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National Laboratory

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RHIC Injection and Beam Dump Schemes

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April 1987

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U.S. Department of Energy

USDOE Office of Science (SC)

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RHIC Injection and Beam Dump Schemes

J. Claus

BNL

April 22, 1987

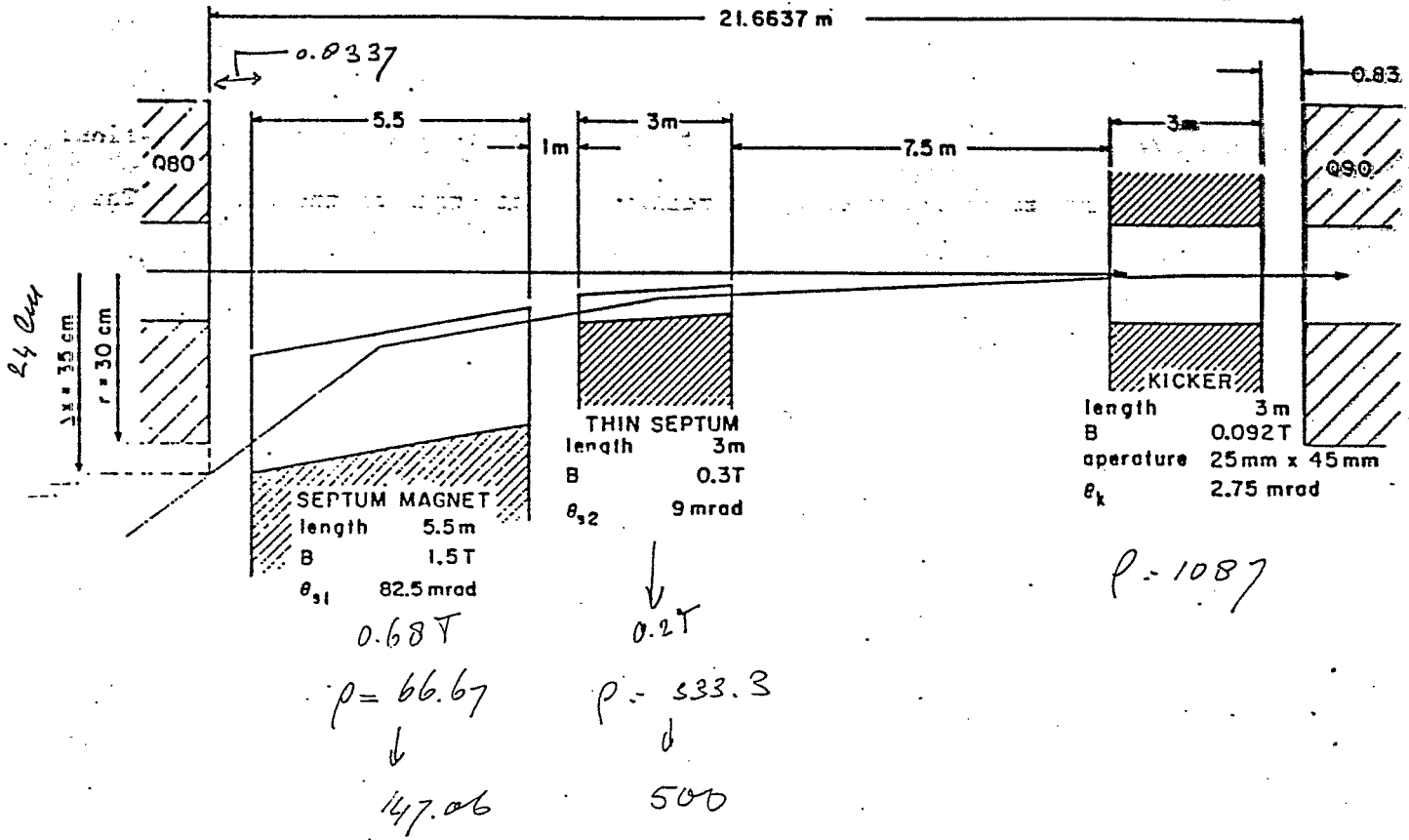
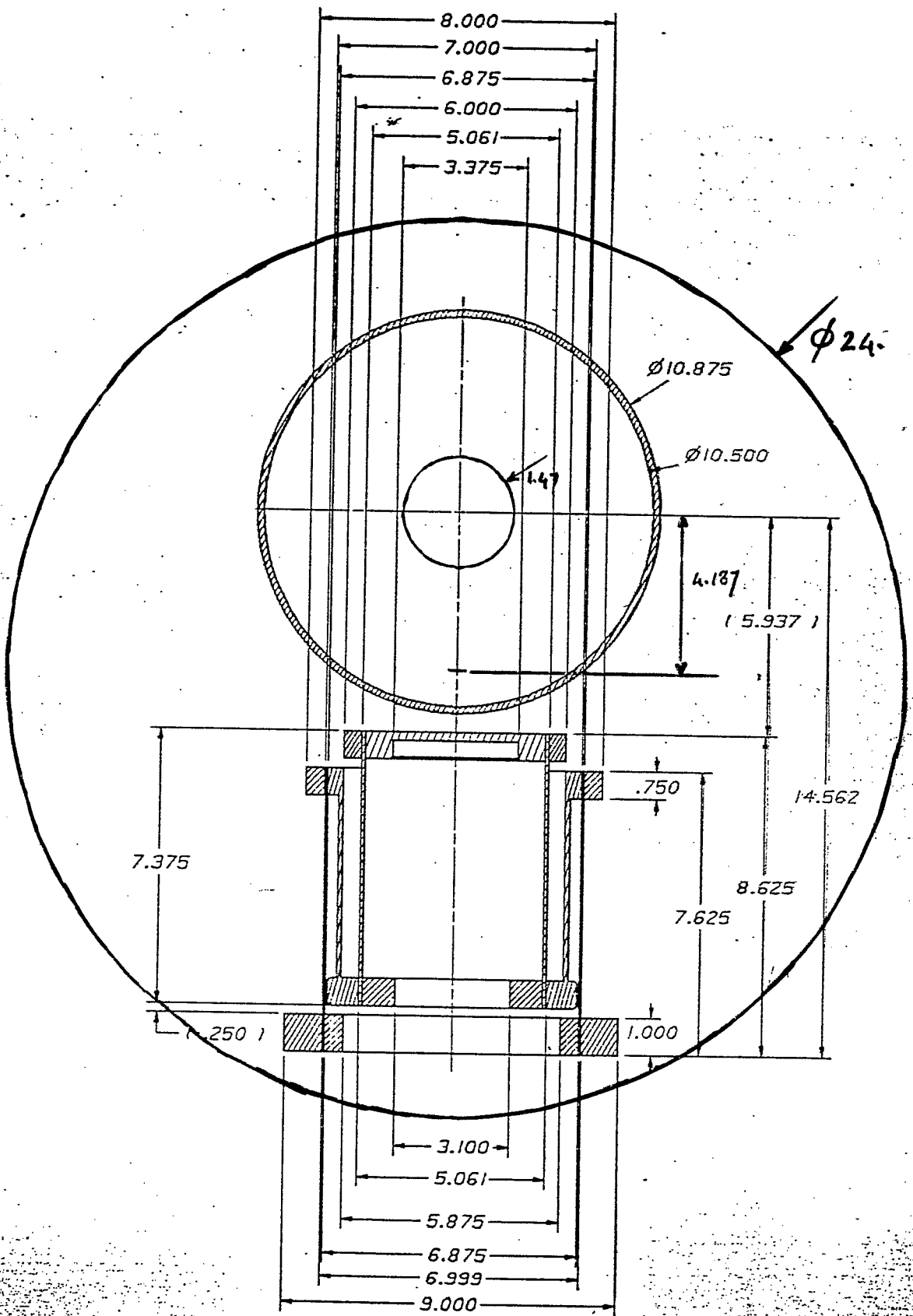
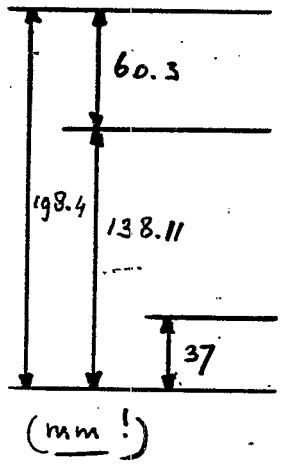


Figure 1. Injection component layout.



