

TEST DATA ANALYSIS



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PDD TEST DATA

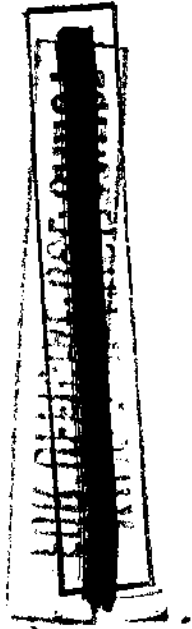
(POLYGRAPH CHART)

**A LENGTH OF GRAPH PAPER
CONTAINING TRACINGS OF
SELECTED PSYCHOPHYSIOLOGICAL
ACTIVITY OF THE EXAMINEE IN
RESPONSE TO STIMULI.**

FOR OFFICIAL USE ONLY

RESPIRATORY TRACING

THE DISPLAY OF PHYSIOLOGICAL
PATTERNS INDICATIVE OF THE
EXAMINEE'S BREATHING ACTIVITY
AS RECORDED BY THE
PNEUMOGRAPH COMPONENT.



ELECTRODERMAL TRACING

THE DISPLAY OF PHYSIOLOGICAL

PATTERNS OF EITHER SKIN RESISTANCE

OR SKIN CONDUCTANCE OBTAINED

THROUGH EXOSOMATIC RECORDING

WITH A GALVANOGRAPH COMPONENT.

FOR REPRODUCTION ONLY

CARDIOVASCULAR TRACING

THE DISPLAY OF PHYSIOLOGICAL
PATTERNS OF THE SUBJECT'S
RELATIVE BLOOD VOLUME AND
PULSE RATE AS RECORDED WITH
A CARDIOGRAPH COMPONENT.



REACTION

RESPONSE TO A STIMULUS;
EITHER PHASIC OR TONIC.



HOMEOSTATIC CHANGES

A DEVIATION IN ANY TRACING
ATTRIBUTABLE TO A PHYSIOLOGICAL
PHENOMENA OCCURRING AS A
COMPENSATORY ACTION AFTER
REACTION OR AN ARTIFACT.

ARTIFACT

A CHANGE IN PHYSIOLOGICAL
PATTERN NOT ATTRIBUTABLE TO
STIMULUS, OR HOMEOSTATIC
CHANGES.



SIGNAL/NOISE

A TRACING MAY BE DESCRIBED AS
BEING FREE OF ARTIFACTS WHEN
THERE IS NO UNWANTED NOISE ON
THE SIGNAL OF INTEREST.

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APPLYING A STIMULUS

ALL SIGNALS HAVE NOISE

IN PDD TESTING UNWANTED NOISE ON A TRACING IS THAT NOISE THAT PREVENTS A STIMULUS FROM BEING APPLIED, I.E., ARTIFACT, REACTION, OR RETURN TO HOMEOSTASIS.

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CALIFORNIA STATE POLICE
1000 120 10000 701

SPOT ANALYSIS

THE PROCEDURE WHEREIN EACH TRACING ON EACH TEST IS SEPARATELY EVALUATED BY COMPARING THE RESPONSE OF A RELEVANT QUESTION TO THE RESPONSE OF A CONTROL QUESTION.

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PNEUMOGRAPH

Consists of inhalation and exhalation strokes with the adjusted amplitudes from $1/2$ to 1 inch.

The desired amplitude is $3/4$ of an inch .

The normal cyclic rate is 13 to 18 breaths per minute. This may vary due to a person's physical condition and/or physical build.

PNEUMOGRAPH

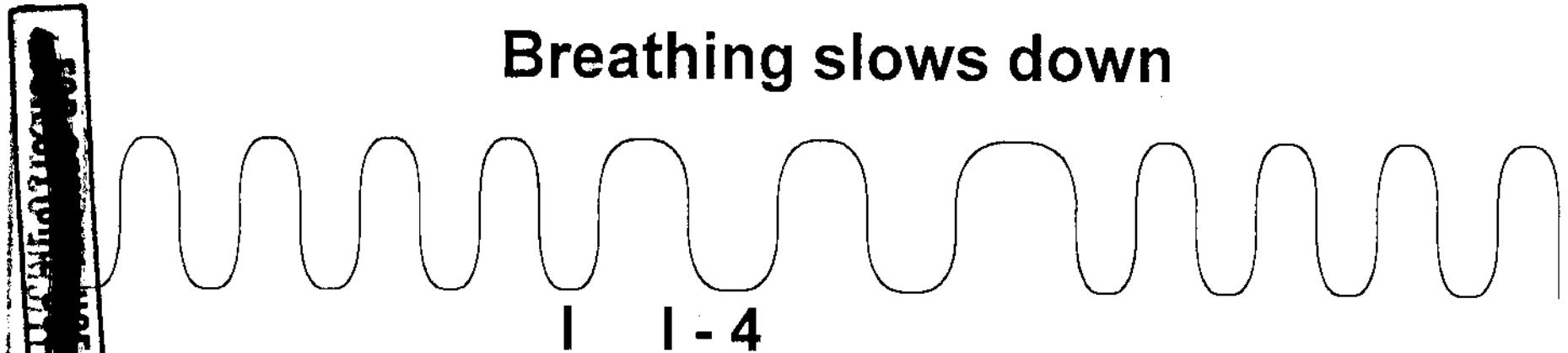
Evaluation Criteria

PNEUMOGRAPH CHANGES MAY BE CONSIDERED REACTIONS WHEN OCCURRING IN A TIMELY MANNER TO AN APPLIED STIMULUS (A REVIEWED TEST QUESTION) WHEN THERE IS NO UNWANTED NOISE ON THE SIGNAL OF INTEREST.

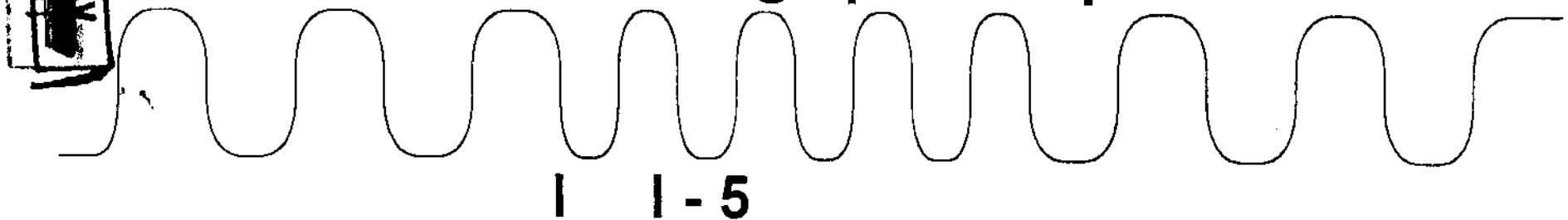
PNEUMOGRAPH CRITERIA

1. *CHANGES IN RATE*

Breathing slows down



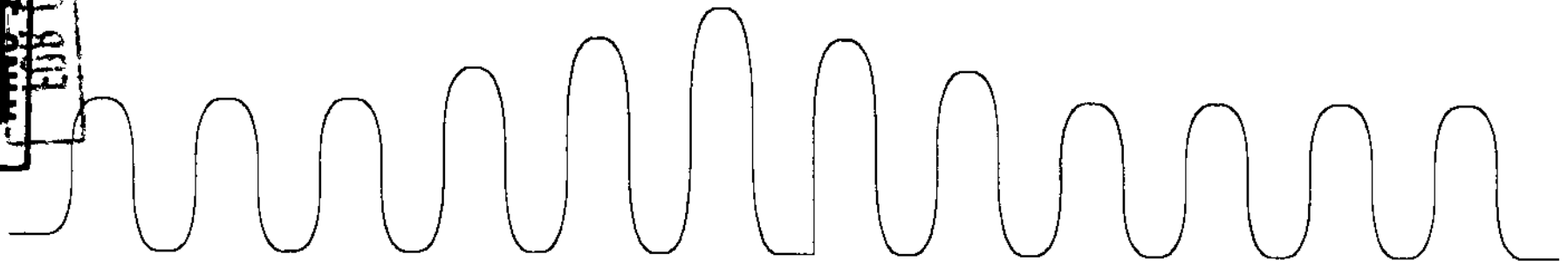
Breathing speeds up



PNEUMOGRAPH CRITERIA

2. *Changes in Amplitude*

Increase in amplitude



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PNEUMOGRAPH CRITERIA

2. *Change in Amplitude*

Progressively increasing in amplitude followed by progressively decreasing in amplitude, timely with the stimulus.

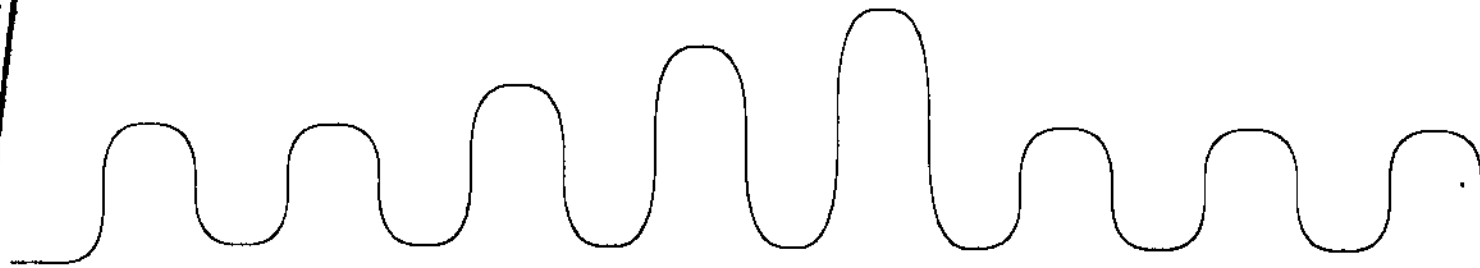


11-3

PNEUMOGRAPH CRITERIA

2. *Change in Amplitude*

Progressively increasing in amplitude, timely with the stimulus and return to homeostasis.



