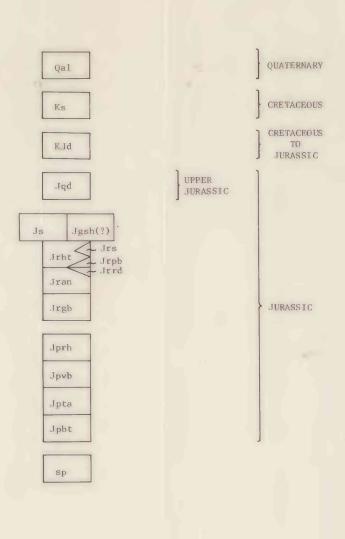


PRELIMINARY GEOLOGIC MAP OF THE METAVOLCANIC AND ASSOCIATED ROCKS IN PARTS OF THE CANYONVILLE, DAYS CREEK, AND GLENDALE QUADRANGLES, OREGON

Maureen G. Johnson and Norman J. Page 1979



DESCRIPTION OF MAP UNITS

- al ALLUVIUM--Unconsoldiated sand, gravel, and silt in stream channels. Shown only along major streams
- SEDIMENTARY ROCKS--Arkosic sandstone, pebble conglomerate and local lenses of shale
- DOTHAN FORMATION--Arkose, graywacke and pebble conglomerate with isolated lenses of pillow basalt and chert.

