B 04/10/78

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)
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NRC

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IN & MI PWR

DOCDATE: 04/04/78
DATE RCVD: 04/10/7

DOCTYPE: LETTER NOTARIZED: NO
SUBJECT:
LICENSEE EVENT REPT (RO 50-315/78-000) ON 01/07/78 CONCERNING REACTOR PWR ON UNIT 1 REDUCED SLOWLY TO 8% PWR AND THE REACTOR TRIPPED FROM 8%...W/ATT SUPPORTING INFO.

COPIES RECEIVED
LTR 1 ENCL 1

PLANT NAME: COOK - UNIT 1

REVIEWER INITIAL: XJM
DISTRIBUTOR INITIAL: wl

********** DISTRIBUTION OF THIS MATERIAL IS AS FOLLOWS **********

INCIDENT REPORTS
(DISTRIBUTION CODE A002)

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DISTRIBUTION: LTR 45 ENCL 45
SIZE: 2P+1P+9P

CONTROL NBR: 781010047

A8 4
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********** THE END **********

American Electric Power System
INDIANA & MICHIGAN POWER COMPANY
DONALD C. COOK NUCLEAR PLANT
P.O. Box 458, Bridgman, Michigan 49106
(616) 465-5901

April 4, 1978

Operating License DPR-58
Docket # 50-315

Mr. J. G. Keppler, Regional Director
Office of Inspection and Enforcement
U. S. Nuclear Regulatory Commission
Region III
799 Roosevelt Road
Glen Ellyn, Ill. 60137

Dear Mr. Keppler:

This report is submitted persuant to the requirement of Appendix A Technical Specifications 3.4.8 and 6.9.1. On January 7, 1978 the dose equivalent iodine-131 activity was found out of specification.

At 1400 on January 7, 1978 reactor power on Unit 1 was reduced slowly to 8% power and the reactor tripped from 8%. Power reduction was done for a scheduled repair/investigation outage.

Routine surveillance at 2100 January 7, 1978 showed that the dose equivalent iodine-131 had spiked with a maximum value noted of 1.1 μ Ci/gram.*

Reactor power had been varied considerably the previous week with no evidence of iodine spiking noted. During power reduction CVCS purification flow through the mixed bed demineralizer was approximately 75 gpm, as it had been for the majority of the week. No degassing operations were associated with this occurrence.

Analysis of the reactor coolant prior to this excursion had shown dose equivalent iodine-131 to range from 9.12×10^{-3} μ Ci/g to 2.80×10^{-2} μ Ci/g during the period of numerous power changes. Analysis at 0500 on 1-8-78 showed the iodine-131 had decreased to 0.539 μCi/g with dose equivalent iodine-131 at 0.675 μCi/g. This activity continued to decrease even during power ascension on 1-9-78. Once stable at 100% dose equivalent iodine-131 remained constant at approximately 2.3×10^{-2} μCi/g.

Iodine release at this time period is consistant with data reported in Westinghouse Electric Corporation WCAP-8637 "Iodine Behavior under transient conditions in the Pressurized Water Reactor". Dose equivalent iodine-131 values were in the "Acceptable Operation" portion of Technical

781010047

A002
S11

Specification Figure 3.4.1 at all times during the transient. Fuel burnup by core region is indicated in the attached table.

This report does not meet the 30 day Technical Specification reporting requirement. This is presently under investigation and a Licensee Event Report will be submitted describing the findings and resolutions.

* Coolant samples are brought to ambient conditions before counting; therefore, units of μCi/gram and μCi/cc are interchangeable.

