

The Northern Rocky Mountains are underlain by a broad belt of sedimentary rocks which are deformed by moderate folds and a stack of north-west-verging imbricate thrusts or reverse faults. The predominant stratigraphic and structural trend is northwest. Two large anticlinal culminations dominate this belt in the Tuchodi Lakes area. The Muskwa Anticlinorium exposes rocks as old as Middle Proterozoic (Helikian) called the Muskwa Assemblage, which consists of a 6000-metres thick succession of dolomitic and limy carbonates and coarse to fine-grained siliciclastics. The Muskwa Assemblage is also exposed in the core of the Tuchodi Anticline to the east, a smaller and less thrust-faulted structure.

The main phase of folding and thrusting took place in the Jurassic to Tertiary, but the Muskwa Assemblage was initially folded and fractured by steep faults in the Proterozoic. These faults and fracture systems trend from northeast to northwest, and many are marked by quartz-carbonate veins which may be mineralized with chalcopyrite, and less commonly pyrite and bornite. At this time or slightly later, numerous diabase or gabbroic dikes were intruded along the same structural systems such that mineralized veins very commonly occur along the margins of or very close to dikes. This association has been useful for exploration as the dikes tend to stand out from the sedimentary country rocks physically and geophysically.

Most of the documented veins are small and discontinuous, and high grade copper mineralization is generally erratic. The most important area is between Yedhe Creek and Delano Creek, which includes the **Magnum** mine (094K 003), formerly of Churchill Copper Corporation and the only deposit brought to production. It produced 14,673 tonnes of copper between 1970 and 1975; inferred reserves at the time of mine closure were 90,710 tonnes grading 3 per cent copper. Five kilometres to the northwest is the **Eagle** or **Davis-Keays** deposit (094K 012), an extensive area of mineralized veins which underwent surface and underground development at the same time as the **Magnum**, but which did not produce ore; semi-proven reserves in 1971 were 1,119,089 tonnes grading 3.43 per cent copper. Another heavily explored area was south of Churchill Peak, centred on the **Bronson** prospect (094K 027) which is noteworthy for its high copper content and for anomalous values of silver and gold, metals which are generally very low in this region.

An angular unconformity separates these Proterozoic rocks from Lower Cambrian to Triassic sedimentary rocks which were subsequently deposited on the passive continental margin of Ancestral North America. In most of the map area, the Devonian was characterized by platformal carbonate deposition. The Lower and Middle Devonian Stone and, particularly, Dunedin formations host minor stratabound or vein-like bodies of barite of various sizes, in limestone or dolostone. Small amounts of massive or disseminated sphalerite and galena may be present in the barite, and rarely fluorite. A number of showings were examined in a narrow belt on the east flank of the Tuchodi Anticline, but nothing economic has been found. The barite itself was the target at the **Mile 397** (094K 004) and **Nonda Creek** (094K 001) showings.

In the southwestern corner of the map area, southwest of the Muskwa Anticlinorium and across the major Gundahoo Thrust, Paleozoic rocks form part of the Kechika Trough, a more basinal succession characterized by shales and siltstones and only minor carbonate. The Devonian Earn Group here is dominantly carbonaceous shale and contains intervals of stratiform lead-zinc-barite mineralization, formed by sedimentary exhalative activity in starved, fault-controlled sub-basins. This area is in the northwest of the Gataga mineral district, which includes the **Stronsay** or **Cirque** deposit 80 kilometres to the southeast. By far the most important occurrence is the **Driftpile Creek** developed prospect (094K 066), in which at least two sulphide-rich zones have been recognized. In 1980, indicated reserves were reported to be 18,145,000 tonnes averaging 2.38 per cent combined lead-zinc. Recent work has considerably refined understanding of the stratigraphy and structure of the deposit.

SELECTED REFERENCES

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- Preto, V.A. 1971: Lode copper deposits of the Racing River-Gataga River area; *B.C. Ministry of Energy, Mines and Petroleum Resources* Geology, Exploration and Mining in British Columbia 1971, pages 75-106.
- McClay, K.R., Insley, M.W., Way, N.A. and Anderton, R. 1988: Tectonics and mineralization in the Kechika Trough, Gataga area, northeastern British Columbia; *Geological Survey of Canada* Paper 88-1E, pages 1-12.
- Taylor, G.C. and MacKenzie, W.S. 1970: Devonian stratigraphy of northeastern British Columbia; *Geological Survey of Canada* Bulletin 186, 62 pages.
- Taylor, G.C. and Stott, D.F. 1973: Tuchodi Lakes map-area, British Columbia; *Geological Survey of Canada* Memoir 373, 37 pages, including Map 1343A, 1:125,000.

