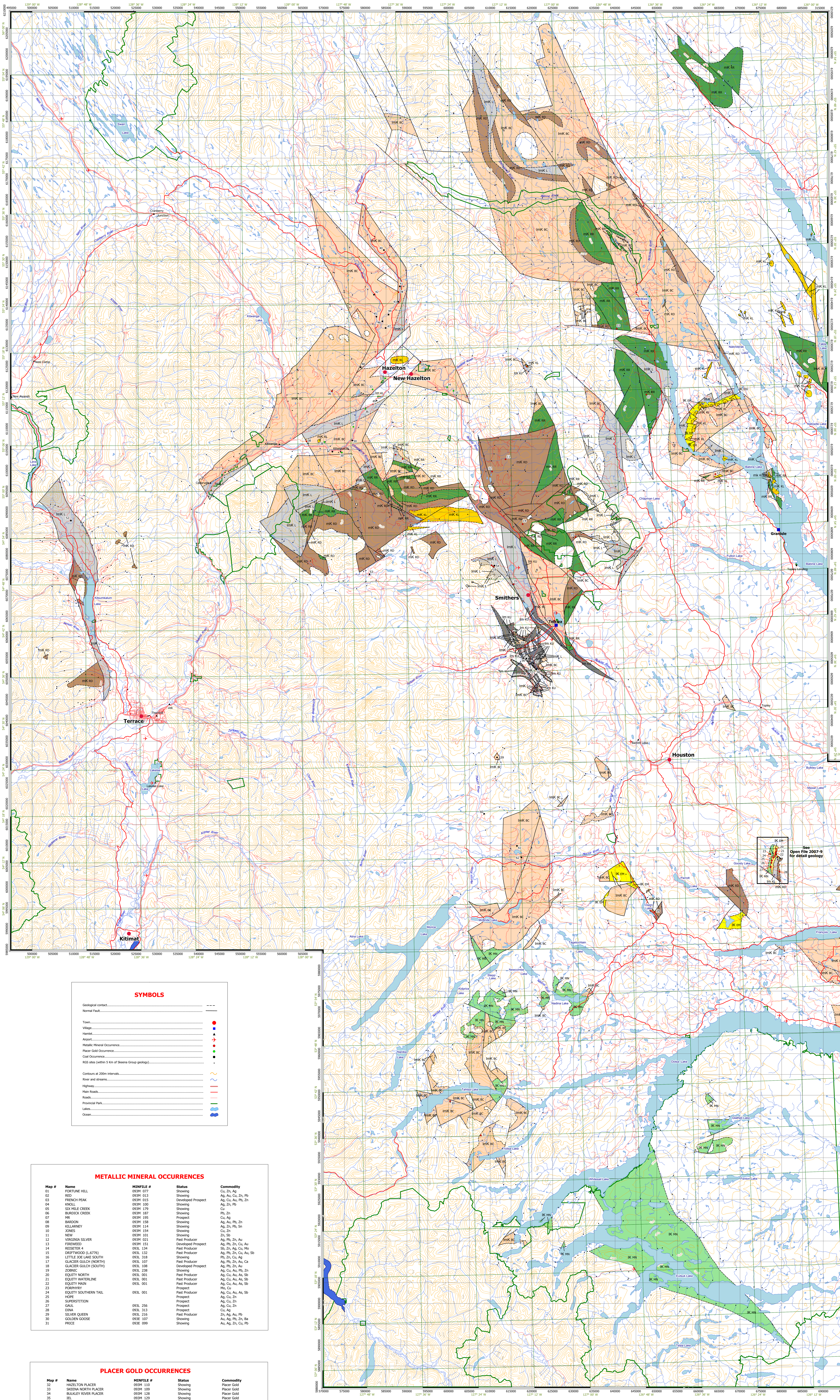


British Columbia Geological Survey

Open File 2007-8

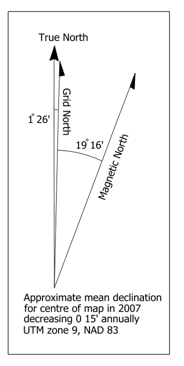
Geology of the Skeena Group, central British Columbia

