Seismic Data and Drilling in Hancock Co., Kentucky

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J.A. Drahovzal 2/21/08

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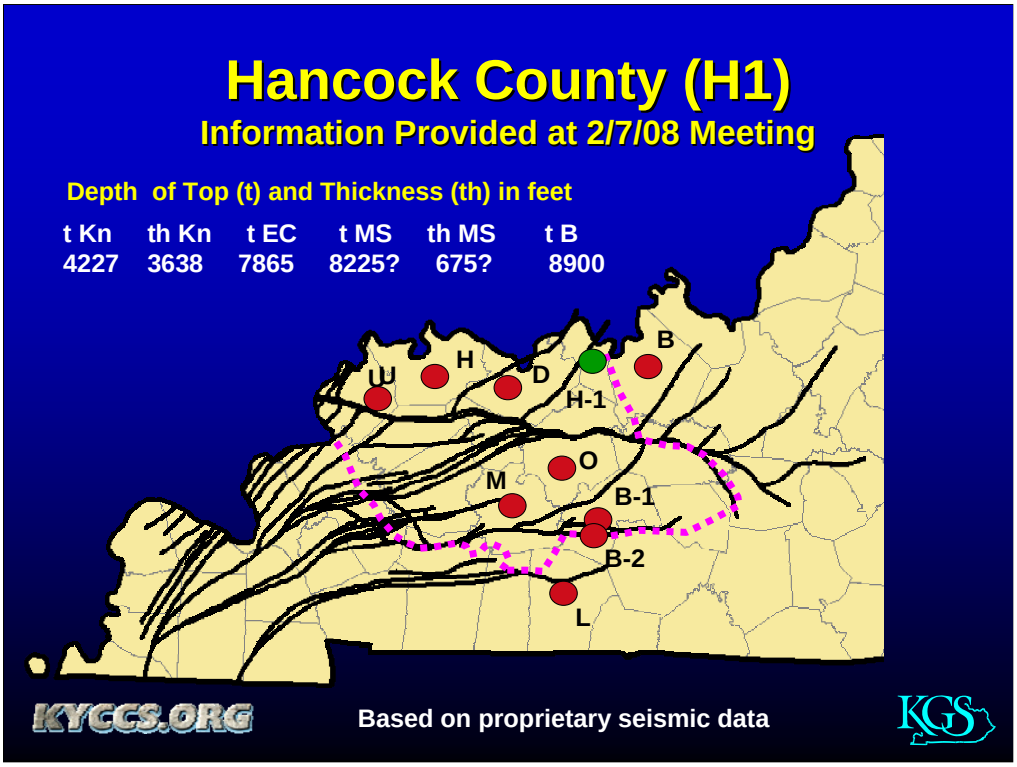
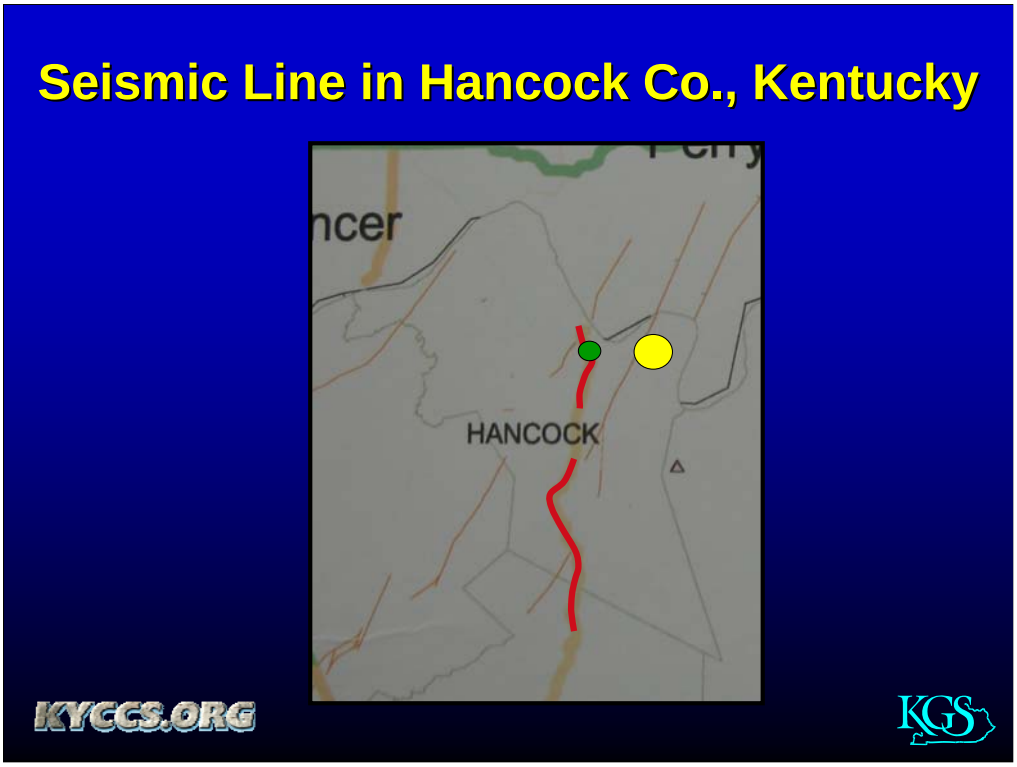
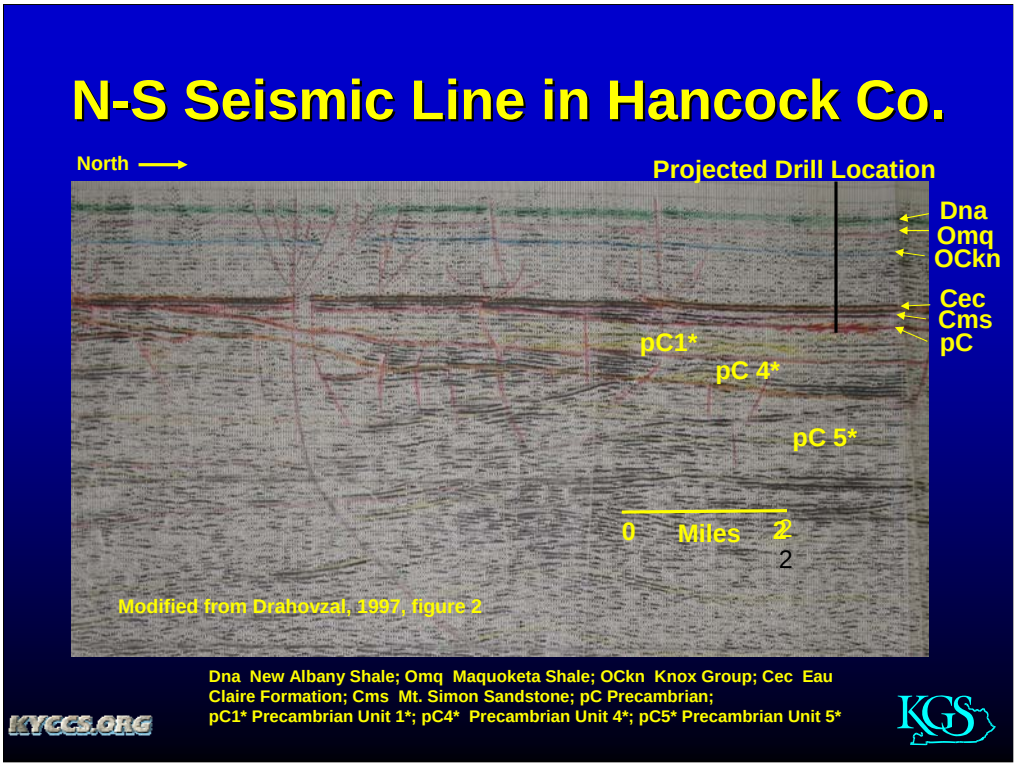


