Ministry of Energy, Mines and Petroleum Resources

Geological Survey Branch

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(Sheet 1 of 6: Legend)

NORTHWEST TATSHENSHINI RIVER MAP AREA, NORTHWESTERN BRITISH COLUMBIA

NTS 114P/11, 12, 13 & 14

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Authorship of individual mapsheets will is as follows:

- Carmine Mountain map area geology (114P/11): M.T. Smith, M.G. Mihalynuk, D.G. MacIntyre, M. Deschênes, J. Timmerman and P. Schiarizza
- Tats Lake map area geology (114P/12): D.G. MacIntyre, M.G. Mihalynuk, M.T. Smith, P. Schiarizza, M. Deschênes and J. Timmerman
- Range Lake map area (114P/ 13): M.G. Mihalynuk, M.T. Smith, M. Deschênes, J. Timmerman, P. Schiarizza and D.G. MacIntyre
- Survey Lake map area (114P/14): M.T. Smith, M.G. Mihalynuk, D.G. MacIntyre, M. Deschênes, J. Timmerman and P. Schiarizza
- Tatshenshini River map area lithogeochemistry (114P northwest): D.G. MacIntyre, M.G. Mihalynuk, M.T. Smith, J. Timmerman, M. Deschênes, P. Schiarizza and J.J. McDougall

SCALE 1:50 000

0 1 2 3 4 5

kilometres

A contribution to the Corporate Resource Inventory Initiative

LEGEND

LAYERED ROCKS

QUATERNARY

Qg Unconsolidated glacial till

Qal Unconsolidated reworked glacial deposits and poorly sorted alluvium

TERTIARY OR YOUNGER

CARMINE MOUNTAIN VOLCANICS

TC UNDIVIDED: includes felsic to mafic subaerial volcanic flows and tuffs unconformably overlying sedimentary and volcanic lithic conglomerate of Early Tertiary age (ETc), but in part thermally metamorphosed by an Oligocene intrusive event (OTg). May include younger volcanic strata correlative with Pliocene and younger Wrangell Lavas (Campbell and Dodds, 1983).

TCa ANDESITE FLOWS: green to maroon, aphanitic to microporphyritic, massive andesite flows with lesser basalt flows. May be columnar jointed.

TCdr DACITE AND RHYOLITE FLOWS: light grey, green and mauve, aphanitic, massive columnar jointed flows 2-5m thick. May be equivalent to associated hypabyssal, feldspar ± hornblende or biotite-porphyritic rocks.

TCrt DACITIC TO RHYOLITIC ASH AND LAPILLI TUFF: light to medium grey or grey-green, well indurated, interbedded with TCdr.

EARLY TERTIARY

ALKIE GROUP (INFORMAL)

eTA UNDIVIDED: probable non-marine (fluvial-lacustrine?) fault graben infill. It is recessive weathering, lacks a pervasive cleavage and hosts coal and plant fossils of Early Tertiary age (McIver, 1992).

eTAc COARSE CARBONATE COBBLE TO BOULDER CONGLOMERATE: subangular to well rounded carbonate clasts, light to dark grey, variably recrystallized, commonly with a carbonate matrix, locally contains up to 50% green, unfoliated volcanic clasts. Some limestone clasts contain macrofossils of probable Devonian age.

eTAw PLATY WACKE: light brown-weathering. Locally contains black, well rounded pebbles of vesicular basalt(?). May occur as interbeds in eTAc

eTAd DIORITE CLAST BRECCIA AND CONGLOMERATE

eTAl LITHIC PEBBLE CONGLOMERATE: heterolithic to monolithic with subangular to subrounded clasts of black argillite, chert, shale, limestone, and intermediate to felsic volcanics in a muddy matrix.

eTAs SHALE, SILTSTONE, AND SANDSTONE: brown weathering, laminated to medium bedded with coal-bearing interbeds and minor conglomerate.

UPPER TRIASSIC

UPPER TRIASSIC TATS GROUP (INFORMAL)

uTrT SUBMARINE RIFT ASSEMBLAGE: dominated by pillow basalts and calcareous turbidites; hosts the Windy Craggy massive sulphide deposit.

uTrTs LOWER SEDIMENTARY DIVISION (1000-1500m±): dominantly black calcareous siltstone, argillaceous limestone, calc-alkaline basaltic sills. Generally thinly bedded, fissile and platy weathering. Very minor but conspicuous debris flows and quartz-lithic calcarenite. Generally highly deformed. Probably distal turbidites.

uTrTv1 LOWER TATS VOLCANIC DIVISION (≤1000m): massive tholeiitic basalt flows and/or sills with minor interbeds of uTrTs. Locally porphyritic with a microdioritic, felted texture. Transitional between uTrTs and uTrTv2. May be absent in some places.

uTrTs2 MIDDLE TATS SEDIMENTARY DIVISION: Mainly brown-weathering, fissile calcareous argillite commonly displaying a close-spaced cleavage.

uTrvms VOLCANOGENIC MASSIVE SULPHIDE HORIZON: dominated by pyrrhotite where banded or chalcopyrite and pyrite in stringer zones. At the Windy Craggy deposit, sulphide lenses reach thicknesses exceeding 100m.

uTrTva AGGLOMERATE: Subround, monolithologic, lapilli to block-sized vesicular basalt clasts comprise a well-indurated layer up to 150m thick. Epidote-chlorite alteration is common, with mixtures of quartz and calcite filling vesicles (amygdales of sphalerite are observed in one sample). This unit is probably not limited to a single stratigraphic interval.

uTrTv2 MIDDLE TATS VOLCANIC DIVISION (600-2200m). Pillow or non-pillowed basalt flows and cogenetic sills, interbedded with less resistant calcareous siltstone, minor tuff and chert on a metre to 10-metre scale to produce a distinctive ribbed appearance. Limestone debris flows are a minor, but conspicuous component. Rusty pyrrhotite-rich and black, cherty laminae are common. Hosts the Windy Craggy volcanogenic massive sulphide horizon.

uTrTv3 UPPER TATS VOLCANIC DIVISION (500-1000m): consists almost entirely of massive, commonly pillowed basalt flows. Includes sills, but with no, or very minor, sediments.

uTrTd CALCALKALINE SILLS (shown where mapable): relatively undeformed, fine-grained, dark green and/or black and white feldspar porphyry dikes. Possible feeders to Middle and Upper Tats volcanic units.

UPPER TRIASSIC, RANGING TO LATE PALEOZOIC

DOMINANTLY UPPER TRIASSIC STRATA OF "WRANGELLIA" (114P/14)

uTrW UNDIVIDED: oceanic arc volcanic and sedimentary strata.

uTrWa1 ARGILLITE AND CALCAREOUS ARGILLITE: thin bedded, commonly with a well developed slaty cleavage.

uTrWa3 CHERTY ARGILLITE AND CHERT: may host lenses of pyrrhotite with minor chalcopyrite. Locally gradational with uTrWa1.

uTrWv EPICLASTIC AND/OR LAPILLI TO ASH TUFF AND TUFFITE: dominantly of intermediate composition. Some clasts may be scoraceous (quartz, calcite and chlorite). Weathers into rounded green-grey outcrops, commonly foliated.

uTrWb PILLOW BASALTS: very fine-grained and rarely porphyritic with well-developed pillow forms. Interpillow micrite is common. A weak foliation is irregularly-developed, particularly in the cores of folds or near faults.

ORDOVICIAN TO TRIASSIC(?)

OTma CHLORITE-ACTINOLITE SCHIST: This heterogeneous assemblage of tuff, basalt and mafic plutonic rocks includes gneissic diorite and gabbro. At one locality, metatuff appears to display a conformable contact with Ordovician strata (114P/12). Parts of the unit may represent metamorphosed feeders to the Upper Triassic Tats Group and/or flows within the Paleozoic succession.

PALEOZOIC

Pm UNDIVIDED METAMORPHOSED SEDIMENTARY AND VOLCANIC ROCKS (equivalent to SPs? OR IPzc?, protolith textures are not preserved)

Pma AMPHIBOLITE: gneissic, medium-grained, green-grey weathering, dark green on fresh surface. Commonly epidote-feldspar±quartz veined (may be reticulate). Interlayered with Pmp and Pmc.

Pmb METABASITE, HORNBLENDE OR ACTINOLITE AND PLAGIOCLASE SCHIST: medium-grained and strongly foliated with minor epidote and quartz. Protolith may be SPsb or SPst. Includes low-grade chlorite-epidote-actinolite schist equivalent.

Pmc MARBLE: ranges from coarse-grained, white, pure marble to buff or rusty calcsilicate-rich gneiss or skarn. Skarn mineralization commonly includes epidote, diopside, wollastonite and grossular in bands. Protolith may be in part SPsc1 or SPsc2

Pmd DIORITIC ORTHOGNEISS: strongly to weakly foliated, medium to coarse-grained, hornblende meta-diorite. Protoliths may be a variety of ages ranging from probable Pennsylvanian to Cretaceous (JKd, JKgd). Locally includes much more felsic, but minor phases such as garnetiferous alaskite.

Pmp METAPELITE, META-CALCAREOUS PELITE AND META-ILTSTONE: generally buff or light to dark grey or brown-weathering. Probable protoliths are SPsa, SPss or SPsch, now metamorphosed to biotite-feldspar-quartz±garnet schist.

