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Report prepared on behalf of  
Unisearch Limited

by

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University of New South Wales

**REPORT ON THE ANALYSIS  
OF  
"ALOE VERA" GEL**

for

Friendship Aloe Vera Pty. Ltd.  
Brookvale

July 1985

JN329

REPORT ON THE ANALYSIS OF "ALOE VERA" GEL

Six samples, numbered 001 through to 011, of 'Aloe Vera' gel were supplied by Mr. Peter Wildschut of Friendship Aloe Vera Pty. Ltd., on 13th July, 1985 with a request for the following analysis:

- (i) % total solids,
- (ii) elemental analysis for Na, K, Ca, Mg, P, S,
- (iii) characterisation by infra-red spectroscopy.

After receipt samples were stored at approximately 10°C.

Sample Preparation Prior to Analysis

One sample, No. 001, was found to be contaminated with bacterial growth, and all samples showed a small amount of precipitated solids. Samples were filtered prior to analysis.

Procedures

- (i) % Total solids -

Two aluminium weigh dishes were tared and 5 ml of sample was pipetted into each and the dish was reweighed. The dishes were then placed in an air oven at 110°C and dried for two hours and then cooled in a dessicator. The dried samples were then reweighed.

$$\% \text{ total solids} = \frac{(\text{dried sample weight})}{(\text{initial sample weight})} \times 100$$

- (ii) Elemental analysis -

Elemental analysis were accomplished by emission spectrophotometry using an inductively coupled plasma source (ICP).

(iii) Characterisation by infra-red spectroscopy -

The gel was dried at 110°C for twelve hours. The infra-red spectrum of the solid material remaining was obtained by pressing a KBr disc (200 mg KBr, approximately 1 mg sample). Drying the gel for two hours, as in the % total solids determination, left material containing too much water for a satisfactory infra-red characterisation.

Results

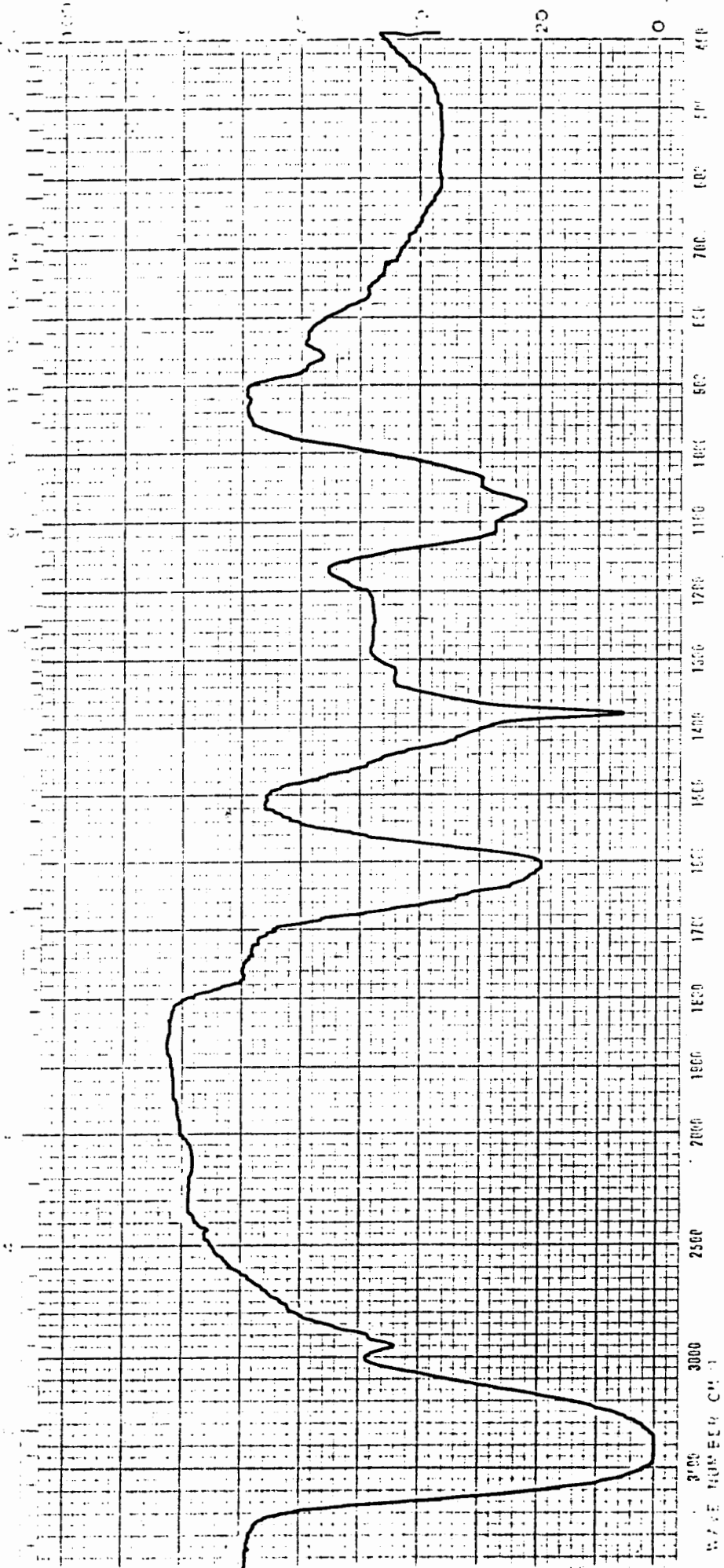
The table lists the results of the total solids determination and the elemental analyses. Originals of the infra-red spectra are included with the report.

