

THE PENNSYLVANIAN SYSTEM OF MISSOURI

(A COMPARISON OF FORMER AND PRESENT CLASSIFICATIONS)

| | FORMER CLASSIFICATION Howe (1961) ¹ , revised by Thompson (1995) ² | | PRESENT CLASSIFICATION Gentile and Thompson (2004) ³ | | |
|-----------------|---|-----------------|--|-------------|--|
| INDIAN CAVE SS. | | | | | |
| | STOTLER FM. | INDIAN CAVE SS. | INDIAN CAVE SS. | STOTLER FM. | |
| | DRY SH. MBR. | | DRY SH. MBR. | | |
| | DOVER LS. MBR. | | DOVER LS. MBR. | | |
| | PILLSBURY SH. | | PILLSBURY SH. | | |
| | WAMEGO SH. MBR. | | WAMEGO SH. MBR. | | |
| | TARKIO LS. MBR. | | TARKIO LS. MBR. | | |
| | WILLARD SH. | | WILLARD SH. | | |
| | EMPORIA FM. | | EMPORIA FM. | | |
| | AUBURN SH. | | AUBURN SH. | | |
| BERN FM. | WAKARUSA LS. MBR. | | WAKARUSA LS. MBR. | | |
| | SOLDIER CREEK SH. MBR. | | SOLDIER CREEK SH. MBR. | | |
| | BURLINGAME LS. MBR. | | BURLINGAME LS. MBR. | | |
| | SILVER LAKE SH. MBR. | | SILVER LAKE SH. MBR. | | |
| | RULO LS. MBR. | | RULO LS. MBR. | | |
| | CEDAR VALE SH. MBR. | | CEDAR VALE SH. MBR. | | |
| | HAPPY HOLLOW MBR. | | HAPPY HOLLOW LS. MBR. | | |
| | SCRANTON FM. | | SCRANTON FM. | | |
| | WHITE CLOUD MBR. | | WHITE CLOUD SH. MBR. | | |
| | HOWARD FM. | | HOWARD FM. | | |
| SEVERY FM. | UTOPIA LS. MBR. | | UTOPIA LS. MBR. | | |
| | WINZELER SH. MBR. | | WINZELER SH. MBR. | | |
| | CHURCH LS. MBR. | | CHURCH LS. MBR. | | |
| | ARODE SH. MBR. | | ARODE SH. MBR. | | |
| | SCAMMON COAL BED | | SCAMMON COAL BED | | |
| | SCAMMON COAL BED | | SCAMMON COAL BED | | |
| | SCAMMON COAL BED | | SCAMMON COAL BED | | |
| | SCAMMON COAL BED | | SCAMMON COAL BED | | |
| | SCAMMON COAL BED | | SCAMMON COAL BED | | |
| | SCAMMON COAL BED | | SCAMMON COAL BED | | |
| TOPEKA FM. | COAL CREEK LS. MBR. | | COAL CREEK LS. MBR. | | |
| | HOLT SH. MBR. | | HOLT SH. MBR. | | |
| | DUBOIS LS. MBR. | | DUBOIS LS. MBR. | | |
| | TURNER CREEK SH. MBR. | | TURNER CREEK SH. MBR. | | |
| | SHELDON LS. MBR. | | SHELDON LS. MBR. | | |
| | JONES POINT SH. MBR. | | JONES POINT SH. MBR. | | |
| | CURZON LS. MBR. | | CURZON LS. MBR. | | |
| | IOWA POINT SH. MBR. | | IOWA POINT SH. MBR. | | |
| | HARTFORD LS. MBR. | | HARTFORD LS. MBR. | | |
| | CALHOUN SH. | | CALHOUN SH. | | |
| DEER CREEK FM. | ERVINE CREEK LS. MBR. | | ERVINE CREEK LS. MBR. | | |
| | LARSH BURROAK SH. MBR. | | LARSH BURROAK SH. MBR. | | |
| | ROCK BLUFF LS. MBR. | | ROCK BLUFF LS. MBR. | | |
| | OSKALOOSA SH. MBR. | | OSKALOOSA SH. MBR. | | |
| | OZAWKIE LS. MBR. | | OZAWKIE LS. MBR. | | |
| | TECUMSEH SH. | | TECUMSEH SH. | | |
| | RAKES CREEK SH. MBR. | | RAKES CREEK SH. MBR. | | |
| | AVOCA LS. MBR. | | AVOCA LS. MBR. | | |
| | KING HILL SH. MBR. | | KING HILL SH. MBR. | | |
| | BEIL LS. MBR. | | BEIL LS. MBR. | | |
| LECOMPTON FM. | QUEEN HILL SH. MBR. | | QUEEN HILL SH. MBR. | | |
| | BIG SPRINGS LS. MBR. | | BIG SPRINGS LS. MBR. | | |
| | DONIPHAN SH. MBR. | | DONIPHAN SH. MBR. | | |
| | SPRING BRANCH LS. MBR. | | SPRING BRANCH LS. MBR. | | |
| | STULL SH. MBR. | | STULL SH. MBR. | | |
| | KANWAKA FM. | | KANWAKA SH. | | |
| | CLAY CREEK LS. MBR. | | CLAY CREEK LS. MBR. | | |
| | JACKSON PARK SH. MBR. | | JACKSON PARK SH. MBR. | | |
| | KEREFORD LS. MBR. | | KEREFORD LS. MBR. | | |
| | HELMADER SH. MBR. | | HELMADER SH. MBR. | | |
| OREAD FM. | PLATTSMOUTH LS. MBR. | | PLATTSMOUTH LS. MBR. | | |
| | HEEBNER SH. MBR. | | HEEBNER SH. MBR. | | |
| | LEAVENWORTH LS. MBR. | | LEAVENWORTH LS. MBR. | | |
| | SNYDERVILLE SH. MBR. | | SNYDERVILLE SH. MBR. | | |
| | TORONTO LS. MBR. | | TORONTO LS. MBR. | | |

