



The State of New Hampshire
Department of Environmental Services

Thomas S. Burack, Commissioner

*Celebrating 25 Years of Protecting
New Hampshire's Environment*



October 23, 2012

His Excellency, Governor John H. Lynch
and the Honorable Council
State House
Concord, New Hampshire 03301

REQUESTED ACTION

Authorize the Department of Environmental Services to enter into a **retroactive, sole source** agreement with the University of Massachusetts, Department of Geosciences, (VC #228917) Amherst, Massachusetts, in the amount of \$10,000 to perform laboratory analyses on 64 bedrock samples, effective as of October 15, 2012 through June 30, 2013, upon Governor and Council approval. 100% Federal Funds.

Funding is available in the account as follows:

	<u>FY2013</u>
03-44-44-440010-5048-0102-500731	\$10,000
Department of Environmental Services, NH Geothermal Assessment, Contracts for Program Services	

EXPLANATION

This request is for a **retroactive, sole source** Memorandum of Agreement with the University of Massachusetts, Department of Geosciences (UMASS) for specialized laboratory services required by the Department of Environmental Services (DES) to complete specific deliverables under its approved scope of work for the National Geothermal Data System (NGDS) project. This grant is subject to reporting deadlines. In order to meet the first deadline of 12/14/12, laboratory analyses had to be initiated by 10/15/12. The MOA was not completed with UMASS in time to make the 10/3/12 G&C meeting thus rendering this a retroactive item. The agreement is **sole source** because of the highly specialized nature of the required laboratory analyses. The Ronald B. Gilmore X-ray Analytical Facility at UMASS, under the directorship of Dr. J. Michael Rhodes, is widely recognized for its state-of-the-art instrumentation and expertise. This is one of only a few facilities in the nation that is capable of performing thermal conductivity measurements of solid rock slabs and has been performing those same analyses for the Massachusetts Geological Survey under a comparable scope of work for the NGDS. The UMASS laboratory is already fully compliant with QA/QC specifications required by the funding agency for NGDS, eliminating the need for redundant documentation and certification.

www.des.nh.gov

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The purpose of this project is to assess the state's geothermal energy potential based on the specific characteristics of its bedrock geology. Existing data are being compiled and new data are being collected for inclusion in the national repository, the NGDS. Data on rock thermal conductivities and content of heat-producing radiogenic elements such as uranium and thorium are critical components of this statewide assessment.

In the event that the Federal funds become no longer available, General funds will not be requested to support this program. This agreement has been approved by the Attorney General as to form, substance, and execution.

We respectfully request your approval.

A handwritten signature in cursive script, reading "Thomas S. Burack". The signature is written in dark ink and is positioned above a horizontal line.

Thomas S. Burack
Commissioner



MEMORANDUM OF AGREEMENT

Between the NH Department of Environmental Services, NH Geological Survey (NHDES-NHGS) and the University of Massachusetts-Amherst, Department of Geosciences (UMASS) for specialty laboratory analyses of bedrock specimens

This Memorandum of Agreement (MOA) outlines the general responsibilities of NHDES-NHGS and UMASS relative to providing laboratory services, the proposed schedule for the work and the funding reimbursement by the NHDES-NHGS.

WHEREAS, the NHDES-NHGS is a sub-recipient of a US Department of Energy grant to perform an assessment of the geothermal energy resources of the State of New Hampshire subject to specific deadlines for deliverables under an approved scope of work,

NOW THEREFORE, in order to provide for the cost-effective and timely analysis of bedrock samples collected by NHDES-NHGS for the purposes of the geothermal energy assessment, UMASS will assist the NHDES-NHGS by using specialized laboratory equipment and techniques to provide quantitative data of interest to the project.

