



Energy, Mines and
Resources Canada

Earth Sciences

Geological Survey of Canada
601 Booth Street
Ottawa, Ontario
K1A 0E8

Énergie, Mines et
Ressources Canada

Sciences de la Terre

Commission géologique du Canada
601, rue Booth
Ottawa (Ontario)
K1A 0E8

675831
Sustat
Copper
94D/10E
↓

Your file Votre référence

Our file Notre référence

October 24, 1986

Richard Overstall
P.O. Box 229
Hazelton, B.C.
V0J 1Y0

Dear Richard:

Ken Dawson informs me that you would like to know the localities in northern British Columbia that might have been the sources of archeological native copper. I have enclosed copies of some correspondence giving names and addresses of individuals to whom we have provided native copper samples and some of the locality data. George Rapp and Eileen Henrickson have probably done the most work so I suggest that you contact them. George has not sent the neutron activation results yet.

In the northern Cordillera I think that virtually any of the Triassic and Lower Jurassic volcanic terranes could have been the source of native copper. Unusual paleoweathered porphyry deposits such as Afton could conceivably have yielded a lot of native copper. Placer and beach deposits could also have concentrated dispersed native copper from volcanic source rocks.

I hope that this information is value to you.

Best regards,

Sincerely,

R.V. Kirkham

Encl.

cc. K.M. Dawson

Canada

FEB 1985

SAMPLES BY RAPP AND HENRICKSON FOR NEUTRON ACT. ANALYSES

	<u>GSC#</u>	<u>Locality</u>
C1	#285	<u>Michipicoten Island</u> Coll by W.E. Logan 1843 large number of small--up to 5 cm across--not spherical-- nuggets 35 samples use acetic acid bath
C2	#6750	<u>Sand and Pancake Bay Location</u> <u>Mamainse Ontario</u> 8 samples
C3	#64295	<u>Mamainse</u> <u>Lake Superior Ontario</u> <u>Dist of Algoma</u> 17 samples
C4	#10245	<u>Horseshoe Cove on Cap d'Or</u> <u>near Advocate Harbour</u> <u>Cumberland Co N.S.</u> Coll by A.T. McKinnor 1928 small non-spherical nuggets 40 samples
C5	#13634	<u>Horseshoe Cove Cap d'Or</u> <u>Cumberland Co N.S.</u> Coll by A.Y. Smith 1962
C6	#8136	<u>Horseshoe Cove Cap d'Or</u> <u>Nova Scotia</u> 6 samples
C7	#13683	<u>Michipicoten Island</u> <u>Lake Superior, Ontario</u> 6 samples
C8	#13629	<u>Mamainse Point E. side of Lake Superior, Ontario</u> 5 samples
C9	#1243	<u>St. Ignace Island</u> <u>Nipigon Bay</u> <u>Lake Superior, Ontario</u> Coll by W.E. Logan 1846 8 samples
C10	#61908	<u>St. Ignace Thunder Bay</u> <u>District, Ontario</u> Coll in 1920 5 samples
C11	#13632	<u>Vermillion Mine</u> <u>Denison Tp Sudbury Dist</u> <u>Ontario</u> 4 samples

- C12 #17230 Main showing, W. end of Seal Lake
Labrador Newfoundland
5 samples
- C13 #13627 Mamainse Point E. side of Lake Superior, Ontario
6 samples
- C14 #13628 Mamainse Point on Lake Superior
90 Km N of Saulte Ste Marie
Algoma District Ontario
3 samples
- C15 #9871 La Paz Bolivia
21 samples
- C16 #13683 Copper (from Porphyry
Descubridora, Durango, Mexico
purchased from Wards in 1969
5 samples
- C17 #13684 Cananea Sonora Mexico
purchased from Wards in 1969
9 samples
- C18 #13686 Moonta Mines S. Australia
Australia
prior to 1920
9 samples
- C19 #13691 Broken Hill NSW
Australia
exchange N.H. Fisher
Sept. 1963
4 samples
- C20 #12849 British Mine
Broken Hill NSW
Australia
exchange J.E. Borner
Sept. 1964
3 samples
- C21 #13680 Pluckemin Mine
Somerville, New Jersey
purchased from Wards 1969
4 samples
- C22 #13682 Chimney Rock
New Jersey
purchased from Wards 1969
5 samples
- C23 #12847 Ray
Pinal County Arizona
purchased Oct 1974 (Erling)
5 samples
- C24 #13655 Baltic Mine
Keewenaw Peninsula MI
Gift: S.C. Ellis 1903
4 samples