Pmph PYRITIFEROUS PHYLLITE AND CALC-PHYLLITE: medium grey with thin to thick phyllitic carbonate interlayers.

Pmq QUARTZ-RICH METASEDIMENTS: dominantly quartzite and quartz-mica schist, rusty and brown-weathering. As mapped, includes minor interlayered phyllite and carbonate.

MAINLY SILURIAN TO PERMIAN (?)

SPs UNDIVIDED: mixed carbonate, clastic and volcanic sequence. Older marine strata are probably back-reef and lagoonal facies, while some younger, coarser clastic units were probably deposited in an intertidal or deltaic environment.

SPsc UNDIVIDED LIMESTONE: includes well-bedded to irregularly-bedded carbonate, commonly with subordinate interbedded argillite

SPsa ARGILLITE AND CALCAREOUS ARGILLITE: black, massive, with minor, thin, laminated limestone interbeds that weather buff to orange. May be sooty-weathering and mistaken for unit uTrTs.

SPsa2 FISSILE BLACK LIMESTONE AND INTERBEDDED GRAPHITIC ARGILLITE: white and black-weathering argillite is gypsiferous and contains middle Devonian to middle Silurian (Norford, 1992b) graptolites in abundance above white-tan ash horizons with rare vesicular basalt bombs. Limestone interbeds are microlaminated and less than 25 cm thick.

SPscr RUBBLY CARBONATE: orange-weathering, generally highly disrupted, veined and, at one locality, talcose.

SPsac DISTINCTIVE SEDIMENTARY COUPLET OF SPsa2 OVERLAIN BY SPscr: mapped as such where it is not possible to represent individual units. Spatially associated with unit SPss, although contact relations are uncertain.

SPss LITHIC SANDSTONE AND GRANULE TO PEBBLE CONGLOMERATE: medium to thick bedded, fine to coarse, generally interbedded with laminated to thin bedded, non-calcareous to calcareous black argillite (SPsa) or black limestone. May include rare ash and tuffaceous horizons. Coarse-grained beds are orange weathering. Pyrite layers up to several centimetres thick are sparse but conspicuous.

SPscg CONGLOMERATE: similar to SPss but dominated by coarser lithologies. May be carbonaceous with abundant plant fossils of low diversity (swamp grass and fern fronds). Clasts are dominated by black chert, graphitic argillite and light grey to rusty pyritiferous volcanic(?) clasts. Spatially associated with SPsa, possibly Carboniferous. May be mistaken for eTAc

SPsc1 BLUE-GREY LIMESTONE: thin to medium bedded with conspicuous horizons containing abundant crinoid, bryozoan, bivalve and rugose coral fossils of Silurian to Devonian age (W. Bamber, pers. comm. 1992).

SPsc2 MASSIVE TO MEDIUM-THIN BEDDED LIMESTONE: dark grey or brown to black, fine grained, relatively resistant. May represent at least two different units as both Lower to Middle Devonian (Norris, 1992) two-hole crinoids and probable Middle to Upper Mississippian corals (W. Bamber, pers. comm., 1992) have been identified.

SPsc3 RHYTHMICALLY BEDDED LIMESTONE AND ARGILLITE: very well medium-bedded, buff weathering, (black on fresh surfaces) limestone with thinner recessive, black argillaceous interbeds. The limestone is commonly well laminated.

SPsch CHERT AND SILICEOUS ARGILLITE: black to grey, thin-bedded, includes tan to white recrystallized chert and phyllitic quartzite in 114P/14.

SPst ANDESITIC LAPILLI TUFF: includes lesser ash and block tuff and agglomerate. Clast composition ranges from basaltic to dacitic. Medium green weathering, and locally foliated. It is best exposed where it occurs between basalt (SPsb) and chert (SPsch) units, but may also be present at other stratigraphic intervals.

SPsb VESICULAR BASALT FLOWS: massive, lensoidal, dark green, aphanitic, (may or may no be part of the section).

SPsw METAGREYWACKE: brown-green, thinly bedded to massive, common in 114P/14NW where it is associated with tuff argillite and basalt flows. Chlorite and white mica outline a good cleavage, although adjacent gabbroic sills, chlorite-biotite-garnet grade may be attained.

LOWER PALEOZOIC (ORDOVICIAN AND SILURIAN?)

IPzc UNDIVIDED: carbonates and related rocks

IPzcm MARBLE: mainly metamorphosed IPzc adjacent plutons. Includes alternating green, pink, buff and/or white calcsilicate layers.

IPzc0 HETEROLITHIC LINSEN LIMESTONE: very well-bedded, medium to dark grey, tan-weathering calcareous mudstone in 1-3 cm beds with 1-2 cm thick discontinuous tan, silty linsen, commonly graded. Includes interlayered, cross-stratified calcarenite grading into micrite in 2-10 cm sets. Locally capped by limestone conglomerate.

IPzc1 BLACK ARGILLACEOUS LIMESTONE: medium to thin bedded dark grey to , locally rusty; includes minor but distinct "scoraceous" limestone. Grades into unit previously mapped as Psp (Campbell and Dodds, 1983).

IPzc2a TIGER STRIPE LIMESTONE: Cryptocrystalline to finely recrystallized, well bedded, with interlayered 1-5 cm medium grey beds and resistant 0.5-2 cm tan beds. Locally undeformed with preservation of very fine laminae, elsewhere the silty tan partings are lost, probably because of soft sediment deformation resulting from regularly spaced, elongate, cm-scale diapirs. May be interbedded with medium-bedded, buff siliceous layers.

IPzc2b RECRYSTALLIZED IPzc2a: Light grey to white with mm-scale tan laminae outlining cm-scale parasitic chevron folds (well developed north of Tats Glacier toe).

IPzc3 MASSIVE LIMESTONE: medium grey to tan, rubbly to hackley weathering. White weathering where adjacent intrusive contacts. Includes dark green waxy dykes which are discordant to totally transposed into the foliation.

IPzc4 GREY FISSILE LIMESTONE: thin to thick bedded (5 cm to dm scale).

IPzc5 THIN-BEDDED CHERTY ARGILLITE AND LIMESTONE: light to medium grey to reddish weathering, with distinctive alternating resistant cherty argillite and recessive limestone layers (<5 cm); commonly fissile.

IPzc6 RIBBED LIMESTONE: buff weathering, light grey, silty limestone with thinly interbedded (0.5-2 cm), resistant, orange weathering, laminated, argillaceous layers, is a coarser variety of IPzc4 with which it is locally interlayered. May be injected with dikes like those of COzsb.

IPzcc LIMESTONE-PEBBLE CONGLOMERATE: light grey, limestone chips to cobbles within a tan to medium grey carbonate matrix; commonly clast supported. Beds are commonly lensoidal and range from 0.5 m to, rarely, 30 m thick.

IPzcd BOUDINAGED DIKE-CARBONATE COMPLEX: light to medium grey weathering, compositionally layered marble or limestone with abundant dark green boudinaged mafic dikes (up to 50% of the section). Accompanied by white weathering rinds of calcsilicate-altered marble. This unit is probably not restricted to a specific stratigraphic interval.

IPzct CALCAREOUS TURBIDITES: brown to rust and grey weathering, well-bedded with cross well preserved laminations and graded bedding. Complete Bouma sequences are rare, with ABC±D(E) and ABC or distal CDE and AE sequences most common.

IPzcy CARBONATE MEGACYCLE SUCCESSION: well developed depositional cycles consisting of brown, argillaceous limestone bases grading up into light to medium grey, massive to well-bedded, hackley-weathering limestone. Distinctive argillaceous bases weather with thin anastomosing ribs of dark brown cherty argillite spaced 1-4 cm and standing out 1-3 cm from yellow-brown limestone.

IPzcyp SHALY MEGACYCLE SUCCESSION: mapable areas of buff-weathering, thin-bedded limestone with grey, phyllitic laminations and/of resistant argillaceous to phyllitic interlayers. Correlative with the "bases" of unit IPzcy. As mapped may include parts of IPzc2a.

IPzb PILLOW BASALT: dark green, amygdaloidal pillow basalt is interbedded with the limestone sequence.

MAINLY LOWER TO MIDDLE ORDOVICIAN

ARGILLACEOUS DIVISION

Pza UNDIVIDED ARGILLACEOUS STRATA: bears mainly Lower to Middle Ordovician graptolites (Norford, 1992a, b). May be confused with SPsa which sometimes can be distinguished by the presence of thin, limestone interlayers; or with uTrTs which is distinguished by the presence of buff to orange-weathering sills, overall calcareous composition, and prolific Norian conodont fauna.

Pza1 SILTY ARGILLITE: black, grey to rusty, commonly well-laminated with a slatey cleavage, or phyllitic with a well developed microcrenulation.

Pza2 SILVERFISH ARGILLITE: similar to Pza1 but interbedded with black to green or white chert, contains moderately well-preserved graptolites. This unit is potentially a useful marker horizon within the lower Paleozoic carbonate succession, particularly unit IPzc3.

Pza3 CALCAREOUS ARGILLITE: light to dark grey, commonly well-laminated.