11-5

1Q

61

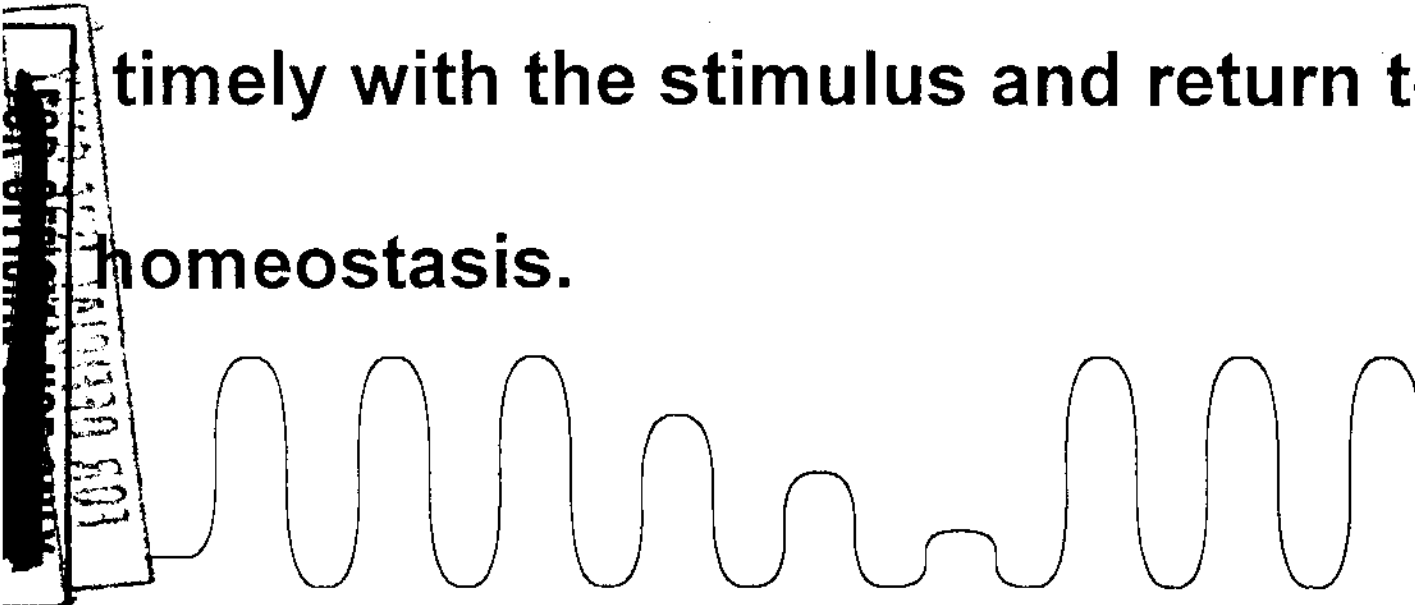
PNEUMOGRAPH CRITERIA

2. *Change in Amplitude*

Progressively decreasing in amplitude,

timely with the stimulus and return to

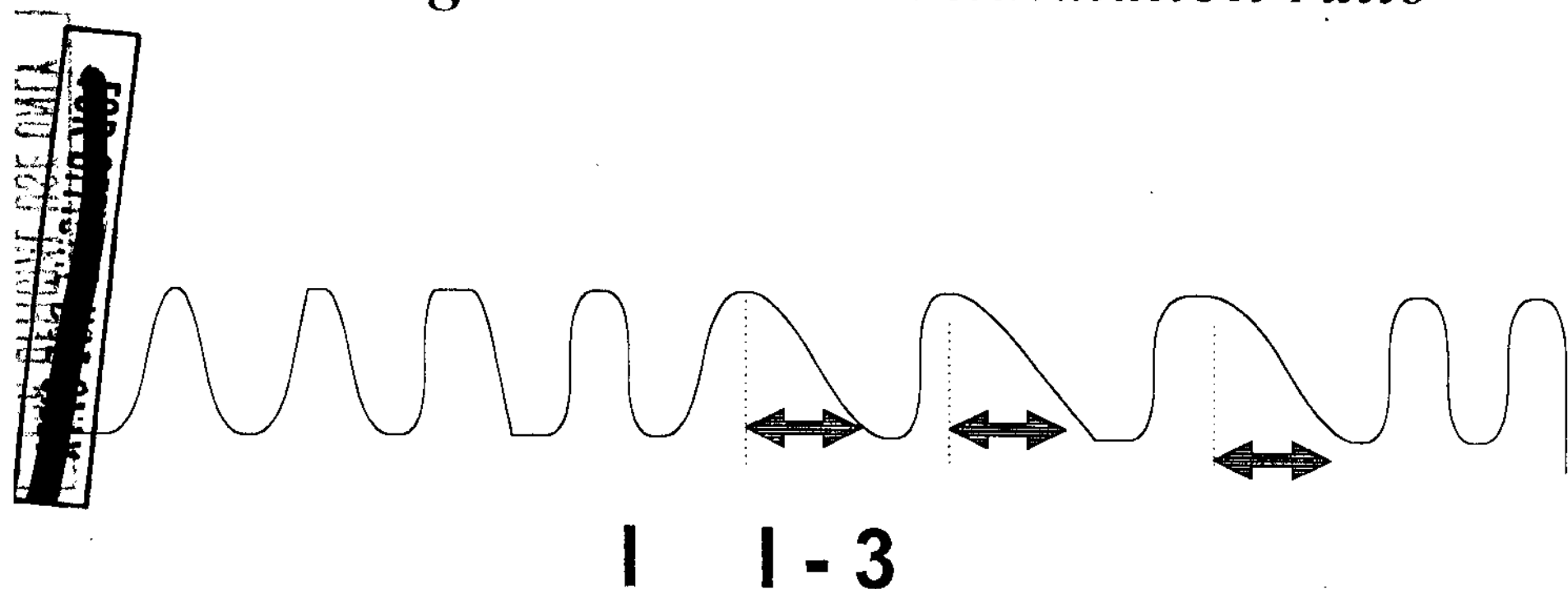
homeostasis.



