

JAY S. HAMMOND, GOVERNOR

WATER RESOURCES BOARD

323 E. 4TH AVENUE
ANCHORAGE, ALASKA 99501

279-5577

July 3, 1980

Ms. Clarrisa Quinlan, Director
Division of Energy and Power
Development
Department of Commerce and
Economic Development
338 Denali Street
Anchorage, AK 99501

Dear Ms. Quinlan:

At the June 25-27, 1980, meeting of the Water Resources Board in Fairbanks we heard testimony on a variety of new legislation, budget appropriations, and new programs (i.e. the Fairbanks Energy Center) that have some relationship between water and energy in Alaska. One item which we wish to pass along for your information and action relates to possible research on the utilization of groundwater heat pumps and the mapping of groundwater thermal anomalies near population centers.

We heard testimony from representatives of the Alaska water well drilling industry and the University of Alaska Institute of Water Resources, which suggests that there may be areas of the state where groundwater heat pumps may be feasible. University researchers gave a brief description of groundwater heat pump utilization. With currently available technology it appears that heat can be economically extracted from waters greater than 40°F. University researchers mentioned that normal groundwater temperatures range from 33°F in the Interior to 45°F in Southeast Alaska. Board member Wayne Westberg of Anchorage mentioned that he has encountered groundwater temperatures of 44°F as far north as Pump Station 4.

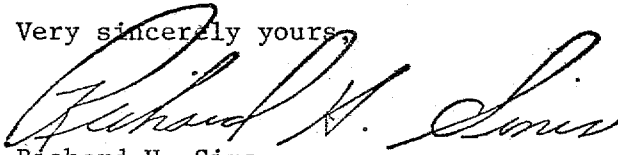
We understand that your division is funding research and exploration on relatively "hot" water resources such as Pilgrim Hot Springs and Unalaska. It is not clear to us that you are also considering the feasibility of using lower temperature resources for individual dwellings, small commercial, or small community heating systems. Therefore we wish to recommend that you consider two specific efforts: 1) an examination of the feasibility of use of groundwater heat pumps in Alaska and 2) mapping of groundwater temperature anomalies near populated areas to help locate areas where groundwater heat pumps may be readily feasible.

July 3, 1980

Agencies that may have resources and talent to assist in such an effort are the University of Alaska Institute of Water Resources, U.S. Geological Survey, DNR-Geology and Geophysical Survey, Alaska Power Authority, DNR-Minerals and Energy Management and DNR-Forest, Land and Water Management. To assist in this effort the Board unanimously recommended that DNR revise its water well log standards to also require temperature information from water well drillers.

If we can be of further assistance in this effort, we will be glad to consult with you.

Very sincerely yours,

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

Richard H. Sims
Chairman

cc: Commissioner Charles Webber-DCED
Commissioner Robert LeResche-DNR
Governor Jay S. Hammond