1042-20-90 **Gilbert Baumslag** and **Benjamin Fine*** (fine@mail.fairfield.edu), Department of Mathematics, Fairfield University, Fairfield, CT 06430, and **Charles F. Miller** and **Douglas Troeger**. *Virtual Properties of Cyclically Pinched One-Relator Groups.*

A old conjecture of G.Baumslag is that one-relator groups with torsion are residually finite. More recently it has been conjectured that one-relator groups with torsion are virtually free-by-cyclic which would imply the residual finiteness conjecture. This second conjecture was somewhat based on work of Dunfield and thurston who showed that a propeonderance of two-generator one-relator groups are actually free by cyclic. In the present work we show that a cyclically pinched one-realtor group under certain conditions is virtually free-by-cyclic. This is true in particular when the cyclic amalgamated subgroups lie outside derived groups of the factors. In general we prove that a cyclically pinched one-relator group is free-by-torsion-free nilpotent. In addition we show that any Baumslag double of a free group is virtually free-by-abelian. Recall that surface groups (orientable of genus ≥ 2 and nonorientable of genus ≥ 3) are cyclically pinched one-relator groups. This work is part of a general project on the systematic determination of the structure of one-relator groups beyond that given by the Magnus breakdown. (Received August 12, 2008)