2813

OAK RIDGE NATIONAL LABORATORY

DIVISION OF
CARBIDE AND CARBON CHEMICALS CORPORATION

UCC

POST OFFICE BOX P
OAK RIDGE, TENNESSEE

Date: 7-8-49

To: Central Files

From: Declassification Section, Central Files

NOTICE OF DECLASSIFICATION

Classification of Report CH-2849 Title Clinton Laboratories Meteorology, March, April, May and June

Author J. S. Cheka and A. T. Greenwood

has been cancelled by authority of the Atomic Energy Commission on 6-8-49

According to our records you have copy 2-A

Instructions for Declassifying your Copy

1. Remove and destroy the present classified cover page.
2. Cross out in black ink all classified markings and espionage stampings on the title page and every succeeding page of text or figures.
3. Clip a copy of this notice to the report, sign and return a copy to the Declassification Section, Central Files. This will indicate that you have complied with the instructions.

After these instructions have been followed, your copy of this report is unclassified and is no longer accountable on inventory records.

N. T. Bray
N. T. Bray
Supervisor of Central Files

I have complied with the above instructions.

Signed W. S. Parsons for N. T. Bray

Date JUL 1949

ChemRisk Document No. 2813

[redacted]

CH - 2849
X

Contract No. 7405-eng-39

* * *

HEALTH DIVISION

* * *

CLINTON LAB.
METEOROLOGY

March, April, May and June 1945

by
J. S. Cheka and A. T. Greenwood

Series A Received: 8/9/45
Series B Received:

Series A Issued: 8/9/45
Series B Issued:

[redacted]

DECLASSIFIED Per Letter Instructions Of
AEC 6-8-49 (Copy 24 [redacted]

This document has been approved for release
to the public by:

David R Hamrin 6/3/96
Technical Information Officer Date
ORNL Site

[redacted]

Table of Contents

	Page No.
Summary of Weather Data - March 1945	3
Summary of Weather Data - April 1945	4
Summary of Weather Data - May 1945	5
Summary of Weather Data - June 1945	6

[redacted]

[redacted]

SUMMARY OF WEATHER DATA - MARCH 1945

J. S. Chelm

Temperature	Max. 89°F	Min. 26°F	Av. Mean 59°F
Bar. (corrected)	29.45"	28.78"	
Relative Humidity	100%	20%	
Absolute Humidity	.0179	.0033	#H_2O/ # dry air
Dew Point	73°F	28°F	
Rain			Total 3.28"

Cloudiness: (percentage of days observed)

Clear 22.4% Partly Cloudy 29.6% Cloudy 48%

Cloud Forms: During cloudy days strato-cumulus and alto-stratus and alto-cumulus clouds were most numerous. On partly-cloudy days cumulus forms were most prevalent, with some cirrus occasionally.

Inversions: There were 18 temperature inversions during this month. They varied from 4° to 15°F in magnitude, and 6 to 16 hours in duration. They were all mainly radiational in character.

This is rather a high frequency considering the large number of cloudy days, and probably indicates that there was less cloudiness during the nights than daytime observations tend to show.

Normal average mean temperature for this region is 49.5°F, so that this month was 9.5°F above normal. Rainfall, meanwhile, was 2.13" below normal.

[redacted]

KEUFFEL & ESSER CO., N. Y. NO. 358-14

DR 1579
CH 2849

Fig. 1

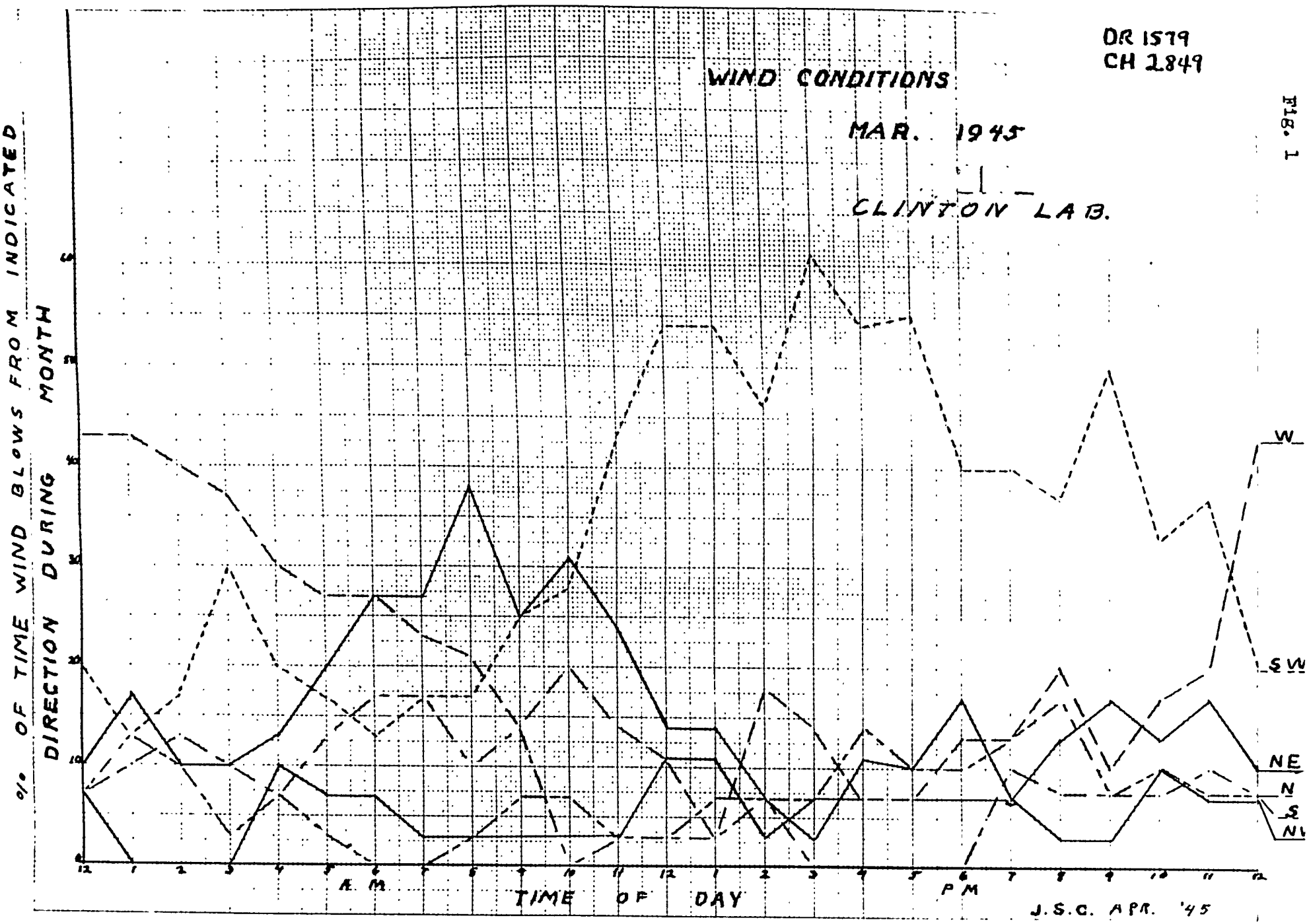
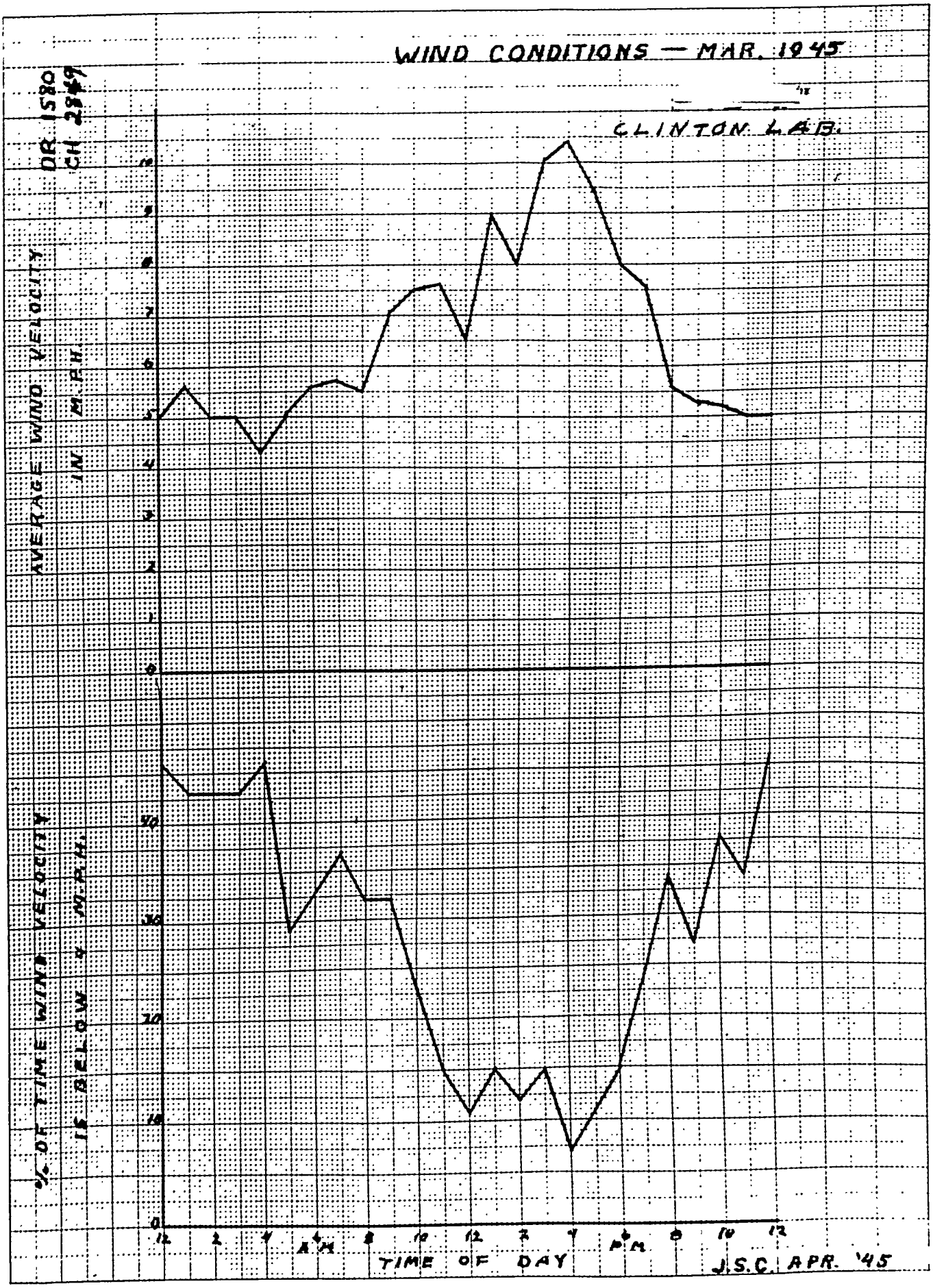
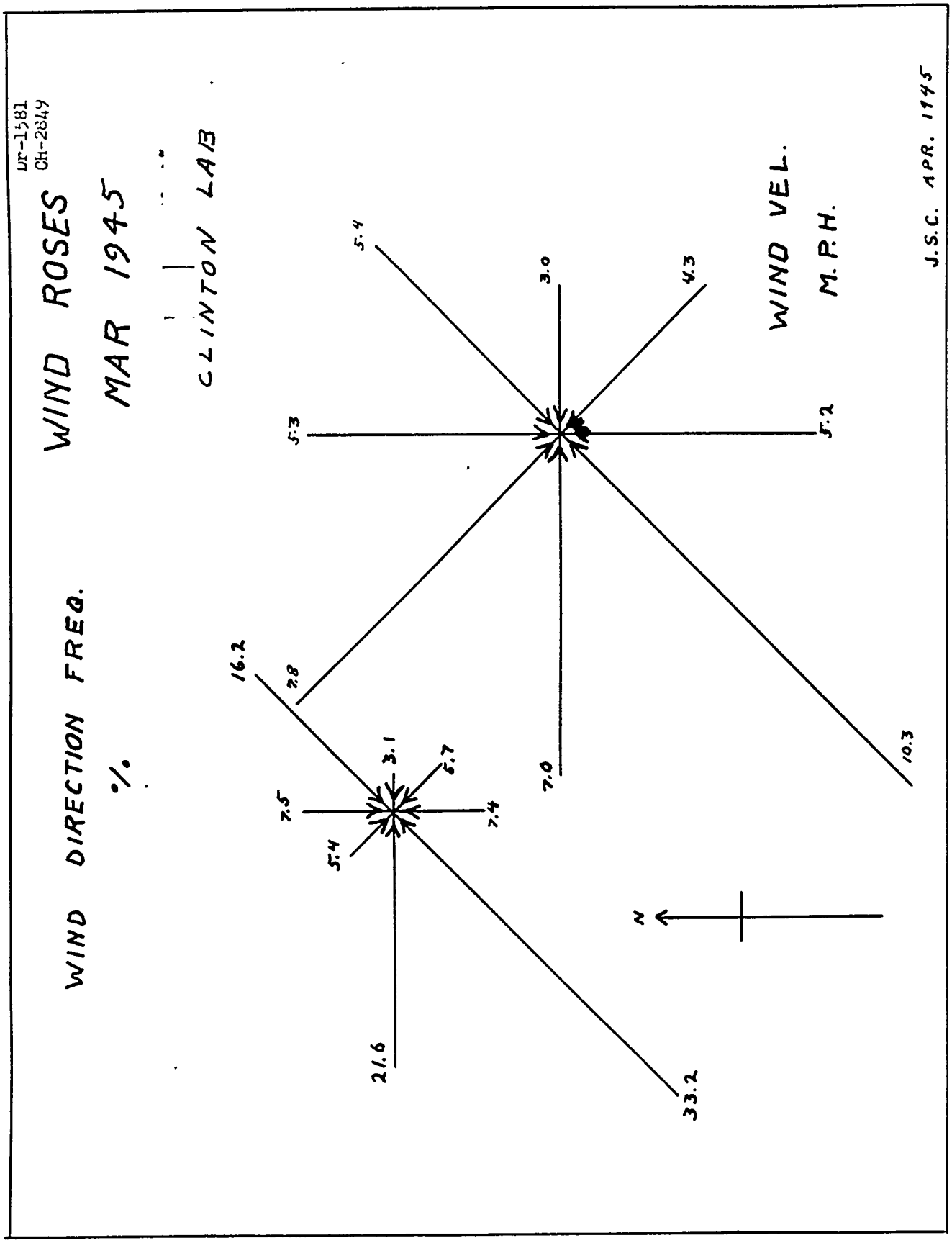


Fig. 1-a



KEUFFEL & ESSER CO., N. Y. NO. 388-14
MADE IN U.S.A.