- C25 #13654 Baltic Mine
Keewenaw MI
 Gift: S.C. Ellis 1903
 8 samples
- C26 #13653 Baltic Mine
Keewenaw MI
 Gift of S.C. Ellis 1903
 3 samples
- C27 #13658 Baltic Mine
Keewenaw MI
 Gift of S.C. Ellis 1903
 8 samples
- C28 #64293 White River Yukon
NT S 115 F/15
61°47'12"N, 140°48'00"W
Coll by JE Muller 1958
 4 samples
- C29 #8461 Discovery Copper Grant
White River Yukon
DD Cairnes 1912
 6 samples
- C30 #285 Michipicoten Island
 very large slab ca 60cm x 30 cm
 5 samples
- C31 #none From OxGroup Grandroy Mines
Victoria Island
N.W.T.
 5 samples
- C32 KQ-69.22 Coppermine River
 (also sent to Toronto & Brookhaven)
- C33 KQ-75-142 Victoria Island, N.W.T.
 2 samples
- C34 KQ-69.102 Coppermine River
 3 samples
- C35 #285 Michipicoten Island
 (display) Lake Superior
Thunderbay Dist.
 collected in 1846 by W.E. Logan
 3 samples
- C36 KQ-75-97b Porcupine Group
SE of Merritt B.C.
British Columbia

- C37 #KQ-70-41 Jordan River Area
Metchosin Volcanics (Eocene)
Southern Vancouver Island BC
- C38 #KQ-70-260 Kennecott Alaska
in Nikoli Greenstone
beneath Bonanza Mine
- C39 #KQ-69-140 Coppermine River Area
67°27'30" 116°03'
- C40 #KQ-73-225D Sustut Deposit, central BC
56°36' 126°41'
- C41 #KQ-82-36 Afton, Mine
few miles west of Kamloops BC
- C51,C52, #9871A Dendritic
C53 #9871B (3 small specimens)
#9871C Corocoro, Prar. Pacajes
Dept. LaPaz, Bolivia
Type D-55
Gift: W.D. Dalgleish 1917
- C54 #744 Type A-79
Locality (See File Cards)
- C55 #2304 No 4--Type EA-59
in Basalt, Calcite
- C56 #285 No 5 Drawer 11
Michipicoten Island
Lake Superior
District of Thunder Bay, Ont.
(W.E. Logan, 1843)
- C57 #7826 Burwash Creek
White River
Western Yukon Terr.
(R.G. McConnell, 1905)

C58, C59	#12857A #12857B	<u>Coppermine River Area</u> <u>N.W. Terr.</u> (pur: March 1970)	
C60	#12856	<u>N. of Dismal Lake</u> <u>Between Great Bear Lake and Coppermine River</u> <u>N.W. Terr.</u> (pur. from Eskimos, 1911 By R.M. Anderson)	
C61, C62	#7755A #7755B	<u>Mill Inlet, Pond Bay</u> <u>Albert Harbour, Baffin Is., N.W. Terr.</u> (don. Capt. Bernics?, 1906)	
C63, C64, C65	#12864A #12864B #12864C	<u>Coppermine River Area</u> <u>N.W. Terr.</u> (Coll. E.D. Kindle, 1968) Part of a suite on Display-6th floor Several different drillings on same piece	
C66	#12858	<u>N. shore of Great Bear Lake</u> <u>N.W. Terr.</u> (don: C.D. Melville)	
C67	#12861	<u>Headwaters of White R.</u> <u>Western Yukon Terr.</u> (coll: R.G. McConnell, 1905)	
C68 C69-oxide Powder	#12862A #12862B	<u>Victoria Gulch-S. of Haines Junction</u> <u>Y. Terr.</u> (Coll: H.H. Huestis, 1948) "From or near Belonds placer prospect) near Johobo Mine" (Alline structure in the intellion)	Lat. 60°30' Long. 137°30'

