Bibliography of Snohomish County geology,
with an index to geologic mapping

by

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Describes soils found in Snohomish County; their properties and uses. Includes a generalization of nature of the county and its climate. Also has a soils map of all but the mountainous area of Eastern Snohomish County. The scale is 1:63,360.


Gives a brief summary of previous studies, lithology, methods used, and description and significance of the fusulinids.


An easy to read description of terms and the geologic setting. Encompasses geologic hazards such as landslides, earthquakes, land subsidence, and description of critical resources. There are also maps and diagrams.

A basic overview of the Stillauamish quadrangle, including physiography, descriptive geology, geologic history, and economic geology. Also contains a tographic map of the area. The scale is 1:31,680.


The concerned muscovite is found near the Sunrise Copper prospect, Sultan Basin, Snohomish County. Goes into unusual optical and structural characteristics, also chemical composition and thermal analysis.


A comprehensive study of the area, covering the different occurrences of rock units and their location and age. Also includes description of contact metamorphism, structure, and economic geology. There are many color pictures and a geologic map of Vesper Peak stock area with a scale of 1:960.


A detailed study of Bonanza Queen mine, Snohomish County, in-
cluding maps, history, physiography, climate, geology, and petrology. Also contains many color photos of the area and rock samples, and geologic maps of scales 1:15,320, 1:4800, and 1:600.


A detailed report on coal in Washington, explaining methods of estimating reserves, history, physical and chemical properties, and location by county. Snohomish County has little coal therefore only a half page is devoted to it. Also contains a coal deposit location with a scale of 1:21,125,000.


Gives a brief geologic description of the area. Also explains occurrences of the ores mentioned.


Gives a brief history of mining in Washington. Has six pages describing mines in Snohomish County. Also has descriptions of some
minerals.


Covers Washington coals, irons, limestones, clays, and soils. Several mines in Snohomish County are described.


The electron probe analysis is done on specimens from the Mackinaw mine, Snohomish County. Describes the instrumentation, specimen preparation, and results of the analysis.


Contains a location map of the area, graphs showing estimated dates and relative size of ash deposits. Also has a four-page discussion and analysis of the ash deposits.

Describes history, location, mineralogy, petrology, and mining methods used. Also gives analysis of specimens from the area, and geologic map.


A study of the Silverton mine located near Silverton on the Stillaguamish River. Gives a brief history and description of field work, physiography, geology, and mining.


Includes a stratigraphic description of the Fiddle's Bluff, Cathcart area, Snohomish County.


A detailed study of glacial deposits and erosion in different parts of Puget Sound. Gives a Pliocene history. It has many photographs and maps showing geology and area of the study.


Gives an inventory of all mining operations at that time. Includes location, type of minerals mined, name, and brief description of deposit.


A concise geologic evaluation of the Snowking area.


A comprehensive thesis of an area that is comprised of a complex plytonic body of granitic rocks, which is surrounded by metamorphosed, geosynclinal sedimentary and volcanic rocks on three sides. Includes description of regional and local geology, petrology, structure, geologic history, and glaciation.


Gives a description of the setting, previous work, petrography.
Also has discussion and data on microprobe and whole rock analyses.


A description of location, history, and general geology. Goes into detailed geology of the ore body and mentions mining methods used.


Mention of two uranium claims in Snohomish County.


A brief mention of location, history and historical geology. Description of structure, geologic bodies, ore deposits, and their genesis are also covered.

Capps, Gerald, and others, 1973, Geology of Southern Snohomish County for land-use planning: Western Washington State College, Department of Geology, 43 p.

Discusses rock types, their age, structure, weathering char-
racteristics; and describes each rock unit. Also covers slope stability, earthquake hazards and frequency, a location map and cross sections.


Detailed study covering location, field work, source map, physiography, geologic formations, ore deposits, mines and prospects of the Sultan Basin.


Describes field work, location, physiography, geology, and occurrences of pumice from Mount St. Helens and Glacier Peak.


Gives a concise description of physiography, geologic formations, ore deposits and covers mines and prospects of the area in more detail.

A brief description of Pleistocene glacial events.


Includes description of geologic setting, Cloudy Pass batholith structure and contact relations, and history of intrusion and cooling. Also geologic map and plates of rock samples included.


A geologic map of the Holden 15 minute quadrangle.

A short description of the geology of the area including a mineral content breakdown and morphology.


A geologic map including description of map units. Scale 1:62,500


Lists main industries and industrial uses of clays in different regions including western Washington and the Everett-Sumas District.


A map showing occurrences of asbestos in the United States, four of which are in Snohomish County. Supplement gives location and mineral which the asbestos in associated with.

Includes a description of location, history, water and timber resources, geology, major and minor minerals, and petrographic analyses.


Location map with a scale of 1:3,168,000 and supplement giving name of mine and principle minerals mined. One occurrence in Snohomish County.


Description and interpretation of glacial and nonglacial sediments in the Puget Sound Trough. Includes map of area.

Pleistocene glaciers in Washington and Oregon consisted of the Cordilleran ice sheet, which originated in western Canada and invaded northern Washington on both sides of the Cascade Range. Includes a map showing extent of glaciation, description of glacial events and related geomorphology.


