



ISR/VA/NH/sm

CM-P00072484

27th May 1980

ISR PERFORMANCE REPORT

Run 1113 MD - 18th April 1980

Vacuum tests in ring 2Summary and conclusions

A record current (53 A) was stacked in ring 2. The weakest place was 540 where a large runaway occurred. Other minor weak points were visible in 220, 512, 756. The bakeout of the non-discharged sector 52 without exposure to air (May 1980) might increase the short term limit in ring 2.

The experiment

53 A were stacked. After 6 minutes of observation the intensity was reduced by scraping to limit the runaway in 540 where the pressure exceeded 10^{-8} torr. During the scraping the beam was lost.

Observations

The weakest point observed during that run was again 540 (Fig. 1) where a large pressure runaway developed, exceeding 10^{-8} torr at the end of the run. This bump spread between points 532 and 552. Other weak points were 220 (+ 7 pT), 512 (+ 1.8 pT), 756 (+ 0.6 pT). Points 512 and 756 correspond to sector valves and 220 to the S 22 which have not been glow discharge cleaned.

In 120 a limited pressure increase (+ 1 pT) was visible which is probably due to a leak (pressure rise proportional to the beam intensity).

Other observations are listed below.

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PICO-TORR

AMPERE

540.0+12

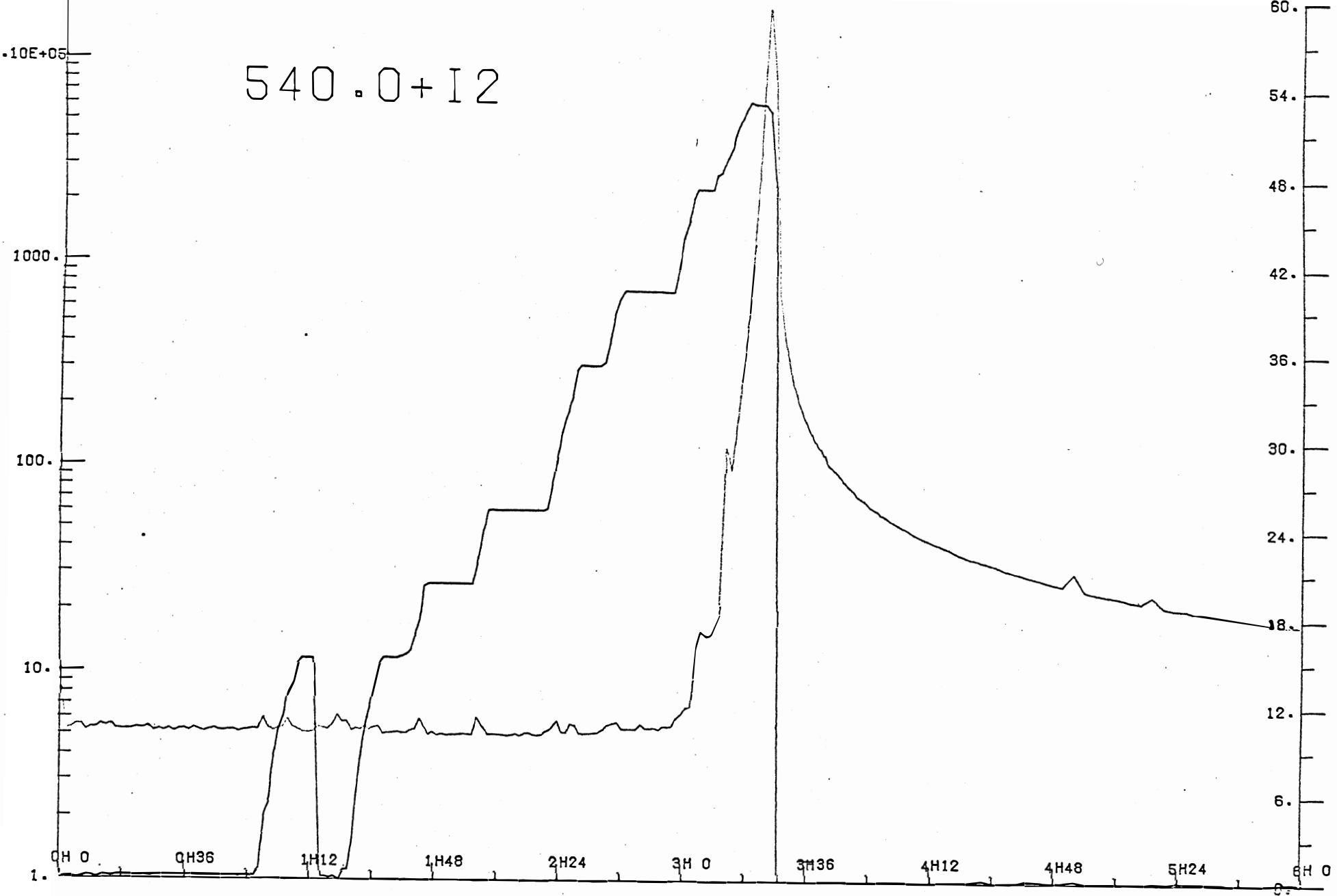


Figure 1

11
CF

ICO-TORR
20.

