DMA Form 1

DEFENSE MINERALS ADMINISTRATION
Control Slip

CONTROLLED DOCUMENT

DMA Docket No. 3802

DO NOT DETACH THIS SLIP

Action on this document is recorded and controlled in Reports and Records Branch. Any movement of this document between divisions or offices of DMA or movement outside DMA must be reported to the Reports and Records Branch. Actions taken that affect status of the case must also be reported.
Cys to USBM and USGS.
This document has been recorded as

Exploration

Any action taken to change the type of request for assistance must be promptly reported to the Reports and Records Branch. Use DMA Form 2 for submitting these reports.

Routing Slip

To:	600	Date	5/5/55
To:	Hopkins	Date	5/13/55
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DO NOT DETACH

CONTROLLED DOCUMENT

DOCKET FILE
Surname:

Hopkins
Houk

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D.C. 600

NOV 29 1955

Lake of the Woods Mining Company
6413 Cambridge Street
Minneapolis 16, Minnesota

Re: Docket No. DMEA-3802 - Beryl, Mica and Columbium
Lake of the Woods Mining Company
Feldspar Mine
Lake of the Woods County, Minnesota

Gentlemen:

Reference is made to our letters of May 18, August 12 and October 17, 1955, requesting additional information to process your application.

Inasmuch as no reply to these requests has been received from you we assume you are no longer interested in securing Government assistance for an exploration project on your property. Therefore, we have removed your application from our active file and the matter is now considered closed.

We thank you for your interest in the Defense Minerals Program.

Sincerely yours,

C. O. Ritterbush (for)

Administrator

JHopkins:ad 11/28/55
Copy to: Admr. R. File
Docket
~~Operating Exploration~~
Field Team, Region V
Mr. Kiilsgaard, 5222
Mr. Dietrich, 3061
Mr. Houk
Mr. Hopkins

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C. 600

November 28, 1955

Memorandum

To: Robert E. Adams, Chief, Operations Control and Statistics Division

From: Nonmetallic Minerals Division

Subject: Removal of application from active file

Docket No. DMEA-3802 - Beryl, Mica and Columbium
Lake of the Woods Mining Company
Feldspar Mine
Lake of the Woods County, Minnesota

This Division has been unable by repeated requests to obtain additional information from the applicants to process the subject application. Therefore, we assume that they no longer desire to proceed with it.

We are removing the application from the active file and now consider the matter closed.

James Hopkins
Nonmetallic Minerals Division

Docket Copy
Surname:

Hopk
FLKnouse

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C. 600

OCT 14 1955

Lake of the Woods Mining Company
6413 Cambridge Street
Minneapolis 16, Minnesota

Re: Docket No. DMEA-3802 - Beryl,
Mica and Columbium
Lake of the Woods Mining Company
Feldspar Mine
Lake of the Woods County, Minnesota

Gentlemen:

Reference is made to our letters of May 18 and August 12, 1955, requesting additional information to process your application. To date we have not received a reply to these letters and we assume you no longer desire to proceed with the application.

We wish to cooperate with you in allowing ample time to submit this information but if the needed data have not been received by November 17, 1955, we will then remove the application from the active file and consider the matter closed.

Sincerely yours,

Frank E. Johnson

Acting Administrator

JHopkins:FLKnouse:gad 10/14/55
Copy to: Admr. R. File
Docket
Field Team, Region V
Mr. Kiilsgaard, 5222
Mr. Dietrich, 3061
Mr. Houk
Mr. Hopkins

R.C.S.

Docket Copy
Surname:

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C. 600

AUG 12 1955

Lake of the Woods Mining Company
6413 Cambridge Street
Minneapolis 16, Minnesota

Re: Docket No. DMEA-3802 - Beryl,
Mica and Columbium
Lake of the Woods Mining Company
Feldspar Mine
Lake of the Woods County, Minnesota

Gentlemen:

Reference is made to our letter, dated May 18, 1955, requesting additional information required to process your application. To date, no reply to that letter has been received.

Upon receipt of the requested information we will continue processing your application.

Sincerely yours,

Frederick L. Knouse, Acting Chief
Nonmetallic Minerals Division

JHopkins:FLKnouse:gad 8/12/55
Copy to: Admr. R. File
Docket
Field Team, Region V
Mr. Reno, 3641A
Mr. Kiilsgaard, 5222
Mr. Houk
Mr. Hopkins

DOCKET FILE
Surname:

Hopkins
Houk
Mittendorf

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
WASHINGTON 25, D. C.

600

MAY 18 1955

Lake of the Woods Mining Company
6413 Cambridge Street
Minneapolis 16, Minnesota

Re: Docket No. DMEA-3802 - Beryl,
Mica and Columbium
Lake of the Woods Mining Company
Feldspar Mine
Lake of the Woods County, Minnesota

Gentlemen:

Reference is made to your application for exploration assistance for beryl, mica and columbium. You have omitted replies to items 5(b) and 5(d). Please send us a full description of the proposed work and costs for each unit. Under item 5(d) include information relating to your ability to supervise the exploration work or the names and mining background of the person or persons who will supervise the operations.

Under item 4(c) you state that, "Drilling in the immediate area disclosed further deposits of beryl." Please enlarge on this statement and submit whatever details you have on the extent of the deposits, the estimated beryl content, by whom the drilling was performed and their location in relation to the proposed work.

Upon receipt of the above requested information we will continue processing your application.

Sincerely yours,

SIGNED

Lawrence G. Houk, Chief
Nonmetallic Minerals Division

JHopkins:ad 5/18/55
Copy to: Admr. R. File
Docket
Field Team, Region V
Mr. Kiilsgaard, 5222
Mr. Reno, 3641A
Mr. Houk

R.C.L.

IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

Defense Minerals Administration
RECEIVED
MAY 12 1955

May 10, 1955

Re: DMEA-3802
Lake of the Woods
Mining Company
Lake of the Woods
County, Minn.
$99,350
Beryl-Columbium-Mica

Memorandum

To: L. G. Houk, Defense Minerals Exploration Administration

From: N. E. Nelson, U. S. Geological Survey

Subject: Review of application

This application concerns a property of which no information has been found. Neither does the area appear to have been written up, but it is one underlain by pre-Cambrian rocks in which mica and beryl bearing pegmatites could be expected.

The property probably is Minnesota's lone contributor to past feldspar production and no specific statistics concerning the output are listed in the Mineral Year Books.

The production of mica and beryl given does not indicate a mica-beryl-columbite mine, but those minerals may have been discarded. A mica-beryl count in the quarry and of the large pegmatite outcrops, by a Field Team, is needed and here recommended.

N. E. Nelson

N. E. Nelson

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF MINES
WASHINGTON 25, D. C.

May 6, 1955

Memorandum

To: L. G. Houk, Director, Non-Metallic Minerals Division, DMEA

From: Commodity-Industry Analyst, Branch of Rare and Precious Metals

Subject: Application for Exploration Aid, DMEA Docket No. 3802 (Beryl, Columbium)

Subject application does not contain answers to items 5b and 5d. It should, therefore, be returned to the applicant for completion.

Horace T. Reno

Horace T. Reno

Lake of the Woods Mining Company
6413 Cambridge St.
Minneapolis 16, Minnesota

May 5, 1955
Subject: DMEA 3802
Re: Exploration Assistance
Feldspar Mine

Gentlemen:

The receipt of your application dated April 26, 1955 for exploration assistance under the Defense Production Act of 1950, as amended, is hereby acknowledged.

