

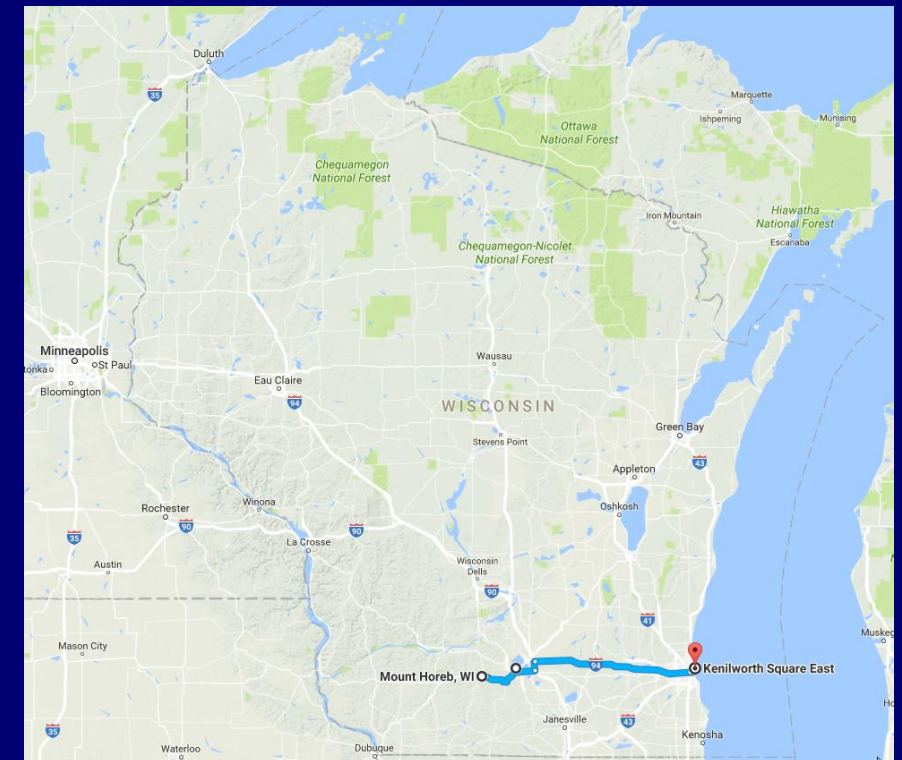
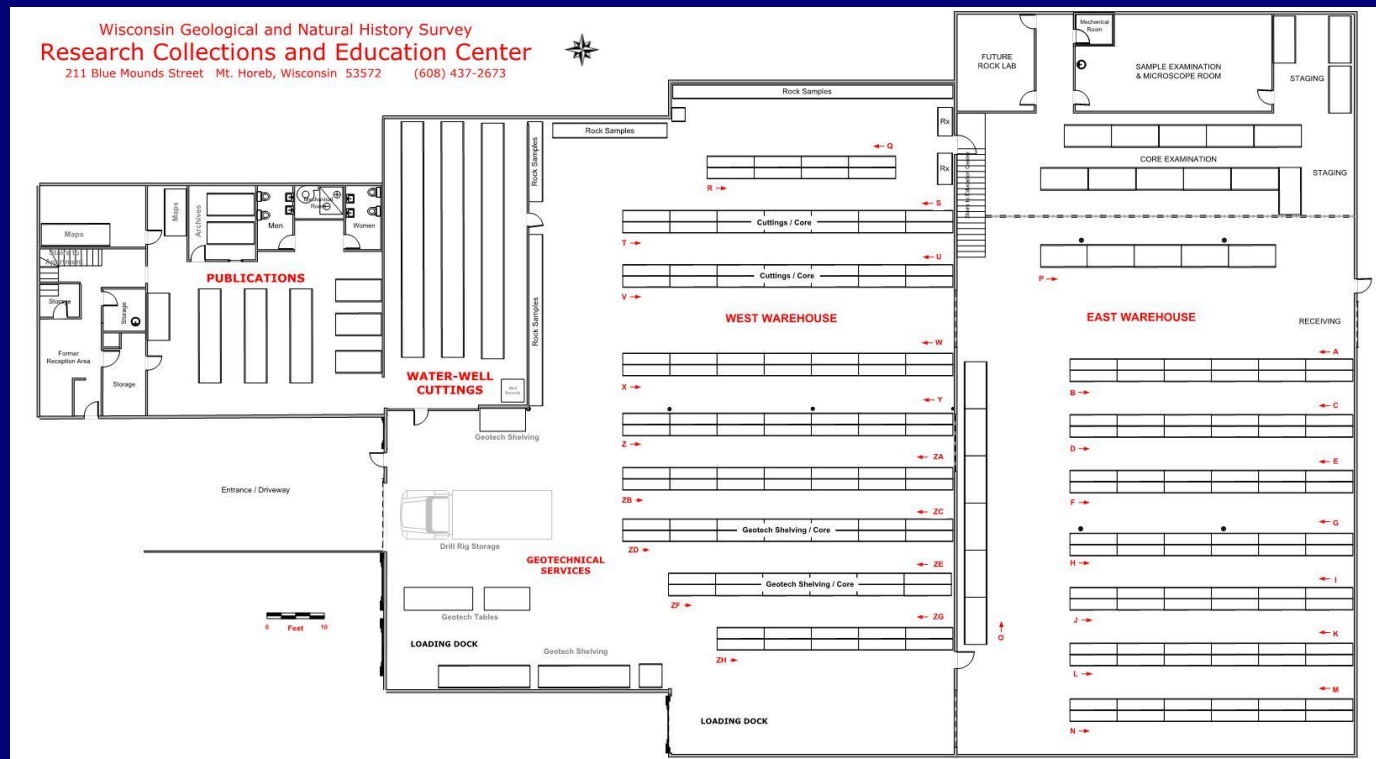


