

# NEWS

Geological Society of Minnesota

FIRST CLASS



MINNEAPOLIS, MINNESOTA



Mr. and Mrs. R.M. Gunville, Editors  
1110 Gardena Ave.  
Minneapolis, Minn. 55432

RETURN REQUESTED

Dr. + Mrs. Bert Carlson  
3034 46<sup>th</sup> Ave. S.  
Mpls., Minnesota  
55406

March-April, 1972

OFFICERS

PRESIDENT	Paul Vogt	5305 Penn Ave. S., Mpls.	920-3339
V. PRESIDENT	Dr. V. O'Malley	942 Lowry Med. Arts., St. Paul	222-4421
SECRETARY	Ethel Swanson	4944 Girard Ave. N., Mpls.	522-7688
TREASURER	Bernice Tepel	1269 S. Cleveland Ave., St. Paul	699-1793
DIRECTORS	Dr. Harold Harbo	1520 W. 31st St., Mpls.	825-4541
	Sam Mayo	Box 270, Rt. 6, Excelsior	474-4038
	Martha Peterson	3527 Pleasant Ave., Mpls.	825-1147
	Michael Vaclavек	3904 Joppa Ave., Mpls.	926-0185
	Beverly Vogt	5305 Penn Ave. S., Mpls.	920-3339

GEOLOGIC PLAQUES

TABLET INSCRIPTION #22  
Geology of Minnesota

Itasca

The diversified scenery of Minnesota--of which the Itasca Park area is one phase--is due to the location of the state in the approximate center of the continent. Situated midway between the Atlantic and Pacific Oceans, Hudson Bay, and the Gulf of Mexico, the state has within its boundaries three principal divides in the watersheds of North America. Minnesota lacks the rugged topography and high elevations found in most continental divides. Its highest elevation, 2300 feet on the Mesabi Range, is in close proximity to its lowest, the surface of Lake Superior, 602 feet above the sea.

The general surface of the state slopes from the north central portion near Itasca Park, in four directions toward its distant and opposite corners.

The 10,000 lakes of Minnesota cover 5600 square miles, an average of 1 square mile of water for every 15 of land. This unprecedented supply of water, which has a surface exceeding the water area of any other state, finds its way to the ocean through Hudson Bay, the Great Lakes and the Gulf of Mexico.

Location: Main road through park, near Peace Pipe Springs.  
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TABLET INSCRIPTION #23  
Geology of Minnesota

Brainerd Region

Toward the close of the Wisconsin Stage of glaciation about 12,000 years ago, the waning lobe of the ice sheet in the Brainerd area retreated westward, leaving in its wake many stagnant ice blocks which had become separated from the main ice field. Water flowing from the surface of the receding ice deposited sand and gravel around and over these severed parts of the glacier and formed an outwash plain studded with huge blocks of partly buried, motionless ice.

On melting, the detached blocks--some of which were miles in extent and scores of feet thick--left permanent, water-filled depressions in the gravel plain. The lakes so formed, including those portrayed on this tablet, do not follow the original shape of the ice blocks but are commonly round or elliptical due to subsequent shoreline changes.

Location: Highway 371, eight miles NW of Brainerd at the end of Long Lake.  
\* \* \* \* \*

WELCOME New Members

The GSM would like to extend a warm welcome to its newest members. They are:

Ann Jaworski  
3228 Girard Ave. S.  
Mpls., 55408 (827-3216)

Irene Jaworski  
3228 Girard Ave. S.  
Mpls., 55408 (827-3216)

Dorothy Longfellow  
6550 E. River Rd., Apt. 321  
Fridley, 55432 (561-0491)

William L. Severson  
1921 N. Broadway  
Stillwater, 55082 (439-2202)  
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ROCK COLLECTION RECEIVED

Mrs. Mary Mayotte has offered to the GSM a fine collection of rocks that she owns. The Society is pleased to accept them, and extends to her its appreciation

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## Spring Scene

SPRING BANQUET PLANNED

We are all looking forward to the annual Spring Banquet on Monday, April 24. Again this year it will be held at the First Christian Church, 2201 First Avenue South (one block east of Nicollet and one block south of Franklin).