Your application has been assigned Docket Number DMEA 3802 and referred to the Nonmetallic Minerals Division.

Kindly identify all future correspondence relating to your application by this docket number.

Sincerely yours,

Robert E. Adams, Chief
Operations Control and
Statistics Division

4(c) "Drilling in the immediate vicinity disclosed further deposits of beryl" please enlarge on this status

$\frac{3}{4}$ = 1 ton

75 : 1 :: x

$\frac{133}{13}$

00932

May 5, 1955

Memorandum

To: Executive Officer, DMEA Field Team, Region V

From: Chief, Operation's Control and Statistics Division

Subject: Assignment of Docket Number

There is listed below the assigned docket number to an application recently received from Region V.

DMEA -3802 Lake of the Woods Mining Company

Robert E. Adams,
Chief, Operation's Control
and Statistics Division

UNITED STATES
DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION
~~WASHINGTON 25, D.C.~~
Region V
2908 Colfax Avenue South
Minneapolis 8, Minnesota

DEPARTMENT OF THE INTERIOR
Defense Minerals Administration
RECEIVED
MAY 4 - 1955

May 2, 1955

Memorandum

To: Operating Committee, Defense Minerals Exploration Administration, Washington, D. C.

From: Superintendent, North Central Experiment Station, Minneapolis

Subject: Application - Lake of the Woods Mining Company, Minneapolis, Minn.

Pursuant to instructions from the Executive Officer of Region V that of applications sent directly to the field office three copies be sent immediately to the Operating Committee, and the fourth to him at Knoxville, here are the original and two copies of an application just received from the Lake of the Woods Mining Company, 6413 Cambridge St., Minneapolis, Minn., for proposed exploration of a feldspar mine in northwestern Minnesota.

A. B. NEEDHAM

Attachments

cc E. P. Shoub, Pgh.
P. T. Allsman, CP
R. Laurence, Knoxville

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Form Approved.
Budget Bureau No. 42-R1035.2.

APPLICATION FOR AID IN AN EXPLORATION PROJECT, PURSUANT TO DMEA ORDER 1, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

Not to be filled in by applicant

Docket No. 3802
Metal or Mineral Beryl, Columbium, Mica, etc.
Date Received 5-4-55
Estimated Cost $99,350
Participation (Government %)

Defense Minerals Administration
RECEIVED
MAY 4 - 1955

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: Lake of the Woods Mining Company, 6413 Cambridge St., Minneapolis 16, Minnesota
Partnership: Lyndon L. Dean, 2122 Penn Ave. So., Minneapolis 5, Minn.
Edward H. Arnold, 8452 Humboldt Ave. So., Minneapolis 20, Minn

(*b*) If other than an individual, add to your name above whether a corporation, partnership, etc., and the name of the State in which incorporated or otherwise organized.

(*c*) If a corporation, add to above statement, titles, names and addresses of officers.

(*d*) If a partnership, add to the above statement the names and addresses of all partners.

2. *General.*—Read DMEA Order 1, "Government Aid in Defense Exploration Projects," before completing this application. Submit this application and all accompanying papers in quadruplicate (four copies), with your name and address on each sheet of the application and on all accompanying papers. Where sufficient space is not provided on the form for all required information, state it on an accompanying paper, with a reference in each case to the instruction to which it refers by number. Comply with all applicable instructions; or, if not applicable, so state. File the application with Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest field executive officer thereof.

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract Proposed exploration - NW¼-SE¼, Sec. 6, T. 167 N., R. 33 W., Lake of the Woods County, Minnesota. May be benefited - SW¼-NE¼ and SW¼-SE¼, Sec. 6 and NW¼-NE¼, Sec. 7, all in Township 167 North, Range 33 West, Lake of the Woods County, Minnesota

(*b*) State any mine name by which the property is known. Feldspar Mine

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise Exploration permit from State of Minnesota (Iron ore permit includes all minerals)

(*d*) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property. Attached permit issued to Dean Contracting Co. has been transferred to Lake of the Woods Mining Company.

(*e*) If you own the land, describe any liens or encumbrances on it

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice.

4. *Physical description.*—(*a*) Describe in detail any mining or exploration operations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes.

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades.

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you.

(*d*) State the facts with respect to the accessibility of the project: Access roads, distances to shipping, supply and residence points.

(*e*) State the availability of manpower, materials, supplies, equipment, water, and power.

5. *The exploration project.*—(*a*) State the mineral or minerals for which you wish to explore Beryl, columbium, mica (strategic), monazite and rare earths, quartz crystals (piezo-electric and tantalum.

(*b*) Describe fully the proposed work, including a map or sketch of the property showing a plan (and cross sections if needed) of any present mine workings, and the location of the proposed exploration work as related to such features as contacts, veins, ore-bearing beds, etc.

(*c*) The work will start within 20 days and be completed within 12 months from the date of an exploration project contract.

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations.

6. *Estimate of costs.*—Furnish a detailed estimate of the costs of the proposed work (you will have to use a separate sheet), under the following headings. Add the totals under all headings to give the estimated total cost of the project:

(*a*) *Independent contracts.*—(Note.—If the applicant does not intend to let any of the work to contractors, write "none" after this item. To the extent that the work is to be contracted, do not repeat the cost of the contract-work in subsequent items.) State the cost of any proposed independent contracts for the performance of all or any part of the work, expressed in terms of units of work (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved, etc.).

(*b*) *Labor, supervision, consultants.*—Include an itemized schedule of numbers, classes and rates of wages, salaries or fees for necessary labor, supervision and engineering and geological consultants.

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel.

(*d*) *Operating equipment.*—Furnish an itemized list of any operating equipment to be rented, purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or suggested use-allowance based on present value, as the case may be.

(*e*) *Rehabilitation and repairs.*—Furnish a detailed list showing the cost of any necessary initial rehabilitation or repairs of existing buildings, installations, fixtures, and movable operating equipment, now owned by the Operator and which will be devoted to the exploration project.

(*f*) *New buildings, improvements, installations.*—Furnish a detailed list showing the cost of any necessary buildings, fixed improvements, or installations to be purchased, installed or constructed for the benefit of the exploration project.

(*g*) *Miscellaneous.*—Furnish a detailed list showing the cost of repairs to and maintenance of operating equipment (not including initial rehabilitation or repairs of the Operator's equipment), analytical work, accounting, workmen's compensation and employers' liability insurance, and payroll taxes.

(*h*) *Contingencies.*—Give an estimate of any necessary allowances for contingencies not included in the costs stated above.

NOTE.—No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes), or any other indirect costs, or work performed or costs incurred before the date of the contract, should be included in the estimate of costs.

7. (*a*) Are you prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation (Sec. 7, DMEA No. 1)?

(*b*) How do you propose to furnish your share of the costs?

☐ Money ☒ Use of equipment owned by you ☐ Other

Explain in detail on acompanying paper.

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

Dated April 26, 1955

Lake of the Woods Mining Co.
(Applicant)

By Lyndon Lo Partner

Edward L. Arnold Partner

Title 18, U. S. Code (Crimes), Section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

4. PHYSICAL DESCRIPTION

(a) Prior to the year 1937 the Feldspar Products Company, Inc. operated an open cut feldspar mine. Approximately 10,000 tons of No. 1 pink potash feldspar was mined annually. Along with the removal of feldspar a few tons of mica and approximately three tons of beryl was mined. Both the mica and beryl was shipped when the mine was abandoned.

The writer had no interest in the above operation.

