

INFORMATION SERVICES

by

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IN. PREPARATION

MEMORANDUM

NOTE DE SERVICE APPENDIX A

S
A
Anne Stevens

FROM
DE
Alan Judge

SUBJECT
OBJET
Information Services Study Group

SECURITY - CLASSIFICATION - DE SÉCURITÉ
OUR FILE - N/ RÉFÉRENCE
YOUR FILE - V/ RÉFÉRENCE
DATE 14 November 1974

Enclosed is my summary of the nature and distribution of scientific and technical information requests ^{received} by the geothermal group.

Alan Judge.
Alan Judge
Seismology Division

AJ:db

SCIENTIFIC & TECHNICAL INFORMATION - GEOTHERMAL GROUP

Introduction

Requests for scientific information and/or technical assistance to the geothermal group can be divided into several main headings;

- a) Simple requests for general information
- b) Requests for available underground temperature information from a given area.
- c) Requests for advice on thermal instrumentation.
- d) Requests which require an analysis of our own and other data rather than ^{only} data provision.
- e) Requests for assistance in conducting programmes of field work and analysis.
- f) Requests for assistance in conducting programmes of field work and analysis.
- g) Requests to present papers, give seminars, show films etc.

To date the majority of our enquiries have concerned permafrost but this is expected to decrease as more material is made public and as consultants enter the field. The brunt of these enquiries has been borne by one of us (ASJ) but we all can and do answer enquiries.

In the past year or two there have been increasing numbers of enquiries concerning geothermal power and the Canadian potential. These are expected to increase further with AMJ bearing the brunt.

Nature of Operation of Geothermal Group

Initially it is necessary to point out that our bread and butter is drillholes and therefore our group has established extensive contacts with resource companies. Since in-house drilling programmes ended in 1968 any holes to be used for heat flow determinations must be acquired from outside agencies, be it other government groups such as the G.S.C. or resource companies. Our initial contact consists of a form letter, a plea for boreholes (brief note prepared for purpose), a current site map and several appropriate reprints. Approximately 50 such letters to new contacts would be sent out each year. The names of companies and projects come from Trade Journals, other contacts in government and industry, replies to handouts placed at conferences and trade meetings. Many of our subsequent activities and letters with questions have arisen through a referral system.

It is essential to our work that we attend industry meetings in Canada, make frequent visits to main centres of the resource industry such as Calgary and Vancouver, and keep sending reprints to people. Thus and only thus does the system keep moving.

While these continuing contacts with certain sectors of industry and government are very necessary in our work, it is also necessary that such contacts be low-key person to person, unless a formal agreement of some kind is signed.

Because of this mode of operation the majority of past

inquiries have been concerned with scientific and technical information rather than public information. The latter is a field to which the geothermal group should be giving very serious thought. Current public interest in northern development and the "energy crisis" perhaps indicate where we might contribute to public awareness at this time.

Types of requests with examples

A) Into this category fall simple requests for general information, which can be answered by a few reprints, or specific requests for reprints.

- Approximately 60 requests per year would fall into this category, the majority (90%) are requests for reprints.

- The requests come mostly from industry, government or universities. Very few requests come from school teachers or the general public.

<u>Ex.</u>	Carleton U. undergrad	-	Is there any geothermal power potential in Canada?
	Dome Petroleum	-	General information on off-shore permafrost.
	G.S.C.	-	What are temperatures of lower crust below Grenville?

B) Requests for available temperature information are answered by the supply of temperature logs of wells beyond any confidential period on one off basis. At the moment this is a free service on request. Generally a small amount of explanation is required with the data lists.

- Data requests of this nature requiring limited exploration

amount to 2 to 4 enquiries per month.

- Requests solely from industry and government.
- These requests for data are additional to those of companies contributing wells who are already routinely supplied with copies of the latest logs, and government organisations such as D.I.N.A. who routinely receive data.

Ex. Groups requesting data so far in 1974 have been; Spectrum Eng., Union Oil, Dome Petroleum, Imperial Oil, Atlantic Richfield, Gulf Oil, Amoco, I.S.P.G. (EMR), Mobil, C.I.L., Shell Oil, McPhar Geophysics.

