

MAR 19720011: SOUTHWESTERN ALBERTA

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Magnetite

C a n P a c M I N E R A L S L I M I T E D

REPORT ON WORK DONE - QUARTZ MINERAL EXPLORATION PERMIT #162

1971

ECONOMIC MINERALS

FILE REPORT No.

EE-AF-035(01)

INTRODUCTION

With the development of several large coal washing plants near the Crows Nest Pass, a market exists for the supply of considerable quantities of magnetite used in these plants. The magnetite-bearing sandstones of the Burmis and Dungarvan Creek area provide a possible source of supply, and preliminary investigations were carried out during 1971. This work consisted of:-

1. geological work to determine indicated reserves from previous reports,
2. field examination of the area and taking representative samples, and
3. engineering studies and estimates of capital and operating costs.

RESERVES

These estimates are based mainly on the detailed work described in Research Council of Alberta Bulletin #9. The figures derived by CanPac differ from the reserves given in the published information. It must be borne in mind that the ore was laid down as a beach deposit, hence the ore is lenticular, and its position in or near thrust zones results in these lenses being sliced into numerous small pods.

In calculating tonnages, it was assumed that one ton of magnetite ore in place occupies 11 cubic feet. After study of the results in Bulletin #9, and field examinations, it was concluded that the ore could be assumed to contain only 25% magnetite by weight, rather than the 25% Fe previously given.

Any reserve tonnage had also to be amenable to quarrying, as indications are that an inexpensive mining method is necessary. Accordingly, reserve estimates only apply to material recoverable by quarrying, and are as follows:- (see map attached).

<u>BLOCK #</u>	<u>LOCALITY</u>	<u>TONS MAGNETITE IN PLACE</u>
1	Claims 718,714	3,400
2	Claim 714	5,500
3	Claim 625	15,000
4	"Shadow" Claim	3,800
5		9,000
6	Cayuse Claim	13,600
	TOTAL	<u>50,300</u>


SAMPLE TESTING

Three samples of magnetite-bearing sandstone were tested in the laboratory at Cominco's Sullivan Concentrator, Kimberley, B.C. One of these samples (Baird) comes from outside the area of the permit. All samples were of better than average material and all showed acceptable characteristics of grindability and magnetic concentration.

FEASIBILITY STUDIES

Final data have not yet been assembled on capital and operating costs. A tentative design basis has been established for estimating purposes, and preliminary studies only have been made. It is expected that these figures will be further refined in the next year, and that further discussions will be held with holders of claims within the permit area.

The estimated cost of the above work program, exclusive of land costs, has been \$1,953.22 in 1971.



H. G. RUSHTON,
Manager, Exploration.
CanPac Minerals Limited.

September 12, 1972.

REPORT ON WORK DONE - QUARTZ MINERAL EXPLORATION PERMIT #1621972Introduction

This report is a follow-up to that written in 1971. In the former report, results of geological and sample-test work on the Burmis magnetite deposits were described. Work completed during 1972 has consisted of a feasibility and marketing analysis.

Feasibility

An annual market for magnetite exists in the coal treatment plants in the area of the Crowsnest Pass, which is presently being supplied by by-product material from copper mines in south-western British Columbia. Freight charges are high on a unit basis for this material as delivered at the mine, and would indicate that locally produced magnetite could have a competitive advantage. Offsetting this advantage is the fact that the present magnetite source is from a by-product which would otherwise be discarded at the mine.

Specifications for the magnetite call for a very finely ground product, and for packaging in 70 to 100 lb. bags. Accordingly, equipment to meet these specifications was included in the feasibility study.

Basic parameters used were:

- (a) Quarrying of the ore was carried out in the summer months only, and a stockpile built up at the plant.
- (b) The plant consisted of primary crushing and grinding circuits, followed by a wet magnetic separator, with further grinding dewatering and bagging of the product.
- (c) Delivery to the mines by truck.
- (d) The limiting upper price which would be obtained at the mines would be \$5.00 per ton of magnetite below present prices.
- (e) All costs were to be based on the use of contractors for mining and hauling, and the use of company-financed new equipment in the plant.

Using the above parameters, it was found that no acceptable rate of return could be expected on this operation, and that reserves of

available ore would be depleted very early in its life.

Accordingly, no further work is recommended on this project, and it is also recommended that Quartz Mineral Permit #162 be relinquished.

