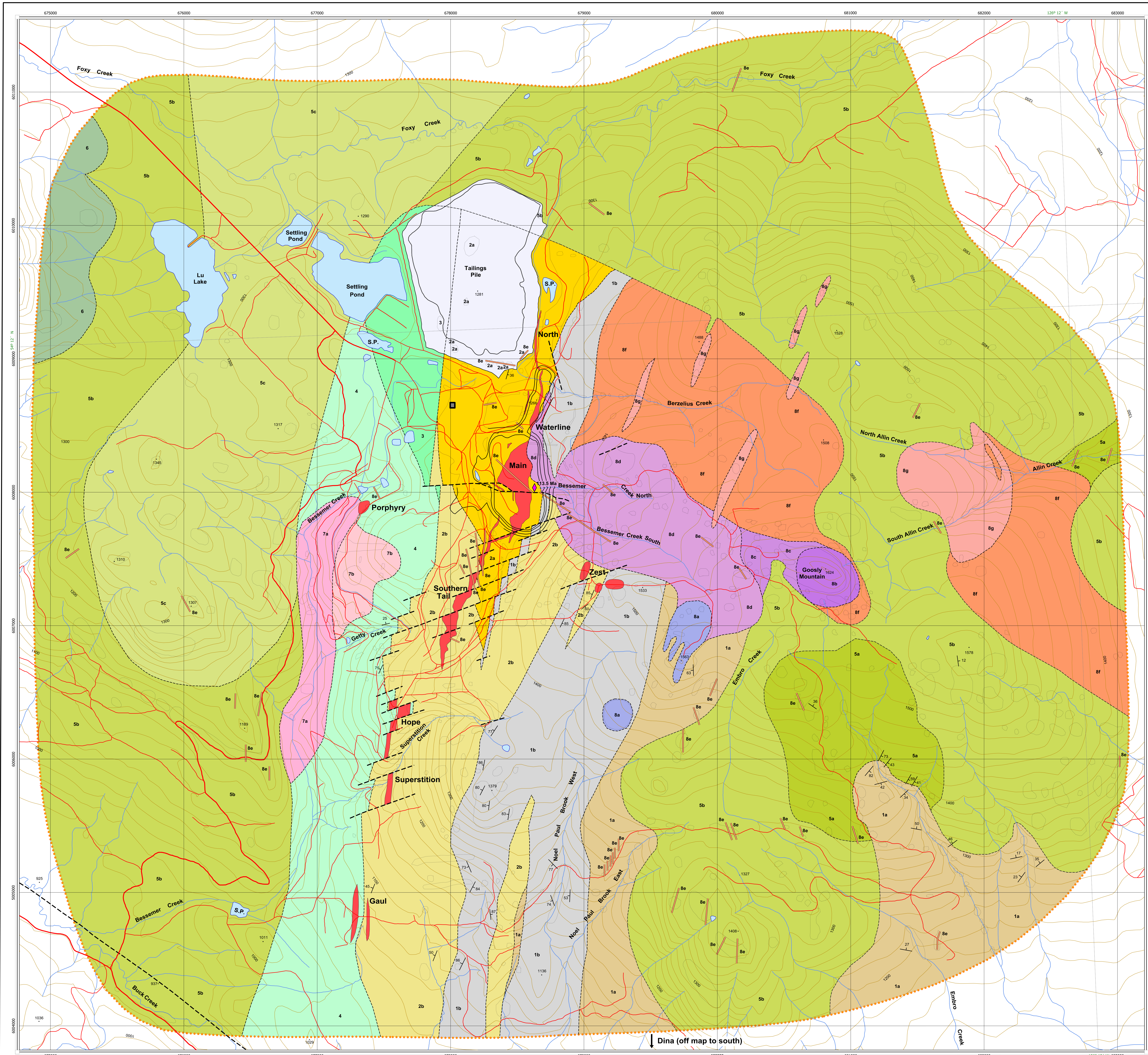




British Columbia
Geological Survey



OPEN FILE 2007- 9

Geology of the Equity Silver Mine area, central British Columbia

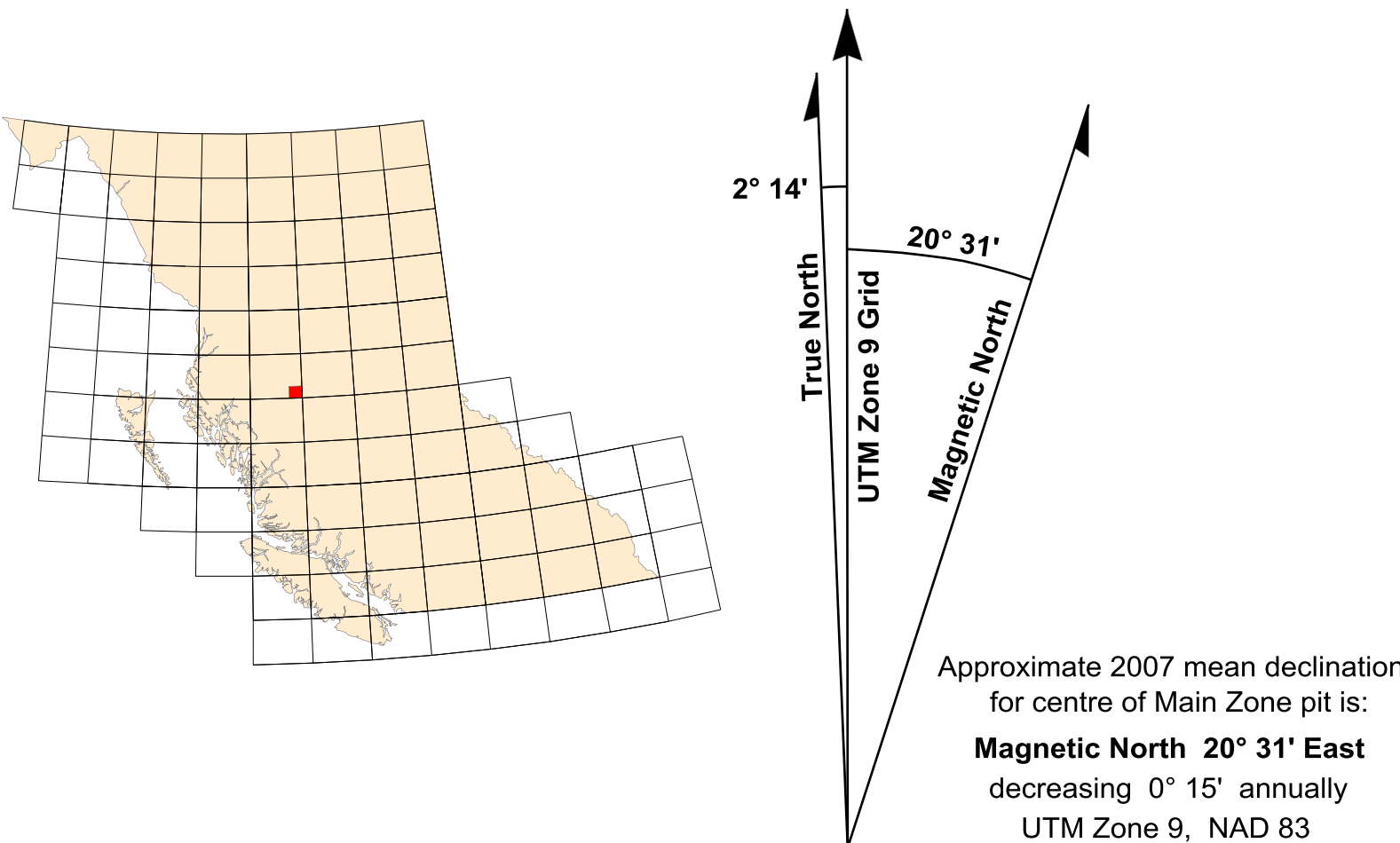
NTS 093L / 01W

Geological Compilation by D.J. Aldrick

Geology by Dani Aldrick, Rob Pease and Andre Panteleyev



Scale 1:10,000



LEGEND

INTRUSIVE ROCKS

TERTIARY MIDDLE EOCENE

GOOSLY INTRUSIVE SUITE

EAST STOCK

Dike and Sill Phases

- 8g** BIOTITE MONZONITE DIKES Equigranular. Large dike-like masses cut earlier intrusive phases and coeval Goosly Lake Volcanics. Characteristic 030° strike.
- 8f** MONZONITE PORPHYRY SILLS Sill complex interlayered with screens of pyritic Goosly Lake Volcanics - may represent the roof zone of the intrusive complex.
- 8e** DIKES AND SILLS Mainly bladed feldspar porphyry; minor andesite. Abundant (>15% by volume) to common (15% by volume) in Skeena Group strata and West Stock. Less common in East Stock; minor in Goosly Lake Volcanics.

