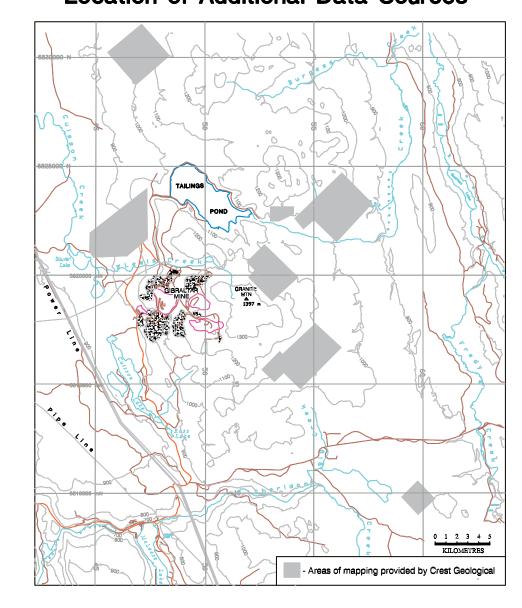


Location of Additional Data Sources



MINERAL OCCURRENCES (MINER E)

INERAL OCCURRENCES (MINFILE)			
Minfile No.	. Name	Status	Commodities
093B 002	Keevil	Showing	Cu, Mo
093B 003	Gunn	Developed Prospect	Cu, Mo
093B 004	Iron Moutain	Showing	Cu, Fe, Ma, Mo
093B 005	Manderfield	Showing	Cu
093B 006	Pollyanna (Gibraltar)	Producer	Cu, Mo, Ag, Au
093B 007	Gibraltar West	Past Producer	Cu, Mo, Ag, Au
093B 008	Conway	Showing	Cu
093B 009	BJ	Showing	Cu
093B 011	Gibraltar North	Developed Prospect	Cu, Au, Ag, Zn, Mo
093B 012	Gibraltar East	Producer	Cu, Mo, Ag, Au
093B 013	Granite Lake (Gibraltar)	Past Producer	Cu, Mo, Ag
093B 014	MM	Showing	Cu
093B 015	G	Showing	Cu, Mo
093B 016	Acadian	Showing	Cu
093B 017	GR	Showing	Cu, Mo
093B 019	Barb	Showing	Cu
093B 020	Axel	Showing	Cu
093B 026	Jan	Showing	Cu, Mo
093B 028	Ha	Showing	Cu, Mo
093B 050	McLeese	Showing	Cu
093B 051	Cole	Developed Prospect	Cu, Mo
093B 052	Mad	Showing	Cu, Mo
093B 058	Bud 7	Showing	Cu. Mo