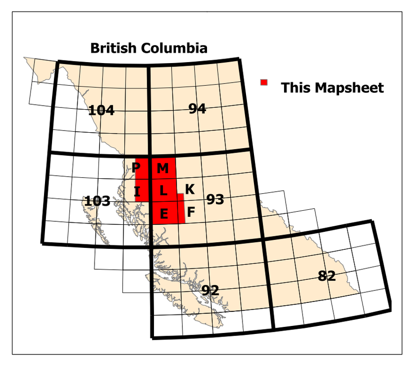
NTS 93 E, F, K, L, M; 103 I, P

Compilation by Dani J. Alldrick

Cartography by Chan-Yi M. Lin

Scale 1:250,000





Legend

SEDIMENTARY ROCKS

Skeena Group

mK RD — Rocher Deboule Formation (Cenomanian to Turonian; 93-90 Ma)
Coarse to fine polymictic to chert-pebble conglomerate. Lesser interbedded sandstone and siltstone. Commonly micaceous.

lmK BC — Bulkley Canyon Formation (Berriasian to Cenomanian; 143-93 Ma)
Shallow water marine to fluvial to deltaic, micaceous sandstone and greywacke. Quartzo-feldspathic and volcanic sandstone, commonly reddish. Typically medium- to thick-bedded. Lesser siltstone, gritty mudstone, dark grey to black shale including local coal seams, polymictic volcaniclastic conglomerate and fine chert-pebble conglomerate. Detrital muscovite common to all units. Fine polymictic conglomerate at unconformity with underlying Bowser Lake Group

lmK U — U1 / U3
Coal-bearing mudstone units in Telkwa coalfields

lmK L — Laventie Formation (Berriasian to Cenomanian; 143-93 Ma)
Black to dark grey marine mudstone and shale, lesser interbedded micaceous siltstone and sandstone. Commonly concretionary and pyritic. Contains sticks, twigs, woody debris. Correlates to deeper water Tango Creek Formation of Bowser Lake Group

VOLCANIC ROCKS

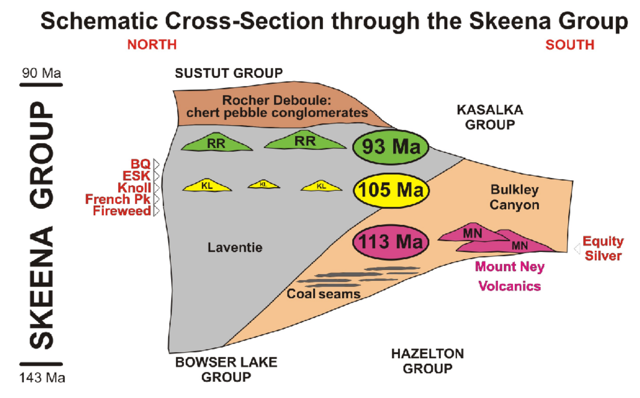
mK RR — Rocky Ridge Volcanics (95.6-93.0 Ma)
Dark green to olive green to grey to rusty brown, subaerial and subaqueous augite- and plagioclase-phyric alkaline basalt to basaltic andesite flows and breccias. Green to maroon to rusty red tuff, lapilli tuff and volcanic breccias. Dark grey aphyric basalt flows. Plagioclase- and hornblende-phyric greenish grey andesite to dacite; minor thin interbedded volcaniclastic sediments include black shale, siltstone, sandstone. Shale contains Albian macrofossils.

mK KL — Kitseguecla Lake Rhyolite (107.9-103.4 Ma)
Flow banded to massive, finely feldspar phyric to aphyric rhyolite to rhyodacite flows. Submarine flows, flow breccias, subvolcanic domes and feeder dikes. Main lithology of Kitseguecla Lake Rhyolites; minor rhyolite units also reported within Mount Ney Volcanics. May grade laterally into sediment-hosted volcanic-clast breccias (Kitsuns Creek Formation).

lK MN — Mount Ney Volcanics
Grey, andesite to basaltic andesite flows. Commonly porphyritic; fine-grained felted plagioclase laths and equigranular pyroxene. Locally amygdaloidal. Generally form massive unstructured outcrops, however, rare pillowed flows indicate submarine deposition. Depositionally underlies sandstone sequences; unconformably overlies Hazelton volcanics with contact marked by a polymictic boulder conglomerate near Sias Mountain and west of Coles Lake.

lK EM — Equity Mine Dacite (113.5 Ma)
Flow banded to massive felsic flows, pyroclastic breccias, lapilli tuff and dust tuff. Ore-hosting unit at Equity Silver mine. Regionally, dacite is a minor component of Mount Ney Volcanics, and rare dacite units are also associated with Kitseguecla Lake Rhyolite. May grade laterally into sediment-hosted volcanic-clast breccias (Kitsuns Creek Formation).