Has a simplified geologic map of Puget Sound, graphs, map of epicenters, descriptions of seismograph system, structure, magnitudes of earthquakes and their tectonic implications.


Has two maps showing epicenters and locations of seismograph stations, with a brief introduction and hypocenter listings.


Describes geology, setting, hiking hints, and geologic story along hiking route. Contains maps, photographs and many sketches.

Geologic map has description of units and rock types.


Contains a map showing regions involved and has reference to geology, mineralogy and occurrence of tungsten in Sultan district, Snohomish County.


This report presents the results of a study of potential nuclear power plant siting areas in the Pacific Northwest. Includes site development criteria, major siting areas including the Stillaguamish and Snohomish Rivers, population and land use, ecology, geology, seismology, climatology, water resources and fisheries consideration. Also has maps and tables (state-wide maps).

Danner, Wilbert R., 1957, A stratigraphic reconnaissance in the north-

Comprehensive thesis on western Washington. Describes different rock units, their age, composition and location. Includes maps and pictures.


Microfossils of western Washington are rare but do occur and are quarried in Snohomish County. The report gives description of location and brief history.


Discusses briefly the limestone deposits of Snohomish County. Has a map and descriptions are listed chronologically.

Darton, Nelson H., 1909, Structural materials in parts of Oregon and

Gives brief summary of cement materials in Snohomish County.


Describes geology. Includes geologic map with a scale of 1:53,325 and analysis of water samples.


Includes a geologic, climatic, and biologic description of the area. Also covers geochemical and analytical methods used, as well as the hydrology involved, and chemistry of Williamson Creek.


An annotated bibliography.

Discusses reservoir and ground water supplies. Quality and quantities and distribution of use.


Describes previous work, petrology of the dunitic suite, metamorphic tectures and minerals, and analytical microprobe techniques.


Covers stratigraphy, petrology, structure of the country rocks, igneous rocks, contact metamorphism, associated gabbros, primary peridotites, and serpentinites. Also gives location, regional setting with many graphs, geologic maps, and pictures.

Phase equilibrium considerations derived from studies of progressively metamorphosed serpentinites combined with a theoretical analysis of the system MgO-SiO₂-H₂O indicate that antigorite is the stable phase in olivine-serpentine reactions. Includes thin section photos.


Gives position, orientation, rock type and age of dismembered ophiolite sequence.


Includes a location map of the area. Description of climate topography, vegetation, exploration techniques used, and data from a chemical technique used.


The study consists of a general geological reconnaissance of the area which includes obtaining water levels of representative
wells, pump testing the aquifer, information from various sources and interpretations of the data.


The study includes a description of location, topography, a general geologic reconnaissance, occurrence of ground water, and a geologic map of the area at a scale of 1:24,100.


A brief description on the emplacement of ore deposits in the Monte Cristo area, Snohomish County.


Describes rock types and gives ages of Mount Stuart granodiorite and Beckler Peak stock, which occupy the southeast corner of Snohomish County. A map of the plutonic rocks is included.

Contains a brief regional geologic description of the intrusive and extrusive igneous rocks found in the Cascades, which includes part of Snohomish County.


Mackinawite is a new copper-free iron sulfide from the Mackinaw Mine, Snohomish County. The report discusses the identification of mackinawite and the minerals associated with it.

Abstract: Geological Society of America Special paper 73, p. 147.

A brief description of the mineralogy of mackinawite.


Comprehensive thesis of metamorphic and granitic rocks which occupy most of the northern Cascades. Includes an outline of the bedrock geology, petrology and geology of the crystalline rock, geologic maps, and several pictures; thin sections and scenic photos.


A comprehensive thesis explaining the metamorphic and granitic rock which occupy the Glacier Peak quadrangle. Contains many photos, several cross-sections, and a geologic map.


A study of the structural framework surrounding a meta-igneous complex to determine the existence of a paleosubduction zone in the western North Cascades. Includes petrography, chemistry, field description, and age correlation of the geologic units in the area. Also a geologic map with a scale of 1:24,000, a cross-section, and photos.

A comprehensive study of the clays and shales in Washington. Discusses the origin of clays, their classification, constitution, working properties, technology, production statistics, testing, grouping by location and origin, and high aluminum content. Includes tables, photos, and a section on Snohomish County.


A record of drill sites in Washington by county.


The report covers conditions of origin and occurrence of oil and gas conditions unfavorable to the occurrence of oil and gas; a brief description of the possibilities of oil and gas in Snohomish County is included.


Gives a brief description of size, location, and some associated minerals of the iron ore.


Presents a historical survey of the character and the effects on structures of the two most recent major earthquakes (1949 and 1965) in the Puget Sound area. Included are seismological characteristics, earthquake provisions in the Puget Sound basin.


Discusses briefly the deformation and application of knowledge of tectonic activity in Puget Sound region. Also contains cross-sections and a tectonic map of the Puget Sound region.

The purpose of this thesis is the study of slime control as it pertains to the recovery of the ores present in the copper-bearing deposits of the Sunset mine, near Index, Washington. Describes location, topography, climate and history of the mine. Also covers the geology, mineralogy, mining, milling, and laboratory procedures used at the mine.


