

# MOUNT HOREB RESEARCH COLLECTIONS AND EDUCATIONAL CENTER

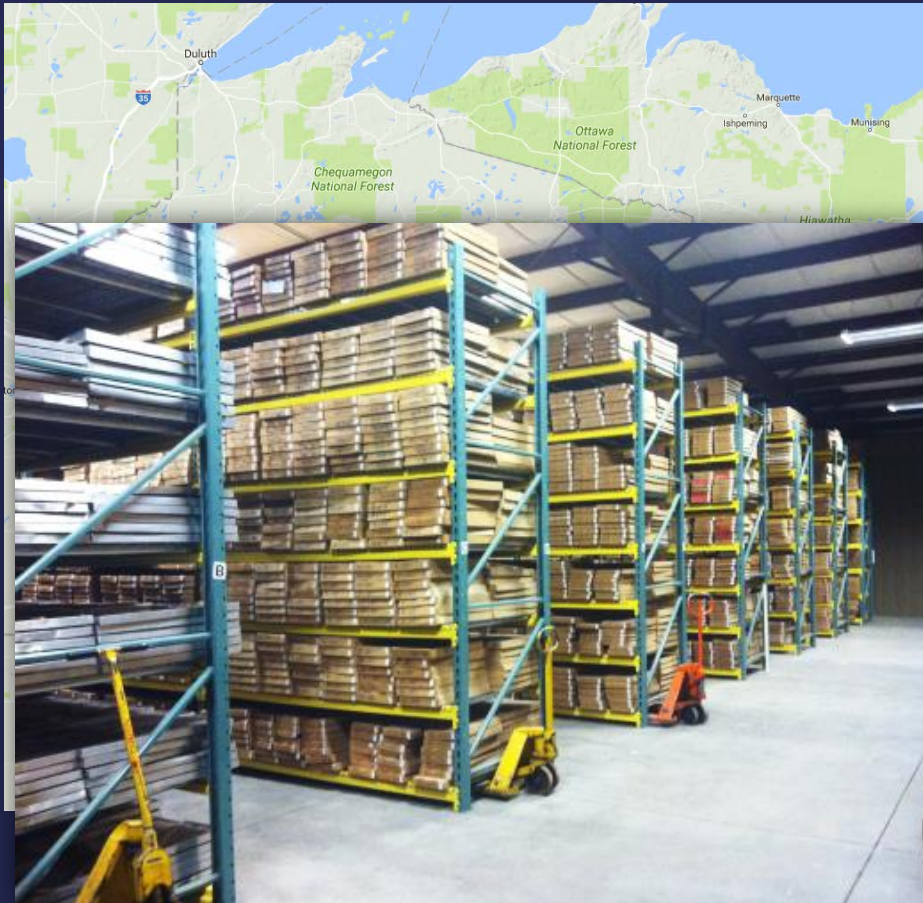
Val Stanley, Samples and Laboratories Manager

[val.stanley@wgnhs.uwex.edu](mailto:val.stanley@wgnhs.uwex.edu)

3817 Mineral Point Road  
Madison, WI 53705  
608-263-4004

211 South Blue Mounds Street  
Mount Horeb, WI 53572  
608-262-CORE (2673)

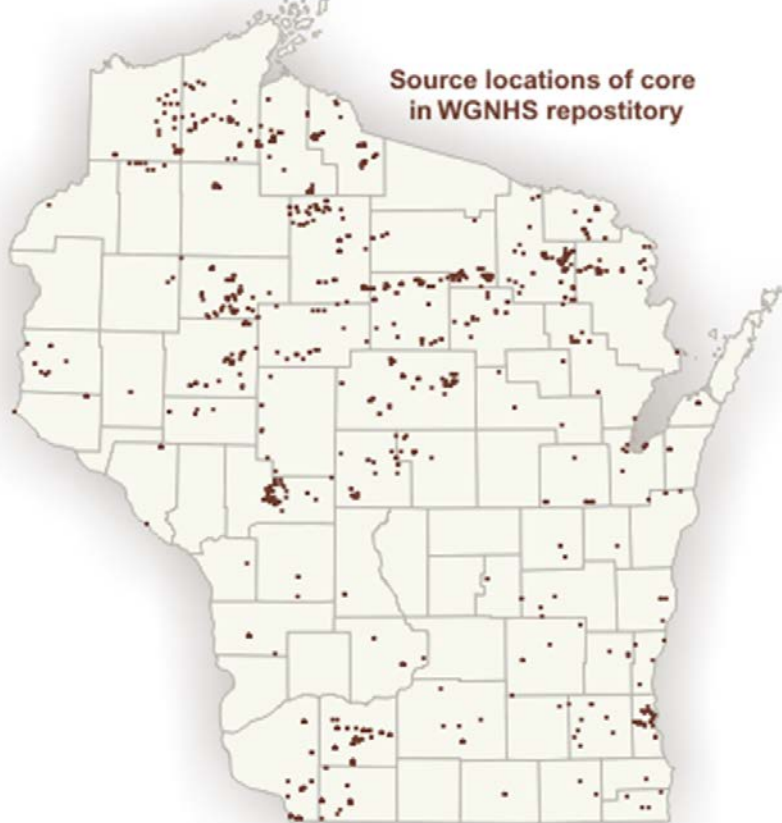
# THE REPOSITORY



- 20,000 square feet, 20 miles west of main office
- Cold storage for active sediment core projects
- Ambient temperature for dry storage
- Houses geotechnical equipment, publications archive, and drill rig
- Staff
  - Samples and Laboratories Manager
  - Facilities Manager
  - 2 designated student technicians (~20 hr/wk)

# SIZE AND SCOPE OF THE COLLECTION

<http://wgnhs.uwex.edu/research/core-repository/>



- Rock core from over 2,000 drill holes
  - Comprise more than 600,000 linear feet of rock
- 7,200 feet of sediment core through glacial deposits
- Cuttings from 11,000 water wells
  - 570,000 individual samples collectively representing ~2.7 million linear feet of drilling
- 51,000 hand samples
- Field notes, geophysical logs and records, thin sections, assays, etc.

