

GLO1844

MEMO TO: MARSHALL REED  
FROM: MIKE WRIGHT  
SUBJECT: BLACKWELL LOGGING IN THE CASCADES HOLES  
DATE: 28 JAN 87

Enclosed is a copy of material sent to me by ID a few weeks ago. It is Dave Blackwell's report on his mapping project and a copy of the logs he took in the two holes at Newberry and the hole at Clackamas.

I think that these data show the bottom of the near-surface hydrologic zone in Newberry-1 at about the same level as we have been talking about before, namely about 1 km. However, the bottom of the near-surface hydrologic zone in Newberry-3 is much shallower, about 575 m. In both cases, the zone is well defined, with sharp increases in the temperature below. For Newberry-3, the isothermal zone at about 50 deg C below 575 m indicates vertical movement of water at this temperature, and seems quite anomalous.

In Thermal Power's hole at Clackamas, noted as Breitenbush by Blackwell, the picture is a bit different, with the bottom of the near-surface hydrologic zone about 300 m and with a gradual temperature increase below.

These data are interesting in terms of the hydrologic regime in the Cascades, and seem to indicate that just about anything can happen. In the Newberry area, we apparently have a case of different zones of high vertical permeability separated by zones that are quite impermeable, whereas at Clackamas, the section seems to be uniformly low in permeability and of uniform thermal conductivity.