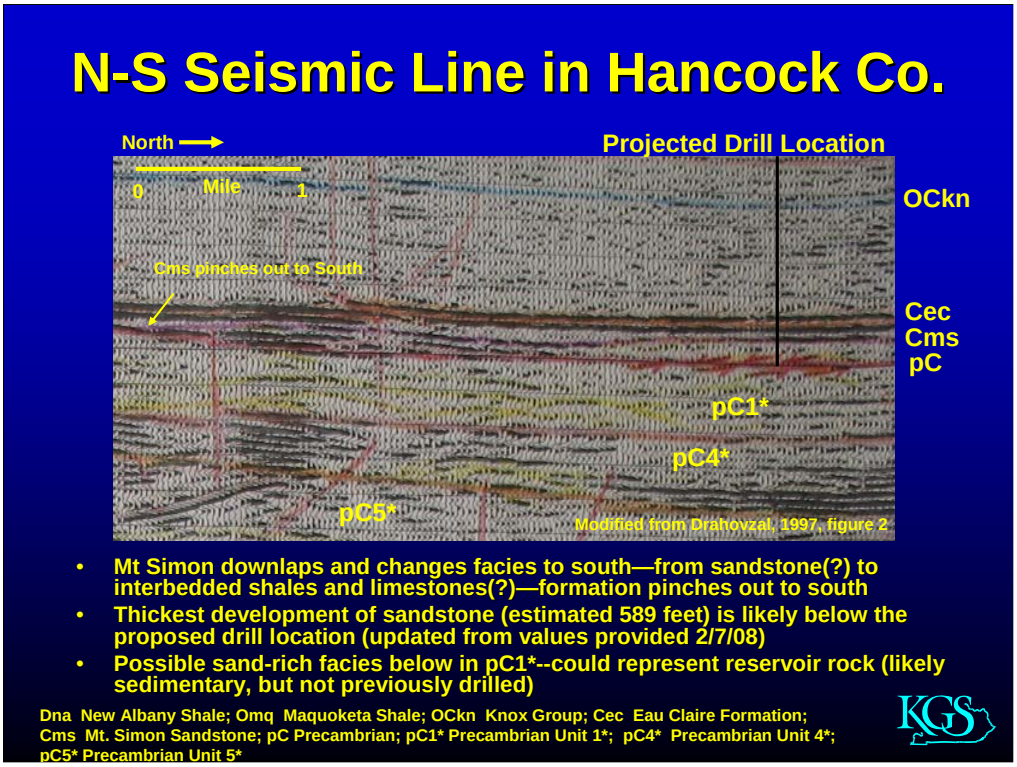
The red dots represent areas screened for possible drill sites in western Kentucky. The specific data for central Hancock Co. is shown in the table and is from the central part of the county shown by the green dot. Hancock and Breckinridge Counties are the only areas that would allow penetration of basement at a reasonable depth.