CHALLENGES FOR RESCUING DRILL CORE FROM VOLCANOGENIC MASSIVE SULFIDE DEPOSITS IN NORTHERN WISCONSIN

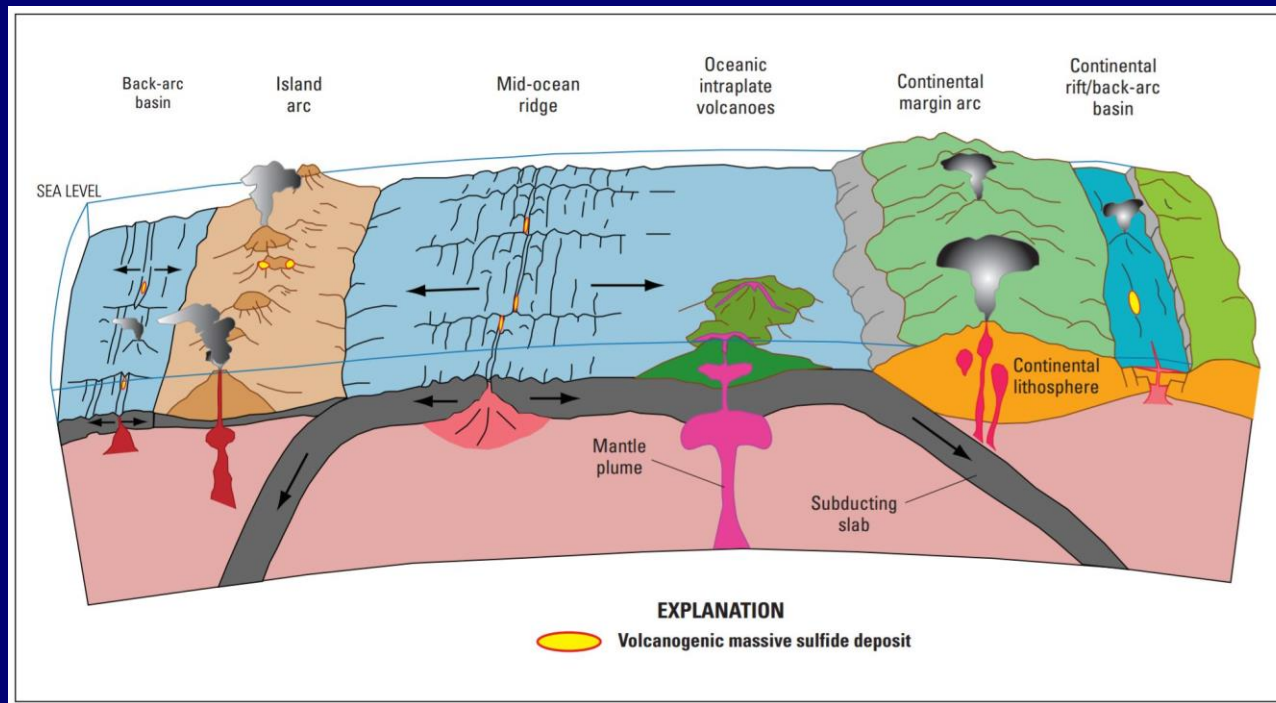
Val Stanley, Pete Schoephoester
Wisconsin Geological and Natural History Survey
Madison, WI

Rob Lodge
University of Wisconsin – Eau Claire
Eau Claire, WI

MOUNT HOREB RESEARCH COLLECTIONS AND EDUCATIONAL CENTER



VOLCANOGENIC MASSIVE SULFIDES (VMS)



DISTRIBUTION OF PRECAMBRIAN METAVOLCANICS IN WISCONSIN

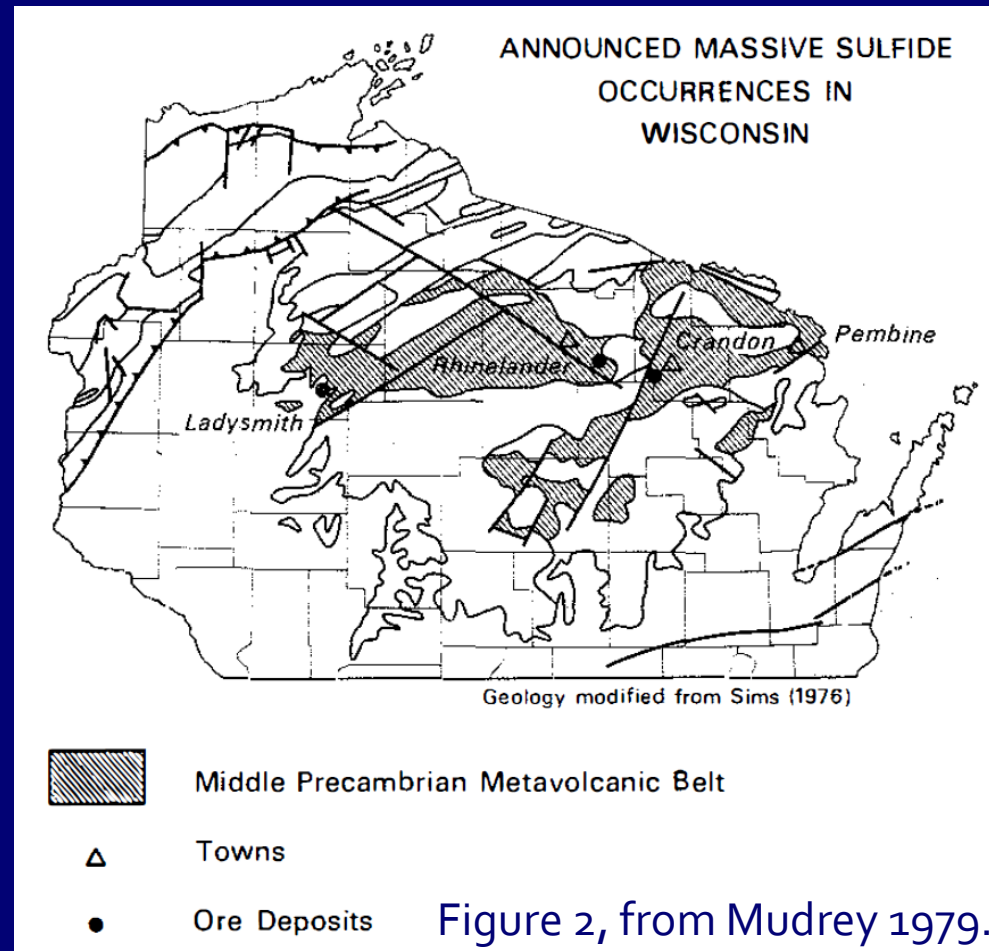
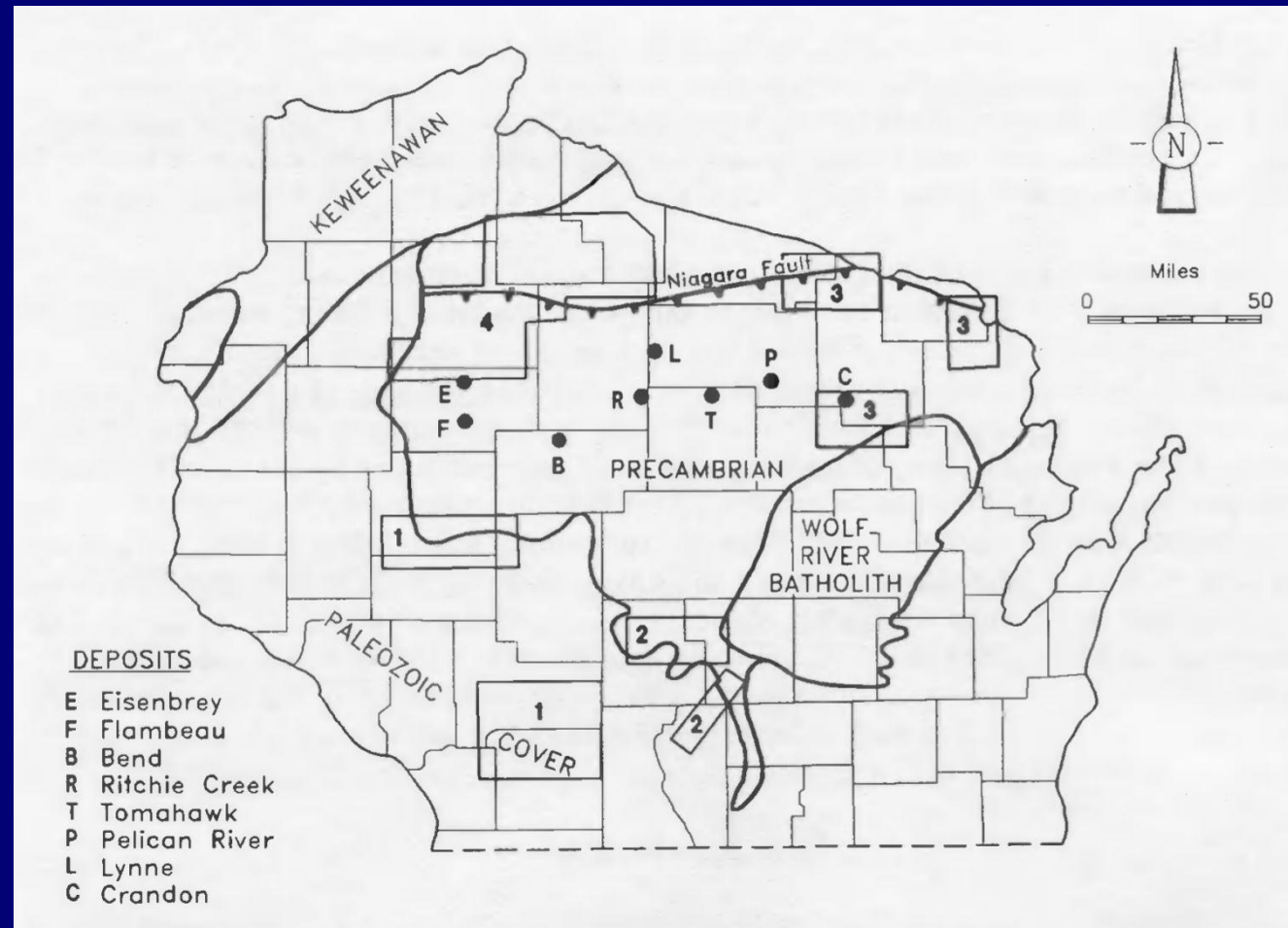