1 1 - 5

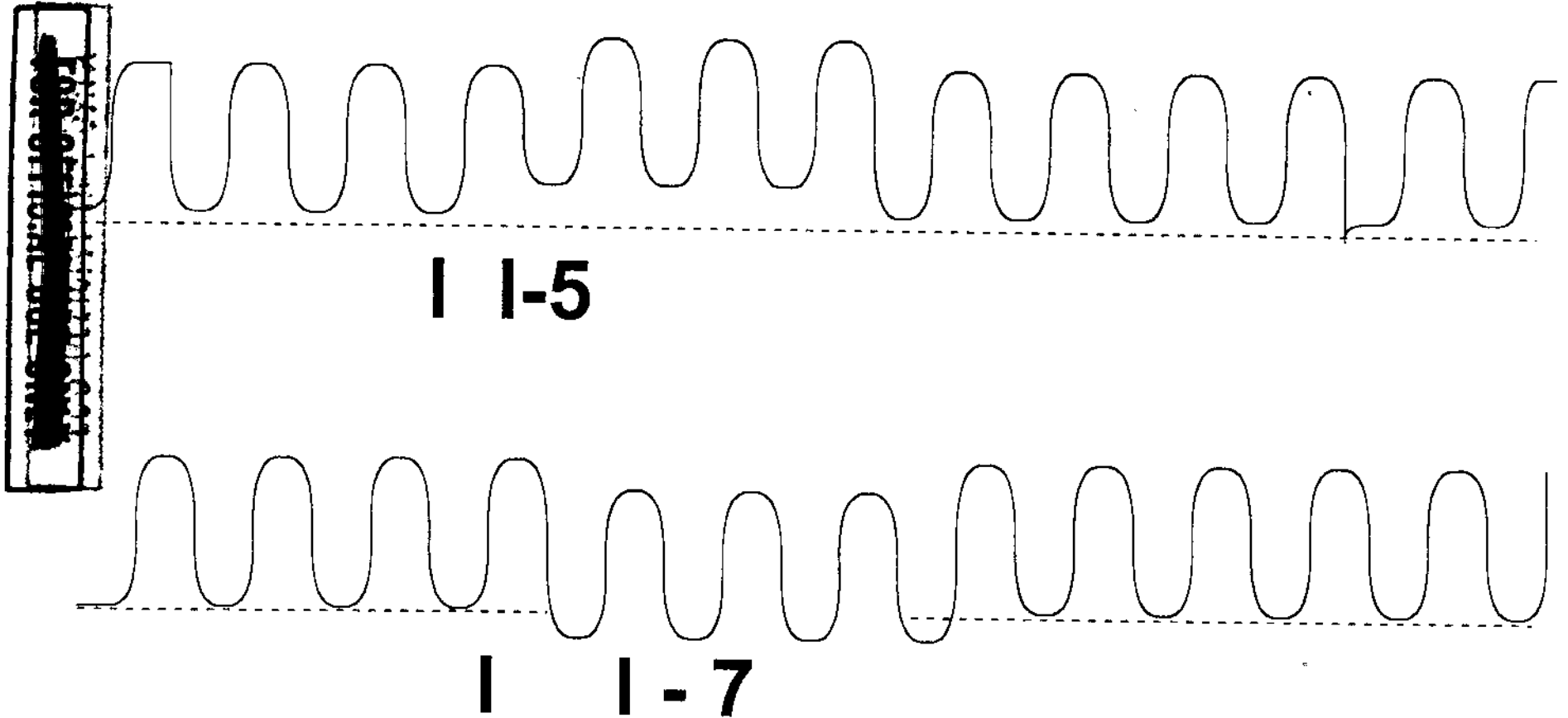
PNEUMOGRAPH CRITERIA

3. *Change in inhalation/exhalation ratio*



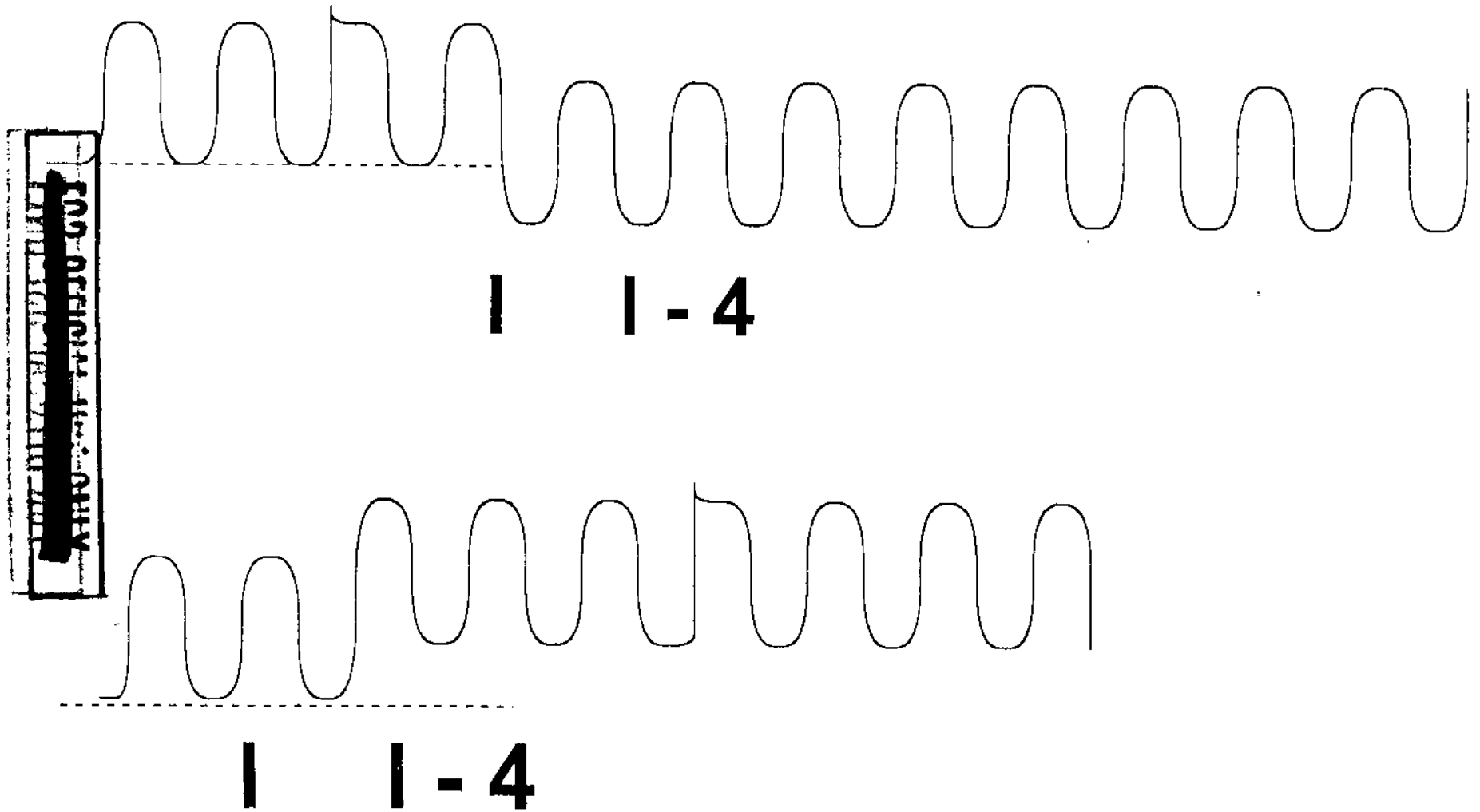
PNEUMOGRAPH CRITERIA

4. *Change of baseline*



PNEUMOGRAPH CRITERIA

4. *Loss of Baseline*

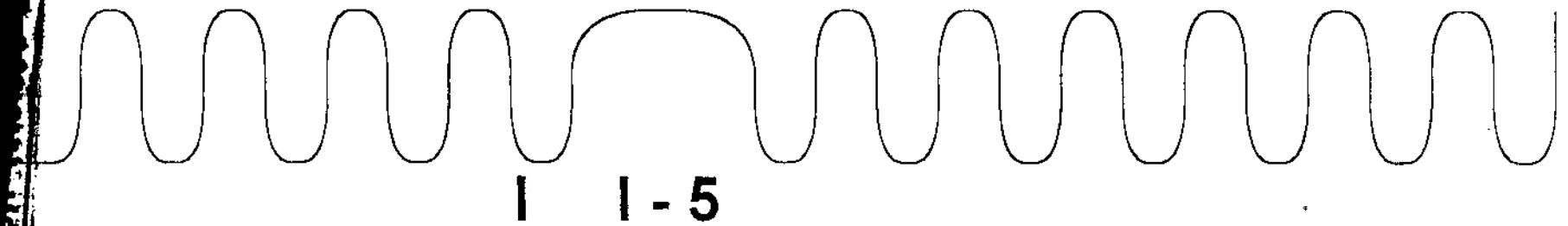


1U

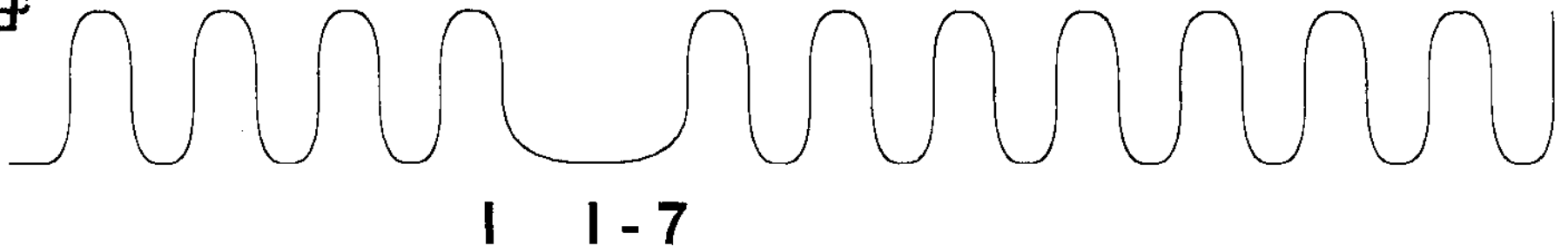
PNEUMOGRAPH TRACING

6. APNEA

Holding



Blocking



ELECTRODERMAL TRACING

Two types of tracings are skin resistance (GSR) and skin conductance (GSG).

The electrodermal tracing consists of a relatively horizontal tracing indicative of the level of the electrical resistance in the skin, due to skin hydration. The sensitivity has been properly adjusted when the examinee shows a response to a stimulus.

