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State Department of Geology and Mineral Industries

1069 State Office Building
Portland 1, Oregon

April 5, 1962

To: H. M. Dele
From: H. G. Schlicker
Subject: Mineral evaluation of sec. 12, T. 1 S., R. 3 E., Multnomah County.

In accordance with your instructions, I have inspected the area of sec. 12, T. 1 S., R. 3 E., east of Gresham, Oregon, with respect to the presence of mineral value. The exact location of the 20-acre tract within the section is not known; however, the geology of the entire section is similar with respect to minerals.

General geology

Portland terrace gravels. The youngest material in the area is the Portland terrace gravels. They occur only along the northern extremity of the section and where exposed do not appear to have much merit as gravel or sand. A quarry one mile north of sec. 12 contains too much sand and clay in the pit and excessive silt overburden to be commercial. The gravel tends to thin out against the older Troutdale Formation to the south. The thickness in sec. 12 ranges from 20 to 0 feet.

Glacial outwash. The southern nine-tenths of the section, with the exception of the valley of Beaver Creek in the east-central portion, is overlain by glacial outwash. This material is composed of gravels to boulders interspersed through a matrix of weathered volcanic ash and clay. It occupies the tops of the higher ridges in the area and ranges up to 50 feet.

Troutdale Formation. The Troutdale Formation is the older, moderately indurated gravel, sandstone, and clay exposed along Beaver Creek in roadcuts. The sandstone and clay layers are interbedded with large lenses of gravel, and where exposed in this area the formation appears to be overlain by about 10 feet of volcanic ash which has been partly weathered to clay. The formation is estimated to be about 500 feet thick here. The gravels do not appear to have value as commercial rock as they have excessive overburden in this area.

Columbia River Basalt. The Columbia River Basalt is unexposed but is known to occur at a depth of about 500 feet below the surface. It is estimated to be about 1000 feet thick here.

Oligocene and Eocene(?) marine sediments. These rocks are believed to occur in this area beneath the Columbia River Basalt at a depth of about 1500 feet.

Economics

The sand, gravel, and clay in this area are not believed to be commercial. Oil and gas production from the Oligocene and Eocene marine beds is a remote possibility; however, leasing of the mineral rights by oil companies is a possibility.

Report by: H. G. Schlicker
April 5, 1962

State Department of Geology and Mineral Industries

1069 State Office Building
Portland 1, Oregon

Cheslow

To: H. M. Dole
From: R. E. Corcoran
Subject: Mineral Evaluation of NW $\frac{1}{4}$ sec. 12, T. 1 S., R. 3 E., Multnomah County.

In accordance with your instructions, I have inspected the area in the northwestern part of sec. 12, T. 1 S., R. 3 E., east of Gresham, Oregon, with respect to the possible presence of minerals of economic value. This inspection was made at the request of the State Land Board and concerns a two-acre tract in the northwest portion of sec. 12 in which the State holds the mineral rights.¹

General geology

The rocks exposed at the surface in the Gresham area are geologically young, the oldest being Pliocene(?) in age (approximately 10 million years old). In the Portland Hills east of Gresham and in the foothills of the Cascades to the west, rocks older than Pliocene crop out and probably lie beneath the surface deposits. These older rocks are briefly described by Schlicker in his 1962 report.

The most recent geologic mapping of the Portland area was done by D. E. Trimble (1963), and the descriptions of the various units outlined below have been taken in part from his publication.

Troutdale Formation. The oldest known rocks in this area are assigned to the Troutdale Formation and are best exposed along Beaver Creek in the

¹Note: A mineral evaluation of sec. 12 was made by H. G. Schlicker of this Department in April 1962. A copy of the report by Schlicker is included with this memorandum.

northeast corner of sec. 12. The series consists of interbedded sandstone and conglomerate overlain by a light gray, massive to slightly laminated clay. The conglomerate is composed mostly of pebbles and cobbles of volcanic rock with a few well-rounded pebbles of quartzite characteristic of this formation. According to Trimble, the maximum thickness for the Troutdale Formation is 400 feet, but probably less than 200 feet is exposed along Beaver Creek.

Springwater Formation. Lying above the sedimentary rocks of the Troutdale Formation are beds of bouldery cobble gravel and mudflow deposits of early(?) Pleistocene age which have been included in the newly-named Springwater Formation by Trimble. The mudflow is particularly well-exposed in the cuts along Section Line Road where unsorted boulders of basalt and andesite as much as 3 feet across are imbedded in unstratified finer-grained weathered silt and mudstone. The Springwater Formation underlies much of the upland surface from Gresham southward as far as the Clackamas River. The deposits may be as much as 200 feet thick in some places, but in sec. 12 they appear to be about 75 to 100 feet thick.

Silt. A thin sedimentary mantle of yellowish-brown, clayey, sandy silt covers most of the Springwater Formation in the hilly region south and east of Gresham. The origin of this silt has been the subject of argument for a number of years with some geologists believing it was deposited by streams, while other geologists consider the possibility that it might have been brought into this area by winds sweeping down the Columbia River Gorge.

In the vicinity of sec. 12, the roadcuts show approximately 50 feet of this silt above the Springwater Formation, and all of the houses built on the upland terrace lie on this deposit.

Economics

As Schlicker has previously reported, the various sedimentary rocks which lie beneath the area surrounding sec. 12 do not appear to have any commercial value at the present time. The gravels in the Troutdale Formation could presumably be utilized as aggregate for concrete, but in this locality there is too great a thickness of overburden to make mining commercially feasible.

The possibilities for finding petroleum in the older sedimentary rocks that lie beneath the surficial deposits cannot be adequately evaluated because of the lack of reliable subsurface data. The fact that there has not been any leasing of mineral rights by the oil companies in this part of Oregon would indicate that the possibility is a remote one.

Report by: R. E. Corcoran
November 30, 1964

Reference: Trimble, D. E., 1963, Geology of Portland, Oregon, and adjacent areas: U.S. Geol. Survey Bull. 1119.