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CARTOGRAPHIC INFORMATION

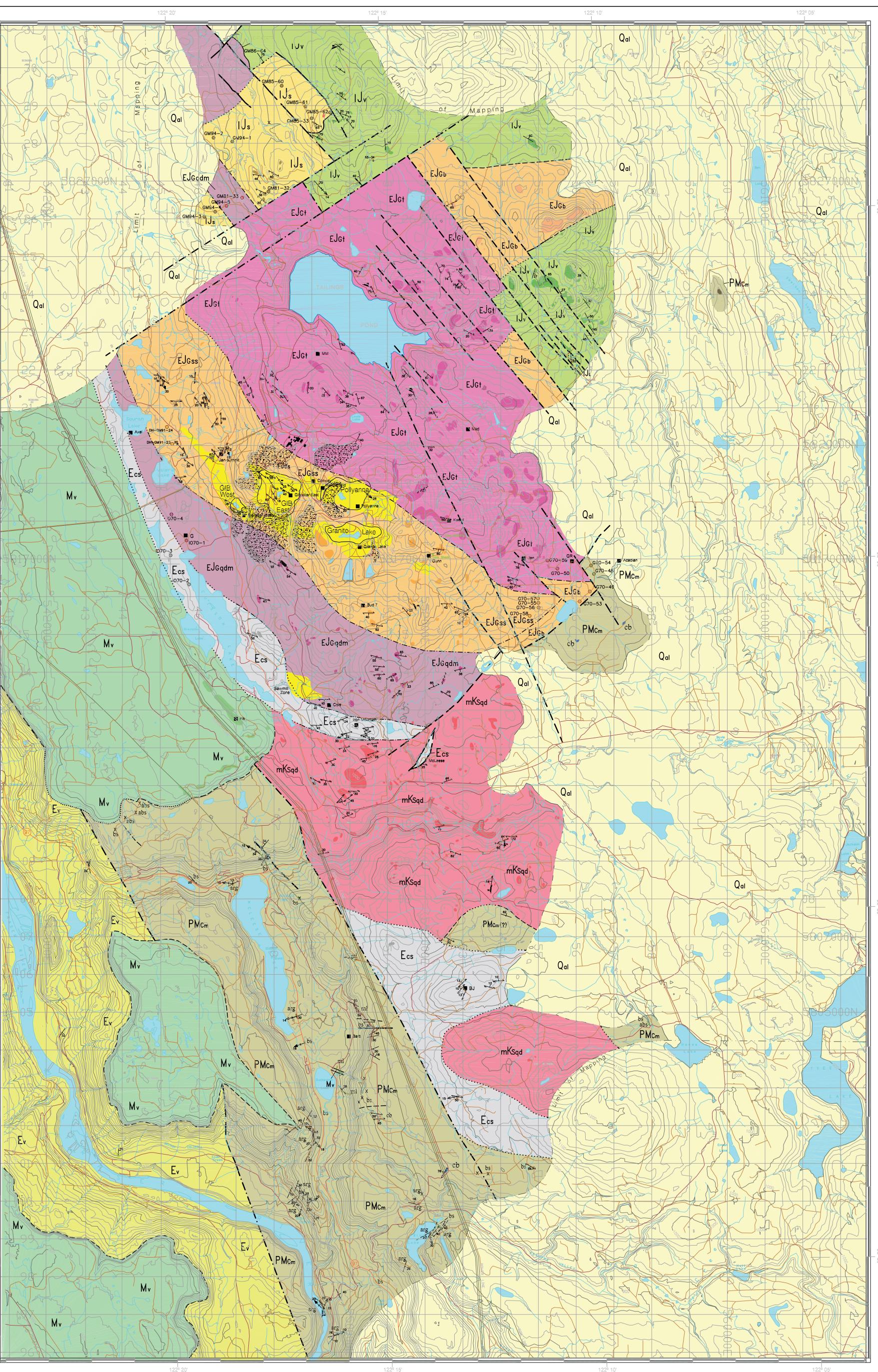
North American Datum 1983, UTM Zone 10; Transverse Mercator Projection. Topographic base modified from TRIM 1:20 000 digital data; contour interval, 20 metres.

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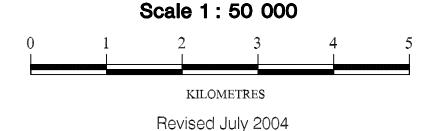
Geological Survey & Development Branch

OPEN FILE 1999-7

GEOLOGY OF THE GIBRALTAR MINE AREA

NTS 93B/8 & 9

By C.H. Ash, A. Panteleyev, K.L. MacLennan, C.W. Payne and M.O. Rydman



LAYERED ROCKS

QUATERNARY

Unconsolidated glacial till and poorly sorted alluvium.

Endako Group

MIOCENE

Plateau basalts: olivine phyric, dark-grey to black, vessicular, massive flows and

loose tephra; flat-lying.

EOCENE

Mafic volcanic rocks: dark-grey to black, pyroxene microphyric; interbedded massive flows and lapilli tuff breccia; volcanic beds moderately to steeply inclined and locally warped; exposures well fractured.