# DONATION PROCESS AND ACCESSION DOCUMENTATION

Wisconsin Geological and Natural History Survey  
Accession Record and Transmittal Agreement for Acceptance of Non-WGNHS Materials  
Mount Horeb Research Collections and Education Center

By these presents, I (we) hereby irrevocably and unconditionally give, transfer, and assign to the Wisconsin Geological and Natural History Survey all rights, title, and interests (including all copyright, trademark, and related interests) in, to, and associated with, the object(s) described below. I (we) affirm that I (we) own said object(s), and that, to the best of my (our) knowledge, I (we) have such right, title, and interests to give and that said object(s) were collected or acquired in accordance with applicable laws. I (we) understand that this transfer may not be exploited on my (our) part(s) for commercial gain or profit.

Date received \_\_\_\_\_

Collector information	Previous archive for objects
Name: _____	_____
Title: _____	_____
Organization: _____	_____
Address: _____	_____
City/State/Zip: _____	_____
Phone: _____	_____
Email: _____	_____

Description of object(s)

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Signature of Donor \_\_\_\_\_ Date \_\_\_\_\_

Signature of Donor \_\_\_\_\_ Date \_\_\_\_\_

The Wisconsin Geological and Natural History Survey's Mount Horeb Research Collections and Education Center hereby acknowledges receipt of the above Transmittal Agreement.

Signature of Director \_\_\_\_\_ Date \_\_\_\_\_

Since 2013:

## Donations

- 16 cores / 1,680 ft / 184 boxes
- 5 sets of cuttings
- 15 boxes of hand samples

## WGNHS drilled

- 25 cores / 8,208 ft / 728 boxes

# VISITORS AT MHRCEC

**UW Extension**  
University of Wisconsin-Extension

**Wisconsin Geological & Natural History Survey**

**Visitor Application**

The Wisconsin Geological and Natural History Survey's geologic repository—the Research Collections and Education Center (RCEC)—houses a variety of carefully organized and maintained earth-science materials. These collections are essential to improving our scientific understanding of the geology and natural resources of the state of Wisconsin. To date, the repository holds:

- 1) drill cores from more than 2,000 drill holes, comprising more than 600,000 linear feet of subsurface rock samples from mineral, engineering, and geologic investigations,
- 2) well cuttings from more than 11,000 individual water-wells, including 570,000 individual sample sets, each covering a 5-foot interval, collectively representing approximately 2.7 million linear feet of drilling, and
- 3) more than 51,000 hand-size rock samples from field studies.

The present-day replacement cost of these materials is conservatively estimated to be \$120 million to \$140 million; many parts of the collections are unique and irreplaceable. Protecting these materials is a vital part of our mission as subsurface samples are essential for evaluating new environmental issues, advances in technology, and changes in geologic theory.