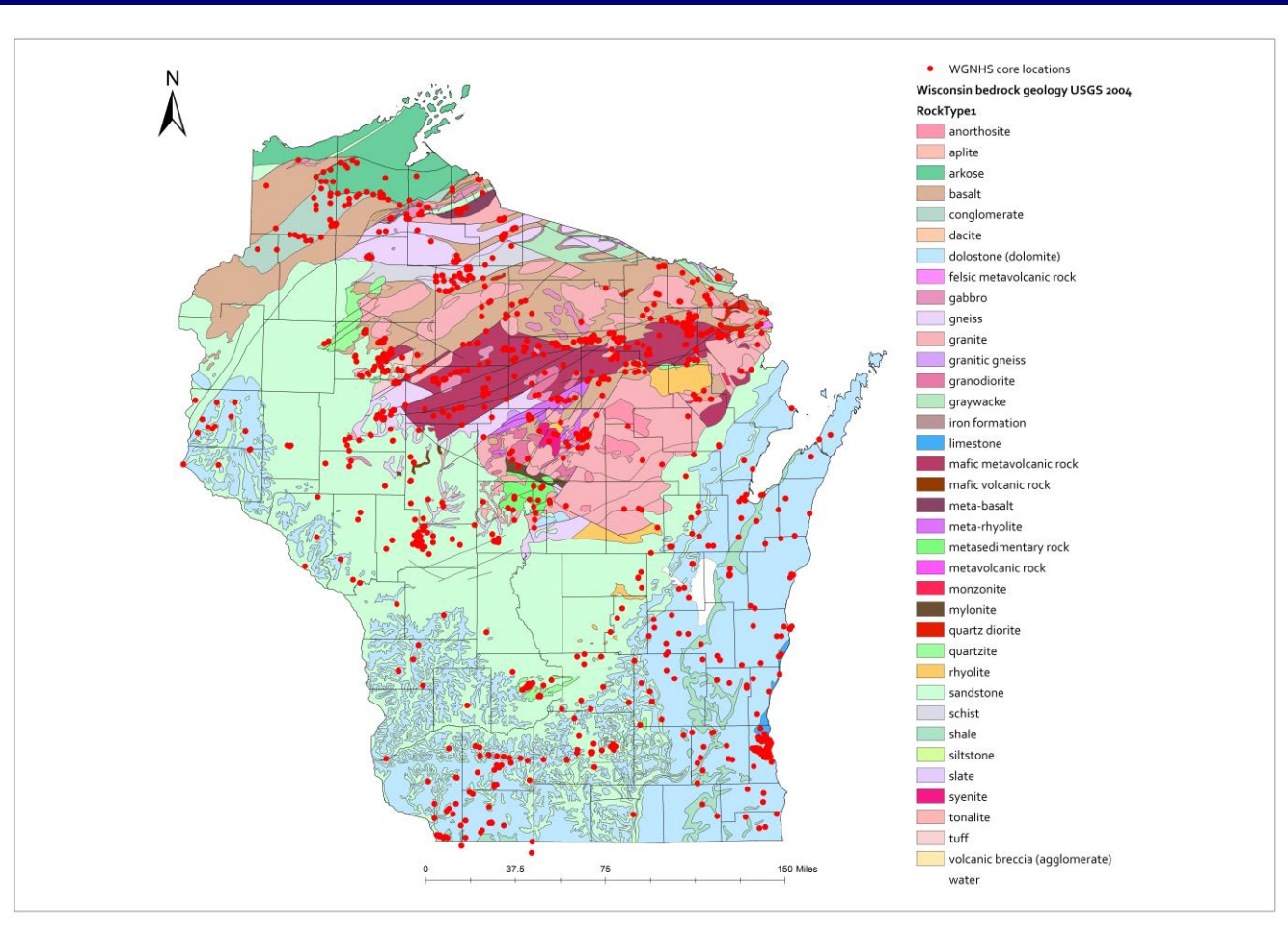
Figure 2, from Mudrey 1979.

