



# Access Web Map

## Minnesota's Drill Core Library

Bedrock drill core and data from drilling throughout Minnesota

### Overview



The Minnesota Department of Natural Resources, Lands and Minerals Division, maintains a Drill Core Library in Hibbing, Minnesota. It serves as the State of Minnesota's repository for archiving bedrock and earthen material core samples collected during minerals exploration, engineering, and geoscience research programs across the state. The library attracts a world-wide audience of researchers, mineral explorers, and engineers who reuse existing core samples to develop new ideas about Minnesota's mineral resources and geology.

The three buildings that comprise the drill core library house more than **3 million lineal feet of drilled core samples** archived from approximately:

- 7,000 mineral exploration cores,
- 1,500 roadway and bridge foundation cores, and
- 500 cores collected during scientific

### Library Details

Learn more about the library

- Scheduling your visit
- Selecting drill core
- Viewing drill core
- Sampling drill core
- Delivering drill core
- Policies and Purpose

### Map

View an interactive map displaying the geographic distribution of core and other samples stored at the drill core library.

The web map also includes GIS layers of all state minerals leases (active and past relief (UD08) both sourced from the DNR. Enr

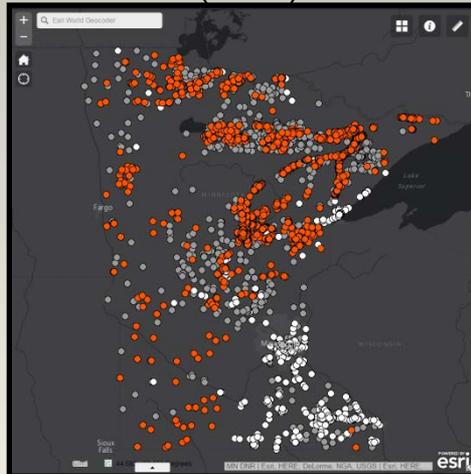


[http://www.dnr.state.mn.us/lands\\_minerals/dc\\_library.html](http://www.dnr.state.mn.us/lands_minerals/dc_library.html)





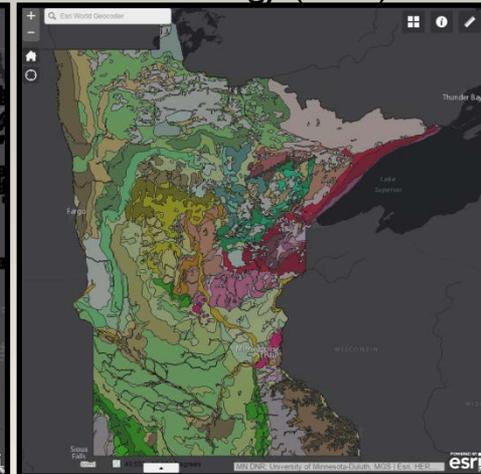
## Drill Holes (DNR)



## State Mineral Leases (DNR)



## Surficial Geology (MGS)



## Select Map Layers

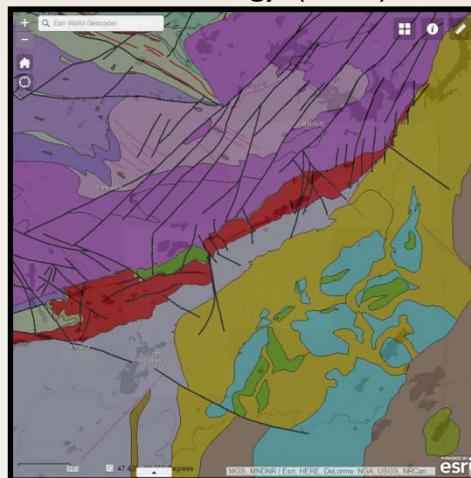
Toggle on/off GIS layers to view in map

Minnesota's Drill Core Library

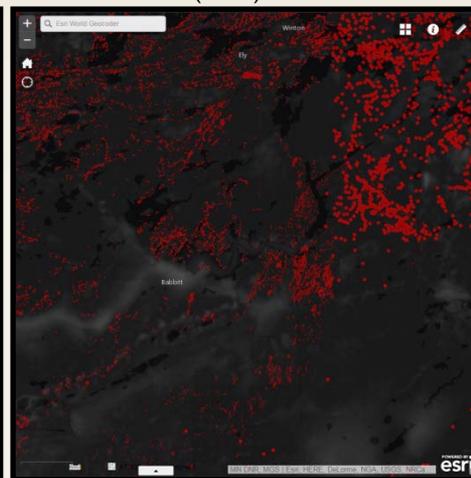
Layer List

- Operational Layers
  - Drill Core Library Core Samples
  - All State Minerals Leases
  - Surficial Geology of Minnesota
  - Bedrock Geology of Minnesota
  - Bedrock Outcrops
  - Depth to Bedrock Map for Minnesota
  - Aeromagnetic Map of Minnesota
  - Hillshade
  - USA Topo Maps