LATE CAMBRIAN TO EARLY ORDOVICIAN

SILICICLASTIC STRATA AND SILL/FLOW COMPLEX

COzs1 TROUGH CROSS STRATIFIED SILTSTONES: well-bedded (2-35 cm) and beautifully-laminated, commonly with a calcareous matrix. Rhythmically interbedded with olive grey mudstone (1-20 cm beds). Load casts and ball-and-pillow structures are common. Overlain gradationally by IPzc6

COzsb SILL-RICH COzs1: Similar to COzs1, but containing up to 80 percent concordant, intermediate to basaltic sills 0.5 to >12m thick, may also include subaqueous and generally non-pillowed flows.

COzb PILLOW BASALT: compositionally like basalt sills in COzsb, but generally more altered.

COzc COMPOSITIONALLY VARIABLE, CARBONATE-DOMINATED SEDIMENTS: mainly thinly-bedded, includes varieties with significant tuffaceous, limestone clast (intraformational?), and black chert nodule components. Apparently at the lowest structural position within the COz package.

COzd DIABASIC SILLS OR NON-PILLOWED FLOWS: Subophitic, fine grained to aphanitic, chlorite amygdaloidal, intrusive equivalent to COzb. Only the largest sills are indicated.

INTRUSIVE ROCKS

OTg OLIGOCENE TKOPE INTRUSIONS: undivided (approx. 24-31 Ma; K-Ar, Campbell and Dodds, 1988), mafic phases tend to be cut by the more felsic phases.

OTg HORNBLENDE-BIOTITE GRANITE: (25.6±0.8, Rb-Sr; Jackobsen et al., 1980) non-foliated, pink to orange weathering, fine to coarse-grained, including quartz eye-porphyritic and equigranular varieties.

OTqd,gd QUARTZ DIORITE TO GRANODIORITE: (e.g. 24.7±0.9, K-Ar biotite; 26.6±0.7, Rb-Sr; Jackobsen et al., 1980) Generally fine to medium grained border phase, includes both foliated , and non-foliated varieties. In 114P/11E rocks of this unit belong to the Tkope River batholith

OTbx INTRUSIVE MEGA-BRECCIA COMPLEX: (114P/12) blocks of hornfelsed uTrTv metres to tens of metres across within a very coarse hornblende-porphyritic quartz diorite. This body has yielded a K-Ar (hornblende) cooling date of 37±1.5 Ma (MacIntyre, unpublished data) which is significantly older than typical Tkope intrusive rocks.

JKg JURA-CRETACEOUS GRANITOIDS: undivided (approx. 130-160 Ma, Campbell and Dodds, 1988)

JKd DOMINANTLY DIORITIC BORDER PHASE: fine to very coarse, commonly foliated, heterogeneous, polyphase intrusions. Dominantly hornblende-quartz-diorite with lesser hornblende leucogabbro, granodiorite and alaskite. Displays at least four phases with the leucocratic phases being the latest and volumetrically least significant. Heterogeneous border phase varieties may in part be of Paleozoic age.

JKgd GRANODIORITE TO QUARTZ MONZONITE: relatively homogenous, medium to coarse grained, non-foliated to rarely strongly foliated biotite-hornblende granodiorite to hornblende-biotite quartz monzonite. Near contacts with other lithologies contains up to 80% hornblende>biotite-rich xenoliths, both elongate and equidimensional. Commonly cuts unit JKd.

TRIASSIC TO CRETACEOUS

TrKBg MOUNT BEATON GRANITE: (114P/14NE) Campbell and Dodds (1988) report a K-Ar determination of 237±24 (slightly chlorite-altered hornblende), but tentatively include this body with a lithologically similar Cretaceous intrusive suite. Triassic through Cretaceous ages are permissive.

PALEOZOIC TO MESOZOIC

PMbd GREENSTONE-GABBRO AND DIORITE COMPLEX: (114P/11&14) heterogeneous assemblage of aphanitic to plagioclase-porphyritic basalt, microdiorite and gabbro. Fine-grained mafic phases are pyroxene and plagioclase phyric while coarser more felsic varieties contain hornblende and lesser biotite. All phases are generally metamorphosed to lower greenschist grade (actinolite-epidote-chlorite). As mapped may contain screens of marble and other metasediments.

PMg EPIDOTIZED GABBRO SILLS: (114P/14NE) distinctive, bright green, granular and platy-weathering gabbro. Tabular bodies are probably sills, but they generally display mylonitized margins and are locally interpreted to floor thrust slices.

PMmu ELONGATE ULTRAMAFIC BODY(IES): (114P/14NE) Dark grey to black pyroxenite (or harzburgite?) crops out in a linear belt northeast of Squaw Creek.

ALTERATION

A Alteration (not including regional metamorphism)

Aa Dominantly argillic alteration due to hydrothermal alteration in fault zones

Ac Chloritization

Ag Gossanous zones related to sulphide mineralization other than Ask alteration.

Asi Silicification

Ask Areas of rock visibly altered in the thermal aureole of plutons or plutonic complexes, particularly skarnification and rusty disseminated pyrite ± pyrrhotite.

References

Campbell, R.B. and Dodds, C.J. (1983): Geology, Tatshenshini River Map Area (114P); *Geological Survey of Canada*, Open File 926, Scale, 1:125 000.

Campbell, R.B. and Dodds, C.J. (1992): Geology of NE Yakutat (114O) and Tatshenshini River (114P) Map Areas, British Columbia; *Geological Survey of Canada*, Open File 2191, scale 1:250 000.

Dodds, C.J. (1988): Geological Mapping in Tatshenshini River Map Area, British Columbia; *In* Current Research, *Geological Survey of Canada*, Paper 88-1E, pages 65-72.

Dodds, C.J. and Campbell, R.B. (1988): Potassium-Argon Ages of Mainly Intrusive Rocks in the Saint Elias Mountains, Yukon and British Columbia; *Geological Survey of Canada*, Paper 87-16, 43 pages.

Downing, B. (1991): Compilation Map of the Windy Craggy Area, *Geddes Resources Ltd.*, Unpublished Map.

Jacobsen, B., Parrish, R.R., and Armstrong, R.L. (1980): Geochronology and Petrology of the Tkope River Batholith in the Saint Elias Mountains, Northwestern British Columbia; *in* Current Research, Part B, *Geological Survey of Canada*, Paper 80-1B, pages 195-206.

MacIntyre, D.G. (1984): Geology of the Alsek-Tatshenshini Rivers Area; *in* Geological Fieldwork 1983, *B.C. Ministry of Energy, Mines and Petroleum Resources*, Paper 84-1, pages 173-184.

McIver, E. (1992): Report on plant macrofossils submitted from B.C. Geological Survey, Tatshenshini Project; *Geological Survey of Canada*, Unpublished Report EM-03-11-92-3, 2 pages.

Norford, B.S. (1992a): Report on one collection of fossils from the Tatshenshini River Map-areas, northwestern British Columbia; *Geological Survey of Canada*, Unpublished Report O-5 BSN 1992, 1 page.

Norford, B.S. (1992b): Report on five collections of fossils from the Tatshenshini River and Yakutat Map-areas, northwestern British Columbia; *Geological Survey of Canada*, Unpublished Report O-D 7 BSN 1992, 2 pages.

Norris, A.W. (1992): Report on one lot of fossils from lower section of Henshi Glacier (north side), British Columbia; *Geological Survey of Canada*, Unpublished Report 2-AWN-92, 2 pages.

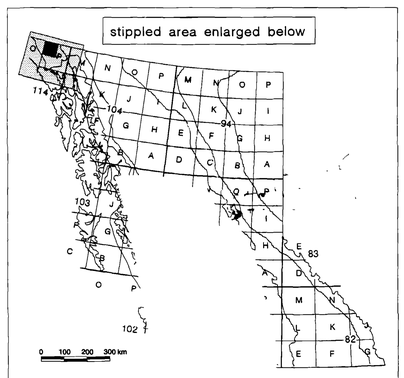
Orchard, M.J. (1985): Report on Microfossils From the Windy Craggy and Adjacent Areas of the Tatshenshini River Map Area (114P); *Geological Survey of Canada*, Unpublished Report, 2 pages.

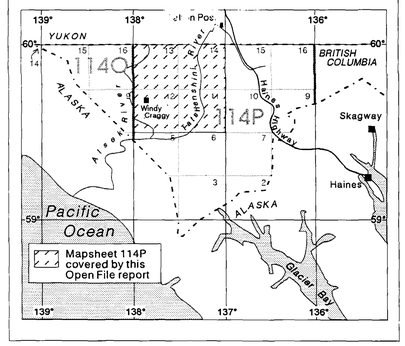
Orchard, M.J. (1991): Report on Conodonts and Other Microfossils, Tatshenshini River; *Geological Survey of Canada*, Unpublished Report OF-1991-14, 6 pages.

Prince, D.R. (1984): Windy Craggy/Tats Property, *Falconbridge Ltd.*, Unpublished Map.

Warwick, M.R., Kennedy, D.R., Pigott, J.A. and Isherwood, D. (1984): Geological, Geochemical, and Geophysical Report on the East Arm Property (Rime 1 - 20 Claims); *B.C. Ministry of Energy, Mines and Petroleum Resources*, Assessment Report 12,225.

