

APPENDIX C:
STRUCTURE, ISOPACH, POROSITY, PERMEABILITY,
AND FLOW UNIT MAPS

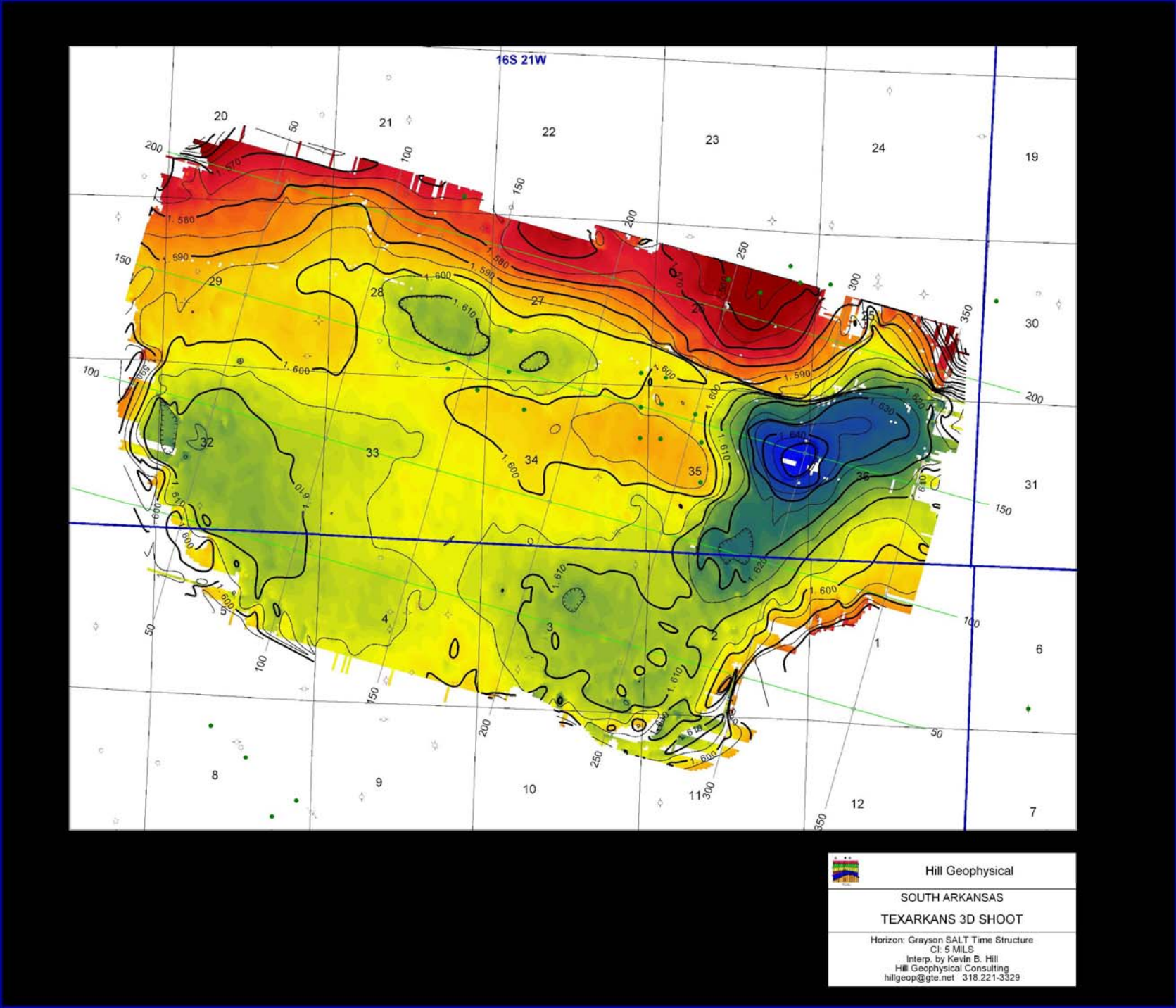
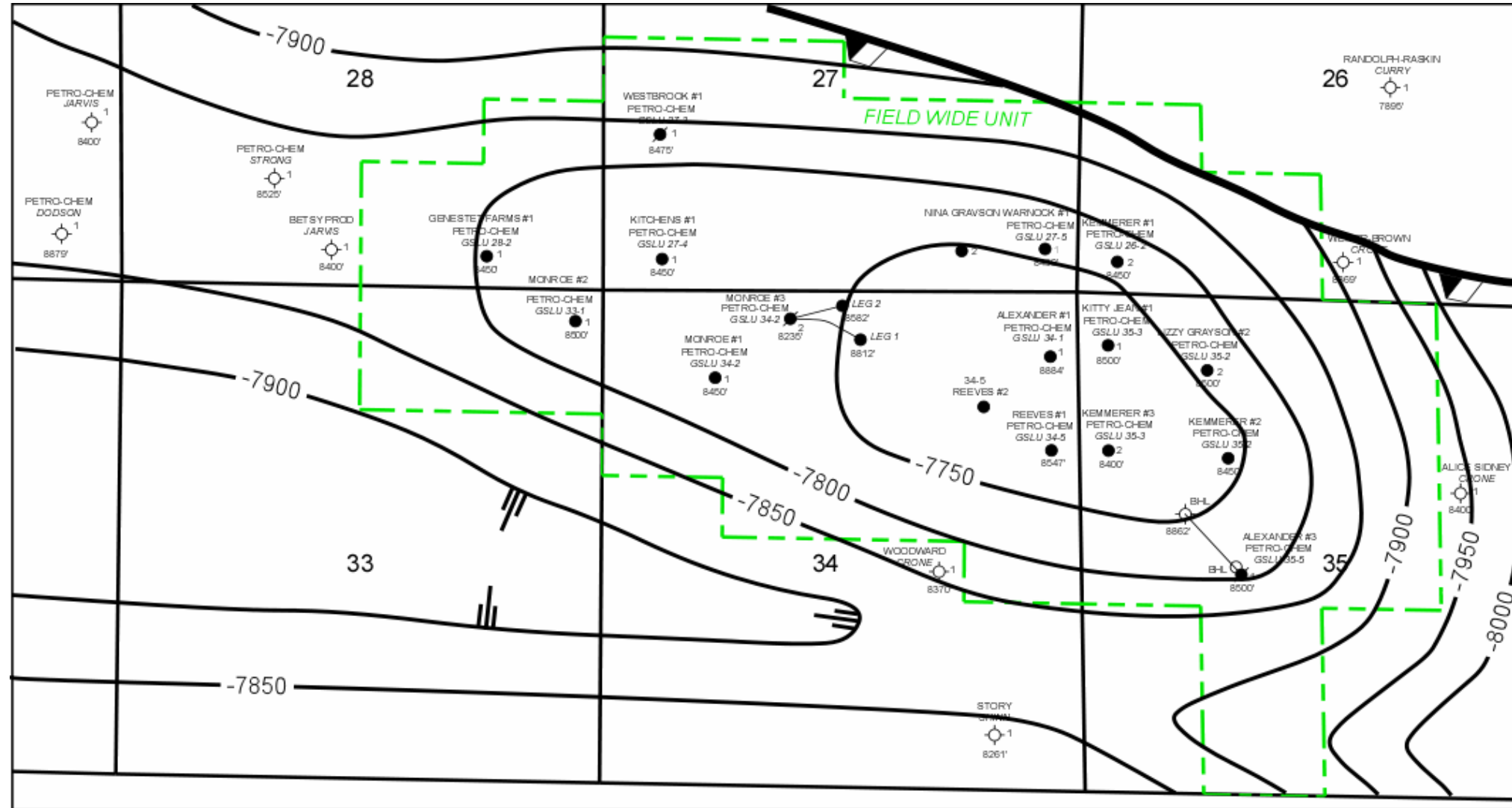


Figure C-1. Salt-time Structure Map (Courtesy of Kevin Hill).

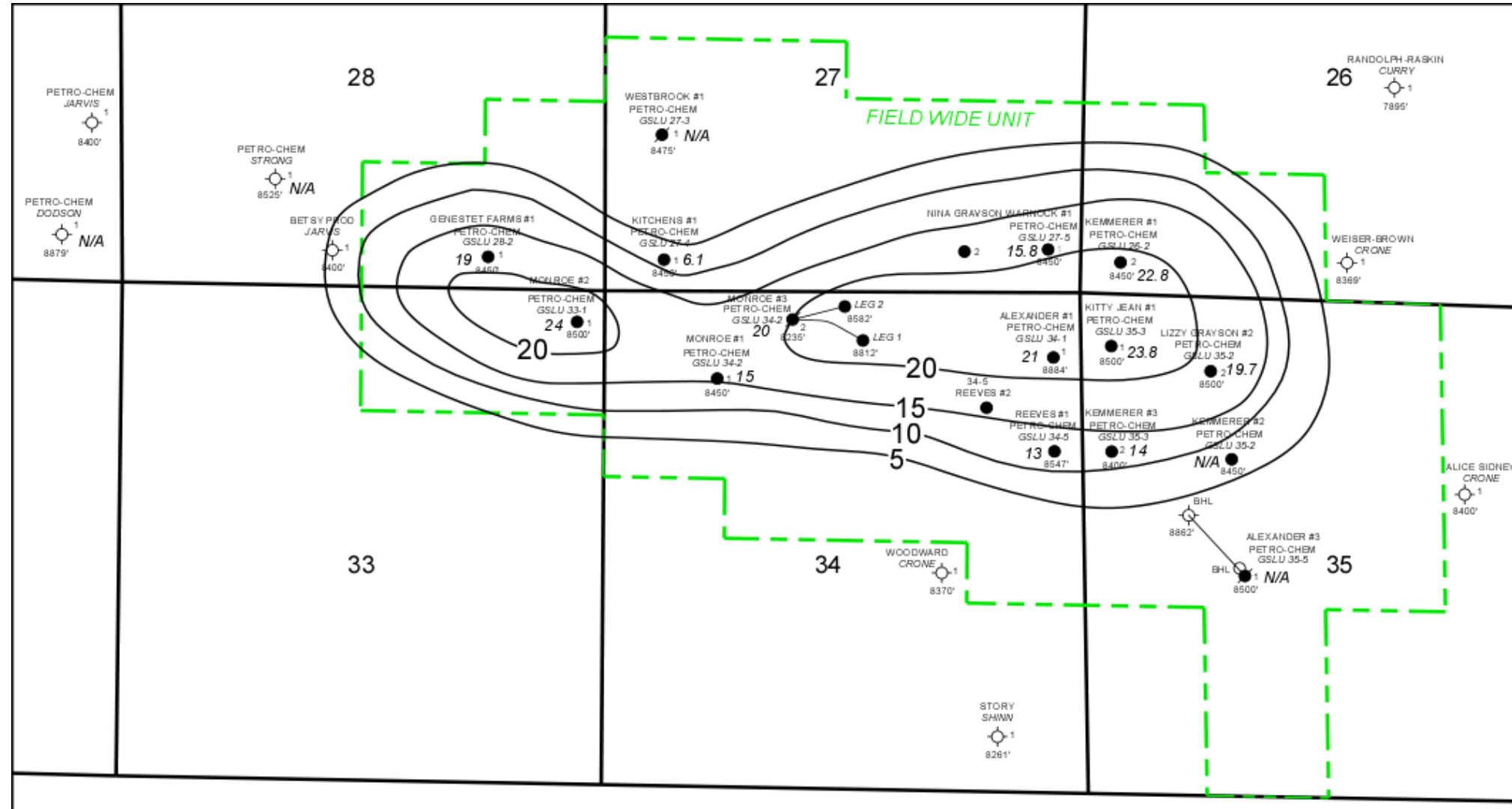


**Top of Smackover
Structure Map**
 Grayson Field
 Columbia County, Arkansas

C.I. = 50' K. Poole

1 MILE

Figure C-2. Top of Smackover Structure Map.



Porosity Slice Map
 0' - 10' from Top of Smackover
 Grayson Field
 Columbia County, Arkansas

C.I. = 5% K. Poole

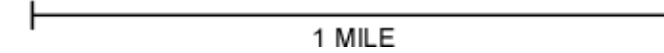
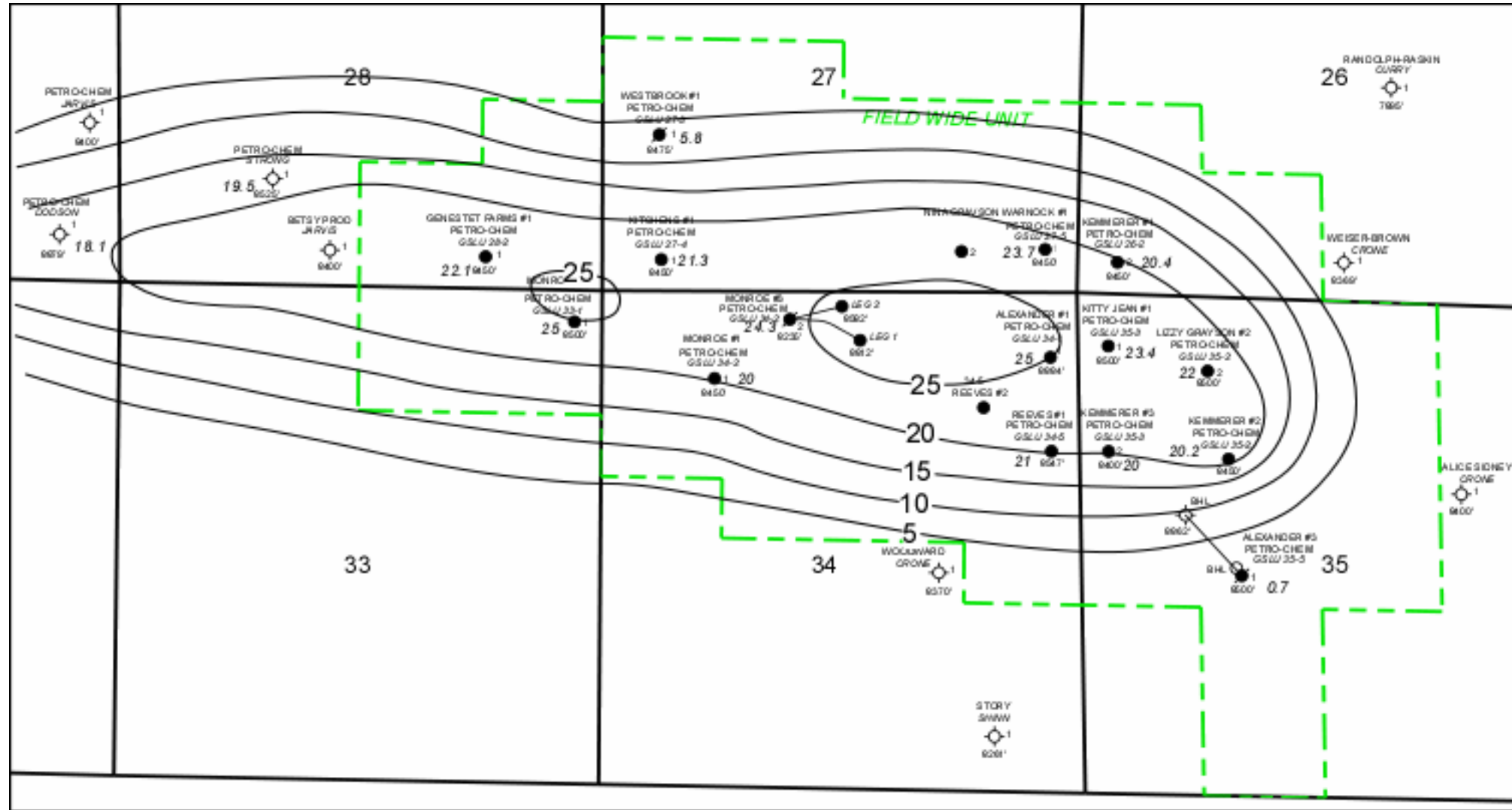


Figure C-4. Grayson Average Porosity Slice Map 0-10 ft below Top of Smackover.



Porosity Slice Map
 10' - 20' from Top of Smackover
 Grayson Field
 Columbia County, Arkansas

C.I. = 5% K. Poole



Figure C-5. Grayson Average Porosity Slice Map 10-20 ft below Top of Smackover.

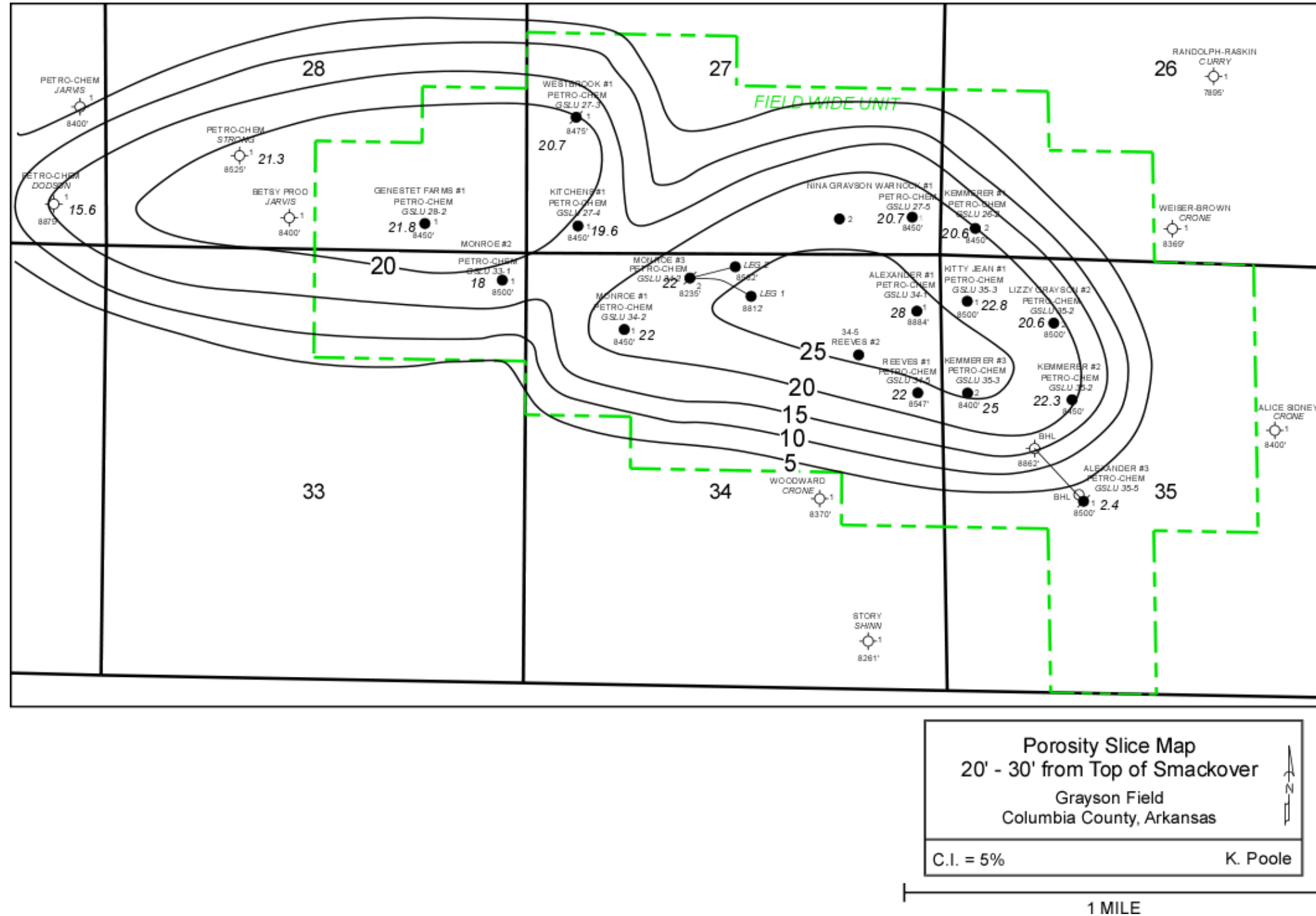
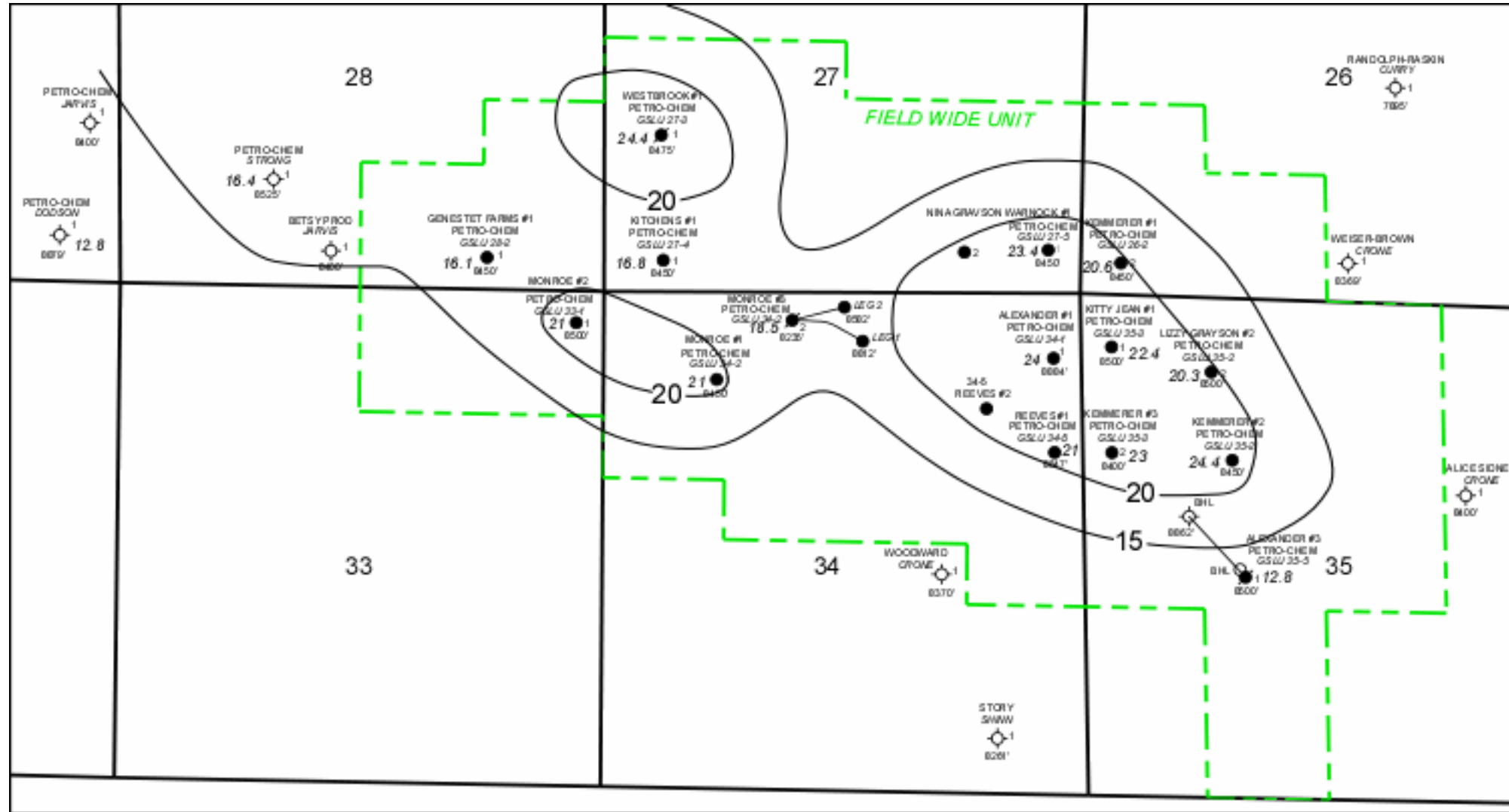


Figure C-6. Grayson Average Porosity Slice Map 20-30 ft below Top of Smackover.



Porosity Slice Map
 30' - 40' from Top of Smackover
 Grayson Field
 Columbia County, Arkansas

C.I. = 5% K. Poole

1 MILE

Figure C-7. Grayson Average Porosity Slice Map 30-40 ft below Top of Smackover.

