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VERTICAL DIFFUSION FROM A
LOW ALTITUDE LINE SOURCE

- DALLAS TOWER STUDIES -
Volume II

DATA SUMMARY

Final Report

to

U. S. Army Chemical Corps
Dugway Proving Ground
Contract DA-42-007-CML-504

by

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December 1961

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PREFACE

This volume presents a summary of data obtained during a series of diffusion tests conducted near the Dallas TV tower during the periods of April, June, and August, 1961. Analysis of the diffusion results carried out by Meteorology Research, Inc. under Contract DA-42-007-CML-504 with Dugway Proving Ground are given in Volume I of this report. The basic test data and a portion of the routinely processed data are given in Volume II for the benefit of any workers who may wish to carry out additional analyses.

Data sources and procedures for calculating geostrophic winds, effective turbulence sigmas and mean wind velocity are given in Volume I.

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I. SYNOPTIC WEATHER SITUATION

A. First Test Series

1. Trials 1, 2, 3; April 17-18, 1961

The Dallas area was under the influence of southeasterly winds associated with a N-S high pressure ridge in Missouri-Arkansas-Louisiana. A weak high pressure center was located in the Gulf of Mexico. Few clouds were present anywhere in northern Texas and southern Oklahoma throughout the night.

2. Trials 4, 5; April 19, 1961

A strong low pressure center was located in western Nebraska and strong southerly winds were present in the Dallas area as a result of the intense pressure gradient. A few scattered cumulus existed in the Dallas area during the early evening. Cloudiness increased to a stratocumulus overcast at 2500 feet by midnight and caused cancellation of the scheduled third test of the night.

3. Trials 6, 7, 8; April 22-23, 1961

A strong low pressure center was located in western Nebraska with strong southerly winds in the Dallas area. The tests were conducted under a high broken to overcast cover of altocumulus clouds.

4. Trials 9, 10, 11; April 25-26, 1961

A surface cold front had passed through the northern Texas area about twelve hours prior to the beginning of the tests. A small high pressure center was located in northern Oklahoma by test time. During the night, the Dallas area was under the influence of the cool air behind the front. Surface winds veered from northerly to easterly during the night as the high pressure center moved eastward. No clouds were present during the night.

5. Trial 12; April 28, 1961

A high pressure center was located in Missouri and east to southeast winds prevailed in the Dallas area. High scattered clouds were present at the time of the test. Light, variable winds at test time resulted in cancellation of the remainder of the tests for the night.

B. Second Test Series

1. Trials 13, 14, 15; June 5-6, 1961

Southerly winds existed in the Dallas area throughout the night, associated with an extensive high pressure area covering southeast United States and extending into the Atlantic. Scattered stratocumulus and altocumulus clouds were present during the tests. Overcast conditions with thunderstorms occurred shortly after the last test.

2. Trials 16, 17, 18; June 6-7, 1961

The general pressure pattern and wind flow were similar to the previous night. Broken stratocumulus clouds at around 10,000 feet increased to overcast for Trials 17 and 18.

3. Trial 19; June 8, 1961

A southerly wind flow existed in the Dallas area associated with a high pressure area centered off the Atlantic coast. A squall line or weak front moved through the area during the late evening accompanied by extensive thunderstorms. The test was conducted with scattered thunderstorms in the area and a heavy thunderstorm passed over the Cedar Hill area 1-2 hours after release.

4. Trials 20, 21; June 12-13, 1961

Southerly winds in the Dallas area were associated with a high pressure area centered off the Atlantic coast. Clear skies existed for the two tests. Shortly after midnight the development of low stratus clouds at about 2000 feet caused cancellation of the third test of the night.

5. Trials 22, 23, 24; June 13-14, 1961

The wind flow and pressure patterns were similar to the previous night. Scattered altocumulus clouds existed for Trial 22 but decreased for the second test. Low stratocumulus clouds developing after midnight caused a last minute cancellation of Trial 24 after all instrumentation and sampling was already in operation.

C. Third Test Series

1. Trials 25, 26, 27; August 7-8, 1961

A general southerly flow existed over eastern Texas. Variable broken to overcast altocumulus and stratocumulus above 4000 feet continued throughout the night.

2. Trials 28, 29, 30; August 9-10, 1961

A typical southerly flow prevailed over the Dallas area, associated with high pressure off the Atlantic coast. Thin, broken altocumulus clouds were present during the first two tests, becoming clear for the third test of the night.

3. Trials 31, 32, 33; August 11-12, 1961

Southerly winds prevailed during the night. A weak, stationary frontal trough remained in the vicinity of central Oklahoma-northwest Texas but did not appreciably affect the Dallas area. Scattered to broken cumulus clouds at about 8000 feet were present through the first two tests becoming clear prior to the third test of the night.

4. Trial 34; August 14, 1961

Wind flow in the Dallas area was from the southeast, associated with a high pressure area centered in Virginia. Scattered altocumulus and overcast cirrus existed through the first test and low stratus clouds developing shortly after midnight caused cancellation of the two remaining tests for the night.

5. Trials 35, 36; August 16-17, 1961

An easterly flow existed in the Dallas area, resulting from a high pressure area centered in the Great Lakes region. High, thin, scattered to broken clouds existed through the first two tests, but low stratus clouds developing after midnight caused cancellation of the third test.

6. Trials 37, 38; August 18-19, 1961

A general easterly flow existed in the Dallas area as a result of a band of high pressure extending across the middle latitudes of the United States. The principal high pressure center was located in North Dakota. High, thin, overcast clouds existed during the first test, gradually decreasing to scattered for the second test. The University of Texas meteorological observational system on the tower failed immediately prior to the second test, and no further tests were run during the night.

II. GEOSTROPHIC WINDS

Geostrophic Winds

<u>Trial</u>	<u>Wind</u>	<u>Trial</u>	<u>Wind</u>
1	21 mph	20	29 mph
2	23	21	28
3	24	22	36
4	56	23	28
5	50	24	no test
6	50	25	20
7	50	26	19
8	54	27	19
9	22	28	28
10	20	29	25
11	21	30	26
12	32	31	20
13	26	32	17
14	18	33	12
15	18	34	14
16	17	35	12
17	27	36	12
18	33	37	14
19	15	38	13

III. EFFECTIVE TURBULENCE SIGMAS AND AVERAGE WINDS

Effective Turbulence Sigmas and Average Winds

<u>Trial</u>	<u>Release Height</u>	<u>i_e (degrees)</u>	<u>$\bar{u}$ (mph)</u>
1	380 feet	1.65	9.
2	380	1.94	14.9
3	380	2.24	15.8
4	680	3.87	31.7
5	680	3.51	31.1
6	380	5.50	29.6
7	680	4.22	31.1
8	980	2.46	35.5
9	680	.96	19.5
10	680	.93	25.8
11	380	2.90	23.5
12	980	0.55	8.2
13	no surface sampling		

<u>Trial</u>	<u>Release Height</u>	<u>i_e (degrees)</u>	<u>ū (mph)</u>
14	no surface sampling		
15	no surface sampling		
16	750	.84	16.6
17	600	2.92	23.5
18	450	4.57	20.7
19	450	4.32	8.4
20	750	2.55	23.0
21	750	2.32	21.2
22	1050	1.74	27.4
23	1050	2.55	24.2
25	550	3.51	14.5
26	450	1.66	16.2
27	450	2.80	17.1
28	750	2.40	19.2
29	750	2.50	20.8
30	450	3.92	17.4
31	1050	.88	19.2
32	750	1.17	15.7
33	450	2.18	17.2
34	450	.87	11.9
35	450	3.19	15.0
36	450	2.32	10.6
37	450	2.00	16.0
38	450	2.00	10.0

IV. TEST SUMMARIES

Summaries of all test data are plotted in the odd numbered Figures II-1 to II-73. Tabular summaries of the tower data are given in Tables II-1 to II-37. The plotted summaries include the following items:

- 1) Tower dosage vs. height
- 2) Ground dosage vs. distance
- 3) Mean wind velocity (u) vs. height
- 4) Wind direction vs. height
- 5) σ_{180} (turbulence sigma) vs. height
- 6) Vertical velocity variance ($u^2 \sigma_{180}^2$) vs. height
- 7) Richardson number vs. height

Richardson number calculated:

<u>in layer from</u>	<u>and plotted at</u>
30-300 feet	150 feet
300-600	450
600-900	750
900-1200	1050

- 8) Vertical temperature gradients vs. height and compared to dry adiabatic lapse rate.

Temperature differences calculated:

<u>in layer from</u>	<u>and plotted at</u>
70-150 feet	110 feet
150-300	225
300-450	375
450-600	525
600-750	675
750-900	825
900-1050	975
1050-1200	1125
1200-1300	1250

V. GROUND DOSAGES

Maps of the sampler lines for each test are shown in the even numbered Figures II-2 to II-74 together with ground dosages observed at each sampler. Dosage values have been corrected to a uniform release rate of 2.5 lbs. of FP per mile. Laboratory assessments indicate an average of 1.24×10^{10} particles per gram.* All dosage values are given in units of particles-minute/foot³.

The aircraft release line and prevailing wind direction at release height are also shown on each map.

* Disseminator efficiency is assumed to be 39%, i.e. 5.47×10^{12} particles are released per mile.

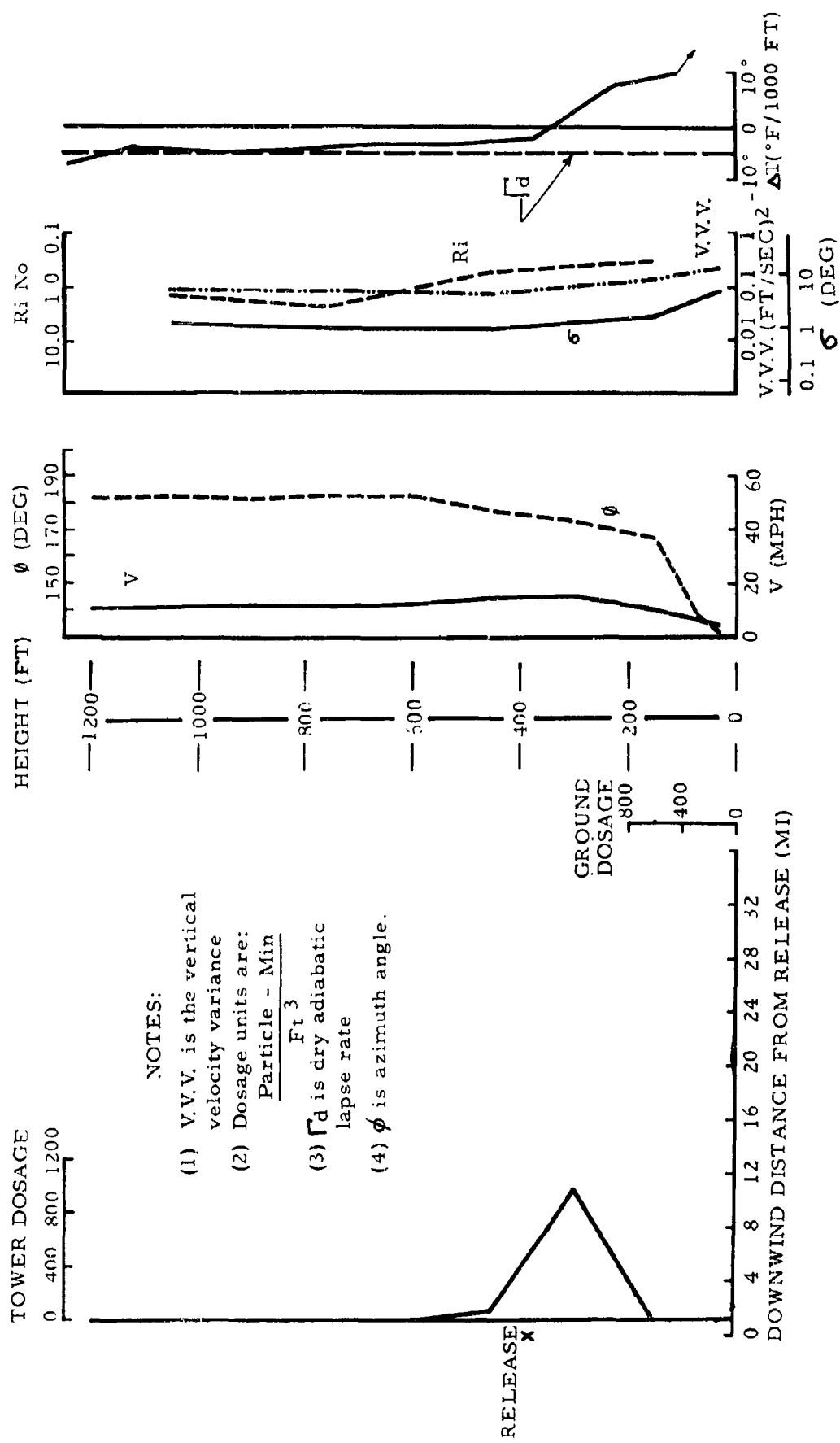


Fig. II-1: SUMMARY OF TRIAL DATA, TRIAL 1, APRIL 17, 1961, 2019 CST

TABLE II - 1

SUMMARY OF TOWER DATA

TRIAL 1

APRIL 17, 1961

2019 CST

Height Above Base (FT)	Total Dos- age (1)	Temp. (°F)	Wind Speed (MPH)	Wind Direc- tion (DEG)	Vertical Sigma (DEG) 5 30 180			Ri No.	Velocity Vari- ance (2)	$\frac{\Delta \theta}{u^2}$ (3)
1420	0	65.8	9.3	186.2						
1300	0	66.3	10.0	183.4						
1200	0	67.0	10.0	182.3						
1050	0	67.6	10.6	182.2	0.99	1.02	1.18	1.55	.10	.013
900	0	68.4	11.0	180.5						
750	0	69.1	11.3	181.5	0.90	0.89	1.04	2.62	.09	.017
600	2	69.6	12.1	181.9						
450*	46	70.1	13.8	176.7	0.98	1.04	0.85	.55	.09	.020
300	982	70.5	14.7	173.4						
150	0	69.4	10.5	167.3	1.47	1.57	1.67	.33	.20	.066
70	0	68.6	6.8	148.9						
30	0	65.8	4.2	132.1	4.50	4.80	4.35		.22	
SFC	0									

Release at 380 feet above and 1.2 miles upwind of tower base.

(1) PARTICLE-MINUTES/CUBIC FOOT

(2) (FEET/SECOND)²(3) (°F/100 FT/MPH²)

* Timer malfunction

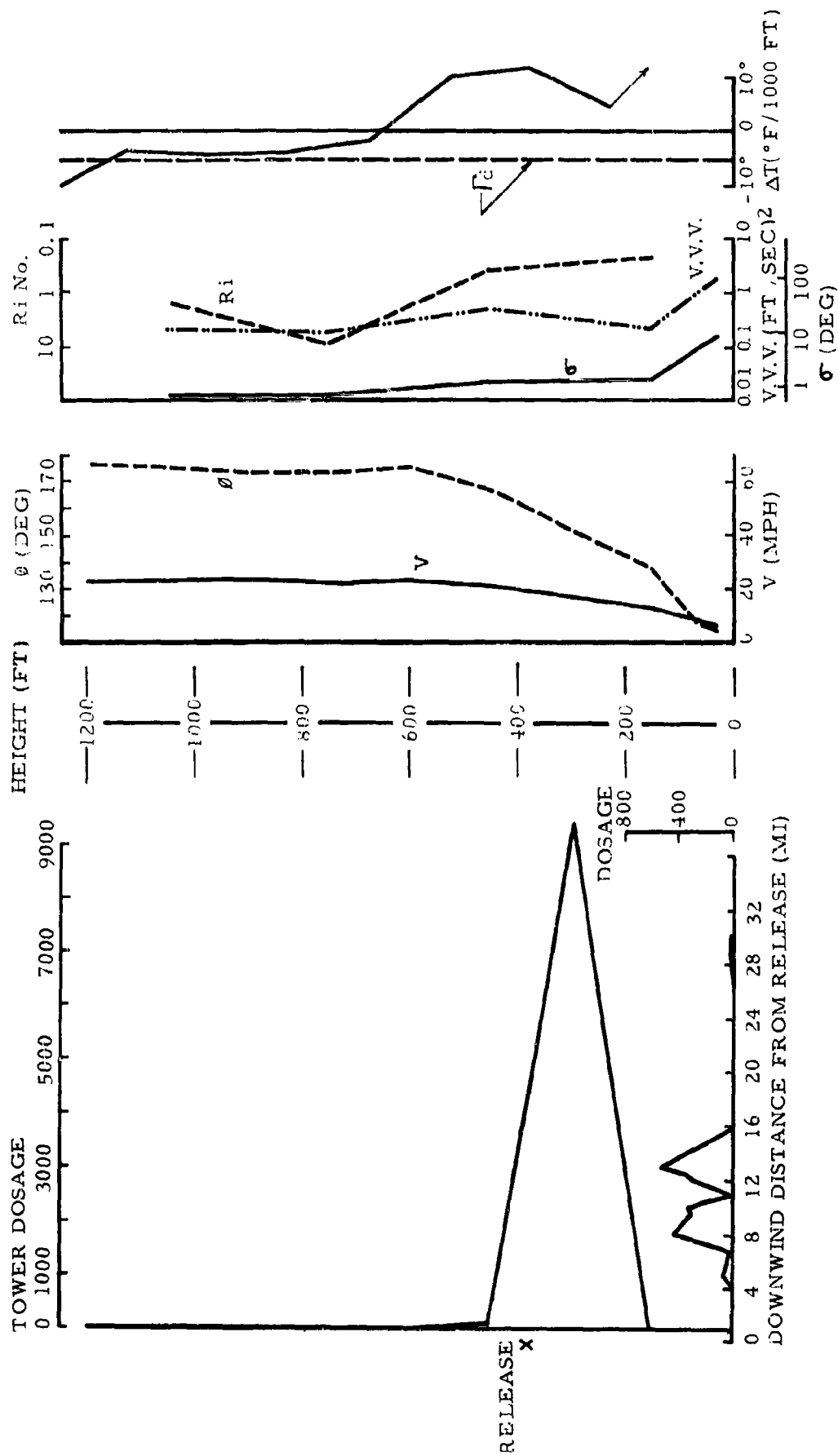
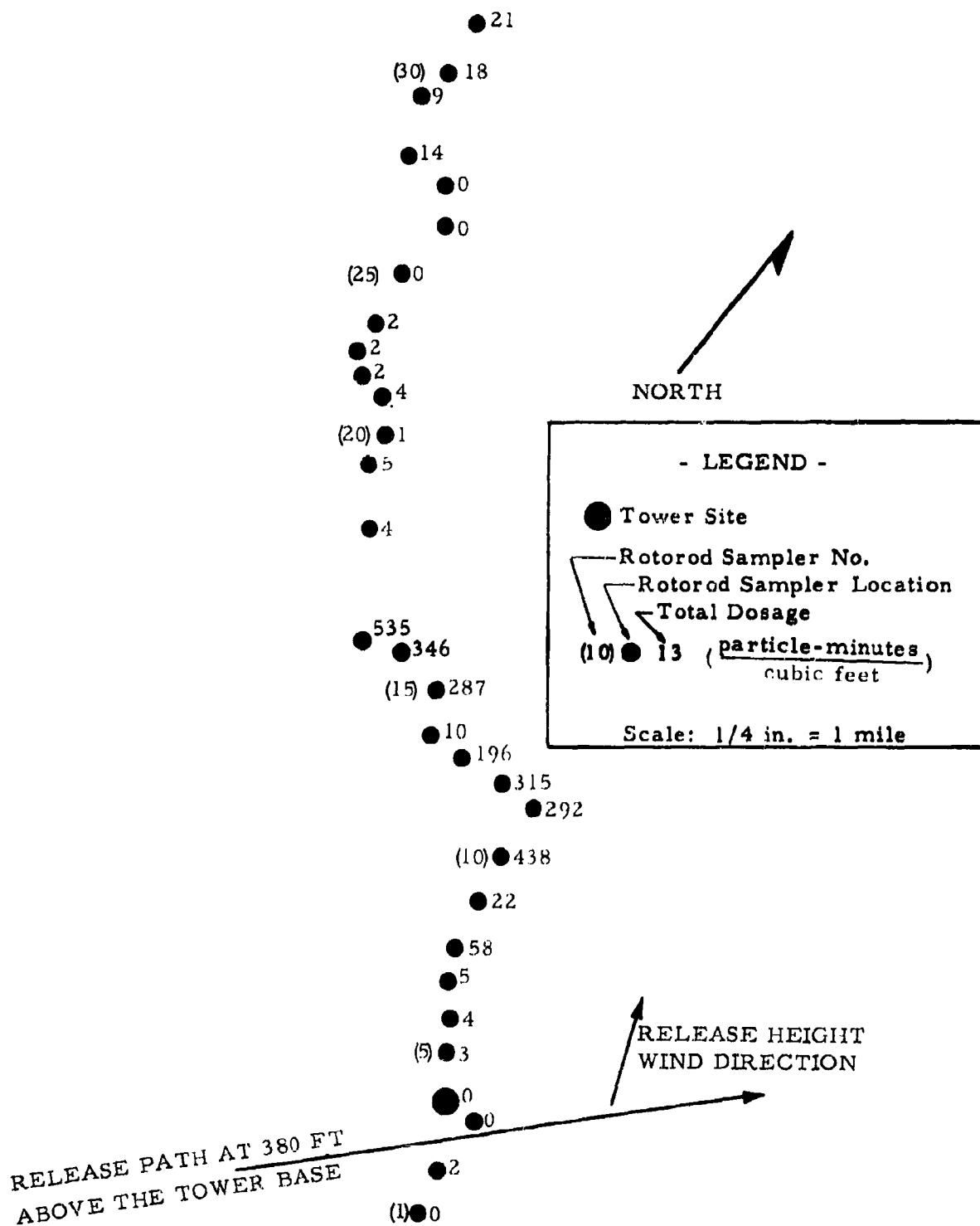


