British Columbia Geological Survey

OPEN FILE 2000-28

Geology of the Anyox Mining Camp

NTS 103 P 5/W, 12/W

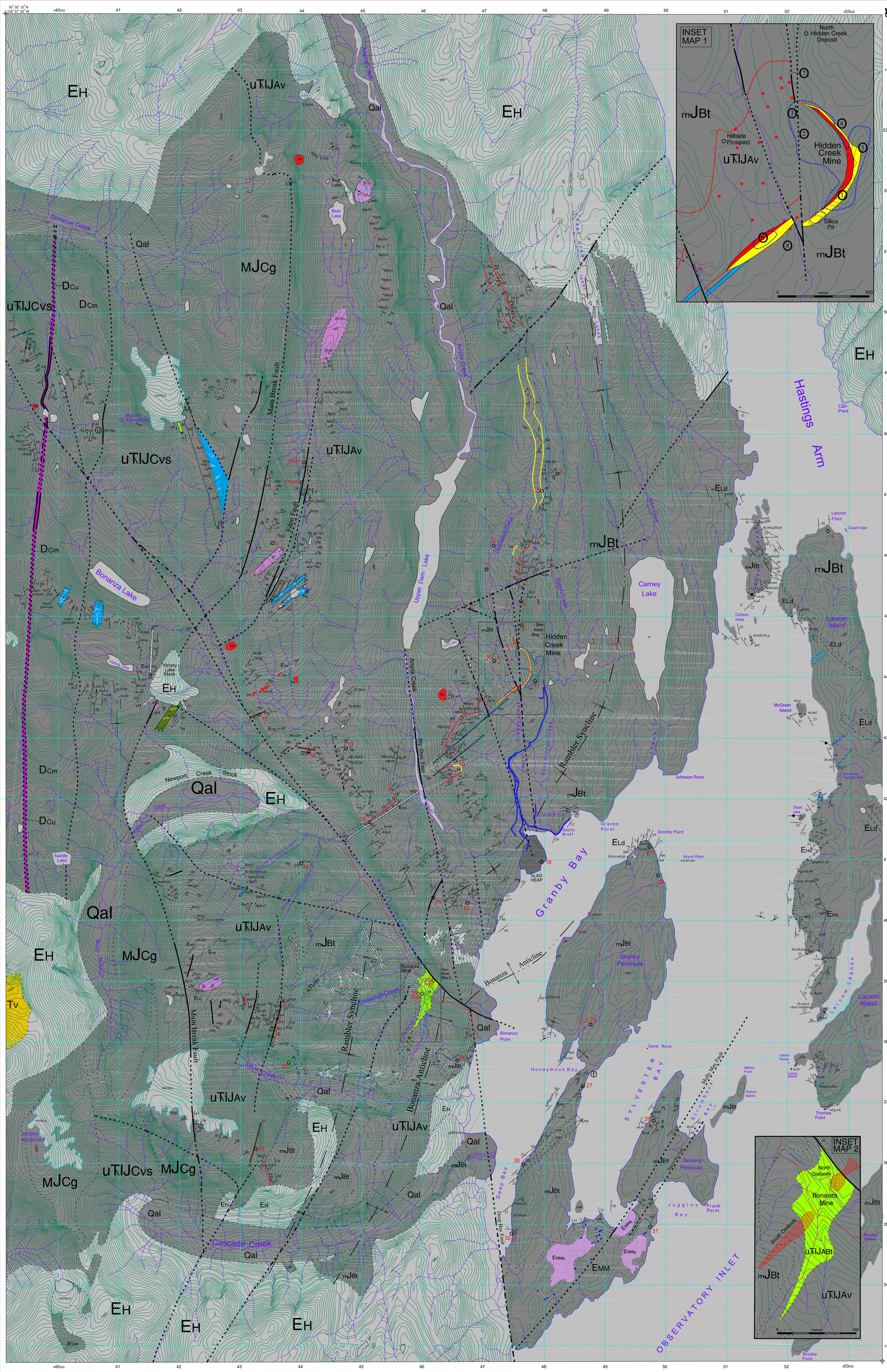
Compilation by D.J. Alldrick

Geology by: D.J. Alldrick, E. Hanson, M.S. Mawani, P. Mugridge, L.D. Snyder, C. Evenchick, E.W. Grove, D. Rhodes, B. Ryan and R. Wares

Digital file last updated April 17, 2000

Scale 1:20 000

Kilometres: 0 1 2



LEGEND

LAYERED ROCKS

QUATERNARY

Qal — Glacial till, alluvium, colluvium.