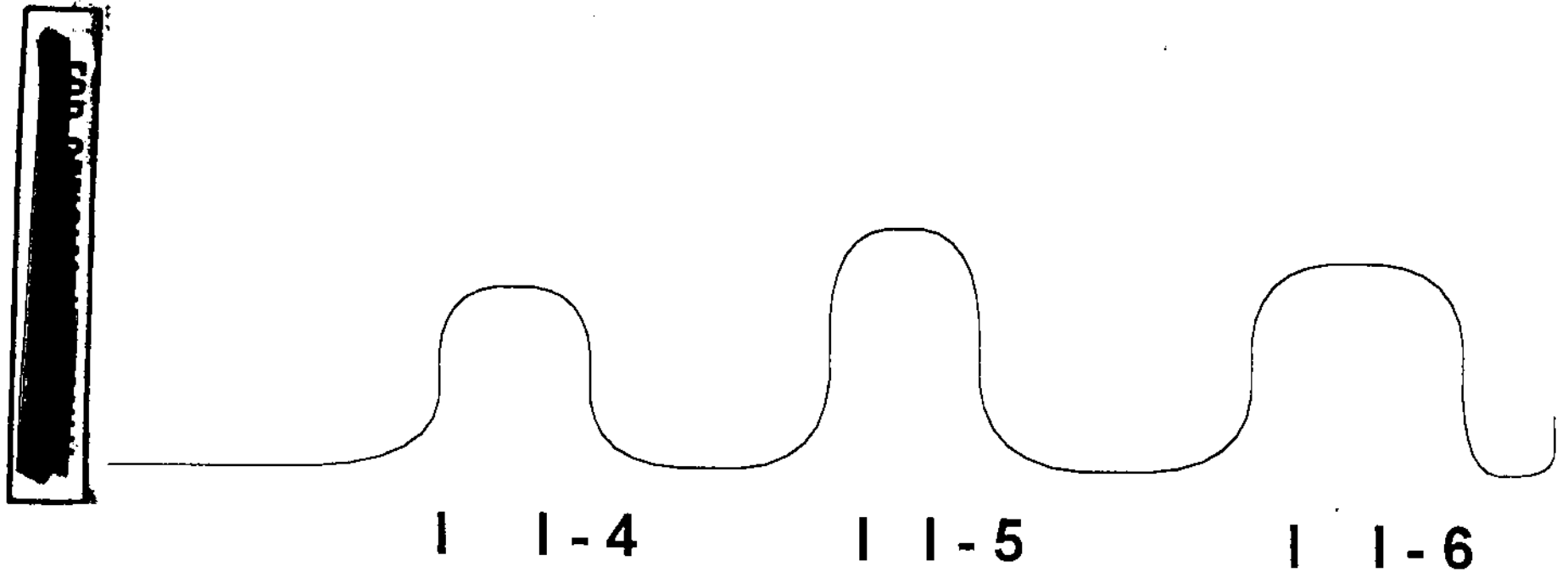
No stimuli applied



1WW

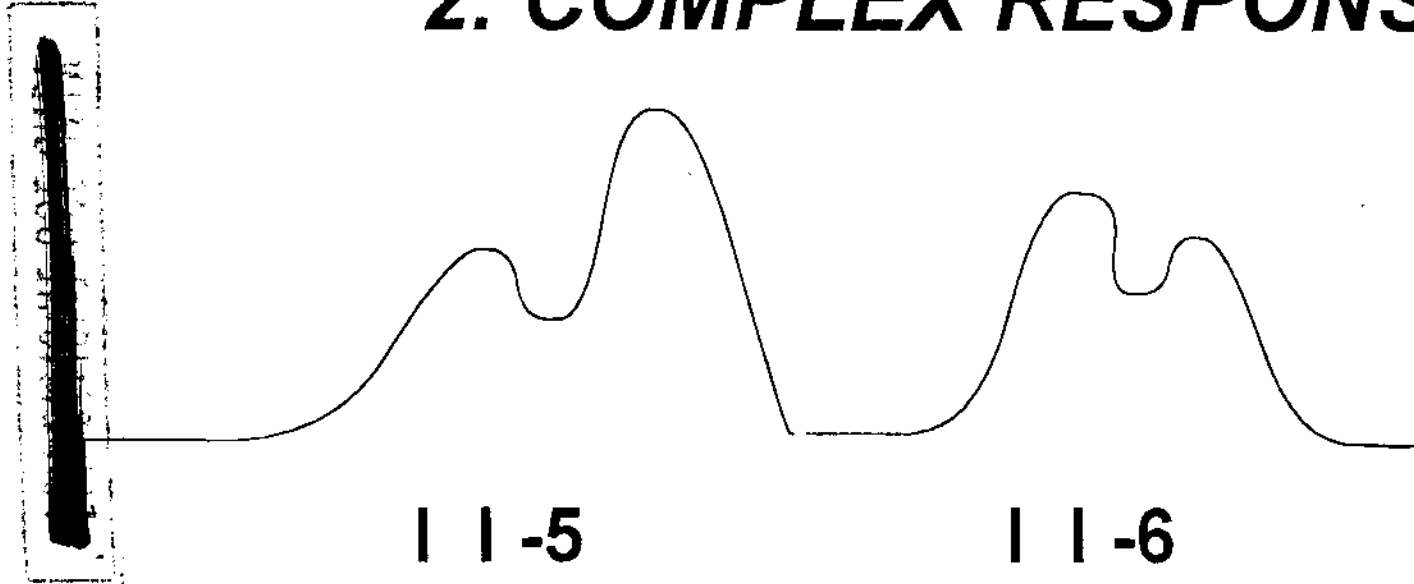
ELECTRODERMAL TRACING

1. CHANGE IN AMPLITUDE.



ELECTRODERMAL TRACING

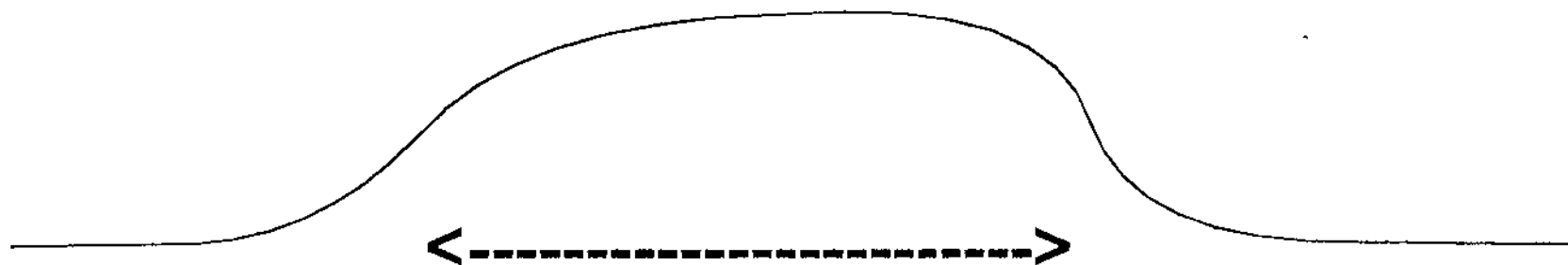
2. *COMPLEX RESPONSE*



1Y

ELECTRODERMAL Tracing

3. *DURATION of RESPONSE*



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CARDIOVASCULAR TRACING

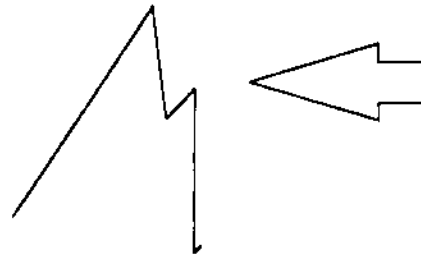
The contraction and relaxation of the heart causes the polygraph to record the systolic stroke, diastolic stroke, and the dicrotic notch which appears in the diastolic stroke. The tracings should be adjusted from 1/2 to 1 inch, with the desired amplitude being 3/4 of an inch.

CARDIOVASCULAR TRACING

SYSTOLIC STROKE

DIASTOLIC STROKE

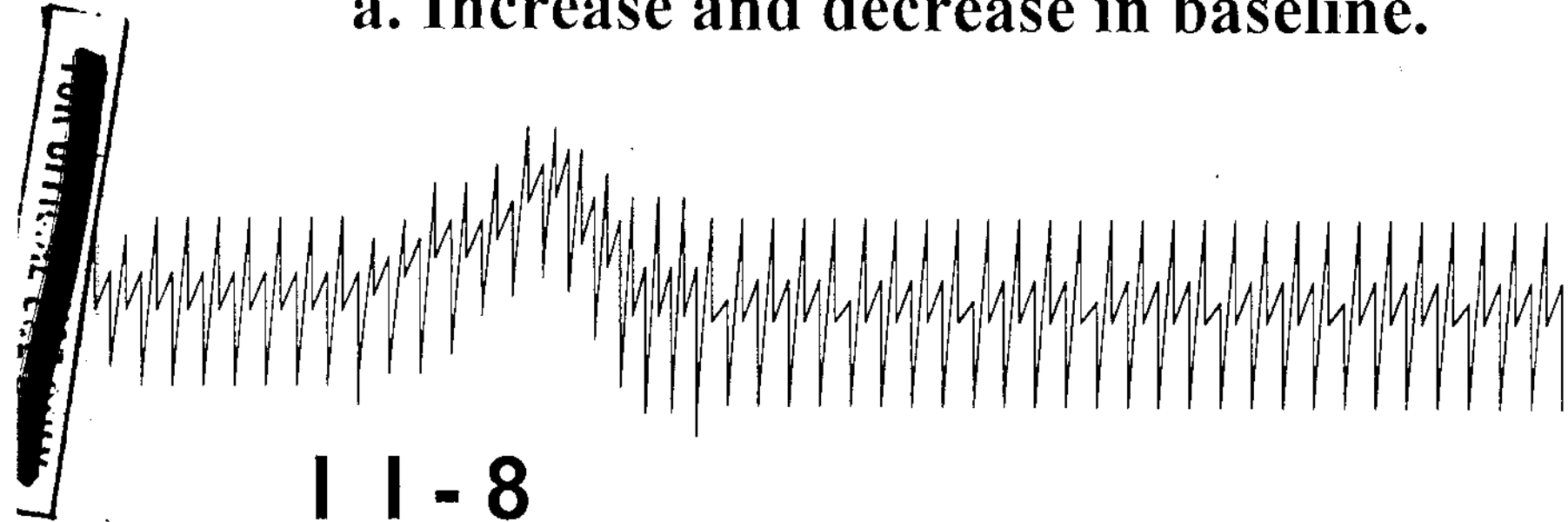
DICROTIC NOTCH



CARDIOVASCULAR TRACING

1. CHANGE IN BASE LINE

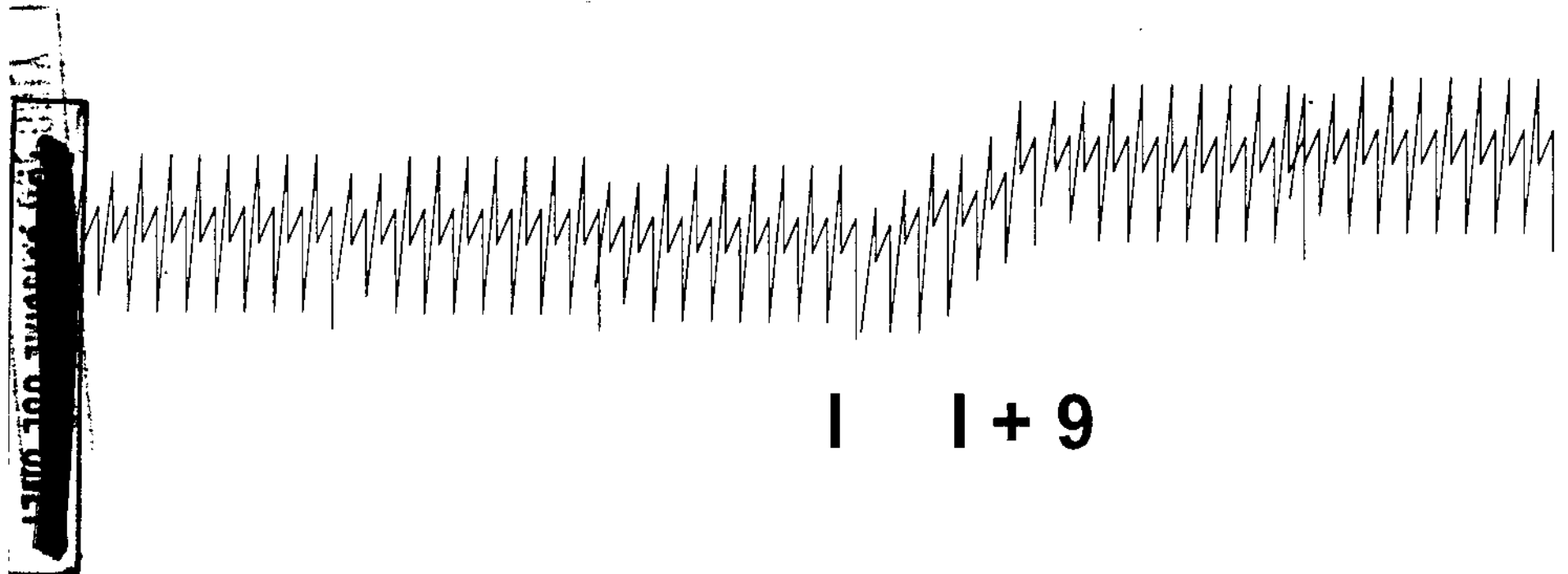
a. Increase and decrease in baseline.



11-8

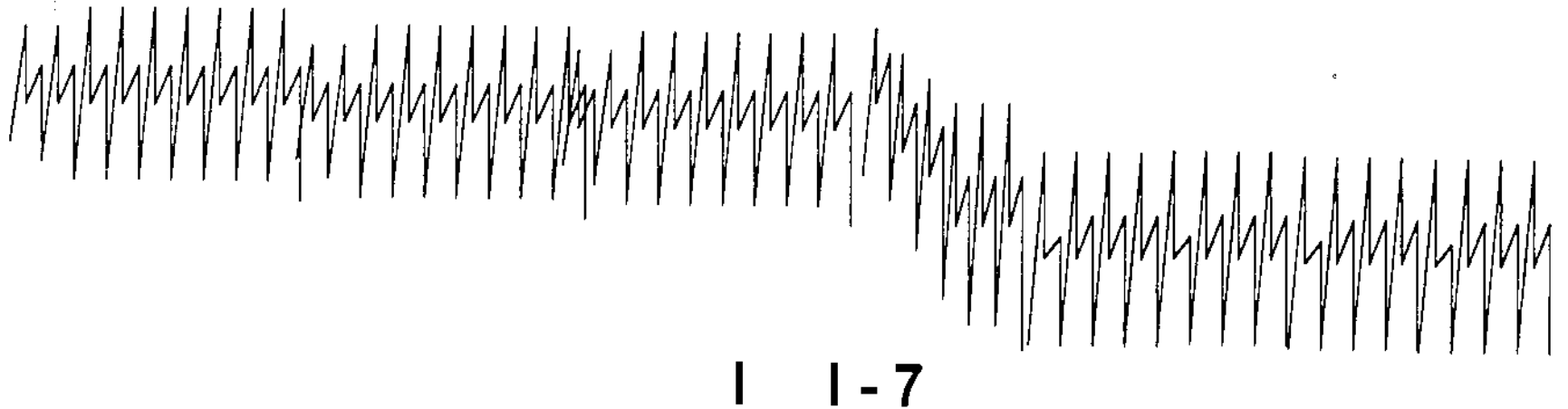
CARDIOVASCULAR TRACING

b. Increase only in base line



CARDIOVASCULAR TRACING

c. Decrease only in baseline.

