

1999 Project Abstract

For the Period Ending June 30, 2001

TITLE: Public Access to Mineral Knowledge
PROJECT MANAGER: David Dahl
ORGANIZATION: Minn. Dept. Natural Resources - Division of Lands and Minerals
ADDRESS: 1525 Third Avenue East, Hibbing, MN 55746
WEB ADDRESS: <http://www.dnr.state.mn.us>
FUND: Future Resources Fund
LEGAL CITATION: ML 1999, Ch. 231, Sec. 16, Subd. 010(b)

APPROPRIATION AMOUNT: \$100,000

Overall Project Outcome and Results

This project accelerated the cataloging and organization of historic mineral exploration documents collected by the State of Minnesota from private mineral exploration companies over the past 100 years. The goal of the project was to put the historic documents into a more useable form and make them more easily accessible for public use. More than 12,000 documents were catalogued and organized during the course of the project, and 72,550 pages of text and 7,433 large maps were scanned and made available for access via the world wide web at <http://minarchive.dnr.state.mn.us>. In addition, Public domain rights for eight historic airborne mineral exploration surveys were acquired to compliment existing public data sets and geophysical databases. Finally, a desktop computer was purchased to improve local public access and additional disk space was purchased to hold the web site content.

Project Results Use and Dissemination

All of the content from cataloging and scanning these documents is available through the web site for use by researchers and users without needing to arrange a special trip to the archives in northern Minnesota. In the short time that the web site has been available it has had very favorable reviews by users. The archive's content can also be made available through alternative formats.

Date of Report: July 1, 2001
LCMR Final Work Program Report
Date of Work Plan Approval: June 18, 1999
Project Completion Date: June 30, 2001

LCMR Work Program 1999:

I. Project Title: Public Access to Mineral Knowledge
Project Manager: David Dahl
Affiliation: Minnesota Dept. Natural Resources - Division of Lands and Minerals
Mailing Address: 1525 Third Avenue East, Hibbing, MN 55746
Tele. Number: 218-262-7322
Fax: 218-262-7328
E-Mail: dave.dahl@dnr.state.mn.us
Web Page Address: <http://www.dnr.state.mn.us>

Total Biennial Project Budget:

\$LCMR:	100,000.00	\$Match:	NA
<u>-\$LCMR Amount Spent:</u>	<u>100,000.00</u>	<u>-\$Match Amount Spent:</u>	<u>NA</u>
=\$LCMR Balance:	0	=\$Match Balance:	NA

A. Legal Citation: ML 99, Ch. 231, Sec. 16, Subd. 010(b).

Appropriation Language: \$100,000 is from the future resources fund to the Department of Natural Resources to accelerate the automation of historic mineral exploration information and to make the database accessible and searchable.

B. Status of Match Requirement: NA

II. and III. FINAL PROJECT SUMMARY:

This project accelerated the cataloging and organization of historic mineral exploration documents collected by the State of Minnesota from private mineral exploration companies over the past 100 years. The goal of the project was to put the historic documents into a more useable form and make them more easily accessible for public use. More than 12,000 documents were catalogued and organized during the course of the project, and 72,550 pages of text and 7,433 large maps were scanned and made available for access via the world wide web at <http://minarchive.dnr.state.mn.us>. In addition, Public domain rights for eight historic airborne mineral exploration surveys were acquired to compliment existing public data sets and geophysical databases. Finally, a desktop computer was purchased to improve local public access and additional disk space was purchased to hold the web site content.

IV. OUTLINE OF PROJECT RESULTS:

Result #1: Imaging and Index of Historical Maps and Records

LCMR Budget:	\$ 93,500.00	Match:	\$ NA
Balance:	0	Balance:	\$ NA

The products of this activity are a digital catalog for searching the digital and paper documents, and a large digital image directory of maps and other mineral exploration documents. This organizing and cataloging activity is typically the most time and labor intensive part of any access-to-data project. LCMR funds have been used to contract added expert labor for the cataloguing task, to obtain scanning services for large maps and text-sized documents, and to obtain computer equipment and software required for the tasks. A desktop computer was also purchased to provide local public access to the search tools and the digital versions of the archives. LCMR funds (\$10,000) have also been used to acquire public domain access to eight large historical airborne mineral exploration surveys.

The practical outcome of this work is that nearly 12,000 historic documents have been organized and brought into context of each other so that researchers and users can focus on the content of the documents rather than on assembling and relating that content. This is a significant advance considering the former fragmental nature of the filing system used for the documents. During the course of the project some 4,000 additional documents were found to be duplicates or subsets of other documents. These have been indexed and removed from the system to improve search results.

Result #2: Web-based Access to Products of Result #1

LCMR Budget:	\$ 6,500.00	Match:	\$NA
Balance:	0	Balance:	\$NA

This activity has produced a searchable, map-based web access point for browsing, downloading and studying the products from Result #1. Funding for this task also was used to purchase additional disk storage space to hold the document images and related information. The results from task #1 are being served on the world wide web through DNR's web site, and can be directly accessed at <http://minarchive.dnr.state.mn.us>.

