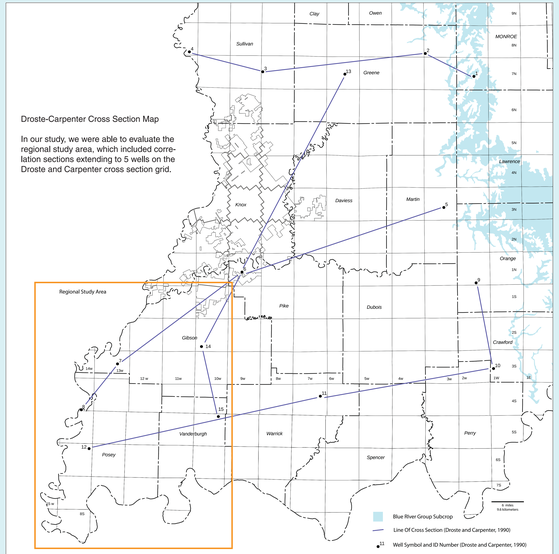
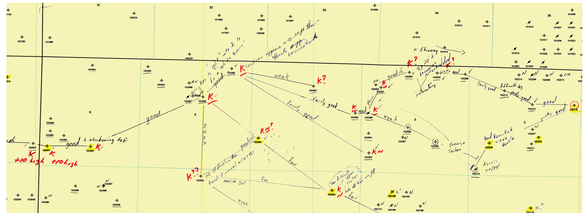
Droste-Carpenter Cross Section Map

In our study, we were able to evaluate the regional study area, which included correlation sections extending to 5 wells on the Droste and Carpenter cross section grid.



Cross Section Grid from Droste and Carpenter, 1990



part of T5S-R10W

approx. 1 mile
0.62 kilometer

Portion of Working Correlation Map

Subjective notes on correlation quality were recorded on 4 inch = 1 mile work maps. Wells were interactively selected along "lines of least resistance:" if confident correlations were indicated, only a limited number of wells were used (1 or 2 per mile, if well-density permitted); otherwise, as many wells as necessary were correlated.

The method employed was to correlate along the routes that would connect to the Droste and Carpenter grid from several directions using as much available control as possible to confidently carry the correlations along.

More than 500 wells were correlated with great care and detail to assure that the current well control supported earlier correlations—it does—and to extend the grid to include areas not fully covered by the earlier study.

Many difficulties and dead ends were encountered.

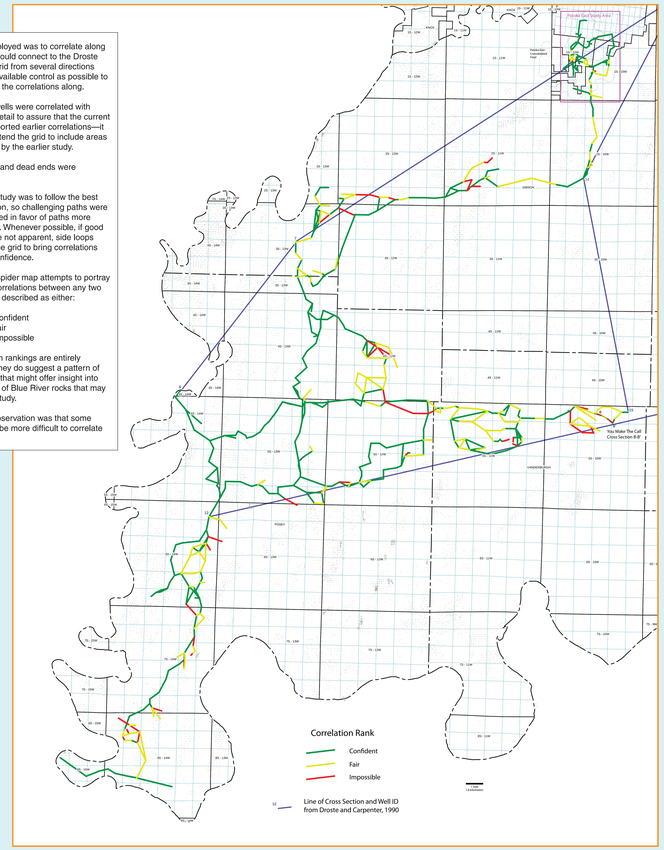
The task in our study was to follow the best lines of correlation, so challenging paths were quickly abandoned in favor of paths more easily correlated. Whenever possible, if good correlations were not apparent, side loops were added to the grid to bring correlations back to better confidence.