\* Required

Name of visitor \*

Email address \*

Name of Principal Investigator \*

Email address for project PI \*

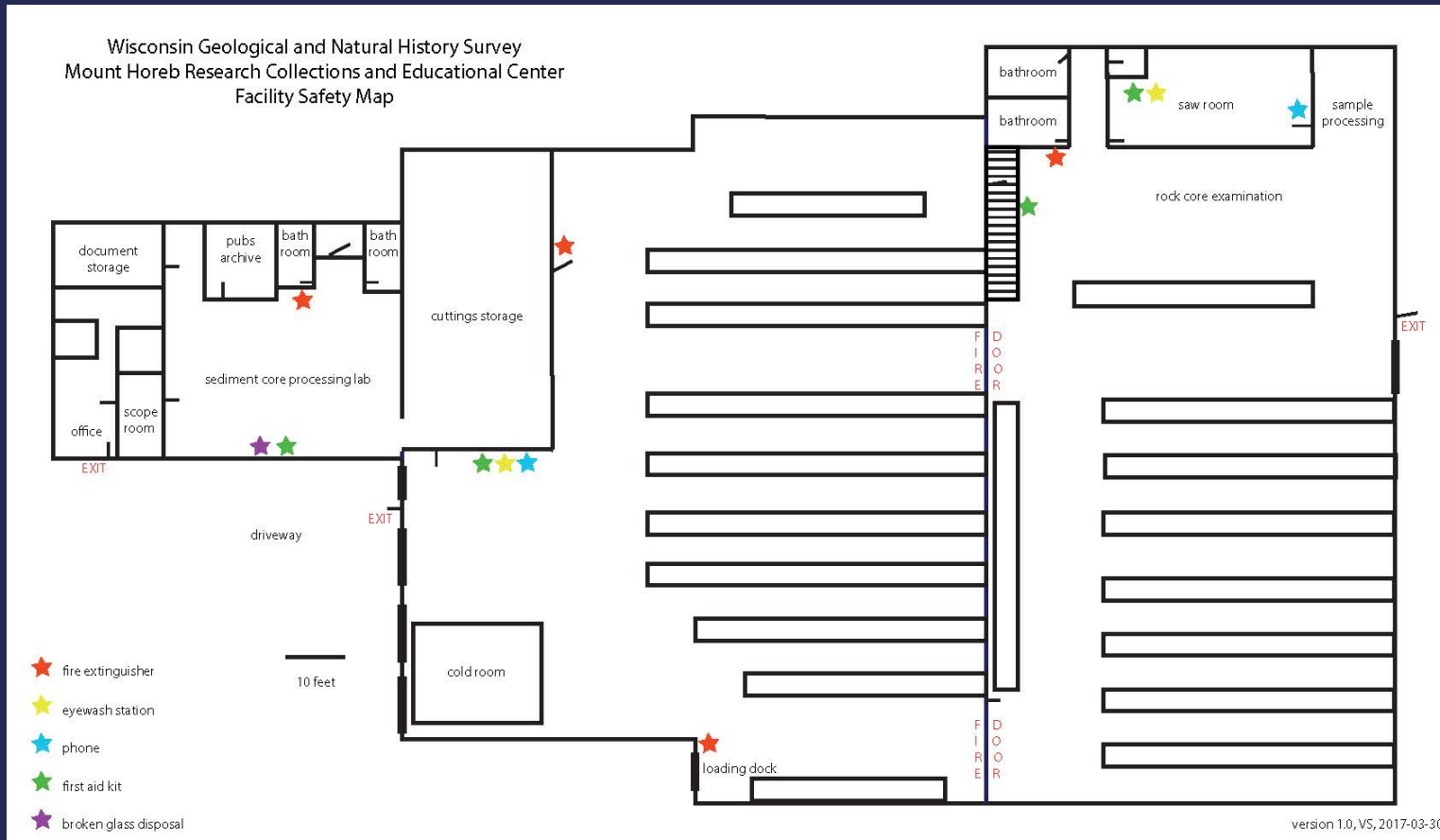
Names of visitor assistants  
List names of other members of your visiting party here.

Edit this form

February 2015-April 2017

- 23 separate visits from non-WGNHS researchers (from 6 states)
- 29 visitors (PIs, students)
- 72 cores requested, 3 cuttings sets
- 379 subsamples collected
- Data to be collected on subsamples: major and trace element geochemistry, thin sections (petrology, mineral textures, elemental analyses, elemental mapping), XRF, sulfur isotopes, lithologic descriptions, magnetic susceptibility, electrical conductivity, detailed fracture description, triaxial creep measurements, rock strength, CT scans, slab scans, chromium extraction, rock magnetics

# SAFETY & POLICY DEVELOPMENT



- Safety equipment updated
- Safety list document
- Map (and tour) of repository
- Facility use agreement
- Fee development