SKEENA GROUP MODEL



RECOMMENDED CITATION

Alldrick, D.J. (2007): Geology of the Skeena Group, central British Columbia (NTS 93E, 93F, 93K, 93L, 93M, 103I, 103P); B.C. Ministry of Energy Mines and Petroleum Resources, Open File 2007-8, scale 1:250,000

SYMBOLS

Geological contact
Normal Fault
Town
Village
Hamlet
Airport
Metallic Mineral Occurrence
Placer Gold Occurrence
Coal Occurrence
RGS sites (within 5 Km of Skeena Group geology)
Contours at 200m intervals
River and streams
Highway
Main Roads
Roads
Provincial Park
Lakes
Ocean

METALLIC MINERAL OCCURRENCES

Map #	Name	MINFILE #	Status	Commodity
01	FORTUNE HILL	093M 077	Showing	Cu, Zn, Ag
02	RED	093M 013	Showing	Ag, Au, Cu, Zn, Pb
03	FRENCH PEAK	093M 015	Developed Prospect	Ag, Cu, Au, Pb, Zn
04	KNOLL	093M 100	Showing	Ag, Zn, Pb
05	SIX MILE CREEK	093M 179	Showing	Cu
06	BURDICK CREEK	093M 187	Showing	Pb, Zn
07	MR	093M 195	Prospect	Cu, Ag
08	BARDON	093M 158	Showing	Ag, Au, Pb, Zn
09	KILLARNEY	093M 114	Showing	Ag, Zn, Pb, Sn
10	JONES	093M 154	Showing	Cu, Zn
11	NEW	093M 101	Showing	Zn, Sb
12	VIRGINIA SILVER	093M 021	Past Producer	Ag, Pb, Zn, Au
13	FIREWEED	093M 151	Developed Prospect	Ag, Pb, Zn, Cu, Au
14	REISETER 4	093L 134	Past Producer	Sb, Zn, Ag, Cu, Mo
15	DRIFTWOOD (L.6776)	093L 132	Past Producer	Ag, Pb, Zn, Cu, Au, Sb
16	LITTLE JOE LAKE SOUTH	093L 318	Showing	Pb, Zn, Cu, Ag
17	GLACIER GULCH (NORTH)	093L 107	Past Producer	Ag, Pb, Zn, Au, Ca
18	GLACIER GULCH (SOUTH)	093L 108	Developed Prospect	Ag, Pb, Zn, Au
19	ZOBNIC	093L 238	Showing	Ag, Cu, Au, Pb, Zn
20	EQUITY NORTH	093L 001	Past Producer	Ag, Cu, Au, As, Sb
21	EQUITY WATERLINE	093L 001	Past Producer	Ag, Cu, Au, As, Sb
22	EQUITY MAIN	093L 001	Past Producer	Ag, Cu, Au, As, Sb
23	PORPHYRY		Prospect	Mo, Cu
24	EQUITY SOUTHERN TAIL	093L 001	Past Producer	Ag, Cu, Au, As, Sb
25	HOPE		Prospect	Ag, Cu, Zn
26	SUPERSTITION		Prospect	Ag, Cu, Zn
27	GAUL	093L 256	Prospect	Ag, Cu, Zn
28	DINA	093L 313	Prospect	Cu, Ag
29	SILVER QUEEN	093L 216	Past Producer	Zn, Ag, Au, Pb
30	GOLDEN GOOSE	093E 107	Showing	Au, Ag, Pb, Zn, Ba
31	PRICE	093E 099	Showing	Au, Ag, Zn, Cu, Pb

