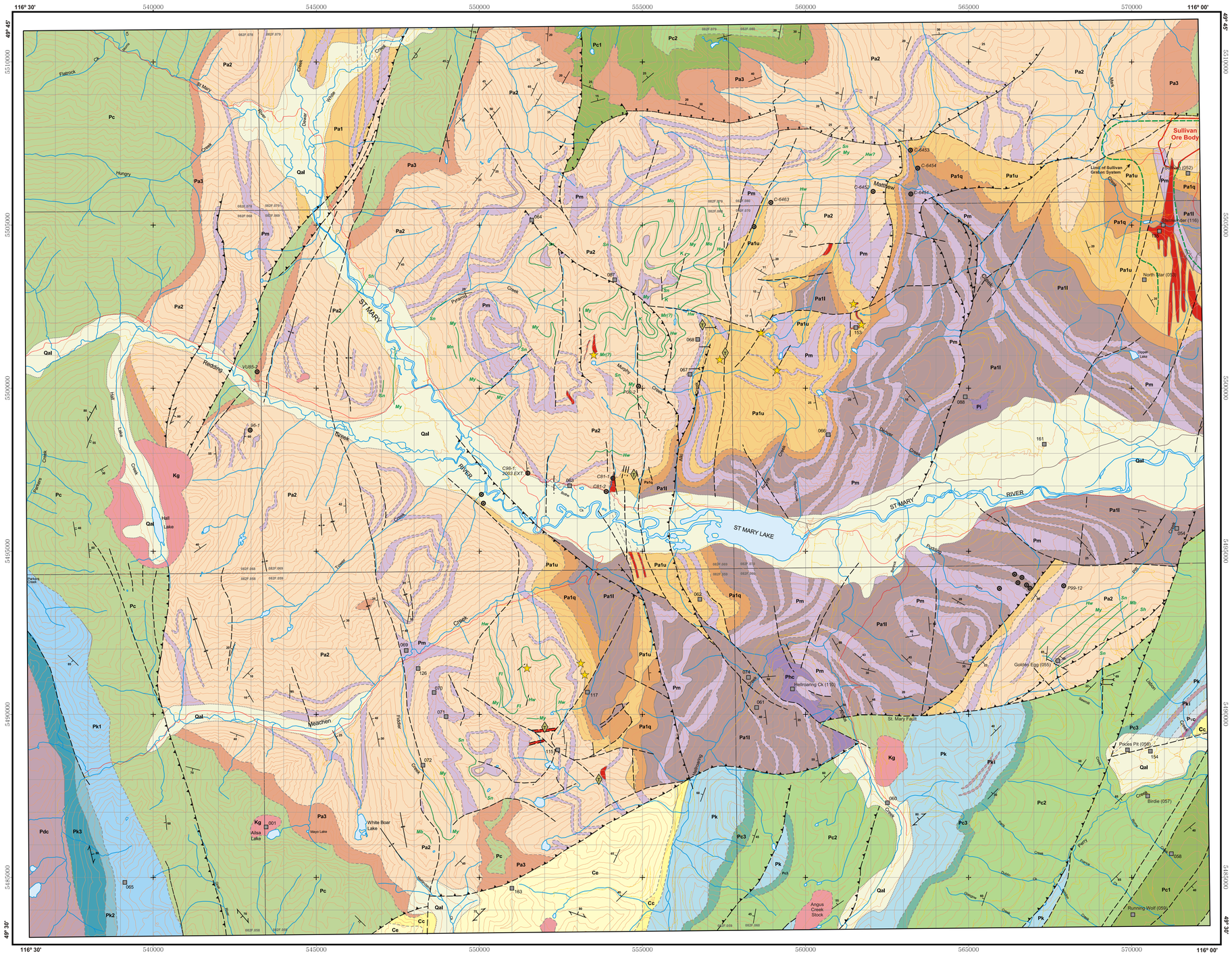


GEOSCIENCE MAP 2004-1

GEOLOGY of the ST. MARY MAP SHEET

NTS 82F/09

SCALE 1:50 000

0 1 2 3 4 5

KILOMETRES

Compiled by Trygve Höy

Cartography by Wayne Jackaman

LEGEND

QUATERNARY

PLEISTOCENE AND RECENT

- **Qal** — *UNCONSOLIDATED GLACIAL TILL, SAND AND GRAVEL*

MESOZOIC

UPPER CRETACEOUS

- **Kg** — *MONZONITE, COMMONLY PORPHYRITIC, QUARTZ MONZONITE, GRANODIORITE*

PALEOZOIC

LOWER CAMBRIAN

EAGER FORMATION

- **Ce** — *SILTSTONE, LIMESTONE, QUARTZITE; MINOR ARGILLITE*

CRANBROOK FORMATION

- **Cc** — *QUARTZITE, LIMESTONE, MAGNESITE; MINOR GRIT AND QUARTZ PEBBLE CONGLOMERATE*

PROTEROZOIC

MIDDLE PROTEROZOIC

- **Pi** — *INTRUSIVE; PEGMATITE*
- **Phc** — *HELLROARING CREEK STOCK PEGMATITE; 1340-1360 Ma U-Pb zircon age.*
- **Pki** — *GABBRO, DIORITE SILL, DYKE*

PURCELL SUPERGROUP

DUTCH CREEK (LA FRANCECREEK) FORMATION

- **Pdc** — *SILTSTONE, ARGILLITE, QUARTZITE, DOLOMITE*

GATEWAY FORMATION

- **Pg** — *DOLOMITE; QUARTZ WACKE, SILTSTONE AND ARGILLITE; STROMATOLITIC AND OOLITIC NEAR BASE*

VAN CREEK FORMATION

- **Pvc** — *GREEN, MAUVE LAMINATED SILTSTONE AND QUARTZ WACKE*

NICOL CREEK FORMATION

- **Pnc** — *BASALTIC TO ANDESITIC LAVA FLOWS; TUFFACEOUS SANDSTONE, SILTSTONE*

KITCHENER (COPPERY CREEK) FORMATION

