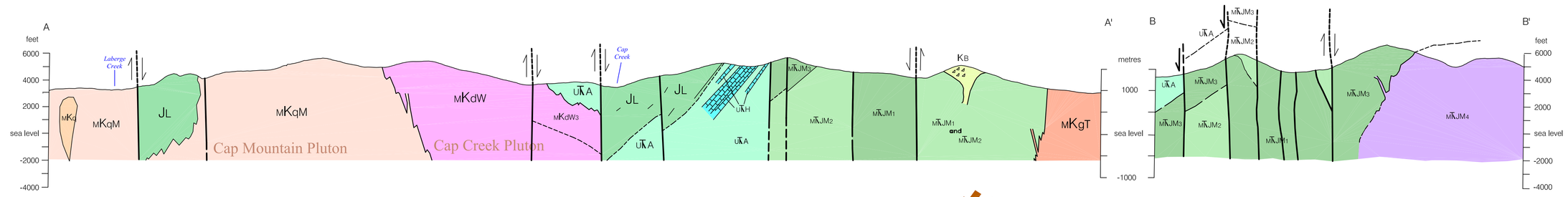
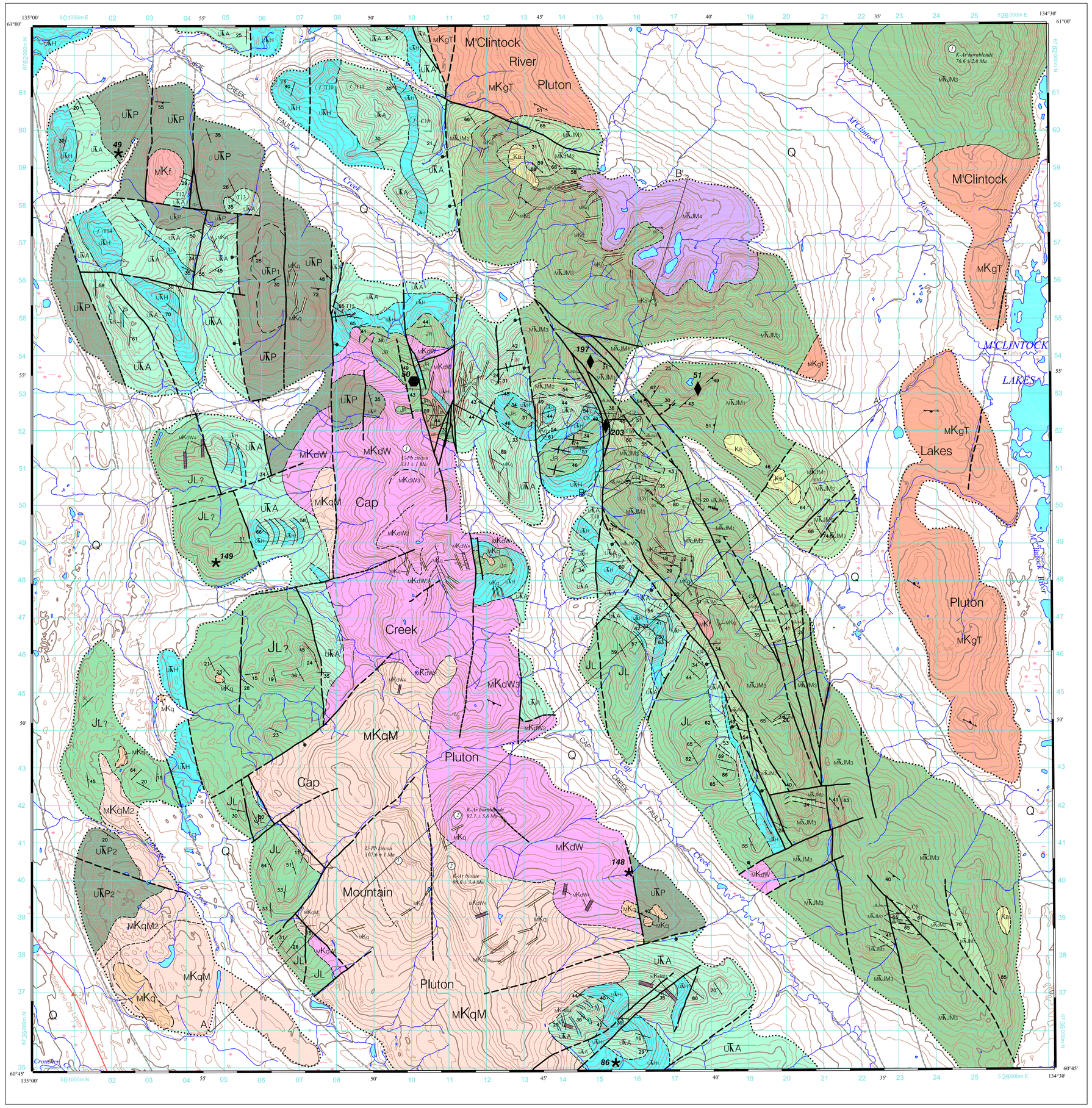


