MULTNOMAH COUNTY

Geography

Multnomah County extends from the Portland hills eastward to the crest of the Cascade Range and is bounded on the south by Clackamas County and on the north by the Columbia River. It is the smallest county in northwestern Oregon, comprising an area f 424 square miles. Portland, an important port, manufacturing center, and largest city of Oregon, is the county seat.

The most important physiographic features are the Portland hills on the west, the floodplains and terraces of the Willamette and Columbia rivers, and the gorge the Columbia River formed in the lavas of the Cascade Range. Altitude ranges from about 25 feet along the Willamette and Columbia rivers to 4,768 feet at Buck Point in the Cascade Range. The Portland hills attain a maximum elevation of approximately 1,550 feet at Dixie Mountain in the northwestern corner of the county.

The Columbia River flows westward across the northern edge of the county but turns northward near the confluence of the Willamette River with the Columbia in northwestern Multnomah County. The Willamette River flows generally northward across the western portion of the county. The Sandy River, which enters the Columbia River at Troutdale, and its tributary, the Bull Run River, drain the eastern part of the county.

The major source of income in the county is from basic industries such as manufacturing, shipping, and construction; but agriculture, wholesale and retail trades, and service industries are important. Mineral resources consist of sand, gravel, and crushed rock. Ferruginous bauxite occurs along the western boundary, but the largest nearby deposits are in Washington County. The brick and tile industry is expanding rapidly.

Geology

In the Cascades in eastern Multnomah County, Oligocene pyroclastics are overlain by Miocene lavas, which are overlain by Pliocene terrestrial sediments and Pliocene to Pleistocene basaltic and andesitic lavas. In the Willamette Valley the Miocene lavas and the Pliocene terrestrial sediments are overlain in places by Pliocene basaltic lavas; and the terraces of the Willamette and Columbia rivers are covered by Pleistocene alluvial deposits and their present floodplains by Recent alluvium. The Portland hills to the west of the Willamette River consist of the Miocene lavas, in places covered by Pliocene terrestrial sediments and lava flows.

The oldest known rocks in Multnomah County are the agglomerates, breccias, conglomerates, sandstones, and tuffaceous sediments comprising the Eagle Creek formation, considered to be Oligocene to possible lower Miocene in age. This formation outcrops in the Columbia River gorge in Multnomah County from Eagle Creek to the vicinity of Warrendale. Lowry (1947) thought that upper Eocene basalts of the Goble volcanic series possibly occur in the gorge, but this fact has not been proved.

Overlying the Eagle Creek formation are the basaltic lava flows of the middle Miocene Columbia River formation. The dark gray basalts of this formation are found in the Columbia River gorge and cover most of the Portland hills. Ferruginous bauxite occurs in extremely weathered upper flows of the formation along the western edge of the county and in the vicinity of Rooster Rock.

In the Columbia River gorge and in some parts of the Portland hills, the Troutdale gravels, silts, and sands overlie the Columbia River basalt. This relationship is shown quite clearly along the bluff above Rooster Rock. These sediments apparently covered most of Multnomah County, but have since been partly eroded and partly covered by younger lava flows, known as the Boring lavas, and the Pleistocene and Recent alluvial deposits. The Troutdale formation is middle Pliocene in age and the Boring lavas are upper Pliocene to Pleistocene in age.

Boring lavas either flank or cap Grant Butte near Gresham, Hill 585 south of Foster Road, Kelly Butte, and Chamberlain Hill on the east side of the Sandy River east of Troutdale. Boring lavas also overlie the Columbia River basalts on the western slope of the Portland hills in southwestern Multnomah County.

Silts, sands, and gravels of the Pleistocene epoch cover the terraces of the Willamette and Columbia rivers, mainly in the area from the Sandy River westward to the Willamette River. Glacial outwash has been mapped by Treasher (1942) along the east and west side of the Sandy River southeast of Troutdale. Recent alluvium occurs along the channels and on the present floodplains of the main streams.

Mining Properties of Multnomah County

FERRUGINOUS BAUXITE DEPOSITS

See "Ferruginous Bauxite Deposits," Washington County.

GORDON CREEK COAL MINE

Owner: Miss Madeline Crump, Corbett, Oregon. About 1934 a lease, which has reportedly lapsed, was made to J. H. Scritsmier and Frank A. Maedke.

Location: SW¼ NE¼, N½ SE¼, and SW¼ SE¼ sec. 9, T. 1 S., R. 5 E., at the outcrop in the channel of Gordon Creek, about 3 miles east of the Sandy River.

Development and production: The mine is full of water but apparently had a slope sunk about 100 feet at an angle of 20°. The coal was hoisted up the slope to a tipple on the north side of the creek. According to Miss Crump, about 10 tons of coal has been produced.

Geology: Coal crops out near the creek level in a very steep wall made up of Troutdale sandstone. The contact of the coal bed and the overlying material was not found, but sandstone lies a few feet above the coal bed.

No information is available on the coal bed itself. The slope is filled with water so that relations inside the tunnel could not be seen. It reportedly is several feet thick and of a rather good quality. Samples on the dump indicate that it is a low-grade lignite, the woody structure being quite prominent. The coal contains considerable clay, silt, and chunks of petrified wood.

There is a small outcrop of coal just upstream from the tunnel opening, in what may be slump material. In and about this point the Troutdale sandstone appears to dip 10° to 15° S. However, it is also reported that similar coal crops out on Little Gordon Creek to the south, which, if true, would indicate that this dip is a local variation. The Troutdale formation is overlain by Boring volcanics at an elevation of 175 feet above the creek or an elevation of about 1,275 feet above sea level. Andesite apparently continues to the top of the ridge at an elevation of about 1,500 feet.

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