PLACER GOLD OCCURRENCES

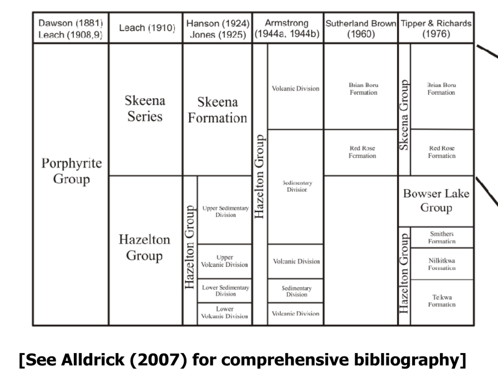
Map #	Name	MINFILE #	Status	Commodity
32	HAZELTON PLACER	093M 110	Showing	Placer Gold
33	SKEENA NORTH PLACER	093M 109	Showing	Placer Gold
34	BULKLEY RIVER PLACER	093M 128	Showing	Placer Gold
35	IEL	093M 129	Showing	Placer Gold
36	CARNABY PLACER	093M 108	Showing	Placer Gold
37	NORTH SKEENA CROSSING PLACER	093M 107	Showing	Placer Gold
38	ANDIMAUL EAST PLACER	093M 105	Showing	Placer Gold
39	SKEENA RIVER PLACER	093M 106	Showing	Placer Gold

COAL OCCURRENCES

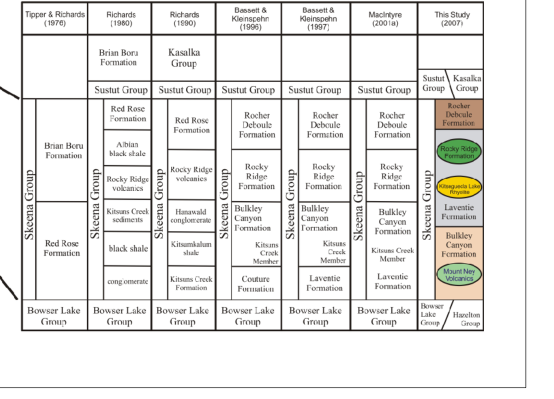
Map #	Name	MINFILE #	Status	Commodity
40	STERITT CREEK COAL	093M 194	Showing	Coal
41	BIG SLIDE	093M 169	Showing	Coal
42	KISPIOX C	093M 168	Showing	Coal
43	SKEENA D	093M 170	Showing	Coal
44	SHEGUNIA	093M 172	Showing	Coal
45	KISPIOX	093M 097	Showing	Coal
46	SKEENA	093M 171	Showing	Coal
47	SHEGUNIA G	093M 173	Showing	Coal
48	CEDAR CREEK	093M 131	Showing	Coal
49	SEELEY LAKE	093M 150	Showing	Coal

EVOLUTION OF STRATIGRAPHY NOMENCLATURE

Development of Regional Stratigraphic Subdivisions and Names



Development of Skeena Group Subdivisions and Names



[See Alldrick (2007) for comprehensive bibliography]

GENERAL REFERENCES

Alldrick, D.J., MacIntyre, D.G. and Villeneuve, M.E. (2007): Geology, mineral deposits and exploration potential of the Skeena Group, Central British Columbia (NTS 93E, 93L, 93M, 103I); B.C. Ministry of Energy Mines and Petroleum Resources, Geological Fieldwork 2006, Paper 2007-1, p. 1- 17

Bassett, K.N. (1995): A basin analysis of the lower to mid-Cretaceous Skeena Group, west-central British Columbia – implications for regional tectonics and terrane accretion; University of Minnesota, unpublished Ph.D. thesis, 413 pages

Church, B.N. and Barakso, J.J. (1990): Geology, lithogeochemistry and mineralization in the Buck Creek area, British Columbia; B.C. Ministry of Energy, Mines and Petroleum Resources, Paper 1990-2, 95 pages

MacIntyre, D.G. (1985): Geology and mineral deposits of the Tahtsa Lake district, west-central British Columbia; B.C. Ministry of Energy Mines and Petroleum Resources, Bulletin 75, 82 pages

MacIntyre, D.G. (2001): The mid-Cretaceous Rocky Ridge Formation – a new target for subaqueous hot-spring deposits (Eskay Creek type) in central British Columbia; B.C. Ministry of Energy Mines and Petroleum Resources, Geological Fieldwork 2000, Paper 2001-1, pages 253-268

