

COMPUTERIZATION OF THE  
ST. LOUIS COUNTY RECORDER'S OFFICE

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## Table of Contents

I.	Introduction . . . . .	3
II.	The Department . . . . .	4
	The Divisions . . . . .	6
III.	The Problem . . . . .	9
	The Hand Posted Indexes . . . . .	9
	History of the Tract Index . . . . .	10
	Early Computerized Systems . . . . .	14
IV.	Politics and Project Funding . . . . .	16
	Legislative Activities . . . . .	22
V.	Writing the Program . . . . .	29
	State Auditor's Concerns . . . . .	29
	The Albers Report . . . . .	32
	MIS Department . . . . .	34
	Legal Description . . . . .	36
VI.	Implementing the System . . . . .	39
	How the System will Work . . . . .	40
VII.	Impacts of the System . . . . .	45
	Current Activities Forum . . . . .	46
	GIS Projects . . . . .	49
VIII.	Appendix . . . . .	53

I. Introduction.

The implementation of revolutionary changes in an organization presents the organization with significant problems and obstacles. This paper presents the problems encountered by a local government agency, the St. Louis County Recorder, as it began a project to update its record-keeping functions.

Although this endeavor is described in linear fashion, many of these activities took place in parallel and some overlapped others.

It must be remembered that the daily activities of the department continued virtually uninterrupted throughout the entire process and still do today, a great credit to the employees of the department.

In this paper, I have included source citations where I have actually extracted information from another source. At other times, I have called upon my sixteen years' experience in the department for information. Uncited facts and figures arise from that experience or from my own compilations.

I wish to thank St. Louis County Recorder, Mark Monacelli, for permitting me to write this paper, my husband Jay and our son Jim for enduring it all, my sister Jane for her editing help, and Dr. Dale Olsen for his valuable suggestions and for granting me an extension of time.

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## II. The Department.

The St. Louis County Recorder's office was organized in 1856, two years before Minnesota became a state. The Constitution (Art. 11, Sec. 1) and the laws of the State of Minnesota (Minn. Stat. 386 et seq. and 508 et seq.) mandate the department to be the repository of all documents relating to land titles in the County. Originally called the Register of Deeds, the name was changed by statute to County Recorder in 1977 in anticipation of acquiring birth, death and marriage records (Minn. Stat. 386.001). These additional functions have not materialized to date. The department houses approximately three million recorded documents and a quarter of a million Certificates of Titles to land adjudicated by the District Court. An additional 40,000 documents are recorded each year (Budget Request, 1988, 1989).

The sizes of County Recorders' offices throughout the state are commensurate with the sizes of their respective counties. St. Louis County is very large. At 7,092.51 square miles or 4,539,206 acres, the County is very nearly the size of New Jersey (7,836 square miles). St. Louis County has one of the larger Recorder's staffs in the state: Seventeen clerical employees, two supervisors, and the County Recorder, Mark Monacelli. The department's operating budget is about \$630,000, of which approximately 85% is salaries.

The revenues generated by fees collected by the department totaled \$525,000 in 1989. These revenues are deposited directly into the County's general fund; they are not used as direct payment of the department's expenses (Minn. Stat. 386.015).

The department's major mission is three-fold: To record, safeguard, and display all documents related to land titles. In addition, the department maintains a few specific types of documents such as tax liens, veterans' discharges and personal property mortgages under the Uniform Commercial Code (UCC).

The recording process includes analyzing documents for recordability, assigning document numbers sequentially, indexing the information contained within documents in several ways and microfilming documents.

The documents and the information contained therein are safeguarded in a number of ways. Every tenth roll of microfilm is tested by the State Historical Society for archival quality to insure that the film does not chemically deteriorate or otherwise self-destruct. This is of utmost importance since the microfilm is the only record available for these documents and they must be maintained forever. Additionally, three copies of each roll of film are made; two are in the possession of the Recorder, and a designated original is stored off-site in a County owned and maintained vault.

Displaying the documents involves service to customers. In this respect, a visit to the Recorder's office is much like a visit to the public library. Customers may spend as much time as they wish in the office conducting their research. Microfilm readers are available for their use. Staff people are trained to assist customers by instructing them in the organization and retrieval of information, answering their specific questions, and making copies upon their request.

Employees in the department must develop a better than average acquaintance with all aspects of real estate. Their knowledge of real estate law must include an understanding of legal concepts such as “title,” “chain of title,” “fee simple,” and “interests.” They must understand the principles of the public land survey, how to read and interpret legal descriptions of property and the role of surveyors. They must be aware of the work of attorneys, abstractors, bankers and real estate sales people.

### The Divisions.

The department is divided into three divisions; Abstract, Torrens and Uniform Commercial Code (UCC).

The bulk of the property in the County is “abstract.” In this division, property ownership and the condition of title is determined by an abstract- - an entry history of the property- -and an attorney’s opinion of the abstract. When recording documents in the Abstract department, Recorder’s deputies must only be sure that documents are “recordable,” i.e. they are completed according to specific requirements, signed, and notarized. The Recorder is not responsible for the accuracy of the content of the documents.

The Torrens division, which maintains records related to property “registered” as a result of a court proceeding, is entirely separate from the Abstract division. Originally developed for the shipping industry of the last century by Robert Torrens, an Australian,

the system was later adapted to real estate titles. Many experts in real estate law consider it to be archaic. Few States use it anymore and many counties in Minnesota have little if any property registered under it. St. Louis County has a large amount of Registered “Torrens” property, primarily in the cities of Duluth, Hibbing, Hoyt Lakes, Proctor, Buhl and Mt. Iron. There is also considerable recreational property around many lakes in the County that is registered in the Torrens department.

The title to Registered property is adjudicated by the District Court. Registration proceedings are usually conducted to clear defects from a title. After considering oral and written testimony, the Court declares the appropriate party to be the owner of the property and a Certificate of Title is issued in that name. Once property is registered, it is the responsibility of the County Recorder as Registrar of Titles to insure that the title to it remains clear. The staff in the Torrens office must determine both the recordability and the accuracy of the content of documents presented to it. The Registrar of Titles is assisted by the Examiner of Titles, a licensed attorney whose specialty is title law. In St. Louis County the Examiner is a full-time county employee. Smaller counties usually obtain the services of a private attorney who has been designated as Examiner, usually on a part-time basis.

The U.C.C. department files financing statements and related documents on personal property under the provisions of the Uniform Commercial Code. These are secured transactions where collateral is stated such as furniture, off-road vehicles (encumbrances against street vehicles such as automobiles and trucks are filed with the

Department of Motor Vehicles in St. Paul), business assets, or agricultural products. Again, Recorder's deputies need only concern themselves with form and format, not with content.

All three departments conduct assembly-line paper processing. Documents move from one desk to the next and certain tasks are performed relative to them at each step. The first step always includes analyzing the documents to be sure that they meet the criteria of the department where the recording is taking place. Once recordable, the documents move on to where recording data is actually assigned: Recording date, time, and document number. From there information from the documents is entered into indexes; reception record (chronological order), grantor (usually seller), grantee (usually buyer) and legal description.

Recording documents in an efficient, timely manner is most important. Minnesota is a race-notice state; those who record their claims first, win.

There are some functions that the Recorder's office does not perform. First, the Recorder's staff does not practice law. It does not draft documents, and it does not give legal advice. Staff people may show a customer what is of record, but if a problem occurs and the customer asks, "What do I do now?", staff people suggest that the customer obtain competent legal advice. Additionally, the Recorder's staff does not engage in abstracting, although such activity is permitted by statute. Abstracting is a private enterprise in St. Louis County. Requests for searches beyond a few years are

refused and customers are advised that they may conduct the research themselves or they may hire an abstractor.