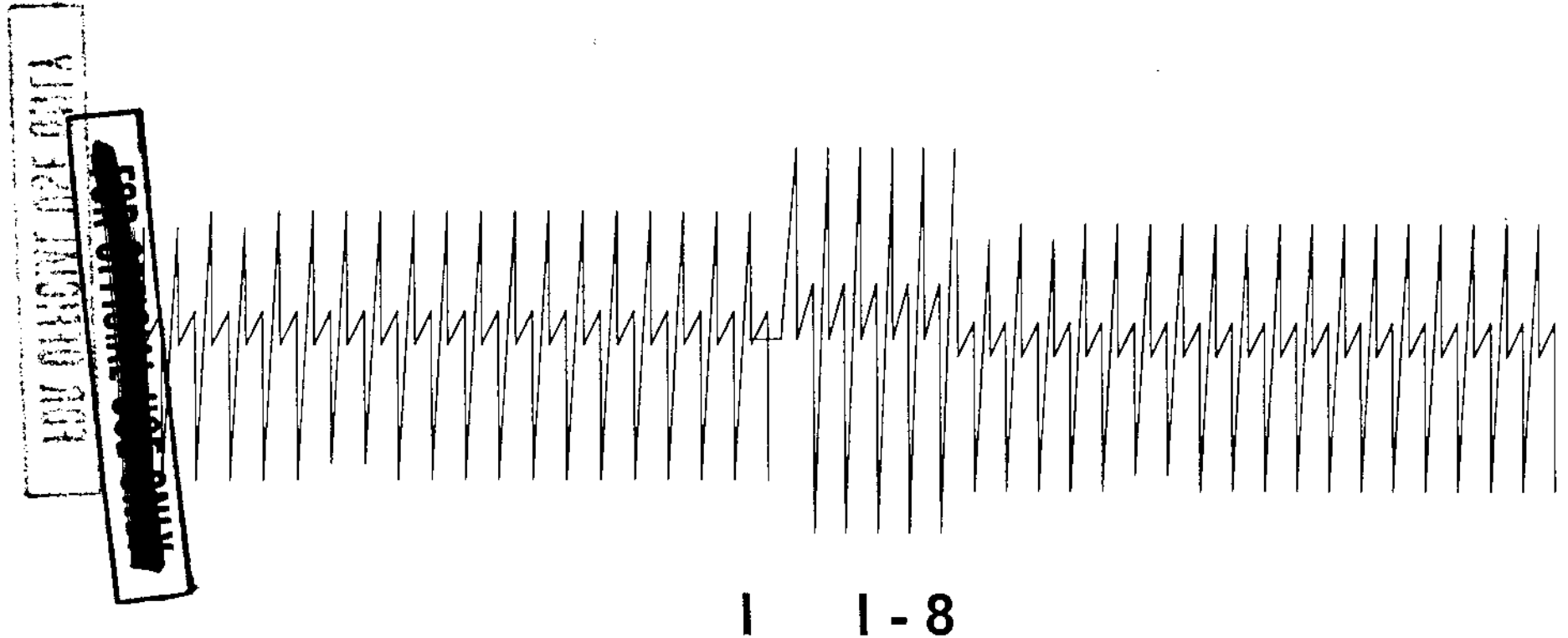


2D

CARDIOVASCULAR TRACING

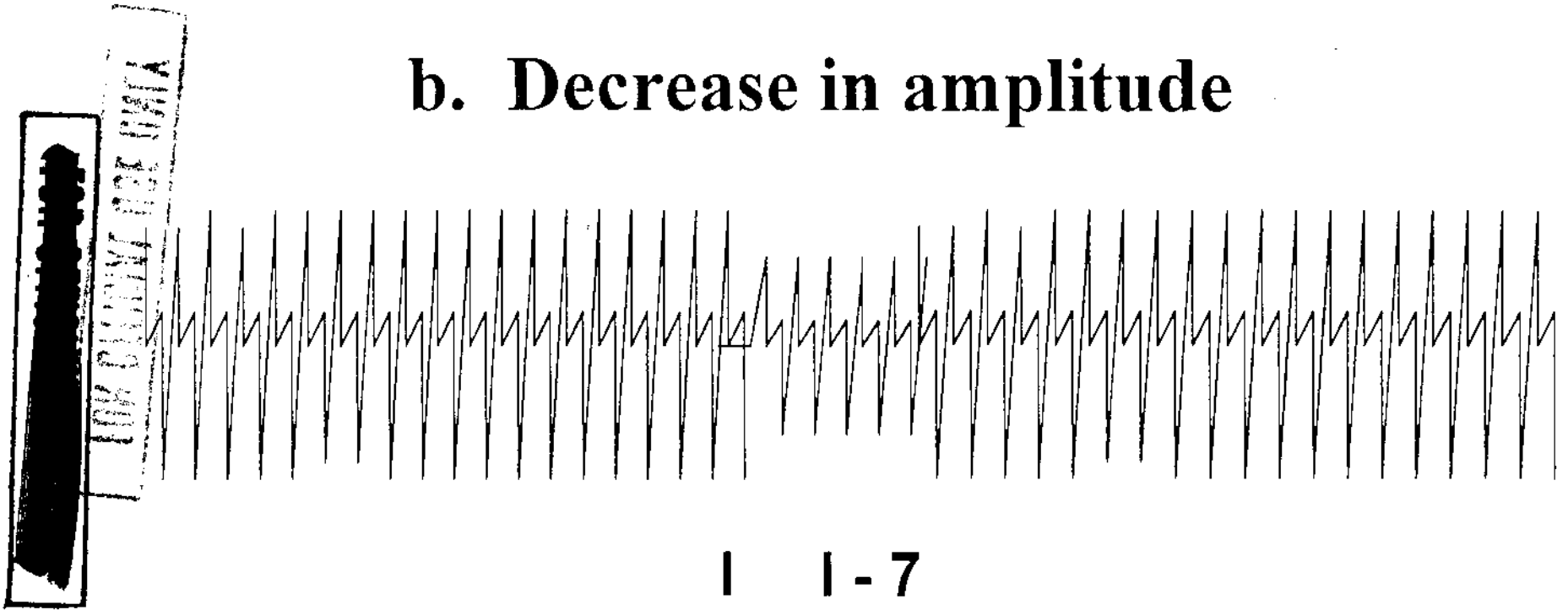
2. CHANGE IN AMPLITUDE

a. Increase in amplitude.



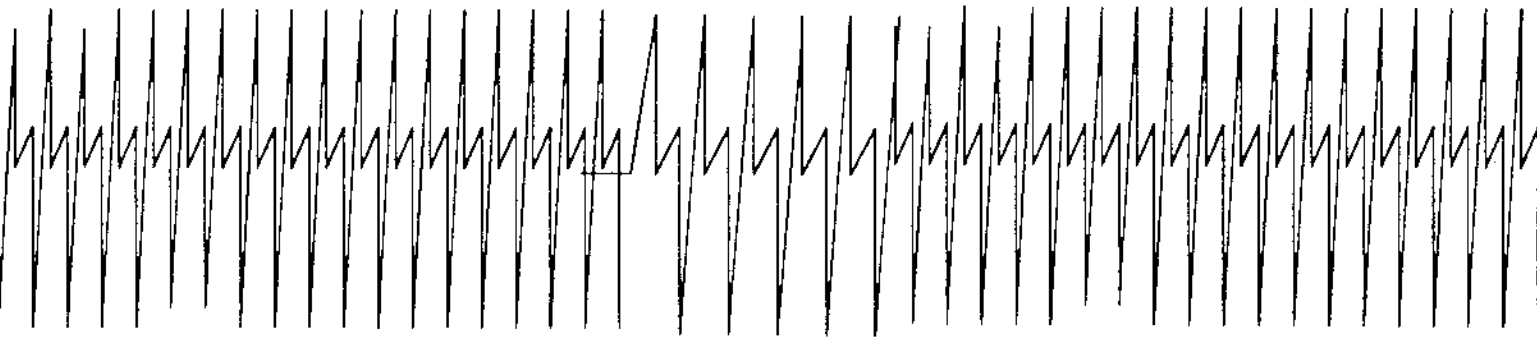
CARDIOVASCULAR TRACING

b. Decrease in amplitude



CARDIOVASCULAR TRACING

b. Decrease in rate.



I I-7

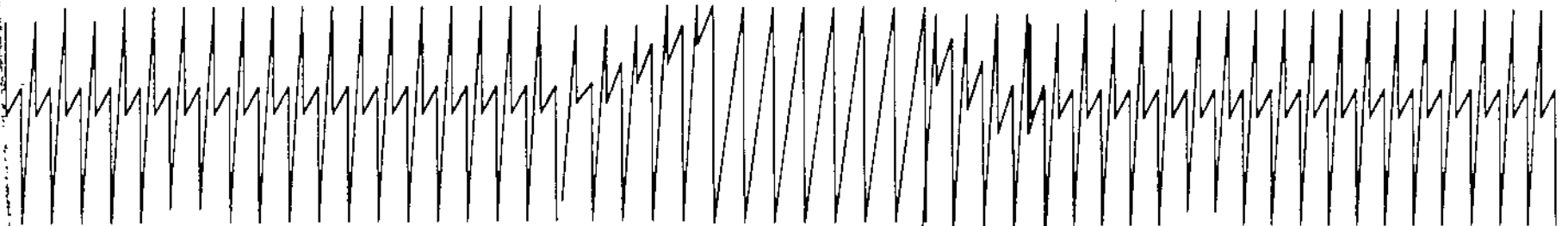
2H

37

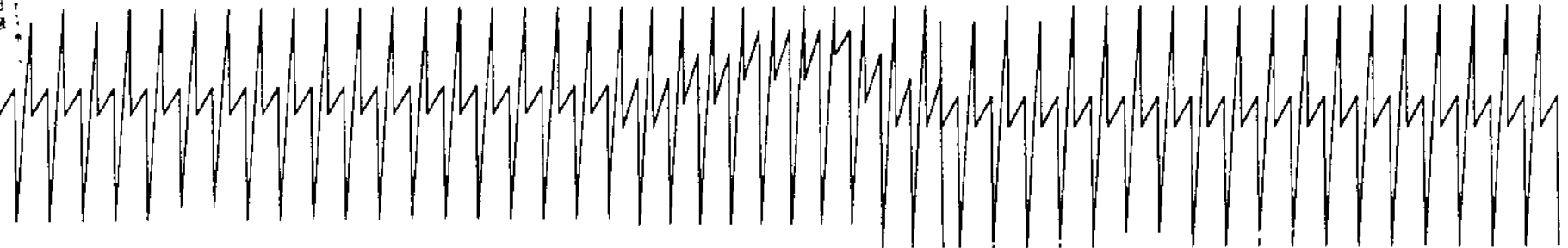
CARDIOVASCULAR TRACING

OTHER CRITERIA TO CONSIDER

Change in position or disappearance of
dicotic notch.



