

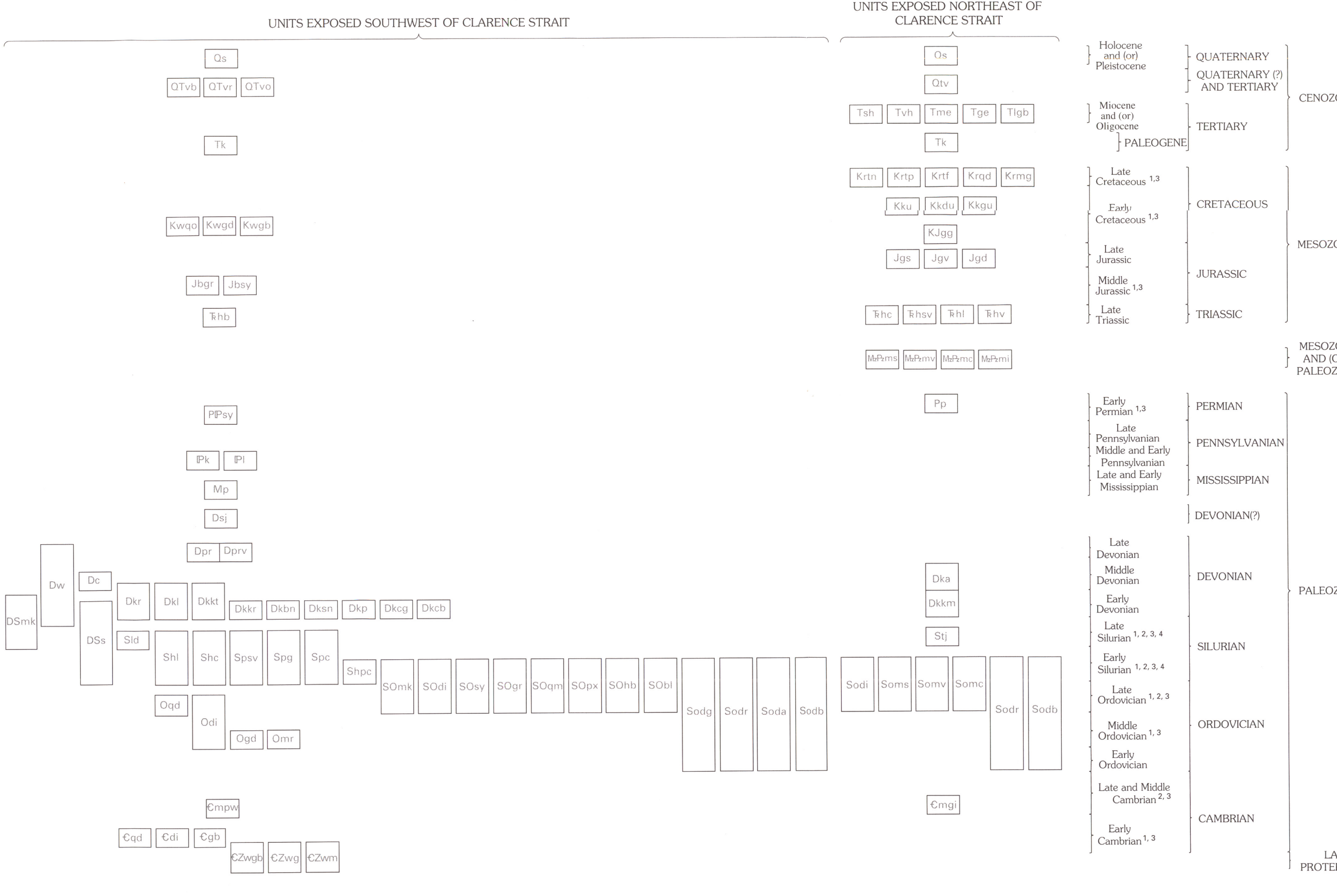
MAP SHOWING GEOLOGY AND GEOCHEMICALLY FAVORABLE AREAS IN THE CRAIG AND DIXON ENTRANCE QUADRANGLES AND THE WESTERN EDGES OF THE KETCHIKAN AND PRINCE RUPERT QUADRANGLES, SOUTHEAST ALASKA