Analyses results presented as mg/dL of gel.

Sample	% Solids	Na	K	Ca	Mg	P	S
001	0.77	44.2	40.1	10.2	9.0	0.6	6.4
002	1.00	45.6	48.7	17.6	9.2	1.1	2.1
003	1.13	49.6	57.4	17.6	7.7	1.1	2.0
004	1.05	38.0	47.4	13.5	6.2	0.85	1.8
005	1.04	50.0	59.1	16.8	8.3	1.0	2.0
006	0.90	47.4	51.5	16.3	8.5	0.9	2.0
007	1.01	54.0	47.4	15.8	8.6	0.9	2.0
008	1.02	50.9	52.8	15.1	10.0	1.1	2.3
009	1.14	52.0	56.0	18.5	9.0	1.1	2.2
010	1.19	47.5	58.0	17.7	7.7	1.3	2.0
011	1.01	58.9	48.6	14.5	10.1	1.1	2.0

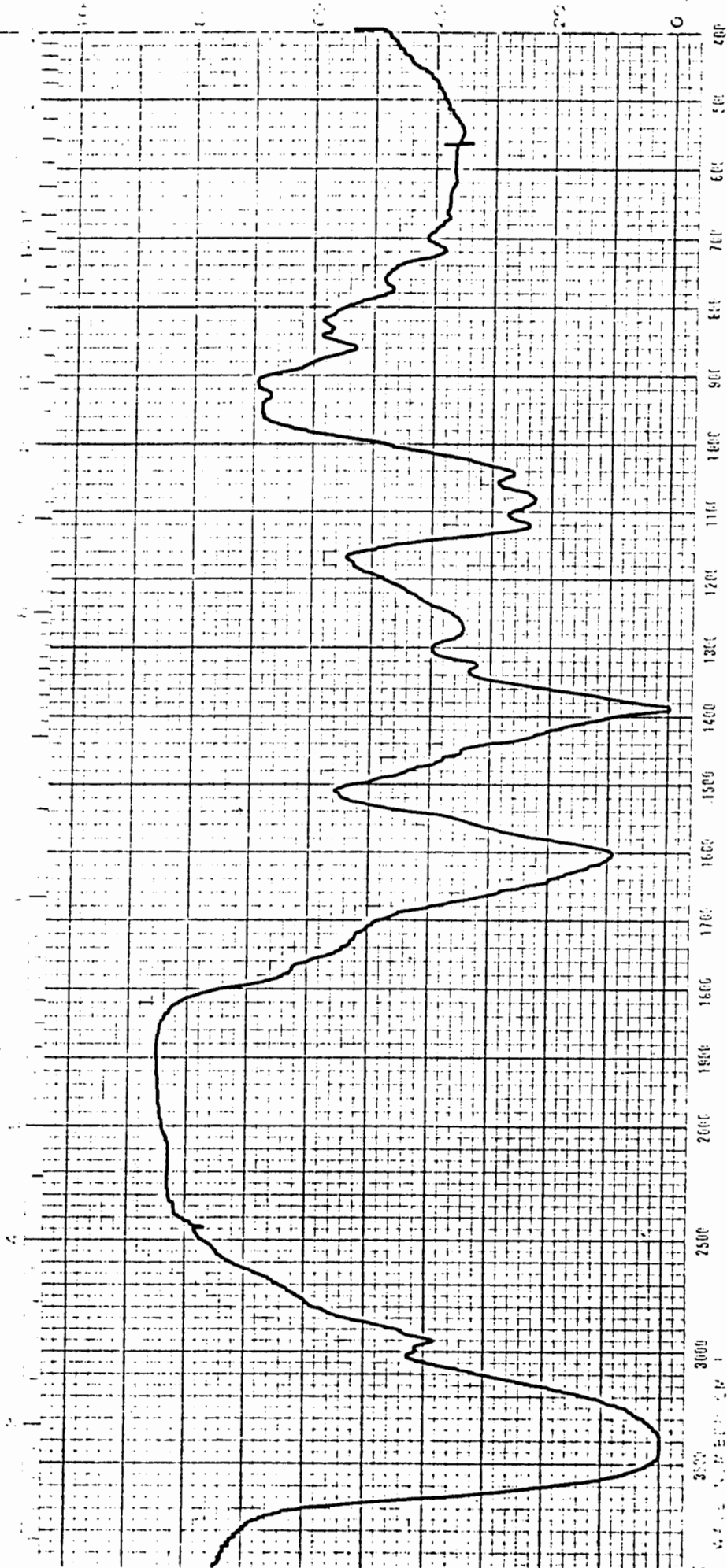
*M Bogaard.*  
.....  
M. Bogaard  
25/7/85