LOCATION





SYMBOLS

Geological boundaries (defined, approximate, assumed)

Intrusive contacts (defined, approximate, assumed)

Limit of Quaternary alluvium

NOTE: outcrop underlies most areas that are neither ice nor alluvium-covered
Major areas of vegetative or other cover are outlined

Bedding (horizontal, inclined, vertical)

Bedding with tops observed (inclined, vertical , overturned)

Bedding with estimated dips (inclined, vertical)

Pillow orientation

Igneous flow layering (inclined, vertical)

Schistosity or gneissosity in metamorphic rocks; cleavage in sedimentary rocks: (inclined, vertical; phase indicated by number of ticks)

Joint (inclined, vertical)

Dike (inclined, vertical)

Vein (inclined, vertical)

Anticline, antiform (defined, approximate, assumed)

Syncline, synform (defined, approximate, assumed)

Overturned anticline, syncline

Overturned antiform, synform

Fold axis of minor fold with style indicated as M, S, Z symmetry or unspecified (arrow indicates plunge)

Lineations (unspecified, m = mineral, s = intersection, d = deformed clast, i = igneous inclusion, a = metamorphic aggregate, r = rodding or mullion)
ss = slickenside striae, c = crenulation

Small shear (inclined, vertical)

High angle fault (defined, approximate, assumed; teeth in direction of dip if known)

Thrust fault (defined, approximate, assumed; teeth in overlying plate)

Low angle normal fault (defined, approximate, assumed)

Lineament (from air photo)

Macrofossil locality (and GSC Catalog No.) F C–14567

Macrofossil locality (age indeterminate, and GSC Catalog No.) K C–23456

Microfossil locality (and GSC Catalog No.) f C–234

Isotopic age determination (Method, mineral(s) and age in Ma)
A = Ar-Ar, K = K-Ar, R = Rb-Sr, Z = U-Pb
H = hornblende, B = biotite, M = muscovite, W = whole rock, etc. K H130 GSC 567

MINFILE occurrence (location of developed prospect, prospect, showing; number in circle; name and commodity) 67 High Jervis Mo,Ag,Au

Adit, trench

Contour Interval 40m

Recommended citation:
Mihalynuk, M.G., Smith, M.T., MacIntyre, D.G., Deschênes, M., Timmerman, J. and Schiarizza, P. (1992): Northwest Tatshenshini River Map Area, Northwestern British Columbia (NTS 114P/11, 12, 13 & 14); *B.C. Ministry of Energy, Mines and Petroleum Resources*, Open File 1993-13, Sheet 1 of 6.

BC Ministry of Energy, Mines and Petroleum Resources

BRITISH COLUMBIA GEOLOGICAL SURVEY

Geological Survey Branch

OPEN FILE 1993-13

(Sheet 2 of 6)

CARMINE MOUNTAIN MAP AREA GEOLOGY

NTS 114P/11

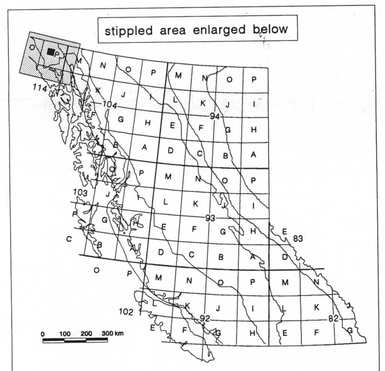
By M.T. Smith, M.G. Mihalynuk, D.G. MacIntyre, M. Deschênes, J. Timmerman, and P. Schiarizza

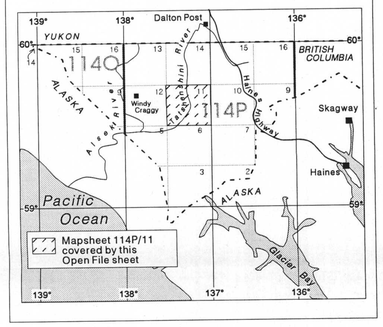
SCALE 1:50 000

0 1 2 3 4 5 kilometres

A contribution to the Corporate Resource Inventory Initiative

LOCATION





Topographic base map (Carmine Mountain, 114P/11) published by the Surveys and Mapping Branch, Department of Energy, Mines and Resources, 1987.

NORTH AMERICAN DATUM 1927
TRANSVERSE MERCATOR PROJECTION

Recommended citation:
Smith, M.T., Mihalynuk, M.G., MacIntyre, D.G., Deschênes, M., Timmerman, J. and Schiarizza, P. (1992): Carmine Mountain Map Area Geology (114P/11); *in* Mihalynuk, M.G., *et al.*; Northwest Tatshenshini River Map Area, North-western British Columbia, *B.C. Ministry of Energy, Mines and Petroleum Resources*, Open File 1993-13, Sheet 2 of 6.

BC Ministry of Energy, Mines and Petroleum Resources

BRITISH COLUMBIA GEOLOGICAL SURVEY

Geological Survey Branch

OPEN FILE 1993-13

(Sheet 3 of 6)

TATS LAKE MAP AREA GEOLOGY

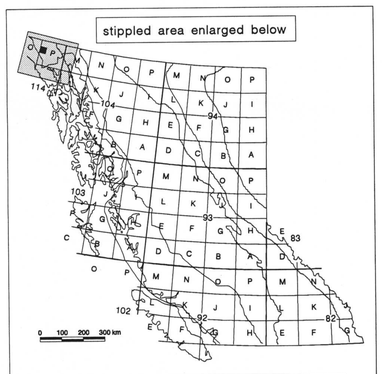
NTS 114P/12

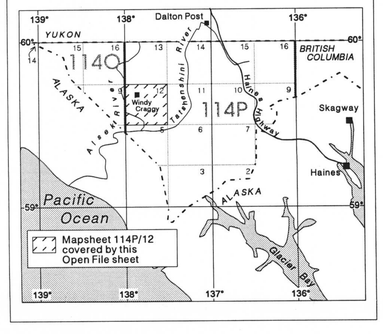
By D.G. MacIntyre, M.G. Mihalynuk, M.T. Smith, P. Schiarizza, M. Deschênes and J. Timmerman

SCALE 1:50 000

0 1 2 3 4 5 kilometres

A contribution to the Corporate Resource Inventory Initiative





Topographic base map (Tats Lake, 114P/12) published by the Surveys and Mapping Branch, Department of Energy, Mines and Resources, 1987.

NORTH AMERICAN DATUM 1927
TRANSVERSE MERCATOR PROJECTION

Recommended citation:
MacIntyre, D.G., Mihalynuk, M.G., Smith, M.T., Schiarizza, P., Deschênes, M., and Timmerman, J. (1992): Tats Lake Map Area Geology (114P/12); *in* Mihalynuk, M.G., *et al.*; Northwest Tatshenshini River Map Area, North-western British Columbia, *B.C. Ministry of Energy, Mines and Petroleum Resources*, Open File 1993-13, Sheet 3 of 6.

BC Ministry of Energy, Mines and Petroleum Resources

BRITISH COLUMBIA GEOLOGICAL SURVEY

Geological Survey Branch

OPEN FILE 1993-13

(Sheet 4 of 6)

RANGE LAKE MAP AREA GEOLOGY

NTS 114P/13

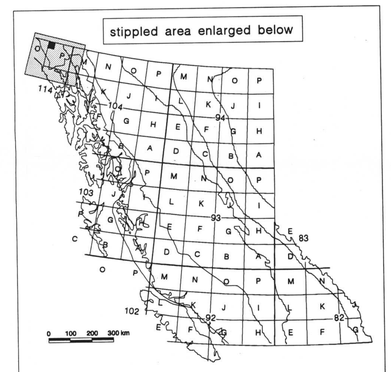
By M.G. Mihalynuk, M.T. Smith, M. Deschênes, J. Timmerman, P. Schiarizza and D.G. MacIntyre