- **Pk** — *DOLOMITIC SILTSTONE, DOLOMITIC ARGILLITE, DOLOMITE, COMMONLY BUFF-WEATHERING; ARGILLITE, SILTSTONE, QUARTZITE; GREEN TINGED DOLOMITIC SILTSTONE NEAR BASE*
- **Pk3** — *DOLOMITE, WHITE TO GREY, WITH INTERBEDDED QUARTZITE*
- **Pk2** — *BLACK ARGILLITE AND GREY SILTSTONE*
- **Pk1** — *DOLOMITE, DOLOMITE SILTSTONE, GREEN, BEIGE SILSTONE, ARGILLITE*

CRESTON FORMATION

- **Pc** — *GREEN, GREY AND MAUVE SILTSTONE, ARGILLITE; WHITE, GREEN QUARTZ ARENITE*
- **Pc3** — *GREEN SILTSTONE; BLACK OR MINOR PURPLE ARGILLITE AND SILTSTONE*
- **Pc2** — *GREY SILTSTONE; THICK-BEDDED QUARTZITE, WHITE OR MAUVE TINGED; BLACK TO DARK PURPLE ARGILLITE AND SILTSTONE*
- **Pc1** — *DARK ARGILLITE AND SILTSTONE; GREEN SILTSTONE*

MOYIE SILL

- **Pm** — *THOLEIITIC GABBRO, DIORITE, MINOR GRANOPHYRE; ca. 1468 Ma U-Pb zircon ages*

ALDRIDGE FORMATION

- **Paf** — *SEDIMENTARY FRAGMENTAL TO MASSIVE SILTSTONE; STRATIFORM TO DISCORDANT, MATRIX TO FRAMEWORK SUPPORTED*

UPPER ALDRIDGE

- **Pa3** — *BLACK ARGILLITE, SILTY ARGILLITE; SILTSTONE LAMINAE; TYPICALLY RUSTY WEATHERING*

MIDDLE ALDRIDGE

- **Pa2** — *GREY QUARTZITE, QUARTZ WACKE, COMMONLY MEDIUM TO THICK BEDDED; INTERBEDS OF ARGILLITE AND SILTSTONE; MARKER LAMINATES; TYPICALLY GREY TO RUSTY WEATHERING*