INFRARED SPECTROPHOTOMETER



REMARKS: RESOLUTION *N*  
SAMPLE # *001* *MITTACHN*  
NAME *AROL VERA GEL*  
SPEED *FL*  
DATE *24.7.85*  
OPERATOR *AMPB* *(G)*  
THICKNESS *K8r disk*  
CHART NO. *EPI-G21*

INFRARED SPECTROPHOTOMETER



SPECTRUM NO.

SAMPLE

AAOE VERA GEL

# 002

THICKNESS KBr disc

REMARKS

RESOLUTION N

GAIN 3

SPEED F2

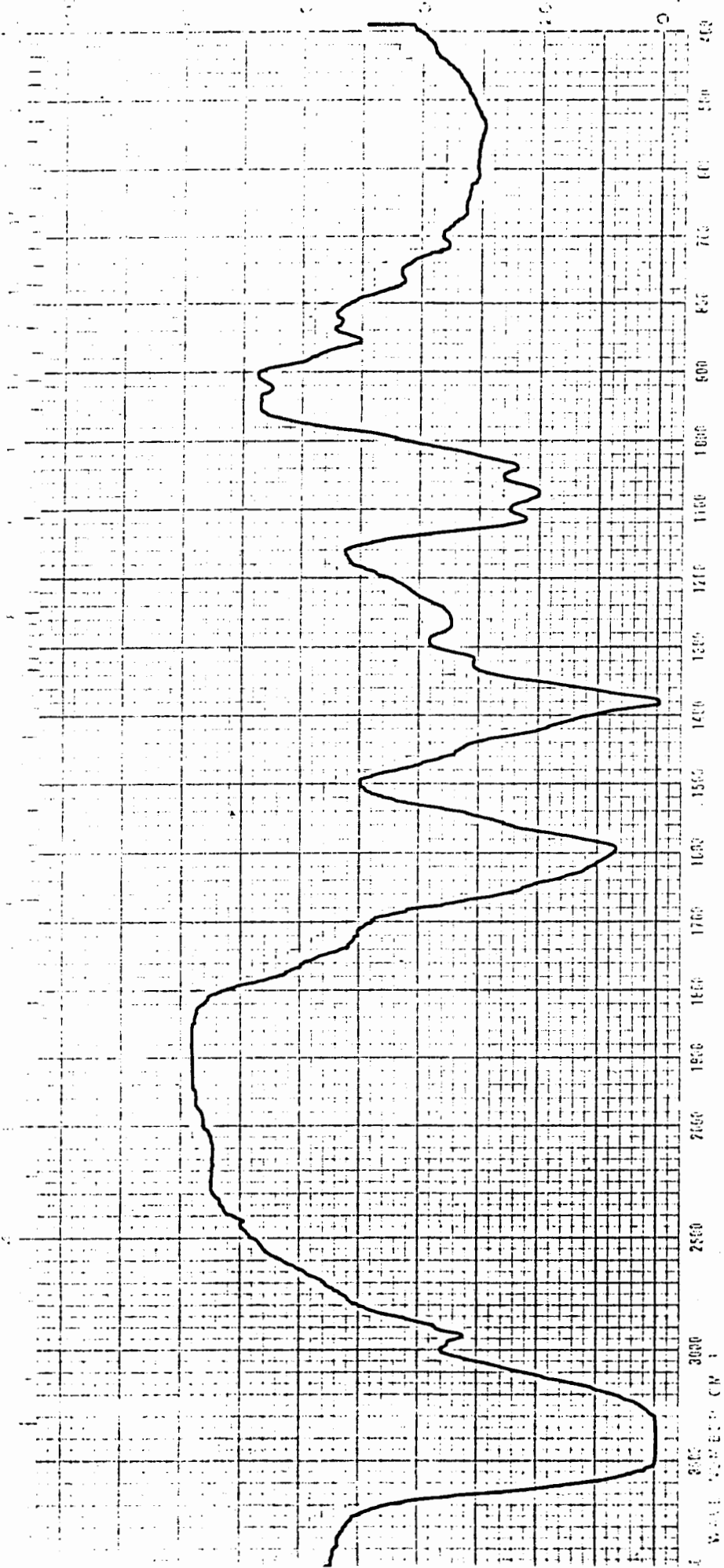
DATE 25/7/85

OPERATOR MB

HITACHI

CHART NO. EPI-G21

IRRAKED SPECTROPHOTOMETER



SPECTRUM NO.