AMPERE

120.0+I2

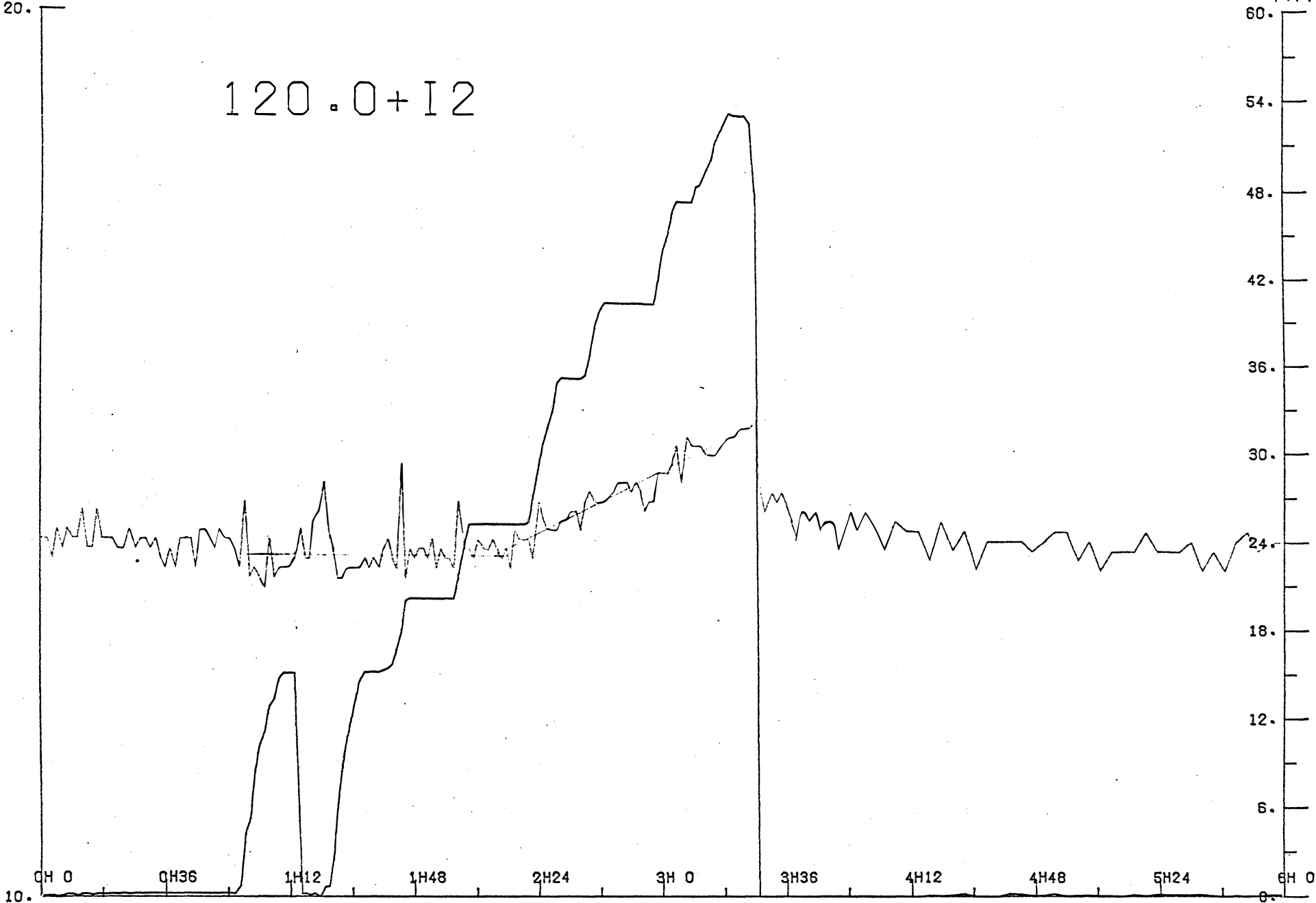


Figure 2

11
12
13

VICO-TORR

AMPERE

220.0+12