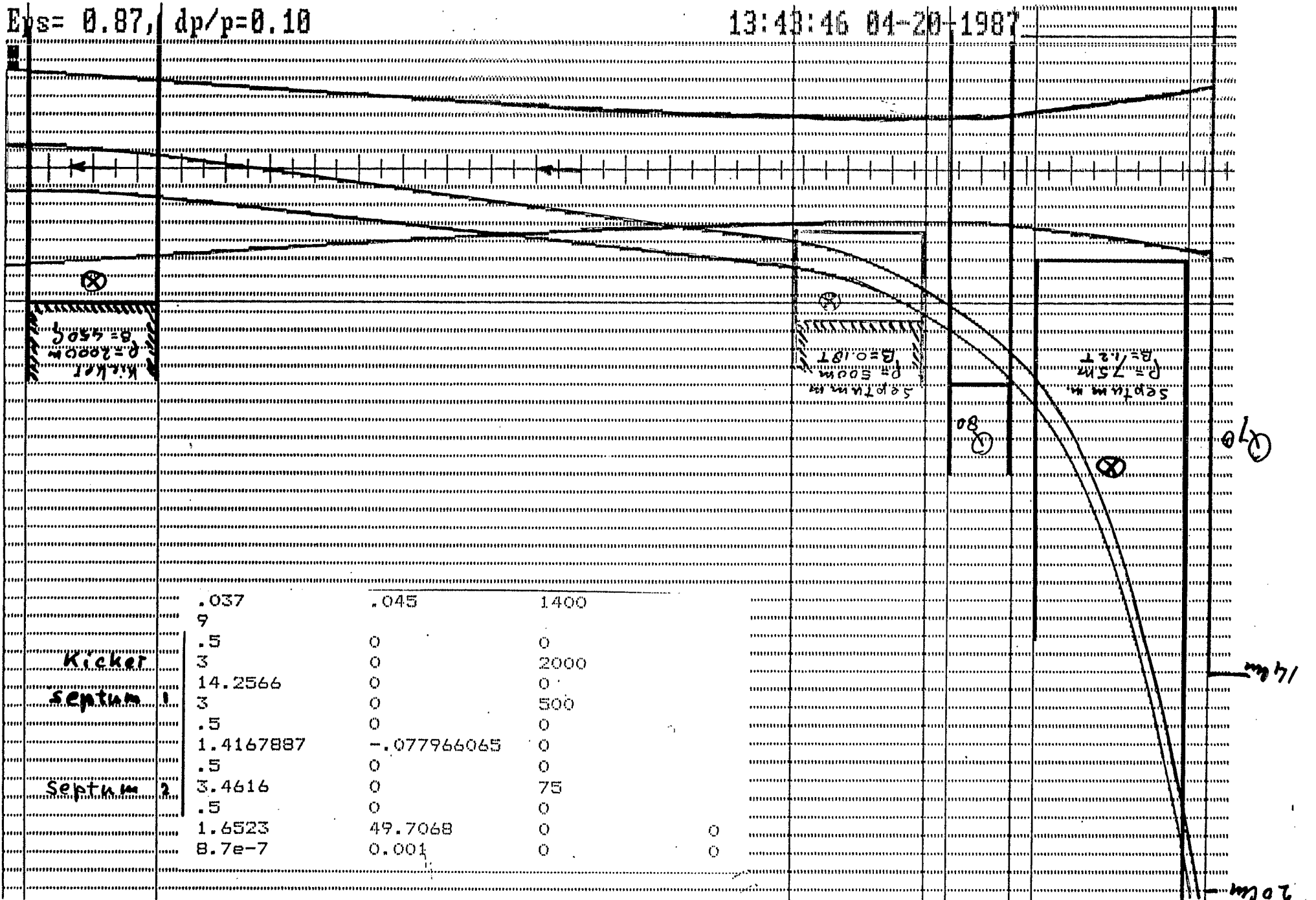
LOW.