The mine workings are reached in summer by either commercial boats, which leave Warroad, Minnesota daily, or by aircraft, which may be chartered at any time. If the commercial boat route is used it is necessary to disembark at Oak Island, Flag Island or American Point. Flag Island is the nearest to the mine workings. A smaller boat may be rented or chartered from any of the resort operators to reach the mainland where the mine is located. From the shoreline it is necessary to walk 3/4 mile inland on the abandoned narrow-gage track bed.

(b) See (a). Reserves are not known as the area has not been extensively explored.

(c) In this area numerous low exposures of Ely greenstone are invaded by granite and pegmatites. The pegmatite zone near and including the mine trends northeast along a low ridge, probably 200 yards wide and more than one-fourth of a mile long. The pegmatite does not crop out continuously along this zone but occurs in irregular lenses or oval areas ranging in length from one to 200 yards. Microline predominates along with an abundance of quartz. Also present is cleavelandite, magnatite, beryl and garnet. Beryl is present in the border zone of the pegmatite which has been worked for feldspar. The estimated three tons of beryl removed during the period when the mine was in operation is no indication of the amount of beryl present. The beryl mined was secondary to removing feldspar. Drilling in the immediate area disclosed further deposits of beryl but no effort was made to recover or expose the extent of the deposits.

Samples submitted by the writer in the fall of 1954 were tested by the Brush Beryllium Company, Cleveland, Ohio. The assay tested 11.31% BeO content.

The purpose of the proposed exploration is to determine the extent of the beryl deposits and disclose whatever other strategic minerals may be present.

(d) During the period from approximately December 15 to April 1 a road maintained by the M and O Paper Company is available and will maintain heavy traffic. The road begins at Middleboro, Manitoba and passes within one-half mile of the mine area. Railroad sidings are available at Middleboro and Warroad. During the period from approximately May 1 to November 15 barges may be rented to haul from the mine shoreline into Warroad harbor. Railroad sidings are in the immediate vicinity of the harbor area.

(e) Unskilled manpower is available in the immediate area. Material and supplies will have to be shipped in from Warroad, Minnesota. Equipment will be provided by the operator. Water is in excess of the needs.

MF-103
(Revised April 1952)

UNITED STATES DEPARTMENT OF THE INTERIOR
DEFENSE MINERALS EXPLORATION ADMINISTRATION

Form Approved.
Budget Bureau No. 42-R1035.2.

APPLICATION FOR AID IN AN EXPLORATION PROJECT, PURSUANT TO DMEA ORDER 1, UNDER THE DEFENSE PRODUCTION ACT OF 1950, AS AMENDED

Not to be filled in by applicant

Docket No. 3802
Metal or Mineral Beryl, Columbium, Mica, etc.
Date Received 5-4-55
Estimated Cost $99,350
Participation (Government %)

Defense Minerals Administration
RECEIVED
MAY 4 1955

INSTRUCTIONS

1. *Name of applicant.*—(*a*) State here your full legal name, in the form in which you will wish to contract, and your mailing address: Lake of the Woods Mining Company, 6413 Cambridge St., Minneapolis 16, Minnesota
Partnership: Lyndon L. Dean, 2122 Penn Ave. So., Minneapolis 5, Minn.
Edward H. Arnold, 8452 Humboldt Ave. So., Minneapolis 20, Minn

(*b*) If other than an individual, add to your name above whether a corporation, partnership, etc., and the name of the State in which incorporated or otherwise organized.

(*c*) If a corporation, add to above statement, titles, names and addresses of officers.

(*d*) If a partnership, add to the above statement the names and addresses of all partners.

2. *General.*—Read DMEA Order 1, "Government Aid in Defense Exploration Projects," before completing this application. Submit this application and all accompanying papers in quadruplicate (four copies), with your name and address on each sheet of the application and on all accompanying papers. Where sufficient space is not provided on the form for all required information, state it on an accompanying paper, with a reference in each case to the instruction to which it refers by number. Comply with all applicable instructions; or, if not applicable, so state. File the application with Defense Minerals Exploration Administration, Department of the Interior, Washington 25, D. C., or with the nearest field executive officer thereof.

3. *Applicant's property rights.*—(*a*) State the legal description of the land upon which you wish to explore, including all land which you possess or control that may be benefited by the exploration, and excluding any land or interest in land which is not to be included in the exploration project contract Proposed exploration - NW¼-SE¼, Sec. 6, T. 167 N., R. 33 W., Lake of the Woods County, Minnesota. May be benefited - SW¼-NE¼ and SW¼-SE¼, Sec. 6 and NW¼-NW¼, Sec. 7, all in Township 167 North, Range 33 West, Lake of the Woods County, Minnesota

(*b*) State any mine name by which the property is known. Feldspar Mine

(*c*) State your interest in the land, whether owner, lessee, purchaser under contract, or otherwise Exploration permit fro State of Minnesota (Iron ore permit includes all minerals)

(*d*) If you are not the owner, submit with this application a copy of the lease, contract, or other document under which you control the property. Attached permit issued to Dean Contracting Co. has been transferred to Lake of the Woods Mining Company.

(*e*) If you own the land, describe any liens or encumbrances on it

(*f*) If the land consists of unpatented claims, add to the description above, the book and page numbers for each recorded location notice.

4. *Physical description.*—(*a*) Describe in detail any mining or exploration operations which have been or now are being conducted upon the land, including existing mine workings and production facilities. State your interest, if any, in such operations. Also describe accessibility of mine workings for examination purposes.

(*b*) State past and current production, and ore reserves, if any, giving quantities and grades.

(*c*) Describe the geologic features of the property, including mineralization, type of deposit (vein, bedded, etc.), and your reasons for wishing to explore. Illustrate with maps or sketches. Send with your application (but not necessarily as a part of it) any geologic or engineering report, assay maps, or other technologic information you may have, indicating on each whether you require its return to you.

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(*e*) State the availability of manpower, materials, supplies, equipment, water, and power.

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(*c*) The work will start within 20 days and be completed within 12 months from the date of an exploration project contract.

(*d*) State the operating experience and background of the applicant with relation to the ability to carry out such exploration project, and also that of the person or persons who will supervise the operations.

6. *Estimate of costs.*—Furnish a detailed estimate of the costs of the proposed work (you will have to use a separate sheet), under the following headings. Add the totals under all headings to give the estimated total cost of the project:

(*a*) *Independent contracts.*—(Note.—If the applicant does not intend to let any of the work to contractors, write "none" after this item. To the extent that the work is to be contracted, do not repeat the cost of the contract-work in subsequent items.) State the cost of any proposed independent contracts for the performance of all or any part of the work, expressed in terms of units of work (such as per foot of drilling, per foot of drifting, per hour of bulldozer operations, per cubic yard of material moved, etc.).

(*b*) *Labor, supervision, consultants.*—Include an itemized schedule of numbers, classes and rates of wages, salaries or fees for necessary labor, supervision and engineering and geological consultants.

(*c*) *Operating materials and supplies.*—Furnish an itemized list, including items of equipment costing less than $50 each, and power, water and fuel.

(*d*) *Operating equipment.*—Furnish an itemized list of any operating equipment to be rented, purchased, or which is owned and will be furnished by the Operator, with the estimated rental, purchase price, or suggested use-allowance based on present value, as the case may be.

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NOTE.—No items of general overhead, corporate management, interest, taxes (other than payroll and sales taxes), or any other indirect costs, or work performed or costs incurred before the date of the contract, should be included in the estimate of costs.