Fig. 1-b


UR-1581
CH-2849
WIND ROSES
MAR 1945
CLINTON LAB
WIND DIRECTION FREQ.
%
WIND VEL.
M.P.H.
J.S.C. APR. 1945
N
5.4
3.0
4.3
5.3
5.2
16.2
2.8
3.1
6.7
7.5
7.4
5.4
7.0
10.3
21.6
33.2

[redacted]

SUMMARY OF WEATHER DATA - APRIL 1945

Temperature	Max. 90°F	Min 30°F	Av. mean 60.7°F
Bar. (corrected)	29.63	28.77	
Relative Humidity	100%	32%	
Absolute Humidity	.0218	.0042	#H_2O/# day air
Dew Point	80°F	34°F	
Rain			Total 6.11" H_2O

Cloudiness: (percentage of days observed)

Clear 35% Partly cloudy 30% Cloudy 35%

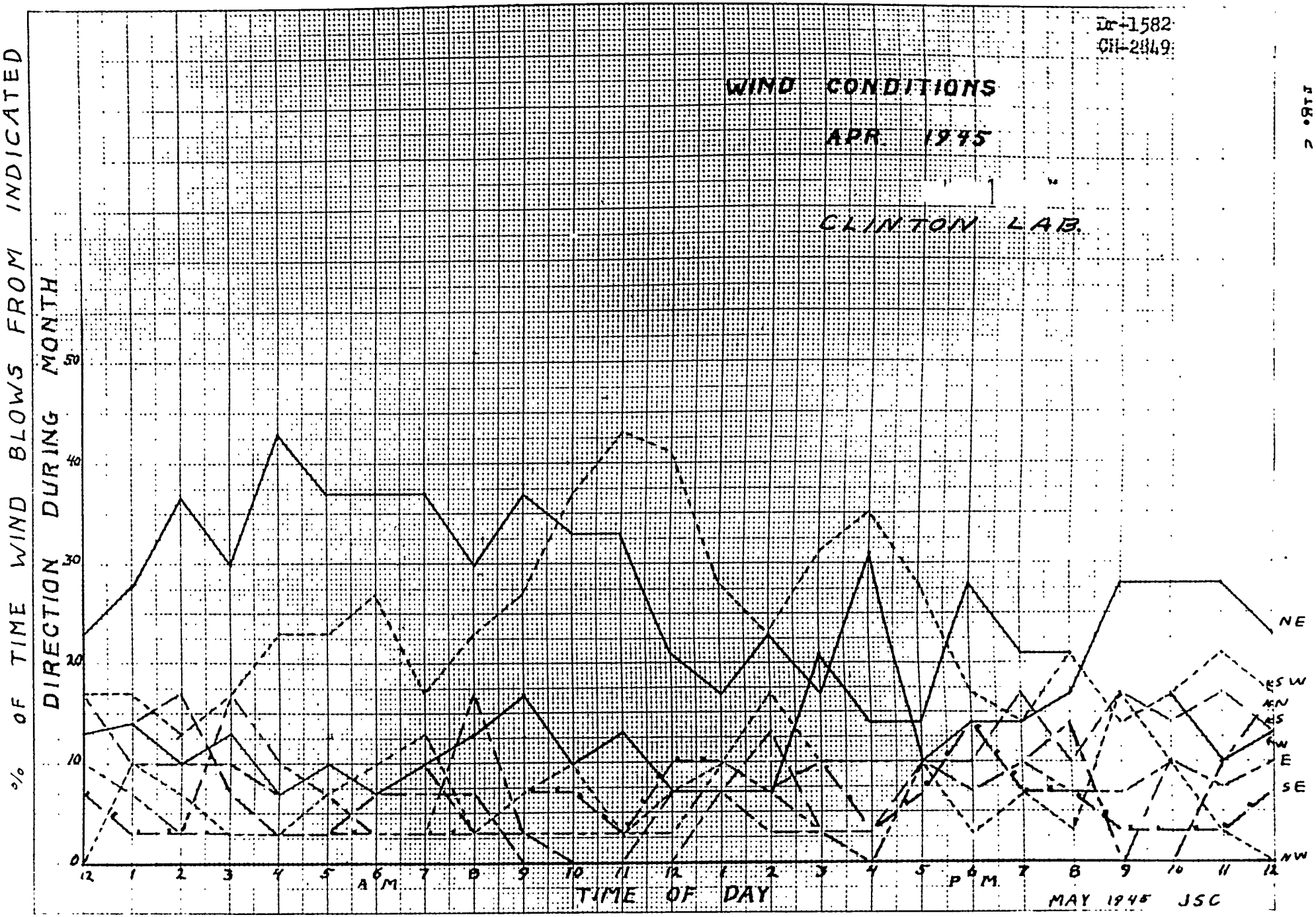
Cloud Forms: Strato-cumulus and strato-nimbus forms predominated on cloudy days, while on partly-cloudy days cumulus prevailed, though there was some cirrus.

Inversions: There were 20 temperature inversions recorded this month, all except two were radiational in origin. They ranged from 4 to 15 hours in duration, and 6° to 12°F in magnitude.

[redacted]

KEUFFEL & ESSER CO., N. Y. NO. 359-14
Millimeters 1 mm lines accented, cm lines heavy
MADE IN U.S.A.

Dr-1582
CH-2849



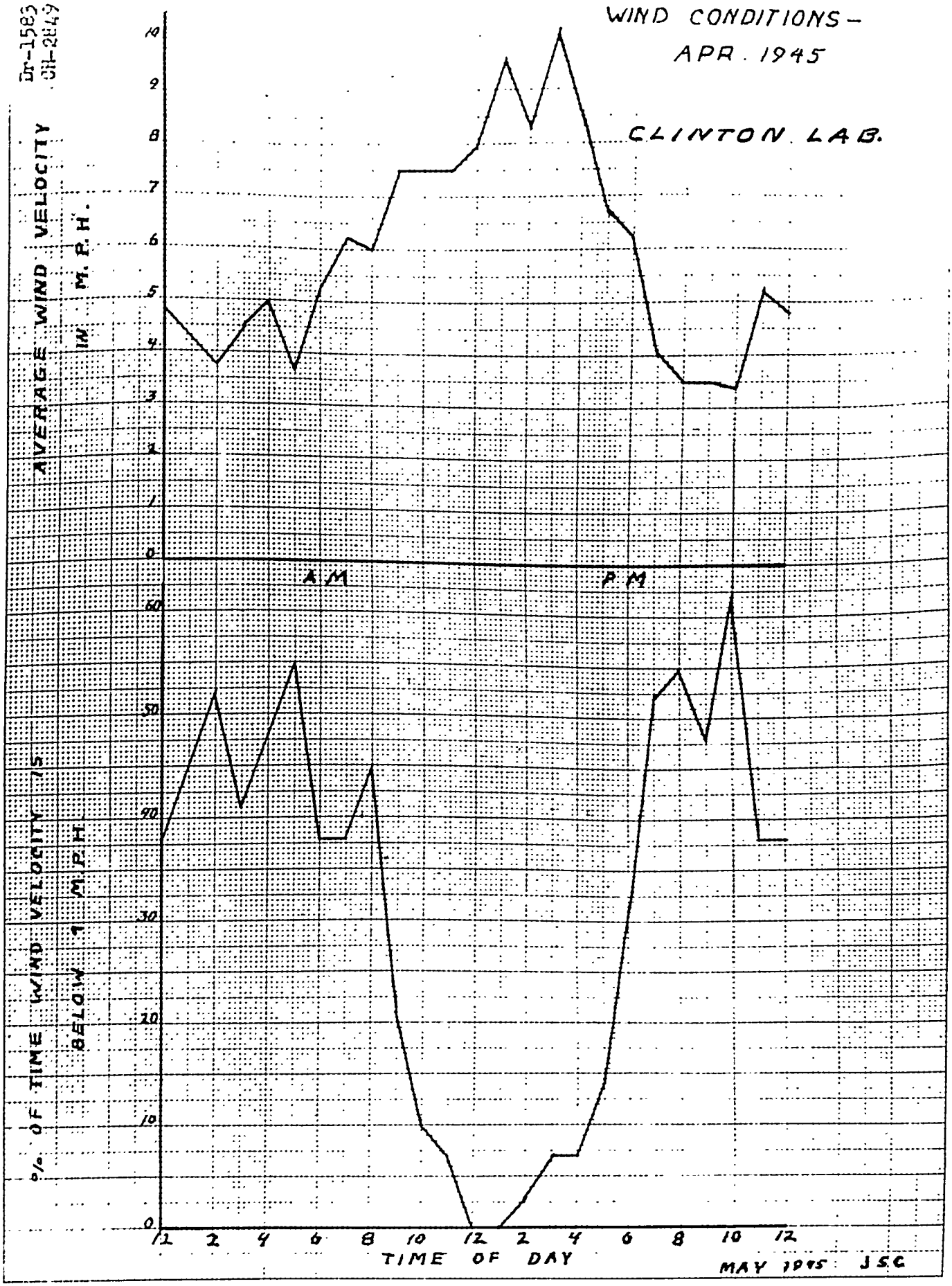
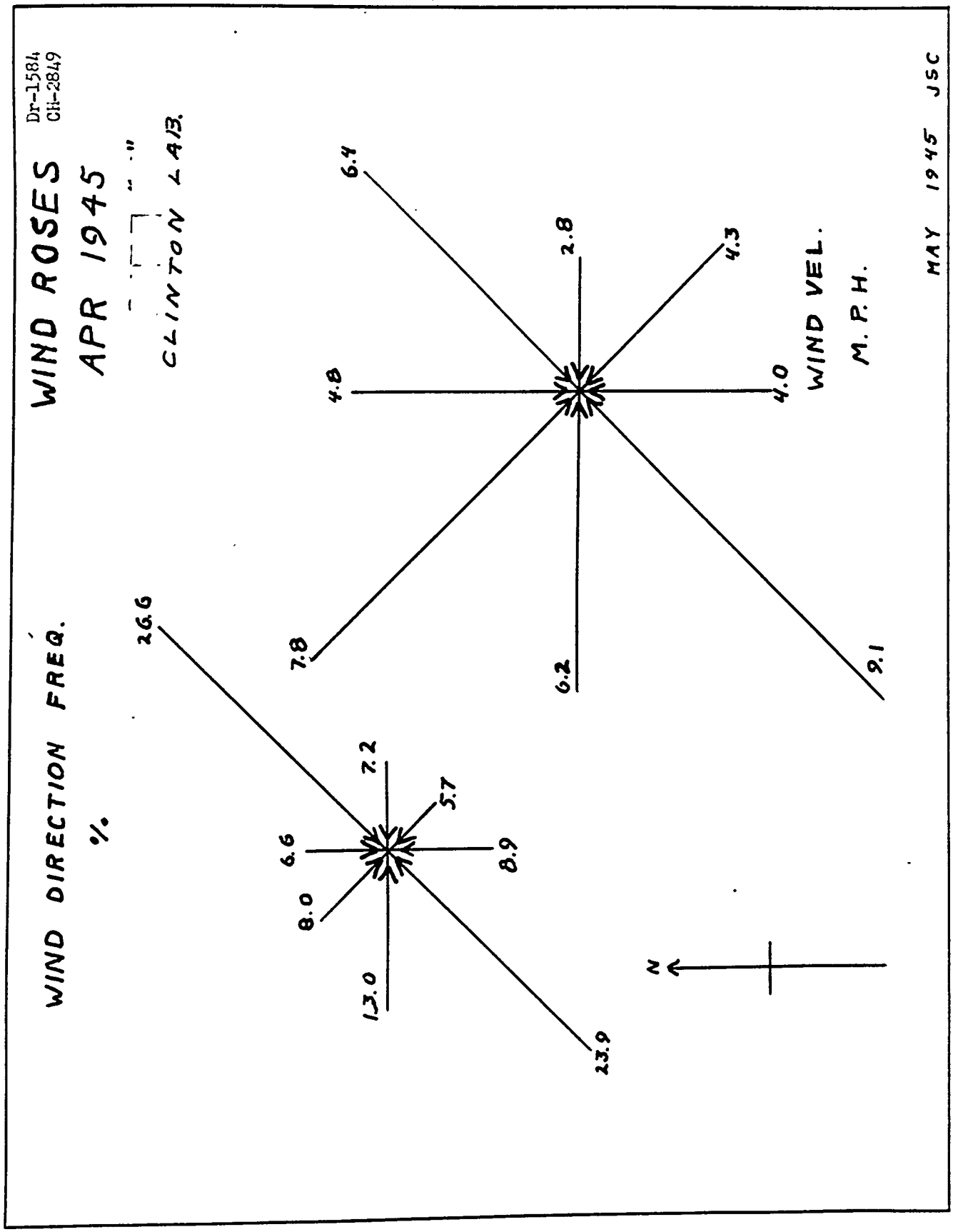

Dr-1583
CH-2849
WIND CONDITIONS-
APR. 1945
CLINTON LAB.
AVERAGE WIND VELOCITY IN M.P.H.
% OF TIME WIND VELOCITY IS BELOW 1 M.P.H.
A.M.
P.M.
TIME OF DAY
MAY 1945 J.S.C.