RHIC CRY
DATE 2-20-87

R. MEIER

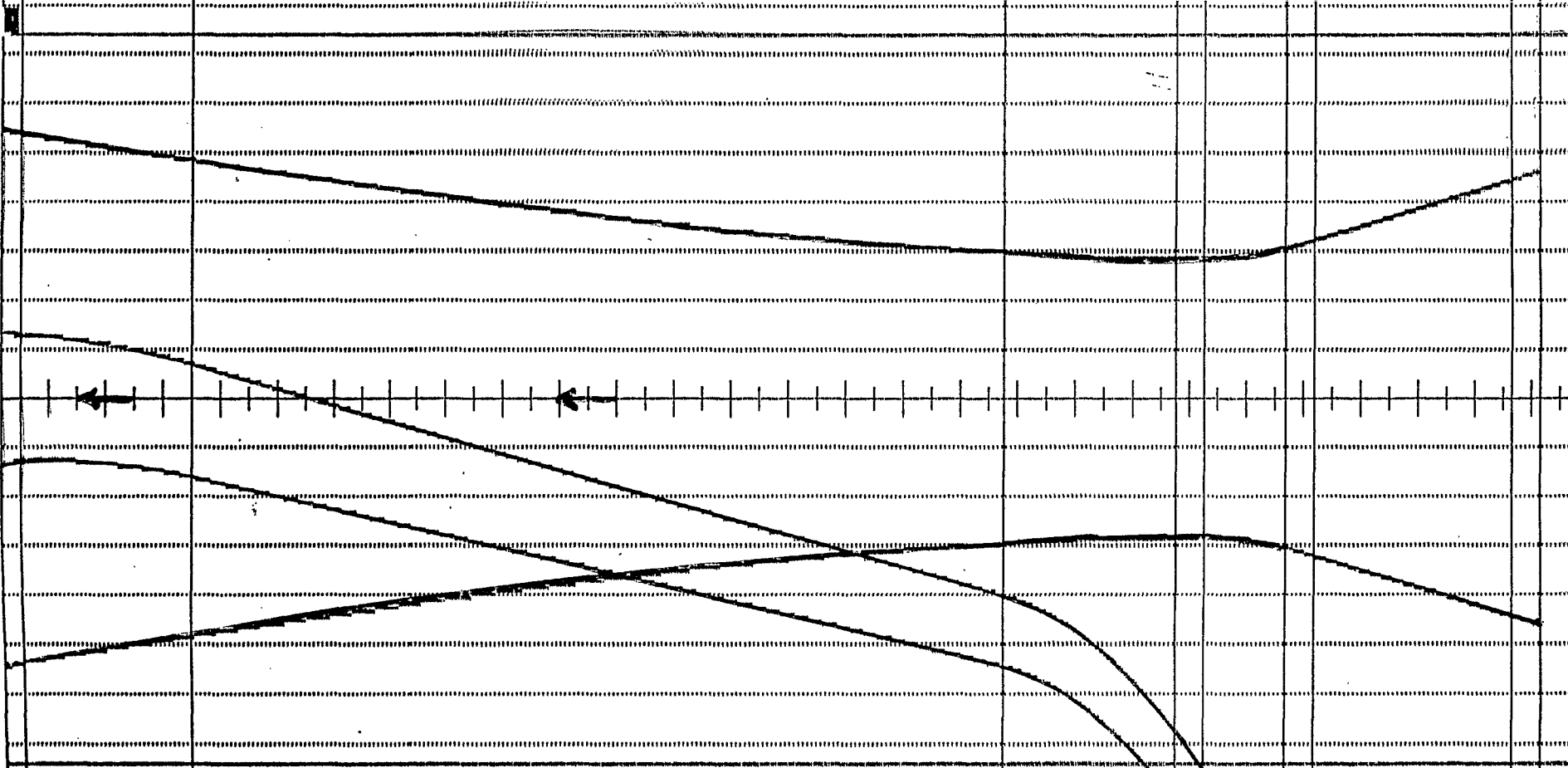
$E_{ps} = 0.87, dp/p = 0.10$

13:48:46 04-20-1987



$\epsilon_p = 0.87, dp/p = 0.10$

14:00:05 04-20-1987



Kicker
 $\rho = 2.500m$
 $B = 450g$

3m

.037	.045	3000
9	0	0
.5	0	0
3	0	2000
14.2566	0	0
3	0	500
.5	0	0
1.4167887	-.077966065	0
.5	0	0
3.4616	0	75
.5	0	0
1.6523	49.7068	0
$8.7e-7$	0.001	0

Septum m1
 $\rho = 500m$
 $B = 0.187$

3m

Septum m2
 $\rho = 75m$
 $B = 1.27$

3.462m

Q70

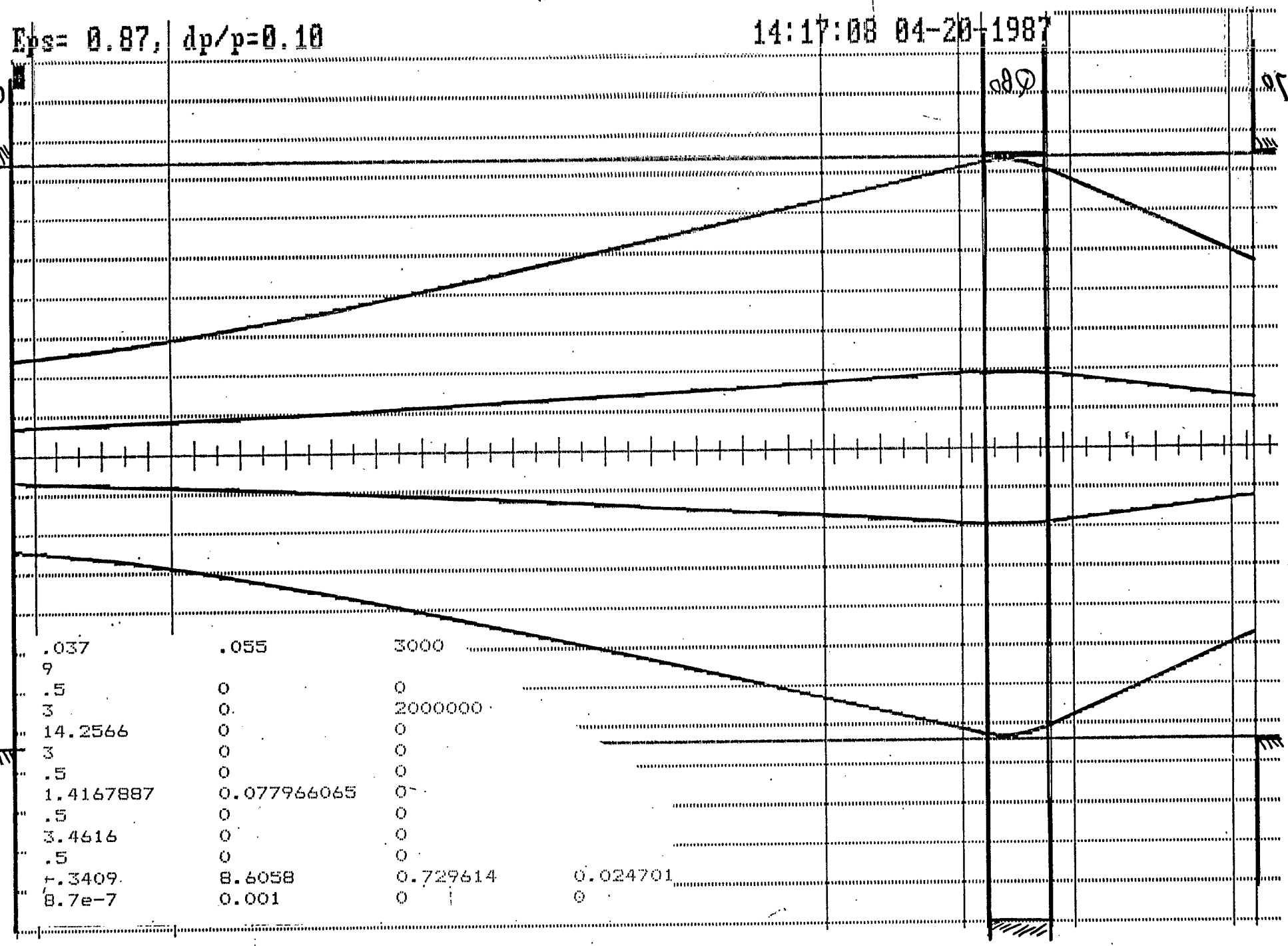
Q80

$\epsilon = 0.87, dp/p = 0.10$

14:17:08 04-20-1987

080

090



.037	.055	3000		
9				
.5	0	0		
3	0	2000000		
14.2566	0	0		
3	0	0		
.5	0	0		
1.4167887	0.077966065	0		
.5	0	0		
3.4616	0	0		
.5	0	0		
r.3409	8.6058	0.729614	0.024701	
8.7e-7	0.001	0	0	