The project has benefitted significantly from the web development staff at the Department of Natural Resources, particularly from the work of Stephen Lime, who has produced a map-based search tool that gives web users the ability to bring enormous amounts of map-based information to bear for comparing and selecting from amongst the available collections of historic mineral information.

V. DISSEMINATION: Information from this project is primarily in tabular and map based form, and is available through the Department of Natural Resources at <http://www.dnr.state.mn.us>, or can be directly accessed at <http://minarchive.dnr.state.mn.us>. Hard copies of maps, index tables and digital files will also be available in alternative forms.

VI. CONTEXT:

A. Significance: Knowledge gained from past mineral exploration can often be leveraged for new purposes. Fortunately, the results of over 100 years of mineral exploration have been retained for future use. Principally in their original paper form, these records are inaccessible by modern data analysis techniques for exploration and therefore limited in their usefulness. This inaccessibility is unfortunate, because exploration records often have a usefulness that does not diminish with time, and can often be used for work beyond their original purpose, such as statewide hydrogeology (depth to bedrock). Also, this information needs to be converted to digital form so it can be used in conjunction with other digital products that already exist, like the LCMR funded aeromagnetic survey of the state. The primary bottlenecks that restrict access to this information are insufficient indexing and poor access.

The work makes a difference, both practically and strategically, in the way mineral information is made available for re-use. Practically, the project provides access to original mineral information that has been costly to acquire and difficult to search. Strategically, the project provides the opportunity needed to learn more about Minnesota's mineral wealth.

B. Time: The LCMR funded component of the project will not exceed two years. The LCMR funding is being used to accelerate a current project. After the LCMR component is completed, much of the historic mineral exploration information will have been added. Additional information will continue to become available and activities similar to the LCMR tasks will continue in order to expand and maintain the information base as needed. These maintenance and update functions are part of the routine business activity of DNR-Lands and Minerals Division.

C. Budget Context: LCMR budget history = \$0. Non-LCMR budget history = \$200,000 in MCC and general fund salaries for FY 98-99 with additional non-state contributions in kind.

1. BUDGET:

Personnel	\$ 80,625 for conversion, cataloging and web site services
Equipment	\$ 9,375 for computer equipment and software.
Acquisition	\$ 10,000 for acquisition of public domain access to data
Development	\$ 0
Other	\$ 0
TOTAL	\$100,000

2. Submit a budget detail with all the specifics as attached as Attachment A.

VII. COOPERATION: The project has been conducted through the DNR - Lands and Minerals Division, which has responsibility for these records, and with collaboration from the Minnesota Geological Survey and the Natural Resources Research Institute at the University of Minnesota-Duluth. Advisory roles are being filled by these groups:

Minnesota Minerals Coordinating Committee -	William C. Brice, Chair
Minnesota Exploration Association -	William C. Ulland, Director
	Ernest K. Lehmann, President
Iron Range Resources and Rehabilitation Board -	Brian Hiti, Mgr. Mineral Development

VIII. LOCATION: Statewide.

IX. Reporting Requirements:

Periodic work program progress reports and requests for work program revisions related to this project were dated January 27, 2000; September 28, 2000; March 29, 2001; April 13, 2001; April 26, 2001; and June 21, 2001.

The final work program report is dated July 1, 2001.

X. Research Projects: NA

Attachment A: Deliverable Products and Related Budget			
LCMR Project Biennial Budget:	\$ 93,500	\$ 6,500	
Objective/result:	Result 1:	Result 2:	Row Total:
Budget Item:	Imaging and Index	Web-based access	
Wages, salaries & benefits - specifics on who is paid \$:	0	0	0
Space rental, maintenance & utilities:	in-kind through DNR	in-kind through DNR	0
Printing & Advertising:	in-kind through DNR	in-kind through DNR	0
Communications, telephone, mail, etc.:	in-kind through DNR	in-kind through DNR	0
Contracts:			
Professional/technical:	89,125	1,500	90,625
Other contracts:	0	0	0
Local automobile mileage paid:	in-kind through DNR	in-kind through DNR	0
Other travel expenses in Minnesota:	in-kind through DNR	in-kind through DNR	0
Travel outside Minnesota:	in kind through DNR	in-kind through DNR	0
Office supplies:	in kind through DNR	in-kind through DNR	0
Other supplies:	in kind through DNR	in-kind through DNR	0
Tools & equipment:	0	0	0
Office equipment & computers:	4,375	5,000	9,375
Other capital equipment:	0	0	0
Other direct operating costs:	0	0	0
Land acquisition:	0	0	0
Land rights acquisition:	0	0	0
Buildings or other land improvement:	0	0	0
Legal fees:	0	0	0
COLUMN TOTAL:	93,500	6,500	100,000