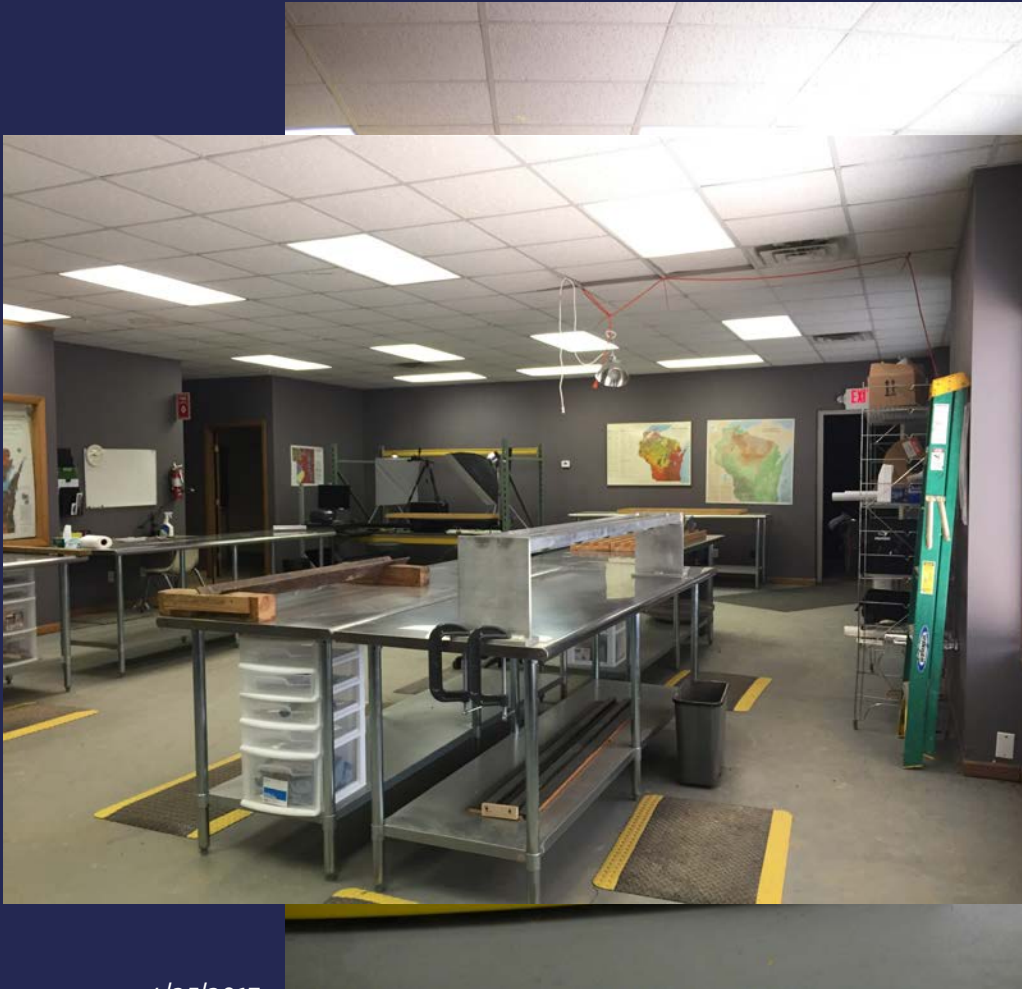
# WGNHS DATA TYPES

Potentially associated with physical samples, produced in-house:

- Photographs
- Descriptions
- Handheld XRF
- Grain size
- Borehole geophysics (Gamma, OBI, Temp, Caliper)
- Near-surface geophysics (GPR, ERI, HVSR)