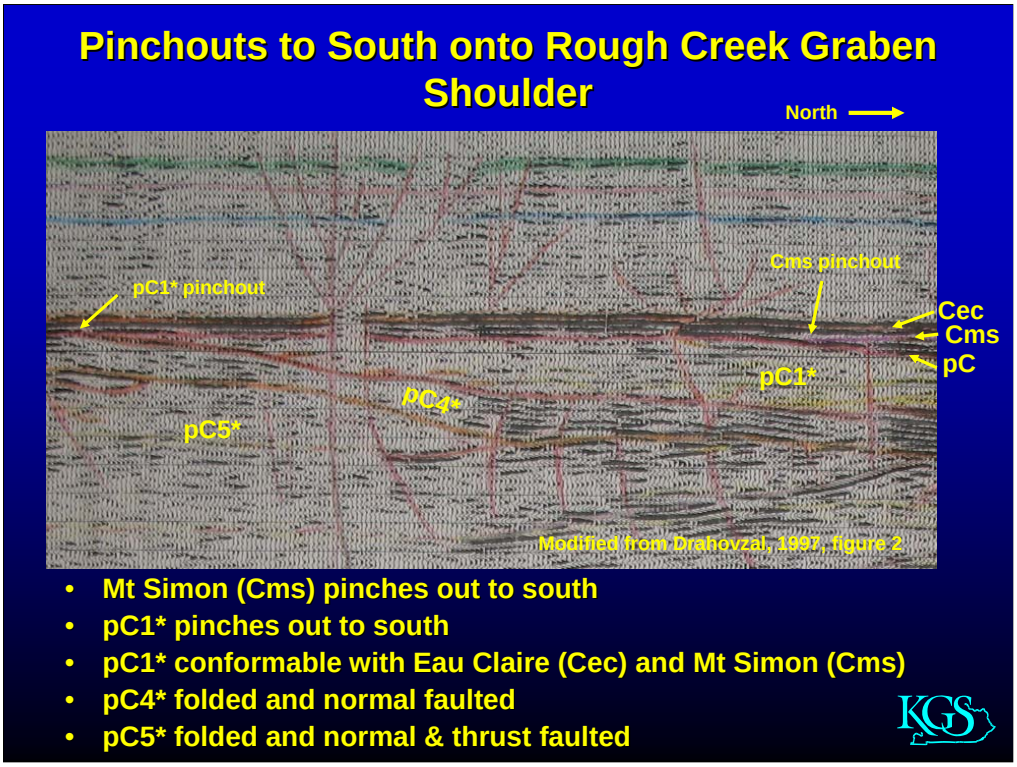
A north-south seismic line in Hancock County provides an idea of depth and thicknesses of the various formations that could be expected in Skillman Bottom (yellow dot). The green dot it the closest point on the seismic data to the Skillman Bottom location.



