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- Circulate to staff
- file under
Geothermal Manpower Requirements

HUMAN RESOURCES INSTITUTE
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SALT LAKE CITY, UTAH 84112
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June 1, 1978

UNIV. OF UTAH
Dept of Geology and Geophysics
709 Min. Science Bldg.
Salt Lake City, UT 84112

GL03811

Attn: Dr. Stanley H. Ward
Chairman

Dear Sirs:

We appreciate very much your interest in our forthcoming survey of manpower requirements of geothermal energy development. Please see your response to our correspondence of mid-February or March 23, 1978.

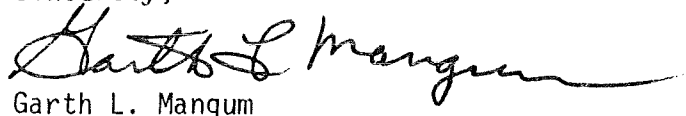
Because of an unanticipated delay in obtaining Federal Government (OMB - Office of Management and Budget) approval of the questionnaire, the survey will not be mailed out until possibly September 1, 1978.

At this time we thought you might be interested in our preliminary estimates of 1977 employment in the geothermal industry, reported in Table 1. Please observe that the estimates are expressed in person-years. Because part-time involvement appears quite common at this stage of development of the geothermal industry, the actual number of individuals employed is substantially larger. Please observe also that our initial mailing list is known to be incomplete particularly with regard to U.S. Department of Energy/Division of Geothermal Energy contractors and local sub-contractors. Although the response rate is statistically very good (67%), the estimates reported in Table 1 should be regarded as a preliminary indication of the current level of employment in various geothermal related activities.

The main survey to be conducted in September, is primarily designed to provide information on the types of occupations involved in developing the geothermal industry. The objective is to determine if private or government initiatives are needed to prevent potential manpower problems, assuming the official development scenario for geothermal energy up to 1985.

Again, your continued support of our survey is greatly appreciated.

Sincerely,



Garth L. Mangum
Principal Investigator

UNIVERSITY OF UTAH
RESEARCH INSTITUTE
EARTH SCIENCES LAB.

Table 1. 1977 Employment (Person-Years) in the Geothermal Industry. Preliminary Estimates.

Type of Geothermal Related Activity	Type of Organization				Total
	Private Industry	University	State/local Government	U.S. Government	
Resource exploration/assessment, and reservoir design/development. Includes related research and consulting.	347.7	144.5	10.7	106.6	609.5
Well-drilling and drilling services. Includes all services associated with the operation/maintenance of a drilling rig.	341.8	6.5			348.3
On-site construction/building of pipelines, plants, etc.	12.8				12.8
Design/development/production/sales of tools, equipment, drilling bits, pipe, casing, energy conversion components/systems, plants, etc. Includes related research and consulting.	318.4	52.7	3.1	1.3	375.5
Operation/maintenance of electric power plant	262.7				262.7
Operation/maintenance of space heating plant	.3				.3
Operation/maintenance of agricultural facility					
Environmental/social/economic impact assessment	37.7	1.5	8.9	10.2	58.3
Government regulation/services not classified above			26.3	139.5	165.8
Other (consulting services, concerns of land acquisition, learning, financing/economics, legal questions, educational activities, etc.)	174.3	35.5	.5		210.3
TOTAL	1495.7	240.7	49.5	257.6	2,043.5

¹The estimates reported in this table are based on 293 so-called memorandum questionnaires received in connection with our preliminary survey of the geothermal industry. Mid-February 1978, we wrote to 842 firms/universities/government agencies known to have some interest in geothermal energy development (in addition 64 letters were returned by the U.S. Postal Service as non-deliverable). By June 1, after a follow-up letter March 23, a total of 566 organizations had responded (67%). 338 organizations reported to be engaged in geothermal related activities during 1977, of which 293 provided preliminary employment estimates. 228 organizations reported not to be actively engaged in geothermal related activities during 1977.