Very truly yours,

D. V. Shaller
Plant Manager

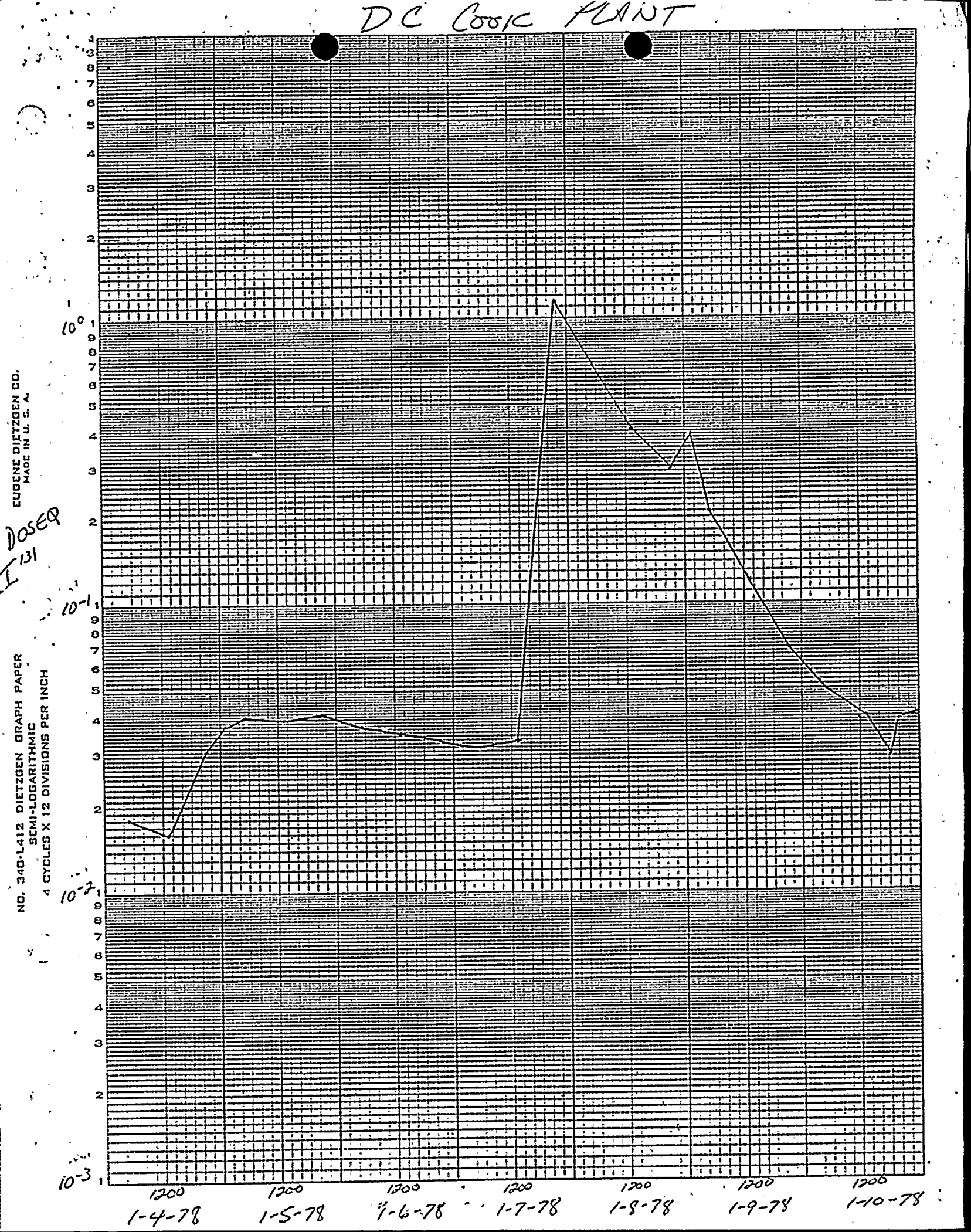
ms

attachments

cc: R. W. Jurgensen
J. E. Dolan
R. Kilburn
R. F. Kroeger
R. J. Vollen, BPI
K. R. Baker, RO:III
P. W. Steketee, Esq.
R. C. Callan
R. Walsh, Esq.
G. Olson
J. Stietzel
PNSRC File
G. Charnoff, Esq.
J. M. Hennigan
Dir, IE (20 copies)
Dir, MIPC (2 copies)