 Sedimentary rocks consist essentially of volcaniclastic debris. Formation is structurally distorted, locally isoclinally folded. Lower plate of Coast Range thrust
- SERPENTINITE--Small slivers of serpentinite along thrust faults
- Out QUARTZ DIORITE--Medium to coarse grained equigranular to inequigranular hornblende quartz diorite. Hornblende locally altered to blue-green amphibole, plagioclase locally altered to clay minerals. Occurs as small, deeply weathered, poorly exposed small stocks and unmapped dikes
- SHALE--Thinly bedded, black to gray, shale with thin interbeds of tuffs and flows. Metamorphosed to low-grade amphibolite facies near contact with quartz diorite. Gradational contact with Jrht. Uncertain if correlative with mudstones and shales of the Galice Formation
- Jgsh? FOSSILIFEROUS SHALE--Black shale containing <u>Buchia concentrica</u> (sp)? with minor interbedded sandstone, Possibly correlative with fossiliferous shale of the Galice Formation
- SHALE--Thinly bedded, gray-green weathering shale. Interbedded with metavolcanic rocks probably part of hornblende tuff unit Jrht(?)
- Jrht HORNBLENDE-BEARING TUFFS-Light grayish-green to brown massively bedded or jointed outcrops of fine-grained bedded tuffs or coarse-grained, not obviously bedded tuffs, and containing interbeds of actinolite-plagioclase-rich flows. Fine grained tuffs typically are crystal-rich and contain abundant plagioclase crystals and rare primary hornblende. Coarse-grained tuffs contain deformed blue-green amphibole crystals, remnant plagioclase crystals totally altered to clay minerals, but retaining ghost outlines of zoning and twinning, and flattened clasts of pumice. Overlies Jrpb, where recognized, with an irregular bedded contact and appears to be gradational to Jran where Jrpb is not recognized. Southeast margin is thought to be the stratigraphically upper boundary and the unit is interbedded with thin beds of Js
- Jrpb PILLOW BASALT--Dark green to black pillow basalts with ovoid to spheroid weathering surfaces; interlayered with coarse plagioclase-bearing porphyritic flows and angular basaltic breccia. Intruded by 10 cm wide dikes. Pillow basalts have subvariolitic texture of plagioclase laths in a fine-grained dusty and opaque groundmass with pseudomorphic aggregates of meta-amphibole replacing plagioclase microphenocrysts and rare olivine euhedra. Recognized in only a few localities where it underlies Jrht with an irregular bedded contact
- Jrrd RHYODACITE FLOWS, BRECCIAS, AND HYPABYSSAL ROCKS--Light gray-green fine-grained flows, rhyodacite-bearing breccias, and quartz-bearing shallow porphyritic intrusive rocks. Characterisitic mineral assemblage is phenocrysts of subhedral plagioclase and subhedral and embayed quartz in an anhedral mosaic of plagioclase and quartz. Chlorite and epidote are alteration products. Unit appears to be interbedded with Jran. Massive, jointed and sheared where well exposed, weathers deep red where poorly exposed
- Jran AMYGDALOIDAL ANDESITE—Amygdaloidal porphyritic flows containing rounded to irregular and pipe shaped quartz— and calcite—filled amygdules 1-5 mm in diameter; Flows consists of phenocraysts and glomerophenocrysts of altered plagioclase in a matrix of randomly oriented plagioclase laths, chlorite, and epidote. Interbedded with glomeroporphyritic non amygdular flows and flow breccias containing amygdaloidal andesite and rhyodacite
- Jrgb GLASSY BASALTIC ANDESITE—Black, commonly aphanitic, strongly foliated flows containing sparse plagioclase microphenocrysts and abundant chlorite replacing original glass. Interlayered with crystal-lithic tuffs containing clasts of similiar appearing microporphyritic plagioclase flows. Most of unit is poorly exposed and contains weathered brown clay-rich rocks of indeterminate lithology
- Jprh RHYOLITIC FLOWS AND OBSIDIAN--Light gray, faintly foliated rhyolitic flows, flow breccias, and rare devitrified, perlitic obsidian. Flows and breccias are composed of altered plagioclase and rare clinopyroxene microphenocrysts in an anhedral quartz-feldspar groundmass, containing chlorite and epidote in veinlets and as abundant alteration products. In general poorly exposed and deeply weathered
- Jpvb VOLCANIC TUFF BRECCIA--Coarse volcanic tuff breccia with blocks as large as 1 meter across but averaging less than 20 cm in a pyroxene-bearing tuffaceous matrix. Clasts include microporphyritic plagicclase- rich flows, pyroxene-plagicclase bearing scoria, rare fine-grained tuffs, and possibly recrystallized chert. A coarse breccia containing clasts of maroon-colored scoria is commonly present in the center of the map area at the west boundary of the unit. Dacite porphyry flows and rhyodacites flows and plugs occur locally. Medium to coarse-grained pyroxene tuffs are common. Gradational contact with massive tuff and agglomerate unit Jpta
- MASSIVE TUFFS AND ACGLOMERATES—-Characterized by outcrops of massive greenstone containing dark pyroxene crystals from 1 mm to 3 mm in diameter and milky white altered plagioclase crystals up to 5 mm long. Common lithologies include foliated pumiceaous crystal—lithic tuffs, massive tuffs which locally show graded bedding and contain pyroxene and plagioclase crystals in a vitric tuff matrix and in cognate glassy lapilli, medium—grained agglomerates with crystals and volcanic lapilli commonly near equal in size in a remnant glassy matrix with local well preserved shards, dark—green to black fine—grained basalt flows and pyroxene—plagioclase seriate andesite flows
- Jpbt RHYODACITE FLOWS AND BEDDED TUFFS --Foliated, light gray to green rhyodacite flows predominate toward base; very fine-grained bedded porcelaneous tuffs predominate toward top. Areas where tuffs observed identified by parallel lines on map. Pyroxene-plagicclase agglomerates and basalt flows locally present throughout the unit. Rhyodacite flows consist of albitized plagicclase laths in flow alignment with chlorite in interstices; remnant mafic minerals replaced by clinozoisite. Coarser grained portions of porcelaneous tuffs are composed of angular, altered plagicclase crystals, quartz, rare pyroxene, and green epidote crystals, set in a dusty iron-oxide-rich matrix. Graded beds indicate unit is upright. Upper part of bedded tuffs gradational to more massive crystal-lithic tuffs
- Contact--Approximately located or inferred
- Fault--Approximately located, arrow shows direction of dip; dashed where location is uncertain, dotted where covered
- Thrust or high angle reverse fault--Approximately located; dotted where covered, teeth on upper plate
- Strike and dip of inclined beds--Ball indicates presence of top and bottom criteria
- Shear zone--Shown along contact or normal fault where significant shearing accompanied by development of pyrite and white gouge was observed in the field
- Rhyodacite porphyry plugs--Small outcrops of gray porphyritic rocks with quartz and plagioclase phenocrysts in a very fine grained waxy groundmass; exposed mostly along thrust faults. Correlation with other volcanic rock units unknown
- (?) Question--Unit is probably present but identification is uncertain

METAMORPHISM AND ALTERATION

Mineral assemblages in the metavolcanic rocks are similar except for the abundance of pyroxene to the west of the Windy Creek Thrust versus its notable scarcity in the rocks to the east. The pyroxene phenocrysts are relatively fresh clinopyroxenes with a composition approaching augite; they show abundant twin lamallae, zoning and well preserved euhedral shapes. The plagioclase phenocrysts have all been albitized, many are totally saussuritized, and inclusions of epidote group minerals, chlorite, clays, etc., are common. There is abundant development of chlorite, epidote, and clinozoisite throughout the groundmass; common development of metamorphic prehnite, rare vein prehnite and pumpellyite. Calcite and secondary quartz are also common. Original glass is totally devitrified and replaced by an assortment of minute mineral grains of iron oxides, chlorite, and phyllosilicates. Actinolite is more common in the hornblende-bearing tuffs than in the pyroxene-bearing tuffs. Higher grade metamorphic minerals such as biotite and blue-green meta amphibole are common only near the eastern margin of the map area, in proximity to a small granodiorite intrusion. Within major fault zones there has been local obliteration of original texture and mineralogy due to the widespread development of sericite, quartz, calcite, epidote, and other alteration products.