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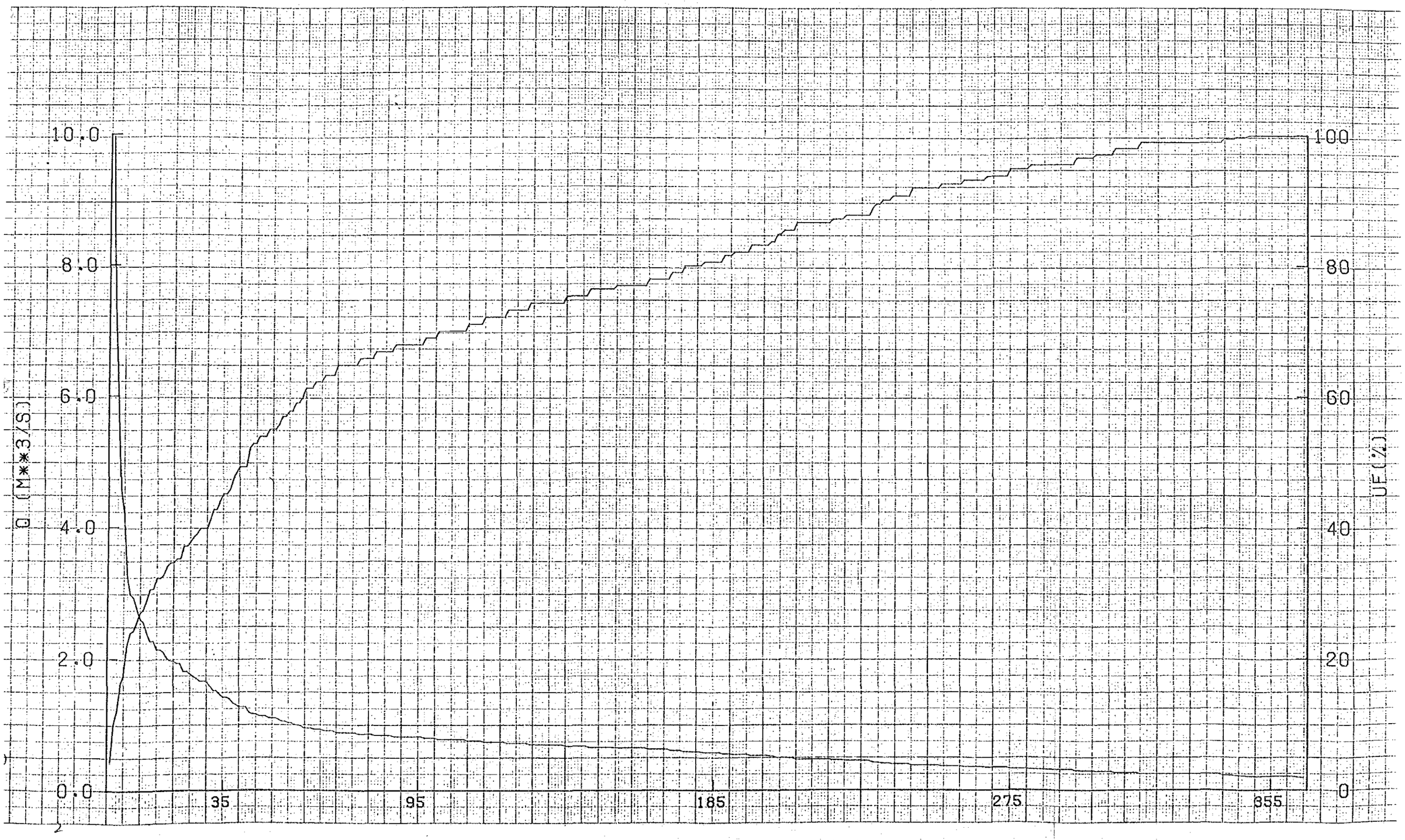

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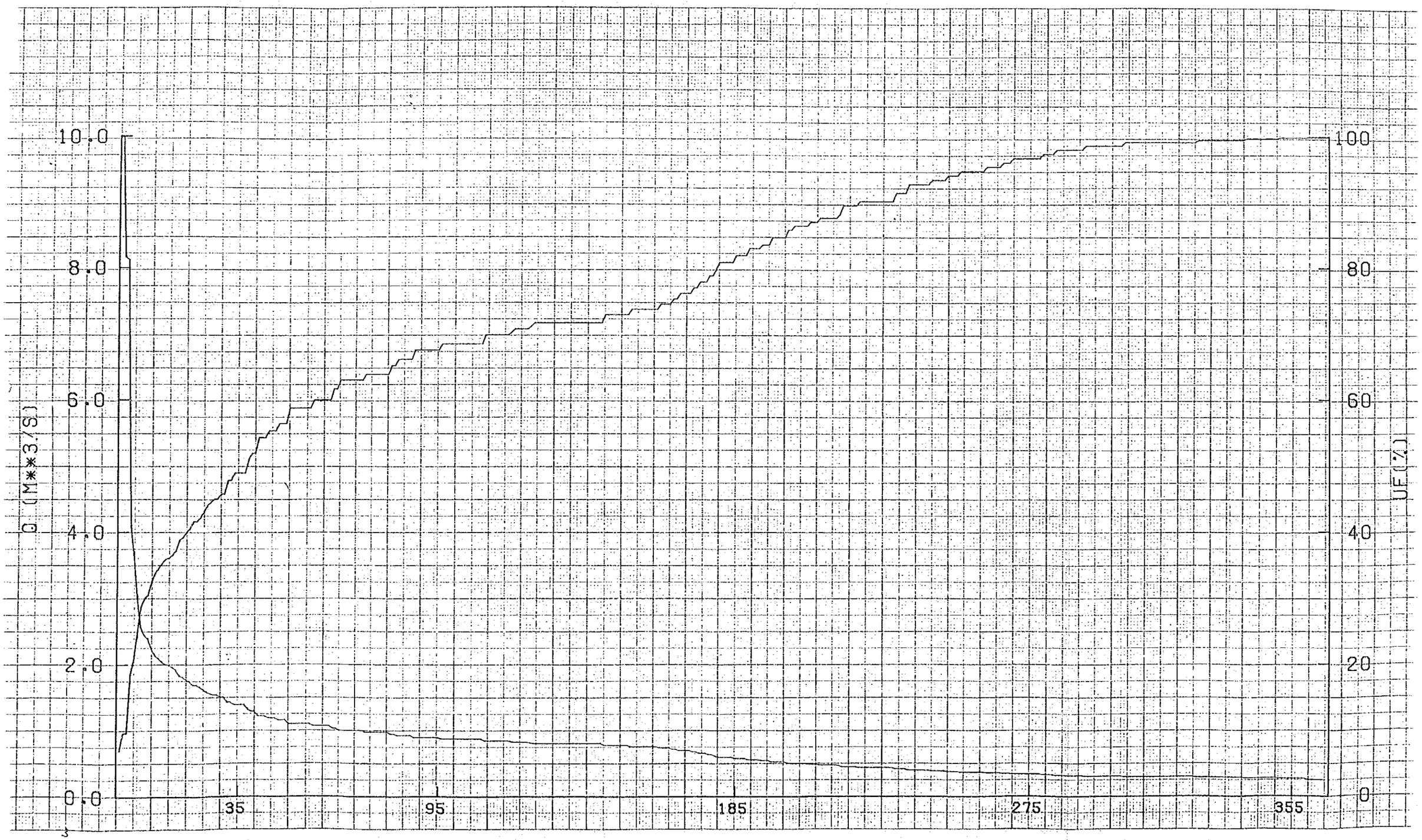