It is clear that the primary function of the Recorder's office is that of record keeping. At first glance it would appear that this kind of repetitive recording would easily lend itself to computerization. Further analysis indicates that this is not the case.

### III. The Problem.

The 2.5 million documents in the Abstract department are now recorded on 3,000-plus rolls of microfilm. If the documents for which researchers are looking have been recorded prior to 1988, they must look it up in one of 500 indexes. The indexes are posted by hand in large archive books, each weighing in excess of 20 pounds.

#### The Hand-Posted Indexes.

The Reception Record is the chronological index and is required by statute (Minn. Stat. 386.04). As each document was recorded, information from it was entered into a daily record. Abstractors seldom use this index; it is useful primarily within the department to balance the daily fee totals and issue receipts to customers. The reception record for each year usually takes up one large volume of about 700 pages.

The indexes most used by researchers are the Grantor/Grantee (or, in the case of encumbrances, Mortgagor/Mortgagee). These are the name indexes and, like the reception record, are mandated by law (Minn. Stat. 386.03). After entry into the reception record by one employee, pages of it were physically taken to another desk where the information was entered into the Grantor/Grantee indexes by two employees. Each set of 44 books in this index lasted about ten years.

The last index, the tract index, was posted by yet another employee. Using photocopied pages of the Reception Record, information by legal description was posted into one or more of the approximately 100 volumes of this index. The tract index would be by far the most useful index for researchers, yet its development has been fraught with controversy and today remains incomplete.

#### History of the Tract Index.

Until 1970 there was no County-owned tract index in the Recorder's office. Tract indexes are not mandated by statute. Since the Recorder's office did no abstracting, there was no "need" to maintain this additional index.

At one time a privately owned tract index, the Pryor index, was kept within the Courthouse. Details are sketchy, but according to legend, this index was damaged in a fire. The Pryor Abstract Company, who owned the index, subsequently went out of business and consolidated with either the Union Abstract Company or the Alworth

Abstract Company or both. Thus evolved the Consolidated Title and Abstract Company, which still operates in St. Louis County.

In 1970, Clark Ilse was elected County Recorder and began to pursue his agenda of creating a tract index within the department. This idea was important for two basic reasons. First, the privately owned tract index gave the private company an exclusive control over public records. Most abstracts are histories of parcels of real estate, not individual or corporate names. It also gave the abstract company a corner on the abstracting market. Other title companies could research Torrens property for which there was a tract index, but this was limited in scope. Abstract property research was essentially the domain of Consolidated Title.

The second reason for the pursuit of a County tract index was that Consolidated's index did not clearly address the issue of severed minerals. Interests in real estate may be considered as a "bundle" where individual interests may be separated from the rest. These interests may include, but are not limited to, mortgage interests, contract interests, lien interests, easements, marital interests and mineral interests.

Much of the mineral economy of St. Louis County is based upon mineral ownership which is often unknown. In the early days of the development of the County, the U.S. Government conveyed, by patent, large tracts of land to individuals, railroads, mining companies, timber companies, the State of Minnesota and others. These patents conveyed all rights and interests to the land. When more astute patent-holders later conveyed parcels to others, only the surface rights would be conveyed and the minerals

would be “reserved to the grantor,” i.e. the minerals would be severed from the surface. Further title activity involving the surface could be traced, but the status of the minerals often disappeared. The severed minerals would be forgotten and excluded from individual’s estates when they died and again when their heirs died. The smaller mining companies would merge with other companies, which would merge again with other companies. There was no reasonable mechanism through which minerals could be traced. As years passed, it became increasingly difficult in many cases to determine whether the minerals did, in fact run, with the surface. Some of this evolved; some of it was designed. Most of it occurred before 1940.

In 1969, the Minnesota Legislature determined that severed minerals were an interest in land taxable at the rate of \$.25 per acre or \$10.00 per forty. The Severed Mineral Act required that those who held severed minerals must file a notice of their claim in the office of the County Recorder before December 31, 1974. The notice must show the description of the minerals, the percentage of ownership claimed, the recording information of the document upon which the claim was based and the name and address of the person willing to pay the tax. Failure to file a notice by the deadline would result in forfeiture of the mineral interest to the State of Minnesota (Minn. Stat. 93. 52 – 93. 58). Citing due process considerations, especially in the case of out-of-state owners, the Minnesota Supreme Court overturned the forfeiture clause but retained the tax language (Contos, 1979).

Approximately 3,800 Statements of Severed Minerals were filed, creating thousands of new tax parcels and bringing the County additional tax revenues in excess of \$220,000 annually.

To cope with all this, Ilse began his tract index with two sets of books. One set began with the documents recorded in 1970 and thereafter. The other set began with documents recorded in 1969 and before. The Minerals Division of the Minnesota Department of Natural Resources (DNR) funded much of the project with four separate grants. The DNR had a serious interest in the status of severed minerals since it conducted sales of exploration leases for State owned minerals. The project was staffed by UMD work-study students who met certain criteria; they had to be pre-law or related majors who were in the top ten percent of their class. Often up to ten students were working on the index at a given time.

The index was controversial from the beginning. The abstract company perceived it to be a threat to its business. The bar association objected to the use of students as indexers; trained attorneys should be hired instead, it said. Others complained that the index was unreliable; that it had too many errors in it. While no indication of sabotage was ever detected, Ilse took no chances and permitted only his employees to do research in the index.

In 1984, forty years of the index, a length of time with statutory significance was completed and it was microfilmed. Thus certified, the index was opened to the public.

Since development of the tract index, two additional abstract companies have formed, and a third has expanded its service.

After the DNR grants expired, the County Board was reluctant to continue funding the index. Ilse continued it sporadically with regular employees until, in reaction to political differences; the Board reduced the staff to the point that, in 1985, he was forced to discontinue it altogether.

The irony of all these indexes is that essentially the same information was entered into each one. Each index shows the grantee, grantor, kind of instrument, date of recording, document or book and page numbers, abbreviated legal descriptions and the disposition of documents after recording. Additionally, the reception record also shows fees collected. The format of the books is the factor that dictates how they are to be used. Four employees routinely entered the same information into three different places. It became increasingly apparent that the information in the Recorder's office should be nearly ideal for computerization.

#### Early Computerized Systems.

In the early 1980's, Ilse began experimenting with creating a database within a micro-computer system. Using a system by the Vector Company, with which he was familiar, he made one of the earliest attempts in Minnesota to computerize the information in the Recorder's office. He developed a simple database into which

information from the documents could be entered into specific fields. The data could then be sorted and printed in any form desired; grantee, grantor, or reception. It was crude at best and never stood alone; the hand-posted indexes were continued. Soon the Vector Company went out of business and technical support for the system became unavailable. Since much was learned from the experiment, it was valuable in its own way.

Mark Monacelli was elected Recorder in November of 1986. When he took office the following January, he learned that the Grantor/Grantee indexes were in their last year and a new set of 40 volumes would have to be purchased. Communication with manufacturers revealed that the purchase of a new set would cost \$13,000. Knowing full well that information in the Recorder's office would not continue to be hand-posted for another ten years; Monacelli began looking for an interim system.

Early in the years of the Vector experiment, the Recorder's staff heard about "some guy in Grand Rapids" who was working on a computer system for title information. By 1987, the Minnesota Counties Information Systems (MCIS), a non-profit government support agency had a third generation product on the market. Several smaller counties had purchased the system and were using it with varying degrees of success. It had its drawbacks but would suffice until a more comprehensive system could be built. Its \$20,000 price tag was higher than a new set of Grantor/Grantee books, but parts of it, especially the hardware, could be used in future systems. It was installed in December of 1987, went online in January of 1988, and is currently in use.

The system is PC based using IBM PS2 Model 80's. It has 115 megabytes of memory in its hard disk, a quantity that could last a long time in a smaller county, but would be used up rather quickly in one the size of St. Louis.

