

# State Department of Geology and Mineral Industries

1069 State Office Building  
Portland 1, Oregon

FRANK H. LOVEJOY SHEEP  
OTTO PAIGE SHEEP

Linn County  
Lebanon Area

Location: Seepage at the edge of a small reservoir on the F. H. Lovejoy farm was investigated by R. E. Corcoran and V. C. Newton of the State Department of Geology and Mineral Industries on February 19, 1965. The Lovejoy property is located in the NW $\frac{1}{4}$  sec. 6, T. 12 S., R. 1 W., Linn County, about 10 miles northeast of the town of Lebanon.

A seepage on the Otto Paige sheep ranch was inspected on the same day. The Paige ranch is about 5 miles east of the Lovejoy place in the NW $\frac{1}{4}$  sec. 5, T. 12 S., R. 1 W.

Conclusions: The oil on the Otto Paige ranch is probably not from natural seepage. Migration of the oil with ground water through the soil for any distance would filter out much of the fluorescent material but probably not all of it. The presence of an old millsite uphill from the noted oil occurrence and the fact that drainage flowed downhill through the millsite is enough to discredit a natural source.

Oil seepage on the Lovejoy ranch could be from a natural source. The intense fluorescence suggests a natural source. No oil storage or buildings were known to exist uphill from the reservoir. If any buildings or storage sheds were uphill they would be the first consideration as a source for this oil. No further investigation was made at the time. Messrs. Gindhart and Paige were asked to notify the Department if other interesting seepages were found.

Geology: "Geology of the Lebanon quadrangle," by I. S. Allison and W. M. Felts shows the hills in the vicinity of the Lovejoy and Paige ranches to be Stayton Lavas. Some of the Lovejoy place may be underlain by marine Eugene Formation as the property is very near the Stayton-Eugene contact. East of the Lovejoy and Paige ranches the Mehama Volcanics form the surface rocks. The Linn County Oil Developers, Inc., "Barr 1" is located about 5 $\frac{1}{2}$  miles north of the two properties investigated. The "Barr well" encountered 3,300 feet of Mehama Volcanics, 900 feet of Stayton Lavas (?), and bottomed in marine Eugene (?).

Reserve Oil & Gas Company "Esmond 1" is located 6 $\frac{1}{2}$  miles south of the two properties. The section in "Esmond" is Mehama-Eugene 2,700 feet, Spencer-Tyce 3,000 feet, and Siletz River Volcanics 2,900 feet (total depth 8603 feet).

Discussion: R. E. Corcoran and V. C. Newton drove to Golden Valley, a few miles north of the town of Lebanon on February 19, 1965, to investigate

a reported oil seep. Harry Gindhart, nephew of Otto Paige, had called the office a few weeks earlier to ask if someone from the Department could check the seepage.

Seepage on the Otto Paige property was checked first. Soil over a 100-foot-square area yielded traces of oil. Several shallow holes were dug in the area, and a bucket of water poured into the holes. Small globules of oil could be seen rising to the surface of the water and broke in a thin, iridescent film over the water surface. The oil was checked for fluorescence and none was found. Corcoran found an abandoned sawmill site 150 yards uphill from the seep area. The oil could have been carried from the sawmill site downhill by ground water to the area being checked. Since fluorescent material had evaporated from the oil, it appeared as though it had been exposed to air for some time and probably came from the mill site.

After digging around on the Paige property, we drove to the Lovejoy ranch. Oil could be seen in seepage of ground water at one edge of a small reservoir. The water was seeping from the uphill bank of the reservoir from a fine, sandy siltstone. The siltstone was a medium brown and contained small pieces of volcanic rock. Several samples of the siltstone were taken and tested for fluorescence. The sample fluoresced intensely a whitish-blue color. This is the same color that the Grays Harbor oil fluoresces. Unfortunately, light refined oils fluoresce the same color. The color indicates the oil is mainly paraffinic in composition.

<u>Addresses:</u>	Harry Gindhart	Frank H. Lovejoy
	Golden Valley Road	Route 3
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References:

- Riecker, R. E., Hydrocarbon fluorescence and migration of petroleum: Am. Assoc. Petroleum Geologists Bulletin, vol. 46, no. 1, Jan. 1962, p. 60-75.
- Hershey, R. L., and Ming-Shan Sun, Tables of fluorescent and radioactive minerals: New Mexico Bur. of Mines and Min. Res. Circ. 15, 1955.

Report by: V. C. Newton, Jr. and R. E. Corcoran  
February 24, 1965.