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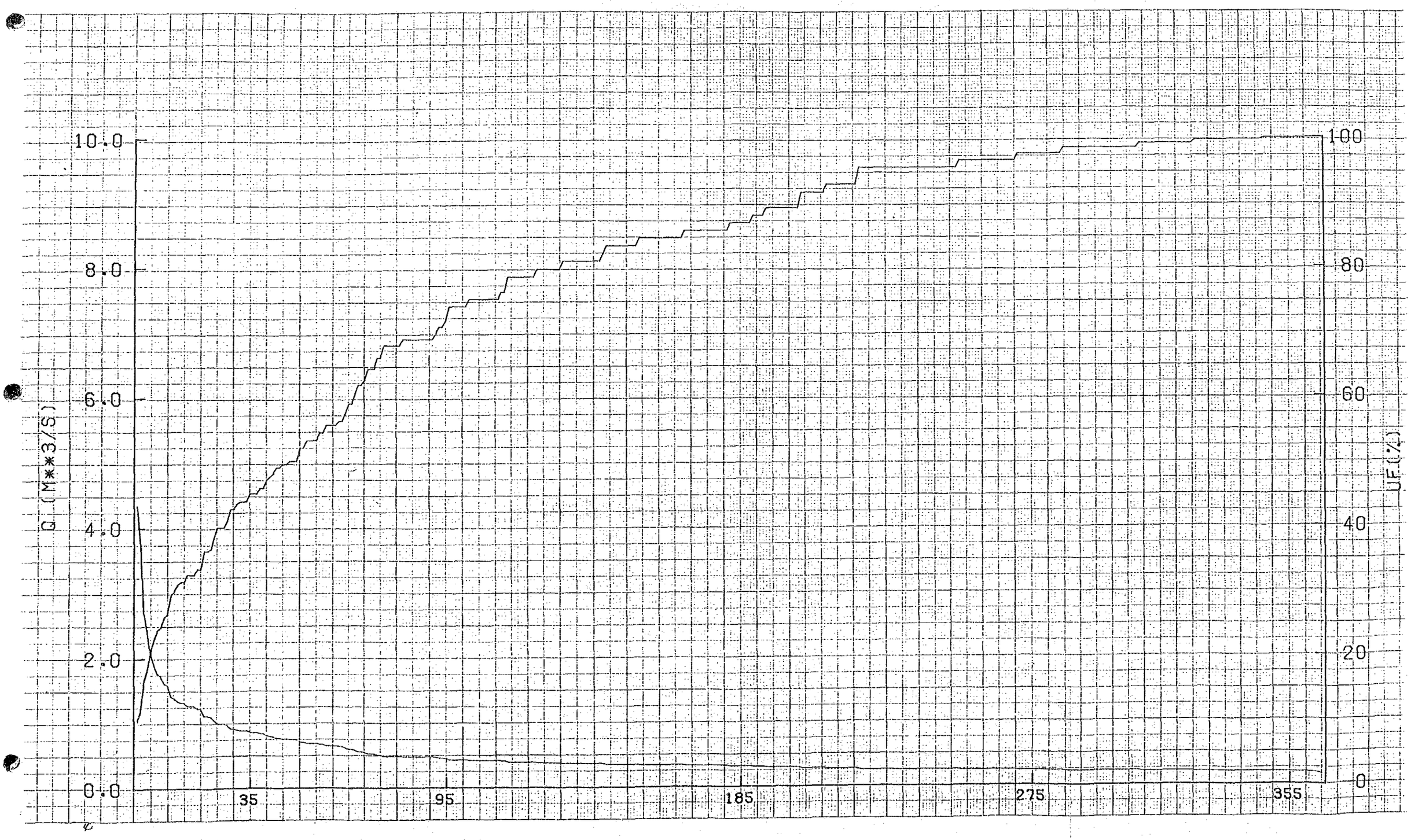

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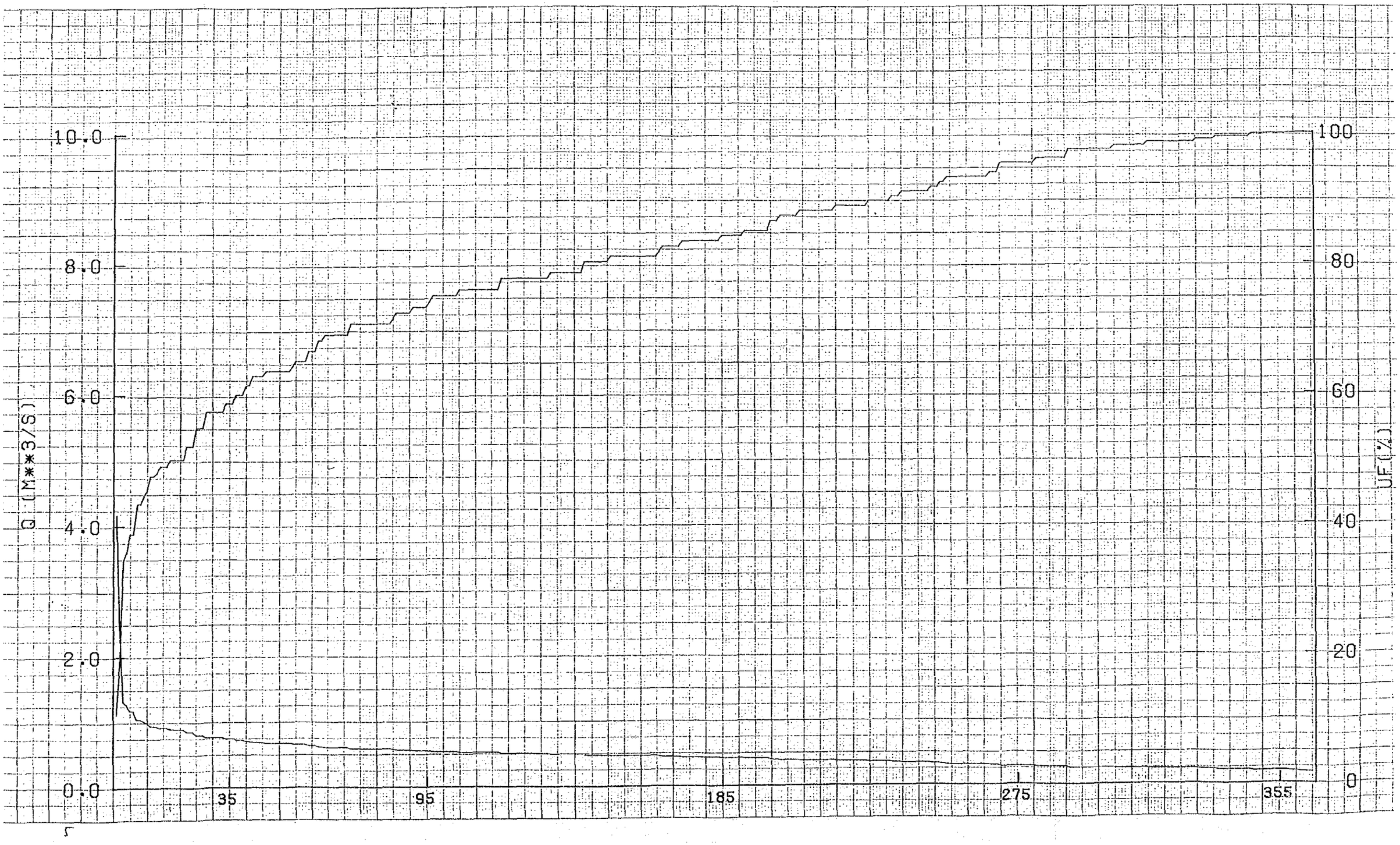

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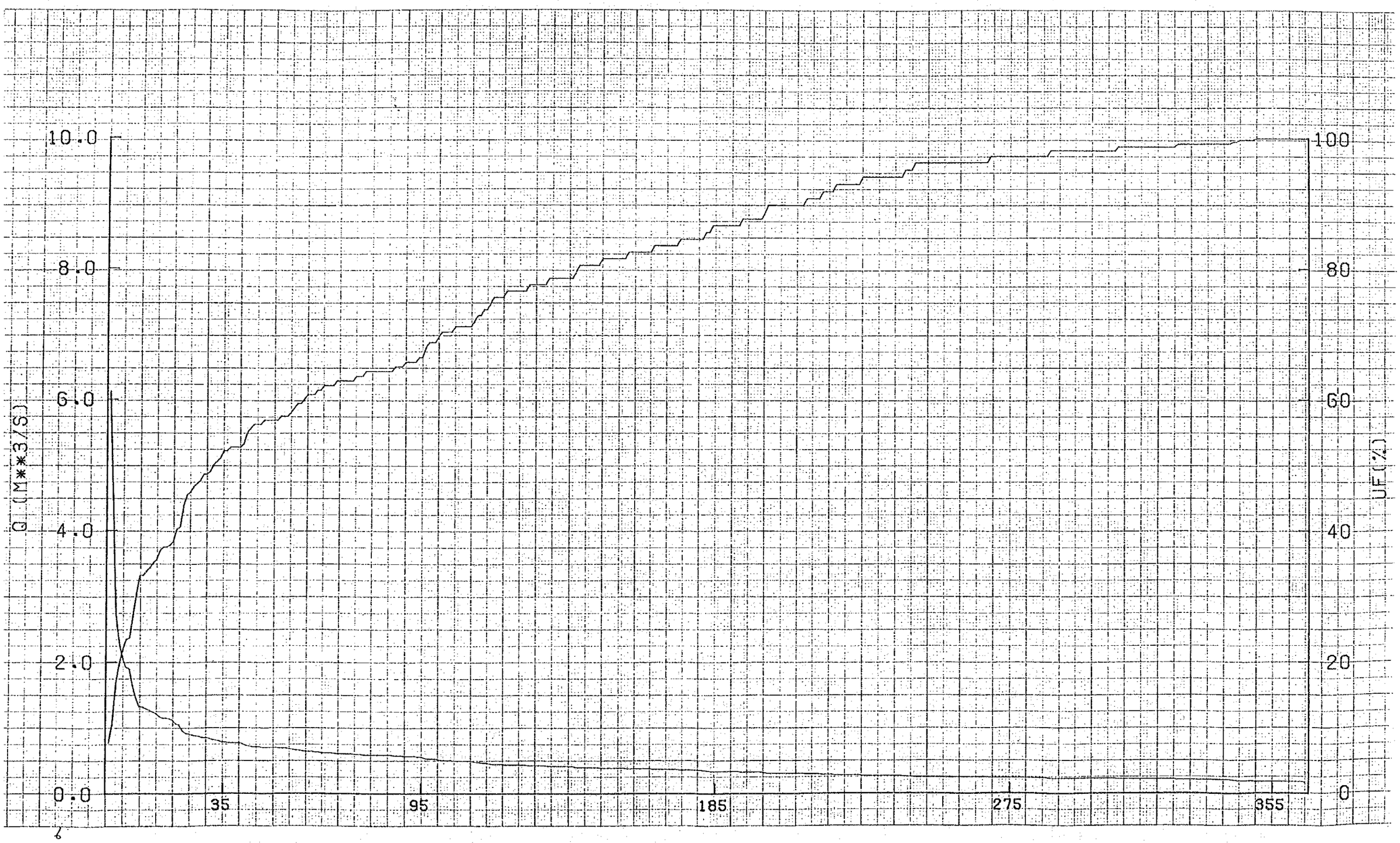