The excessive duplication needed to enter all the data was a major drawback of both the Vector and MCIS systems. Each grantor had to be entered as a separate entry to each grantee and each description, a situation which also held for each grantee and each legal description. If a document had five grantors, five grantees, and five descriptions, 125 entries would have to be keyed into the system. It would be impossible to enter all the information from the average of 100 documents per day that are recorded in the Abstract Department. Monacelli decided that all Grantors and Grantees would be entered into the system to satisfy the statutory requirement for such indexes, and only the first legal description on each document would be entered until such time as a better system could be developed.

#### IV. Politics and Project Funding.

When Monacelli took office in January of 1987, he learned that the previous political battles had taken their toll on the department. The grantor/grantee index was three weeks behind, the tract index was a year behind, antiquated microfilm reader-printers were literally falling apart, and the staff had been reduced to the point where catching up was nearly impossible. The department was approaching a point where it

could be vulnerable to civil and statutory liability. Abstracts more than 30 days old are not acceptable; if the grantor/grantee indexes fell behind much further, abstractors would be restrained in the conduct of their business and suffer losses. Also, while the statute does not require a county to create a tract index, it does mandate that any county which houses a tract index must keep it current (Minn. Stat. 386.05).

After a settling-in period, he determined that all of these problems needed simultaneous solving and that there were no additional funds in the budget with which to do it. By temporarily halting other projects in the department and permitting some overtime, Monacelli set several staff people to work on the grantor, grantee and tract indexes. He determined that it would take between 20 and 30 years to post the entire tract index by hand.

As is usually the case with new administrations, Monacelli understood that he would enjoy a “honeymoon” of sorts with established power structure, i.e. the County Board. He approached the Board with the problem of the microfilm reader-printers. Armed with a cost-benefit analysis courtesy of a vendor, he explained how the County could save money in the long run by investing \$32,000 in new machines now, rather than continue with the 15-year old, high maintenance, soon to be obsolete machines currently in the department. Convinced by the argument, the Board appropriated the additional funds and the machines were ordered. The Board’s action demonstrated that it was interested in modernization and would likely support, at least in principle, computerization of the records in the Recorder’s office.

Early in 1987, the Board hired LFWF, Inc., a consulting firm from Dallas to analyze computer needs throughout the County. The firm agreed that the Recorder's office should be of high priority in any comprehensive systems plan that the County might adopt. Later in the year, the firm of Albers and Associates was hired to develop a needs analysis and flow chart for the Recorder's and other departments

The challenge was to determine what kind of system would be best, how it could be funded and how the whole project could be presented to the Board. Monacelli spent several weeks in St. Paul trying to learn where State interests in land records systems and funding might lie; he found them in the Department of Natural Resources (DNR).

The Division of Lands, headed by Rod Sando, had its inventory of state-held lands online on an IBM System 38, a mainframe system, small as mainframes go, but big enough to run a small county—Carlton County is an example. The Department's program addressed some issues about entering legal descriptions, the size of the database that would be developed, and how long it would take to enter the data (about ten to twelve years). Further, the program could be adapted to suit the needs of St. Louis County.

The Division of Minerals, where Bill Brice was the newly-appointed director, needed the ever-elusive information about severed minerals, so that its lease-sale program could continue. Two of Brice's staff people, Kathy Lewis, the Mineral Leasing Supervisor and Karl Kiehn, a Staff Attorney, had previously visited the Recorder to

explain the leasing program and to outline the research in severed minerals that they routinely conducted in the Recorder's office.

The DNR is charged with the administration school trust and other state lands for the benefit of the people of Minnesota. It conducts a program where mineral exploration companies may acquire, by bid, leases to explore for gold, platinum, palladium, and other precious metals. Before these bids may be let, the Minerals Division must perfect title to the surface of each parcel and to the minerals below. Staff people from the Division spend weeks in Recorders' offices researching these titles. A complete tract index was very important to the credibility of their work. For example, in 1987 and 1988, USX successfully challenged a number of these leases. The company produced very old documents from its files which had been recorded in the Recorder's office but had not been located during the research effort (Orehek, 1989).

The Minerals Division also had access to grants and other kinds of funding for projects which met various criteria. It was willing to fund \$50,000 in the form of a contract for services rendered relating to the development of the project.

Monacelli's return to Duluth set off a flurry of activity. The logistics of hardware and software had to be developed in order to write a funding request to the State. Consultants from the Business Records Corporation, who had written the DNR Land Department's program, were brought in to discuss the kind of program adaptations that would be necessary.

Meetings were held with staff people from the Data Processing (DP) division of the Auditor's department. The DP staff were familiar with the County's IBM 4381 mainframe and were thus mainframe oriented. They did not understand why the Recorder needed a stand alone system rather than just acquire additional disk space on the established system. Additionally, they claimed that RPG 3, the language which was used in the System 38, was becoming obsolete. Monacelli cited the mainframe's poor track record of downtime and the need for the department's control over its own records. The system 38's capacity for expansion was important because the database would only increase.

Although still skeptical, the DP staff brought in their local vendors who developed a schedule of the necessary hardware and the costs involved. The hardware alone totaled just under \$138,000. The software from Business Records would absorb the entire \$50,000 contract from the DNR.

The Minerals Division submitted its standard contract form for the Recorder to complete. The County Attorney's office, deeming the form unsatisfactory, drafted its own. Drafts and re-drafts traveled between the two offices for several months until the language and content issues were resolved and the contract was signed.

While the hardware and software issues were being debated, Monacelli continued to seek additional funding. Grant applications were drafted and attached to a cover letter

that was eventually included entirely, in part or in a modified form, in nearly every correspondence about the project that was to follow.

The letter, originally addressed to State Senator Doug Johnson, and later to the Intergovernmental Informations Systems Advisory Council (IISAC), the Legislative Commission on Minnesota Resources (LCMR) and others, presented the tract index project as a tool toward economic development. It described the State's mineral lease-sale program and explained how it is hampered by the incomplete tract index in St. Louis County. After identifying what a tract index is, the letter continued with a discussion of the pilot program the Recorder was developing with the State. A list of funding agencies to be contacted was followed by a discussion of the spill over benefits of the project. The lease sales would generate immediate revenue; and discovery of recoverable quantities of minerals would yield royalties to the State. Exploration and any subsequent mineral development would benefit local economies in the form of additional jobs. Also, upon completion, the program could be made available to other counties (Letter to Johnson, 1987).

Budget-setting activities for 1988 began in June of 1987. All County departments involved with budgeting met with the newly appointed County Administrator, Karl Nollenberger. Rather than requiring a list of dollar amounts for line items- -to be verbally defended in the Board Room before the media as had been done in the past- -the administrator distributed packages where budget request items could be identified, described and justified in writing prior to meeting with him or with the Board.

Remembering the confrontations of previous years, the Recorder's staff went to its first budget meeting with some trepidation.

Monacelli and the chief deputy brought the department's budget request and a single volume of the hand-posted tract index to the meeting. They explained the project to the Administrator, the Chief Accountant and the other advisors present. The administrators were amazed both at the enormity of the project and that it was not online in the first place, especially since it seemed to lend itself to machine processing so easily.

The staff's initial fears were unfounded; however, when instead of refusing such a request, Nollenberger indicated simply that further consideration would have to be made as to how to present the project to the Board. The computerized tract index was still alive.

#### Legislative Activities.

In August, the nineteen members of the Legislative Commission on Minnesota Resources visited many sites in St. Louis County. As part of their tour, they met in the Board room with Monacelli, the Chief Deputy, and Kathy Lewis about the need for a computerized tract index. Lewis explained the mineral lease sale program, its relationship to school trust lands and other significance to the State. Some Commission members confused the minerals program with that day's newspaper account of the controversy surrounding the DNR Land Division's sale of leased cabin sites which were

also within the school trust lands. It took considerable explanation to convince the members that the two issues were entirely separate.