TERTIARY

Tv — Volcanic breccia and flows, volcanic- and granite-pebble to cobble conglomerate

MESOZOIC

MIDDLE TO UPPER JURASSIC

BOWSER LAKE GROUP

mJBt — Siltstone (**st**), mudstone (**md**), shale (**sh**), fine and medium grained sandstone (**fsd,msd**) with rare ripple marks (**rm**), graded beds (**grb**) and cross-beds (**xb**). Minor coarse grained sandstone (**csd**), wacke (**wk**) and fine pebble conglomerate (**pcgl**). Turbidites (**tbd**). Local disseminated pyrite (**py**) and pyritic laminations (**pyln**). Local calcite-cemented sandstone (**lsd**), sandy limestone (**slst**) and limy concretions (**lc**). One fossil site (f). Biotite hornfels (**bh**) developed adjacent to intrusions.

UPPER TRIASSIC TO LOWER JURASSIC

HAZELTON GROUP

ANYOX FORMATION

uTlJAv — Pillow basalt flows (**Bp**), pillow breccias (**Bpbx**), massive basalt flows (**Bf**). Minor tuffaceous beds (**tBt**) and metamorphic equivalent chlorite schist (**cs**) and biotite schist (**bs**). Minor sedimentary members, including turbidite (**tbd**), sandstone (**sd**), siltstone (**st**), mudstone (**md**) and chert (**cht**). Minor sills of fine to coarse grained diorite (**tdr**), gabbro (**tgb**) and pyroxenite (**pxnt**). Thin mafic dikes (**Bd**). *See also* uTlJCvs *in Clashmore Complex.*

INTRUSIVE ROCKS

TERTIARY

EOCENE

COAST PLUTONIC COMPLEX

HYDER DIKES

EHd — Dikes: Granodiorite (**gdd**), diorite (**drd**), felsite (**fd**), porphyritic syenite (**fsyd**), pyroxene-feldspar porphyry (**pyxfd**), lamprophyre (**lpd**). Aphyric andesite (**Ad**) and basalt (**Bd**). Flow-banded (**flbd**).

LARCOM DIKE SWARM

ELd — Fine to medium grained, equigranular (**gdd**) to feldspar porphyritic (**fgdd**) granodiorite dikes. Also felsite (**fd**) and lamprophyre (**lpd**).

HYDER PLUTON

EH — Medium grained biotite +/- hornblende quartz monzonite, granodiorite and granite. Local potassium feldspar megacrysts.

MOLY MAY STOCK

EMM — Garnet +/- muscovite granite. **EMMq** — quartz stockwork.

MIDDLE JURASSIC

See **MJCg** *in Clashmore Metamorphic Complex.*

LATE DEVONIAN

See **DCm** *in Clashmore Metamorphic Complex.*

METAMORPHIC ROCKS

DEVONIAN TO JURASSIC

EARLY TO MIDDLE JURASSIC

CLASHMORE METAMORPHIC COMPLEX

MJCg — Brecciated granite (**grbx**) to granodiorite (**gdbx**). Fault-bounded contacts. Crackle to mosaic to open framework breccia; cataclastic fabric. Biotite granite (ca. **177 Ma**; Evenchick *et al.*, 1997). Includes lenses of mafic metavolcanic rock (uTlJCvs) and lenses of volcanic breccia, sedimentary rocks (**s**), gabbro (**gb**) and felsic plutonic rock; age and correlation uncertain.

uTlJCvs — Extensive complex of metavolcanic, metasedimentary and metaplutonic rocks. Age uncertain, may be correlatives of Anyox Formation. Mafic flows (**Bf**), pillow basalt (**Bp**), pillow breccia (**Bpbx**), volcanic breccia (**vbx**), chlorite schist (**cs**), sandstone (**msd**), siltstone (**mst**), grit (**mg**), conglomerate (**mcgl**) and mafic intrusive rocks (**mdr**). Marble crops out west of map area.

DEVONIAN

CLASHMORE METAMORPHIC COMPLEX

DCu — Ultramafic rock (talc). Fine rhythmic laminations (tectonic ?); commonly brecciated. Protolith is likely Devonian; age of deformation uncertain.

