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OREGON

Notes from: T.P. Thayer, C.E. Brown, 1964: Pre-tertiary orogenic and plutonic intrusive activity in central and northeastern Oregon. GSA Bull. v. 75, 1255-1262.

1255: Section: Sediments, volcanics, mostly Paleozoic; may have some Lower Triassic.

Intrusions, erodotite to albite granite.

Thick Late Triassic to Late Jurassic seds. and volcanics. Batholithic intrusions, later Ju to mid-K. Related to Idaho batholith.

Mid-K, Albian to Venomanian seds.

Pre-Cretaceous Bedded Rocks Paleo-poorly bedded argillite, metavolcanics, chert, intensely deformed, locally foliated. At least Devonian to Permian.

1257 Late Triassic to late Jurassic. graywacke seds, volcanics, some ls. Max local thickness perhaps 80-90,000'. Complex history of deformation & erosion contemporaneous with deposition. Lack of metamorphism. Longest fossils Oxfordian.

Angular unconformity between Oxfordian and Middle to Late Triassic.

Pre-Upper Triassic deformation and the Canyon Mt. Magma Series. -Paleo rocks complexly folded & faulted. Locally foliated before intrusion of peridotite & gabbro, plus QD and albite granite, called Canyon Mt. complex. Intrusions forcible strong deformation after intrusion. Date post-Wolfcampian (Permian), pre-Late Triassic.

1258: Igneous rocks related to the Idaho batholith: The absence of known Uppermost Jurassic (Kimmeridgian to Tithonian) and pre-Albian Lower Cret. rocks agrees with radiogenic dates for the post-Upper Triassic intrusive masses. Both indicate orogenesis of long duration. * A K-Ar date of 145 m.y. for QD overlain by fossil beds of mid-Cret. age apparently falls near the Jurassic-Cret. time boundary (my scale says Kimmeridgian). 15 mi. NE of John Day (show on map). 44 mi. SE of John Day, QD intruding Triassic and (1259) Jurassic seds. dated by USGS at 120 m.y. (Aptian, E.W.). Zircon date, BM in Fig. 1, 99 m.y. (base of Venomanian-E.W.). GD. Agree with age of Wallowa batholith W.H. Aubeneck, 1963, Explosion breccias and injection breccias in Wallowa batholith, Wallowa mts., northeastern Wash Oregon, GSA Abstracts for 1962. One long period of intermittent intrusion.

Possible structural relationships between the Blue Mts. and Klamath MT. regions. None.

Summary: Since middle Paleozoic, central and NE Oregon has been the scene or repeated, if not continual, diastrophism. Between Permian (Wolfcampian) & Late Triassic time, intrusion of rocks of the Canyon Mt. magma series was accompanied by complex regional deformation. The sedimentary record from Late Triassic to Late Jurassic time shows repeated major local folding, faulting, and volcanism. Radiogenic dates and absence of uppermost Jurassic and pre-Albian Lower Cretaceous seds indicate a period of deformation culminating with intrusion of rocks related to the Idaho batholith in the earlier half of Cretaceous time.

* 145-115 m.y.

Brief Notes from: EARLY TERTIARY DEFORMATION IN NORTH-CENTRAL OREGON
R.V.Fisher, 1967, AAPG Bull. v.51,111-123.

Deal with area immediately W of Blue Mts gold district.

114. Cretaceous rocks crop out in several places Mainly thickbedded cgl layer with IB ss and some shale. Thought to be derived from the south. Dated Albian (115-110). This confirms orogeny in this area, on the geanticline, in upper Lower K time. Ages of intrusion in the go area range from 149 (base of Kimmeridgian) to 120 (Aptian). Suggestion is that of continuous or intermittent orogeny, upper Ju thru Lower Cret.
- 119 Pre-John Day (Oligo-Miocene) Structures. Pre-John Day high near the present Blue Mt. anticline (see tectonic Map, Upper ju to Lower Cret).
- 122 The Blue Mt. uplift apparently has had a long-time controlling influence of the regional structural pattern. Its trend reflects exactly the older trends related to Tertiary orogeny as shown by King, 1959, p.159. (King shows the ENE structural grain prevailing in the gold district.