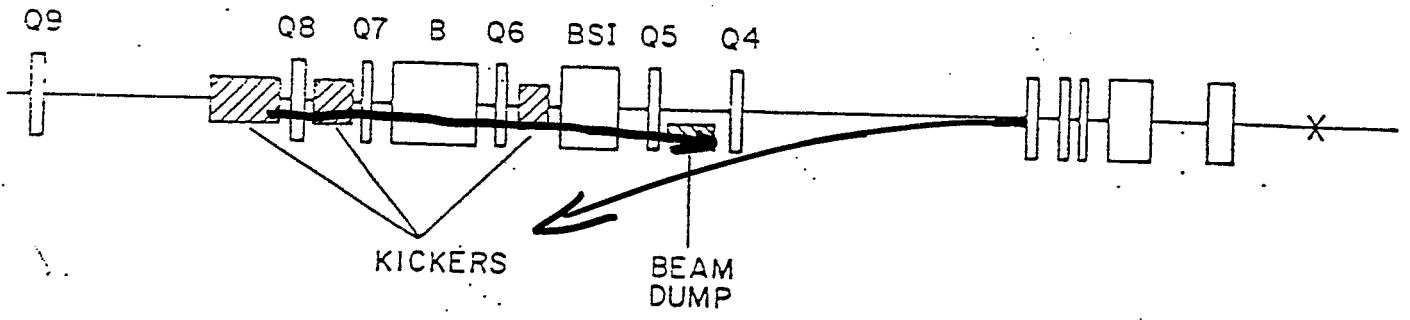
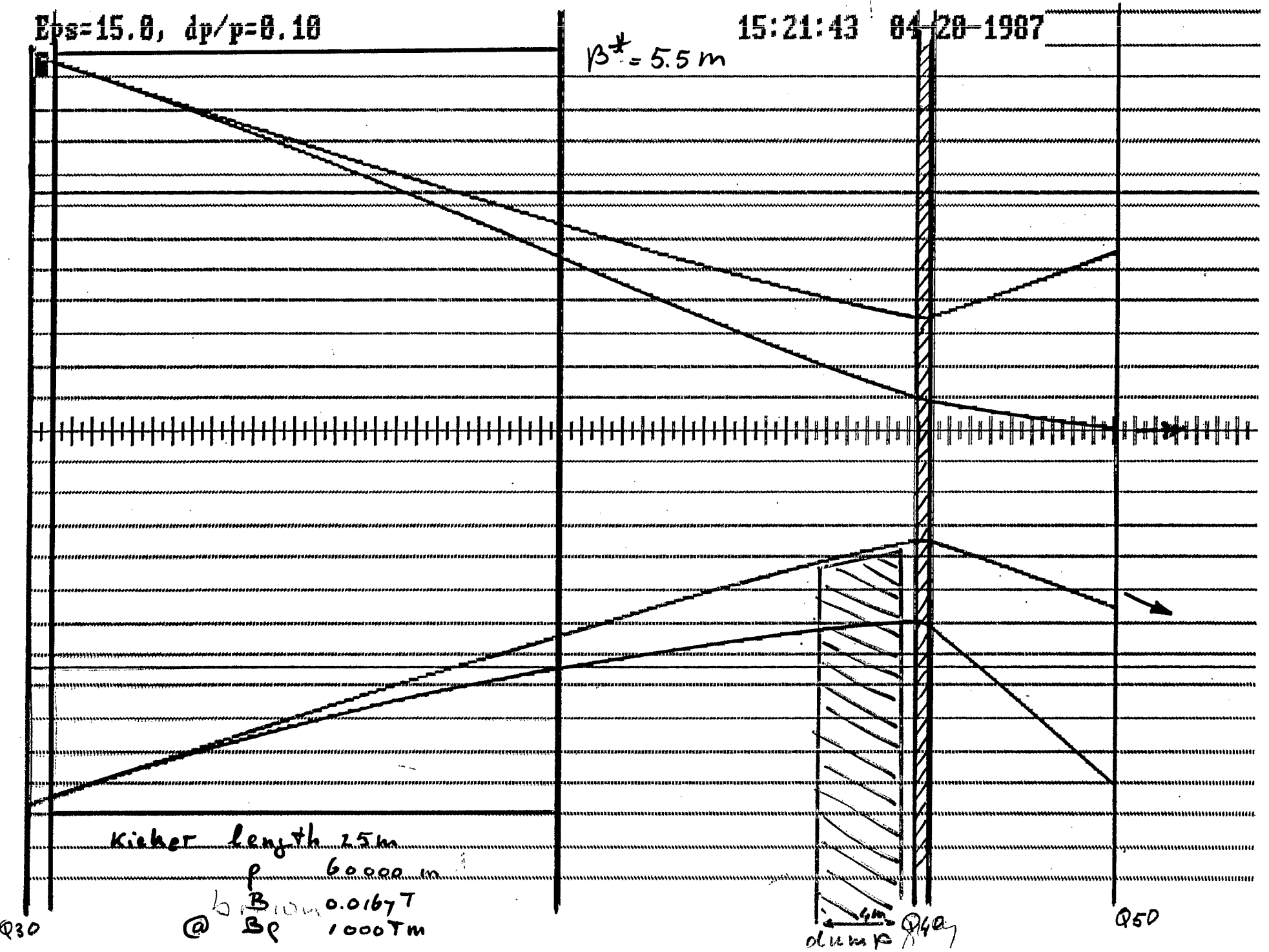


Figure 2.