NTS
94K
"TUCHODI
LAKES"

TRIDENT
Trident
888966

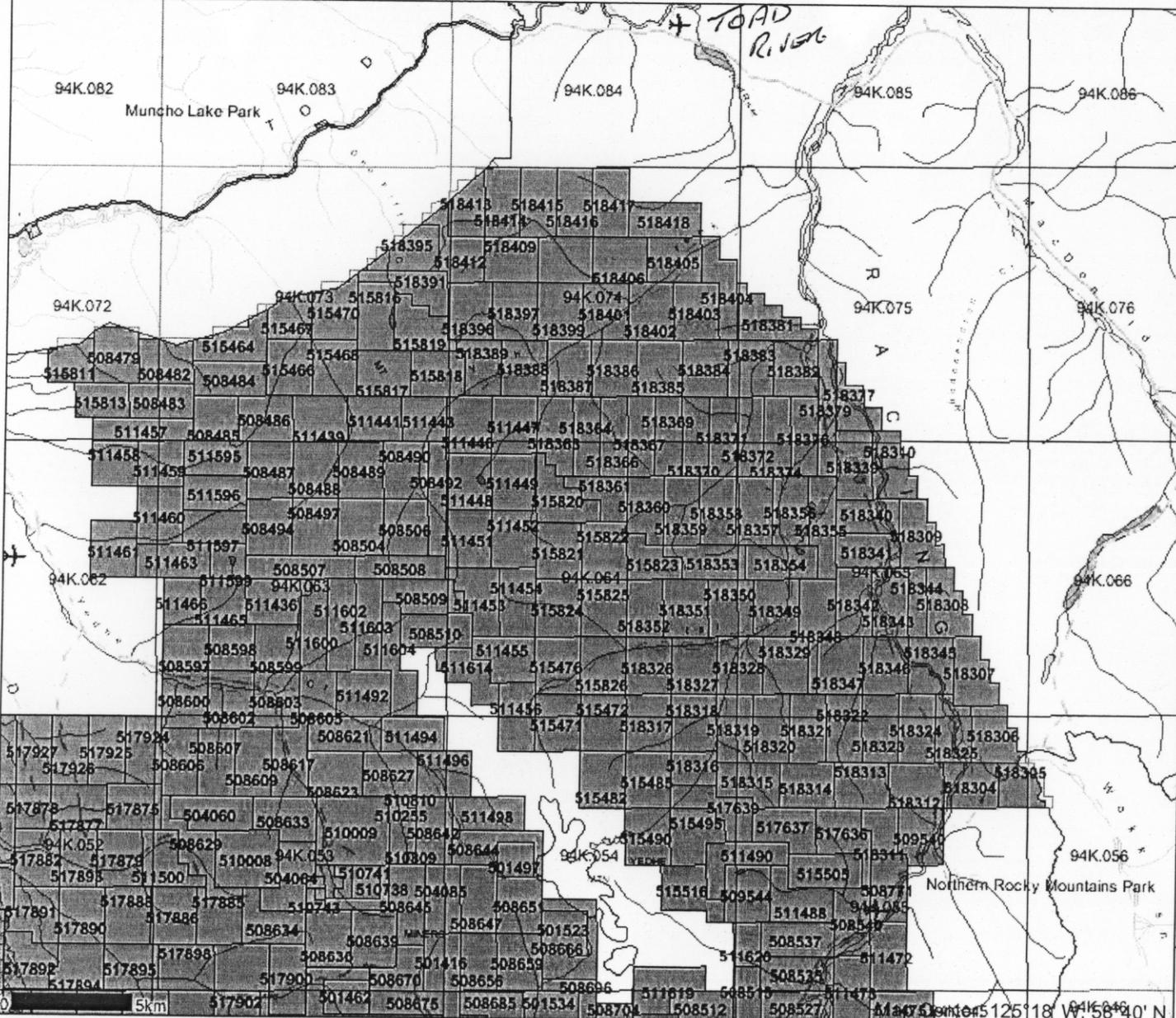
NTS → 94K/Mu

Map created Thu Jul 28 08:28:45 PDT 2005

Legend

- Indian Reserves
- National Parks
- Parks
- Mineral Tenures Reserves (Sites)
- Placer Claim Designation
- Placer Lease Designation
- No Staking Reserve
- Conditional Reserve
- Release Required Reserve
- Surface Restriction
- Recreation Area
- Others
- BCGS Grid
- Annotation (1:250K)
- Transportation - Points (1:250K)
 - Airfield
 - Anchorage - Seaplane
 - Ferry Route
 - Helipoint
 - Seaplane Base
 - Air Field
 - Airport
 - Air Feature - Condition Unknown
 - Airport Abandoned
- Transportation - Lines (1:250K)
 - Ferry Route
 - Aerial Cableway
 - Road (Gravel Undivided) - 1 Lane
 - Road (Gravel Undivided) - 3 Lanes
 - Road - Paved, lanes 2 or More, Divided
 - Road (Paved Undivided) - Not Elevated - 1 Lane
 - Road (Paved Undivided) - Not Elevated - 2 Lanes
 - Road - Paved, lanes 3 or More, Undivided
 - Road (Unimproved)
 - Road - Loose access Dry Weather
 - Road (Winter Road)
 - Road - Paved, lanes 2, Undivided
 - Road - Paved, lanes 2, Undivided, U/C
 - Road - Paved, Divided, access, Non Standard
 - Track - Car/Tractor
 - Causeway (Railway)
 - Cut (Roadway)
 - Trail
 - Tunnel
 - Bridge
 - Rail Line - Narrow Gauge - Single Track
 - Rail Line (Multiple Track)
 - Rail Line (Single Track)
 - Rail Line - Abandoned Track
 - Cable - Telephone
 - Cable - Underwater