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|----------------------|---|--|--|--|--|
| LAWRENCE FM. | "UPPER UNNAMED SH. MBR." | | WATHENA SH. MBR. | | |
| | AMAZONIA LS. MBR. | | AMAZONIA LS. MBR. | | |
| | "LOWER UNNAMED SH. MBR." | | PIGEON HILL SH. MBR. | | |
| | HASKELL LS. MBR. | | SHOEMAKER LS. MBR. | | |
| | VINLAND SH. MBR. | | LITTLE PAWNEE SH. MBR. | | |
| | WESTPHAL LS. MBR. | | HASKELL LS. MBR. | | |
| | UPPER SIBLEY COAL BED | | WESTPHAL LS. MBR. | | |
| | TONGANOXIE SS. MBR.? | | TONGANOXIE SS. MBR. | | |
| | IATAN LS. | | IATAN LS. MBR. | | |
| | WESTON SH. | | WESTON SH. MBR. | | |
| STANTON FM. | SOUTH BEND LS. MBR. | | SOUTH BEND FM. | | |
| | ROCK LAKE SH. MBR. | | ROCK LAKE SH. | | |
| | STONER LS. MBR. | | STONER LS. MBR. | | |
| | EUDORA SH. MBR. | | EUDORA SH. MBR. | | |
| | CAPTAIN CREEK LS. MBR. | | CAPTAIN CREEK LS. MBR. | | |
| | VILAS SH. | | VILAS SH. | | |
| | PLATTSBURG FM. | | PLATTSBURG FM. | | |
| | BONNER SPRINGS SH. | | BONNER SPRINGS SH. MBR. | | |
| | FARLEY LS. MBR. | | LANE SH. | | |
| | ISLAND CREEK SH. MBR. | | ISLAND CREEK SH. MBR. | | |
| ARGENTINE LS. MBR. | ARGENTINE LS. MBR. | | ARGENTINE LS. MBR. | | |
| | QUINDARO SH. MBR. | | QUINDARO SH. MBR. | | |
| | FRISBIE LS. MBR. | | FRISBIE LS. MBR. | | |
| | LANE SH. | | LIBERTY MEMORIAL SH. | | |
| | IOLA FM. | | IOLA FM. | | |
| | CHANUTE SH. | | CHANUTE SH. | | |
| | DRUM LS. | | DEWEY FM. | | |
| | QUIVIRA SH. MBR. | | NELLIE BLY FM. | | |
| | WESTERVILLE LS. MBR. | | CHERRYVALE FM. | | |
| | WEA SH. MBR. | | WEA SH. MBR. | | |
| DENNIS FM. | WINTerset LS. MBR. | | WINTerset LS. MBR. | | |
| | GALESBURG SH. | | GALESBURG SH. | | |
| | BETHANY FALLS LS. MBR. | | BETHANY FALLS LS. MBR. | | |
| | HUSHPUCKNEY SH. MBR. | | HUSHPUCKNEY SH. MBR. | | |
| | MIDDLE CREEK LS. MBR. | | MIDDLE CREEK LS. MBR. | | |
| | HERTHA FM. | | HERTHA FM. | | |
| | MOUND CITY SH. MBR. | | MOUND CITY SH. MBR. | | |
| | GRITZER LS. MBR. | | GRITZER LS. MBR. | | |
| | "UNNAMED MBR." | | BLUE MOUND SH. MBR. | | |
| | WARRENSBURG SS. MBR. | | WELDON RIVER SS. MBR. | | |
| WARRENSBURG SS. MBR. | "UPPER UNNAMED FM." | | SHALE HILL FM. | | |
| | "UNNAMED SH. MBR." | | MANTEY SH. MBR. | | |
| | EXLINE LS. MBR. | | EXLINE LS. MBR. | | |