SAMPLE ALOE VERA GEL

# 004

THICKNESS KBr disc

REMARKS

RESOLUTION N

GAIN 3

SPEED F1

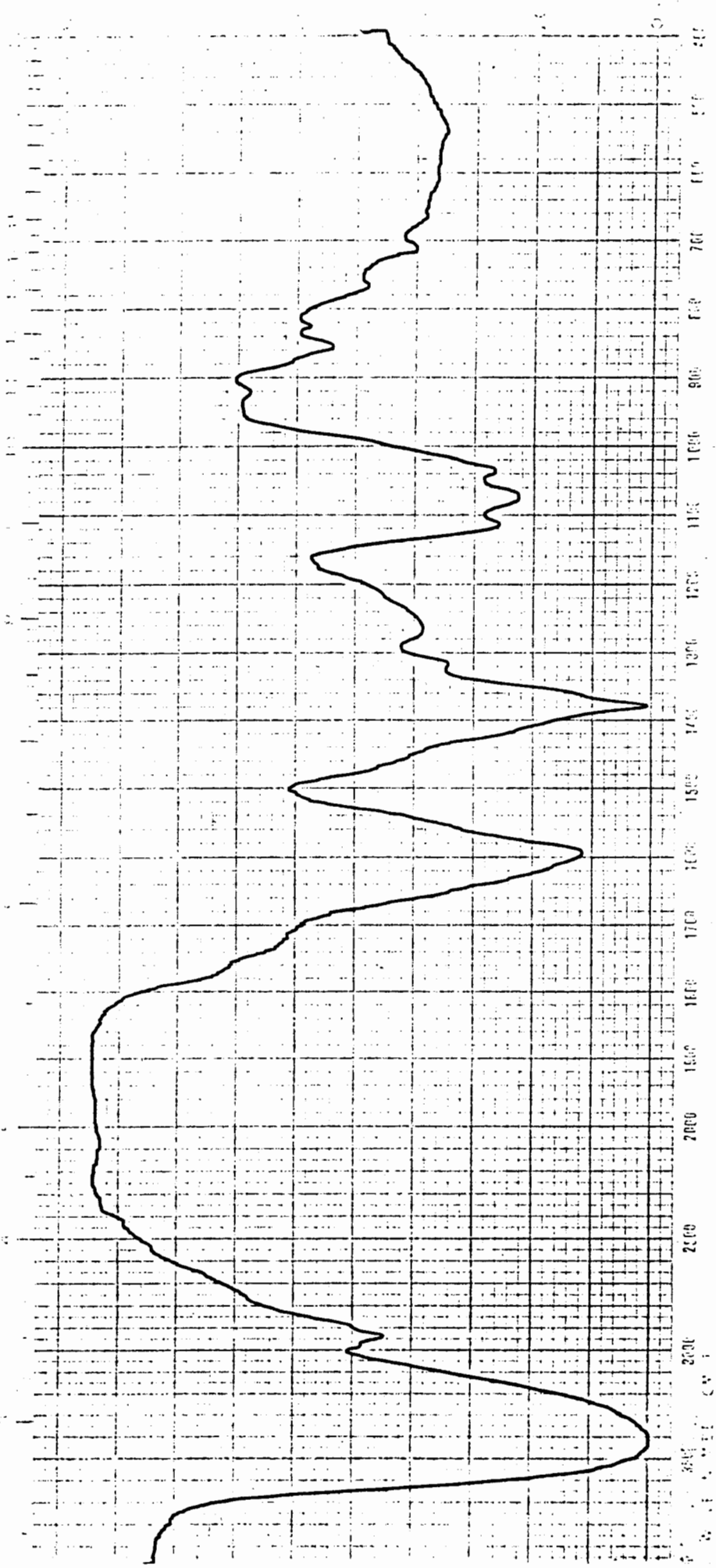
DATE 25/7/85

OPERATOR MPB

ATTACH

CHART NO EPI-G21

INFRARED SPECTROPHOTOMETER



SPECTRUM NO.