DISTRIBUTION OF VMS DEPOSITS IN WISCONSIN





DISTRIBUTION OF CORE COLLECTION

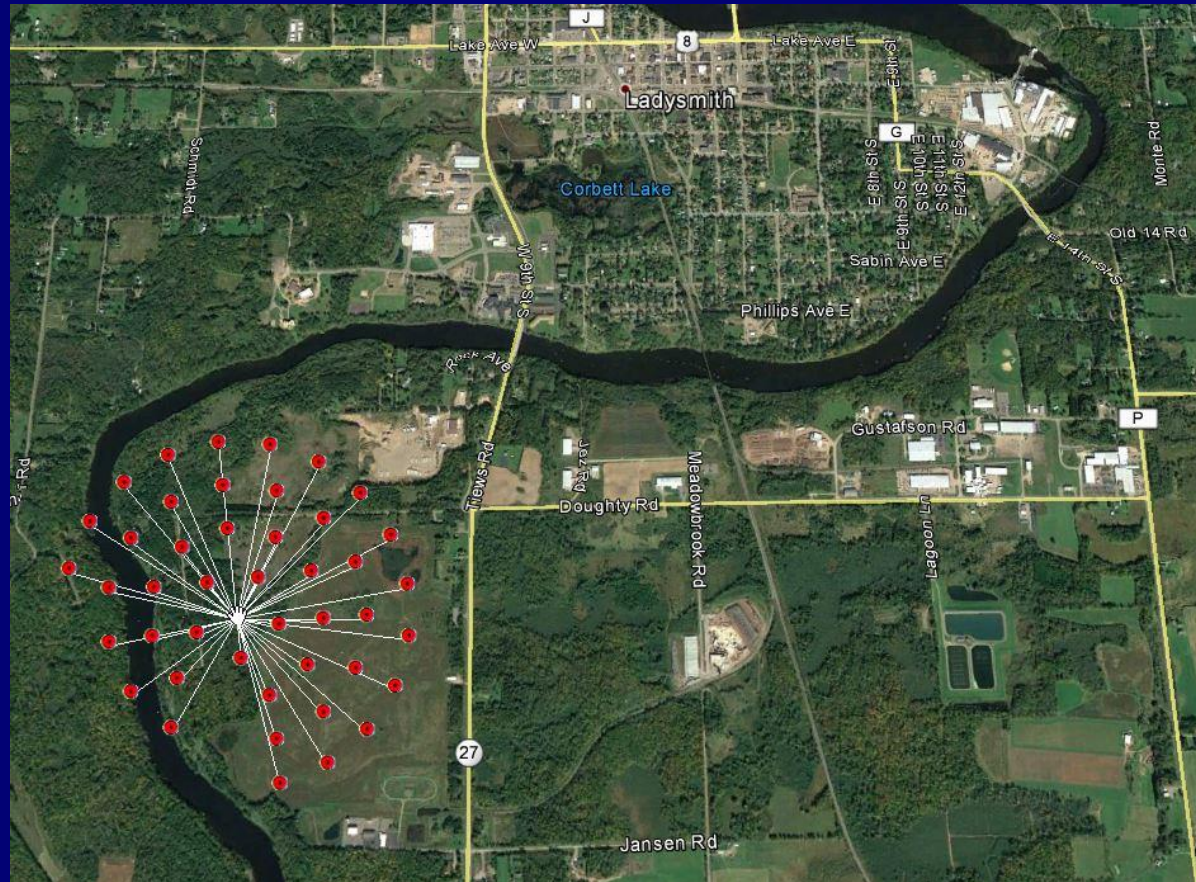




THE FLAMBEAU MINE: LADYSMITH, WI



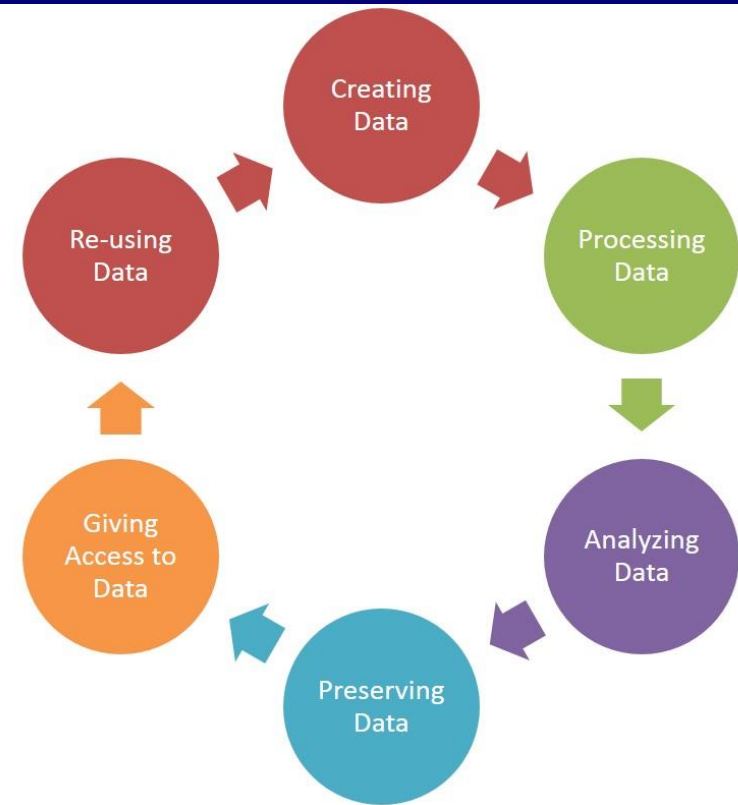
SPATIAL DATA



THE CHALLENGE: PYRITE OXIDATION



NATIONAL GEOLOGICAL AND GEOPHYSICAL DATA PRESERVATION PROGRAM



DATABASE ENTRY FORM



Sort & Filter Records Find Text Formatting

Station

Flambeau Mine (Anomaly 22) Core Data Entry

Select Site Name to begin data entry...

