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SUBJECT: Results of HRT Test I B 5a,
Volume Calibration of Fuel High-Pressure System

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RESULTS OF HRT TEST I B 5a
VOLUME CALIBRATION OF FUEL HIGH-PRESSURE SYSTEM

The fuel high-pressure system volume has been calibrated as a function of level. The system was filled by adding weighed increments of water through line 106. Elevation of the water level in the system was determined with a sight glass attached at line 106. Cell floor elevation was used as reference. The system was vented through lines 125 and 127.

The data are plotted in Fig. 1. Figure 2 shows volume in liters as a function of elevation. Conversion from weight to volume was on the basis of 2.205 lb/liter.

Tabulated below are volumes in different parts of the high-pressure system. Volumes indicated for the pressurizer are calculated values reported by Michelson.¹ The volume of the leg connecting the pressurizer drum to the circulating system was also calculated. These calculated volumes are supported by the calibration data.

FUEL HIGH-PRESSURE SYSTEM VOLUMES, liters

Main Circulating Loop	452
Pressurizer Connecting Leg: liquid	6
vapor	1
Pressurizer (Drum, Evaporator Legs and Lower Header): liquid	33
vapor	74
Total volume, liquid and vapor	566
Total liquid for normal operation	491

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¹Caryle Michelson, "HRT Modified Pressurizer Design," ORNL CF-56-5-165, (May 25, 1956).

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