Stocks and Plugs

- 8d** MONZONITE Coarse-grained, with trachytic bladed plagioclase phenocrysts. Plagioclase-orthoclase-quartz-hornblende-biotite-magnetite-apatite monzonite.
- 8c** MONZOGABBRO Intermediate phase, transitional between gabbro and monzonite. Plagioclase-orthoclase-augite-hornblende-biotite-quartz-magnetite-apatite.
- 8b** GABBRO Pyroxene-labradorite-biotite-magnetite-apatite gabbro. Coarse-grained, with trachytic bladed plagioclase phenocrysts.
- 8a** DIORITE Plagioclase-hornblende-biotite-magnetite-apatite rock. Coarse-grained, with trachytic bladed plagioclase phenocrysts.

LATE PALEOCENE

NANAI INTRUSIVE SUITE

WEST STOCK

- 7b** ALTERED QUARTZ MONZONITE Pervasive sericitic alteration, with widespread but weak sulphide mineralisation. Cu-Mo mineralisation at north end of intrusion; tetrahedrite veinlets at south end; small lens of Ag-sulphides in central area.
- 7a** QUARTZ MONZONITE Plagioclase-biotite-orthoclase porphyritic. Medium-grained. 57.2 ± 2.3 Ma.

STRATIFIED ROCKS

MIDDLE EOCENE

ENDAKO GROUP

BUCK CREEK VOLCANICS

- 6** BASALT Flows and breccias. Grey to black; plagioclase porphyritic. 47.3 ± 1.6 Ma

LATE PALEOCENE

OOTSA LAKE GROUP

GOOSLY LAKE VOLCANICS

- 5c** AMYGDALOIDAL ANDESITE Reddish purple, weakly trachytic flows. Minor fine plagioclase phenocrysts. Local biotite concentrations; minor apatite.
- 5b** TRACHYANDESITE Dark grey to purplish bladed feldspar porphyry flows. Local vesicles, commonly parallel to flow direction.
- 5a** BASAL BRECCIA Trachyandesite flow breccia

EARLY CRETACEOUS

SKEENA GROUP

Mount Ney Volcanics

Sedimentary-Volcanic Division

- 4** SANDSTONE AND CONGLOMERATE; volcanoclastic, well-bedded, interbedded. Minor intercalated well-bedded waterlain intermediate ash and dust tuff. Conformable, gradational lower contact with Pyroclastic Division.

Volcanic Flow Division

- 3** ANDESITE AND DACITE FLOWS Plagioclase porphyritic. Interlayered with Sedimentary-Volcanic Division along strike; interlayered with Pyroclastic Division near lower contact.

Pyroclastic Division

- 2b** DUST TUFF Distal dacitic dust tuff; minor ash and lapilli tuff. Massive. Local brecciated dust tuff is sulphide-cemented. Lenses of chert pebble conglomerate near base. Interlayered lower contact; gradational upper contact.
- 2a** PYROCLASTIC FLOWS Proximal dacitic, fragment-poor pyroclastic flows, coarse fragment-rich breccias, welded tuff; minor ash tuff. Crude bedding. Lenses and interbeds of volcanic conglomerate and rare volcanic sandstone. Clasts primarily dacite porphyry; minor tuff and chert pebble conglomerate clasts.

Bulkley Canyon Formation

Clastic Division

- 1b** CHERT PEBBLE CONGLOMERATE Conglomerate, sandstone; local thin, laminated lenses of welded felsic tuff. Graded beds. Interlayered lower and upper contacts.
- 1a** POLYMICTIC CONGLOMERATE Conglomerate and sandstone. Graded beds. Interlayered upper contact.