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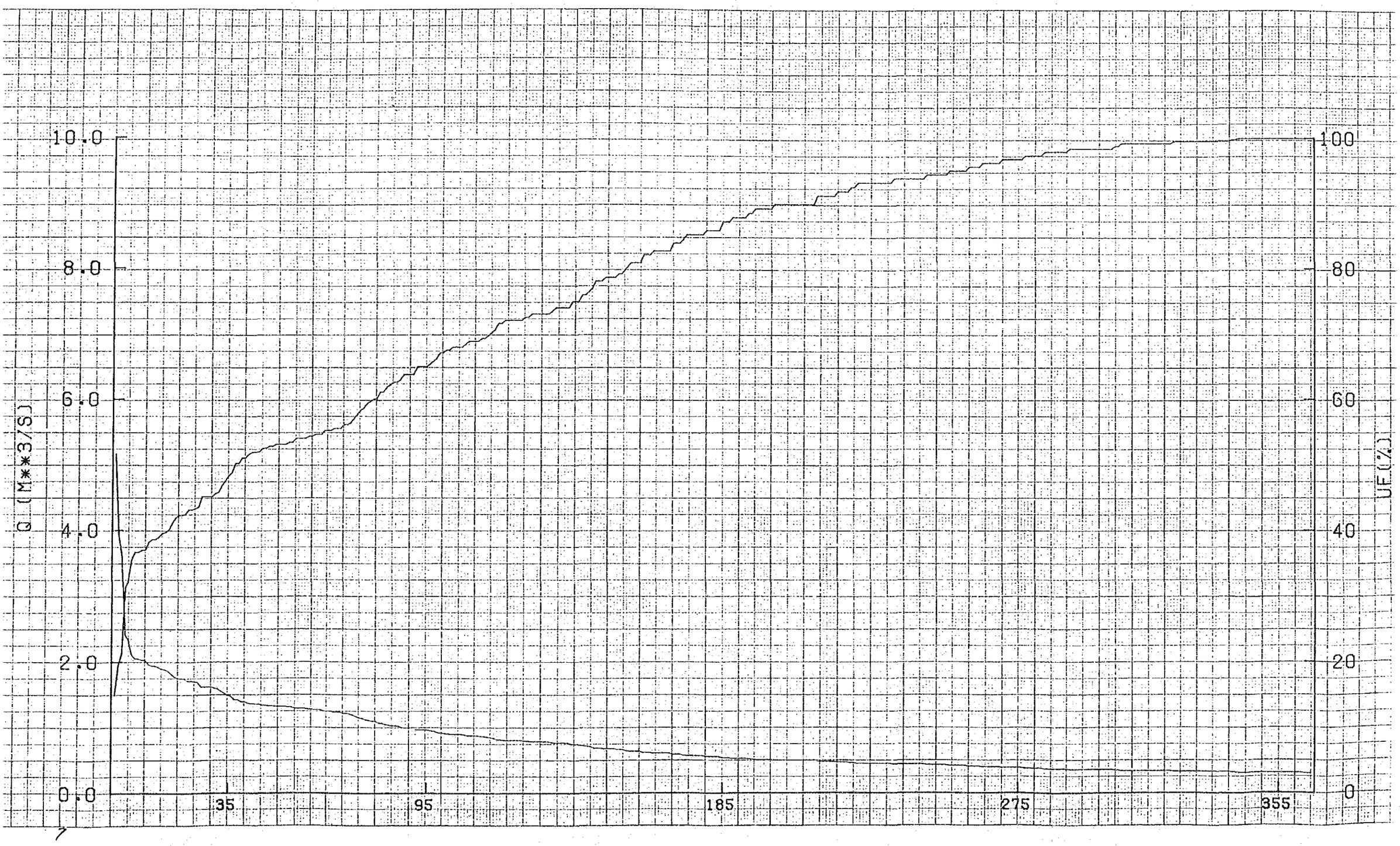

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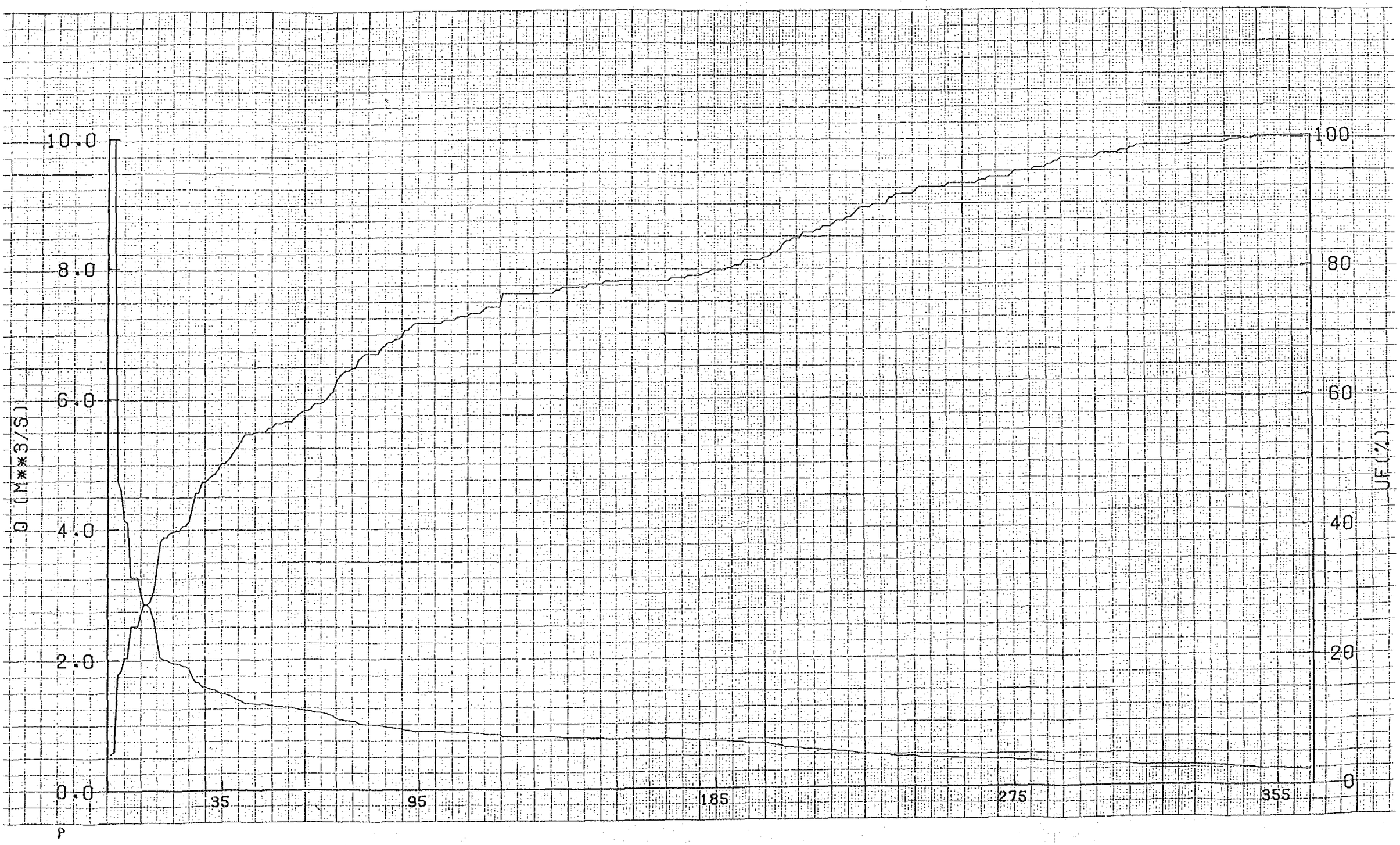