Fig. II-3: SUMMARY OF TRIAL DATA, TRIAL 2, APRIL 18, 1962, 0039 CST



TRIAL 2; 0039 CST 4-18-61

SURFACE DOSAGE DISTRIBUTION

Fig. II-4

TABLE II - 2

SUMMARY OF TOWER DATA

TRIAL 2

APRIL 18, 1961

0039 CST

Height Above Base (FT)	Total Dos- age (1)	Temp. (°F)	Wind Speed (MPH)	Wind Direc- tion (DEG)	Vertical Sigma (DEG) 5 30 180			Ri No.	Velocity Vari- ance (2)	$\frac{\Delta \theta}{u^2}$ (3)
1420	0	62.4	20.2	179.1						
1300	0	62.2	21.7	177.9						
1200	0	63.2	22.7	176.2						
1050	0	63.7	22.9	175.5	0.65	0.65	0.75	1.62	.19	.005
900	0	64.4	23.2	172.8						
750	4	65.0	22.3	173.3	0.63	0.49	0.75	8.50	.18	.008
600	0	65.3	22.8	174.7						
450*	58	63.8	21.1	166.0	0.75	0.82	1.35	.41	.53	.011
300	9330	62.1	16.5	151.4						
150	0	61.4	13.2	136.5	0.92	1.02	1.41	.24	.23	.041
70	0	58.8	9.1	118.3						
30	0	57.7	5.6	115.2	7.26	8.34	9.23		1.75	
SFC	0									

Release at 380 feet above and 1.0 mile upwind of tower base

(1) PARTICLE-MINUTES/CUBIC FOOT

(2) (FEET/SECOND)²(3) (°F/100 FT/MPH²)

* Timer malfunction

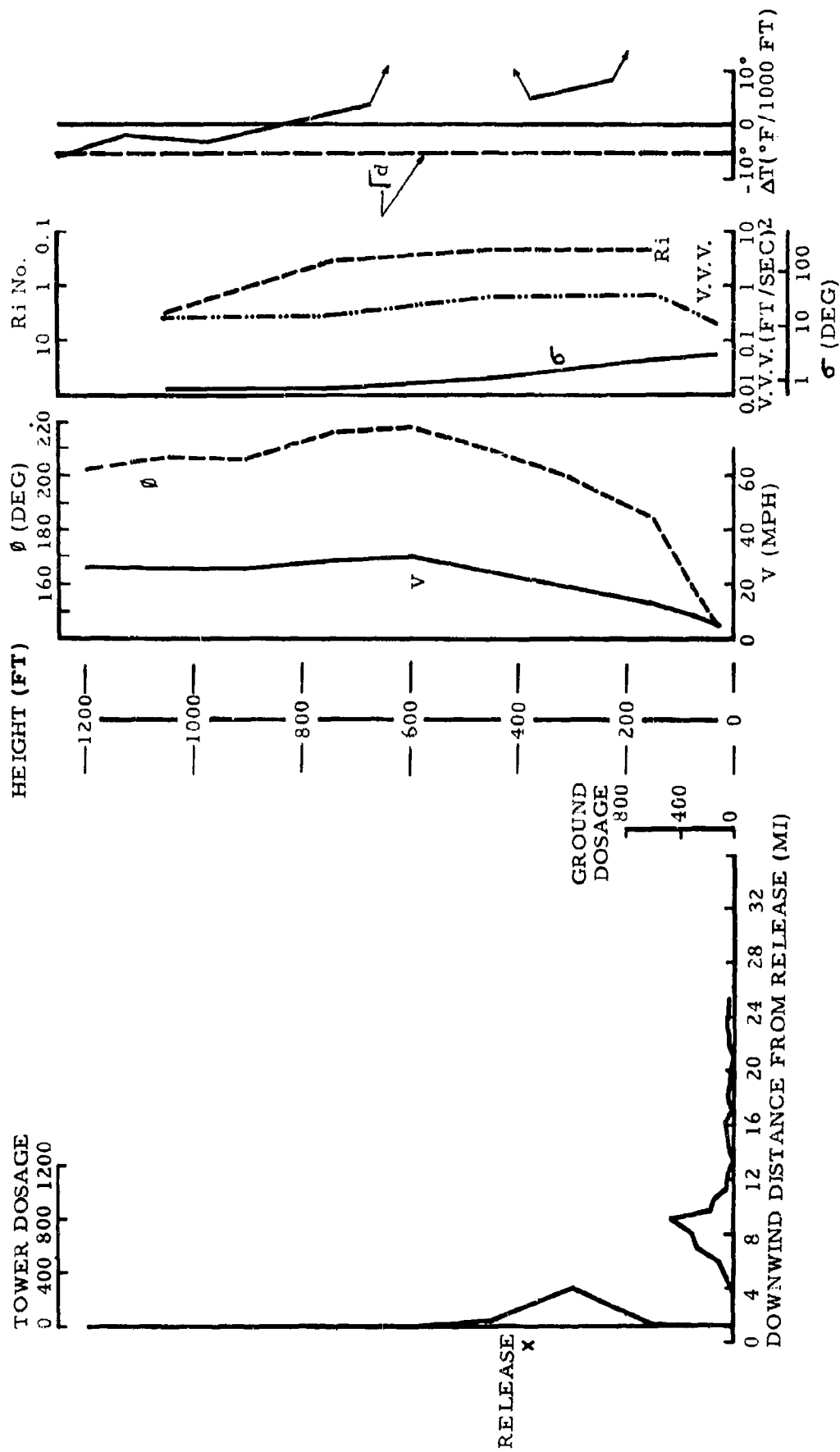
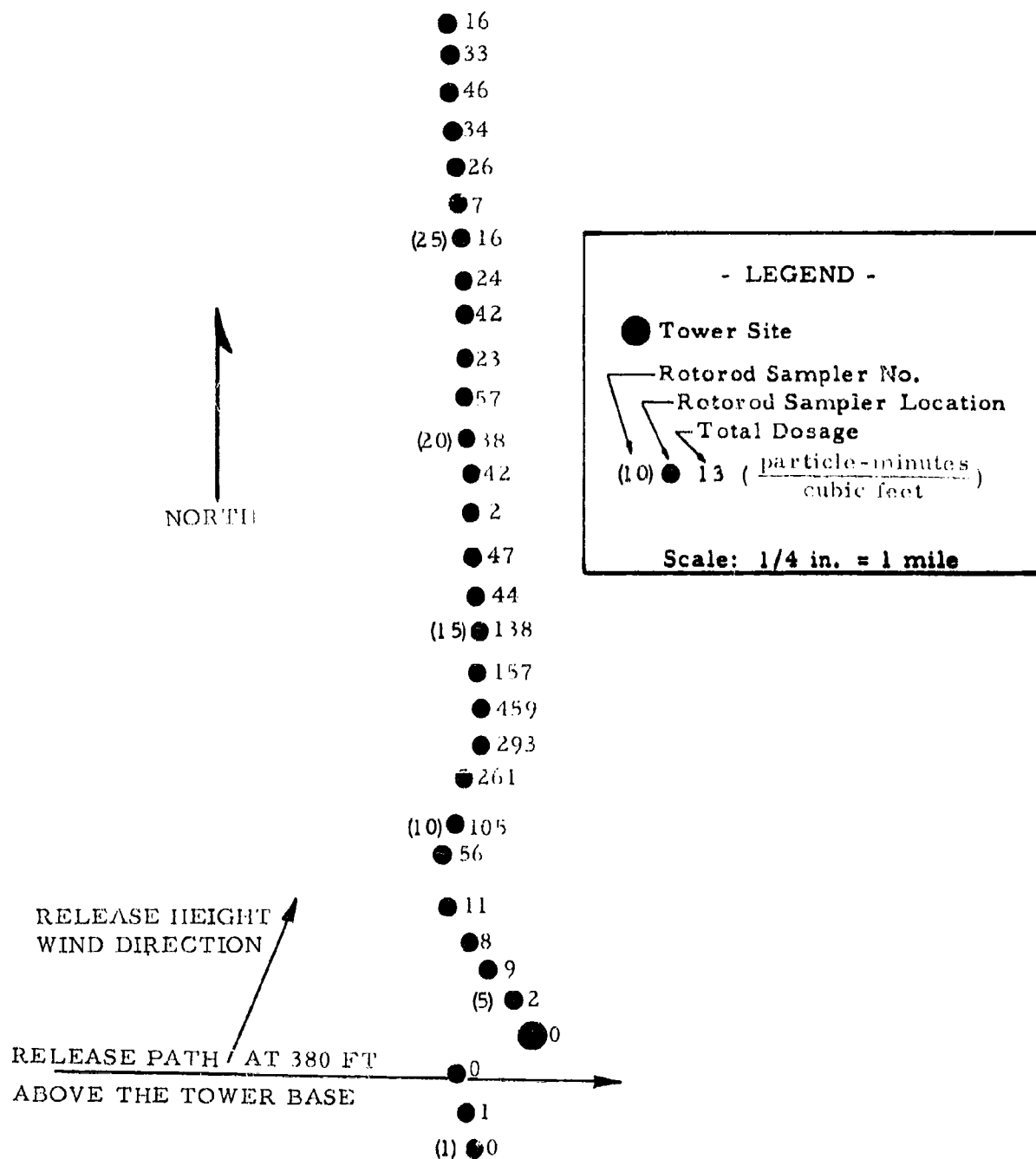


Fig. II-5: SUMMARY OF TRIAL DATA, TRIAL 3, APRIL 18, 1961, 0459 CST



TRIAL 3; 0459 CST 4-18-61
SURFACE DOSAGE DISTRIBUTION

Fig. II-6

TABLE II - 3

SUMMARY OF TOWER DATA

TRIAL 3

APRIL 18, 1961

0459 CST

Height Above Base	Total Dos- age	Temp.	Wind Speed	Wind Direc- tion	Vertical Sigma (DEG)			Ri No.	Velocity Vari- ance	$\frac{\Delta\theta}{u^2}$
(FT)	(1)	(°F)	(MPH)	(DEG)	5	30	180		(2)	(3)
1420	0	60.0	22.1	204.0						
1300	0	59.7	25.5	202.6						
1200	2	60.3	26.0	203.1						
1050	0	60.6	25.6	207.0	0.77	0.78	0.75	3.09	.24	.006
900	0	61.1	26.1	206.4						
750	4	61.1	29.1	215.8	0.73	0.75	0.75	.37	.31	.007
600	0	60.6	30.4	217.5						
450*	43	58.2	25.1	209.1	0.98	1.05	1.23	.21	.63	.010
300	280	57.5	18.9	199.1						
150	0	56.3	11.8	184.4	2.26	2.55	2.67	.21	.65	.066
70	0	54.4	8.4	156.8						
30	0	51.3	5.3	144.2	2.18	2.59	3.09		.18	
SFC	0									

Release at 380 feet above and 1.2 miles upwind of tower base

(1) PARTICLE-MINUTES/CUBIC FOOT

(2) (FEET/SECOND)²(3) (°F/100 FT/MPH²)

* Timer malfunction

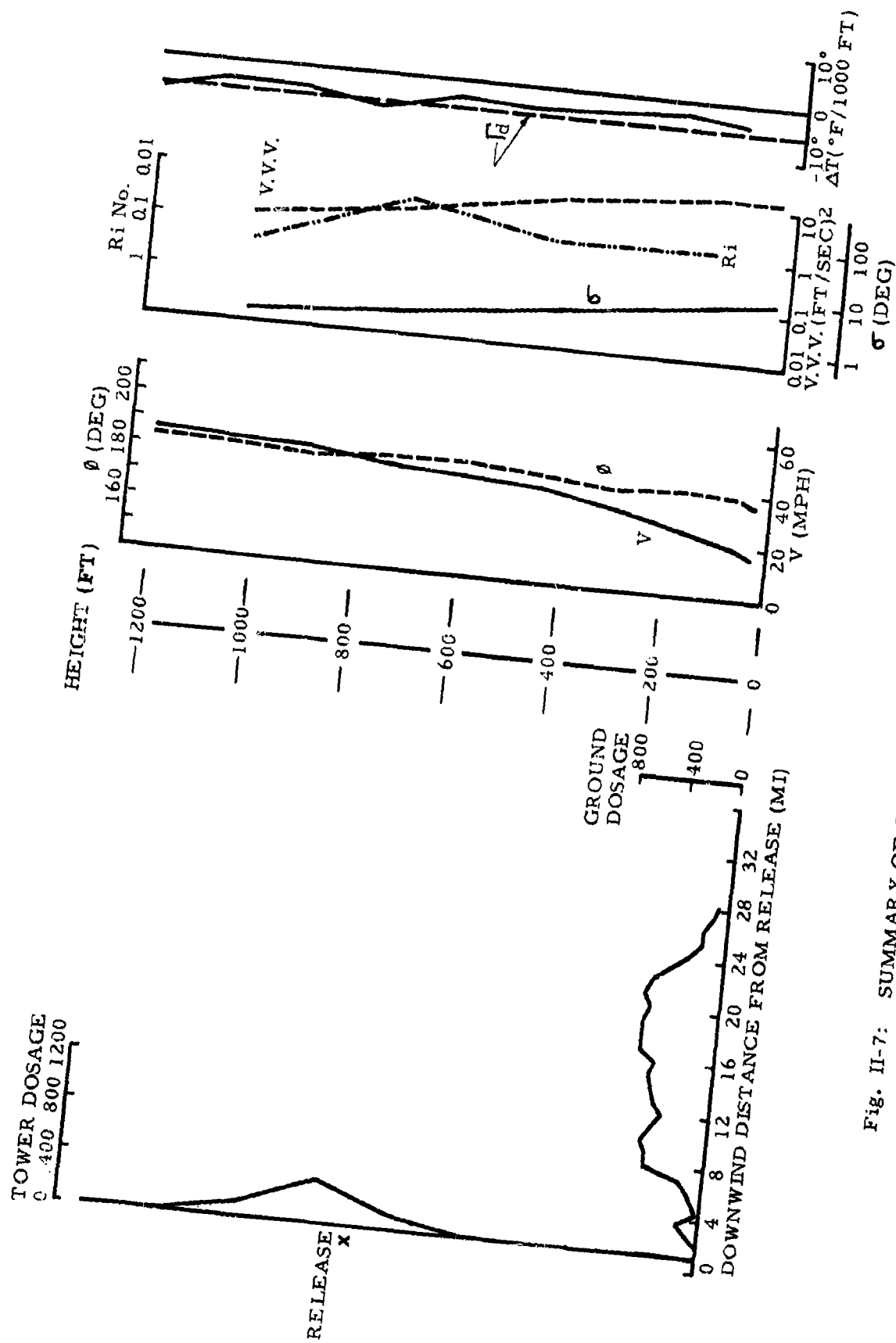
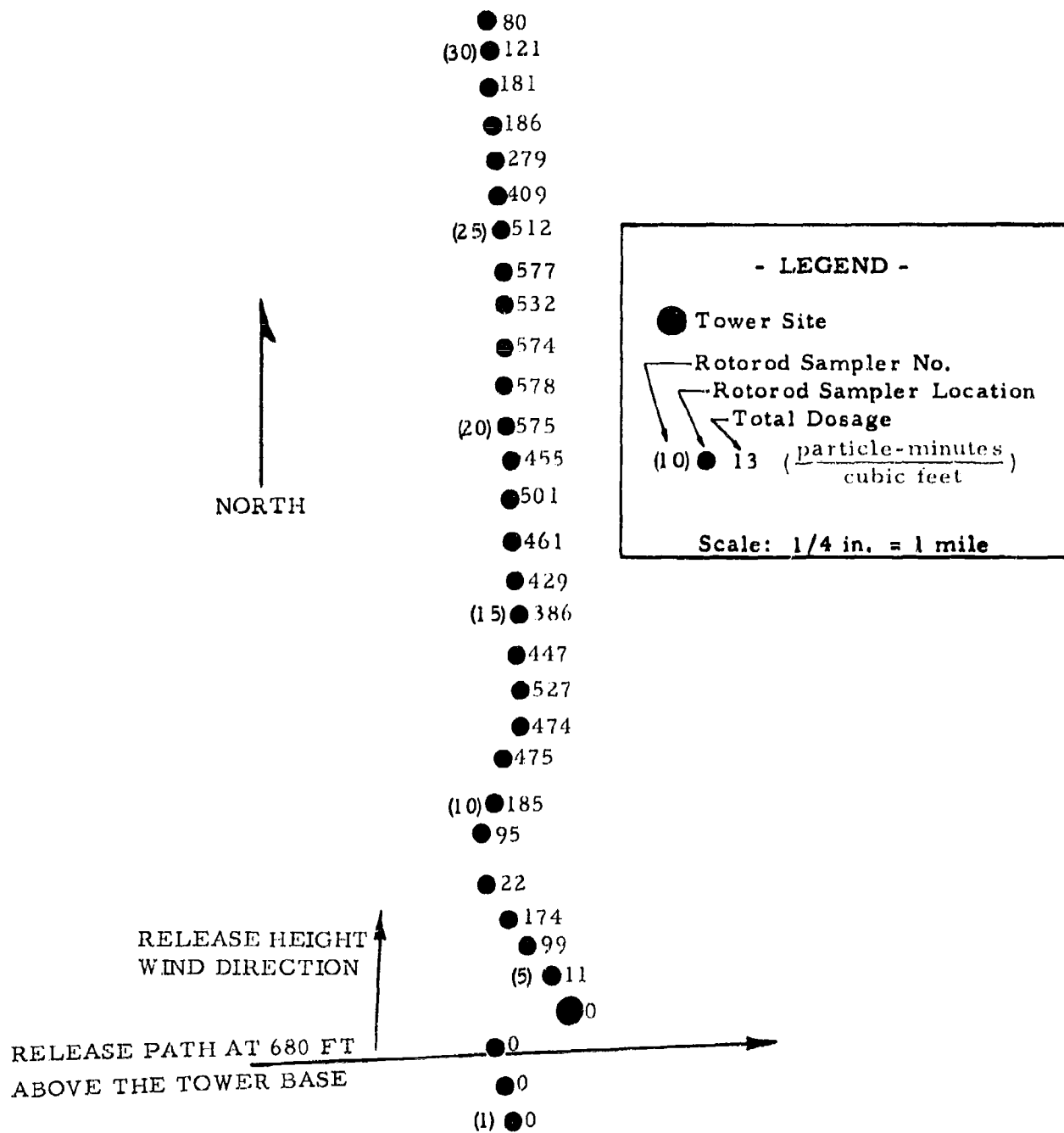