Again using a single volume of the tract index as an example, Monacelli explained how difficult it is to conduct mineral research in St. Louis County. One Commission member suggested condemning Consolidated Title's Index and taking it over. It was explained that serious political and financial ramifications precluded such action.

When the meeting ended, it was not clear how much the Commission members understood the need for such an index. A joint letter from the Minerals Division and the Recorder containing further explanation of some of the issues discussed was sent to each member.

The LCMR had a budget of approximately \$2 million for the biennium which it could allocate to projects which furthered the optimum use of the resources of the state. With help from the Minerals Division, the Recorder applied for a grant in the amount of \$100,000. The Commission held a series of hearings in which requesting agencies were expected to defend their projects. The competition was intense. The total requests from all agencies far exceeded the Commission's budget, so a number of them were culled from the list after each hearing. The tract index project survived to the last round and was ultimately awarded \$80,000 towards its completion. The grant was to be channeled

through the Minerals Division in the same way that the contract for \$50,000 has been channeled.

In order to qualify for LCMR grants, requesting agencies must provide matching funds. In order to secure the \$80,000, Monacelli needed a way to raise the rest. The most logical step to increase revenue was to raise the fees collected at the time documents are recorded. However, there were two major hurdles to this avenue.

The first was that recording fees are set by statute and are uniform statewide. Other counties were not interested in raising fees, generally citing political reasons. St. Louis County would have to go it alone at the Legislature.

The second hurdle was that of the lack of a revolving fund. As described earlier, the fees collected by the Recorder's office are deposited into the County's general fund. Separate departmental funds, i.e. revolving funds, where fees may be deposited and disbursed for the department's own use, are forbidden. No purpose would be served to lobby the Legislature to raise fees only to have the increased revenue used to balance the countywide budget.

With Nollenberger's help, Monacelli obtained a commitment from the Board that revenues generated by an increase in Recorder's fees would be allocated as the necessary matching funds. The LCMR approved them as acceptable. Secure with these commitments, Monacelli went to St. Paul to introduce his bills to the Legislature.

The primary bill, House File 1222, relating to the fee increase, introduced by Representatives Janezich, Murphy, Rukavina, Battaglia and Jaros, proposed to raise the fees in the Recorder's office by five dollars per document. The statutory fee for recording documents in the Abstract department was \$1.00 per page with a \$10.00 minimum. The fee for new Certificates of Titles in the Torrens department was \$20.00. The proposal was to increase the fee in St. Louis County to \$1.00 per page with a \$15.00 minimum in Abstract and to \$25.00 for new Certificates in Torrens (H. F. 1222). It did not attempt to change Minnesota Statutes Chapters 387.18 (Abstract) or 508.82 (Torrens), but rather was included as a subdivision in St. Louis County's General Statute 383C.725, to supersede them. It was referred to the Committee on Local Government and Metropolitan Affairs.

The secondary bill, Senate File 918, introduced by Senators Dicklich, Doug Johnson, and Gustafson, was related to legal descriptions on certain documents. The documents involved were those which referred to previously recorded documents, usually those which encumbered property. For example, when a mortgage against a parcel is recorded, it recites the legal description of the parcel. When the mortgage is assigned, extended, or satisfied, the document effecting the subsequent action recites only the recorded document number of the mortgage, not the legal description. In order to post such documents to the appropriate parcel in a tract index, someone needs to research the microfilm for each one by document number, a time and resource consuming effort.

The bill attempted to streamline the tracking of these documents. Designed to be as painless to the public as possible, the bill permitted descriptions to be written directly on the document, or, as an alternative, a photocopy of the part of the mortgage or any other document citing the description could be attached. Most lending institutions retain that kind of information as a matter of course.

Originally, Hennepin and Winona Counties were participants in the effort, but since they were not contiguous to each other or to St. Louis County, they were precluded from joining. The bill then became part of Chapter 383C and was referred to the Committee on Local and Urban Government.

Once in committee, both bills were met with considerable opposition. The local bar association opposed both bills. A member of one local law firm inundated the entire local legislative delegation with a letter requesting them to kill the proposals (Letter to Legislative Delegation, 1989).

The fee proposal, he claimed, was an attempt by the County Board to make a segment of the population- -those buying homes, taking out mortgages, etc. - -pay for a capital item (the computer) that should be purchased out of the general fund. He compared it to the Bush Administration's circumventing its reluctance to increase "taxes" by increasing "fees."

The proposal regarding legal descriptions would further burden this same group, he said. Mandatory descriptions would require additional legal work and cost consumers additional legal fees. He intimated that the bill was proposed to compensate for a faulty computer program which would not accept documents without descriptions.

Monacelli countered with a letter of his own. Rather than address just those two specific objections, he defended the bills on the grounds that they were not inconsistent in any way and were part of a project whose overall purpose was that of public service and economic development (Monacelli, 1989).

Eleven counties in the Twin Cities area charged a statutory \$5.00 surcharge on many documents as a conservation fee. People in those counties already paid \$15.00 to record documents. The fee increase proposed by the St. Louis County bill was equivalent to that which already existed elsewhere in the State (Monacelli, 1989).

He stated that the computerized tract index system would indeed accept documents without descriptions, but it was, in fact, governed by them. The Recorder could now reject eighty-eight kinds of documents for lack of descriptions; this bill would simply increase that number by seven. Including descriptions was not the inconvenience that some thought it was. Most preparers of these kinds of documents already had the information at hand (Monacelli, 1989).

He continued with a discussion of public service issues. He disclaimed those who might think that since the department was providing a public service, department staff

should look up descriptions where needed. However, the larger public service was the tract index itself; a major undertaking where 2.5 million documents would be entered at a cost of more than \$1 million. The bills merely asked for assistance from the very people who demand the benefits of the index- -attorneys and real estate people (Monacelli, 1989).

The letter concluded with a reminder that the completed tract index would further the exploration for precious metals; impeding the index would impede the economic development of the area (Monacelli, 1989).

The Committee hearings revealed further objections. Since the computer project was only going to affect abstract property, why was it necessary to include Torrens property in the bill? The matching funds argument did not fly and the \$25.00 Torrens fee was dropped from the bill. The remainder of the bill survived committee scrutiny and moved to the floor where it passed both houses within the context of the St. Louis County bill.

The description requirement suffered an ignominious fate as Monacelli dropped it as a compromise to save the fee increase bill.

But the initial funding was now in place and it was time to begin the nuts and bolts of the project.

V. Writing the Program.

In early 1987 Dewey Albers, of the Albers and Associates consulting firm, began his needs analysis of the computer requirements of the entire county. His study of the Recorder's department focused on two issues. The first was the tract index problem as discussed above. The second was certain bookkeeping and accounting problems within the department.

State Auditor's Concerns.

As part of its annual audit report of all county departments, the State Auditor routinely includes a management practices report. In it the Auditor identifies those practices within departments that, while not illegal or improper, may leave departments vulnerable to problems. For years the State Auditor has identified two such practices within the Recorder's office.

The first had to do with unreceipted funds held within the office. All documents which transfer property or which identify real estate as collateral in mortgages must first be certified by the County Auditor's office for taxes paid. In cases where customers bring documents to the courthouse for recording, they are directed to the Auditor's office

to pay the necessary taxes and obtain the certification. Documents arriving in the Recorder's office by mail are brought to the Auditor once a day by a deputy and picked up anywhere from two to five days later. At this point, the deputy keeps a list of these documents and their accompanying fees, but issues no receipts. Nor do they deposit the fees.

When the documents return from the Auditor, those that are recordable are stamped and sent on to be indexed and microfilmed, receipts are written and the fees deposited. Those that are rejected are returned to the sender with the fees that had originally been enclosed and an explanation of the rejection. On busy days, leftover documents wait to be recorded the next day.