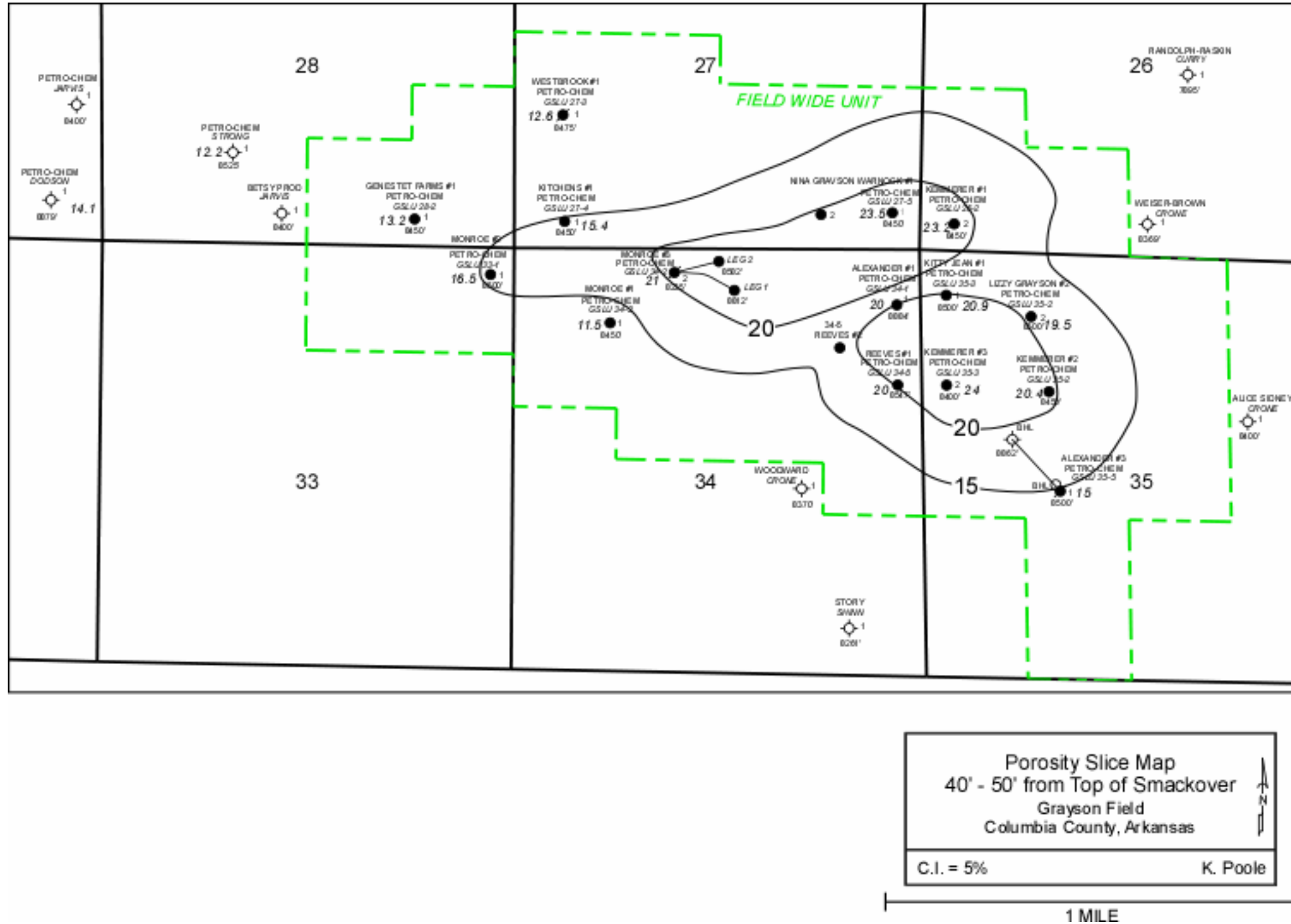
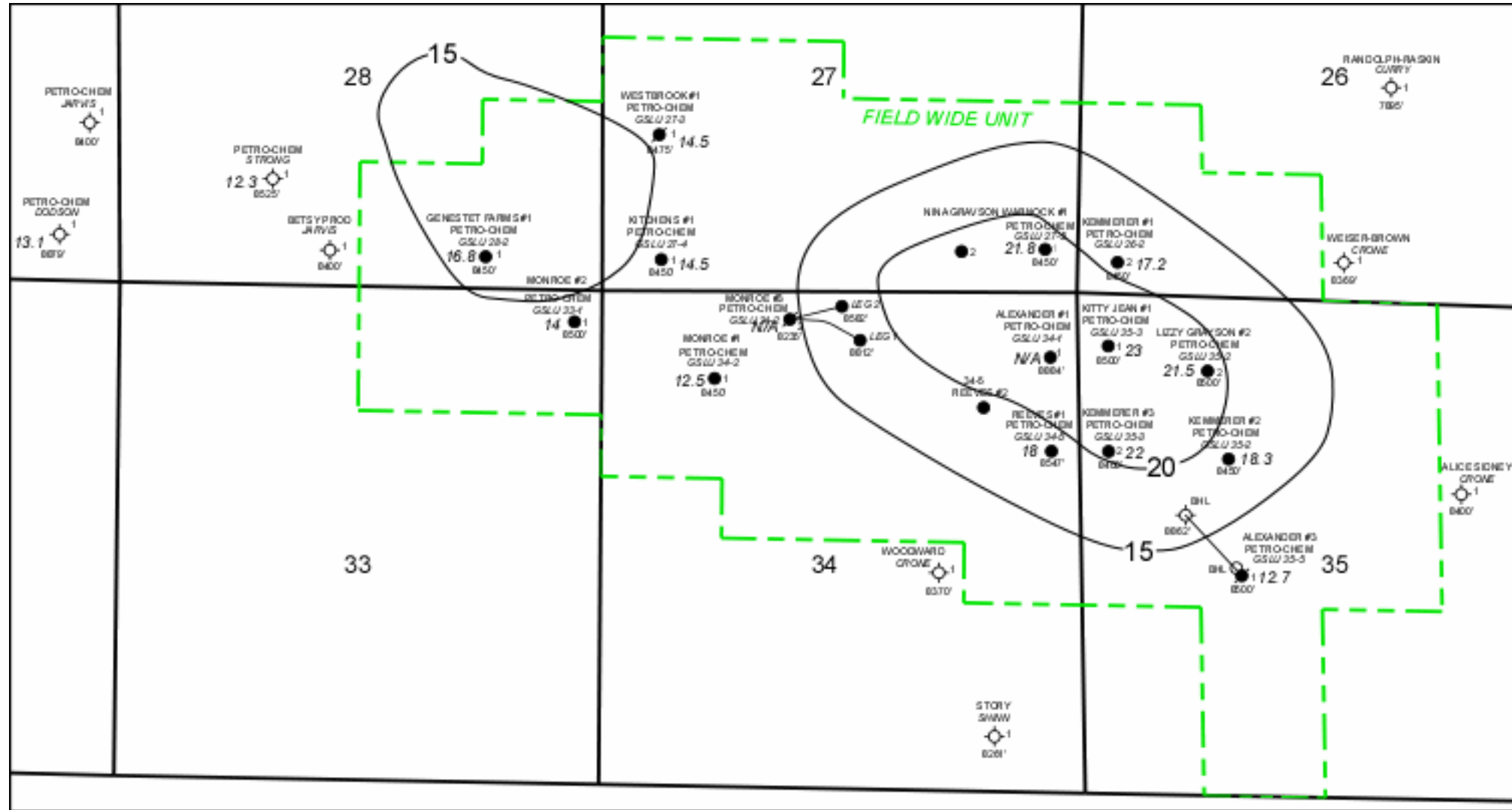


Figure C-8. Grayson Average Porosity Slice Map 40-50 ft below Top of Smackover.

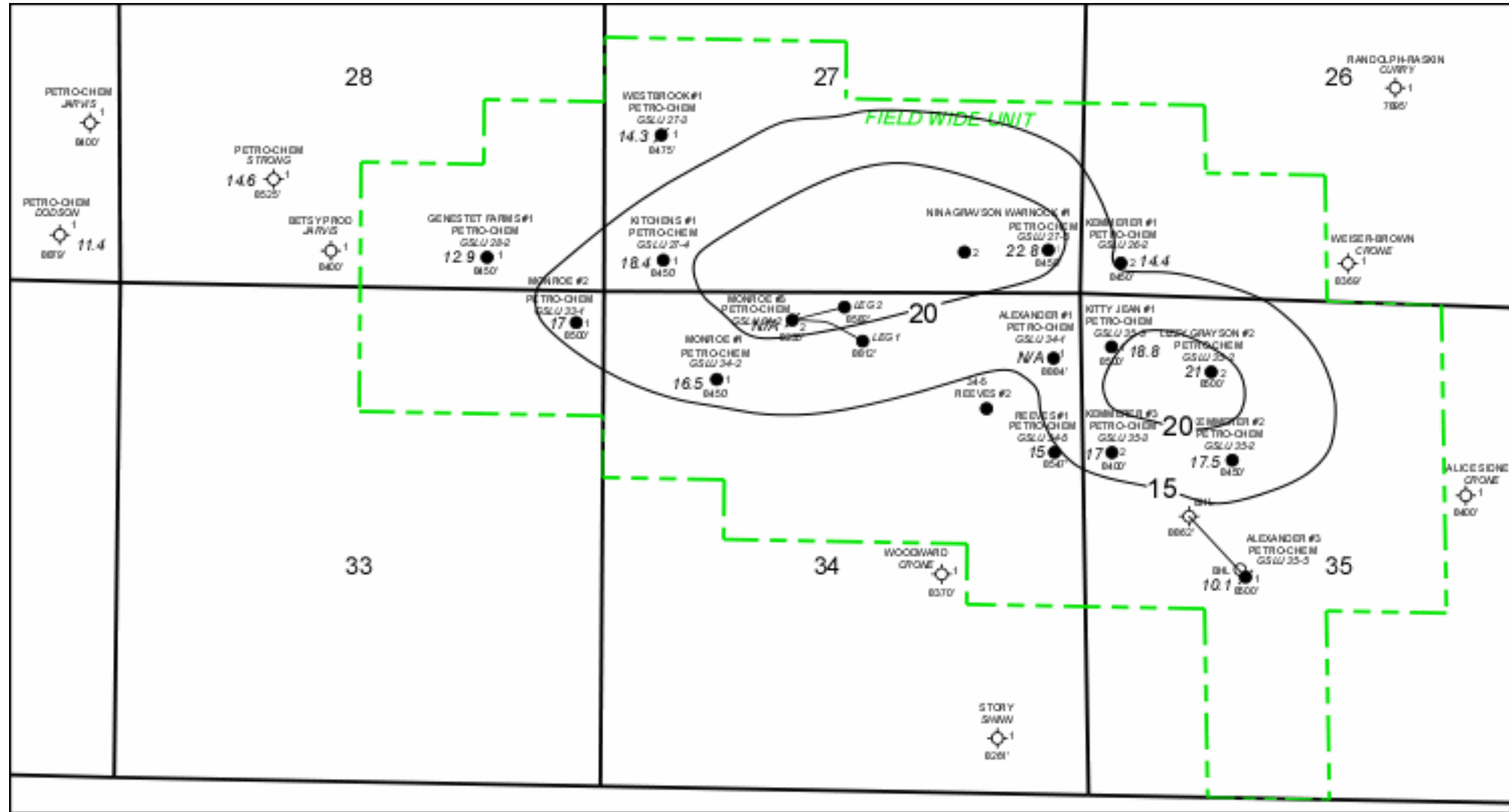


Porosity Slice Map
 50' - 60' from Top of Smackover
 Grayson Field
 Columbia County, Arkansas

K. Poole

1 MILE

Figure C-9. Grayson Average Porosity Slice Map 50-60 ft below Top of Smackover.

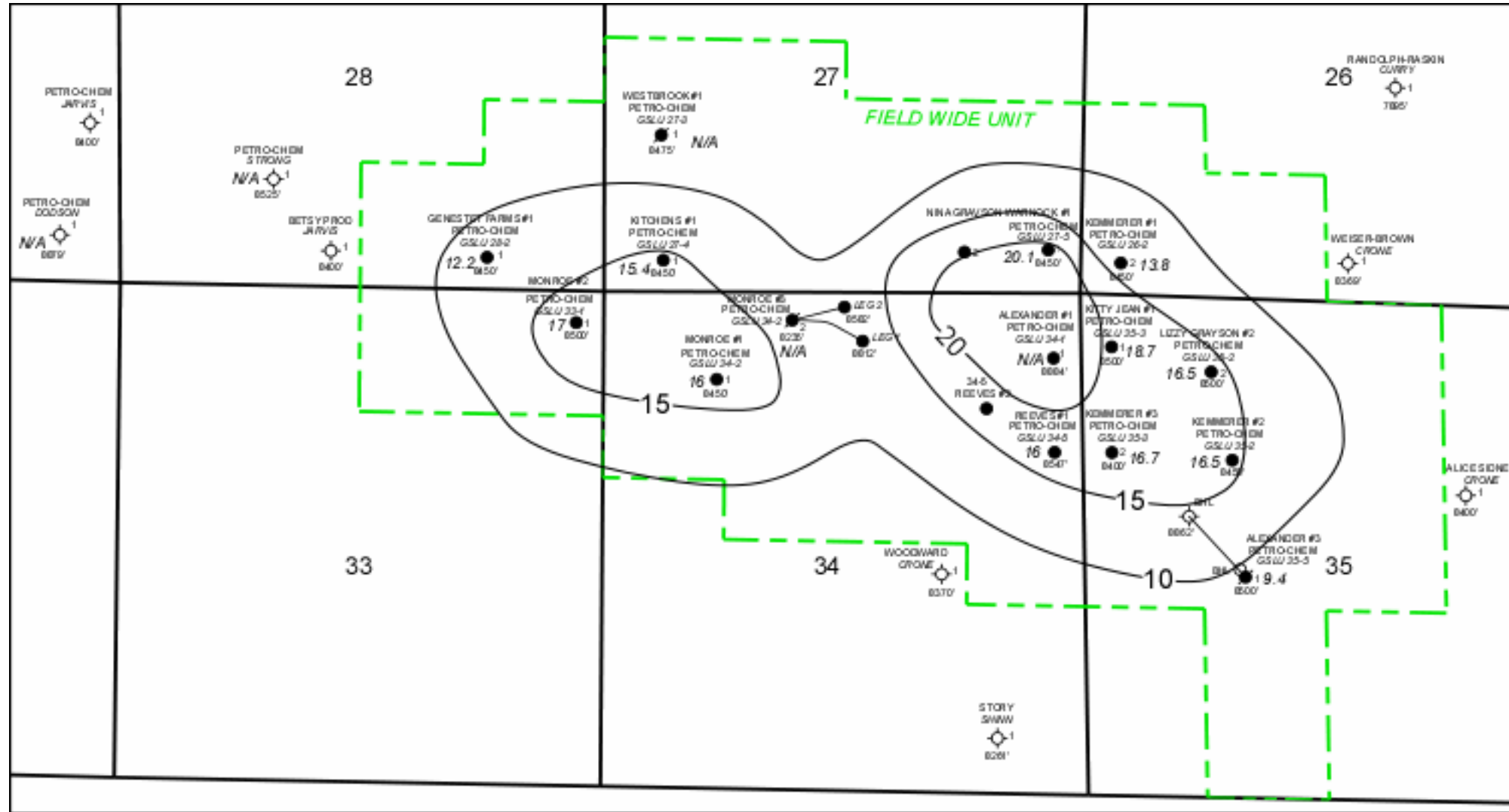


Porosity Slice Map
 60' - 70' from Top of Smackover
 Grayson Field
 Columbia County, Arkansas

C.I. = 5% K. Poole

1 MILE

Figure C-10. Grayson Average Porosity Slice Map 60-70 ft below Top of Smackover.

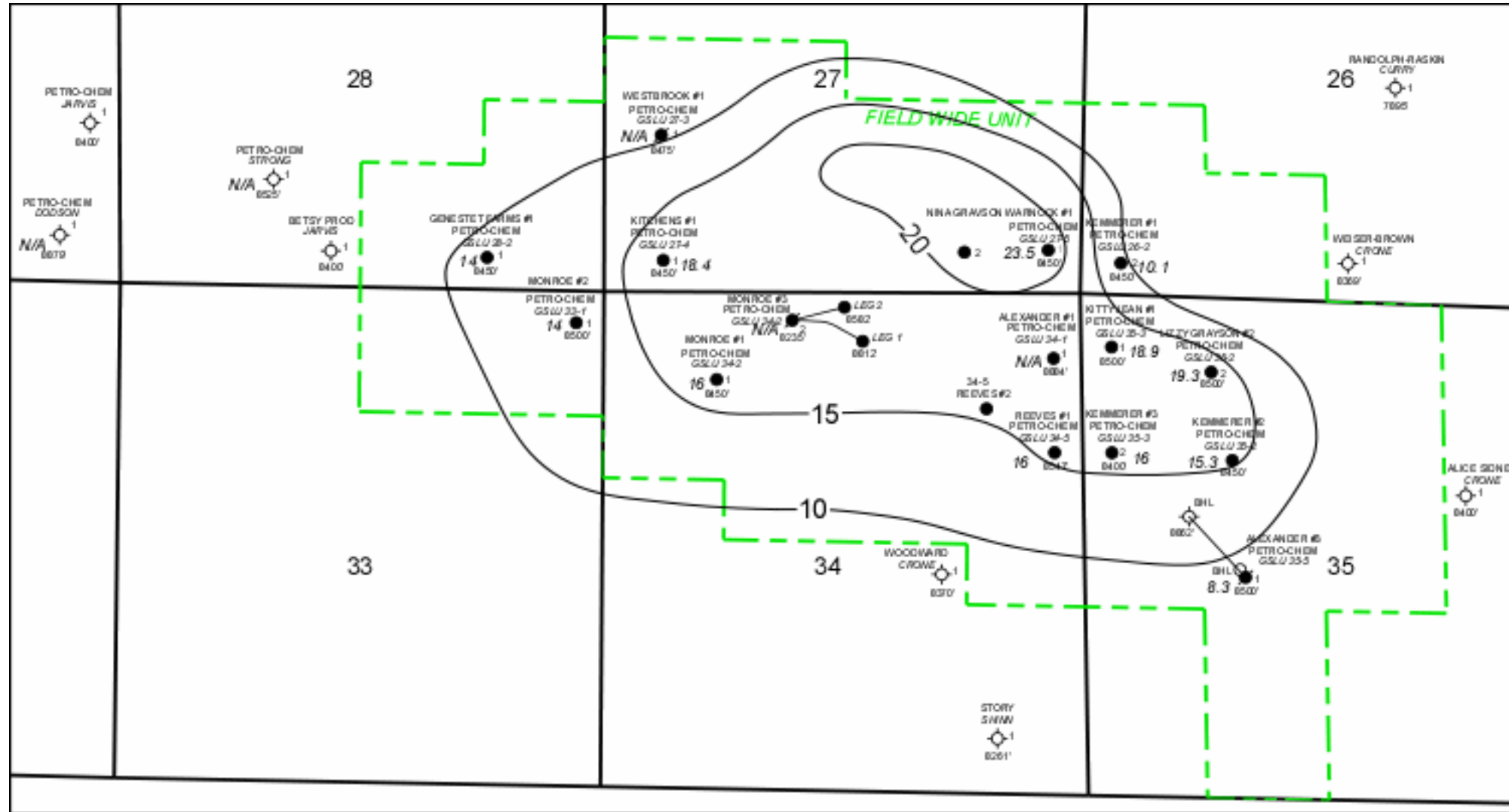


Porosity Slice Map
 70' - 80' from Top of Smackover
 Grayson Field
 Columbia County, Arkansas

C.I. = 5% K. Poole

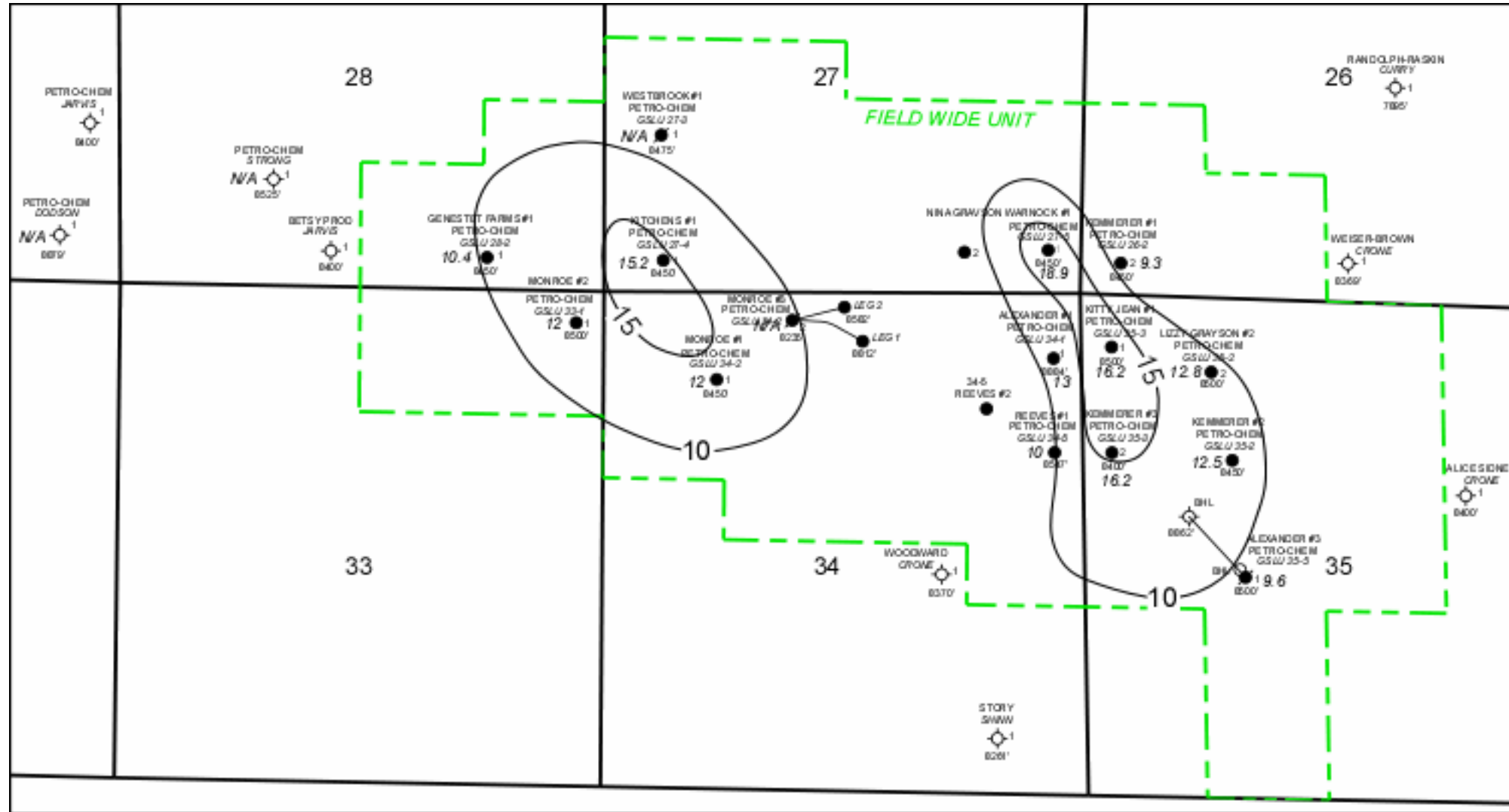
1 MILE

FigureC-11. Grayson Average Porosity Slice Map 70-80 ft below Top of Smackover.



Porosity Slice Map
 80' - 90' from Top of Smackover
 Grayson Field
 Columbia County, Arkansas
 C.I. = 5% K. Poole
 1 MILE

Figure C-12. Grayson Average Porosity Slice Map 80-90 ft below Top of Smackover.

