

Where to Drill in Western Kentucky

?

February 7. 2008

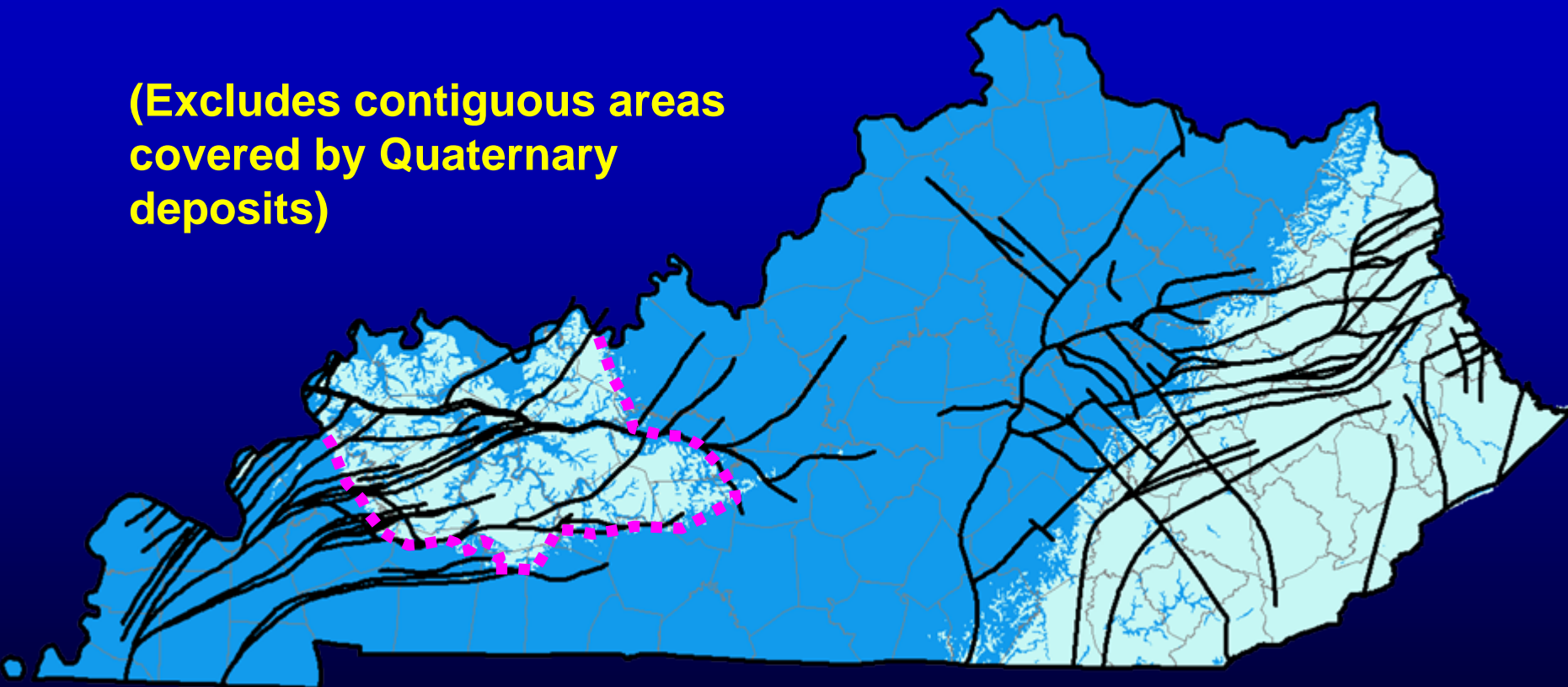
Assumptions to Date and Questions

- **Drill no more than 8,000 feet**
- **Drill multi-horizons (at least 2 major horizons)**
- **Do we want to test the Mt. Simon?**
 - Will greatly control where we drill
 - Often have a thick Eau Claire section separating the Knox from the Mt. Simon
- **Do we want to absolutely restrict ourselves to the Pennsylvanian limit?**
- **What about the earthquake limit?**

Base Maps and Restriction Areas

Pennsylvanian at Surface

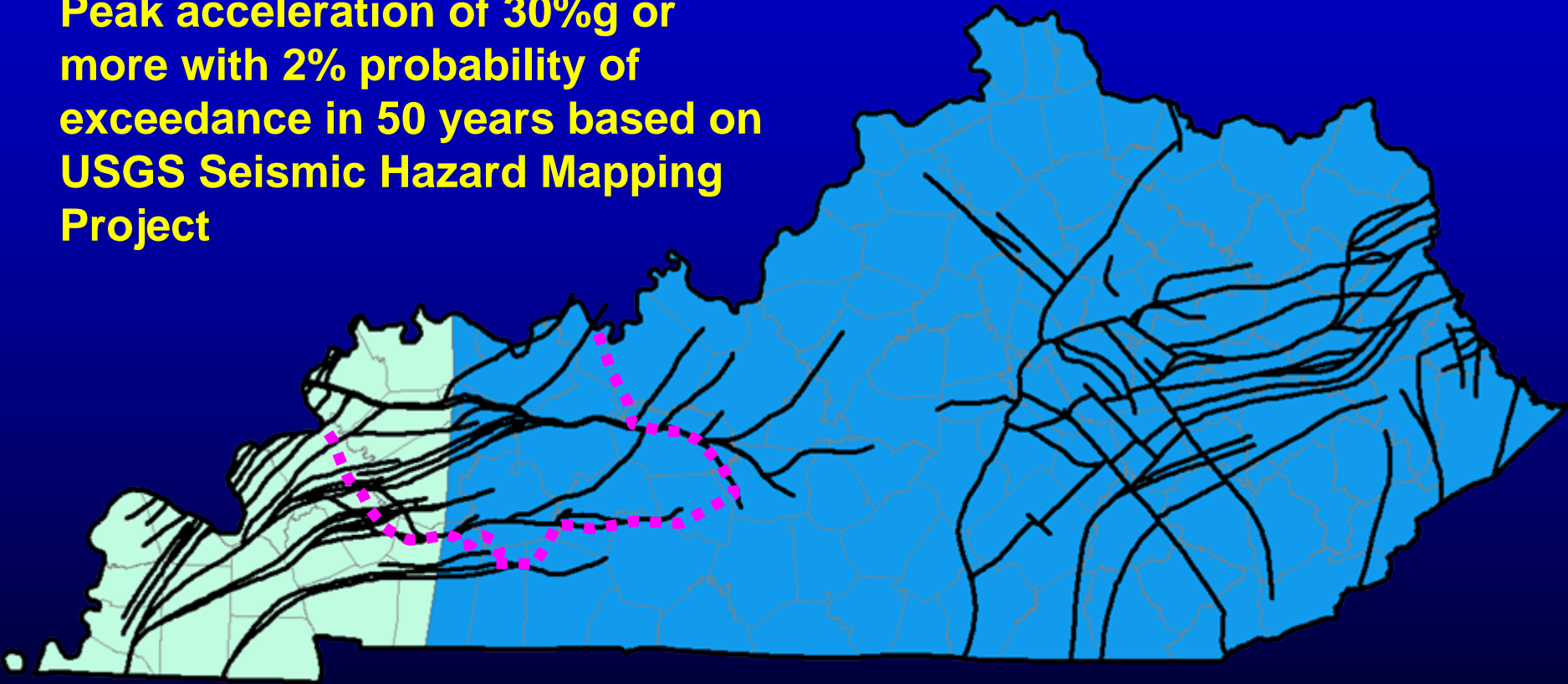
(Excludes contiguous areas covered by Quaternary deposits)



..... Western Kentucky Coal Field

Earthquake Hazard Area

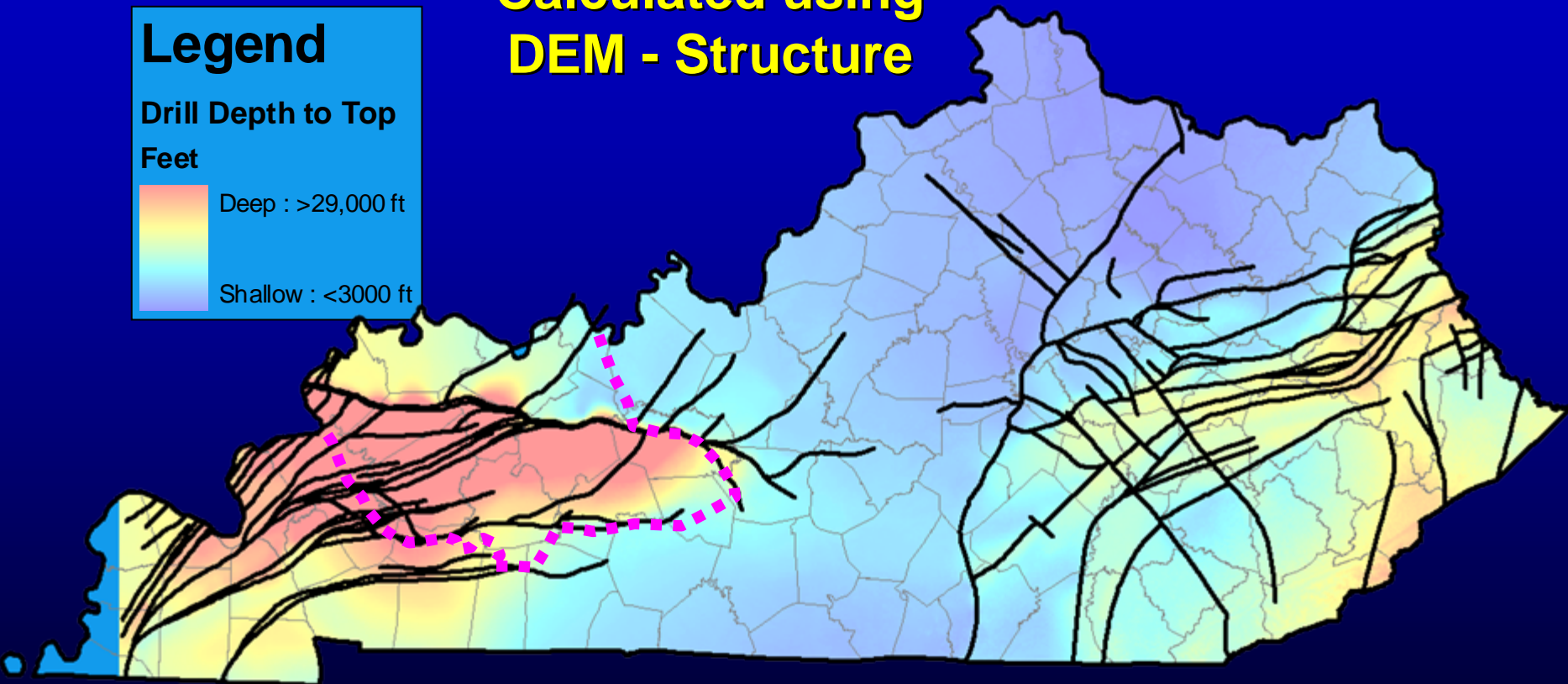
Peak acceleration of 30%g or more with 2% probability of exceedance in 50 years based on USGS Seismic Hazard Mapping Project



