ES473 – Writing Assignment / Summary Reports

Writing Assignments: Students are required to write a 500-800 word (~1-2 typed pages) summary for each of two field trips and five journal articles that will be assigned. This exercise is designed to enhance the writing skills of students. The format should include: (1) Introduction to the Problem / Issue, (2) Summary of Main Points, (3) Final Discussion of the Relevance of the Presentation / Field Trip to Environmental Issues in the State of Oregon, (4) References Cited, and (5) pertinent figures and tables (items 4 and 5 are in addition to the 1-2 type-written pages). **See attached example on next page.**

A variety of student writing guides are available on the class web site. The summaries should be neatly wordprocessed, double spaced, with 1 inch margins, and checked for spelling errors with a "spell checker" tool. Miss-spellled words will not be tolerated. Save your word-processing files as you may be required to modify and edit the summaries.

List of Spring 2006 Summary Reports / Writing Assignments / Due Dates:

To be submitted by due date on WebCT; and included in midterm and final lab portfolios*

(1) Summary of Graf (2005) reading assignment; "Geomorphology and American Dams"; Due Tuesday April 18
(2) Summary of Gordon Grant / OSU Seminar: "Geomorphic Impacts of Dams"; Due Tuesday April 18
(3) PSU AEG Student Night Poster Summaries; Due Tuesday April 25
(4) Seismic Hazards Papers; Due Thursday April 27
(5) Coffin Butte Field Trip Summary; Due Thursday May 11
(6) Oregon Water Law Video Seminar Summary; Due Thursday May 25
(7) Monmouth-Independence Hydrogeology Field Trip Summary; Due Thursday June 1
(8) Summary of OSU Seminar: Nuclear Waste Disposal; Due Thursday June 8

EXAMPLE ARTICLE Summary

R. Akers
3-10-83
Summary

Baldwin, E.M., 1974, Eocene stratigraphy of southwestern Oregon: Oregon Dept. of Geology and Mineral Industries, Bulletin 83, 40 p.

Baldwin gives a detailed description of the Eocene formations in southwestern Oregon and uses the revised stratigraphy in order to reconstruct the paleogeography of the Eocene coastal margin. Klamath pre-Tertiary strata occupy only a small part of the study area (Fig. 1); however, Baldwin concludes that they were a major source area for sediments and their Cenozoic tectonic history is closely related to that of the Eocene sedimentary basins of western Oregon.

The Eocene formations are dominantly sandstones and siltstones with some conglomeratic and coaly beds (Fig. 3). The earliest Eocene formation, the Roseburg Formation, was closely folded and thrust eastwards soon after deposition. This early Eocene telescoping of Roseburg strata may have been in response to subduction of an oceanic plate to the west. The Paleocene to early Eocene seaway (Fig. 6) in which the Roseburg Formation was deposited reached northward into Washington and volcanic and sedimentary rocks of the Crescent Formation may be correlative.

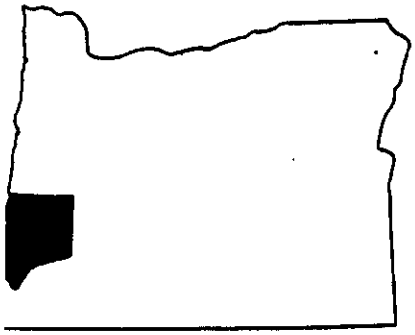
Deformation of the Roseburg Formation resulted in a brief erosional event prior to the deposition of the overlying Lookingglass Formation. The Lookingglass Formation unconformably overlies the Roseburg Formation and onlaps upon the pre-Tertiary strata along the periphery of the basin, toward the Klamath Mountains (Fig. 6). A brief period of erosion (probably due to crustal uplift), after the depostion of Lookingglass strata, created an unconformity upon which the Flournoy Formation onlapped during the middle Eocene (Fig. 2). The Flournoy seaway was one of the most restricted during the Eocene (Fig. 6). Conglomerate, pebbly sandstone, and coal were deposited in shallow seas with interfingering non-marine strata. The finer grained, thin beds of the upper part of the Flournoy Formation imply deposition in a quiet, deeper neritic environment. The source for the Flournoy strata is questionable; however, some evidence indicates that they may have come from the Klamath Mnts. as end-filling a north trending basin.