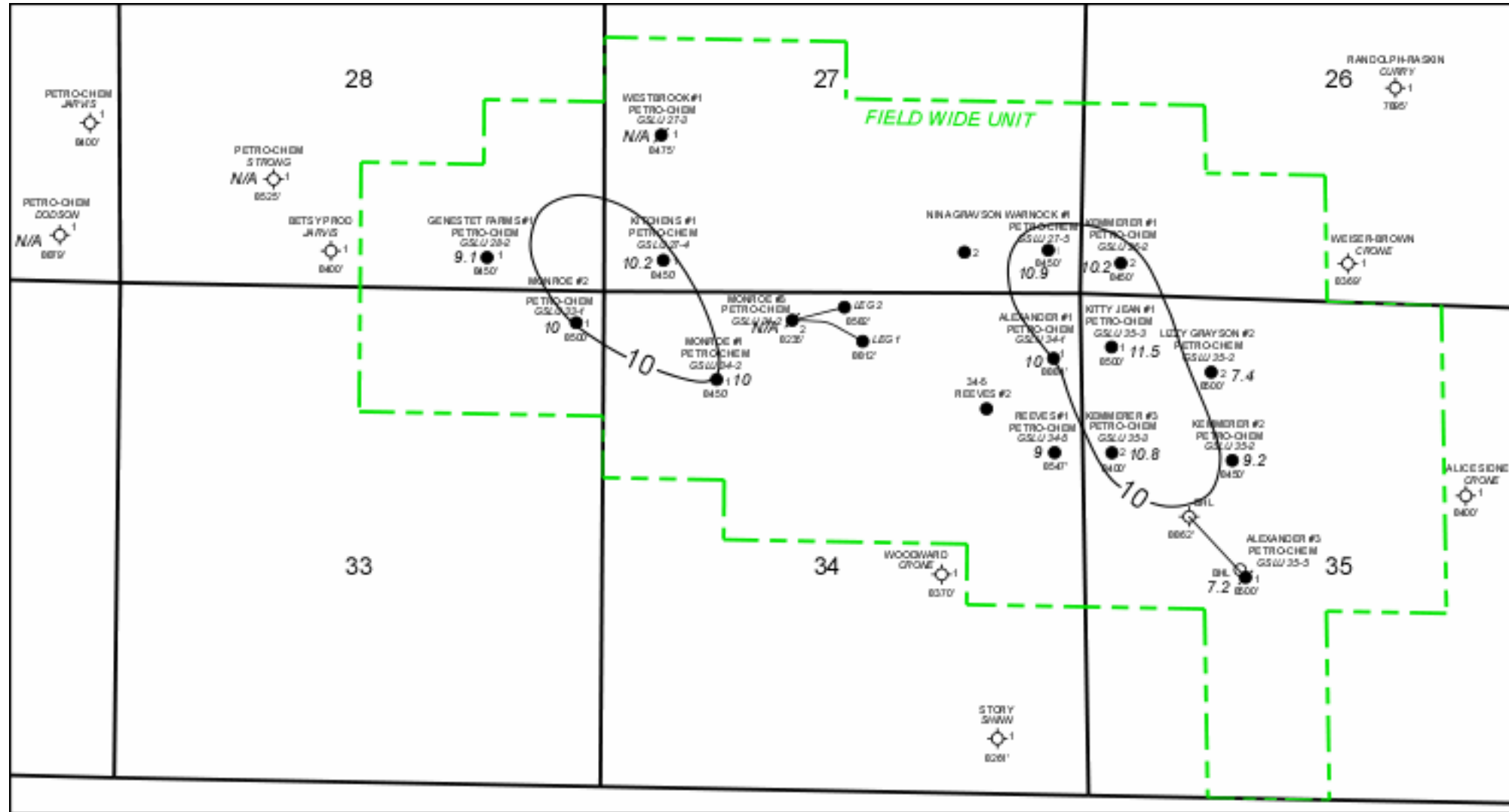


Porosity Slice Map
 90' - 100' from Top of Smackover
 Grayson Field
 Columbia County, Arkansas

C.I. = 5% K. Poole

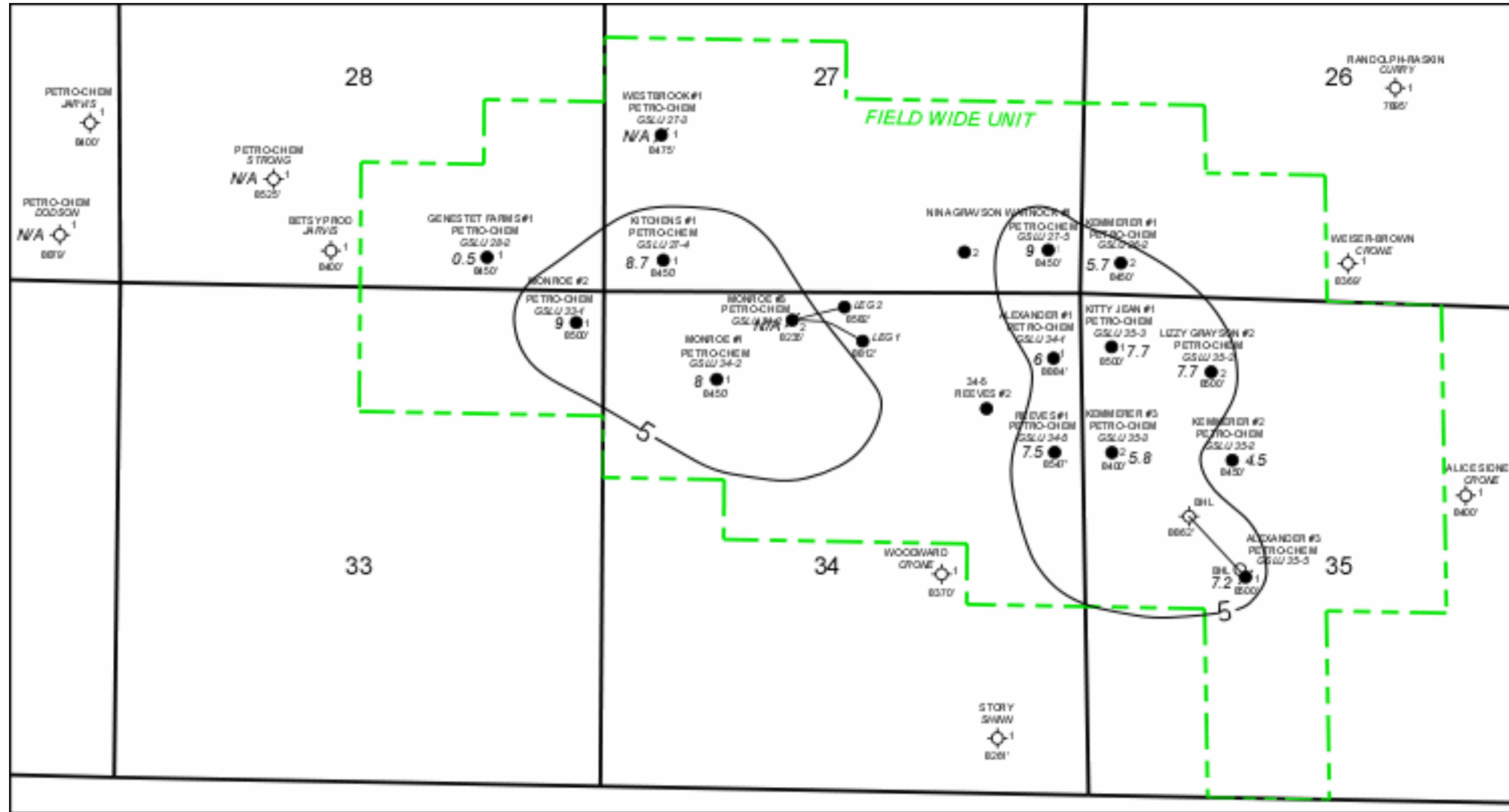
1 MILE

FigureC-13. Grayson Average Porosity Slice Map 90-100 ft below Top of Smackover.



Porosity Slice Map
 100' - 110' from Top of Smackover
 Grayson Field
 Columbia County, Arkansas
 C.I. = 5% K. Poole
 1 MILE

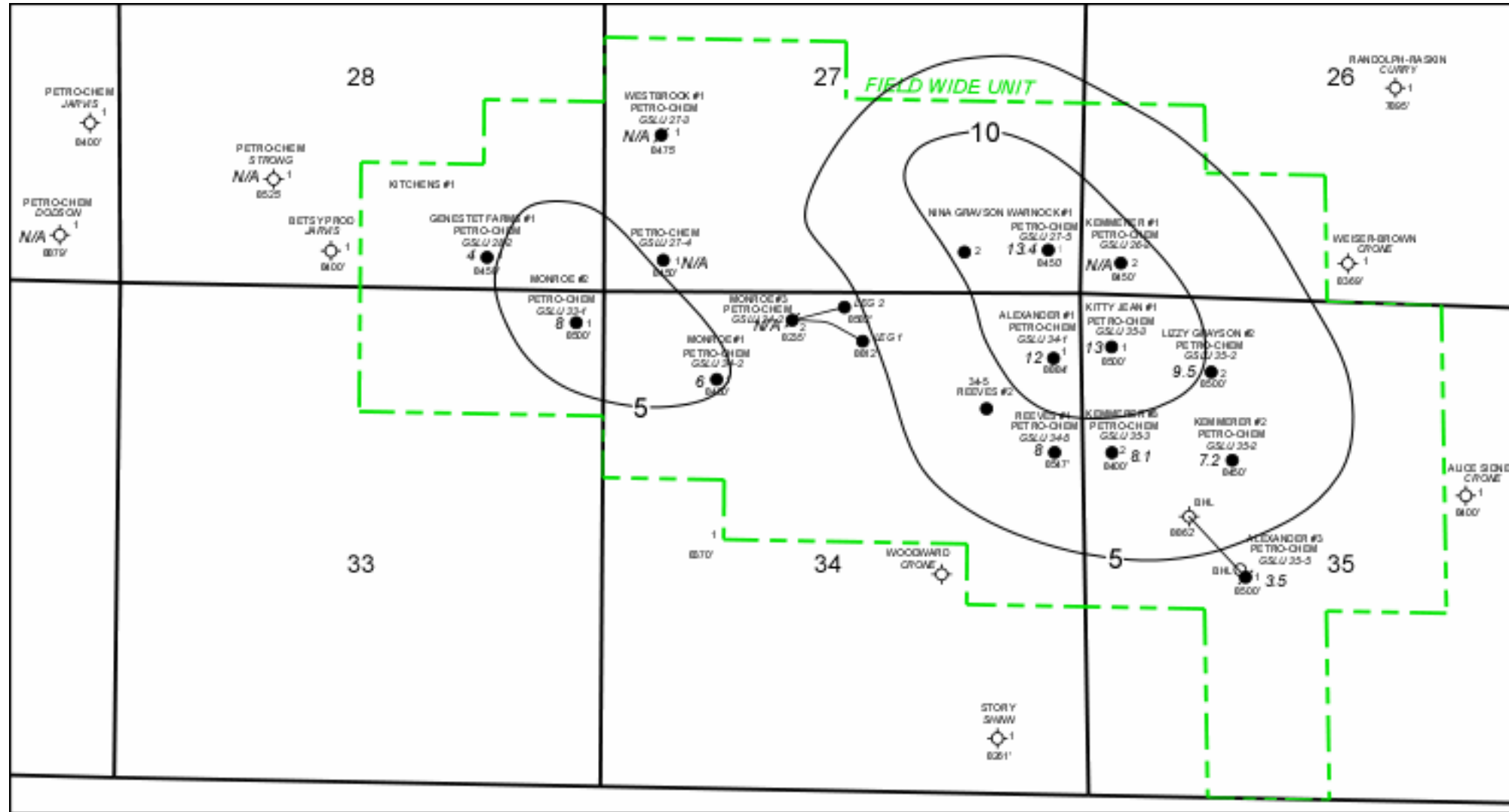
Figure C-14. Grayson Average Porosity Slice Map 100-110 ft below Top of Smackover.



Porosity Slice Map
 110' - 120' from Top of Smackover
 Grayson Field
 Columbia County, Arkansas
 C.I. = 5% K. Poole

1 MILE

Figure C-15. Grayson Average Porosity Slice Map 110-120 ft below Top of Smackover.

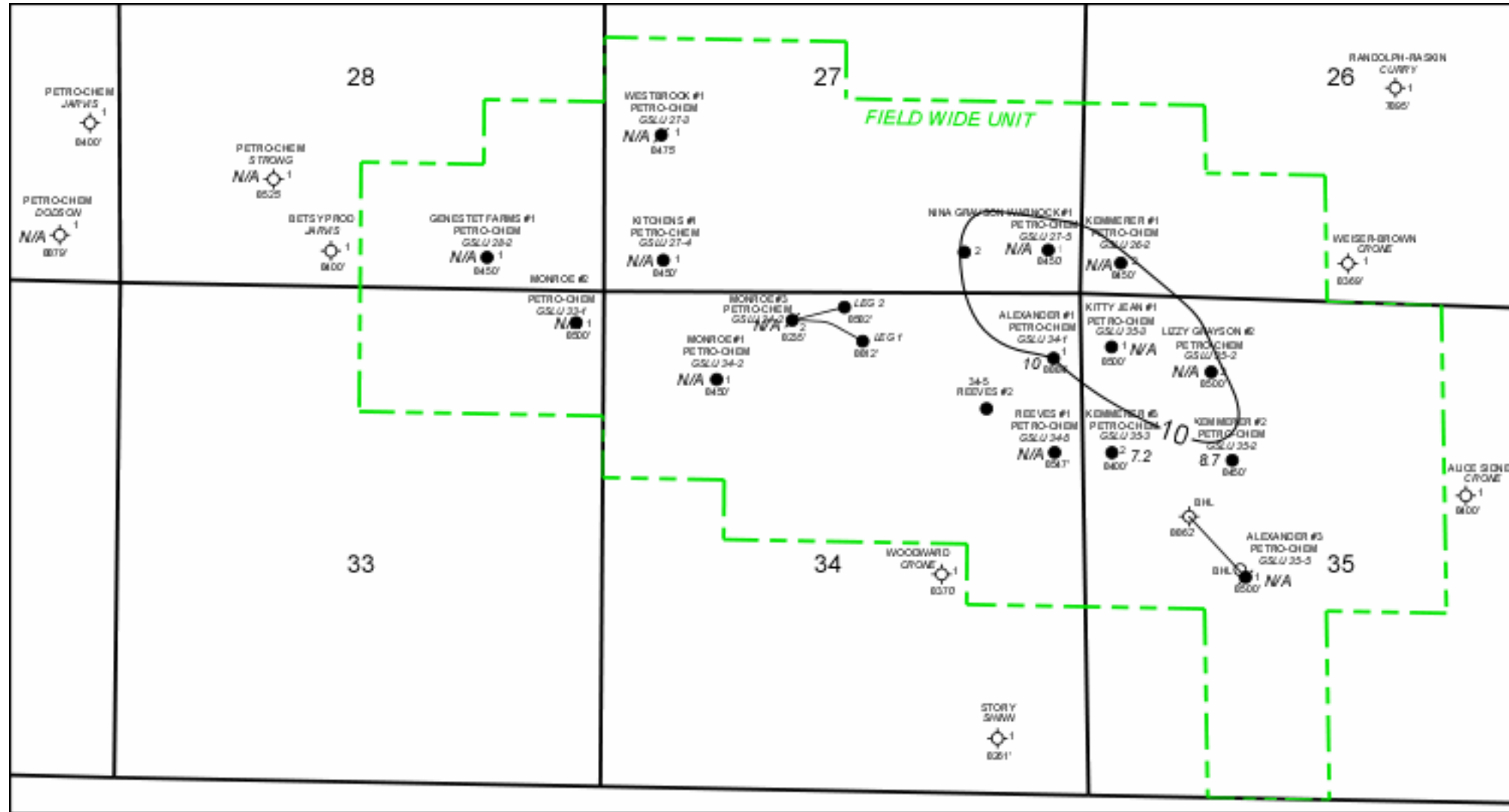


Porosity Slice Map
 120' - 130' from Top of Smackover
 Grayson Field
 Columbia County, Arkansas

C.I. = 5% K. Poole

1 MILE

Figure C-16. Grayson Average Porosity Slice Map 120-130 ft below Top of Smackover.

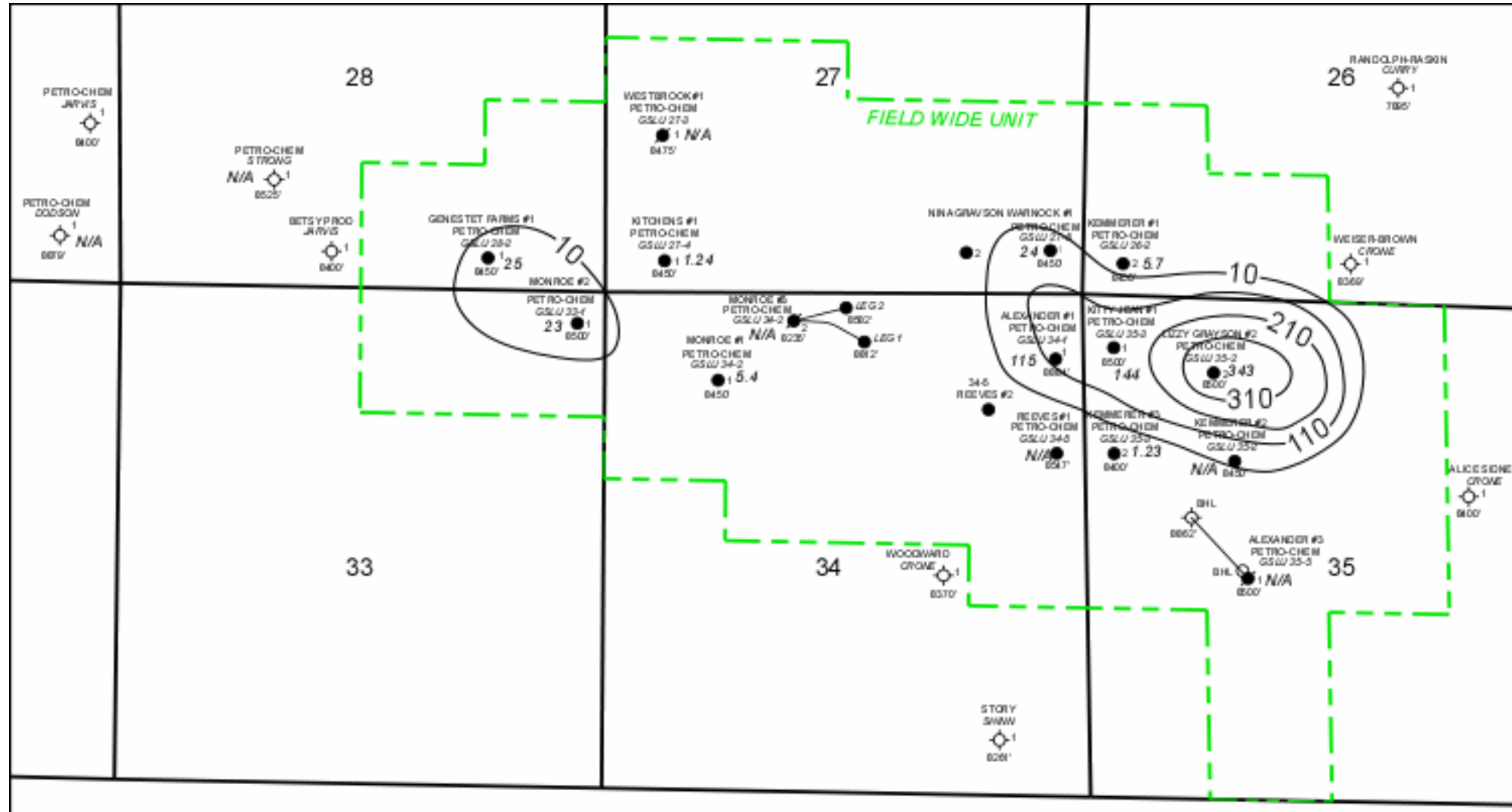


Porosity Slice Map
 130' - 140' from Top of Smackover
 Grayson Field
 Columbia County, Arkansas

C.I. = 5% K. Poole

1 MILE

Figure C-17. Grayson Average Porosity Slice Map 130-140 ft below Top of Smackover.



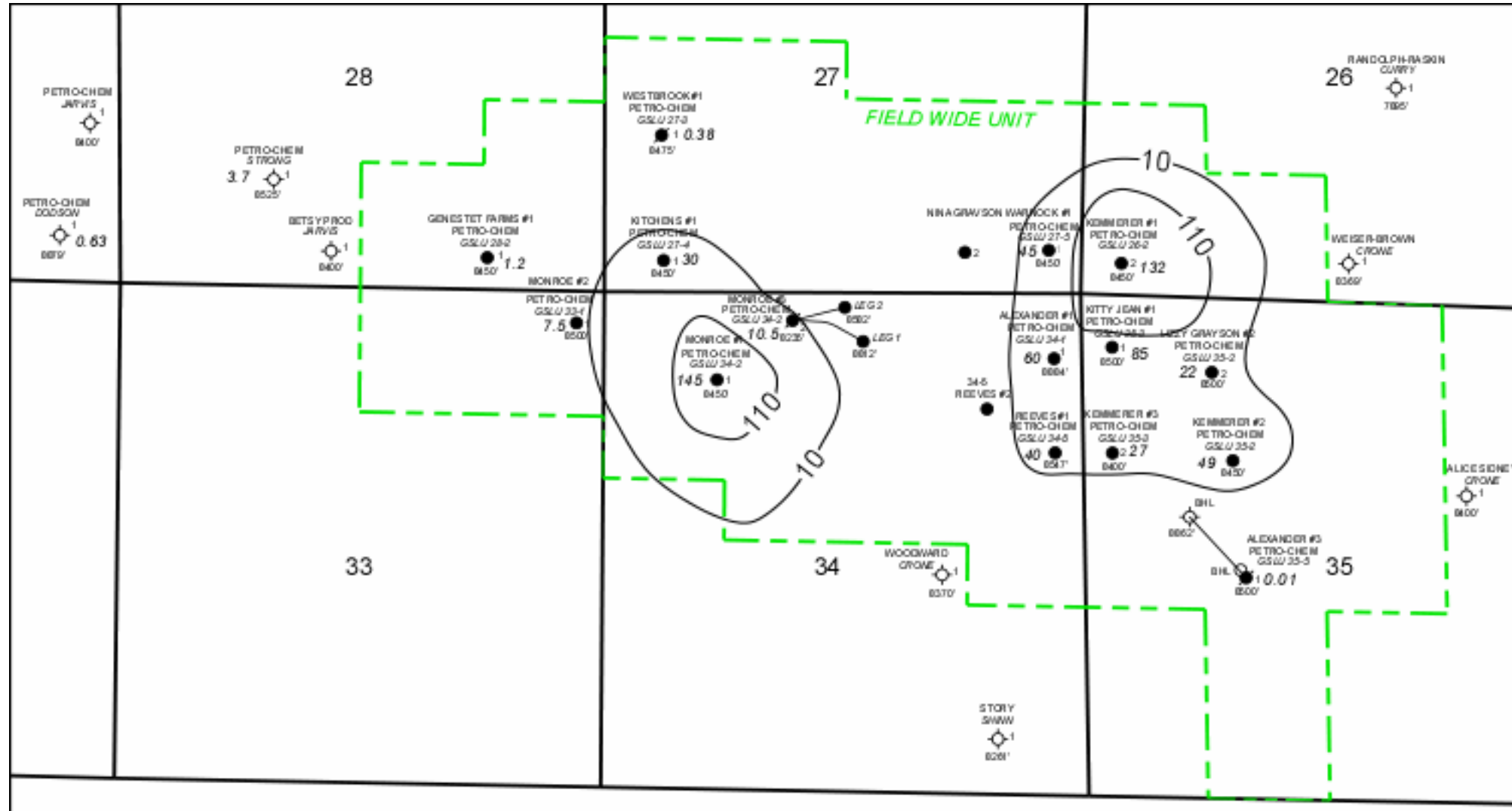
Permeability Slice Map
 0' - 10' from Top of Smackover
 Grayson Field
 Columbia County, Arkansas

C.I. = 100 md

K. Poole

1 MILE

Figure C-18. Grayson Average Permeability Slice Map 0-10 ft below Top of Smackover.