Distribution and Drilling Depths

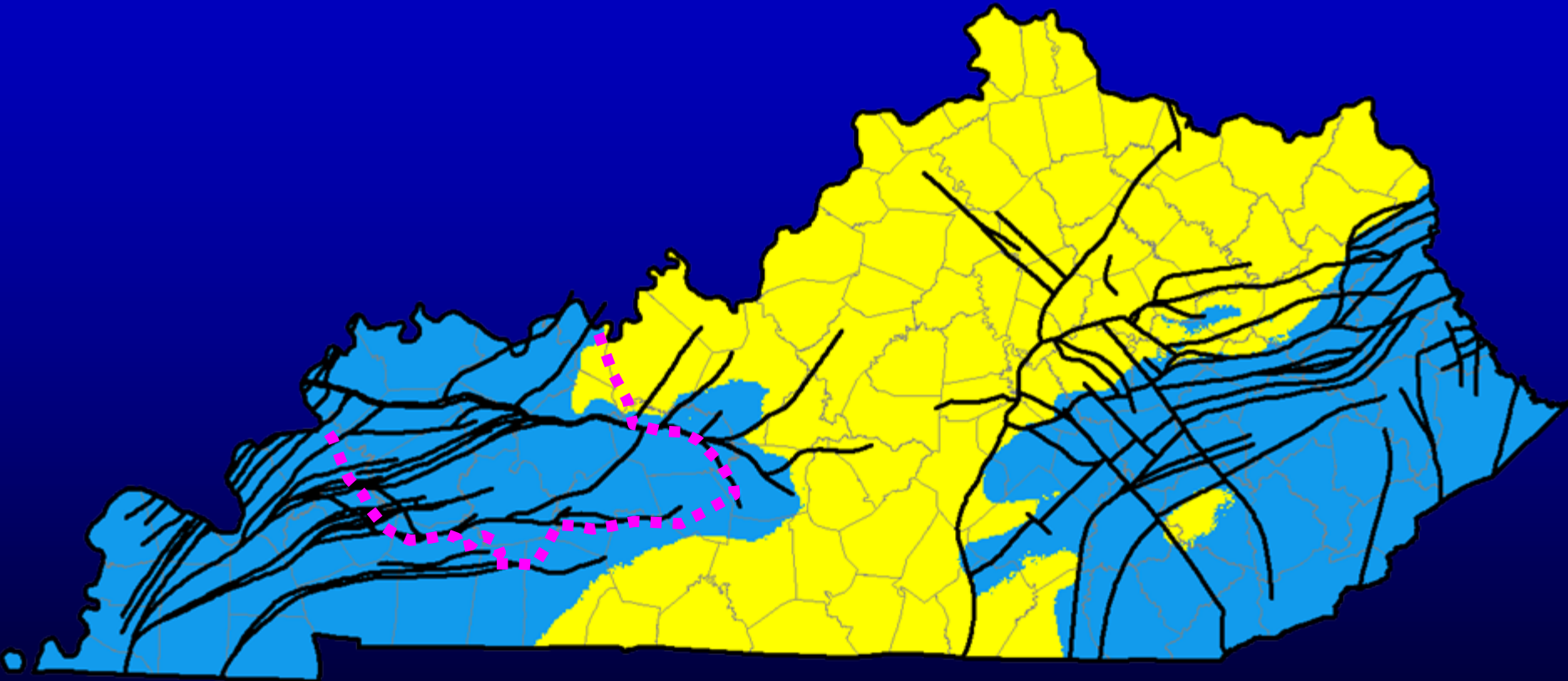
Drilling Depth to Top Precambrian

Calculated using
DEM - Structure



Preliminary, subject to change

Basement Depth 8,000 ft or Less



Preliminary, subject to change

Drilling Depth to Top Mt. Simon

Legend

MTSM Drill Depth

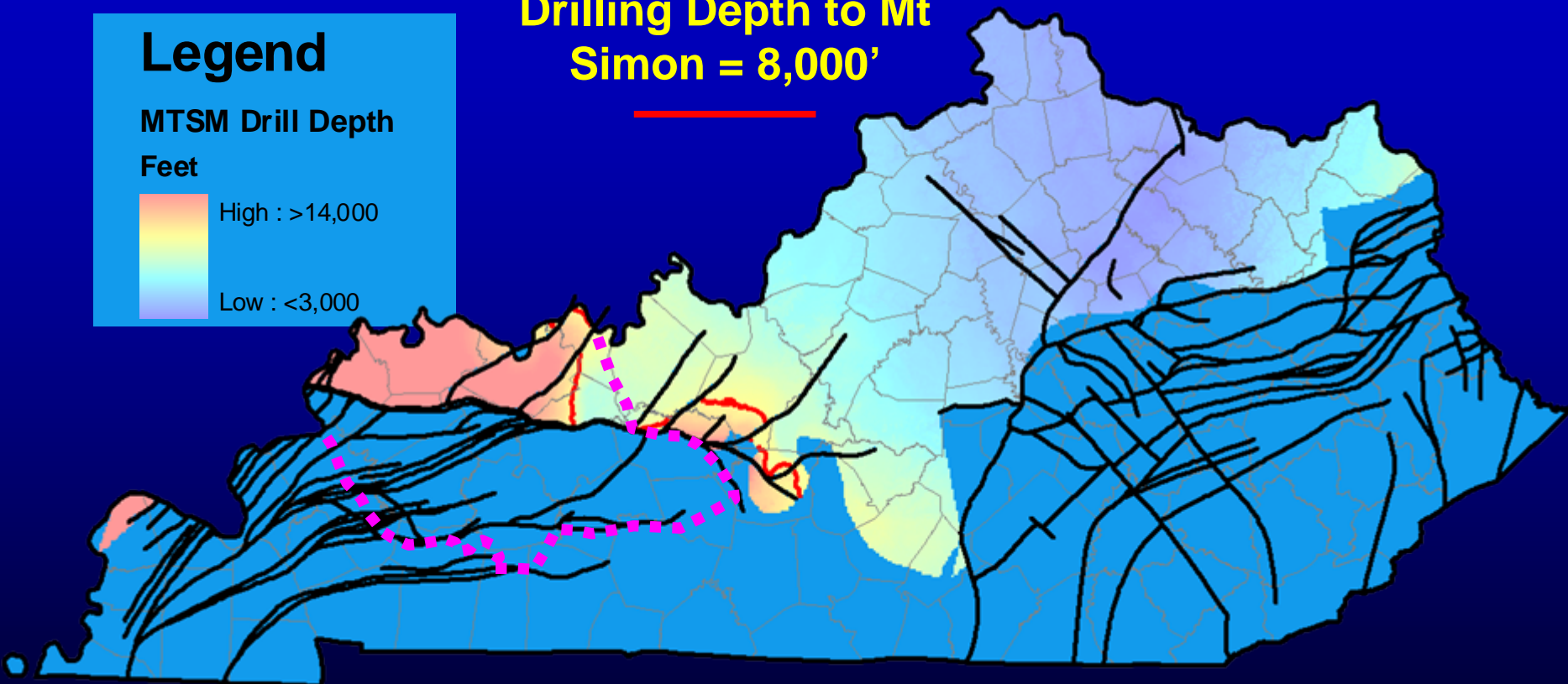
Feet



High : >14,000

Low : <3,000

Drilling Depth to Mt
Simon = 8,000'

