G109523

December 9, 1977

Mr. John Mitchell Idaho Department of Water Resources State House Boise, ID 83720

Dear John:

To start our thinking on the production of the final Idaho map, it would be useful to make some preliminary maps showing where all the data points will be located and the nature of these points. We have discussed some of this (when Mike and I visited you in Boise and in a later phone conversation). My plan is to plot all these, with our drum plotter, using digitized latitudes and longitudes. Such plots will give us a good idea of the density and nature of the geothermal data for the final map. The plots will show thermal wells, thermal springs, and heat flow/gradient wells.

For the countyymaps you send me (one half inch to a mile with at least 4 longitude/latitude intersections that fit into a 17 by 17 inch square) your suggestion of showing wells by a small circle and springs by a small circle with a "tail" should work out very well. We will digitize all locations from those maps.

Could you give a finer breakdown as follows:

- 1) In color, show the 32 wells and springs you sampled for major elements. Also, show where you plan to sample the 8 additional wells/springs this coming summer. (somehow differentiate between the two).
- 2) In a different color show which wells have both major element and trace element analyses.
- 3) In a different color show which wells/springs have only trace element analyses.
- 4) In a different color show the locations of the wells, not included in items 1, 2, or 3 above, that you determined are thermal by examining the IDWR well logs.

- 5) In the same color as 4, whow locations of all Idaho thermal springs that do not fall into 1, 2, or 3 above.
- 6) Number all springs starting with 1 and give me a separate list of spring names with the same numbers. Also number all wells starting with 1 and give me a xerox copy of the data yourextracted from your IDWR well logs with thermal waters (also with numbers corresponding to those on the map). We will digitize these.
- 7) Could you also send me in a digital format the data Swanson sent you. For the present, it would be suitable if you simply placed the latituded and longitudes on cards or tape although it would be preferable to send all his data (but not in the GYPSY format). A format with all data elements in set columns would be most useful. We can also digitize latitude/longitude from a listing if you have any problems with cardsor tape (or go directly to Swanson)
- 8) I will digitize all of the Blackwell/Brott/Mitchell heat flow data from part 8 of the IDWD geothermal series.
- 9) I will try to get the locations of Blackwells 130 new heat flow data and digitize these.

We will them make a series of plots using different colors and symbols. These plots will be for testing purposes and not at the final scale we want (we need the flatbed plotter to produce the 1:500,000 scale). But we can add state lines, county lines, and a few other things (e.g. earthquake epicenters, KGRA's). I will then circulate these test phots to you, Clay, Mike, Dave, and Jim. These should give us a better idea of how to present data on the final map. A target date for this is late January.

Give me a call on this scheme if it is not suitable.

Sincerely yours,

Paul J. Grim

cc Clay Nichols Dave Crockett Mike Wright

D64:PJG:cm 12-9-77 bcc: subject, chrono, circ.

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APPENDIX B

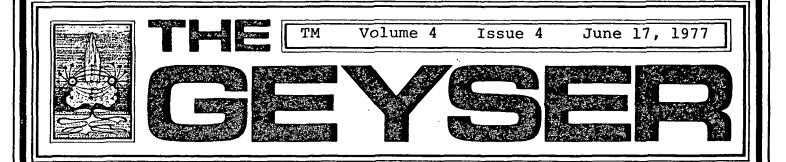
AREAS OF INTEREST

- 1. Garden Valley Area
- 2. Warm Lake Area
- 3. Caldwell
- 4. Nampa
- 5. Boise
- 6. Mountain Home
- 7. Hammett-King Hill
- 8. Blue Gulch
- 9. Twin Falls
- 10. Oakley
- 11. Pocatello
- 12. Preston
- 13. Bear Lake Montpelier
- 14. Blackfoot Gay Mine Area
- 15. Palisades Reservoir Swan Valley

Interpretation of existing uninterpreted geophysical date. Alternate views where existing interpretation may be thought to be incorrect. Complete bibliography on all geophysics done in Idaho south of Locksa - Clearwater Rivers.

The USGS will furnish and interet data on following areas:

- 1. Cascade
- 2. Bruneau Grandview
- 3. Malad
- 4. Soda Springs Blackfoot Reservoir
- 5. Island Park
- 6. Ashton
- 7. Newdale
- 8. Heise Idaho Falls
- 9. Stanley Sunbeam Area



LOUISIANA GEOPRESSURED WELL

Researchers working on an abandoned gas well in Louisiana have found significant quantities of natural gas mixed with hot, high pressure water trapped two miles underground. Initial findings released by ERDA came three weeks after engineers successfully began the first flow of fluid from the underground reservoir -called a "geopressured aquifer." The well is located in Vermilion Parish, about 25 miles south of Lafayette, Louisiana. ERDA is using the well to determine how the heat, pressure and dissolved natural gas trapped in geopressured formations might be tapped. Geopressured zones might extend along the Texas and Louisiana Gulf Coast. According to Dr. James C. Bresee, Director of ERDA's Division of Geothermal Energy, the well produced up to 10,000 barrels of salty water per day containing dissolved natural gas. Initially, natural gas was recovered at rates exceeding 1.5 million cubic feet per day, indicating that some undissolved natural gas was being recovered in addition to the dissolved geopressurized natural gas. Towards the end of the flow test when the water production rate was reduced to 3000 barrels per day, gas production stabilized at about 200,000 cubic feet per day, or about 70 cubic feet per barrel of fluid. "Although additional testing is still being conducted, the Louisiana test results are a very encouraging beginning and give us increased confidence that there is a major untapped energy resource beneath the Gulf Coast," said Dr. Bresee.

IDAHO GEOTHERMAL POTENTIAL

The Federal Government and the State of Idaho are teaming up on a three-year project to assess the geothermal energy potential of the Snake River Plain and adjoining areas of Southern Idaho. Under an agreement signed by the U.S. Geological Survey (USGS), the Energy Research and Development Administration (ERDA), the U.S. Forest Service and the Idaho Department of Water Resources, the 19,000 square-mile (50,000-square kilometer) region will be probed to identify areas where steam or hot water might be developed for generating electricity, space heat, and other applica-

tions. According to the USGS, the geology of the Snake River Plain and the adjacent Island Park and Yellowstone Park area suggests a major thermal (heat) anomaly beneath the Plain. The abundance of young volcanic rocks and widespread occurrence of warm springs and wells in Southern Idaho indicate large reservoirs of heat in the earth's crust.