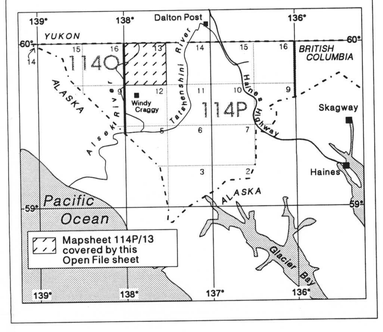
SCALE 1:50 000

0 1 2 3 4 5 kilometres

A contribution to the Corporate Resource Inventory Initiative

LOCATION

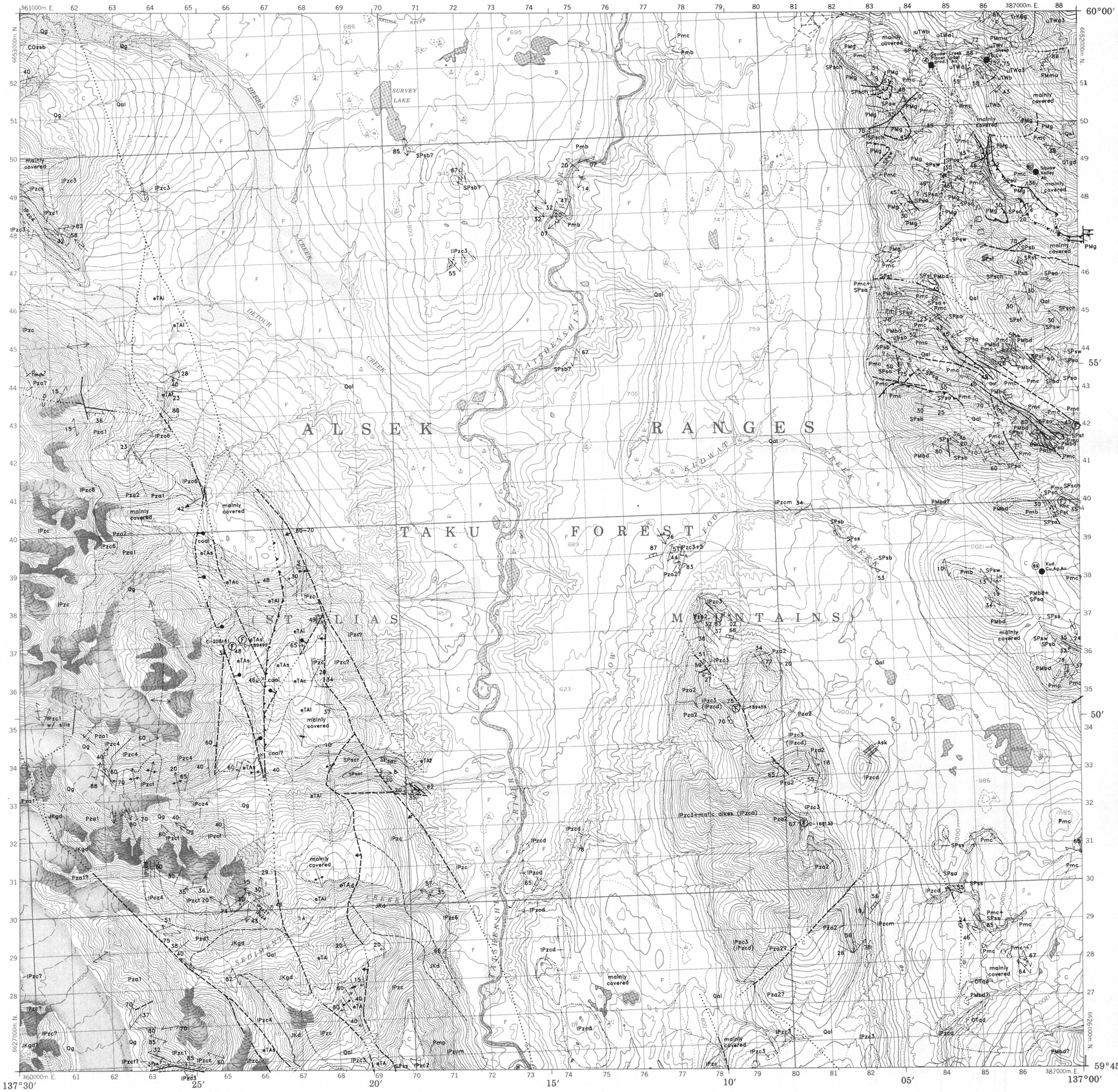


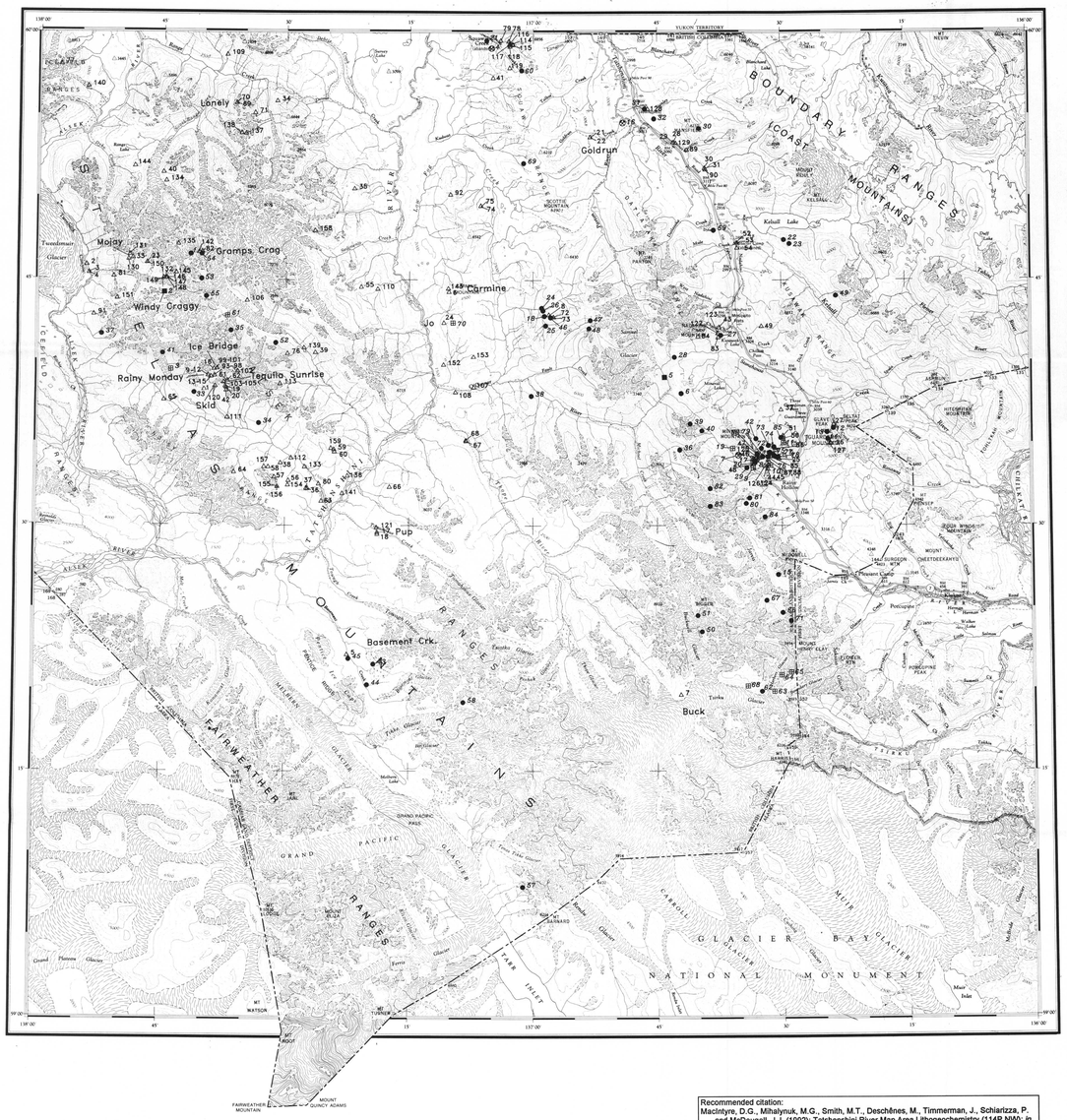


Topographic base map (Range Lake, 114P/13) published by the Surveys and Mapping Branch, Department of Energy, Mines and Resources, 1987.

NORTH AMERICAN DATUM 1927
TRANSVERSE MERCATOR PROJECTION

Recommended citation:
Mihalynuk, M.G., Smith, M.T., Deschênes, M., Timmerman, J., Schiarizza, P. and MacIntyre, D.G. (1992): Range Lake Map Area Geology (114P/13); *in* Mihalynuk, M.G., *et al.*; Northwest Tatshenshini River Map Area, North-western British Columbia, *B.C. Ministry of Energy, Mines and Petroleum Resources*, Open File 1993-13, Sheet 4 of 6.


ALSEK RANGES
TAKU FOREST
ST ELIAS MOUNTAINS
SURVEY LAKE
TATSHENSHINI RIVER
DETOUR CREEK
KUDWAY CREEK
SEDIMENTARY
LOW
Qg
Qal
mainly covered
IPzc
IPzc3
IPzc4
IPzc6
IPzc8
IPzcd
IPzcm
IPzc1 w/ sills
IIPzc3
Pzq1
Pzq2
Pzq2?
Pzq1?
eTAl
eTAs
eTAc
eTA
JKgd
JKd
Pmb
Pmc
SPsb
SPsb?
SPsbc
SPsw
SPsa
SPsaq
SPsch
SPsc
SPss
SPst
PMbd
PMbd?
PMg
PMmi
uTWb
uTWb1
uTWb3
uTWs
uTWs1
uTWs3
Ofqd
Ofqd?
Ask
Qud
Cu,Ag,Au
Pmc?
coal
coal?
Sloose Valley Alt
Quaw Creek Placer Prod.
Tatshenshini Prod.
Tatshenshini Alt
Tatshenshini Prod.
Tatshenshini Alt
Tatshenshini Prod.
Tatshenshini Alt



BC Ministry of Energy, Mines and Petroleum Resources

BRITISH COLUMBIA GEOLOGICAL SURVEY

Geological Survey Branch

OPEN FILE 1993-13

(Sheet 6 of 6)