CORE REGION	BURNUP FOR PERIOD (MWD/MTU) 10-1-77 to 1-18-78
4 (D)	0.7672×10^4
2 (B)	0.2622×10^5
3 (C)	0.2192×10^5

D C Cook PLANT



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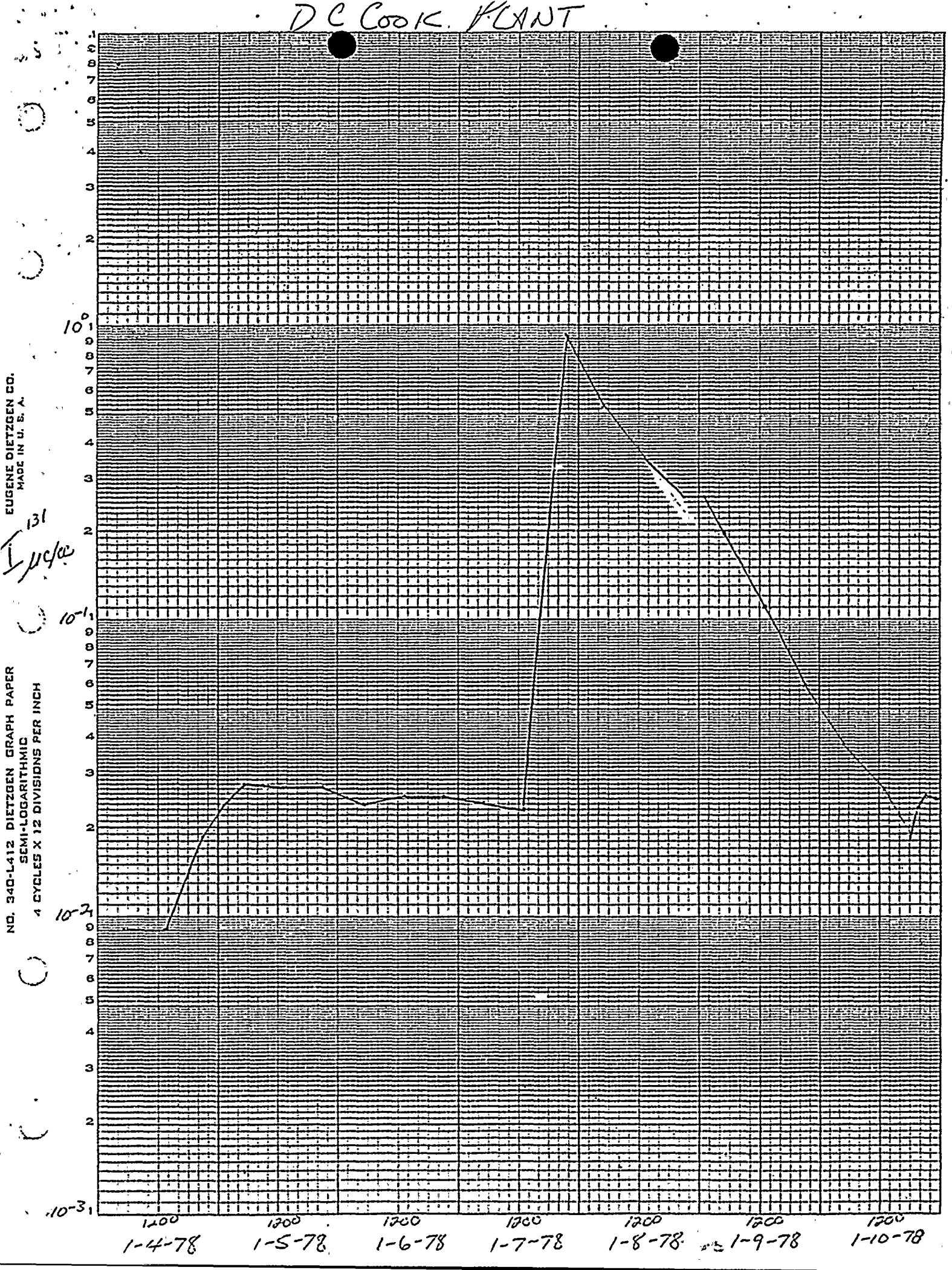
D C Cook. #CANT



