The Equine Express II
The Heat of Freeze

Heat of Freeze can be defined as a metabolic reaction causing heat to be produced that occurs as a cell is being cooled. This metabolic/bio-physical change occurs within the inner cell mass just prior to the final stage of cooling/cellular suspension/state of cellular inertia[1]. This heat is generated by the inner cell mass coincides with the slow cooling rate produced by the Equine Express II. This is in direct correlation with the specifically matched load of coolant to the physical area of the holding reservoir in conjunction with the R-factor expressed by the Styrofoam body.

As a result of the exceptionally slow cooling rate enabled by the technology of the Equine Express II as mentioned above, cold shock which normally occurs between 18° C and 12° C is virtually eliminated[2]. Equitainer I reaches its lowest point of cool in 11.25 hours whereas the Equine Express II reaches its lowest point of cool in 22.7 hours[3]. This fact alone more than doubles the cooling rate by which is so stated in the '816 patent and claimed by Hamilton to be the "optimum" cooling rate

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[1] Boyd Henderson, V.M.D. Emtran/Cyagra Corporation, Definition through personal communication, 2000.

[2] The Hamilton Equitainer '816 patent claims that their device cools at an optimum cooling rate. Their system reaches its low point of cool within the first 12 hours through a linear convection of latent heat from specimen. This so called "optimum cooling rate" is much faster than that which our patents claim and our device expresses.
The Hamilton Equitainer reached its low point of cool in 11.25 hours where as the Equine Express II reached its low point of cool in 22.7 hours. This indisputable evidence was disclosed by the research performed by Texas A&M University on 7/23/97.

[3] This indisputable evidence was disclosed by the research performed by Texas A&M University on 7/23/97 overseen by Dickson Varner, D.V.M.