998-57-410   **Kenneth L Baker*** (`kenken@math.utexas.edu`), Kenneth Baker c/o Department of
Mathematics, The University of Texas at Austin, 1 University Station C1200, Austin, TX
78712-0257. *Closed Essential Surfaces in the Complements of Large Volume Berge
Knots.* Preliminary report.

The family of knots that lie as essential simple close curves on the fiber of a genus one fibered knot are Berge knots. The set of volumes of the hyperbolic knots in this family is unbounded. Given such a knot K we develop an algorithm to list all the closed essential surfaces in $S^3 - N(K)$. We then show that for every $g \geq 2$ there exists knots in this family with closed essential surfaces of genus g in their complement. These knots may be chosen to increase in volume (without bound) as g increases. Furthermore, we exhibit hyperbolic knots in this family that are small, i.e. their complements contain no closed essential surfaces. (Received March 02, 2004)