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EXPLANATION

- 29** Favorable geochemically anomalous area—Referred to by number in text table 7. See text table 7 for summary of known occurrences, anomalous elements, and mineral deposit types expected in the area.
- 1** Alaska Mineral Resource Assessment Program (AMRAP) sediment sample site
- 2** AMRAP anomalous sample site—Number refers to site listed by geochemically anomalous area in text table 7
- 3** Anomalous sediment sample site other than AMRAP—Number refers to site listed by geochemically anomalous area in text table 7
- 4** Anomalous rock sample site—Number refers to site listed by geochemically anomalous area in text table 7
- A** Mine—Mineral deposit that has recorded production. In some cases, it may have been mined but not shipped. May or may not be active.
- B** Prospect—Deposit that has been staked and, in most cases, has been actively explored but lacks evidence of production. Probably some of the gold deposits that are listed as prospects have had at least meager production, but, because of lack of substantive evidence, they are classified as prospects. May or may not be active.
- C** Occurrence—Deposit that may or may not be defined and is mainly known from published early reports. From recent U.S. Geological Survey, Alaska Division of Geological and Geographical Survey, or U.S. Bureau of Mines investigations, or from reliable but otherwise uncorroborated reports released by private mining interest.

CORRELATION OF MAP UNITS
(SEE DESCRIPTION OF MAP UNITS FOR SPECIFIC UNIT AGE ASSIGNMENTS)



The geologic time series divisions of the Sierran used in this report are based on those proposed by Berry and others (1970) for North America and are not the divisions in previous common use by the U.S. Geological Survey. Some Geological Survey reports, however, have used the Berry and others' divisions (Berry, 1961, p. 81). These divisions are, from youngest to oldest, Proter. Ludlow, Wenlock, and Ludlow. In this report, rocks assigned to Proter. and Ludlow are considered to be Upper Sierran and those assigned to Wenlock and Ludlow to be Lower Sierran. There is no Middle Sierran in this scheme.

Notes: 1. Some are emplacement ages.
2. Some are metamorphic ages.
3. Some are chronometric ages.
4. Age scheme follows Berry, Boucot, and others (1970).