Fig. II-7: SUMMARY OF TRIAL DATA, TRIAL 4, APRIL 19, 1961, 2019 CST



TRIAL 4; 2019 CST 4-19-61

SURFACE DOSAGE DISTRIBUTION

Fig. II-8

TABLE II - 4

SUMMARY OF TOWER DATA

TRIAL 4

APRIL 19, 1961

2019 CST

Height Above Base (FT)	Total Dos- age (1)	Temp. (°F)	Wind Speed (MPH)	Wind Direc- tion (DEG)	Vertical Sigma (DEG) 5 30 180			Ri No.	Velocity Vari- ance (2)	$\frac{\Delta \theta}{u^2}$ (3)
1420	2	71.0	45.1	191.1						
1300	0	71.2	47.5	186.2						
1200	4	71.8	47.1	184.3						
1050	9	72.3	44.8	183.5	0.75	0.97	0.97	.26	1.23	.0004
900	110	72.9	43.8	181.3						
750	334	73.9	40.4	182.8	1.25	1.56	1.55	.03	2.58	.0005
600	91	74.4	37.9	183.5						
450	0	75.0	35.7	181.3	2.49	3.19	3.15	.07	8.31	.0007
300	0	75.5	30.6	178.3						
150	0	75.9	24.4	179.5	5.10	6.30	6.17	.06	14.87	.003
70	0	76.2	20.3	178.9						
30	0	75.2	16.0	176.1	8.55	9.66	9.23		14.33	
SFC	2									

Release at 680 feet above and 1.1 miles upwind of tower base

(1) PARTICLE-MINUTES/CUBIC FOOT

(2) (FEET/SECOND)²(3) (°F/100 FEET/MPH²)

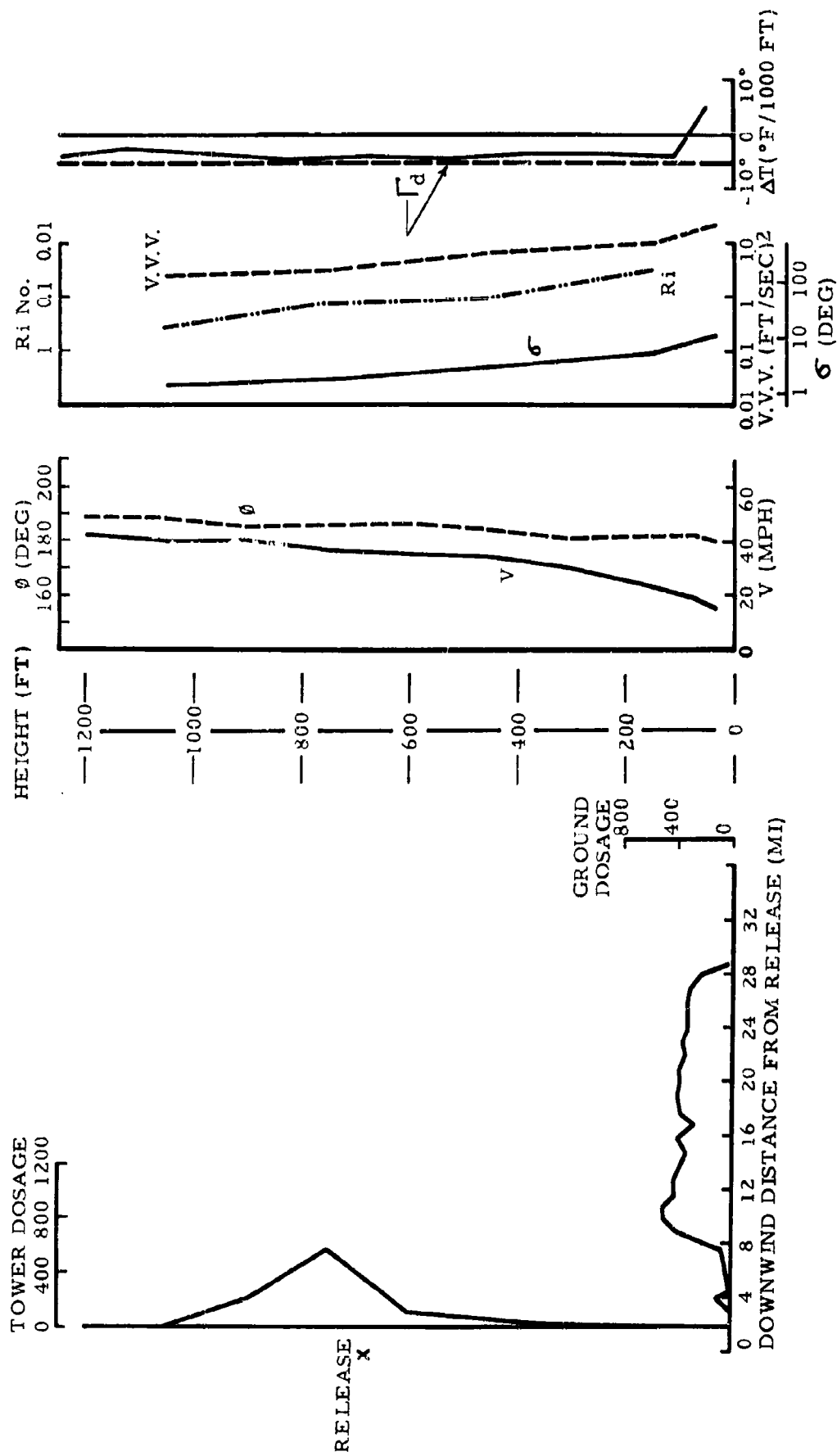
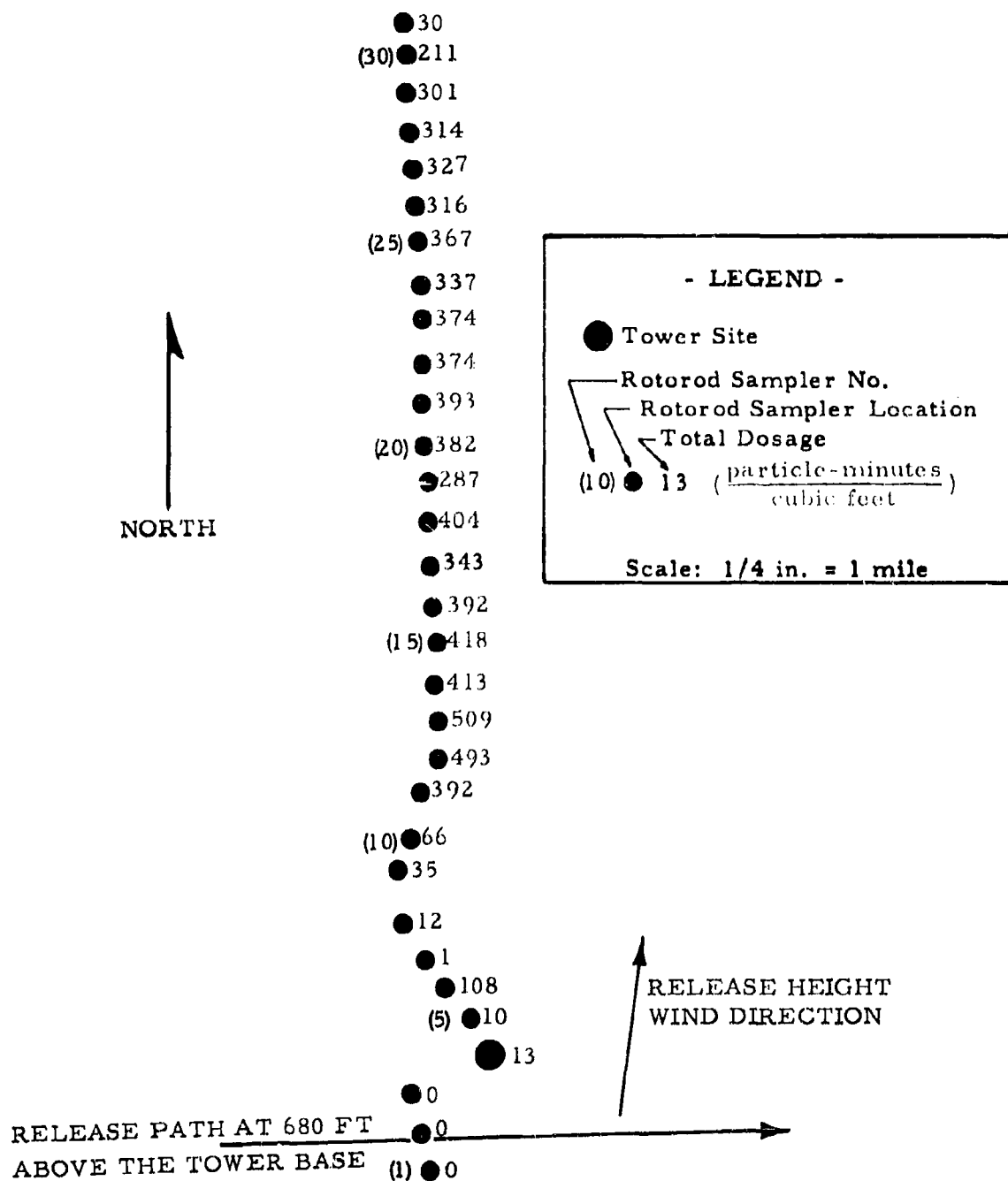


Fig. II-9: SUMMARY OF TRIAL DATA, TRIAL 5, APRIL 19, 1961, 2319 CST



TRIAL 5; 2319 CST 4-19-61
SURFACE DOSAGE DISTRIBUTION

Fig. II-10

TABLE II - 5

SUMMARY OF TOWER DATA

TRIAL 5

APRIL 19, 1961

2319 CST

Height Above Base (FT)	Total Dose (1)	Temp. (°F)	Wind Speed (MPH)	Wind Direc- tion (DEG)	Vertical Sigma (DEG) 5 30 180			Ri No.	Velocity Vari- ance (2)	$\frac{\Delta\theta}{u^2}$ (3)
1420	0	65.8	40.2	198.3						
1300	0	66.2	42.4	192.8						
1200	0	66.6	42.1	189.3						
1050	0	67.0	40.2	187.6	0.97	1.27	1.44	.37	2.19	.0003
900	208	67.5	39.6	184.8						
750	568	68.2	37.3	185.5	1.30	1.68	1.72	.13	2.69	.0003
600	98	68.8	35.2	185.9						
450	33	69.5	34.1	184.0	2.29	2.88	2.74	.10	5.71	.0005
300	0	70.0	30.0	181.1						
150	2	70.5	23.2	181.7	4.89	6.30	5.39	.03	10.24	.001
70	0	70.8	18.9	181.8						
30	0	70.6	14.6	180.4	8.11	9.74	11.58		18.70	
SFC	0									

Release at 680 feet above and 2.0 miles upwind of tower base

- (1) PARTICLE-MINUTES/CUBIC FOOT
- (2) (FEET/SECOND)²
- (3) (°F/100 FEET/MPH²)

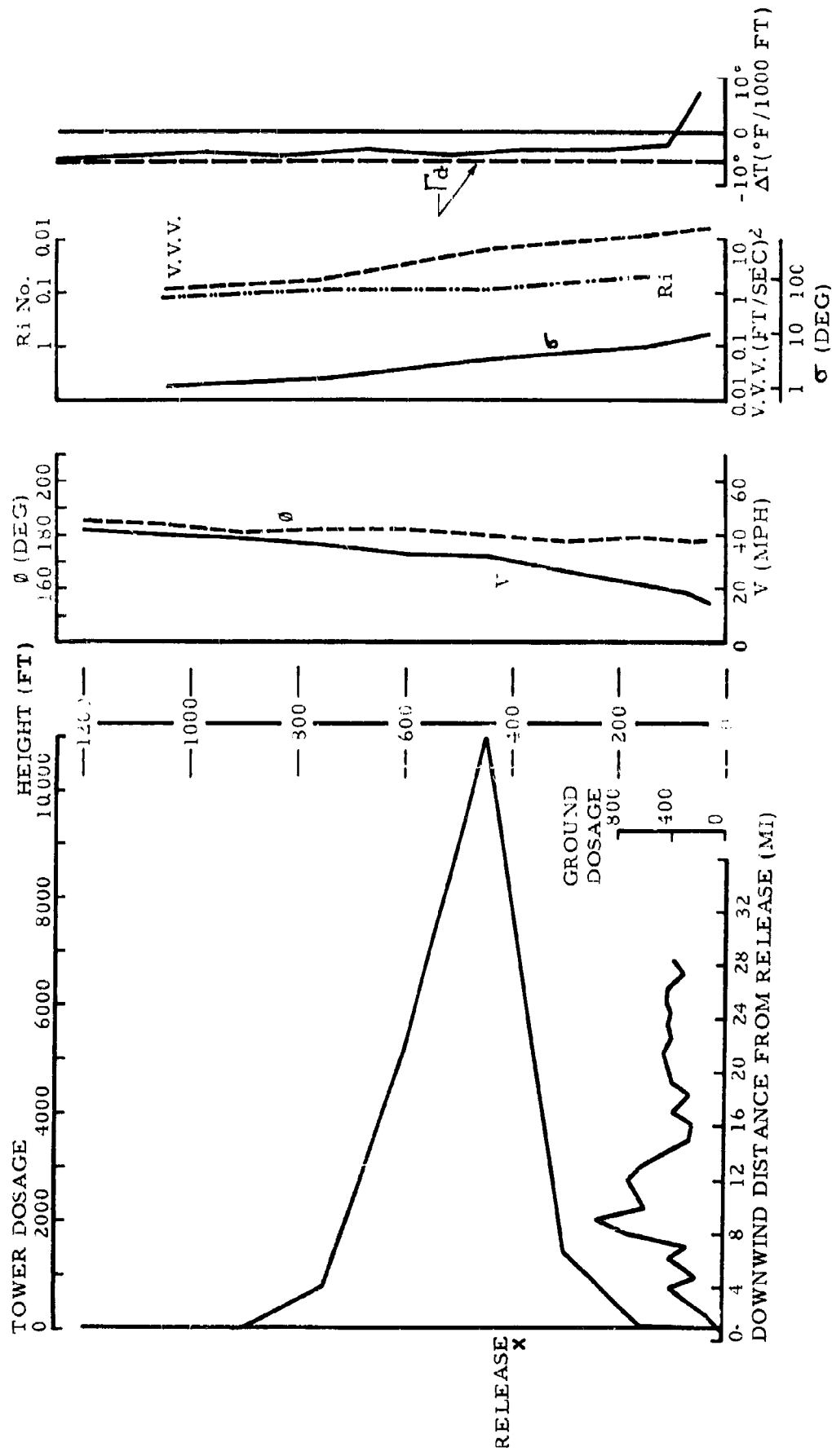
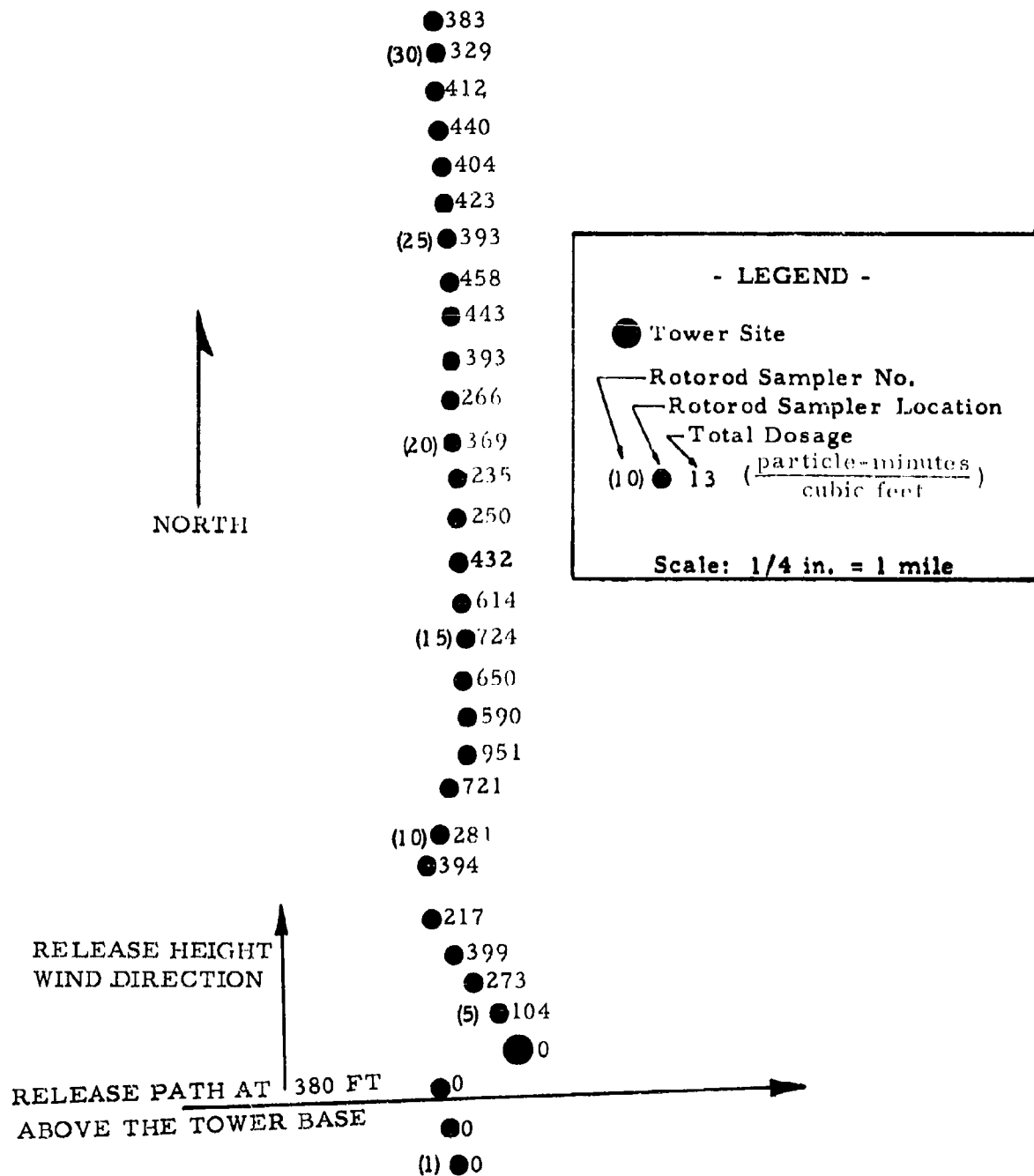