A study of the relationships between the Dome Peak granitic complex and the surrounding rock units, and of the mode of origin of this body through petrographic and field studies. Includes an outline of geology, petrology of crystalline rocks, and structure of the area.


A comprehensive study of the relationships between the Dome Peak granitic complex and the surrounding rock units, and of the mode of origin of this body through petrographic and field studies. Includes an outline of geology, petrology of the crystalline rocks, and structure of the area.

A comprehensive study of favorable environments of ore deposition. (Several areas in Snohomish County are discussed and) includes description of topography, geology, structural analysis, wall rock alteration, physical and chemical controls for sulfide deposits.


Presents a concise description of the geology of the Index, Monte Cristo, Sultan, Silverton, Silver Creek and Darrington districts. Also covered is the economic geology of the districts. Along with the text is a set of Geologic maps, two of which covers the above districts in the eastern part of Snohomish County with scales of 1:250,000 and 1:62,500.


Describes the geology and development of the Forence Rae mine. Includes history, climate, general geology, geologic history, and paragenesis of the mine.

A comprehensive thesis that discusses the general geology, structure, and petrology which is divided into sedimentary, andesite, basic, granitic, and schist rock types. Also covers metamorphism and ore deposits. Has a geological map with a scale of 1:15,000.


A detailed study on the interrelationship of igneous petrology, structure, and mineralization of major copper-molybdenum deposits in the eastern Sultan Basin. Includes discussion of location, history, intermediate plytonic rocks, structure, Sunrise breccis pipe, economic mineralization and alteration.


A study to determine the extent of the aquifer, its characteristics, and its hydraulic relationship with Lake McMurray. The study consisted of a review of existing data, a general geological reconnaissance, the hydrology, and aquifer testing of the area.

A map with contours of depth of unconsolidated sediments. Includes the western part of Snohomish County. Also includes a brief supplement describing sources of data, plotting methods, limitations, and geologic setting.


Descriptions of three caves in Snohomish County.


An investigation to test the suitability of shale, from deposits in the east Puget Sound area, for manufacturing expanded aggregate. Includes explanation of lightweight aggregate industry, field sampling, and guide to shale samples that bloat.


A study of the ores and country rock of the Index mining district, employing microscopic examination by the aid of thin and polished sections of the rocks and minerals. Includes description of location, general geology, and of the mine. Also has analysis of specimens from the mine.

A description and determination of the general and structural geology and associated mineralization. Describes location, local physiography, history, historical geology, petrography, petrology, deposit mineralogy, and genesis of the mineralization.


A detailed petrographic analysis of the metamorphic rocks exposed in the eastern area, and their structural and metamorphic facies relationships across the suspected Staight Creek fault. Includes description of location, topotraphy, regional geologic setting, crystalline rocks, metamorphics, volcanics, and depositional, petrogenetic, and tectonic history. Also includes a geologic map and many photos.


A comprehensive study of the Sunrise breccia pipe. Includes a description of general geology, location, geography, history, and economic geology. Also has several geologic maps.

A study of clay mineral composition of units in Washington and southwestern British Columbia. Includes origin of clay minerals, and correlation between clay mineral composition, sediment type, location, or probable geologic history of the sediments. Includes a small part on sediments in Snohomish.


Presents data on low-flow characteristics of streams in the Puget Sound region, including Stillaguamish and Snohomish basins in Snohomish County. Text data presented on these basins is concerned with the occurrence of low flows, indexes of low-flow characteristics, and factors affecting low flow.


A collection of descriptions of limestone deposits in Washington including some in Snohomish County. Has location maps and a description of geology.

A description of location, occurrence, and a brief analysis. Also contains a location map.


Gives a brief description of the location, rocks, quality, and commercial values. Also has a map showing size and location of occurrences.


Includes explanation of properties of gold, uses, gold ores, prospecting for gold, location mining claims, patenting mining claims, and history of gold in Washington. Also gives location of placer and lode occurrences. Contains location maps and tables.


A annotated list of the metallic mineral occurrences in Washington
Also includes location maps of many common ores, description of properties, uses, ore minerals and geology of metallic minerals.


A geologic map of the state.


A description of the Florence Rae mine, and determination of the structure and paragenesis of the ore. Includes discussion of location, ownership, development, production, and topography. Also covers climate, general geology, and ore geology.


All ages and experimental data, equations, and constants from which they were calculated are given in tabular form. Includes four samples taken from the Holden quadrangle and one from Sultan quadrangle.

Includes description of Darrington phyllite and Shuksan schist rock units. Also describes the Tertiary rocks, structural geology, Quaternary geology, and geologic history of the Gold Mountain area.


Gives a brief mineralogical description of a nickel-gold ore specimen taken from the Mackinaw mine.


Describes topographic and geologic surveys made in the area of the Sauk River below Darrington and their relation to power, flood control, or irrigation developments.


A study of the metamorphic rocks that lie beneath sedimentary rocks in the Higgins Mountain area. Includes a description of location, topography, geologic setting and the main topic of the pet-
rology and stratigraphy of the metamorphic, igneous and sedimentary rock in the area. Also covers structure and has a geologic map.


