LEGEND for the TECTONIC ASSEMBLAGE MAP of the CANADIAN CORDILLERA

SEDIMENTARY and VOLCANIC ROCKS

ASSEMBLAGE NAME	ASSEMBLAGE LITHOLOGY	INSULAR - ST. ELIAS BELT	COAST - CASCADES BELT	INTERMONTANE BELT	OMINECA BELT	MACKENZIE and ROCKY MOUNTAINS BELT	INTERIOR PLATFORM and ARCTIC SHELF BELT
MIOCENE - RECENT: TQs Sooke-Yakataga	mudstone, fine sandstone, conglomerate; marine and non-marine	TQs: M sediments on continental shelf (Fr,Sk), M Clallam (Fr), T Sooke (Fr), TQ Yakataga (Is, McM)					
TERTIARY AND QUATERNARY: TQw Wrangell-Garibaldi	basic to intermediate volcanics, with minor acid phases	TQw: Q Edgecumbe (Is), TQ Tlevak, Tow Hill (Sk), Wrangell (McM)	TQw: TQ Ketchican (Sk), TQ Garibaldi, Mt. Baker, Glacier Pk., Silverthrone (Fr)	TQw: Q Miles Canyon (McM), Nass Lava (Is), TQ Heart Pks., Level Mtn., Tuya (Is) Selkirk (McM)	TQw: TQ Tuya (Is)		
MIOCENE - PLIOCENE: TPB Plateau Basalt	olivine basalt, intermediate volcanics, related breccias and tuffs; minor sediments; non-marine		TPB: unnamed volcanics (Pa)	TPB: M Deadman R., MP Chilcotin (Pa)	TPB: unnamed volcanics (Pa)		
EOCENE - OLIGOCENE: Tc Carmanah-Twin River	shale, conglomerate, sandstone; marine	Tc: O Twin R. (Fr), E Lyre, Aldwell (Fr), marine sediments on continental shelf, EO Carmanah (Fr)					
PALEOCENE - EOCENE: TM Metchosin-Crescent	basalt, tuff, local gabbro; marine	TM: E Crescent, Metchosin (Fr)					
PALEOCENE - OLIGOCENE: TP Paskapoo-Cypress Hills	sandstone, shale, conglomerate					TP: T Paskapoo (Ko), P Porcupine Hills (Ko), Tertiary Hills (GB)	TP: P Porcupine Hills (Ko), Ravenscrag (Ko,SS), O Cypress Hills (Ko,SS), uT Beaufort (Fi), KT Reindeer, Eureka Sound (Fi), T Paskapoo (Ko, At)
UPPER CRETACEOUS - OLIGOCENE: TB Brothers Peak	sandstone, shale, conglomerate, coal, acid tuff	TB: P Hayden Pk., Orca (McM), O Poul Cr. (McM), OM Topsy, Cenotaph (Is), PE Kulthieth (McM), uT Skonun (Sk), T Kootznahoo (Is)	TB: uT Bella Bella (Sk)	TB: E Brothers Pk. (Is,Be), Coldwater (Fr), EO Sophie Mtn. (Ko), KT Sifton (Pa)	TB: EO Sophie Mtn. (Ko), KT Sifton (Pa)	TB: EO Kishenehn (Ko)	
UPPER CRETACEOUS - OLIGOCENE: KTo Ootsa Lake-Kamloops	intermediate to acidic volcanic flows, tuff; non-marine	KTo: PE Masset (Sk), EO Admiralty Is. (Is)	KTo: O Coquihalla, Hannegan, Skagit (Fr), E Barlow Pass (Fr)	KTo: OM Endako (Pa), E Skukum, Sloko (Is,McM), E Princeton, Tranquille (Fr), Carmacks, Mt. Nansen (Is,McM), EO Klondike Mtn., Marron, O'Brien Cr., Sanpoil (Ko), Kamloops (Fr,Ko,Pa), lT Donjek (McM), T Casino (McM), uK Kasalka (Pa), KT Ootsa Lake (Pa)	KTo: EO Kamloops, Kettle R., Klondike Mtn., O'Brien Cr., Phoenix, Sanpoil (Ko)		
UPPER CRETACEOUS - OLIGOCENE: KTN Nanaimo-Chuckanut	sandstone, conglomerate, argillite; marine and non-marine	KTN: uK Nanaimo (Fr)	KTN: E Huntington (Fr), P Pipestem Canyon (Fr), KT Burrard, Chuckanut, Kitsilano (Fr)				
UPPER CRETACEOUS: KA Alberta-Smoky	sandstone, shale					KA: uK Dunvegan, Wapiti (At,Pa,Re), Alberta, Bearpaw, Belly R., Brazeau, Edmonton (At,Ko), Smoky (At,Pa), Kneehills, La Biche, Lea Park (At), Kootenai, Milk R., St. Mary R., Willow Cr. (Ko), Monster (Pe,Re), Kotaneelee (Re), Sharp Mtn., Bonnet Plume (Pe), Boundary Cr., Moose Channel, Tent Is. (Fi,Pe), Amundsen Gulf, Kanguk (Fi) Little Bear, East Fork, MacKay (GB), K Upper Ft. St. John (Pa)	KA: uK Bearpaw (At,Ko,SS), Dunvegan (At,Be,Ha), Wapiti (At,Be,Ha,Re), Lea Park (At,SS), Battle, Eastend, Foremost, Frenchman, Oldman, White Mud (Ko,SS), Belly R., Brazeau, Edmonton (At,Ko), Kotaneelee (Be,Re), La Biche, Smoky (At,Ha), Alberta, Kneehills (At), Blood Reserve, Horse Shoe Canyon, Kootenai, Milk R., Pakowki, St. Mary R., Willow Cr. (Ko), Bad Heart, Kaskapau, Puskwaskaw, Shaftesbury (Ha), Amundsen Gulf, Boundary Cr., Tent Is., Kanguk (Fi), K Deerpass Bay (GB), Trevor (Pe)
CRETACEOUS: KK Kingsvale-Gambier	varicoloured intermediate and acidic volcanics; lesser basalt; minor sediments		KK: uK Kingsvale (Fr), lK Cheakamus, Gambier, Helm, Eurydice, Taylor Cr., Styx (Fr), JK Fire Lake (Fr)	KK: uK Kingsvale (Fr), Kasalka (Pa), lK Spences Bridge (Fr), K Brian Boru (Pa)	KK: K South Fork (McM)		