7. (*a*) Are you prepared to furnish your share of the cost of the proposed project in accordance with the regulations on Government participation (Sec. 7, DMEA No. 1)?

(*b*) How do you propose to furnish your share of the costs?

☐ Money ☒ Use of equipment owned by you ☐ Other

Explain in detail on acompanying paper.

CERTIFICATION

The undersigned, whether as an individual, corporate officer, partner, or otherwise, both in his own behalf and acting for the applicant, certifies that the information set forth in this form and accompanying papers is correct and complete, to the best of his knowledge and belief.

Dated April 26, 1955

Lake of the Woods Mining Co.
(Applicant)

By Lyndon Olson Partner

Edward H. Arnold Partner

Title 18, U. S. Code (Crimes), Section 1001, makes it a criminal offense to make a willfully false statement or representation to any department or agency of the United States as to any matter within its jurisdiction.

4. PHYSICAL RESOURCES

(a) Prior to the year 1937 the Feldspar Products Company, Inc. operated an open cut feldspar mine. Approximately 10,000 tons of No. 1 pink potash feldspar was mined annually. Along with the removal of feldspar a few tons of mica and approximately three tons of beryl was mined. Both the mica and beryl was shipped when the mine was abandoned.

The writer had no interest in the above operation.

The mine workings are reached in summer by either commercial boats, which leave Harwood, Minnesota daily, or by aircraft, which may be chartered at any time. If the commercial boat route is used it is necessary to disembark at Oak Island, Flag Island or Garrison Point. Flag Island is the nearest to the mine workings. A smaller boat may be rented or chartered from any of the resort operators to reach the mainland where the mine is located. From the shoreline it is necessary to walk 3/4 mile inland on the abandoned narrow-gage track bed.

(b) See (a). Reserves are not known as the area has not been extensively explored.

(c) In this area numerous low exposures of Ely greenstone are invaded by granite and pegmatites. The pegmatite zone near and including the mine trends northwest along a low ridge, probably 200 yards wide and more than one-fourth of a mile long. The pegmatite does not crop out continuously along this zone but occurs in irregular lenses or oval areas ranging in length from one to 200 yards. Microline predominates along with an abundance of quartz. Also present is albite-lepidolite, magnetite, beryl and garnet. Beryl is present in the border zone of the pegmatite which has been mined for feldspar. The estimated three tons of beryl removed during the period when the mine was in operation is no indication of the amount of beryl present. The beryl mined was necessary to removing feldspar. Drilling in the immediate area disclosed further deposits of beryl but no effort was made to recover or assess the extent of the deposits.

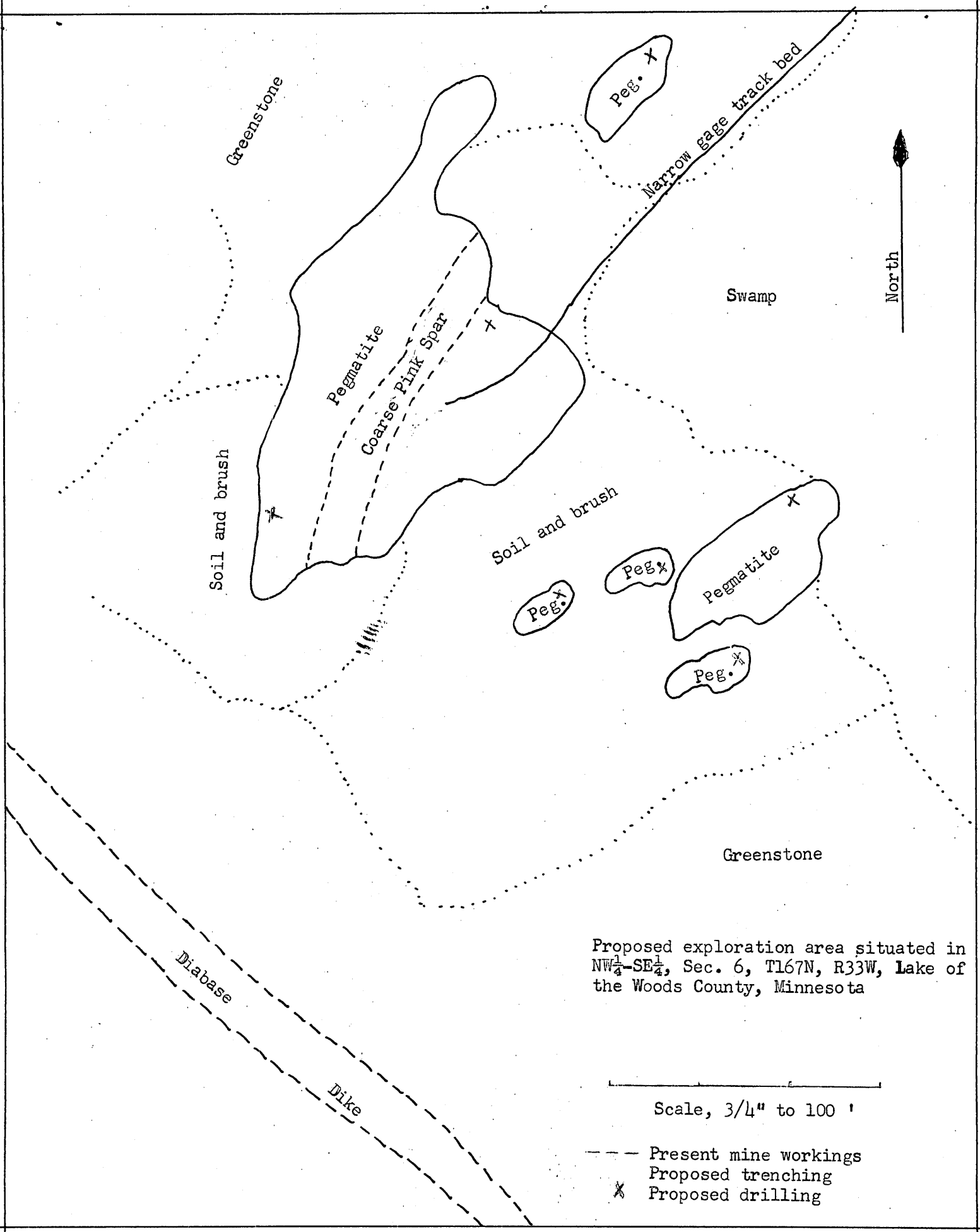
Samples submitted by the writer in the fall of 1951 were tested by the Brush Beryllium Company, Cleveland, Ohio. The assay showed 11.23% BeO content.

The purpose of the proposed exploration is to determine the extent of the beryl deposits and disclose whatever other strategic minerals may be present.

(d) During the period from approximately December 15 to April 1 a road maintained by the M and O Paper Company is available and will sustain heavy traffic. The road begins at Ely, Minnesota and passes within one-half mile of the mine area. Railroad sidings are available at Ely, Minnesota and Harwood. During the period from approximately May 1 to November 15 barges may be rented to haul from the mine shoreline into Harwood harbor. Railroad sidings are in the immediate vicinity of the harbor area.

(e) Unskilled manpower is available in the immediate area. Material and supplies will have to be shipped in from Harwood, Minnesota. Equipment will be provided by the operator. Water is in excess of the needs.