- C70 #13639 Maple Leaf Claim
Mt. Franklin, W. of Lower Arrow Lake, BC
Mt. Franklin is located between Franklin and Burrell
creeks, about 20 mi. N. upstream from where Burrell Cr.
flows into the Coranby R. and about 10 mi. W. of Lower
Arrow Lake. ($49\frac{1}{2}^{\circ}$ N, $115\frac{1}{2}^{\circ}$ W)
(col. E. Pastevin, 1918)
- C71 #19582A Golden Sovereign Claims
C72 #19582B Aspen Grove, S. of Merrit, BC
Nicola Mining Div., BC
(Coll: R.A.A. Johnston, 1904)
- C73 #13638 Frazer River, B.C.
- C74 #63801 Island Copper Mine, N. of Rupert Inlet,
Vancouver Island, B.C.
(Ex: N.Theis, 1977) (A-77-23)
- C75 #12866 Aberdeen Mine, 10 mi. N. of Lower Nicola,
near Merritt, B.C.
(gift: M. McIntyre, 1905)
- C76 #12865 Afton property, 5 mi W. of Kamloops, B.C.
on Trans-Canada Hwy
(gift: H.R. Steacy, May 1974)
- C77 #13637 Copper Island
Atlin Lake, NW B.C.
(coll: D.D. Cairnes, 1910)
- C78 #6713 Horsefly Mine,
Horsefly R., E. of Williams Lake, B.C.
(coll: G.M. Dawson, 1894)

C79	#3443A	<u>Vital Creek, Cassiar Dist., N.C.--B.C.</u>
C80	#3443B	(gift: H.G. Hanks, prior to 1893)
C81	#1243	<u>Vital Creek, Cassiar Dist., B.C.</u>
C82	#19581A	<u>Golden Sovereign Claim, Aspen Grove,</u>
C83	#19581B	<u>S. of Merritt, B.C.</u> (coll: R.A.A. Johnston, 1904)
C84	#7652A	<u>Golden Sovereign Claim, Aspen Grove S. of</u>
C85	#7652B	<u>Merritt, B.C. (Similkameen, B.C.)</u>
C86	#7652C	(coll. R.A.A. Johnston, 1904)
C87	#31513A	<u>Aho, Ariz.</u>
C88	#31513B	a very large piece
C89	#31513C	
C90	#31513D	
C91	#13656	<u>Michigan</u>
C92	#12855	<u>Beloud Creek, Yukon</u> (gift: E.D. Kindle, 1966)
C93	no number	<u>Copper Mine River</u> <u>NW Terr? or Yukon?</u> Barager
C94	#31116	<u>1400 Level-Empress Mine</u> <u>Britannia, B.C.</u> (F. Ebbutt coll.)

- C95 #31117 Native Cu-formed on rail by Cu waters from oxidized zone-took 28 days, water dripped 5' F. Ebbutt coll.-Britannia, B.C.
- C96 #31118 (with Cuprite) Secondary 1200 level, Empress Section Britannia Mine, B.C.
- C97 #31353 1200 level-Empress Section (with cuprite) Britannia Mine, B.C.
- C98 #31354 1200 Level-Empress Section Britannia Mine, B.C.
- C99 #31355 1200 level-125 Chute Section Britannia Mine, B.C.
Ebbutt coll.
- C100 #34073 Afton Mine, about 13 Km. W. of Kamloops, Kamloops Dist. B.C.
- C101 #47118 on Iron Mask Diorite
Afton Mine, 2070 level, 8720 E. 13180 N.
about 13 km W. of Kamloops,
Kamloops Dist, B.C.
- C102 #48728 Afton Mine-13 Km W. of Kamloops
Kamloops Dist, B.C.
(R. Servant)
- C103 #48729 Afton Mine
East of 1890 Bench
(R. Servant)
- C104 #31442 Craigmont Mine, Merritt, B.C.
(Thompson Valley Rock Shop)

