H.L.B.C. Progress 1968

Jan. - May	Special Building and Blast Walls completed. Propane ventilation systems installed. Propane detection system installed and tested Modifications to chamber control systems and expansion system completed Grove valve cages modified and boots tested Boot life increased from 90,000 cycles (max.) to over 600,000 cycles without splitting (testing discontinued at this figure)
29th May - 7th June	Technical run with Freon 13B1 all systems tested 25,000 expansions
21st July - 2 Aug.	Technical run 43% Propane/Freon 13B1 ending with broken diaphragm and damage to window due to maloperation of the vac. system 12,000 expansions
5th August - 20th Sept.	Major overhaul of expansion system, fitted replacement window and window clamp. Work up for 2.3 GeV/c K^- physics run with propane/freon.
25th Sept. - 14th Oct.	2.3 GeV/c K^- physics run 43% C_3H_8/CF_3Br culminating in failure of flash tube envelope. Thought to be due to end loading. 80,000 expansions.
15th Oct - 28th Oct.	Chamber dismantled - flash tube envelope end loads reduced to zero Diaphragm replaced, window scratches relieved by etching.
29th Oct - 5th Nov.	Chamber operational 2.3 GeV/c K^- but again culminating in flash tube envelope failure believed to be due to excessive temperature difference across the glass and possibly vibration of the collimation fins. 110,000 expansions
6th Nov - 12th Nov.	Collimation system modified steel blank fitted in replacement of broken flash tube envelope. Flash tube cooling system modified New diaphragm fitted. All grove valve boots renewed.
Oct. 13th - Dec.	Physics run 2.3 GeV/c K^- 43% Propane /Freon mix Total expansions to date (6.12.68 14.00 hrs.) 385541 Total Pictures 178444 Total Beam on 351 hours.