



MINFILE Detail Report  
BC Geological Survey  
Ministry of Energy, Mines and Petroleum Resources

### Location/Identification

**MINFILE Number:** 094E 025 **National Mineral Inventory Number:** 094E2 Cu5

**Name(s):** KEMESS WEST  
RAT, RAT 1-2, RAT 1-20, DUNCAN, DUNCAN 3-4, RON, RON 11

**Status:** Showing **Mining Division:** Omineca

**Regions:** British Columbia **Electoral District:** Peace River North

**BCGS Map:** 094E007 **Resource District:** Mackenzie Natural Resource District

**NTS Map:** 094E02W **UTM Zone:** 09 (NAD 83)

**Latitude:** 57 01 46 N **Northing:** 6322851

**Longitude:** 126 46 53 W **Easting:** 634656

**Elevation:** 1541 metres

**Location Accuracy:** Within 500M

**Comments:** Located on a northwest-facing slope approximately 650 metres south of the southeastern end of Duncan Lake, about 189 kilometres north-northwest of the community of Germansen Landing (Location map of sample RATVN; Assessment Report 18442).

### Mineral Occurrence

**Commodities:** Zinc, Copper, Lead, Silver, Gold

**Minerals**

**Significant:** Sphalerite, Chalcopyrite, Galena

**Associated:** Quartz, Carbonate, Barite, Pyrite

**Alteration Comments:** An unknown manganese oxide has been identified in the quartz-carbonate shear.

**Alteration Type:** Oxidation, Leaching

**Mineralization Age:** Unknown

**Deposit**

**Character:** Vein, Shear

**Classification:** Hydrothermal, Epigenetic

**Type:** I05: Polymetallic veins Ag-Pb-Zn+/-Au

**Dimension:** 1x0x0 metres **Strike/Dip:** 150/90

**Comments:** Shear zone.

### Host Rock

**Dominant Host Rock:** Volcanic

Stratigraphic Age	Group	Formation	Igneous/Metamorphic/Other
Upper Triassic	Stuhini	-----	-----
Lower Jurassic	-----	-----	Kemess Pluton

  

Isotopic Age	Dating Method	Material Dated
-----	-----	-----
207 +/- 7 Ma	Potassium/Argon	Hornblende

**Lithology:** Augite Andesite Flow, Andesite, Cherty Sediment/Sedimentary, Quartz Monzonite, Quartz Feldspar Porphyry

### Geological Setting

**Tectonic Belt:** Intermontane **Physiographic Area:** Omineca Mountains

**Terrane:** Stikine, Plutonic Rocks

**Metamorphic Type:** Regional **Relationship:** Post-mineralization

**Grade:** Zeolite

**Comments:** Located in the southwest corner of the Toadoggone Gold Camp.

## Inventory

**Ore Zone:** DRILLHOLE  
**Category:** Assay/analysis

**Year:** 2003  
**Report On:** N  
**NI 43-101:** N

**Sample Type:** Drill Core

Commodity	Grade
Gold	0.3 grams per tonne
Copper	0.5 per cent

**Comments:** A diamond-drill hole (CB-13B) intersected a barite vein hosted in Asitka Group sediments; sample over 1.9 metres.

**Reference:** Assessment Report 27365.

**Ore Zone:** SHEAR  
**Category:** Assay/analysis

**Year:** 1988  
**Report On:** N  
**NI 43-101:** N

**Sample Type:** Rock

Commodity	Grade
Silver	352.5 grams per tonne
Gold	1.32 grams per tonne
Copper	0.714 per cent
Lead	0.190 per cent
Zinc	9.999 per cent

**Comments:** Select sample (RATVN).

**Reference:** Assessment Report 18442.

## Capsule Geology

The Kemess West occurrence is located on a northwest-facing slope approximately 650 metres south of the southeastern end of Duncan Lake, about 189 kilometres north-northwest of the community of Germansen Landing.

The Toodoggone district lies within the eastern margin of the Intermontane Belt and is underlain by a northwest-trending belt of Paleozoic to Paleogene sediments, volcanics and intrusions covering an area of 90 by 25 kilometres. The basement rocks are Proterozoic metasedimentary equivalents of the Hadrynian Ingenika Group. These rocks are unconformably overlain by volcanic and sedimentary units of the Devonian to Permian Asitka Group, which are in turn overlain by Upper Triassic basaltic to andesitic flows, volcanoclastics and minor limestone of the Stuhini Group. Volcanoclastic rocks of the Lower Jurassic Hazelton Group and rhyolitic to dacitic flows, intrusions and volcanoclastics of the Lower Jurassic Toodoggone Formation (Hazelton Group) overlie the Stuhini Group. Further to the west, nonmarine sediments of the Cretaceous Sustut Group overlie the volcanic strata and form the western margin of the district.

The Early Jurassic Black Lake Suite, of quartz monzonitic to granodioritic composition, has intruded the older strata in the central and eastern parts of the region and forms the eastern margin of the Toodoggone district. Within the district, syenomonzonitic and quartz feldspar porphyritic dikes may be feeders to the Toodoggone Formation.