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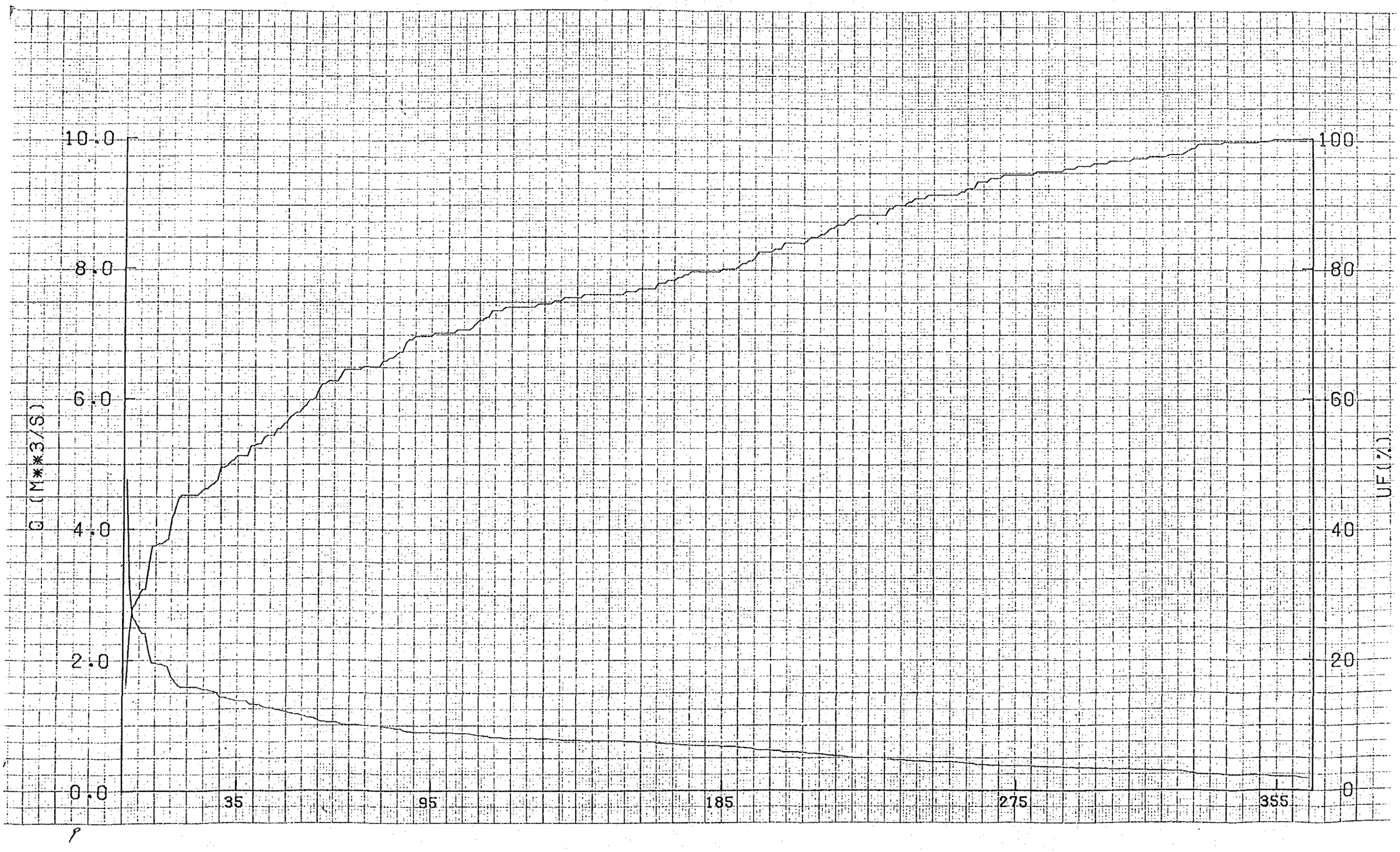
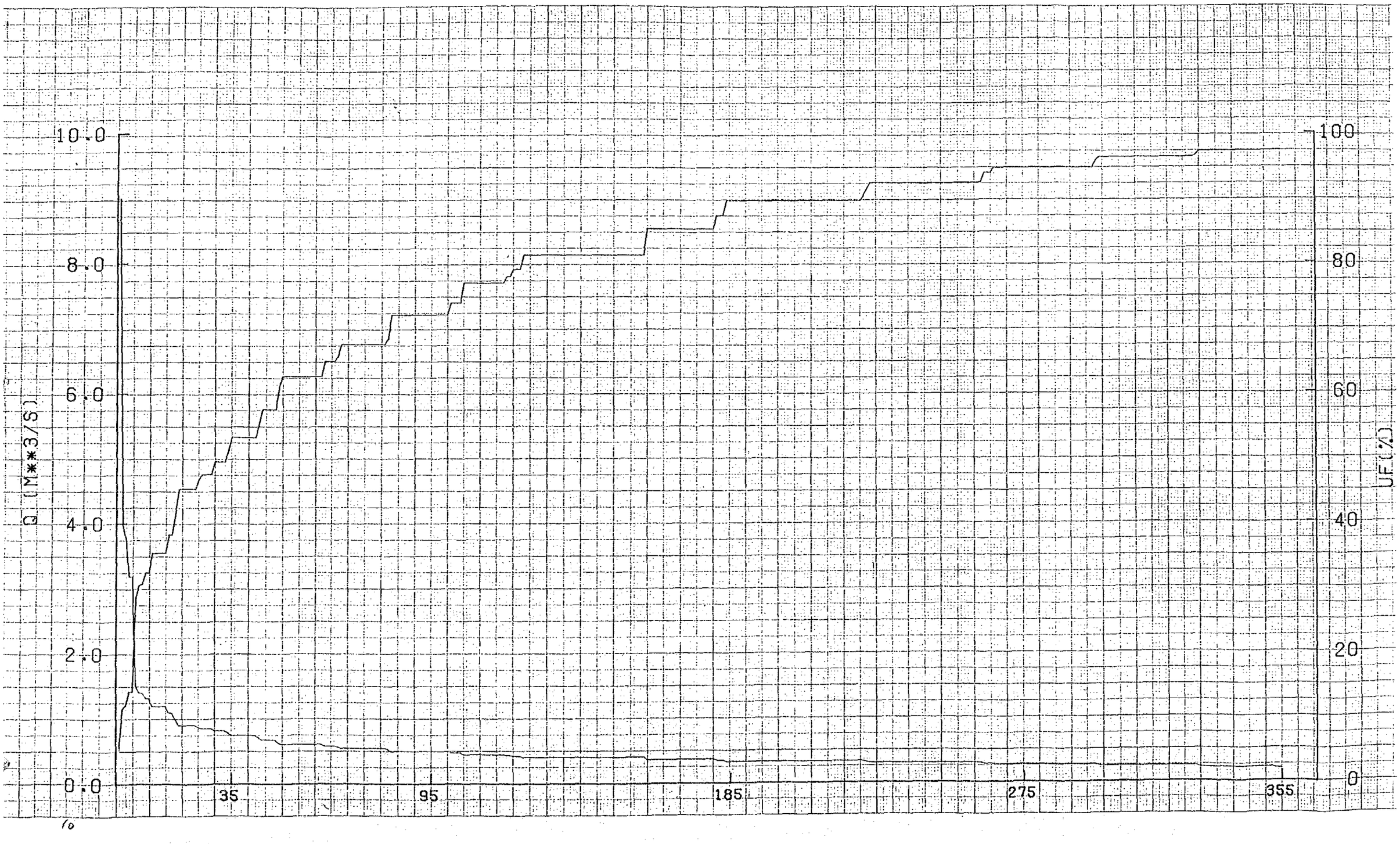
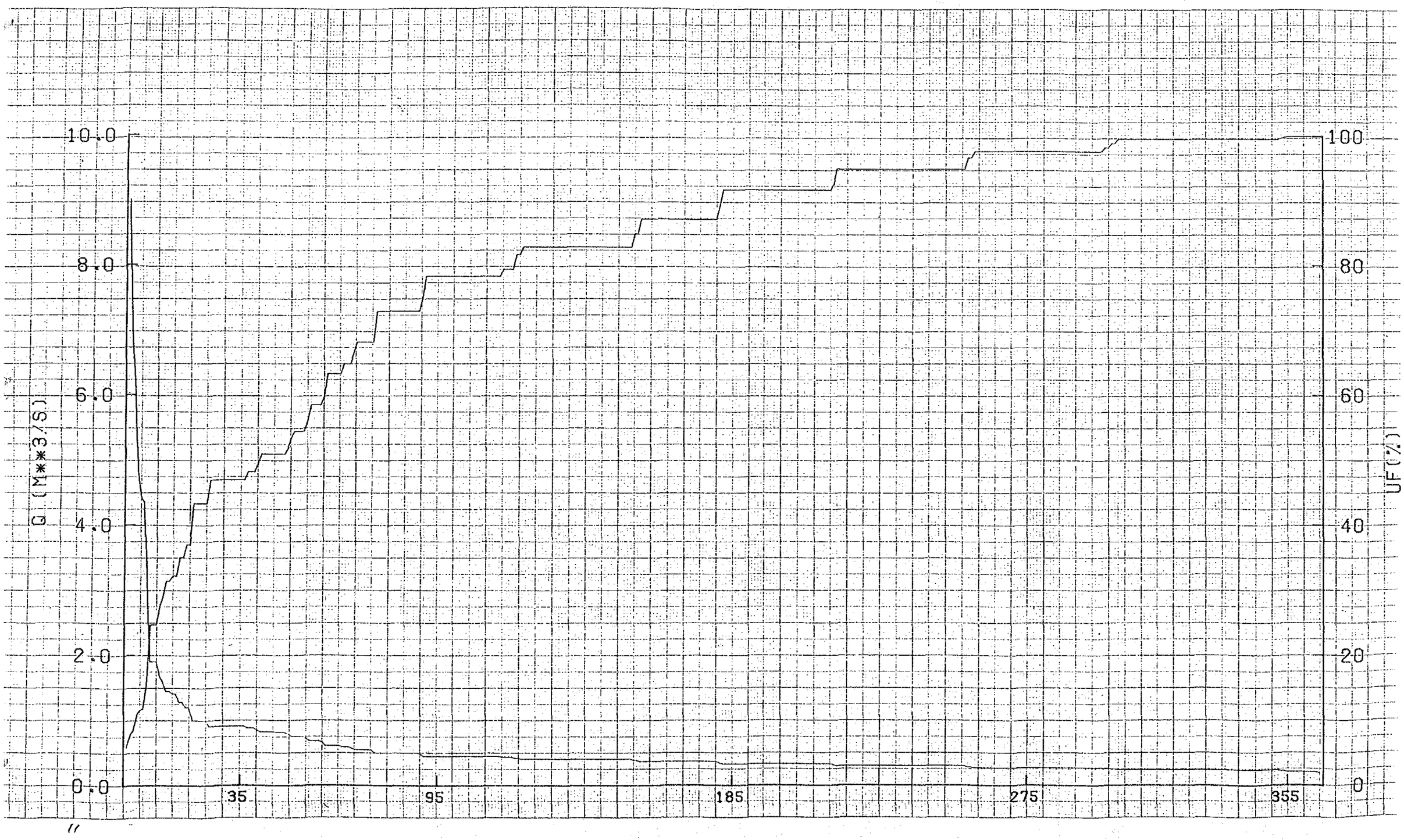