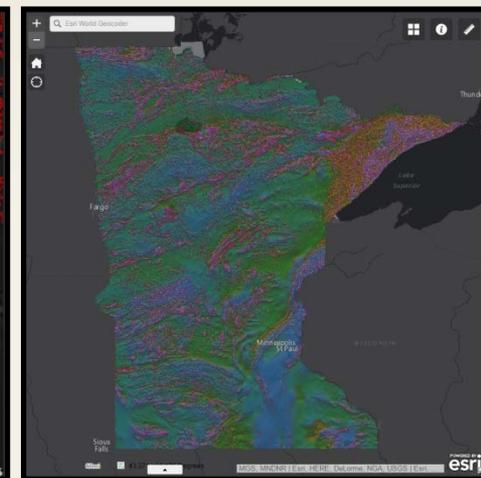
## Bedrock Geology (MGS)



## Bedrock Outcrops & Depth to Bedrock Model (MGS)



## Aeromagnetic Map (MGS)

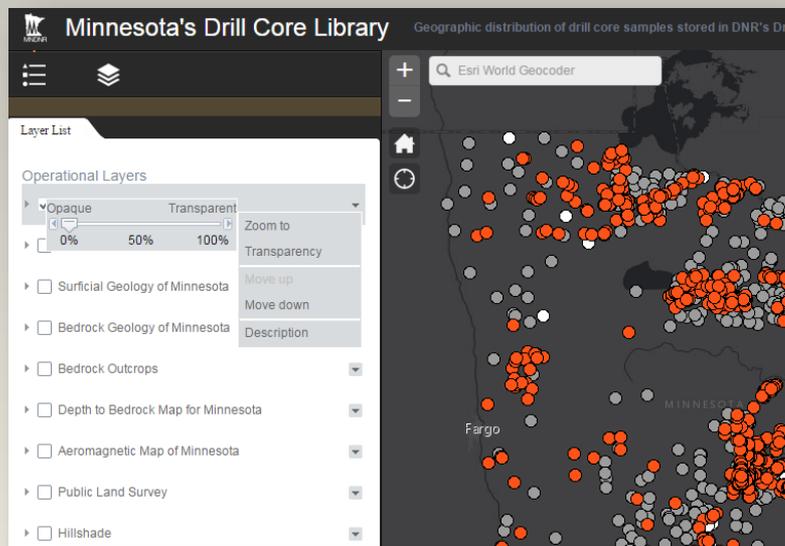


[http://www.dnr.state.mn.us/lands\\_minerals/dc\\_library.html](http://www.dnr.state.mn.us/lands_minerals/dc_library.html)