Fig. 2-b


Dr-1584
CH-2849
WIND ROSES
APR 1945
CLINTON ∠ 413
WIND DIRECTION FREQ.
%
26.6
7.2
5.7
6.6
8.9
8.0
13.0
23.9
N
6.4
2.8
4.3
4.8
4.0
7.8
6.2
9.1
WIND VEL.
M.P.H.
MAY 1945 JSC

CH-2849

[redacted]

SUMMARY OF WEATHER DATA - MAY 1945

Temperature	Max. 95°F	Min. 36°F	Av. mean 63°F
Bar. (corrected)	29.36	28.83"	
Relative Humidity	100%	32%	
Absolute Humidity	.0211	.0056	#H_2O/# dry air
Dew Point	79°F	42°F	
Rain			Total 6.83"

Cloudiness (percentage of days observed)

Cleat 28.6% Partly cloudy 46.4% Cloudy 25%

Cloud Forms: During cloudy days nimbostratus and strato-cumulus were most numerous. On partly-cloudy days cumulus forms were most prevalent with some cirrus and alto-stratus.

There were 18 temperature inversions during this month. They varied from 3° to 10°F in magnitude and 5 to 15 hours in duration. They were primarily radiational in character.

[redacted]

KEUFFEL & ESSER CO., N. Y. NO. 358-14
Millimeters, 5 mm. lines accented, cm lines heavy.
MADE IN U. S. A.

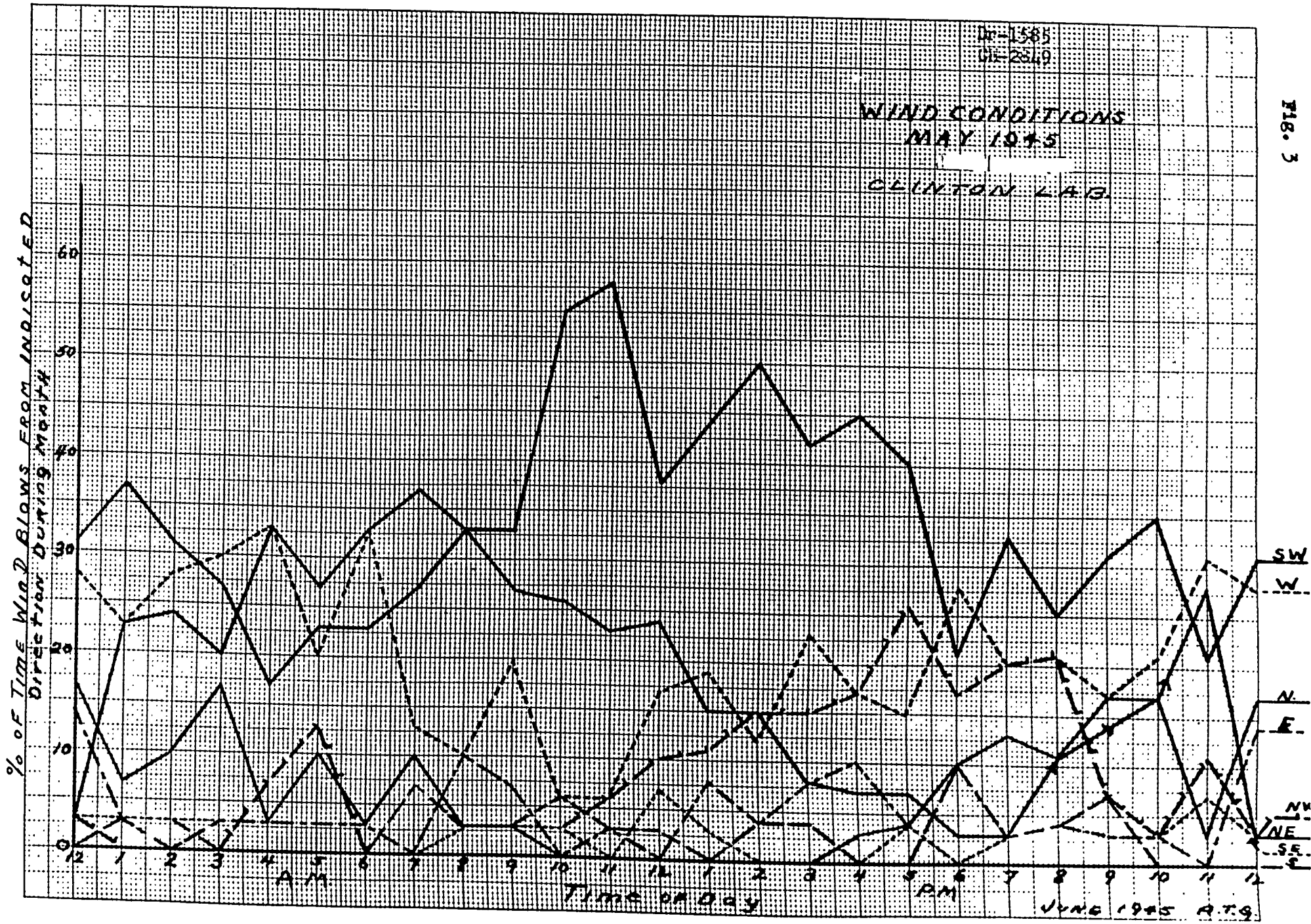
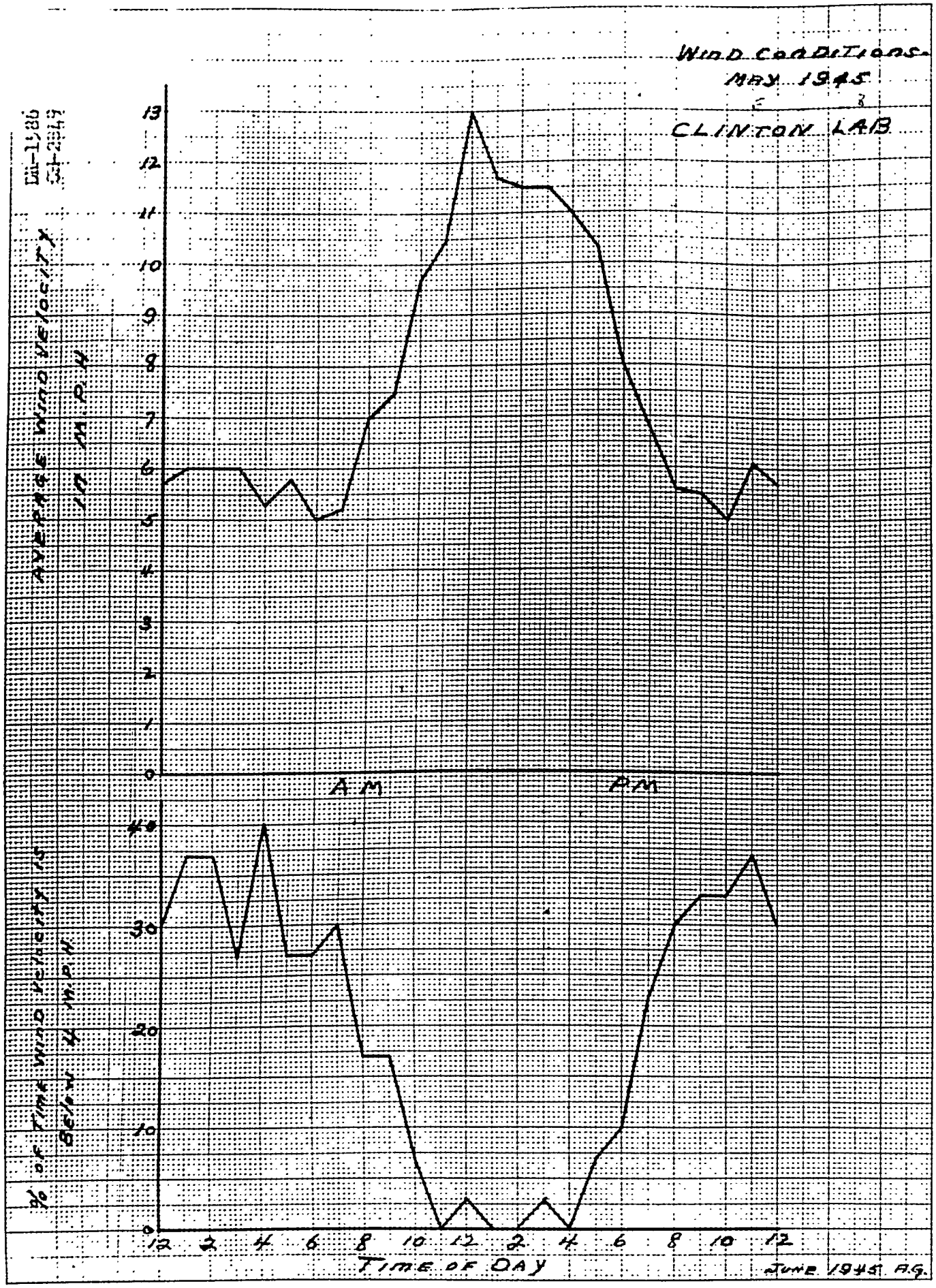


Fig. 3

Fig. 3-a



KEUFFEL & ESSER CO., N. Y. NO. 358-14
Millimeters, 5 mm. lines accented, cm lines heavy.
MADE IN U.S.A.

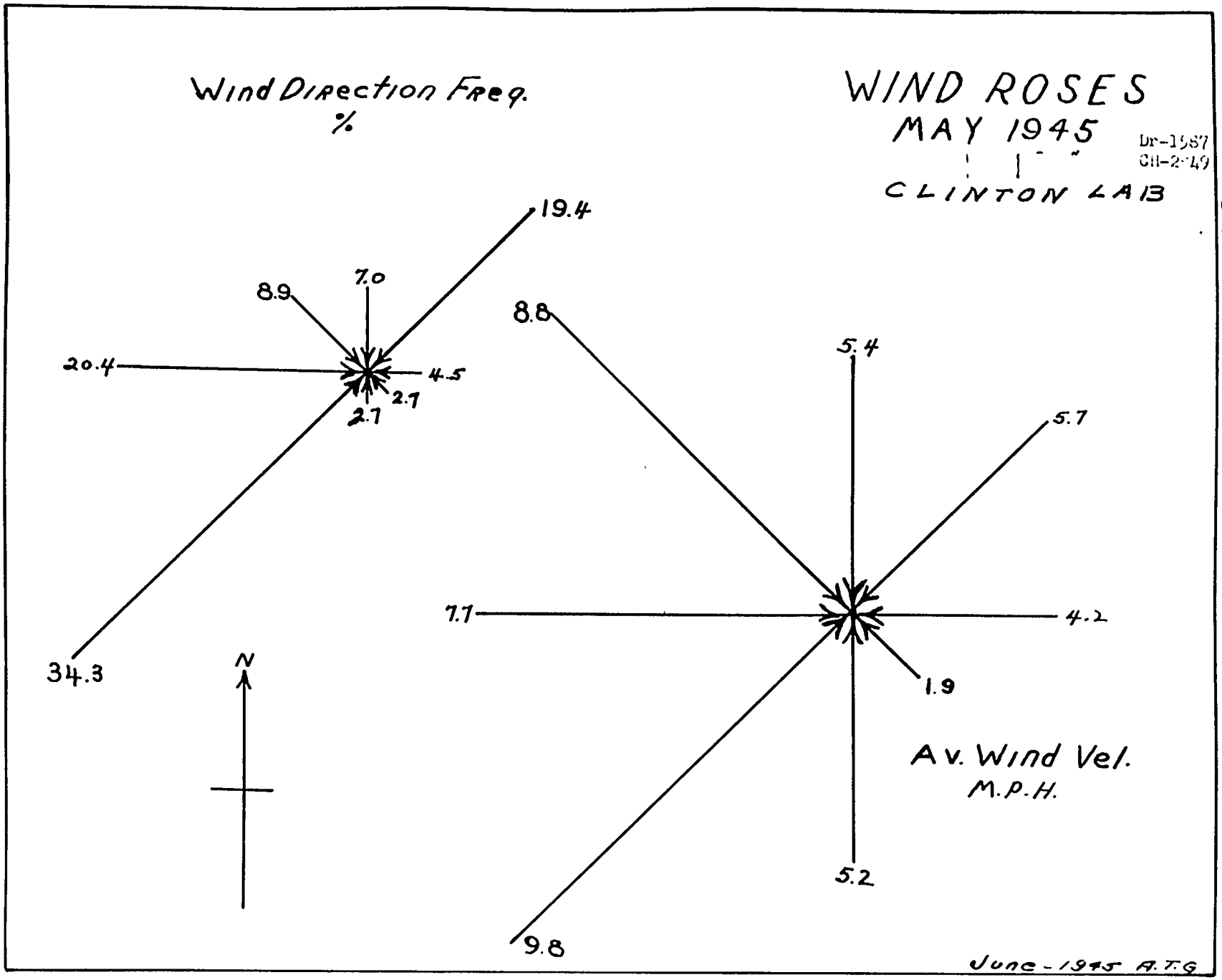

Wind Direction Freq.
%
WIND ROSES
MAY 1945
CLINTON LAB
Dr-1987
CH-2-49
19.4
8.9
7.0
20.4
4.5
2.7
2.7
34.3
N
8.8
5.4
5.7
7.1
4.2
1.9
5.2
9.8
Av. Wind Vel.
M.P.H.
June-1945 A.T.G.

