Location/Identification

MINFILE Number: 083D 034

Name(s): **MILL**
LEMPRIERE, VERITY, AR, AR-2

Status: Showing

Regions:

BCGS Map: 083D045

NTS Map: 083D06E

Latitude: 52 25 05 N

Longitude: 119 08 49 W

Elevation: 797 metres

Location Accuracy: Within 500M

Comments: Drillhole M-2 on AR-2 claim (Assessment Report 9566).

Mining Division: Kamloops

Electoral District: Kamloops-North Thompson

Resource District: Thompson Rivers Natural Resource District

UTM Zone: 11 (NAD 83)

Northing: 5809705

Easting: 353997

Mineral Occurrence

Commodities: Niobium, Tantalum, Phosphate

Minerals

Significant: Pyrochlore, Columbite, Apatite

Significant Comments: Refer to capsule geology for a detailed mineralogy.

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

Associated Comments: See capsule geology for associated minerals. See the Verity

Alteration: Amphibole, Biotite, Albite, Perthite

Alteration Comments: See comment under associated minerals. See the Verity occurrence (083D 005) for details.

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

Dimension: 300x0x0 metres

Comments: Uranium-lead age dates on zircon from the Verity and Paradise showings of 325 and 340 Ma respectively indicate a mid-Paleozoic (Devono- Mississippian) age of emplacement (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, Quartz Hornblende Mica Schist, Gneiss, Semi Pelite, Amphibolite

Comments: Sovite zone can be traced discontinuously in a north-south direction for 300 metres.

Geological Setting

Tectonic Belt: Omineca
Physiographic Area: Monashee Mountains
Terrane: Ancestral North America, Cariboo

Metamorphic Type: Regional
Relationship: Post-mineralization
Grade: Amphibolite
Comments: Carbonatites in central (Omineca) division of carbonatite belt.

Inventory

Ore Zone: DRILLHOLE
Year: 1980
Category: Assay/analysis
Report On:
NI 43-101: N

Sample Type: Drill Core

Commodity	Grade
Niobium	0.2400 per cent
Phosphate	3.3800 per cent
Tantalum	0.0110 per cent

Comments: Values are from drill hole M-2 at 120 to 133 foot interval. Niobium grade is for Nb2O5.
Reference: Assessment Report 9566.

Capsule Geology

The Mill carbonatite showing is located approximately 1600 metres due north of the Verity occurrence (083D 005). The Mill is easily reached by logging roads which cross the North Thompson River and intersect highway 5 at Lempriere Station, 40 kilometres north of Blue River.

Carbonatite consisting of sovite and lesser beforsite occurs as sills within quartz-hornblende-mica schist of the Semipelite Amphibolite division of the Hadrynian Horsethief Creek Group. For a comprehensive description of the regional geologic setting of the Mill showing refer to the Verity carbonatite (083D 005).

The Mill showing consists primarily of two major sovite units similar to the lower two sovite units of the Verity. This zone can be traced discontinuously in a north-south direction for up to 300 metres. The gneiss and carbonatite have been folded into a tight fold and carbonatite appears to be concordant with the gneiss foliation. To the west of the fold axis the carbonatite dips steeply to the west.

A banded texture caused by layering of the accessory minerals apatite, amphibole, olivine, magnetite, biotite, pyrite, pyrrhotite, pyrochlore, columbite, and zircon is common in the sovite unit and less developed in the beforsite unit.

Anomalous values of niobium occur in the lower half of the lower sovite unit. Values up to 0.42 per cent Nb2O5 over 1.5 metres occur for a strike length of 100 metres (Assessment Report 10274). Drill intersections from holes M-1 and M-2 assayed up to 0.24 per cent Nb2O5, 0.089 per cent tantalum, and 4.62 per cent P2O5 (Assessment Report 9566). A drill hole intersection between 120 to 133 feet in hole M-2 assayed 0.24 per cent Nb2O5, 0.011 per cent tantalum, and 3.38 per cent P2O5 (Assessment Report 9566).

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Date Coded:	1987/07/28	**Coded By:**	Larry Jones (LDJ)	**Field Check:**	N
Date Revised:	2020/05/15	**Revised By:**	Karl A. Flower (KAF)	**Field Check:**	N