YUKON GEOLOGICAL SURVEY

Yukon Energy, Mines and Resources



LEGEND

QUATERNARY

Q — Unconsolidated silt, sand and gravel of glacial, fluvial and lacustrine origins.

CRETACEOUS
MIDDLE CRETACEOUS

BYNG CREEK VOLCANICS (circa 109 Ma)

KB — Light-weathering, black to light orange, quartz-eye rhyolite and dacite flows, tuffs, breccias and assorted fragmental volcanic rocks with tourmaline breccia. Related to Byng Creek volcanics on 105 D/16.

MKf — Light-weathering, light grey, feldspar-hornblende-quartz-phyric, siliceous felsite dykes and plugs.

MOUNT McINTYRE PLUTONIC SUITE (109 Ma)

MKqM — Cap Mountain Pluton: light pink- to orange-weathering, pink, medium- to coarse-grained hornblende-biotite quartz monzonite, granite and quartz syenite containing numerous small, mafic xenoliths and clots.

MKqM1 — Pink granophyric quartz monzonite is characterized by coarse-grained plagioclase, hornblende and quartz phenocrysts set in a fine-grained, sucrosic, pink potassium feldspar and quartz matrix.

MKqM2 — Dark grey-weathering, dark pink, hornblende monzonite and syenite with dark pink groundmass and chloritic hornblende phenocrysts. Epidote and chlorite alteration is common.

MKq — Light-weathering, white, pink or light orange rhyolite, alaskite quartz-feldspar porphyry plugs and dykes. Light-weathering, white and light grey, flow-banded rhyolite.

WHITEHORSE PLUTONIC SUITE (111 Ma)

MKdW — Cap Creek Pluton: medium grey-weathering, medium-grained, equi-granular, biotite hornblende granodiorite.

MKdW1 — Dark-weathering, fine-grained, biotite or hornblende-rich quartz diorite and diorite.

MKdW2 — Medium-grained, white-weathering, propylitically altered biotite and hornblende, leucocratic granodiorite.

MKdW3 — Dark, blocky weathering, coarse-grained, hornblende diorite .

MKdW4 — Andesite and feldspar porphyry dykes assumed to be genetically related to the Cap Creek Pluton

TESLIN PLUTONIC SUITE (ca. 120 Ma)

MKgT — M'Clintock Granodiorite: white- to pale grey-weathering, recessive, leucocratic, coarse-grained equigranular biotite-hornblende granodiorite locally with sparse grey and pink potassium feldspar phenocrysts.

JURASSIC
LOWER TO MIDDLE JURASSIC

LABERGE GROUP

JL — Brown- to tan-weathering, recessive, sedimentary rocks including siltstone, sandstone, greywacke, interbedded silt and sandstone couplets, and hornfels with rare, usually solitary, conglomerate and limestone beds. Similar to and may include UKA.

RICHTHOFEN FORMATION

JR — Dark-weathering, massive to finely laminated, black mudstone, limy mudstone mudstone and hornfels, locally with wispy brown laminae or limestone horizons. Depositionally on top of uppermost Lewes River Group limestone Lower part of this unit is flaggy and limy.

TRIASSIC
LATE TRIASSIC

LEWES RIVER GROUP

AKSALA FORMATION

UKA — Undifferentiated sedimentary rocks including in decreasing abundance: limy siltstone, siltstone, shale, sandstone, conglomerate, hornfels and diamictite all locally with limestone. Very difficult to distinguish from, and may include Laberge Group.

UKH — Hancock Member: white-weathering, resistant, massive to poorly bedded, biodastic and micritic limestone, marble and skarn; and recessive, flaggy, dark grey limestone and sandy limestone.