Fig. 3-b

[redacted]

CH-2849

SUMMARY OF WEATHER DATA - JUNE 1945

Temperature	Max. 101°F	Min. 46°F	Av. mean 74.4°F
Bar. (corrected)	29.27	28.87	
Relative Humidity	100%	41%	
Absolute Humidity	.0252	.0076	#H_2O/# dry air
Dew Point	84°F	50°F	
Rain			Total 5.87"

Cloudiness (percentage of days observed)

Clear 20% Partly cloudy 40% Cloudy 40%

Cloud Forms: On cloudy days strato-cumulus, cumulus and nimbostratus were most numerous. While on partly cloudy days the cumulus and cirrus forms were most prevalent.

Inversions: There were 16 temperature inversions during the month. They varied from 4°F to 10°F in magnitude and from 6 to 14 hours in duration. They were primarily radiational in character.

[redacted]

KEUFFEL & ESSER CO. N. Y. NO. 358-14

DR-1588
CH-2849

Fig. 4

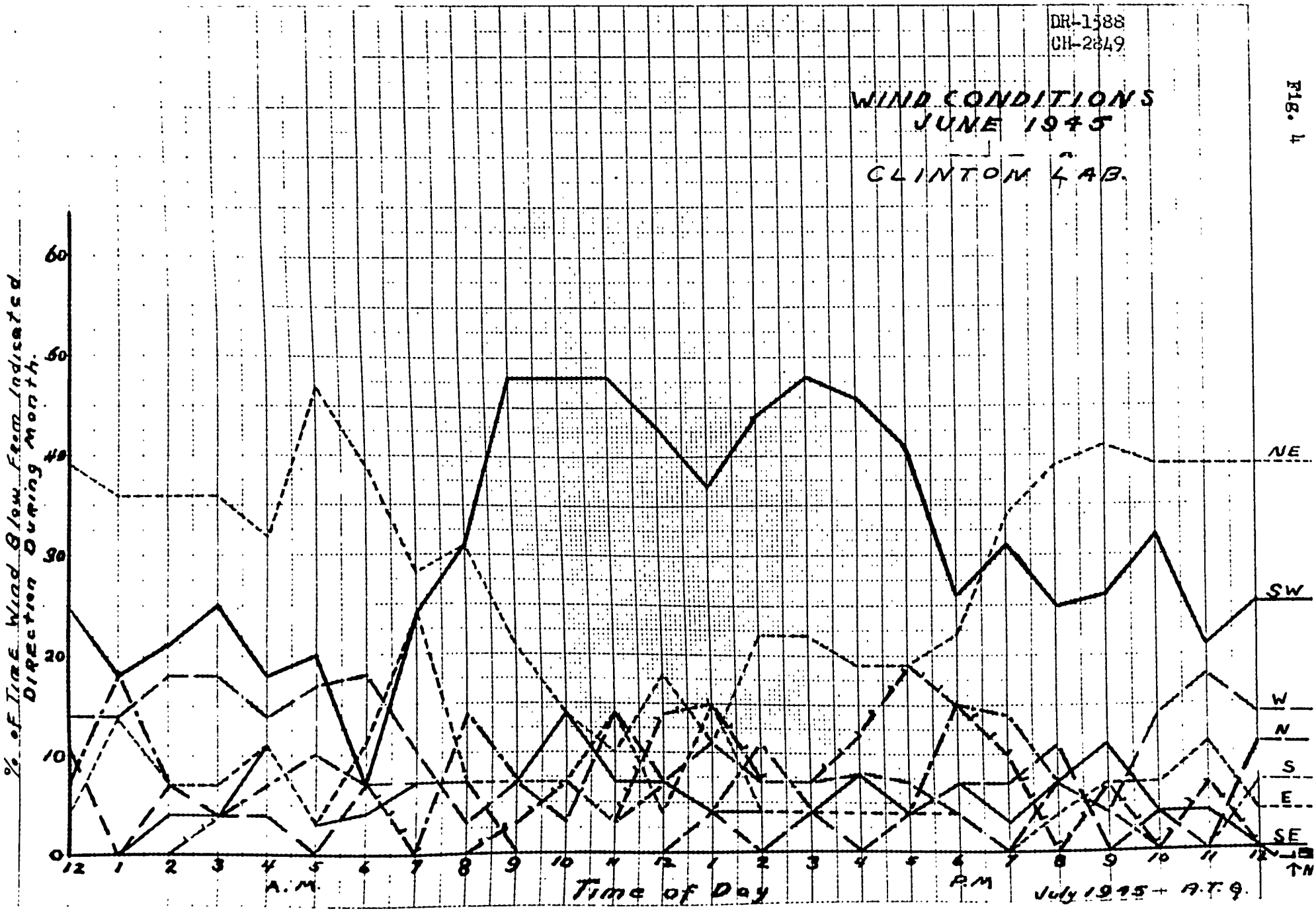
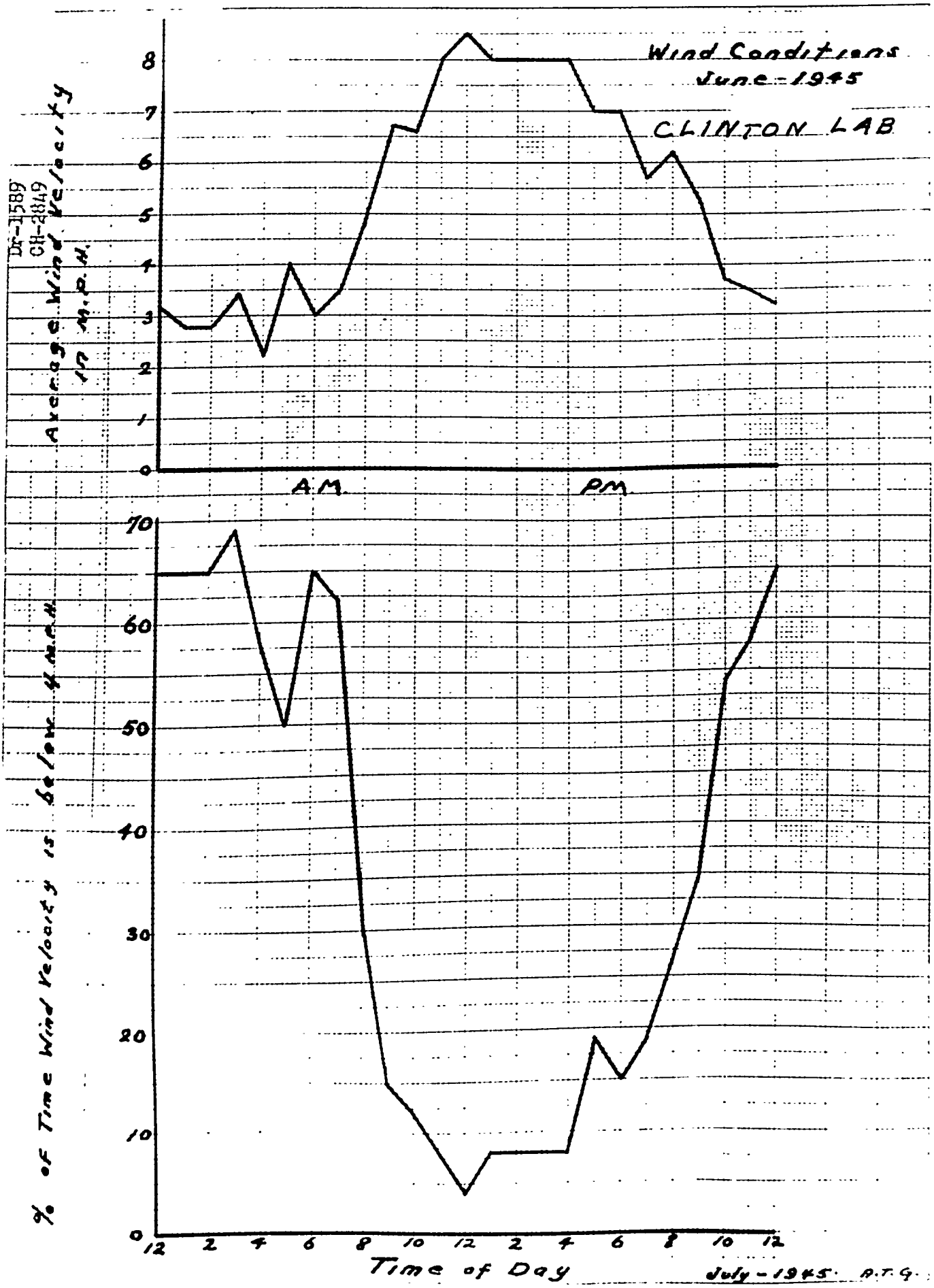