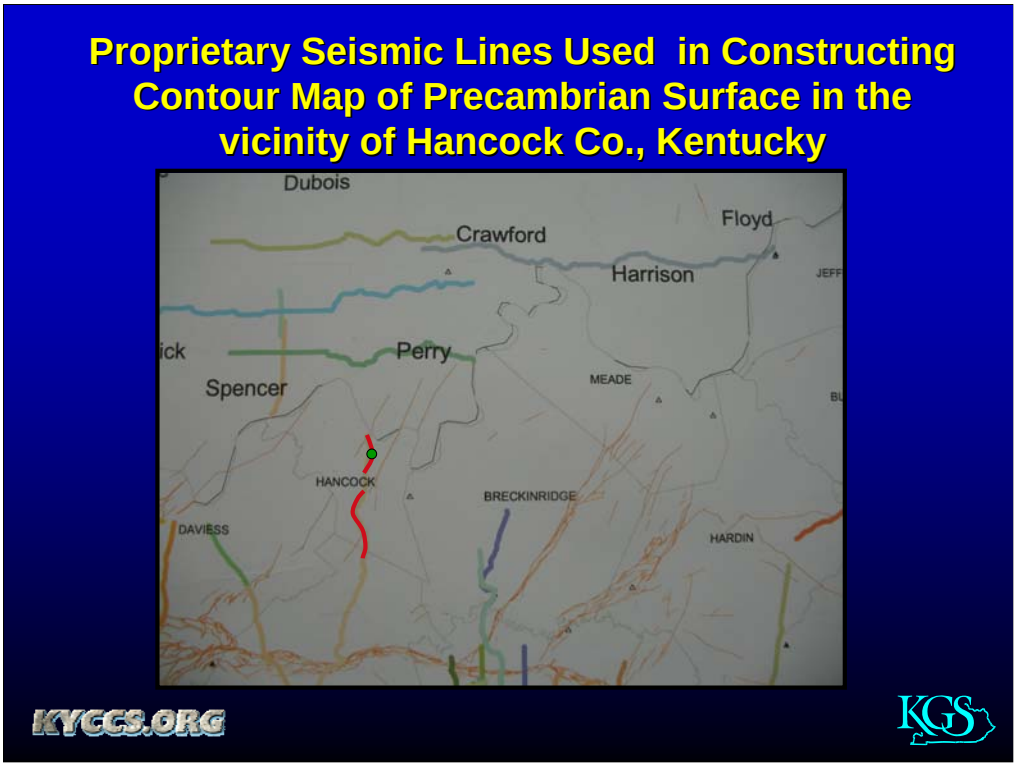
The north south seismic line in Hancock Co. This line was originally interpreted by Drahovzal (1997, figure 2). This is slightly modified from that earlier interpretation. The projected drill location shown here is represented by the green dot on the previous illustration. The red line indicated by the designation "pC" represents the Precambrian unconformity that is conformable with the pC-1* unit beneath on the northern part of the line, but forms an angular unconformity with the pC4* unit on the southern part of the line.



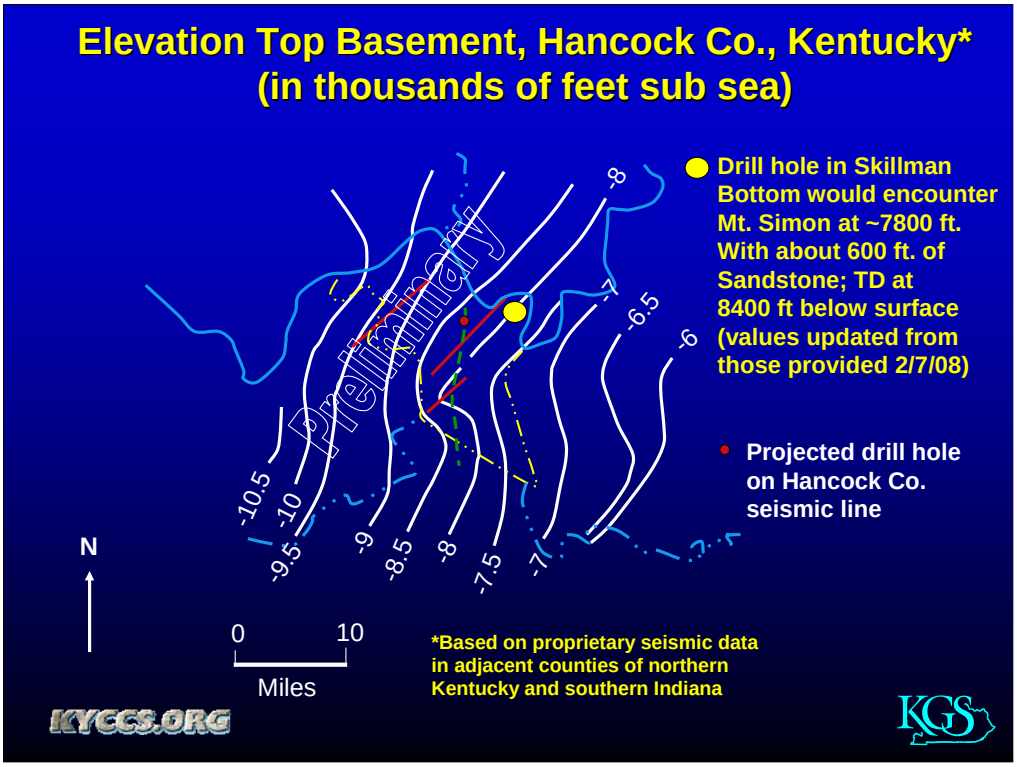
This is a close up of the seismic data at the projected drill location (this represents what the data at the Skillman location could look like, except that the latter would be slightly shallower. This data indicates that the Mt. Simon Formation is likely present at the location based on proprietary data just to the north in Indiana. A seismic line across the Ohio River from Louisville, Kentucky was correlated with the DuPont Wad Fee well in Louisville and correlated to a series of lines across parts of southern Indiana and finally to two lines across the Ohio River from Hancock Co. (see slide 7). The Mt. Simon here appears to be opaque on the northern part of the line. Farther south, it thins and appears to change facies, appearing to become interbedded. The opaque area is interpreted to be sandstone and is estimated to be about 590 feet thick. To the south the strong reflectors are interpreted to possibly represent interbedded shales and limestones or sandstones. The Mt. Simon appears to pinch out to the south. The underlying pC1* unit is very likely sedimentary and not igneous rock. It is interpreted to be a sandstone, but has been drilled only to the east in Hart Co. The drilled Hart County Precambrian sandstone, however, may be a different sandstone from that of pC1*.