UKH1 — Massive to poorly bedded, limestone conglomerate and breccia deposited as debris flows and fanglomerate. Limestone occurs as angular clasts or as a fine-grained matrix.

WHITEHORSE TROUGH SUPERGROUP

POVOAS FORMATION

UKP — Dark grey-green weathering, monotonous accumulations of grungy-green pillowed basalt flows with vesiculated rims, interpillow carbonate, epidote, calcite and chlorite alteration.

UKP1 — As above, except maroon-weathering as a result of hematitic alteration induced by oxidation.

UKP2 — Resistant, dark-weathering, massive, chloritized and epidotized greenstone.

MIDDLE TRIASSIC

JOE MOUNTAIN FORMATION

MJM1 — Black-weathering, fine-grained, aphyric, pillowed basalt flows with calcite veining and weak but pervasive chloritic alteration. These pillows are under a package of gritty and limy sedimentary rocks.

MJM2 — Chaotic assemblage of recessive-weathering, volcanogenic sandstone siltstone, shale and gritty sandstone. Includes limestone or limy beds, and resistant, dark-weathering, chaotic and massive to poorly bedded, heterolithic, diamictite, conglomerate and fragmental or gritty sedimentary rocks.

MJM3 — Dark grey-weathering, generally unaltered, fine-grained and feldspar and pyroxene-phyric, pillowed basalt flows and massive microdiorite. Locally interbedded with MJM2 .

MJM4 — Dark-weathering, massive, variably textured, coarse-grained and locally pegmatitic, pyroxene gabbro and diorite.

MJM5 — Dark, resistant, magnetic, basaltic andesite and gabbro dykes.

SYMBOLS

- Limit of outcrop
- Geological contact (defined, approximate, assumed and/or covered)
- Fault (defined, approximate, assumed and/or covered)
- Bedding (25)
- Flow surface (includes pillows) (49)
- Schistosity of shear zone (75)
- Primary magmatic flow fabric
- Anticline, syncline (A – A')
- Cross-section line
- Isotopic age determination (Details are in the accompanying Bulletin (Appendix 7). Morrison et al. 1979.) (1) (2)
- Fossil locality (Details are in the accompanying Bulletin (Appendices 1-3). T=Triassic macrofossil; C=Triassic conodont) (T13)

MINERAL OCCURRENCES

Yukon MINFILE Number	Name	Deposit Type
49	LABE	Exploration Target
50	POW	Cu (W, Mo) skarn
51	ACE	Au, Ag (Pb, Zn) vein
86	WHEELER	Exploration Target
148	SLEWE	Exploration Target
149	ERGE	Exploration Target
197	JOE	Au vein
203	GRUMPY	Au vein

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RECOMMENDED CITATION

Hart, C.J.R., and Hunt, J.A., 2003. Geology of Joe Mountain map area (105D/15), southern Yukon (1:50 000 scale). Yukon Geological Survey, Energy, Mines and Resources, Yukon Government, Geoscience Map 2003-4.

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ONE THOUSAND METRE
Universal Transverse Mercator Grid
ZONE 8

JOE MOUNTAIN

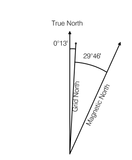
YUKON

SCALE 1:50 000

Miles 1 0 1 2 3 Miles

Metres 1000 0 1000 2000 3000 4000 Metres

CONTOUR INTERVAL 100 FEET
Elevations in Feet above Mean Sea Level
North American Datum 1983
Transverse Mercator Projection



Use diagram only to obtain numerical values
APPROXIMATE MEAN DECLINATION 1984
FOR CENTRE OF MAP
Annual change decreasing 6.5'

105 E/3 Tempelman-Kluit, 1984	105 E/2 Tempelman-Kluit, 1984	105 E/1 Tempelman-Kluit, 1984
105 D/14 Hart, Geoscience Map 2003-3	105 D/15 THIS MAP	105 D/16 Hart and Hunt Geoscience Map 2003-5
105 D/11 Hart and Radloff 1990	105 D/10 Wheeler 1961	105 D/9 Wheeler 1961

Yukon Geological Survey
Energy, Mines and Resources
Yukon Territorial Government

Geoscience Map 2003-4

Geology of Joe Mountain map area (105D/15) southern Yukon (1:50 000 scale)

by
Craig J.R. Hart and Julie A. Hunt