

JAY S. HAMMOND, GOVERNOR

WATER RESOURCES BOARD

323 E. 4TH AVENUE
ANCHORAGE, ALASKA 99501

July 7, 1980

Robert E. LeResche, Commissioner
Department of Natural Resources
Pouch M
Juneau, AK 99811

Dear Commissioner LeResche:

At the past two meetings the Alaska Water Resources Board has heard much testimony regarding the potential of geothermal resources in Alaska. The geothermal resources bill which passed the legislature this session will help clear up administrative uncertainties that has previously slowed development of the state's geothermal resources. This bill defines the correlative rights of high temperature (above 120° C) geothermal users and releases low temperature (below 120° C) users from leasing requirements.

High temperature geothermal has the more commercial potential, of course, but the Board feels low temperature geothermal may be more beneficial to individual Alaskans. Two principal ways low temperature geothermal can be used is as a direct heat source, for heating homes and greenhouses, for example, and in ground-water heat pumps wherever groundwater temperature is above 40° F (4.4° C). Ground-water heat pumps produce heat by utilizing the temperature difference between the natural temperature of water and freezing in a manner similar to the reverse of a refrigeration system and have the potential to help conserve large amounts of fossil fuel energy. At our June 25-27 meeting it was pointed out that little information exists on the location of low temperature geothermal resources. The geothermal exploration projects are investigating sites that have a potential for high temperature geothermal and there has been no systematic collection of ground-water temperatures throughout the state which might point out the lower temperature geothermal anomalies.

The Department of Natural Resources currently has a well log program that requires water well contractors to submit well logs with the drilling of each well. Water temperature currently is not one of the required parameters of a well log but many contractors are measuring this regardless. We request that water temperature be included in the program and that a catalog of ground-water temperatures be started for the state. This will have the advantage of identifying those aquifers in the state that have a high enough temperature to make the ground-water heat pump feasible and help locate the temperature anomalies that are high enough to use as a direct heat source but not commercially exploitable. Inclusion of ground-water temperature in the well log program may

July 7, 1980

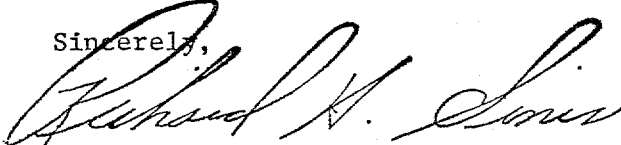
encourage well drillers to participate because the ground-water heat pump is an expanding market for them and foreknowledge of ground-water temperature is necessary.

The well log program has a potential to be the most cost efficient data collection effort in Alaska. We hope you continue to give it your support.

We understand that the Division of Energy and Power Development has funds for geothermal research and mapping. We have suggested some ground-water heat project items to Ms. Quinlan and have copied you on that letter.

Thank you for your attention.

Sincerely,

A handwritten signature in cursive script, appearing to read "Richard H. Sims".

Richard H. Sims
Chairman

cc: Theodore Smith
Brent Petrie
Ross Schaff
Bill Long