CRETACEOUS: KJ Jackass Mountain-Skeena	sandstone, conglomerate, argillite; marine and non-marine	KJ: uK Queen Charlotte (Sk), lK Kennicott (McM), Haida, Honna (Fr), K Moonshine Cr. (McM)	KJ: uK Midnight Pk., Ventura, Virginia Ridge, Winthrop (Fr), lK Brokenback Hill, Harts Pass, Jackass Mtn., Panther Cr., Pasayten, Peninsula, Taylor Cr. (Fr), Skeena (Sk)	KJ: uK Tango Cr. (Be,Is,Pa), lK Jackass Mtn. (Fr), K Red Rose, Skeena (Pa), KT Sustut (Pa), JK Tantalus (McM)			
JURASSIC - CRETACEOUS: JKp Pacific Rim-Yakatat	greywacke, argillite, chert, basalt; marine	JKp: JK Leech R., Pacific Rim (Fr), Sitka (Is), Valdez (McM), Yakutat (Is,McM)					
UPPER JURASSIC - LOWER CRETACEOUS: JKK Kootenay-Blairmore	sandstone, siltstone, mudstone, coal, conglomerate					JKK: lK Blairmore (At,Ko,Pa), Ft. St. John, Garbutt, Lepine, Scatter, Sikanni, Sully (Be,Re), Arctic Red, Sans Sault (GB,Pe), Grand Rapids, Joli Fou, Pelican, Shaftesbury (At), Bulkhead, Buckinghorse (Be), Christopher, Darnley Bay, Hassel, Isachsen (Fi), Crowsnest (Ko), Uslika (Pa), Keno Hill (McM,Pe), K Slater R., Trevor (GB), JK Kootenay, Nikanassin (At,Ko), Minnes (Be,Pa)	JKK: lK Ft. St. John, Garbutt, Lepine, Scatter (Be,Re), Grand Rapids, Pelican, Joli Fou (At,Ha), Shaftesbury, Blairmore (At), Buckinghorse, Bulkhead, Sikanni, Sully (Be), Alice Cr., Clearwater, Loon R., Peace R., McMurray (Ha), Christopher, Darnley Bay, Hassel, Isachsen (Fi) Arctic Red, Sans Sault (Pe), Langdon Bay, Wolverine Cr. (GB), K Trevor (GB), JK Kootenay, Nikanassin (At,Ko,Pa) Minnes (Be)
MIDDLE JURASSIC - LOWER CRETACEOUS: JB Bowser-Dewdney	siltstone, greywacke, shale, conglomerate, coal; marine and non-marine	JB: uJK Gravina-Nutzotin (Is,McM), lK Longarm (Fr,Sk), JK Dezadeash, Kluane Schist (McM), Douglas Is., Seymour Canal (Is)	JB: lK Brew (Fr), uJ Agassiz Prairie, Kent, Dewdney Cr. (Fr), mJ Billhook Cr., Mysterious Cr. (Fr), JK Dezadeash (McM), Newby, Nooksack, Relay Mtn. (Fr)	JB: uJ Bowser Lake (Be,Pa,Sk), JK Relay Mtn. (Fr), Bowser Lake (Is), Dezadeash (Is,McM)			
LOWER AND MIDDLE JURASSIC: JL Laberge-Quesnel	greywacke, argillite, conglomerate; marine			JL: J Inklin, Takwahoni (Is), Laberge (Is,McM), Quesnel R. (Pa)			
LOWER AND MIDDLE JURASSIC: JH Hazelton-Bonanza	intermediate flows, tuffs, local basalt, rhyolite, sandstone, argillite; marine and non-marine	JH: uJ Root Glacier (McM), mJ Nizina Mtn. (McM), Yakoun (Sk), lJ Bonanza, Harbledown (Fr), Kunga, Maude (Sk), Lubbe Cr. (McM)	JH: mJ Echo Is., Harrison Lake, Wells Cr. (Fr), lmJ Ladner, Jack Mtn., Tyaughton (Fr), Hazelton (Fr,Pa,Sk), lJ Cultus (Fr), TR Bowen Is. (Fr)	JH: lmJ Hazelton (Be,Is,Pa,Sk), Toodoggone (Be)	JH: muJ Hall (Ko)		
UPPER TRIASSIC - LOWER JURASSIC: TRJT Takla-Nicola	augite porphyry, basaltic volcanics; siltstone, shale, limestone, conglomerate			TRJT: uTR Nicola (Fr,Ko,Pa), Sinwa, Stuhini (Is), TR Quesnel R. (Pa), Lewes R. (McM), TRJ Archibald, Elise, Rossland (Ko), Takla (Be,Is,Pa), Nazcha, Shonektow (Is)	TRJT: uTR Nicola (Ko), TRJ Archibald, Elise, Rossland (Ko)		
UPPER TRIASSIC - LOWER JURASSIC: TRJS Slocan-King Salmon	shale, argillite, limestone, conglomerate schist, sandstone		TRJS: TR Cultus (Fr)	TRJS: uTR King Salmon (Is), Nicola (Ko), TRJ Archibald, Rossland, Sicamous, Slocan, Ymir (Ko), Takla (Pa)	TRJS: uTR Nicola (Ko), TRJ Archibald, Rossland, Sicamous, Slocan, Ymir (Ko), Takla (Pa)		
UPPER TRIASSIC: TRK Karmutsen-Nikolai	basalt, limestone, argillite; marine and non-marine	TRK: uTR Haro, Parson Bay, Quatsino (Fr), Chitistone, McCarthy, Nikolai, Nizina (McM), Karmutsen (Fr, Sk), TR Goon Dip, Pinnacle Pk., Whitestripe (Is), Kunga (Sk)	TRK: uTR Cadwallader, Charon, Hurley, Pioneer, Tyaughton (Fr), Karmutsen (Fr, Sk)				
MISSISSIPPIAN - PERMIAN: PTRT Thompson	acidic to intermediate volcaniclastics, chert, argillite, limestone, local basalt and acid volcanics; marine			PTRT: PP Cache Creek, Chaperron, Kobau (Ko), Thompson (Fr, Ko)	PTRT: P Anarchist, Churchill, Covada, Mt. Roberts (Ko), C Englishman's (McM), M Kalzas (McM), CP Klondike Schist (McM)		