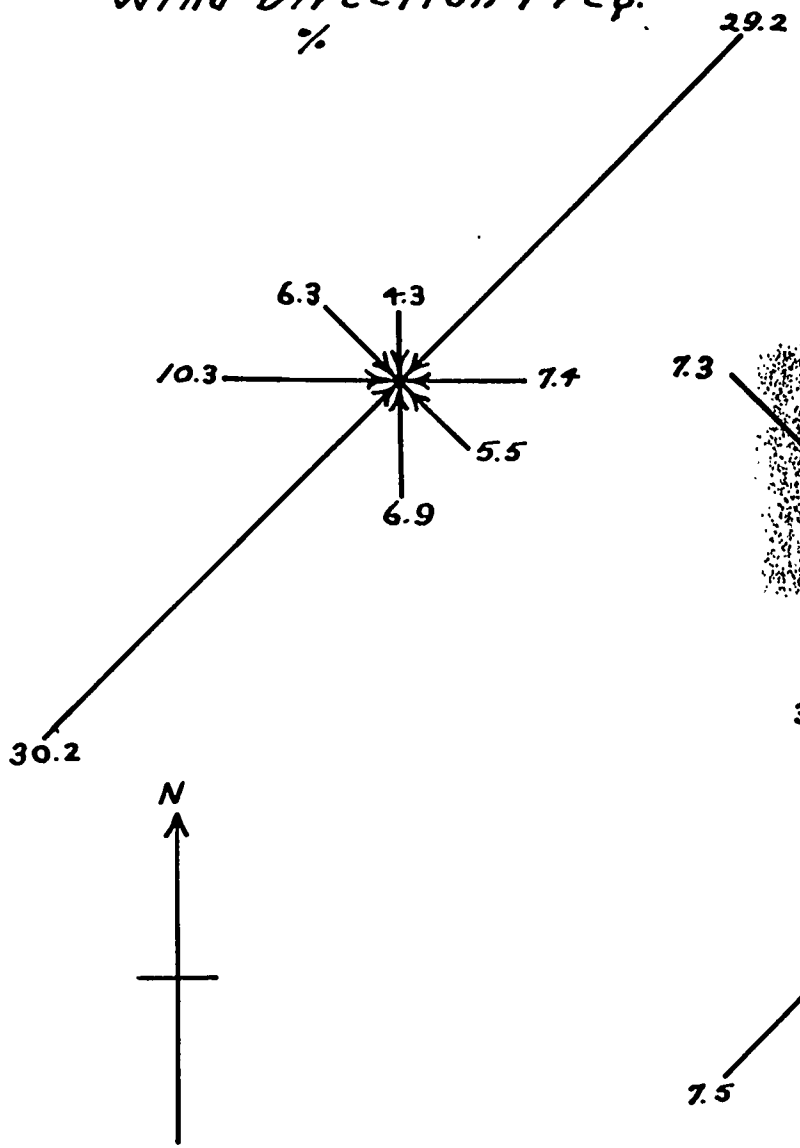
Fig. 4-a

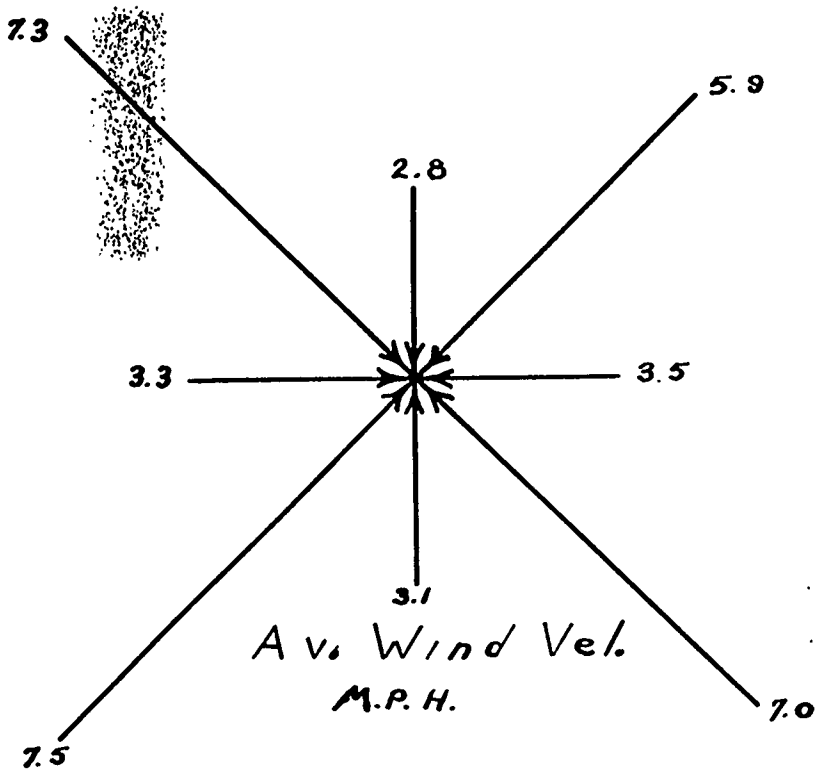


DF-1589
CH-2849

WIND ROSES
JUNE 1945
CLINTON LAB.

Fig. 4-3





July – 1945 A.T.G.

2813

OAK RIDGE NATIONAL LABORATORY

DIVISION OF
CARBIDE AND CARBON CHEMICALS CORPORATION

UCC

POST OFFICE BOX P
OAK RIDGE, TENNESSEE

Date: 7-8-49

To: Central Files

From: Declassification Section, Central Files

NOTICE OF DECLASSIFICATION

Classification of Report CH-2598 Title Clinton Laboratories Meteorology, November and December 1944, January and Febuary 1945

Author J. S. Cheka

has been cancelled by authority of the Atomic Energy Commission on 6-8-49

According to our records you have copy 7-A

Instructions for Declassifying your Copy

1. Remove and destroy the present classified cover page.
2. Cross out in black ink all classified markings and espionage stampings on the title page and every succeeding page of text or figures.
3. Clip a copy of this notice to the report, sign and return a copy to the Declassification Section, Central Files. This will indicate that you have complied with the instructions.

After these instructions have been followed, your copy of this report is unclassified and is no longer accountable on inventory records.

N. T. Bray
N. T. Bray
Supervisor of Central Files

I have complied with the above instructions.

Signed W. S. Brown for N. T. Bray

Date JUL 8 1949

[redacted]

CH-2598
G-X

Contract No. 7405-eng-39

* * *

HEALTH DIVISION

* * *

CLINTON LAB

METEOROLOGY

November and December 1944
January and February 1945

by

J. S. Cheka

Series A Received: 3/29/45
Series A Issued: 3/29/45

Series B Received:
Series B Issued:

[redacted]

This document has been approved for release to the public by:

David R Hamrin 6/3/96
Technical Information Officer Date
ORNL Site

DECLASSIFIED Per Letter Instructions Of
AEC 6-8-79 (Copy 7A)

[redacted]

[redacted]

Table of Contents

	Page No.
Summary of Weather Data - November 1944	3
Summary of Weather Data - December 1944	4
Summary of Weather Data - January 1945	5
Summary of Weather Data - February 1945	6

[redacted]

[redacted]

CLINTON LAB.

SUMMARY OF WEATHER DATA - [illegible] - NOVEMBER 1944

J. S. Cheka

Temperature	High 82° F	Low 25° F	Av. Mean 47.6° F
Bar. (corrected)	29.47"	28.91"	
Absolute Humidity	.0126	.0036	#H_2O/#dry air
Relative Humidity	100%	55%	
Dew Point	63° F	29° F	
Rain			Total 3.51" H_2O

Cloud coverage (percentage of days observed)

Clear 11% Partly cloudy 30% Cloudy 59%

Cloud forms. As may be expected from the high frequency of cloudy days, most of the clouds observed were of the stratus type. On days of lesser cloudiness, cirrus forms were most prevalent.

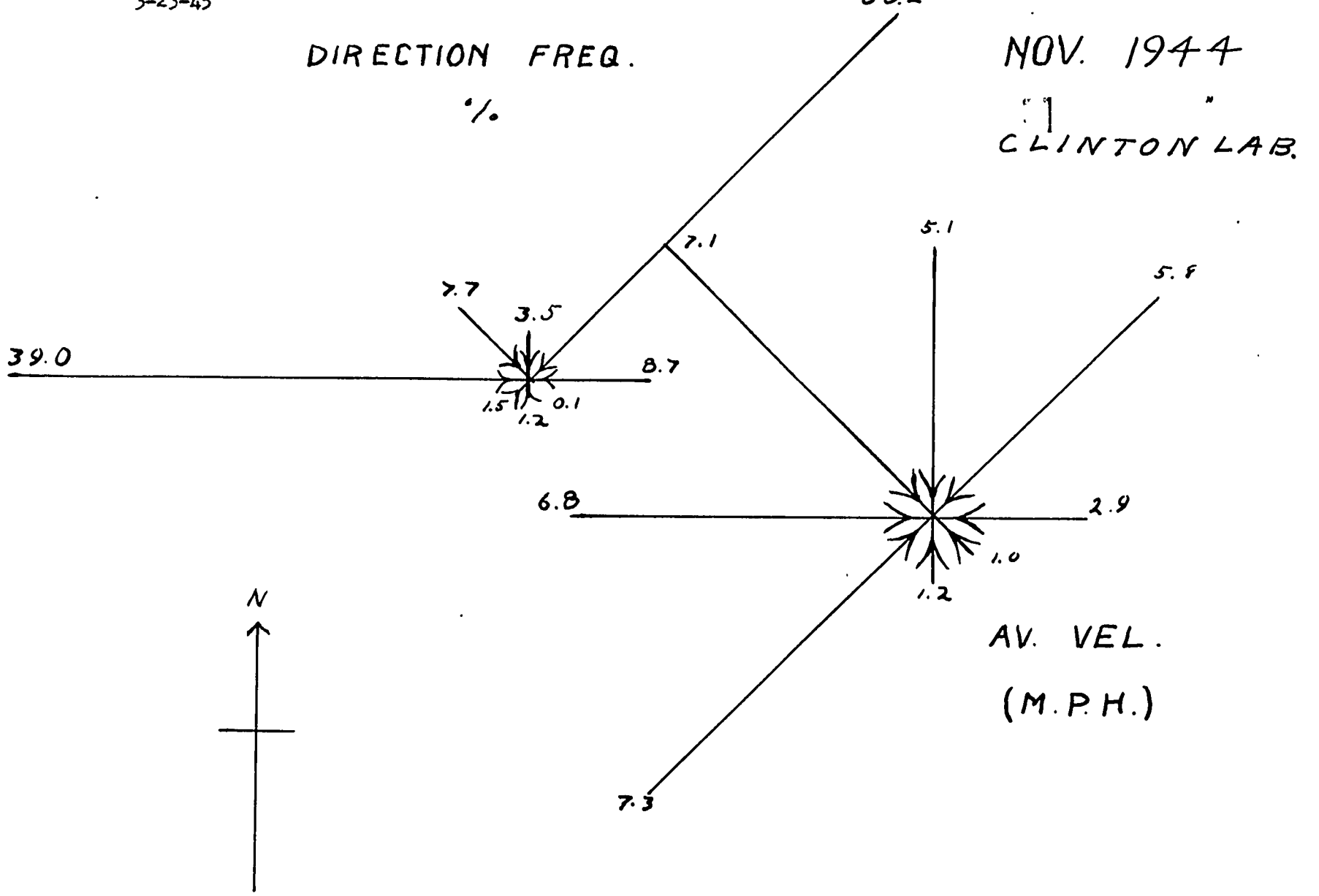
Inversions. There were 17 temperature inversions this month. They ranged from 3° to 10° F in magnitude, and 5 to 15 hours in duration. This is considerably fewer than occurred theprevious month, and also lower in values for both intensity and duration. This is also to be expected because of the much greater cloud coverage this month. Total diurnal temperature range on a cloudy day may be as little as 4 ° F due to the insulating effect, both on insolation by day and terrestial radiation by night. Under these circumstances an inversion cannot occur.

A rather odd phenomenon was noted in connection with wind analysis. The prevailing winds throughout the month were NE and W, these two comprising 77% of the total. The SW component was 1.5% - the smallest value observed since the station was established. This was probably caused by two factors. First, the prevailing westerly belt has moved far enough south to be a controlling factor in this region, and second, the large percentage of cloud coverage prevented large temperature gradients which would produce the prevailing NE-SW valley breezes usually noted.

[redacted]

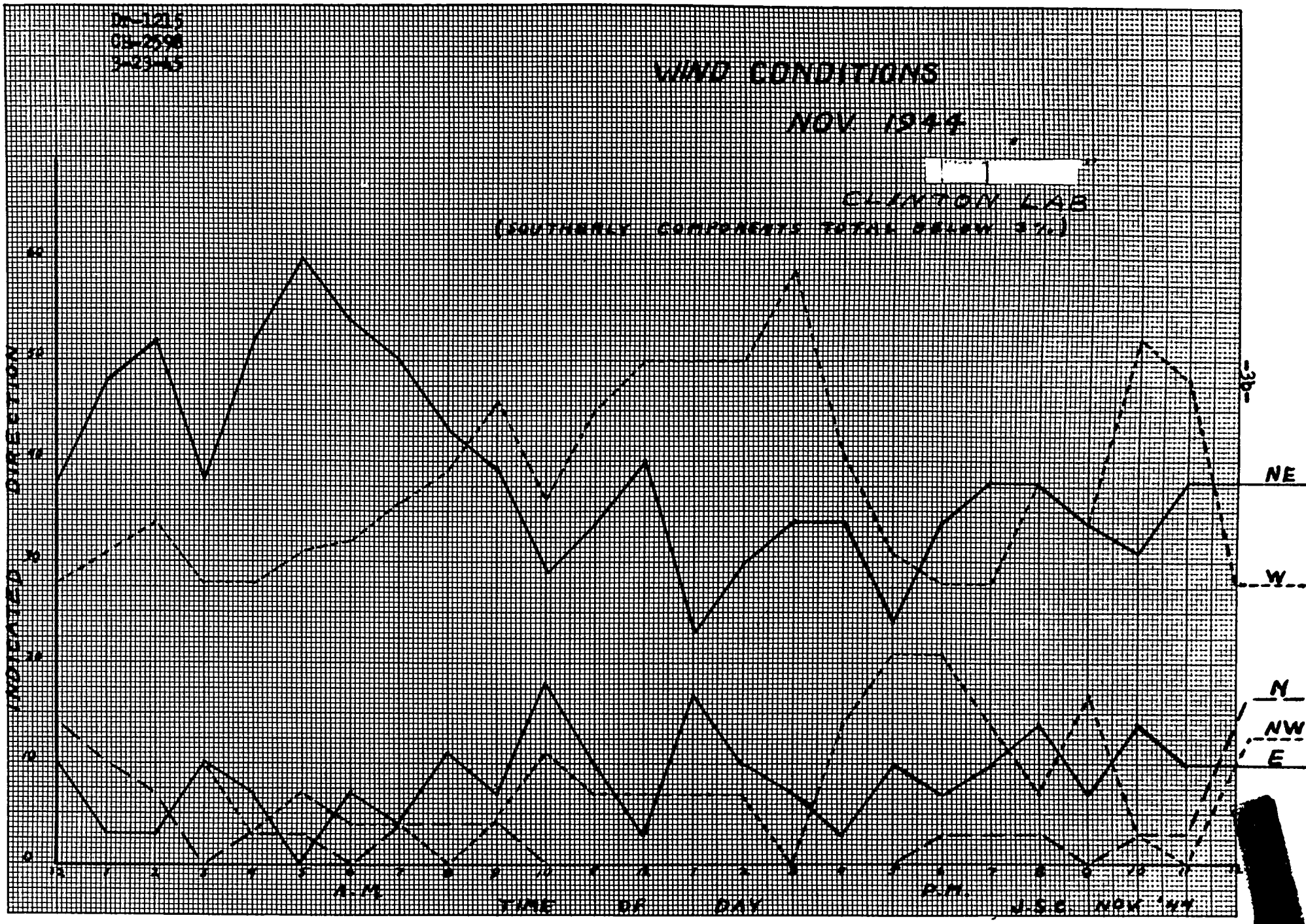
Dr-1214
CH-2598
3-23-45

WIND ROSES
NOV. 1944
CLINTON LAB.