C105 #31319 Craigmont mine-Merritt, B.C.
(Viki Knippelberg)

C106 #31317 Craigmont Mine, Merritt, B.C.
(Viki Knippelberg)

C107 #31320 Craigmont Mine, Merritt, B.C.

C108 #31321 Craigmont Mine, B.C.

C109 #31322 Craigmont Mine, B.C.

C110 #43611 Craigmont Mine, B.C.
(E. Holbrook)

C111 #31124 with malachite, cuprite
Cameron River, Near Alberni, B.C.

C112 #43610 with cuprite,
Craigmont Mine, B.C.
(Holbrook)

C113 #31109 with cuprite
Seal Lake, Labrador
(Ebbutt coll.)

C114 #31507 Seal Lake, Labrador
(L. Moyd coll.)

C115 #31345 Copper Mine River--NW Terr.
Canadian Artic
(Ebbutt coll.)

C116 #30715 Cap d'Or, Cumberland Co.
Nova Scotia

C117 #31328 Colonial Copper Co. Mine
 Cap d'Or Cumberland Co,
Nova Scotia

C118 #32520 Colonial Cu Co. Mine
 Cap d'Or
 Cumberland Co, Nova Scotia

C119 #44085 Approx 1.6 Km N. of Lighthouse
 on Cap d'Or-Nova Scotia
 (G. Robinson)

C120 #31376 Cap d'Or Beach N. side of shore
 C140 Nova Scotia from Lighthouse
 (Hawthorneden) Toward Joggins

C141 #31382 with cuprite, limonite
Bruce Mines, Ont.
 (Hannan)

C142 #31348 Coppercory^P Mine
Mamainse Point
Algoma Dist., Ont.
 (Ebbutt)

C143 #31392 South Shore, Lake Sup., Ontario
 (R. Bell Coll)

C144 #43384 Michipicoten Area, Lake Superior,
Algoma Dist., Ont.
 (L. Moyd coll)

C145 #31325 Vermillion Mine, Denison Tp. Ont.
 (R. Butler)

- C146 #39978 Copper Rand Mine
Chibougamau, McKenzie Tp.
Abitibi Co, Quebec
(R. Borduas)
- C147 #31378 with Chalcocite and Bornite
Normandie Mine
Coleraine, Quebec
(G. Laliberte)
- C148 #31344 Near Canyon City
White River, Yukon
(Ebbutt)
- C149 #31346 Copper River, Alaska
(Ebbutt)
- C150 #31332 Bisbee, Ariz.
- C151 #31339 Franklin, N.J.
with Franklinite and Willemite
(Ward's)
- C152 #4343 Somerville, Somerset Co
New Jersey
(L. Moyd coll)
- C153 #31363 Franklin, N.J.
(Ebbutt coll)
- C154 #31144 Santa Rita, N Mex.
- C155 #31316 Santa Rita, N Mex.

C156 #31316 Santa Rita, N Mex.

C157 #31324 Santa Rita, N Mex.