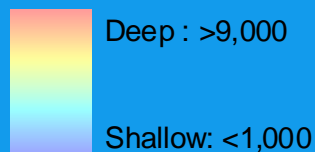


Preliminary, subject to change

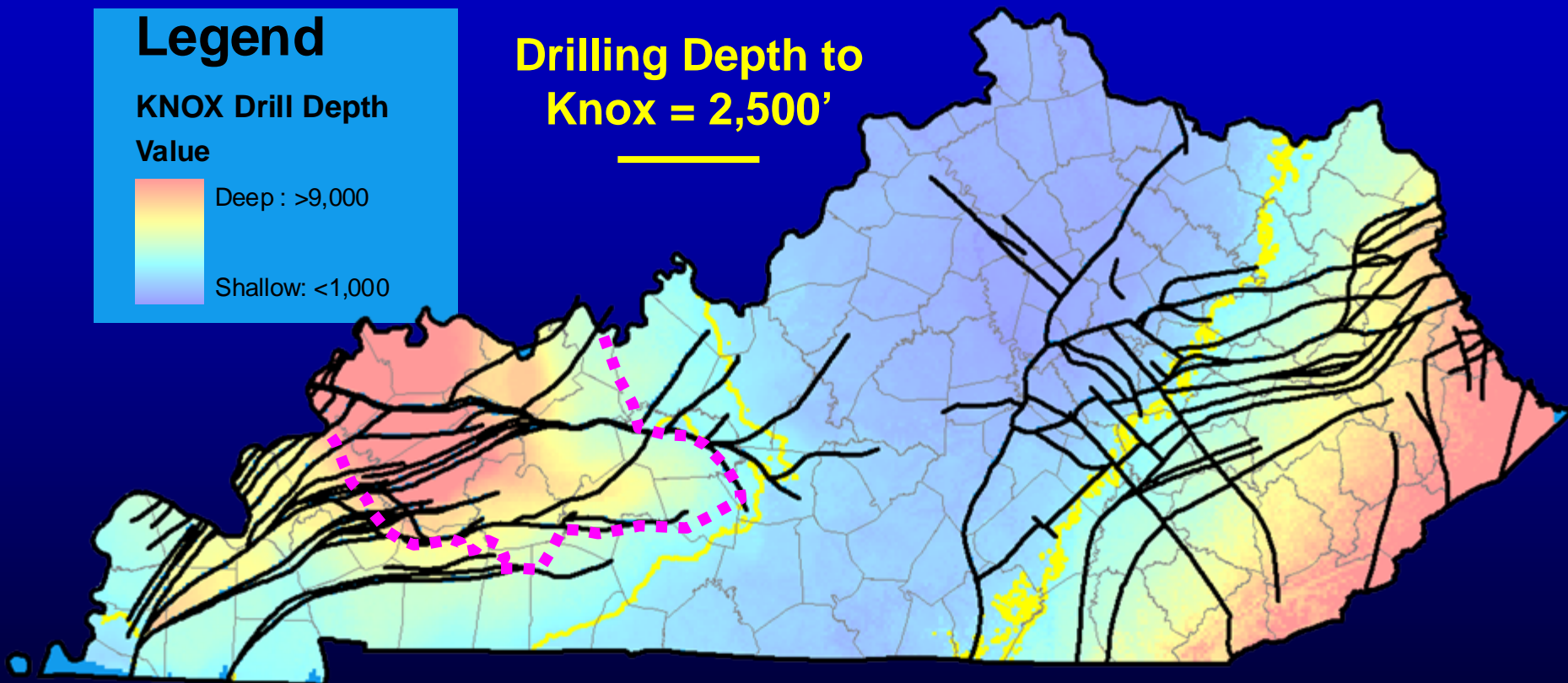
Drilling Depth to Top Knox

Legend

KNOX Drill Depth
Value



Drilling Depth to
Knox = 2,500'

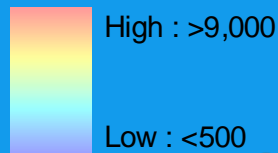


Preliminary, subject to change

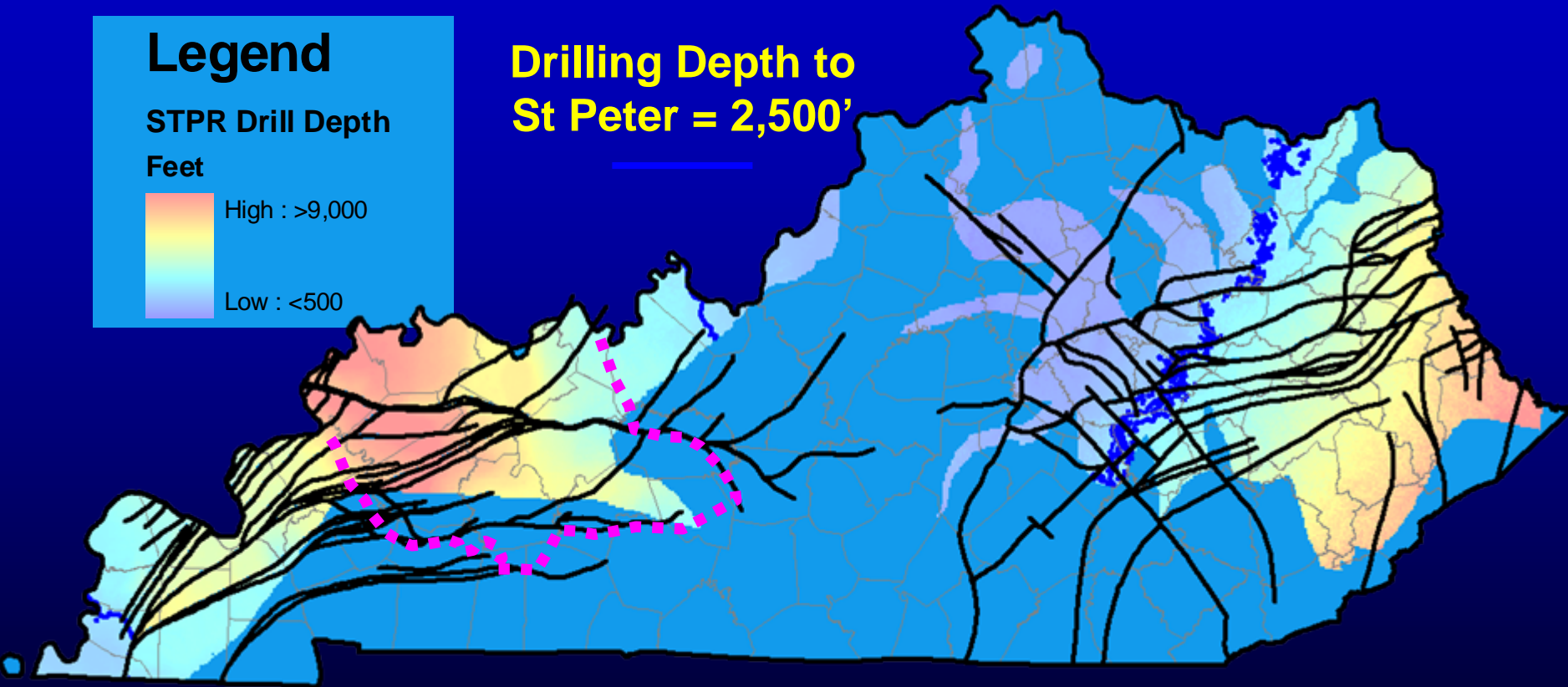
Drilling Depth to Top St. Peter

Legend

STPR Drill Depth
Feet

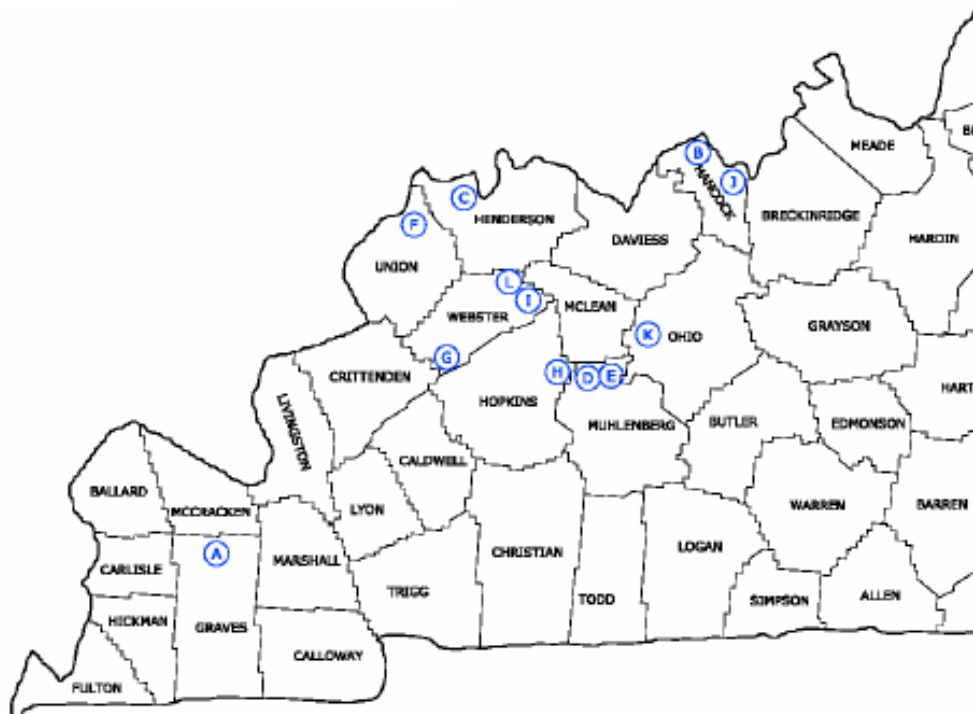


Drilling Depth to
St Peter = 2,500'



Preliminary, subject to change

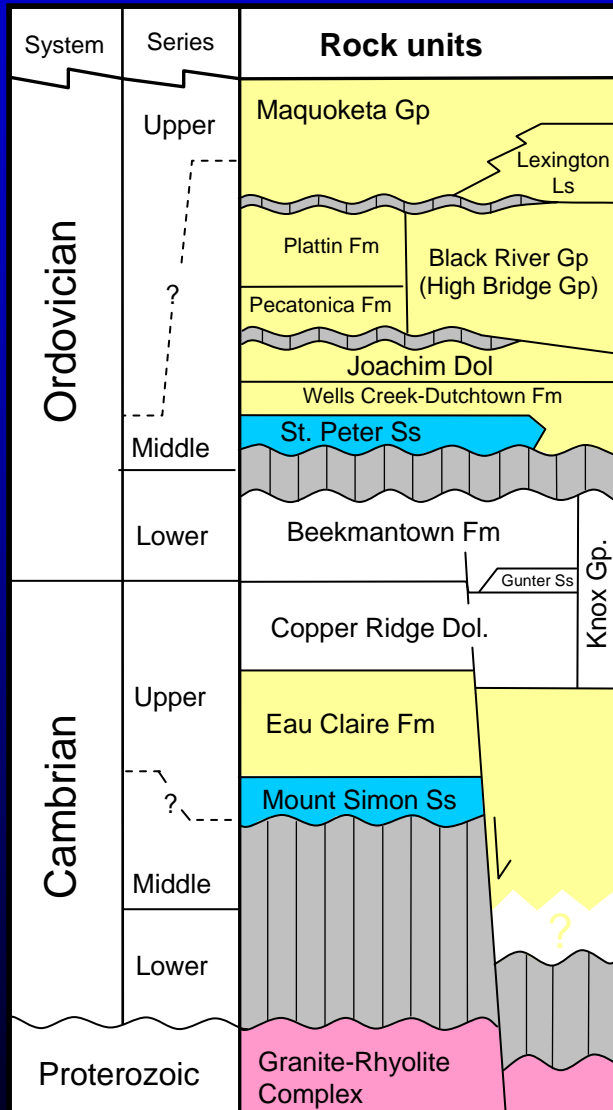
Kentucky Site Bank Locations



PROPOSED PROPERTIES FOR SITE BANK

A	PURCHASE REGIONAL INDUSTRIAL PARK
B	HANCOCK COUNTY - LEWISPORT
C	AMERICAN ELECTRIC POWER - HENDERSON
D	BRIER CREEK - KENAMERICAN COAL
E	PARADISE MINE - KENAMERICAN COAL
F	RIVER VIEW COAL - ALLIANCE
G	WEBSTER COUNTY - ALLIANCE
H	HOPKINS COUNTY - ALLIANCE
I	STEAMPORT, ALLIED RESOURCES
J	HANCOCK COUNTY - SKILLMAN BOTTOM
K	D.B. WILSON POWER STATION
L	ADJACENT PROPERTY - REID-GREEN POWER STATION
M	CHESHOLM MINE, PHELPS
N	TECO COAL - PREMIER ELKHORN, MYRA
O	CLAY COUNTY INDUSTRIAL PARK
P	TECO COAL - PERRY COUNTY COAL - HAZARD
Q	J.K. SMITH POWER STATION
R	SOUTH SHORE - GREENUP COUNTY
S	CH DEVELOPMENT - CORBIN