J.S.C. DEC. '44

KEUFFEL & ESSER CO., N. Y. NO. 359-14
Millimeters, 5 mm. lines accented, cm. lines heavy.
MADE IN U.S.A.



[redacted]

KEUFFEL & ESSER CO., N. Y. NO. 359-16
Millimeters, 3 mm. lines accented, cm. lines heavy.
MADE IN U.S.A.

[redacted]

[redacted]

CLINTON LAB.

SUMMARY OF WEATHER DATA - [illegible] - DECEMBER 1944

J. S. Cheka

Temperature	High 60° F	Low 17° F	Av. mean 47.6° F
Bar. (corrected)	29.76"	28.83"	
Relative Humidity	100%	40%	
Absolute Humidity	.0091	.0016	#H_2O/ #dry air
Dew Point	55° F	10° F	
Rain			Total 5.65" H_2O

Cloud coverage (percentage of days observed)

Clear 14% Partly cloudy 25% Cloudy 61%

Cloud forms. Since the frequency of cloudy and rainy days was high, the most prevalent cloud forms were stratocumulus and stratonimbus. On partly cloudy days, cirrus and cumulus clouds were most frequent.

Inversions. There were 15 temperature inversions during this month. They ranged from 3° to 11° F in magnitude, and 10 to 16 hours in duration. Most of them were purely radiational in nature.

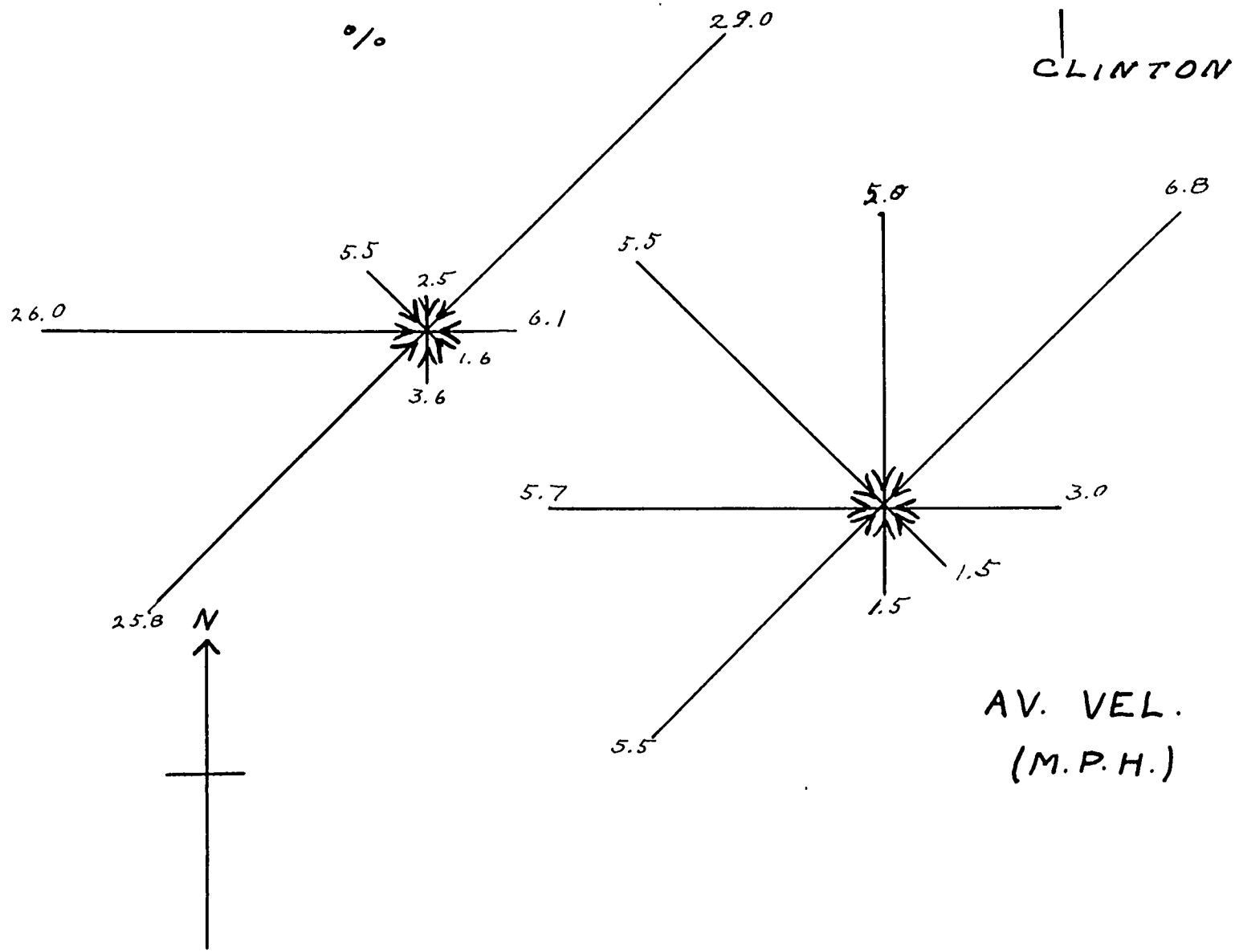
Wind direction frequencies have resumed the normal distribution for this area, i.e. the chief components NE and SW with a fairly large W component.

Total rainfall for 1944 was 58.18 inches.

[redacted]

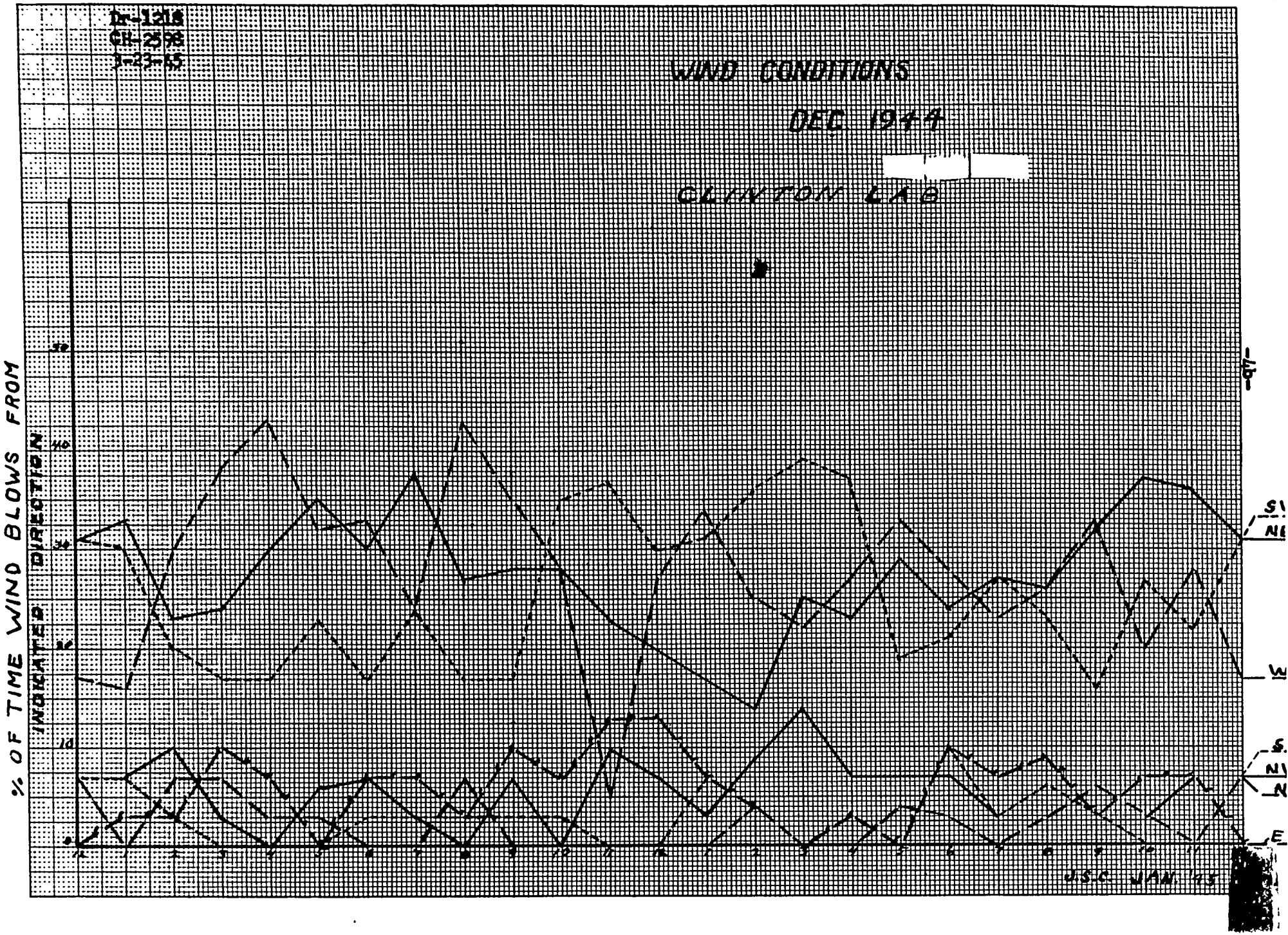
Dr-1217
CH-2598
3-23-45

WIND ROSES
DEC 1944
CLINTON LAB.

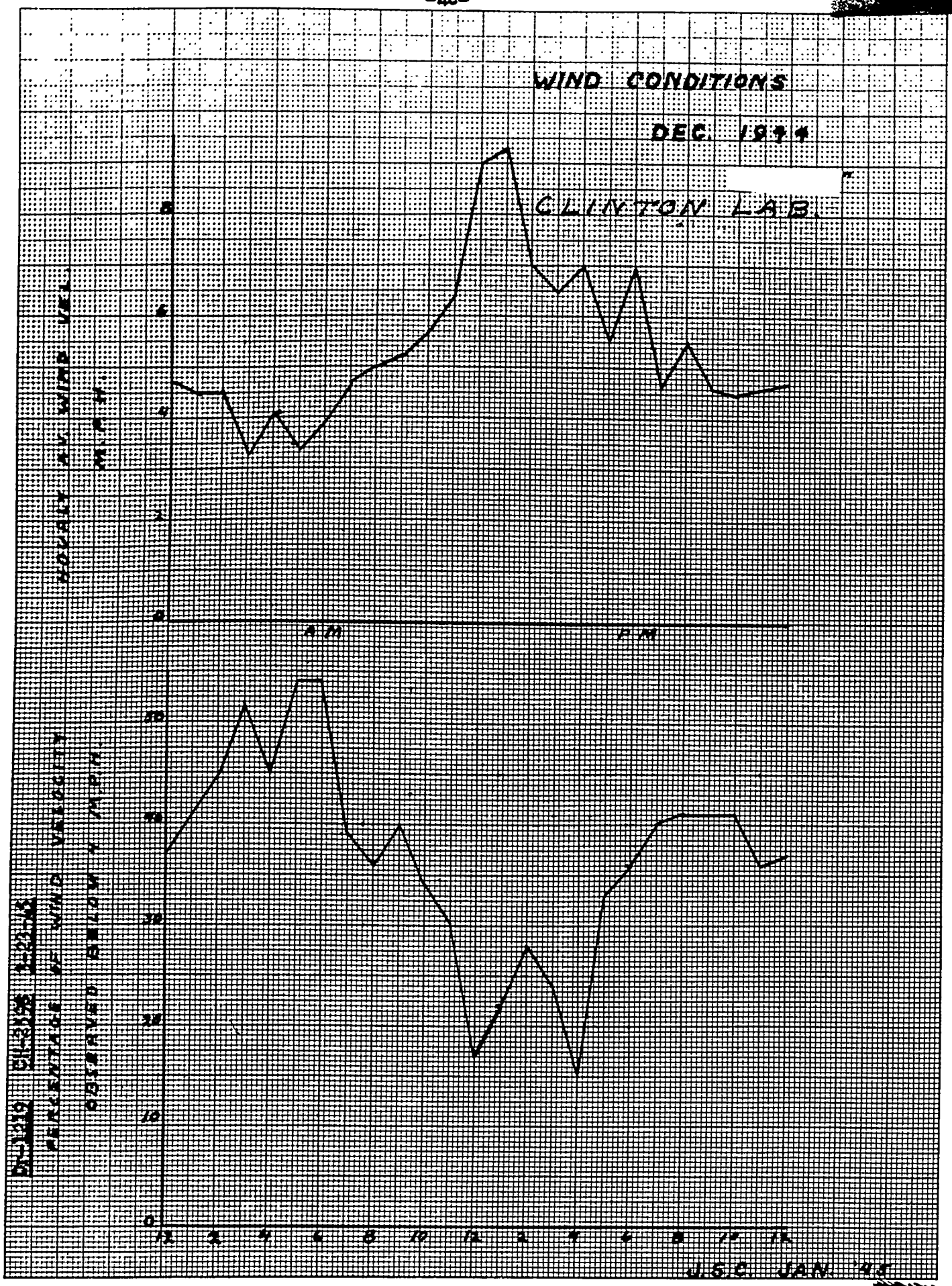


J.S.C. JAN.'48

KEUFFEL & ESSER CO., N. Y. NO. 359-14
Millimeters, 5 mm. lines accented, cm. lines heavy.
MADE IN U.S.A.



