

PRODUCT  
PRODUIT PHOSPHATE

PROVINCE OR  
TERRITORY PROVINCE OU  
TERRITOIRE British Columbia

N.T.S. AREA 82 G/7  
RÉGION DU S.N.R.C.

REF. PHS 1  
RÉF.

NAME OF PROPERTY  
NOM DE LA PROPRIÉTÉ LODGEPOLE CREEK, MT BROADWOOD

OBJECT LOCATED Hill on north side of Lodgepole creek.  
OBJET LOCALISÉ

UNCERTAINTY  
FACTEUR D'INCERTITUDE Lat. 49°18'40" Long. 114°55'  
Lat. Long.

Mining Division Fort Steele District Kootenay  
Division minière District

County Township or Parish  
Comté Canton ou paroisse

Lot Concession or Range  
Lot Concession ou rang

Sec. Tp. R.  
Sect. Ct. R.

OWNER OR OPERATOR/PROPRIÉTAIRE OU EXPLOITANT

DESCRIPTION OF DEPOSIT/DESCRIPTION DU GISEMENT

In the Mount Broadwood area a nodular phosphate interval in the Permian Johnson Canyon Formation reaches a maximum thickness of 22 m. The phosphate content is exceedingly low, averaging less than 2 per cent  $P_2O_5$  across widths of 1 m. The nodules have a phosphate content in excess of 23 per cent  $P_2O_5$ . The nodular variety may represent a potential phosphate resource if an inexpensive method can be found to separate the nodules from the fine clastic matrix.

A cross section of phosphate in the Permian Fernie Formation at Lodgepole creek indicates about 1.75 m of phosphate and shaly phosphate in 3 beds separated by a 0.25 m sandstone layer.

HISTORY OF EXPLORATION AND DEVELOPMENT  
HISTORIQUE DE L'EXPLORATION ET DE LA MISE EN VALEUR

Mount Broadwood is located on the east side of the Elk River some 25 km south-southeast of Fernie.

Phosphate showings in Permian rocks along the lower north-east side of Mount Broadwood (Lat. 49°20'; Long. 114°58') were apparently held as lots 13861-13864 by Consolidated Mining and Smelting Company of Canada Limited (Cominco Ltd) and prospected in about 1926-28.

Western Co-operative Fertilizers Limited prospected a large area and staked some 600 claims in the Lodgepole and Cabin creek areas in the mid 1960's in search of a phosphate source for its fertilizer plant at Calgary. In 1965-66, the company stripped and drilled a large area on a hilltop on the north side of Lodgepole Creek 4 miles above its junction with Wigwam River; work included drilling in 39 holes totalling 10 700 feet. Two samples were submitted to the Mines Branch, Ottawa, for beneficiation tests. One sample was taken across a 6.4 foot bed exposed in a trench; the other comprised about 100 lb of drill core from three test holes. The samples low grade (10 to 11 %  $P_2O_5$ ). Concentration results were as follows

	Grade (% $P_2O_5$ )	Recovery (%)
By attrition	30.8	30.5
By flotation	28.5 to 29.0	49

Reports of Minister of Mines, British Columbia: 1965, p. 268;  
1966, p. 71; 1967, p. 313

Butrenchuk, S.B.; Phosphate Inventory; Geological Fieldwork,  
1986, pp. 289, 292, 295, 297, B.C. Dept. of Mines.

Mines Branch, Ottawa; Investigations in Ore Dressing and  
Metallurgy, July 1974, IR 74-37.

## MAP REFERENCES/RÉFÉRENCES CARTOGRAPHIQUES

Map 35-1961, Fernie (E½), (Geol.), Sc. 1" = 2 miles, accomp.  
Paper 61-24, Geol. Surv. of Canada.

Tectonic map of part of the eastern Rocky Mountains, Sc. 1" =  
8 miles, Fig. 1, Memoir 336, Geol. Surv. of Canada, 1965.

Distribution of Jurassic and Pensylvanian-Permian strata,  
Figs. 4-6-4 and 4-6-6, Geological Fieldwork 1986,  
B.C. Dept. of Mines.

Map 82 G/7, Flathead Ridge, (Topo.), Sc. 1: 50 000.

## REMARKS/REMARQUES

BCI 82 G/SE-5

Comp./Rev. By Comp./rév. par	DMacR						
Date Date	09-87						