Fig. II-11: SUMMARY OF TRIAL DATA, TRIAL 6, APRIL 22, 1961, 2009 CST



TRIAL 6; 2009 CST 4-22-61
SURFACE DOSAGE DISTRIBUTION

Fig. II-12

TABLE II - 6

SUMMARY OF TOWER DATA

TRIAL 6

APRIL 22, 1961

2009 CST

Height Above Base (FT)	Total Dos- age 1	Temp. (°F)	Wind Speed (MPH)	Wind Direc- tion (DEG)	Vertical Sigma (DEG) 5 30 180			Ri No. .13	Velocity Vari- ance 2	$\frac{\Delta\theta}{u^2}$ 3
1420	0	70.5	39.7	192.5						
1300	0	70.7	41.8	187.1						
1200	0	71.4	41.8	185.5						
1050	0	72.1	39.8	183.6	0.80	0.99	1.05	.13	1.14	.0003
900	0	72.7	38.6	180.9						
750	800	73.4	35.5	181.8	1.20	1.42	1.50	.09	1.86	.0004
600	118	73.9	32.7	182.1						
450	10805	74.6	31.6	180.2	2.25	3.07	3.14	.09	6.44	.0006
300	1418	75.1	27.1	177.7						
150	0	75.6	22.2	179.0	4.42	5.55	5.85	.05	11.08	.002
70	0	75.8	19.0	177.9						
30	0	75.5	14.9	178.5	8.17	9.59	10.20		15.20	
SFC	2									

Release at 380 feet above and 1.1 miles upwind of tower base

1 PARTICLE-MINUTES/CUBIC FOOT

2 (FEET/SECOND)²3 (°F/100 FEET/MPH²)

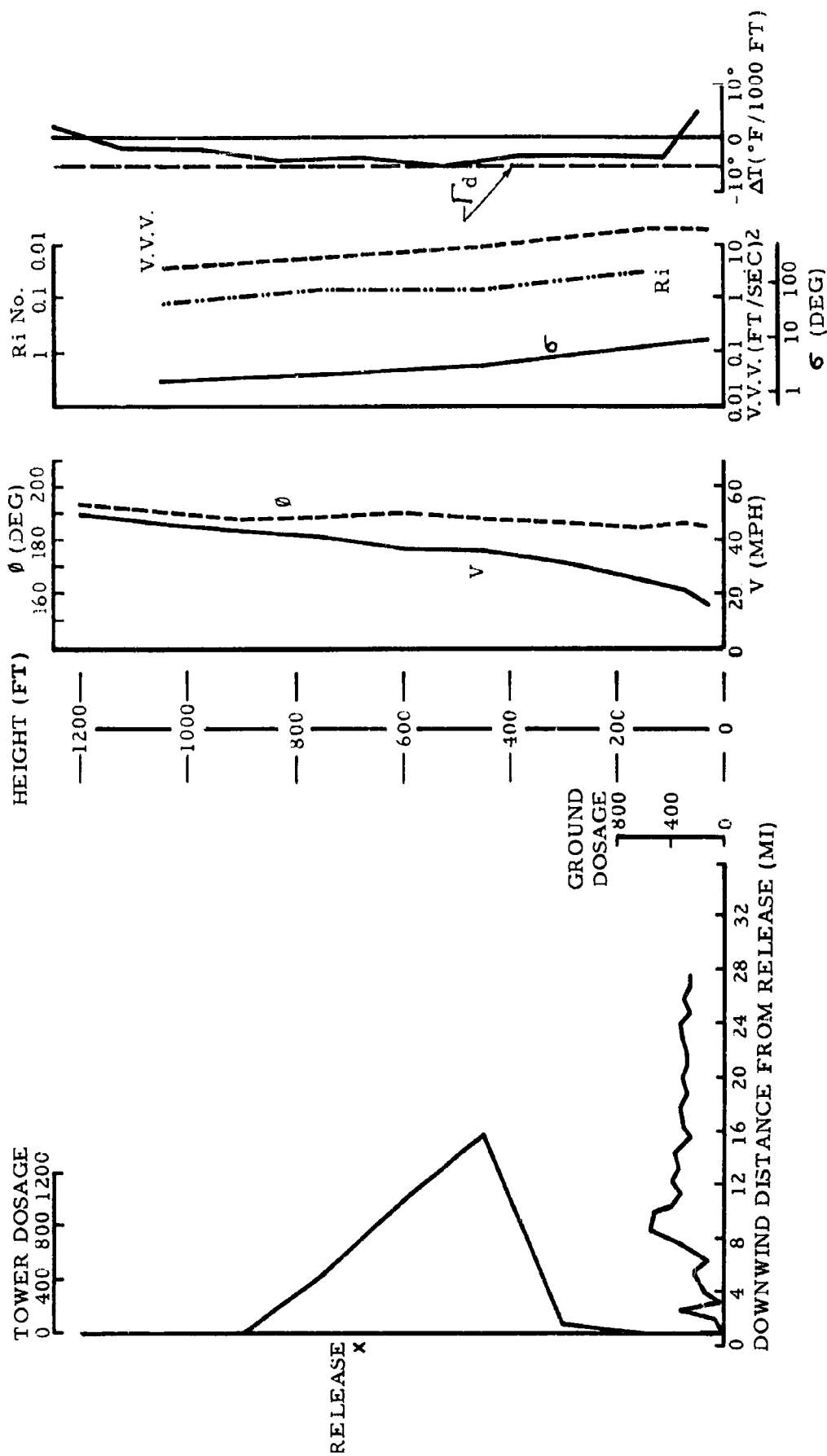
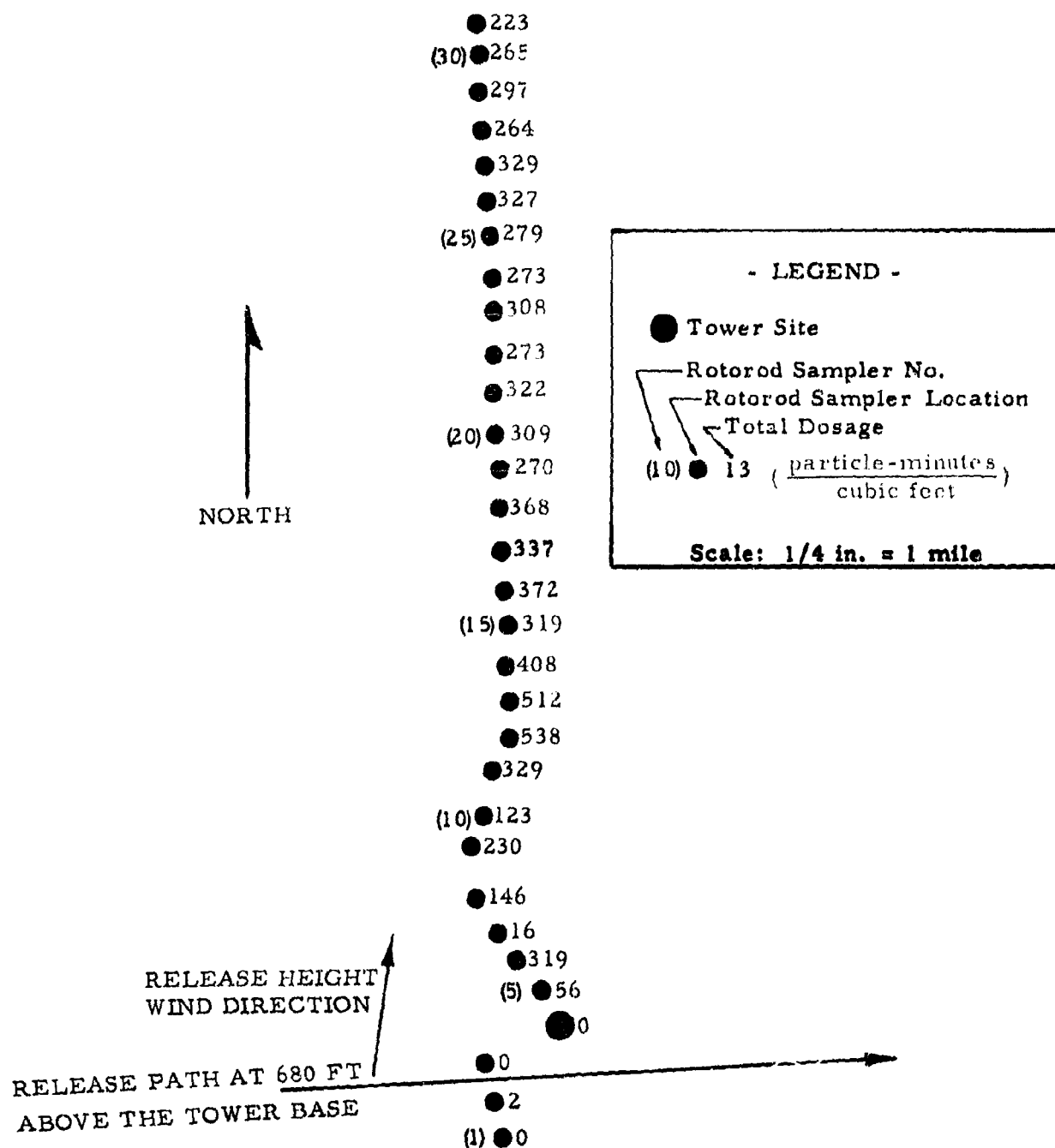


Fig. II-13: SUMMARY OF TRIAL DATA, TRIAL 7, APRIL 22, 1961, 2309 CST



TRIAL 7; 2309 CST 4-22-61
SURFACE DOSAGE DISTRIBUTION

Fig. II-14

TABLE II - 7
SUMMARY OF TOWER DATA

TRIAL 7

APRIL 22, 1961

2309 CST

Height Above Base	Total Dose- age	Temp	Wind Speed	Wind Direc- tion	Vertical Sigma(DEG)			Ri No.	Velocity Vari- ance	$\frac{\Delta\theta}{u^2}$
(FT)	(1)	(°F)	(MPH)	(DEG)	5	30	180		(2)	(3)
1420	0	66.8	49.2	205.8						
1300	0	66.1	50.4	198.6						
1200	0	65.9	49.5	194.1						
1050	2	66.2	45.9	191.1	1.28	1.60	1.65	.13	3.76	.0002
900	0	66.6	43.5	188.1						
750	438	67.3	40.9	188.9	1.65	2.18	2.25	.07	5.56	.0002
600	96	67.9	37.4	189.7						
450	1178	68.7	35.9	188.3	2.45	3.09	3.15	.07	8.40	.0004
300	68	69.2	31.8	186.0						
150	0	69.7	25.0	185.0	5.40	6.45	6.90	.03	19.52	.001
70	0	70.0	20.7	185.5						
30	0	69.8	16.0	184.7	9.45	10.80	10.80		19.62	
SFC	0									

Release at 680 feet above and 1.0 miles upwind of tower base.

(1) PARTICLE-MINUTES/CUBIC FOOT

(2) (FEET/SECOND)²

(3) (°F/100 FT/MPH²)

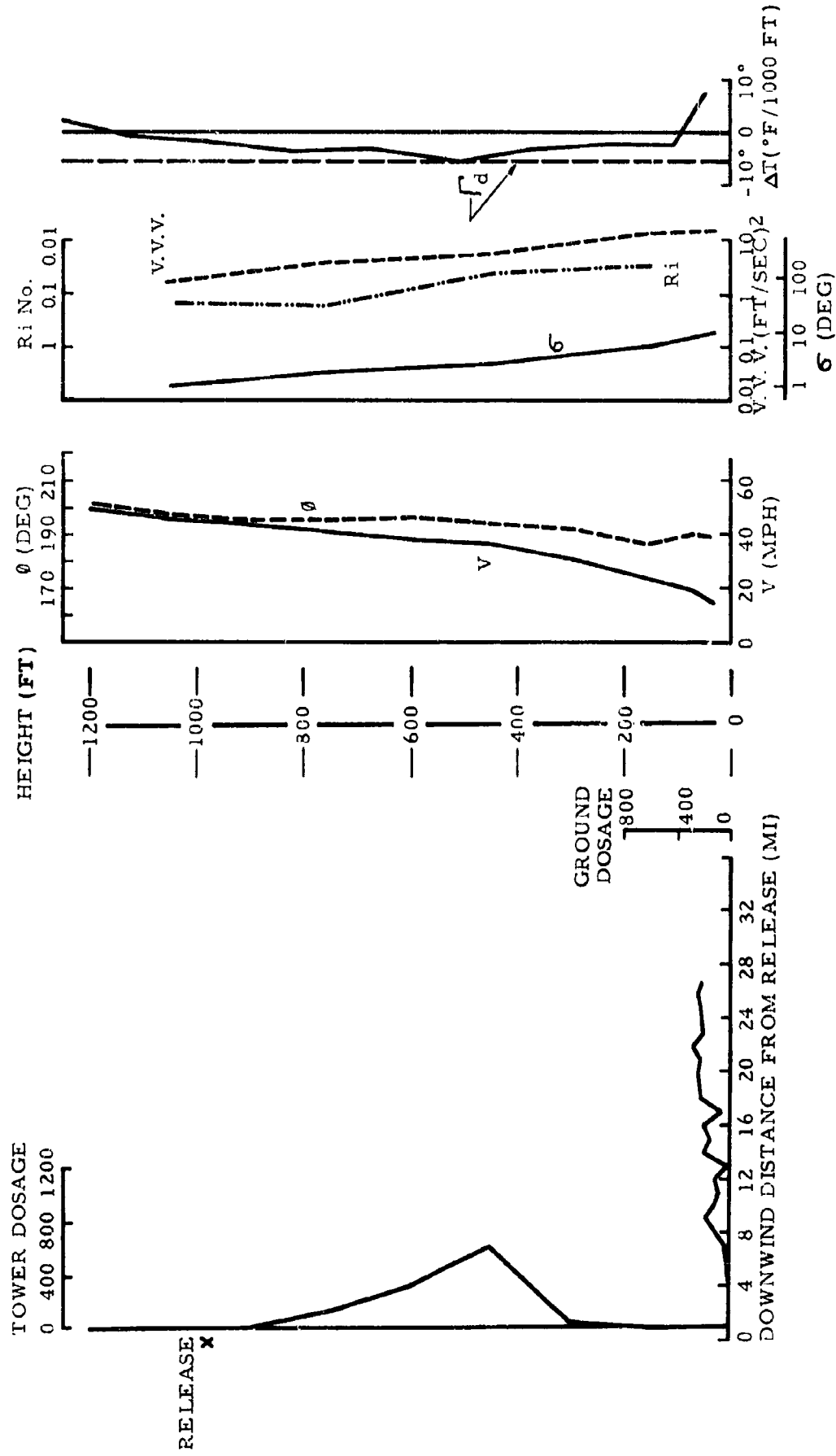
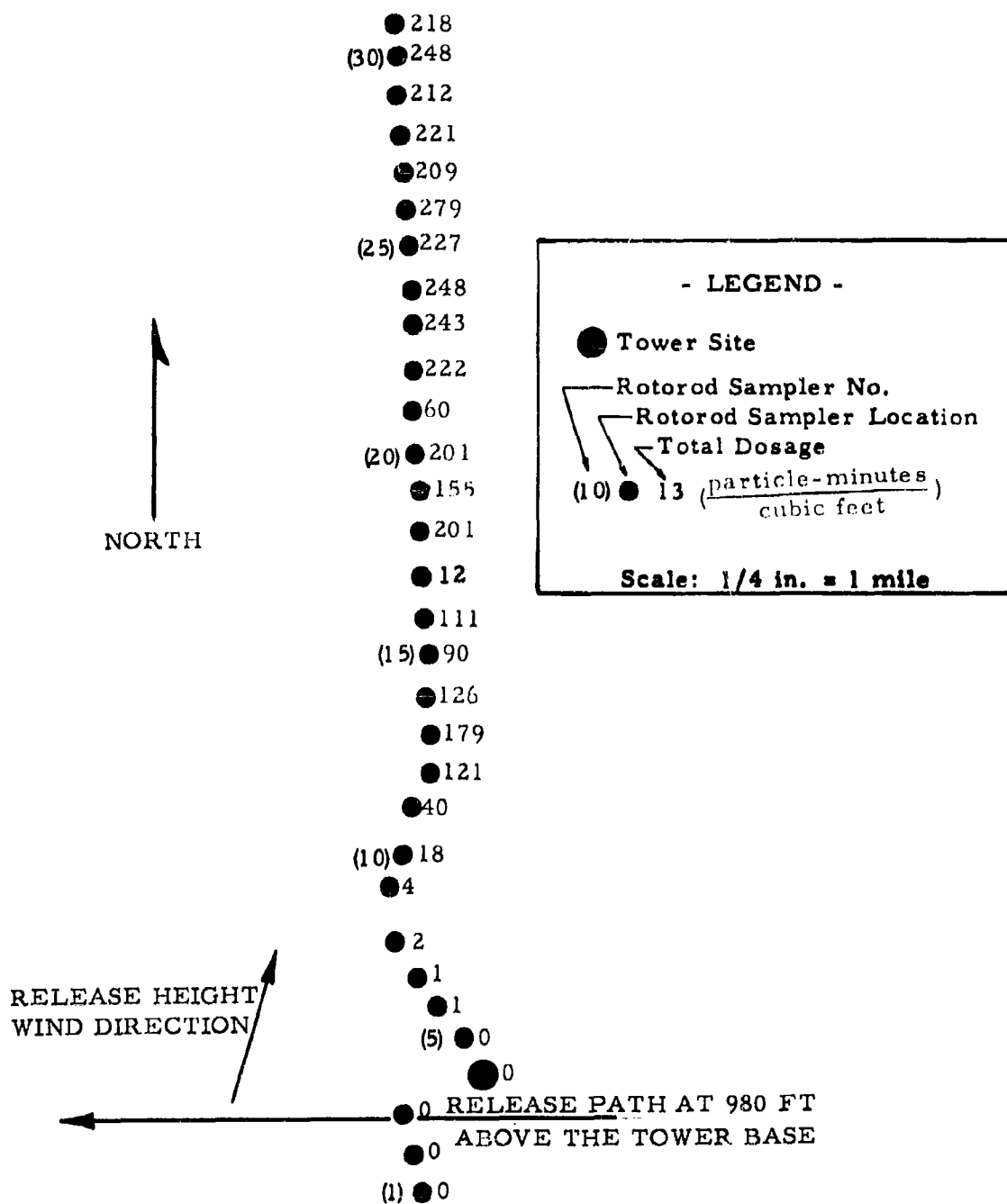