Several of the units appear to be thinning out to the south as the north edge of the Rough Creek Graben is approached. This may be due to uplift of the north shoulder of the graben as it began to develop. The shoulder was high when the Mt. Simon was deposited and the Mt. Simon lapped onto this high feature, perhaps receiving erosional products of the material making up the shoulder near the south edge of its depositional limit.



This shows the seismic data available to this study in projecting the Mt. Simon as well as the other units from the DuPont well in Jefferson Co., Kentucky (diamond in upper right corner) into the Hancock Co. area and the north-south seismic line (red line).



This is a preliminary top Basement map for the vicinity of Hancock Co., Kentucky. Note that the map shows contour lines in thousands of feet sub sea). It predicts that the Mt. Simon would be at about 7800 feet and about 600 feet thick at Skillman Bottom. The base of the Mt. Simon and the top of basement (here Precambrian unit pC1*--a probable sandstone) would be at about 8400 feet depth below the ground surface.

Reference Cited

Drahovzal, James A., 1997, Proterozoic sequences and their implications for Precambrian and Cambrian geologic evolution of western Kentucky: Evidence from seismic-reflection data, Seismological Research Letters, v. 68, no. 4, p.553-566

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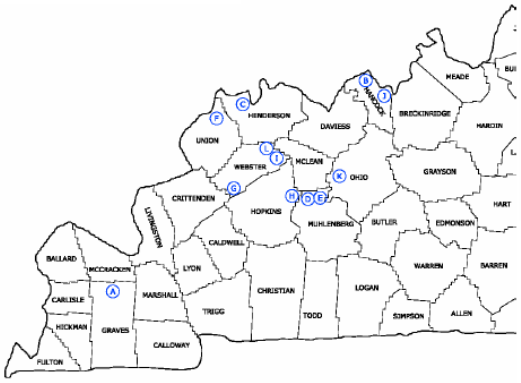
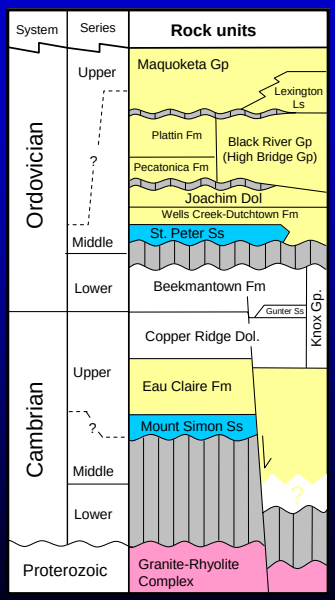
Kentucky Site Bank Locations



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	CHISHOLM 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 CO_2 Storage Potential

- Potential CO_2 sinks/ reservoirs
- Caprock-containment interval
- Unconformity
- Sink or seal (*depends on location)*
- Basement Metamorphic and igneous rocks (*mostly seal*)