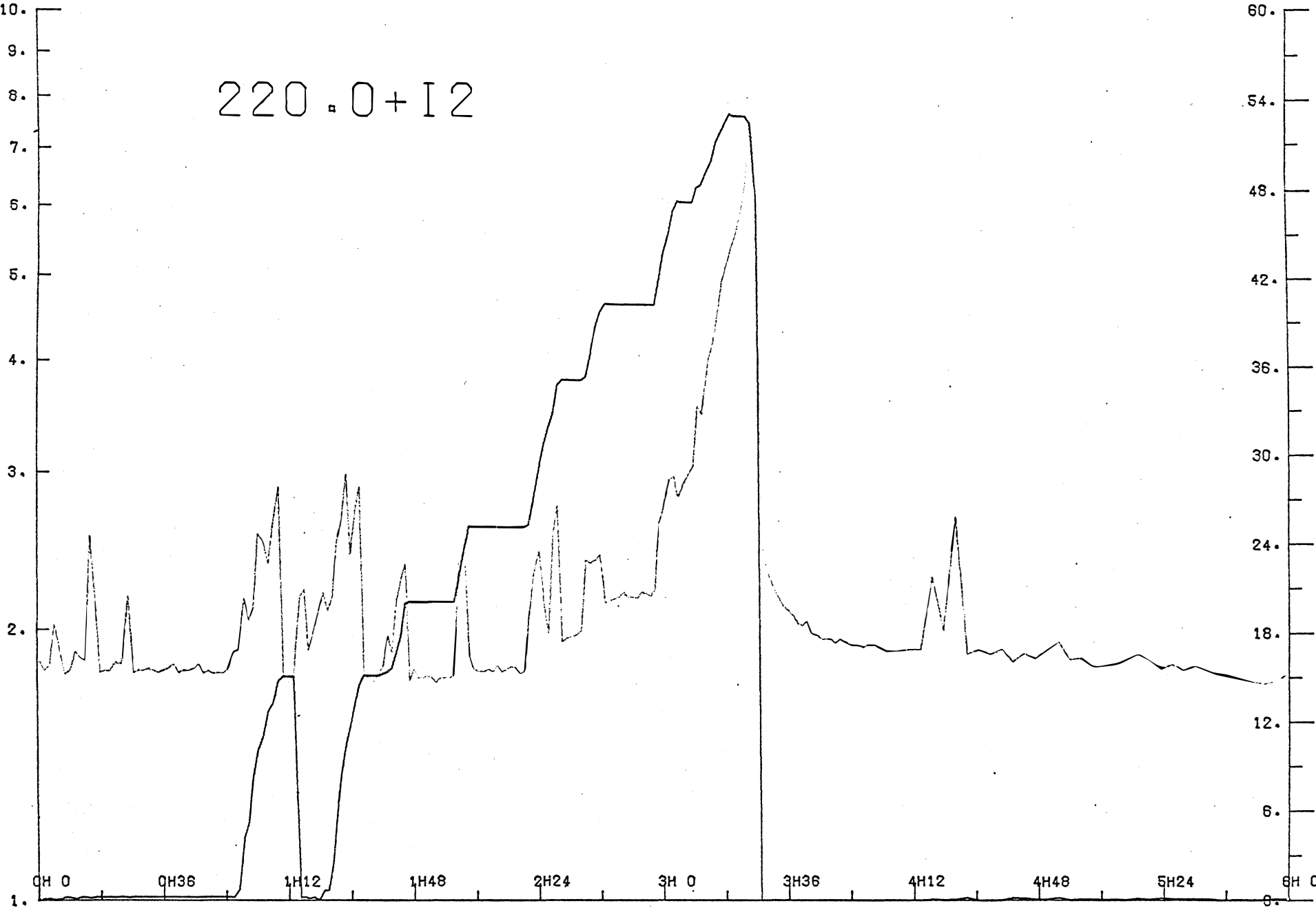


Figure 3

EE
CE

PICO-TORR

AMPERE

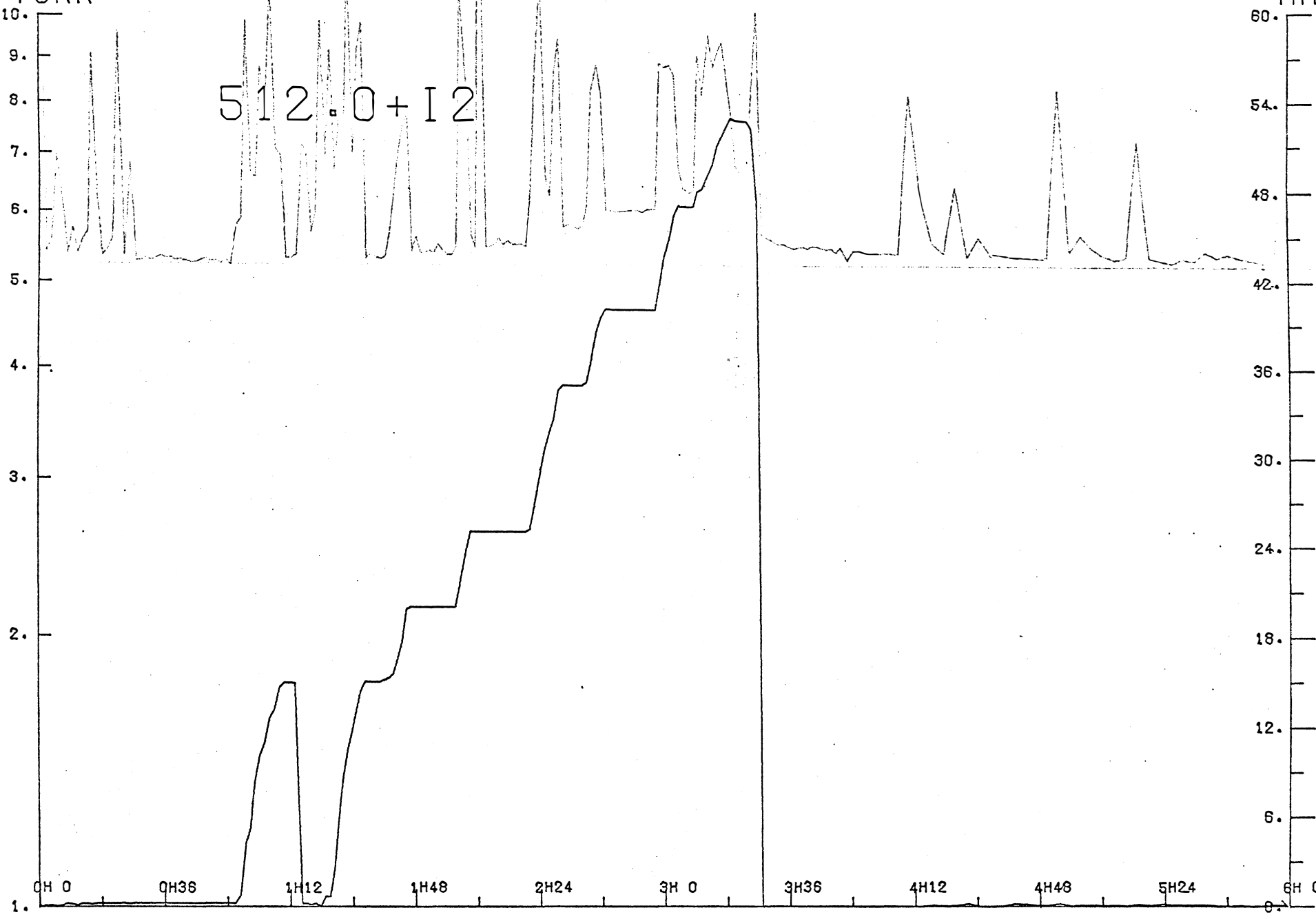