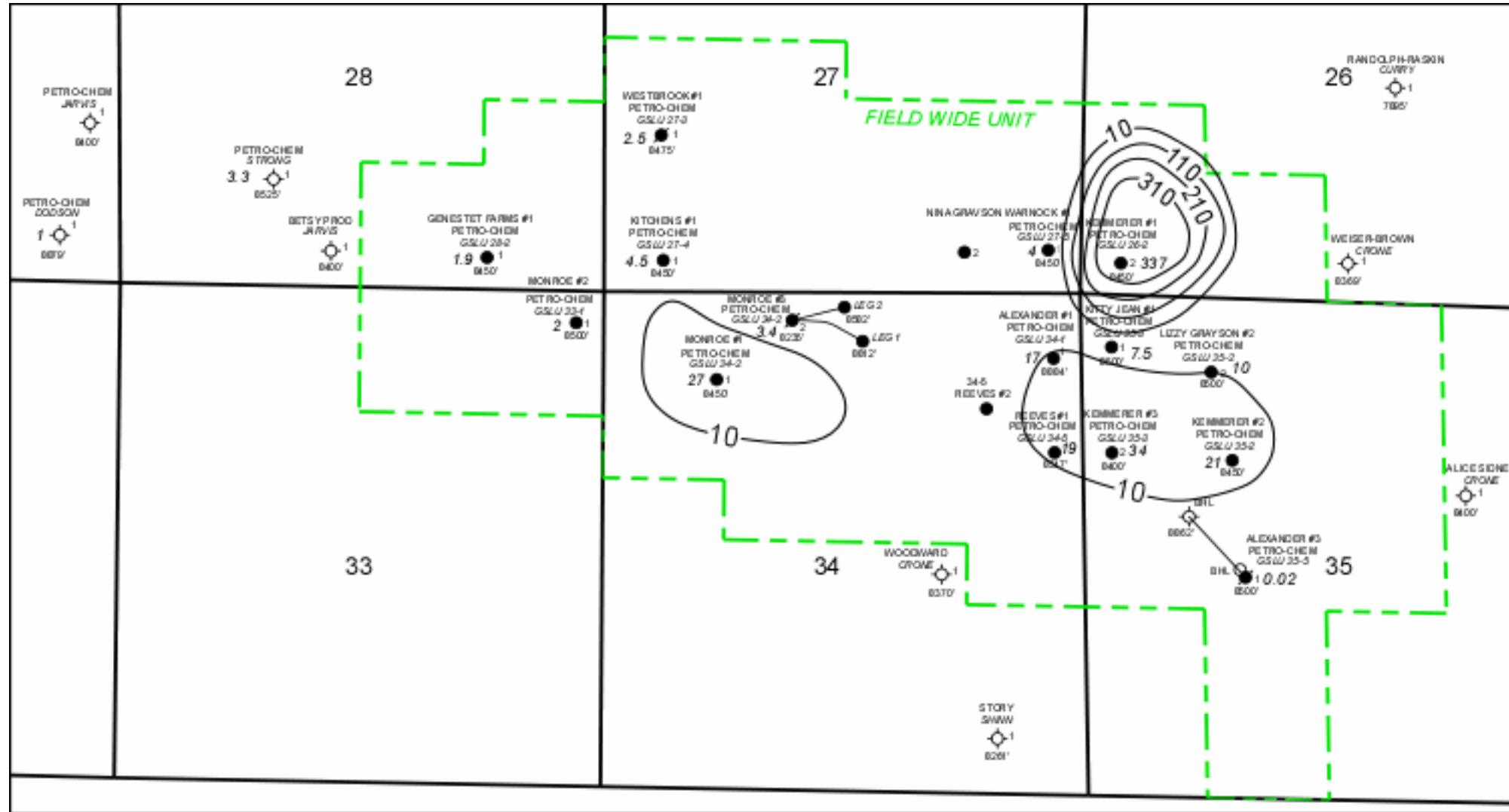


Permeability Slice Map
 10' - 20' from Top of Smackover
 Grayson Field
 Columbia County, Arkansas

C.I. = 100 md K. Poole

1 MILE

Figure C-19. Grayson Average Permeability Slice Map 10-20 ft below Top of Smackover.

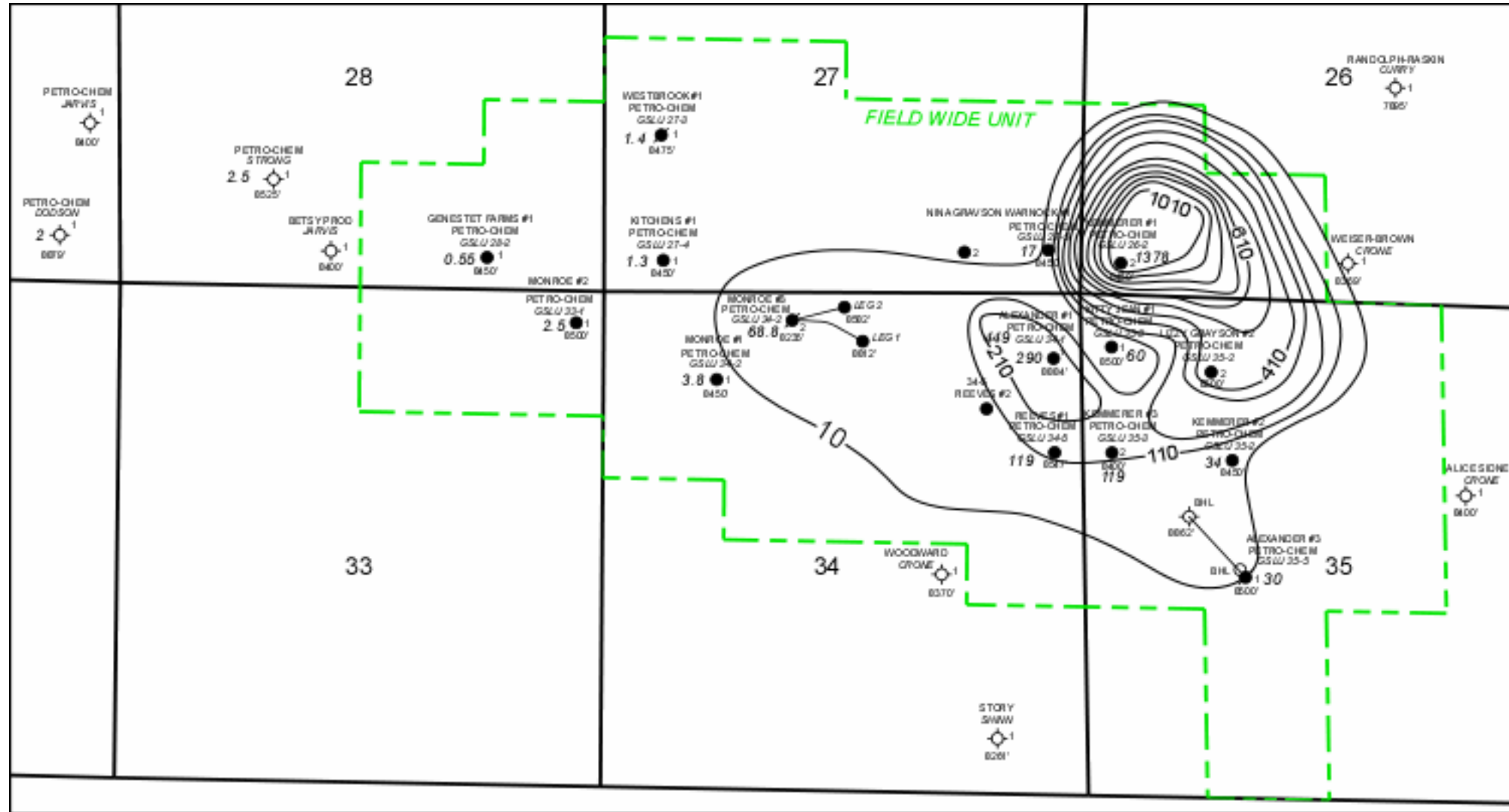


Permeability Slice Map
 20' - 30' from Top of Smackover
 Grayson Field
 Columbia County, Arkansas

C.I. = 100 md K. Poole

1 MILE

Figure C-20. Grayson Average Permeability Slice Map 20-30 ft below Top of Smackover.

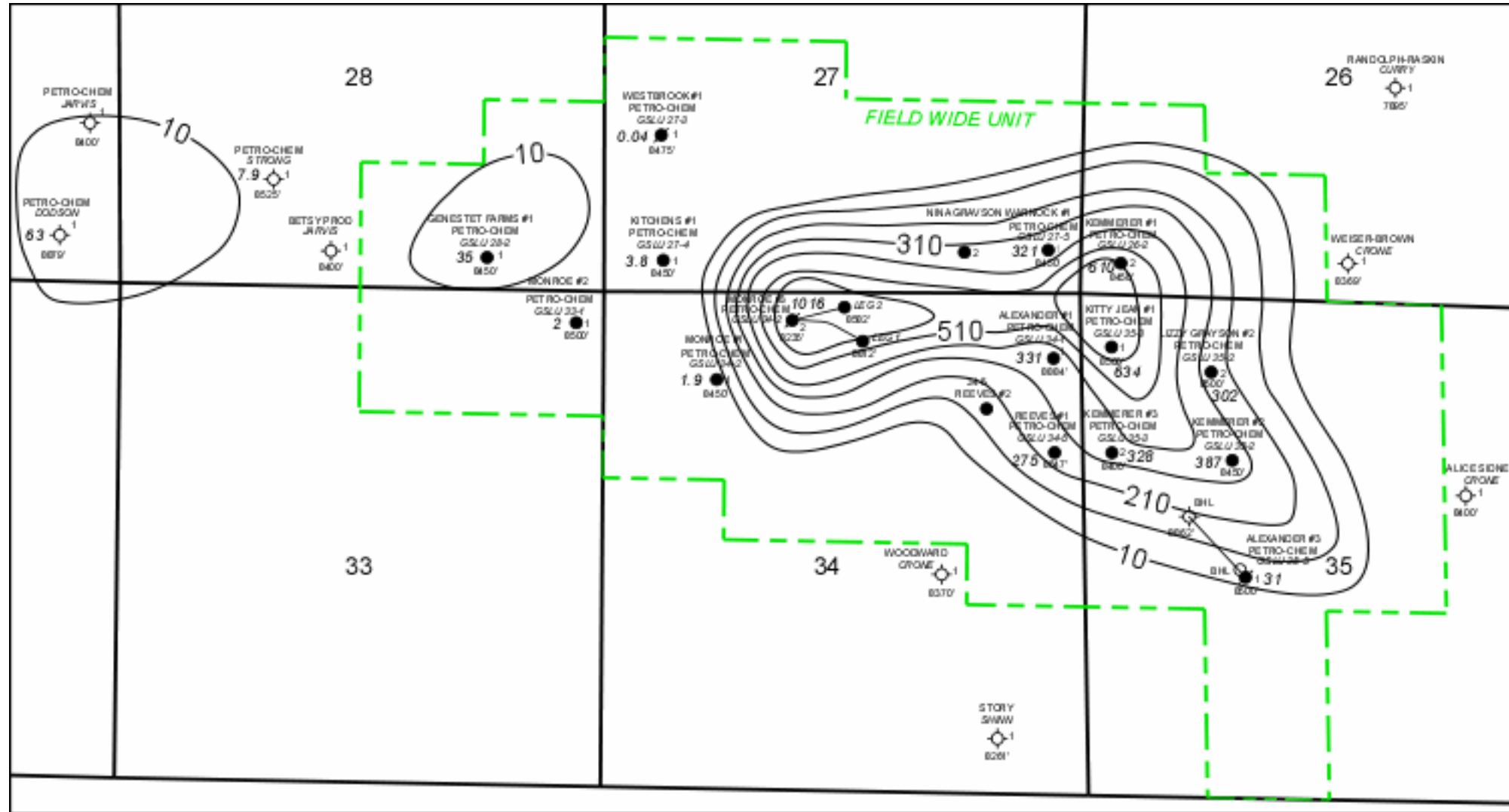


Permeability Slice Map
 30' - 40' from Top of Smackover
 Grayson Field
 Columbia County, Arkansas

C.I. = 100 md K. Poole

1 MILE

Figure C-21. Grayson Average Permeability Slice Map 30-40 ft below Top of Smackover.

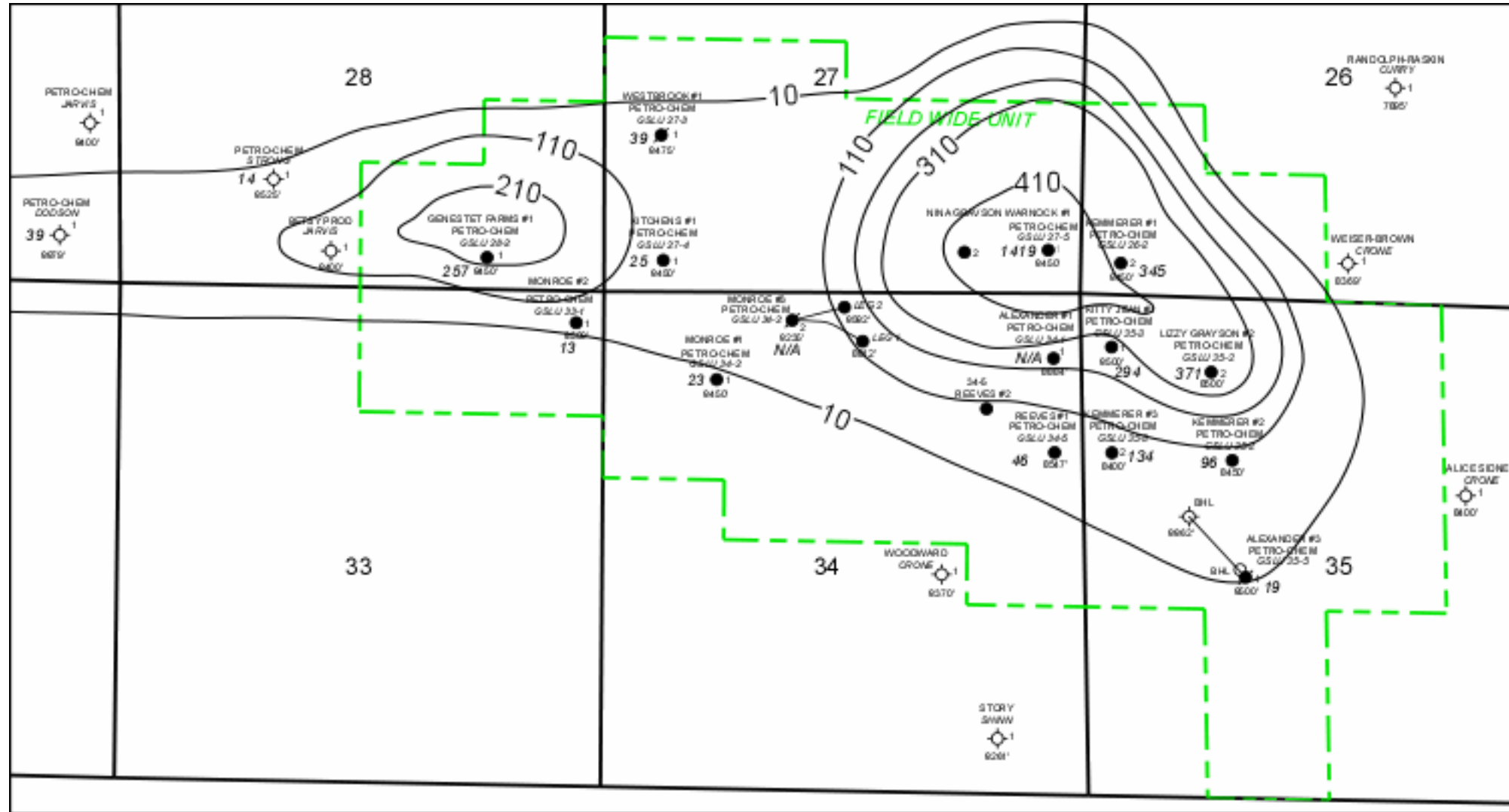


Permeability Slice Map
 40' - 50' from Top of Smackover
 Grayson Field
 Columbia County, Arkansas

C.I. = 100 md K. Poole

1 MILE

Figure C-22. Grayson Average Permeability Slice Map 40-50 ft below Top of Smackover.

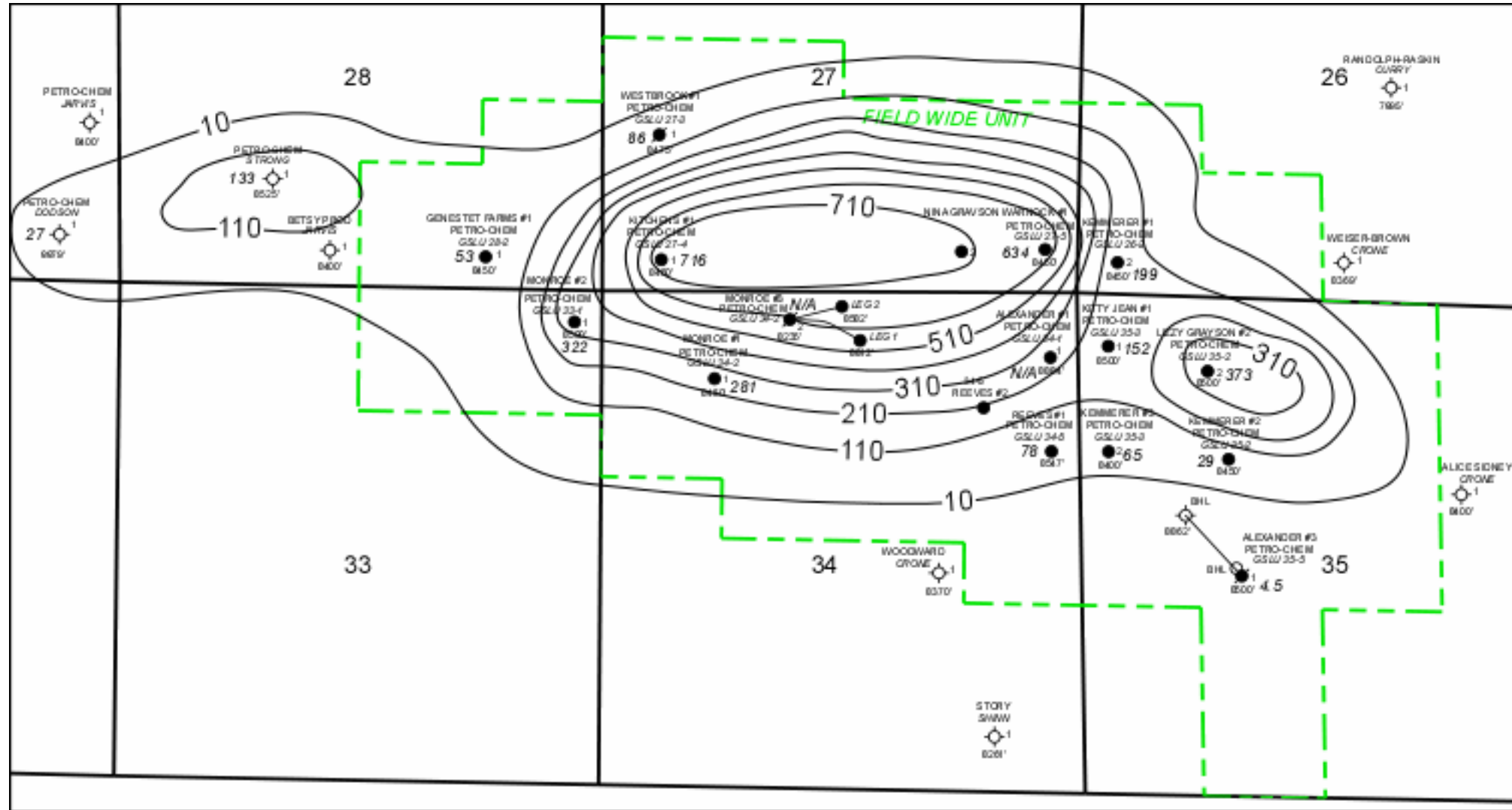


Permeability Slice Map
 50' - 60' from Top of Smackover
 Grayson Field
 Columbia County, Arkansas

C.I. = 100 md K. Poole

1 MILE

Figure C-23. Grayson Average Permeability Slice Map 50-60 ft below Top of Smackover.



Permeability Slice Map
 60' - 70' from Top of Smackover
 Grayson Field
 Columbia County, Arkansas

C.I. = 100 md K. Poole

1 MILE

Figure C-24. Grayson Average Permeability Slice Map 60-70 ft below Top of Smackover.