- Flambeau Mining Co. 22-1 (Flambeau)
- Flambeau Mining Co. 22-100 (Flambeau)
- Flambeau Mining Co. 22-102 (Flambeau)
- Flambeau Mining Co. 22-105 (Flambeau)
- Flambeau Mining Co. 22-11 (Flambeau)
- Flambeau Mining Co. 22-110 (Flambeau)
- Flambeau Mining Co. 22-12 (Flambeau)
- Flambeau Mining Co. 22-136 (Flambeau)
- Flambeau Mining Co. 22-14 (Flambeau)
- Flambeau Mining Co. 22-18 (Flambeau)
- Flambeau Mining Co. 22-193 (Flambeau)
- Flambeau Mining Co. 22-195 (Flambeau)
- Flambeau Mining Co. 22-196 (Flambeau)
- Flambeau Mining Co. 22-198 (Flambeau)
- Flambeau Mining Co. 22-2 (Flambeau)
- Flambeau Mining Co. 22-28 (Flambeau)
- Flambeau Mining Co. 22-30 (Flambeau)
- Flambeau Mining Co. 22-31 (Flambeau)

55000332

Flambeau Mining Co. 22-58 (Flambeau)

Latitude: 45.4406116751

Longitude: -91.1176213326

Sample Set. A Station can have (typically one) set of samples.

ISGN: 0 Top: 248

Receival Date: Bottom: 590

Sample Notes: Boxes Present: 27-76.; core diam = NX ShelfLoc: ZB3-2

Status: Container: cardboard core box

Container Count: 50

Condition: incomplete

CollectionDate:

Record: 1 of 1 No Filter Search

Containers Sub-Samples Lithology

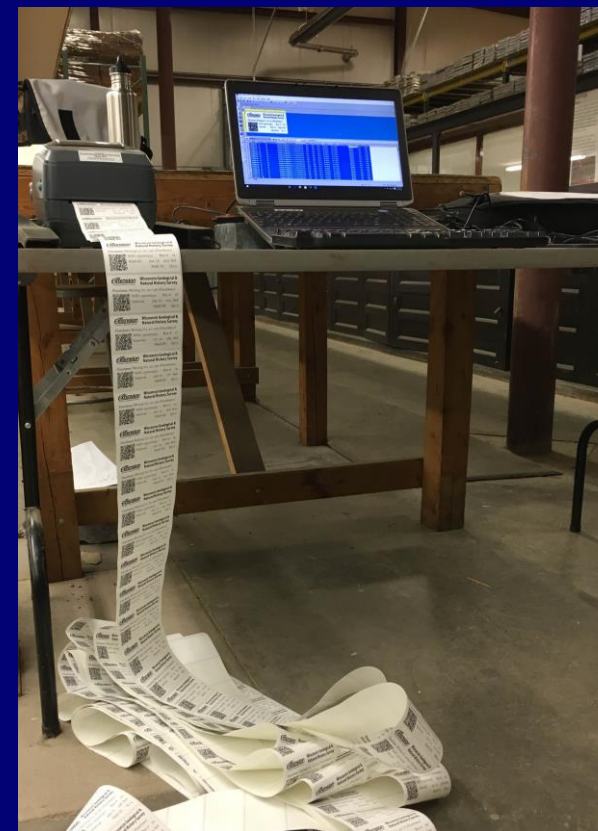
A Sample Set contains one or more Containers (e.g. core boxes) Enable auto sequential box numbering ☐

Box Number	Top Depth (ft)	Bottom Depth (ft)	Box Type	Core Condition	Decay	Shelf ID	Notes
27	248	256	cardboard core box	continuous, half	Minor	ZB3-2	
28	256	262	cardboard core box	continuous, round	Minor	ZB3-2	
29	262	269	cardboard core box	continuous, round	Minor	ZB3-2	Fractured
30	269	274	cardboard core box	continuous, round	Minor	ZB3-2	Highly Fractured
31	274	284	cardboard core box	continuous, round	Minor	ZB3-2	Highly Fractured
32	281	287	cardboard core box	continuous, round	Minor	ZB3-2	Highly Fractured
33	287	293	cardboard core box	continuous, round	Minor	ZB3-2	Highly Fractured