Checks for fees remain attached to documents until they are separated at the time of recording or stamping. At the end of each day, the reception sheet is printed and balanced against the day's cash. The cash is deposited with the County Auditor's cashiers the next day. The State Auditor's complaint has been that fees arriving in the office should be receipted and deposited immediately; that there is no way to know exactly how much money actually is in the Recorder's office at any given time. The Recorder's argument has been that the high rejection rate of documents, an average annual rate of 10 percent, would require excessive and unnecessary depositing of fees and excessive and unnecessary writing of refund checks.

The second accounting issue was that of deposit accounts maintained by regular customers of the office. The statutes permit these customers, usually attorneys and banks, to deposit sums of money into an escrow account in the Recorder's office from which recording fees may be deducted as needed (Minn. Stat. 386.78). These are not "charge" accounts; it is not permissible to "owe" the government money, but rather, they are accounts where the money is already present. The Recorder's office has 44 of these accounts and the monies from them are deposited into a single checking account at a local bank. Individual account status is maintained in hand-posted ledgers which may be up to two weeks behind because of the labor intensive, time consuming method of posting. The bookkeeper may know how much money is in the overall checking account at any time, but may not be able to immediately determine how much is in a specific account. This delay allows the possibility of a specific account temporarily running a negative balance. When the bookkeeper discovers this situation, a phone call or written request is made to the account holder for an additional deposit, which arrives within a few days. No major problems with account holders have occurred because of this, but the State Auditors have deemed the procedure to be much too casual for optimum accountability.

The Recorders' traditional responses to the State Auditor's requests have been, "We're working on it" or "We're looking into a computer program to correct it." And, indeed, they have.

## The Albers Report.

Dewey Albers' first report became available in February of 1988. It included an elementary flowchart and described a login procedure where certain indentifying and accounting information from newly arrived abstract documents would be entered into the system. The system would then track the progress of each document through the Courthouse and also maintain nearly instant balances for each individual deposit account. The State Auditors could be satisfied in a single stroke, the exact amount of money in the department and the exact status of deposit accounts would be known at all times (Albers, Feb. 1988).

A month later, Albers' second report expanded the flow chart and procedure description to include Torrens and UCC functions. It also identified possible hardware and software appropriate for the application and their purchase costs, which he estimated to approach \$100,000 (Albers, March, 1988).

The report suggested a PC based system where many PC's within the department would be networked together. Still mainframe oriented, the report suggested the use of the "ORACLE" database system, which is compatible with the IBM mainframe 4381, so that if the files generated became too large, the information could be transferred to the mainframe (Albers, 1988, 2).

Albers' third report was drafted in March of 1989. It addressed accounting issues in greater detail. It also identified a main menu consisting of six submenus: Systems Control, Accounting, Abstract, Torrens, Chattels (UCC), and a County Recorder's menu for reports. It also suggested a screen for logging-in abstract documents and included a field-by-field description of it (Albers, March, 1989).

For the first time Albers' report discussed the entry of legal descriptions into the system. It offered a sample screen that would accommodate the simplest parts of legal descriptions. It described fields for both proportional and platted (subdivided into lots and blocks) descriptions, and the relational tables necessary to support them. These would be further refined later (Albers, March, 1989).

The project was far enough along so that it could now include a schedule for development and implementation. The schedule identified thirteen "milestones" or steps along the way and an estimated completion date for each. These included the completion of a prototype of the accounting functions by June 30, 1989, a prototype of the remainder of recording functions a month later. Development of components for the 4381 mainframe were to begin in August and the test of the prototypes would be complete by the end of September. Production use of the system would start at the beginning of January, 1990 (Albers, March, 1989).

The final draft of the St. Louis County Office Information System Detailed Design, actually a revision of the third report, was ready in the middle of June. It fine-

tuned the screens, tables, codes and subsystems that would blend and make the system work. The program was ready to be written and implemented (Albers, June, 1989).

Technical progress on the system came to a temporary halt in 1988 as the systems department in the County underwent a radical change.

### Management Information Systems (MIS) Department

Believing that data processing services should be made available to all departments, the new County Administrator, Karl Nollenberger, set out to do just that. He convinced the Board to remove the County DP department, which was IBM oriented, from the Auditor's domain and Social Services DP, which was oriented to Hewlett-Packard, from its domain and combine them into a MIS division within his Department of Administration.

A major turf war ensued.

When the dust began to settle nearly a year later, the MIS division, under the guidance of a director appointed from outside the County, began its assessment of the County's computer needs where the other studies had left off. The County was seven years behind in its systems development and the Recorder could not wait that long.

Once the MIS department was established, Monacelli worked out an agreement with John Salo, the new director, to hire an employee of the MIS department who, under assignment to the Recorder, would write the program using the Albers Report as a guide and to subsequently conduct in-house maintenance of the system.

In April of 1989, Salo hired Clarence Manz, a systems analyst who had considerable experience in the private sector. Manz immediately set to work, meeting and interviewing the staff to learn the background of the department and to analyze procedures as separate entities and in relation to the overall scheme of things.

He spent the rest of the summer refining his analysis and planning the program. To plan for the capacity involved determining the size of the database, tables and functions necessary to support it. He expanded the screens as designed by Dewey Albers and obtained input from key staff people as to where possible flaws might lie. He entered his work into a PC system using the ORACLE database program as suggested by Albers.

By late summer, the MIS department had enough information so that it could investigate the market and determine exactly what kind of hardware and database software to acquire. Monacelli again made it clear that he did not want the Recorder's records to go onto the mainframe. It was imperative that everything recorded on a given day had to be entered on that day. There was no time to wait for the excessive downtime for which the 4381 mainframe was notorious. Manz's capacity plan indicated that a PC network was not the answer; MIS must look for something between the two.

The search led to a system and a program neither of which had been previously considered. MIS determined that the IBM 9370, a mainframe system smaller than the 4381, had the features and the expansion capacity necessary for an organization which can only add files and never delete them. The database program selected was called FOCUS. It was a newer product on the market than ORACLE, but it had features and functions that ORACLE did not.

The PC version of FOCUS was loaded into Manz's existing hardware and he converted his files to it. He and the Chief Deputy began to make the final decisions as to how the screens would look and how the system would work.

There were few problems with the accounting functions of the program. Some cosmetic changes were made- -the number of characters in a field here, the number of lines for a return address there. Otherwise the accounting functions were as good as they could be until the system was tested.

#### Legal Descriptions.

Legal descriptions were another matter. There are many kinds of descriptions and they may describe the same parcels in different ways. The trained human can determine the relationships among them that the computer cannot. Of particular difficulty were government lots and parcels that were parts of larger parcels.

Any discussion of legal descriptions must be preceded by an overview of the Public Land Survey of the western two-thirds of the United States. The Northwest Ordinance of 1787 provided for the survey of all new territories into identifiable parcels so that the U.S. government could sell the land to raise money to support the newly-formed country. These surveys divided the territories into “townships” which were six miles by six miles and were tied into the systems of latitude and longitude that had been developed centuries before. The townships were divided into thirty-six “sections” of 640 acres each, which were further divided into quarters of 160 acres. The quarter-sections were finally divided into “quarters” (forties) of 40 acres each. The logistics of drawing a flat map on a round globe and of maintaining parallel lines where meridians converge required corrective devices to keep the land survey system on track.

These devices were called “government lots.” Since the survey of each township began at the southeast corner and worked north and west from that point, deviations from known meridians and base lines could be detected by the time the surveyors reached the north and west boundaries of the township. The surveyors made necessary corrections in the northernmost and westernmost tiers of forties in each township. These forties usually did not contain a full forty acres and, to distinguish them from regular forties, the Surveyors identified them as government lots. Also, odd-shaped forties that were interrupted by lakes and rivers were so named. Because it contains such a large number of townships, lakes and rivers, St. Louis County contains thousands of government lots that needed consideration.

