

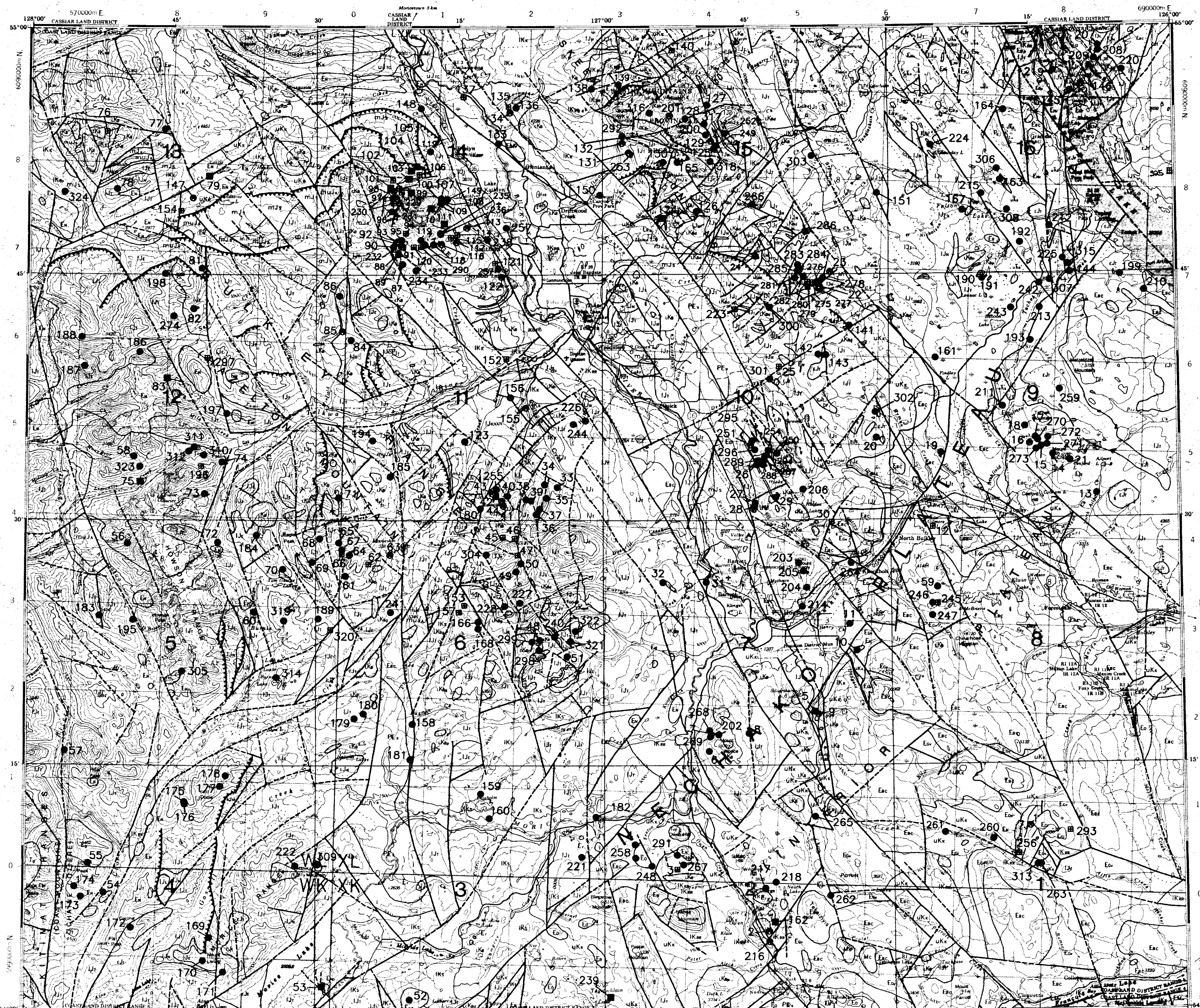
**GEOLOGICAL LEGEND**

**LAYERED ROCKS**

- MIOCENE TO PLEISTOCENE**
- CHILCOTT GROUP**
    - MC: Olivine basalt flows; thick, massive, columnar jointed, flat lying; includes Poplar Butte volcanics.
  - ENDAKO GROUP**
    - EM: Basalt and andesite, massive, vesicular and amygdaloidal minor breccias and tuff, aphyric to bladed plagioclase porphyritic.
    - ERIC: Buck Creek Formation: andesite and basalt flows, fine grained, amygdaloidal, flat lying; includes dacite to basalt, mostly andesite, 43-49 Ma.
    - Egv: GOOSLY LAKE FORMATION: trachyandesite, trachyte and basalt; tabular feldspar phenocrysts, glomerophenocrysts to 1 cm, includes minor syenite.
  - NEWMAN VOLCANICS**
    - Env: Dacite to andesite hornblende-biotite-feldspar porphyry flows, breccia and tuff; extensive equivalent of the Babine Intrusions, may include high-level intrusions 52 Ma.
  - OOTSA LAKE GROUP**
    - EO: Predominantly rhyolite, flow banded, spherulitic, quartz and biotite phyrlic phases, felsite, may include small intrusions 49-53 Ma.
  - PALEOCENE AND EOCENE or Younger**
    - ES: Sandstone, siltstone, conglomerate, shale, coaly shale, coal, interbedded tuff, tuffaceous sandstone and conglomerate, calcareous, fossiliferous, polystratoclastic feldspar and hornblende porphyry, rhyolite, chert, argillite, Eocene polystratoclastic, includes driftwood beds.
  - UPPER CRETACEOUS TO EOCENE**
    - UKT: Conglomerate, sandstone, siltstone, shale, clasts of chert, metazirconite and quartz; Upper Cretaceous polystratoclastic, includes Burns Lake beds and conglomerates overlying Kaskasla Group rocks north of Mt. Cronin; may in part be correlative with PEK, overlain by Buck Creek Formation at Rose Lake.
  - SUSTUT GROUP**
    - UKS: Graywacke, conglomerate, shale, locally carbonaceous, volcanic conglomerate and sandstone with locally developed detritus, volcanic clast-chert pebble conglomerate in Goosly Lake area.
  - LOWER TO UPPER CRETACEOUS**