Record: 1 of 50 No Filter Search

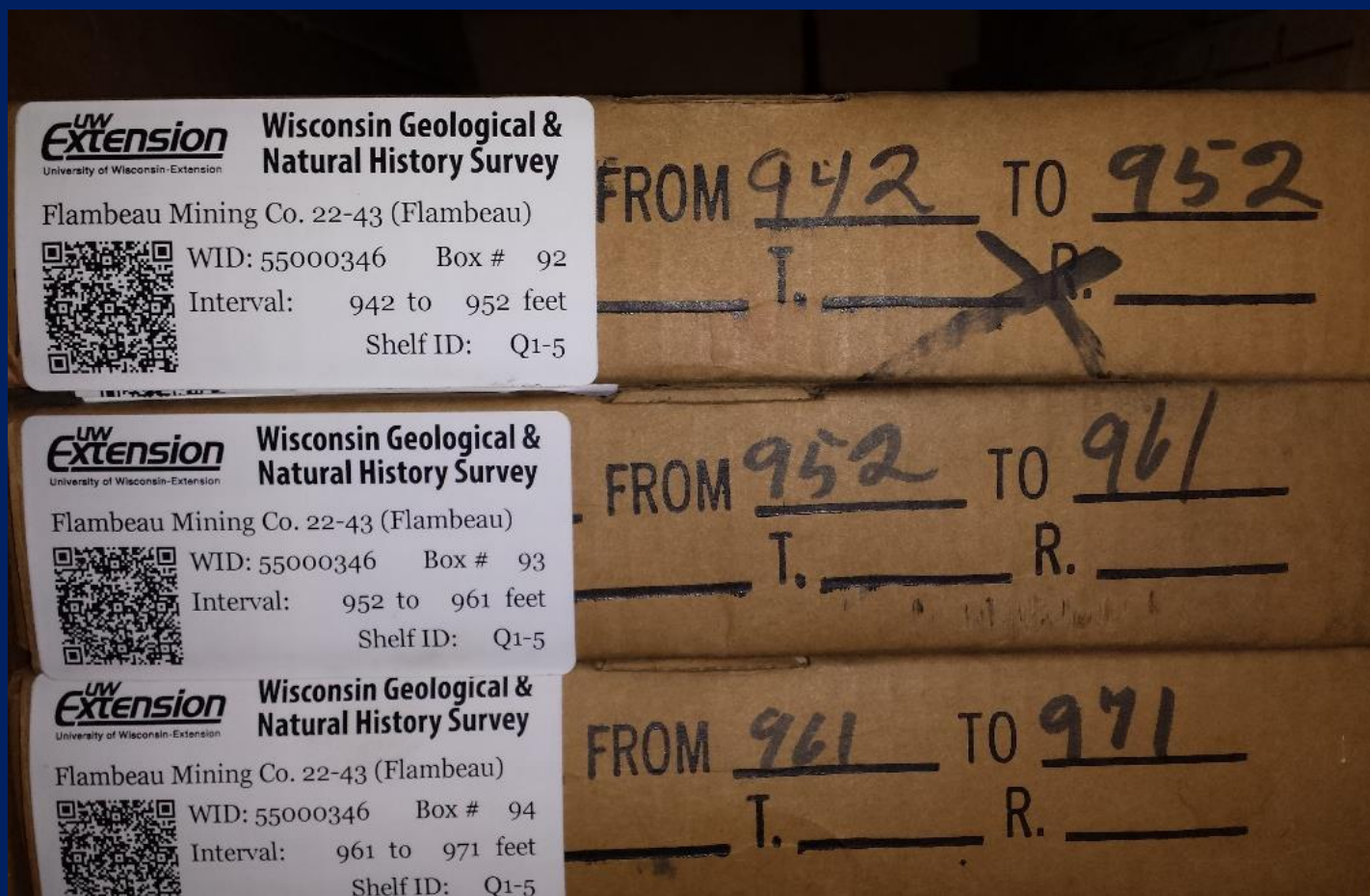


BOX INDEX PRE-PROJECT





QR LABELS WITH ENCODED METADATA



CORE PHOTOGRAPHY STATION



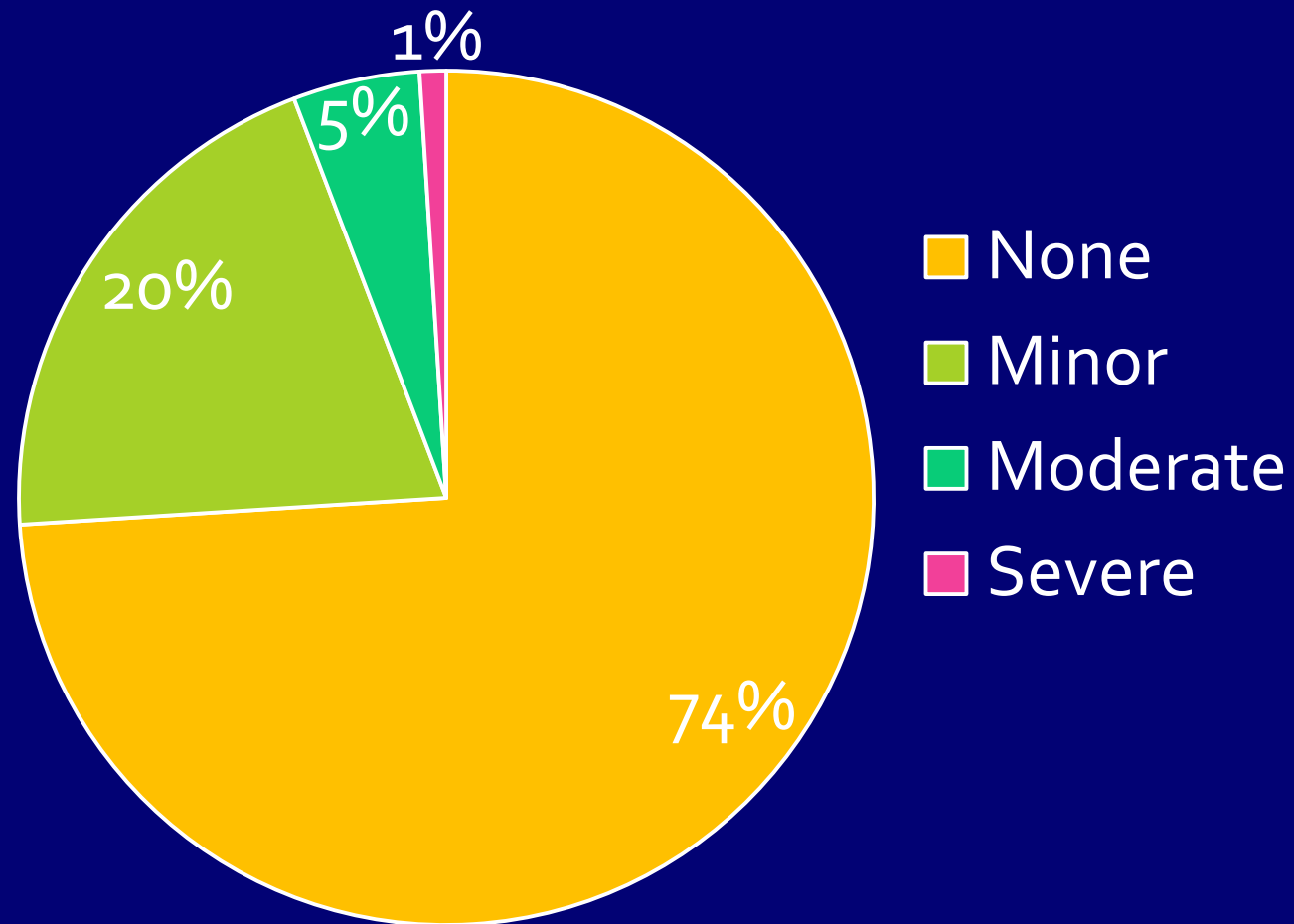
CORE BOX PHOTO FOR 22-14, BOX 1



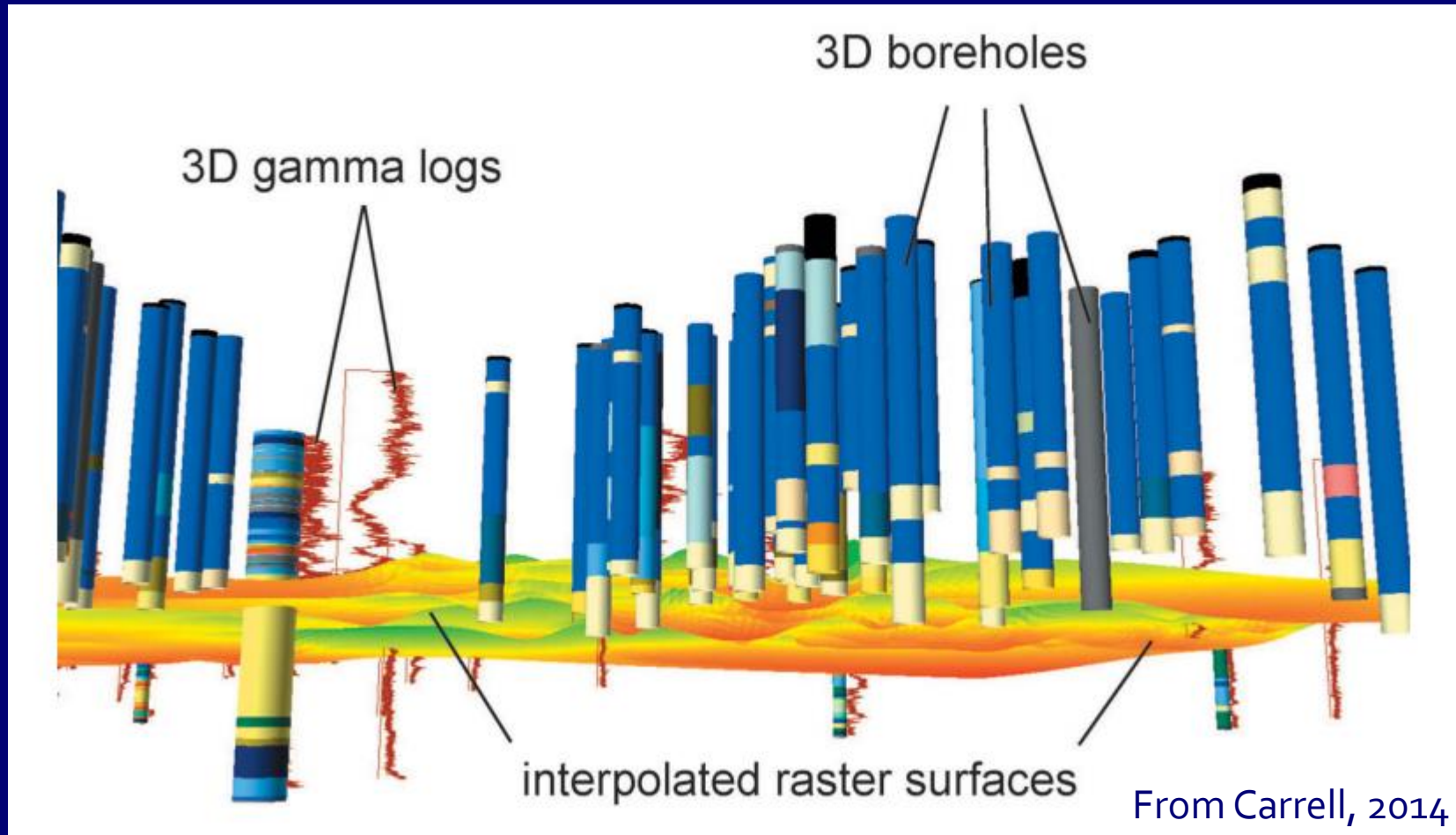