I I-7



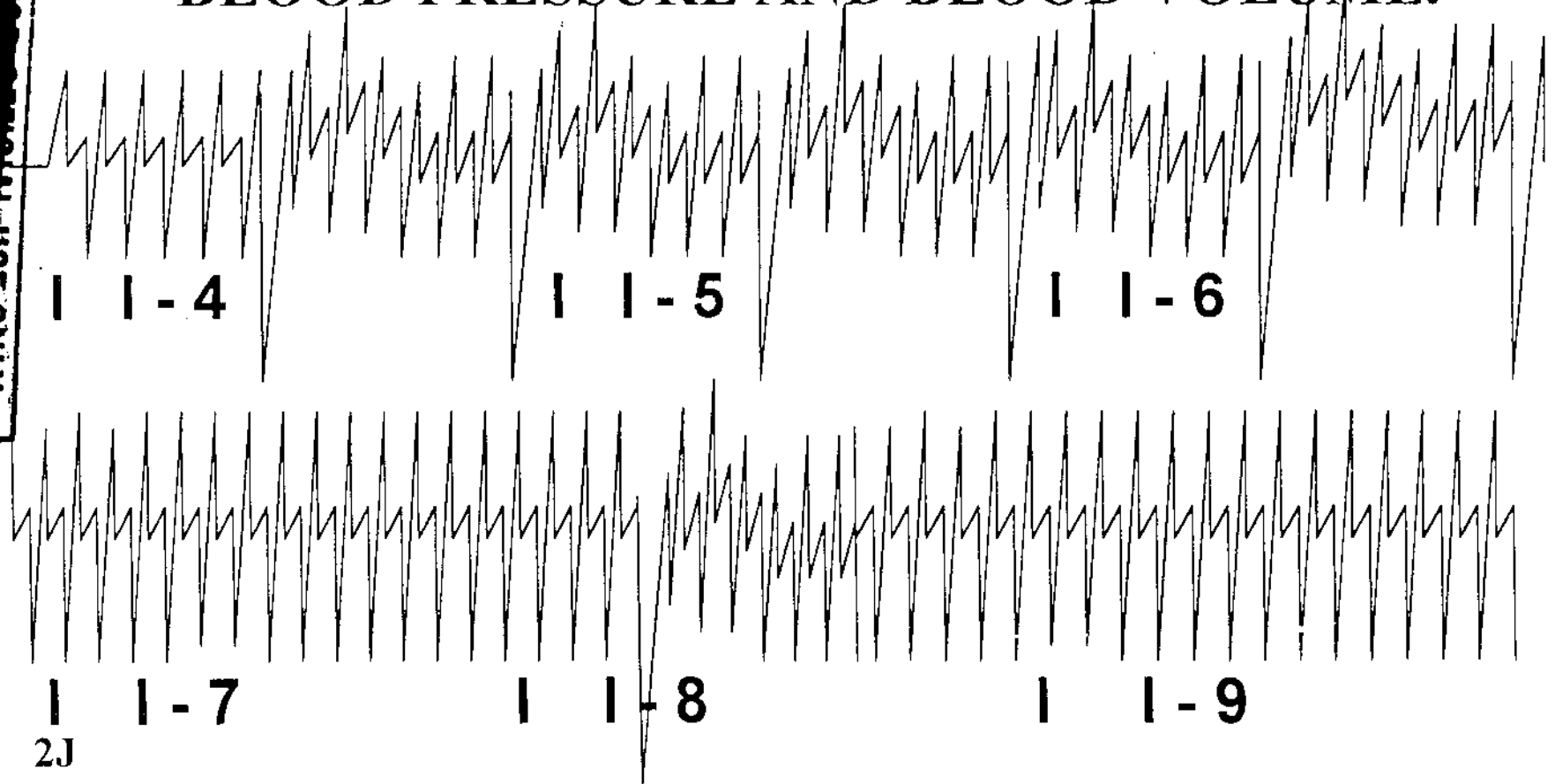
I I-8

CARDIOVASCULAR TRACING

OTHER CRITERIA TO CONSIDER

Premature Ventricular Contraction

A PVC RESULTS IN A SUDDEN DROP IN
BLOOD PRESSURE AND BLOOD VOLUME.



SEVEN-POSITION SCALE

USED FOR DETERMINING THE
NUMERICAL VALUE TO BE
ASSIGNED EACH RESPONSE.

THE SCALE IS CONSTRUCTED AS:

+3 +2 +1 0 -1 -2 -3

7 Position Scale

Assigning Values

When a reaction to a question is subtly greater than the question to which it is being compared a value of (1) is assigned. If the reaction is obviously better then a (2) is assigned. If the reaction is dramatically better a value of (3) is assigned. If both reactions are equal then a score of (0) is assigned.

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7 Position Scale

(continued)

When the reactions are greater at the **control**,

the value assigned will be positive (+), and

when the reactions are greater at the **relevant**,

the value is negative (-).

Combining Spot Values and Test Scores

Values for two pneumographs are combined. If one pneumo value for a spot is (+1) and the other PNEUMOGRAPH value for the same spot is (-1) then the spot is given a zero (0).

Example: Upper Pneumo	+ 1
Lower Pneumo	- 1
Combined	0

Example: Upper Pneumo	+1
Lower Pneumo	+1
Combined	+1

Test Data Analysis

Decision Criteria

Every inch of a PDD test contains one or more of the following four categories:

1. Signal/Noise
2. Artifact
3. Homeostatic Changes
4. Reaction

Test Data Analysis

(continued)

Only evaluate or consider changes that occur in a timely manner when the stimulus (the reviewed test question) has been asked while there is no unwanted noise on the signal of interest. (i.e., artifacts, homeostatic changes (returning to homeostasis), reaction.)

5/6

Combining Spot Values

The combined pneumo value is added to the electrodermal and cardiovascular values for a spot score for that test.

Each spot on a test receives a spot score. The spot scores from each test are added together for a spot total for each spot. The grand total is the sum of all spot totals.

Decision Criteria

There are three opinions that can be formed after the evaluation of a Probable Lie Control Test (PLCT).

1. NDI (No Deception Indicated)
2. DI (Deception Indicated)
3. INC (Inconclusive)

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Zone Comparison Test (ZCT)


There must be a "+" in every SPOT TOTAL with a GRAND TOTAL of + 6 or more, for an NDI opinion. A "-3" in any one SPOT TOTAL will form the basis for a DI opinion.

A "-2" to a "0" in any one SPOT TOTAL, where no one SPOT TOTAL is "-3" or greater or the GRAND TOTAL is not "-6" or +6 or greater, equals an Inconclusive exam.

ZCT Scoring Examples

AFTER THREE ASKINGS OF EACH RELEVANT

Spot I Spot II Spot III Grand Total

	<u>+6</u>	<u>0</u>	<u>+6</u>	<u>+12=INC</u>
	<u>+4</u>	<u>-1</u>	<u>-2</u>	<u>+ 1=INC</u>
	<u>-1</u>	<u>+6</u>	<u>+6</u>	<u>+11=INC</u>
	<u>-3</u>	<u>+6</u>	<u>+6</u>	<u>+ 9= DI</u>
	<u>+2</u>	<u>+2</u>	<u>+2</u>	<u>+ 6=NDI</u>
	<u>-2</u>	<u>-2</u>	<u>-2</u>	<u>- 6= DI</u>

MODIFIED GENERAL QUESTION TEST MGQT

There must be at least a "+3" in every SPOT TOTAL to arrive at the opinion of NDI. A "-3" in any SPOT TOTAL, regardless of the other SPOT TOTALS will be the basis for a DI opinion. Any other combination not meeting the criteria for DI or NDI is considered inconclusive.

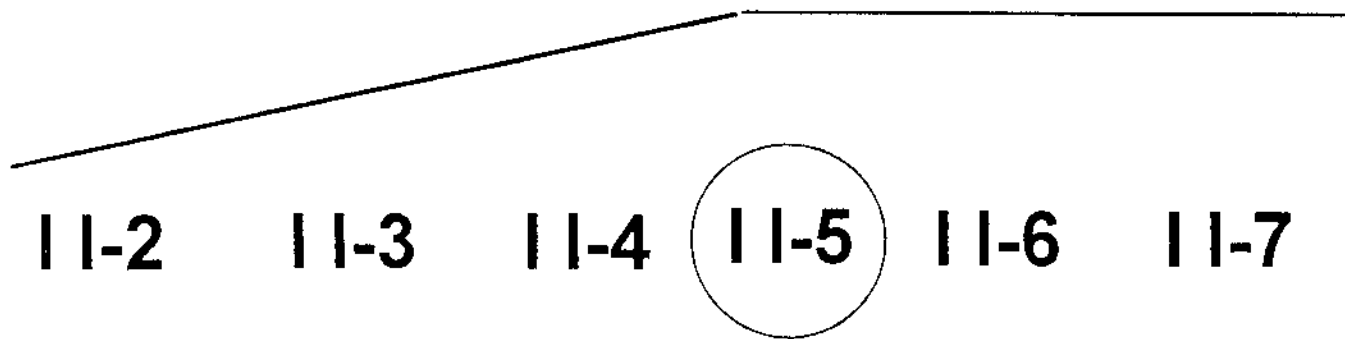
MGQT SCORING

SPOT I	SPOT II	SPOT III	SPOT IV	DECISION
+1	+4	+4	+3	INC
+3	+5	+3	+4	NDI
-2	-5	0	-1	DI

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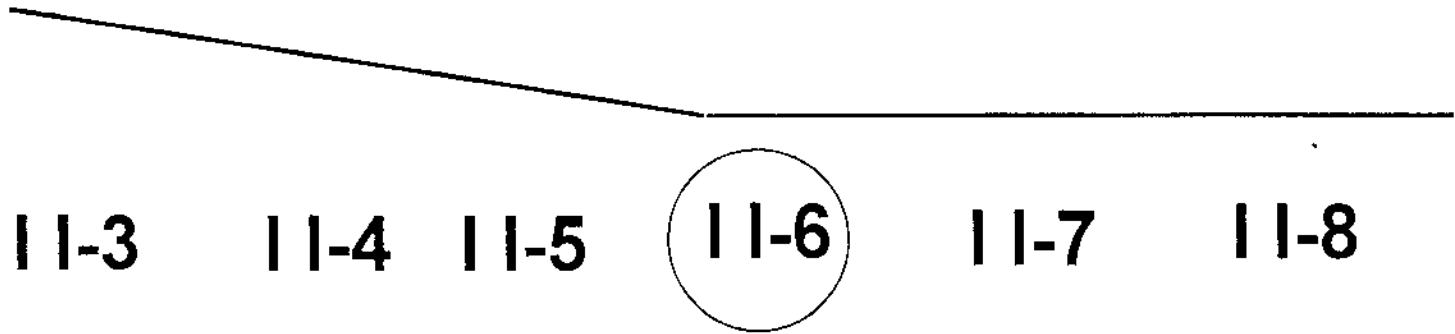
POT Evaluation Criteria

Increasing Baseline then leveling.