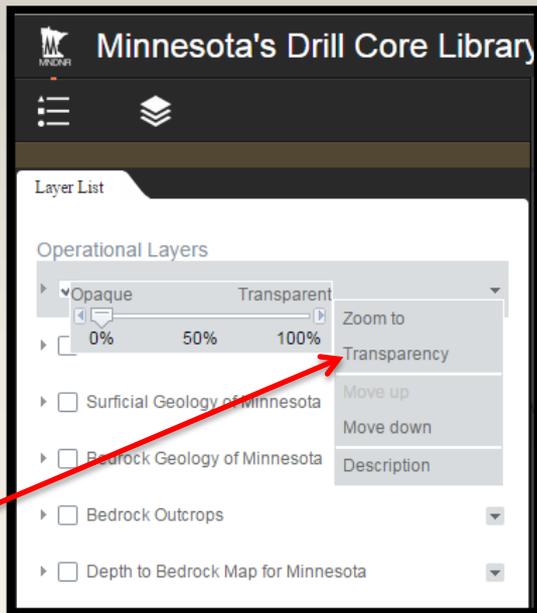




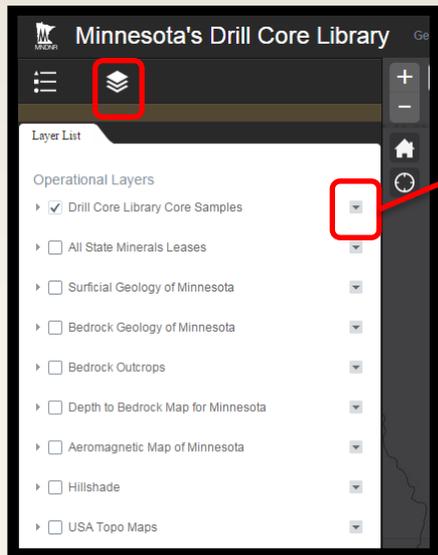
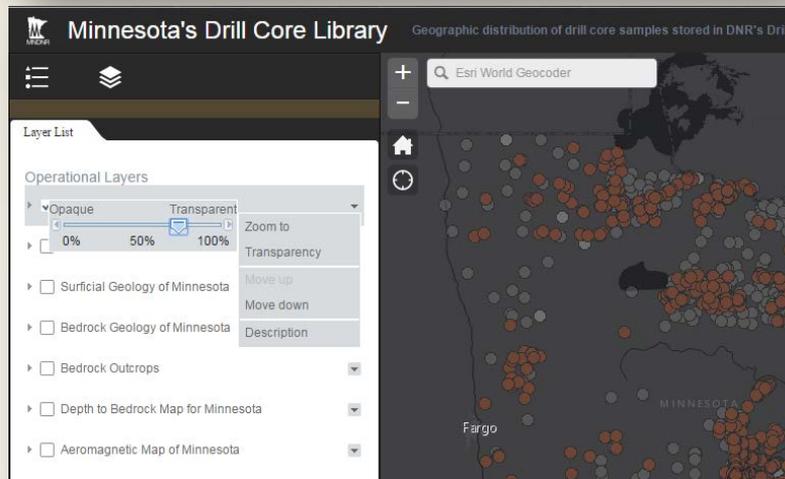
0% Opaque



## Select Map Layers Set a layers transparency



75% Opaque:  
See items below easier

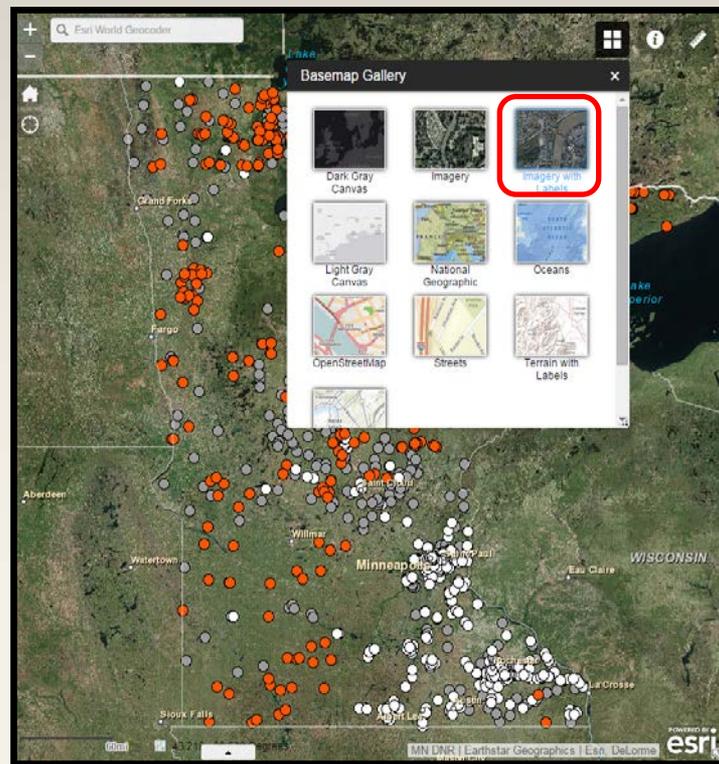
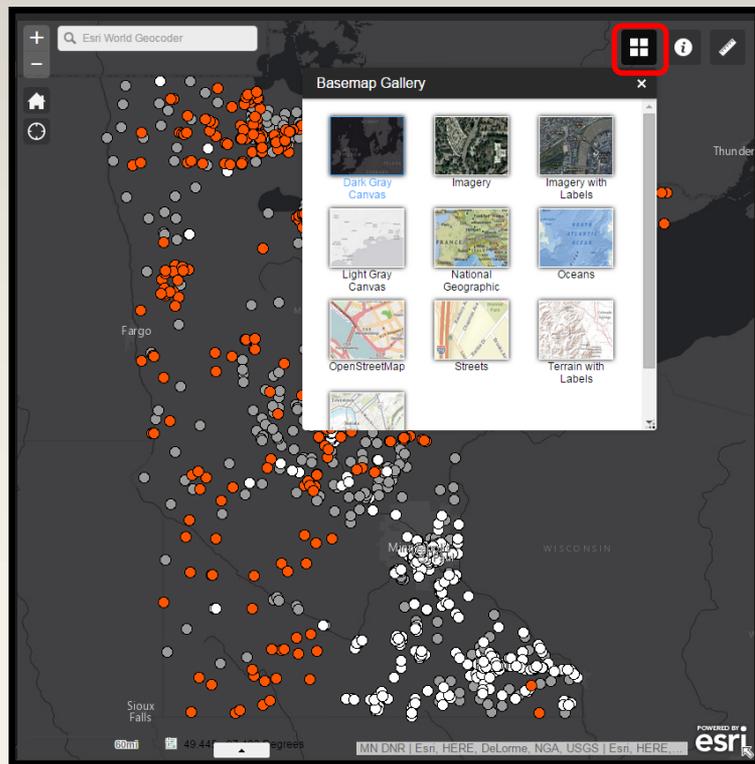


