□ STAGS elastic-plastic soccerball model: residual dent depth = 0.215 inch; node 1938
△ design pressure (psi)

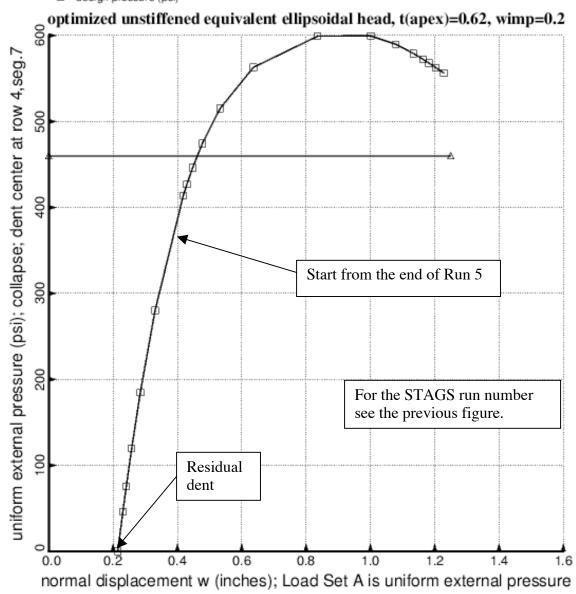


Fig. 251 Elastic-plastic analysis of the **optimized unstiffened equivalent ellipsoidal** shell with the thick apex with t(apex) = 0.61996 inch; Wimp=0.2 inch; the optimum design is listed in Table 93. Collapse of the imperfect shell with a Case 3 residual dent of depth close to 0.2 inch. The Case 3 dent is generated by a load set B (PB) cycle. Load Set B consists of a number of normal, inward-directed concentrated loads applied, in Case 3, along row 4 of shell segment 7 (Figs. 2, 169, 232, and 233) that has a cos(theta) circumferential distribution from theta = 0 to 90 degrees. This load distribution is used because it generates a residual dent that locally resembles the negative of the deformation in Figs. 232 and 233, that is, the negative of the linear buckling modal imperfection with n = 1 circumferential wave. Compare with Fig. 246.