    - UKK: KASALAKA GROUP: Predominantly hornblende-feldspar-porphyrific andesite flows and related lavas, debris flows, volcanic breccias and epiclastic beds; also includes lesser hornblende-biotite-feldspar porphyry dacite to rhyolite, aphyric to aegyrphic basaltic andesite, flow-banded quartz phyrlic rhyolite, hornblende-biotite-bearing lapilli and crystal tuff. Overlies older rocks with angular discordance. Basal member is a red polymictic conglomerate; porphyritic flows are in part the extrusive equivalent of the Bulkley Intrusions, includes Mt. Cronin volcanics, Tip Top Hill volcanics, Owen Lake volcanics, Lamprey Creek volcanics, Louise Lake volcanics.
  - LOWER CRETACEOUS**
    - IKS: SKEENA GROUP: Undifferentiated marine sedimentary rocks; sandstone, siltstone, argillite and chert pebble conglomerate.
    - IKW: RED ROSE FORMATION: sandstone, siltstone, argillite, chert pebble conglomerate and mudstone; many fossiliferous, common detrital muscovite, Albian, lower Albian to Cenomanian.
    - IKV: ROCKY RIDGE VOLCANICS: subaerial to subaqueous andesite basalt to basaltic andesite, aegyrphic to aphyric, locally porphyritic and amygdaloidal; minor greenstone, green to maroon air-fall tuff, breccia, lahar and interbedded volcaniclastic sediments; includes Mt. New volcanics (IRV).
    - IKK: KITSUMS CREEK FORMATION: felsitic and volcanic sandstone, siltstone, shale, polystratoclastic conglomerates, coal, carbonaceous sediments, Berensian to Hauterivian.
  - MIDDLE TO UPPER JURASSIC**
    - UKJC: BOWSER LAKE GROUP: Trout Creek Formation: interbedded conglomerate, sandstone, siltstone, shale and coal; marine and non-marine, polystratoclastic with volcanic and granitoid clasts; Upper Oxfordian.
    - UKJA: ASHMAN FORMATION: dark gray, thin-bedded siltstone and shale, with lenses of chert pebble conglomerate and compositionally similar fine to coarse sandstone, late Eogocian to early Oxfordian.
  - LOWER TO MIDDLE JURASSIC**
    - UKL: HAZELTON GROUP: Undivided volcanic rocks.
    - UKLS: SMITHERS FORMATION: marine, shallow-water felsitic sandstone, siltstone, argillite, graywacke, locally gneissic and tuff; minor ash, crystal and lapilli tuff, volcanic breccia, volcanic-pebble conglomerate, limestone, very fossiliferous, Asienian to Eogocian.