Fig. II-15: SUMMARY OF TRIAL DATA, TRIAL 8, APRIL 23, 1961, 0149 CST



TRIAL 8; 0149 CST 4-23-61
SURFACE DOSAGE DISTRIBUTION

TABLE II-8
SUMMARY OF TOWER DATA

TRIAL 8

APRIL 23, 1961

0149 CST

Height Above Base	Total Dos- age	Temp	Wind Speed	Wind Direc- tion	Vertical Sigma(DEG)			Ri No.	Velocity Vari- ance	$\frac{\Delta \theta}{u^2}$
(FT)	(1)	(°F)	(MPH)	(DEG)	5	30	180		(2)	(3)
1420	0	64.4	52.1	208.8						
1300	0	63.1	52.4	203.3						
1200	0	62.9	50.3	199.6						
1050	0	63.0	46.3	197.6	0.83	0.96	1.05	.15	1.54	.0003
900	0	63.3	43.1	194.8						
750	79	63.9	40.8	195.2	1.29	1.65	1.75	.19	3.33	.0003
600	154	64.4	38.5	195.8						
450	351	65.2	36.1	194.1	1.80	2.32	2.47	.04	5.20	.0006
300	25	65.7	30.9	192.1						
150	0	66.1	24.2	187.4	4.20	5.28	5.60	.03	12.03	.002
70	0	66.3	19.1	190.0						
30	0	66.0	13.8	189.2	9.00	10.50	10.60		13.97	
SFC	0									

Release at 980 feet above and 1.1 miles upwind of tower base

(1) PARTICLE-MINUTES/CUBIC FOOT

(2) (FEET/SECOND)²

(3) (°F/100 FT/MPH²)

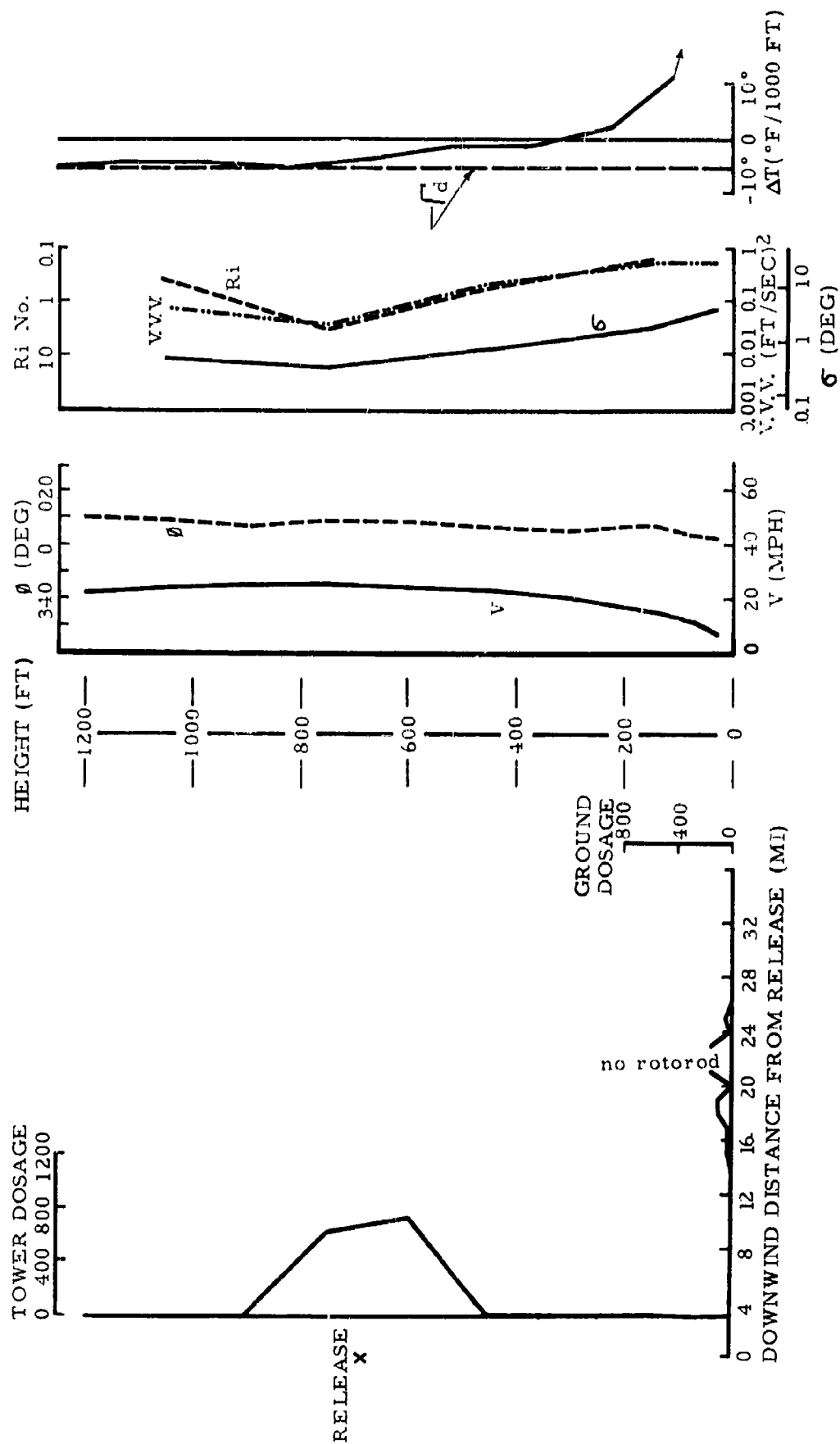
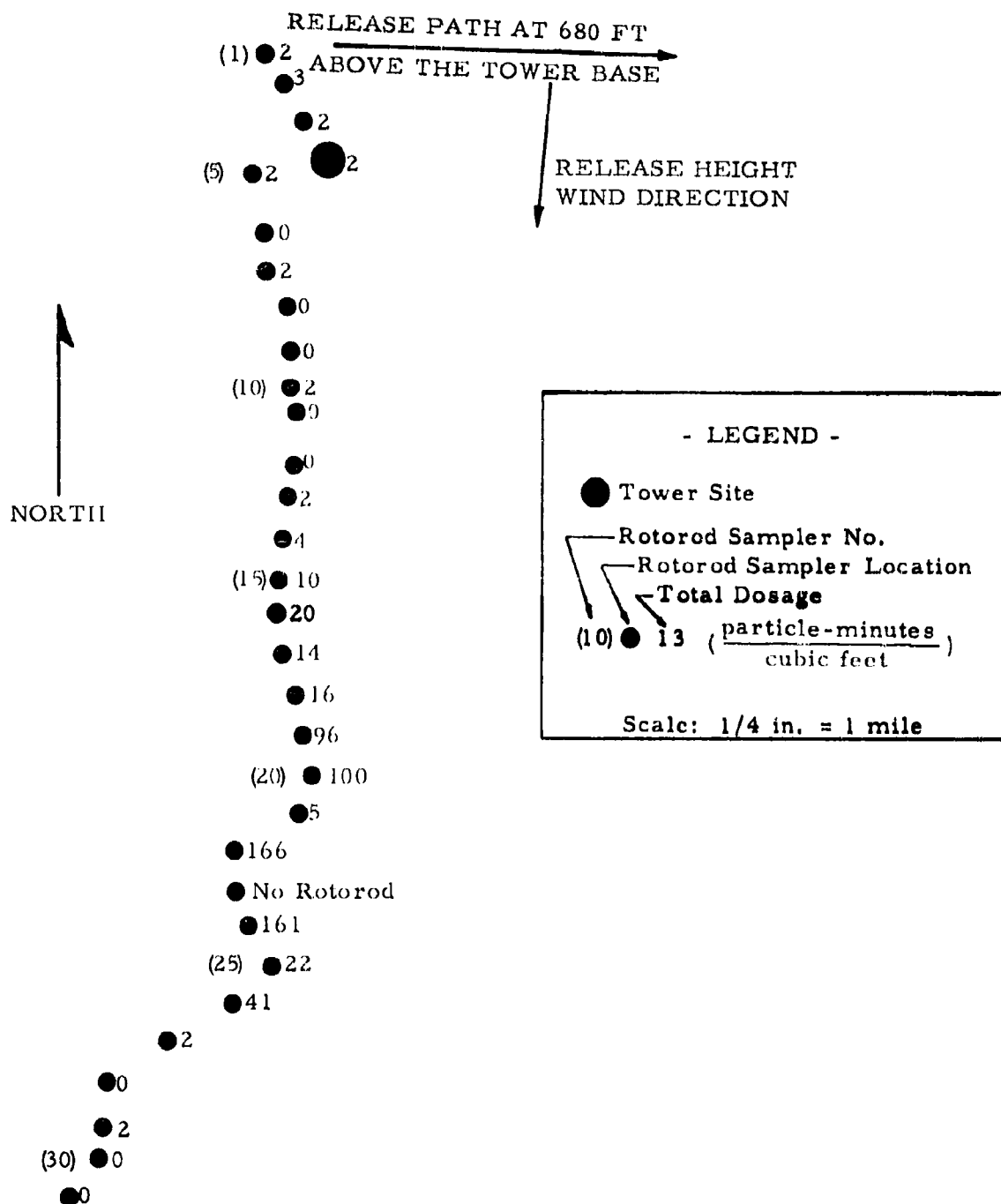


Fig. II-17: SUMMARY OF TRIAL DATA, TRIAL 9, APRIL 25, 1961, 2019 CST



TRIAL 9; 2019 CST 4-25-61
SURFACE DOSAGE DISTRIBUTION

Fig. II-18

TABLE II - 9
SUMMARY OF TOWER DATA

TRIAL 9

APRIL 25, 1961

2019 CST

Height Above Base	Total Dos- age	Temp	Wind Speed	Wind Direc- tion	Vertical Sigma (DEG)			Ri No.	Velocity Vari- ance	$\frac{\Delta \theta}{u^2}$
(FT)	(1)	(°F)	(MPH)	(DEG)	5	30	180		(2)	(3)
1420	0	63.2	17.9	010.6						
1300	0	63.8	23.4	008.6						
1200	0	64.3	23.5	010.3						
1050	0	65.0	24.2	008.8	0.37	0.37	0.45	.43	.08	.002
900	5	65.7	25.0	007.4						
750	643	66.5	24.7	009.3	0.32	0.37	0.31	3.40	.04	.003
600	739	67.1	24.5	008.5						
450	11	67.3	22.9	006.3	0.70	0.75	0.76	.58	.20	.006
300	5	67.5	20.5	005.0						
150	0	67.2	14.7	007.4	1.74	1.84	1.89	.18	.51	.024
70	0	66.3	10.8	003.2						
30	0	64.5	6.8	001.7	3.55	3.95	3.85		.45	
SFC	0									

Release at 680 feet above and 2.8 miles upwind of tower base

① PARTICLE-MINUTES/CUBIC FOOT

② (FEET/SECOND)²

③ (°F/100 FT/MPH²)

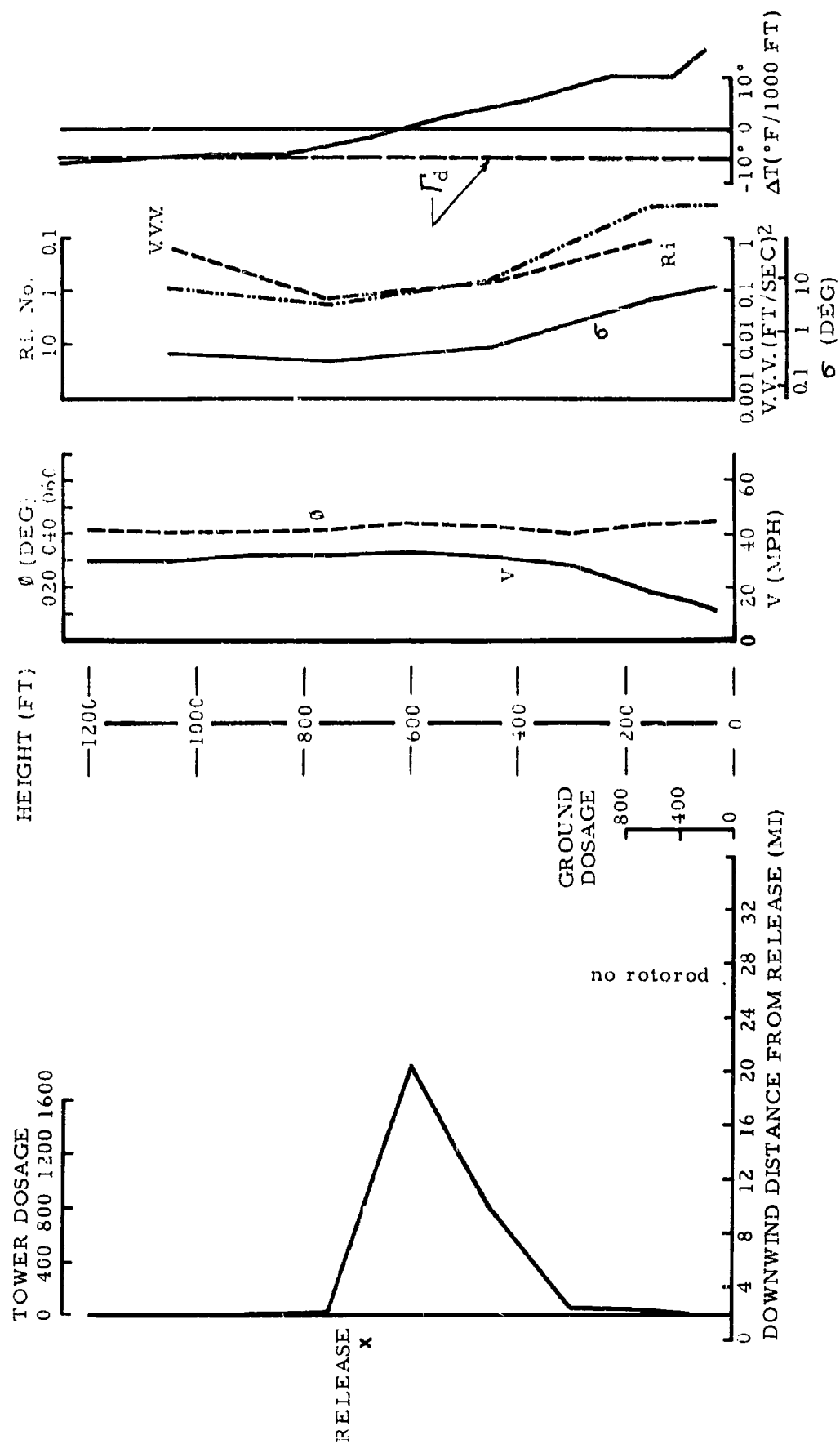
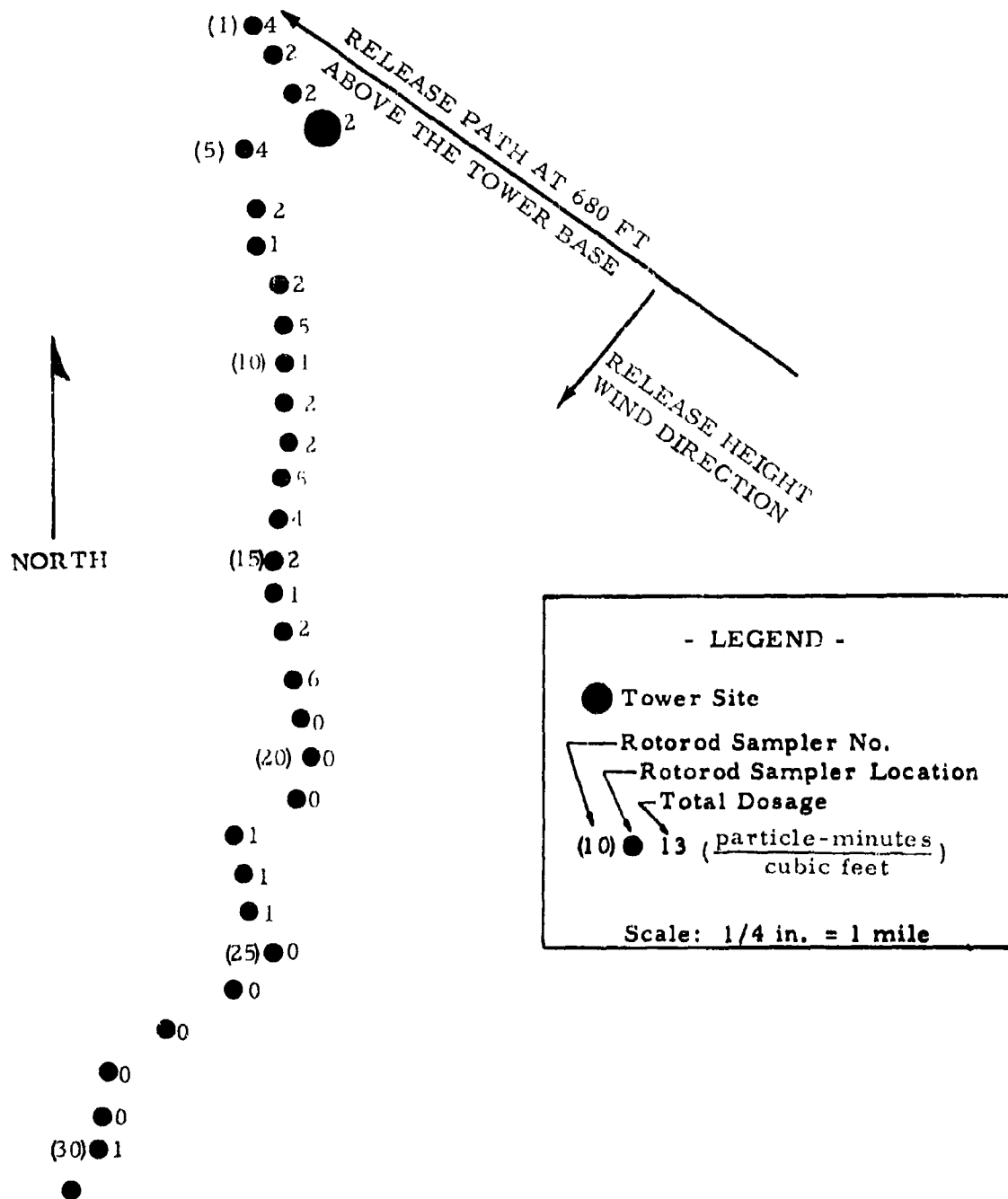