TATSHENSHINI RIVER MAP AREA LITHOGEOCHEMISTRY

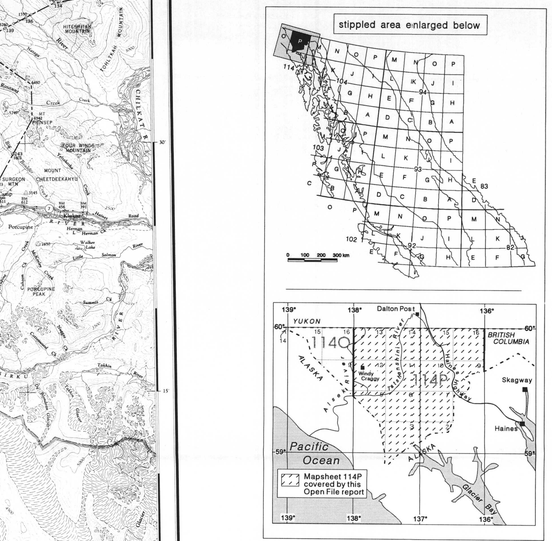
NTS 114P NW

By D.G. MacIntyre, M.G. Mihalynuk, M.T. Smith, M. Deschênes, J. Timmerman, P. Schiarizza and J.J. McDougall

SCALE 1:250 000

0 1 2 3 4 5 kilometres

A contribution to the Corporate Resource Inventory Initiative



LEGEND

assay sample location & no. ..... △ 3

mineral showing & MINFILE no. ..... ● 2

prospect ..... ⊞

developed prospect ..... ■

past producer ..... ⊗

Recommended citation:
MacIntyre, D.G., Mihalynuk, M.G., Smith, M.T., Deschênes, M., Timmerman, J., Schiarizza, P. and McDougall, J.J. (1992): Tatshenshini River Map Area Lithogeochemistry (114P NW); *in* Mihalynuk, M.G., *et al.*; Northwest Tatshenshini River Map Area, North-western British Columbia, *B.C. Ministry of Energy, Mines and Petroleum Resources*, Open File 1993-13, Sheet 6 of 6.

Topographic base map (Tatshenshini River, 114P) published by the Surveys and Mapping Branch, Department of Energy, Mines and Resources, 1975.

