

Location/Identification

MINFILE Number: 083D 028

Name(s): LEMPRIERE CARBONATITE
 LEMPRIERE, AR 2, AR, AR 1-4, VERITY, VERITY FIRST, MILL, MILL 2

Status: Showing

Regions:

BCGS Map: 083D045

NTS Map: 083D06E

Latitude: 52 24 08 N

Longitude: 119 08 18 W

Elevation: 1259 metres

Location Accuracy: Within 500M

Comments: Carbonatite outcrop 1.55 kilometres east-northeast of the Verity occurrence (083D 005) (Assessment Report 10274).

Mining Division: Kamloops

Electoral District: Kamloops-North Thompson

Resource District: Thompson Rivers Natural Resource District

UTM Zone: 11 (NAD 83)

Northing: 5807927

Easting: 354530

Mineral Occurrence

Commodities: Niobium, Tantalum, Phosphate, Uranium, Rare Earths

Minerals

Significant: Pyrochlore, Columbite, Apatite, Vermiculite

Significant Comments: Pyrochlore was identified in chip samples. Other minerals are assumed from the similarity to the Verity occurrence (083D 005).

Associated: Dolomite, Calcite, Magnetite, Amphibole, Zircon, Pyrite, Pyrrhotite, Olivine

Associated Comments: Associated minerals are assumed from the similarity to the nearby Verity occurrence (083D 005).

Alteration: Amphibole, Biotite, Albite, Perthite

Alteration Comments: See comments under associated minerals.

Alteration Type: Fenitic

Mineralization Age: Devonian-Mississipp.

Isotopic Age: circa 350 Ma

Dating Method: Uranium/Lead

Material Dated: Zircon

Deposit

Character: Stratiform, Concordant, Disseminated

Classification: Magmatic, Industrial Min.

Type: N01: Carbonatite-hosted deposits

Shape: Tabular

Modifier: Folded

Comments: Isotopic age of circa 350 Ma is from two zircon separates from the Verity occurrence (083D 005), (Bulletin 86, in press).

Host Rock

Dominant Host Rock: Metamorphic

Stratigraphic Age	Group	Formation	Igneous/Metamorphic/Other
Hadrynian	Horsethief Creek	Undefined Formation	-----
Proterozoic-Paleoz.	-----	-----	Shuswap Metamorphic Complex

Isotopic Age	Dating Method	Material Dated
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Lithology: Carbonatite, Beforsite, Sovite, Fenite, Quartz Plagioclase Hornblende Schist, Schist, Amphibolite, Pegmatite

Comments: Occurrence is hosted in the Semipelite-Amphibolite unit of the Horsethief Creek Group.

Geological Setting

Tectonic Belt: Omineca

Physiographic Area: Monashee Mountains

Terrane: Ancestral North America, Cariboo
Metamorphic Type: Regional **Relationship:** Post-mineralization
Grade: Amphibolite
Comments: Carbonatite in central (Omineca) division of carbonatite belt.

Inventory

Ore Zone: SAMPLE **Year:** 1981
Category: Assay/analysis **Report On:**
NI 43-101: N
Sample Type: Chip

Commodity	Grade
Niobium	0.0433 per cent
Phosphate	2.3400 per cent
Tantalum	0.0118 per cent

Comments: Grades are the weighted average of three 0.3 metre chip samples (3828 to 3830).
Reference: Assessment Report 10274.

Capsule Geology

The Lempriere carbonatite is easily reached by trails and logging roads which cross the North Thompson River and intersect Highway 5 at Lempriere Station, approximately 40 kilometres north of Blue River. It lies 1.55 kilometres east-northeast of the Verity occurrence (083D 005) and 1.90 kilometres southeast of the Mill occurrence (083D 034). A detailed description of the regional geologic setting is given in the Verity occurrence, immediately to the south.

Two areas east of the Verity occurrence were examined and sampled in 1982. The upper and most easterly of these two areas, consisting of outcrop exposed by an uprooted tree, is the Lempriere showing. This may be part of an exposure mapped in 1952 (Geological Survey of Canada Economic Geology No. 18, p. 32). The carbonatite is similar to exposure in the Specimen Pit at the Verity occurrence.

A total of six samples were taken from the Lempriere showing in 1981. Pyrochlore was visible in some chips from samples 3829 and 3830. The weighted average grades from three 0.3-metre chip samples (3828 to 3830) are 0.0118 per cent Tantalum, 0.0433 per cent Nb₂O₅ and 2.34 per cent P₂O₅ (Assessment Report 10274). An additional three samples (625 to 627) were taken in 1982. Analytical results ranged from 0.10 to 0.12 per cent Nb₂O₅ and from 0.015 to 0.026 tantalum (Assessment Report 11130).

Bibliography

EMPR AR 1950-223-229; 1952-115-119; 1954-111; 1968-222
EMPR ASS RPT 1630, 6741, 7236, 8216, 9566, *10274, 10955, *11130,
12361
EMPR BULL *86 (in press)
EMPR EXPL 1978-117; 1980-149; 1981-250; 1982-127,128
EMPR FIELDWORK 1979, pp. 118-119; 1980, pp. 111-112; 1981, pp. 68-69
1984, pp. 84-94, 95-100
EMPR MAP 22, #33
EMPR OF *1987-17; *1990-32
GSC BULL 239, pp. 121,122,150
GSC EC GEOL #16 (2nd Ed.), p. 236; *#18, pp. 31-35
GSC MAP 15-1967
GSC OF 551
GSC P 89-1E, pp. 95-100
CJES 1988 Vol. 25, No. 8, pp. 1323-1337
WWW <http://www.commerceresources.com>
Canadian Mineralogist, 1961, Vol. 6, pp. 610-633
Pell J. and Hora Z.D. (1990): Rifting, alkaline rocks and related
magmatic deposits in the southern Canadian Cordillera; Ministry
of Energy, Mines and Petroleum Resources, Geological Survey
Branch, 8th IAGOD Paper

Gorham, J. (2007-06-20): Technical Report on the Upper Fir Tantalum-Niobium-Bearing Carbonatite - Blue River Property
Stone, M., Selway, J. (2010-03-30): Independent Technical Report – Blue River Property
Chong, A., Postolski, T. (2011-01-31): NI 43-101 Technical Report - Blue River Ta-Nb Project
Chong, A., Postolski, T. (2011-09-29): NI 43-101 Technical Report on Preliminary Economic Assessment - Blue River Tantalum–Niobium Project
Chong, A., Postolski, T. (2012-06-22): NI 43-101 Technical Report on Mineral Resource Update - Blue River Tantalum-Niobium Project
Kulla, G., Postolski, T. (2013-06-21): NI 43-101 Technical Report on Mineral Resource Update - Blue River Tantalum–Niobium Project
Kulla, G., Hardy, J. (2015-02-28): NI 43-101 Technical Report on Mineral Resource Update - Blue River Tantalum-Niobium Project
Kulla, G., Hardy, J. (2015-03-18): Project Update Report - Blue River Tantalum-Niobium Project
EMPR PFD 880000

Date Coded:	1985/07/24	Coded By:	BC Geological Survey (BCGS)	Field Check:	N
Date Revised:	2020/05/15	Revised By:	Karl A. Flower (KAF)	Field Check:	N