[redacted]



[redacted]

KEUFFEL & ESSER CO., N. Y. NO. 358-14
Millimeters, 5 mm. lines accented, cm lines heavy.
MADE IN U.S.A.

CLINTON LAB.

SUMMARY OF WEATHER DATA - - JANUARY 1945

J. S. Cheka

Temperature	High 61° F	Low 10° F	Av. Mean 38.2° F
Bar. (corrected)	29.56"	28.84"	
Relative Humidity	100%	35%	
Absolute Humidity	.0070	.0012	#H_2O/#dry air
Dew Point	48° F	5° F	
Rain			Total 2.40" H_2O

Cloud Coverage (percentage of days observed)

Clear 24% Partly cloudy 10% Cloudy 66%

Cloud forms. The prevailing cloud forms this month were strato-cumulus and alto-stratus. There were also some cirrus and a few cumulus forms.

Inversions. There were only 11 temperature inversions during this month This is not surprising since the percentage of total cloudiness was so high. They ranged from 3° to 12° in magnitude, and 5 to 16 hours in duration. They were mostly radiational in character.

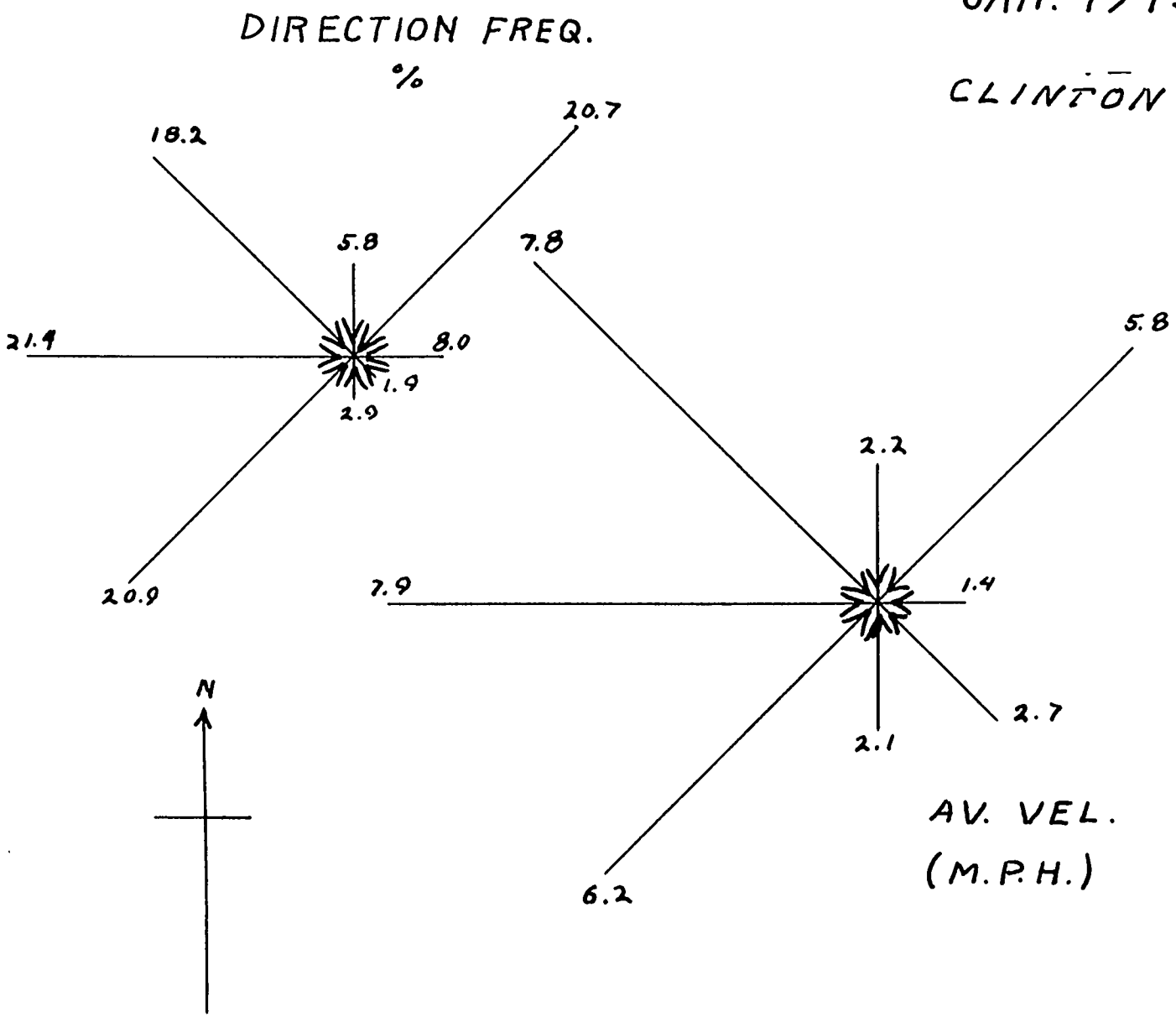
The rainfall was about half of normal, despite the high degree of cloudiness.

[redacted]

Dr-1220
CH-2598
3-23-45

WIND ROSES
JAN. 1945

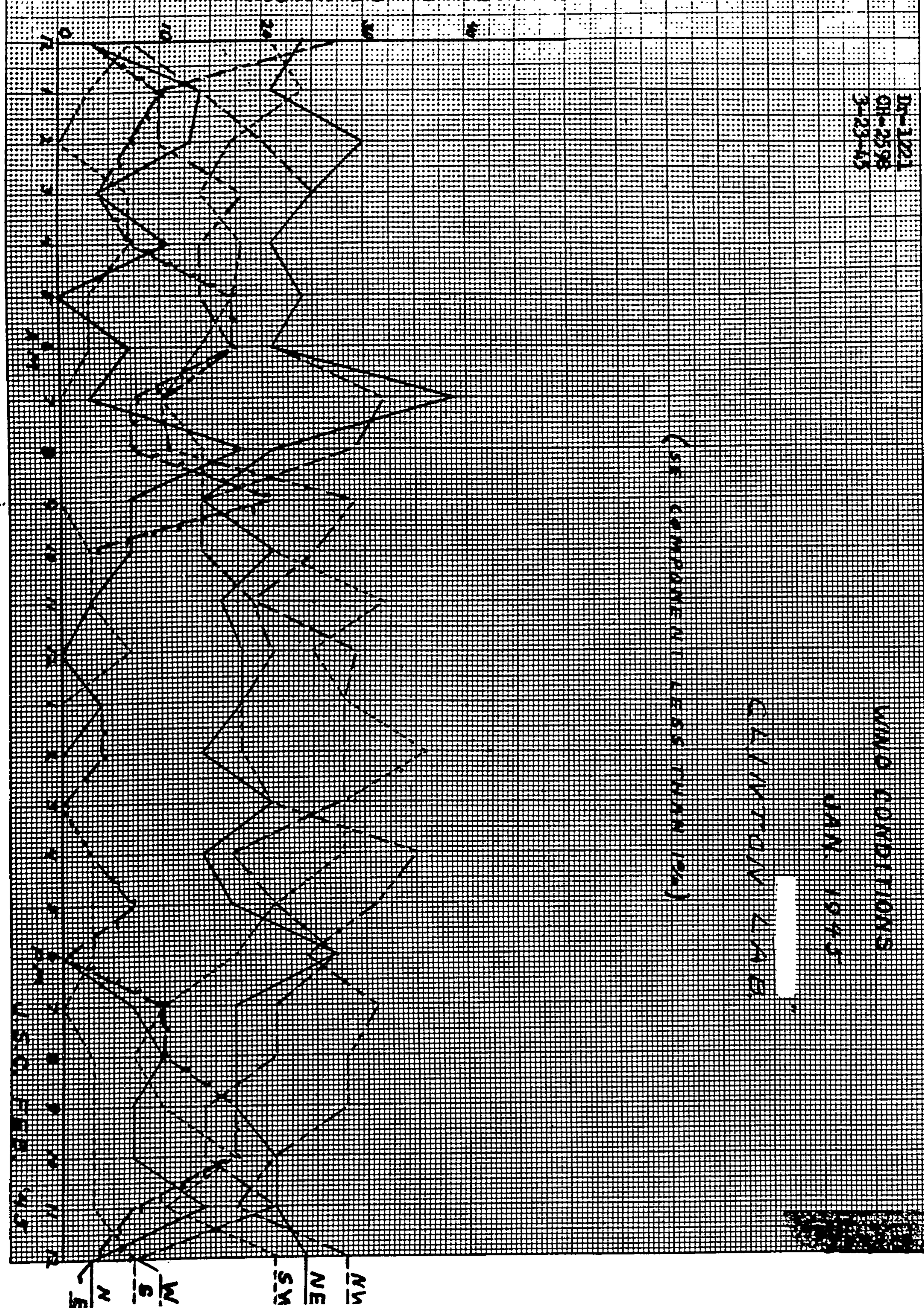
CLINTON LAB.



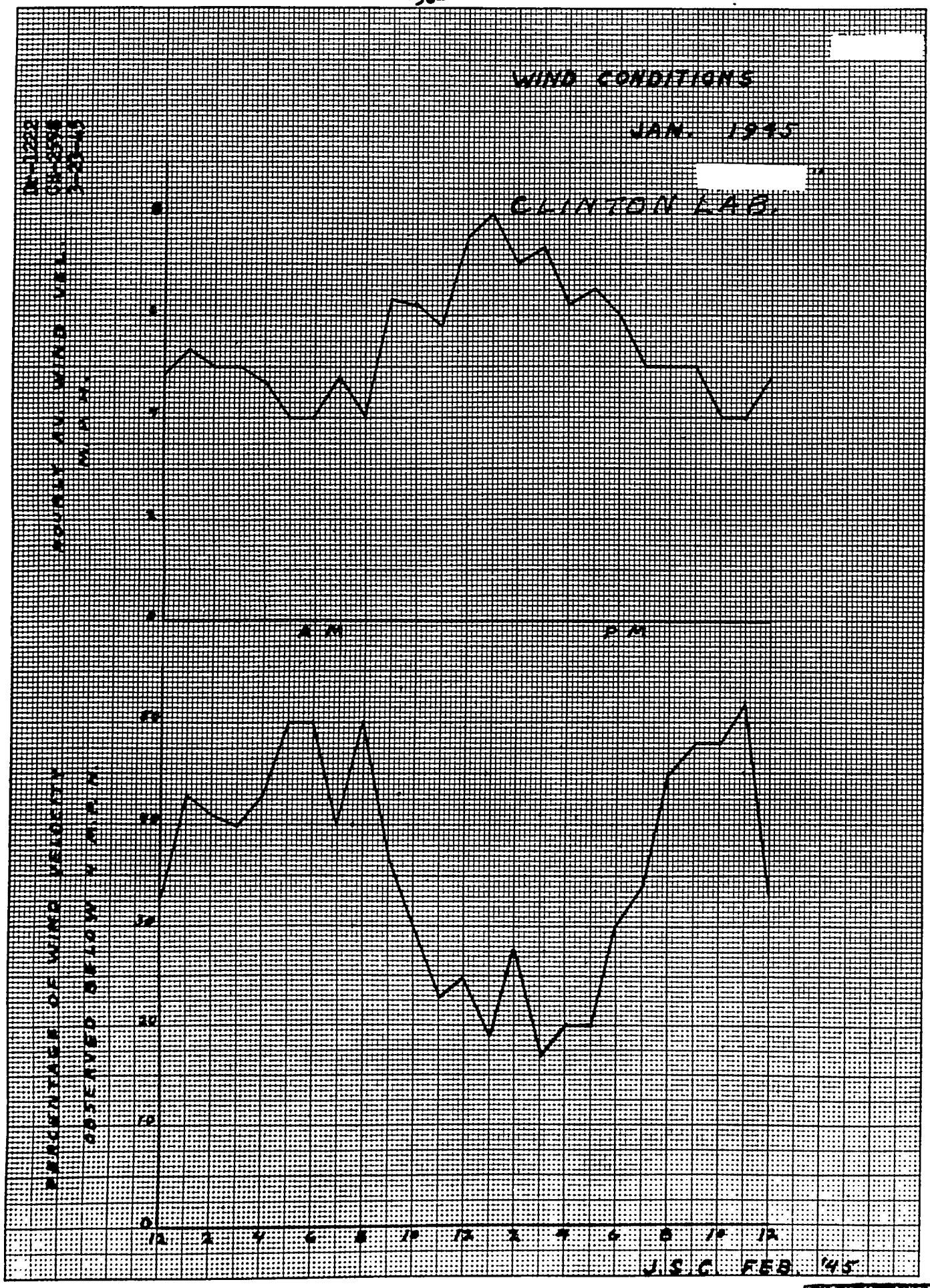
J.S.C. FEB. '45

% OF TIME WIND BLOWS FROM INDICATED DIRECTION

[redacted]



KEUFFEL & ESSER CO., N. Y. NO. 358-14
Millimeters, 5 mm. lines accented, cm. lines heavy.
MADE IN U.S.A.