Western Kentucky Stratigraphic Units with CO₂ Storage Potential



Drilling Depth Estimates in Nine Counties in Western Kentucky

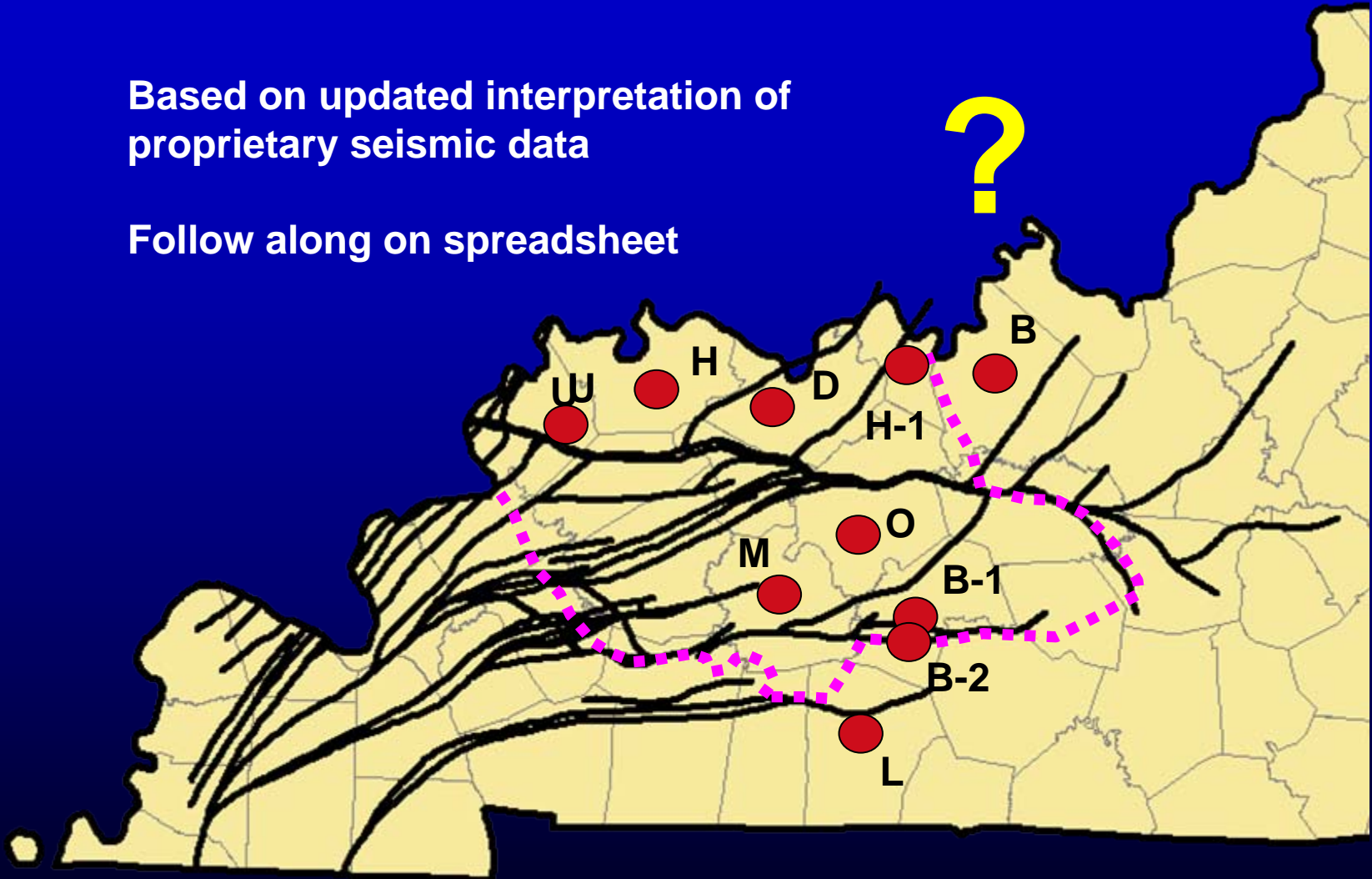
Updated* Seismic Interpretation of Formation Depths

- Raw data shown: does not imply precision
- Accurate as reasonably possible based on seismic velocities
- Surface elevation based on seismic datum
- Middle Run is a known drilled Precambrian sedimentary unit in eastern Kentucky; not drilled in western Kentucky

Location of Potential Wells

Based on updated interpretation of
proprietary seismic data

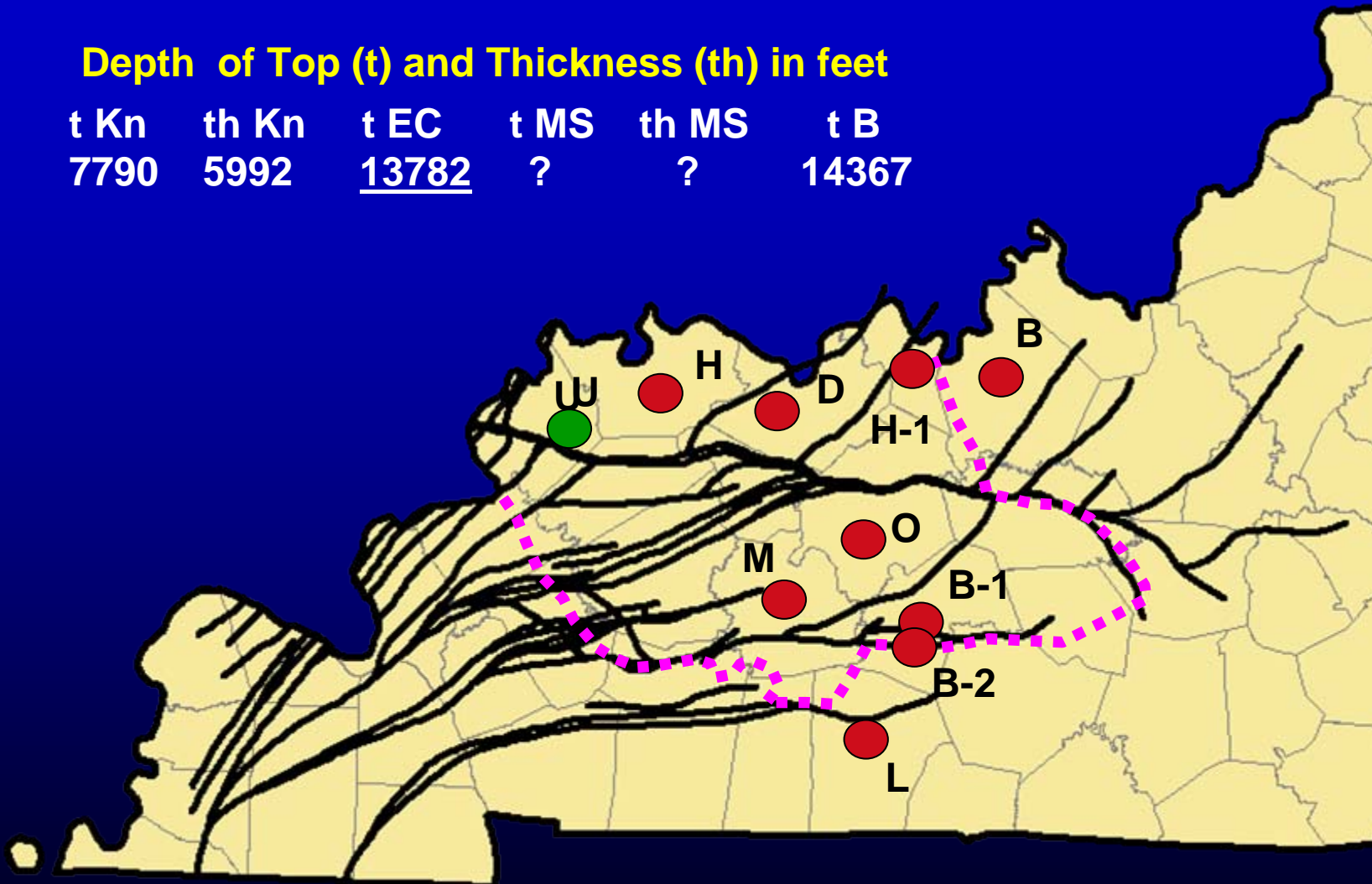
Follow along on spreadsheet



Union County (U)