SAMPLE

*Aloe Vera Gel*

*# 006*

THICKNESS

*KBr disk*

REMARKS

RESOLUTION *N*

GAIN *3*

SPEED *F1*

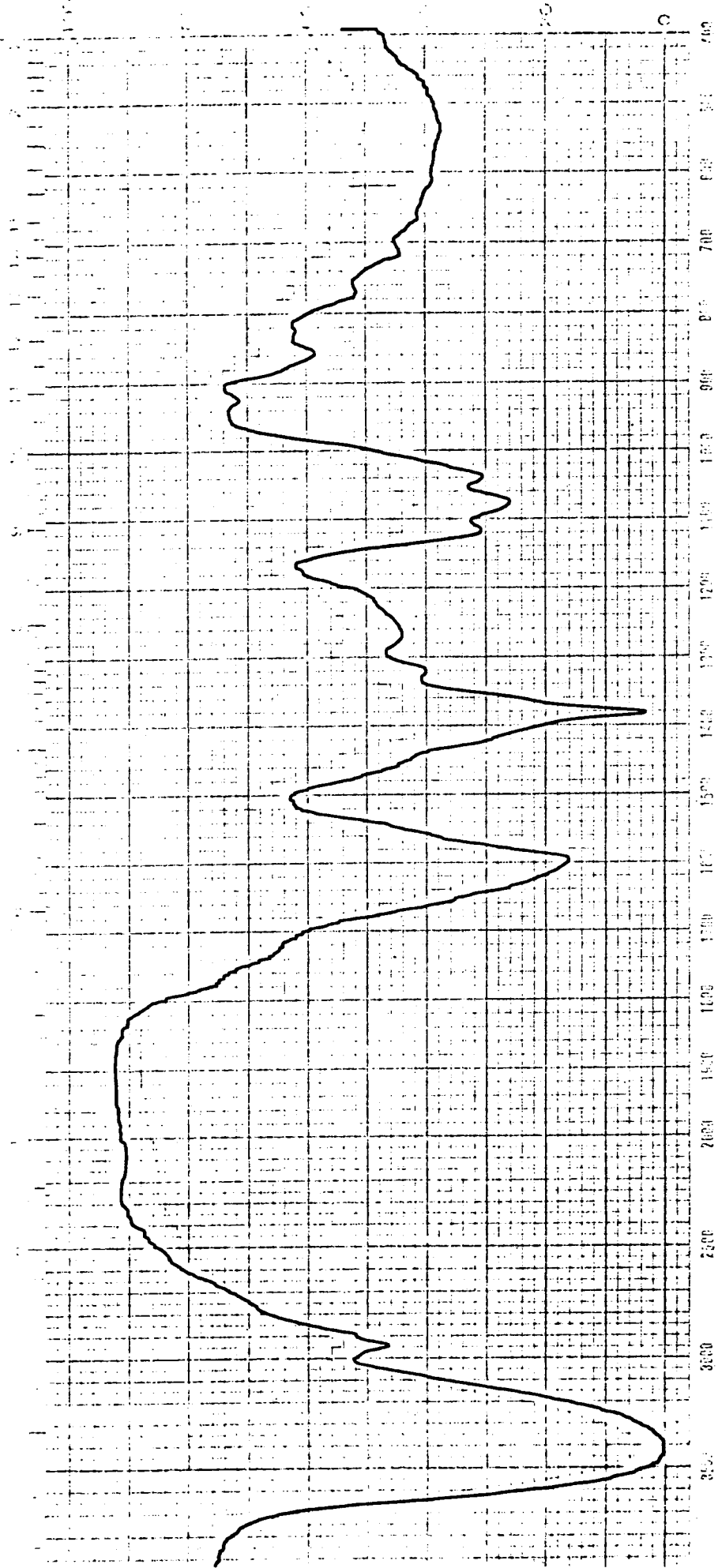
DATE *26/7/85*

OPERATOR *MPB*

MITACHI

CHART NO. EPI-G21

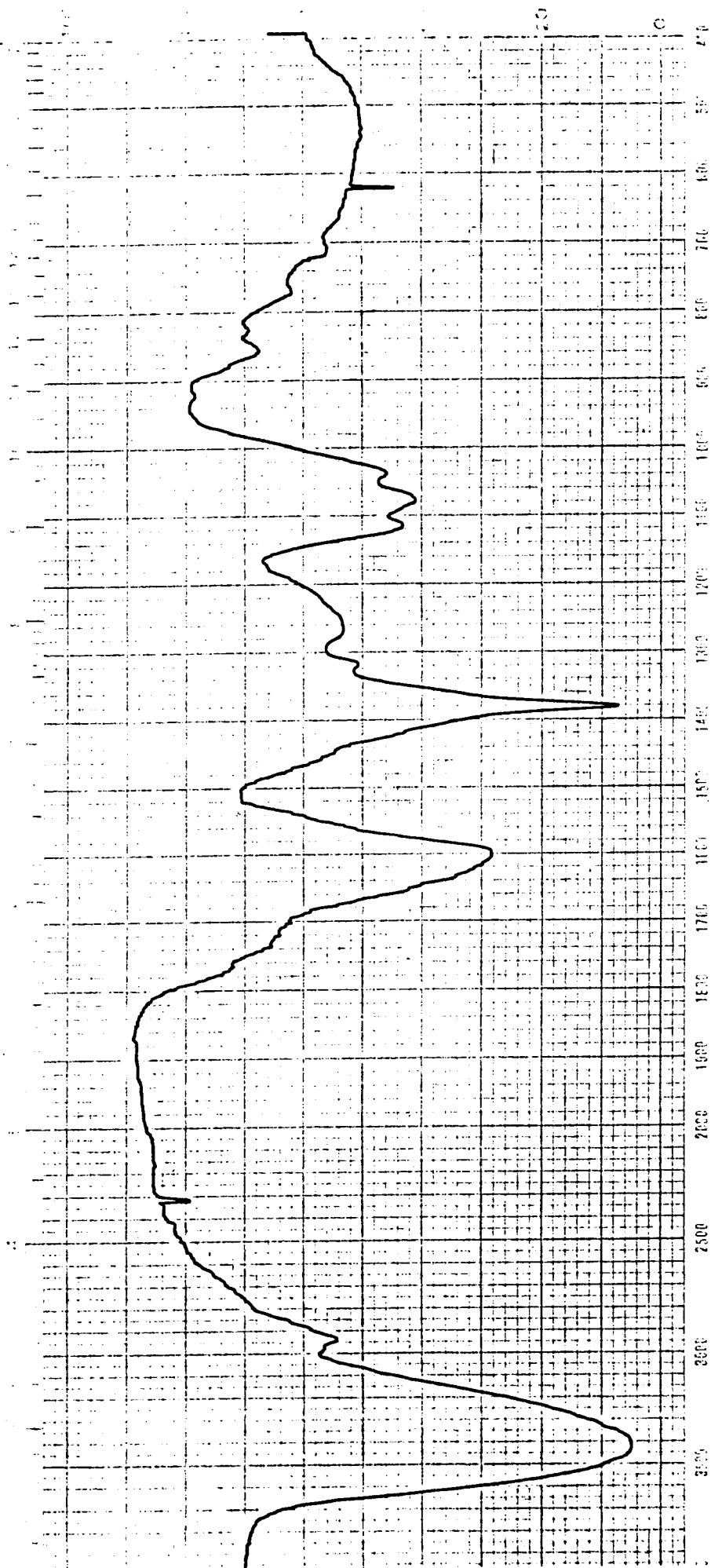
IR INFRARED SPECTROPHOTOMETER



SPECTRUM NO. \_\_\_\_\_ RESOLUTION *N*  
SAMPLE *ALOE VERA GEL* GRAB *3* FILE *MTA-GHE*  
# *007* DATE *26/7/85* OPERATOR *MMB*  
THICKNESS \_\_\_\_\_ CHART NO. *EPI-G21*  
*KBr disk*