$E_{ps}=15.0, dp/p=0.10$

15:21:43 04-20-1987

$\beta^* = 5.5 m$



Kicker length 2.5m

$p = 60.000 m$
@ $B_{10m} = 0.0167 T$
 $B_p = 1000 Tm$

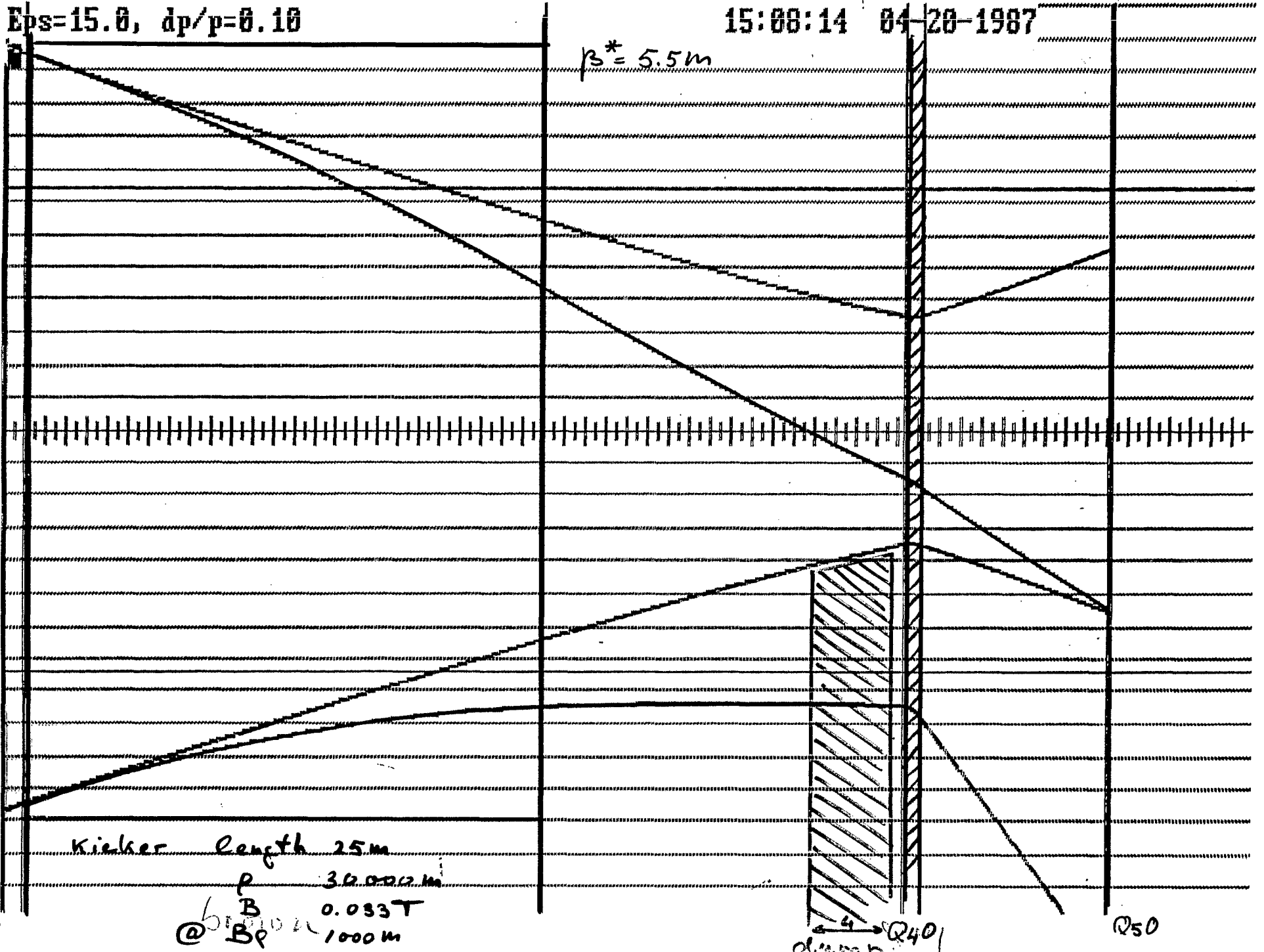
4m
Q40

Q50

Eps=15.0, dp/p=0.10

15:08:14 04-20-1987

$\beta^* = 5.5m$



Kicker length 25m

p 30.000m
B 0.053T
BR 1000m
@ 5000m

4 → Q40
diameter

