletin 630 U.S. Bureau of Mines, 1965 (see attached copy.)

2. Nepheline syenite and its economics are discussed in detail in "Industrial Minerals and Rocks" pp. 354 to 362, 1960, 3rd edition, published by A.I.M.E. Of particular importance are the points raised on p. 360. I am enclosing a copy of these pages.

3. The main use of nepheline syenite is in glassmaking and pottery. In addition "finely ground material is used as an extender pigment in paint and as a filler for plastics and rubber, and as an inert carrier for insecticides." These latter uses are probably minor.

4. Potential users not too distant from your deposit and located in British Columbia, Alberta and Washington are:

Vancouver, B.C.

Dominion Glass Co. Ltd.,
Canadian Potteries Ltd.,

Vernon, B.C.

Consumer Glass

Edmonton, Alberta

Peace River Glass (fiberglass)
Fiberglass Canada Ltd.,

Redcliff, Alberta

Dominion Glass Co. Ltd.,

Medicine Hat, Alberta

Sunburst Ceramics,

NOTE:
3/15/69

Seattle, Washington
Northwest Glass.

To determine the possible amounts of nepheline syenite required by these firms and the economics of bringing your property into production, a detailed feasibility study is required. This would include a market study, and a technical feasibility study on the mining and processing economics.

If you wish to determine the cost of these studies I would suggest that you take up this matter with Mr. G.S. Crawford of our Technical Services Division. It might be best if you could visit him for this purpose at a mutually convenient date.

Yours very truly,

B.C. RESEARCH

H. E. A. von Hahn.

H.E.A. von Hahn,
Division of Applied Chemistry

HEAVH/cc
Encls. (2)
cc: Mr. D. Lloyd



GREAT
NORTHERN

Great Northern Railway Company / 404 Union Street / Seattle, Washington 98101 / Phone 206 MAin 4-1900

Industrial Development Department

Seattle, Washington 98101
March 10, 1969
File: EE 4E

Mr. Ken Butler
Rural Route No. 1
Oshtemo, E. C.

Dear Mr. Butler:

Thank you for your letter of February 18 regarding your nepheline syenite deposit.

I was sorry to hear that the Calgary group did not give you the reports from the Cop Co Lab in Florida. You might review your agreement with them with attorneys to see whether or not it is possible to insist on getting this information.

I am enclosing a copy of an analysis of the Blue Mountain, Ontario nepheline syenite in both the raw and quarry refined states:

| | Butler | Blue Mountain Raw | Blue Mountain Quarry Refined |
|--------------------------------|--------|----------------------|---------------------------------|
| LOI | .8% | - | - |
| SiO ₂ | 58.3 | 59.1 | 60.6 |
| Al ₂ O ₃ | 22.2 | 23.1 | 23.4 |
| Fe ₂ O ₃ | 1.2 | 2.2 | .05 |
| CaO | 1.5 | .76 | .67 |
| MgO | Trace | .17 | Trace |
| Na ₂ O | 6.3 | 6.5 | 6.5 |
| K ₂ O | 9.3 | 3.9 | 4.0 |

As you can see your alumina and alkalis total about 38% which compares favorably with the Ontario material. It is, as you know, the alumina and the alkalis that the glass companies are after. The problem with your material, as you can also see, is the iron. Note that the Blue Mountain material refines to a .05 iron, whereas it would appear that your material has some non-magnetic iron which would not come out in any process short of flotation.

I have taken up this matter with Northwest Glass Company here in Seattle and they say that if the alumina is 22%, the Fe₂O₃ can be as high as .2%.

U.S. GOVERNMENT PRINTING OFFICE: 1969 O - 348-100

*In reference to Research Council analysis
Dr. Bower sampled the whole deposit. 37% nepheline
alone + with other alumina & alkalis would bring total
to approx. 50% - R.B.*

MEMORANDUM

TO Dr. M. S. Hedley, Chief,
Mineralogical Branch, Dept. of
Mines and Petroleum Resources,
Buildings.

