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UNIVERSITY OF UTAH RESEARCH INSTITUTE

EARTH SCIENCE LABORATORY

CASCADES DRILLING PROGRAM
MEMO OF CONVERSATION

Project: Clackamas Hole, Thermal Power.

Person Calling: Joe Ivoenitti (707) 576-7232 Date: June 10, 86

Representing: Thermal Power Time: 1 PM.

Person Called: Bruce Sibbett Phone Number:

Representing: UURI

City: Distribution:

Subject: Drilling status DOE-ID

UURI

Other

The Clackamas hole was spudded on June 7 at ~ 10:30 AM, drilled to 35 Feet through glacial boulders with 12½" hole. The hole wasn't straight enough ... get the conductor in the hole. The skidded the rig and drilled to 35' again and set 35' of 10¾" conductor, on the 9th, then waiting on cement. Will be drilling down with 9¼" hole. They think that the hole is through the glacial boulders.

Thermal power will try to make weekly reports on drilling and geologic summary or mud log on Thursday once things are worked out. This week Joe I. will call Dennis on Friday Morning.

Signature

UNIVERSITY OF UTAH RESEARCH INSTITUTE

EARTH SCIENCE LABORATORY

CASCADES DRILLING PROGRAM
MEMO OF CONVERSATION

Project: Clackamas Hole.

Person Calling: Bruce Sibbett returned call to Date: June 13

Representing: UURI Time: 1:15 PM

Person Called: Joe Ivonette, Thermal Power Phone Number: (707) 576-7232

Representing:

City: California Distribution:

Subject: DOE-ID

UURI

Other

The hole has reached 517' and they are setting casing after logging. Basalt drilled from 35'–517'. Will drill next with PQ core.

Signature

VICTOR ATIYEH
GOVERNOR

Department of Geology and Mineral Industries

ADMINISTRATIVE OFFICE

910 STATE OFFICE BLDG., 1400 SW 5th AVE., PORTLAND, OR 97201-5528 PHONE (503) 229-5580

September 29, 1986

W.L. D'Olier
Vice President
Geothermal Exploration
Thermal Power Company
3333 Mendocino Avenue, Suite 120
Santa Rosa, CA 95401

Dear Mr. D'Olier:

I would like to take this opportunity to thank you and your staff for your cooperation during the recent drilling and sampling program at the Clackamas Thermal Gradient Hole. Your facilitation of communication between the UURI, DOE, and ourselves was outstanding. We will be looking forward to working with you as we develop data from the well next year.

We will be mapping about 15 square miles around the site and doing well correlation to Sunedco Well No. 58-28. We will also attempt to correlate the well to temperature gradient wells in the area. If you have any lithologic data from temperature gradient holes of your own, we would appreciate that information as well, if you do not mind it being made public. Splits of cuttings from the gradient holes would be most useful.

Keith Bargar will be doing the hydrothermal alteration in the Clackamas Well. We will do only stratigraphic work, including petrography, a few K-Ar dates, and whole-rock analysis.

I hope this letter facilitates exploration of the area without too much duplication of effort. Please call or write if you have any questions.

Best regards,

George R. Priest
Regional Geologist

cc Joseph Iovenitti
Susan Prestwitch
Michael Wright

UNIVERSITY OF UTAH RESEARCH INSTITUTE

UURI

EARTH SCIENCE LABORATORY
391 CHIPETA WAY, SUITE C
SALT LAKE CITY, UTAH 84108—1295
TELEPHONE 801-524-3422

M E M O R A N D U M

TO: Joe Iovenetti, Thermal Power

FROM: Mike Wright

SUBJECT: Core Sampling by George Priest, DOGAMI

DATE: August 11, 1986

As you know, George Priest of DOGAMI is being funded by DOE to do lithologic and other geologic studies of the core being recovered from corehole CTGH-1, your cost-shared well near Detroit, Oregon. George will be making a subsample of the core while it is still at the site, before it is brought to UURI. I understand that Thermal is concerned that as much of the core as possible remain with the original sample, and that the integrity of the material from this hole not be compromised before the research priorities can be determined. DOGAMI understands that they are to take only the minimum amount of core needed, and those samples taken will ultimately be disposed in one of two ways at the conclusion of their study:

1. DOGAMI itself (Dennis Olmstead's group) will require a subsample of the core to be filed permanently with them. In the case of the GEO holes, this has amounted to about one 5 inch piece per 100 feet. George will either furnish his collegues this subsample or UURI will.

2. The remainder of the material that George does not furnish to DOGAMI as in (1) or that is not used in destructive testing will be returned by George to UURI for inclusion in the archived sample and for possible use by other researchers.

George will place clearly marked wooden tags in the core boxes at the positions of the core samples he takes, and will make a record of the samples including length of core and interval sampled. This record will be furnished to UURI for inclusion with date from the hole. I plan to be on site if at all possible at the same time that George is taking his sample, and will make final arrangements for the core to be transferred to Salt Lake City.

George will also want to see the lithologic log of the hole and perhaps other data you have on site at the time he collects his sample. There is no

problem with this as far as DOE is concerned. He understands that he is to keep the data strictly confidential until such time as a proper open file release can be made by UURI.

P. M. Wright

PMW:leo

cc: Bill D'Olier, Thermal Power
George Priest, DOGAMI
Sue Prestwich, DOE/ID

Diamond Shamrock
Thermal Power Company

30 September 1986

Ms Susan Prestwich
DOE Project Officer
U.S. DOE, Idaho Operations Office
785 DOE Place
Idaho Falls, Idaho 83402

Re: Cooperative Agreement
No. DEFC07-851D12614
Completion of CTGH-1

Dear Ms Prestwich:

We wish to confirm completion of the Clackamas Thermal Gradient Hole at 4800 feet total depth on 7 September 1986, in accordance with our previous discussions and agreement. The Hole status can be reported as suspended, with a shut-in pressure containment capacity of 2000 psig at the casing head. We do not expect any casing head pressure to develop, however, we will review pressure and borehole liquid level in late October to evaluate any winter protection requirements.

Two schematic drawings of CTGH-1 are enclosed herewith. One illustrates the actual completion configuration of the 4800-foot hole and the other illustrates the casing head, access gate and cellar. Copies of this letter and enclosures are being sent to Michael Wright of UURI to assist you in considering any additional borehole evaluation which DOE might wish to propose.

Thermal will maintain CTGH-1 and its drillsite for the 12-month Access Period extending through 7 September 1987, subject to closure by winter snow cover during the expected period from November to May.

Very truly yours,

W. L. D'Olier
Vice President
Geothermal Exploration

WLD/ma

cc M. Wright, UURI

Thermal Power Company
A subsidiary of Diamond Shamrock, 3333 Mendocino Avenue, Suite 120, Santa Rosa, California 95401
Phone 707 576-7022