Chapter 13

Thick, Pure Coal Seams Favor a Very Late Cenozoic Boundary

Coal is not expected to form after the Flood in any significant quantities.[1] The formation of thick and widespread coal seams of nearly pure, low ash coal seems impossible in uniformitarian conditions.[2,3] The peat swamp theory seems impossible.[4] Coal geologist Larry Thomas writes:

> It is a fact, however, that the origin of coal has been studied for over a century and that no one model has been identified that can predict the occurrence, development and type of coal. A variety of models exist which attempt to identify the environment of deposition, but no single one can adequately give a satisfactory explanation for the cyclic nature of coal sequences, the lateral continuity of coal beds, and the physical and chemical characteristics of coals.[5]

Besides, there is plenty of evidence that the plant material was transported into place.[6,7,8] The log mat model proposes much of the world's pre-Flood extensive vegetation was entrained in the Floodwaters early in the Flood and began to clump together to form giant mats of floating vegetation that eventually sank and were covered with sediments forming coal seams.[4,9,10,11,12] Another mechanism for the forming of coal during the Flood is the beaching of log mats on BEDS (Briefly Exposed Diluvial Sediments) during a short drop in the level of the Floodwater and the covering of the plant material with sand during a subsequent rise in the Floodwater.[13]

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[1] Walker, T., 1994. A Biblical geological model; in: Walsh, R.E. (Ed.), *Proceedings of the Third International Conference on Creationism*, technical symposium sessions, Creation Science Fellowship, Pittsburgh, PA, pp. 581–592.
[2] Oard, M.J., 1996. Thick coal seams challenge uniformitarianism. *Journal of Creation* 10(1):5–6.
[3] Oard, M.J., 2001. Vertical tectonics and the drainage of Floodwater: a model for the middle and late diluvian period—Part II. *Creation Research Society Quarterly* 38(2):79–95.
[4] Oard, M.J., 2014. *The Genesis Flood and Floating Log Mats: Solving Geological Riddles*. Creation Book Publishers, Powder Springs, GA (in press).
[5] Thomas, L., 2002. *Coal Geology*. John Wiley & Sons, LTD, Chichester, England, p. 3.
[6] Coffin, H.G. with R.H. Brown and L.J. Gibson, 2005. *Origin by Design*, Revised Edition, Review and Herald Publishing Association, Washington, D.C., pp. 198–204.
[7] Snelling, A.A., 2009. *Earth's Catastrophic Past: Geology, Creation & the Flood*, volume 2, Institute for Creation Research, Dallas, TX, pp. 549–555.
[8] Austin, S.A., 1979. *Depositional Environment of the Kentucky No. 12 Coal Bed (Middle Pennsylvanian) of Western Kentucky, with Special Reference to the Origin of Coal Lithotypes*, PhD thesis, Pennsylvania State University, University Park, PA.
[9] Austin, S.A., 1987. Mount St. Helens and catastrophism; in: Walsh, R.E., C.L. Brooks, and R.S. Crowell R.S. (Eds.), *Proceedings of the First International conference on Creationism*, volume I basic and educational sessions, Creation Science Fellowship, Pittsburgh, PA, pp. 3–9.
[10] Coffin, H.G. with Brown, R.H., 1983. *Origin by Design*. Review and Herald Publishing Association, Washington, D.C..
[11] Morris, J. and S.A. Austin, 2003. *Footprints in the Ash: The Explosive Story of Mount St. Helens*. Master Books, Green Forest, AR, pp. 86–89.
[12] Woodmorappe, J, 1999. A diluvian interpretation of ancient cyclic sedimentation. *Studies in Flood Geology*, second edition. Institute for Creation Research, Dallas, TX, pp. 201–220.
[13] Oard, M.J., 2011. *Dinosaur Challenges and Mysteries: How the Genesis Flood Makes Sense of Dinosaur Evidence Including Tracks, Nests, Eggs, and Scavenged Bones*. Creation Book Publishers, Powder Springs, GA.

The evidence for this hypothesis is dinosaur tracks on top of coal mines in Utah, Wyoming, Colorado, the United Kingdom, and Queensland, Australia.

In regard to a post-Flood model for the formation of coal, how could enough plant material gather into one place to form a thick, pure coal seam from a post-Flood catastrophe? It is estimated that between 12.3% and 28.7% of coal resources are from the Cenozoic.[14] Heat and pressure from burial, and a catalyst like volcanic ash, is required to form coal. Interestingly, clay minerals are commonly found within coal and likely are a catalysts in the formation of coal.[15,16,17] It would be difficult to add volcanic ash (known to turn into clay) to plant material in some post-Flood catastrophe for coal to form.

Figure 13.1. The Wyodak coal seam in the northeast Powder River Basin, just east of Gillette, Wyoming.