A comprehensive study of the regional geology, stratigraphy, and petrology of the Finney Peak area. Has a description of the location, medium-grade metamorphic rock, low-grade metamorphic rocks, Gold Mountain phyllite, strongly recrystallized phyllites, petrogenesis, Finney greenschist, Mud Lake phyllite, Sutter Mountain unit, volcanics, Swauk Formation, plutonic rocks, structure, and glacial geology.

A study of the magnetic expression of several rock types in the area and test of the effectiveness of magnetic methods in locating economic mineral anomalies. Contains a description of location, climate, vegetation, history, and geology, including metamorphic rocks, granitic rocks structure, and mineralization. Also has explanation and data from magnetic studies.


Contains description of the property, physiography, general geology, of the area and economic geology. Also includes geology, mineralogy, petrology and petrography of the Yankee Boy mine.


A description of the Florence Rae property, and a study of the geology of the ore deposits. Includes a description of the general geology, history of the Florence Rae claims, geology of the Moshier vein, mineralogy, proposed mining methods, milling character of the ore, and milling tests. Also contains tables on tests performed, maps, and sketches.

A brief summation of the resources, history and location of the Index mining district.


Includes one page describing the granite quarries at Index and a half page on the limestone at Granite Falls.


A brief description of occurrence and a table of chemical analyses of limestone calcareous slate and clay near Granite Falls.


An evaluation of rocks tested and methods of testing are covered, along with distribution of road materials by county.


A brief geologic description of Snohomish County and an explanation of mines by mining district.

A description of the industrial materials, broken down by state into occurrences by county. Materials covered are cement materials, clay, diatomaceous earth, feldspar, flourspar, gem materials, graphite, gypsum, limestone, magnesian minerals, mica, mineral wool, peat, phosphate rock, quartz crystal, refractories, sand, gravel, stone, talc, and vermiculite.


A short introduction and two pages explaining distribution of copper deposits. Also map showing position of copper mining operations.


A field examination to determine the nature, extent, and manner of occurrence of the gravel deposits; and laboratory tests to ascertain their probable quality. Includes general distribution of the sand and gravel formations of Washington, sand and gravel for gravel macadam, sand and gravel for Portland cement concrete, for bituminous concrete and sand for sheet asphalt construction. Also has a breakdown by county of the distribution and character of sands and gravels.

A brief introduction and explanation of geology and mineralogy associated with tungsten. Also a list of mines arranged by state. Two such mines are located in Snohomish County.


Discusses briefly some optical properties of muscovite from Sultan Basin, Snohomish County.


A summary of gold deposits, including gold found in Monte Cristo area. A brief description of location, geology, and topography.


Discusses the nature of the outcrop at Fiddler's Bluff, physiography, location of sampling, structure, and ecology. Also has descriptions of rock units, cross sections, paleontology, correlation, and age.

Discusses history of Mineral City region, and development of the property, geography, and geology. Geology also has sections on mineralogy, petrography, petrology, and genesis of vein-forming solutions. Contains data from milling tests.


A study of the nature of the ore body, and more particularly the milling procedure, especially flotation. Covers location, history, regional geology, structural, historical, and geology of the ore body. Also discussed are mining, development, milling practice, and flotation tests.


Describes the location, history, physiography, and general geology of the Silver Creek mining district. Also gives description of deposits at 46 mines, claims, and prospects in the area.

Mangum, A. W., 1911, Reconnaissance soil survey of the eastern part of the Puget Sound basin, Washington: U.S. Department of Agriculture, Bureau of Soils, 90 p.
A comprehensive study including a description of the land, climate, agriculture, soils and the flora characteristic of the different soils. Contains soil maps. Scale of 1:125,000.

Mathews, William H., 1947, Calcareous deposits of the Georgia Strait area: British Columbia Department of Mines Bulletin 23, 113 p. Scale 1:1,000,000. Map 223c on Map Sheet No. 46 is figure 20 with the title "Geology and calcareous deposits of the Georgia Strait area."

Describes the origin, occurrence, mineralogy, and other properties of calcareous rocks. Includes explanation of quarrying, processing, chemical analysis, and description of deposits which encompasses Gold Bar, Granite Falls, and Bryant, all in Snohomish County.


A study of the northern Cascades which includes the eastern part of Snohomish County. Gives a description of geology, metamorphics, and igneous rocks, different dating techniques used, and analyses of selected specimens. Also has a bedrock geologic map, graphs and tables.


Has a location map and gives brief description in table form of wells drilled.

A comprehensive study of molybdenum, including history, geologic occurrence (containing two paragraphs pertaining to molybdenum in the Glacier Peak area in eastern Snohomish County), mining, metallurgy, production, forms, properties and uses.


Gives a description of soils found in Snohomish County, a cross-section, and location. Also points out type of drainage, topography, vegetation and engineering problems.


A comprehensive study discussing Eocene and Oligocene rock formations and determining the Paleo climates from them. Other topics discussed are bedrock outcrops, types of sediment, structure, glaciation, and economic resources such as coal.