Of major concern to the Chief Deputy was that the system had to reveal information in the myriad of ways that it could be entered or requested. For example, if a document was entered as the Northwest Quarter of the Southeast Quarter of a section and a researcher requested all documents relative to the Northwest Quarter of the Southeast Quarter of that section, that particular document would appear on the screen with certainty. However, if the researcher requested all documents in the North Half of the Southeast Quarter, a legitimate request, the same document must appear with equal certainty since the quarter-quarter was a part of the larger half-section. The program could be constructed to address proportional problems from lesser to greater and vice versa easily enough, but what about the government lots?

What if the Northeast Quarter of the Southeast Quarter in our example was actually Government Lot 1? In response to a request for the North Half of the Southeast Quarter, the computer would search only the forties, the Northwest of the Southeast and Northeast of the Southeast, and reveal nothing. It would miss the document correctly recorded as Lot 1, and subject the department to liability.

Instructions to users of the system to break down their descriptions to a lowest common denominator before making a request would be acceptable if all users were professionals or if the Recorder restricted access to the system. But these are public records, and the system had to be simple enough for anyone to use with a minimum of assistance. Searching and confirming all descriptions prior to entry into the system would slow the recording process to the point that a major purpose of the project would

be defeated. The system, not the operator, had to be able to identify government lots in whatever context they might appear.

The solution to this problem is the construction of a relational table showing each lot and its corresponding forty. The system would then search the table and reveal government lots in searches where they were not requested but were appropriate nonetheless.

Building the table will be a major project. The data is not easily available. There are no lists anywhere in the County that identify the lots and their corresponding forties. The data will have to be entered directly from copies of the original, pre-1900 survey maps, which are difficult to read. For the first time ever, the completed table will provide both a total number and a comprehensive list of the government lots in the County.

By late 1989, Manz was ready to enter the appropriate tables and start testing the log-in and accounting portions of the program. He was reasonably close to the timetable that Dewey Albers had recommended. However, those controlling other factors of the project were not.

#### VI. Implementing the System.

The first step towards implementation of any system is, of course, to test it. To date, testing has not yet begun. Many delays have occurred, mostly relating to hardware, wiring, loading the program and technical problems encountered along the way. Only two of eleven terminals have been installed and they are not yet fully functional.

When the terminals are operative, the Recorder and Chief Deputy, followed by key staff, will learn the fine points of the system and begin entering test data. To satisfy the Department of Natural Resources, the conduit of the LCMR grant, the staff will enter information from the 3,800 Statements of Severed Mineral Interests and forward the results to St. Paul. When all parties are satisfied, the system will go on line permanently.

#### How the System Will Work.

Because the system was intended to be available to anyone, simplicity was a major requisite of it. Yet, it must be complex enough to be comprehensive. The design of the system will not fundamentally change the sequence of steps in the recording process. It will, however, track each step more thoroughly than ever before. When fully operational, the system will function in the following manner.

A deputy recorder will log all documents, including those that do not need to be sent to the County Auditor, into the system immediately upon their arrival in the office. The log-in screen will display identifying information such as the first grantor, first grantee, date of arrival, sequence of arrival, and the name of the sender. Fees in cash or from a deposit account will be entered and followed by codes regarding the disposition of the document. These codes will indicate if the document has been sent to the Auditor, is ready for recording, or has been rejected. The deputy may generate rejection slips to explain why certain documents cannot be recorded. As documents progress through the

system, the deputy may change the codes as needed to indicate changes in status. The system requires no changes in the recording step, where a deputy stamps document numbers and recording dates.

A major change will occur at the indexing station. Indexers will bring up the logged-in data and make further entries. They will add any remaining grantors, grantees and complete legal descriptions. They will enter quarter-quarter, section, township, range, lot, block and plat name into fields designed to accept the information. Albers and Manz solved the problem of multiple entries as exists in the MCIS system. They designed the fields for grantees, grantors, and descriptions to scroll up, permitting the single entry of each item while again, the system, not the operator, establishes the appropriate relationships among them. Wherever necessary, the indexer will also enter complicated descriptions, word for word, into a scroll up textual field designed for that purpose.

A second indexer, or verifier, will enter the identical information on another terminal. The system will highlight any differences between the entries. The two indexers may then make corrections and eliminate the need for the latter proofreading of a hardcopy or printout of the information. At first glance, this procedure appears to be inordinately redundant. But it is the single most accurate data entry method available. Experience with the MCIS system has shown that comparing information on printouts to information on documents lends itself to overlooked errors at a rate higher than is satisfactory.

The historical record will be entered in much the same manner, except that, since these documents are already recorded, there is no need to log in fees or other accounting data. These indexers will begin their part of the project by entering the documents from the 1930's and backward in time, eventually to 1856, when the County was organized. The Department of Natural Resources, a funding agent of the project, is primarily interested in the decades from 1890 through 1940.

Those documents already posted in the existing tract index books will be entered into the system last. Researchers will find it cumbersome to go from the computer to the books and back to the computer for their information, which they will have to do for several years. But they will find information for a large number of years sooner than if the documents from the most recent forty years was entered into the system before the County's first eighty-six years. Entry of the entire historical record into the system will take an estimated ten to twelve years. At the end of five years, however, researchers should be able to locate information for at least the most recent seventy-five years of real estate history in the County from some medium, either from the computer or from the books.

The new system will vastly improve the retrieval of information over the MCIS system. Retrieval of information one field at a time has been a negative aspect of the system. For example, assuming that the Recorder's staff has entered the entire historical record into the MCIS system, researchers looking for a document from Maki to Johnson,

filed somewhere between 1955 and 1962, can only request Maki as grantor, or Johnson as grantee and receive a large amount of extraneous information about other Makis and other Johnsons. They could also inquire for all documents for each year from 1955 to 1962, which would be truly meaningless, as they would then have to weed through in excess of 120,000 documents.

The new system will accommodate searches of more than one field at a time, allowing researchers to narrow or expand their searches to sizes suitable to their particular needs. They may ask for those documents from Maki to Johnson for the years in question and receive only that. They will not have to deal with every Maki as grantor and every Johnson as grantee. The system, not the operators, will sift extraneous information according to the natures of the requests.

The accounting function of the system will track revenues throughout the department. The system will identify and report itemized fee payments, refunds, underpayments, deductions from deposit accounts, and billings to government agencies in any form desired. All manner of statistical information will be available when needed. Reporting and forecasting will be more reliable than ever before.

The first phase of the system will involve the Torrens department only through the logging-in sequence and reception record. Grantor, grantee, and tract indexes will continue to be posted by hand. Later development of the system will involve the generation and storage of Certificates of Title, which will reduce the need for repetitive typing of the same information, the time consuming verbal comparisons, and further

reduce the relatively small rate of error that now occurs. At this point, the grantor, grantee and tract indexes will be incorporated into the project.

The secret to the success of any project lies in the staff which operates it and training is the secret to the success of any staff. Employees will be trained in many functions of the system and are likely to find themselves responsible for new and varied tasks. Once the system is fully operational and job duties are appropriately designed, tested and assigned, the County Civil Service Department has agreed to re-evaluate the entire department relative to job classification and the salary schedule.

The Recorder staff's initial resistance to change has given way to a mood of positive anticipation. Their jobs are secure; no positions will be lost because of the project. In fact, new jobs will be created as the historical record phase begins. The new system will not be completely foreign to them, as the MCIS system has given everyone some computer experience. Some of the department veterans even remember the Vector experiment. They anticipate considerable turmoil. Day to day operations of the department must continue as the project finally gets under way, but they will not be overwhelmed by it. The department is fortunate to have a staff which takes a positive interest in such a large undertaking.