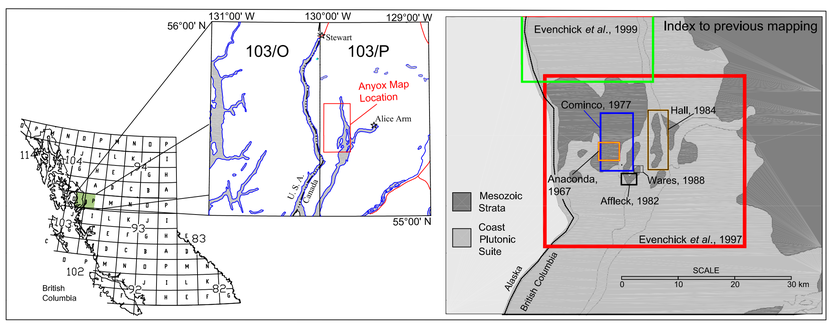
DCm — Mafic intrusive rocks. Diorite (**dr**) to gabbro (**gb**). Massive to gneissic (**gn**); locally mylonitic. U-Pb age **364 +/- 4 Ma** (Macdonald *et al.*, 1996).

SYMBOLS

- Geological contact — Defined
- Approximate or compiled from sources in reference list
- Inferred
- Fault (defined, approximate)
- Bedding (inclined, vertical, overturned)
- Foliation (inclined, vertical)
- Cleavage (inclined, vertical)
- Axial trace of upright anticline, syncline
- Fold axis of minor fold
- Fossil locality
- Isotopic age site (U-Pb)
- Station location
- Outcrop area; outcrop displaying geological contact
- Orebody; Hidden Creek Mine (Inset 1)
- Open pit outline; Hidden Creek Mine (Inset 1)
- Chert; Hidden Creek Mine (Inset 1)
- Sulphide horizon; Hidden Creek Mine (Inset 1)
- Orebody projected to surface; Bonanza Mine (Inset 2)
- lim — Limonite
- 28 — Mineral occurrence and number
- Minor mineral occurrence (copper)
- Minor mineral occurrence (molybdenum)
- Quartz vein prospect (from Falconer, 1919)
- Surface work (adit, trench)
- Chert
- Siliceous pyritic contact zone
- Railway bed
- Road
- Slag heap

ABBREVIATIONS

A	- andesite
At	- andesite tuff
Ad	- andesite dike
apl	- aplite dike
ark	- arkose
B	- basalt
Bt	- basalt tuff
Bf	- basalt flow
Bp	- pillow basalt
Bpbx	- pillow breccia
Bd	- mafic dike
Bd (pyx,f)	- mafic dike, pyroxene and feldspar porphyritic
bh	- biotite hornfels
bo	- biotite
bs	- biotite schist; basaltic metatuff
bx	- breccia
c	- coarse grained
cgl	- conglomerate
cht	- chert
cnc	- concretion
csd	- coarse sandstone
cpy	- chalcopyrite
d	- dike
D	- Dacite
dr	- diorite
drd	- diorite dike
Dt	- Dacite tuff
ept	- epidote
f	- feldspar
fd	- felsite dike
flbd	- flow-banded
fsd	- fine sandstone
g	- grit
gb	- gabbro
gd	- granodiorite
gdbx	- granodiorite breccia
gdd	- granodiorite dike
gdd(f)	- granodiorite dike, feldspar porphyritic
gn	- gneiss, gneissic
gr	- granite
grbx	- granite breccia
gs	- gossan
h	- hornblende
hbt	- hornblendite
(k)	- potassium feldspar phenocrysts
(K)	- potassium feldspar megacrysts
lpd	- lamprophyre dike
lsd	- limy sandstone
lst	- limestone
m	- medium grained
Mcgl	- metaconglomerate
md	- mudstone
msd	- medium sandstone
Mv	- metavolcanic
p	- plagioclase
po	- pyrrhotite
py	- pyrite
px	- pyroxene
pyln	- pyritic lamination
pxnt	- pyroxenite
qcv	- quartz-carbonate vein
qv	- quartz vein
s	- sedimentary rocks



REFERENCES

Affleck, J., (1982) Geology of the Moly May Stock; Enfield Resources Inc., Unpublished geological map, scale 1:5,000.