- Maps
- Publications



# NEW SEDIMENT CORE PROCESSING LAB



4/25/2017



2017 Meeting of the Curators of Marine, Lacustrine, and Geological Samples



# NEW SEDIMENT CORE PROCESSING LAB

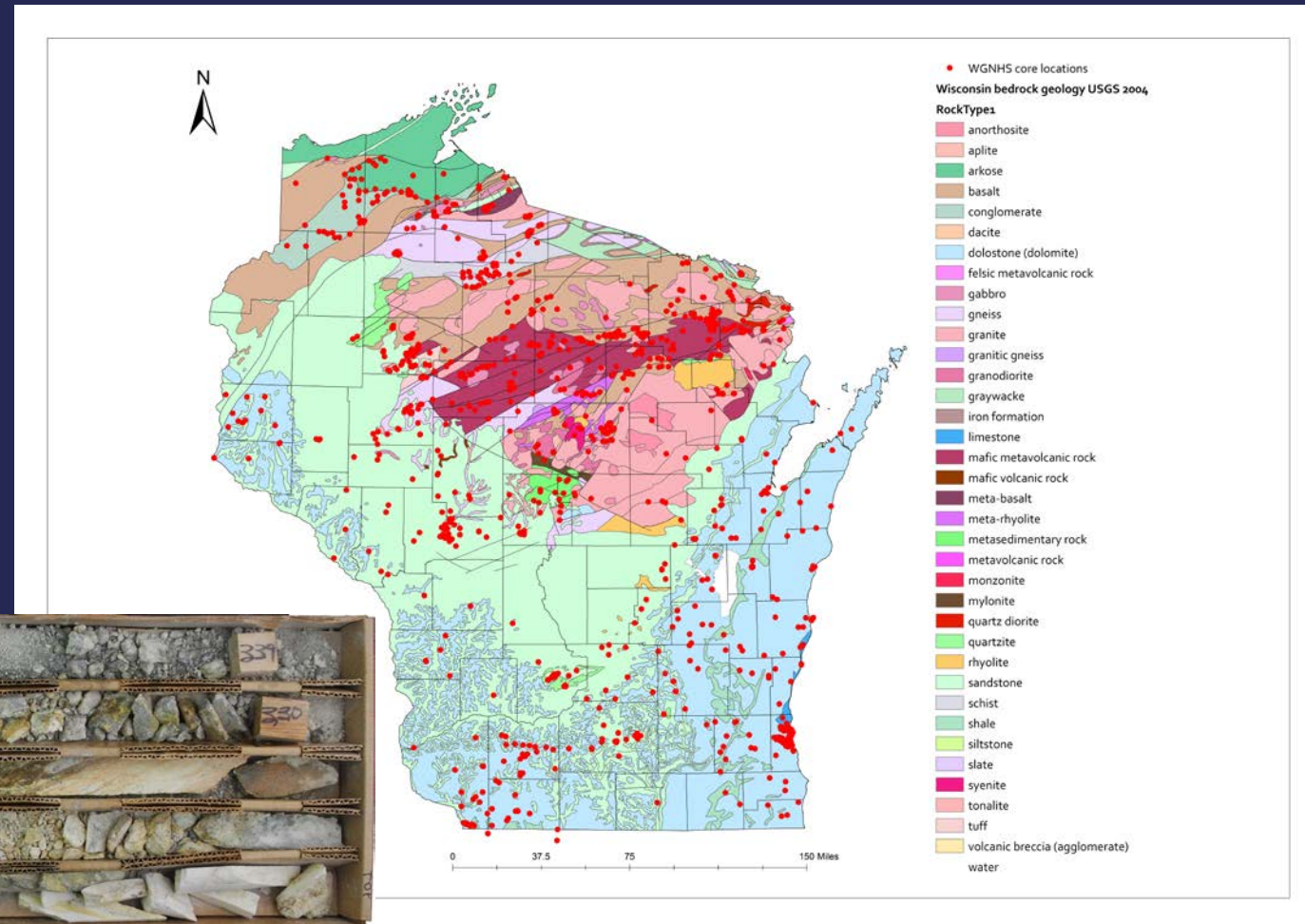
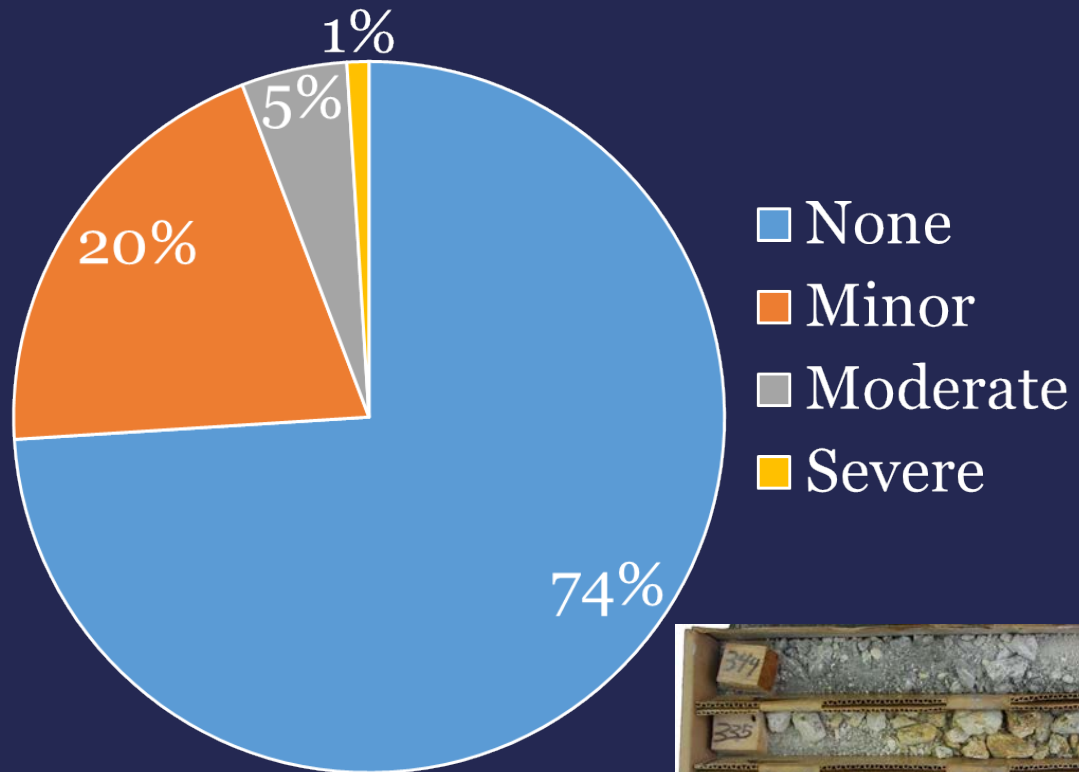