POT Evaluation

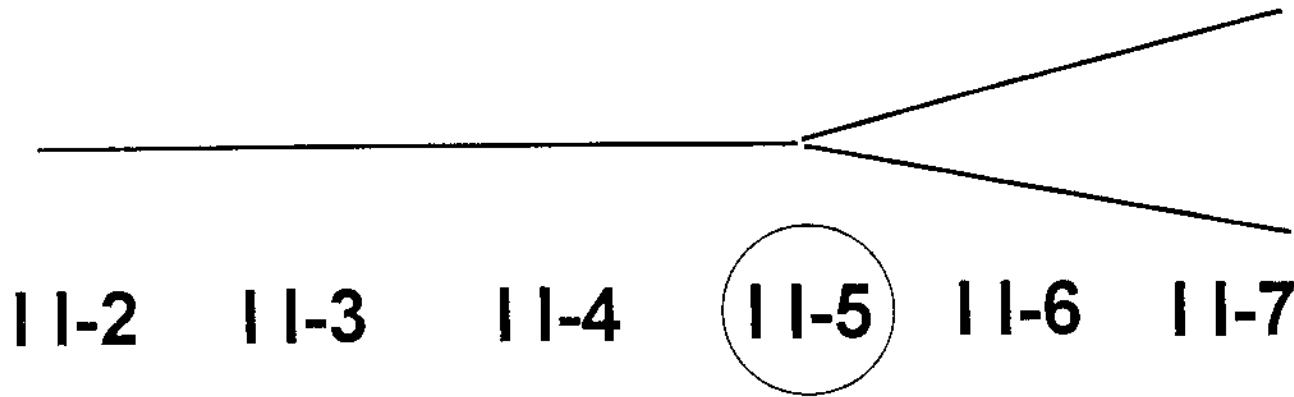
Decreasing baseline then leveling.



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POT Evaluation

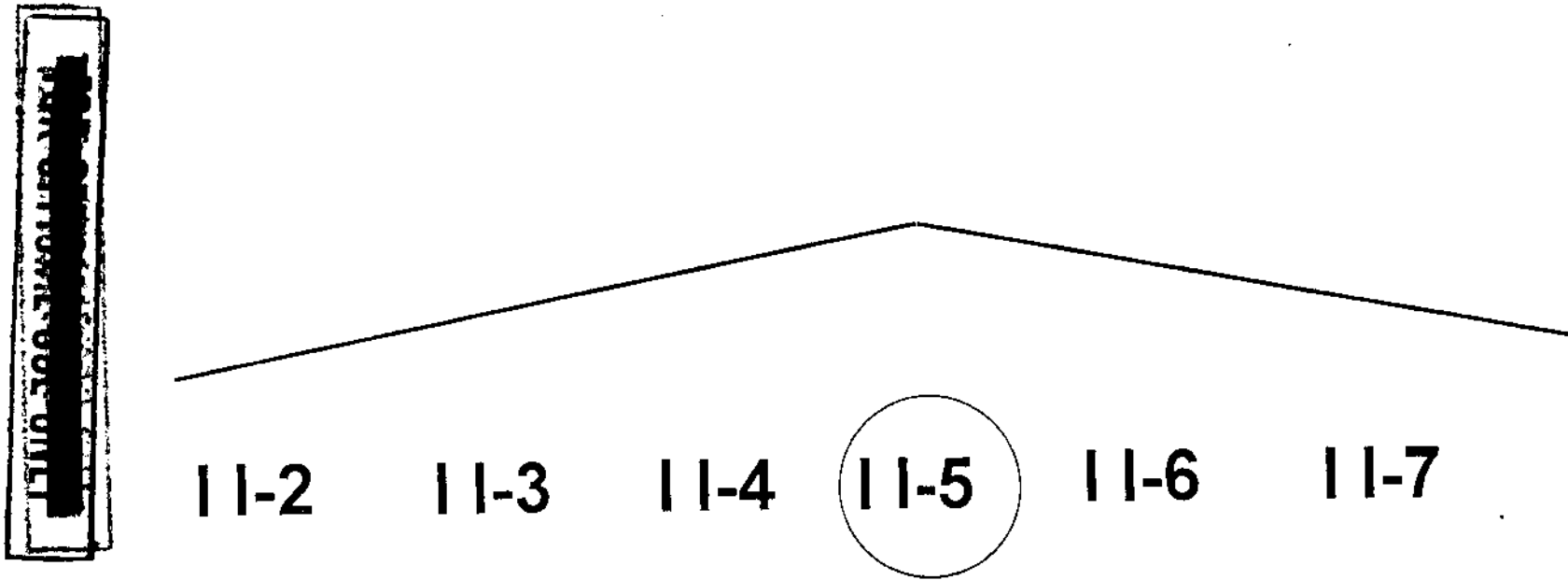
Level baseline then either an increase
or a decrease



11-2 11-3 11-4 11-5 11-6 11-7
ON OFF ON OFF ON OFF ON OFF ON OFF ON OFF

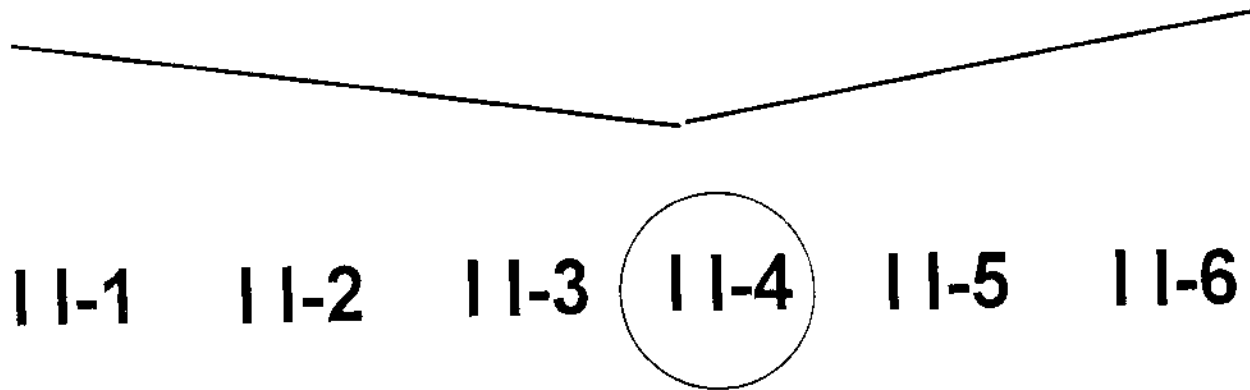
POT Evaluation

Increasing baseline then a decreasing baseline



POT Evaluation

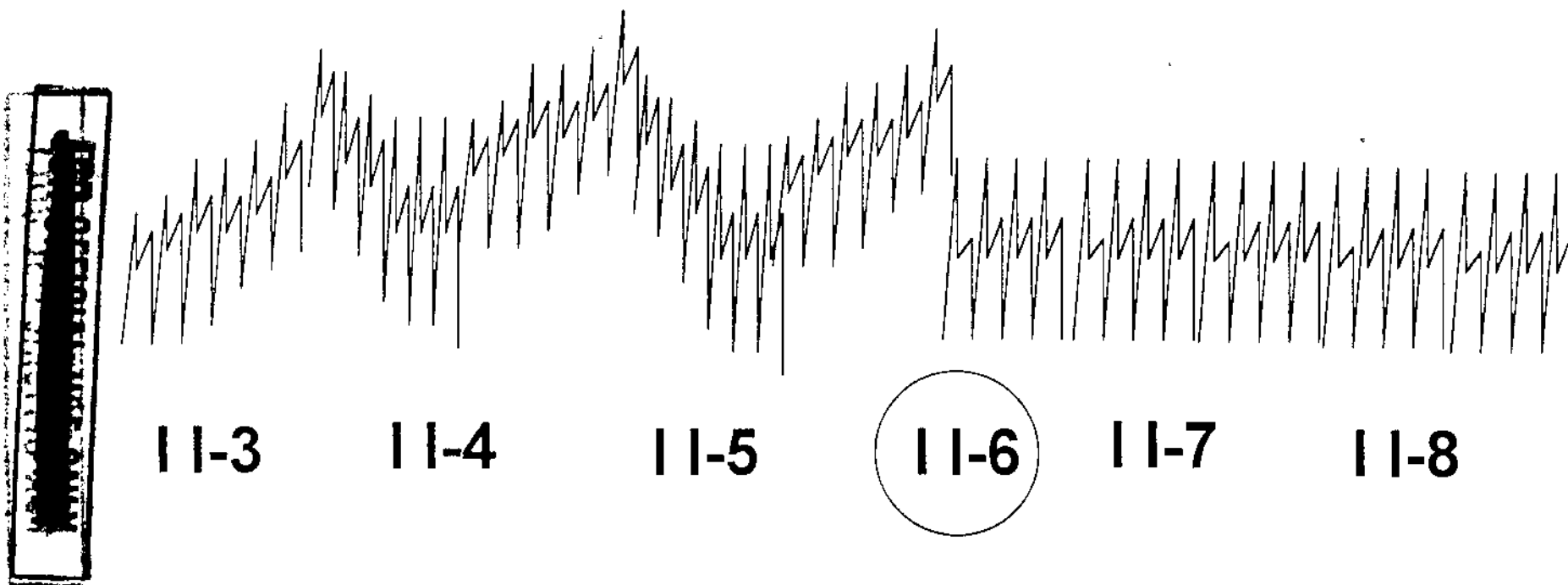
Decreasing baseline then increasing.