C158 #31078 Boyd's School House
Penn.
Cu and prehnite

C159 #31122 Cornwall, Penn

C160 #31341 Big Indian Mine
La Sal, Utah
(L. Moyd coll)

C161 #31340 Big Indian Mine
La Sal, Utah

C162 #31377 Big Indian Mine
La Sal, Utah

C163 #31104 Broken Hill, New South Wales
Australia
(Taylor coll)

C164 #31123 Mount Isa Mine
Queensland, Australia
(Stevenson)

C165 #31334 Bolivia
(Ward's)

C166 #31342 Corocoro, La Paz,
Bolivia
(Taylor)

C167	#31343	<u>Corocoro-Bolivia</u> (Taylor)
C168	#31326	<u>Tocopila</u> <u>Atacama, Chile</u>
C169	#31103	<u>Wheal Gorland, Gwennap</u> <u>Cornwall, England</u> (Taylor)
C170	#43428	<u>Cornwall, England</u> (Moyd)
C171	#43429	<u>Cornwall, England</u> (Moyd)
C172	#43430	<u>Cornwall, England</u> (Moyd)
C173	#43431	<u>Cornwall, England</u> (Moyd)
C174	#43432	<u>Cornwall, England</u> (Moyd)
C175	#43435	<u>Cornwall, Eng.?</u> (Moyd)
C176	#47426	<u>Cornwall, Eng.</u> (Moyd)
C177	#31397	<u>Imsbach, Pfalz,</u> <u>W. Germany</u>

C178 #31373 Herdorf, Germany
(W. Blonowski)

C179 #31141 Rudaba'nya, Hungary

C180 #31139 Mapimi, Durango, Mexico

C181 #31217 Tsumeb, Namibia
(P. Williams)

C182 #31131 Onganja Mine
near Windhoek, Namibia
(C. key)

C183 #31132 Onganja Mine,
near Windhoek, Namibia
(C. key)

C184 #31133 Onganja Mine--near
Windhoek, Namibia
(Key)

C185 #31134 Onganja Mine--Namibia

C186 #31135 Onganja Mine--Nambia

C187 #31136 Onganja Mine--Namibia

C188 #31137 Onganja Mine--Nambia

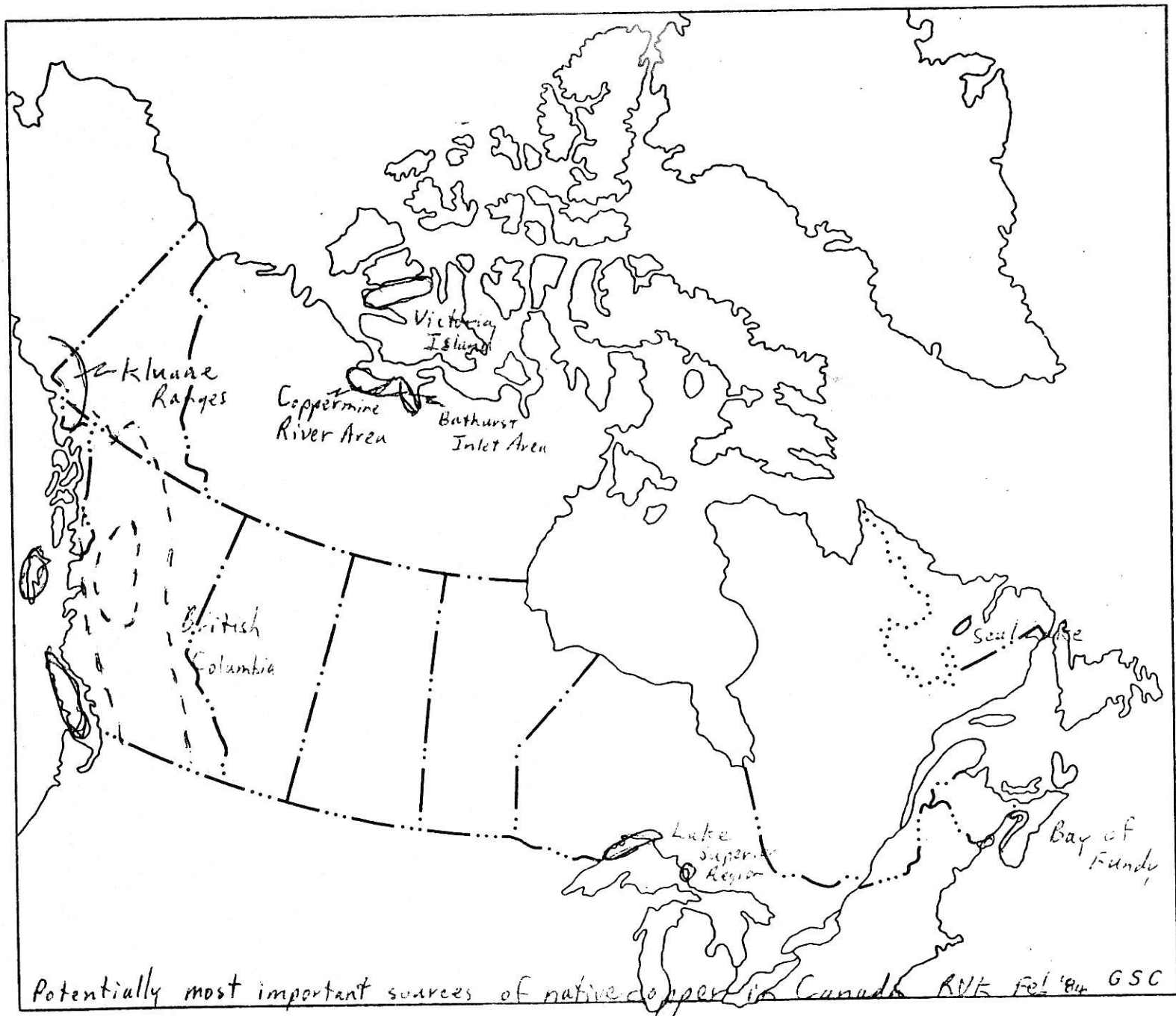
C189 #31398 with silver
Dalane, SE of Landsverk,
Kviteseid Kviteseid
Parish Telemark Co, Norway