BRIEF DESCRIPTION OF MAP UNITS

- UNITS EXPOSED SOUTHWEST OF CLARENCE STRAIT**
- Os Surficial deposits (Holocene and (or) Pleistocene)—Alluvium, colluvium, tidal mudflat deposits, and some possible glacioluvial deposits.
 - Qv Extrusive volcanic rocks (Quaternary?) and Tertiary—As mapped, divided into:
 - QvB Basaltic to rhyolitic breccia and tuff
 - QvR Rhyolite and dacite
 - QvO Olivine basalt and andesite
 - Tk Kootziahoo Formation (Paleogene)—Sandstone, conglomeratic sandstone, and conglomerate.
 - Qv Intrusive rocks of the Chilkat-Prince of Wales plutonic province (Early Cretaceous)—As mapped, divided into:
 - QvH Hornblende quartz monzonite and minor tonalite, granodiorite, quartz diorite, diorite, quartz monzonite, and monzonite
 - QvM Hornblende granodiorite, hornblende diorite, and biotite-hornblende monzonite
 - QvG Gabbrro
 - Qv Intrusive rocks of the Boka Mountain plutonic province (Middle Jurassic)—As mapped, divided into:
 - QvP Peralkaline granite of Boka Mountain
 - Qv Syenite of Dora Bay
 - Qv Oligocene breccia of the Huk? Group (Late Triassic?)
 - Qv Leucocratic of Klawock and Sukkwan Island (Early Permian and Late Pennsylvanian)—Diorite and hornblende-bearing syenite
 - Qv Klawa Formation (Middle and Early Pennsylvanian)—Sandstone, siltstone, and minor limestone and chert-pebble conglomerate
 - Qv Ladrosus Limestone (Middle and Early Pennsylvanian)—Massive and subfoliated limestone and minor dolomite
 - Qv Peratrovich Formation (Late and Early Mississippian)—Limestone containing dolerite, chert, rhyolite, and beds that grades downward to bedded chert
 - Qv St. Joseph Island Volcanics (Devonian?)—Massive, locally argillaceous and pillowed, basalt flows
 - Qv Port Refugio Formation (Late Devonian, Famennian)—Massive to thick and thin-bedded volcanic-detrimental graywacke, mudstone, siltstone, and minor polymictic conglomerate, black pyritic siltstone, calcareous siltstone, pillow basalt, tuff, fossiliferous limestone, and quartzofeldspathic arenite. Locally includes:
 - Volcanic rocks—Agglomerate, pillow basalt, and square tuff
 - Qv Wadleigh Limestone (Late to Early Devonian, Famennian to Emilian)—Massive and thick to medium-bedded limestone, minor argillaceous limestone and calcareous shale
 - Qv Corcoran Volcanics (Middle Devonian)—Fragmental basalt interbedded with fossiliferous limestone and argillaceous siltstone
 - Qv Kiahven Formation and associated rocks (Middle? and Early Devonian)—As mapped, divided into:
 - Rhyolite of Kasaan Island (Middle? and Early Devonian)
 - Limestone of Kasaan Island (Middle? and Early Devonian)
 - Turbidite-facies rocks (Middle? and Early Devonian)—Mudstone, siltstone, shale, sandstone, conglomerate, and minor limestone
 - Red-bed-facies rocks (Early Devonian)—Sandstone, shale, conglomerate, and minor well-bedded clay limestone
 - Breccia of northeastern Nogos Island (Early Devonian)—Dolomitic breccia and breccia beds of limestone rich in shell fossils and conodonts in matrix of argillaceous and plant-bearing shale
 - Qv Sedimentary rocks of the Port Nicholas area (Early Devonian)—Sandstone overlain by limestone and argillaceous shale
 - Qv Plagioclase-porphyratic diorite?, andesite, and diorite? (Early Devonian)—Small plugs and associated(?) flows, breccias, and andesite
 - Qv Conglomerate-facies rocks (Early Devonian)—Polymictic conglomerate, conglomeratic sandstone, sandstone, siltstone, and volcanic rocks
 - Qv Siltstone, sandstone, polymictic conglomerate, and limestone of Claver Bay (Early? Devonian)—Calcareous well-bedded sandstone, siltstone, and subordinate gray argillaceous limestone and mudstone
 - Qv Metamorphic rocks at Kikak Inlet (Early Devonian and Silurian)—Semi-chert, gneiss, and leucocratic
 - Qv Sedimentary rocks of the Staves Creek and Tuxean Passage area (Early Devonian? and Late and Early Silurian)—Limestone, sandstone, mudstone, and polymictic conglomerate
 - Qv Leucodiorite at Kassa Inlet (Late Silurian)—Medium to coarse-grained melanite? gabbro-andesite leucodiorite