[http://www.dnr.state.mn.us/lands\\_minerals/dc\\_library.html](http://www.dnr.state.mn.us/lands_minerals/dc_library.html)





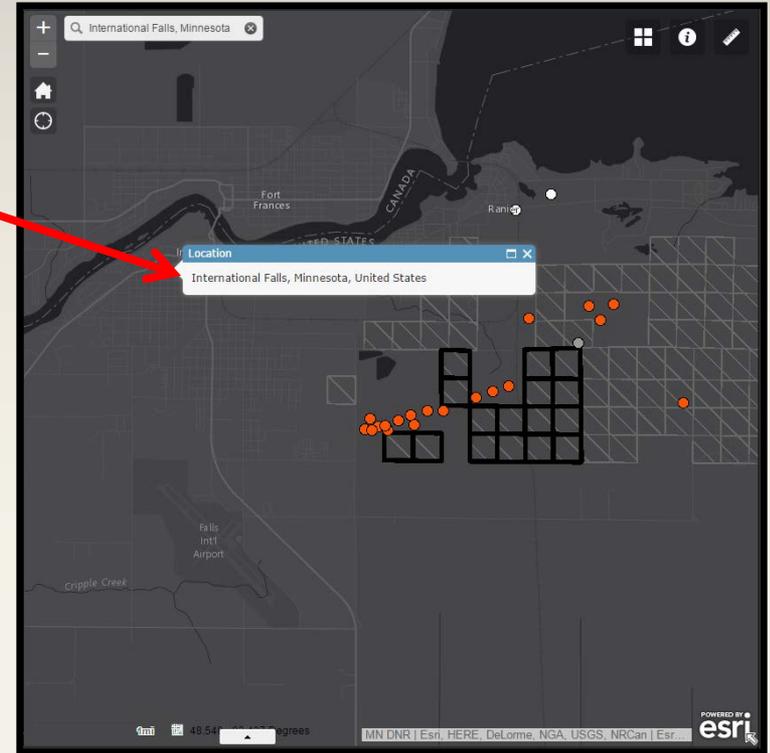
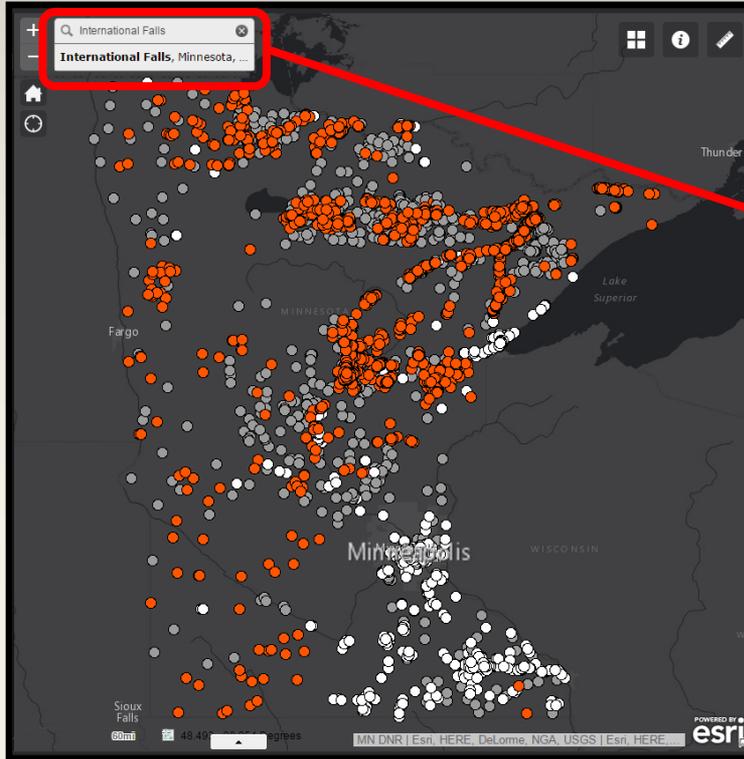
# Change Basemap – Select from 10 different basemaps