The social hour will begin at 5:30 p.m. with the dinner scheduled for 6:30 p.m. Cost will be \$4.00 per person. Come prepared for fun, some reminiscing about old times, a little group singing, and more surprises. An interesting program is being planned.

Reservations should be made by April 15.

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GSM SPRING BANQUET  
REGISTRATION

First Christian Church  
2201 First Avenue South  
April 24, 1972

I wish to make \_\_\_\_\_ reservations at \$4.00 a person.

Name \_\_\_\_\_

Address \_\_\_\_\_

Guests \_\_\_\_\_

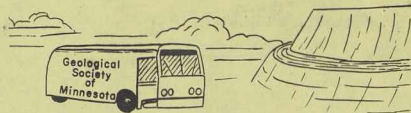
Check enclosed \_\_\_\_\_

I will pay at the door \_\_\_\_\_  
(all tickets picked up at the door)

Mail by April 15 to:  
Ethel Swanson  
4944 Girard Ave. N.  
Minneapolis, Minn. 55430

1972

FIELD TRIPS  
ANNOUNCED



Field trips for this summer will include a wide variety of plans. The Field Trip Committee has announced the following trips:

June 4 Led by Elmer Brown  
City of Minneapolis bus trip to study rocks used as building stones--picnic lunch.

June 14-18 Led by Richard Bartels  
Geology of the Black Hills--camping and motel accommodations.

July 8-9 Led by Dr. Gerald Webers  
North Shore and related Northern Minnesota Precambrian and Pleistocene geology.

July 23 Led by Dr. Webers  
Minnesota Paleozoic sediments

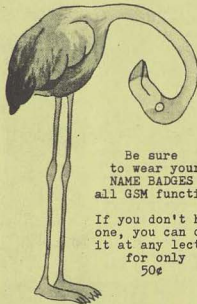
July 30 Led by Dr. Webers  
Minnesota Paleozoic sediments (cont.)

The Field Trip Committee needs to know approximately how many people might be attending these trips, in order to formulate plans. They expect to use automobile transportation, but would consider a bus for the North Shore trip if enough people indicate interest.

Sign-up sheets are being posted at the regular meetings. If you think you can attend any of the trips, please put your name down. This does not obligate you, but will help the committee. Also, state whether you will be driving (and how many extra passengers you can take) or whether you need a ride. Do this for the North Shore trip also, but if you might prefer to go by bus, please indicate this.

If you cannot sign up at the meetings, mail your preliminary registration to Mrs. Beverly Vogt, 5305 Penn Ave. S., Mpls. 55419.

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Be sure  
to wear your  
NAME BADGES to  
all GSM functions.

If you don't have  
one, you can order  
it at any lecture  
for only  
50¢

". . . One is constantly reminded of the infinite lavishness and fertility of Nature--inexhaustible abundance amid what seems enormous waste. And yet when we look into any of her operations that lie within reach of our minds, we learn that no particle of her material is wasted or worn out. It is eternally flowing from use to use, beauty to yet higher beauty."

John Muir

Summer 1972

## President's Letter

As this year's lecture series draws to a close, it is my evaluation that we have had an excellent series of presentations on physical and historical geology; also, the laboratories associated with each have been good.

Our Spring Banquet will be held shortly, when I hope we will have an opportunity to review our lecture series -- and look forward to our field trips!

The Program Committee is already developing an excellent set of lectures to begin next fall, immediately after our Annual Meeting.

The Society has, I feel, responded well by the interest which has been shown by the general membership at our programs. And we owe special recognition to a good number of our members who have taken on the task of seeing that these programs are provided. Volunteers have not always been willing to come forward; and my plea now is that we should each commit ourselves, not only to the educational and hobby interests we have, but to a little bit of the work it takes to make these programs and activities available to us.

In particular, I am looking for volunteers for our "coffee and donuts" at our lectures and labs, and for manning our booth at the State Fair. Also, I am asking everyone to assist in the continued recruitment of new members and in making our community aware of the kind and depth of programs which are available through our Society.

The ability of our Society to improve and to continue its promotion of "interest in geology and earth science" is based on the strength of its total membership -- and herein lies our major asset!