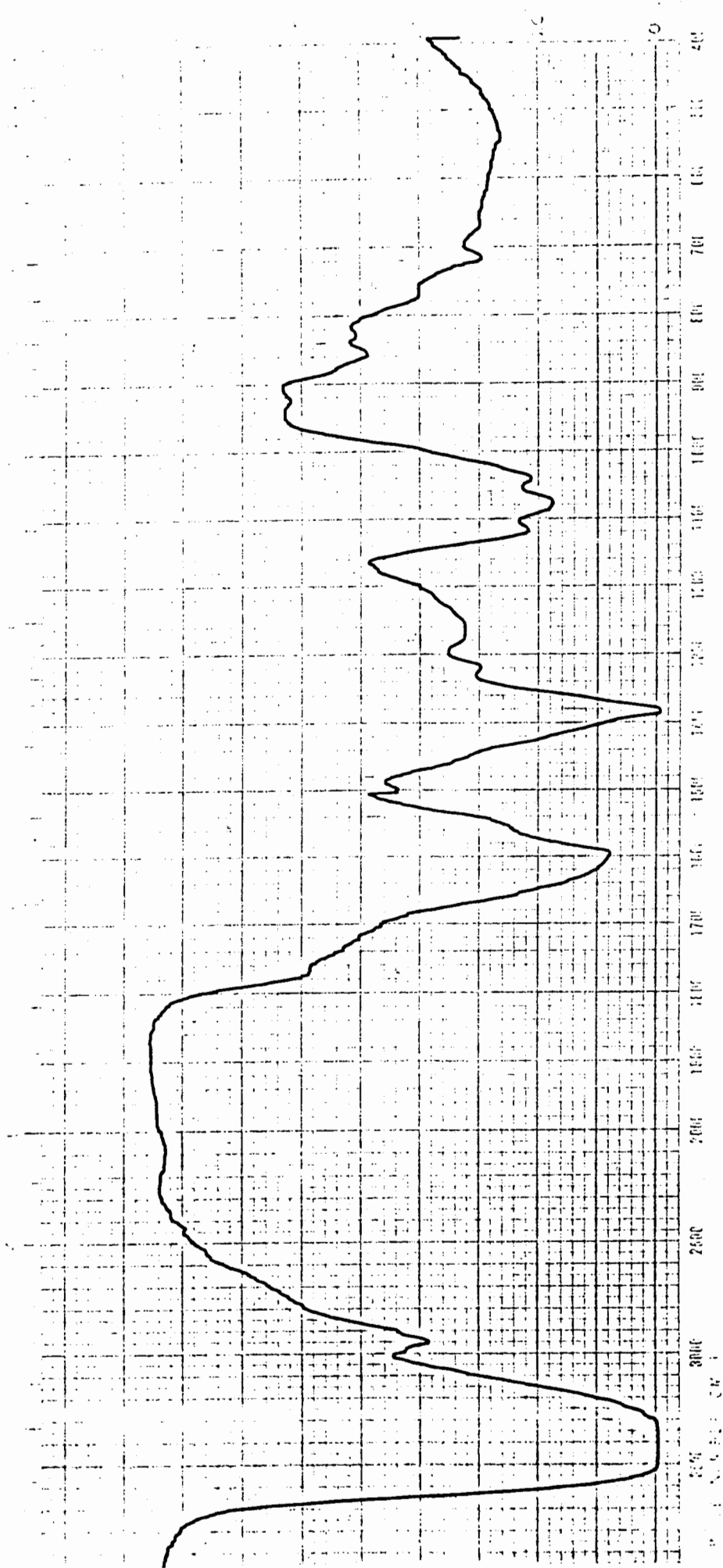


INFRARED SPECTROPHOTOMETER



SPECTRUM NO. \_\_\_\_\_  
 SAMPLE ALOE VERA GEL  
 # 008  
 THICKNESS KBr disk  
 REMARKS \_\_\_\_\_  
 RESOLUTION N  
 GAIN 3  
 SPEED FI  
 DATE 26/7/85  
 OPERATOR MPB  
 CHART NO. EPI-G21  
 MITACHI