Depth of Top (t) and Thickness (th) in feet

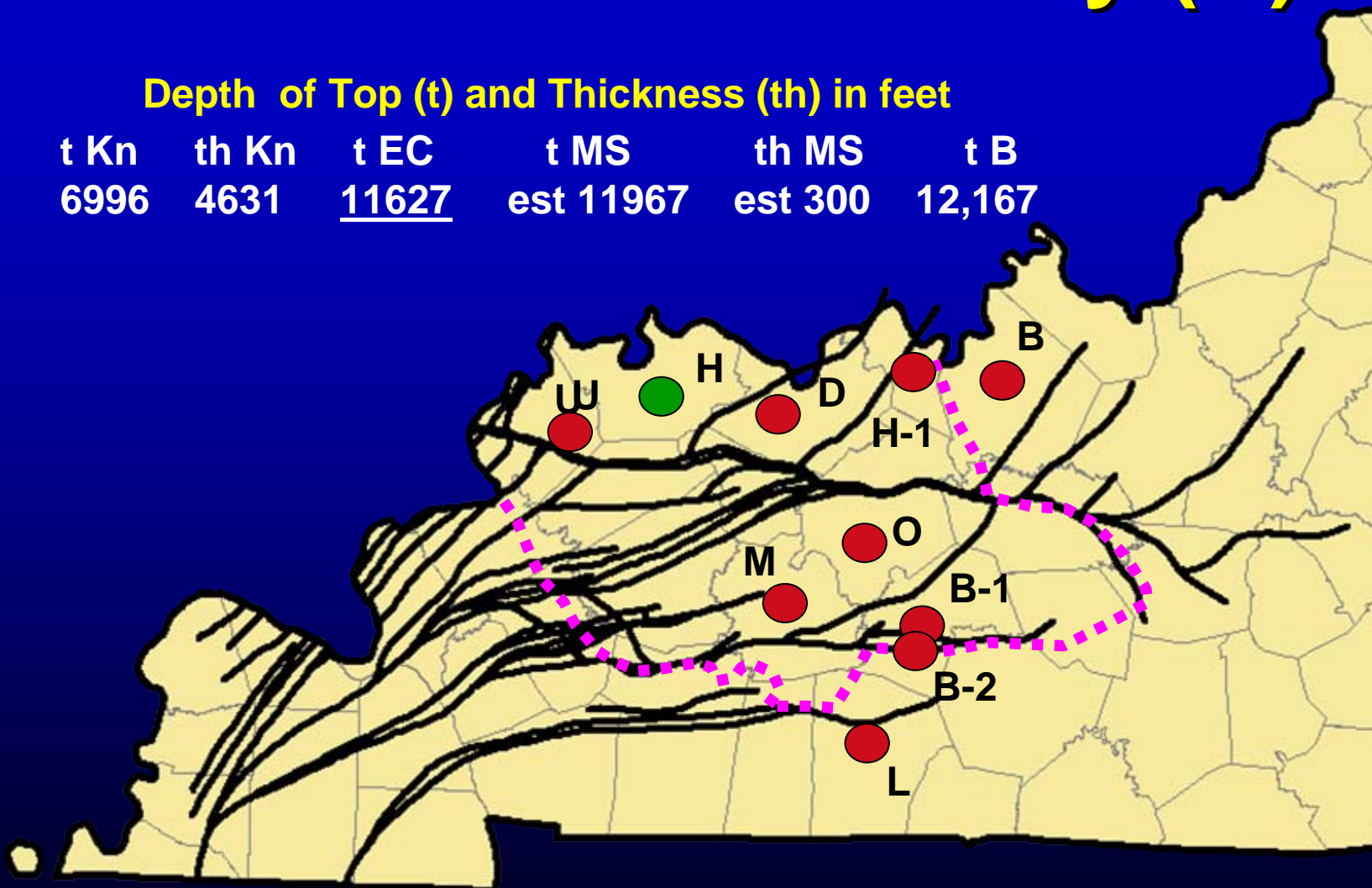
t Kn	th Kn	t EC	t MS	th MS	t B
7790	5992	<u>13782</u>	?	?	14367



Henderson County (H)

Depth of Top (t) and Thickness (th) in feet

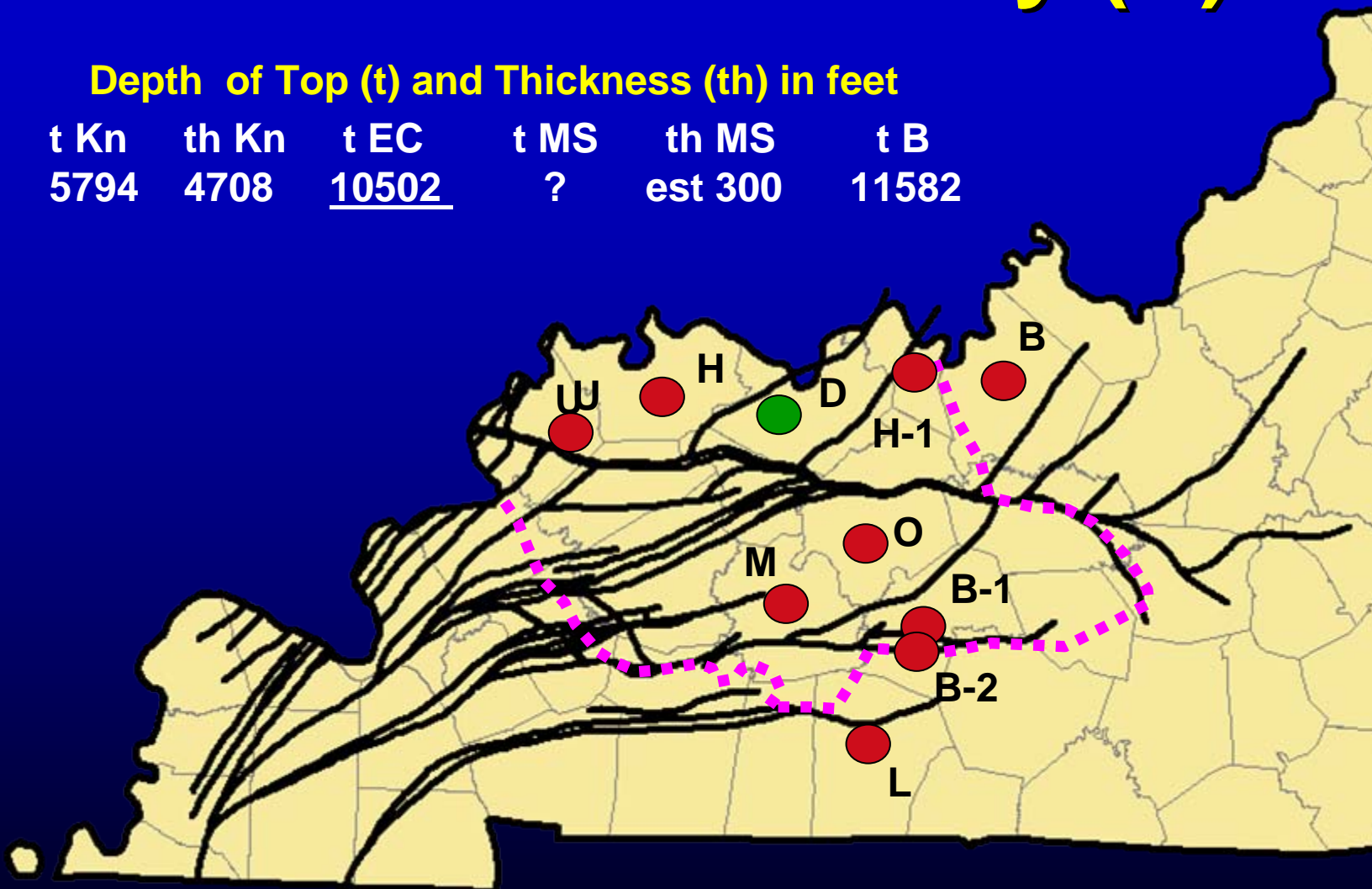
t Kn	th Kn	t EC	t MS	th MS	t B
6996	4631	<u>11627</u>	est 11967	est 300	12,167



Daviess County (D)

Depth of Top (t) and Thickness (th) in feet

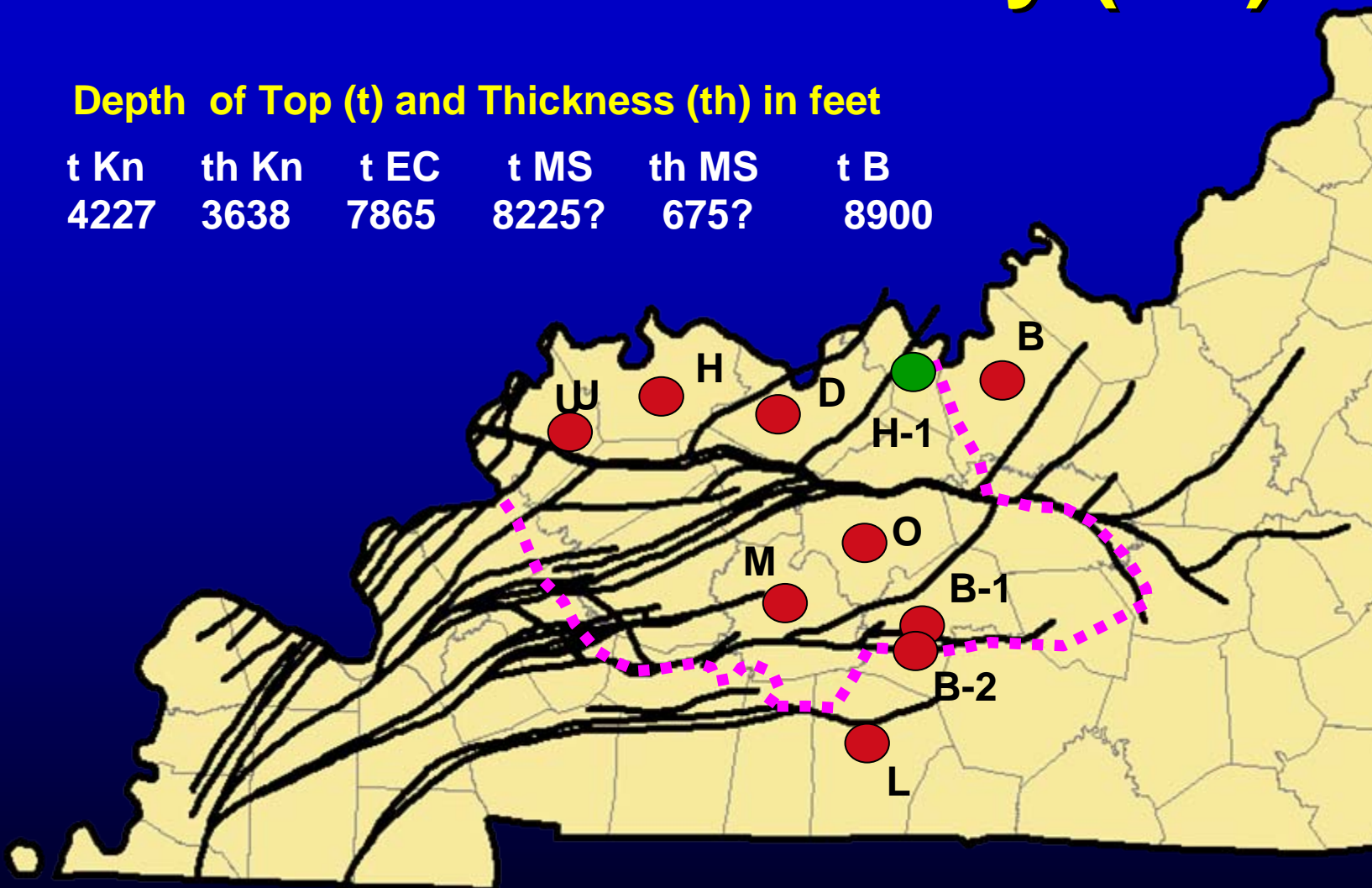
t Kn	th Kn	t EC	t MS	th MS	t B
5794	4708	<u>10502</u>	?	est 300	11582