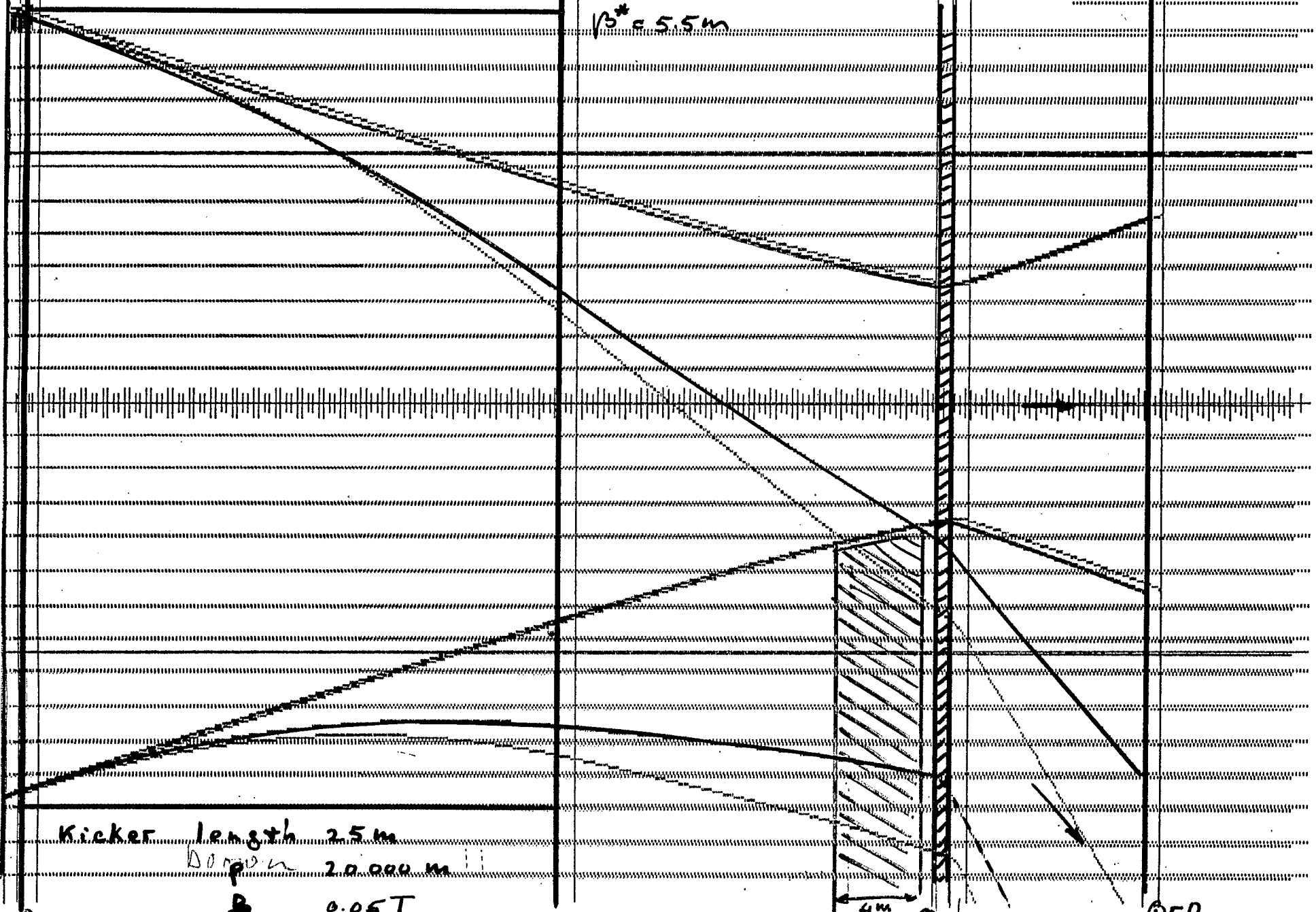
Q50

30

EPs=15500, dpp/p00100

154051375 00420019807

$\beta^* = 5.5m$



Kicker length 2.5m

Down 2.000m

β
@ Sp 0.05T
1000Tm

4m
dump Q40

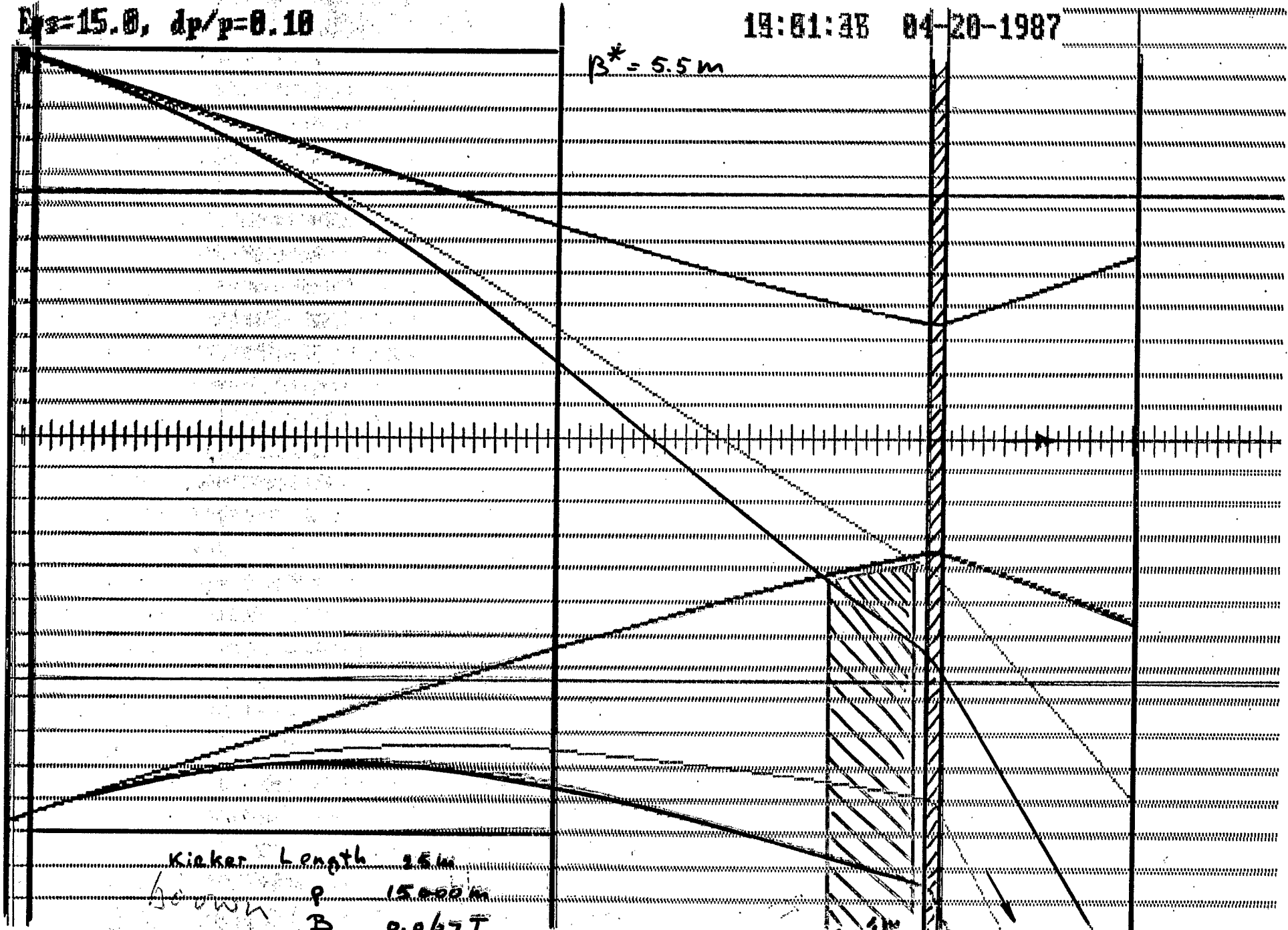
Q50

Q30

$E_s = 15.0$, $d_p/p = 0.10$

19:01:38 04-20-1987

$\beta^* = 5.5m$



Kicker Length 2.5m
shown p 15000m
B 0.067T
