1067-20-1535   **Sang Rae Lee*** (`srlee@math.ou.edu`), Department of Mathematics, University of Oklahoma, Norman, OK 73019-0315. *Geometry of Houghton's Group.*

Ken Brown showed Houghton's groups H_n are of type FP_n but not FP_{n+1} by examining the action of H_n on infinite dimensional complex. We show his proof can be improved so that H_n acts on horizontal level sets of a n-dimensional CAT(0) complex in view of Bestvina-Brady Morse function theory. We also show one can establish an isoperimetric inequality of the horizontal level set by using a certain pushing filling. (Received September 21, 2010)