KURUKA (1DB18) <PAPA-DURATION> C.A = 38.0 KM**2 YEAR = 1971



KURUKA (1DB18) <PAPA-DURATION> C.A = 38.0 KM**2 YEAR = 1972



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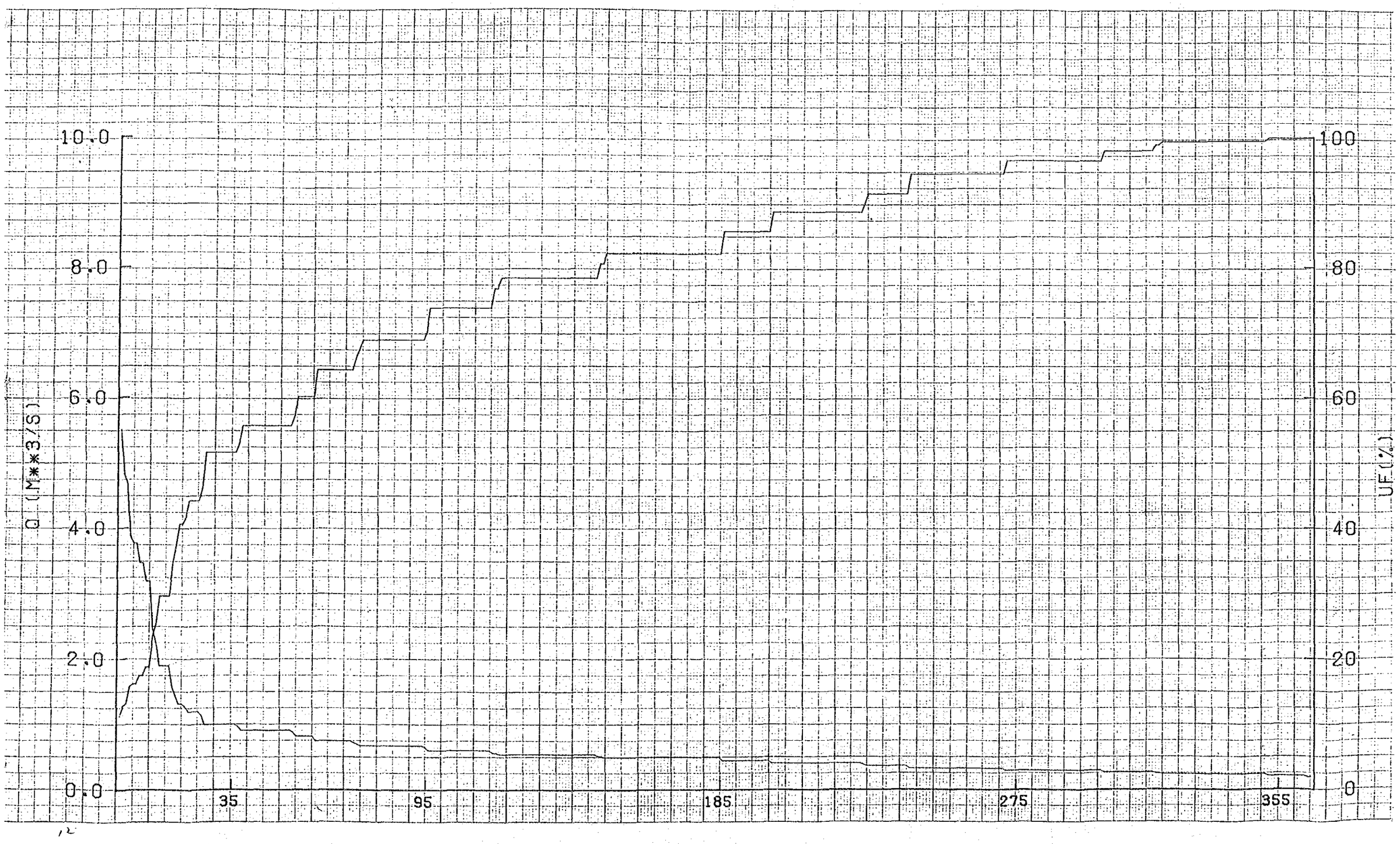

