Abstract Submitted
for the DFD13 Meeting of
The American Physical Society

Hazards from a massive release of CO2 such as the 1986 Lake Nyos event DIANA SHER, ANDREW WOODS, BP Institute University of Cambridge — We report a series of new experiments exploring the dynamics of gravity currents in which a volume of dense fluid is released from a lock gate and spreads along a flume into the ambient fluid. Using new experimental data, we develop a model for the evolution of the current with time, and in particular, the evolution of the flow passing through a given point with time. We apply this to interpret the hazards associated with a large release of dense gas, such as occurred in 1986 at Lake Nyos, Cameroon, when about 0.1 cubic km of CO2 was released from the lake and travelled down a valley as a dense gravity current.

Diana Sher
BP Institute University of Cambridge

Date submitted: 02 Aug 2013 Electronic form version 1.4