The middle Eocene Tyee Formation rests unconformably on the Flournoy, Lookingglass, and Roseburg strata and shows a conspicuous lack of basal conglomerate; indicating that the source area was not adjacent to the basin and that the sediment was delivered by rivers bearing sand and silt. Previous workers (Snavely, 1964; Lovell, 1969) suggest that the sediments came from the south (Klamath province) and were carried northward over a submarine surface that was previously subdued by erosion (Flournoy-Tyee unconformity). The southern portion of this elongate basin (Fig. 13) is dominated by nonturbidite facies while the northern portion is dominated by turbidite deposits. A broad transitional zone between these two lithofacies is present. An offlap towards the north and west restricted the size of the basin toward the end of Tyee deposition and the beginning of Elkton deposition (Fig. 13).

The Elkton Formation is gradational above the Tyee Formation, becoming finer grained upward. The Elkton beds represent deposition at a time when the energy of the streams was diminishing. The overlying Bateman Formation represents the final deposits of the offlapping sea (Fig. 13). Uplift and erosion occurred prior to the deposition of the Coaledo and Spencer Formations. The Coaledo and Spencer Formations were deposited in shallow, encroaching seas during the late Eocene. Sediments for these formations came from the Klamath province and from a possible land barrier that existed at the time of deposition (Fig. 16). The non-marine, late Eocene Colestin Formation consists of lava flows, tuffs, and tuffaceous sandstones and conglomerates that outcrop along the western edge of the Cascade range. The Colestin appears to have been marginal to the late Eocene marine Coaledo strata, but the exact relationships are unknown. The Bastendorff Formation is predominantly shale, whose coarser, near-shore equivalents have been eroded away (Fig. 16).

Basin morphology, numerous unconformities, and northerly directed sediment transport suggest that sedimentation during the Eocene was controlled by tectonism. Although this view has yet to be proven.

OVER →



igure 1. Location map of study area. re-Tertiary strata found in southern of study area.

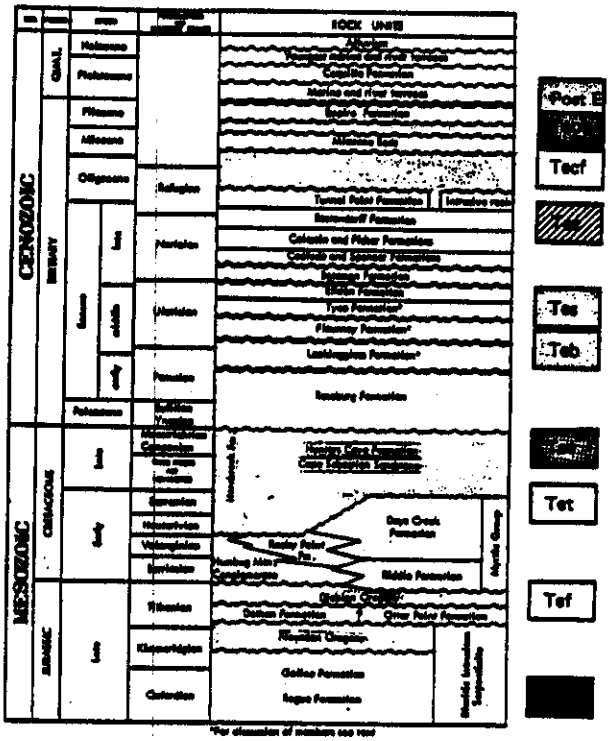


Figure 2. Stratigraphic chart for southwestern Oregon.

UNCONFORMITY

Post Eocene

Bastendorff Formation:
Thinly bedded gray to buff shale and minor sandstone.

Colestin and Fisher Formations:
Flows and volcaniclastic beds, conglomerate tuffaceous sandstone

Coaledo Formation:
Sequence consisting of three members; lower and upper members consist of coal-bearing, cross-bedded, tuffaceous sandstone, and middle member consists of thin-bedded siltstone with minor sandstone.

Spencer Formation:
Sandstone with some shale beds.

Bateman Formation:
Thickly bedded to cross-bedded, medium-grained, micaceous, detrital sandstone, coal-bearing locally.

? UNCONFORMITY ?

Elkton Formation:
Indistinctly bedded micaceous siltstone with intermittent beds of massive sandstone.

Tyee Formation:
Thick sequence of rhythmically bedded, micaceous sandstone and siltstone; coal-bearing at Eden ridge.

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Flournoy Formation:
Rhythmically bedded micaceous sandstone passing upward into thin-bedded sandstone and siltstone.

UNCONFORMITY

Lookingglass Formation:
Rhythmically bedded sandstone and siltstone; basal beds are coal-bearing and conglomeratic locally near the base of the section.