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|---------------------|---|--|--|--|--|
| "LOWER UNNAMED FM." | "UNNAMED MBR." | | HEPLER SS. MBR. | | |
| | HEPLER SS. MBR. | | HEPLER FM. | | |
| | HOLDENVILLE SH. | | LOST BRANCH FM. | | |
| | LENAPAH FM. | | MEMORIAL SH. | | |
| | NOVATA FM. | | NOVATA SH. | | |
| | ALTAMONT FM. | | ALTAMONT FM. | | |
| | BANDERA FM. | | BANDERA SH. | | |
| | PAWNEE FM. | | PAWNEE FM. | | |
| | LABETTE FM. | | LABETTE SH. | | |
| | HIGGINSVILLE LS. | | HIGGINSVILLE LS. | | |
| LITTLE OSAGE FM. | FLINT HILL SS. MBR. | | LITTLE OSAGE FM. | | |
| | HOUS LS. MBR. | | LITTLE OSAGE FM. | | |
| | BLACKJACK CREEK LS. | | BLACKJACK CREEK LS. | | |
| | EXCELLO SH. | | EXCELLO SH. | | |
| | MULKY FM. | | MULKY FM. | | |
| | LAGONDA FM. | | LAGONDA FM. | | |
| | BEVIER FM. | | BEVIER FM. | | |
| | VERDIGRIS FM. | | VERDIGRIS FM. | | |
| | CROWEBURG FM. | | CROWEBURG FM. | | |
| | FLEMING FM. | | FLEMING FM. | | |
| ROBINSON BRANCH FM. | ROBINSON BRANCH COAL BED | | ROBINSON BRANCH COAL BED | | |
| | MINERAL COAL BED | | MINERAL COAL BED | | |
| | SCAMMON COAL BED | | SCAMMON COAL BED | | |
| | CHelsea SS. MBR. | | CHelsea SS. MBR. | | |
| | TIWAHAH LS. MBR. | | TIWAHAH LS. MBR. | | |
| | TEBO COAL BED | | TEBO COAL BED | | |
| | WEIR FM. | | WEIR FM. | | |
| | SEVILLE FM. | | SEVILLE FM. | | |
| | BLUEJACKET FM. | | BLUEJACKET SS. | | |
| | DRYWOOD FM. | | DRYWOOD FM. | | |
| ROWE FM. | ROWE COAL BED | | ROWE FM. | | |
| | WARNER FM. | | WARNER SS. | | |
| | HARTSHORNE ? FM. | | HARTSHORNE ? FM. | | |
| | RIVERTON FM. | | CHELTENHAM FM. | | |
| | "LADEN BRANCH LS. | | GRAYDON CONGL. | | |
| | BURGNER FM. | | BURGNER FM. | | |
| | McLOUTH FM. (SUBSURFACE ONLY) | | RIVERTON SH. | | |
| | CHELTENHAM FM. | | McLOUTH FM. (SUBSURFACE ONLY) | | |
| | MORROWAN SERIES | | HALE FM. | | |
| | HALE FM. | | "PRAIRIE GROVE" HALE FM. | | |

ABBREVIATIONS
 FM = FORMATION
 MBR. = MEMBER
 LS. = LIMESTONE
 SS = SANDSTONE
 SH = SHALE
 CONGL. = CONGLOMERATE

REFERENCES
¹Howe, W. B., 1961. The stratigraphic succession in Missouri, Missouri Division of Geological Survey and Water Resources, vol. 40, 2nd Series, 185 p.
²Thompson, T. L., 1995. The stratigraphic succession in Missouri (Revised-1995), Missouri Division of Geology and Land Survey, vol. 40, 2nd Series, Revised, 190 p.
³Gentile, R. J. and Thompson, T. L., 2004. Paleozoic succession in Missouri, Part 5 - Pennsylvanian Subsystem of Carboniferous System, Missouri Geological Survey and Resource Assessment Division, Report of Investigation No. 70, 688 p. + App. A-D.



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