

Lack of sorting of the massive conglomeratic sandy mudstone may indicate deposition

below the lower limit of effective wave or current action, or it may indicate that wave or

current action was prevented either by land or ice barriers or by floating shelf ice or bergs.

QUATERNARY DEPOSITS

The Tertiary bedrock sequence of the Robinson Mountains is overlain with marked angular

unconformity by nearly horizontal unconsolidated deposits formed in both marine and terres-

trial environments and attaining greatest thickness and areal extent on the coastal plain.

Chief among these deposits are: well-sorted sand and gravel formed on the present and former

beaches; interstratified sand and mud containing much organic debris, formed in tidal lagoons

or bays; mud interstratified with poorly to moderately well sorted sand and gravel, formed

along the channels of the larger streams, on fans at the mouths of the smaller streams, and on

outwash plains at the margins of glaciers; and till formed at the margins of glaciers, in part

STRUCTURE

In latest Tertiary time or in Quaternary time the belt of older metamorphic and igneous

rocks forming the Chugach-St. Elias Mountain chain was uplifted and thrust southward

in the sea. These deposits are not differentiated on the map.

Sedimentary rocks of Tertiary age

Undifferentiated sedimentary rocks of

early Tertiary(?) age

Metamorphosed sedimentary and volcanic rocks

intrusive igneous rocks

Area of detailed map, sheet 1

Location of stratigraphic section

FIGURE 2.—ROBINSON MOUNTAINS AND ADJOINING AREA, SHOWING

MAJOR GEOLOGIC FEATURES AND LOCATION OF STRATIGRAPHIC SECTIONS

*Bulimina* sp

and others, 1944, pl. 1)."

Pseudoglandulina sp.

Cibicides elmaensis Rau

Gyroidina orbicularis planata Cushman

Eponides mansfieldi oregonensis Cushman, Stewart, and Stewart

"In western Washington this combination of species is restricted to the upper part of the

Lincoln formation of Weaver (1912) as used by Snavely and others (in preparation) and

Weaver's Blakeley formation. The known foraminiferal assemblages from these strata are best

referred to Kleinpell's Zemorrian stage of 'Oligo-Miocene' age (Beck and others in Weaver

The molluscan fauna of the Poul Creek formation includes genera that are believed to be

indicative of warm temperate or subtropical water (Aturia, Ancilla, Crassatellites, Macrocal-

lista, Pitar, and others) and also of moderately deep water (Solemya). Some elements of the

fauna, such as Mya and Solena, which are found mainly in sandstone beds, are indicative of

Cassidulina cf. C. crassipunctata Cushman and Hobson

Anomalina cf. A. californica Cushman and Hobson

limestone that are gray or brown on fresh surfaces but weather bright yellowish orange.

Authigenic quartz crystals ranging from a fraction of an inch to 2 inches in largest dimension

Beds of coal ranging in thickness from a fraction of an inch to about 6 feet are present

throughout the formation but are most abundant in the silty units. The coal commonly is

sheared or powdered even in the freshest exposures, although locally it is blocky. Based on

analysis of one sample from the Robinson Mountains (Maddren, 1914, p. 148) and on com-

parison with coal of approximately the same age and similar physical characteristics in the

Katalla district, most of the coal in the Kulthieth formation ranges in rank from low volatile

bituminous to semianthracite. Thin, highly sheared beds of coal having conchoidal fracture

and luster typical of anthracite are present in outcrops of the Kulthieth formation adjacent

Marine invertebrate fossils have been collected from sandstone beds at several localities in

the western part of the Robinson Mountains. The stratigraphic position of these fossiliferous

beds within the Kulthieth formation is not known with certainty, but they are believed to

be in the upper part, probably not more than 2,000 feet and possibly not more than 1,000 feet

to the Chugach-St. Ellias fault north and northwest of the Robinson Mountains.

are abundant in some of the arkosic sandstone beds, especially those in the silty units.

INTERIOR-GEOLOGICAL SURVEY, WASHINGTON, D. C., MR-392

A-2, A-3, and A-4 and Icy Bay D-2 and D-3 quadrangles, Yakataga district, Alaska: U. S.

Plafker, George, and Miller, D. J., 1954, Reconnaissance geology of the Malaspina district,

Reed, J. C., 1946, Recent investigations by United States Geological Survey of petroleum

Snavely, P. D., Jr., Brown, R. D., Jr., Roberts, A. E., and Rau, W. W., Geology and coal

Spieker, E. M., Walton, M. S., Jr., and Kirschner, C. E., 1945, Stratigraphy and structure of

Taliaferro, N. L., 1932, Geology of the Yakataga, Katalla, and Nichawak districts, Alaska:

Weaver, C. E., 1912, A preliminary report on the Tertiary paleontology of western Washington:

Weaver, C. E., and others, 1944, Correlation of the marine Cenozoic formations of western

resources of the Centralia-Chehalis district, Lewis and Thurston Counties, Wash.: U. S.

possibilities in Alaska: Am. Assoc. Petroleum Geologists Bull., v. 30, p. 1433-1443.

the Yakataga area, Alaska: Geol. Soc. America Bull., v. 56, p. 1198.

Geol. Survey open-file map.

Geol. Survey Bull. (in preparation).

Geol. Soc. America Bull., v. 43, p. 749-782.

Washington Geol. Survey Bull. 15, 80 p.

Alaska: U. S. Geol. Survey open-file rept., 15 p., map.

North America: Geol. Soc. America Bull., 55, p. 569-598.

Revision of this interpretation may be required when results of current drilling in this area

PETROLEUM POSSIBILITIES

been discovered in 1896 by prospector looking for gold. By 1897 a continuous tract extending

20 miles along the coast was located and surveyed for oil exploration (Martin, 1921, p. 39-40).

During the years 1926-1927 the General Petroleum Corp. of California drilled the first test

well in the Robinson Mountains, near a large oil seep on Johnston Creek. This well was

abandoned at a depth of 2,005 feet as a dry hole with shows of gas and oil. Interest in the

petroleum possibilities was again revived briefly during the late thirties, when new applications

for oil and gas leases and prospecting permits were filed, and geologic mapping was under-

taken jointly by the Standard Oil Co. of California, the Tide Water Associated Oil Co., and

In 1953 the Phillips Petroleum Co. and Kerr-McGee Oil Industries, Inc., began exploration

of a lease tract covering more than a million acres in the Yakataga and Katalla districts of the

Gulf of Alaska Tertiary province, under a development contract with the Department of the

Some of the oil seeps in the coastalarea of the Robinson Mountains are reported to have

are known.

the Union Oil Co. of California.