Company records available to the writer indicate that total expenditures on this project were \$5,093, consisting of:

1971 - geological work and sample testing	\$1,953
1972 - feasibility studies	\$3,140
TOTAL.....	<u>\$5,093</u>

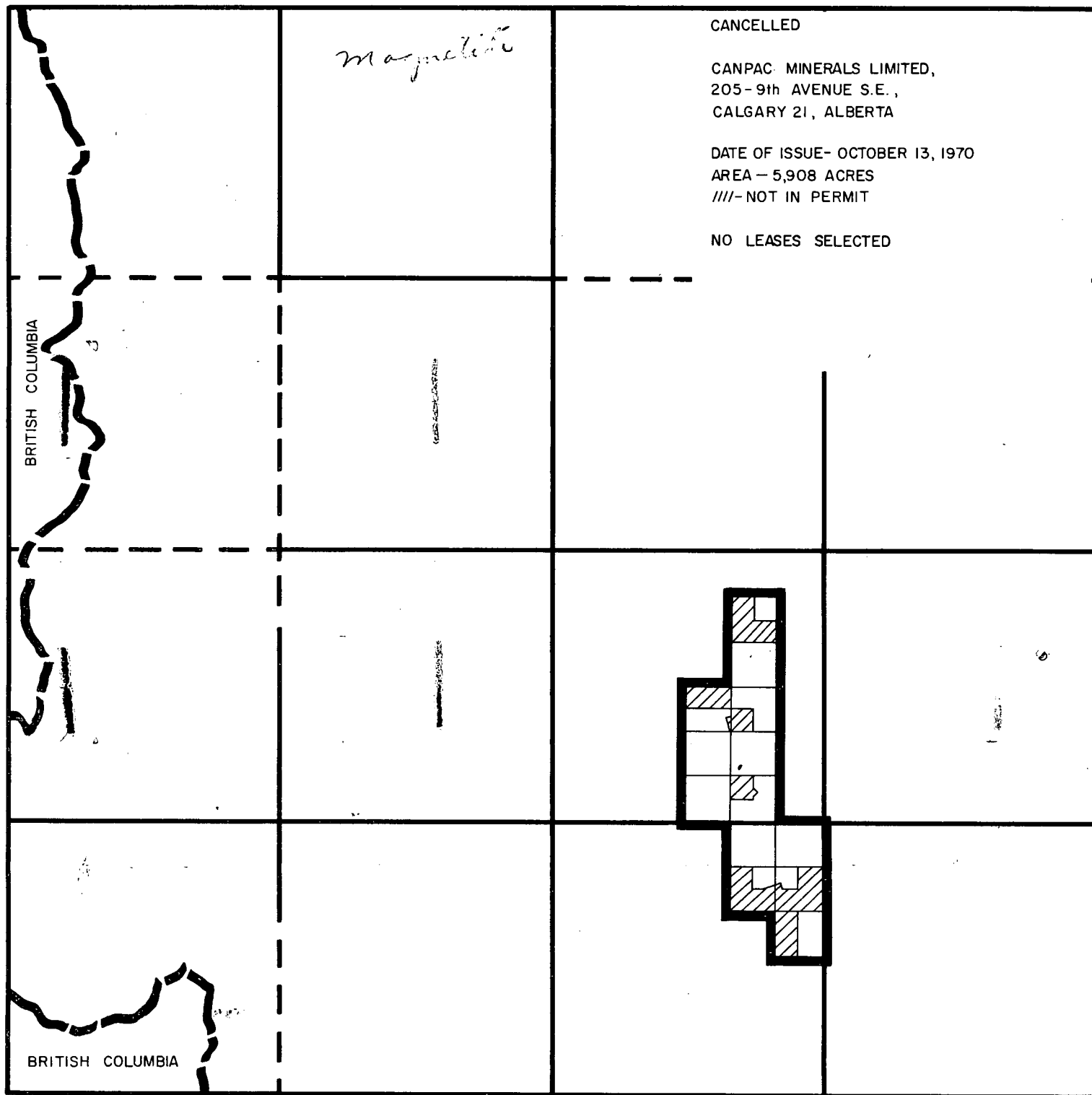


H.G. RUSHTON
Manager, Exploration

HGR/slg

