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April 22, 1980

MEMORANDUM

TO: State Coupled Program Core Group

FROM: Duncan Foley

SUBJECT: Meeting of North Dakota and Nebraska state teams

DATE OF TRIP: 27 March 1980

PLACE: North Dakota Geological Survey Offices, Grand Forks

PURPOSE: Discussion of map production and program directions

ATTENDEES: Ken Harris, Toby Howell, Laramie Winczewski, Howard Umphrey,
North Dakota Geological Survey
Bruce Gaugler, North Dakota Planning and Commercialization
Wil Gosnold, University of Nebraska-Omaha
Joel Renner, Gruy Federal
Skip Theberge, NOAA
Duncan Foley, ESL/UURI

General and Business

1. In a follow up phone call, NDGS has inquired about redirecting funds toward improving their in house computer capabilities. Part of this package would be the creation of a reliable T-R-S to lat.-lon. conversion program; this has been a problem in many states.
2. This memorandum follows an April 1 memo by Joel Renner to Gerry Brophy.
3. Wil Gosnold discussed problems of thermal refraction over the Chadron Arch and the Nemaha Ridge in Nebraska.
4. A discussion of the relationships between the State Coupled Program and the User Coupled Confirmation Drilling Program was held.

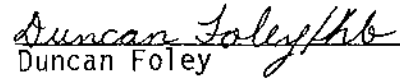
Technical

1. Ken Harris presented a discussion of the data contained in the NDGS Phase I Final Report (dated April 1, 1980).
2. The approach of NDGS so far has been to identify areas, rather than specific sites, which have thermal anomalies. This is because they feel there may be reliability problems with individual records from oil wells.
3. NDGS is discouraged about the potential of the Madison aquifer. TDS values range up to greater than 300,000 in some parts of the state. They are encouraged, however about several of the other aquifers in the state.
4. NDGS suggests the following tasks for next year:
 - a. Oil well gradients rejected in the first data compilation because they were anomalously high will be inspected, to verify either the presence of a thermal anomaly or a data error;
 - b. NDGS is planning to look at thermal anomalies in aquifers that are shallower than the Madison;
 - c. NDGS will investigate the possibility of a separate publication detailing the results of their study on the Madison Formation; they will coordinate with the USGS on this;
 - d. NDGS feels the need to log water wells, to verify anomalies.
5. On the map:
 - a. Two different qualities of thermal gradient data exist, good data where holes have been logged by students, and less reliable data from oil and gas wells. Joel Renner discussed the Michigan Basin problem of temperatures recorded that were probably not measured. Although individual wells may be incorrect, it was agreed that it is valid to extrapolate general trends.
 - b. Two shades of gray will be used to depict gradients between 30°C/km and 40°C/km, and greater than 40°C/km.
 - c. Site specific data for forty logged holes will be presented.
 - d. Squibs, at least on the Williston Basin, the Fox Hills sandstone, and a well to be drilled this summer at Bismarck, will be presented.
 - e. A table, showing data for each Township and Range, will be included.
 - f. Small maps along the margin of the large map will summarize the results of the Madison study.

Action Items

1. ESL has delivered 35 mm slides to Wil Gosnold on the State Coupled program.

2. NDGS will get map data to NOAA.
3. The request for a funding change needs action.


Duncan Foley

DF/hb