[illegible]
[illegible]



Proposed exploration area situated in NW¼-SE¼, Sec. 6, T167N, R33W, Lake of the Woods County, Minnesota

6. BREAKDOWN OF COSTS

(a) Independent contracts.	
Approximately 750 lineal feet of diamond core drilling by E. J. Longyear Company, Foshay Tower, Minneapolis, Minnesota @ $7.00 per foot	$ 5,250.00
(b) Labor, supervision, consultants.	
Mining engineer and geologist - 12 months @ $1,125.00 per mo.	13,500.00
Four men for 12 months or 48 months @ $500.00 per month	24,000.00
Geological consultant - 4 days @ $150.00 per day	600.00
@ Travel expenses	150.00
(c) Operating materials and supplies.	
Gasoline, oil and diesel fuel - 12 months @ $350.00 per mo.	4,200.00
Dynamite, caps, etc.	1,500.00
Small tools	1,500.00
Food - 12 months @ $375.00 per month	4,500.00
(d) Operating equipment (leased)	
Model H5-3 Allis-Chalmers crawler w/hydraulic front-end loader - 12 months @ $840.00 per month	10,080.00
Model TD 4.22-3 International crawler tractor w/stick shovel - 12 months @ $840.00 per month	10,080.00
105 Cubic feet Sullivan air compressor w/ rock drill and air hose - 12 months @ $240.00 per month	2,880.00
Conveyer - 12 months @ $500.00 per month	6,000.00
Hoist and cage - 12 months @ $800.00 per month	9,600.00
Truck - 5 months @ $240.00 per month	1,200.00
Shop - 6 months @ $75.00 per month	450.00
Barge and tug	300.00
Freight on equipment	375.00
(e) None	
(f) New buildings, improvements, installations.	
Barracks, mess hall and mine shack	1,500.00
Bore hole	300.00
(g) Miscellaneous.	
Equipment maintenance	2,000.00
Analytical work	750.00
Insurance	
Workmen' Compensation Insurance on payroll of $37,500.00 @ 10%	3,750.00
Public liability Insurance on payroll of $37,500.00 @ 1%	375.00
Property damage Insurance on payroll of $37,500.00 @ 1%	375.00
Payroll taxes	
Unemployment Compensation Insurance on payroll of $15,000.00 @ 3%	450.00
Federal Old Age Benefit Taxes on payroll of $37,500.00 @ 2%	750.00
(h) Contingencies	750.00
	$82,350.00

STATE OF MINNESOTA
DEPARTMENT OF CONSERVATION
DIVISION OF LANDS AND MINERALS

IRON ORE PROSPECTING PERMIT
Minnesota Statutes
Section 93.283

Permit No. WC-8454-P

Dean Contracting Company, Inc., 6413 Cambridge Street,

Minneapolis, Minnesota,

being the first applicant to apply for an iron ore prospecting permit on land located in Lake of the Woods County, Minnesota, described as follows, to-wit:

The Southwest Quarter of the Northeast Quarter (SW¼-NE¼) and the West Half of the Southeast Quarter (W½-SE¼), Section Six (6), and the Northwest Quarter of the Northeast Quarter (NW¼-NE¼), Section Seven (7), all in Township One Hundred Sixty-seven (167) North, of Range Thirty-three (33) West,

containing 160 acres more or less, according to the United States Government survey thereof, and said Dean Contracting Company having paid to the treasurer of the State of Minnesota the sum of Fifty ($50.00) Dollars;

NOW, THEREFORE, in consideration of the premises the undersigned, as Commissioner of Conservation of the State of Minnesota, pursuant to Minnesota Statutes, Section 93.283, hereby grants to the said Dean Contracting Company for the period of two years from January 7, 1955, the right to enter upon said land for the purpose of prospecting and exploring thereon for iron ore upon the following conditions:

1. That the work of prospecting under this permit shall begin in a substantial manner within six months from the date hereof and shall be continued until the permit expires, is surrendered, or a lease is requested by the holder of the permit.

2. That the requirements for prospecting work hereunder may be satisfied by work performed upon either the lands covered by this permit or on lands included in other permits issued to the same permit holder in the same general mineral formation or area as those covered by this permit and in the same section according to the United States Government survey or in an adjoining section; provided work done under one permit cannot be credited upon more than three additional permits located in the same section or one adjoining section.

In case the prospecting work is not performed on the lands covered by this permit the holder's reports on the progress of the work shall show work performed on other lands within the limitations above set forth sufficient to constitute compliance with the foregoing provisions.

3. That the holder of this permit shall report in writing to the Commissioner of Conservation the time of beginning such prospecting, and thereafter on the first business day of each April, July, October and January, during the term of this permit the progress of the work of prospecting and shall accompany such reports with maps and other information showing the location, character and extent of the work done, the nature of materials encountered in such work, the analyses for iron, silica, phosphorus, alumina and manganese of all iron bearing formations encountered therein: provided, that if any hard rock or any taconite as defined in section 93.20 is encountered, the commissioner may require only such analytical information as he deems essential.

Lands Minerals Administration
RECEIVED
1955

4. Subject to the approval of the commissioner and under such conditions as he may prescribe, a geophysical survey of the area may be accepted in lieu of drilling. If the permittee elects to make a geophysical survey, upon completion thereof, he shall make such further exploration of the property as the commissioner may direct, and shall continue such exploration until the permit expires or is surrendered, or an application is made for a lease.

5. That the permit holder shall split all samples taken and furnish the Commissioner of Conservation or his representatives, from time to time as the Commissioner of Conservation or his representatives shall direct, with a portion of such samples, properly marked for identification.

6. That the permit holder shall cause at his own expense, all such samples to be analyzed by a competent chemist approved by the Commissioner of Conservation; and that no ore shall be removed from said premises under this permit except such samples as are reasonably necessary for analyses and record purposes.

7. That the work done by the permit holder shall be subject to inspection at all reasonable times by the Commissioner of Conservation, or his representatives.

8. That the holder of this permit shall be liable for the payment of any damages sustained by the state to timber, structures or other improvements belonging to the state.

9. That in case any interest in the land covered by this permit or in any minerals therein is owned by anyone other than the state, this permit shall not be construed as authorizing any invasion of or trespass upon such other interest. That in case it shall be necessary to make use of any such other interest in connection with any operations hereunder, the permit holder shall obtain all necessary legal rights therefor before proceeding therewith. That the permit holder shall be liable for all damages to any such other interest caused by any operations hereunder, and that the state shall not incur or be subject to any liability therefor.

10. That this permit to prospect for ore is granted upon the express condition that if the permit holder shall fail to perform any of the terms, covenants, or conditions in this permit to be performed by him, then it shall be the duty of the Commissioner of Conservation to cancel the permit, first having given the permit holder at least 20 days' notice in writing thereof.

PERMITTEE'S RIGHT TO LEASE:

At any time prior to the expiration of any such permit, if the commissioner shall determine that all the terms and conditions of the permit and applicable provisions of law have been complied with, the original holder or any assignee thereof shall have the right to receive from the commissioner of conservation a mining lease, which shall bind the state and the person to whom it shall be issued to the mutual observance of the obligations and conditions thereof, and the mining lease shall be in the form set forth in section 93.20, and require the payment of the royalties set forth in Laws 1941, Chapter 546, Section 5, as originally enacted, except that the royalties shall be modified so as to comply with and be subject to the provisions of Section 93.20, Subdivision 9, as amended by Laws 1951, Chapter 616, or any subsequent amendment thereof in force at the time of submission of the application for the permit, and also except that the rental shall be modified so as to provide that the annual rental for that part of the first calendar year remaining after the effective date of the lease and for the four succeeding calendar years shall be at the rate of $500 per calendar year, and the annual rate of rental thereafter shall be $5,000 per calendar year.