VOLCANIC ARC ROCKS

Nicola-Takla Group

LATE TRIASSIC - EARLY JURASSIC

Intermediate volcanic rocks: andesitic to dacitic volcaniclastics, lapilli ash tuff and ash tuff. Interbeds of limestone and tuffaceous limey mudstone locally common. Lapilli of igneous hypabyssal phase of Granite Mountain Batholith common.

Limestone: light to dull grey, massive to locally bedded, medium-grained,

Volanic sandstone-siltstone: tan brown, fine to medium-grained, typically massive

with occasional bedded intervals of dark-grey to black siltstone/mudstone.

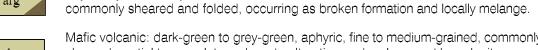
OCEANIC ROCKS

Cache Creek Assemblage

LATE PALEOZOIC - EARLY MESOZOIC (?)

Melange: incoherent, graphitic argillite with angular to sub-angular blocks from less than

a metre to several tens of metres in size that include basalt, ankerite altered basalt, limestone, bedded chert; argillite and chert. Outcrops of melange designated ml. Argillite, graphitic argillite, chert and ribboned chert: dark-brown to black, well bedded,



Mafic volcanic: dark-green to grey-green, aphyric, fine to medium-grained, commonly sheared; partial to complete carbonate alteration and replacement by ankerite common; designated as, 'abs' where ankerite altered.



Limestone, dolostone: grey, pale grey to buff white, massive to strongly foliated and

EOCENE?



Chlorite-sericite-quartz-feldspar schist: pale to dark-grey, medium-grained, well banded, locally crenulated; veins of quartz, dolomite, epidote and quartz-chlorite common throughout; schists commonly contain zones or trains of augened, milled and foliated granodiorite; presence of relatively mafic, hornblende-rich diorite suggests the protholith was a mafic rich phase of the pluton; trace disseminated garnet locally present.

INTRUSIVE ROCKS

METAMORPHIC ROCKS

Sheridan Stock

mid CRETACEOUS (ca. 108 Ma)

Quartz diorite: buff-white, leucocratic, equigranular, massive to moderately foliated; 5 to 15%, variably chlorite and epidote-altered mafics, including homblende with lesser biotite; quartz on average from 10 to 15%; includes minor diorite and tonalite; localized intensely foliated zones with development of quartz-chlorite-sericite schist.

Granite Mountain Batholith

LATE TRIASSIC (ca. 215 Ma)

Quartz diorite - tonalite border phase: typically massive, undeformed and texturally variable ranging from fine-grained to fine-grained porphyritic to coarse-grained varieties;

xenoliths of epidote-altered volcanics as well as cognate xenoliths of fine-grained porphyritic quartz diorite common. Tonalite: leucocratic, buff-white, coarse-grained, equigranular to very coarse-grained,

quartz porphyritic; quartz from 35 to 65%, ranging from 3 to 4 mm up to 1 cm; moderate to intense foliation fabric common, localized shear zones developed; 5-15% pistacio-green epidote, 5-15% chlorite (AKA, Granite Mountain Phase). Variably sericite altered, foliated and sheared quartz diorite and tonalite: pale grey to



buff-white, coarse-grained; anastomosing shear zones of quartz sericite-chlorite schist from several metres to several tens of metres characterized by augen and flaser structures; well developed S2 schistosity cleavage common (AKA, Mine Phase).



Quartz diorite: coarse-grained, light to dark-grey to buff-white, relatively melanocratic with 20 to 25% chlorite, moderately to intensely foliated; quartz on average from 10 to 20%, locally greater than 20%.

ALTERATION AND MINERALIZATION

Zone of quartz sheeted and stockwork Cu-Mo veins and veinlets (ca. 215 Ma) cut by younger (ca. 50 Ma) pervasive sericite-quartz-chlorite altered, ore-grade shear zones (0.20 to > 0.30% Cu)