Hancock County (H1)

Depth of Top (t) and Thickness (th) in feet

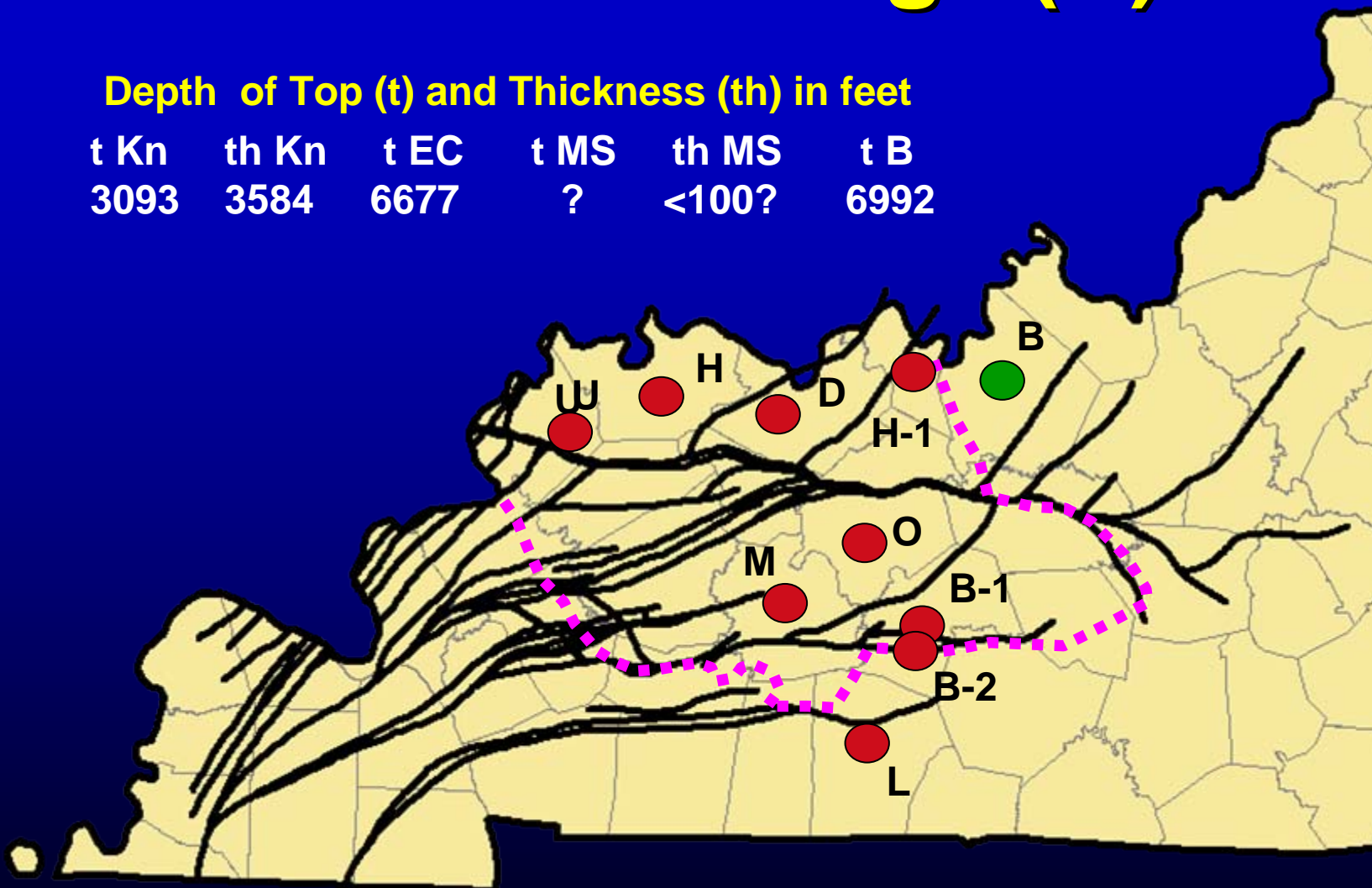
t Kn	th Kn	t EC	t MS	th MS	t B
4227	3638	7865	8225?	675?	8900



Breckinridge (B)

Depth of Top (t) and Thickness (th) in feet

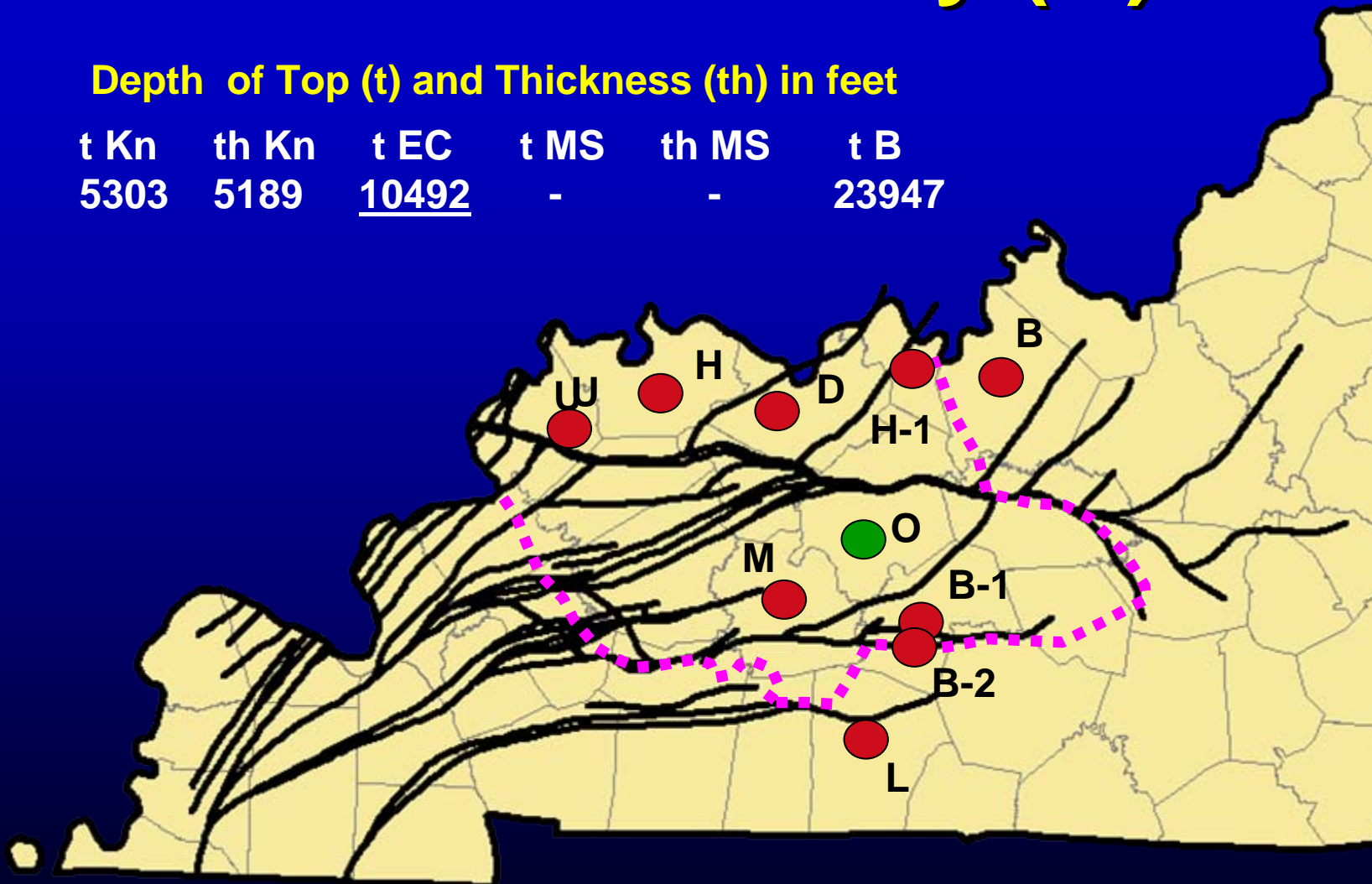
t Kn	th Kn	t EC	t MS	th MS	t B
3093	3584	6677	?	<100?	6992



Ohio County (O)