As a condition precedent to the issuing of such mining lease the holder of this permit shall file a full report, properly verified of all work of exploration done under this permit, or an affidavit in case no work was done, stating such facts, and pay to the state treasurer a sum of money based on the quarterly royalty payment of $125 for the first quarter as set out in the lease, in the ratio that the unexpired portion of the quarter bears to the full quarter.

This permit will expire at five o'clock p.m. on the 6th day of January, 1957.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal this 3rd day of ~~January~~ Feb., 1955.

In Presence of:

STATE OF MINNESOTA
STATE OF MINNESOTA
DEPARTMENT OF CONSERVATION

Commissioner of Conservation

By Deputy

The foregoing Prospecting Permit has been examined and approved as to form and execution this 7 day of February 1950

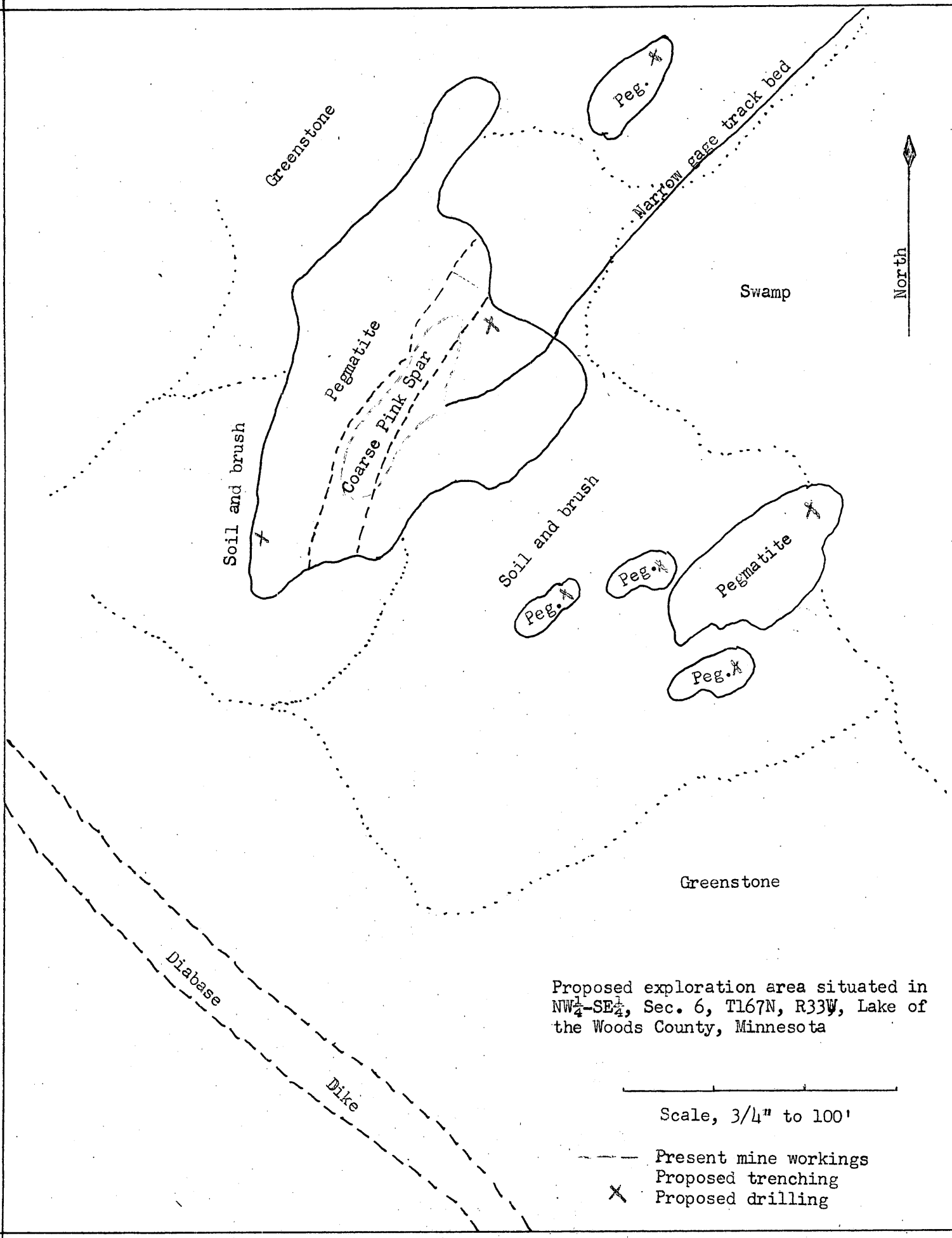
MILES W. LORD,
Attorney General.

By
Spec. ~~Asst.~~ Atty. ~~Gen.~~
Department of Conservation

Office of Commissioner of Conservation
STATE OF MINNESOTA

I hereby certify that the within instrument was filed in this office for record on February 7 - 1955 and was duly entered in Mineral Permit Record Book 2, page 193

Director, Division of Lands & Minerals
By



Proposed exploration area situated in NW¼-SE¼, Sec. 6, T167N, R33W, Lake of the Woods County, Minnesota

6. ESTIMATE OF COSTS

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Geological consultant - 4 days @ $150.00 per day	600.00
Travel expenses	150.00
(c) Operating materials and supplies.	
Gasoline, oil and diesel fuel - 12 months @ $350.00 per mo.	4,200.00
Dyanamite, caps, etc.	1,500.00
Small tools	1,500.00
Food - 12 months @ $375.00 per month	4,500.00
(d) Operating equipment (Owned)	
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Model TD9 422-0 International crawler tractor w/skid shovel - 12 months @ $840.00 per month	10,080.00
105 Cubic foot Schramm air compressor w/ rock drill and air hose - 12 months @ $200.00 per month	2,400.00
Conveyor - 12 months @ $500.00 per month	6,000.00
Hoist and cage - 12 months @ $200.00 per month	2,400.00
Truck - 5 months @ $240.00 per month	1,200.00
Boat - 6 months @ $75.00 per month	450.00
Barge and tug	300.00
Freight on equipment	375.00
(e) None	
(f) New buildings, improvements, installations.	
Barracks, mess hall and mine shacks	1,500.00
Boat dock	300.00
(g) Miscellaneous.	
Equipment maintenance	2,250.00
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Workmens' Compensation Insurance on payroll of $37,500.00 @ 10%	3,750.00
Public Liability Insurance on payroll of $37,500.00 @ 1%	375.00
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Payroll taxes	
Unemployment Compensation Insurance on payroll of $15,000.00 @ 3%	450.00
Federal Old Age Benefit Taxes on payroll of $21,000.00 @ 2%	420.00
(h) Contingencies	750.00
	$99,350.00

STATE OF MINNESOTA
DEPARTMENT OF CONSERVATION
DIVISION OF LANDS AND MINERALS

IRON ORE PROSPECTING PERMIT
Minnesota Statutes
Section 93.283

Permit No. WC-8454-F

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Minneapolis, Minnesota,

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IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal this 3rd day of ~~January~~ Feb, 1955.

STATE OF MINNESOTA
STATE OF MINNESOTA
DEPARTMENT OF CONSERVATION

In Presence of:

Commissioner of Conservation

By
Deputy

The foregoing Prospecting Permit has been examined and approved as to form and execution this 7 day of February 1950

MILES W. LORD,
Attorney General.