- UKL: EAGLE PEAK FORMATION: red to brick-red crystal-tuffic tuff, tuffaceous mudstone, lapilli tuff, red volcaniclastic sediments, minor amygdaloidal basalt, gray rhyolite ash flow and marl, formerly Red Tuff Member of the Nihilikwa Formation, overlies the Nihilikwa Formation and underlies the Smithers Formation, mainly Tertiary?
  - UKLN: NIKITKWA FORMATION: shallow to deep marine sediments; shale, graywacke, sandstone, siltstone, blocky limestone, limestone reef, feldspathic argillite; conglomerate, ash tuff, felsic and granitic clasts in basal conglomerate, upper Silesian to Tortonian/Dogger.
  - UKLT: TELKWA FORMATION: maroon, green and purple subaerial andesite to dacitic porphyritic rocks, feldspar-phyrlic andesite flows and related fragmental rocks, highly phyrlic to aphyric basalt flows and flow top breccia, thin-bedded volcanic beds, well bedded lapilli, crystal and ash air-fall tuff, accretionary lapilli tuff, welded quartz-feldspar-phyrlic ash-flow tuff, granitoid, lahar, volcanic breccia, volcaniclastic sedimentary rocks.
- TRIASSIC TO LOWER JURASSIC**
- UKTV: Greenstone, basaltic andesite, underlies boulder conglomerate on the north face of Mt. McKendrick; may be correlative with Stuhni Group.
- UPPER TRIASSIC**
- UKTS: STUHNI GROUP: UNDIVIDED: brown, black and gray, mixed sedimentary rocks interbedded with medium to dark green, mafic to intermediate volcanic and volcaniclastic rocks (pyroxene & hornblende biotite porphyritic). Minor, intermediate to felsic tuffs and limestone lenses. Mostly Norian but may range in age from Ludlow to Hettangian.
- LOWER PERMIAN TO UPPER TRIASSIC**
- UKP: Limestone, white crystalline limestone, thin bedded black limestone, dolomite limestone with chert nodules, minor interbedded volcaniclastic rocks, may include Upper Triassic chert shales.
- DEVONIAN, CARBONIFEROUS AND PERMIAN**
- UKPS: STONE ASSEMBLAGE: Undivided strata of probable Permian or older age, includes carbonate, flow layered and aprillite, quartz porphyry and flow breccia, intermediate tuff, lapilli tuff, ash-flow tuff, basalt and andesite flows, tuff and silt.
- INTRUSIVE ROCKS**
- UKQ: Granite, granodiorite, generally fresh unfoliated to weakly foliated, biotite generally greater than hornblende.
- PALEOCENE TO EOCENE?**
- UKQ1: Biotite granodiorite with sparse s hornblende, medium grained, 50.8 ± 2.2 Ma K-Ar hornblende age.
  - UKQ2: GOOSLY INTRUSIONS: syenonitoid to gabro stocks and dikes, labeled feldspar phenocrysts, 48-54 Ma.
  - UKQ3: BABINE INTRUSIONS: predominantly hornblende-biotite-feldspar porphyry plugs and dikes, also includes biotite porphyry and hornblende porphyry (Eka), rhyolite porphyry (Ekb), 50-52 Ma.
  - UKQ4: Rhyolite, quartz-feldspar porphyry, plugs, dikes and dikes. Possible intrusive equivalent of Ootsa Lake Group rhyolite flows.
  - UKQ5: NANIKA INTRUSIONS: gray to pink, porphyritic (Eka) to non-porphyrific granites, quartz monzonite, granodiorite, includes minor rhyolite and quartz porphyry as small stocks, plugs, dikes and sills, 47-54 Ma.
- LATE CRETACEOUS**
- UKK1: BULKLEY INTRUSIONS: biotite-hornblende quartz diorite (UKK1a), and diorite (UKK1b); feldspar porphyry, biotite-hornblende-feldspar porphyry, biotite-feldspar porphyry, hornblende feldspar porphyry (UKK1c), minor andesite, felsite, argillite, asenite and intrusive breccias, stocks, plugs, sills and dikes, 64 to 84 Ma.
- EARLY CRETACEOUS**
- UKK2: MACALEY ISLAND PLUTON: medium to coarse grained, massive, isotropic to weakly foliated hornblende-biotite quartz monzonite (Eka), radiometric ages range from 125-131 Ma.
- JURASSIC**
- UKJ1: Post-kinematic stocks, porphyritic to non-porphyrific, pink, quartz monzonite, biotite-hornblende granodiorite, quartz monzonite, unfoliated plutons.
- LATE JURASSIC**
- UKJ2: Hornblende diorite.
- MIDDLE JURASSIC**
- UKJ3: Mesocratic olivine-pyroxene gabbro.
- EARLY JURASSIC**
- UKJ4: TOPLEY INTRUSIONS: granodiorite, quartz diorite, diorite (UKJ4a), minor granite.

Geological map and legend extracted from:  
MacIntyre, D.G., Aah, C.H. and Britton, J.M. (1994). Geological Compilation, Skeena-Nass Area, West Central British Columbia (NTS 93 L, M, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.



**BC** Ministry of Energy, Mines and Petroleum Resources  
Geological Survey Branch  
**MINFILE MAP NTS 093L SMITHERS**  
This MINFILE release researched and compiled by: L.L. Duffer  
Date Revised: March 1995  
Scale 1:250 000

Total Number of Mineral Occurrences: 324  
325

103P	03M	03N
103I	03L	03K
103E	03E	03F

**MAP LEGEND - 093L**

MINFILE NUMBER	NAME	COMMODITIES
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002	SILVER CREEK	AG CU AU
003	GOOSE	AG CU AU
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