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RESEARCH INSTITUTE

# UURI

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November 29, 1978

## MEMORANDUM

TO: State Coupled Core Group

FROM: Duncan Foley

SUBJECT: Notes from Core Group meeting, 13 Nov. 78, Idaho Falls

ATTENDEES: C. Nichols, L.L. Mink, G. Berry, P.M. Wright, D. Foley

The primary topic was production of the individual state maps, with other topics mentioned briefly.

### Maps

- Simultaneous publication of a geothermal resource map directed toward the general public and a map for the scientific community is anticipated. The public map will stress interpretation of the data sets, while the scientific map will emphasize presentation of data.
- It was generally agreed that due to the broad range of sources from which the data will be gathered, it is appropriate to give prominent billing to the state agencies as compilers, and cite contributors for their specific data sets. It is hoped that this will eliminate any conflicts about authorship.
- It was decided to try shaded relief maps as bases for the public maps, and use topographic bases on scientific maps. It is hoped that the shaded relief maps will be more depictive to the general public. Plates for these maps are available from the USGS in Denver. The USGS schedule for digitizing state topographic base maps has not been finalized; if DOE and USGS schedules are compatible, an attempt will be made to use the updated maps; if the schedules are not compatible, the best available base map at the time of publication will be used.

The data sets that are anticipated to be presented on each map are:

Public Map

- shaded relief base with roads, towns, rivers, countries, township-range, etc.
- prohibited areas - National Park and Monuments, etc.
- KGRAs
- Geothermal data:
  - appropriate simplified geology
  - springs
  - wells
  - Hi T
  - moderate T
  - low T } areas and interpretations  
(qualitative and quantitative)
- areas of present use
- OR data

Scientific Map

- topographic base, USGS digitized (if available), with roads, towns, etc.
- prohibited areas-National Parks and Monuments, etc.
- KGRAs
- Geothermal Data:
  - springs
  - wells
  - heat flow
  - spring deposits
  - faults/lineaments
  - earthquake epicenters
  - Ha, As, U, S deposits/prospects
  - water quantity and quality
  - geochemical thermometry
  - High T
  - moderate T
  - low T } areas and interpretations  
(include but distinguish potential areas)
- igneous systems
- volcanic centers and flows (young)
- thermal gradients
- other selected geology
- areas of present use
- OR data
- PI data
- heat contents
- other (depth to resources, etc.)

-Standardization of these data sets will be important. Well and spring data and symbols should be as uniform as possible. It should be possible to coordinate data sets handled by NOAA; other sets may vary slightly from state to state.

-On specific data sets:

- 1) Faults and lineaments need to be tested for relevancy to resource areas.
- 2) The "Sammel-Foley" areas, although adequate for Circular 790, will need to be redone for these maps.
- 3) Power lines and gas lines should not be depicted - in addition to promoting use of these other energy sources, the clutter nuisance of these data, on a map with many other more valuable data sets, would probably exceed any depictive values.
- 4) The lava flow data set will become public with the publication of the maps in Circular 790; refinement may not be available from the USGS.

-In each state:

Arizona - NOAA will be involved

With preliminary map already published, it will probably be more than a year before the next edition is ready.

Colorado - NOAA will be involved

Dick Pearl is eager to publish; a meeting to discuss the map will be held in the next 2 months (early January?).

Idaho - target data for publication is April

First map meeting was held in November.

NOAA has (or will have soon) base map (updated, digitized), roads, geology, older heat flow data, wells and springs, spring deposits.

Montana - scale needs to be resolved - if 1:500,000, will require 2 sheets, but 1:750,000 could be done on one sheet.

Well temperature data needs to be assessed.

Publication probably during FY 79.

Nevada - doing preliminary map on their own

Available in 6 mos.(?)

New Mexico - NOAA will be involved

Data sets and routes need to be identified.

N. Dakota - no map during FY 79.

S. Dakota - no map during FY 79.

Utah - will be second digitized base map available from the USGS.

NOAA will be involved

Data sets start to be available in late Dec. or Jan.

Wyoming - NOAA will be involved.

Preliminary map during FY 79.

### Map Action Items:

- A tracking document for the progress of each state will be developed by ESL.
- ESL will prepare a memo to state contractors on present thoughts about the maps, including alternatives on the depiction of water quantity, quality, and temperature data for springs and wells.
- Liability problems of KGRA designation, drilling dry holes, etc., need to be identified in each state (these problems may not exist or fears of them may be overrated).
- Data routes need to be identified for New Mexico.
- NOAA will obtain several base maps and other plates for Idaho, and will investigate depiction problems.
- In future meetings with state agencies, it should be emphasized that NOAA will assist if requested with production of preliminary maps, but NOAA involvement will be stronger in the production of second-generation maps.
- A strong ESL coordination role will be needed to insure that "state line faults" are kept to a minimum.

### On Other Topics:

- USGS circular 790 has largely been proof read, with publication in mid- or late-January likely.
- Any heat pump applications from DGE efforts should concentrate on higher-than-normal thermal gradient sites - normal gradient work is being handled by DOE Conservation Division.
- Clay Nichols expressed that, where appropriate, state agencies should publish their own bulletins or reports, in addition to sending copies for distribution through DOE channels (NTIS, etc.); DOE support should be cited for these studies.
- ESL, after DGE reorganization, will rework the State Coupled Program management document; it will be sent around within DGE-ID and DC for further comments.
- ESL, DGE-ID, and other appropriate parties will prepare a "cook book" of DOE environmental, procedural, and reporting requirements.
- Coordination with USGS WRD needs to be maintained and enhanced, especially in S. Dakota and other areas with Madison Formation type aquifers; DGE-ID will initiate contact.

-Need for collection of well temperature data was emphasized; such data collection would be relatively inexpensive, and in states such as Colorado where no water temperature records are maintained, these data might help identify "new" thermal sites (in Utah and Idaho, where literature search and some field measuring have been done, approximately 1500 and 1000 thermal sites have been identified respectively). The estimated cost is approximately \$45K per state (FY 81 funding?).



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Duncan Foley

DF:srm