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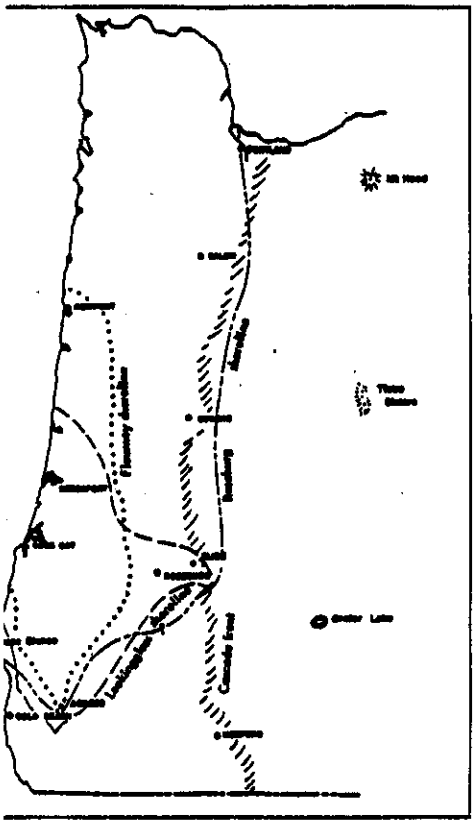
Roseburg Formation:
Thick sequence of sandstone and siltstone; rhythmically bedded locally; contains minor conglomerate and massive sandstone; pillowed and brecciated submarine basalt (Tarv) are abundant locally.

Tertiary intrusive rock:
Sills and dikes of basic to intermediate composition.

Pretertiary

Figure 3. Description of Eocene strata in southwestern Oregon.



. Paleogeographic map of Roseburg, Lookingglass, and Flournoy Formations.

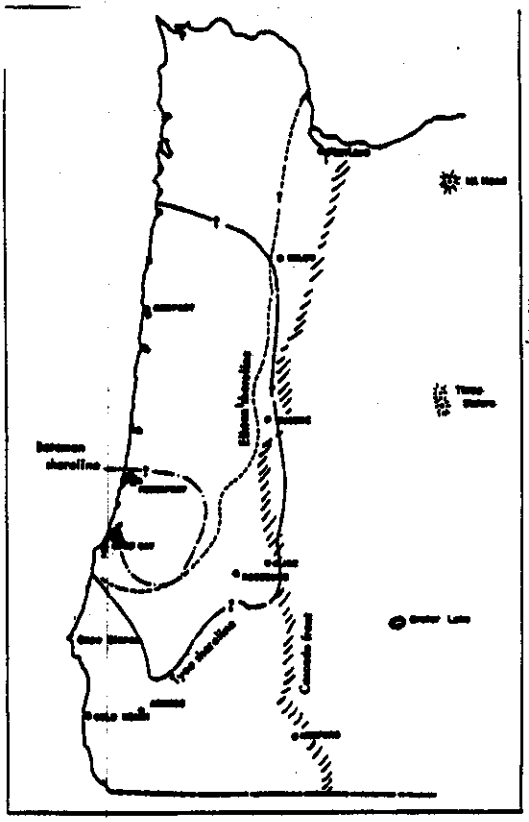


Figure 13. Paleogeographic map of Tyee, Elkton, and Bateman Formations.

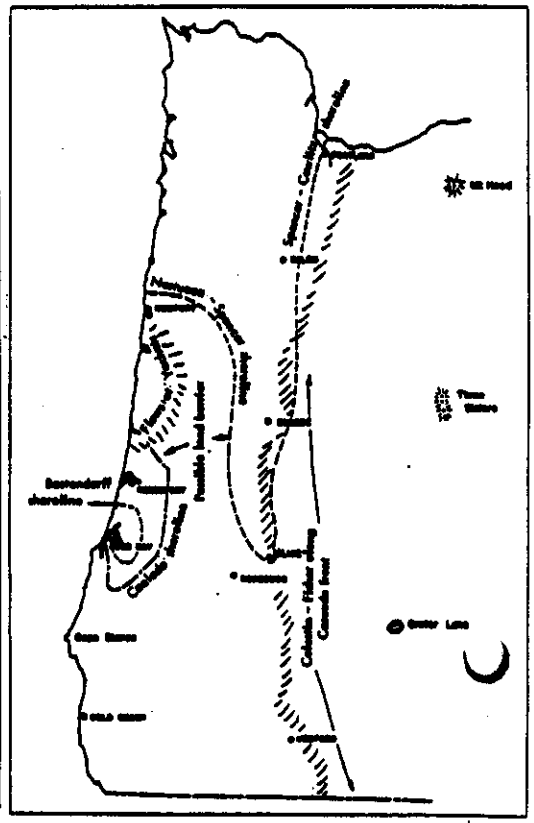


Figure 16. Paleogeographic map of Coaledo, Colestin, Spencer, and Bastendorff Formations