Fig. II-19: SUMMARY OF TRIAL DATA, TRIAL 10, APRIL 26, 1961, 0019 CST



TRIAL 10; 0019 CST 4-26-61
SURFACE DOSAGE DISTRIBUTION

TABLE II - 10
SUMMARY OF TOWER DATA

TRIAL 10

APRIL 26, 1961

0019 CST

Height Above Base (FT)	Total Dos- age (1)	Temp (°F)	Wind Speed (MPH)	Wind Direc- tion (DEG)	Vertical Sigma (DEG)			Ri No.	Velocity Vari- ance	$\frac{\Delta \theta}{u^2}$
					5	30	180		(2)	(3)
1420	0	59.4	27.8	042.2						
1300	0	60.1	28.3	039.8						
1200	0	60.7	29.7	042.4						
1050	0	61.5	30.1	040.8	-	-	-	.15	-	.002
900	0	62.2	32.0	041.3						
750	14	62.9	32.4	041.9	0.25	0.30	0.29	1.45	.06	.002
600	1837	63.1	33.1	044.3						
450	787	62.7	31.5	043.3	0.52	0.51	0.52	.72	.18	.003
300	20	61.9	27.8	040.0						
150	8	60.4	18.4	044.1	3.92	4.24	4.05	.11	3.64	.008
70	0	59.6	13.8	044.1						
30	0	59.0	10.7	045.4	6.00	6.60	7.20		3.89	
SFC	0									

Release at 680 feet above and 2.0 miles upwind of tower base

(1) PARTICLE-MINUTES/CUBIC FOOT

(2) (FEET/SECOND)²

(3) (°F/100 FT/MPH²)

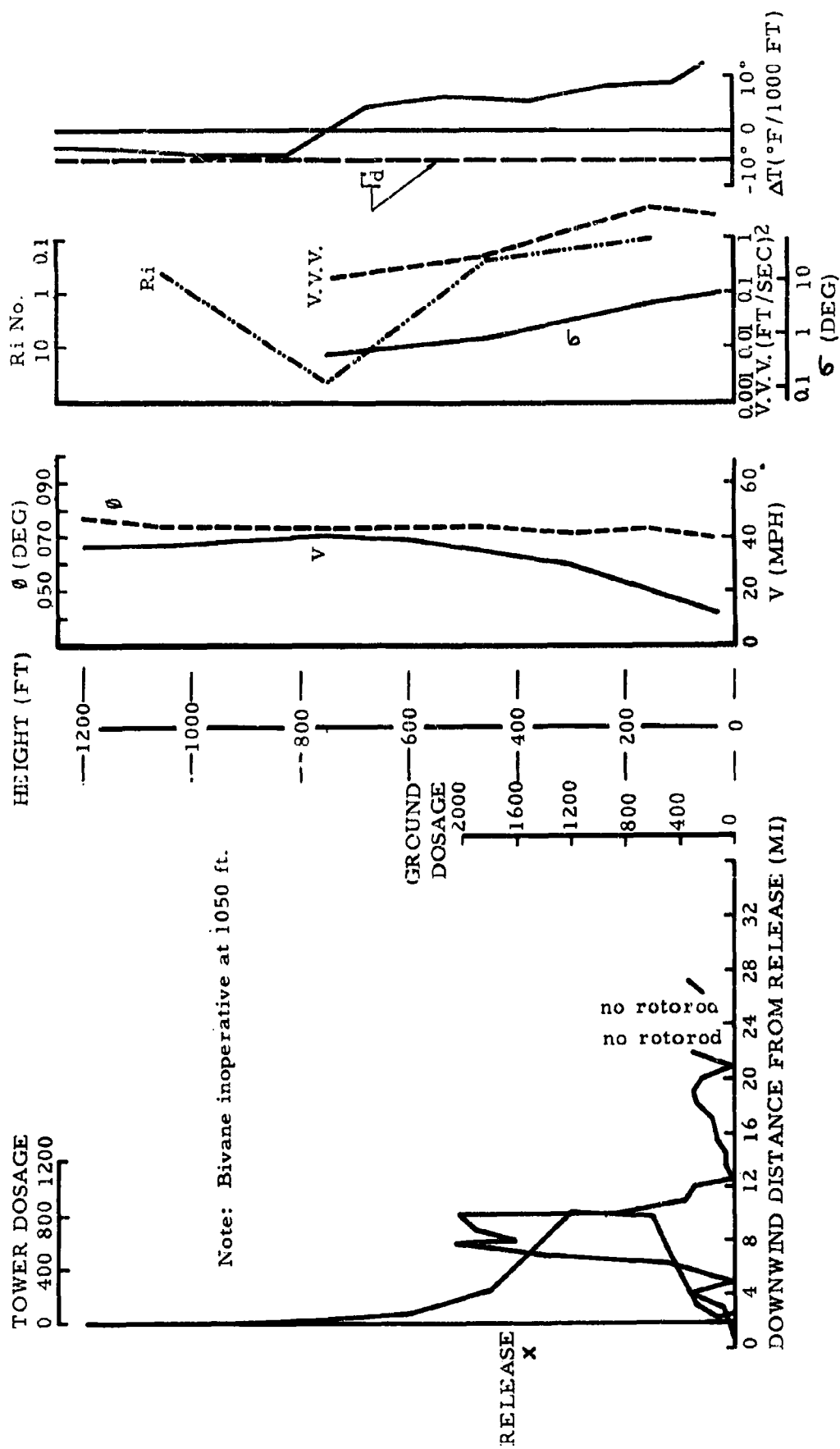
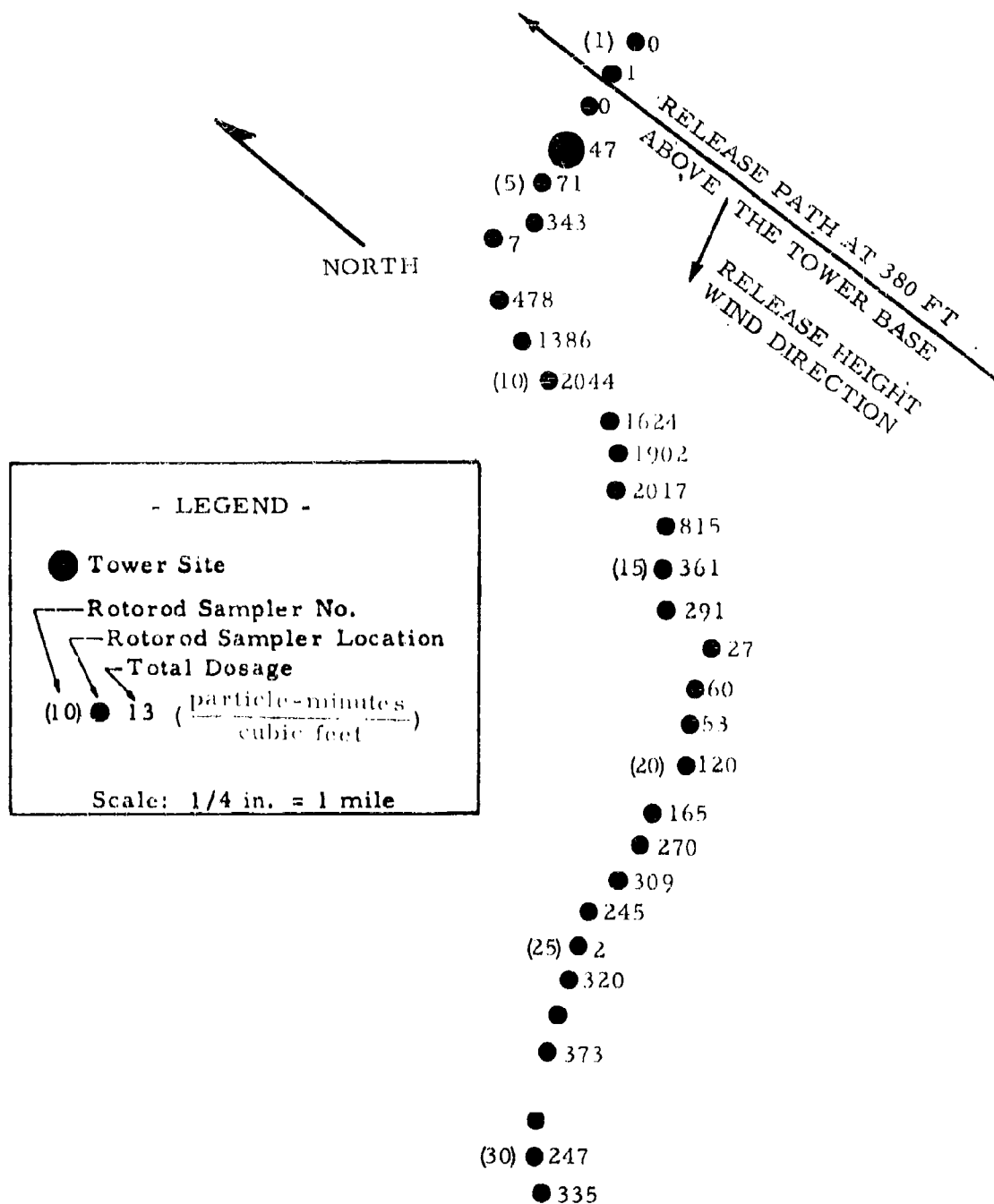


Fig. II-21: SUMMARY OF TRIAL DATA, TRIAL 11, APRIL 26, 1961, 0359 CST



TRIAL 11; 0359 CST 4-26-61
SURFACE DOSAGE DISTRIBUTION

TABLE II - 11
SUMMARY OF TOWER DATA

TRIAL 11

APRIL 26, 1961

0359 CST

Height Above Base	Total Dos- age	Temp	Wind Speed	Wind Direc- tion	Vertical Sigma (DEG)			Ri No.	Velocity Vari- ance	$\frac{\Delta \theta}{u^2}$
(FT)	(1)	(°F)	(MPH)	(DEG)	5	30	180		(2)	(3)
1420	0	56.3	31.9	074.4						
1300	0	56.5	34.3	074.3						
1200	0	56.8	37.0	076.9						
1050	0	57.3	37.3	074.0	-	-	-	.44	-	.001
900	0	58.0	38.8	073.7						
750	12	58.7	39.9	072.7	0.23	0.30	0.40	42.50	.17	.002
600	12	58.1	39.1	074.3						
450	224	57.2	34.6	073.0	0.70	0.90	0.82	.26	.53	.002
300	792	56.4	28.7	070.7						
150	780	55.1	19.9	073.4	3.22	3.83	3.75	.11	3.65	.006
70	128	54.4	15.1	071.1						
30	22	53.9	12.1	069.6	5.00	5.78	5.70		3.10	
SFC	44									

Release at 380 feet above and 2.1 miles upwind of tower base

① PARTICLE-MINUTES/CUBIC FOOT

② (FEET/SECOND)²

③ (°F/100 FEET/MPH²)

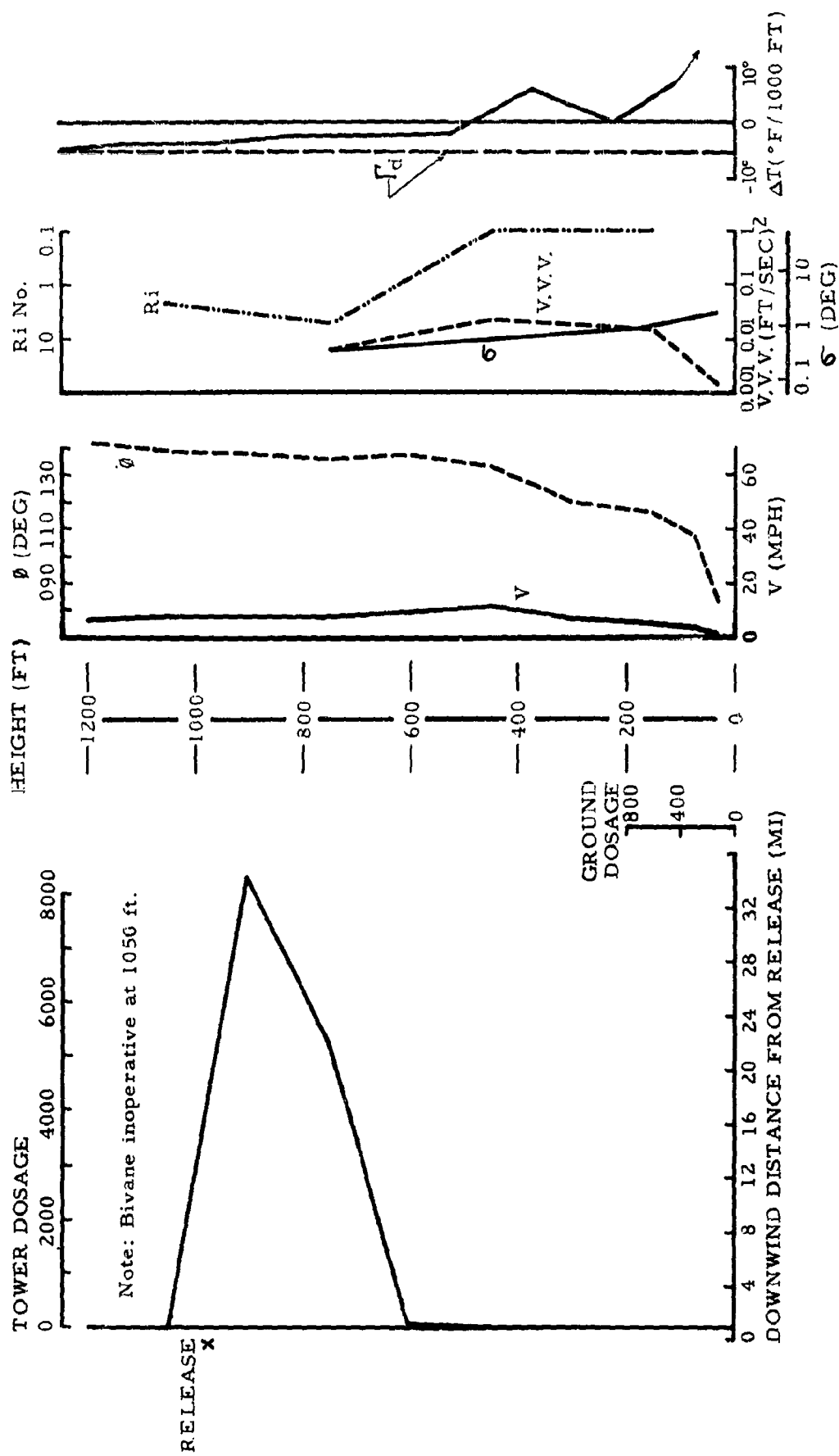
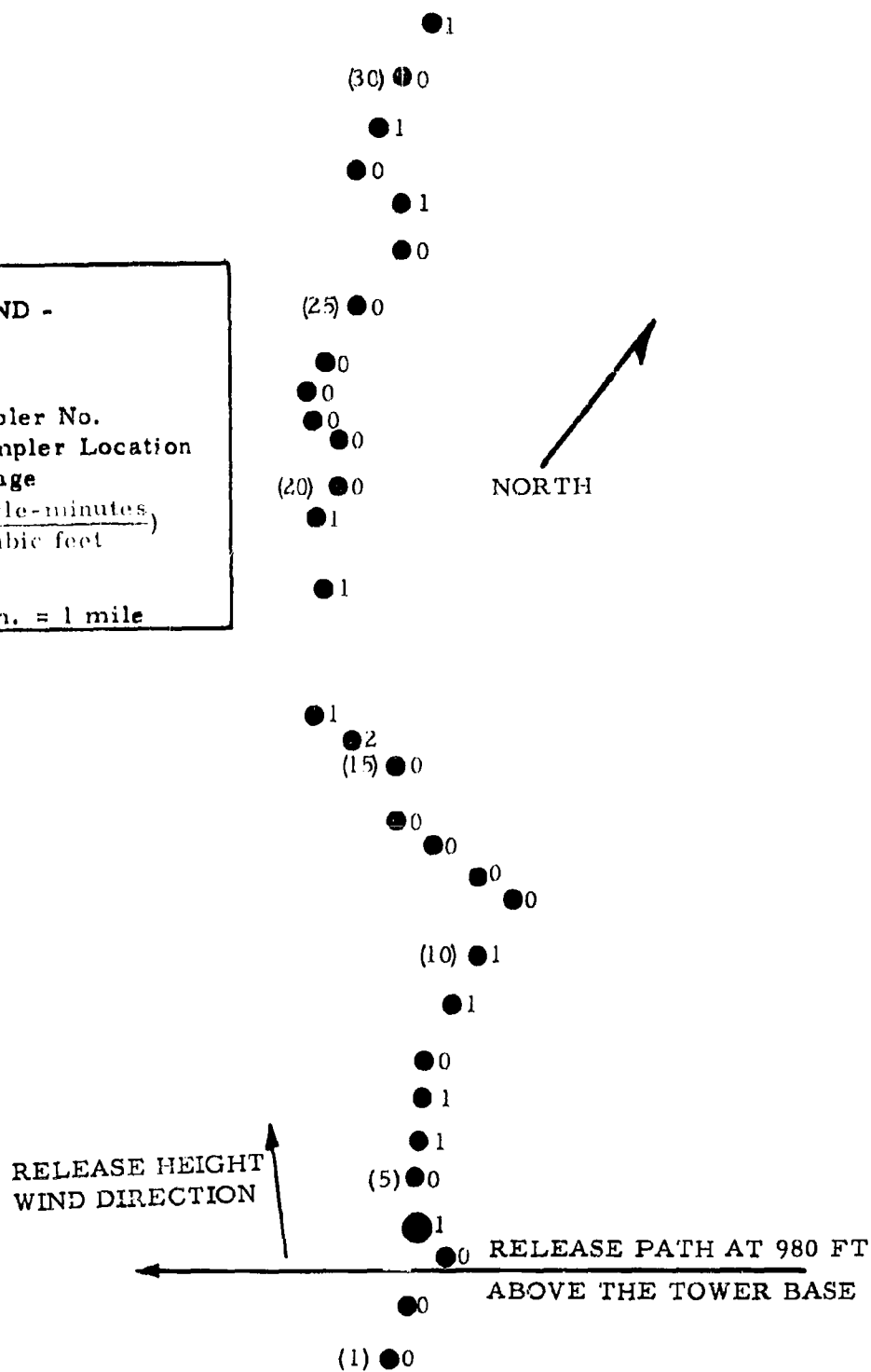
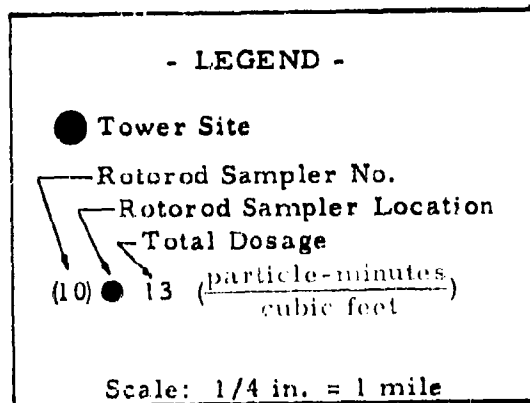