NORTH AMERICAN DATUM 1927
TRANSVERSE MERCATOR PROJECTION

Tatshenshini Map Area (114P) - Assay Data

Map No.	Sample Number	NTS	Easting metres	Northing metres	Au ppb	Ag ppm	Cu ppm	Pb ppm	Zn ppm	Co ppm	As ppm	Sb ppm
1	DMA92-1-5-1	114P/12	350000	6613750		0.2	9	17	76			
2	DMA92-2-8-1	114P/13	337150	6628400		0.2	39	8	80			
3	DMA92-2-10-2a	114P/13	337400	6627500		<0.2	39	69	150			
4	DMA92-2-10-2b	114P/13	337400	6627500		<0.2	47	17	40			
5	DMA92-3-12-1	114P/6	365600	6582700		1.1	0.59%	9	300			
6	DMA92-5-22-1	114P/11	378200	6623900		196	272	13.13%	0.53%			
7	DMA92-5-33-1	114P/7	403200	6577500		0.4	22	187	51			
8	DMA92-6-35-1	114P/10	389500	6620800		204	262	8.50%	0.76%			
9	DMA92-12-64-1	114P/12	350500	6615300	17	<5	0.006%	<5	36	349	<50	<25
10	DMA92-12-64-2	114P/12	350500	6615300	420	18	5.44%	8	74	650	117	<25
11	DMA92-12-64-3	114P/12	350500	6615300	274	11	5.32%	9	74	488	50	<25
12	DMA92-12-64-4	114P/12	350500	6615300	1714	11	0.1%	7	699	238	98	<25
13	DMA92-12-65-1	114P/12	350850	6615150	2057	31	5.68%	<5	919	80	<50	<25
14	DMA92-13-66-1	114P/12	350500	6615300	1697	11	2.37%	<5	312	280	<50	<25
15	DMA92-13-66-2	114P/12	350500	6615300	137	5	0.79%	5	214	80	<50	<25
16	DMA92-13-68-1	114P/12	351400	6616000	617	4	0.46%	63	935	138	196	<25
17	DMA92-14-72-1	114P/6	369200	6596950		<0.2	132	14	75			
18	DMA92-14-73-1	114P/6	369200	6596750		<0.2	86	10	85			
19	DMA92-15-74-1	114P/12	352500	6613850		0.7	166	72	280			
20	DMA92-15-75-1	114P/12	352400	6614000		0.2	990	10	100			
21	DMA92-15-78-2	114P/15	394750	6640600		72	23	513	450			
22	DMA92-15-78-1	114P/15	394750	6640850		19	71	508	0.12%			
23	DMA92-21-7-1	114P/13	344050	6628400		0.2	95	6	97			
24	JO SHOWING	114P/11	377500	6622400		8	1.20%	12	190			
25	JT92-3-2-1	114P/10	415050	6604000	<3	13	490	476	17.7	30	<0.5	0.9
26	JT92-4-5-1	114P/9	421325	6607700	383	42	0.40%	10	0.11%	64	44	1
27	JT92-5-11-1	114P/15	404050	6640000	<2	0.3	125	4	90	40	<0.5	0.5
28	JT92-5-12-1	114P/15	404350	6639900	<2	0.3	96	5	82	26	7.8	1.1
29	JT92-8-7-1	114P/9	415400	6609450	<2	7	0.27%	15	32	4	1.5	0.6
30	JT92-10-5-1	114P/13	342450	6629000	4	0.5	473	5	210	99	<0.5	<0.1
31	JT92-16-4-1	114P/14	367800	6635850	2990	2	619	19	125	100	2900	33
32	JT92-24-1-A	114P/13	361400	6620170	19	0.5	78	10	91	25	8.8	2.9
33	JT92-24-1-C	114P/11	361250	6602200	<2	0.2	20	14	156	13	3.4	1.1
34	JT92-37-5-1	114P/12	358400	6605150	14	1	490	4	82	2	14	0.2
35	JT92-38-2-1	114P/11	373250	6617525	3	0.3	350	7	15	74	1.7	<0.1
40	JT92-40-6-1	114P/13	346218	6638459	4	0.3	157	6	60	19	0.6	<0.1
41	JT92-43-8-1	114P/14	383912	6647831	3	0.3	50	6	22	210	<0.5	<0.1
42	JT92-45-2-1	114P/10	352500	6613200	20	0.9	235	32	179	150	2.2	0.3
43	MDE92-2-3-1	114P/10	408650	6619025	10	0.9	144	6	75	6	3	4.7
44	MDE92-3-1-A	114P/10	413750	6602850	27	1.2	47	25	280	2	8.9	0.5
45	MDE92-3-1-B	114P/10	413750	6602850	<2	175	11	1.12%	3.00%	83	11	0.4
46	MDE92-3-5-1	114P/10	412150	6604075	4	3	0.16%	23	200	29	2.1	3.5
47	MDE92-3-6-1	114P/10	412800	6604350	1110	710	13.10%	50	136	15	160	3.6
48	MDE92-3-7-1	114P/10	412250	6603600	<2	6	0.46%	7	128	150	<0.5	0.3
49	MDE92-3-8-1	114P/10	413450	6619025	24	61	233	0.91%	0.24%	<1	290	13
50	MDE92-4-9-1	114P/9	415500	6609350	<2	14	301	0.35%	0.70%	41	3.4	1.7
51	MDE92-4-5-1	114P/9	415550	6606550	<2	68	110	6.25%	9.70%	26	1.7	2.8
52	MDE92-7-3-1	114P/15	410950	6628550	8	0.3	194	109	69	4	<0.5	<0.1
53	MDE92-7-3-1	114P/15	410950	6628550	<2	0.3	179	23	94	49	1.2	<0.1
54	MDE92-7-5-1	114P/15	410950	6627950	5	0.4	960	9	111	71	<0.5	<0.1
55	MDE92-16-6-1	114P/11	368250	6624600	4	0.8	231	31	87	26	110	1.5
56	MDE92-17-2-1	114P/11	369250	6620150	2	0.3	12	23	4	3	11	0.4
57	MDE92-17-5-1	114P/11	357650	6603600	9	0.7	371	8	125	53	<0.5	0.3
58	MDE92-17-6-1	114P/11	357000	6604750	<2	0.8	95	37	155	45	3.6	0.7
59	MDE92-20-1-A	114P/11	364550	6606450	4	1.5	325	9	147	29	6.1	0.4
60	MDE92-20-1-B	114P/11	364600	6606200	4	1.1	83	15	122	10	2.5	0.3
61	MDE92-21-5-1	114P/10	413750	6612850	<2	175	11	0.21%	8	24	160	53	0.5
62	MDE92-21-7-1	114P/12	352250	6614450	13	1.8	0.19%	181	310	110	130	1.9
63	MDE92-25-2-B	114P/11	362950	6600700	<2	0.4	128	12	98	46	1.8	0.3
64	MDE92-26-3-1	114P/12	353100	6604300	<2	0.2	43	14	78	14	1.50	<0.5
65	MDE92-26-5-C	114P/12	345400	6612700	<2	<0.2	8	13	84	18	35	0.5
66	MDE92-27-4-1	114P/11	370750	6602050	4	0.2	86	14	90	17	<0.5	0.3
67	MDE92-28-1-B	114P/11	379650	6599500	14	<0.3	12	8	58	2	24	1.8
68	MDE92-28-1-D	114P/11	379600	6607000	143	85	0.35%	0.46%	0.20%	3	9.8	120
69	MDE92-30-1-C	114P/13	354750	6646000	6	1	0.48%	7	83	390	<0.5	<0.1
70	MDE92-32-1-3	114P/13,	354750	6646000	5	0.6	570	4	117	56	<0.5	<0.1
71	MDE92-32-7-1	114P/13	356800	6644800	4	0.5	117	6	84	12	<0.5	<0.1
72	MDE92-34-6-A	114P/10	389850	6620700	<4	29	0.22%	38	440	<1	220	1300
73	MDE92-34-6-B	114P/10	389850	6620700	6	0.4	210	21	180	20	60	5.6
74	MDE92-34-9-D	114P/14	382100	6633450	21	2.1	0.63	13	45	47	100	2.6
75	MDE92-34-9-E	114P/14	382100	6633450	56	1.4	1.60%	3	38	200	130	<0.1
76	MDE92-39-2-C	114P/11	359600	6617500	<2	0.9	970	10	40	190	0.6	<0.1
77	MDE92-43-5-A	114P/13	335000	6651100	6	2.4	1.00%	8	156	0.7	750	0.2
78	MDE92-44-9-1	114P/14	385850	6651950	<2	4.3	0.65%	4	123	1	260	0.7
79	MDE92-44-11-1	114P/14	384900	6652050	603	25	0.70%	24	27	73	440	12
80	MDE92-45-1-1	114P/10	382700	6602550	<2	0.3	336	3	93	17	<0.5	0.1
81	MDE92-46-1-1	114P/13	340200	6627000	4	0.3	177	4	102	30	0.9	0.2
82	MDE92-48-5-1	114P/13	350200	6629250	45	54	14.20%	47	104	32	<0.5	1.9
83	MW92-1-4-1	114P/10	408750	6618100	4	1.5	61	71	65	20	45	4.3
84	MW92-2-5-1	114P/10	406250	6618050	<2	0.4	73	25	67	42	46	1.8
85	MW92-3-4-1	114P/10	414400	6604250	2	19	365	0.11%	3.00%	9	6.1	1.2
86	MW92-3-5-1	114P/10	414600	6603150	<2	1.3	0.22%	14	171	6	12	1.3
87	MW92-3-10-1	114P/10	413800	6603900	<2	2	920	12	0.40%	10	6.4	1.1
88	MW92-3-11-1	114P/10	413800	6603350	<2	32	365	6.16%	8.80%	100	1.5	18
89	MW92-6-3-2	114P/15	405550	6639250	<2	0.3	72	60	125	151	28	0.6
90	MW92-7-4-1	114P/15	407600	6636800	<3	<0.3	46	6	63	13	2500	170
91	MW92-10-5-1	114P/12	337775	6622700	<2	0.3	93	8	74	27	2.2	1
92	MW92-13-7-1	114P/14	378675	6634800	4	<0.2	20	6	100	30	11	0.6
93	MW92-20-4-2	114P/12	350500	6615300	720	15	13.5%	5	192	0.27%	0.19%	<25
94	MW92-20-5-1	114P/12	350850	6615200	120	18	8.6%	<5	599	38	<50	<25
95	MW92-20-6-1	114P/12	350800	6615100	960	25	13.8%	<5	359	56	<50	<25
96	MW92-21-2-1	114P/12	351200	6616000	189	5	0.36%	<5	99	264	76	<25
97	MW92-21-3-1	114P/12	351250	6615250	2366	36	10.2	<5	136	273	50	<25
98	MW92-21-3-2	114P/12	351250	6615250	1286	39	20.2%	<5	321	175	50	<25
99	MW92-21-5-1	114P/12	351550	6616050	326	3	0.43%	49	0.29%	127	50	<25
100	MW92-21-5-2	114P/12	351550	6616050	703	3	0.36%	59	0.41%	122	65	<25
101	MW92-21-6-1	114P/12	351550	6616000	240	1	0.13%	52	815	52	289	<25
102	MW92-22-4-1	114P/12	353950	6614150	3	0.7	67	12	124	9	2	0.6
103	MW92-22-7-1	114P/12	352650	6614625	39	0.8	870	7	80	450	41	0.8
104	MW92-22-9-1	114P/12	352125	6614400	410	6	0.86%	20	0.22%	710	380	0.2
105	MW92-22-9-2	114P/12	352125	6614400	560	12	1.56%	9	173	78	11	0.9
106	MW92-28-3-1	114P/12	355225	6623700	<2	0.3	10	6	16	1	13	0.3
107	MW92-30-5-1	114P/11	360700	6612950	20	0.6	53	62	180	10	79	11
108	MW92-30-7-2	114P/11	376600	6612425	4	0.9	36	33	12	2	28	4.9
109	MW92-31-4-1	114P/13	353675	6651475	6	0.3	201	3	79	28	6	0.3
110	MW92-35-6-1	114P/11	370100	6624500	<2	0.4	7	366	0.13%	2	7.9	7.2
111	MW92-37-4-2	114P/12	352500	6610475	3	0.7	900	11	109	97	26	0.4
112	MW92-37-6-1	114P/12	359650	6605650	<2	0.3	25	6	44	9	8.8	0.4
113	MW92-38-4-1	114P/12	358620	6614050	6	0.6	30	6	123	6	3.7	0.9
114	**MW92-44-1-2**	**114P/14**	**385875**	**6651625**	**5**	**3.9**	**0.80%**	**<3**	273	72	17	0.3
115	**MW92-44-3-1**	**114P/14**	**386200**	**6651570**	**7**	**3**	720	**298**	**1.6**	74	**35**	**1.4**
116	**MW92-44-4-1**	**114P/14**	**386275**	**6651500**	**4**	**0.8**	**0.29%**	<3	132	160	<0.5	0.4
117	MW92-44-5-1	114P/14	385900	6651500	3	1.1	41	3	59	20	3.5	2.1
118	MW92-44-6-B	114P/14	385900	6651325	<2	<0.3	91	<3	50	18	<0.5	0.4
119	MW92-44-7-C	114P/14	385800	6649900	<2	<0.3	9	7	34	1	<0.5	<0.1
120	MW92-45-6-1	114P/12	351275	6614050	461	7	4.67%	<3	340	140	20	0.7
121	MSM92-35-2-1	114P/11	369150	6597500	<2	0.3	356	6	69	42	1.7	0.3
122	MSM92-1-3-A	114P/10	408500	6618350	<2	0.6	7	226	<1	3.8	0.3	
123	MSM92-1-3-B	114P/10	408500	6618350	<2	1.2	78	9	400	4	8.1	1.1
124	MSM92-3-6-1	114P/10	412800	6604100	6	55	1.06%	1.02%	1.43%	63	190	5.2
125	MSM92-3-8-1	114P/10	412150	6603450	65	235	0.54%	17.90%	30.00%	300	<0.9	46
126	MSM92-4-3-1	114P/9	420950	6606500	176	375	17.95%	230	1.60%	110	14	<0.1
127	MSM92-5-11-1	114P/15	401200	6643800	<2	0.6	193	39	128	24	40	3.2
128	MSM92-5-11-A	114P/15	404050	6640000	<2	<0.3	48	9	49	17	2.2	0.4
130	MSM92-10-1-1	114P/13	341950	6628850	7	4	523	5	41	550	<0.5	0.3
131	MSM92-10-2-1	114P/13	342100	6629400	3	0.7	199	8	84	21	4.2	<0.1
132	MSM92-21-5-B	114P/13	345850	6629500	<2	<0.2	90	8	40	41	5.6	0.3
133	MSM92-22-2-1	114P/11	361150	6604600	3	0.3	70	10	0.11%	3	2	0.3
134	MSM92-23-1-1	114P/13	346500	6637500	<2	0.3	146	9	121	22	1.7	0.3
135	MSM92-23-2-1	114P/13	347650	6630400	9	0.7	468	6	79	73	1.2	0.2
136	MSM92-25-1-1	114P/11	366000	6603450	<2	<0.2	62	10	25	**38**	**2.3**	**0.3**
137	**MSM92-32-6-1**	**114P/13**	**356700**	**6642550**	**<2**	**0.6**	**314**	**3**	**41**	**31**	**2.9**	**0.3**
138	**MSM92-32-8-1**	**114P/13**	**355200**	**6642600**	**29**	**1.7**	**650**	**8**	**30**	**95**	**41**	**2.1**
139	**MSM92-39-3-1**	**114P/11**	**361500**	**6618100**	**14**	**2.2**	**800**	**26**	**770**	**59**	**290**	**12**
140	MSM92-41-1-1	114P/13	338000	6648500	**6**	**0.6**	223	7	200	**48**	1.5	0.6
141	MSM92-45-1-1	114P/11	365350	6601500	22	3.3	0.25%	10	117	150	3.5	0.6
142	MSM92-48-4-1	114P/13	350100	6629300	22	**5**	**4.26%**	11	43	320	<0.5	0.4
143	MSM92-13-13-1	114P/11	378150	6624300	5810	150	0.37%	4.37%	0.13%	34	63000	310
144	MSM92-18-5-1	114P/15	343000	6633000	24	0.7	25	118	36	16	260	3.7
145	MSM92-21-1-1	114P/13	347300	6627150	6	0.4	20	19	16	28	40	1
146	MSM92-21-3-1	114P/13	346250	6626600	<2	0.2	50	11	34	28	6.4	0.4
147	MSM92-21-4-A	114P/13	346100	6626500	14	0.5	57	8	45	22	6.2	0.4
148	MSM92-21-4-B	114P/13	346100	6626500	<3	0.2	15	8	5	21	8.2	0.3
149	MSM92-21-5-A	114P/13	345850	6626500	3	0.2	89	10	38	65	3	0.5
150	MSM92-21-7-1	114P/13	344050	6628400	<2	<0.2	20	8	14	2	5.4	0.6
151	PSC92-3-2-2	114P/12	340489	6624469			0.6	88	5	59		
152	PSC92-4-1-2	114P/11	377340	6615600			0.4	32	19	52		
153	PSC92-6-8-1	114P/11	380760	6616440			0.3	12	12	176		
154	PSC92-10-2-1	114P/11	359157	6602640			0.5	161	6	16		
155	PSC92-10-4-1	114P/11	357958	6602500			0.6	120	7	473		
156	PSC92-10-5-1	114P/11	357860	6602471			0.3	76	31	66		
157	PSC92-10-9-2	114P/11	356536	6604787			0.7	77	20	303		
158	PSC92-13-6-2	114P/14	363209	6631349			0.4	38	31	97		
159	PSC92-13-4-2	114P/11	364200	6606600			1	97	6	57		