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NO. 340-L412 DIETZGEN GRAPH PAPER
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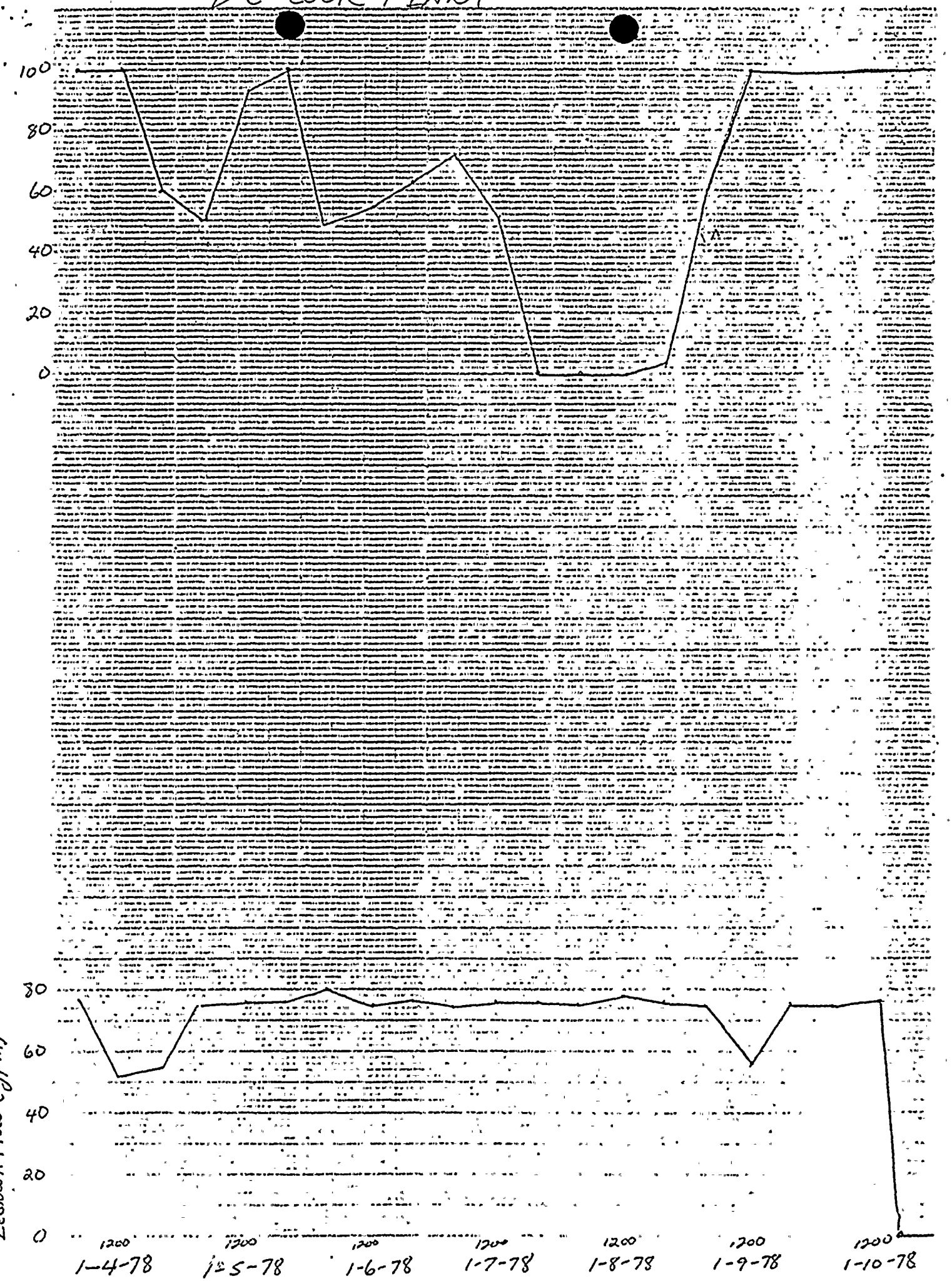
DC COOK PLANT



