



Province of
British Columbia

Ministry of
Energy, Mines and
Petroleum Resources

MEMORANDUM

To: Paul Wilton

Date: December 17th, 198

Our File:

(4?)

EXPLORATION SUMMARY FOR WESTERN MINER ARTICLE

By: E.L. Faulkner
District Geologist - Central District

The number of exploration programmes in the Central District in 1982 was down from 1981 levels in all areas except the Cariboo. There was a noticeable trend to lower budget operations in all areas, with drilling programmes at about 60% of 1981 levels.

Exploration targets have shifted to porphyry deposits with precious metal values, small polymetallic vein deposits and epithermal precious metal deposits. Interest in industrial minerals was strong, and as is usual in difficult economic times, there was a high level of placer gold activity. Selected highlights follow, from North to South of the district.

Cyprus Anvil completed surface drilling on their Cirque deposit (barite, lead, zinc, silver) in the Kakwa Ranges (#1) and hope to start underground exploration this year. Initial drilling of the South Cirque anomaly produced some mineralized intersections, and further drilling is planned.

Elsewhere in the Kakwa Ranges, interest has subsided in the face of structural and correlation problems, budget pressures and generally disappointing results.

Tri-Lime Resources opened their agricultural limestone quarry (#2) late last year, and other companies were looking for limestone to serve the Peace River farming needs.

RED ROCKY CREEK

Babette Lake Quartzite are working on the access road to their quartzite property (#3). Industry sources consider the quality of the stone to be exceptional, and the Company hopes to be producing facings and tiles within a year.

In the Cariboo, there were a large number of mostly small budget programmes. E and B Explorations Inc., continued work on the Cariboo-Bell porphyry copper-gold property (#4), which has had a long history of exploration. The Company has announced advances in processing oxidized copper ores, which are a feature of this deposit.

Dome-Orbex Joint Venture are continuing drilling work on their Quesnel River gold deposit (#5) and hope to add to the announced 950,000 tons of 0.21 oz/ton reserves.

LOG NO:	12.24	U 1
REF: PAUL		
FILE NO:		

.....2/

Al₂O₃ > 1%

90% CaCO₃ + 10% CaO

Sample for assay
composition

90% CaCO₃ equivalent

Sample for assay
R.S. analysis

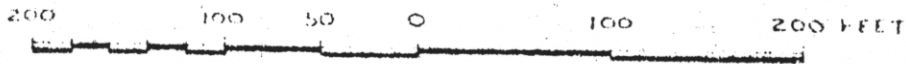
Quality material

PERCUSSION DRILL HOLE
DIAMOND DRILL HOLE

935015

Property File

SCALE:



CALOX INDUSTRIES LTD.

DRILL HOLE LOCATION PLAN AND SECTIONS WITH LIMESTONE GRADE REDROCKY CR AREA, McLEOD LK, B.C.

CONSULTING ENGINEERS.

L.J. MANNING & ASSOCIATES LTD
VANCOUVER, BR. COLUMBIA

DRAWN BY: M.K.L. AND J.S.T.
DATE: MAY 4 1973

SCALE: 1" = 100 FT.
ROLL FILE: 189

DWG. 3

SEE LIMESTONE FILE FOR REST OF PLAN

could not find SP

Property File 935015



Property File 935 015(138)

To: E.W. Grove

Date: March 19, 1979

Re: Redrocky Creek Limestone Deposit

chips = /

The reports by Dolmage Campbell & Associates Ltd. confirm our previous concern that the average quality of limestone will not comply with specifications required by the pulp and paper industry. The grab or chip samples cannot be considered as representative. However, the results of DDH 1 and DDH 2 seem to represent fairly well what should be expected as the average product from the quarry. The weighted averages for the DDH 1 - 92.82% CaCO₃ and for the DDH 2 - 94.04% CaCO₃, are positively not high enough to match the specifications. There are two possibilities how to overcome this problem. It is possible that with careful channel sampling of the existing quarry face will be feasible to outline sections, where selective mining will enable production of higher grade limestone for pulp and paper and lower grade for agriculture. The other possibility is to verify, if for some practical reasons, the local paper mills will accept the lower grade lime.

Re: Remarks in the feasibility report:

- 1) Request for quotation by Northwood Pulp Ltd. - states frankly that buyer has the right of refusal if the limerock has less than 96% CaCO₃.
- 2) Feasibility of selective mining has not been documented, high grade parts of the deposit are not outlined in presented documentation. ✓
- 3) There is no indication how the sample of limestone sent in 1967 for kiln testing was representative for the deposit. There is no chemical analysis of the lime nor of the limestone. ✓
- 4) Appendix II (remark on p.8) about the use of high SiO₂ limerock does not mean anything as long as it is not confirmed by the pulp and paper companies.

Z.D.H.

ZDH/dlb

Page 2
Mr. Michael Warren
April 11, 1979

3. The most critical items in assessing the suitability of limerock for pulp mill usage is the presence of magnesium and aluminum. The Calox documentation indicates that there is definitely no magnesium problem in the Red Rocky quarry and the aluminum content is well within acceptable limit.
4. The pilot test program at Prince George some years ago was poorly documented in terms of a properly substantiated industrial test. Calox may very well be satisfied with the results and be willing to risk their funds by way of equity investment, but our professional experience would call for a technically well documented major scale test before investing. In the circumstances, our evidence on the acceptability of the Northwood pilot test is verbal and personnel changes prohibit the obtaining of a signed declaration.