C190	#31399	<u>Dalane, SE of Landsverk</u> <u>Kviteseid Telemark</u> <u>Co, Norway</u>
C191	#31129	<u>Mina Monte Romero</u> <u>Cuevo de la Mora</u> <u>Huelva, Spain</u> (Ward's)
C192	#31370	<u>Katanga, Zaire</u> (C.H. de Wyngaert)
C193	#31051	silver with Locality <u>unknown probably Mich.</u> (Norm's minerals)
C194	#31069	Locality unknown (R. Bell coll.)
C195	#31098	Locality unknown (R. Bell coll.)
C196	#31509	<u>Keweenaw Penin.</u> <u>Mich.</u>
C197	#31510	<u>Keweenaw Penin.,</u> <u>Mich.</u>
C198	#31514A	<u>Ural Mtns. U.S.S.R.</u>
C199	B	(p. oxy metal)
C200	C	
C201	#31314	<u>Ajo--Pima Co. Arizona</u> (Ann Rutledge Minerals)

C202	#31335	<u>Ajo, Pima Co, Ariz.</u>
C203	#31336	<u>New Cornelia Pit</u> <u>Ajo, Pima Co, Ariz.</u>
C204	#31366	<u>Ajo, Pima Co, Ariz.</u>
C205	#31367	<u>Ajo, Pima Co, Ariz.</u>
C206	#31368	<u>Ajo, Pima Co, Ariz.</u>
C207	#31108	<u>Ray, Pima Co, Ariz.</u>
C208	#31125	<u>Ray, Pima Co, Ariz.</u>
C209	#31126	<u>Ray, Pima Co, Ariz</u>
C210	#31329	
C211	#31127	
C212	#31380	<u>Mich-Cliff Mine</u>
C213	#31097	<u>Mich-Calumet Mine?</u>
C214	#31088	<u>Mich-Calumet & Hecla Mine</u>
C215	#31379	<u>Mich-Calumet & Hecla Mine</u>
C216	#31077	<u>Mich-Nonesuch Mine</u>
C217	#31081	<u>Mich-Phoenix Mine</u>
C218	#31085	<u>Mich-Phoenix Mine</u>
C219	#31087	<u>Mich-Phoenix Mine</u>
C220	#31086	<u>Mich-Quivez Mine</u>
C221	#31375	<u>Mich-Arsenian Cu.</u>
C222	#31362	<u>Mich-Minnesota Mine</u>
C223	#44695	<u>Coppercorp Mine</u> <u>Montreal Mining Co.</u> <u>Sand Bay Location</u> <u>Algoma Dist. Ont.</u> (D. Elliot)