Figure 4

EE

PICO-TORR

AMPERE

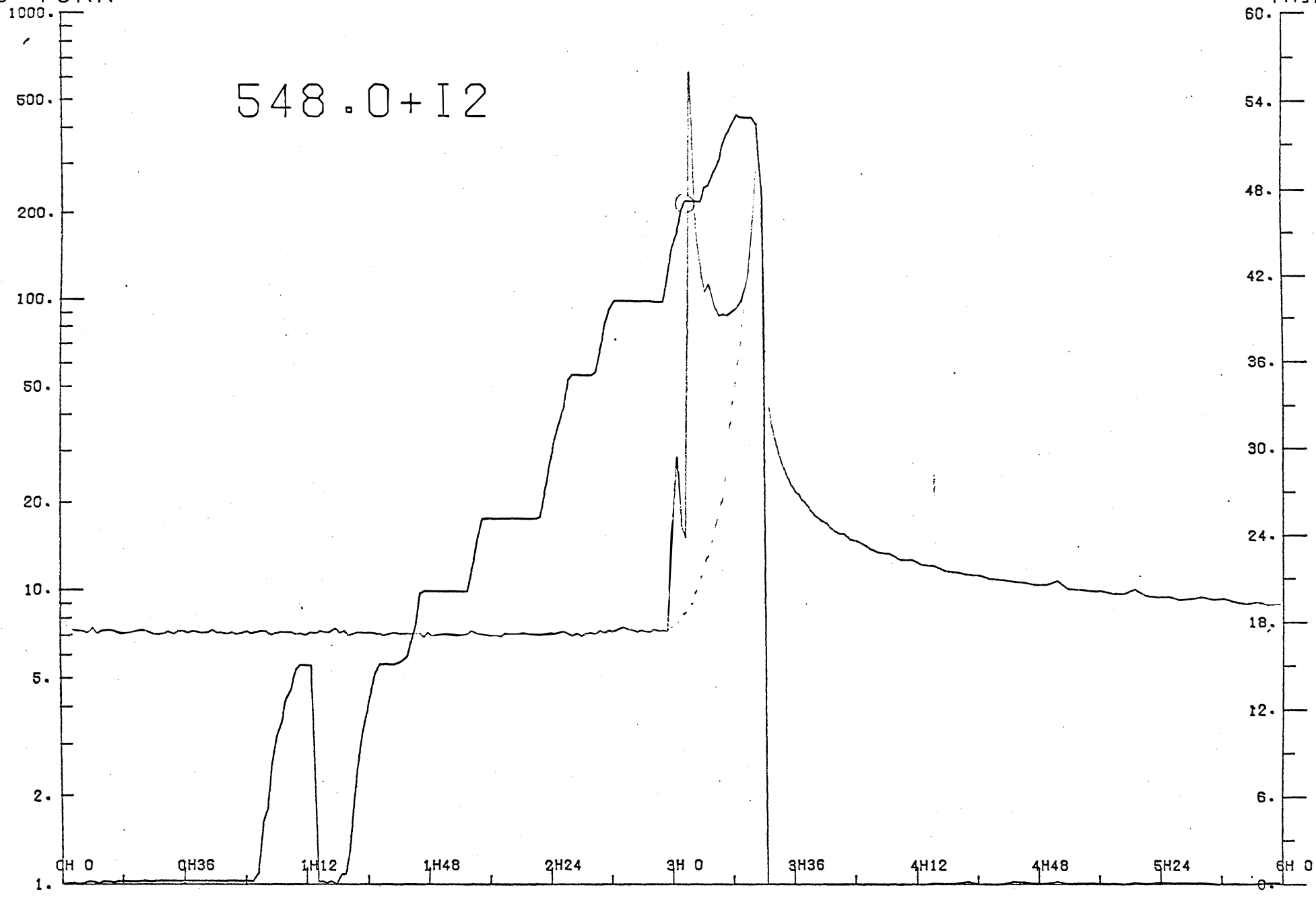


Figure 5

EE
CL

PICO-TORR