 - Qv Hecla Limestone (Late and Early Silurian)—As mapped, divided into:
 - Limestone, minor limestone breccia, sandstone, mudstone, and polymictic conglomerate
 - Qv Polymictic conglomerate
 - Qv Bay of Pillars Formation (Late and Late? and Early Silurian)—As mapped, divided into:
 - Sedimentary and volcanic rocks—Graywacke, mudstone turbidite, polymictic conglomerate, minor limestone, and andesite to basaltic volcanic flows, breccia, and tuff
- UNITS EXPOSED NORTHEAST OF CLARENCE STRAIT**
- Qv Surficial deposits (Holocene and (or) Pleistocene)—Alluvium, colluvium, tidal mudflat deposits, and some glacioluvial deposits
 - Qv Extrusive volcanic rocks (Quaternary?) and Tertiary—Basalt and andesite
 - Qv Intrusive and related rocks of the Kula-Etolu volcanic-plutonic province (Miocene and (or) Oligocene)—As mapped, divided into:
 - Hornblende sedimentary rocks
 - Hornblende volcanic rocks
 - Migmatitic granitic rocks of southern Eoflin Island
 - Granitic rocks of southern Eoflin Island
 - Leucogabbro near Ketchikan
 - Qv Kootziahoo Formation (Paleogene)—Conglomerate, sandstone, siltstone, shale, and minor lignite
 - Qv Intrusive and related rocks of the Admiralty-Roughlegged plutonic province (Late Cretaceous)—As mapped, divided into:
 - Nonfoliated plagioclase-porphyratic (hornblende) (epidote)-quartz-biotite tonalite, quartz diorite, and minor granodiorite
 - Porphyritic, foliated biotite tonalite and granodiorite
 - Foliated to massive hornblende-biotite tonalite and granodiorite, quartz monzonite, and quartz diorite
- Quartz diorite**
- QvD Quartz diorite
 - QvDg Granite
 - QvDm Unfoliated and foliated quartz monzonite and granite
 - QvDp Pyroxenite, hornblende, and gabbro
 - QvDh Hornblende
 - QvDl Andesitic breccia of Luck Creek (Early Silurian and Late Ordovician)—Angular fragments of porphyritic andesite in a matrix of hornblende-doleritic aegirite crystal tuff of andesitic composition
 - QvDn Descon Formation (Early Silurian to Early Ordovician)—As mapped, divided into:
 - Volcaniclastic graywacke, siltstone, mudstone turbidites, and minor sedimentary breccia, limestone, and polymictic conglomerate
 - Dacitic to rhyolitic volcanic rocks
 - Andesitic to dacitic volcanic rocks
 - Basaltic to andesitic volcanic rocks
 - QvD Intrusive and related rocks of the older part of the Cape Chacon plutonic province (Late and Middle Ordovician)—As mapped, divided into:
 - Hornblende quartz diorite, diorite, and quartz monzonite (Late Ordovician)
 - Foliated and layered hornblende diorite and quartz diorite, heterogeneous diorite and gabbro, and minor foliated granodiorite (Late and Middle Ordovician)
 - Foliated hornblende granodiorite, chlorite leucogabbro, and quartz-porphyratic granodiorite (Middle Ordovician)
 - Metamorphic rocks at Ruth Bay (Middle Ordovician)
 - QvD Metamorphic rocks on eastern Prince of Wales Island (Late and Middle Cambrian)—Foliated, slightly layered, metamorphosed diorite, microdiorite, quartz diorite, gabbro, microgabbro, and hornblende
 - QvD Intrusive rocks of the southern Dall Island plutonic province (Early Cambrian)—As mapped, divided into:
 - Foliated, banded, and gneissic biotite-hornblende quartz diorite, granodiorite, and minor diorite
 - Foliated and layered biotite-hornblende diorite and quartz diorite
 - Hornblende gabbro, microgabbro, and quartz diorite
 - QvD Waga Group (Early Cambrian?) and Late Proterozoic)—As mapped, divided into:
 - Metagabbro south of Kassa Inlet
 - Greenstone, gneiss, black phyllite, quartz-schist, sericite, metakarapophyte, and minor marble
 - Marble and minor calc-silicate rocks
- Quartz diorite**
- QvD Quartz diorite
 - QvDg Granite
 - QvDm Unfoliated and foliated quartz monzonite and granite
 - QvDp Pyroxenite, hornblende, and gabbro
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 - Foliated and layered biotite-hornblende diorite and quartz diorite
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