# EDUCATIONAL CENTER DISPLAYS

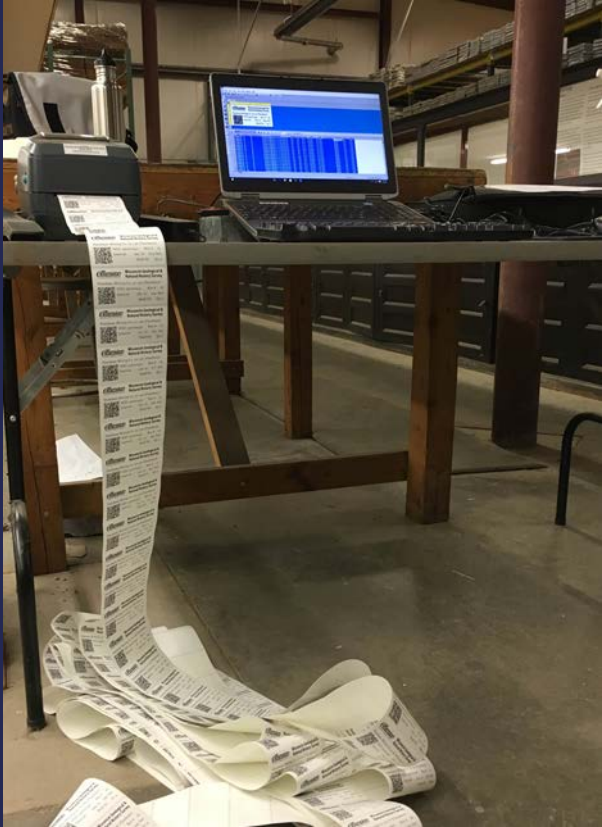




# DATA PRESERVATION



# NGGDPP BENEFIT: CURATORIAL INNOVATIONS



1. Digital sample tracking
2. Establish user protocols
3. Updated, detailed inventory
4. IGSNs assigned





# IMPLEMENTING DIGITAL WORKFLOWS

Before

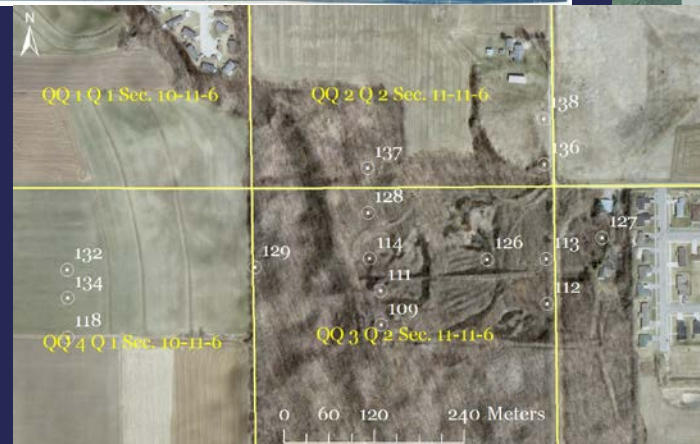
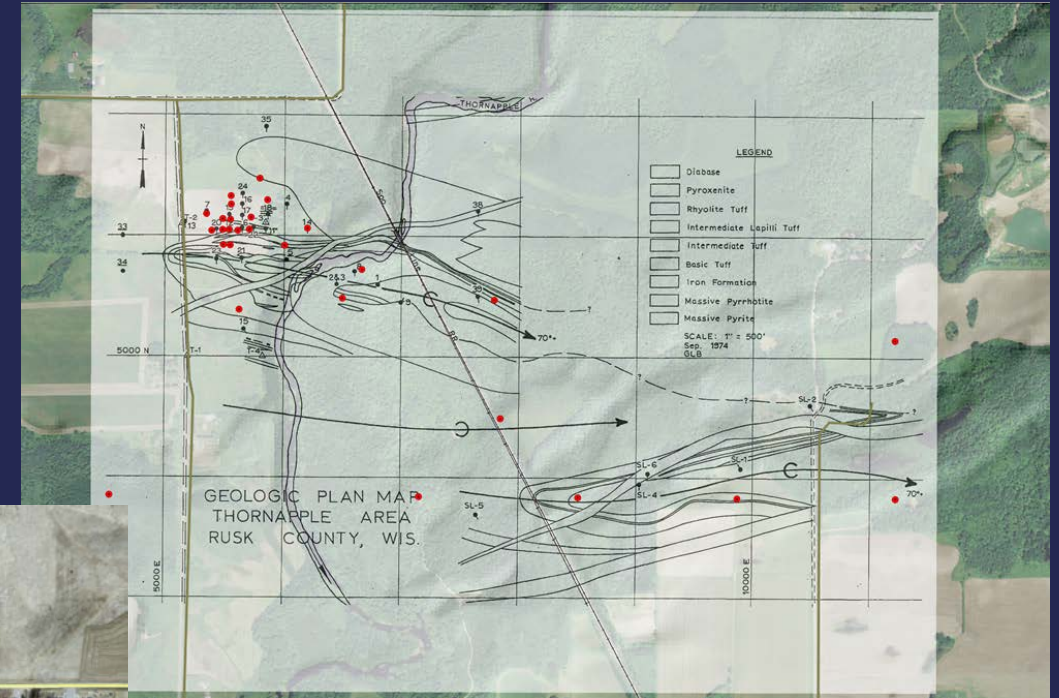


After

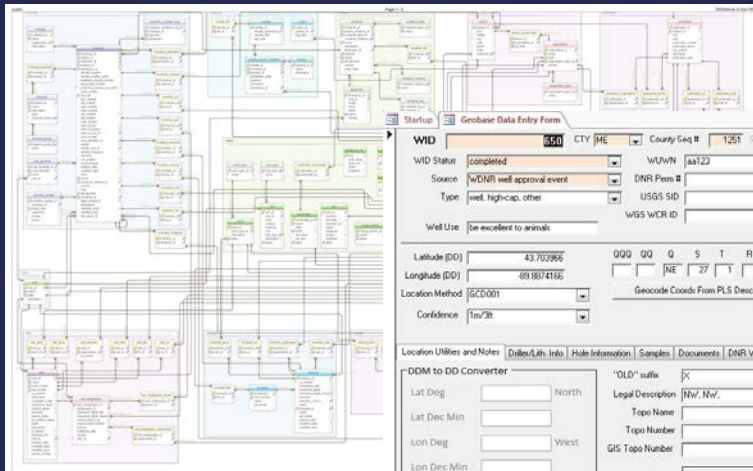




# DIGITIZING ASSOCIATED DOCUMENTS



# LONG TERM GOALS: EVALUATE DATABASE NEEDS, MAKE REVISIONS



**Geobase Data Entry Form**

WID: 250 CTV: ME County Seq: 1251 Site Name: Dummy record

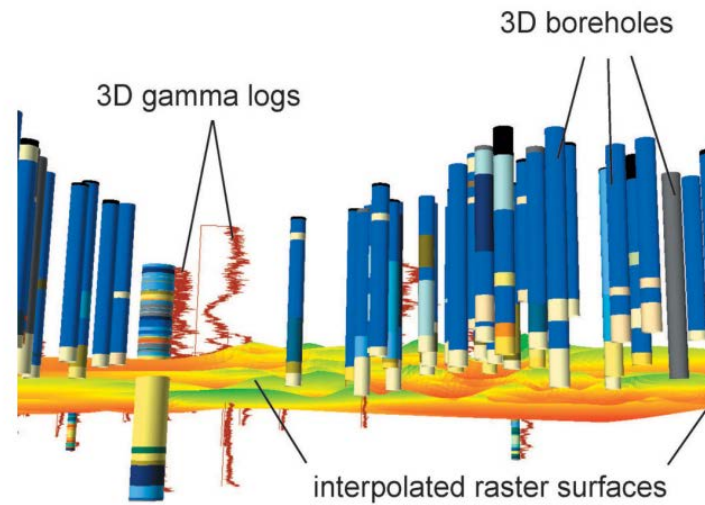
WID Status: completed WIDW/N: aa123  
 Source: WIDNR well approval event DNR Perm #:   
 Type: well, high-cap, other USGS SID:   
 Well Use: (be excellent to animals) WGS WCR ID:

Latitude (DD): 43.70296 Longitude (DD): -89.8074156  
 Location Method: GCD001 Confidence: Tm/3R

3D gamma logs 3D boreholes

Location Utilities and Notes: DDM to DD Converter, "OLD" suffix, Legal Description, Topo Name, Topo Number, GIS Topo Number, wcr\_image, Lec. Reliability, DTRSQQ, 401012710

Update Site Coordinates



**THE LAKE SUPERIOR LEGACY COLLECTION**

Home Filter Samples Sample Search About Contact

Select a map area or apply other filters.

**Filters**

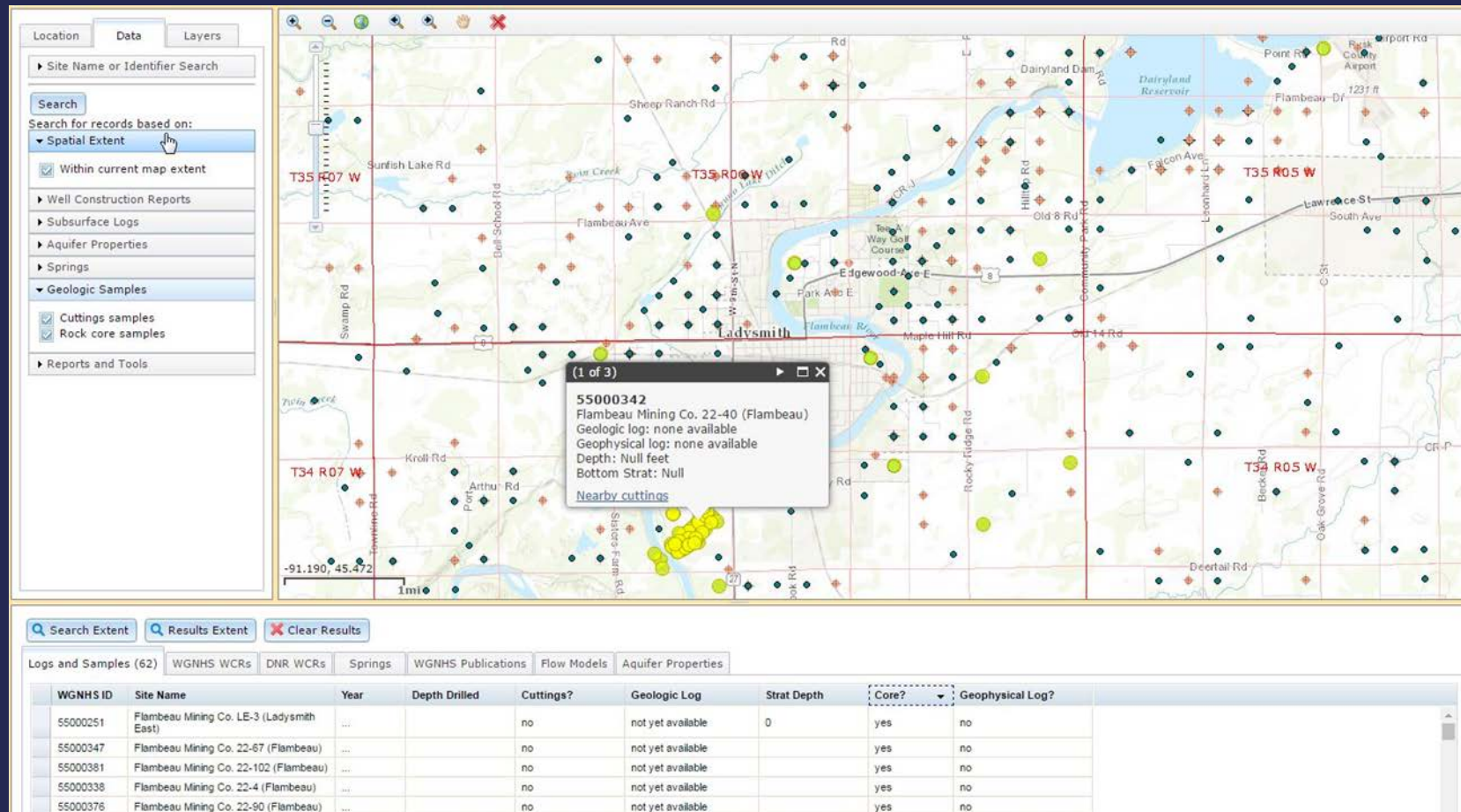
- Intersects map polygon: X
- Field description
- Hand sample available: ☒
- Min # of thin sections
- Sample Notes
- State
- Notebook Number
- Notebook Page
- WGNHS ID

**Results** 92 samples found

Catalog Number	Field Description	Hand Sample	Thin Sections	State	Notebook Number	Notebook Page	WGNHS ID	Notes
3204			1	Wisconsin			11700000	Described in Volume 1 of the Specimen Catalog <a href="#">available online here</a> .
3205			1	Wisconsin			11700001	Described in Volume 1 of the Specimen Catalog <a href="#">available online here</a> .
3208			1	Wisconsin			11700004	Described in Volume 1 of the Specimen Catalog <a href="#">available online here</a> .
3308			1	Wisconsin			11700006	Described in Volume 1 of the Specimen Catalog <a href="#">available online here</a> .