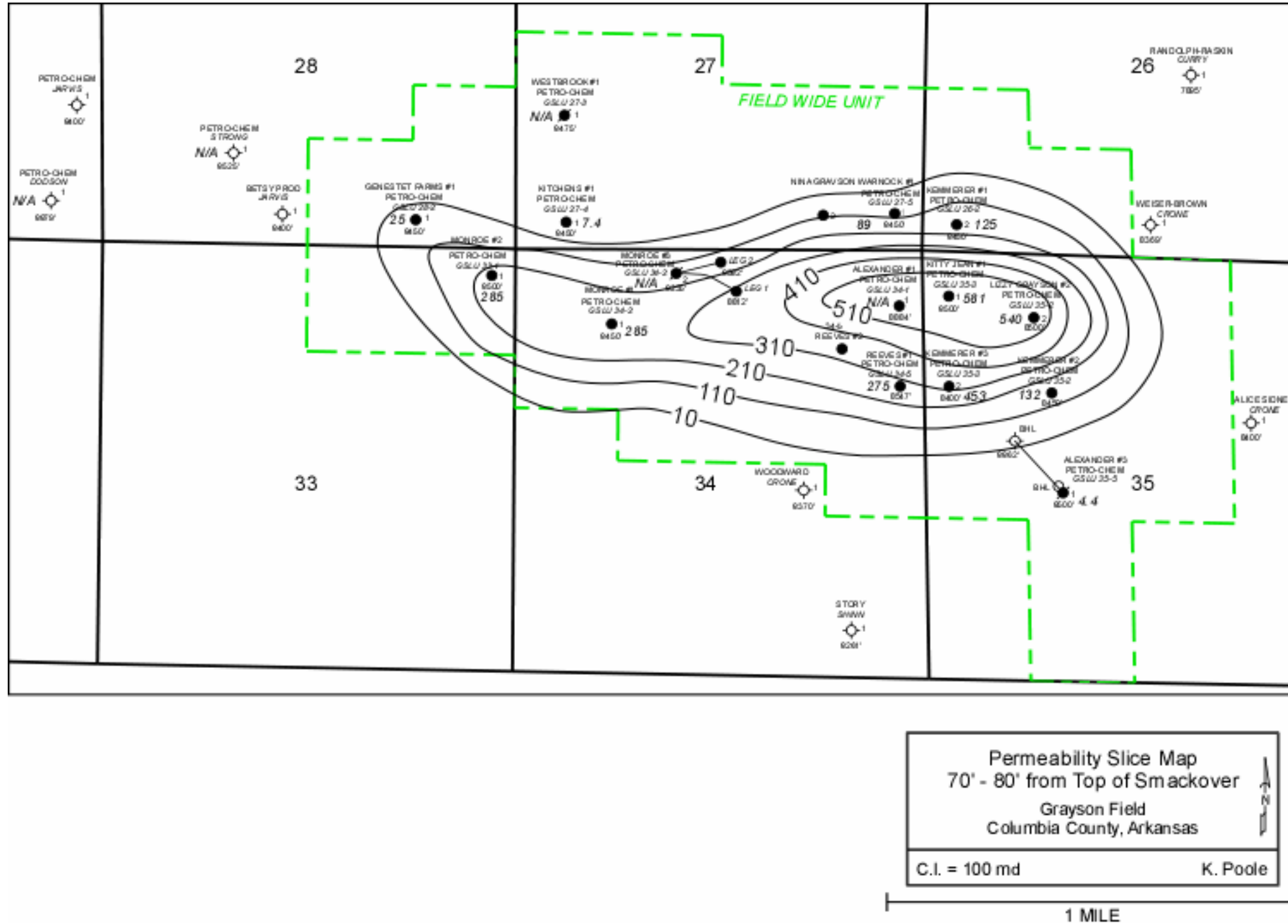
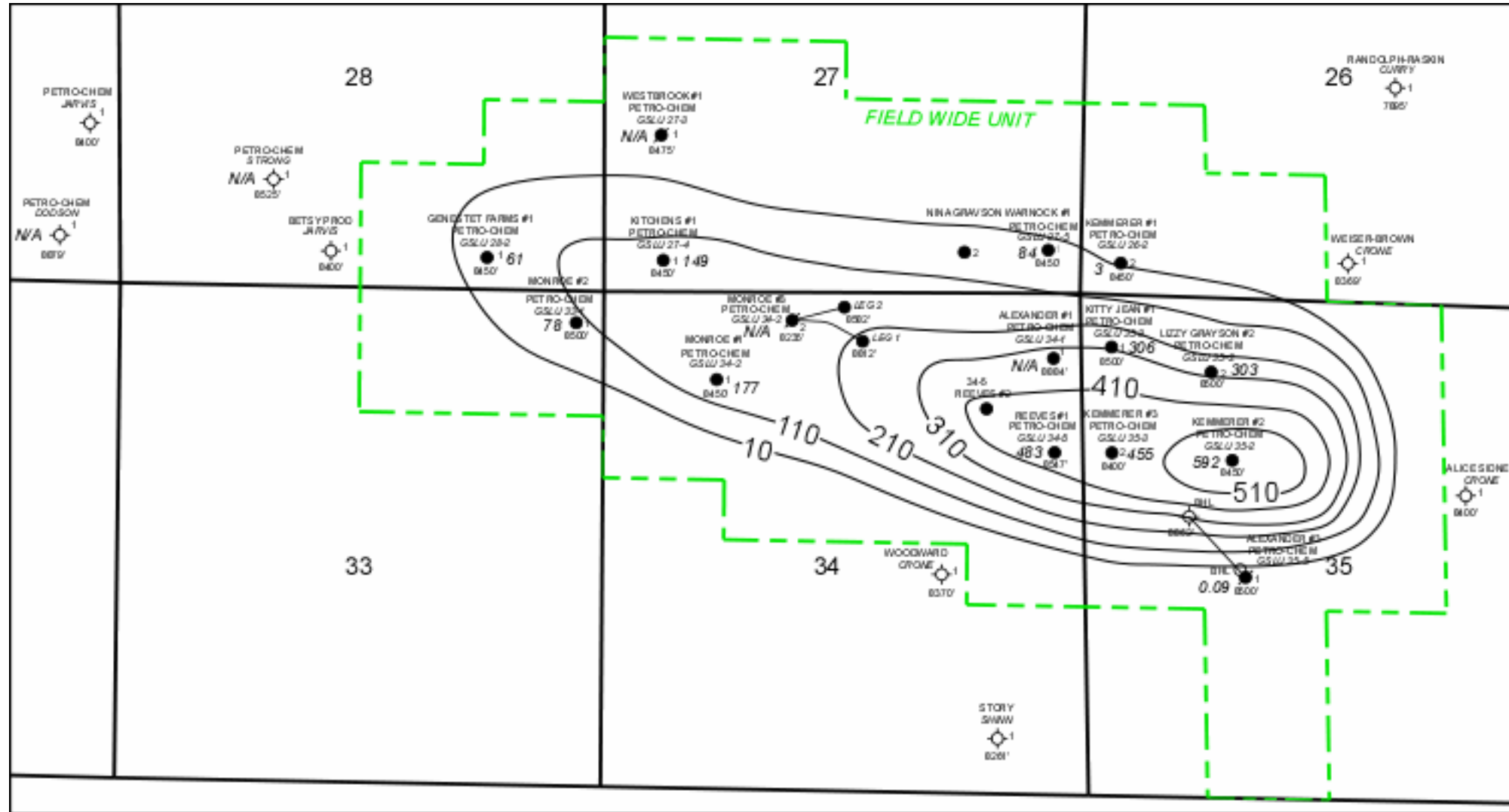


Figure C-25. Grayson Average Permeability Slice Map 70-80 ft below Top of Smackover.



Permeability Slice Map
 80' - 90' from Top of Smackover
 Grayson Field
 Columbia County, Arkansas

C.I. = 100 md K. Poole

1 MILE

Figure C-26. Grayson Average Permeability Slice Map 80-90 ft below Top of Smackover.

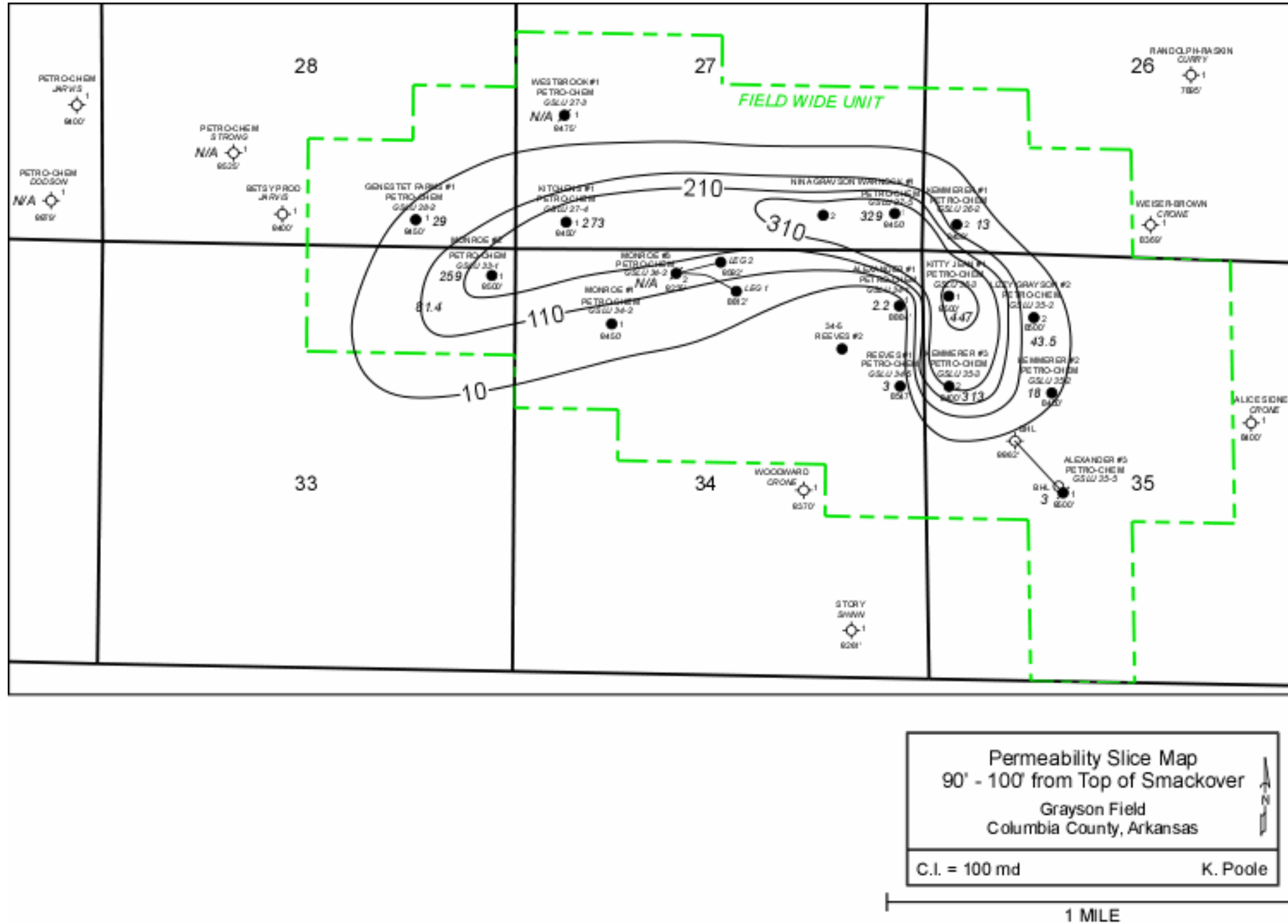
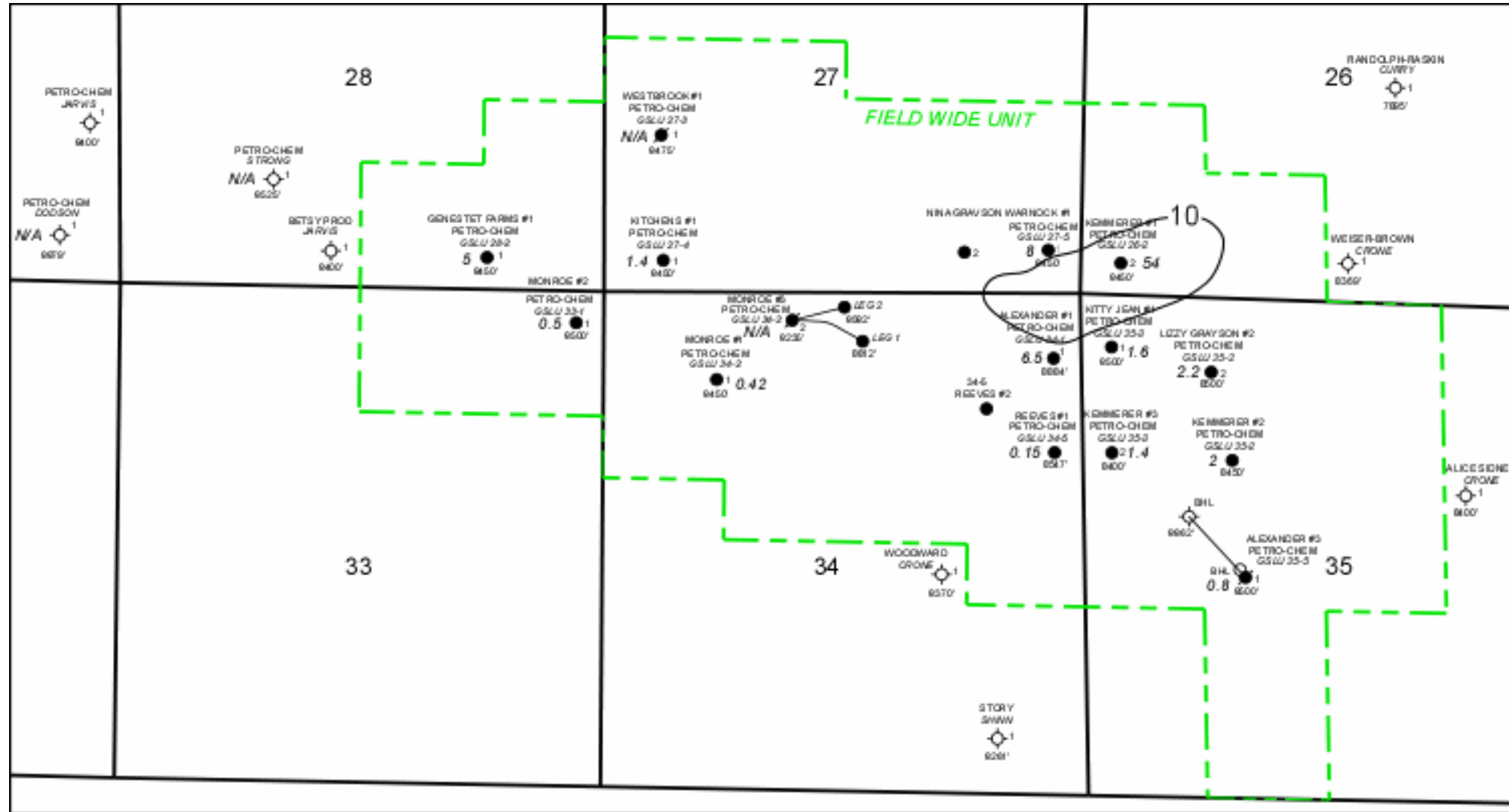


Figure C-27. Grayson Average Permeability Slice Map 90-100 ft below Top of Smackover.

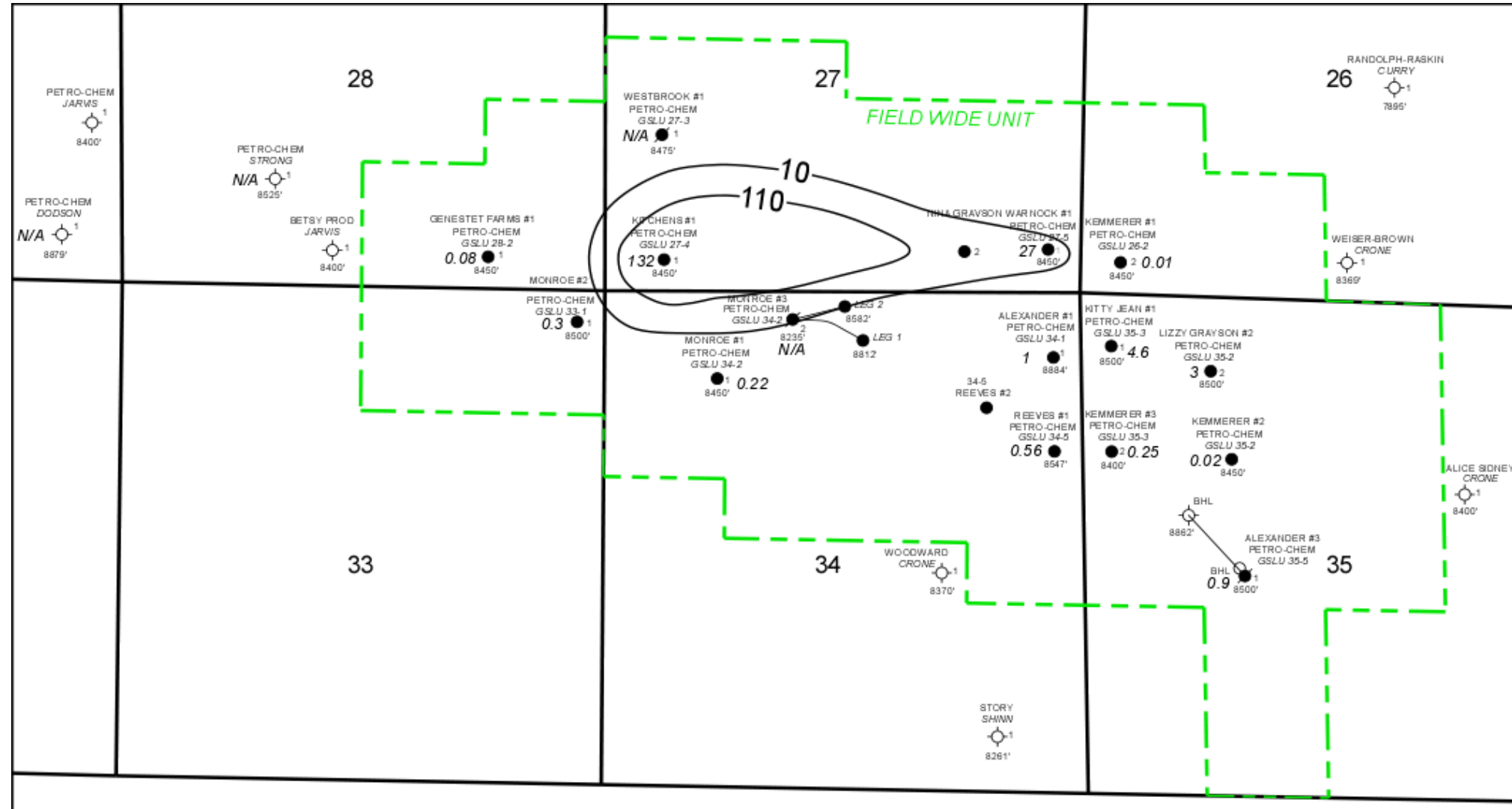


Permeability Slice Map
 100' - 110' from Top of Smackover
 Grayson Field
 Columbia County, Arkansas

C.I. = 100 md K. Poole

1 MILE

Figure C-28. Grayson Average Permeability Slice Map 100-110 ft below Top of Smackover.

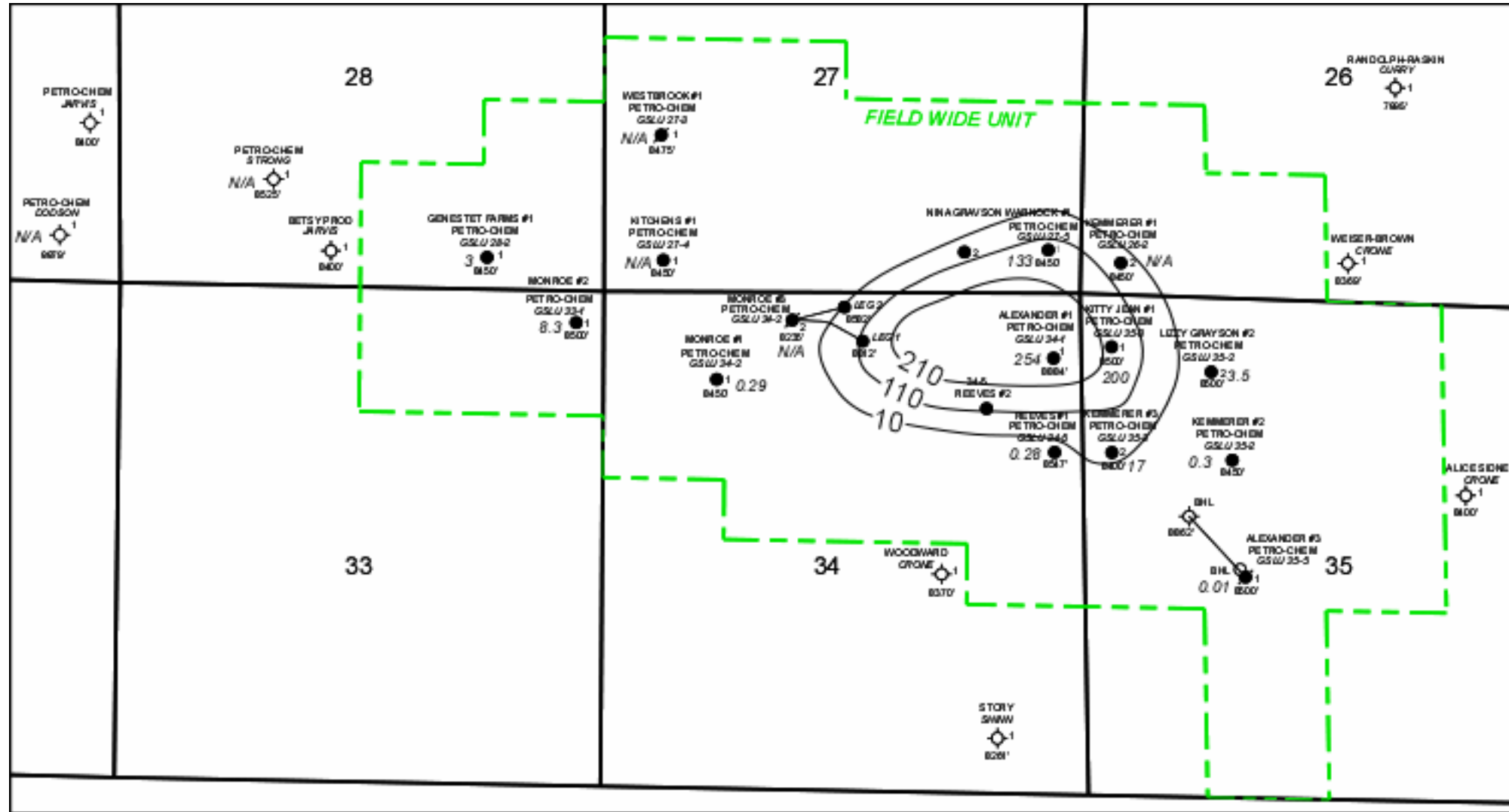


Permeability Slice Map
 110' - 120' from Top of Smackover
 Grayson Field
 Columbia County, Arkansas

C.I. = 100 md K. Poole



Figure C-29. Grayson Average Permeability Slice Map 110-120 ft below Top of Smackover.



Permeability Slice Map
 120' - 130' from Top of Smackover
 Grayson Field
 Columbia County, Arkansas

C.I. = 100 md K. Poole

1 MILE

Figure C-30. Grayson Average Permeability Slice Map 120-130 ft below Top of Smackover.

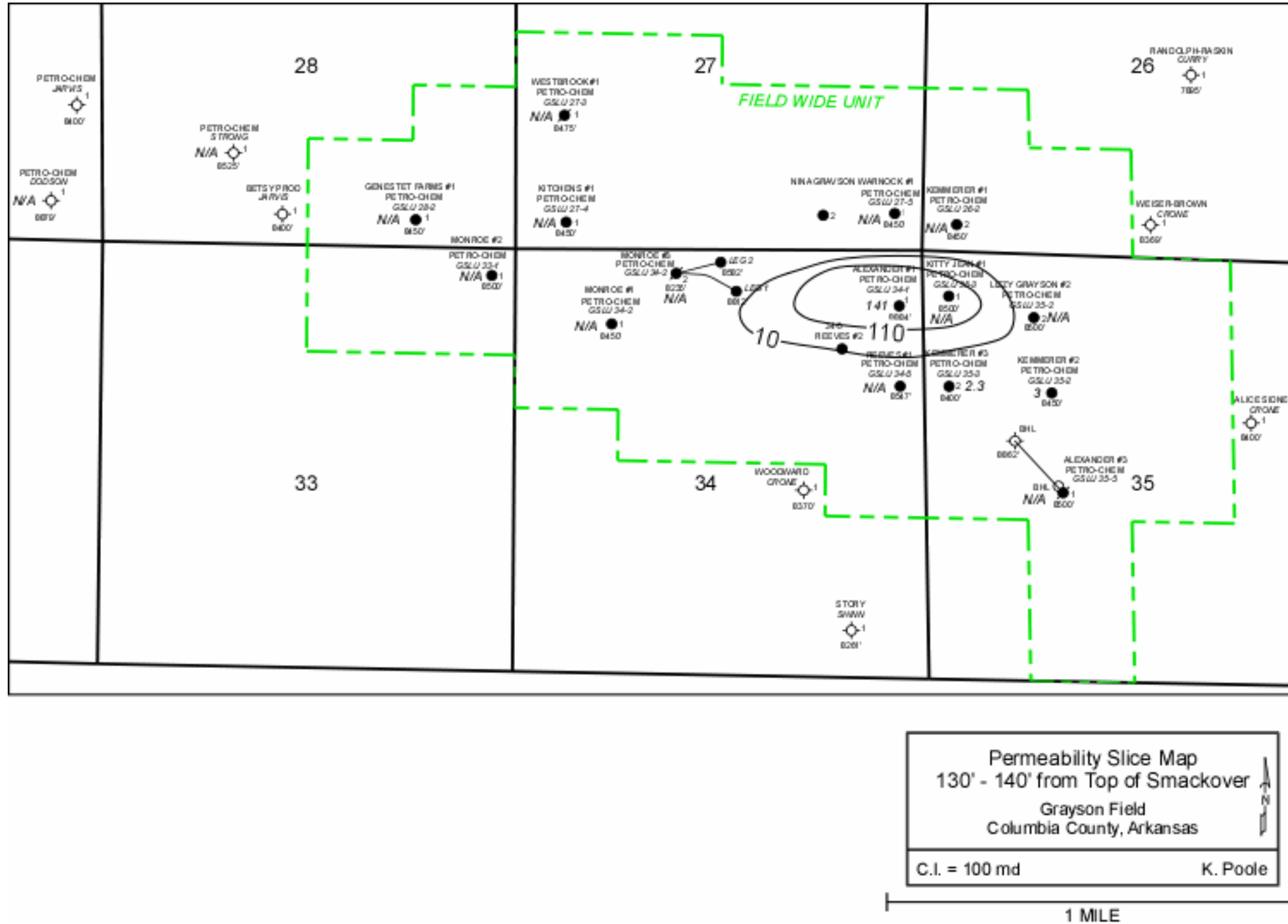


Figure C-31. Grayson Average Permeability Slice Map 130-140 ft below Top of Smackover.