By
Spec. ~~Asst.~~ Atty. ~~Gen.~~
Department of Conservation

Office of Commissioner of Conservation
STATE OF MINNESOTA

I hereby certify that the within instrument was filed in this office for record on February 7 - 1955 and was duly entered in Mineral Permit Record Book 2, page 193

Director, Division of Lands & Minerals
By

GENERAL HIGHWAY MAP

LAKE OF THE WOODS COUNTY MINNESOTA

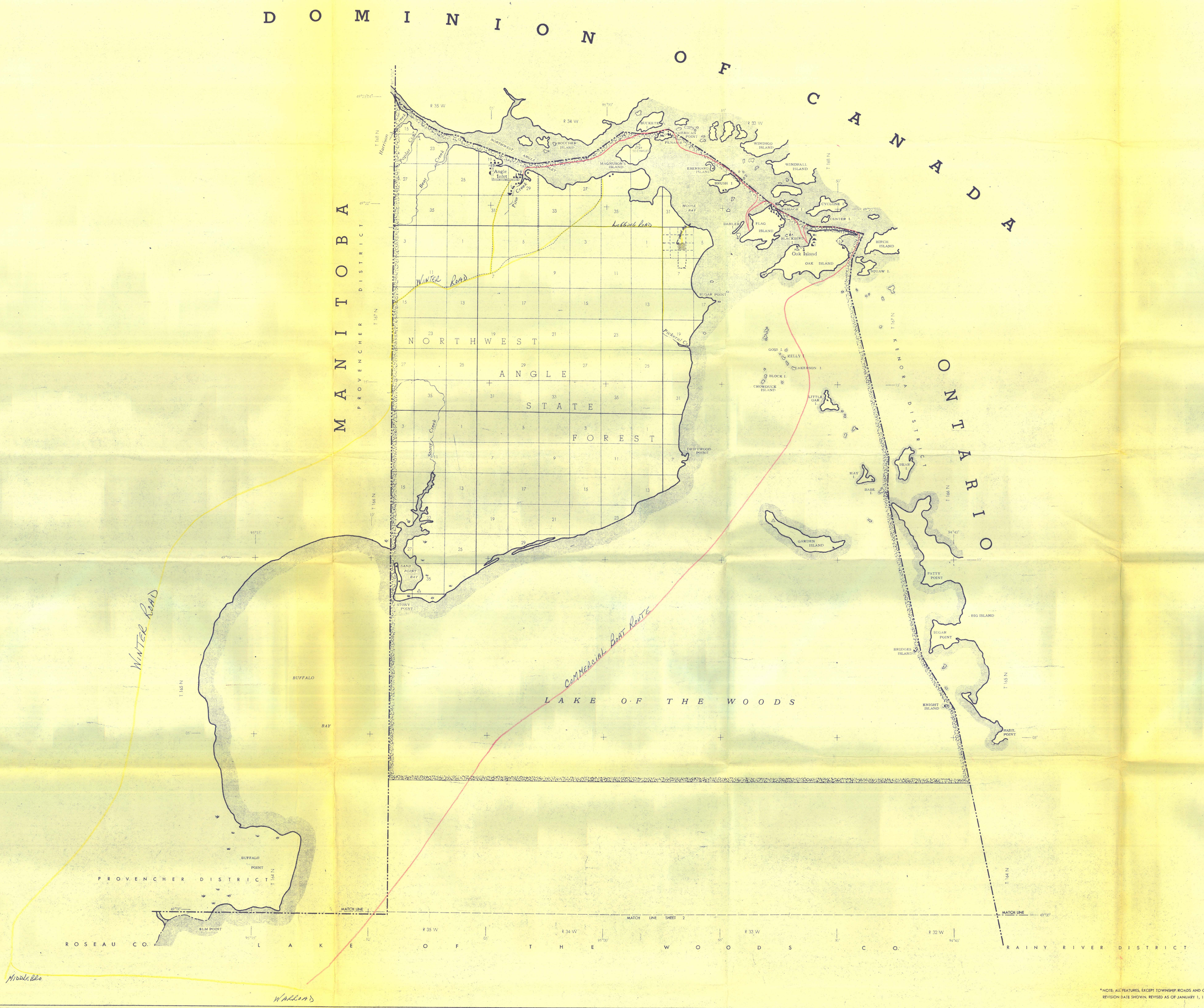
ISSUED BY THE
MINNESOTA DEPARTMENT OF HIGHWAYS
IN COOPERATION WITH THE
U.S. DEPARTMENT OF COMMERCE
BUREAU OF PUBLIC ROADS
DATA OBTAINED AND MAP PREPARED BY THE
HIGHWAY PLANNING SURVEY

SCALE OF STATUTE MILES

1951 *

Polyconic Projection
North American Datum of 1927

Projection Reference
46th Parallel-94th Meridian



LEGEND

ROAD AND ROADWAY FEATURES

TRAIL (HIKING)
PROJECTED ROAD
IMPROVED ROAD
UNIMPROVED ROAD
GRADED AND DRAINED ROAD
SOIL SURFACED ROAD
GRAVEL OR STONE ROAD
BITUMINOUS ROAD
PAVED ROAD
DIVIDED HIGHWAY
TERMINUS OF DESIGNATED ROAD
SIDE ROAD AND STREETS IN UNINCORPORATED TOWNS (SHOWN ONLY EXTENSIVE OR LOCALLY-USED ROADS—MOST F.A.I. WITHIN MUNICIPALITIES)
POINTS BETWEEN WHICH DISTANCES ARE MEASURED INDICATED THUS
TRAFFIC CIRCLE
CLOVERLEAF

ROAD SYSTEM DESIGNATIONS

UNITED STATES NUMBERED HIGHWAY
STATE NUMBERED SYSTEM
STATE AID ROAD
STATE AID PARKWAY
COUNTY AID ROAD
COUNTY ROAD
FEDERAL AID PRIMARY HIGHWAY SYSTEM
FEDERAL AID URBAN HIGHWAY SYSTEM
FEDERAL AID SECONDARY HIGHWAY SYSTEM
ENG. OR FEDERAL AID ROUTE
NATIONAL FOREST HIGHWAY
NATIONAL FOREST DEVELOPMENT
STATE FOREST ROAD (OPEN TO PUBLIC)
STATE FOREST ROAD (FOREST USE ONLY)

RAILROADS

RAILROAD (ANY NUMBER OF TRACKS) (USE B.L. SINGLE OPERATING COMPANY OR BY NAMING OF ANOTHER CARRIER UNDER TRACKAGE RIGHTS)
RAILROAD (ANY NUMBER OF TRACKS) (USE B.L. MORE THAN ONE OPERATING COMPANY OR MORE TRACKS OR SEPARATE RIGHTS OF WAY)
BARRIERS IN JUSTAPOSITION (TWO OR MORE TRACKS OR SEPARATE RIGHTS OF WAY) (USE ONLY ON ROAD OR RIGHT-OF-WAY)
ELECTRIC OR GAS ELECTRIC ONLY
RAILROAD STATION
GRADE CROSSING
UNDERPASS (HIGHWAY BELOW)
OVERPASS (HIGHWAY ABOVE)

AIRWAYS

AIR ROUTE
RUNWAY
MILITARY FIELD
COMMERCIAL OR MUNICIPAL FIELD (CHARGES FACILITIES)
LIMITED FACILITIES
LANDING AREA OR STRIP
AIRWAY LIGHT BEACON, GENERAL
SEAPLANE BASE, MILITARY
SEAPLANE BASE, CIVIL
RADIO RANGE STATION

STRUCTURES

General Symbols (over 20' span)

HIGHWAY BRIDGE
SMALL BRIDGES (CLOSELY SPACED)
DRAWBRIDGE

Cultural Symbols (300' span and over)