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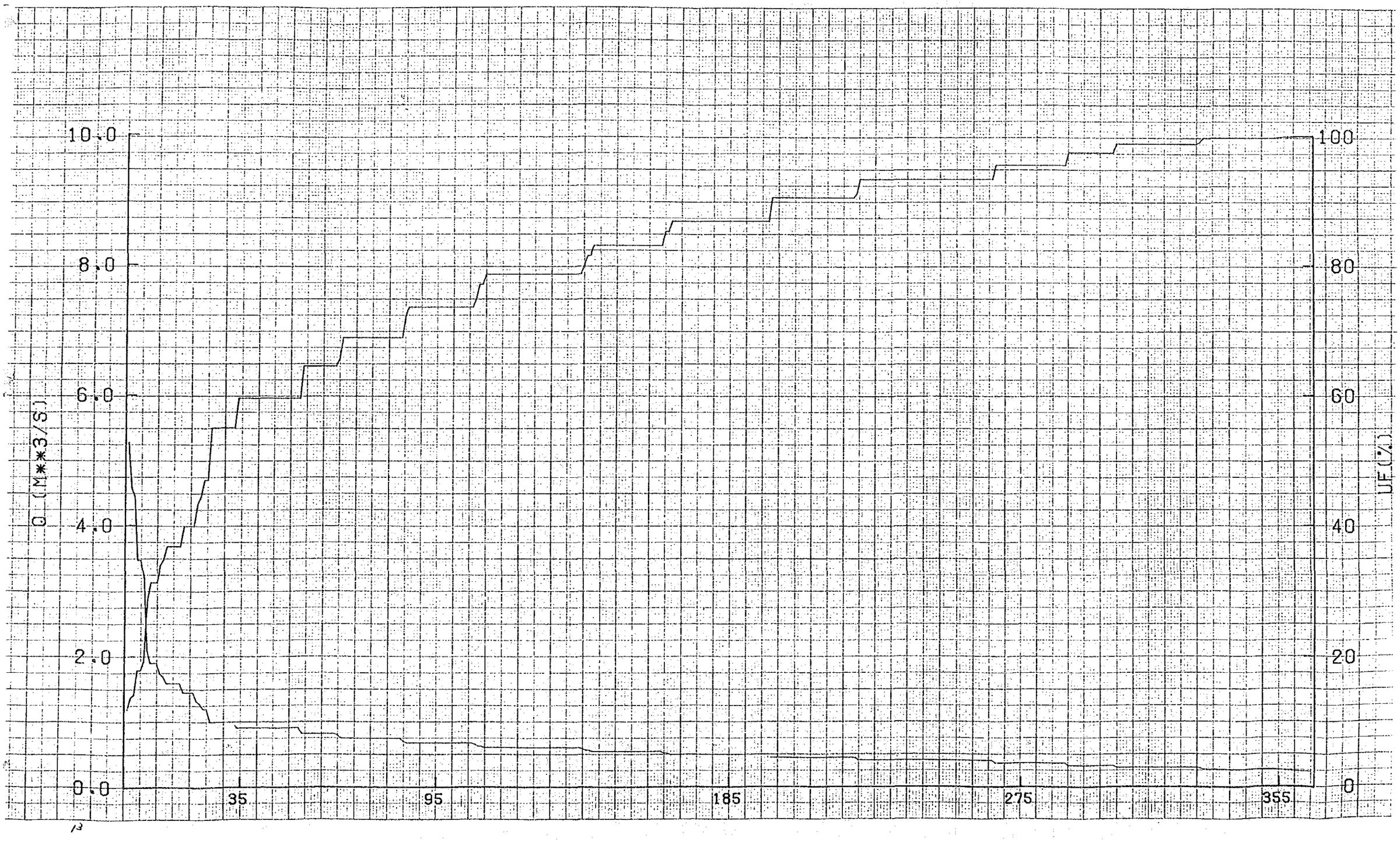
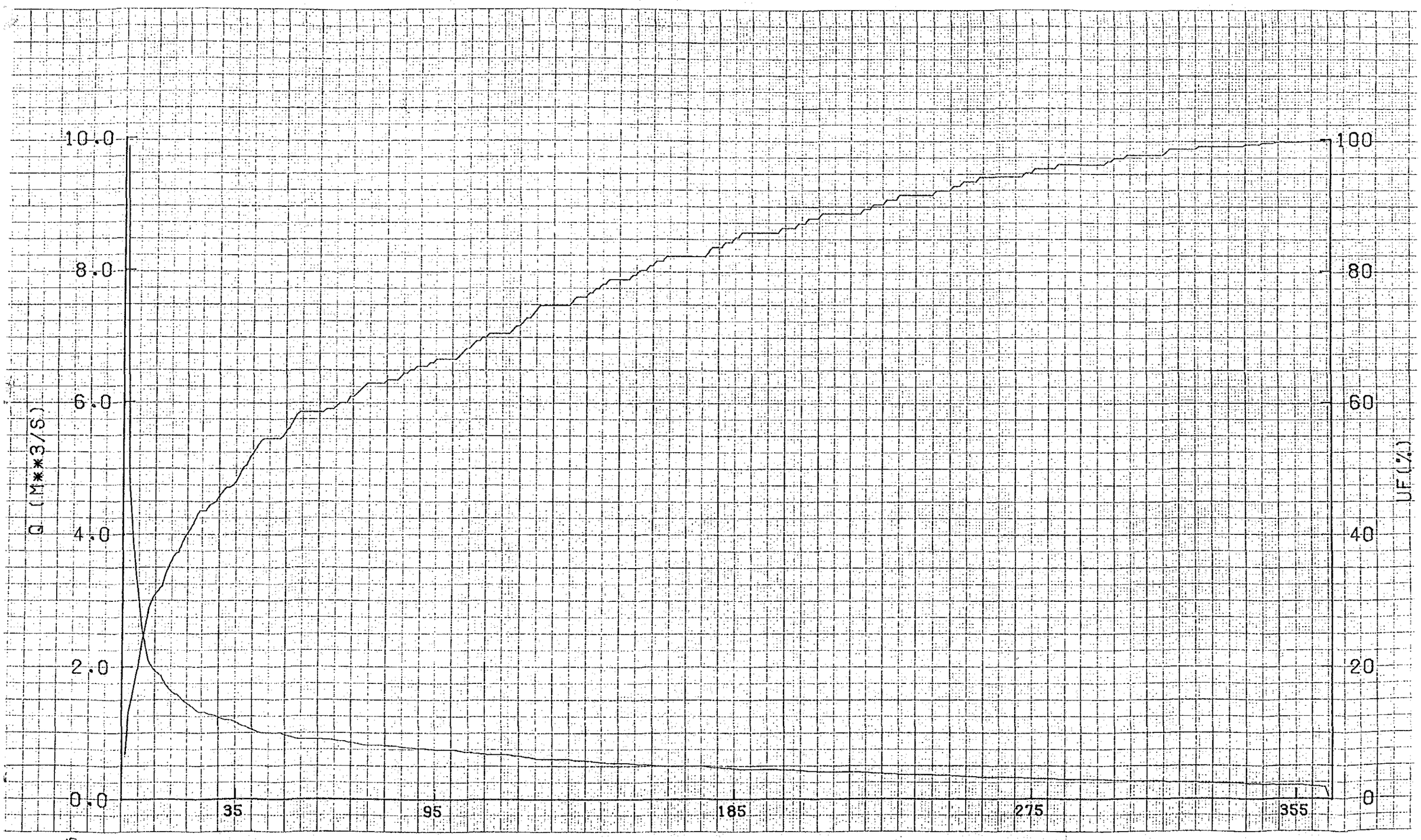
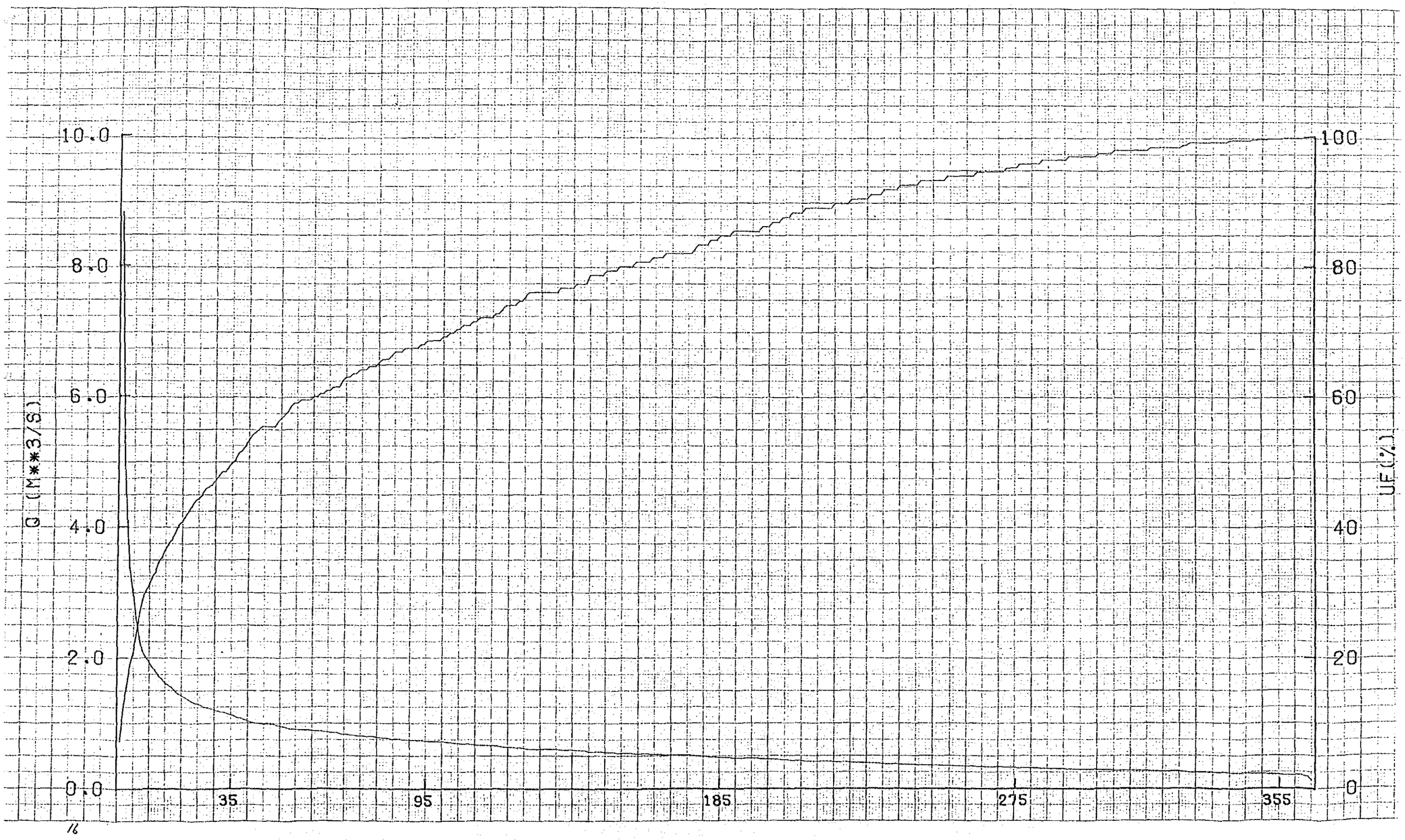