SCOPE OF SERVICES

Site-specific data on the chemical and thermal properties of different geologic bedrock units throughout New Hampshire are needed to characterize the potential for development of geothermal energy resources. The NHDES-NHGS staff will collect representative rock samples of adequate size and quality for laboratory analysis, based on guidance provided by UMASS. Each sample will be labeled with a unique identification number by NHDES-NHGS to enable correct assignment of all analytical results. NHDES-NHGS will be responsible for the delivery of all samples to UMASS. Samples collected for thermal conductivity analysis will be prepared by cutting and smoothing slabs with surface areas between 50 and 100 square centimeters before being submitted to UMASS for analysis. UMASS will prepare whole rock samples for x-ray fluorescence analysis by crushing and pulverizing them into fine powder form. A maximum of 64 samples will be analyzed by UMASS to quantify both thermal conductivity and major and trace element concentrations. UMASS will adhere to QA/QC procedures as prescribed for the National Geothermal Data System project to insure that all analytical results are acceptable.

UMASS is under no obligation to provide a minimum amount of services under this Agreement.

FUNDING

The NHDES-WD will provide funding reimbursement from Account #03-44-44-440010-5048-102 to UMASS for actual expenses incurred for labor, equipment, and materials plus appropriate overhead as indicated by the following costs per sample:

\$75/sample for x-ray fluorescence analysis, including sample crushing and preparation
\$80/sample for thermal conductivity analysis

The total cost for the work under this agreement shall not exceed \$10,000.

INVOICING

UMASS will provide the NHDES-NHGS with a detailed invoice listing the sample identifier and type of analysis performed on each sample.

TERMINATION

Either party may terminate this agreement upon providing written notice to the other, thirty (30) days prior to termination. Upon termination, UMASS will be paid for all work completed prior to termination.

DURATION

This agreement shall continue in effect until June 30, 2013, unless terminated earlier by either party, or extended in writing by subsequent agreement of the parties and acceptance by Governor and Council.

AGREEMENT

In WITNESS WHEREOF, the parties hereto have executed this Agreement, which shall become effective on the date the Governor and Council of the State of New Hampshire approve this Agreement.

**NH Department of
Environmental Services**

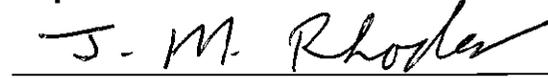


Thomas S. Burack
Commissioner

10/24/2012

Date

**University of Massachusetts-Amherst
Department of Geosciences**

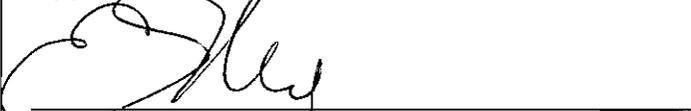


J. Michael Rhodes
Director of the Ronald B. Gilmore X-ray
Analytical Facility

4 Oct 2012

Date

Approved as to form, substance, and execution.



Department of Justice

Evan Muller, AAG

10/29/12

Date



UNIVERSITY OF MASSACHUSETTS
AMHERST

343 Whitmore Administration Building
181 Presidents Drive
Amherst, MA 01003-9313

Budget Office

voice: 413.545.2141
fax: 413.545.2114

October 26, 2012

Frederick Chormann
New Hampshire Department of Environmental Services
PO Box 95
Concord, NH 03302-0095

Dear Mr. Chormann;

Professor J. Michael Rhodes is the director of the Geosciences' Ronald B. Gilmore X-Ray Analytical Facility at the University of Massachusetts Amherst. This facility and its fee schedule have been approved in accordance with our Board of Trustees and campus policies.

Among these policies are the following:

- each revenue operation must have Board of Trustees approval and all fees charged must be approved by the Budget Office and the chancellor,
- all revenue operation activities must be consistent with the University's mission and must be appropriate with regard to the normal activities of the department,
- all financial activity must be in compliance with the Board of Trustees and campus policy,
- all income received must be expended for the purpose for which the operation was established.

I can assure you that the Geosciences' Ronald B. Gilmore X-Ray Analytical Facility was appropriately established and its fees are reviewed and approved annually.

Professor Rhodes and his staff are authorized to provide geochemical analyses of rock samples and to bill for those services as outlined in the Memorandum of Agreement he signed for you on October 4, 2012.

If you have any questions please contact Professor Rhodes or me.

Lynda Kamik
Associate Budget Director
University of Massachusetts Amherst
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Amherst, MA 01003
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cc: Professor J. Michael Rhodes