QUARTZ MINERAL EXPLORATION PERMIT No. 162

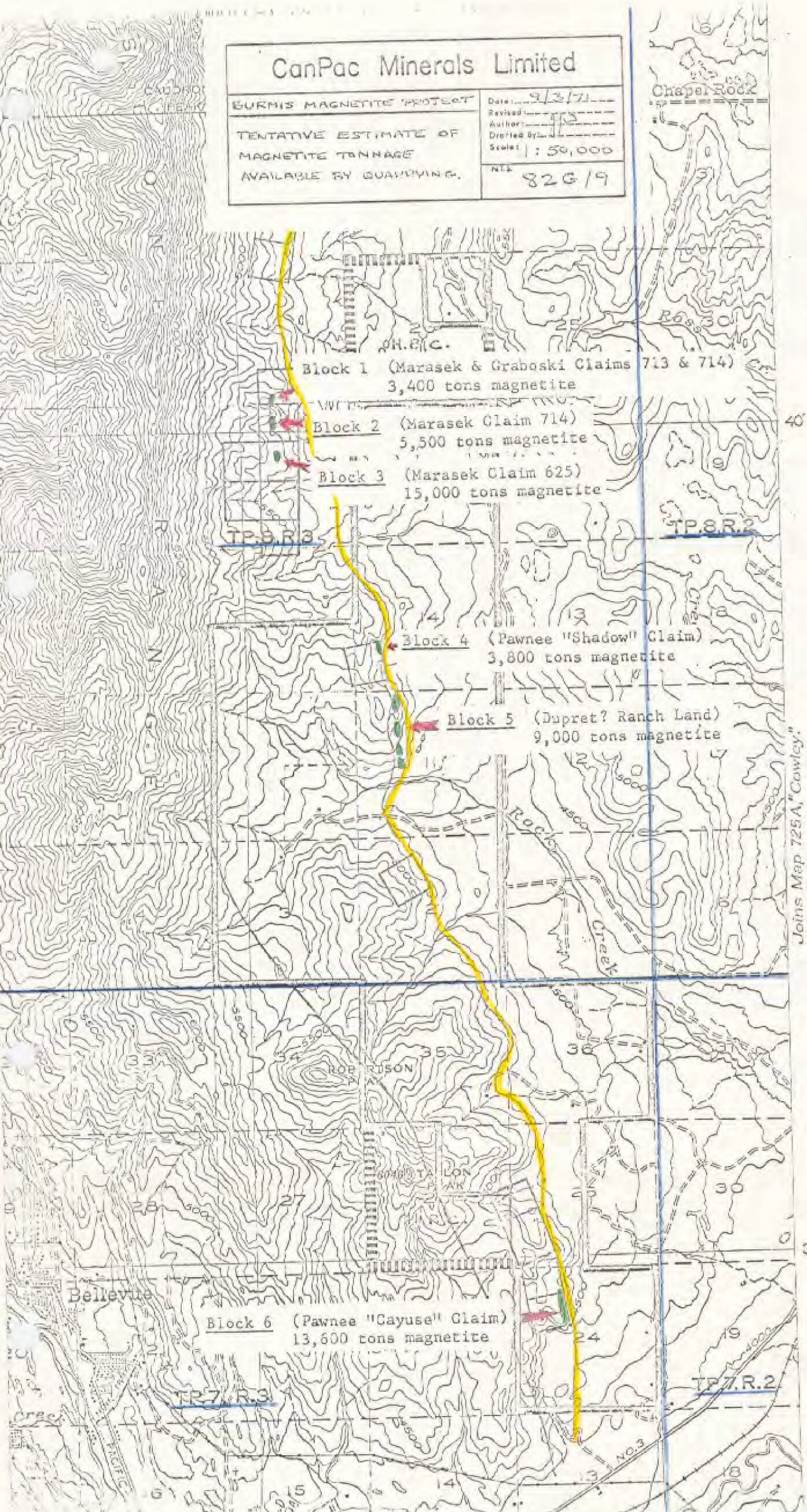
826/9



CanPac Minerals Limited

BURNIS MAGNETITE PROJECT	Date: 9/3/71
	Revised: _____
TENTATIVE ESTIMATE OF MAGNETITE TONNAGE AVAILABLE BY QUARRYING.	Author: JPS
	Drafted By: _____
	Scale: 1 : 50,000
	N.T.S. 826/9

Chapel Rock



Joins Map 725A, Cowley.