MISSISSIPPIAN - TRIASSIC: MTRC Cache Creek - Anvil Range	chert, argillite, carbonate, basalt, associated diabase, gabbro, alpine ultramafics; marine		MTRC: PTR Bridge R., Hozameen (Fr)	MTRC: uP Marble Canyon (Fr), P French Range (Is), M Nakina (Is), PP Cache Creek (Fr,Be,Ko,Pa), CP Kedahada, Horsefeed (McM, Is), PTR Pavilion (Fr)	MTRC: PP Anvil Range (McM)		
DEVONIAN - TRIASSIC: MTRS Slide Mountain-Sylvester	upper: basalt, diabase, local gabbro, alpine ultramafics; marine; lower: chert, argillite, sandstone, conglomerate, limestone				MTRS: uM Nizi (Is), P Antler (Ko), M Milford, Flagstaff Mtn. (Ko), PTR Kaslo, Tsalkom (Ko), PP Lay Range (Be), DM Guyet (Ko), Sylvester (Is, McM), Fennell (Fr, Ko), Slide Mtn. (Ko, Pa)		
MISSISSIPPIAN - TRIASSIC: PPC Chilliwack	argillite, volcanic sandstone, tuff, basalt, dacite, carbonate; marine		PPC: CP Chilliwack (Fr), PP Darrington, Shuksan, Twin Is. (Fr)				
PENNSYLVANIAN - PERMIAN: PPS Sicker-Skolai	upper: argillite, sandstone, limestone; marine; lower: basic to acidic volcanics	PPS: P Sicker, West Coast (Fr), P Skolai (McM), Buttle Lake (Fr)					
PENNSYLVANIAN - PERMIAN: MPS Stikine-Asitka	basalt, andesite, rhyolite, tuff, carbonate, argillite, chert; marine and locally(?) non-marine		MPS: PP Gamsby (Pa)	MPS: PP Asitka (Be), Gamsby (Pa)			
DEVONIAN - JURASSIC: DJF Front Ranges	carbonate, shale, sandstone					DJF: J Fernie (At,Be,Ko,Pa), Lower Schist, Bug Cr. (Pe), JK Kingak (Fi,Pe), Mould Bay, Wilkie Pt. (Fi), Husky, North Branch (Pe), mTR Liard (Be), muTR Ludington-Pardonet (Be), lmTR Toad (Be), lTR Grayling (Be), TR Spray R. (At,Ko,Pa), P Fantasque (Be,Re), Kindle (Be), Jungle Cr., Tahkandit (Pe), PP Rocky Mtn. (At,Ko), M Rundle (At,Be,Ko,Pa), Banff (At,Ko,Pa), Mattson (Be,Re), Prophet (Be), Etherington, Exshaw, Hannan, Livingstone, Mt. Head (At,Ko), Clausen, Flett, Yohin (Re), Ishbel (Pa), C Lisburne (Fi,Pe), Alapah, Ettrain, Hart R., Kayak, Kekiktuk, Wahoo (Pe), CP Klondike Schist (Pe), CTR Sadlerochit, Shublik (Fi,Pe), Endicott (Fi), uD Fairholme, Alexo, Palliser (At,Ko,Pa), Perdrix (Pa), Melville Is. (Fi), Ft. Simpson (Re), muD Canol, Imperial (Fi,GB,McM,Pe), Hare Indian (GB,Pe), Kee Scarp, Ramparts (GB), mD Horn R. (Re), uDM Besa R. (Be,Pa,Pe,Re)	DJF: JK Kingak, Mould Bay, Wilkie Pt. (Fi), M Flett, Mattson (Re), uD Grosmont, Hay R., Ireton, Mikkwa, Waterways (Ha), Melville Is. (Fi), Ft. Simpson (Re), muD Canol, Imperial (Fi,GB,Pe), Slave Pt. (Ha), Hare Indian, Kee Scarp (GB,Pe), Hume (Pe), mD Chinchaga, Keg R., Muskeg, Nyarling (Ha), Horn R. (Re)
DEVONIAN - MISSISSIPPIAN: DME Earn-Black Clastic	sandstone, shale, pebble conglomerate					DME: M Black Clastic, Crystal Pk. (McM), DM Earn (McM)	
CAMBRIAN - DEVONIAN: €DM Main Ranges	carbonate, shale				€DM: mD McDame (Is), lD Black Stuart (Pa), lS Sandpile (Is), € Dome Cr. (Pa), OD Nasina Quartzite (McM), €D Kechika (Be,McM)	€DM: muD Hume (Fi,GB,Pe), Hare Indian (Fi,Pe), Ramparts (Pe), mD Headless, Nahanni (McM,Pe,Re), Funeral, Natla, Grizzly Bear (McM,Re), Cranswick, Ogilvie (Pe), Great Bear (Fi,Pe), Pine Pt., Flume (Pa), Manetoe (Re), lmD Dunedin (Be), Arnica, Landry (GB,McM,Pe,Re), lD Michelle (Pe), Bear Rock (GB,Pe), Wokkpa (Be), D Muncho-McConnell, Stone (Be,Pa), Camsell (GB,McM,Pe,Re), Cedared, Harrogate, Mt. Forster, Starbird (Ko), Sombre (McM,Pe,Re), lS Nonda (Be,Pa,Re), Sandpile (Be), mS Sunblood (Re), SD Gossage (Fi,Pe), Delorme (GB,McM,Pe,Re), O Glenogle (Ko), Outram, Mt. Wilson, Owen Cr., Skoki, Survey Pk. (At,Ko), Monkman (Pa), OS Mt. Kindle (Fi,GB,Pe,Re), Beaverfoot (At,Ko,Pa), Upper Kechika (McM), Whittaker (McM,Re), u€ Canyon Cr., Chancellor, Jubilee, Ottertail (Ko), Lynx (At,Ko,Pa), m€ Arctomys (At,Ko,Pa), Cathedral, Eldon, Mt. Whyte, Pika, Stephen (At,Ko), € Saline R. (Fi,Pe), u€O McKay (Ko), m€O Chushina, Dome Cr., Titkana, Hotah-Adolphus, Skoli, Tatei-Chetang, Waterfowl (Pa), €O Franklin Mtn. (Fi,GB,Pe,Re), Broken Skull, Rabbitkettle (Be,McM), Harvey (McM), Kechika (Be,McM), €D Road R. (Be,Fi,McM,Pe,Re), Vunta (Fi,Pe), Katakturuk, Mt. Cap, Nanook, Old Fort Is. (Fi)	€DM: muD Hume (Fi,GB,Pe), Hare Indian (Fi,Pe), Ramparts (Pe), mD Nahanni (Re), lmD Bear Rock (Fi,GB,Pe), SD Gossage (Fi), OS Mt. Kindle (Fi,GB,Pe), € Saline R. (Fi), €O Franklin Mtn. (Fi,GB,Pe), €D Katakturuk, Mt. Cap, Nanook, Old Fort Is., Road R., Vunta (Fi)