MINERAL OCCURRENCES

NAME	MINFILE	STATUS	COMMODITIES
North Zone	093L 001	Past Producer	Ag, Cu, Au, As, S
Waterline Zone	093L 001	Past Producer	Ag, Cu, Au, As, S
Main Zone	093L 001	Past Producer	Ag, Cu, Au, As, S
Southern Tail Zone	093L 001	Past Producer	Ag, Cu, Au, As, S
Porphyry		Showing	Mo, Cu
Zest		Prospect	Ag, Cu, Zn
Hope		Prospect	Ag, Cu, Zn
Superstition		Prospect	Ag, Cu, Zn
Gaul	093L 256	Prospect	Ag, Cu, Zn
Dina *	093L 313	Prospect	Cu, Ag

* Dina trench is located at UTM E0679630 N6003650, off south edge of map.

COMBINED PRODUCTION

1980-1994 33.8 million tonnes grading 64.9 g/t Ag, 0.4 % Cu, 0.46 g/t Au

GENERAL REFERENCES

Aldrick, D.J., MacIntyre, D.G. and Villeneuve, M.E. (2007): Geology, mineral deposits and exploration potential of the Skeena Group, central British Columbia; BC Ministry of Energy, Mines and Petroleum Resources, Geological Fieldwork, Paper 2007-1, p.1-17
Aldrick, D.J. (2007b): Geology of the Skeena Group; BC Ministry of Energy, Mines and Petroleum Resources, Open File 2007-8, scale 1:250,000
Church, B.N. and Barakso, J.J. (1990): Geology, lithochemistry and mineralization in the Buck Creek area, British Columbia; B.C. Ministry of Energy, Mines and Petroleum Resources, Paper 1990-2, 95 p.
Church, B.N. and Klein, G.H. (1988): The Allin property and Equity-type mineralization, central British Columbia; B.C. Ministry of Energy, Mines and Petroleum Resources, Geological Fieldwork 1987, Paper 1988-1, p.23-1 to 23-10
Cyr, J.B., Pease, R.B., Schroeter, T. (1984): Geology and mineralization at Equity Silver mine; Economic Geology, v.79, p.947-968
Fingler, J. (2004): Report on the 2004 diamond drilling program - Silver Hope property, B.C. Ministry of Energy Mines and Petroleum Resources, Assessment Report 27 962, 316 p.
Wojdak, P.J. and Sinclair, A.J. (1984): Equity Silver silver-copper-gold deposit - alteration and fluid inclusion studies; Economic Geology, v.79, p.969-990

SOURCE MAPS

Fingler, J. (2005): Surface Geology Map - Silver Hope Project; unpublished geology map, Canadian Empire Exploration Corp., in BCMEMPR Assessment Report No. 27862, scale 1:10,000
Panteleyev, A. (1972): Sam Goosly Property Geology; unpublished geology map, Kenco Explorations Ltd., scale 1:12,000
Pease, R.B. (1984): Bedrock geology of Equity Silver mine; unpublished geology map, Equity Silver Mines Ltd., scale 1: 5,000
Pease, R.B. (1984): Geologic Setting of the Equity Silver mine; Figure 4 in Geology and mineralization at Equity Silver Mine, Economic Geology, v. 79, 1984, p. 947-968, scale 1:100,000
Scott, G.H. (1980): Reconnaissance geology and claim map - Goosly Project; unpublished geology map, Mutual Resources Ltd., in BCMEMPR Assessment Report No. 9075, scale 1:10,000
Wojdak, P.J. (1984): Equity Silver geology and alteration; Figure 3 in Equity Silver Silver-copper-gold deposit - alteration and fluid inclusion studies, Economic Geology, v. 79, 1984, p. 969-990, scale 1:40,000

RECOMMENDED CITATION

Aldrick, D.J. (2007): Geology of the Equity Silver Mine area, central British Columbia (NTS 093L / 01W); BC Ministry of Energy, Mines and Petroleum Resources, Open File 2007-8, scale 1:10,000

SYMBOLS

Geological contact	-----
Normal fault	-----
Bedding (inclined, vertical)	-----
Limit of mapping	-----
Pit outline - Main Zone	-----
Mine building	-----
Mineral occurrence	-----
Geochronology sample site	-----
Contour lines at 20-metre intervals	-----
Outcrop outline	-----
Rivers and streams	-----
Main roads	-----
Other roads	-----
Lakes and ponds	-----