Fig. II-23: SUMMARY OF TRIAL DATA, TRIAL 12, APRIL 28, 1961, 12:29 CST



TRIAL 12; 1929 CST 4-28-61

SURFACE DOSAGE DISTRIBUTION

TABLE II - 12
SUMMARY OF TOWER DATA

TRIAL 12

APRIL 28, 1961

1929 CST

Height Above Base	Total Dos- age	Temp	Wind Speed	Wind Direc- tion	Vertical Sigma (DEG)			Ri	Velocity No. Vari- ance	$\frac{\Delta \theta}{u^2}$
(FT)	(1)	(°F)	(MPH)	(DEG)	5	30	180		(2)	(3)
1420	0	67.4	7.9	120.5						
1300	0	67.8	7.2	137.2						
1200	0	68.3	7.1	141.8						
1050	0	68.9	7.9	138.6	-	-	-	2.13	-	.042
900	8296	69.5	8.3	138.4						
750	5297	69.9	8.5	135.0	0.27	0.37	0.37	5.23	.007	.045
600	47	70.3	9.4	137.2						
450	0	70.6	10.8	132.7	0.31	0.49	0.55	.78	.02	.044
300	2	69.7	7.2	120.1						
150	0	69.7	4.7	115.5	0.72	0.87	0.97	.80	.01	.401
70	0	69.1	2.6	105.6						
30	4	66.7	0.8	082.9	(wind too light)					
SFC	0									

Release at 980 feet above and 1.0 miles upwind of tower base

① PARTICLE-MINUTES/CUBIC FOOT

② (FEET/SECOND)²

③ (°F/100 FEET/MPH²)

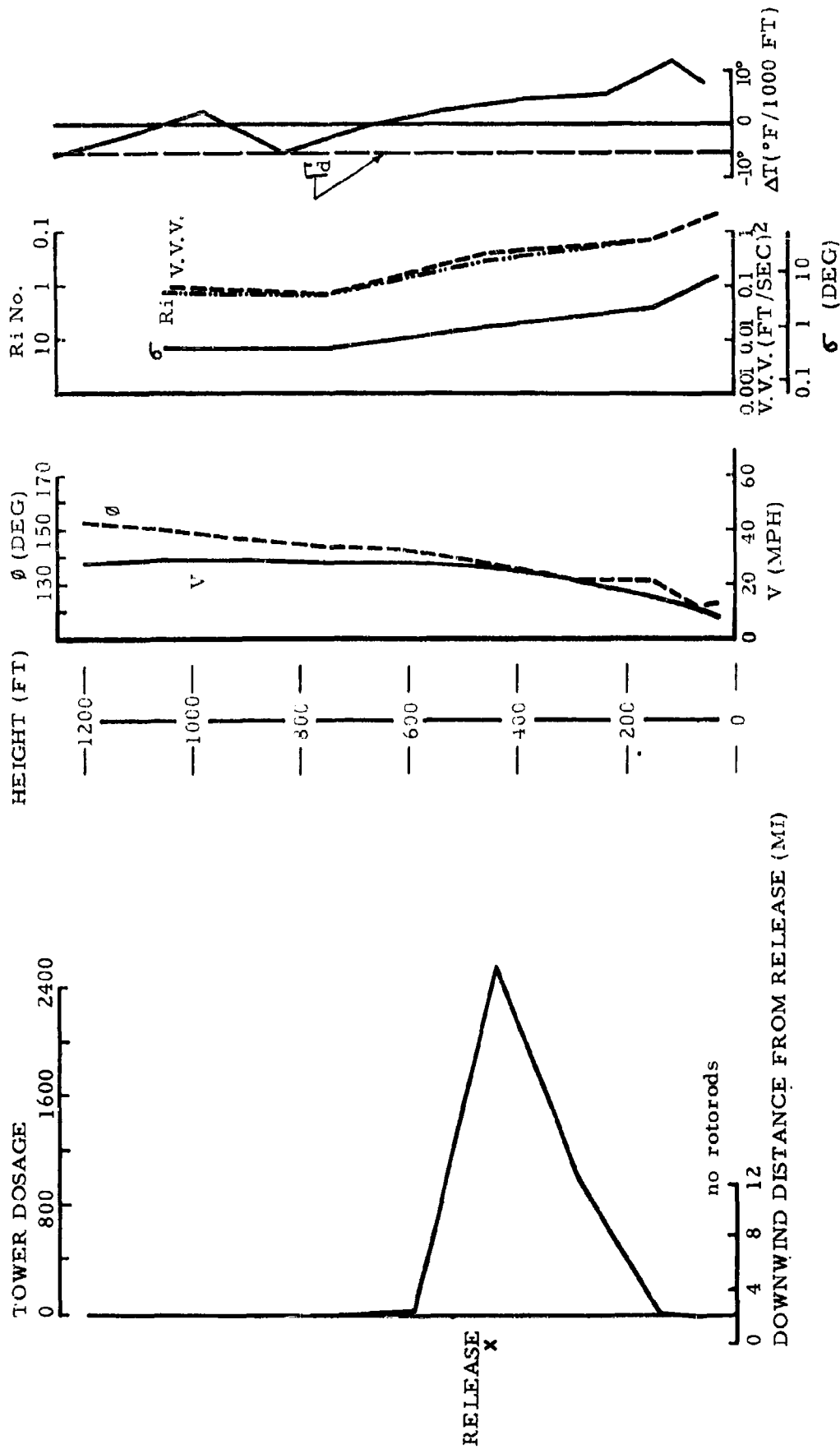
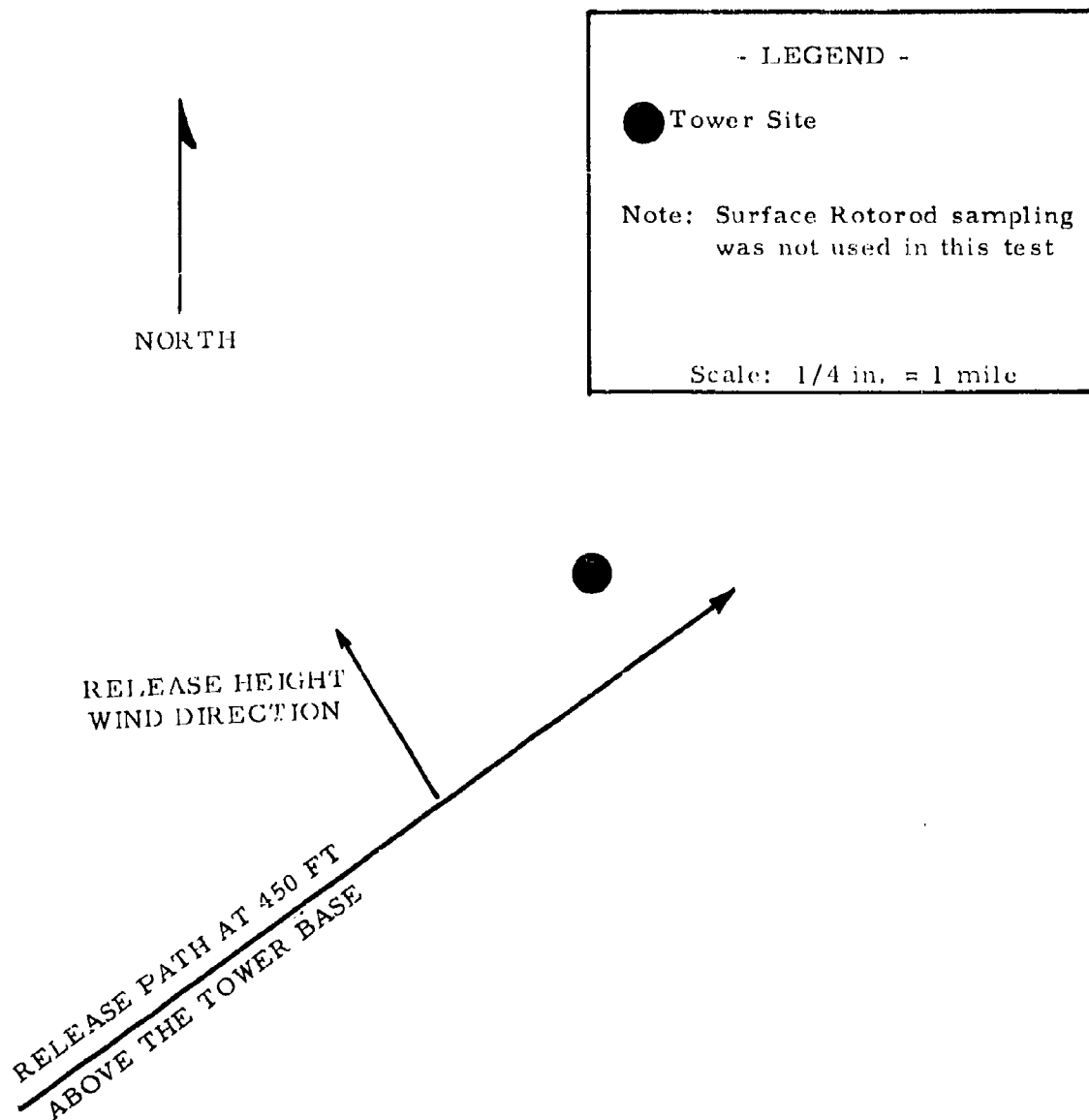


Fig. II-25: SUMMARY OF TRIAL DATA, TRIAL 13, JUNE 5, 1961, 2109 CST



TRIAL 13; 2109 GST 6-5-61
SURFACE DOSAGE DISTRIBUTION

Fig. II-26

TABLE II - 13
SUMMARY OF TOWER DATA

TRIAL 13

JUNE 5, 1961

2109 CST

Height Above Base (FT)	Total Dos- age (1)	Temp (°F)	Wind Speed (MPH)	Wind Direc- tion (DEG)	Vertical Sigma (DEG) 5 30 180			Ri No.	Velocity Vari- ance (2)	$\frac{\Delta\theta}{u^2}$ (3)
1420		75.3	26.4	162.6						
1300		75.4	27.8	165.6						
1200		76.0	28.3	162.5						
1050		76.4	29.0	159.6	0.28	0.37	0.43	1.42	.10	.002
900	0	76.1	29.3	156.9						
750	0	76.9	28.1	153.8	0.18	0.22	0.39	1.39	.08	.003
600	0	77.0	28.2	153.3						
450	2560	76.6	26.7	148.2	0.79	0.97	1.01	.37	.48	.004
300	1019	75.9	21.8	142.4						
150	13	75.1	15.3	141.1	2.46	2.65	2.33	.14	.83	.012
70	0	74.2	10.8	132.4						
30	0	73.9	7.9	133.0	6.60	7.59	7.71		2.44	
SFC	0									

Release at 450 feet above and 2.3 miles upwind of tower base

① PARTICLE-MINUTES/CUBIC FOOT

② (FEET/SECOND)²

③ (°F/100 FEET/MPH²)

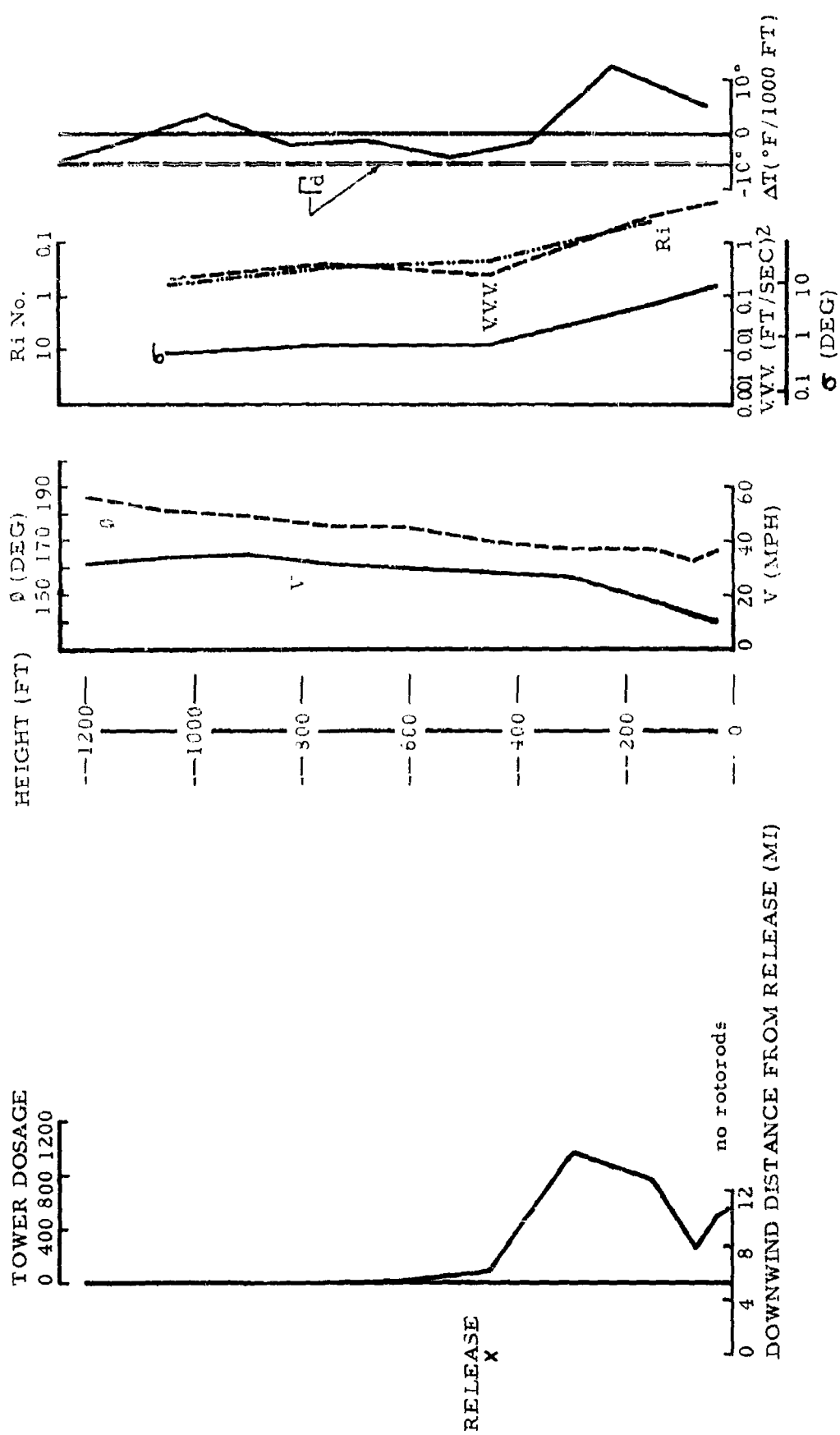
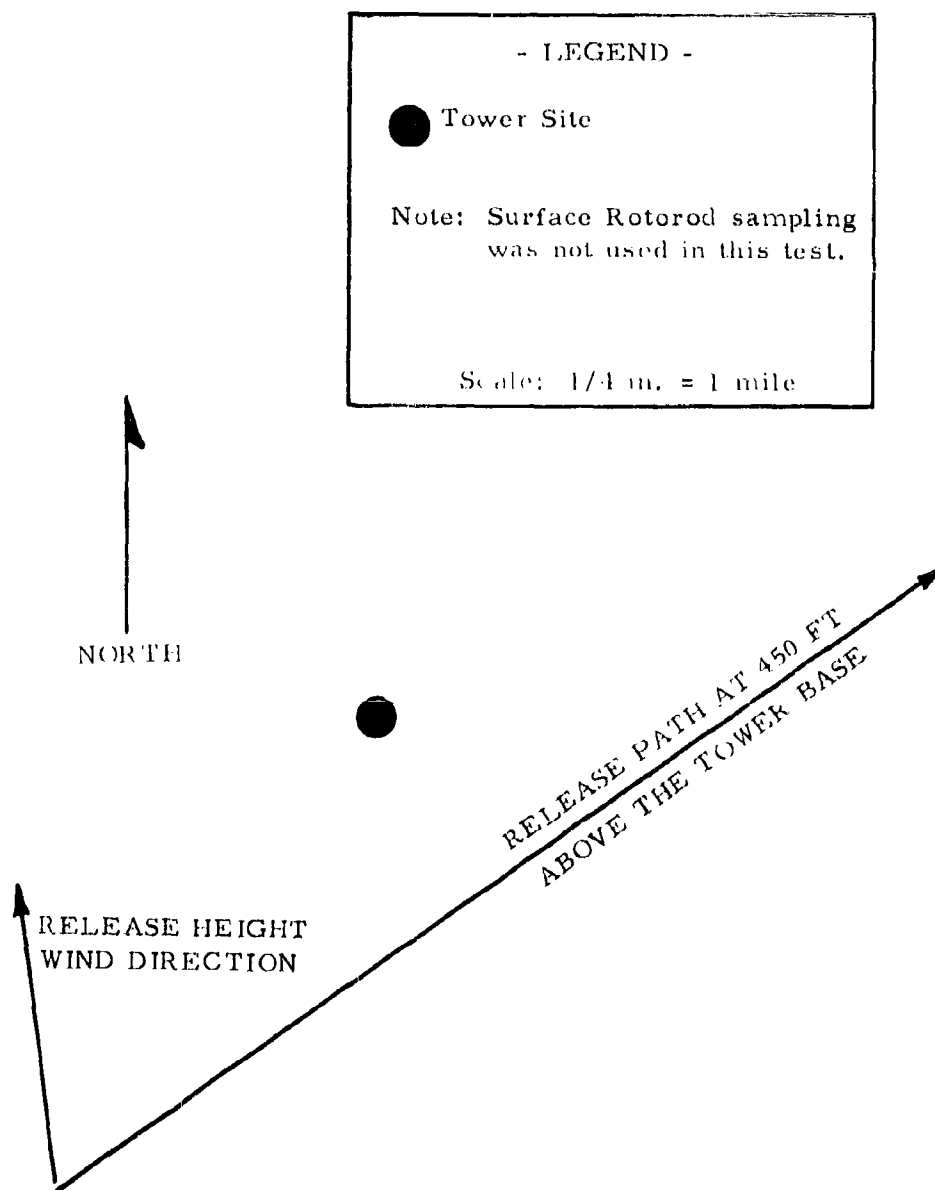