Tatshenshini Map Area (114P) - Mineral Occurrences

Minfile No.	Occurrence Name	NTS Map	Easting metres	Northing metres	Status	Class	Commodities
1	DUCK'S FACE	114P/13	349024	6629208	showing	Gypsum	Gypsum
2	WINDY CRAGGY	114P/12	345862	6625001	developed prospect	VMS	Cu,Co,Au,Ag,Zn
3	TATS	114P/12	346300	6616157	prospect	VMS	Cu,Ag,Co,Zn,Au
4	SQUAW CREEK PLACER	114P/14	383839	6651175	past producer	Placer	Au,Cu,Ag
5	O'CONNOR RIVER	114P/10	402302	6613501	developed prospect	Gypsum	Gypsum,Anyhdrite
6	KIM	114P/10	404133	6611997	showing	Vein	Zn
7	MAID OF ERIN (L.722)	114P/10	410467	6604477	past producer	Skarn	Ag,Cu,Au,Zn,Bi
8	STATE OF MONTANA (L.283)	114P/10	412466	6604965	past producer	Skarn	Ag,Cu,Au,Bi
9	VICTORIA (L.903)	114P/10	412082	6603046	prospect	Skarn	Ag,Zn,Pb,Au,Cu
10	ADAMS (L.727)	114P/10	414051	6603310	prospect	Skarn	Pb,Zn,Ag
11	LAWRENCE (L.955)	114P/9	415586	6605751	prospect	Skarn	Ag,Pb,Zn,Au,Cu
12	SIMCOE (L.362)	114P/9	421281	6607329	showing	Skarn	Au,Cu,Fe,Mo
13	MILDRED (L.213)	114P/9	420566	6606880	showing	Skarn	Ag,Cu,Fe
14	CANADIAN VERDEE	114P/9	420628	6606105	showing	Skarn	Zn,Pb,Ag,Au,Bi,Fe
15	GOLD CORD	114P/7	414635	6590919	showing	Vein	Au,Ag,Cu
16	GOLD RUN CREEK PLACER	114P/15	398394	6642389	past producer	Placer	Au
17	WINDSOR (L.804)	114P/10	412257	6603816	showing	Skarn	Cu,Zn
18	HUMBIRD - DISCOVERY	114P/10	385969	6620837	showing	Vein	Ag,Pb,Zn,Cu
19	BORNITE	114P/10	409858	6605265	prospect	Skarn	Cu,Mo,Pb,Zn
20	WAR EAGLE (L.901)	114P/10	412332	6603660	showing	Skarn	Fe
21	SHEEP	114P/14	383310	6652121	showing	Dissem	Cu
22	KELSAL 24	114P/16	416273	6628790	showing	Vein	Cu
23	KELSAL 32	114P/16	416886	6628312	showing	Vein	Cu
24	HUMBIRD - CREEK	114P/10	386684	6621775	showing	Vein	Ag,Zn,Pb,Cu
25	HUMBIRD - SOUTH	114P/10	386003	6619750	showing	Vein	Ag,Cu,Zn,Pb
26	HUMBIRD - CAMP	114P/10	386831	6621461	showing	Vein	Ag,Cu,Zn,Pb
27	LUNAR	114P/10	408838	6618133	showing	Vein	Ag,Pb,Zn
28	NADAHINI MOUNTAIN	114P/10	403536	6615790	showing	Asbestos	Asbestos
29	HIBERNIAN	114P/10	411376	6603063	showing	Skarn	Cu,Ag,Pb,Zn
30	MOUNT MAINSFIELD	114P/15	407700	6641544	showing	Vein	Cu
31	C AND E NORTH	114P/15	400921	6643868	showing	Shear	Cu,Ni
32	C AND E SOUTH	114P/15	401979	6642757	showing	Shear	Zn,Sb,Pb,Sr
33	WC 17	114P/12	348854	6613421	showing	Shear	Au,Ag
34	TATS CREEK	114P/12	356082	6609730	showing	Vein?	Cu,Au,Ag
35	BARBICAN MOUNT	114P/12	353283	6620367	showing	Vein	Ag,Cu,Au
36	KLEHINI RIVER SW	114P/10	403814	6605261	showing	Vein	Zn,Ag,Cd
37	ALSEK TRIBUTARY	114P/12	338573	6620510	showing	Contact	Cu,Au,Ag
38	FAULT CREEK	114P/11	387210	6611759	showing	Vein	Ag,Pb,Zn,Au
39	CAMP CREEK	114P/10	405065	6608169	showing	Skarn	Ag,Cu,Au
40	KLEHINI RIVER NE	114P/10	406378	6607362	showing	Vein	Ag,Pb,Zn,Cu
41	ALSEK	114P/12	345438	6618051	showing	VMS?	Cu,Au,Ag
42	INSPECTOR CREEK	114P/10	412472	6606287	showing	Contact	Cu,Ag
43	BASEMENT - JUNE 24	114P/6	368299	6582037	showing	VMS	Ba,Ag,Cu,Pb,Zn,Au,Co
44	BASEMENT - JUNE 21	114P/6	367508	6579742	showing	Vein	Au,Cu,Ag
45	BASEMENT WEST	114P/6	365480	6582755	showing	VMS	Cu,Ag,Au,Co,Zn
46	HUMBIRD - DOME	114P/10	389667	6620662	showing	Repl	Ag,Cu,Zn,Pb,Au
47	SAM - NORTH GLACIER	114P/10	394190	6620222	showing	Skarn	Cu,Zn,Pb
48	SAM - MAIN GLACIER	114P/10	394007	6619298	showing	Skarn	Cu,Pb,Zn,Ag,Au
49	KEL	114P/9	421987	6622322	showing	Vein	Cu,Au,Ag,Zn
50	VALIA	114P/7	405811	6594631	showing	VMS	Cu,Pb,Zn,Ag,Fe
51	MOUNT BIGGER	114P/7	405385	6586498	showing	Vein	Pb,Ag,Cu,Zn
52	PENDANT GLACIER	114P/12	353039	6618779	showing	Vein	Zn,Cu,Ag,Au,Pb
53	PAMPERO RIDGE	114P/13	350159	6626375	showing	Vein	Zn,Cu,Ag
54	GRAMPS CRAG	114P/13	350271	6629158	showing	VMS?	Cu,Zn,Ag
55	AEOLIAN STEEPLE	114P/12	350625	6624044	showing	VMS?	Zn,Ag,Cu
56	VEGA (L.145)	114P/10	412589	6604582	showing	Skarn	Ag,Cu,Zn,Au
57	ALU	114P/3	384583	6556124	showing	Skarn	Cu,Mo,Wo
58	SAC	114P/6	379422	6577364	showing	Porphyry	Cu
59	HAINES ROAD	**114P/15**	**408349**	**6630060**	showing	**VMS**	**Ba**
60	SQUAW VALLEY	**114P/14**	**387157**	**6648596**	showing	**Asbestos**	**Asbestos**
61	RIME	**114P/12**	**352958**	**6622983**	prospect	**VMS**	**Au,Ag,Cu,Pb,Zn,Co**
62	HERBERT WEST	**114P/7**	**412437**	**6577664**	showing	**VMS**	**Au,Ag,Cu,Co,Pb**
63	HERBERT EAST	**114P/7**	**413960**	**6577631**	showing	**VMS**	**Ag,Cu,Zn,Au,Co,Pb**
64	LOW HERBERT	114P/7	414692	6579469	prospect	VMS	Cu,Ag,Au,Zn,Pb,Talc,Ba
65	MOUNT HENRY CLAY	114P/8	415804	6579753	prospect	VMS	Au,Cu,Ag,Zn
66	JARVIS SOUTH	114P/8	415010	6566579	showing	Dissem	Cu
67	HIGH JARVIS	114P/7	413228	6588012	showing	VMS	Zn,Ag,Au
68	GRIZZLY HEIGHTS	114P/7	410872	6578319	prospect	V