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October 18, 1979

CONFIDENTIAL

Mr. Gerry Brophy
DOE/DGE
20 Massachusetts Ave., N.W.
MS 3122C
Washington, DC 20545

RE: Comments on the Arizona Bureau of Geology and Mineral Technology
Proposal.

Dear Gerry:

There are two main problems with this proposal:

1. The proposal is not entirely responsive to goals and needs of the State Coupled Program, and
2. The amount of money requested is probably more than FY80 can supply.

Although it is clearly up to DOE to determine the appropriate level of funding support, we would like to mention several items. Arizona has been partly supported in their geothermal work during the past couple of years by the Bureau of Reclamation. We understand that BOR funds are decreasing. It is apparent that Arizona wants to shift work and personnel supported by BOR to the State Coupled Program. This would throw the relative funding level of Arizona even further out of balance with states like Nevada, whose productivity per DOE dollar is far greater than Arizona's. It would be a mistake to fund Arizona at the requested level.

Regarding the first problem above, Arizona is trying to emphasize the site exploration aspects of their program, which the BOR was helping to fund, at the expense of regional data gathering and assessment. Also Arizona has no charter, under the State Coupled Program, to "develop successful exploration techniques" or to "demonstrate the utility and cost-effectiveness of low- to moderate-temperature resource development within Arizona."

We believe DOE should ask the Arizona team to redirect their efforts along the following lines:

1. You should ask Arizona to determine the approximate number of wells in the state for which there is no reliable temperature information available. If this number is large (more than 1000) as we suspect it will be, then they should spend perhaps 60% of their effort on obtaining reliable measured temperatures on as many of these wells as possible. It is likely that new areas of interest and perhaps specific resources will be discovered in this way. We must emphasize that we have in mind a thorough search for and logging of unmeasured wells. They may need to buy logging gear to do this. If Arizona replies that all available wells are logged, then they should be prepared to back that statement up.
2. Arizona's more detailed work seems to be of generally good quality, and perhaps about 40 percent of their effort should be on determining the resource potential of some of the areas they list. This work should not be on a detailed site basis, but should rather be on a "district" basis such as the Safford work has been, for example. This work should consist of mapping of geothermal features including direct geothermal manifestations and closely related geologic features. District reports should be issued on a timely basis as the final product. These areas should not be carried through to the stage of drilling them out or equipment installation for demonstration purposes. That is a job for the private sector. It will be more important to do this type of work under State Coupled funds than it will to do a complete exploration effort, including drilling, at, say the Swift Trails Federal Penitentiary or at Williams AFB. If other Federal agencies will put up money for Arizona to explore and drill these resource areas, then you will probably want to support the effort by paying salaries.
3. The proposal alludes to a user-assistance function. Money for this should come from RA.
4. It should be clear to the Arizona team that the Arizona map will be at a scale of 1:500,000. They specify either this scale or 1:1,000,000. Also the data to be put on the map should be agreed upon among DOE, NOAA, LASL and the Arizona team. The presentation should follow the display format already worked out for the other states to the extent desirable. It is unlikely that earthquake epicenters will add anything at all to the Public Map.
5. Publication of the gravity data will not add much to the Arizona geothermal picture. If it is cheap enough to get this done (say less than \$2,500) then it is probably worth it.
6. DOE should not fund any Arizona proposal that does not specify a spirit of cooperation with other federal programs and contractors.

We believe you should request Arizona to modify their proposal to include the above points. It seems to us that a good job could be done by them by working at the following level:

Hahman - 2/3 time--rest to come from Commercialization Planning (RA).
Jones - drop--he is a trouble maker.
Stone - full time--she is competent.
Witcher - full time.
1 secretary.
1 draftsperson.
2 part time students.
Operations Costs - as requested.
Support Costs - cut computer by \$5000.
Travel - as requested, to field temperature logging crew(s).

Sincerely,



Phillip M. Wright
Associate Director



Duncan Foley
Geologist



Debra Struhsacker
Associate Geologist

PMW,DF,DS:srm

cc: C.R. Nichols
L.L. Mink