Paul J. Vogt, President

### AN APPEAL TO MEMBERS

Members, old and not so old, we need your help on a new project. In connection with the field trip season now approaching, we want to tell people how great field trips really are.

The best source for information on these is you. Some of you have been members for 20 or 30 years, and surely have many memories of field trips.

We would like to have you pick out the more memorable or interesting trips or incidents, and write about them. We would like to consider them for printing in the Newsletter from time to time, as space permits. Articles should be limited to 300 words. Or supply us with the facts and we'll write the story.

Let us hear from you! Give your information to Bob and Marcia Gunville, 1110 Gardena Ave., Mpls. 55432, or to Ethel Shimek, 2745 Colfax Ave. S., Mpls. 55408.

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## THE NEW RIVER

condensed from National Parks Magazine, August, 1971

Known to geologists as the Teays River, it had its origin millions of years ago in the ancestral Appalachian Mountains. More than a thousand miles long, it extended from North Carolina northwest to Illinois, then southward toward St. Louis to enter the northern end of the Gulf of Mexico, which extended up the present Mississippi Valley as far as southern Illinois.

The Appalachian Mountains then were much higher and the Teays River helped grind them down. At that time the sea was near, and the river flowed through low lands. Gradually, the uplift of the Blue Ridge plateau began, and the river kept flowing and cutting deeper into the rising ground. Hence, the deep canyons today, with its winding course and steeply rising walls, which marks the extent of the river's erosion since the uplift.

The amount of sediment the Teays River carried in its earlier history was tremendous. The sea was gradually filled with sediment until it extended to the great delta that juts into the Gulf, far below New Orleans. The greater bulk of the delta was built by the Teays; only the latter portion was added by the Mississippi.

(Southern Illinois marked the greatest advance of the great glacier that moved down out of Canada during the Ice Age.) When the glacier blocked the flow of the Teays, it established a new course which today is part of the Ohio River. The great glacier completely changed the face of the land over which it moved, but the New River portion of the Teays system still remains, although filled with debris.

contributed by I.J. Dahlstrom

## PROF. RAPP GETS FULBRIGHT GRANT

GSM members attending last year's Spring Banquet remember the interesting slide talk on archaeological work in Greece, presented by Prof. George Rapp, associate chairman of the Department of Geology and Geophysics at the University of Minnesota.

Dr. Rapp will be continuing his investigations with the aid of a Fulbright grant. He hopes to determine changes in sea level in the eastern Mediterranean in the last 6,000 years and to trace the origin of copper and tin materials of the bronze age.

The Greek Oceanographic Institute added \$3,000 to Rapp's Fulbright grant of \$7,300 for the 1972-73 academic year.

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Life

*Life is no brief candle to me. It is a sort of splendid torch that I have got hold of for the moment.—George Bernard Shaw*

# news Highlights

The Board set the date of the Annual Picnic for August 8.

The Public Information Committee has reserved space for display booths at the Minn. Mineral Club show April 8-9, and at the Minn. State Fair. People are needed to staff these booths, and to work on the Public Information Committee. Contact Ethel Shimek, 823-0169, if you might be able to help.

Assistance also is requested for the summer field trips, to help with such details as telephoning, collecting money, etc. Please call Beverly Vogt, 920-3339.

The 1972 Roster is now being printed, and will be available for distribution at the Spring Banquet.

The professional meetings of the American Geological Society will be held in Minneapolis November 11-15, 1972. The GSM has offered assistance for these meetings in any way we might be helpful.

The Board has authorized \$20 to the Education Committee for duplication of slides from the University's collection, as the beginning of a resource slide library. These slides will be available for all GSM members' use, and will be especially valuable to the Education Committee for its school talks. If you have any extra or duplicate slides of geologic interest, the Committee would appreciate your donations to their collection.

The GSM will receive publicity at the St. Louis Park Community Activities Fair April 8-9. Marcia Gunville and Alice Nelson are setting up a nature and ecology display as part of a joint Girl Scout-Camp Fire Girls leader training program at the Fair, and will use GSM materials as part of their exhibit.