The study is broken into four parts. Part 1 is geology which covers general geology and sedimentary, igneous, metamorphic and
glacial rock deposits. Part II covers ore deposits, Part III, mining development, and Part IV covers other economic resources. Also has a geologic map with a scale of 1:31,680 and a profile of mine workings.


A brief description of the Spuire Creek quartz dioritic stock that makes up Helena Peak, its properties and associated mineralogy.


Determination of the petrography, mineralogy, possible mode of origin and extent of the ultramafic rocks on Jumbo Mountain, located just south of Darrington, Snohomish County. Includes a geologic map, scale, 1:31,680.


Explanation of geochemical prospecting and copper analysis. Includes description of mineralization, geology, climate, and topography in the vicinity of the North Fork Skykomish River.

Mills, J. W., 1960, Geology of the Jumbo Mountain nickel deposit, Snohomish
Includes description of rock units and how they correlate with each other and of the occurrence of nickel.

Abstract: Mining Engineering, Vol. 12, no. 3, p. 204, March 1960;


A brief description of the mineralogy of the Mackinaw mine.


The report includes description of the mineralogy, deposits of similar mineralogy, relationships of the sulfide minerals and

Covers the geomorphology associated with the Puget Sound lobe of the continental ice sheet. A study of the till fabric, topography and lithology. Includes the southwest part of Snohomish County.

Misch, Peter, 1966, Tectonic evolution of the northern Cascades of Washington State; a west-Cordilleran case history: Canadian Institute of Mining and Metallurgy Special Volume 8, p. 101-148.

A geologic history of the northern Cascades, including the eastern part of Snohomish County. Description of units and time of emplacement are discussed.


Includes explanation of properties of gold, uses, gold ores, prospection for gold, locating mining claims, patention mining claims, and history of gold in Washington. Also gives location of placer and lode occurrences. Contains a state map showing location of deposits.


Covers the relationship between living organisms and the lithosphere. Includes field studies covering properties of the rocks in relation to hardening, weathering, and biologic activity. Also includes biochemical studies and analysis.


Evaluation of sediment-transport characteristics of Snohomish River basin, which covers about 1,780 square miles and ranges in altitude from sea level to about 8,000 feet. It reports result of a reconnaissance study. Precipitation, soils and sediment load maps, graphs, and tables.


A report covering geologic setting, characteristics of rock materials, occurrence of ground water, chemical character of the ground water, and many graphs, Topographic well location maps, and tables.


A thorough study consisting of a description of the geology,
structure, geologic history, water-bearing characteristics of rock materials, occurrence of ground water, chemical character of the ground water, and use of ground water. Also covered is well drilling and records of wells and springs. A 1:87,500 scale geologic map of western Snohomish County is also included.


Involves study done at eight sites between Darrington and Mineral City in central and eastern Snohomish County. Topics covered are geologic setting, mafic intrusions, ultramafic rocks, economic geology and guides to exploration. There are cross sections and geologic maps also included.


Gives location of gravity base stations, three of which are in Snohomish County.


Includes a description of location, history, geography, and geology in an area south of Index, Snohomish County.

A summary study of the Stillaguamish quadrangle, including the physiography, stratigraphy, structure, petrology of the rocks, and economic geology of the area.


This investigation attempts to use paleomagnetic data to detect tectonic movements that may have occurred among and within the Mount Stuart, the Grotto, and the Index batholiths of the Cascade Mountains, Washington. Includes a description of regional geology, geology of sampled units, experimental methods, and interpretation. Also has a geologic map, diagrams and tables.


The study includes geologic setting, geology and petrology of the crystalline rocks. There are many photos and a 1:88,700 scale bedrock geologic map.


Location, physiography, historical, and general geology are covered in this thesis, along with geology of the Boston-American mine,
mineralogy, and genesis of ore.


A study of the geomagnetic polarity as a tool for stratigraphic correlations. Includes a description of geologic setting, sampling, and measurements. Also discussion of the validity of the measurements and of the results.


A brief description of the occurrence of copper in the Index district.


There is a statewide description of geography, geology, and ore deposits. There are also sections dealing with geology and mines of each county that has ore deposits.

Describes the geology of Mount Index area. Topics covered are volcanic rocks, metamorphic rocks, intrusives, and structure of the area. Also includes a summary of geologic history.


The limestone deposits are in with highly metamorphosed sedimentary rocks, predominantly shales and schists. The report covers location, history, physiography, ownership, and description of the deposits.


A brief report describing location, deposit, mine workings, ownership, physical features, history, and description of the travertine.


The limestone deposits are lenticular and belong to the same formation of metamorphosed sediments that underlies Whitehorse Ridge. A brief explanation of history, ownership, physiography, and geologic setting are included. Also description of specific deposits and analysis are discussed.


Map showing tephra distribution with short history and description.

Post, Austin; Richardson, Don; Wendell, Tangborn V.; and Rosselot, F. L., 1971, Inventory of glaciers in the North Cascades: Washington Geological Survey Professional Paper 705-A.

A brief description of the north Cascade setting, and compilation of data for glaciers including location, drainage basin, area, length, orientation, altitude, and classification as to form, source, surface, nature of terminus, and activity. Also has maps showing size and location of glaciers.