DONALD C. COOK NUCLEAR PLANT
CONDITION REPORT

(1) CAR No. 1-1-78-13
(2) Date 1-9-78 Time 1200
(3) Category A B (C) D E
(4) Classified By BAS
(5) AO/AEO No. Special Report

TO: Plant Manager LER DUE BY 1/30/78

(6) Item Reported On Dose Equivalent I-131 in the Unit 1 R.C.S. out of specification

(7) Plant Conditions
Unit #1 Mode 2 Testing ( )Yes (✓)No
Unit #2 Mode _____ Testing ( )Yes ( )No

(8) Description of Condition At 2100 on 1-7-78, the dose equivalent I-131 on the reactor coolant system was found to be 1.14 μCi/cc. This was following unit 1 trip from ~8% power at 1426

( ) Additional Pages Reported By James A Wojcik

(9) Corrective Action Taken

By _____

(10) Off-Site Notification Made By X (Complete Telephone Records & Attach)
( ) AEPSC ( ) I & M ( ) NRC ( ) Michigan (X) Not Applicable BAS

(11) Investigation Assigned To E. A. SMARRELLA

(12) Investigation Report Attached report on the dose equivalent I-131 closes out the investigation

( ) Additional Pages Completed By James A Wojcik

(13) Preventive Action Taken
SEE ATTACHED.

( ) Additional Pages Dept. Head Approval E A Smarrella

(14) PNSRC Review: Date _____
Comments:

(15) Distribution:
Plant Mgr., Asst. Plant Mgr., QA Supv., PNSRC Secretary, AEPSC Manager Q.A. Dept. Head of Orig. Dept.

Form No. DMP 7030 RPT 001-1

INDIANA AND MICHIGAN POWER COMPANY
DONALD C. COOK NUCLEAR PLANT

Iodine Spike Following Power Transient - January 7, 1978

This report is submitted persuant to the requirement of Appendix A Technical Specifications 3.4.8 and 6.9.1. On January 7, 1978 the dose equivalent iodine-131 activity was found out of specification.