Depth of Top (t) and Thickness (th) in feet

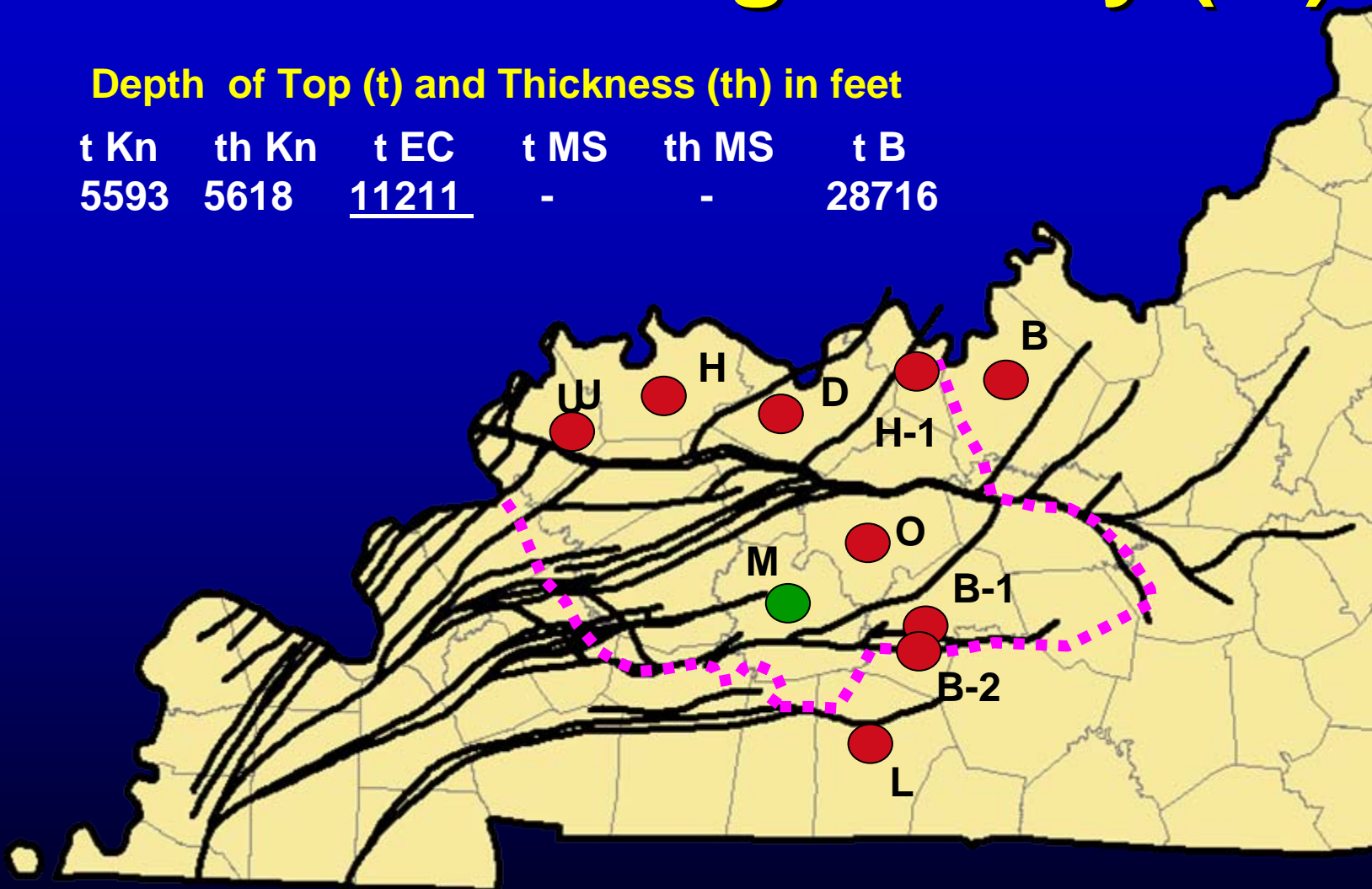
t Kn	th Kn	t EC	t MS	th MS	t B
5303	5189	<u>10492</u>	-	-	23947



Muhlenberg County (m)

Depth of Top (t) and Thickness (th) in feet

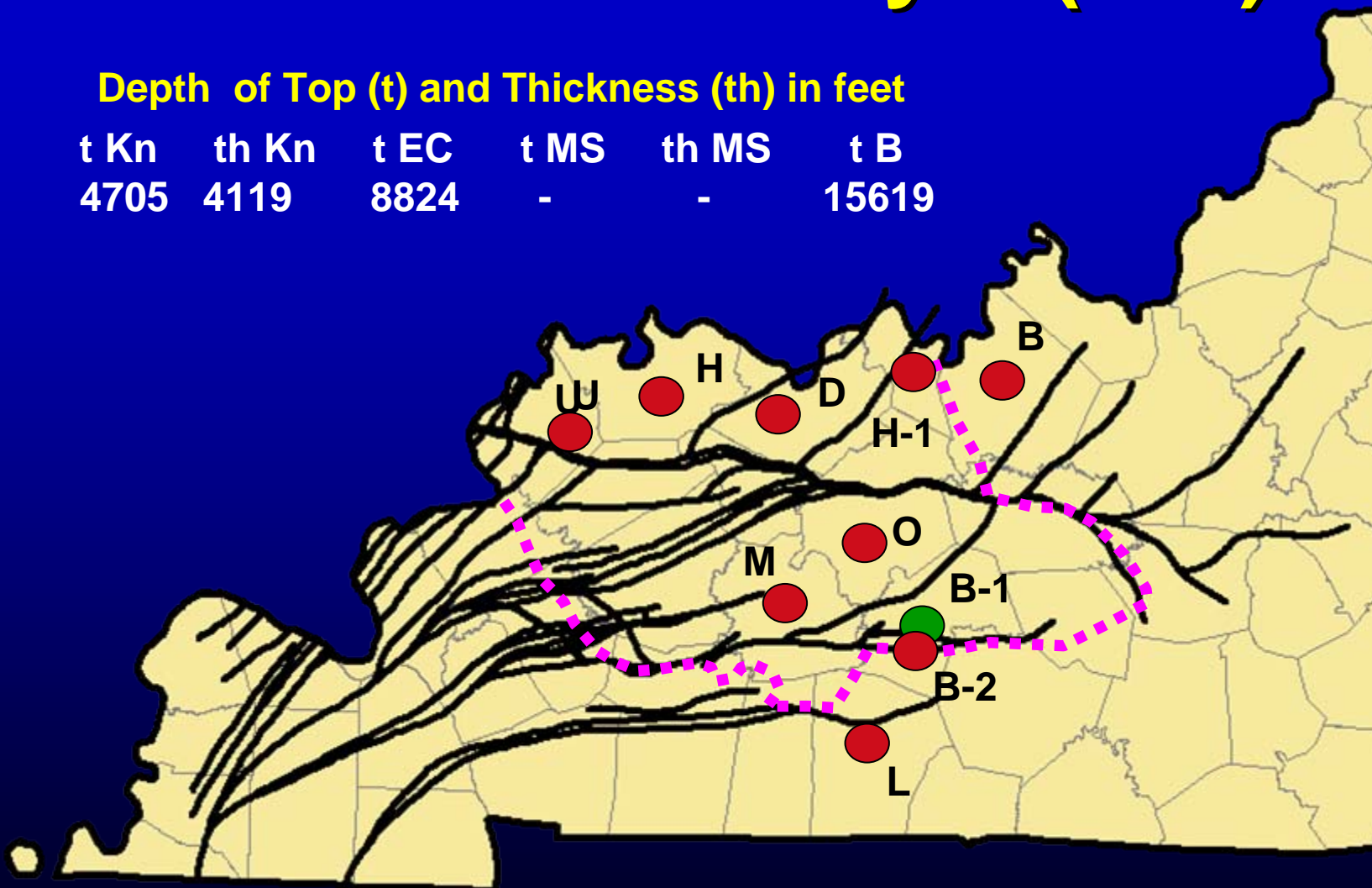
t Kn	th Kn	t EC	t MS	th MS	t B
5593	5618	<u>11211</u>	-	-	28716



Butler County 1 (B-1)

Depth of Top (t) and Thickness (th) in feet

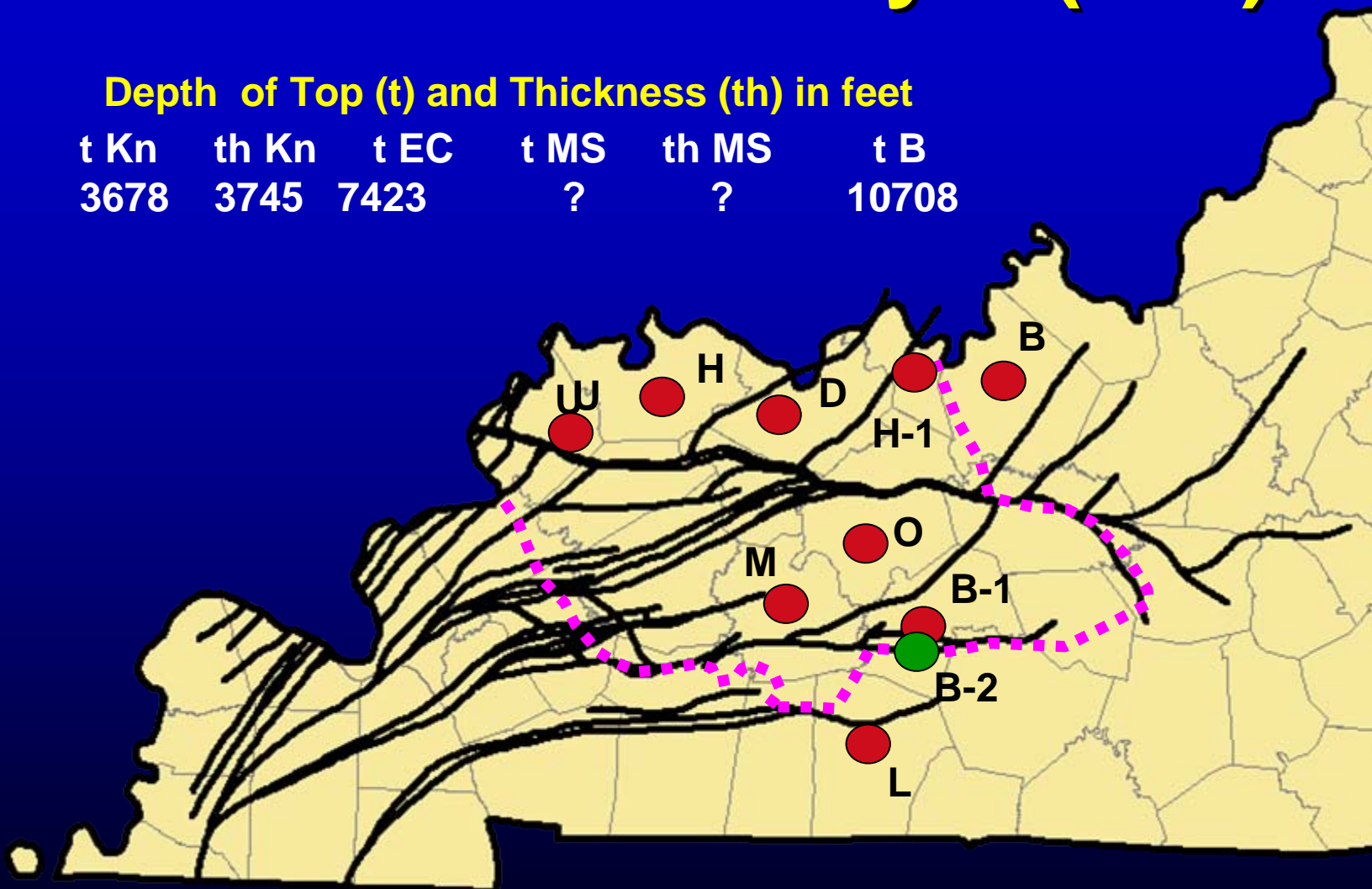
t Kn	th Kn	t EC	t MS	th MS	t B
4705	4119	8824	-	-	15619