CAMBRIAN - MISSISSIPPIAN: €ML Lardeau	argillite, limestone, schist, phyllite, greenstone				€ML: lP Active, Broadview, Eagle Bay, Lardeau, Metaline, Helway (Ko)		
PROTEROZOIC - TRIASSIC: PTRA Alexander	sandstone, argillite, limestone, basic to acidic volcanics, conglomerate; marine, locally non-marine	PTRA: uTR Cornwallis, Hamilton, Hound Is., Hyd, Keku (Is), C Klawak, Ladrones, Peratrovich (Sk), Saginaw Bay (Is), Iyoukeen (Is), lP Cannery, Halleck, Pybus (Is), uD Freshwater Bay (Is), muD Cedar Cove (Is), mD Black Cap (Is), D Coronados, Karheen, Port Refugio, St. Joseph Is., Wadleigh (Sk), Hood Bay, Gambier Bay, Retreat (Is), uS Kuiu (Is), S Heceta (Is,Sk), Bay of Pillars, Pt. Augusta, Tidal (Is), PTR Barlow Cove (Is), OS Descon (Is,Sk), SD Kennel Cr., Willoughby, Rendu (Is), CP Kaskawalsh (McM), P Wales (Sk)	PTRA: P unnamed (Sk)				
PROTEROZOIC - CAMBRIAN: P€G Gog-Hamill	sandstone, siltstone, shale, pebble conglomerate				P€G: l€ Atan (Be,McM), Badshot, Donald, Eager, Laib, Mohican, Quartzite Range, Reno (At,Ko), Dome Cr., Mahto, Mural (Pa), Hamill (At,Ko), Harvey (McM), € Midas, Yanks Pk. (Pa)	P€G: l€ Backbone Ranges, Sekwi (McM,Pe,Re), Gog (At,Ko), Jones Ridge (Pe), Mahto, McNaughton, Mural (Pa)	
PROTEROZOIC - PALEOZOIC: PP Central Gneiss	granitoid gneiss, migmatite, schist, amphibolite, plutonic rocks, minor other lithologies	PP: lmP Colquitz, Turtleback, Tyee Intrusions, Wark (Fr)	PP: P Cascade R., Leecher, Methow, Skagit (Fr), PP Yellow Aster, Custer, Swakane (Fr), Central Gneiss (Fr,Is,Sk)	PP: PP unnamed (Fr)			
PROTEROZOIC: Pw Windermere-Rapitan	sandstone, siltstone, shale, diamictite, limestone, diabase, pebble conglomerate (may include undifferentiated Purcell assemblage in Yukon)				Pw: P Cunningham, Isaac, Yankee Belle, Kaza (Pa), Espee, Stelkuz, Swannell, Tsaydiz (Is,Be), Horsethief Cr., Irene, Leola, Monk, Shedroof, Toby (At,Ko), Ingenika (Be,Pa), Windermere (At)	Pw: m€ Avalanche, Rockslide (Re), P Keele, Rapitan, Sheepbed (McM,Pe,Re), Byng (Pa), Miette (At,Ko,Pa), Windermere (At,Pa), Nasina, Grit Unit (Pe), Misinchinka (Be)	
PROTEROZOIC: Pp Purcell-Belt	argillite, siltstone, limestone, dolomite, red and green shale and siltstone, diabase sills and dykes				Pp: P Aldridge, Altyn, Appekuny, Belt-Purcell Creston, Dutch Cr., Ft. Steele, Gateway, Grinnell, Helena, Kitchner, Missoula, Mt. Nelson, Phillips, Priest R., Pritchard, Purcell, Ravalli, Roosville, Sheppard, Siyeh, Waterton, Wallace, Werner Pk. (Ko)	Pp: P Neruokpuk, Tindir (Fi,Pe), Aida, Chischa, Gataga, George, Henry Cr., Tetsa, Tuchodi (Be), Belt-Purcell (Ko), Purcell (Ko,Pa), Aldridge, Appekuny, Altyn, Creston, Dutch Cr., Ft. Steele, Gateway, Grinnell, Helena, Kitchener, Missoula, Mt. Nelson, Phillips, Priest R., Ravalli, Sheppard, Siyeh, Roosville, Wallace, Waterton, Werner Pk. (Ko)	Pp: P Glenelg, Shaler Group (Fi), Hornby Bay Group (GB)
Pp_1 Purcell-Mackenzie	quartzite, shale, basic lavas, carbonates, conglomerate					Pp_1: P Tsezotene (Pe,Re), Katherine (Pe), Little Dal (McM,Pe,Re), Coppercap, Redstone R., Tigonankweine (Re)	
Pp_2 Purcell-Pinguicula	basalt, tuff, argillite, limestone stromatolitic biostromes, shale, dolomite					Pp_2: P Pinguicula Group (Pe)	
Pp_3 Purcell-Wernecke	phyllite, slate, siltstone, sandstone, dolomite					Pp_3: P Gillespie Lake, Fairchild, Wernecke Assemblage (Pe)	
gns Shuswap	gneiss, schist, pegmatite, granitoid rocks, quartzite, marble			gns: P Okanagan (Ko)	gns: P Okanagan (Ko), P Belt-Purcell (Ko), PP Wolverine (Pa), Shuswap (At,Ko)		
gnc Malton	granitoid gneiss				gnc: PP Malton Gneiss (At)		