Example of a Large Early Cenozoic Coal Seam

There are many coal layers in the "early Cenozoic," for example in the Powder River Basin of northeast Wyoming and southeast Montana (Figure 13.1). Some of these nearly pure coal seams extend about 62 miles (100 km) north-south, 16 miles (25 km) east-west, and range up to 245 feet (75 m) thick in the Powder River Basin. Two hundred and forty five feet of coal represents about 1,640 feet of almost pure peat, if the ratio of peat to coal thickness is 7 to 1.

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[14] Holt, R.D., 1996. Evidence for a Late Cainozoic Flood/post-Flood boundary. *Journal of Creation* 10(1): 157

[15] Hayatsu, R., R.L. McBeth, R.G. Scott, R.E. Botto, and R.E. Winans, 1984. Artificial coalification study: preparation and characterization of synthetic macerals. *Organic Geochemistry* 6:463–471.

[16] Saxby, J.D., P. Chatfield, G.H. Taylor, J.D. Fitzgerald, I.R. Kaplan, and S.-T. Lu, 1992. Effects of clay minerals on products from coal maturation. *Organic Geochemistry* 18(3):373–383.

[17] Snelling, A. and J. Mackay, 1984. Coal, volcanism and Noah's Flood. *Journal of Creation* 1(1):11–29; http://creation.com/coal-volcanism-and-noahs-flood.

How could such a thick layer of peat develop, subside slowly, and be protected from all the vicissitudes of weather, stream deposition, and other factors that would impinge on such a peat bed over millions of years, or in the post-Flood period?

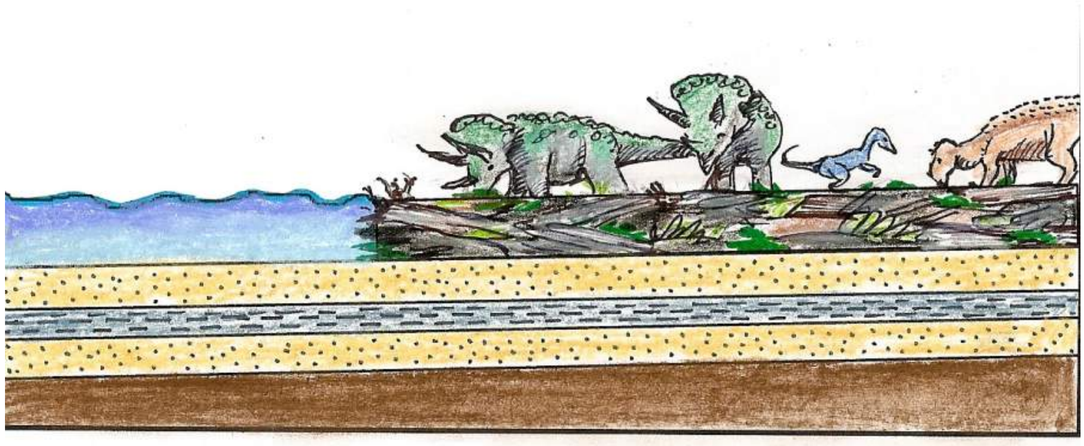
I contend post-Flood catastrophes could not produce huge, pure coal seams and beds. Therefore, I conclude coal seams, especially those of large volume and pure, would be an excellent criterion for Flood deposition. The Powder River coal would be placed the Flood/post-Flood boundary well above the date of the coal, making the boundary above the "early Cenozoic" in this area.

Late Cenozoic Coal Favors a Very Late Cenozoic Flood/Post-Flood Boundary

It is possible that advocates of a K/T boundary could include the Powder River coal seams in the Flood, since some believe the boundary could be in the early Cenozoic, at least in some locations. However, there are also large Miocene (early Late Cenozoic) coal beds that provide the same problems as the early Cenozoic example, for those adhering to a Flood boundary lower in the geological column than the late Cenozoic. Miocene coal deposits are found around the world. Late Miocene coal with polystrate trees is found in Hungary.[18] The thick Latrobe coal in southeast Australia is also dated as Miocene.[19]

Once deposited in the Miocene, the plant material must be buried with thick overburden, likely many thousands of feet, in order for the coal to form. Then the overburden must be later eroded to expose the coal at or near the surface, where mined today. Figure 13.2 shows this progression. This much deposition and erosion after the early Late Cenozoic time pushes the Flood/post-Flood boundary up to the very late Cenozoic.

Coal is a powerful indicator for the location of the Flood/post-Flood boundary, putting the boundary in the very late Cenozoic in areas with Cenozoic coal.



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[18] Hámor-Vidó, M., T. Hofmann, and L. Albeert, 2010. In situ preservation and paleoenvironmental assessment of *Taxodiacea* fossil trees in the Bükkalja Lignite Formation, Bükkábrány open cast mine, Hungary. *International Journal of Coal Geology* 81:203–210.