AMPERE

756.0+I2

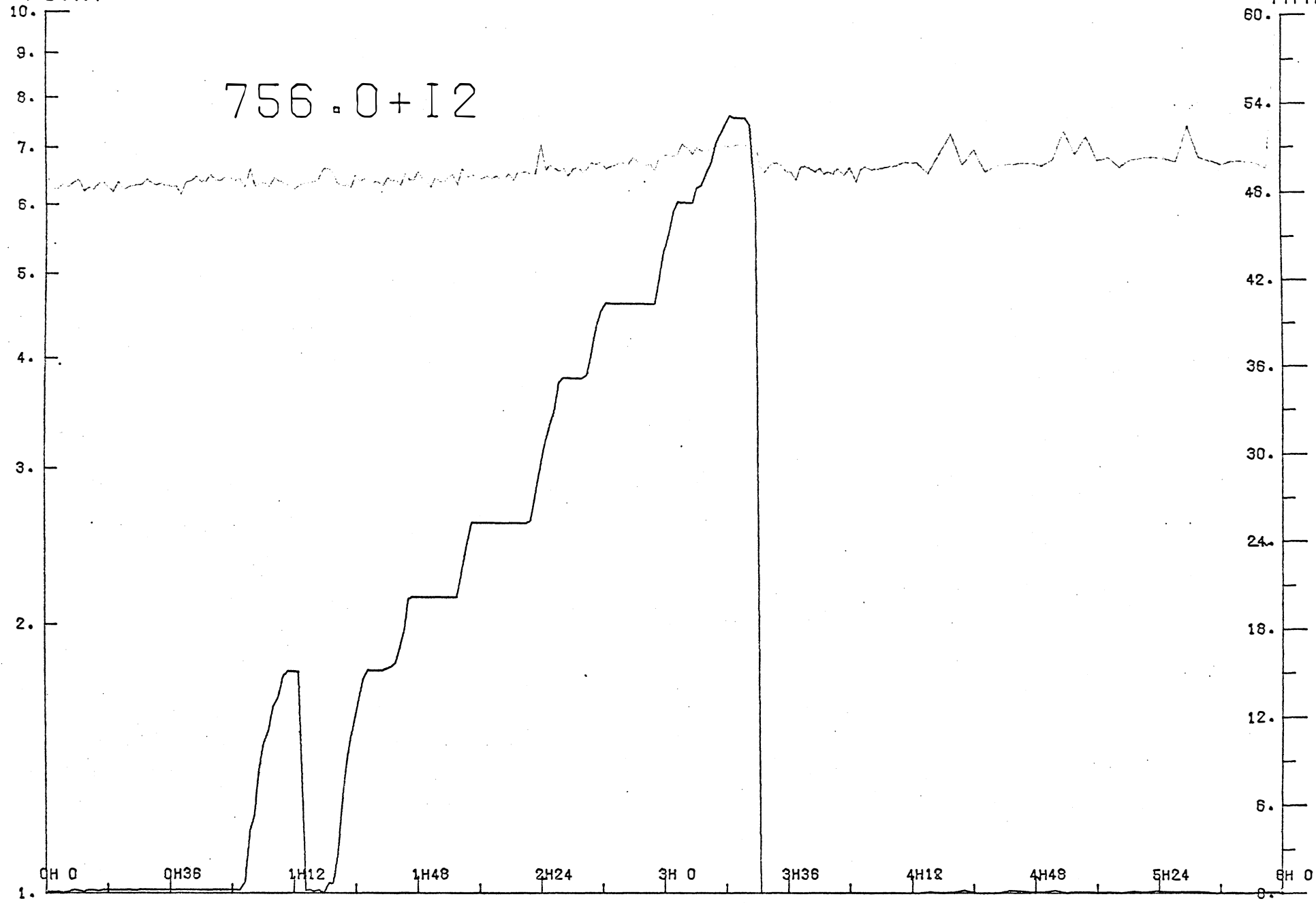


Figure 6

EE
CL

PICO-TORR

AMPERE

100.
60.
50.
40.