A comprehensive study encompassing watershed management in the Puget Sound area. Includes a large section on soil and land use
interpretations, which involves description of soils, general properties of soils, and suitability of soils for cropland, woodlands wildlife habitat or suburban uses. Also has detailed maps of river basin areas.


A comprehensive report dealing with the properties, treatment, uses, and consumption of antimony. Also antimony minerals of Washington and their identification, and antimony occurrences by county.


Describes properties, uses, marketing, history, and common molybdenum minerals and their identification. Also covers investigated occurrences of molybdenite by county, and the geologic environment of molybdenite as an aid to prospecting.


Includes brief descriptions of topography, objectives, and field work. Also a more detailed description of the rock units in the area and of the structural history.

This study covers mapping of the general geology and structures, analyzing the joint patterns, and study of mineralization and intrusive activity. Paragenesis and textures of the ore minerals and alteration of the mineralized rocks are also included to determine the relation of mineralization to alteration, intrusion, and jointing.


An in-depth study of chemical weathering activity in the South Cascade Glacier area. Gives explanation of water collection, analysis, and artificial weathering experiment, evidence of chemical weathering, mechanics of weathering, cationic denudation rate, and environmental factors in relation to chemical weathering.

Abstract: (by Michael Fleisher.) Chemical Abstracts, Vol. 52, no. 21, p. 1811.

A definitive, comprehensive report on the peat deposits of the State of Washington. Discusses the general description of peats, kinds, rates of accumulation, mineral content, origin and development, and distribution by physiographic provinces and by county. The 34
major peat deposits of Snohomish County are described as to location, areal extent, and type of deposit. In most cases, there is a profile of the deposit.


Gives report of one earthquake in Snohomish County in 1955.


Gives a brief description of occurrence and location of titanium. Only one occurrence in Snohomish County.


Using pre-existing information the writer makes an encompassing geologic history of Puget Sound Basin. The main attention of the study is in the interpretation of gravity data, geomagnetic data, and geologic interpretation data. There are also profiles and gravity maps of the Puget Sound area.

The study is done chiefly in Skagit County but does reach down into Snohomish County. Basically a study of the stratigraphy and structure. Includes description of geologic conditions, sedimentary petrography, igneous rock petrography and historical geology.


Briefly describes the geology associated with mineral occurrence, much of which is in the Cascade Range, and thus includes the eastern part of Snohomish County.


Includes description of climate, vegetation, drainage, topographic features, geologic formations, geological structure, evidences of previously intense glaciation, post-glacial gravels and stream terraces, existing glaciers, landslides, and economic geology.


Gives very brief geologic description of west coast. Also has tables which include one siting in Snohomish County and lists a chemical analysis of the well.

Shedd, Solon, 1903, The building and ornamental stones of Washington:
Discusses demand, uses, and tests on building and ornamental stones and their location. Describes granite quarries near Index. Also covers methods of quarrying.


Examination of different cements and their constituents. Also covers the composition of limestones, clays and shales, and gives location by county, and chemical breakdown of limestone.


Makes correlation between five areas in western Washington, one of which is the Prairie Mountain area of northeast Snohomish County. Describes the general geology, lithology, and outcrop characteristics of each of the five areas.

Smith Frederick G., 1952, Decrepitation characteristics of garnet: American Mineralogist, Vol. 37, nos. 5-6, p. 481, 482, 484, 485, 486.

Gives a brief description of garnets found in Snohomish County.

Smith, Joseph V.; Yoder, Hatten S., 1953, Theoretical and X-ray study of the mica polymorphs.

Abstract: American Mineralogist, v. 39, nos. 3-4, p. 343-344, March
1954.


The mica used in the study is from the Sultan Basin in Snohomish County.

Smith, Mackey, 1975, Preliminary surficial geologic map of the Edmonds East and Edmonds West quadrangles, Snohomish and King Counties, Washington: Washington Division of Geology and Earth Resources Geologic Map GM-14.

A 7½-minute quadrangle with an overlay of the surficial geology.

Smith, Mackey, 1975, Preliminary surficial geologic map of the Mukilteo and Everett quadrangles, Snohomish County, Washington: Washington Division of Geology and Earth Resources, Geologic Map GM-20. 1 map, scale 1:24,000.


Gives a brief description of the soils and slope of the ground in western Snohomish County. A map is provided showing slope characteristics in western Snohomish County with a scale of 1:250,000.


Describes the ore at a mine near Silverton. Covers the history
of the mine, mode of occurrence, and types of ore and mining and milling methods in use.


A detailed comprehensive study giving a description of location and history and concise information of rock divisions, such as granites, extrusives, and arkoses. Also covers jointing, and an in-depth study of ores.


Refinement of the current seismic risk map of the United States in the Puget Sound area is the main objective of this study. Includes description of seismicity, general geology, statistical theory, and earthquake risk mapping in Puget Sound area. Also covers general seismicity considerations, formation of a data sample at places in the Puget Sound, and results of extreme-value analysis.


Report covers deposits of the Goat Lake, Monte Cristo, Miller River, and Money Creek areas. Includes description of occurrences, and history of development.

A brief description of the terrain, rock structure, and ore occurrence and history of mining.


