Section 4
LASER SYSTEM REPORT

4.A GDL Facility Report

GDL continued operations this quarter as a target interaction facility. Campaigns executed with the GDL laser included several shots for the x-ray laser program, x-ray microscopy experiments, and laser-target interaction physics experiments. Highlights of the period include a return of the active mirrors to service in GDL, and a return to second- and third-harmonic operation of GDL.

A summary of GDL activities for this quarter follows:

Target Shots	52
Beamline Tests and Alignment	215
Active Mirror Tests	122
TOTAL	389

4.B OMEGA Facility Report

The OMEGA laser system saw extensive service as a target interaction facility during this quarter. The Laboratory continued its efforts to achieve the milestone of 100 times liquid density in deuterium-tritium target implosions. Interposed among the high density experiments were a large number of experiments by the University of Florida (argon-filled polymer-shell implosions) and Los Alamos National Laboratory

(x-ray conversion measurements), under the auspices of the National Laser Users Facility.

During this quarter, the cryogenic target positioner was removed from service and retrofitted with a linear motor for cooling shroud retraction. A series of shots on noncyrogenic DT targets was also taken to verify the knock-on diagnostic performance. In addition, shots were taken to test various uniformity improvements, which included improved energy measurement calibration, more accurate transport optics measurements, distributed phase plates, and better focusing techniques.

A summary of OMEGA operations for this quarter follows:

Target Shots	232
Driver Shots and Tests	98
Beamline Tests and Alignment Shots	162
TOTAL	492

With 232 target shots this quarter, the total number of target shots in calendar year 1987 was 982.

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