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## HOPPE PROPERTY TO BECOME COUNTY PARK AND NATURE AREA

Long-time members of the GSM will remember picnics at the Lake Minnetonka home of Lora Norenberg Hoppe, a Society member for many years. This 80-acre property will now become a public garden and park.

Mrs Hoppe, who died January 12, provided in her will that about 30 acres, with frontage on Crystal Bay and Maxwell Bay, will be given to the Hennepin County Park Reserve District for use as an arboretum and garden display area (not boating, camping or picnicking). The remaining 50 acres will be preserved in a natural state, and will be given to the Nature Conservancy a non-profit organization dedicated to preserving natural areas for public use.

Mrs. Hoppe also provided other assets, primarily stocks and bonds worth approximately \$500,000, for perpetual maintenance of the county park area. The value of the donated land is estimated at \$750,000.

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## MRS. FRITTER DIES

The GSM has just received word that Mrs. E.G. Fritter, a former member, died July 15 after a long illness. Mrs. Fritter had a wide-ranging interest in the sciences, and had been active in the Society for many years. She is remembered by a number of our members. \*\*\*\*\*

TABLET INSCRIPTION #13

Geology of Minnesota

BATTLE CREEK PARK  
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The white friable sandstone which forms the walls of this ravine was deposited in Ordovician seas 400 million years ago. Named after the St. Peter River, now called the Minnesota, it is known as the St. Peter Sandstone.

Locally the St. Peter Sandstone is 160 ft. thick. It is composed of sand grains which are pitted or frosted, the result of a wind blown history as beach sand before it was submerged. It is nearly 99 % pure silica or quartz, valuable raw material for glass manufacture and foundry purposes. Because of its uniform fine texture it is practically impermeable to water and its friable nature easy to dig. The St. Peter has been used to excavate an extensive system of tunnels for water, sewer and communication purposes.

Extending from Minnesota to Texas and from Ohio to the Rocky Mountains, it is one of the most widely distributed formations in North America.

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TABLET INSCRIPTION #15

RIVER ROOM MURAL  
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After the Dayton store was built between Wabasha, Minnesota, Sixth and Seventh Streets, the former Schuneman store at Sixth and Wabasha Streets was razed, at which time the mural, entitled, "Origin of the Rivers", in the River Room was destroyed.

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TABLET INSCRIPTION #14

Geology of Minnesota

MINNEHAHA FALLS  
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Near Fort Snelling, 10,000 years ago, melt water from the Wisconsin Glacier was discharged through the Mississippi River and plunged over a ledge of Platteville limestone into a gorge cut chiefly in the white St. Peter sandstone. The undercutting action in the soft sandstone caused the limestone ledge to break off with a vertical face, thus maintaining the Falls, while causing them to retreat upstream. When the falls in the main channel passed the upper end of the island where the soldiers' home now stands the entire flow in the river was diverted to the main gorge and the falls in the west channel were abandoned. This unique and unusual geological feature, an abandoned waterfall is located at the north end of the former west channel which lies 200 ft. east of this tablet.

The cataract in the Mississippi has migrated to St. Anthony Falls and Minnehaha has retreated from the abandoned channel to its present location where the undercutting action responsible for the migration is apparent.

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1971 MIDWEST FEDERATION FROLIC  
GEM AND MINERAL SHOW  
JULY 22-25, Richland County Fairgrounds  
Mansfield, Ohio.  
Educational Exhibits  
Competitive Exhibits  
Demonstrations  
Field Trip Information.  
Chmn.-B.F.Parr, 1488 Marion Ave. Rd.  
Mansfield, Ohio 44906  
JULY 11 - FIELD TRIP, Pine Co. Gem Society  
Depart from Sandstone School, Sandstone,  
Mn. at 9:00 AM.

THE MESABI ROCK AND MINERAL CLUB WELCOMES  
YOU TO JOIN THEM ON THEIR SECOND ANNUAL  
RANGE TRAIL-ALONG, JULY 27 thru Aug. 1.  
Major rock-bound activities will include  
Tues., July 27, Wed., July 28, Thurs., July  
29, car caravan field trips to rock-hunting  
grounds within a 75-mile radius of the  
Trail-Along headquarters in Hibbing. Quartz,  
agates, jasper, binghamite, silkstone,  
thomsonite, hematite, magnetite, taconite,  
Ely greenstone, goethite, basalt, gabbro,  
can be found in this area. For more info:  
write, Hibbing Chamber of Commerce,  
P.O.Box 727, Hibbing, Minn. 55746.