MacIntyre, D.G., Villeneuve, M.E. and Alldrick, D.J. (2007): Geochronology of the Rocky Ridge volcanics, Skeena Group, British Columbia; B.C. Ministry of Energy Mines and Petroleum Resources, Geofile 2007-4

Smith, G.T. and Mustard, P.S. (2005): The southern contact of the Bowser Lake and Skeena Groups – unconformity or transition?; B.C. Ministry of Energy Mines and Petroleum Resources, Summary of Activities 2005, pages 152-156

Sutherland Brown, A. (1960): Geology of the Rocher Déboulé range, Hazelton Mountains, British Columbia; B.C. Ministry of Energy Mines and Petroleum Resources, Bulletin 43, 86 pages

Tackaberry, D.M. (1998): Petrography, lithogeochemistry and VMS potential of mid-Cretaceous Rocky Ridge volcanics, Babine Lake area, central British Columbia; unpublished B.Sc. Honours thesis, Earth and Ocean Sciences, University of Victoria, 73 pages

Wetherell, D.G. (1979): Geology and ore genesis of the Sam Goosly copper-silver-antimony deposits, British Columbia; unpublished M.Sc. thesis, University of British Columbia, 208 pages

SOURCE MAPS

Alldrick, D.J. (2007): Geology of the Equity Silver Mine area; B.C. Ministry of Energy, Mines and Petroleum Resources, Open File 2007-9, scale 1:10,000

Bassett, K.N. and Kleinspehn, K.L. (1997): Early to middle Cretaceous paleogeography of north-central British Columbia – stratigraphy and basin analysis of the Skeena Group; Canadian Journal of Earth Sciences, Volume 34, pages 1664-1669

Church, B.N. (1990): Geology of the Buck Creek Tertiary outlier; B.C. Ministry of Energy, Mines and Petroleum Resources, coloured map included in Paper 1990-2, scale 1:100,000

Diakow, L.J. (2006): Geology of the Tahtsa Ranges between Eutsuk Lake and Morice Lake, Whitesail Lake map area, west-central British Columbia; B.C. Ministry of Energy, Mines and Petroleum Resources, Geoscience Map 2006-5, scale 1:150,000

MacIntyre, D.G. (2001): Geological compilation map of the Babine porphyry copper district, central British Columbia (NTS 93L/09,16; 93M/01,02E,07E,08); B.C. Ministry of Energy Mines and Petroleum Resources, Open File 2001-3, scale 1:100,000

MacIntyre, D.G. (2007): Skeena Arch Metallogenic Data and Map (093E, L, M, L; 094D, 103I, 103P); B.C. Ministry of Energy Mines and Petroleum Resources, Geofile 2007-3/Geoscience BC Report 2007-5

Richards, T.A. (1980): Geology of Smithers map area (NTS 93L); Geological Survey of Canada, Open File 351, scale 1:126,720 / 1 inch = 2 miles

Richards, T.A. (1990): Geology of Hazelton map area (NTS 93M); Geological Survey of Canada, Open File 2322, scale 1:250,000

Ryan, B.D. (1993): Geology of the Telkwa coalfield, British Columbia (NTS 93L/11,14); B.C. Ministry of Energy Mines and Petroleum Resources, Open File 1993-21, scale 1:20,000

Tackaberry, D.M. (1998): Petrography, lithogeochemistry and VMS potential of mid-Cretaceous Rocky Ridge volcanics, Babine Lake area, central British Columbia; unpublished B.Sc. thesis, Earth and Ocean Sciences, University of Victoria, 73 pages

Woodsworth, G.J. (1980): Geology of Whitesail Lake map area, British Columbia (NTS 93E); Geological Survey of Canada, Open File 708, scale 1:250,000

Woodsworth, G.J., Hill, M.L. and van der Heyden, P. (1985): Preliminary geologic map of Terrace map area, British Columbia (NTS 103I east half); Geological Survey of Canada, Open File 1136, scale 1:250,000

Wojdak, P.J. and Ethier, D. (2000): Geologic setting of the Knoll property – an Eskay Creek target in Cretaceous rhyolite; BC Ministry of Energy Mines and Petroleum Resources, Exploration and Mining in BC 1999, pages 79-84