IRRADED SPECTROPHOTOMETER



SPECTRUM NO. \_\_\_\_\_

DATE \_\_\_\_\_

ALOE VERA GEL

# 009

PREPARED BY \_\_\_\_\_

KSR disk

REMARKS \_\_\_\_\_

RESOLUTION N

SCAN 3

SPEED F1

DATE 26/7/85

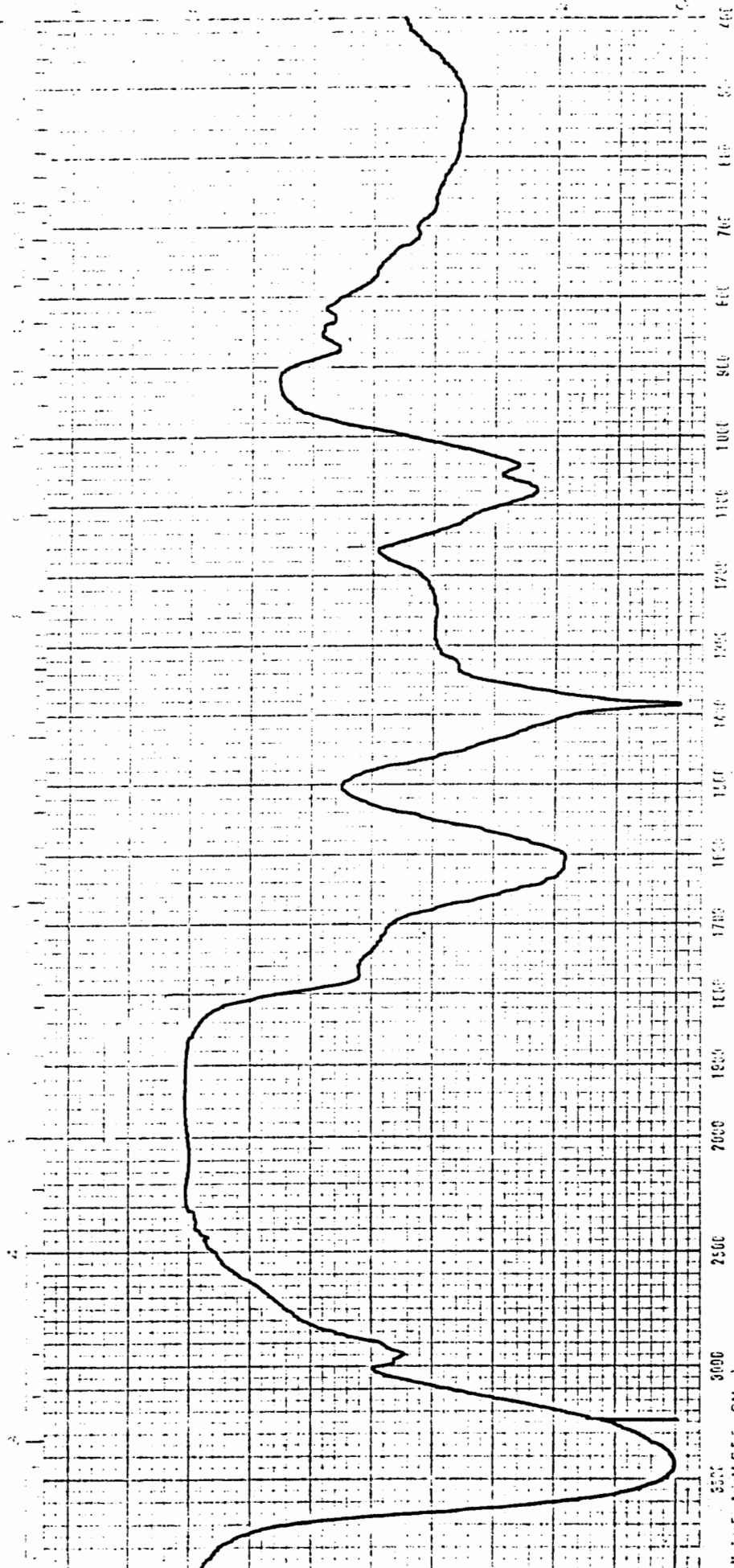
OPERATOR AMB

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CHART NO. EPI-G21

INFRARED SPECTROPHOTOMETER



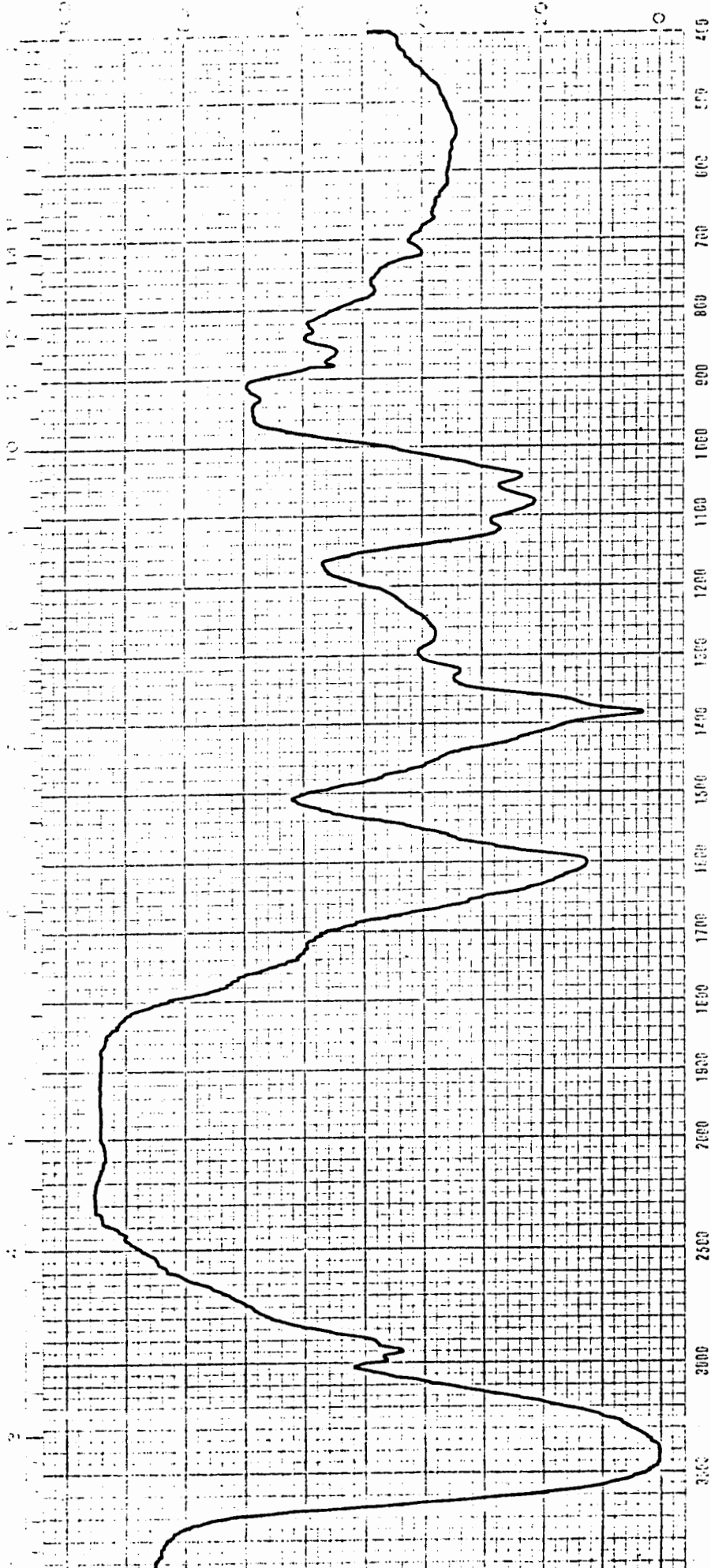
SPECTRUM NO. \_\_\_\_\_  
SAMPLE \_\_\_\_\_  
100% VELO GEL # 010  
THICKNESS \_\_\_\_\_  
KBr disk

REMARKS \_\_\_\_\_  
RESOLUTION *N*  
GAIN *3*  
SPEED *FI*  
DATE *26/7/85*  
OPERATOR *mb*

ATTACHMENT

CHART NO. EPI-G21

INFRARED SPECTROPHOTOMETER



SPECTRUM NO. \_\_\_\_\_

SAMPLE ALOE VERA GEL

THICKNESS # 011

RESOLUTION N

GAIN 3

SPEED F1

DATE 2/7/85

OPERATOR pmf

REMARKS \_\_\_\_\_

CHART NO. EPI-G21

UNITED STATES DEPARTMENT OF AGRICULTURE