KURUKA (1DB18) <SERI-AVERAGE> C.A = 38.0 KM**2 YEAR = 1963--1975



KURUKA (1DB18) <(SERI+PARA/2)> C.A = 38.0 KM**2 YEAR = 1963--1975



APP. II-5
MAXIMUM DAILY DISHCARGE
AT
1DD-54 OF KIKULETWA RIVER

Maximum Daily Discharge

Year	R.Kikuletwa Discharge (cu.m/s)	Date	Water Level (m)
1963	—	—	
1964	—	—	
1965	—	—	
1966	48.3	April	(1.89)
1967	16.50	17 May	
1968	55.88	3 June	
1969	24.44	10 May	
1970	32.28	6 May	
1971	74.94	24 Apr.	
1972	55.41	20 Apr.	
1973	23.96	30 Apr.	
1974	88.66	11 Apr.	
1975	21.02	23 Apr.	
1976	?		
1977	?		
1978	(53)	March	(2.08)
1979	(148)	May	(3.58)
1980	(46)	May	(1.84)
1981	(83)	April	(2.54)
1982	(80)	April	(2.52)
1983	?		
1984	?		
1985	(68)	March	(2.30)
1986	?		
1987	(28)	April	(1.44)

Note : Figures in the parenthesis are estimated based on the water levels provided by Maji-Office and the rating curve assumed by JICA team.

APP. II-6
SEDIMENT-DISCHARGE RECORD

SEDIMENT-DISCHARGE RECORD

1.	Pangani River	(1D-8)
2.	Kikuletwa River	(1DD-54)
3.	Kikuletwa River	(1DD-1)
4.	Weru-weru River	(1DD-5A)
5.	Weru-weru River	(1DD-6A)
6.	Himo River	(1DC-11A)
7.	Mue River	(1DC-6)
8.	Ran River	(1DC-3A)
9.	Sesseni River	(1DB-2A)

River : Pangani
Location : Nyumba Ya Mungu
Gauge Sta. : 1D-8 (Catch Area 3,530 sq.miles)

Date	Stage	Discharge (cu.m/sec)	Sedimentation (ppm)
14.Nov.1958		17.9	60
13.Dec.1958		17.9	43
18.Jan.1959		16.8	27
16.Feb.1959		21.3	47
16.Mar.1959		17.9	63
17.Apr.1959		37.4	133
15.May.1959		40.8	27
18.Nov.1957		25.1	49
1.Dec.1959		46.4	45
3.Jan.1958		26.4	96
2.May.1958		91.5	72
14.Jun.1958		96.9	21
16.Jul.1958		44.0	32
22.Aug.1958		27.3	43
17.spt.1958		21.3	25

Source : Hydrological Year Book, 1950-1959

River : Kikuletwa
Location : Below Weru-weru Confluence
Gauge Sta. : 1DD-1 (Catch Area 1,500 sq.miles)

Date	Stage	Discharge (cu.m/sec)	Sedimentation (ppm)
25.Nov.1957		39.9	109
9.Dec.1957		21.1	30
8.Jan.1957		14.8	19
10.Feb.1958		17.7	13
17.Mar.1958		17.7	9
5.May.1958		90.1	194

Source : Hydrological Year Book, 1950-1959

River : Weru-weru
Location : Old Arusha-Moshi
Gauge Sta. : 1DD-5A (Catch Area 57 sq.miles)

Date	Stage	Discharge (cu.m/sec)	Sedimentation (ppm)
22.Nov.1958		10.8	53
28.Dec.1958		36.5	698
1.Apr.1959		30.6	306
26.Jun.1959		13.3	82
11.Aug.1959		8.9	23
20.Apr.1959		60.6	520
5.Jul.1958		29.7	212
16.Aug.1958		14.0	63
8.Spt.1958		11.6	92
31.Oct.1958		6.2	19

Source : Hydrological Year Book, 1950-1959

River : KIKULETWA
Location : TANESCO P.S
Gauge Sta. : 1DD-54

Date	Stage (m)	Discharge (cu.m/sec)	Sedimentation (mg/lit)	(tons/day)
9. 3.70	1.23	11.23	11.70	11.35
21. 7.70	1.19	11.65	14.54	14.35
22. 9.70	1.16	9.60	17.89	15.30
25. 2.72	1.09	10.04	4.19	3.63
14. 4.72	2.74	52.92	1.78	8.14
22. 4.72	1.54	23.21	1.18	2.37
29. 4.72	1.23	16.63	1.57	2.26
12. 5.72	1.35	17.90	1.68	2.60
8. 5.72	1.28	14.86	1.24	1.60
24. 5.72	1.43	18.61	1.86	2.99
26. 9.72	1.01	13.51	2.00	2.35
19.12.72	0.84	12.87	6.61	7.35
21. 1.73	1.06	11.92	88.70	91.36
—. 3.73	1.07	12.30	19.69	20.92
11. 5.73	1.34	17.55	26.33	39.98
24. 5.73	1.31	16.14	22.56	31.46
29. 5.73	1.25	15.39	21.08	28.03
30. 5.73	1.21	14.57	22.01	27.71
14.11.73	—	11.81	1.81	6.18
4. 2.74	1.04	10.26	0.04	0.04
9. 9.75	1.02	11.80	3.21	2.93
20.10.75	0.99	11.55	0.07	0.07
19.11.75	0.98	10.44	0.32	0.29
19. - -	1.03	12.55	0.39	0.42
19. 1.76	1.09	9.68	68.36	57.17
22. 1.76	1.00	10.92	26.55	25.06
3. 2.76	1.02	11.86	34.11	34.95
19. 2.76	1.02	11.01	9.81	9.33
13. 3.76	0.98	10.87	0.14	0.13

Source : Water Laboratory, Maji Ubango

River : KIKULETWA
Location : TPC
Gauge Sta. : 1DD-1

Date	Stage (m)	Discharge (cu.m/sec)	Sedimentation (mg/lit)	(tons/day)
10. 3.70	0.82	14.59	25.44	32.01
20. 7.70	0.91	21.84	10.55	19.71
22. 9.70	0.78	12.56	29.90	32.45
23. 2.72	0.90	13.30	7.22	8.30
12. 5.72	1.77	57.57	16.33	81.42
10. 3.73	0.88	15.61	35.05	71.55
13. 2.74	0.84	10.66	0.08	0.07
15. 2.74	0.84	11.64	0.09	0.09
3. 9.75	0.85	12.22	8.77	9.26
11.12.75	0.86	11.72	42.26	42.78
20. 1.76	0.86	9.91	17.87	15.30
1.76	0.86	9.88	31.81	27.15
1.76	0.86	11.69	40.40	40.80
3.76	0.83	9.54	0.08	0.07