FROM
ECONOMICS AND STATISTICS BRANCH
DEPARTMENT OF INDUSTRIAL DEVELOPMENT, TRADE,
AND COMMERCE

VICTORIA, BRITISH COLUMBIA September 4, 1969.

SUBJECT Nepheline Syenite

OUR FILE.....

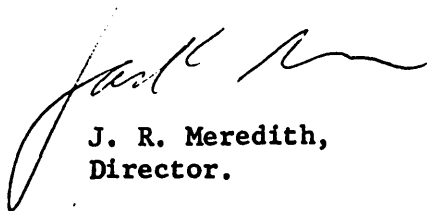
2721

YOUR FILE.....

With respect to your memo of April 11th concerning nepheline syenite, please be advised that the annual consumption of this commodity by the glass and fibreglas manufacturers in Western Canada is approximately 8,300 tons. In 1968, the price of glass-grade nepheline syenite in bulk, f.o.b. plant, was \$11 per ton and is higher if bought in bags. All Canadian production is currently from Ontario.

The new bottle plant near Vernon (Consumers Glass Company Ltd.) does not plan to use any nepheline syenite as the costs are too high. They might be interested if the costs were sufficiently low.

Efforts were made to ascertain the market for nepheline syenite in the Western United States. These statistics apparently are not available. However, in 1968, the United States imported from Canada 289,883 tons valued at \$ 3,528,000 (or \$12.17 per ton).


J. R. Meredith,
Director.

| | | |
|---|-------|------------|
| DEPT. OF MINES AND PETROLEUM RESOURCES | | |
| WW: jsc | Rec'd | SEP 8 1969 |
| | MSA | |
| | McC | |
| | | |

July 22, 1969

The Honourable F. X. Richter,
Minister of Mines and Petroleum Resources,
Victoria, B. C.

Dear Sir,

Copy

Mr. Ken Butler of Osoyoos, B. C. has been in communication with us in recent months regarding the development of his nepheline-syenite deposit located in the Richter pass area.

Test work done to date by several agencies (your department, the Mines Branch in Ottawa, and the International Minerals and Chemicals Corporation, Skokie, Illinois) indicates that this rock cannot be purified sufficiently of iron-bearing minerals by magnetic separation to obtain a product of satisfactory quality for glass-making. Mineralogical examinations by the Mines Branch, Ottawa and by Dr. J. A. Gower, Department of Geology, University of British Columbia, indicate that the main non-magnetic iron-bearing minerals that contaminate the rock are biotite and hornblende.

It appears that, to remove these minerals, a flotation procedure will have to be developed. We are prepared to make a preliminary investigation of the feasibility of using this procedure, and have indicated to Mr. Butler our willingness to do so. This work will involve a literature survey on flotation of biotite and hornblende, and flotation experiments to determine the extent of removal of these minerals from the nepheline syenite. The cost of this project will be about \$1,000.

We wish to ask whether your department is prepared to support this work financially. We feel that such support is worthwhile, because if the work is successful it opens up the possibility of developing another mining operation in British Columbia.

Your early decision on this matter would be greatly appreciated.

Thanking you,

Yours very truly,

B. C. RESEARCH

H. E. A. von Mahn
Division of Applied Chemistry

BRITISH COLUMBIA RESEARCH COUNCIL

3650 WESBROOK CRESCENT - VANCOUVER 167, B. C.

(604) 224-4331

July 9, 1969

Mr. Ken Butler,
Prospector,
R. R. #1,
Osyoos, B. C.

Dear Mr. Butler,

This is to acknowledge your letter of June 27, 1969.