C224 #40964 Siberia-USSR
(G. USSR)--World Expo--Montreal

C225 C-69-6 Coppercorp Mine





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Your file Votre référence

Our file Notre référence

March 20/85

Dear "Rip Rapp":

Thanks for the list of native copper samples.

Some of them such as Boyl's School House, Pennsylvania are of interest to me. I've never heard of native Cu & pyrite in Ontario.

Some minor editorial changes in your list are as follows:

C28 Yukon Territory, C32 KQ-69-72, C34 KQ-69-102, C93 N.W.T.

Barabar, C142 Coppercop, and C225 Coppercop Mine, Mamamase

Point Lake Superior, Ontario. I also note that the last sample that I sent you (KQ-63-76) from Bishop Rock, North Sector is not on your list.

Good luck with your work. Give my regards to Eiler.

Yours truly,

Rod Kirkham



UNIVERSITY OF MINNESOTA
DULUTH

Office of the Dean

College of Science and Engineering
108 Mathematics-Geology Building
Duluth, Minnesota 55812-9989

(218) 726-7201

MEMO: 5 March 85
TO: R.A. Gault
R.H. Hurd
Gary Ansell
Rod Kirkham
FROM: Rip Rapp *Rip Rapp*
RE: Native Copper Samples

My sincere apologies for not getting the attached list to you earlier of native copper specimens Eiler Henrickson and I sampled last year. We have run all the neutron activation analyses but we need to redo about 60 because of troubles with the instrument. We will send you the results when all analyses are satisfactorily completed.

If you have any corrections to this list please let us know. Could you supply us with the locality for our C54 and C225?

GRRjr:ah

Attachment

cc: Eiler Henrickson



Dr. G. Rupp, Jr.
Dean, College of Letters and Science
108 Mathematics - Geology Building
Duluth, Minnesota 55812
U.S.A.

Your file Votre référence

Our file Notre référence

March 20/84

Dear George:

Enclosed is another native copper specimen (K0-83-76).
I obtained it during a recent lecture tour to Nova Scotia
& New Brunswick. It is from the Triassic North Mountain
Basalt along the shore of the Bay of Fundy at Bishop Brook
King Co, N.S. just east of Annapolis - Kings boundary
($65^{\circ} 01' W$; $45^{\circ} 09' N$). The native copper occurs as thin
sheets along fractures in the basalt.

Give my regards to Eiler.

Yours sincerely,
Rod Kirkham



Energy, Mines and
Resources Canada

Science and Technology

Énergie, Mines et
Ressources Canada

Science et Technologie

1980 June 10

Dr. G. Rapp, Jr.
Dean of College of Letters
and Sciences
108 Mathematics-Geology
Building
University of Minnesota-Duluth
Duluth, MN 55812
U.S.A.

Dear Dr. Rapp,

Thank you very much for your letter of May 27 and for the reprint on "Trace-element fingerprinting as a guide to the geographic sources of native copper".

I have travelled widely in Canada examining copper and molybdenum occurrences of a variety of types in a variety of geological terranes. Subsequently other Archaeological workers have contacted me about bedrock sources of native copper and I have sent specimens, especially from the Canadian Arctic, to them. For information on these samples I recommend that you contact the following:

Dr. Allen P. McCartney
Thule Archaeology Conservation Project
Room 420, Hotz Hall
University of Arkansas
Fayetteville, Arkansas 72701

or his coworker

Dr. Gary Carriveau
Department of Chemistry
Brookhaven National Laboratory
Upton, New York 11973

and

Ellen Badone
c/o Dr. U.M. Franklin
Professor of Metallurgy and
Material Sciences
University of Toronto
TORONTO, Ontario
M5S 1A4

