

State Department of Geology and Mineral Industries

1069 State Office Building
Portland 1, Oregon

Blue Mountain Hot Springs: Prairie City Quad., T 14 S, R 34 E, NW $\frac{1}{4}$ of SE $\frac{1}{4}$, section 13. On east bank of John Day river at the confluence of an un-named tributary creek having a short but prominent canyon.

Occurring here are some seven or eight springs, five or six of which emerge through orifices in the bottom of a cement-lined swimming pool. Otherwise, one flows from a natural crater about 8' in diameter and located adjacent to the pool. The last, and probably the principal spring of all, is situated in a meadow at the confluence of the tributary gully some four or five hundred feet up-river from those just described. It emerges from a small concrete and wood structure which houses the remains of a pump and from the setting it isn't clear as to whether this source represents a naturally flowing spring that has been merely boxed in with concrete or a drilled well. In any event the free-flow water from this source is piped by gravity to the pool in which a temperature range of 94 to 100F is maintained by the continual addition of cold water. Otherwise, water temperature in the natural spring adjacent to the pool measured 120F during the early afternoon of August 25, 1970 while the temperature recorded at the main source at the head of the pipeline the same afternoon was 139F. *

In addition to the well-defined springs there is a small warm water pond in the meadow below the main spring but up-river from the concreted swimming pool. Like the pool, this is probably bottom-fed from other thermal water vents. It is, however, also well-diluted by other non-thermal surface waters; hence no temperature measurements were taken. In fact, this pond is periodically stocked with hatchery trout so its overall temperature can't be too very high.

The geologic setting for these springs is monopolized for miles around on all sides by a bedrock situation consisting exclusively of Tertiary volcanics (Strawberry basalts and andesites) according to Thayer. In this setting they are situated essentially astraddle the northern termination of one of the faults bounding Tom's "Summit Prairie Graben". No data is currently at hand concerning the existence of other thermal springs along other sections of this fault structure; however, it is to be doubted that any major springs exist elsewhere along said fault because if there were any their presence would be known due to the abundance of good roads and logging spurs which parallel and criss-cross the fault line over most of its mapped extent.

NORMAN S. WAGNER
August 27, 1970

* All cited temperature measurements taken with a Taylor maximum-registering thermometer.