C) Requests for advice on thermal instrumentation vary widely- Some answers can be provided directly from our own experience while others require more extensive thought and work. In general the questions can be answered by a 2 to 3 page letter plus reprints.

- About 10 such requests are received per year.
- such requests come from industry, universities and government.

Ex's. Portland State University - Proposing to undertake shallow temperature studies in the mountains of the Pacific North West.

University of Wyoming - Proposing to drill and instrument holes for heat flow determination in Antarctic.

Cominco Ltd. - Warning system to detect overheating pillars at Sullivan Mine.

Geoterrex Ltd. - Thermal instrumentation for geothermal and permafrost investigations.

- Smith, Bray & Assoc. - Thermal monitoring as part of slope stability studies, Hilton Mine, P.Q.
- National Research Council - Instrumental methods for temperature and conductivity measurements in permafrost studies.
- Gas Arctic - Field and laboratory determinations of thermal conductivity.

D) These consist of questions which generally require interpretation and a small amount of library research and or some calculations. An example of the type of enquiry regarding one sub-programme would be on the probable thickness and distribution of permafrost in a specific area. Very often the types of enquiry are essentially extensions of our data base. Sections D) and F) are largely gradational ranging from $\frac{1}{2}$ day office time to full scale cooperative experiments. D) will concern enquiries to which no field work attached.

- Usually not more than 6 enquiries per year.
- Requests generally from government and industry.

Ex. Gulf Oil - Distribution of permafrost in the Eagle Plains, Yukon. ($\frac{1}{2}$ day)

Giant Yellowknife - We are planning to deeper our mine. What temperatures should we design ventilation for. ($\frac{1}{4}$ day)

Amax - What is the likely distribution of permafrost at our property and how could we investigate in detail. (1 wk.)

- Research Council
of Alberta - Suitable environments for gas hydrates
in north. (3d)
- Communications
Res. Centre - Shallow pipe installation and frost
susceptibility in Ottawa area. (1d)
- G.S.C. - Bibliography on thermal aspects in
mining. (2 wk.)

E) Conduct of laboratory measurements for outside agencies.
Available service measurements are thermistor calibrations,
thermal conductivity measurements and γ -ray determinations.

Ex. In past 4 years:

- Thermistor calibrations - U.B.C.
N.R.C.
Iron Ore Co.*
McGill U.
Imperial College
Dept. Agriculture, Ottawa
- Thermal conductivity - N.R.C.
U. of Michigan
Iron Ore Co.
Panarctic Oils
Shell Oil
G.S.C.
Rumanian Geothermal Grp.
- γ -ray - G.S.C.

F) These are requests which usually develop into cooperative programmes or an extension of our own work in an area. Co-operative programmes are only entered into where they relate to the mission of the geothermal group.

- Five such programmes have been commenced in last year.

- Ex. Panarctic Oils - What is permafrost distribution in
Noice Pen. (4 mths.)
- Asbestos Corp. - Permafrost and underground mining
in northern Quebec (1 mth.)
- Cominco Ltd. - Could thermal methods be used as
ore detection tool (2 mths when
complete)
- Brooker & Assoc. - Permafrost occurrence in Beaufort Sea
(1 mth. when complete)
- C.I.D.A. - Geothermal power potential of St.
Lucia (?)

G) Reasonably frequent requests are received to present papers or give seminars

- Ex. N.R.C. - Permafrost sympos., Calgary
in
current year
- D.I.N.A. - Well-logging grp., Calgary
- U.B.C. - pending
- McGill - pending

Comments & Recommendations

Many of the types of time-consuming requests that we receive cannot be streamlined, however, A) could be speeded by using Division Chief's staff and Library services more effectively.

Several measures have been introduced which will improve B) At present field data is being acquired at a rate in excess of 1500 data points per year.

- 1) Publication of Geothermal Data Collection with yearly update. Fee to non-contributing agencies.
- 2) Provision of intermediate update at REES type fee. Free to companies supplying wells.
- 3) Presumably the admin. services will collect fees involved. Hopefully without expansion.

A significant deficiency in the group at present is its public relations side. Hopefully this could be remedied by adoption of several of the points suggested in my memo of 20th Sept. At present I doubt if we receive 6 requests a year from members of the general public in comparison with a total number of requests of perhaps 120.