The correlation spider map attempts to portray this condition. Correlations between any two given wells were described as either:

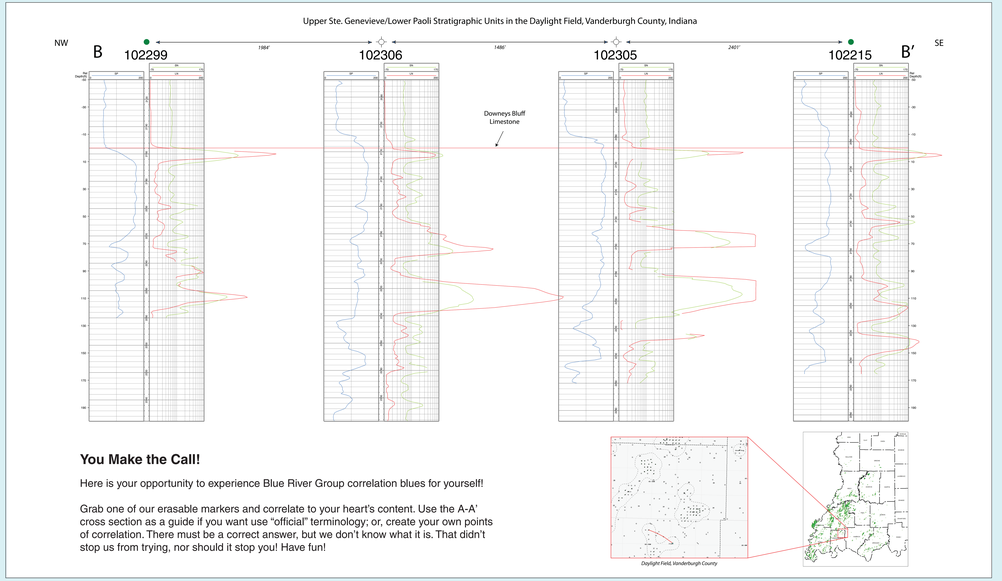
- Green: confident
- Yellow: fair
- Red: impossible

These correlation rankings are entirely subjective; but, they do suggest a pattern of correlation ease that might offer insight into regional aspects of Blue River rocks that may warrant further study.

An interesting observation was that some areas appear to be more difficult to correlate than others.



Correlation Spider Map



You Make the Call!

Here is your opportunity to experience Blue River Group correlation blues for yourself!

Grab one of our erasable markers and correlate to your heart's content. Use the A-A' cross section as a guide if you want use "official" terminology; or, create your own points of correlation. There must be a correct answer, but we don't know what it is. That didn't stop us from trying, nor should it stop you! Have fun!

Conclusions

1. The examination of the Patoka East Field area suggests considerable potential exists for enhancing the "pay" resolution and accuracy of the Blue River Group throughout its extent in Indiana.

2. Regional cross sections demonstrate that the Blue River Group correlations can be made effectively, but certain areas are more difficult than others. A study of the difficult areas might reveal depositional and/or diagenetic controls.

3. Our most difficult correlation problem was distinguishing deposits of the Joppa Member of the Ste. Genevieve Formation from the Aux Vases and Renault Members of the Renault Formation.

4. Additional study is necessary to evaluate whether the Joppa Member and Aux Vases Members should be placed in a single stratigraphic unit.

Acknowledgements

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Complex Lithofacies Relationships between the Ste. Genevieve and Paoli Limestones: Clarifying Reservoir Relationships in the Indiana Subsurface, panel 2 of 2
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