Butler County 2 (B-2)

Depth of Top (t) and Thickness (th) in feet

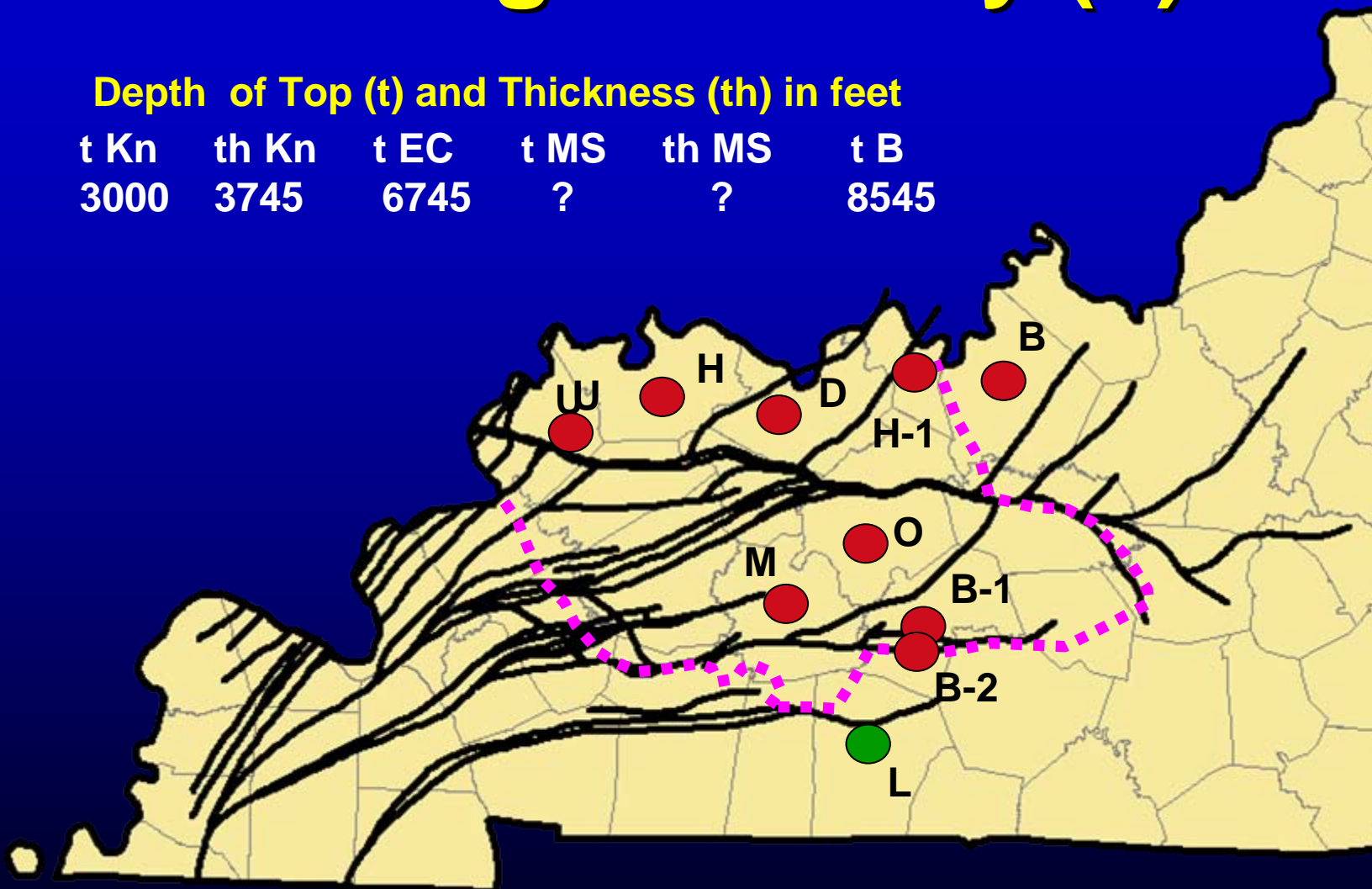
t Kn	th Kn	t EC	t MS	th MS	t B
3678	3745	7423	?	?	10708



Logan County (L)

Depth of Top (t) and Thickness (th) in feet

t Kn	th Kn	t EC	t MS	th MS	t B
3000	3745	6745	?	?	8545



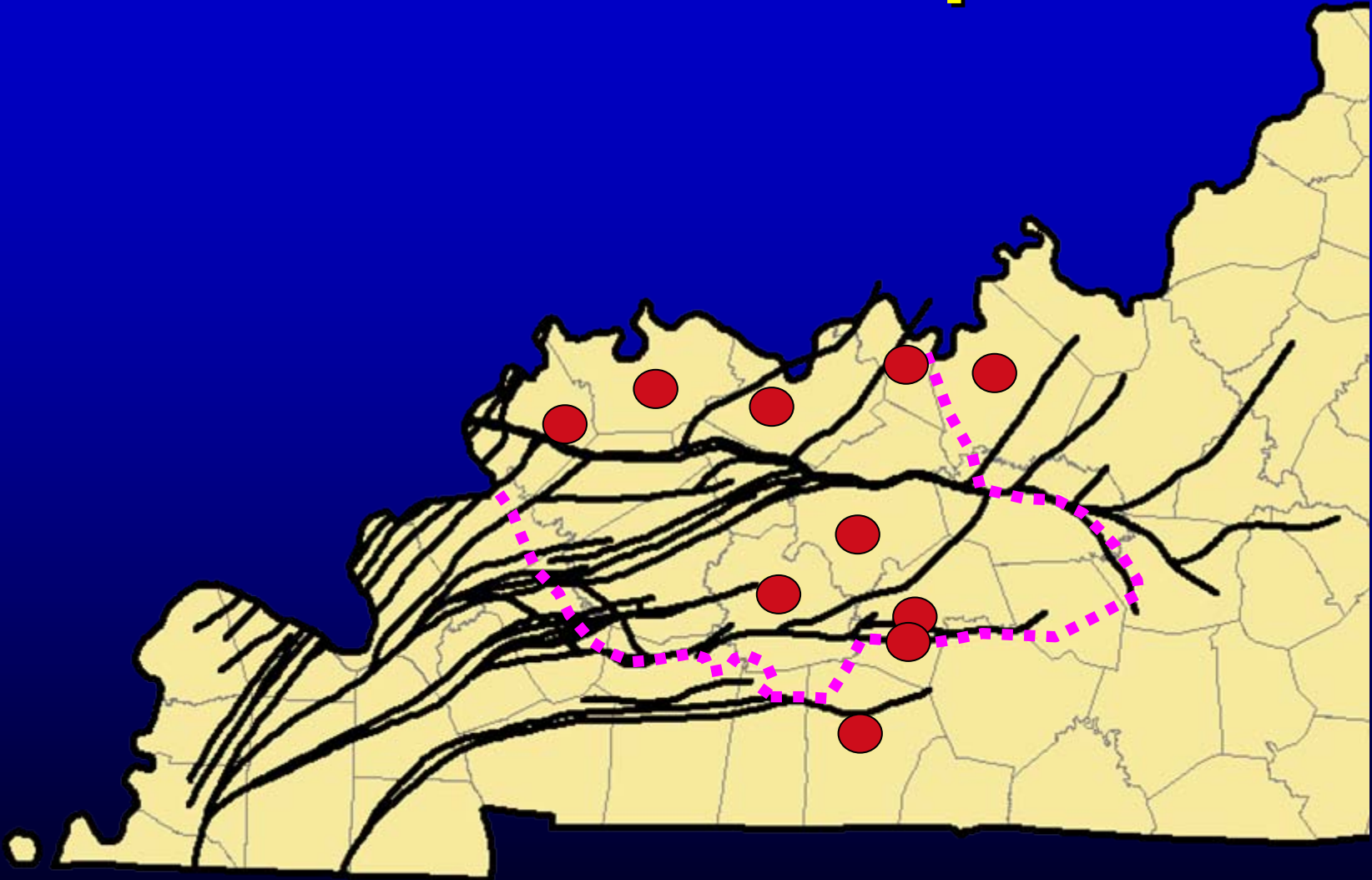
Where

?

KYCCS.ORG

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Base Map



Preliminary, subject to change