## Search for a geographic location

*Use the search bar to zoom to a city or county*



# Display and ID drill holes, geology, and state mineral leases

**Minnesota's Drill Core Library** Geographic distribution of drill core samples stored in DNR's Drill Core Library

Search: Cook, Minnesota, United State

**Layer List**

Operational Layers

- Drill Core Library Core Samples
  - Core and Samples Stored in DNR Drill Core Library
    - Exploration
    - Scientific
    - Engineering and/or MnDOT
- All State Minerals Leases
  - Active State Minerals Leases
  - Terminated or Expired State Minerals Leases
- Surficial Geology of Minnesota
- Bedrock Geology of Minnesota
- Bedrock Outcrops
- Depth to Bedrock Map for Minnesota
- Aeromagnetic Map of Minnesota
- Hillshade

**Drill Holes**

**Active State Leases**

**Terminated State Leases**

**Core and Samples Stored in DNR Drill Core Library: Exploration**

DNR Inventory Number	14721
General Type	Exploration
Drill Hole Name (DDH)	TC-35-7
Date Drilled	December 18, 1989
County	KOOCHICHING
Drill Method	CORE
Company or Agency	NEWMONT EXPL LTD
Township	71
Range	23
Section	35
Forty	SESENE

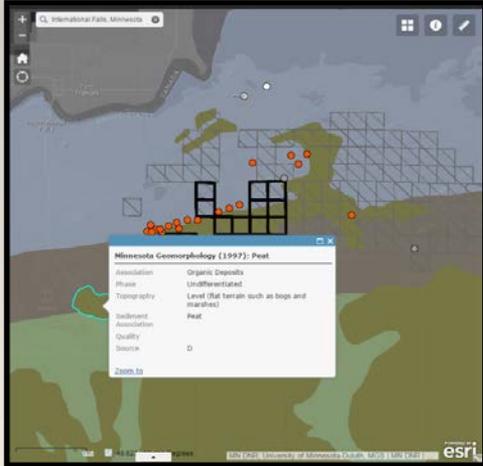
[Zoom to](#)

Also view MGS Statewide Surficial & Bedrock Geology, Outcrops, Depth to Bedrock, and Aeromagnetic Layers