Cu targets (H&S)



Scale: 1:250,000

DO NOT USE FOR NAVIGATION

517902 501462 508675 508685 501534 508704 508512 508527 511475 511476 511477 511478 511479 511480 511481 511482 511483 511484 511485 511486 511487 511488 511489 511490 511491 511492 511493 511494 511495 511496 511497 511498 511499 511500 511501 511502 511503 511504 511505 511506 511507 511508 511509 511510 511511 511512 511513 511514 511515 511516 511517 511518 511519 511520 511521 511522 511523 511524 511525 511526 511527 511528 511529 511530 511531 511532 511533 511534 511535 511536 511537 511538 511539 511540 511541 511542 511543 511544 511545 511546 511547 511548 511549 511550 511551 511552 511553 511554 511555 511556 511557 511558 511559 511560 511561 511562 511563 511564 511565 511566 511567 511568 511569 511570 511571 511572 511573 511574 511575 511576 511577 511578 511579 511580 511581 511582 511583 511584 511585 511586 511587 511588 511589 511590 511591 511592 511593 511594 511595 511596 511597 511598 511599 511600 511601 511602 511603 511604 511605 511606 511607 511608 511609 511610 511611 511612 511613 511614 511615 511616 511617 511618 511619 511620 511621 511622 511623 511624 511625 511626 511627 511628 511629 511630 511631 511632 511633 511634 511635 511636 511637 511638 511639 511640 511641 511642 511643 511644 511645 511646 511647 511648 511649 511650 511651 511652 511653 511654 511655 511656 511657 511658 511659 511660 511661 511662 511663 511664 511665 511666 511667 511668 511669 511670 511671 511672 511673 511674 511675 511676 511677 511678 511679 511680 511681 511682 511683 511684 511685 511686 511687 511688 511689 511690 511691 511692 511693 511694 511695 511696 511697 511698 511699 511700 511701 511702 511703 511704 511705 511706 511707 511708 511709 511710 511711 511712 511713 511714 511715 511716 511717 511718 511719 511720 511721 511722 511723 511724 511725 511726 511727 511728 511729 511730 511731 511732 511733 511734 511735 511736 511737 511738 511739 511740 511741 511742 511743 511744 511745 511746 511747 511748 511749 511750 511751 511752 511753 511754 511755 511756 511757 511758 511759 511760 511761 511762 511763 511764 511765 511766 511767 511768 511769 511770 511771 511772 511773 511774 511775 511776 511777 511778 511779 511780 511781 511782 511783 511784 511785 511786 511787 511788 511789 511790 511791 511792 511793 511794 511795 511796 511797 511798 511799 511800 511801 511802 511803 511804 511805 511806 511807 511808 511809 511810 511811 511812 511813 511814 511815 511816 511817 511818 511819 511820 511821 511822 511823 511824 511825 511826 511827 511828 511829 511830 511831 511832 511833 511834 511835 511836 511837 511838 511839 511840 511841 511842 511843 511844 511845 511846 511847 511848 511849 511850 511851 511852 511853 511854 511855 511856 511857 511858 511859 511860 511861 511862 511863 511864 511865 511866 511867 511868 511869 511870 511871 511872 511873 511874 511875 511876 511877 511878 511879 511880 511881 511882 511883 511884 511885 511886 511887 511888 511889 511890 511891 511892 511893 511894 511895 511896 511897 511898 511899 511900 511901 511902 511903 511904 511905 511906 511907 511908 511909 511910 511911 511912 511913 511914 511915 511916 511917 511918 511919 511920 511921 511922 511923 511924 511925 511926 511927 511928 511929 511930 511931 511932 511933 511934 511935 511936 511937 511938 511939 511940 511941 511942 511943 511944 511945 511946 511947 511948 511949 511950 511951 511952 511953 511954 511955 511956 511957 511958 511959 511960 511961 511962 511963 511964 511965 511966 511967 511968 511969 511970 511971 511972 511973 511974 511975 511976 511977 511978 511979 511980 511981 511982 511983 511984 511985 511986 511987 511988 511989 511990 511991 511992 511993 511994 511995 511996 511997 511998 511999 512000