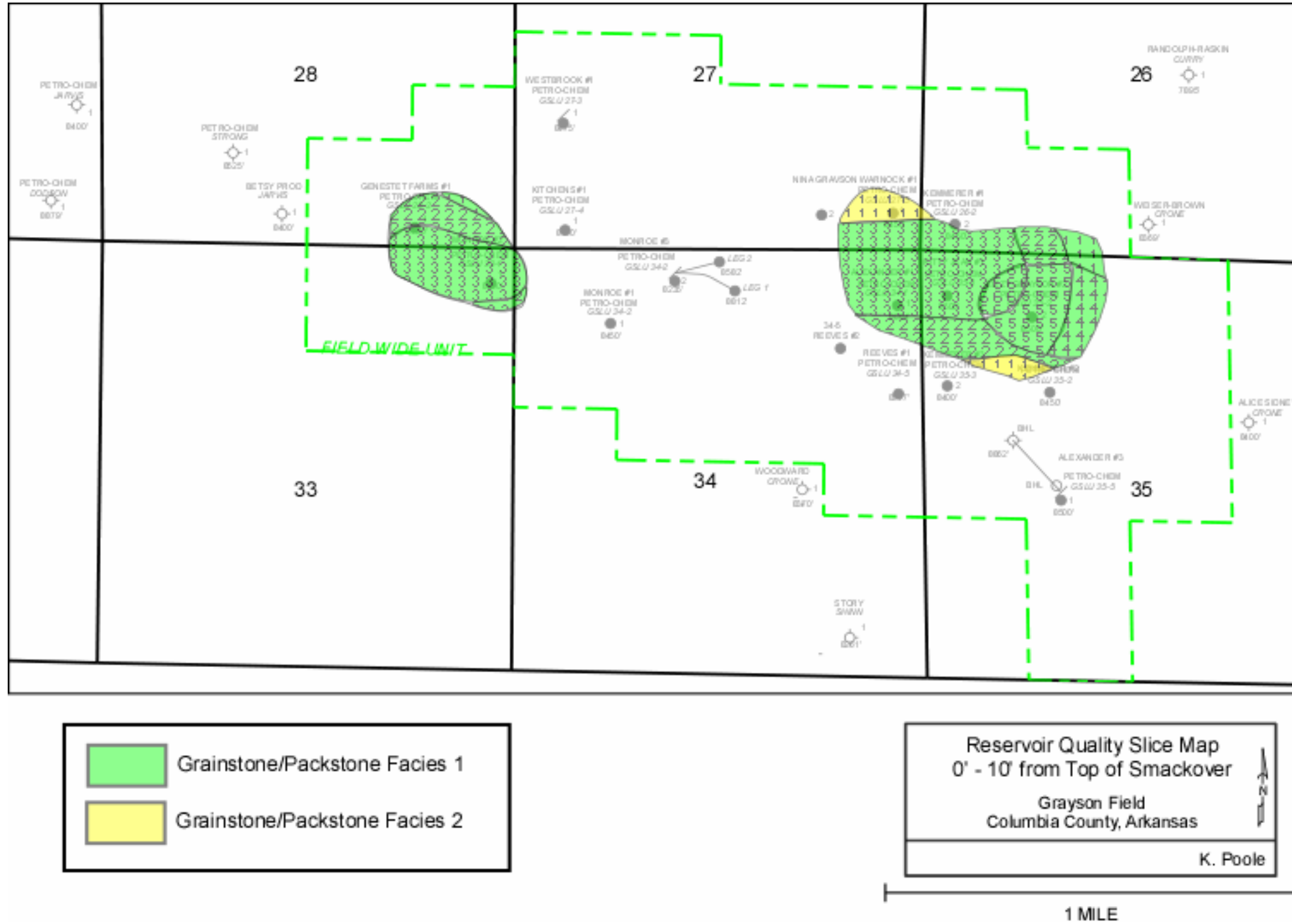


Figure C-32. Grayson Flow Unit Slice Map 0-10 ft below Top of Smackover.

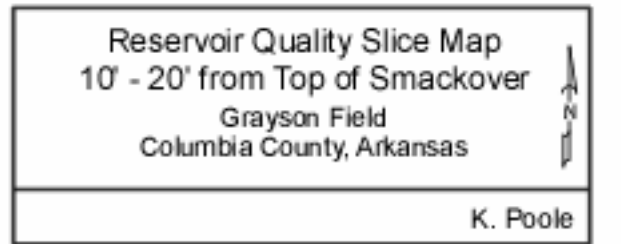
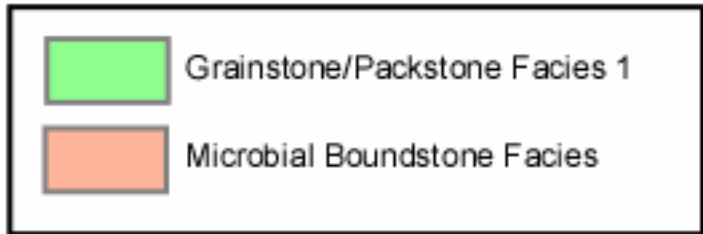
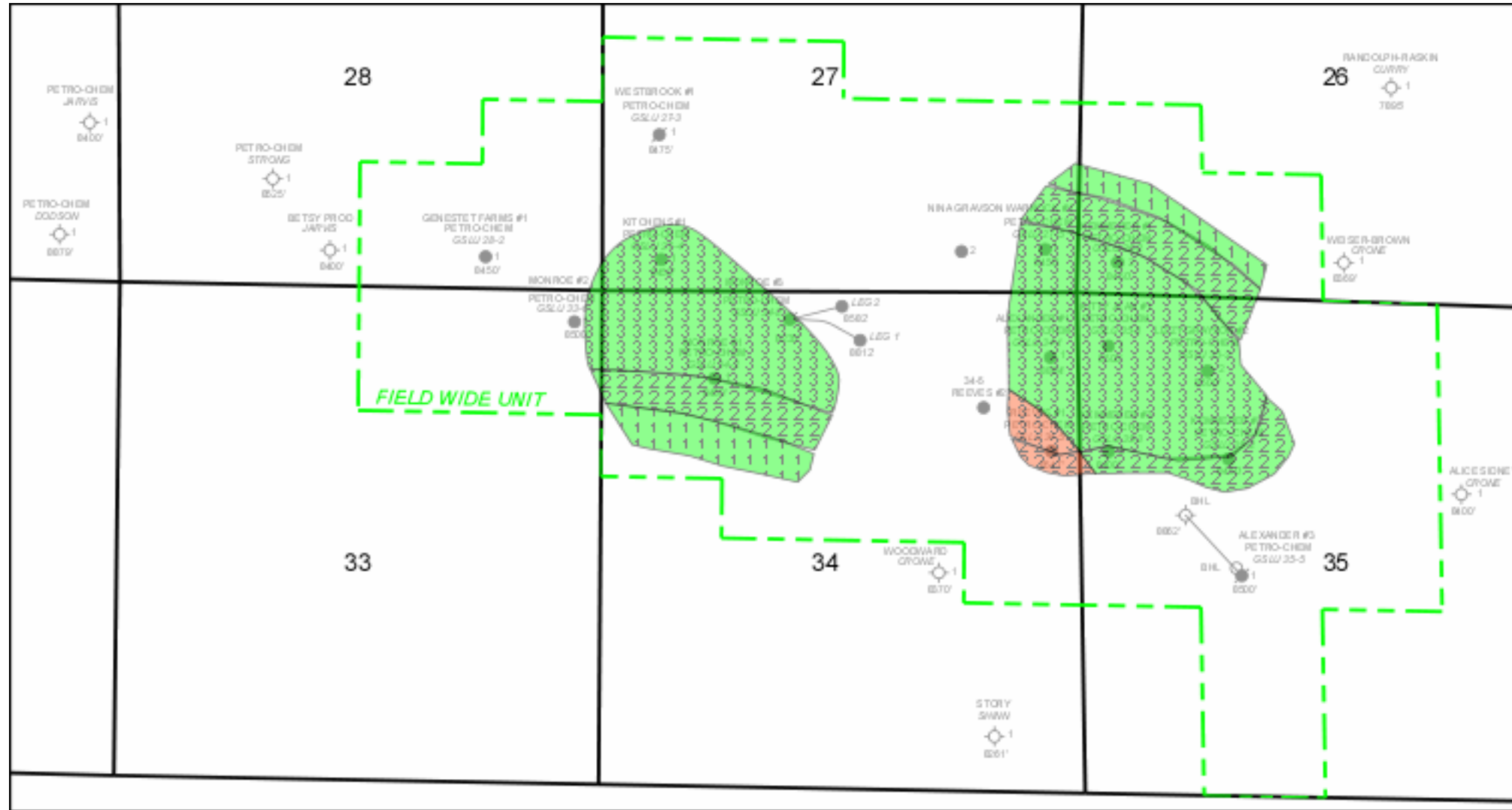


Figure C-33. Grayson Flow Unit Slice Map 10-20 ft below Top of Smackover.

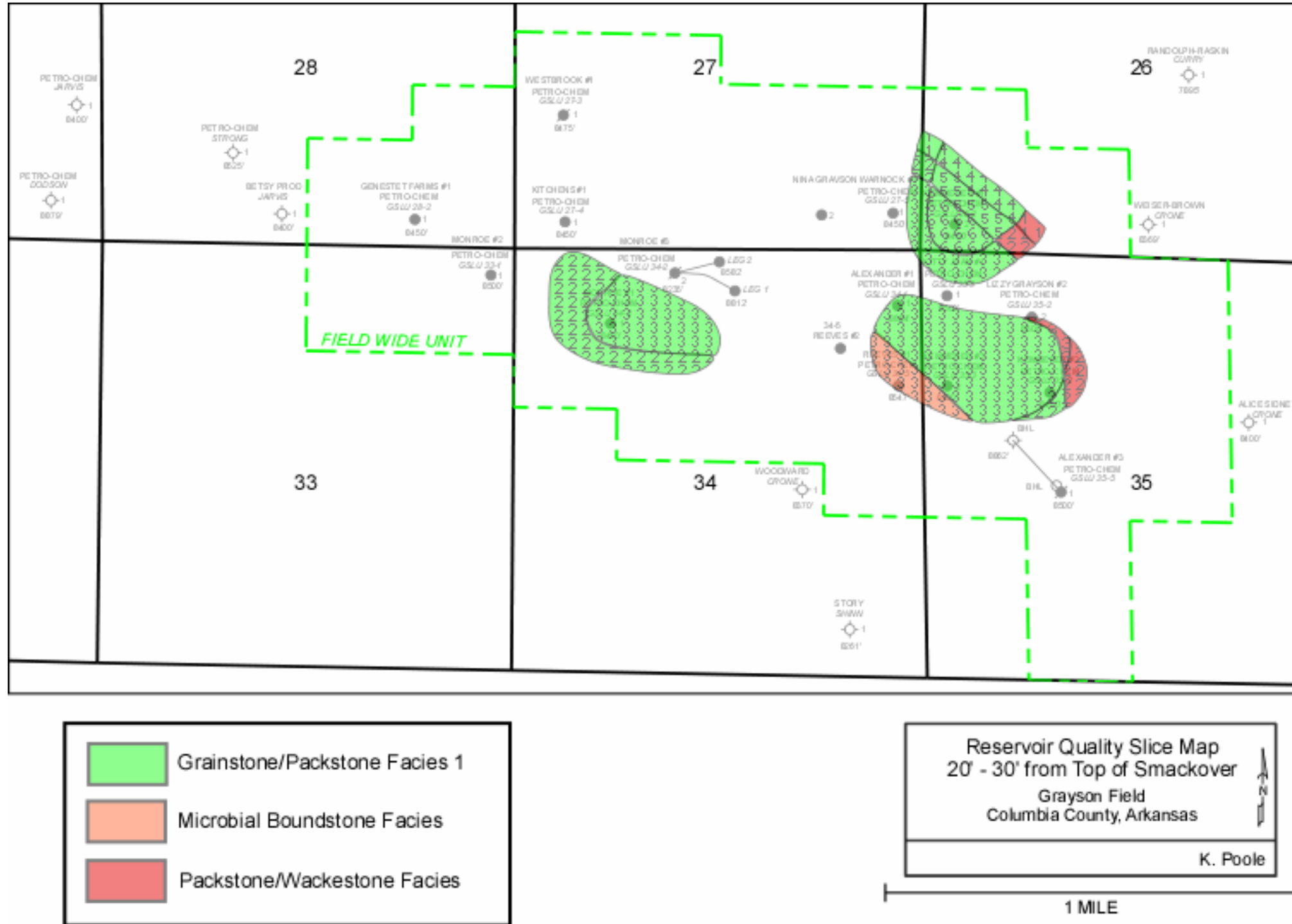


Figure C-34. Grayson Flow Unit Slice Map 20-30 ft below Top of Smackover.

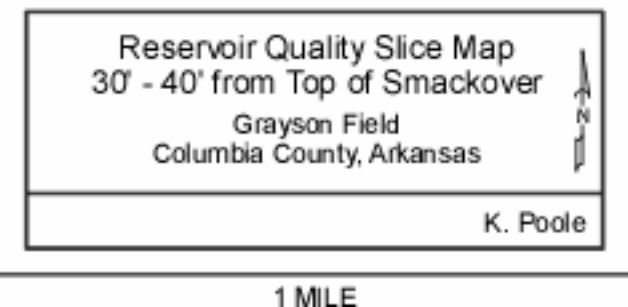
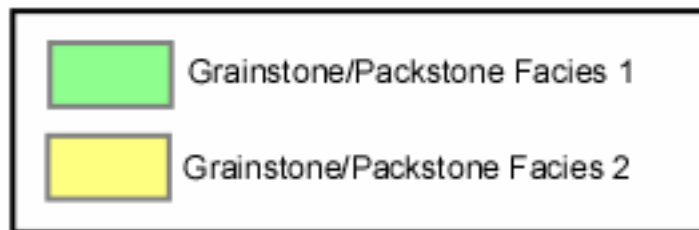
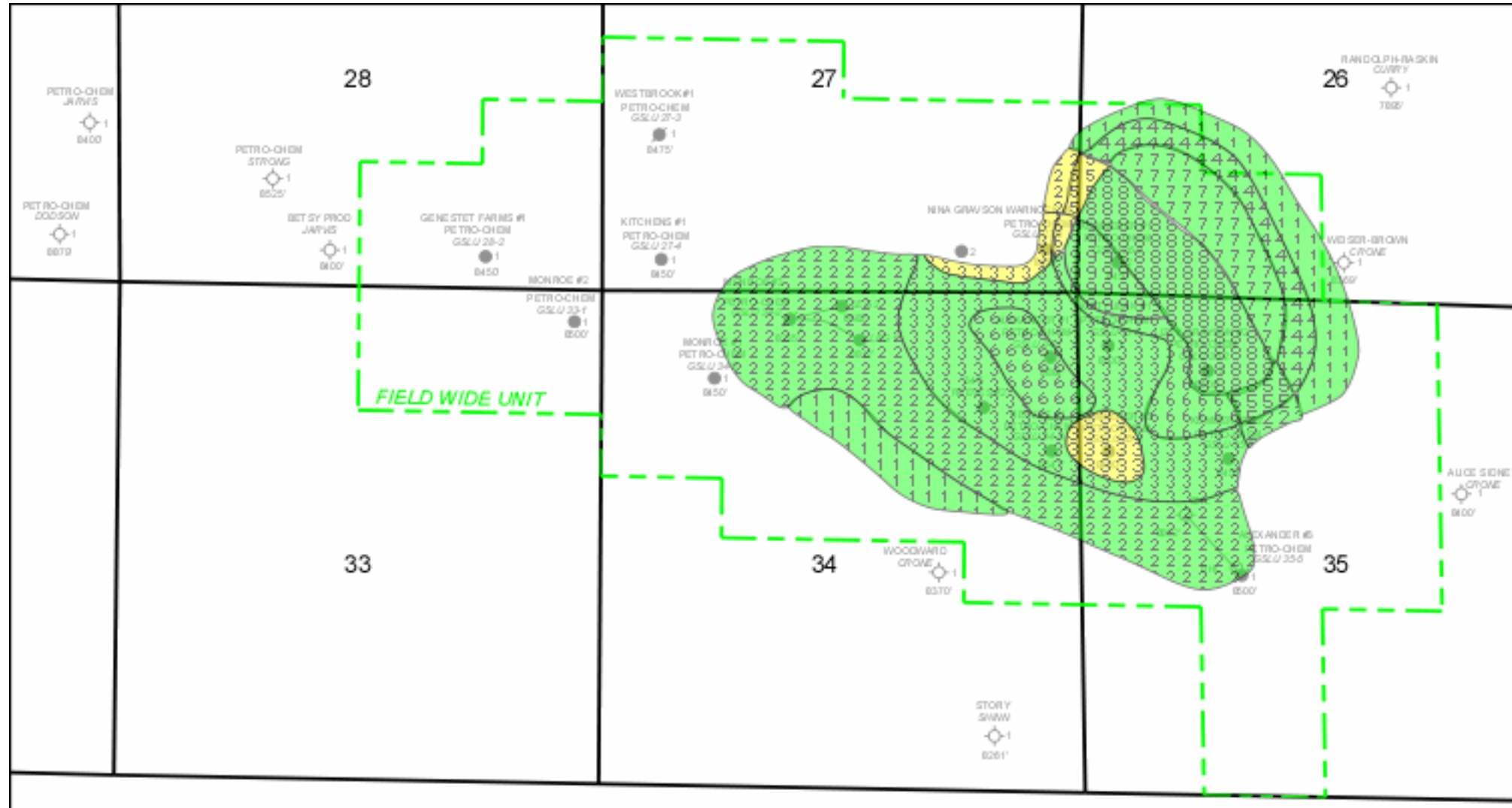


Figure C-35. Grayson Flow Unit Slice Map 30-40 ft below Top of Smackover.

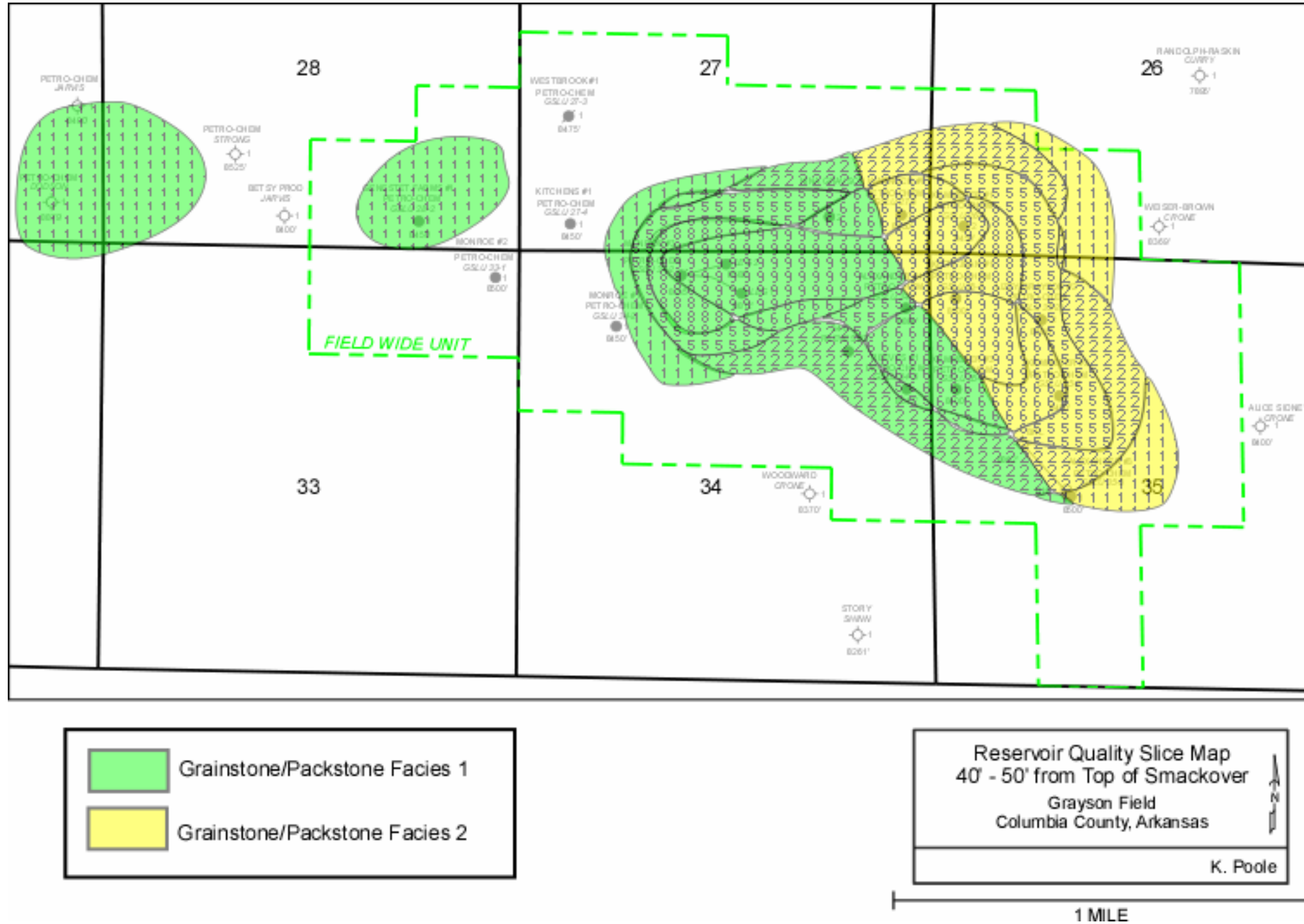


Figure C-36. Grayson Flow Unit Slice Map 40-50 ft below Top of Smackover.

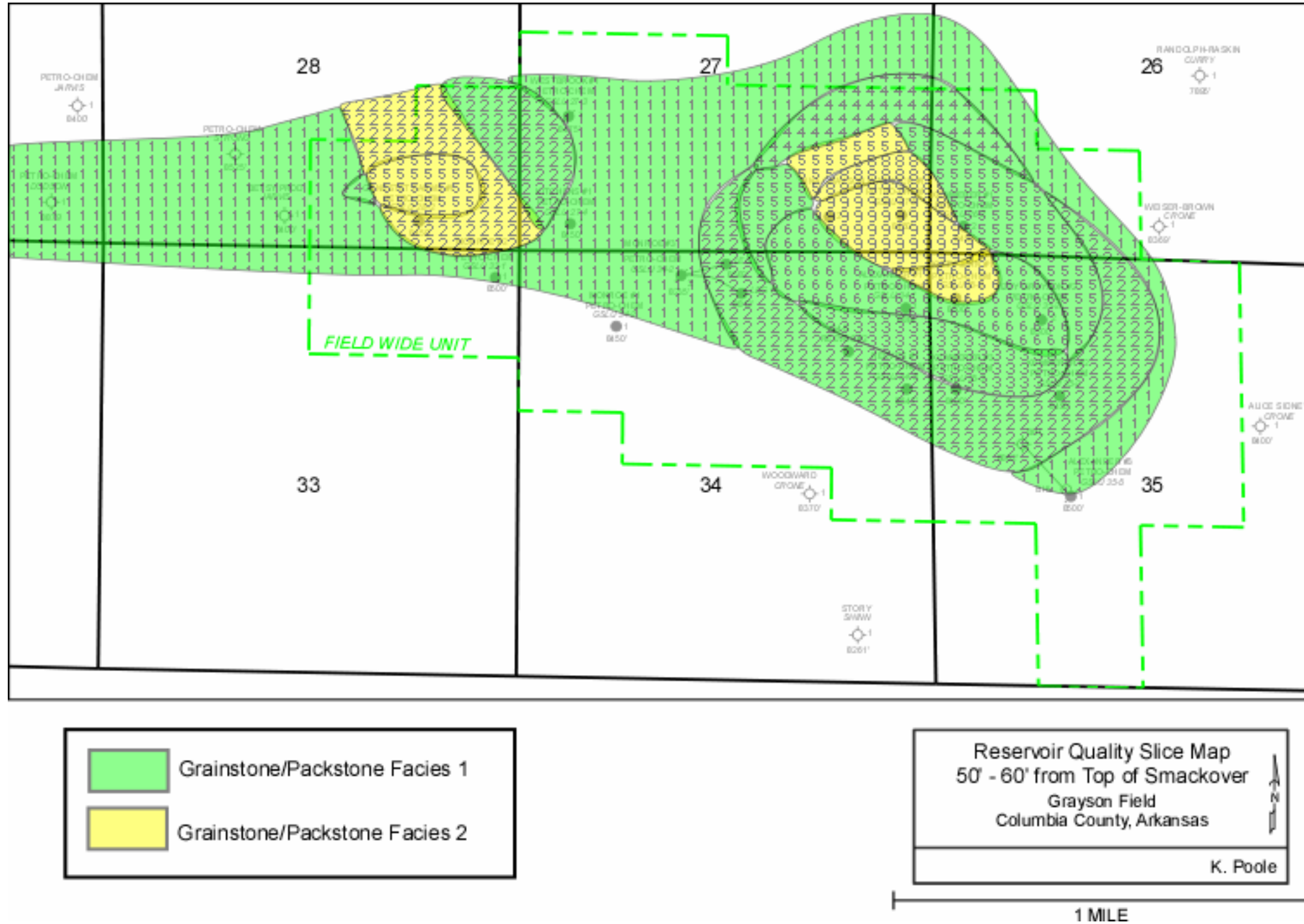


Figure C-37. Grayson Flow Unit Slice Map 50-60 ft below Top of Smackover.