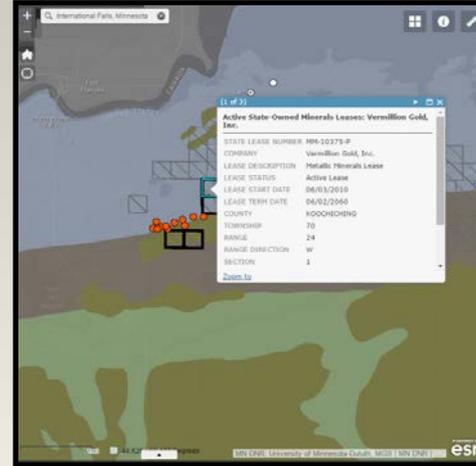
POWERED BY **esri**



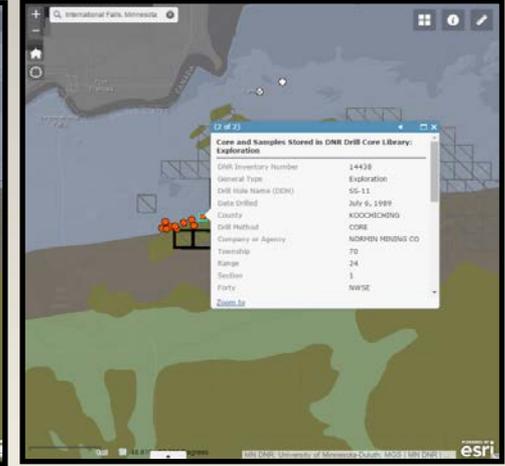
## Surficial Geology



## State Mineral Leases

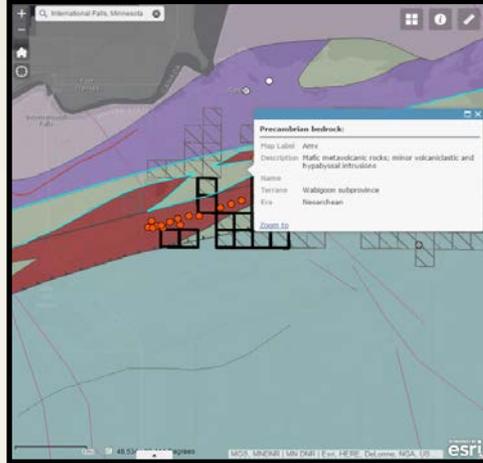


## Drill Holes (DNR)

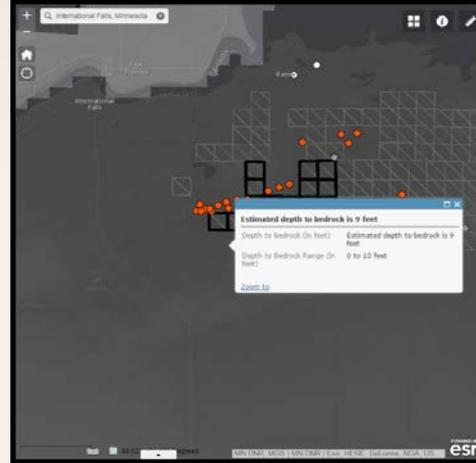


*ID most map features by clicking on the map*

## Bedrock Geology



## Depth to Bedrock Model (MGS)



**Core and Samples Stored in DNR Drill Core Library: Exploration**

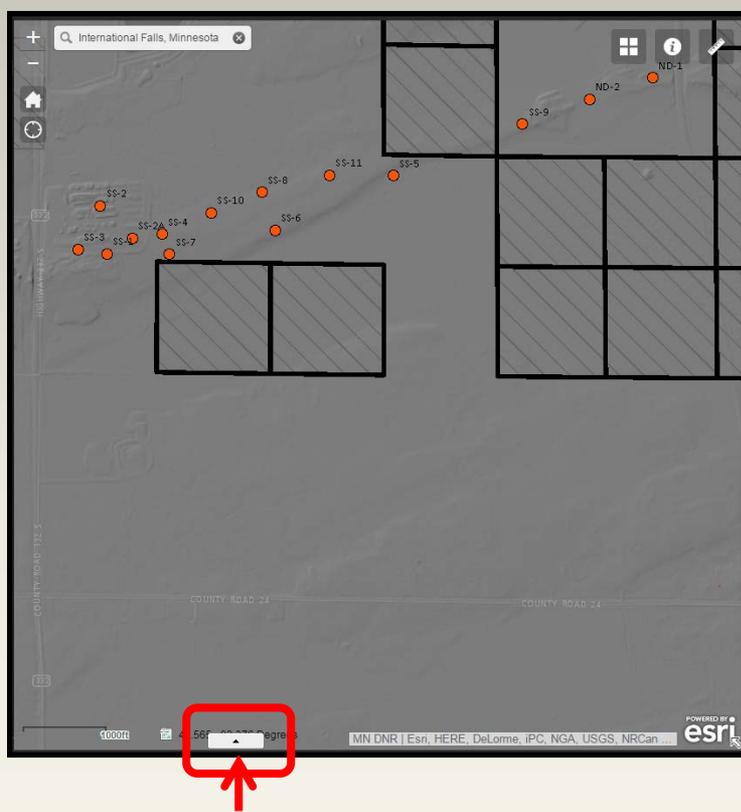
DNR Inventory Number	14433
General Type	Exploration
Drill Hole Name (DDH)	SS-6
Date Drilled	February 1, 1989
County	KOOCHICHING
Drill Method	CORE
Company or Agency	NORMIN MINING CO
Township	70
Range	24
Section	1
Forty	NWSE

[Zoom to](#)

*Zoomed in look at ID window*



# View map features in a tabular format



drill hole id	general type	drill hole name	date drilled	county	drill method	company or	township	range	section	forty	governme
14 35	Exploration	SS-8	6/28/1989, 7:00 PM	KOOCHICHING	CORE	NORMIN MINING CO	70	24	1	NESW	0
14 38	Exploration	SS-11	7/6/1989, 7:00 PM	KOOCHICHING	CORE	NORMIN MINING CO	70	24	1	NWSE	0
14 262	Exploration	ND-1	2/2/1986, 6:00 PM	KOOCHICHING	CORE	NORMIN MINING CO	70	23	6	NESENW	0
14 436	Exploration	SS-9	6/30/1989, 7:00 PM	KOOCHICHING	CORE	NORMIN MINING CO	70	23	6	SWNW	0

1. Select the 'up arrow symbol' to bring out the tabular records of any visible map layer.

Shown here are:

- Drill holes
- Active state leases
- Terminated state leases

2. Select 'Options' then check on 'Filter by Map Extent' (not shown) to limit your records to what's on your map screen.

- This graphic is showing 14 drill hole records in this area.
- There is also tabular information that you can turn on for active and terminated state leases.