Description of geology and mineralogy associated with mining tunnels of the Silverton mine, Snohomish County.


Includes a general description of geology and mining history in areas of eastern Snohomish County. Also give a concise description of petrology and structure associated with ores.


Has brief discussion of field work and many tables of gravity measurements and locations. Has a map showing basic rock units and gravity contours. Only shows the part of Snohomish County west of 122°.

A detailed study of the Cloudy Pass batholith, including descriptions of the geologic setting, structure, and lithology. Also volcanism is covered extensively in relation to topographic features and petrology.

Tippetts-Abbett-McCarthy-Stratton, 1967, Snohomish River basin study, Phase 1, Seattle.

A concise description of topography, geology and soils, with a soils classification and soils drainage map (scale 1:1,562,500) of the Snohomish River basin.


Gives description of location and occurrence of different genera of fusulinids one of which is found near Granite Falls, Snohomish County.


A summation of factors related to Sunset copper mine. Includes expansion of physiography, history of the mine, description of the ore
deposit, and metallurgical tests. Also has diagrams of the mine and a geologic map, scale 1:62,500, of the area.


Contains a brief introduction including the purpose, use and area covered by report. A second section covers the guidelines for reducing flood damage and preventing improper development in the flood plain. The 25 plates include detailed maps of the area and flood profiles.


Graphically gives profiles of the Snoqualmie, Sultan, and Skykomish rivers. Also has topographic maps of sections of the rivers.


A statewide study that briefly encompasses geology, mineral resources, mineral fuels resources, water resources, and development. Also contains a geologic map, scale 1:1,687,500, graphs, and tables.


Lengthy but thorough report on effects of earthquakes in the area. Emergency backups and aide, history of earthquakes in Puget Sound region, diagram of intensity on the Mercalli scale, etc.

U.S. Work Progress Administration, 1937?, Mining claims-Snohomish County: unpaged.

Gives name, location, owner, and date. Listings of all mines in Snohomish County that were registered between 1871-1937.


A thorough study of the Puget Sound region which includes western Snohomish County. This volume covers concisely the geology, volcanology seismology, geomagnetism, geodesy and hydrography. Contains a geologic scale 1:1,000,000, profiles, graphs and tables.

A road log giving mileage between geologic points of interest with a description of each point.


Includes a brief description of location and occurrence of the common nonmetallic minerals in Washington by county and mineral. Includes maps of locations of the different minerals.


Description of a 25-mile-long belt of metamorphic rock which includes glaucophane schists associated with greenschists.


An in-depth study to map the rocks, determine structure and age relations, and their origin. Includes discussion and description of low-grade and high-grade metamorphic rocks, sedimentary and volcanic rocks, and intrusive rocks. Also an outline of the structure of the area.

Presents a concise observation of the internal structure of a zoned plagioclase crystal from the Squire Creek stock near Darrington.


The study covers geologic and metamorphic setting, occurrence and petrography of the aragonite, and origin of the aragonite. Also contains a map of the metamorphic found in northwestern Washington.


Provides chemical and petrographic information on the Tertiary volcanic rocks of northwestern Washington and compares this data to other volcanic rocks in the state.


A study of nearshore wells and the salt content of the well water. Also, determination of the extent of intrusion of salty water into coastal aquifers and areas likely to have problems in the future. Contains a section on Snohomish County and a coastal
A study of past operations and present conditions of the mine. Includes examination of specimens of country rock and mineral-bearing material. Also, description of the geology of the district and the mine itself.


The only information of geologic importance would be the two pages on land classification and soils.


Includes western Snohomish County.


A comprehensive study containing explanation of geologic units, land use description, slope stability, coastal drift, sand and gravel units and coastal flooding. There are maps (scale 1:24,000) displaying such information for the entire coast line of Snohomish County excluding the Tulalip Indian Reservation.

Presents general overall study of the Cascades without a lot of detail. Has a chapter on geology and mineral resources which includes eastern Snohomish County.


An in depth study of the Index mining district with description of physiography, the petrography of the different rock units and their relationship to each other, and structural and historical geology. Also gives a detailed description of the economic geology and each of the major mines found in the Index Mining District.


Contains a section that discusses the Index granodiorite. Describes briefly its distribution, character, petrography, and correlation with other rock units.


Gives a brief description of pre-Tertiary formations in the central Cascades of Washington which includes eastern Snohomish County.

A physical and compositional analyses of Glacier Peak tephra found in parts of eastern Washington.


A brief description of the extent and geologic interpretation of the age of the rocks associated with the Devils Mountain Fault.


Discussion of geology associated with antimony and gives a list of deposits along with location map. There is one deposit listed in Snohomish County.


A concise description of the rock units that make up the Mount Pilchuck area. Also covers contact metamorphic rock, structure, glacial features, and geologic history.

Gives a concise description of the petrography associated with the contact and its extent.


"Plagioclase zoning appears to be a useful record of conditions and events occurring within granitic magmas" is the conclusion reached by Wiebe. The study includes description of the areal geology, petrography, and detailed discussion of zoning.


A basic description of the geography and exploration. More detail is given to the geology of the area, milling and metallurgy processes.


