

The State of New Hampshire  
**Department of Environmental Services**

**Thomas S. Burack, Commissioner**

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



May 2, 2013

Her Excellency, Governor Margaret Wood Hassan  
and The Honorable Council  
State House  
Concord, NH 03301

*Sole Source*

**REQUESTED ACTION**

Authorize the Department of Environmental Services to amend a **sole source** agreement (PO# 1026727) with the University of Massachusetts, Department of Geosciences, (VC #228917) Amherst, Massachusetts by increasing the agreement amount by \$6,500 from \$10,000 to \$16,500 and extending the completion date to December 31, 2013 from June 30, 2013, to perform laboratory analyses on an additional 41 bedrock samples. 100% Federal Funds.

Funding is available in the account as follows. Funding for FY 2014 is contingent upon continuing appropriations and availability of funds.

	<u>FY2014</u>
03-44-44-440010-5048-0102-500731	\$6,500
Department of Environmental Services, NH Geothermal Assessment, Contracts for Program Services	

**EXPLANATION**

This request is to amend the 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. The additional sample analyses are required under a revised scope of work which was recently approved by the funding agency. This grant is subject to reporting deadlines and completion of all deliverables before December 3, 2013. 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.

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

Her Excellency, Governor Margaret Wood Hassan  
and The Honorable Council

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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 that reads "Thomas S. Burack". The signature is written in black ink and is positioned above the printed name and title.

Thomas S. Burack  
Commissioner

**MEMORANDUM OF AGREEMENT  
BETWEEN THE  
UNIVERSITY OF MASSACHUSETTS-AMHERST, DEPARTMENT OF GEOSCIENCES  
AND THE  
DEPARTMENT OF ENVIRONMENTAL SERVICES (NEW HAMPSHIRE GEOLOGICAL  
SURVEY)**

**AMENDMENT No. 1**

This Agreement (hereinafter called the Amendment) is by and between the Department of Environmental Services (DES) and the University of Massachusetts-Amherst, Department of Geosciences (UMASS).

WHEREAS, pursuant to a Memorandum of Agreement (MOA) approved by the Governor and Executive Council on November 14, 2012, Item #112, UMASS agreed to perform certain services upon the terms and conditions specified in the MOA and in consideration of payment by DES of certain sums as specified therein; and

WHEREAS, the DES and UMASS have agreed to amend the MOA in certain respects;

NOW THEREFORE, in consideration of the foregoing, and the covenants and conditions contained in the MOA and set forth herein, the parties hereto do hereby agree as follows:

1. Amendment and Modification of MOA: The MOA is hereby amended as follows:

(A) Change all references to the Project Completion Date from June 30, 2013 to December 31, 2013.

(B) Change Funding to read as follows:

The total cost for the work under this agreement shall not exceed \$16,500.

(C) Change the Scope of Services to increase the maximum quantity of samples to be analyzed from 64 to 105.

All other provisions of this MOA remain in force.

Her Excellency, Governor Margaret Wood Hassan  
and the Honorable Executive Council

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**For the Department of Environmental Services:**

Thomas S. Burack  
Thomas S. Burack, Commissioner

5/7/2013  
Date

**For the University of Massachusetts, Department of Geosciences:**

J. M. Rhodes  
J. Michael Rhodes

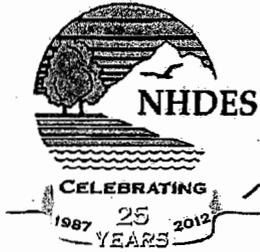
4/29/2013  
Date

Approved as to form, substance, and execution:

E. Mulholland  
Department of Justice

5-31-13  
Date

Evan Mulholland, AAG



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

**APPROVED G & C**

DATE 11/14/2012

ITEM # 112

**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](http://www.des.nh.gov)

29 Hazen Drive • PO Box 95 • Concord, NH 03302-0095  
(603) 271-3503 • TDD Access: Relay NH 1-800-735-2964

His Excellency, Governor John H. Lynch  
and the Honorable Council

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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.



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  
Thomas S. Burack  
Commissioner

10/24/2012  
Date

Approved as to form, substance, and execution.

[Signature]  
Department of Justice  
Evan Muller, AAG

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

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

4 Oct 2012  
Date

10/29/12  
Date



UNIVERSITY OF MASSACHUSETTS  
AMHERST

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

October 26, 2012

Budget Office

voice: 413.545.2141  
fax: 413.545.2114

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 Trustee and campus policies.

Among these policies are the following:

- each revenue operation must have Board of Trustee 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 Trustee 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  
346 Whitmore Admin. Building  
Amherst, MA 01003  
Ph: 413-545-6277  
Fax: 413-545-2114  
[kamik@admin.umass.edu](mailto:kamik@admin.umass.edu)

cc: Professor J. Michael Rhodes