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Director

UTAH GEOLOGICAL AND MINERAL SURVEY

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August 6, 1979

SCOTT M. MATHESON
Governor

GORDON E. HARMSTON
Executive Director
Department of Natural Resources

Mr. Jim Swanson
Office of Resource Analysis
U.S. Geological Survey
345 Middlefield Road
Menlo Park, CA 94025

Dear Jim,

Please find enclosed FILE GEOTHERM correction forms for Utah Entries to the file. Since the visit of Skip Theberge and George Berry on July 14 we have been working to clean up problems with the file. We have: standardized the names of springs and wells; entered the phrase "unnamed" into the name position where appropriate; corrected obvious temperature errors; and, entered county names where needed.

The major effort, however, has been directed at obtaining accurate measurements of latitude and longitude. The values of latitude and longitude presently in the file were calculated using a Mountain Fuel Corp. program that uses as input the township and range designation of the points in question. After working with the numbers generated by this program, we discovered that not only were latitudes and longitudes variable for a given point, but the positions were often miles removed from the true locations.

In order to correct this problem we have obtained new values of latitude and longitude in the following manner. Using the township and range locations for each record previously submitted, the center of the smallest parcel of land described was located on A.M.S. sheets (scale = 1:250,000). The position of each point was then measured in decimal degrees to the nearest 0.001 degree. The scales could be read to the nearest 0.01 and the third place was estimated. We estimate that the locations are at best good to ± 0.001 degrees.

We have noted these values on copies of our records, and have sent copies of the enclosed sheets to Skip Theberge at his request. When you have entered these changes into the file we would greatly appreciate a printout similar to those you have sent to Skip containing: record number; source name; township, range, and all quarter section breakdowns; latitude and longitude; temperature; and, spring or well designation.

If you encounter any difficulty with the enclosed information, please contact us.

Sincerely,

PETER J. MURPHY
Geologist

PJM/af

cc: Skip Theberge, Duncan Foley, Debbie Struhsacker



EARTH SCIENCE LABORATORY
391 CHIPETA WAY, SUITE A
SALT LAKE CITY, UTAH 84108
801-581-5283

February 16, 1979

MEMORANDUM

TO: State Coupled Core Group
FROM: D. Foley & D. Struhsacker
SUBJECT: Meeting with Peter Murphy, Utah Geological and Mineral Survey


On February 1, a meeting was held with Peter Murphy, to discuss general State Coupled program topics, and the Utah map in particular. Discussion included:

In general;


- UGMS has gradients on 4 of 5 holes drilled along the Warm Springs fault, but shallow convective circulation makes utilization of some of the data questionable.
- A flow of 60 gpm, with a maximum temperature of 59°C, was encountered at Utah Hot Springs; greenhouse applications are possible.
- At Uddy Hot Springs, a large component of cold water may be mixing with the hot waters; this needs to be tested further.
- North of Stinking Springs (NW of Ogden near the E lake shore), a water dower (this is not a UGMS project) has selected a site for a geothermal well, and drilling will begin soon.

On the map;

- A new geologic map of Utah is being prepared; ESL and UGMS will view preliminary data depiction on this map to check for applicability to the geothermal maps.
- Lineament data have not been compiled for Utah, and therefore may not be depicted on the maps.
- A shaded base map should be tried for the public map.
- May is the target date for transmitting data to NOAA; this will coincide with the scheduled delivery of the digitized data from USGS.



Duncan Foley
Associate Geologist



Debra Struhsacker
Associate Geologist

2/1/79

w/ Pete Murphy
Duncan Foley

Requested Pete to talk about hot springs etc. on Wasatch Front

Distilled things to be discussed during Utah assessment
Sean's February presentation
esp. drilling problems

Drilling Progress

Gradients on 4 out of 5 holes at Warm Springs Fault

disappointing since affected by shallow ground-water
some info gained on lateral movement of H_2O

Utah H.S. hole flowing at 60 gpm

finally got plugged
fairly low TDS?

Re-doing drilling strategy

problems w/ artesian flow

in highly permeable alluvial aquifers

Drillers don't know how to handle once

back off of hole

Udy H.S.

Artesian flow problems likely to be encountered in
middle of spring

Did on margin

still got 400 gpm

fairly cool - but significantly diluted

i.e. maybe fairly hot

Personal Drilling -
real probs with
their capabilities

(2)

UGMS may purchase a drill rig from Dept. of Hwy.
now drilling 2nd hole at Uvie H.S. - 90 ft. above river
bottom \Rightarrow no artesian problems

Future drilling:

Finish Uvie

to Crystal-Masson H.S.

Return to Orant H.S.

Then go to Little Man at Great Salt Lake Mineral

should reach bedrock

MAY not complete
these this winter
if continued hassles
w/ Peterson

800 Ft. hole n. of Little Man + Stinking H.S.
from "witching stick T^o"

Hope to issue reports by 3/1/79

Map

New geologic map 1:500,000

will be more detailed in some areas due to new info
but will lose some detail in blow-up process

UGMS has present state map reduced to 1:500,000

Lineaments

UGMS probably won't buy this data set

Meeting w/ Hunter

Feb 26th - March 2nd

Myron Best

Duncan
call
BYU +
confirm \rightarrow

3

May-June target date for delivery of Utah
data sets to NOAA

Discussed use of shaded relief base map for public maps
favorably received

12/05/78

WITH: Peter Murphy + Duncan

RE: Utah's Geothermal Map

Pete's from research division of Utah Geological + Mineral Survey (UGMS), responsible for Utah's STATE Coupled effort. (WALLY Gwynn = director of research div.)

Areas of current concern/research:

- need source of info on measurements in Utah
may contact Larry Lepley
- location of faults
- will publish two maps
 - 1) for public use (non-technical)
 - 2) for scientific use } see attached sheets
- awaiting publication of Hurdze's (BYU) updated geological map of Utah since it's at same scale (1:500,000) as proposed geothermal map

DALE TRIGG - STATE TAX COMMISSION, Div. of Local Valuation
 KURT DIAMOND - Department Natural Resources
 WALLACE GUYTON

Question w/ exactness of well location
 assume center of a $\frac{1}{4}$, $\frac{1}{4}$ section (or center of section)
 or need distance to well from corner section

Have print-out for SLIC + Utah counties (only)
 from a computer outfit in Denver
 has long list in decimal form

Have purchase another segment of the state
 (Carbon, San Pete, Sevier + Emery)
 just on tape not on file yet

Undecided whether will cover entire state

Possibility of cost sharing to purchase rest of state
 Will also change for use of present file

If purchase more will take \approx 3 mos.

Question of physical mode of data retrieval
 Key punch?