Dr. G. Rapp, Jr.
1980 June 10
Page 2

I have enclosed two small samples of native copper from Cape d'Or (lat. 45°19'00"; long. 64°46'42") in the northern part of the Bay of Fundy in Nova Scotia. These samples have not been analyzed previously. KQ-70-445 is from small fracture-fillings of native copper in Triassic basalts along beach about 300 feet northwest of the old workings and KQ-70-447 is from similar small fracture-fillings in basalt from the dump of the old workings (small prospect shafts and adits). Although I do not have any specimens I was told that native copper nuggets are quite abundant in beach gravels in the area. Conceivably natives could have collected considerable amounts of copper off the beach.

Native copper has also been reported in Triassic North Mountain basalt farther south along the Bay of Fundy in the Digby area of Nova Scotia but I have not visited any of these localities. Native copper localities in Triassic basalts in the Bay of Fundy region are perhaps the best known in Atlantic Canada. However, native copper probably also occurs in the upper weathered parts of some sulphide deposits.

Some of the main native copper localities in Canada are as follows: Lake Superior region of Ontario; Coppermine River, Bathurst Inlet and Victoria Island areas in the Northwest Territories; Seal Lake area in Labrador; Bay of Fundy area in Nova Scotia; and scattered localities in British Columbia. With the exception of British Columbia, the geology (flood basalt sequences) of all of these localities is rather similar; hence, the trace element contents of the native copper might also be somewhat similar. Moreover, a district such as the Coppermine River area is extremely large and contains innumerable minor copper occurrences of diverse type. Until adequate sampling is done from several districts, we will not know if there is greater variability of trace element contents within districts or between districts.

I hope that these samples and this information is of value to you in your work. I would appreciate copies of any analytical results that you obtain on the specimens and copies of any papers that you might write on the subject.

Yours very truly,

R.V. Kirkham

RVK/mmb

KQ-69-22 - Coppermine River area - 67° 27' 30" 116° 03'
 KQ-69-102 - " " " - 67° 20' 116° 14'
 Saragar Sample - " " " "
 KQ-69-140 - " " " (North of Circle Lake) - prehnite-dalolite vein @
 native Cu

KQ-75-142 - Victoria Island, NWT - 71° 40' 113°
 Ox Group - " " " " " "

KQ-73-2250 - Inuvik River area, Northwest B.C. - see Harper, 1977, CIM Bull. Jan. Taktla Volc.

KQ-73-2250 - Sustat deposit, central B.C. - diss. nat. Cu in Triassic
 see Harper, 1977, CIM Bull. Jan. Taktla Volc.
 56° 30' 126° 41'

KQ-82-36 - Afton Mine, B.C. (few miles west of Kamloops) - supergene
 zone (cc, Cu) after bornite-chalcopyrite in br. in. Triassic
 Bathurst

KQ-75-93B - Porcupine Group - in Triassic Nicola Volcanic rocks
 SE of Merritt, B.C. - see Preto U.A., 1979, Geol. of the Nicola
 Group between Merritt + Princeton B.C.
 Min. Energy, Mines
 & Res. Bulletin
 #69

gan's 1846 #350 sample - Michipicoten Island, Ont.

See also:
 Great Lakes main sampling
 Wapiti area (C. Ind. unit)
 Michipicoten Island area (see also KQ-75-2250)

KQ-70-260 - fracture zone in Nikolai Greenstone - beneath Bonanza Mine (cc in
 chitstone ls (dol)) - Kennecott, Alaska
 - for more native Cu from " area contact: Dr. E.M. Mackevett,
 1230 Bayview Hrs Dr., Los Osos, California 93402

Dr. Franklin, U. of T., might have part of sample TQ-80-8
 from Bathurst Inlet area, NWT (N. side Algak Island - 67° 34' 12"
 + 109° 26' 2") - we probably don't have any more material here