The dominant structures in the area are steeply dipping faults that define a prominent regional northwest structural fabric trending 140 to 170 degrees. High angle, northeast-striking faults (approximately 060 degrees) appear to truncate and displace northwest-striking faults. Collectively these faults form a boundary for variably rotated and tilted blocks underlain by monoclinical strata. A major structural zone associated with the Saunders Creek regional fault cuts diagonally through the area, trending northwest.

Locally, the Kemess West occurrence and most of the surrounding area is underlain by augite andesite flows and minor amounts of cherty sediments of the Stuhini Group. The Early Jurassic Kemess pluton is exposed to the north of the Kemess West occurrence and intrudes Stuhini lithologies. The composition of these exposures is quartz monzonite. This intrusion is bordered by a quartz feldspar porphyry intrusion and a marginal quartzose zone, which seems to be a hybrid zone between the porphyry and cherty sediments of the Stuhini Group.

At the Kemess West showing, the main mineralized zone consists of 5 per cent black sphalerite, 1 per cent disseminated pyrite, trace chalcopyrite and galena and weathered manganese oxides in a quartz-carbonate gangue within a 1-metre-wide shear zone. The shear zone strikes 150 degrees and is hosted by andesite. In 1988, a select sample (RATVN) assayed 0.714 per cent copper, 0.190 per cent lead, 9.999 per cent zinc, 352.5 grams per tonne silver and 1.32 grams per tonne gold (Assessment Report 18442).

In 2003, a diamond-drill hole (CB-13B) located approximately 700 metres to the east, intersected a barite vein hosted in Asitka Group sediments yielding 0.5 per cent copper and 0.3 gram per tonne gold over 1.9 metres (Assessment Report 27365).

The area has been historically explored in conjunction with the nearby Kemess North deposit (094E 021) located 3.6 kilometres north-northeast, and the Kemess South deposit (094E 094) located 3.2 kilometres south-southeast.

In 1968 and 1969, Cominco Ltd. completed programs of soil sampling and geological mapping on the area as the Rat 1-20 claims.

In 1974, Craigmont Mines Ltd. completed a 17.0 line kilometre ground induced polarization survey on the area. In 1977, Cominco Ltd. completed a lone drillhole, totalling 91.0 metres, on the Rat 6 claim.

In 1984, Pacific Ridge Resources Corp. completed a program of soil sampling, geological mapping and ground induced polarization and magnetic surveys on the surrounding area as the Ron 11 claim. In 1988, D.L. Cooke prospected and rock sampled the area as the Rat 1-2 claims.

In 1990 and 1991, El Condor Resources Ltd. conducted programs of geological mapping, geochemical sampling and a 201.0 line kilometre induced polarization survey on the area as apart of the Kemess property.

During 2000 through 2011, Northgate Minerals Corporation completed further programs of prospecting, geological mapping, geochemical sampling, ground geophysical surveys and diamond drilling on the Kemess and Kemess East properties.

During 2013 through 2017, AuRico Gold Inc. examined the area as apart of the Kemess and Kemess East properties.

### ***Bibliography***

EMPR ASS RPT 1908, 2406, 5324, 6411, 13027, \*18442, 22280, \*27365  
 EMPR OF 2001-01  
 EMPR BULL 86  
 EMPR EXPL 1975-E163-E167; 1976-E175-E177; 1977-E216-E217; 1978-E244-E246; 1979-265-267; 1980-421-436; 1982-330-345; 1983-475-488; 1984-348-357; 1985-C349-C362; 1986-C388-C414; 1987-C328-C346; 1988-C185-C194  
 EMPR FIELDWORK 1980, pp. 124-129; 1983, pp. 122-129, 135-141; 1982, pp. 125-127; 1983, pp. 137-138, 142-148; 1984, pp. 139-145, 291-293; 1985, pp. 167-169, 299; 1987, pp. 111, 114-115  
 EMPR GEM 1970-187, 1971-63-71; 1973-456-463; 1974-310  
 EMPR GEOLOGY 1977-1981, pp. 156-161  
 EMPR PF (Photogeologic Interpretation Map of the Northern Omineca area, (Oct. 1964), Canadian Superior Exploration Limited-in 94E General File)  
 EMPR PFD 896474  
 GSC BULL 270  
 GSC OF 306; 483  
 GSC P 80-1A, pp. 27-32  
 ECON GEOL Vol.86, pp. 529-554, 1991  
 GCNL #23(Feb.1), 1985; #165(Aug.27), 1986  
 IPDM Nov/Dec 1983  
 MIN REV September/October, 1982; July/August, 1986  
 N MINER October 13, 1986  
 N MINER MAG p. 1, March 1988  
 W MINER April, 1982  
 WIN Vol.1, #7, June 1987

<b>Date Coded:</b>	1985/07/24	<b>Coded By:</b>	BC Geological Survey (BCGS)	<b>Field Check:</b>	N
<b>Date Revised:</b>	2021/07/22	<b>Revised By:</b>	George Owsiacki (GO)	<b>Field Check:</b>	N