The foreseeable future holds the certainty of the integration of database technology with laser disk or the newer technology of digitized imaging. Currently, neither laser disk nor digitized imaging produces archival (permanent) images and,

therefore, is unacceptable for agencies which must maintain their records perpetually. When perfected, however, this technology would eliminate the need for microfilm. Data entry and imaging would take place in a single step, as would search and retrieval of information. The Recorder's office is likely to be recording its documents by this method sometime near the turn of the century. The Recorder's Tract Index System has been designed with digitized imaging in mind and will be compatible with it.

## VII. Impacts of the System.

To date, not a single byte of permanent information has been entered into the Recorder's Computerized Tract Index System. Yet it has generated considerable public interest and impacts from it are being felt already. The local abstractors have shown as much anticipation and interest in the system as the Recorder's staff has shown. They have asked many questions and offered valuable input.

Many agencies, public and private, have expressed interest in purchasing access to the system via remote terminals. One company representative has inquired if he should start budgeting for such service now. He was advised to wait. This kind of service has not been ruled out, but it is not likely to be implemented for several years.

One might think that only when the entire historical record is entered would it be useful to invest in a remote service. However, it may not be necessary to wait that long. Title companies are as interested in the documents which were recorded yesterday as they

are in those recorded ninety years ago. More importantly, the department must be completely sure of the system and have entered at least several decades of information before distributing it online to other offices.

Also, the system must be copyrighted before any information can be disseminated. The County Attorney has encouraged that the program and information entered into it be copyrighted before either is distributed to any other agencies. It is important that sufficient remuneration results from the sale of the information. Huge profits from abstracting should not be realized from sources created by public funds. To do so would be a disservice to the public. Copyrighting is a mechanism which will protect the public's investment (Davy, 1989).

The Recorder has agreed, as part of the terms of the grants, which the program be made available to those counties that might be interested. The FOCUS program is particularly adaptable to most types of hardware that other counties may utilize for their own procedures.

#### Current Activities Forum.

In October of 1989, the Recorder's office participated in the Current Activities Forum at the invitation of the Minnesota Minerals Coordinating Committee, the Forum's sponsor. The participants, recipients of funding for minerals related projects, created poster displays illustrating or demonstrating their projects. The Forum was held at

Ironworld in Chisholm and included dozens of displays about all sorts of mineral projects (Appendix).

The majority were geological in nature, from gold exploration to the results obtained from the firings of various kinds of clay. There were also displays about environmental problems such as the disposal of overburden and mine reclamation. The exhibitors were from companies and agencies across Minnesota and Canada.

The DNR Minerals Division presented a computerized comparison of the results of title research of a section of land, relative to that which the Division already knew about its ownership. The section, located in Itasca County, was interesting to many exploration companies because it had produced “good numbers” about the presence of gold. Gene Miller, presenter of the project, had thoroughly researched the section and discovered that the State of Minnesota had far greater interest in the minerals there than anyone had previously known. It was clear that similar information about land in St. Louis County, where most known mineral deposits occur in Minnesota, must be discerned before exploration or development could occur.

The Chief Deputy intended that the Recorder’s poster show how difficult research in St. Louis County can be and what is being done to improve it. She prepared the poster by using a series of photographs and accompanying descriptive statements. The series began with photographs explaining that information in the Recorder’s office is found within hundreds of indexes. The purpose of the indexes is to reveal information about the

microfilm files where researchers can find specific documents which they may read on the microfilm reader-printers. The following segment of the exhibit illustrated that the index books are heavy, often illegible, located in unpleasant surroundings, and incomplete. The series ended with photographs of Clarence Manz, the programmer hired to improve the situation, a deputy entering information into the system (actually, the MCIS system), and another deputy retrieving information from it (Appendix).

The poster generated more interest than expected. Some visitors who had attempted to conduct research in St. Louis County told their colleagues, yes, that's exactly the way it is in Duluth. Others asked a variety of questions. A few shook their heads and wished the Recorder luck.

The Legislative Task Force on Minerals held a hearing during the evening session of the Forum. State Senator Ron Dicklich of Hibbing chaired the Task Force, which also included State Representatives David Battaglia, Mary Murphy and legislators from elsewhere in the state. Four individuals addressed the Task Force- -an environmentalist, a representative of an exploration company, and two officials of the Department of Natural Resources. The latter three each stressed the importance of clearing titles as quickly as possible. The exploration company official was skeptical, however. "Titles are a mess," he said. "And they aren't going to be cleared up in this geological era" (Ulland, 1989).

The Forum also provided for the presentation of papers and discussion of some of the projects exhibited. In a cooperative effort, Gene Miller of the DNR and the Chief Deputy spoke to the group about what a tract index is, why it is important and what St. Louis County is doing with its index. The deputy deliberately omitted the kind and size of the computer. The audience was made up of technical people who would be sure to ask. They did. When the deputy told them that the system was an IBM 9370, she could see people straightening in their seats and paying closer attention. This was not an insignificant PC project on floppy disks, but rather, a serious systems endeavor of major proportions.

#### GIS Projects.

The County Recorder's Tract Index System is not the end of land records computerization in St. Louis County. Most land-related agencies in the County are computerized to some degree, but there is little, if any, integration of the systems.

During the latter months of 1989, a committee met to prioritize the County departments' short term and long term computer goals. The committee was chaired by the County Assessor and included members from MIS, the Land Department, the Auditor's Office, the Highway Department and Surveyor's Office, 9-1-1 Emergency Communications and the Recorder's Office. The committee compiled its findings into a paper which it presented to the County Board.

The committee's actions were preliminary to the exploration of Geo-Information Systems (GIS) or Land Information System (LIS) for the County. These systems use graphics and technologies near the cutting edge of systems development. Early generation GIS systems utilized "layers" of maps to identify all aspects of a parcel of land from land use to topology. Later LIS systems use highly complex databases so that the information contained within may be manipulated to illustrate the consequences of decisions made by policymakers.

One week after the Activities Forum, the Chief Deputy and a representative from the County Assessor's Office attended a Land Records Information Seminar sponsored by the Minnesota Land Surveyors Association. The speakers presented an overview of these kinds of systems, offered ideas for use in one's own jurisdiction and suggested mechanisms for funding the acquisition of such systems. So that visitors could see some technology firsthand, vendors set up exhibits of how their systems functioned and the variety of applications for which they can be used. The vendors did not expect to sell any systems that day. One referred to the event as a "petting zoo".

Impacts that no one has considered are likely to occur as the project progresses. Achieving them will incur costs. However, any comparison of costs to benefits to the County will be positive. Through January 24, 1990, the project has cost \$219,000, of which \$50,000 has been paid and \$80,000 remains to be paid from the DNR grants. The Recorder estimates that the entire project will cost a million dollars. The contribution the

tract index will make on economic development in St. Louis County will more than compensate for the costs.

The Recorder's Office is meeting the needs of the time and the demands of the future. Much work needs to be done throughout the next decade. But the State, the County and the general public may take pride in their support of the project as they begin to enjoy the return on their investment.