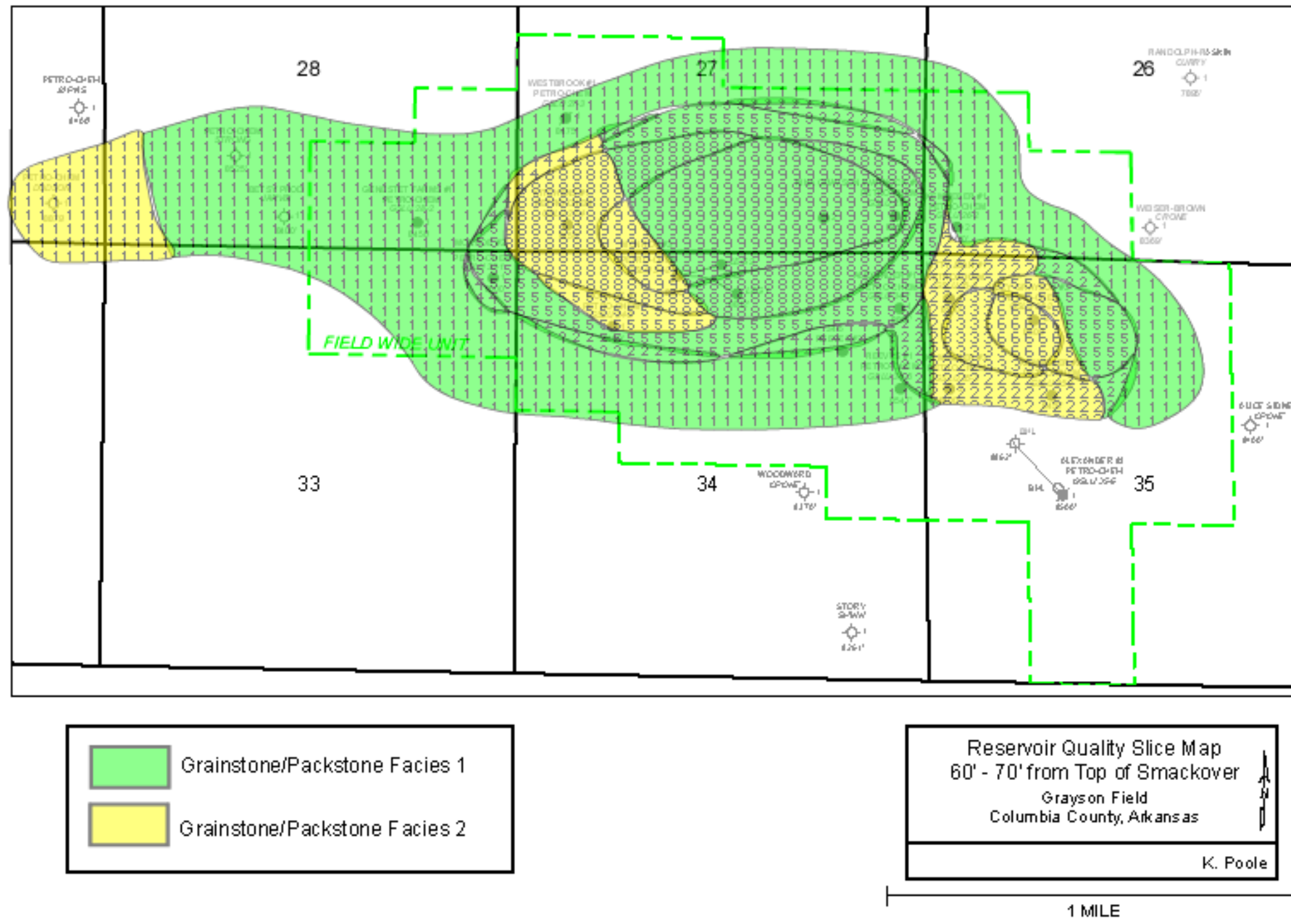


Figure C-38. Grayson Flow Unit Slice Map 60-70 ft below Top of Smackover.

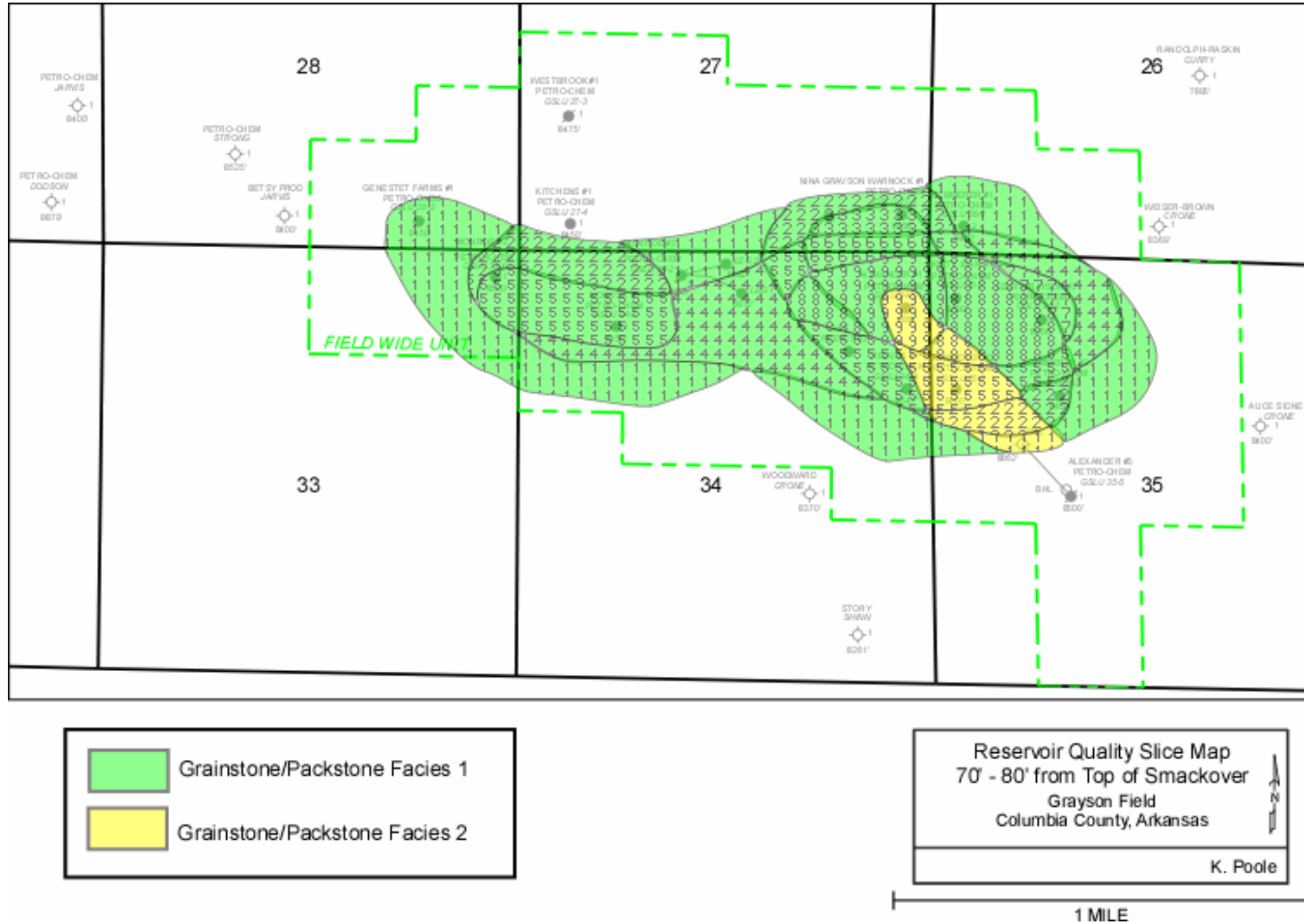


Figure C-39. Grayson Flow Unit Slice Map 70-80 ft below Top of Smackover.

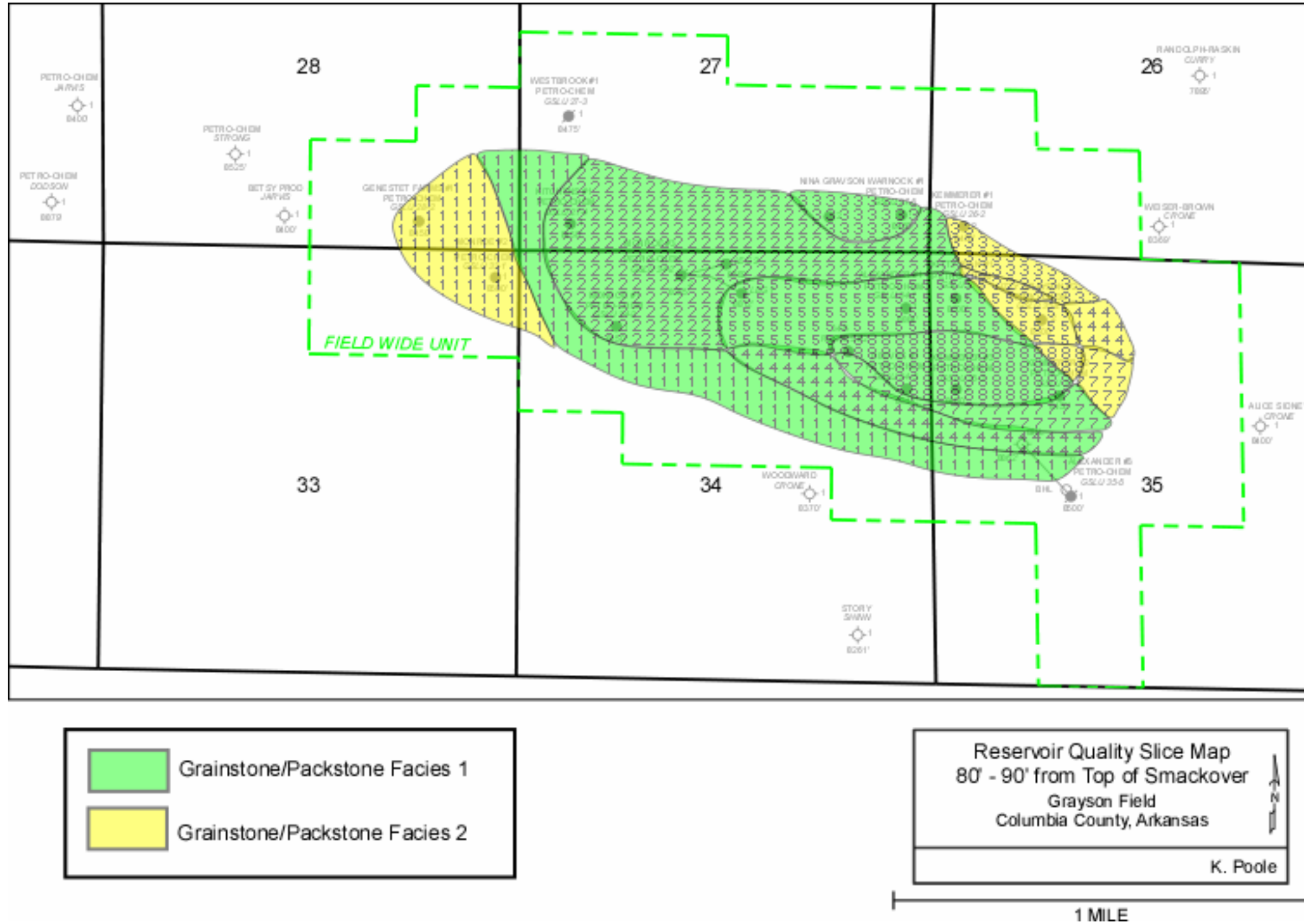


Figure C-40. Grayson Flow Unit Slice Map 80-90 ft below Top of Smackover.

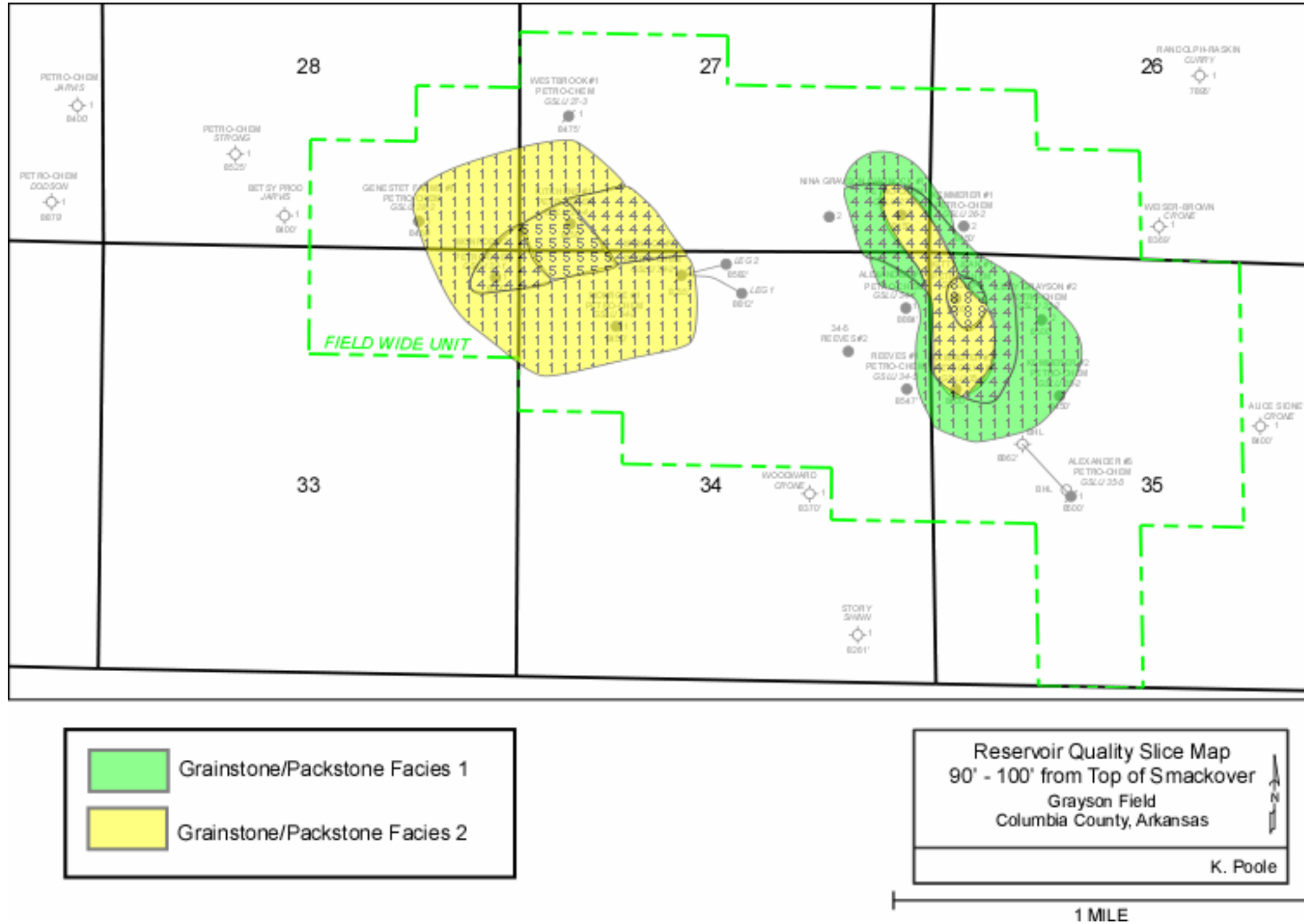
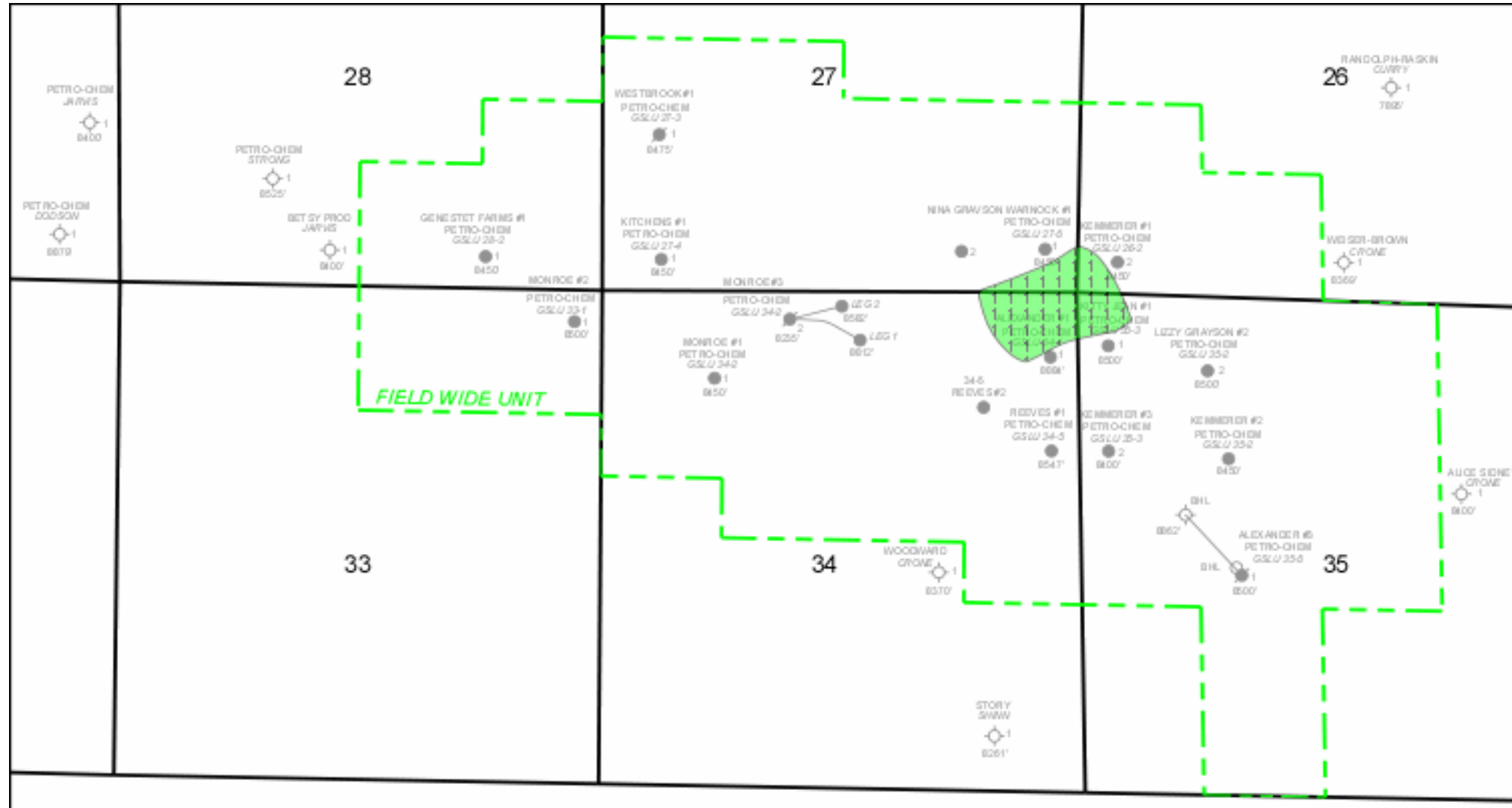



Figure C-41. Grayson Flow Unit Slice Map 90-100 ft below Top of Smackover.



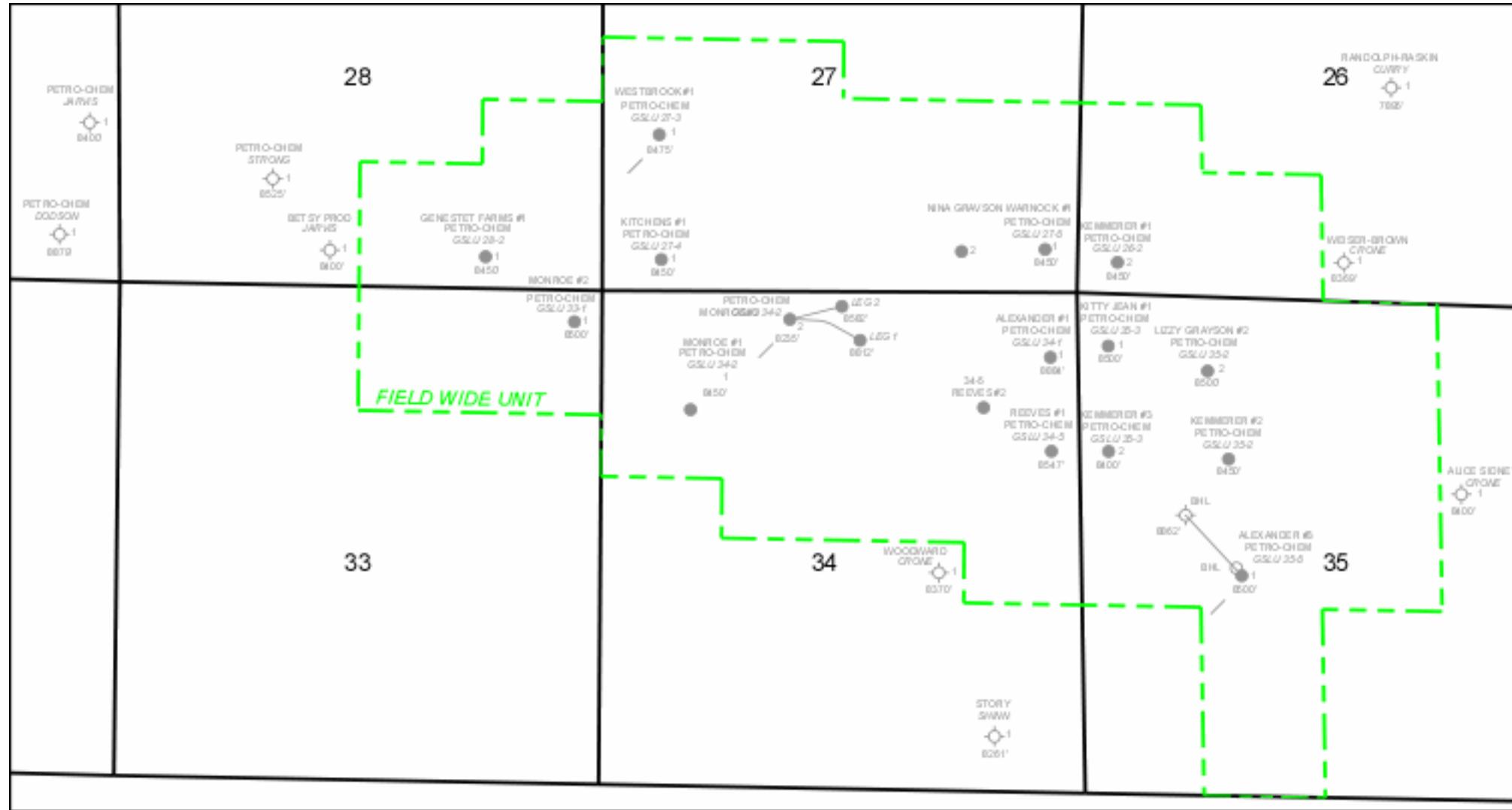
 Grainstone/Packstone Facies 1

Reservoir Quality Slice Map
 100' - 110' from Top of Smackover
 Grayson Field
 Columbia County, Arkansas

K. Poole

1 MILE

Figure C-42. Grayson Flow Unit Slice Map 100-110 ft below Top of Smackover.