ARTICLES OF INCORPORATION  
GEOLOGICAL SOCIETY OF MINNESOTA

ARTICLE 1.

THE NAME OF THIS CORPORATION SHALL BE GEOLOGICAL SOCIETY OF MINNESOTA. THE GENERAL NATURE OF ITS BUSINESS SHALL BE TO PROMOTE INTEREST IN THE STUDY OF GEOLOGY WITH SPECIAL REFERENCE TO THE GEOLOGY OF MINNESOTA. ITS PLAN OF OPERATION IS AS FOLLOWS: TO ARRANGE LECTURES ON THE SUBJECT OF GEOLOGY; TO CONDUCT FIELD TRIPS IN THE STUDY OF GEOLOGY; TO ACCUMULATE AND PUBLISH DATA ON GEOLOGY; TO CONTRIBUTE OR ACQUIRE MODELS, MAPS, BOOKS, AND SPECIMENS OF INTEREST TO GEOLOGY STUDENTS; AND TO ACCEPT GIFTS OF MONEY OR PROPERTY. THE PRINCIPAL PLACE OF TRANSACTING THE BUSINESS OF THIS CORPORATION SHALL BE IN THE CITY OF MINNEAPOLIS, COUNTY OF HENNEPIN, STATE OF MINNESOTA.

ARTICLE 2.

THE TIME FOR THE COMMENCEMENT OF THIS CORPORATION SHALL BE OCTOBER 30, 1939, AND THE PERIOD OF ITS DURATION SHALL BE PERPETUAL.

ARTICLE 3.

THE NAMES AND PLACES OF RESIDENCE OF THE PERSONS FORMING THIS CORPORATION ARE:

EDWARD P. BURCH, 1723 JAMES AVENUE SOUTH, MINNEAPOLIS, MINNESOTA  
JUNIOR P. HARBER, 2304 HARRIET AVENUE SOUTH, MINNEAPOLIS, MINNESOTA  
CHARLES M. PRESTON, 610 PLYMOUTH BUILDING, MINNEAPOLIS, MINNESOTA

ARTICLE 4.

THE MANAGEMENT OF THIS CORPORATION SHALL BE VESTED IN A BOARD OF NINE DIRECTORS, EACH ELECTED FOR A TWO-YEAR TERM, FOUR IN EVEN-NUMBERED YEARS AND FIVE IN ODD-NUMBERED YEARS. DIRECTORS SHALL BE ELECTED AT THE ANNUAL MEETING AT TIME AND PLACE FIXED IN THE BYLAWS AND SHALL SERVE UNTIL THEIR SUCCESSORS ARE ELECTED AND QUALIFY. THE DIRECTORS SHALL MEET AND ELECT A PRESIDENT, VICE PRESIDENT, SECRETARY AND TREASURER TO SERVE DURING THE PLEASURE OF THE BOARD.

ARTICLE 5.

MEMBERS SHALL CONSIST OF THOSE WHO HAVE PAID CURRENT DUES AS FIXED IN THE BYLAWS. THE CORPORATION SHALL HAVE NO CAPITAL STOCK. THE CORPORATION DOES NOT AFFORD PECUNIARY GAIN INCIDENTALLY OR OTHERWISE TO ITS MEMBERS. THE MEMBERS SHALL NOT BE PERSONALLY LIABLE FOR CORPORATE OBLIGATIONS.

ARTICLE 6.

THE HIGHEST AMOUNT OF INDEBTEDNESS OR LIABILITY TO WHICH THIS ASSOCIATION SHALL BE AT ANY TIME SUBJECT SHALL BE \$5,000.

ARTICLE 7.

THE PRINCIPAL OFFICE OF THE SOCIETY SHALL BE IN THE CITY OF MINNEAPOLIS, HENNEPIN COUNTY, MINNESOTA.

ARTICLE 8.