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---

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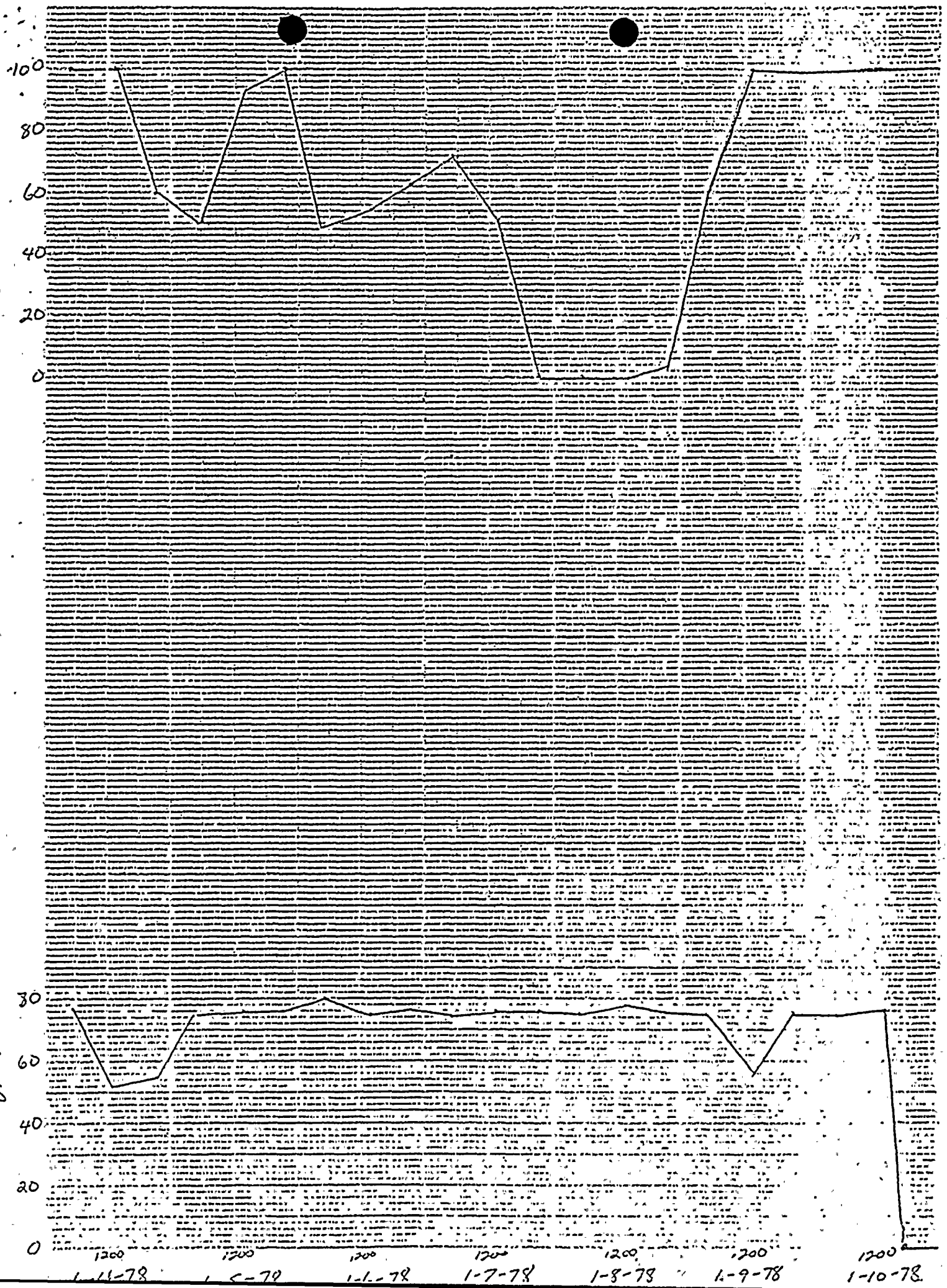
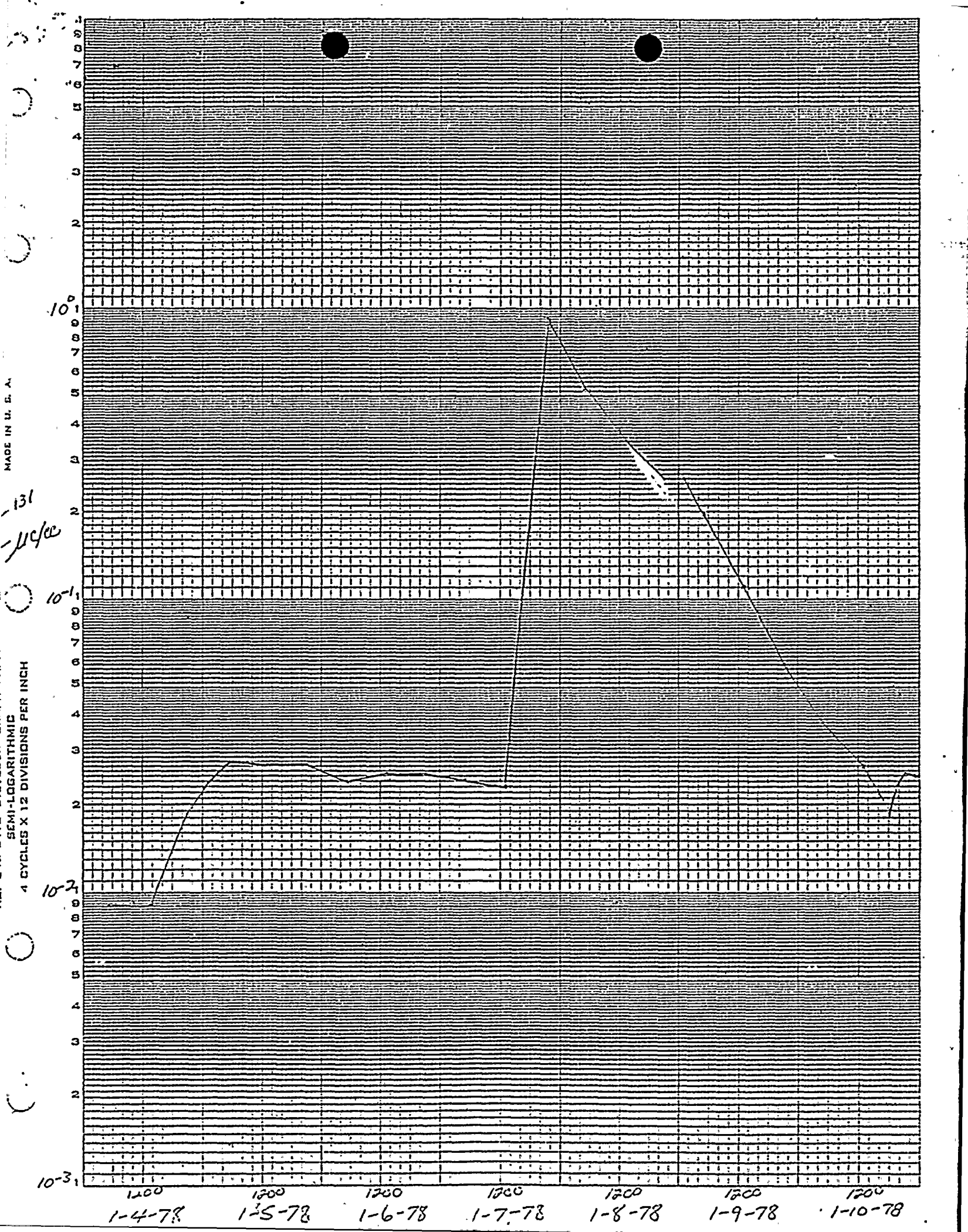
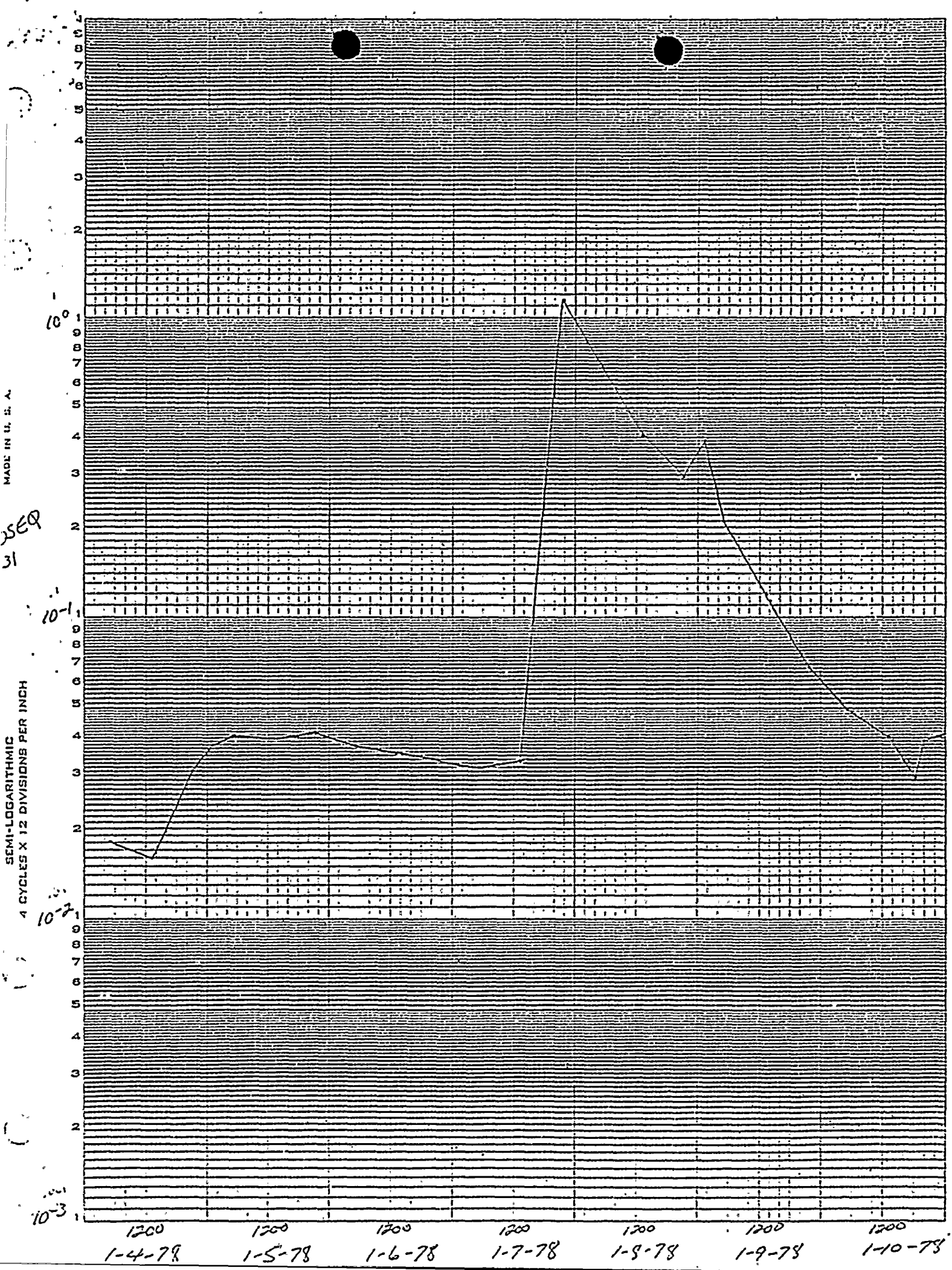
3 (C)	0.2192×10^5


100
80
60
40
20
0
30
60
40
20
0
Letdown Flow (gpm)
1200
1-14-78
1200
1-15-78
1200
1-16-78
1200
1-17-78
1200
1-18-78
1200
1-19-78
1200
1-20-78


MADE IN U. S. A.
SEMI-LOGARITHMIC
4 CYCLES X 12 DIVISIONS PER INCH
131
μc/cc
10^{0}
10^{-1}
10^{-2}
10^{-3}
1200
1-4-78
1-5-78
1-6-78
1-7-78
1-8-78
1-9-78
1-10-78


SEMI-LOGARITHMIC
4 CYCLES X 12 DIVISIONS PER INCH
MADE IN U. S. A.
10^0
10^-1
10^-2
10^-3
1200
1-4-78
1200
1-5-78
1200
1-6-78
1200
1-7-78
1200
1-8-78
1200
1-9-78
1200
1-10-78