# LONG TERM GOALS: WEBSITE & DATA PORTAL DEVELOPMENT



LO  
INV



4/25/2017

ples



# CHALLENGES



- Culture change
  - Transition from specific research priorities to publically available collections.
- Recognition: long-term benefits in day-to-day activities
- Digital transition and data standardization
- Funding





# ANY QUESTIONS?



Big thanks to:

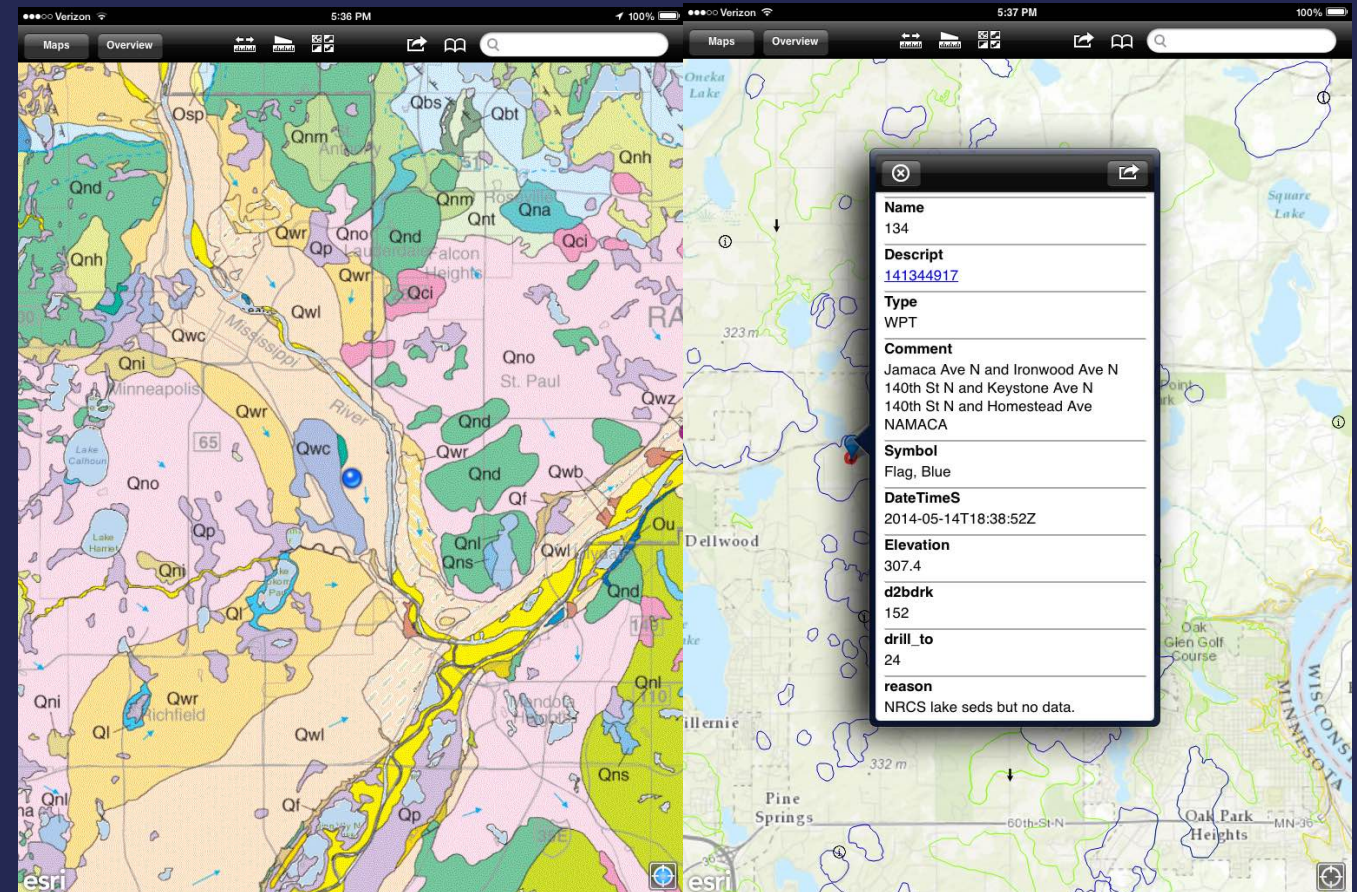
- WGNHS staff!
- Professor Robert Lodge, UW-Eau Claire
- Carrie Eaton, UW Geology Museum
- Laura Monahan, UW Zoology Museum
- Kandis Elliot, UW Emerita Exhibit Designer
- Student technicians:
  - Syazana Tuan Ab Rashid
  - Kevin Hutchison
  - Raquel Champion
  - Ethan Heyrman
- Interns:
  - Emily Anderson
  - Sarah Taylor



# FIELD DATA COLLECTION



4/25/2017



2017 Meeting of the Curators of Marine, Lacustrine, and Geological Samples