GENERAL
DRAWBRIDGE
ARCH
TRUSS
(IN WOODS, S — STEEL; THE WORD TOOL IS ADDED WHERE APPLICABLE)

Other Structures

DAM WITH ROAD (LARGE SCALE)
DAM WITH ROAD (SMALL SCALE)
LEVEE OR DIKE
LEVEE OR DIKE (WITH ROAD)
MINOR STRUCTURE (3' TO 20' SPAN)
CONCRETE ROAD OR DIP
ROAD REPAIR ESTABLISHMENT
DAM WITHOUT ROAD (LARGE SCALE)
DAM WITHOUT ROAD (SMALL SCALE)

BOUNDARIES

NATIONAL OR STATE
COUNTY
CIVIL TOWNSHIP
CONGRESSIONAL TOWNSHIP (U. S. LANDS)
SUPERVISOR'S LINE
SECTION LINE
DESIGNED AREA
URBAN FRINGE
POST
NATIONAL OR STATE PARK
NATIONAL OR STATE FOREST
NATIONAL INDIAN RESERVATION
NATIONAL OR STATE MILITARY RESERVATION
GAME REFUGE
MATCH LINE BETWEEN ADJOINING SHEETS OF SAME GAME COUNTY
AIRFORT

MISCELLANEOUS MAP FEATURES

FORT, ARMY CAMP, BARRACKS OR MILITARY POST
TRIANGULATION STATION
LATITUDE AND LONGITUDE TRANSLATION STATION
LATITUDE AND LONGITUDE INTERSECTION
DOT TO INDICATE LOCATION OF ANY CULTURAL FEATURE (WITHIN CUT OF POSITION)

DRAINAGE

INTERMITTENT STREAM
NARROW STREAMS
WIDE STREAMS
MARSH OR SWAMP LAND
DRAINAGE DITCH
RESERVOIR, POND OR LAKE
OVERFLOW OR SWAMP LIMITS
DRY ABANDONED LAKE (SUBJECT TO FLOOD)
RESERVOIR, POND OR LAKE WITH DAM

NAVIGATION

BARGE LINES ON NATURAL STREAMS
SHIP LINES ON INLAND LAKES (SEASONAL)
DOCK, PIER OR LANDING
FERRY
FF FOR FREE FERRY
TF FOR TOLL FERRY
NAVIGABLE STREAM (SEASONAL)
HEAD OF NAVIGATION
DAM WITH LOCK
LAND MARK (SIGN) BEACON
LIGHT HOUSE

CONSERVATION AND RECREATION

PICNIC GROUND
PLAYGROUND, BALLFIELD, ETC.
BATHING BEACH OR SWIMMING POOL
SCENIC SITE
CAMP SITE
CAMP OR LODGE
FOREST RANGER STATION
GUARD OR RANGER STATION (NOT PERMANENTLY OCCUPIED)
FISH HATCHERY
BIRD SANCTUARY
GAME FARM
GAME PRESERVE
OBSERVATION AND LOOKOUT TOWER
PROMINENT PEAK AND LOOKOUT TOWER
PROMINENT ELEVATION
GOLF GROUND OR COUNTRY CLUB
GUN CLUB
SKI TRAILS OR ABOVEMENT PARK
SMALL PARK
SP—STATE, CP—COUNTY, MP—MUNICIPAL, WP—WATERS
MONUMENT (SMALL)
PICNIC TABLE
FAIR GROUND, RACE COURSE, SPEEDWAY

FARM UNITS, DWELLINGS, ETC.

FARM UNIT
DWELLING (OTHER THAN FARM)
ROWS OR GROUPS OF DWELLINGS (CLOSELY SPACED)
COMBINED DWELLING AND STORE OR (SMALL BUSINESS)
BARRACKS OR DORMITORIES FOR STUDENTS, MILITARY, INDUSTRIAL, ETC.
BUILDING DWELLING (CLOSELY SPACED)
SEASONAL DWELLINGS (CLOSELY SPACED)
HOTEL
TOURIST COURT OR MOTEL
CHURCH, OTHER RELIGIOUS INSTITUTIONS
FRESH AIR OR REST HOME
HOSPITAL
TOWN HALL OR COMMUNITY HALL
FARMER'S BARN
CEMETERY
CHURCH WITH CEMETERY ADJACENT
TOLL HOUSE, STATE PORT OF ENTRY OR WEIGHT STATION
GROUPS OF MORE CULTURAL FEATURES (CLOSELY SPACED)
NOTE—NUMBER PLACED ADJACENT TO SYMBOL SHOWING UNITS (CLOSELY SPACED INDICATES NUMBER OF EACH UNIT

INDUSTRIAL

STORE OR (SMALL BUSINESS) ESTABLISHMENT
FACTORY OR INDUSTRIAL PLANT
MINE, QUARRY
MINE, OPEN PIT
MINE OPENING (SHAFT OR DRIFT)
GROUP OF STORAGE TANKS, OIL OR GAS
SEASONAL INDUSTRY (CANNERY OR SMALL PACKING PLANT)
GRAIN ELEVATOR
BEET DUMP
STOCK YARD—LOADING PEN
GRAVEL PIT
KILN
MILK DEPOT, CREAMERY OR CHEESE FACTORY
NURSERY
GREENHOUSE
PUMPING STATION (OIL OR GAS)
WAREHOUSE (NOT ADJACENT TO STORE OR SL S.)

PUBLIC SERVICE FACILITIES

POST OFFICE
DWELLING AND POST OFFICE
DWELLING BUSINESS AND POST OFFICE
U. S. BORDER PORT OF ENTRY
PUMPING STATION (GAS, OIL OR WATER)
GAS(ING) OR PUMPING STATION
PIPE LINE, WATER
PIPE LINE, GAS
PIPE LINE, OIL
TRANSMISSION LINE (33 KV OR OVER)
SEWAGE PLANT
TELEPHONE STATION
HIGHWAY GARAGE
GARBAGE OR REFUSE DUMP
SEWAGE DISPOSAL PLANT
HIGHWAY DEPARTMENT DIST. OFFICE AND SHOP
HIGHWAY DEPARTMENT GENERAL OFFICE

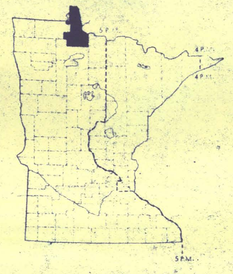
EDUCATIONAL AND CORRECTIONAL INSTITUTIONS

SCHOOL HOUSE
CONSOLIDATED OR LARGE SCHOOL
CORRECTIONAL INSTITUTION
VACANT CULTURAL UNIT
ABANDONED CULTURAL UNITS

CITY AND VILLAGE CENTERS

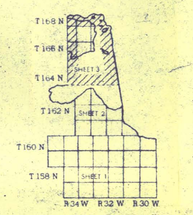
STATE CAPITOL
COUNTY SEAT
OTHER CITIES AND VILLAGES
INCORPORATED CITY OR VILLAGE (SUBDIVISIONS)

Outline map of Minnesota showing location of this County within the State.



Outline map of this County. Shaded portion being area delineated on this sheet.

Area of this County 1286 Sq. Miles
Land Area 1312 Sq. Miles



*NOTE: ALL FEATURES, EXCEPT TOWNSHIP ROADS AND CULTURE, ARE CURRENT AS OF REVISION DATE SHOWN. REVISED AS OF JANUARY 1, 1954.

SHEET 3 OF 3