PLUTONIC and ULTRAMAFIC ROCKS

AGE AND LITHOLOGY	INSULAR - ST. ELIAS BELT	COAST - CASCADES BELT	INTERMONTANE BELT	OMINECA BELT	MACKENZIE AND ROCKY MOUNTAINS BELT
LATE TERTIARY: LT_g granite, quartz monzonite, granodiorite quartz diorite	LT_g: M Burwash Cr. (McM), unnamed (McM, Is)	LT_g: M Chilliwack, Salal Cr., Cascade Pass, Franklin Glacier, Cloudy Pass (Fr), O Gem (Fr), OM Perry Cr. (Fr)			
LT_d syenite, granite		LT_d: M King Is. (Sk)			
LATE CRETACEOUS AND EARLY TERTIARY: KT_q granite, quartz monzonite; lesser granodiorite			KT_q: E Nisling Range Alaskite (McM) Kastberg (Pa), lKT Glundebery (Is),		
KT_g granodiorite, quartz diorite, quartz monzodiorite; lesser quartz monzonite, diorite, monzonite	KT_g: EO Catface Intrusions (Fr), unnamed (Sk) lKT unnamed (McM, Is)	KT_g: E Golden Horn, Yale (Fr), unnamed (Fr,Is,McM,Pa,Sk), eT Bendor (Fr), unnamed (Fr,Is,Sk), lK Black Pk. (Fr), unnamed (Fr,Is,McM,Sk)	KT_g: E Babine, Nanika (Pa), lK Bulkley (Pa), lKT unnamed (Fr, Be, Is, Sk)	KT_g: KT unnamed (Ko)	
KT_d diorite, gabbro, syenite, monzonite; lesser quartz diorite to granite	KT_d: E Sooke gabbro (Fr)		KT_d: E Goosly Lake (Pa)	KT_d: lT Coryell (Ko)	
EARLY AND MID - CRETACEOUS: EK_q quartz monzonite, granite, granodiorite; lesser quartz diorite, quartz monzodiorite	EK_q: mK unnamed (Fr,Is, McM),	EK_q: eK Eldorado Orthogneiss, unnamed (Fr)	EK_q: mK Mesilinka, Oslinka, Germansen (Pa), Nisling Range Granodiorite (McM)	EK_q: mK Coffee Cr., Glenlyon, Marker Lake, Quiet Lake, Seagull, Tatchun (McM), Cassiar (Is,McM)	EK_q: mK O'Grady, Anvil, Mt. Billings (McM), Hole-in-the-Wall, Skinboat, Coal R. (Re), unnamed (McM,Re)
EK_d gabbro, minor norite, diorite			EK_d: mK Axelgold, unnamed (Pa)		
MID - CRETACEOUS: ⊙ Alaskan-type ultramafics; pyroxenite, gabbro, diorite, dunite	⊙: mK Blashke Is. (Is), Union Bay, Duke Is. (Sk), unnamed (McM)	⊙: mK Giant Mascot (Fr)			
PALEOZOIC TO EARLY TERTIARY: MT_g — MT_q quartz monzonite, granite; MT_g granodiorite, quartz diorite; MT_d diorite, gabbro, migmatite		MT_g: E Ponder (Sk), unnamed (Fr,Is,McM,Pa,Sk), eT Bishop R. (Fr), unnamed (Fr,Pa,Sk), lK Mt. Gilbert, Spuzzum, Squamish (Fr), unnamed (Fr,Is,McM,Pa,Sk), TRJ Ecstall (Sk), unnamed (Fr,Is,McM,Pa,Sk), lTR Ruby Range (McM), Marblemount (Fr), P Cloudburst, Pemberton Complex (Fr), unnamed (Fr,Is,McM,Pa,Sk)			
LATE JURASSIC AND EARLY CRETACEOUS: JK_g granodiorite, quartz diorite, diorite	JK_g: JK unnamed (McM, Is)				
MID - TO LATE JURASSIC: MJ_g granodiorite, quartz diorite, quartz monzonite, diorite	MJ_g: MJ Island Intrusions (Fr), unnamed (Sk, McM, Is)	MJ_g: MJ unnamed (Is)	MJ_g: MJ Albert Dease, MacNamara (Be), Francois Lake (Pa), Pennask (Fr), LMJ Similkameen, unnamed (Fr)	MJ_g: MJ Hotailuh (Is), Nelson, unnamed (Ko)	
MJ_d syenite, leuco-monzonite, leuco-quartz monzonite				MJ_d: MJ Kuskanax (Ko)	
LATE TRIASSIC - EARLY JURASSIC: EJ_g quartz diorite, granodiorite; lesser diorite, quartz monzonite		EJ_g: EJ Texas Cr. (Is)	EJ_g: EJ Klotassin, Ruby Range (McM), Topley, Hogem Granodiorite (Pa), Guichon, Takomkane, Thuya (Fr), unnamed (Fr, Pa)		
EJ_d diorite, monzonite, syenite, quartz diorite; minor pyroxenite, granodiorite			EJ_d: EJ Copper Mtn. (Fr), Pitman (Be), Galore Cr., Hickman (Is), lTR Granite Mtn. (Pa), Hotailuh (Is)		
UPPER TRIASSIC - LOWER JURASSIC: ⊕ Alaskan-type ultramafics: gabbro, pyroxenite, diorite			⊕: TRJ Tulameen (Fr), Turnagain R. (Is), Polaris (Be)		
PENNSYLVANIAN - PERMIAN: PP_g quartz monzonite to diorite, syenodiorite, agmatite	PP_g: PP_g unnamed (Is, McM)				
LATE PALEOZOIC - TRIASSIC: (solid black symbol) Alpine-type ultramafics: peridotite, serpentinite		TR Bralorne (Fr), M Twin Sisters (Fr)	TR Shulaps (Fr), lPTR Cassiar, Nahlin (Is), Trembleur (Pa), unnamed (Be,Fr,Is,McM,Pa)	lPTR unnamed (Ko)	
DEVONIAN: D_q quartz monzonite, granite					D_q: D Old Crow, Mt. Fitton, Mt. Sedgwick (Pe)
MIDDLE TO LATE PALEOZOIC: P_y — P_g quartz monzonite to quartz diorite, monzonite, monzodiorite; minor gneiss, migmatite; P_y syenite, ijolite, jacupiranjite, gneiss				P_y: P_g Adamant, unnamed (Ko)	P_y: MLPy Ice R., unnamed (Ko)
DEVONIAN: D_g gneissic granitoid rocks				D_g: D Mt. Fowler, Clachnacudainn (Ko)	
ORDOVICIAN AND SILURIAN: OS_g quartz monzonite to quartz diorite; trondjhemite, hornblendite, pyroxenite	OS_g: OS unnamed (Fr,Sk)	OS_g: OS Annette Is. (Sk), unnamed (Is,Sk)			
PROTEROZOIC: P_g granodiorite				P_g: P Hellroaring (Ko)	

Nomenclature of Assemblages

1. Age of assemblage is indicated by standard Geological Survey of Canada symbols and usage.
2. Name of assemblage is chosen as follows:
   - (a) two existing rock-stratigraphic names, generally groups, are used if the named units are major components of the assemblage (e.g. Takla-Nicola assemblage (T) incorporates Takla, Nicola, Stuhini, Quesnel River etc. groups)
   - (b) a geographic name is used where there is a multiplicity of named units and none is dominant (e.g. Front Range assemblage (F) is used for Devonian to Jurassic strata in the Rockies.)
   - (c) a geographic name is used where there are no formal rock stratigraphic names (e.g. Stikine assemblage for the Upper Paleozoic rocks, northwestern, B.C.)
   - (d) plutonic assemblages are unnamed but distinguished by age and composition.