@ $B_p = 1000 Tm$

1m
damp @ 40°

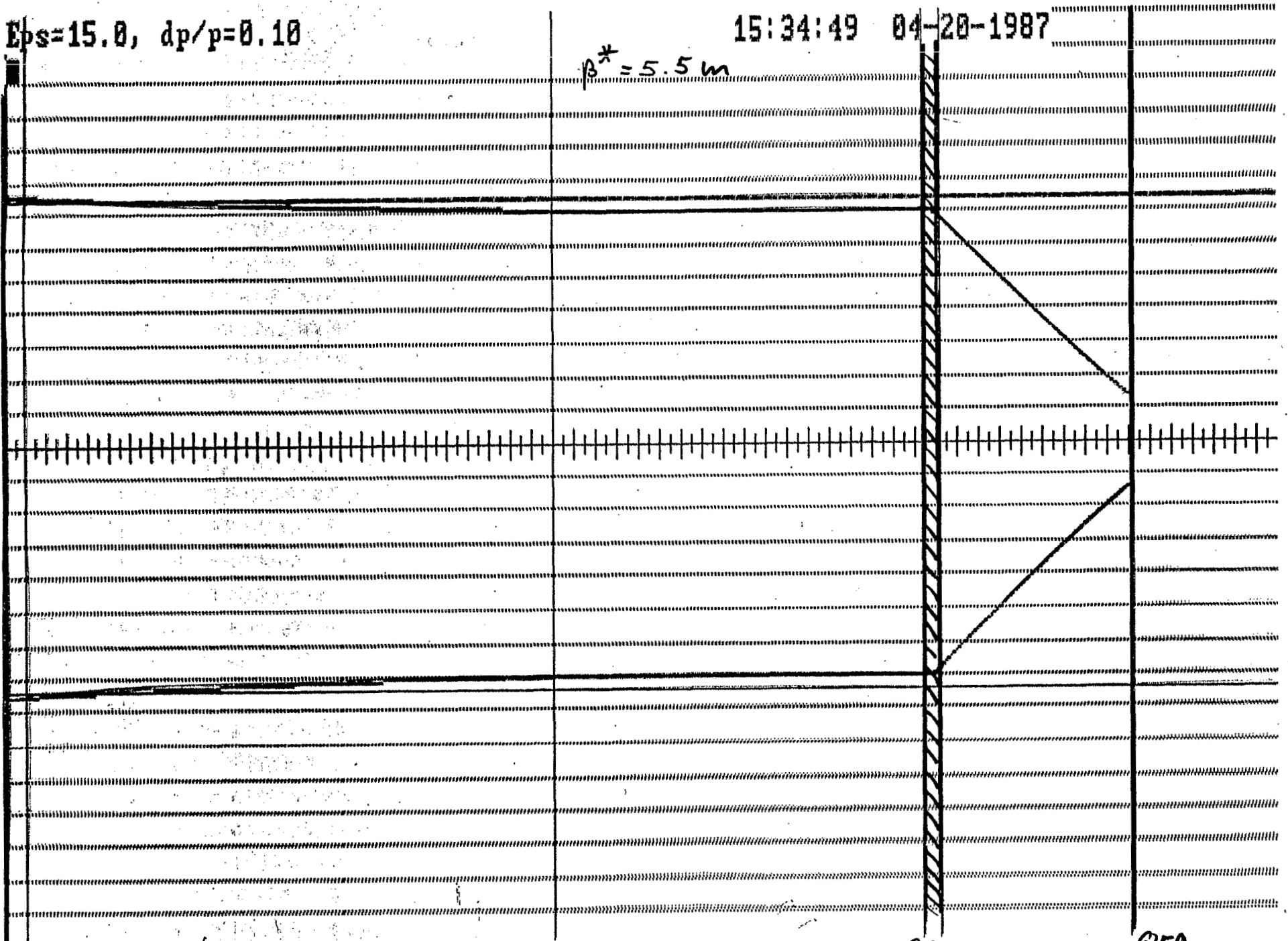
Q50

R30

Eps=15.0, dp/p=0.10

15:34:49 04-20-1987

$\beta^* = 5.5 \text{ m}$



30

brown

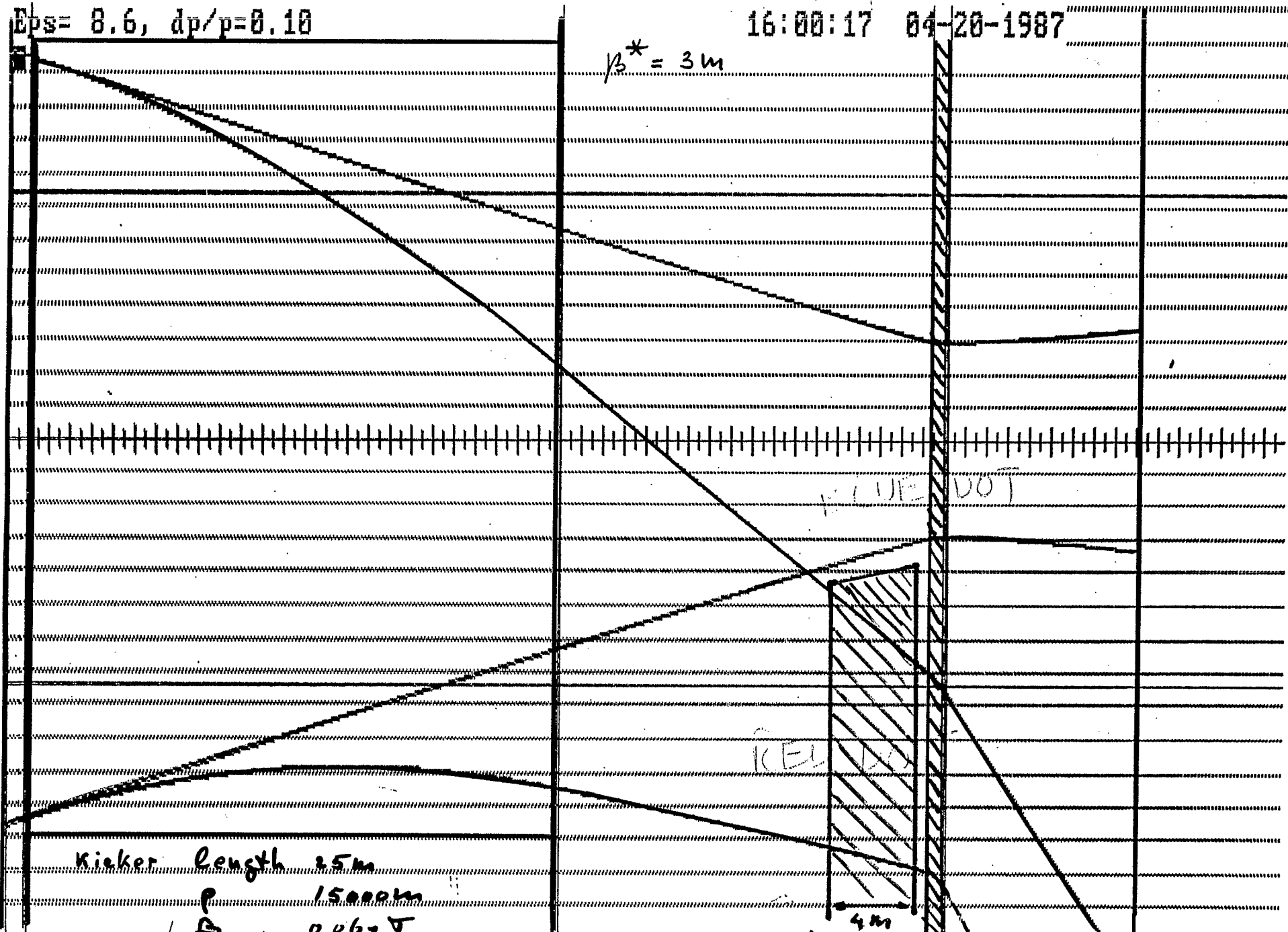
Q40

Q50

$E_p = 8.6$, $d_p/p = 0.10$

16:00:17 04-20-1987

$\beta^* = 3m$



kicker length 25m

ρ 15000m

β 0.067 V

© Sp 1000m

4m

dump (Q40)