A mention of two sites in Snohomish County where silica sands are found.


Has map showing type and location of disposal sites. Also contains information on soils beneath, leachate, problems, nearby land use, and topographic setting.


A concise summary of the study by Josiah E. Spurr. Describing the different rock types and geologic history of them.


A geologic map (scale 1:24,000) showing only the northeast corner of Snohomish County. Also contains an explanation of units.

The study discusses, in detail, the rock units, such as the Mount Baring unit, the metasediments, quartz diorite, and the dike and extrusive rocks. Structure is also covered which includes a cross section.


An in depth comprehensive study describing the regional geology, rock formations, Tertiary volcanics, the Tertiary plutonics, and structure of the area. Also contains a geologic map scale 1:31,250.


A brief description of the rock types and structure that make up the Cascade Range in the east parts of King and Snohomish Counties. Also a concise explanation of geological events is provided.


In the Index district in the Cascades two klippen of hornblende-rich migmatitic rocks overlie a sequence of Permian marbles. This is a concise study which covers the migmatitic rocks, pre-Tertiary sedimentary structure, correlation of the migmatitics, and evidence for
major thrusting in the Index district, Cascade Range.


Gives a rock type description and an estimate of the ages of the Index Grotto and batholiths, and the Granite Falls, Squire, and Monte Cristo Stocks. Also has a map (scale 1:570,240) showing the Swauk Formation, faults, and plutonic rocks in the study area.


A summary of recent geological studies in the central Cascades. Emphasis is placed upon the structure and evolution of the Straight Creek Fault, a major Tertiary feature; Tertiary volcanic stratigraphy; petrogenesis of the Cretaceous Mount Stuart batholith and selected younger Tertiary plutons; and the petrology and structure of ultramafic and mafic rocks.
FIGURE 1


FIGURE 2

1. Popoff, Constantin C., 1949, Investigation of limestone deposits near Arlington, Snohomish County, Washington: U.S. Bureau of Mines Report of Investigations 4393, 7 p. (a) figure 2, scale, 1:3,000; (b) figure 3, scale, 1:1,500; (c) figure 4, scale, 1:3,000.


FIGURE 3


5. Mills, Joseph W., 1960, Geologic setting of the nickel occurrences on Jumbo Mountain, Washington: Washington Division of Mines and Geology Reprint 6, 3 p. Figure 1, scale, 1:38,400.

6. Beach, Willis K., 1962, A geological investigation of the Bonanza Queen mine, Snohomish County, Washington: University of Washington B.S. thesis, 85 p. (a) general geology of northern portion Silverton mining district, scale, 1:15,320; (b) local geology of Bonanza Queen mine property, scale, 1:4,800; (c) geology of the Bonanza mine, Snohomish County, scale, 1:600.


11. Danner, Wilbert R., 1966, Limestone resources of western Washington: Washington Division of Mines and Geology Bulletin 52, 474 p. (a) figure 148, scale, 1:1,500; (b) figure 149, scale, 1:2,400; (c) figure 151, scale, 1:7,200; (d) figure 155, scale, 1:1,320.

FIGURE 4


3. Wiebe, Robert A., 1968, Plagioclase stratigraphy—A record of magmatic conditions and events in a granite stock: American Journal of Science, v. 266, no. 8, p. 690-703. Figure 1, scale, 1:58,300.


5. Vance, Joseph A., 1968, Metamorphic aragonite in the prehnite-pumpellyite facies, northwest Washington: American Journal of Science, v. 266, no. 4, p. 299-315. Figure 1, scale, 1:1,250,000.


7. Grant, Alan R., 1969, Chemical and physical controls for base metal deposition in the Cascade Range of Washington: Washington Division of Mines and Geology Bulletin 58, 107 p. Figure 3, (entire county), scale, 1:2,281,000. (a) figure 6, scale, 1:171,875; (b) figure 13, scale, 1:78,125; (c) figure 24, scale, 1:83,300; (d) figure 23, scale, 1:1,562,500.


FIGURE 5

1. Nichols, Bruce M., 1970, Hydrothermal sulfide and arsenide deposits associated with ultramafic and mafic rocks, Snohomish County, Washington: University of Washington M.S. thesis, 41 p. Figure 1, scale, 1:278,800. (a) figure 4, scale, 1:2,400; (b) figure 3, scale, 1:18,000.


FIGURE 6


3. Smith, Mackey, 1975, Preliminary surficial geologic map of the Edmonds East and Edmonds West quadrangles, Snohomish and King Counties, Washington: Washington Division of Geology and Earth Resources Geologic Map GM-14, map and text on 1 sheet. Scale, 1:24,000.


5. Smith, Mackey, 1976, Preliminary surficial geologic map of the Mukilteo and Everett quadrangles, Snohomish County, Washington: Washington Division of Geology and Earth Resources Geologic Map GM-20, map and text on 1 sheet. Scale, 1:24,000.


7. Dethier, David P., 1977, Geochemistry of Williamson Creek, Snohomish County, Washington: University of Washington Ph. D. thesis, 315 p. Figure 5, scale, 1:101,375. (a) figure 6, scale, 1:43,450; (b) figure 7, scale, 1:43,450.