KEUFFEL & ESSER CO., N. Y. NO. 358-14
Millimeters, 5 mm. lines accented, cm. lines heavy.
MADE IN U.S.A.

[redacted]

CLINTON LAB

SUMMARY OF WEATHER DATA - [illegible] - FEBRUARY 1945

J. S. Cheka

Temperature	High 72° F	Low 8° F	Av. mean 42.7° F
Bar. (corrected)	29.78"	28.77"	
Relative Humidity	100%	35%	
Absolute Humidity	.0115	.0015	#H_2O/#dry air
Dew Point	61° F	8° F	
Rain			Total 8.53" H_2O

Cloud coverage (percentage of days observed)

Clear 15% Partly cloudy 15% Cloudy 70%

Cloud forms. Prevailing cloud forms this month were strato-cumulus and strato-nimbus.

Inversions. There were nine inversions this month. In view of the large number of cloudy days, this agrees with expectations. They ranged from 4° to 13° in magnitude, and 5 to 15 hours in duration. They were all radiational in origin.

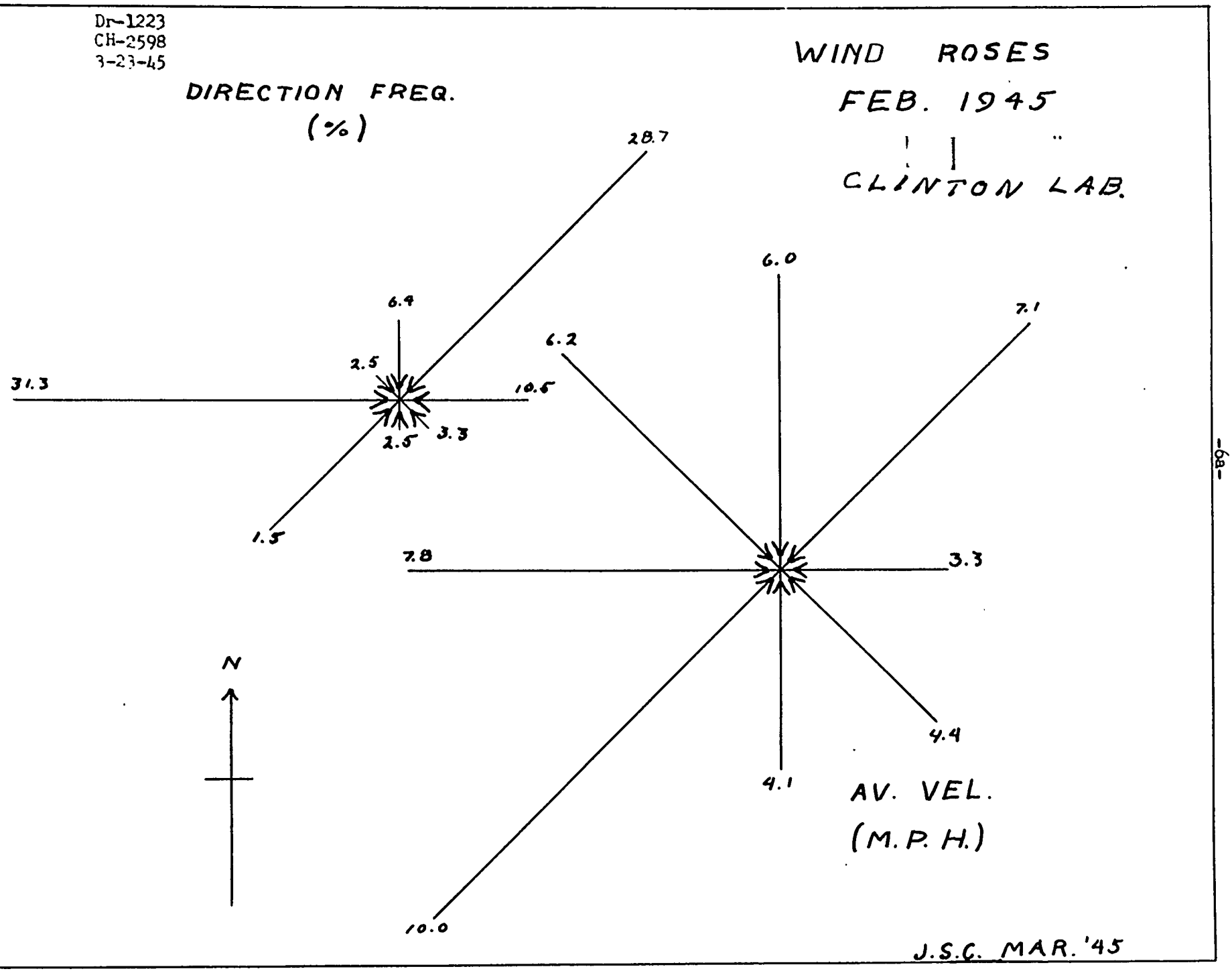
Mean average temperature is 1.5° F above normal.

Rainfall of 8.52" is 95% more than average figures for February for 72 years.

The average wind velocity was 7.15 mph compared to 6.0 in January and 5.58 in December.

[redacted]

Dr-1223
CH-2598
3-23-45



KEUFFEL & ESSER CO., N. Y. NO. 358-14
Millimeters, 5 mm lines accented, cm lines heavy
MADE IN U. S. A.

Dr-1224
CH-2598
3-23-45

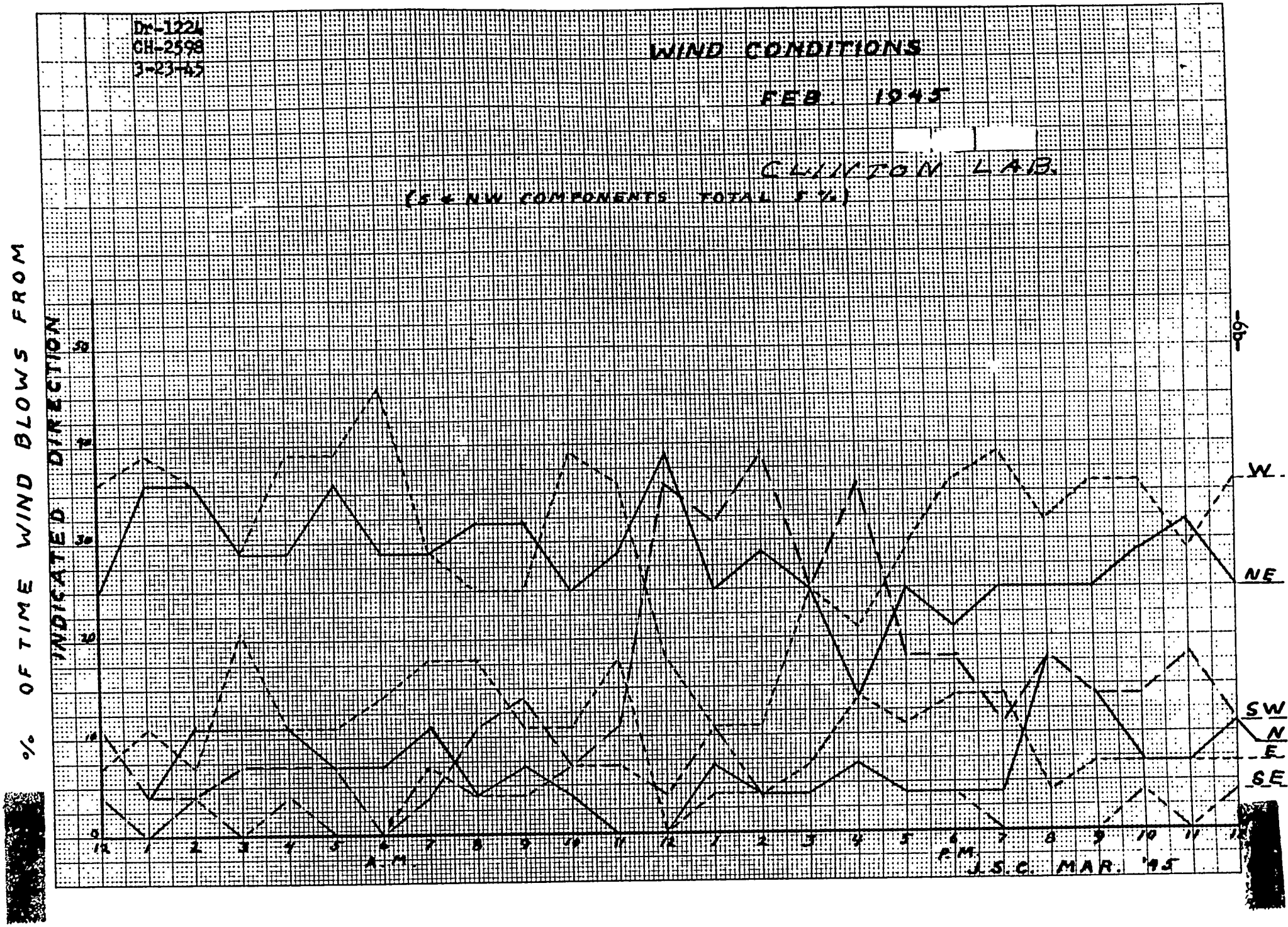
WIND CONDITIONS

FEB. 1945

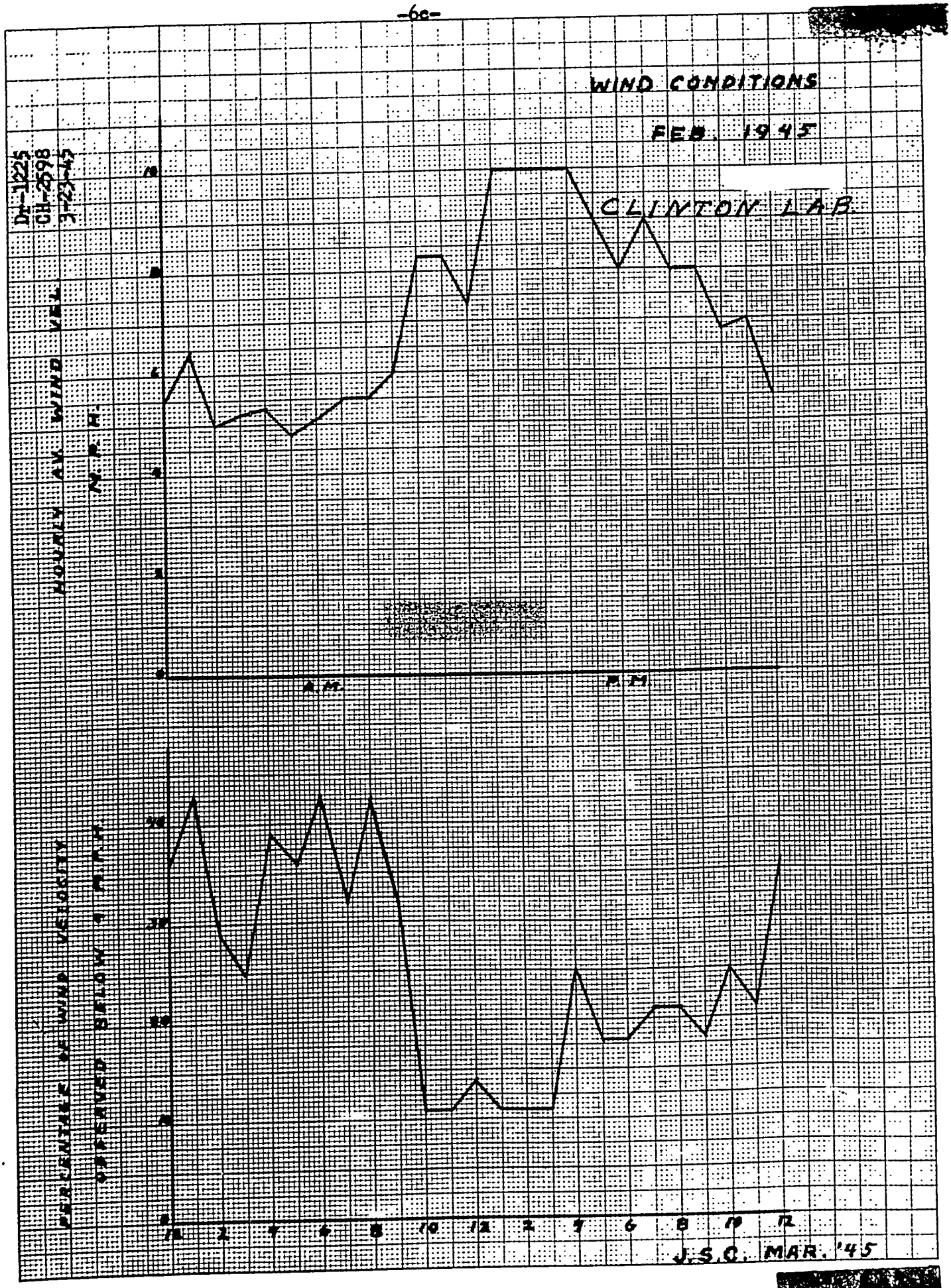
[redacted]

CLINTON LAB.

(S & NW COMPONENTS TOTAL 5%)



[redacted]



[redacted]

KEUFFEL & ESSER CO., N. Y. NO. 358-14
Millimeters, 5 mm lines accented, cm lines heavy
MADE IN U.S.A.