A recent discussion between myself and Dr. J. A. Gower revealed that he had prepared thin sections from the samples taken during May from your nepheline syenite deposit. Dr. Gower's examination of the thin sections indicated the minerals to be essentially the same as those mentioned in my letter to you of April 18, 1969. In addition plagioclase and hornblende were identified. The total amount of the dark minerals appears to be about 3%. *nepheline 32% }
orthoclase 32% }*

This examination indicated that the main non-magnetic iron-bearing minerals are biotite and hornblende. It seems that these minerals will have to be removed by flotation. You probably remember that flotation was already suggested by H. E. Reed of the Great Northern Railway Company in his letter to you of March 10, 1969, as a possibility for removing the non-magnetic iron from the rock.

We would be prepared to do preliminary test work for you on a laboratory scale to determine the feasibility of floating biotite and hornblende from the ground rock. About two weeks would be required to do this work, which would include a literature survey and the flotation experiments. The cost would be about \$1,000.00.

With regard to this project, it occurred to us that the British Columbia Department of Mines and Petroleum Resources might be asked for financial support. If you wish to pursue this possibility, we would be glad to approach the minister of the department on this matter. We shall await your word before proceeding further.

If there are any other matters you wish to raise regarding your deposit, please do not hesitate to contact me.

Yours very truly,

B. C. RESEARCH

H. E. A. von Hahn.

H. E. A. von Hahn
Division of Applied Chemistry

HEAvH/lm

cc. Dr. J. A. Gower

Canadian Industries Limited.
"C.I.L."

26th September, 1969

Mr. Bruce Howard,
Member of Parliament,
Okanagan Boundary,
House of Commons,
OTTAWA, Canada.

Dear Mr. Howard,

As I think you are aware, we are taking some interest in the nepheline syenite deposit owned by Ken Butler and we are endeavouring, with the assistance of the Mines Branch, to come up with a process which will produce an acceptable product for the glass manufacturing market.

You will see from the attached letter that we have made arrangements to meet with H.M. Woodrooffe on October 15th to discuss this matter and if you are not otherwise engaged, we would be pleased if you could join us for lunch that day.

Yours very truly



D. R. Mason
Western Technical Manager

Encl.

c.c. Kenneth A. Butler
D. W. Marshall
H. M. Woodrooffe.

BETHLEHEM COPPER CORPORATION LTD.

Suite 2100 Guinness Tower, 1055 West Hastings Street, Vancouver 1, B. C.

Telephone 682-5211

Telex 04-507589

November 30, 1970

Mr. Ken Butler
Rural Route #1
Osyoos, B. C.

Dear Mr. Butler:

Thank you for your letter of November 22, 1970 addressed to Mr. Reynolds.

Attached herewith please find a recent news clipping regarding nepheline syenite. Please be assured that we are checking the potential of this mineral and will keep you advised of any new developments.

Yours very truly,

BETHLEHEM COPPER CORPORATION LTD.

Per: 

H. G. Ewanchuk
Vice-President and
Assistant to the President

HGE/rb

Attachment

B.C. RESEARCH



3650 Wesbrook Crescent, Vancouver 167, Canada.

Phone (604) 224-4331 • Cable 'RESEARCHBC' • Telex 04-507748

August 8, 1969.

Mr. Ken Butler
Prospector
R. R. #1
Osyoos, B.C.

Dear Mr. Butler:

Yesterday I had word from the Department of Mines and Petroleum Resources that they cannot support our proposed work on your nepheline syenite deposit. I am enclosing copies of my letter to the Minister and the reply by the Deputy Minister.

Despite this setback I feel that we should still try to obtain outside financial support for this project and would suggest that the Mines Branch in Ottawa be approached on this matter, as they may have funds available for such purposes. If you wish, I shall take up this matter with them.

Yours very truly,

B.C. RESEARCH

H. E. A. von Hahn

H.E.A. von Hahn
Division of Applied Chemistry

HEAVH/cc
Encls. (2)

BETHLEHEM COPPER CORPORATION LTD.

Suite 2100 Guinness Tower, 1055 West Hastings Street, Vancouver I.B.C.

Telephone 682-5211

Telex 04-507589

October 29, 1970

Mr. Ken Butler
Rural Route #1
Osyoos, B. C.