River : WERU-WERU
Location : FOREST BOUNOARY
Gauge Sta. : 1DD-6A

Date	Stage (m)	Discharge (cu.m/sec)	Sedimentation (mg/lit)	(tons/day)
13. 7.70	0.55	1.47	12.76	1.43
14. 9.70	0.58	1.06	7.01	0.01
8. 2.72	0.67	4.75	3.28	1.35
9. 2.72	0.46	2.75	3.39	0.81
10. 2.72	0.39	1.59	4.93	0.68
11. 2.72	0.70	1.80	2.30	0.36
16. 2.72	0.50	2.32	2.41	0.48
5. 4.72	0.42	1.30	15.02	1.68
11. 4.72	0.43	1.41	8.90	1.08
21. 4.72	0.54	2.19	7.09	1.52
28. 4.72	0.43	1.29	7.93	0.88
4. 5.72	0.48	1.49	9.67	1.25
5. 5.72	0.52	2.02	5.57	0.97
9. 5.72	0.51	1.64	9.97	1.41
10. 5.72	0.64	3.02	9.48	2.48
12. 5.72	0.98	5.91	1.55	0.88
16. 5.72	0.90	2.88	12.13	4.07
17. 5.72	0.96	4.94	9.79	4.18
18. 5.72	0.92	3.76	6.84	2.34
19. 5.72	0.89	3.32	10.21	2.93
23. 5.72	0.99	7.40	10.38	6.04
25. 5.72	0.98	9.08	13.30	10.90
26. 5.72	0.96	5.01	5.13	2.57
30. 5.72	0.86	4.11	5.28	1.86
6. 6.72	0.80	2.40	10.42	2.16
8. 8.72	0.72	1.30	1.86	0.21
20. 9.72	0.72	1.06	3.23	0.30
16. 1.73	0.66	2.03	29.35	5.14
14.12.73	0.70	2.74	22.44	5.31
16. 1.73	0.66	2.03	29.35	5.14
30. 1.74	0.47	1.12	0.06	0.01
22. 2.74	0.46	0.96	0.05	0
5. 4.74	0.63	2.30	0.11	0.02
10. 4.74	0.63	2.31	0.04	0.01
12. 4.74	0.69	2.97	0.04	0.01
16. 4.74	0.70	3.07	0.07	0.02
30. 4.74	0.61	2.20	0.06	0.01
6. 5.74	0.59	2.10	0.02	0
8. 5.74	0.57	1.85	0.12	0.02
10. 5.74	0.55	1.65	0.05	0.01
17. 5.74	0.54	1.70	0.02	0
21. 5.74	0.52	1.39	0.06	0.01
8. 4.75	0.44	0.97	6.00	0.50
14. 4.75	0.56	1.89	2.70	0.44
16. 4.75	0.85	5.88	5.17	2.63
18. 4.75	0.80	4.64	4.16	1.67
21. 4.75	0.73	3.50	7.49	2.27
23. 4.75	0.69	2.72	6.68	1.57
5. 5.75	0.58	1.53	5.88	0.78
6. 5.75	0.52	1.20	4.19	0.44
10.12.75	0.52	1.14	23.11	2.28
18.10.75	0.49	1.02	0.05	0
22. 4.76	0.63	1.15	0.09	0.01

River : HIMO
Location : TANGA ROAD BRIDGE
Gauge Sta. : 1DC-11A

Date	Stage (m)	Discharge (cu.m/sec)	Sedimentation (mg/lit)	(tons/day)
17. 7.70	0.54	0.49	2.10	0.18
23. 9.70	0.34	0.36	—	—
3. 3.72	0.46	0.48	21.88	0.03
18. 8.72	0.49	0.46	8.31	0.33
27. 9.72	0.44	0.98	2.47	0.06
21.12.72	1.03	3.26	9.90	2.79
19. 1.73	0.76	1.74	66.66	10.02
26. 2.73	0.84	1.97	36.43	6.20
31.10.73	—	0.15	1.13	0.02
13.12.73	—	0.08	2.21	0.02
8. 1.74	—	0.14	2.52	0.03
16. 9.75	0.74	0.74	2.20	0.14
18. 9.75	0.70	0.70	5.45	0.33
28.10.75	0.45	0.22	0.04	0.00
13.12.75	0.69	2.06	43.26	7.11
16. 1.76	0.40	0.14	46.91	0.57
20. 1.76	0.40	0.10	17.89	15.30
26. 1.76	0.88	0.08	31.87	27.15
27. 3.76	0.34	0.53	216.68	1.19
11. 3.76	0.80	0.30	0.26	0.01
21. 4.76	0.19	1.71	0.42	0.06
22. 4.76	1.12	0.41	0.39	0.03
25. 4.76	1.14	1.61	0.55	0.08
15. 4.76	1.21	1.16	0.25	0.03
11. 3.76	1.21	0.31	0.26	0.01
21. 1.76	0.38	0.08	3.87	27.15

River : MUE
Location : RAILWAY BRIDGE
Gauge Sta. : 1DC-6

Date	Stage (m)	Discharge (cu.m/sec)	Sedimentation (mg/lit)	(tons/day)
5. 3.70	0.46	3.54	24.69	7.55
16. 7.70	0.53	4.10	0.93	0.33
18. 2.72	0.68	2.04	11.23	1.98
18. 5.72	1.06	7.38	7.78	4.96
16. 8.72	0.40	3.67	2.55	0.81
27. 9.72	0.20	2.63	2.08	0.47
20.12.72	0.38	3.27	161.82	45.72
23. 2.73	0.31	2.88	102.77	25.53
23.10.73		2.84	2.45	6.02
16.12.73		2.89	1.96	0.49
8. 1.74	0.22	2.62	0.09	0.02
7. 2.74	0.25	2.58	0.11	0.02
15.12.75	0.32	2.85	44.45	10.96
10. 3.76	0.19	1.91	0.08	0.01
22. 4.76	0.56	2.00	0.38	0.07

Source : Water Laboratory, Maji Ubongo

River : RAU
Location : KAHE FOREST
Gauge Sta. : IDC-3A

Date	Stage (m)	Discharge (cu.m/sec)	Sedimentation (mg/lit)	(tons/day)
15. 7.70	1.70	1.48	82.93	10.62
16. 9.70	1.37	0.82	184.80	13.14
17. 2.70	1.20	0.41	9.36	0.33
17. 5.72	1.73	1.04	14.65	1.31
11. 8.72	1.50	0.91	1.48	0.12
21. 9.72	1.48	0.84	3.94	0.30
30.10.72	1.34	0.60	121.97	6.32
18. 1.73	1.35	2.01	85.55	14.84
5. 5.73	1.70	1.15	27.63	2.74
12. 5.73	1.74	1.10	37.95	4.25
25. 5.73	1.72	1.15	28.24	2.81
26. 5.73	1.73	1.22	26.84	2.82
—	—	0.16	3.41	0.05
—	—	0.03	4.02	0.01
—	—	0.07	1.73	0.01
16. 7.74	2.10	2.24	0.31	0.06
19. 7.74	2.13	2.29	0.30	0.06
23. 7.74	2.09	2.30	0.85	0.17
25. 7.84	2.09	2.23	1.89	0.36
26. 7.84	2.07	1.12	0.30	0.03
30. 7.84	2.04	2.04	0.53	0.09
31. 7.74	1.96	1.96	0.59	0.10
2. 8.74	1.92	2.03	0.22	0.04
5. 8.74	1.88	1.84	0.48	0.08
8. 8.74	1.79	1.66	0.34	0.05
9. 8.74	1.77	1.61	0.17	0.02
12. 8.74	1.72	1.35	0.20	0.02
15. 8.74	1.65	1.30	0.21	0.02
16. 8.74	1.57	1.14	0.20	0.02
19. 8.74	1.50	0.99	0.28	0.02
21. 8.74	1.49	1.00	0.42	0.04
27. 8.74	1.42	0.87	0.17	0.01
28. 8.74	1.36	0.75	0.21	0.01
30. 8.74	1.32	0.67	0.21	0.01

River : SESSEN1
Location : GULUTU
Gauge Sta. : 1DB-2A

Date	Stage (m)	Discharge (cu.m/sec)	Sedimentation (mg/lit)	(tons/day)
12. 9.70	1.40	23.83	48.44	2.78
23.11.70	1.52	66.80	19.57	3.15
9. 1.71	1.57	84.40	12.46	2.53
21. 3.71	1.44	33.47	17.31	1.40
20. 6.71	1.43	0.78	48.03	3.23
29. 9.71	1.36	10.69	18.59	17.17
28. 1.72	1.54	1.70	41.26	6.06
17. 2.73	1.56	2.15	4.58	0.85
3. 4.73	1.50	1.16	16.28	1.64
14. 8.73	1.37	0.38	5.07	0.17
16.10.73	1.36	0.21	9.54	0.18
20. 2.74	1.45	0.86	3.90	0.29
29. 3.74	1.64	3.17	2.13	0.58
5. 9.74	1.33	0.20	4.40	0.08
26. 3.76	1.66	3.95	0.23	0.08