NO PART OF THE NET EARNINGS OF THE SOCIETY SHALL INURE TO THE BENEFIT OF, OR BE DISTRIBUTABLE TO, ITS MEMBERS, DIRECTORS, OFFICERS, OR OTHER PRIVATE PERSONS, EXCEPT THAT THE SOCIETY SHALL BE AUTHORIZED AND EMPowered TO PAY REASONABLE COMPENSATION FOR SERVICES RENDERED AND TO MAKE PAYMENTS AND DISTRIBUTIONS IN FURTHERANCE OF THE PURPOSES SET FORTH IN ARTICLE ONE HEREOF. NO SUBSTANTIAL PART OF THE ACTIVITIES OF THE SOCIETY SHALL BE IN THE CARRYING ON OF PROPAGANDA, OR OTHERWISE ATTEMPTING, TO INFLUENCE LEGISLATION, AND THE SOCIETY SHALL NOT PARTICIPATE IN, OR INTERFERE IN (INCLUDING THE PUBLISHING OR DISTRIBUTION OF STATEMENTS) ANY POLITICAL CAMPAIGN ON BEHALF OF ANY CANDIDATE FOR PUBLIC OFFICE. NOTWITHSTANDING ANY OTHER PROVISION IN THESE ARTICLES, THE SOCIETY SHALL NOT CARRY ON ANY OTHER ACTIVITIES NOT PERMITTED TO BE CARRIED ON (A) BY A CORPORATION EXEMPT FROM FEDERAL INCOME TAX UNDER SECTION 501(c)(10) OF THE INTERNAL REVENUE CODE OF 1954 [OR THE CORRESPONDING PROVISION OF ANY FUTURE UNITED STATES INTERNAL REVENUE LAW] OR (B) BY A CORPORATION, CONTRIBUTIONS TO WHICH ARE DEDUCTIBLE UNDER SECTION 170(c)(2) OF THE INTERNAL REVENUE CODE OF 1954 [OR THE CORRESPONDING PROVISION OF ANY FUTURE UNITED STATES INTERNAL REVENUE LAW].

ARTICLE 9.

UPON THE DISSOLUTION OF THE SOCIETY, THE BOARD OF DIRECTORS SHALL, AFTER PAYING OR MAKING PROVISION FOR THE PAYMENT OF ALL OF THE LIABILITIES OF THE SOCIETY, DIVIDE OR ALL OF THE ASSETS OF THE SOCIETY EXCLUSIVELY FOR THE PURPOSES OF THE SOCIETY IN SUCH MANNER, OR TO SUCH ORGANIZATION OR ORGANIZATIONS ORGANIZED AND OPERATED EXCLUSIVELY FOR CHARITABLE, EDUCATIONAL, RELIGIOUS, OR SCIENTIFIC PURPOSES AS SHALL AT THE TIME QUALIFY AS AN EXEMPT ORGANIZATION OR ORGANIZATIONS UNDER SECTION 501(c)(13) OF THE INTERNAL REVENUE CODE OF 1954 [OR THE CORRESPONDING PROVISION OF ANY FUTURE UNITED STATES INTERNAL REVENUE LAW], AS THE BOARD OF DIRECTORS SHALL DETERMINE. ANY OF SUCH ASSETS NOT SO DISPOSED OF SHALL BE DISPOSED OF BY THE DISTRICT COURT OF THE COUNTY IN WHICH THE PRINCIPAL OFFICE OF THE SOCIETY IS THEN LOCATED, EXCLUSIVELY FOR SUCH PURPOSES OR TO SUCH ORGANIZATION OR ORGANIZATIONS, AS SAID COURT SHALL DETERMINE, WHICH ARE ORGANIZED AND OPERATED EXCLUSIVELY FOR SUCH PURPOSES.

IN TESTIMONY WHEREOF, WE HAVE HERETO SET OUR HANDS AND SEALS THIS 17TH DAY OF OCTOBER, 1939.

IN THE PRESENCE OF

D. P. JESSON  
LEIGH C. HARRISON

EDWARD P. BURCH  
JUNIOR P. HARBER  
CHARLES M. PRESTON

DATE OF INCORPORATION: OCTOBER 17, 1939  
AMENDED: APRIL 26, 1971