

THE LAST EPEIRIC SEA (PALEOCENE, CANNONBALL FORMATION) IN NORTH AMERICA – THE AGE OF INCURSIONS AND BOUNDING STRATA BASED ON MAMMALS, MOLLUSKS, AND FORAMINIFERA.

HARTMAN, Joseph H., Energy & Environmental Research Center, University of North Dakota, PO Box 9018, Grand Forks, ND 58202, jhartman@plains.nodak.edu; **HUNTER, John P.**, Department of Anatomy, New York College of Osteopathic Medicine of N.Y.I.T., Old Westbury, NY 11568; **KRAUSE, David W.**, Department of Anatomical Sciences, State University of New York, Stony Brook, NY 11794

The last North American interior seaway is evidenced by the Cannonball Formation in North Dakota and adjacent areas in South Dakota, Montana, and southernmost Canada. The normal marine main body of the Cannonball Formation is as much as 120 m thick in central North Dakota. In this section, the Cannonball Formation is underlain locally by only a few meters of Ludlow Formation (Fort Union Group), determined inferentially to be Puercan (North American Land Mammal Age, NALMA), and overlain by Tongue River Formation dated as middle Tiffanian (Ti3 NALMA). On the basis of foraminifera, the lower part of the Cannonball Formation is lower Danian (Planktic Foraminifera Pla and Plb Biochrons; but not P α), while mollusks and fishes from higher in the section indicate a Selandian (Thanetian, *s.l.*) stage. The Cannonball interfingers with the Ludlow and lower part of the Tongue River Formation in southwestern North Dakota and adjacent Montana. Mammals and mollusks occur beneath, between, and over westward-directed tongues of the Cannonball Formation and indicate ages of upper Puercan (Pu2-3 NALMA) for the lowest unnamed tongue, lower Torrejonian (To1) for the Boyce Tongue, lower to middle Torrejonian (To1-2) for the Three V Tongue, and upper Torrejonian to lower Tiffanian (To3-Ti2) for lower Tongue River intercalations with the Cannonball. The interpreted maximum westward onlap of the Cannonball Sea (Three V Tongue) coincides well with the age of the maximum high stand of the Tejas (TA1) Supercycle. A laterally correlative Ti2 age for Tongue River strata indicates that the final regression of the Cannonball Sea probably occurred in the earliest Selandian.

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