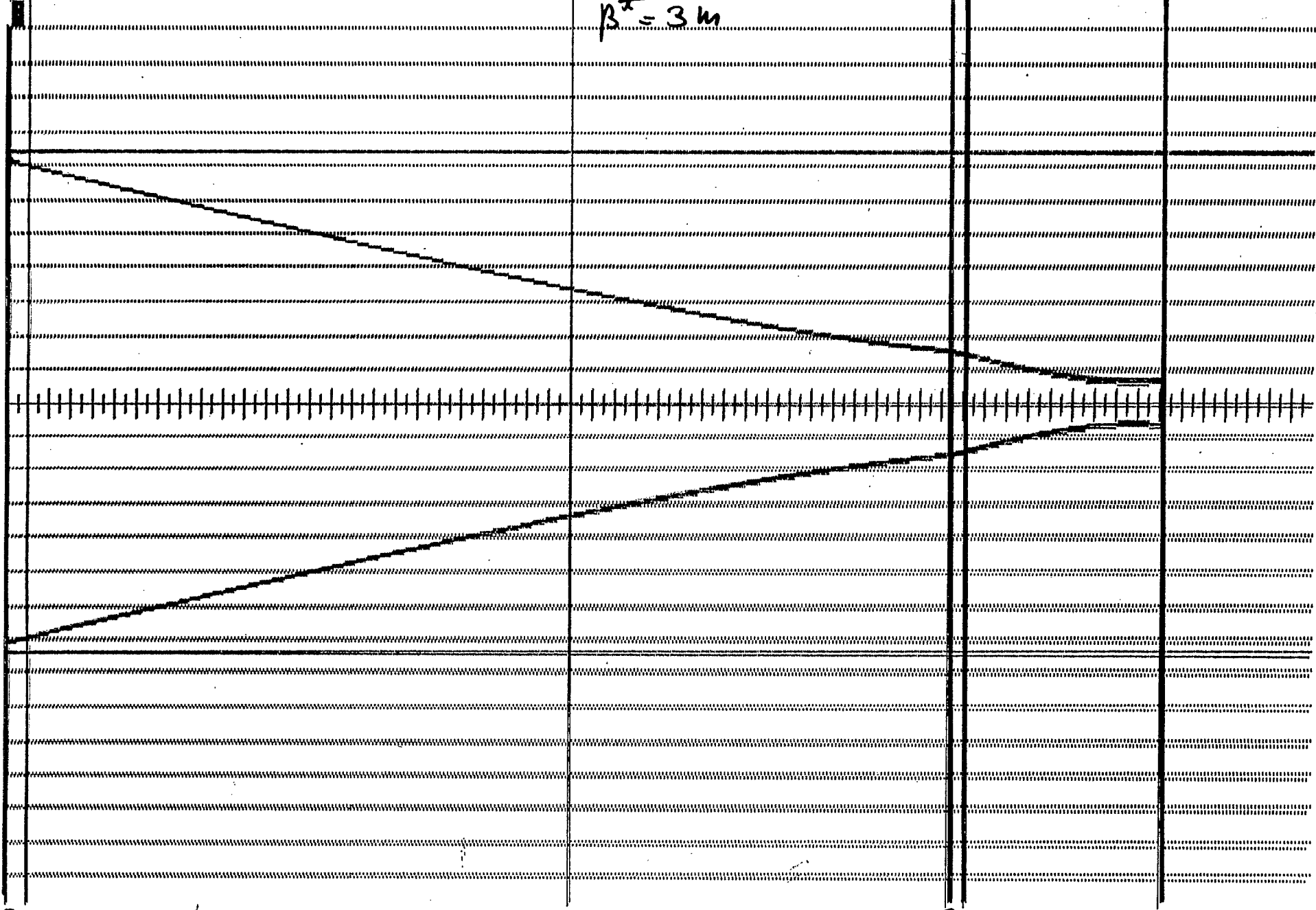
Q50

Q30

$\epsilon = 0.6, dp/p = 0.10$

15:49:41 04-20-1987

$\beta^* = 3m$

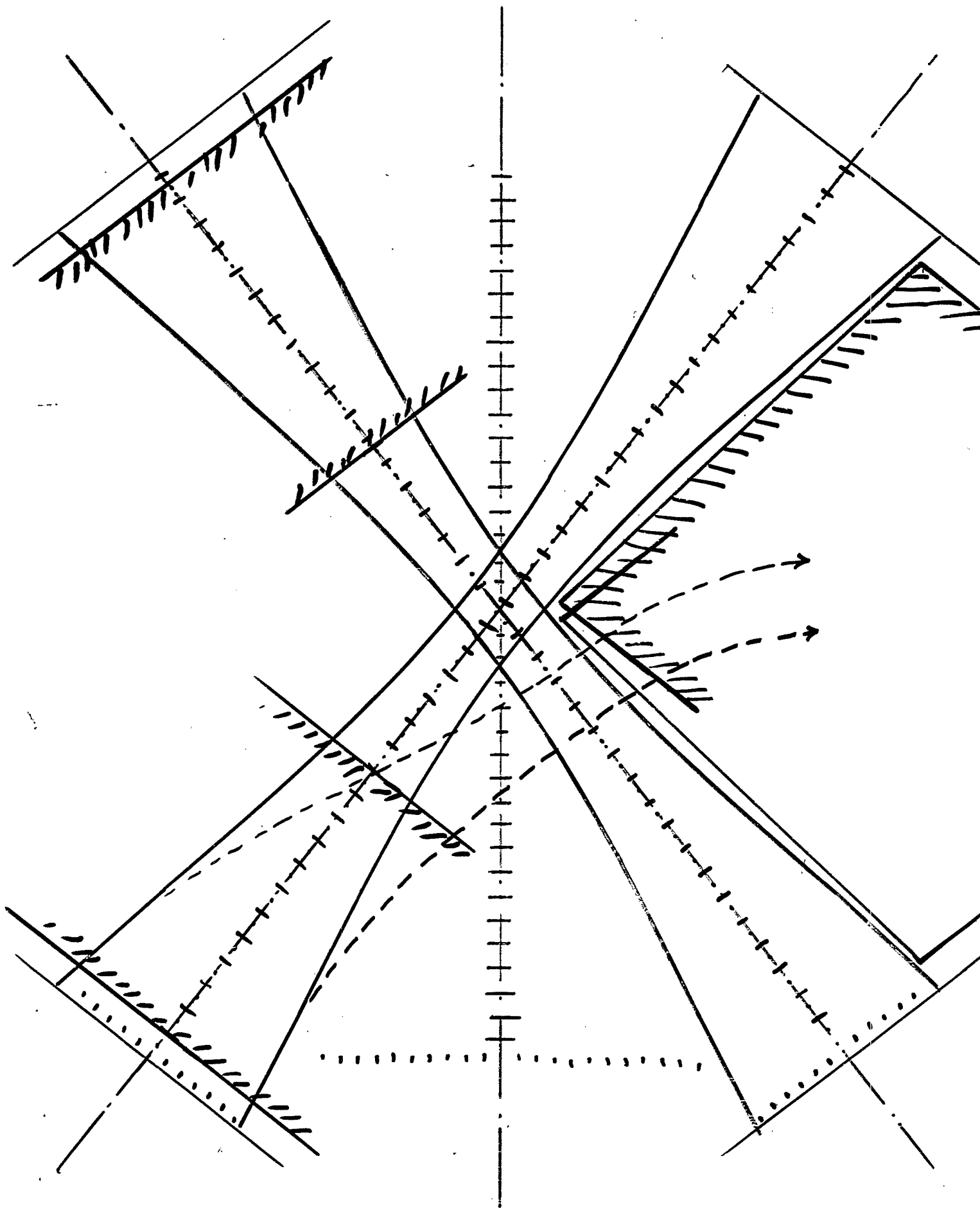


Q30

beam

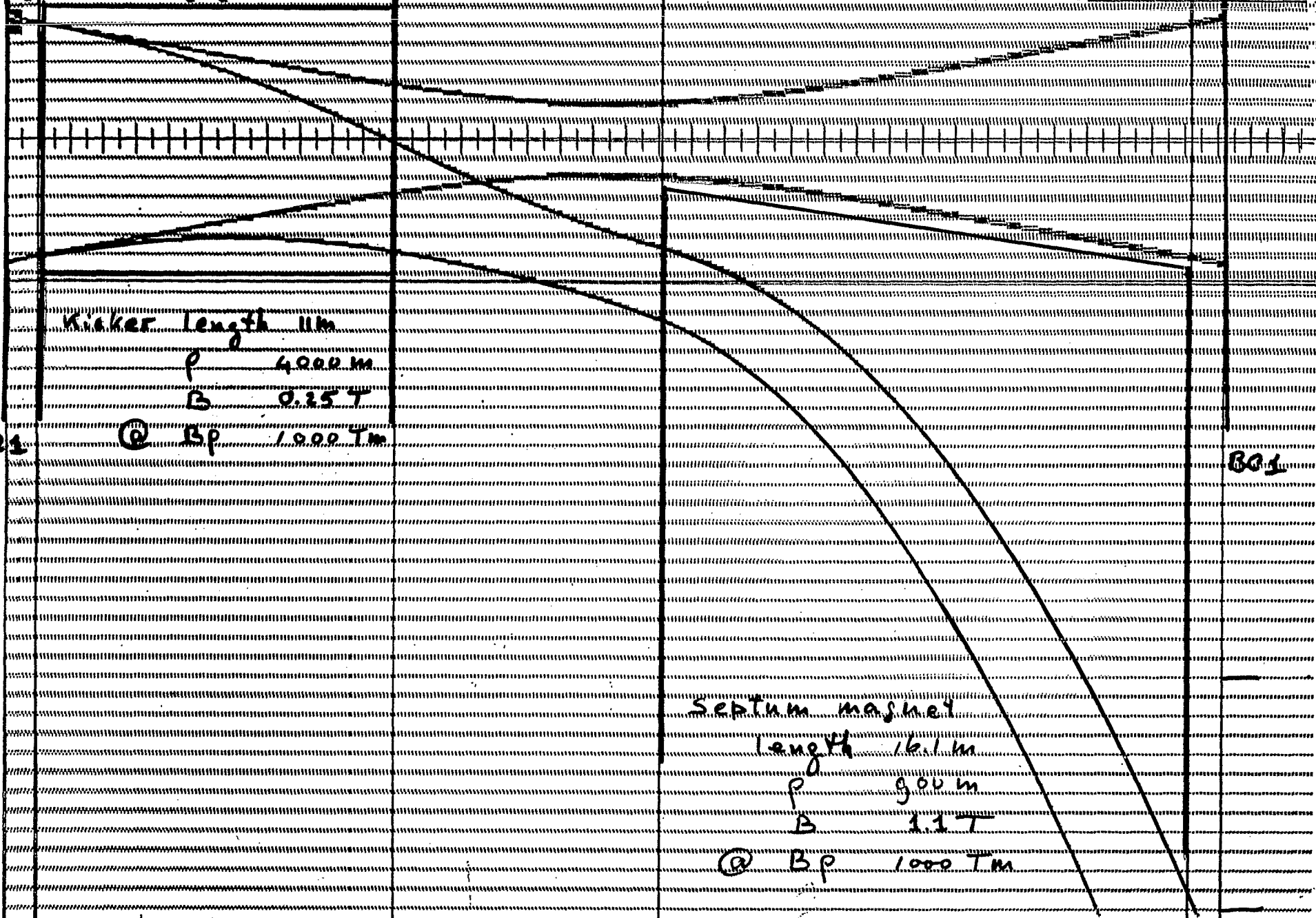
Q40

Q50



Eps=15.0, dp/p=0.10

16:41:26 04-20-1987



Kicker length 11m

p 4000 m

B 0.25 T

@ Bp 1000 Tm

BAL

14 cm

Septum magnet

length 16.1 m

p 900 m

B 1.1 T

@ Bp 1000 Tm

20 cm

boon

p 4000 m