30.
20.
10.
6.
5.
4.
3.
2.
1.

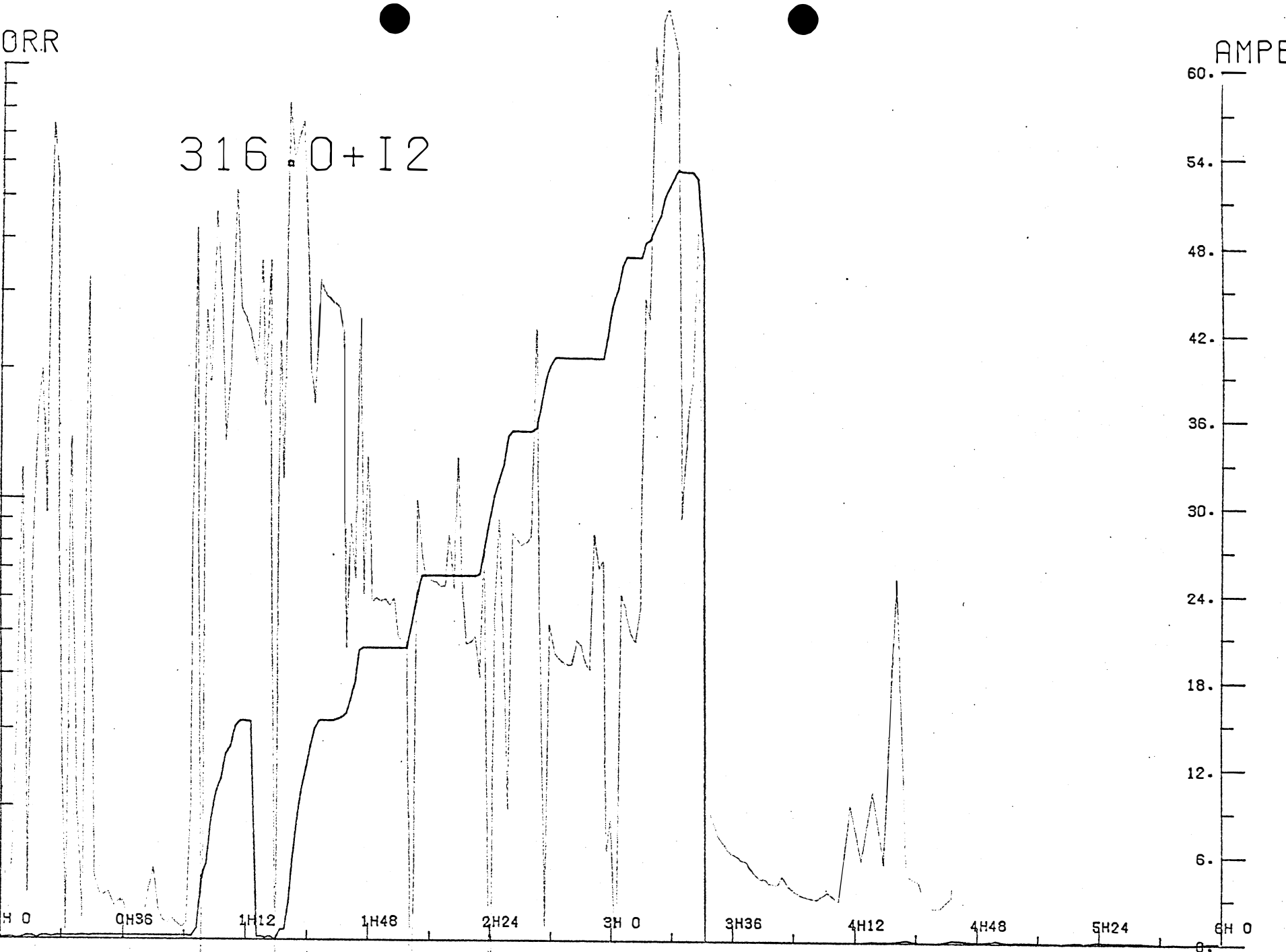
60.
54.
48.
42.
36.
30.
24.
18.
12.
6.
0.