## POSTER TITLES

- U.S. Bureau of Mines  
 "Bureau of Mines Research Benefiting the Minnesota Minerals Industry"
- MN Dept. of Natural Resources  
 "State Metallic Minerals Leasing Program"  
 "Preoperational Characterization of Mine Waste: A Necessity for Reclamation Design"  
 "Drill Core Repository: Sampling Project. Progress Report"  
 "Pseudo Geologic Maps Based on Computer Analysis of Geophysical Surveys"
- "Industrial Minerals Quarry/Pit Inventory"  
 "LCMR Glacial Drift Geochemistry for Strategic Minerals: Final Report" (DNR, MGS)  
 "Regional Glacial Drift Drilling Over Archean Terrane" (DNR, MGS)  
 "Mesabi Map Project" (DNR, MN Dept. of Revenue, IRRRB, St. Louis & Itasca counties, RAMS)  
 "Aggregate Mapping: Wright County, MN"  
 "Minnesota's Non-Ferrous Permit Review Project" (DNR, MPCA, Project Environment Foundation, E.K. Lehmann & Assoc.)  
 "Taconite Pellet Production"  
 "Iron Ore Cooperative Research Committee"  
 "Minnesota Minerals Database" (MN Minerals Coordinating Committee)  
 "Minnesota Horticultural Peat Marketing"  
 "Severed Minerals Program"  
 "St. Louis County Tract Index Project" (LCMR, St. Louis County, DNR)  
 "Modeling Gold Economic Impacts"
- Iron Range Resources and Rehabilitation Board  
 "Mineland Reclamation"
- Natural Resources Research Institute  
 "Regional Geochemistry of Minnesota Carbonates" (NRRRI, MGS)  
 "Firing Characteristics of Some Minnesota Clays"  
 "Clay Product Development Research"

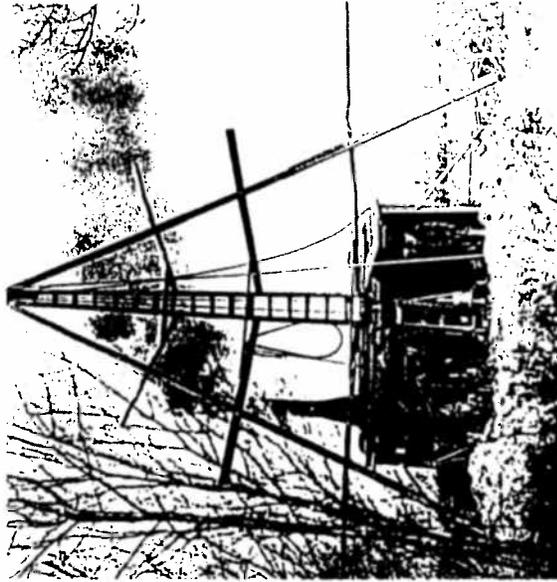
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- Minnesota Geological Survey  
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 "Kaolin Clay Resources, E. Central and S.W. MN"  
 "Graphite Investigation, E. Central MN"  
 "Scientific Drilling and Mapping in the Silver Bay - Finland Area, Lake County, MN"  
 "Progress of Geologic Mapping in the Silver Bay - Finland Area, Lake County, MN"  
 "Aeromagnetic Surveying Program in MN"  
 "New Bouguer Gravity Anomaly Map of MN"  
 "The Geology and Crustal Structure of S.W. MN Using Gravity and Magnetic Data"
- Mineral Resources Research Center  
 "Characterization of Glacial Tills by QEM\*SEM Image Analysis"  
 "Minnesota Minerals Diversification: Basic Research Program"  
 "Characterization of Duluth Gabbro Tails"  
 "PAR TEC Analyser Project"  
 "Ilmenite Project"  
 "Minnesota Clay Project"  
 "Synthetic Aggregates from Sludge Ash"
- Ontario Ministry of Northern Development and Mines  
 "Mining and Advanced Exploration Projects in the N.W. Region of the Province of Ontario" (Mines and Minerals Div., NW Region)

The Minnesota Minerals Coordinating Committee cordially invites you to attend the annual CURRENT ACTIVITIES FORUM scheduled to be held on October 12 and 13, 1989, at IRONWORLD U.S.A. in Chisholm, Minnesota. The purpose of this forum is to offer an opportunity to interested parties from the public and private sectors to view recent and proposed investigations by mineral resource agencies working on the development of Minnesota's mineral potential.

The agencies represented on the Minnesota Minerals Coordinating Committee include the Minerals Division of the Minnesota Department of Natural Resources, the Minnesota Geological Survey, the Natural Resources Research Institute, and the Mineral Resources Research Center. Other agencies participating in the forum include the Iron Range Resources and Rehabilitation Board, United States Bureau of Mines, Minnesota Pollution Control Agency, Range Association of Municipalities and Schools, University of Minnesota, University of Minnesota-Duluth, Minnesota Department of Revenue, Ontario Ministry of Northern Development and Mines, and Minnesota Exploration Association.

Information will be presented in poster format as well as informal presentations. Poster abstracts will be available upon registration, and publications from the various agencies will be on hand for sale.

An agenda of forum activities is presented on the following pages. We request that you fill out the enclosed R.S.V.P. card and return it to us before September 30, 1989. Also included for your information is a list of poster topics and a directory of motels in the area.

## AGENDA

### Thursday, October 12, 1989

10:00 - 11:00 AM Minerals Diversification Project presentations: (Auditorium)

1:30 - 2:30 PM Metallic Mineral Lease Bid Opening - Auditorium (12th Lease Sale)

St. Louis County Tract Index Project  
Cathy Racek, Deputy St. Louis County Recorder - Gene Miller,  
Minnesota Department of Natural Resources

2:30 - 4:30 PM Poster Displays

Non-Ferrous Mining Permit Simulation Project  
Minnesota Department of Natural Resources - Minnesota  
Pollution Control Agency - Project Environment Foundation -  
Mining Industry

### LEGISLATIVE TASK FORCE ON MINERALS

Overburden Drilling  
Dennis Martin, Division of Minerals

6:30 - 6:40 PM Background on Blandin Minerals Forum  
Blandin Foundation

12:00 - 1:30 PM Luncheon (Compliments of MCC)

6:40 - 8:30 PM Task Force Hearing

Welcome & Introduction  
William Brice, Chair, MCC - Director, Division of Minerals  
Speaker  
Hon. James Oberstar

Co-Chairs:  
Senator Ronald Dicklich, Representative Jerome Peterson

1:30 - 3:30 PM Poster Displays

The Legislative Task Force on Minerals will hold a hearing to receive testimony regarding the list of minerals issues that should be considered by the task force prior to the next biennial budget session.

2:00 - 3:30 PM Minerals Diversification Project presentations:

Kaolin Clay Project  
M. S. Prasad, Mineral Resources Research Center  
Geologic Drilling and Mapping Overview  
David Souliwick, Minnesota Geological Survey  
Carbonate Resources in S.E. Minnesota  
Pete Niles, Natural Resources Research Institute  
Leaching of Cuyuna Range Manganese Ore  
John Pahlman, United States Bureau of Mines  
Geochemistry on the Duluth Complex  
Steve Hauck, Natural Resources Research Institute

### Friday, October 13, 1989

9:00 AM - Noon Poster Displays

## Reference List

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- Contos, U.S. Steel Corp et. al. v. Herbst etal. 278 N.W. 2d 732 (MN 1979); rehearing denied March 13, 1979; appeal dismissed October 30, 1979, 100 U.S. Sup Ct.24.
- Davy, Malcolm. 1989. Assistant County Attorney. Copyright Protection for Tract Index Project.
- House File 1222. 1989. Providing for Certain Recorder's Fees.
- - - - - , 1989, Letter Objecting to Recorder's Bills in Legislature.
- Manz, Clarence. 1989. St. Louis County MIS Department. Conversations.
- Minnesota Statutes Chap. 93 et seq. State Owned Lands.
- Minnesota Statutes Chap. 382 et seq. County Recorder.
- Monacelli, Mark. 1987-1989. St. Louis County Recorder. Conversations.
- Orehek, Dennis. 1989. USX Corporation. Conversations.
- St. Louis County Recorder. 1987. Letter to Senator Johnson re Computerized Tract Index in St. Louis County.
- St. Louis County Recorder. 1987. 1988 Budget Request.
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- Senate File 918. 1989. Requiring Certain Documents Filed With the County Recorder to Include a Legal Description.
- Ulland, William. 1989. Newmont Exploration Ltd. Remarks at Current Activities Forum. Chisholm.