Legend

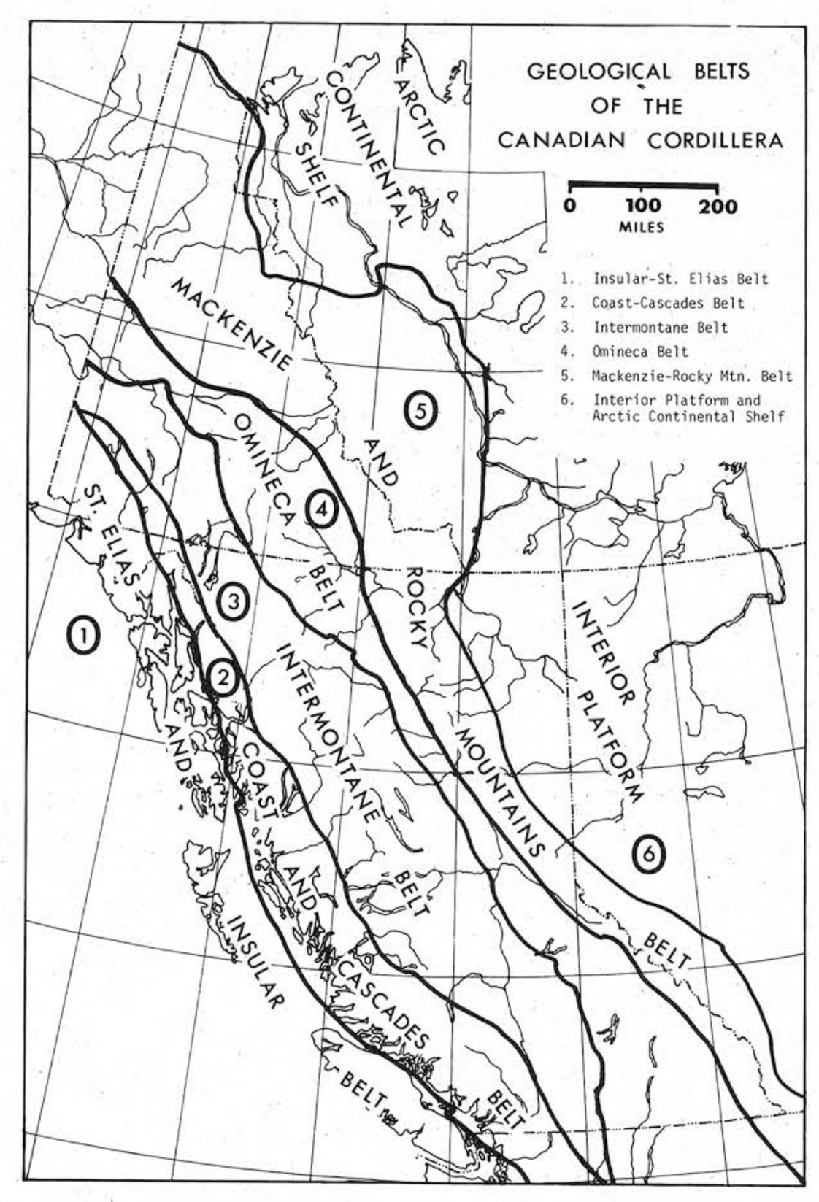
Shown in columns from the left are:

(1) assemblage nomenclature and symbol (see above)

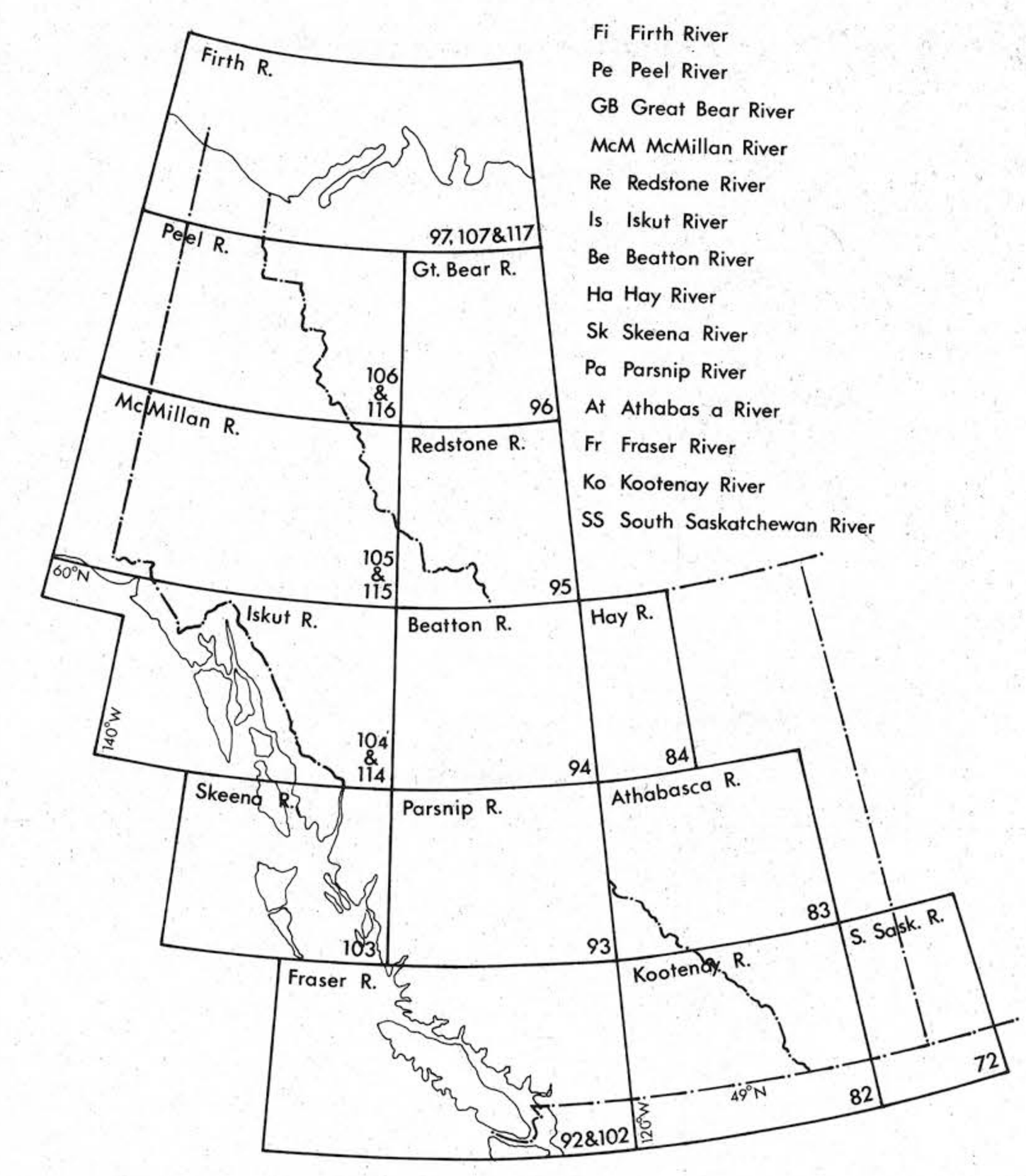
(2) characteristic lithology of assemblages

(3) representative formal (and some informal) rock stratigraphic units in each assemblage and their distribution:-
   - (a) in six geological belts (see Index Map A)
   - (b) in fourteen 1:1,000,000 maps of the region (see Index Map B). The appropriate abbreviations for the maps are recorded after the group or formation in the legend to indicate general location.

INDEX MAP A
Geological Belts



INDEX MAP B
1:1,000,000 Geological Maps



Tectonic assemblages are the basic subdivisions of the map. Each includes, to varying degrees, a distinctive assemblage of rocks which reflects an unique environment or related environments of deposition and history of deformation. They may include either one group or formation or many units and are not necessarily strictly coeval throughout. The assemblages are either bounded by unconformities, in which case relationships with other assemblages are fairly well known, or by major faults where relationships may be unknown. Assemblages of plutonic rocks are defined mainly on age and subdivided on composition.

The six geological belts (Index Map A) are somewhat arbitrarily defined northwesterly trending regions each of which has a distinctive general similarity in physiography, stratigraphy, metamorphism, plutonism and structural development throughout much of the length of the Cordillera. The belts represent the end result of Cordilleran evolution and may transect tectonic assemblages.