Dear Mr. Butler:

We have received reports, through Mr. Huestis, of your Nepheline Syenite deposit.

We are now in the process of gathering more information on the market demands of this material and will be in touch with you at a later date on this matter.

Yours very truly,

BETHLEHEM COPPER CORPORATION LTD.

Per: 

H. G. Ewanchuk
Vice-President and
Assistant to the President

HGE/rb

*Bethlehem took a option on the Buck claims,
but dropped the option when (round bag) I mean,
Barrett took over. E.B.*

Mine Office: P. O. Box 520, Ashcroft, B. C., Telephone Highland Valley 121

GREAT.
NORTHERN



NOTE.

Great Northern Railway Company / 404 Union Street / Seattle, Washington 98101 / Phone 206 MAin 4-1900

Industrial Development Department

Seattle, Washington 98101

March 10, 1969

File: FE 4B

Mr. Ken Butler
Rural Route No. 1
Osoyoos, B. C.

Dear Mr. Butler:

Thank you for your letter of February 18 regarding your nepheline syenite deposit.

I was sorry to hear that the Calgary group did not give you the reports from the Cop Co Lab in Florida. You might review your agreement with them with attorneys to see whether or not it is possible to insist on getting this information.

R. R. 1. Osyoos. B.C.
Nov. 26/69.

Mr. H. M. Woodroffe,
556-Booth St.
Trines Branch. Ottawa.

Dear Mr. Woodroffe;

I have enclosed a specimen of the lighter colored nepheline syenite from the western central portion of my deposit. I have never sent this material in to be assayed ^{or} analysed. There is a large tonnage of this lighter nepheline ^{syenite} showing.

If you would like to run a spectro-chemical analysis on it I have approx. 20 lbs. here ^{at the house}.

But I do want you to ^{see} this specimen of my deposit. lighter colored nepheline syenite that is also present and available in quantity.

And if you

Feb. 1979

Please note.

According to my Grandson's observation while staking the 9 unit claim in 1978, he ~~said~~ said that there was a large tonnage of white material showing. Also that it would, no doubt be of better quality, lower down. So far only scattered rocks have been used for tests etc.

495-6069.

8504-12 Ave R.R. 1
Osroyos, B.C. Feb. 1/79

Z.D. Hora
Industrial Min. Specialist,
Victoria.

Dear Sir - Re- Nepheline-Syn.

I have enclosed all I have re-the Neph-Syn
claims.
Ken-my Son who owned the Buck claims, passed
away while golfing.

I know that he was trying to recover various
reports, I do not know from whom.

My Grandson has done all the work (staking
the 9 unit claim), etc.

I am a 2 war vet, just 87, not too old.
I would appreciate any help that you can give.
Bethlehem Copper had a option, but added one claim
to the 3 claims before dropping the option - this due to
ignorance of the N.D.P.

However thank you for any
anticipated help.

George C. Butler.

MINISTRY OF MINES
AND PETROLEUM RESOURCES

Rec'd FEB 14 1979

ABB | DH |

2529



Province of
British Columbia

Energy,
Ministry of Mines and
Petroleum Resources

Parliament Buildings
Victoria
British Columbia
V8V 1X4

DRAFT

January 30, 1979

Mr. G.C. Butler
8504 - 12 Ave., RR #1,
Osoyoos, B.C.
V0H 1V0

Dear Mr. Butler:

Thank you for your letter regarding the nepheline syenite claims near Osoyoos.

As you mentioned in your letter, the mineral from your claims is highly regarded by Mr. R.A. Wyman from the Industrial Minerals Milling Section and several other authorities on the subject. Since we do not have any such report in our files and as the results of tests made in 1960 and 1969 by J.E. Reeves from the Mineral Processing Division of the Dept. of Energy, Mines and Resources, Ottawa, on Kruger Mountain nepheline syenite are not encouraging at all, I would like to get familiar with your data before making any recommendations. In any case, it should be reminded that the market in Western Canada and adjacent U.S. is just a fraction of the consumption in the East, and the processing costs considering the recent price of product around \$21 per ton might be prohibitive for smaller scale operations.