[19] Holdgate, G.R., I. Cartwright, D.T. Blackburn, M.W. Wallace, S.J. Gallagher, B.E. Wagstaff , and L. Chung, 2007. The middle Miocene Yallourn coal seam – the last coal in Australia. *International Journal of Coal Geology* 70:95–115.

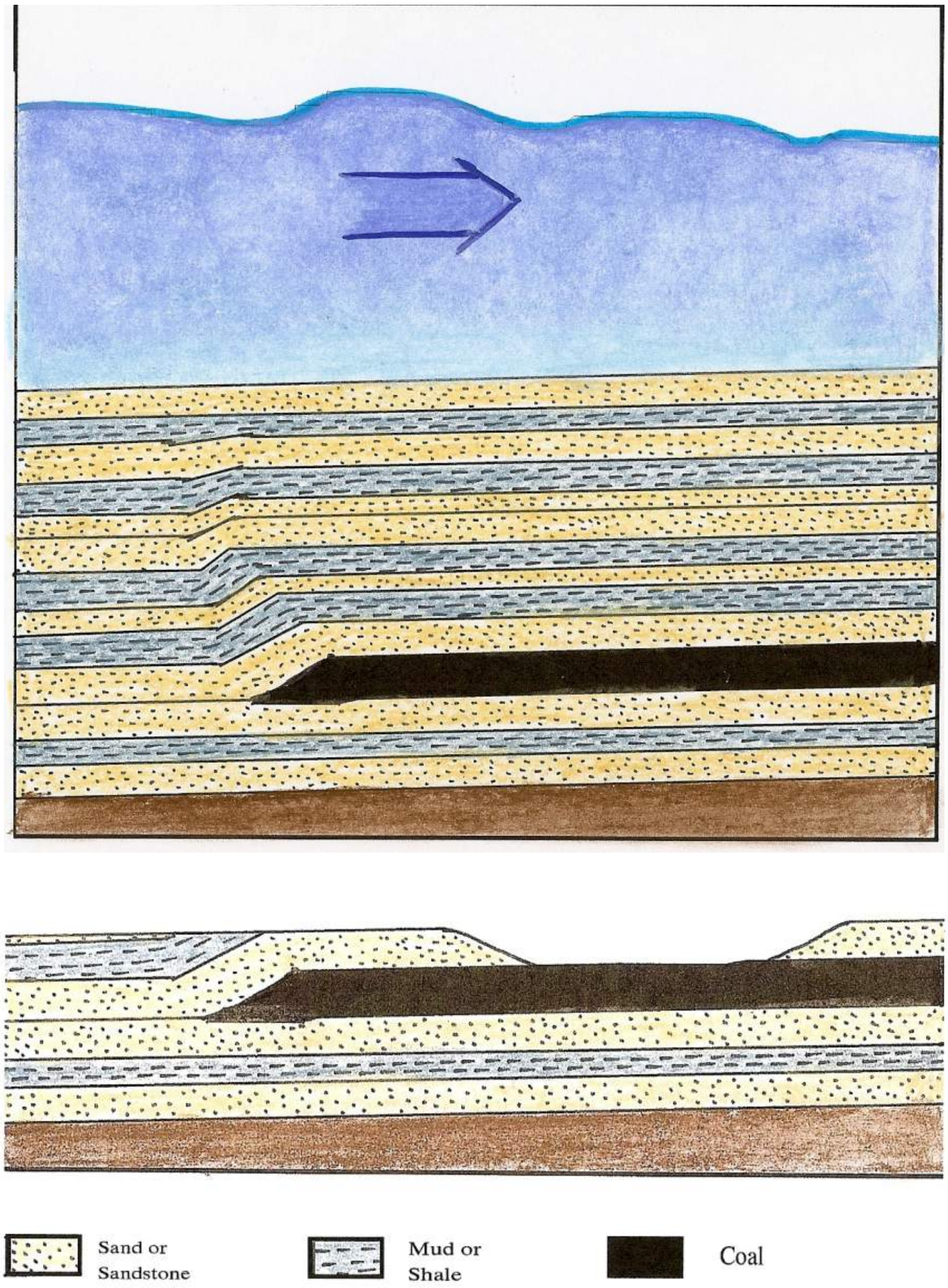

Figure 13.2. The origin of coal based on the BEDS hypotheses (drawn by Mrs. Melanie Richard).
a) Log mats are beached on Briefly Exposed Diluvial Sediments (BEDS) during a drop in the Floodwater level with dinosaurs walking on the log mat.
b) The Floodwater rises and deposits many sedimentary layers on top of the log mat, which turns into coal.
c) Erosion during the Retreating Stage of the Flood exposed the coal in some spots.