Alldrick, D.J., Mawani, Z.M.S., Mortensen, J.K. and Childe, F. (1996): Mineral Deposit Studies in the Stewart District; in Exploration in British Columbia 1995, Part B, B.C. Ministry of Employment and Investment, p. 89-109.

Evenchick, C.A., McNicoll, V.J., Holm, K., Alldrick, D.J., and Snyder, L.D. (1997): Geology, Anyox Pendant and surrounding areas, Observatory Inlet (103P/5), and parts of Hastings Arm (103P/12 and 103O/9) map areas, British Columbia; Geological Survey of Canada Open File 3453, scale 1:50,000.

Evenchick, C.A., Snyder, L.D. and McNicoll, V.J. (1999): Geology of Hastings Arm West Half (103P/12W) and parts of 103P/13, 103O/9 and 103O/16, British Columbia; Geological Survey of Canada, Open File 2996, scale 1:50,000.

Falconer, F.S. (1919): Anyox area; Canada Department of Mines, Topographic map, 1:12,000 scale.

Grove, E.W. (1986); Geology and Mineral Deposits of the Unuk River-Salmon River-Anyox Area; British Columbia Ministry of Energy, Mines and Petroleum Resources, Bulletin 63, 152 p.

Hall, B.V. (1984): Larcom Island Geology; Colony Pacific Explorations Ltd., Unpublished geological map, scale 1:10,000.

Ryan, B. and Lindberg, P. (1967): Geology of the Bonanza Creek area, Anaconda Ltd., Unpublished geological map, scale 1:7,800.

MacDonald, R.W.J., Barrett, T.J., and Sherlock, R.L. (1996): Geology and Lithogeochemistry of the Hidden Creek Deposit, Anyox, West-Central British Columbia; Exploration Mining Geology, v. 5, p. 311-314.

Rhodes, D. (1987): Anyox Geology; Cominco Exploration Ltd., Unpublished geological map, scale 1:12,000.

Wares, R. (1988): Geological Report on the Goldkeish Claim Group; B.C. Ministry of Energy and Mines, Assessment Report No. 18127, 13 p.

Mineral Occurrences

MAP NUMBER	NAME	COMMODITIES	STATUS	MINFILE NUMBER
1	Eden	Cu Zn	Deposit	103P 026
2	Arcadia	Si Ag Au	Showing	
3	XLR8	Si Ag Au	Showing	
4	Larcom Island	Si Ag Au	Past Producer	103P 227
5	Snyder	Si Ag Au	Showing	103P 256
10	Hillside	Cu	Showing	103P 222
9	North Hidden Creek	Cu Au Ag Co Zn	Deposit	103P 071
8	Quartz	Cu Ag Au Pb Zn	Prospect	103P 162
7	Deadwood	Cu	Showing	103P 243
6	Emma	Cu	Showing	103P 243
17	Reserve	Si Au Ag Pb Cu Zn	Past Producer	103P 252
16	CO	Si Fe	Showing	103P 241
15	Cedar	Si Ag Au	Showing	
14	Lookout	Si Fe	Showing	103P 255
13	Rainy	Cu Zn Ag Au	Showing	103P 254
12	Aplite	Cu Au Ag Zn Pb	Showing	103P 253
19	Double Ed	Cu Zn	Deposit	103P 025
18	Anyox slag heap	Si Zn	Producer	103P 257
25	Redwing	Cu Ag Au Zn	Deposit	103P 024
24	Black Bear	Cu Mo	Showing	103P 031
23	Bonanza	Cu Ag Au Zn	Past Producer	103P 023
22	Homestake	Si Au Ag	Showing	103P 204
21	Goldkeish	Si Au Ag Zn Pb	Past Producer	103P 045
27	Gold Leaf	Au Ag Zn Pb	Prospect	103P 028
26	Nabob	Si Ag Au	Showing	
29	Quartz Mountain	Si Au	Showing	
30	Groundhog	Si Au Ag Pb	Past Producer	103P 046
31	Moly Mack	Mo Ag Au	Prospect	103P 228
32	May-Beatrice	Si Au Zn Pb Cu	Past Producer	103P 027

Alldrick, D.J. (2000): Geology of the Anyox Mining Camp, British Columbia (103P) British Columbia Ministry of Energy and Mines, Open File Map **2000-28**, 1:20,000 scale