It will be appreciated if I could borrow your reports on laboratory testing, which will be promptly returned to you.

Yours very truly,

Z.D. Hora
Industrial Minerals Specialist



Province of
British Columbia

Energy,
Ministry of Mines and
Petroleum Resources

Parliament Buildings
Victoria
British Columbia
V8V 1X4

January 30, 1979

Mr. G.C. Butler
8504 - 12 Ave., RR #1,
Osoyoos, B.C.
V0H 1V0

Dear Mr. Butler:

Thank you for your letter regarding the nepheline syenite claims near Osoyoos.

As you mentioned in your letter, the mineral from your claims is highly regarded by Mr. R.A. Wyman from the Industrial Minerals Milling Section and several other authorities on the subject. Since we do not have any such report in our files and as the results of tests made in 1960 and 1969 by J.E. Reeves from the Mineral Processing Division of the Dept. of Energy, Mines and Resources, Ottawa, on Kruger Mountain nepheline syenite are not encouraging, I would like to get familiar with your data before making any recommendations.

In any case, it should be mentioned that the market for nepheline syenite in Western Canada and adjacent states is just a fraction of the market in the East currently being supplied by Ontario producers. Considering the recent price of this product at around \$21 per ton, processing costs might be prohibitive for smaller scale operations.

However, I would like to assist you in the evaluation of your property in any way I can. As a beginning, it would be appreciated if I could borrow your reports on laboratory testing, which will be promptly returned to you.

Yours very truly,

Z.D. Hora
Industrial Minerals Specialist

ZDH/dlb



Department of Energy, Mines and Resources
Ministère de l'Énergie, des Mines et des Ressources

Mines Branch
Direction des mines

File Number
N° à rappeler

MINERAL PROCESSING DIVISION

40 Lydia Street,
Ottawa 1, Ontario.
April 9, 1970

Mr. Donald R. Mason,
Western Technical Manager,
Canadian Industries Limited,
1155 West Georgia Street,
Vancouver 5, B.C.

Dear Mr. Mason:

This will reply to yours of March 24 enquiring about the sample of nepheline syenite from Kruger Mountain submitted to us for assessment. Specifically, comparison with Blue Mountain was requested.

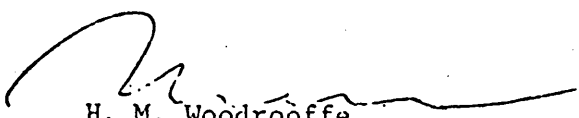
Our mineralogist reports that the Kruger material is of finer grain size than Blue Mountain material, has more inclusions, and more iron-bearing minerals. Below 100 mesh the Kruger grains are cloudy and probably contain inclusions.

On March 2 the sample was turned over to our Milling Section for processing tests. Their initial approach was to reduce a representative portion of the sample to -20 mesh, then screen the -20 mesh into a series of sized fractions. Each size fraction was passed through a high intensity wet magnetic separator. The Fe_2O_3 content of the non-magnetic fractions was determined, and, as expected, decreased in magnitude with decreasing fineness of particle size. The -65+100 mesh contained 0.36% Fe_2O_3 , the -100+200 mesh 0.20%, the -200+325 mesh 0.24%, and the -325 mesh 0.71%. With suitable dispersing agents the -325 mesh would undoubtedly be improved.

The above initial results coincide with the mineralogical prediction and indicate that iron as low as the 0.07% Fe_2O_3 obtained for Blue Mountain are unlikely from Kruger Mountain. However, there are many grades of nepheline syenite sold and material in the 0.2 to 0.3% Fe_2O_3 range should be marketable. For example, "Lakefield" B-25 for fibreglass contains 0.4% Fe_2O_3 .

It is our intention to pursue this matter further, and if improvements result they will be passed along to you.

Yours very truly,


H. M. Woodrooffe,
Chief

APR 13 1970