## Learn more by clicking on the 'i' icon

- Instructions
- Metadata
- Links to data

International Falls, Minnesota

Fort Frances

International Falls

UNITED STATES

CANADA

Falls Int'l Airport

48.55° 90.123° degrees

POWERED BY esri

MN DNR, MGS | MN DNR | Esri, HERE, DeLorme, NGA, US...

### About the application

#### Description

#### About

This web map application displays the geographic distribution of drill core samples from DNR's Drill Core Library in Hibbing, Minnesota along with geologic maps and all state minerals leasing. This application is hosted by the MN Department of Natural Resources (DNR) with data sourced from the Minnesota Geological Survey (MGS), DNR, and the University of Minnesota-Duluth.

Visit the DNR's Drill Core Library webpage at: [http://www.dnr.state.mn.us/lands\\_minerals/dc\\_library.html](http://www.dnr.state.mn.us/lands_minerals/dc_library.html)

#### What will the web map display?

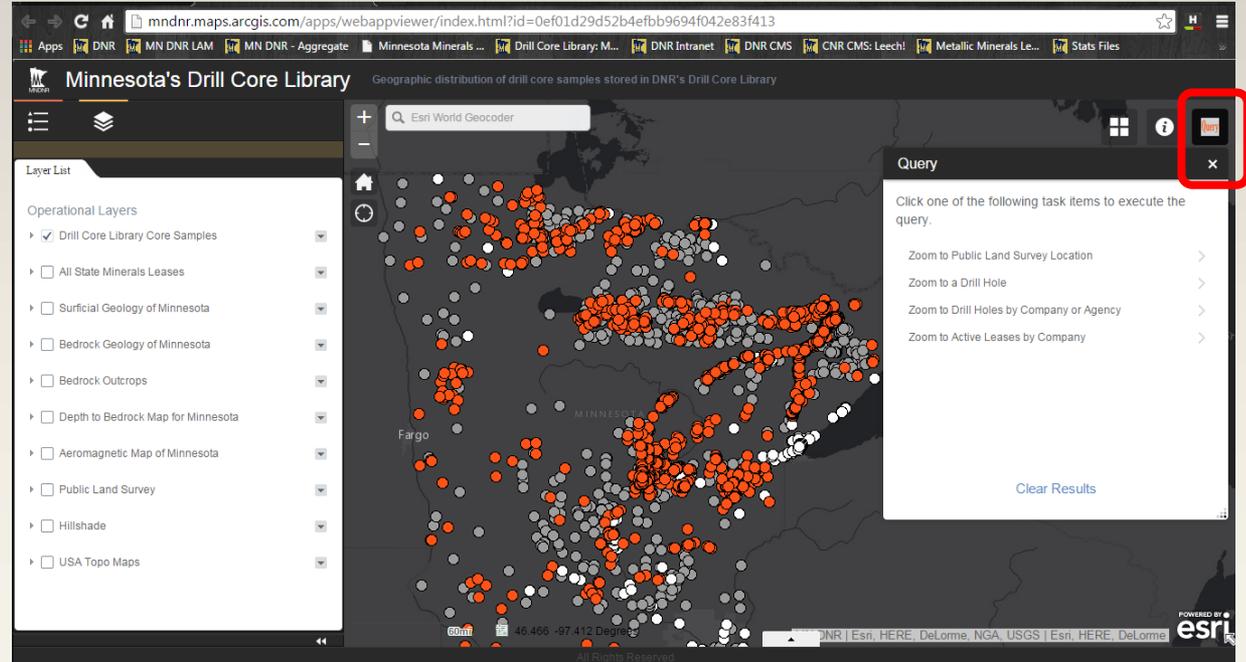
- Drill Core Sample Locations that are stored in the Drill Core Library
- Minnesota geologic maps
- High Resolution Surface Relief (LiDAR)
- Basemaps (Air Photos, Streets, Topographic)