CORE PHOTOGRAPHY



EXTENT OF PYRITE OXIDATION IN FLAMBEAU ANOMALY 22 CORES



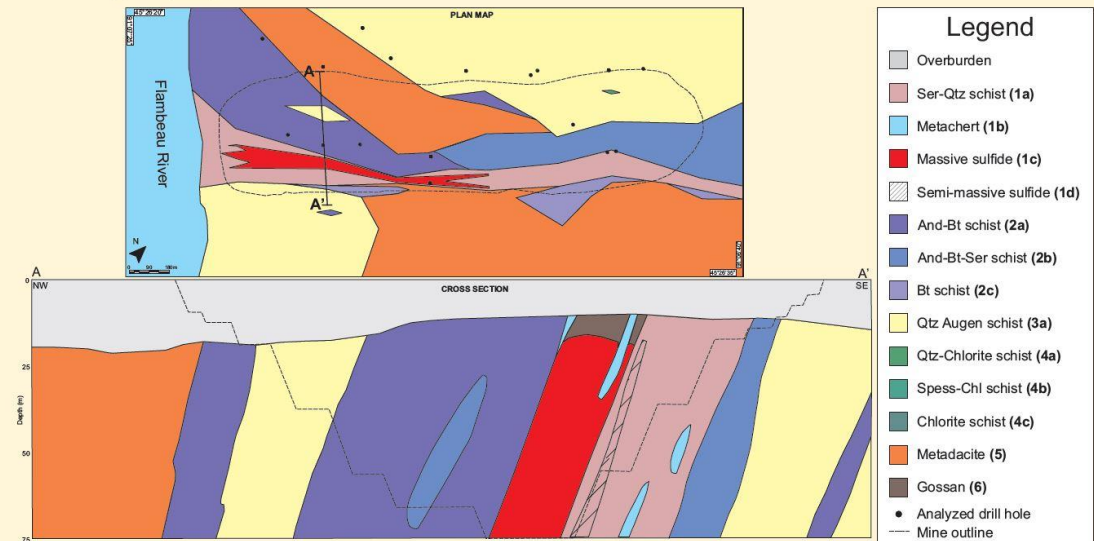
BENEFIT: DIGITAL DOCUMENTATION AND DATA VISUALIZATION



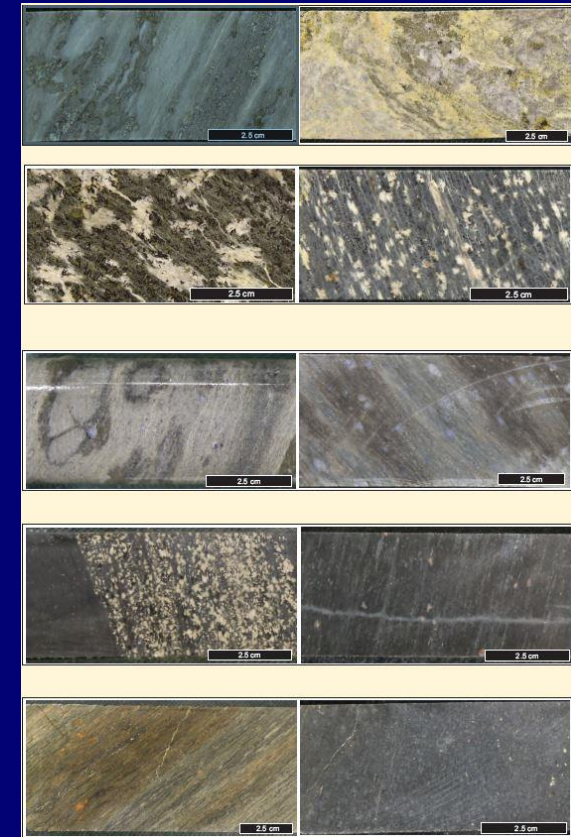
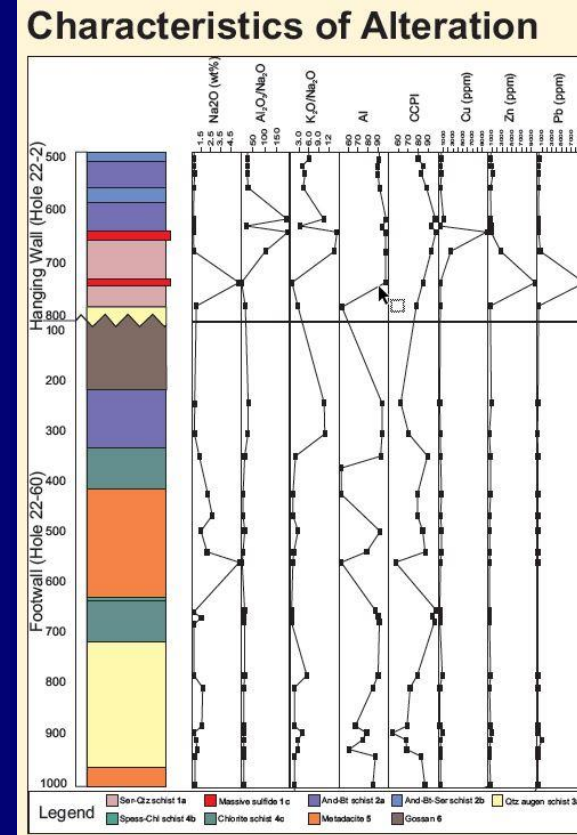
BENEFIT: RESEARCH IMPLICATIONS