The geological belts initially may have been arranged in discrete regions related to their erosional and depositional history but orogenic processes have changed and blurred the boundaries, so that the belts are difficult to delineate and define precisely. Many tectonic assemblages, particularly younger ones, cross the boundaries of the belts and add to the vagueness of their definition. As used herein the geological belts are not strictly defined as tectonic belts. They are cumulative, the summation of all geological processes that have interacted through time to produce the present geological framework of the Cordillera.

In discussing North American geosynclines, Marshall Kay proposed an arrangement shown in Fig. 1 in which the craton was the stable source area forming the central mass of the continent, the miogeosyncline or Millard Belt was the subsiding sedimentary trough on the western flank, and the eugeosyncline or Fraser Belt was the belt of volcanic arcs and volcanogenic sediments farther west. This concept is in general still valid but needs some modifications to relate it to the six belts used here.

The craton is not generally considered as one of the belts of the Cordillera. It is, however, the eastern source for the sediments of the miogeosyncline and plays a crucial role in the evolution of the Cordillera. The extent to which it underlies the geosynclinal areas is debatable.

Miogeosynclinal sediments characterize the Mackenzie and Rocky Mountains Belt (Fig. 2) within which igneous and high-grade metamorphic rocks are the exception. Regional folding and thrusting are common, and for large segments, characteristic. Structural style varies along its length.

To the east of the Mackenzie and Rocky Mountains Belt, flanking the craton, is an area of gently deformed platformal or shelf sediments referred to herein as the Interior Platform and Arctic Continental Shelf Belt (Index Map A, Belt 6; Figure 2).

The western Cordillera or Fraser Belt of Kay is characteristically a volcanic or eugeosynclinal regime. Along the eastern margin, the eugeosynclinal and miogeosynclinal strata interfinger to produce a zone or belt which, at any given time, was characteristically either miogeosynclinal or eugeosynclinal. Within the overlap area are areas of regionally metamorphosed rocks in places high-grade, and many scattered plutons. This zone is the Omineca Belt (Index Map A, Belt 4; Figure 3).

The eugeosynclinal part of the Cordillera is characterized by volcanic assemblages of various origins and largely volcanogenic sedimentary successor basins deformed by dominantly dextral transcurrent faults. Thus assemblages of different origins and different environments, some clearly of oceanic derivation, have been tectonically juxtaposed into a mosaic of seemingly unrelated, mainly allochthonous blocks and slices.

The eugeosynclinal region has been divided into three belts by the emplacement of the Coast Plutonic Complex the major element of the Coast-Cascades Belt, (Index Map A, Belt 2: Fig. 4), distinguished by igneous and metamorphic rocks transecting older stratified rocks. Lying west of the Coast-Cascades Belt is the Insular - St. Elias Belt (Index Map A, Belt 1) and to the east is the Intermontane Belt (Index Map A, Belt 3; Fig. 4). The tectonic assemblages of the Insular - St. Elias Belt extend in many instances into the Coast-Cascades Belt as do the tectonic assemblages of the Intermontane Belt and if it were not for the more or less continuous belt of granitic and metamorphic rocks of the Coast Plutonic Complex the two flanking belts would be largely indistinguishable.