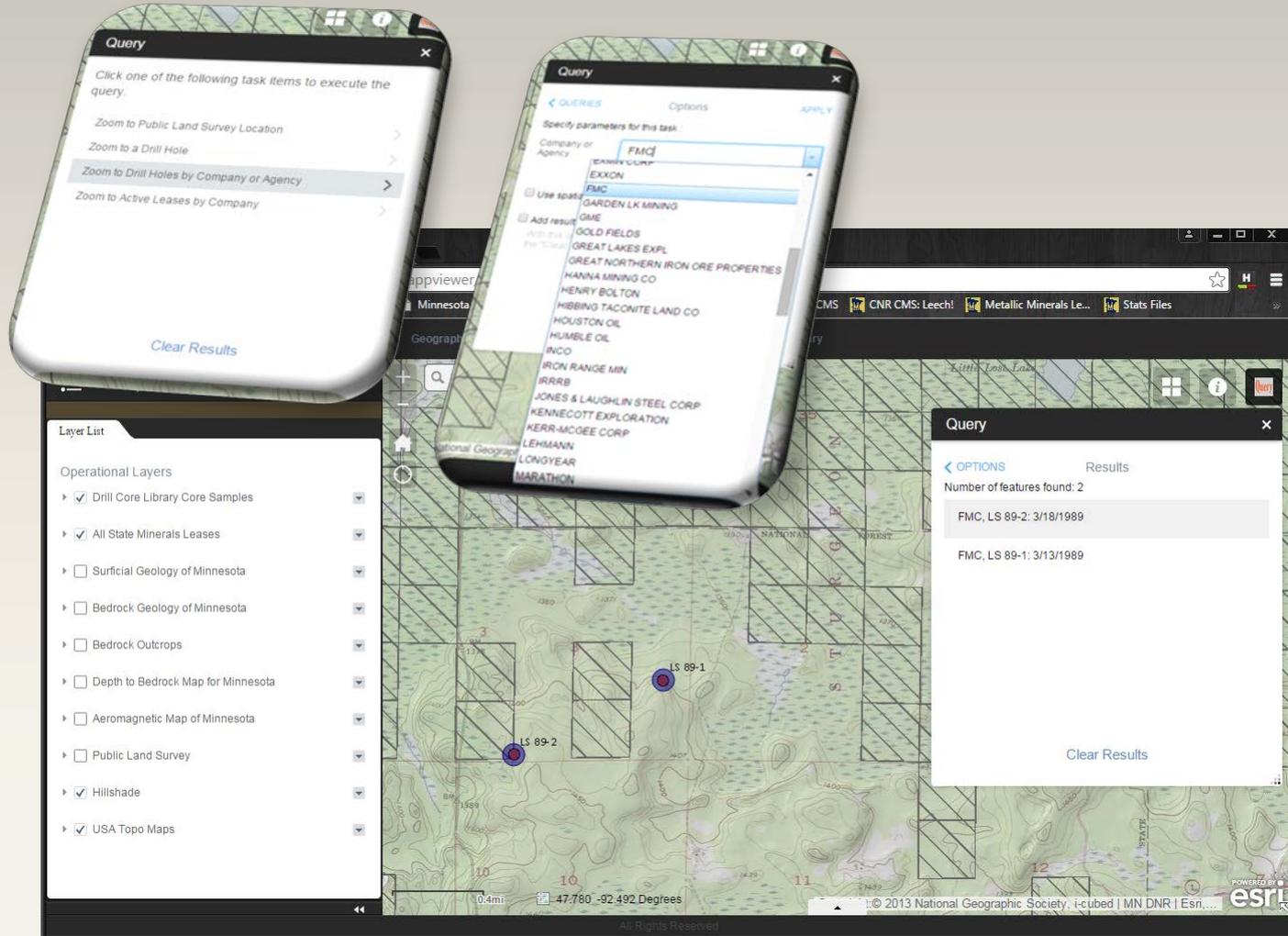
#### How can I interact with the map?

- Zoom to any county, city, zip code, or address
- Turn on and off any Map Layer or Basemap
- Tap/Click on the map to get information about each of the Map

## Query Tool:

- **Zoom to certain selected data**
  - **Public Land Survey Location**
  - **Drill hole name**
  - **Drill holes by company or agency**
  - **Active state minerals leases by company**





## How it works?

- **Drill holes by company or agency query**
  - **Select from Drop-Down List (FMC)**
  - **Click Apply**
    - **Application zooms to drill hole locations**