Stratigraphy of the Flambeau VMS



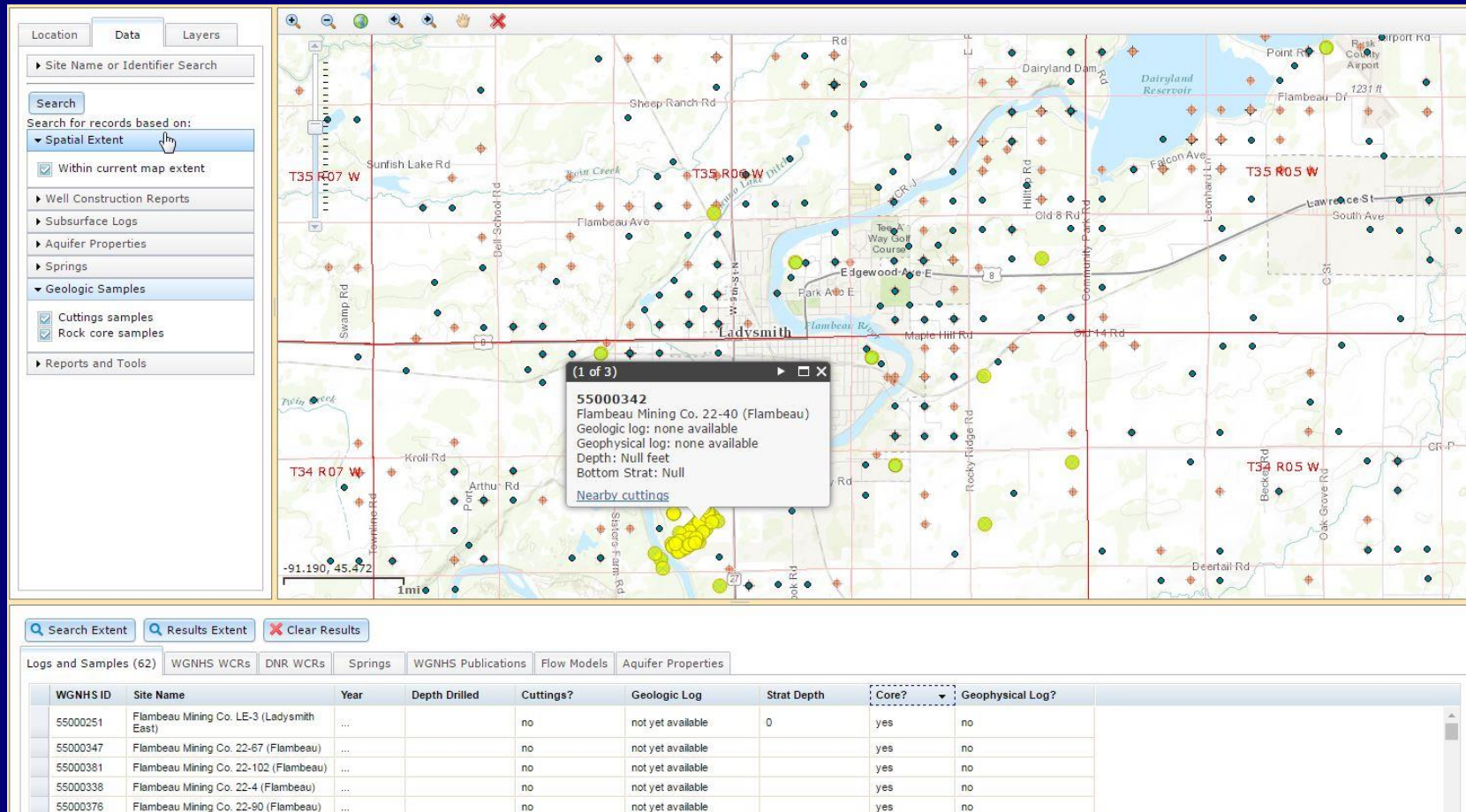
From Zens and Lodge, 2016.



BENEFIT (AND MORE WORK TO BE DONE): IMPROVING ACCESS



1. IGSNs assigned
2. Updated, accurate, detailed inventory
3. Web resource development



REFERENCES

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Larkin, N. R. (2011). Pyrite Decay: cause and effect, prevention and cure. *NatSCA News*, 21, 35-43.

Mudrey, M. G. (1979). The massive sulfide occurrences in Wisconsin: Wisconsin Geol. Nat. History Misc. Paper, 79(2), 20.

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Shanks, W.C. Pat, III, and Thurston, Roland, eds. (2012). Volcanogenic massive sulfide occurrence model: U.S. Geological Survey Scientific Investigations Report 2010–5070–C, 345 p.

Zens, ZA, Lodge RWD (2016). Geochemistry and petrography of the volcanic strata hosting the Flambeau Cu-Zn-Au deposit in Rusk County, WI: A re-examination of Wisconsin's only past-producing volcanogenic massive sulfide mine. 62st Annual Meeting of the Institute on Lake Superior Geology, Duluth, Minnesota. p. 157-158.

THANKS! ANY QUESTIONS? (REMEMBER, I'M NOT A GEOLOGIST)



USGS NGGDPP
WGNHS staff
UW-Eau Claire students