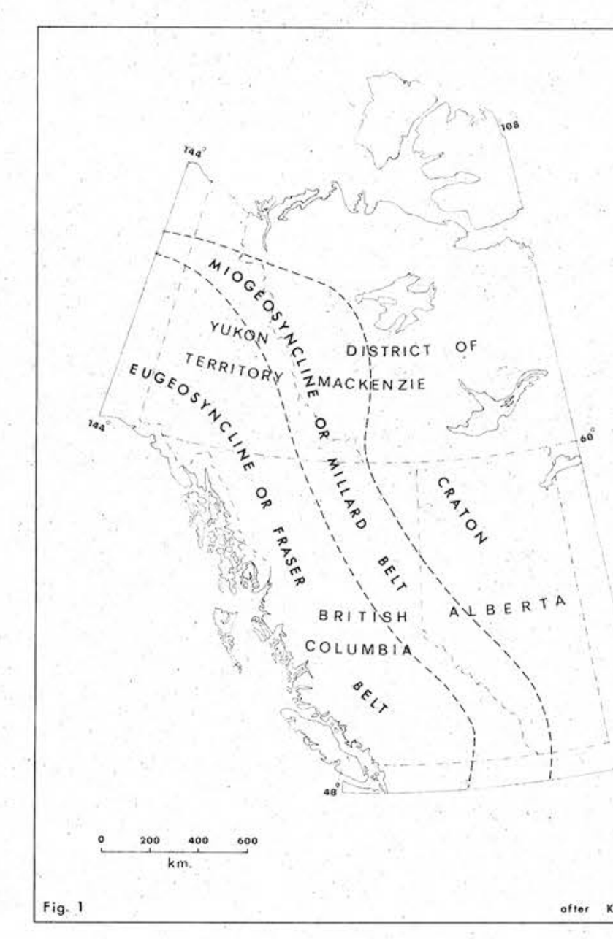


Fig. 1 after Kay, 1951

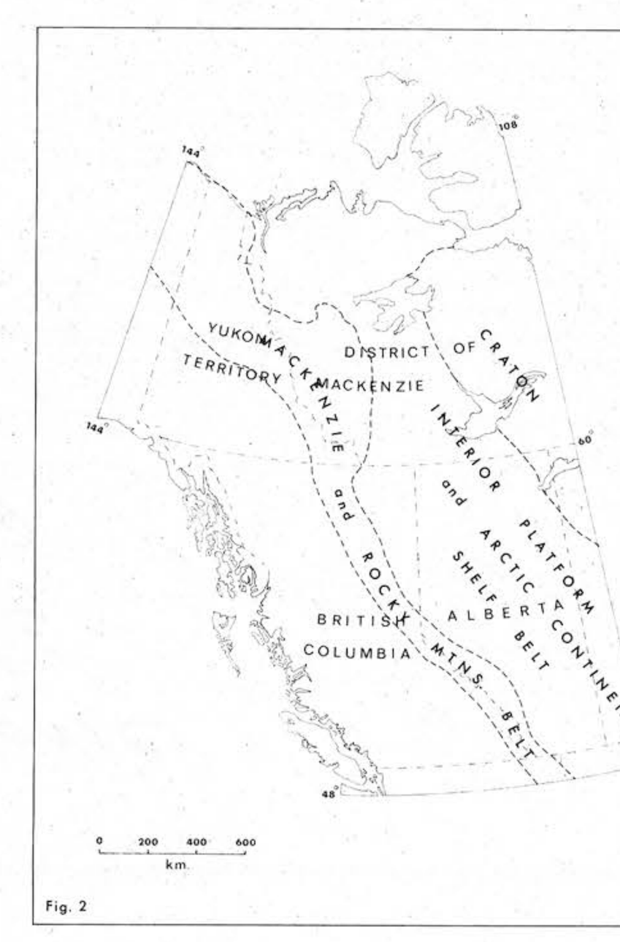


Fig. 2

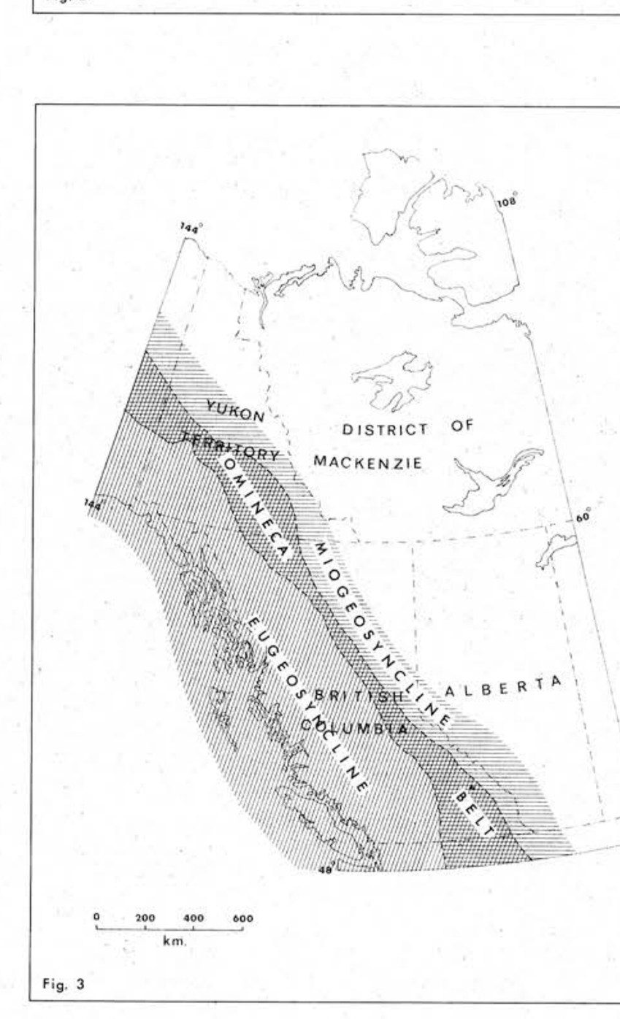


Fig. 3

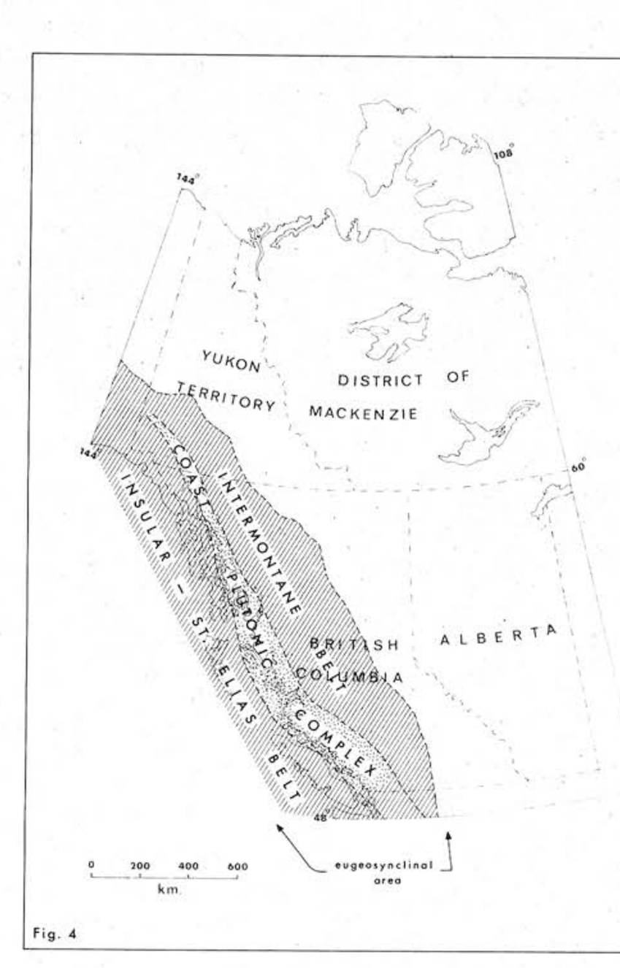


Fig. 4

- Thrust faults
- Dextral transcurrent faults (approximate, assumed)
- Fault with downthrown side indicated by solid circle
- Faults with sense of movement not indicated (approximate, assumed)
- Assemblage contact (approximate, unknown)
- Late Ordovician-Early Silurian Carbonate (C) - Shale (S) facies boundary
- Mesozoic assemblages with dominantly volcanic rocks

Sources of information are published and unpublished maps, reports and manuscripts of the Geological Survey of Canada, United States Geological Survey, and B.C. Dept. of Mines and Petroleum Resources.

Compilation, supervision, co-ordination, and organization was under the general direction of H.W. Tipper. The organization of information on plutonic and metamorphic rocks was mainly the responsibility of G.J. Woodsworth. Initial compilation, research, draughting, and assembling of data was carried out by R. Arnold, R. Turna, B. Dewonck, C. Banninger, G. Little, D. Baker, D. Sketchley, D. Villeneuve, and P. Taylor.

The technical organization of the map was largely the work of H. Gabrielse, R.B. Campbell, J.W.H. Monger, H.W. Tipper and G.J. Woodsworth with critical assistance of C. Yorath, J.G. Souther, and other members of Cordilleran and Pacific Margins Subdivision. Compilation of the Kootenay River 1:1,000,000 map-area was supervised by A.V. Okulitch, Geological Survey, Ottawa and critically reviewed by R.A. Price, Queens University, Kingston, Ontario. G.C. Taylor, Geological Survey, Calgary co-ordinated the critical review and up-dating of the geology of the eastern Cordillera with the assistance of D.K. Norris, J.D. Aitken, D.G. Cook, M.P. Cecile, and other members of the Institute of Sedimentary and Petroleum Geology, Geological Survey of Canada, Calgary. Members of the United States Geological Survey provided information and critically reviewed parts of the map covering areas of the U.S.A., particularly D.L. Jones, Menlo Park, Cal. and J.E. Harrison, Denver, Colo. Constructive critical comments have been from many sources within and outside the Geological Survey.

The map is intended to portray factual information as well as interpretation for areas where little or no information is available. Areas of drift have been eliminated and bedrock interpretation of such areas is conjectural. Cartographic limitations have necessitated the elimination of many small but important geological units, the exaggeration of many small areas, and the diagrammatic representation of some stratigraphic units. No attempt has been made to indicate age of faults and the position or extension of many faults is an extrapolation based on a minimum of evidence. The map incorporates information available to May, 1978.

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