Overall, we can now support Calox's documentation, except for the pulp mill test, and agree that the Red Rocky material is suitable for pulp mill usage. We have not attempted to evaluate acceptability/marketability and suitability for agricultural use which was never in doubt.

Yours very truly,



Z.D. Hora
Industrial Minerals Specialist
Mineral Resources Branch

ZDH/dlb

cc: E.R. Grove
B.D. Leboe

FROM "NEW DEVELOPMENTS IN INDUSTRIAL MINERALS" (Z.O. HORA, 1985)

RED ROCKY CREEK (Mineral Inventory 93J015)

Dark grey to buff oolitic limestone, in places partially re-crystallized was processed into agricultural soil conditioner during 1983. On the site of an old small quarry, Tri-Lime Resources Ltd. started a new operation with the aim to provide agricultural lime for the northeastern part of British Columbia and adjacent agricultural areas in Alberta. The material comprises of fine to medium grained (1-3 millimetres) oolitic limestone and contains, in places, brown weathering cementing matrix. The chemical composition of a 1.5 kilogram sample taken from the 1.5 centimetre sized stockpile is:

CaO	54.9 per cent	TiO ₂	<0.01 per cent
MgO	0.76 per cent	MnO	<0.014 per cent
SiO ₂	2.36 per cent		
Al ₂ O ₃	0.29 per cent		
Fe ₂ O ₃	0.31 per cent		
LOI	42.92 per cent		

The limestone forms an approximately 750 metres long elliptical bluff, up to 250 metres in wide. The rock is massive, with unrecognizable bedding features and is part of the Upper Ordovician to Middle Silurian Sandpile Group.

REFERENCES

McCammon, J.W. (1969): Redrocky Creek Quarry - B.C. Dept. of Mines & Pet. Res., GEM, P. 395.

Property File
ALBERT
Ac 567 2676
4 567 - 4275

93 J/K
93J015 RedRocky

~~699-6379 (KASTA LAW)~~

5. Messrs Smedley and Pollock have applied for a quarry lease near Vanderhoof (ag. limestone). The material is in the Cache Creek group and of good quality. 93K?
6. Northrock Industries Ltd. have applied for a quarry lease near Mt. Lemoray (Andrew's area - ag. limestone), presumably in either the Spray River or Banff Formations.

PROGRESS REPORTS:

1. Minequest's grass roots' geochem study South and West of Williams Lake has been kept low-profile, but has developed into a major program, with up to 30 people in the field this summer. Paul McCarthy, Project Geologist, is not giving details, but expects to stake some large areas for protection purposes this fall. Follow-up prospecting, detailed geochem and geophys. are planned for next year.
2. Boss Mountain (Mo) is apparently up for sale. If no buyer can be found, the mine will be stripped, the equipment and mill sold, and the mine mothballed.
3. Tri-Lime (ag. limestone) North of Prince George, is apparently in receivership. RED ROCKY CREEK
4. Diamond Limestone (ag. limestone) are proposing some stripping and bulk sampling on their Tacheeda Lake property. Gerry Klein did the consulting for the company.
5. Canrock International (quartzite) are struggling into production. At last they seem to have realized that they must have someone with mining experience and geological knowledge on-site permanently.

PROPERTY VISITS:

1. Gibraltar Mines (Cu,Mo). I spent some time going over Gibraltar's current efforts with Garry Bysouth. He is doing some excellent "survival geology" as he calls it. They have outlined some good Cu. grade tonnage in the Gibraltar West area. Mo. is low but there is 0.1oz. Ag/tonne. Tests show this is about 80% recoverable with the copper, and is a definite factor in mining plans. Drilling has also outlined a couple of ore bodies - or rather higher-grade zones within known mineralization - of about 10 million tonnes each, east of the Pollyanna and East pits. These could be highgraded with a good stripping ratio. Drilling on the sawmill body shows it is still open in all directions, with generally good grades. Garry wants to do further drilling on this body, but admits it would pose haul problems if developed. Very little work has been done this year on the Granite Lake body.



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Energy,
Ministry of Mines and
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Property File
Parliament Buildings
Victoria
British Columbia
V8V 1X4

138

935015

April 11, 1979

Mr. Michael Warren
Financial Analyst,
Farm Products Finance Branch,
Ministry of Agriculture,
Parliament Buildings

Dear Mr. Warren:

Re: Red Rocky Limestone Quarry
Calox Industries Ltd.
ARDSA Application
B.C. File 139

By letter of November 8, 1978, we commented on the ability of Calox to produce a product suitable for pulp mill usage. At that time, we did not know the complete details of Calox's proposal, nor did we realize that an application under ARDSA was pending. Nevertheless, we did review the general knowledge we had available in the Ministry and after discussion with colleagues and a few phone calls, reported our comments November 8th. We did not, however, carry out assays at the site, nor did we personally examine the assays and other geological reports commissioned by Calox.

Recently, we have discussed the proposal with representatives of the Ministry of Tourism and Small Business Development and subsequently examined the documentation of assays, examinations, feasibility studies, etc. provided by Calox. On the basis of this examination, and following discussions with Calox principals, a pulp mill chemist from B.C. Research Council and a chemist in the pulp industry, we have concluded the following:

1. It will be feasible to mine/produce limerock on a selective basis to adhere to a 95% + CaCO_3 content for pulp mill usage.
2. Pulp mills will find 95/96% CaCO_3 levels suitable - i.e. suitability is no longer questioned - although the level of acceptability will depend upon delivered costs, marketing efforts and so on.