LOWER ALDRIDGE

- **Pa1** — *SILTSTONE AND QUARTZITE, TYPICALLY RUSTY WEATHERING; INTERBEDS OF SILTY ARGILLITE, QUARTZ WACKE*
- **Pa1u** — *UPPER SILTITES, ARGILLITE, MINOR QUARTZITE*
- **Pa1q** — *"FOOTWALL QUARTZITES", GREY QUARTZITE, QUARTZ WACKE*
- **Pa1l** — *LOWER SILTITES; SILTSTONE, ARGILLITE, MINORQUARTZITE*

SYMBOLS

- CONTACT DEFINED, APPROXIMATE/ASSUMED
- CONTACT OF ALLUVIUM
- CLEAVAGE, SCHISTOCITY
- BEDDING, INCLINED, OVERTURNED, UNKNOWN
- FAULT: DEFINED, APPROXIMATE, ASSUMED
- THRUST FAULT
- NORMAL FAULT
- ANTICLINAL FOLD
- SYNCLINAL FOLD
- MARKER LAMINAE — My
- MINERAL OCCURRENCE (MINFILE NUMBER) — 001
- ADIT, TRENCH, DRILL HOLE
- TOURMALINITE OUTCROP
- SEDIMENTARY FRAGMENTAL

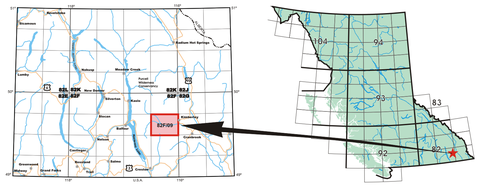
BASE MAP INFORMATION

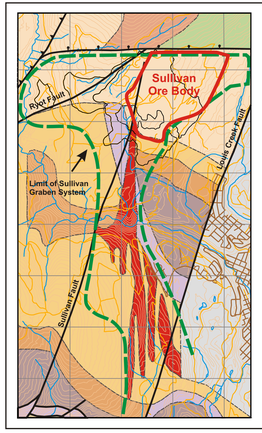
NORTH AMERICAN DATUM 1983
UTM ZONE 11
TRANSVERSE MERCATOR PROJECTION

TN 17° 42' E MN

APPROXIMATE MEAN DECLINATION 2002
FOR CENTRE OF MAP 82F.069,
CHANGING 8.9° WEST ANNUALLY.

TOPOGRAPHIC BASE MAP MODIFIED FROM TRIM 1:20 000 AND WATERSHED ATLAS 1:50 000 DIGITAL DATA. CONTOUR INTERVALS ARE 100 METRES.





Geology of the Sullivan Deposit Area

(after Turner *et al.*, 2001 and Cominco Ltd.)

0 2 km

Legend

Middle Proterozoic

- **Pc** — Creston Formation
- **Pm** — Moyie Intrusion

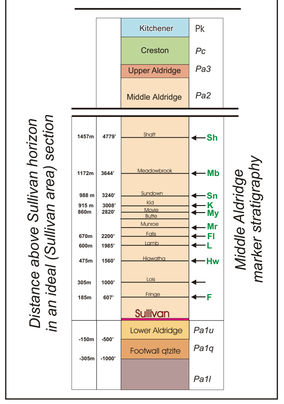
Aldridge Formation

- **Paf** — Discordant Fragmental
- **Pa3** — Upper Aldridge
- **Pa2** — Middle Aldridge

Lower Aldridge

- **Pa1u** — Upper Siltite
- **Pa1q** — Footwall Quartzite
- **Pa1l** — Lower Siltite

Purcell Supergroup Stratigraphy



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ROCKS TO RICHES

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