11-1
11-2
11-3
11-4
11-5
11-6

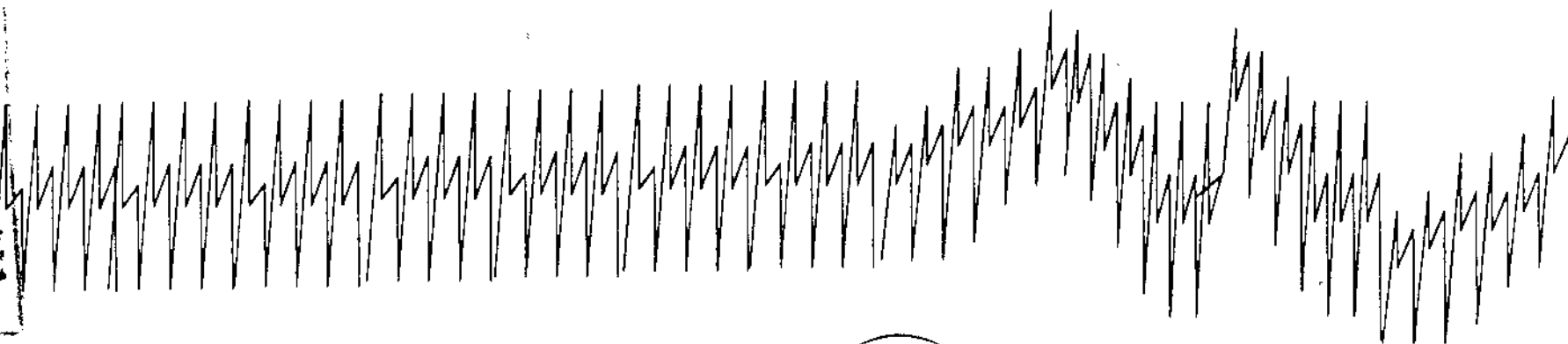
POT Evaluation

Erratic tracing, then smooth.



POT Evaluation

Smooth tracing, then erratic.



11-3

11-4

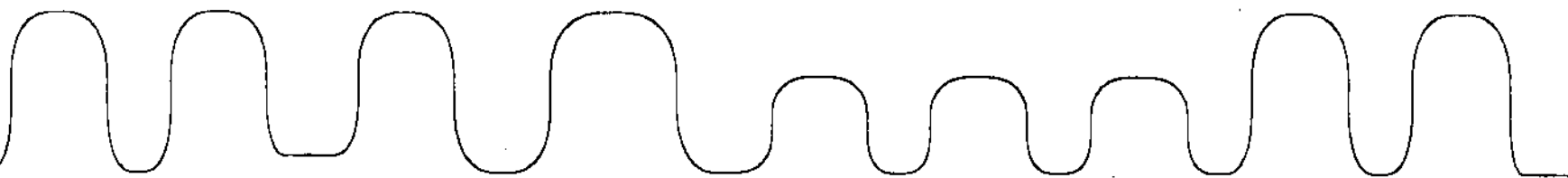
11-5

11-6

11-7

11-8

POT Evaluation



11-2

11-3

11-4

11-5

11-6

11-7

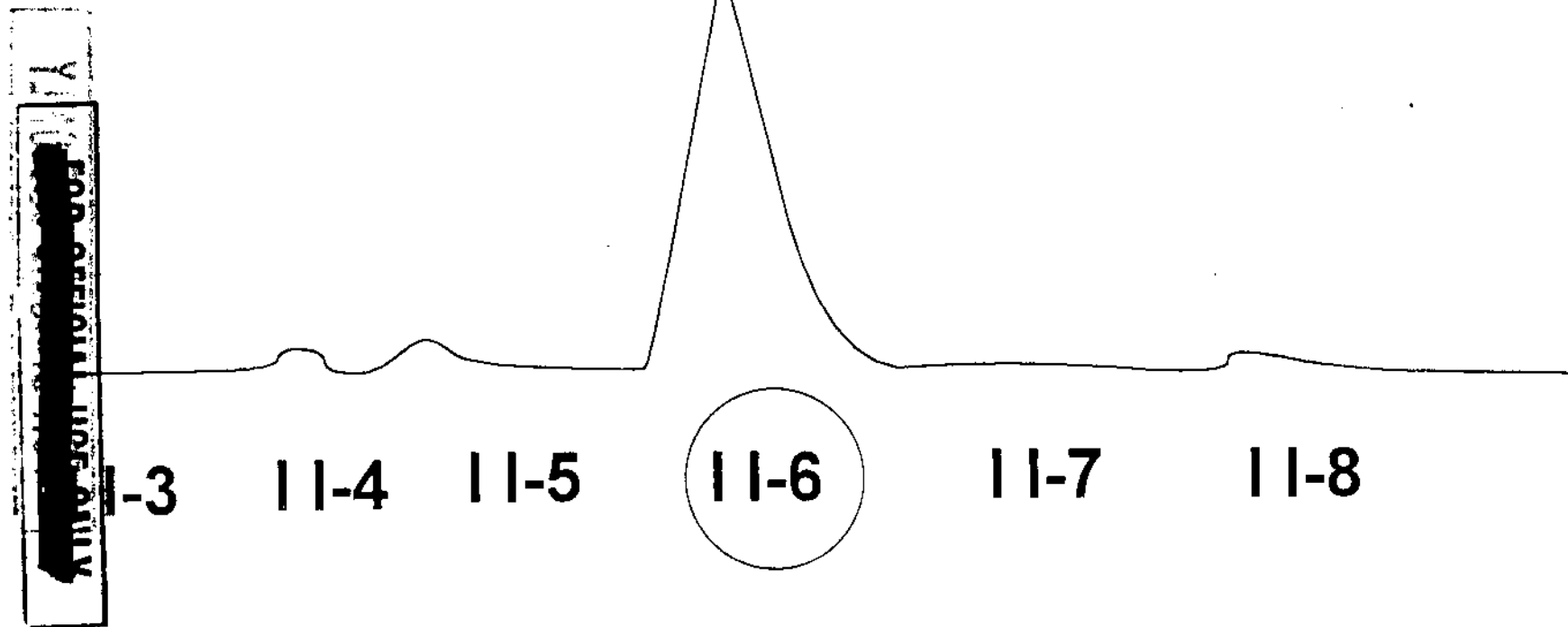
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Any significant specific change in any of the components at the key (known POT) or possible key (searching POT).

59

POT Evaluation

Significant change (con't)

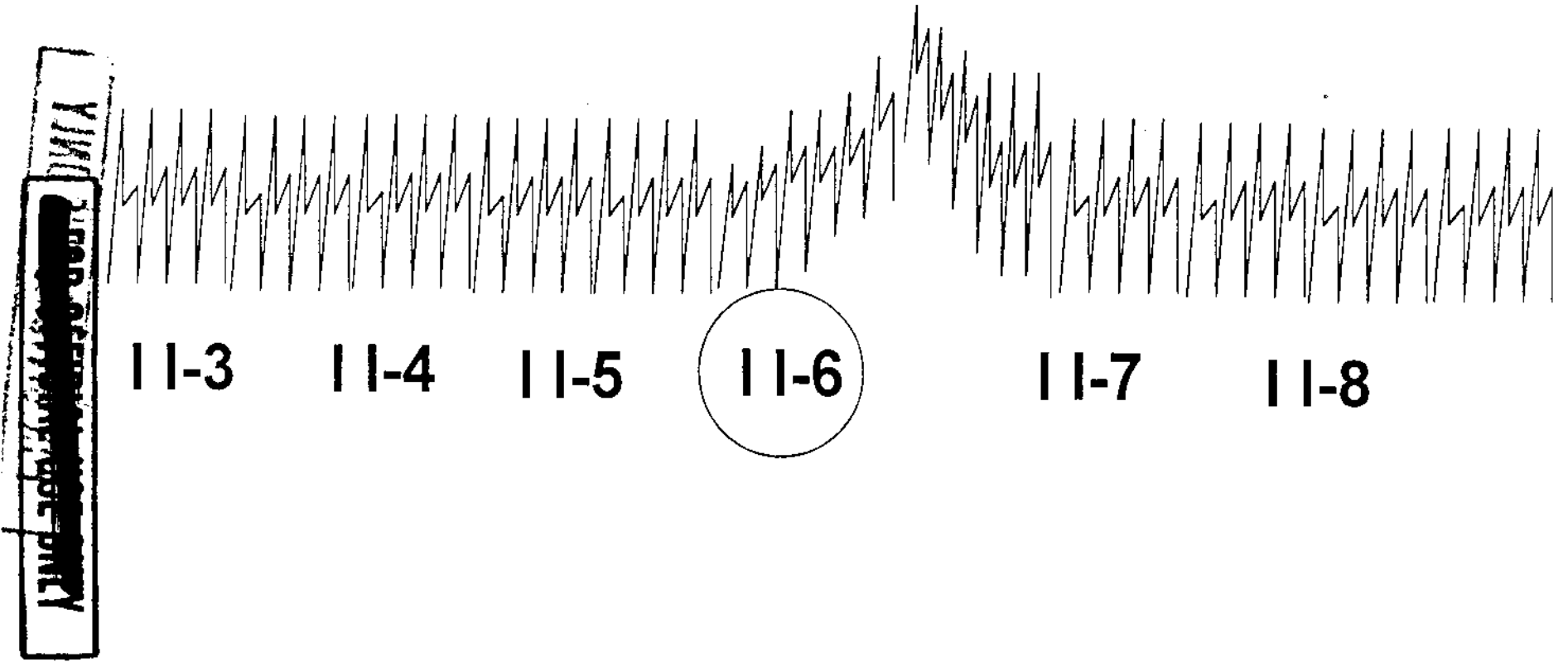


3d

60

POT Evaluation

Significant Change (con't)



POT

Decision Criteria

To opine that an examinee has peaked at a question, there must be at least TWO of the three recording components showing one of the eight criteria at the same question.

For the examiner to conclude that the examinee has indeed "PEAKED" at a particular test question, the examinee must have peaked at the same question on at least TWO of the THREE POT OR SPOT tests.