316 0+I2

0H 0 0H36 1H12 1H48 2H24 3H 0 3H36 4H12 4H48 5H24 6H 0

T
C
E

Figure 7



PICO-TORR

AMPERE

524.0+I2

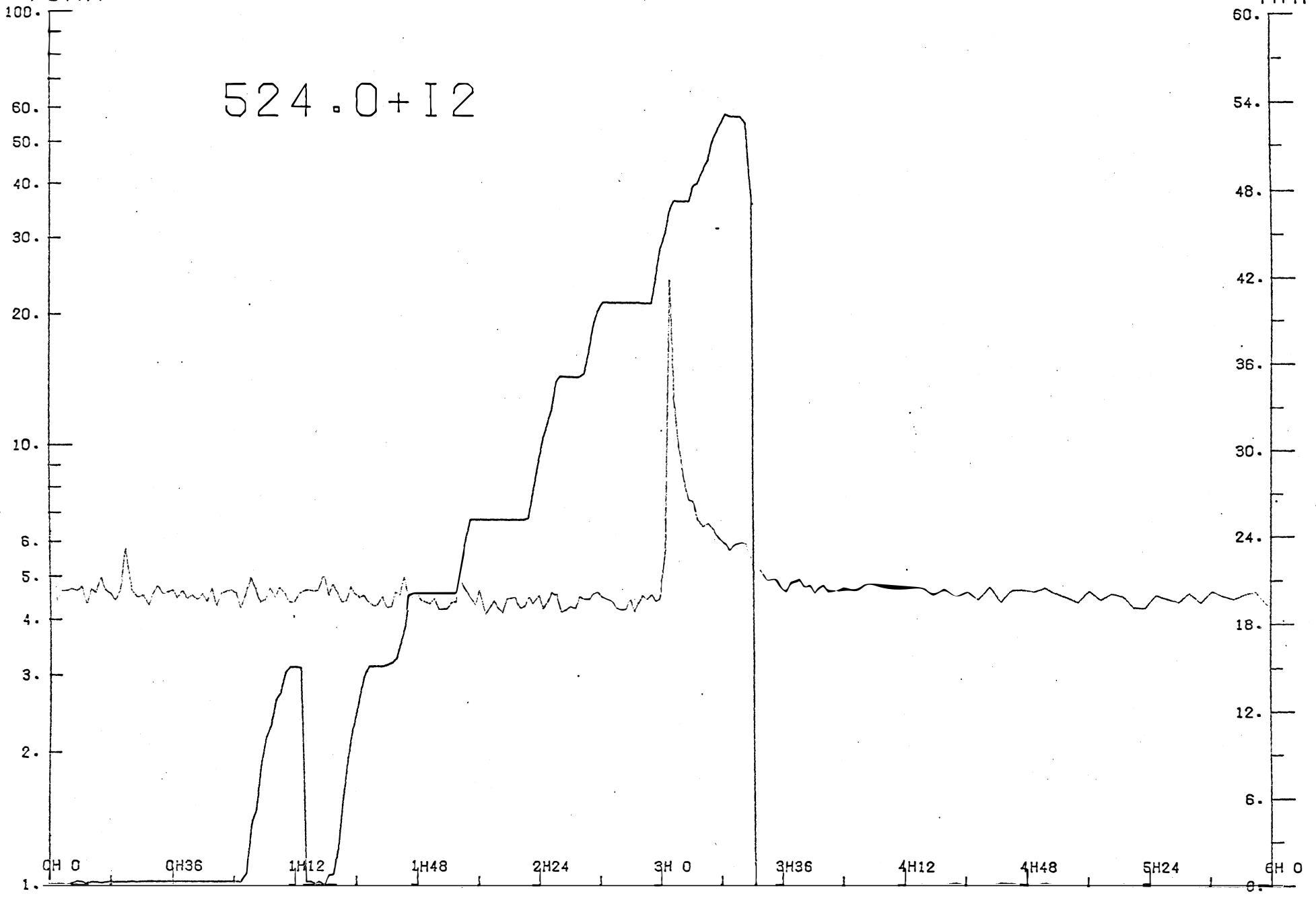


Figure 8

FF
FF

PICO-TORR

AMPERE

552.0+I2

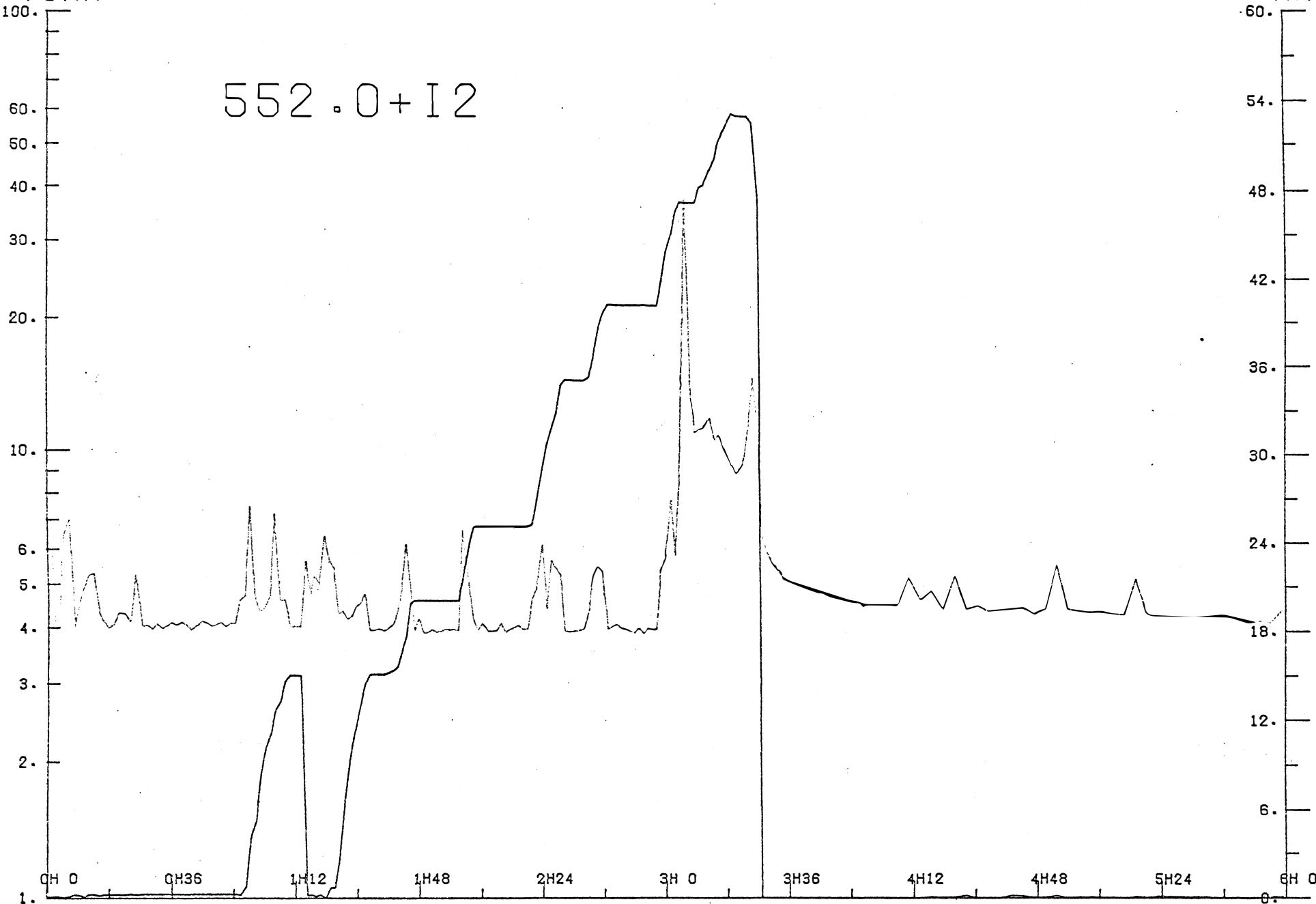


Figure 9

OFF
LCL