No facies present that fall within the ranking system

Reservoir Quality Slice Map
 110' - 120' from Top of Smackover
 Grayson Field
 Columbia County, Arkansas

K. Poole

1 MILE

Figure C-43. Grayson Flow Unit Slice Map 110-120 ft below Top of Smackover.

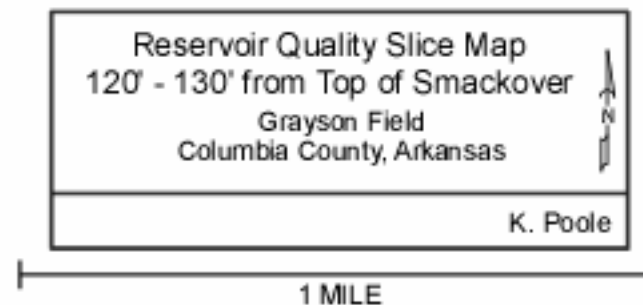
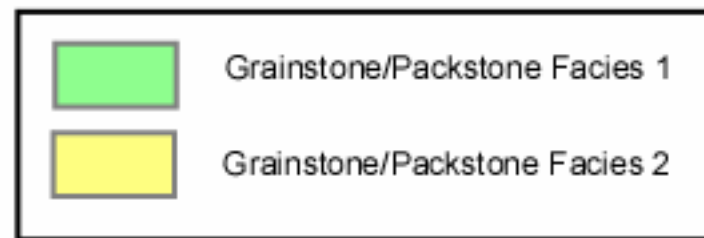
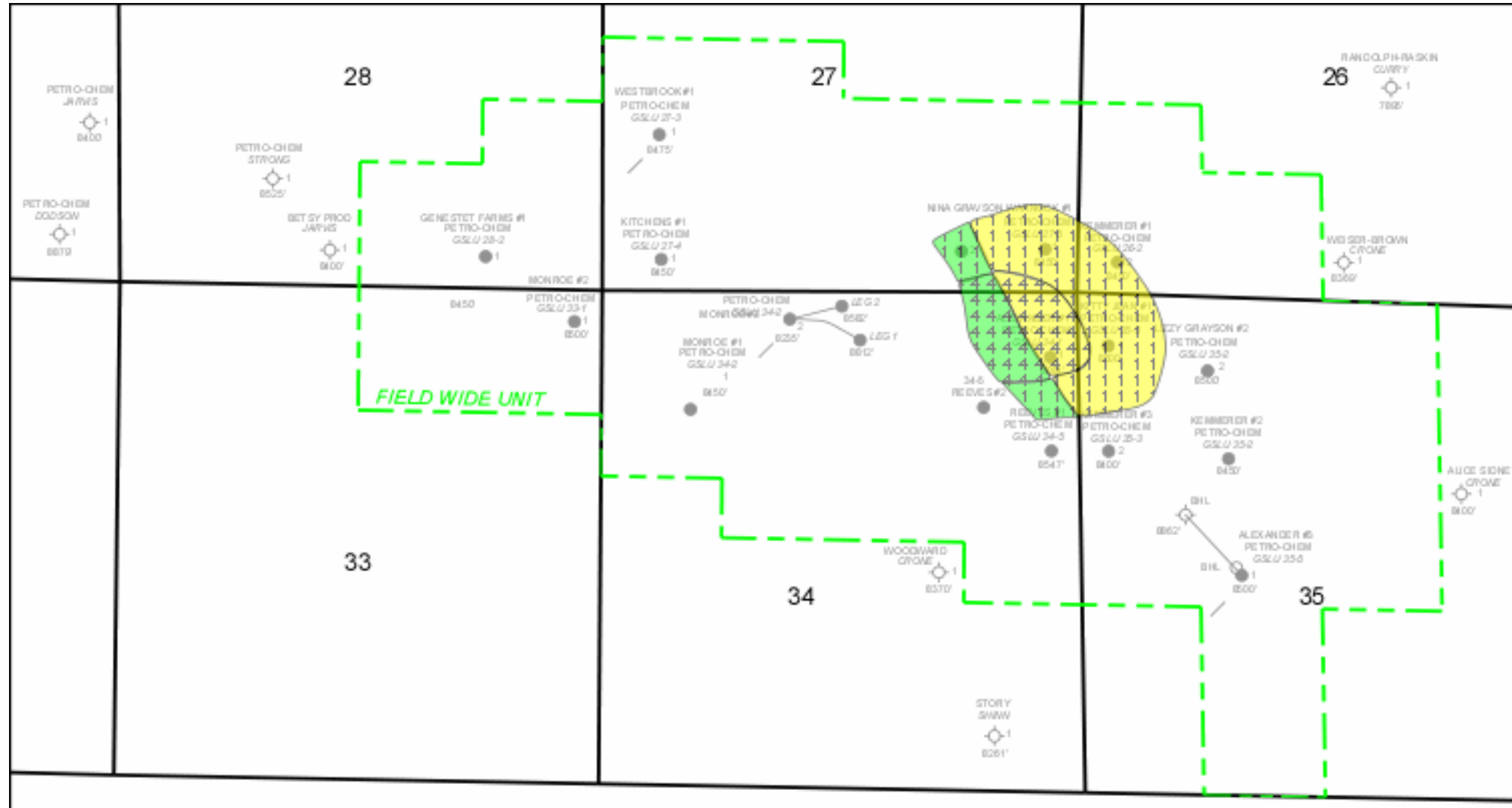
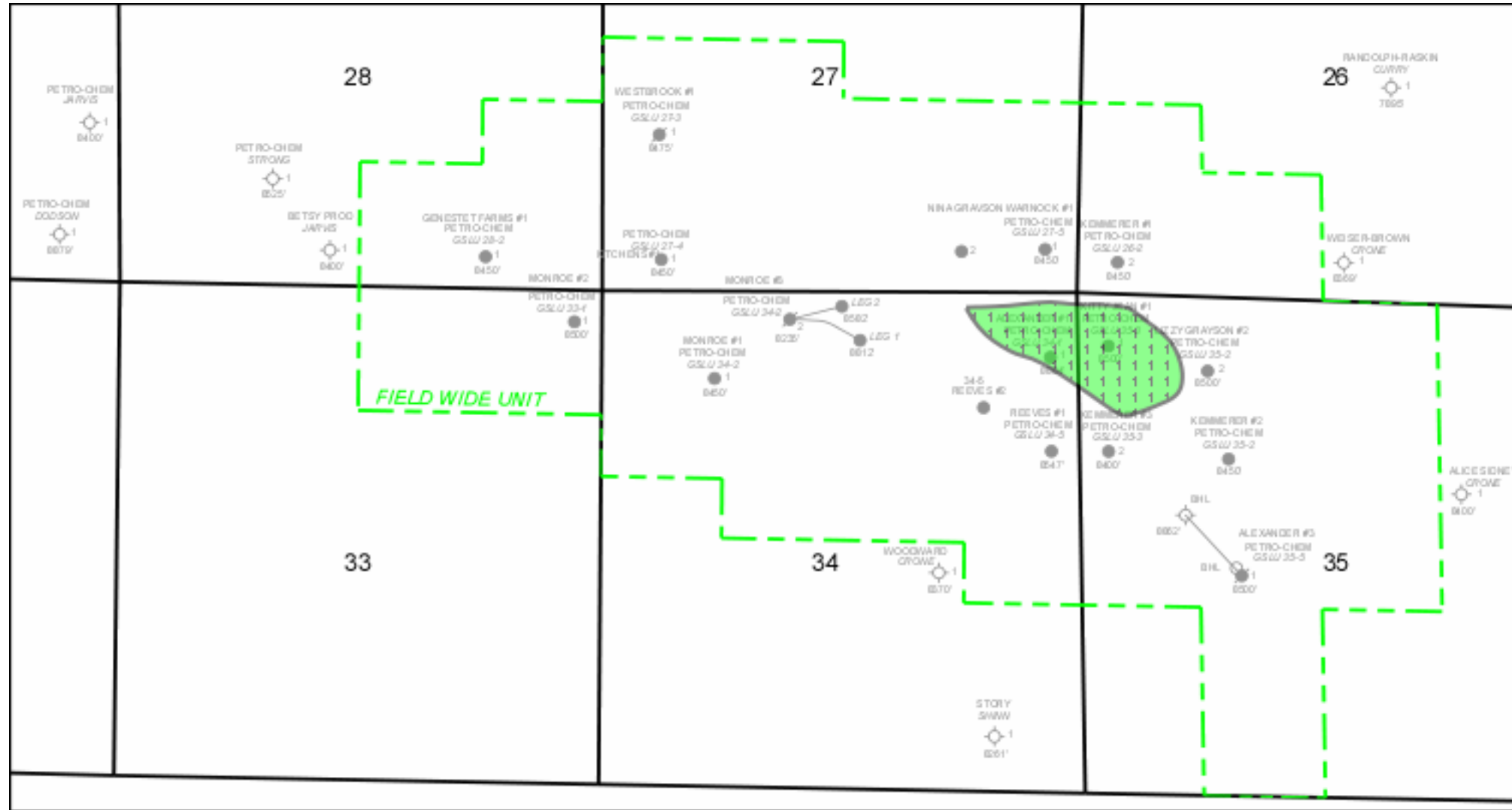



Figure C-44. Grayson Flow Unit Slice Map 120-130 ft below Top of Smackover.



 Grainstone/Packstone Facies 1

Reservoir Quality Slice Map
 130' - 140' from Top of Smackover
 Grayson Field
 Columbia County, Arkansas

K. Poole

1 MILE

Figure C-45. Grayson Flow Unit Slice Map 130-140 ft below Top of Smackover.

APPENDIX D:

STRUCTURAL AND STRATIGRAPHIC CROSS SECTIONS

NORTH

PETRO-CHEM OPERATING CO., INC.
NINA GRAYSON WARNOCK, #1

PETRO-CHEM OPERATING CO., INC.
ALEXANDER, #1

PETRO-CHEM OPERATING CO., INC..
REEVES, #1

SOUTH

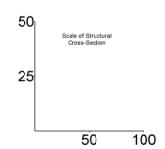
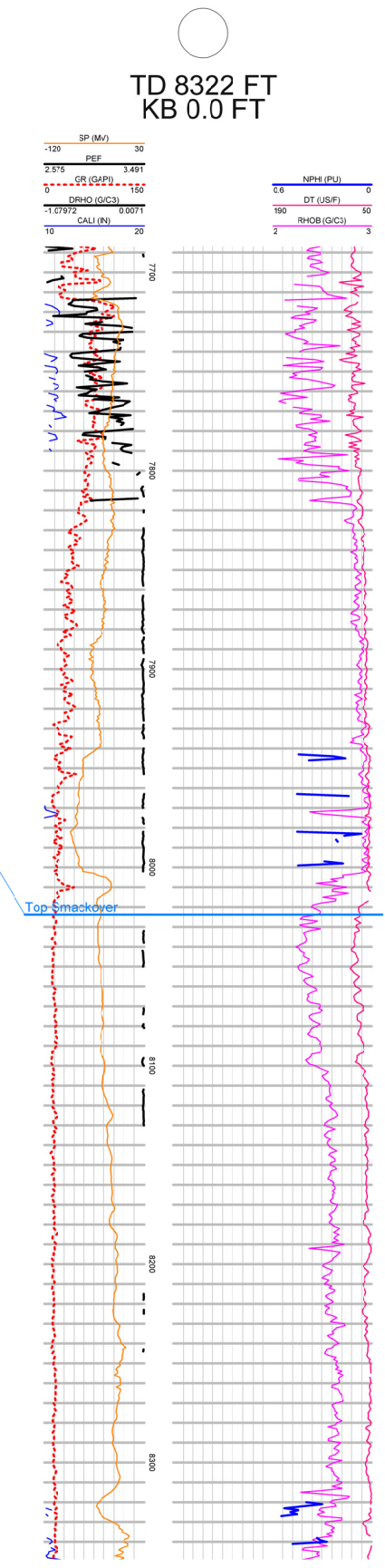
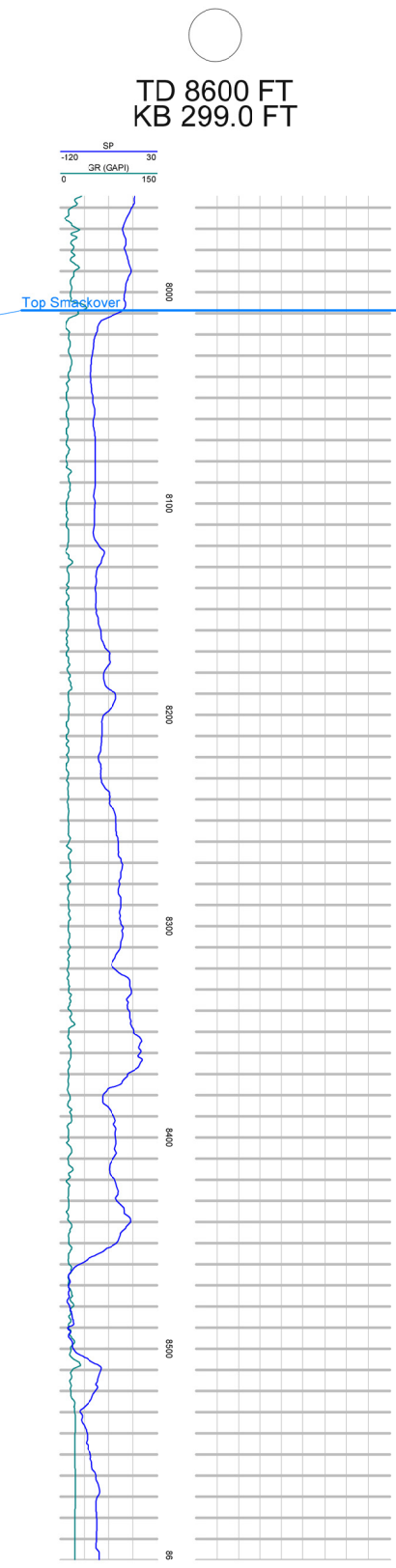
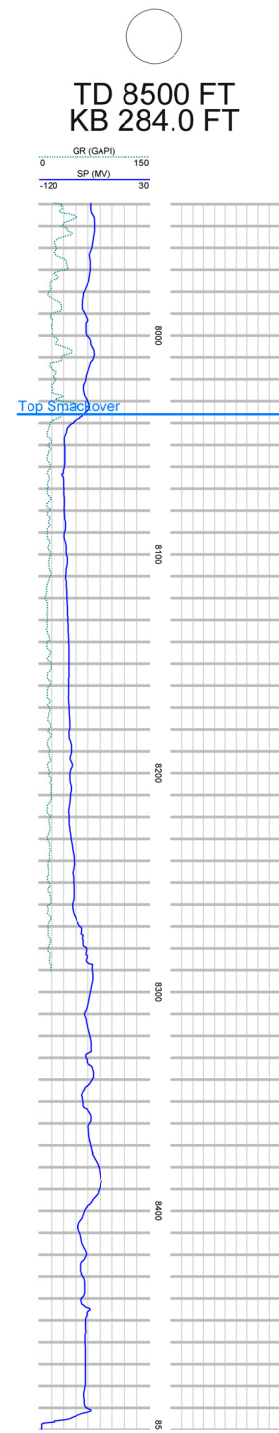


Figure D-1. North to South structural cross section in Grayson field.

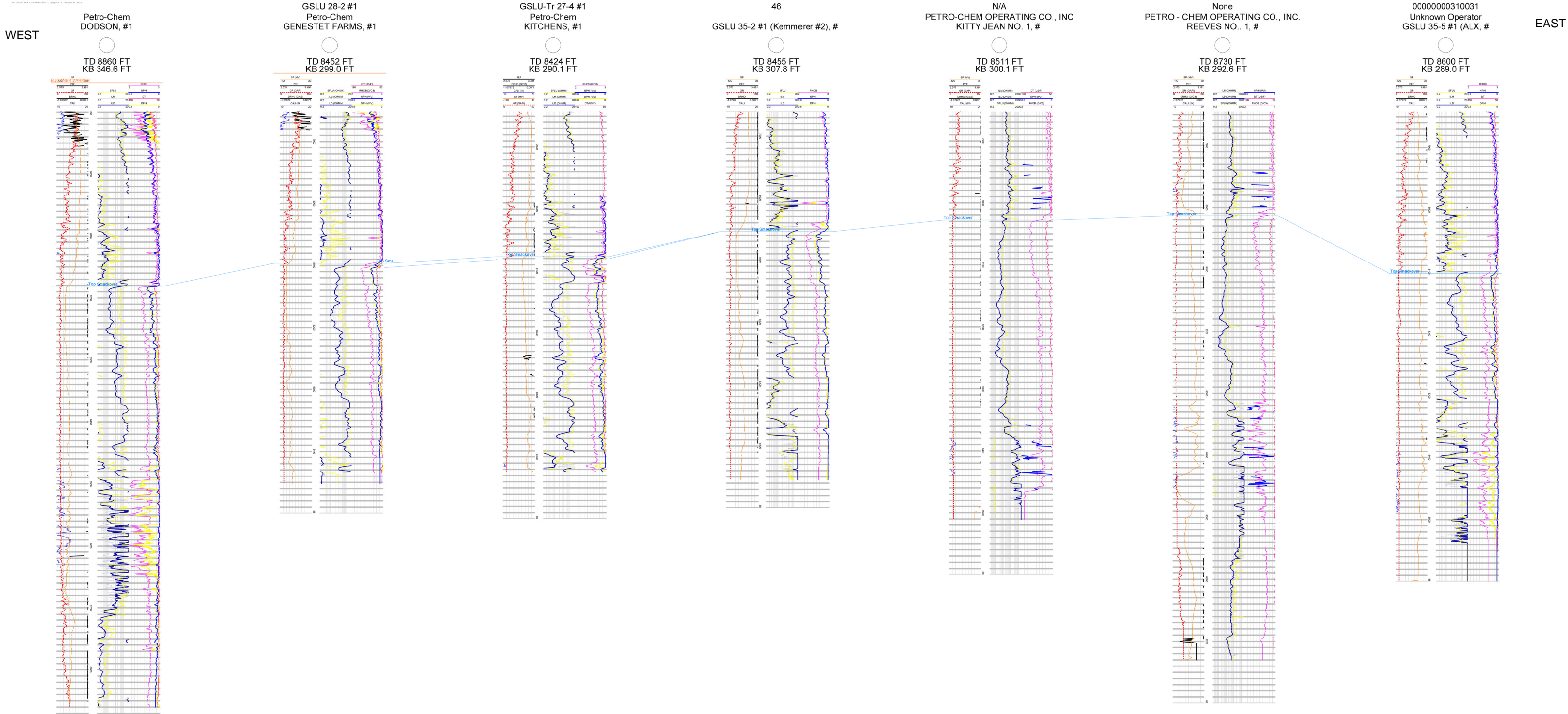


Figure D-2. West to East structural cross section in Grayson field.

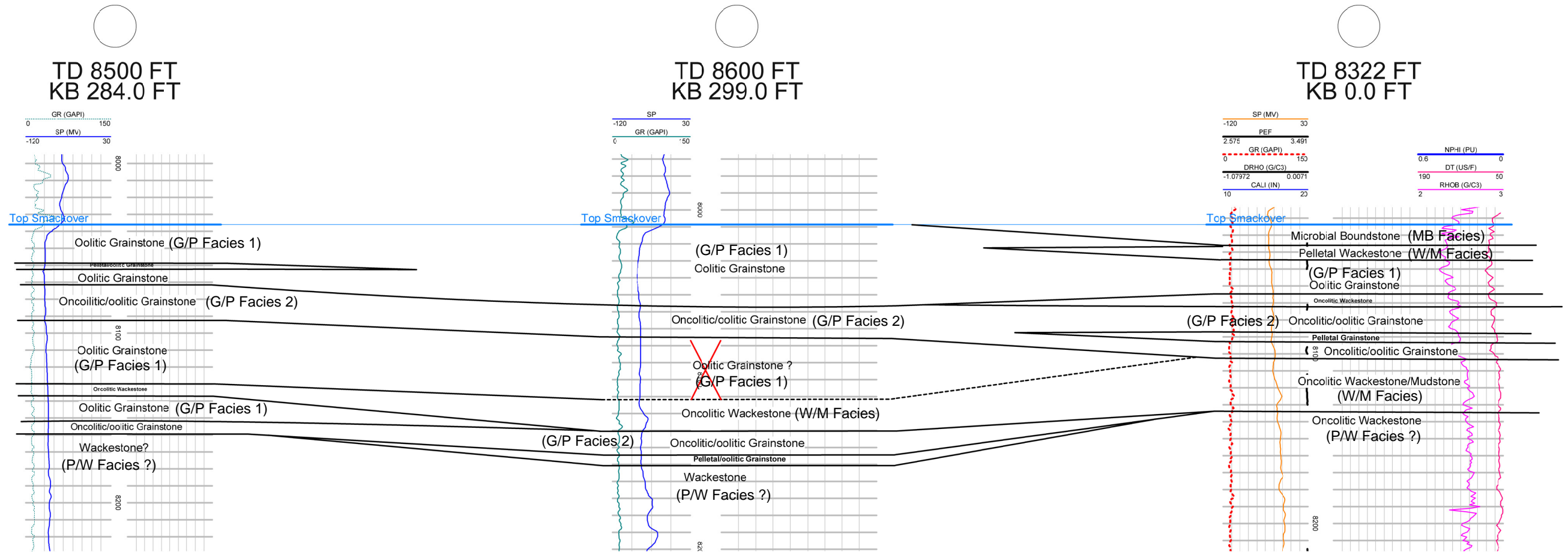
North

South

PETRO-CHEM OPERATING CO., INC.
NINA GRAYSON WARNOCK, #1

PETRO-CHEM OPERATING CO., INC.
ALEXANDER, #1

PETRO-CHEM OPERATING CO., INC..
REEVES, #1



© TO A X-SECTION STRATIGRAPHIC WITH FACIES IN GRAYSON - Largest Extent

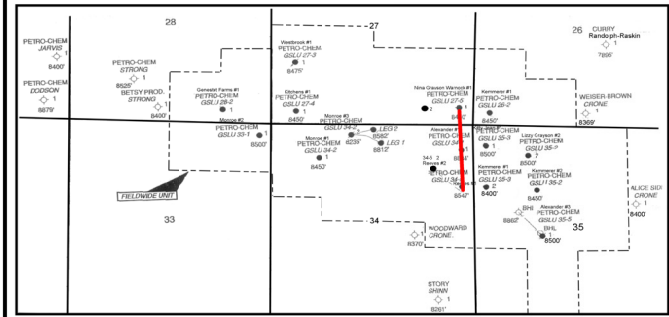


Figure D-3. North to South stratigraphic cross section in Grayson field.

North to South Stratigraphic X-section with Facies
 Grayson Field
 Columbia, County, Arkansas

K. Poole