Fig. II-27: SUMMARY OF TRIAL DATA, TRIAL 14, JUNE 5, 1961, 2339 CST



TRIAL 14; 2329 CST 6-5-61
SURFACE DOSAGE DISTRIBUTION

Fig. II-28

TABLE II - 14
SUMMARY OF TOWER DATA

TRIAL 14

JUNE 5, 1961

2339 CST

Height Above Base	Total Dose- age	Temp	Wind Speed	Wind Direc- tion	Vertical Sigma (DEG)			Ri No.	Velocity Vari- ance	$\frac{\Delta \theta}{u^2}$
(FT)	(1)	(°F)	(MPH)	(DEG)	5	30	180		(2)	(3)
1420	0	73.7	29.9	196.7						
1300	0	74.4	31.3	189.9						
1200	0	74.9	32.1	185.6						
1050	0	75.1	33.6	181.2	0.27	0.41	0.52	.66	.20	.002
900	0	74.6	35.2	179.0						
750	0	74.9	31.7	175.5	0.52	0.64	0.73	.28	.35	.002
600	11	75.1	29.9	175.0						
450	84	75.8	28.9	169.8	0.38	0.60	0.67	.23	.25	.003
300	981	76.0	26.9	166.7						
150	780	74.1	18.0	167.1	3.26	3.75	3.90	.12	3.23	.006
70	276	73.5	12.5	163.3						
30	520	73.3	10.6	165.8	7.38	8.85	8.85		5.74	
SFC	585									

Release at 450 feet above and 5.2 miles upwind of tower base

① PARTICLE-MINUTES/CUBIC FOOT

② (FEET/SECOND)²

③ (°F/100 FEET/MPH²)

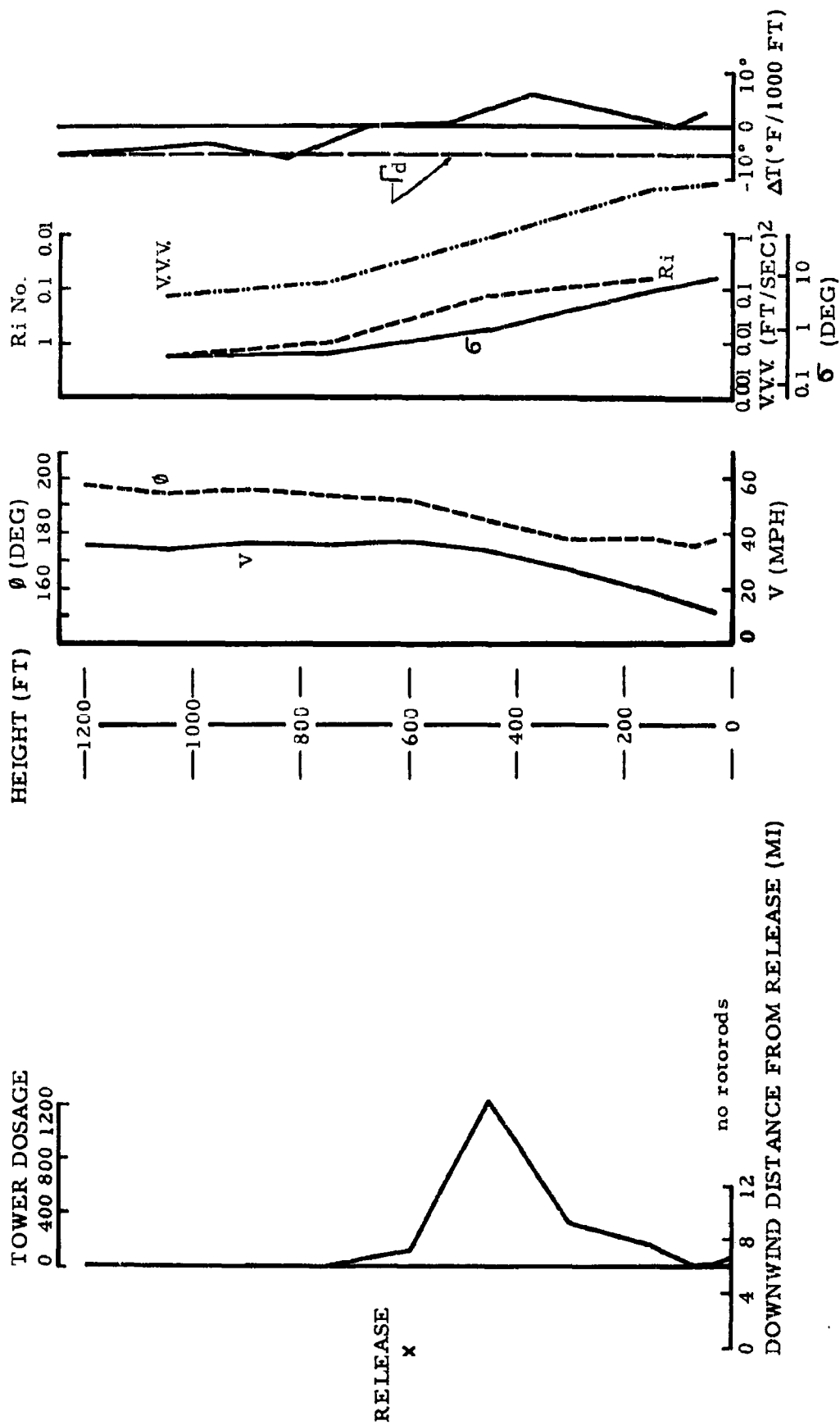
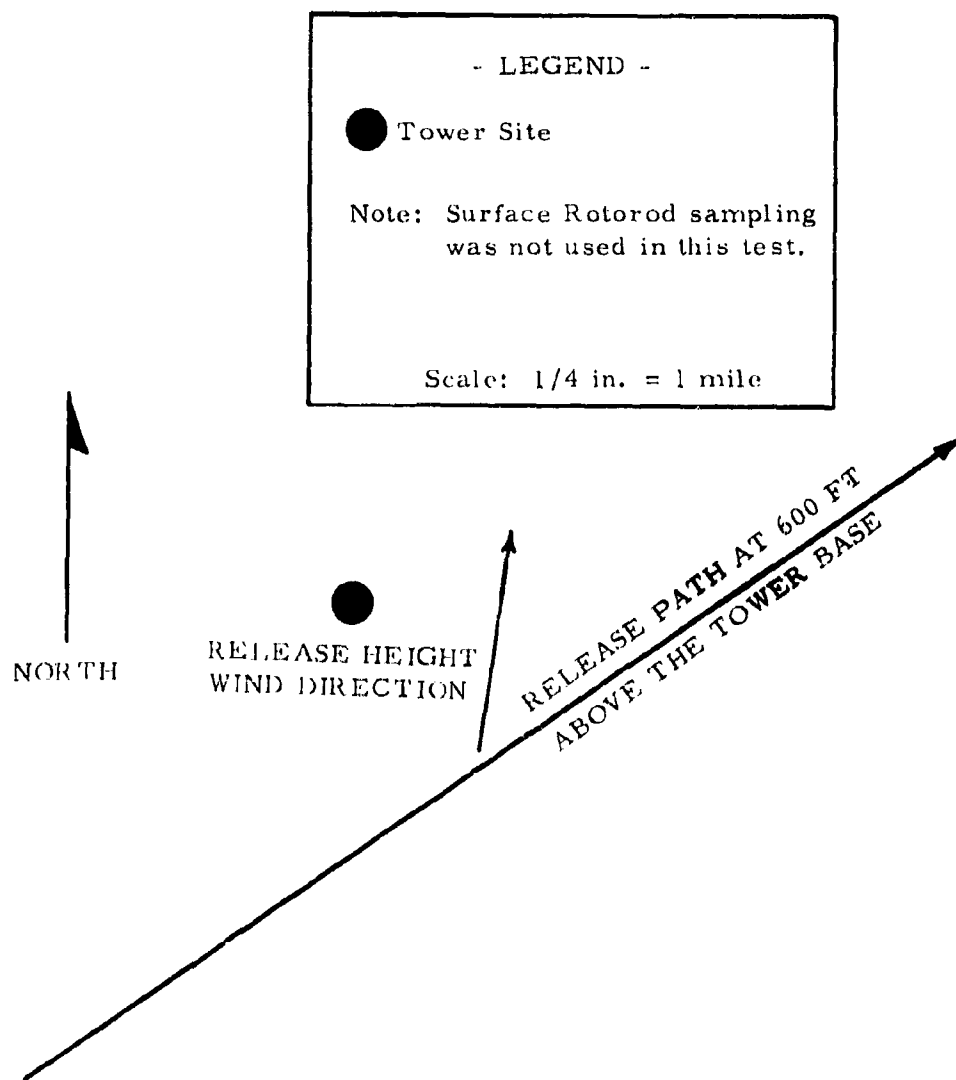


Fig. II-29: SUMMARY OF TRIAL DATA, TRIAL 15, JUNE 6, 1961, 0129 CST



TRIAL 15; 0129 CST 6-6-61
SURFACE DOSAGE DISTRIBUTION

Fig. II-30

TABLE II - 15
SUMMARY OF TOWER DATA

TRIAL 15

JUNE 6, 1961

0129 CST

Height Above Base (FT)	Total Dos- age (1)	Temp (°F)	Wind Speed (MPH)	Wind Direc- tion (DEG)	Vertical Sigma (DEG) 5 30 180			Ri No.	Velocity Vari- ance (2)	$\frac{\Delta \theta}{u^2}$ (3)
1420	0	71.2	32.6	206.4						
1300	0	71.6	34.8	200.7						
1200	0	72.1	35.8	198.1						
1050	0	72.8	34.9	195.5	0.19	0.25	0.33	1.79	.09	.001
900	0	73.3	36.1	195.9						
750	0	74.2	36.0	194.0	0.22	0.26	0.37	.92	.12	.001
600	111	74.2	36.6	192.0						
450	1214	74.1	33.7	185.5	1.24	1.25	1.05	.15	.82	.002
300	317	73.3	27.4	177.9						
150	144	72.9	18.8	178.8	4.50	5.34	5.19	.06	6.25	.003
70	0	72.9	14.2	176.0						
30	11	72.8	11.4	178.5	7.45	9.14	9.42		7.54	
SFC	60									

Release at 600 feet above and 6.3 miles upwind of tower base

① PARTICLE-MINUTES/CUBIC FOOT

② (FEET/SECOND)²

③ (°F/100 FEET/MPH²)

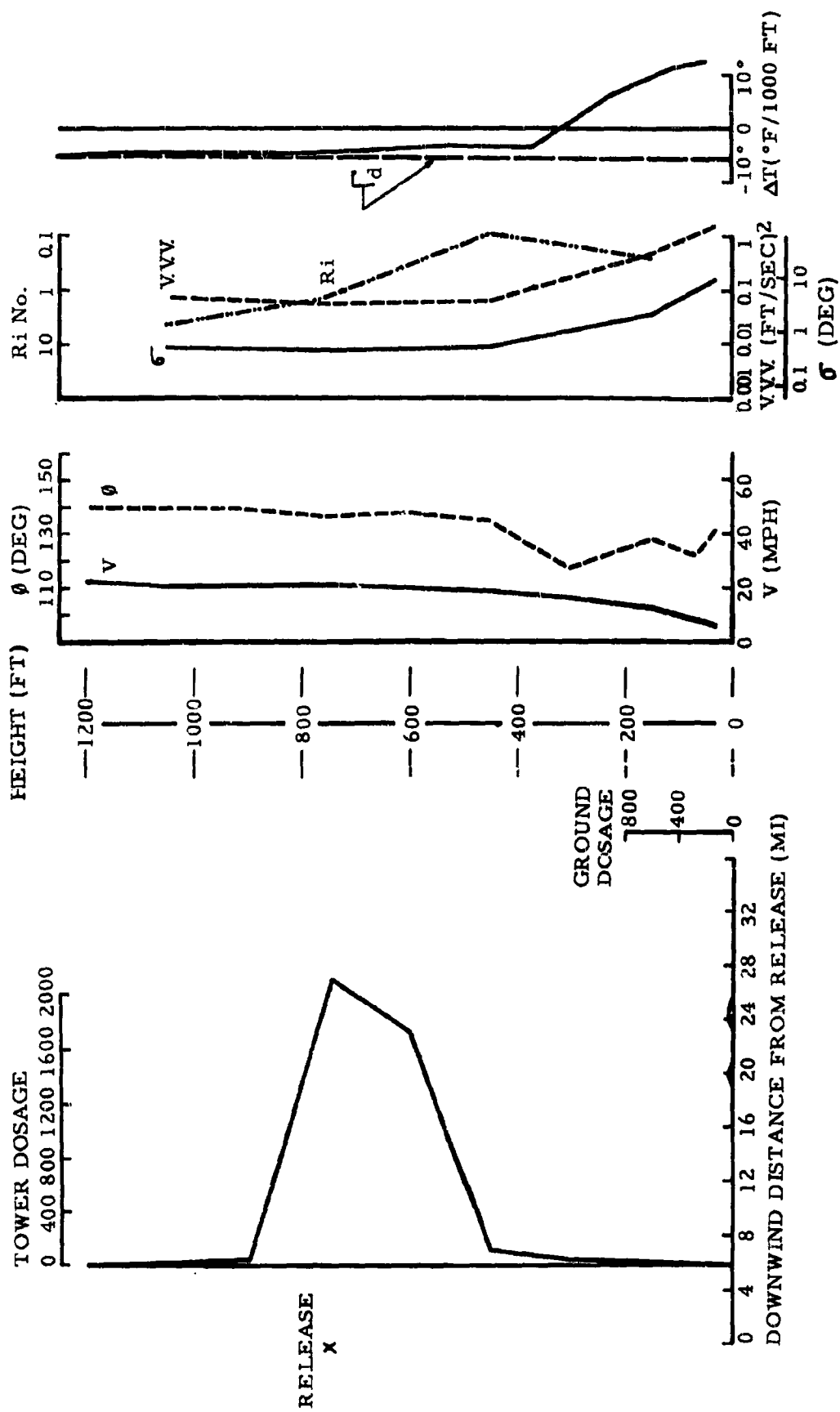
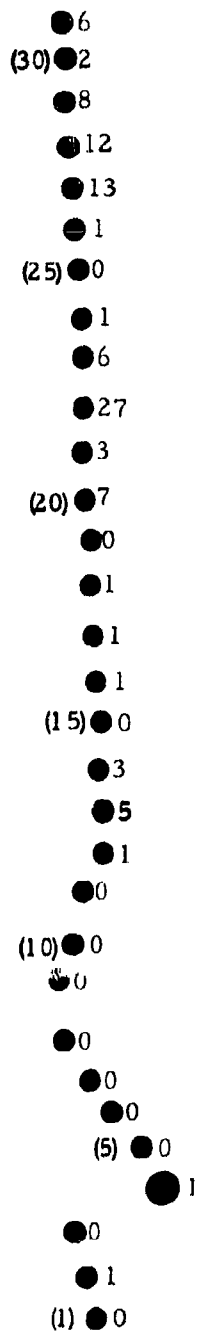


Fig. II-31: SUMMARY OF TRIAL DATA, TRIAL 16, JUNE 6, 1961, 2019 CST

NORTH



- LEGEND -

● Tower Site

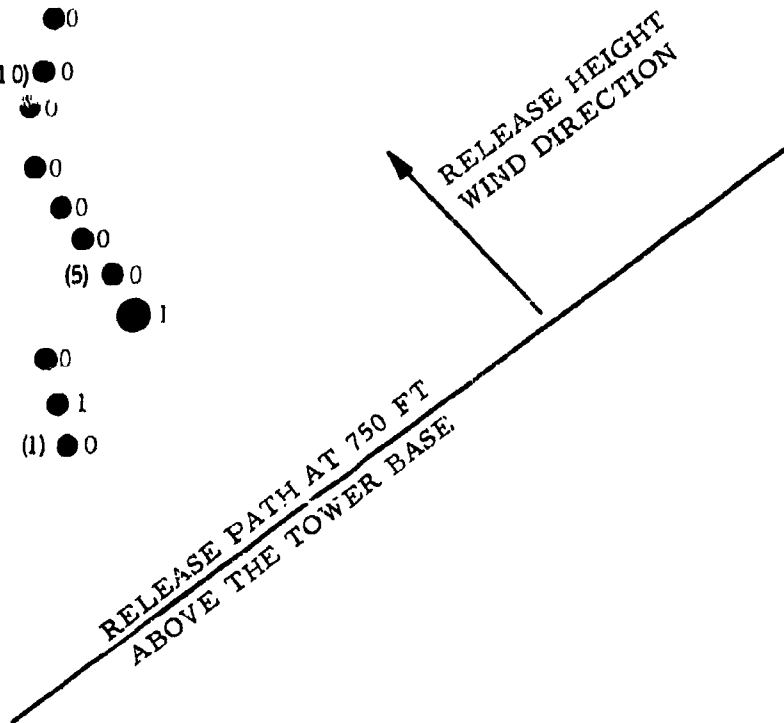
— Rotorod Sampler No.

— Rotorod Sampler Location

— Total Dosage

(10) ● 13 ($\frac{\text{particle-minutes}}{\text{cubic feet}}$)

Scale: 1/4 in. = 1 mile



TRIAL 16; 2019 CST 6-6-61
SURFACE DOSAGE DISTRIBUTION

Fig. II-32

TABLE II. - 16
SUMMARY OF TOWER DATA

TRIAL 16

JUNE 6, 1961

2019 CST

Height Above Base (FT)	Total Dos- age (1)	Temp (°F)	Wind Speed (MPH)	Wind Direc- tion (DEG)	Vertical Sigma (DEG) 5 30 180			Ri No.	Velocity Vari- ance (2)	$\frac{\Delta \theta}{u^2}$ (3)
1420	0	76.6	19.6	134.4						
1300	0	77.1	20.5	141.7						
1200	0	77.6	21.7	140.1						
1050	2	78.3	21.3	139.6	0.25	0.37	0.52	4.25	.08	.003
900	53	79.0	21.9	138.5						
750	2091	79.7	20.9	136.5	0.38	0.39	0.45	1.22	.06	.004
600	1728	80.3	20.5	138.0						
450	104	80.8	20.1	134.6	0.35	0.40	0.50	.09	.07	.006
300	39	81.3	16.4	118.4						
150	2	80.4	13.2	127.9	1.83	2.04	2.14	.25	.53	.019
70	0	79.5	9.1	122.5						
30	0	79.0	5.9	131.6	7.50	8.31	8.64		1.72	
SFC	17									

Release at 750 feet above and 4.7 miles upwind of tower base

① PARTICLE-MINUTES/CUBIC FOOT

② (FEET/SECOND)²

③ (°F/100 FEET/MPH²)

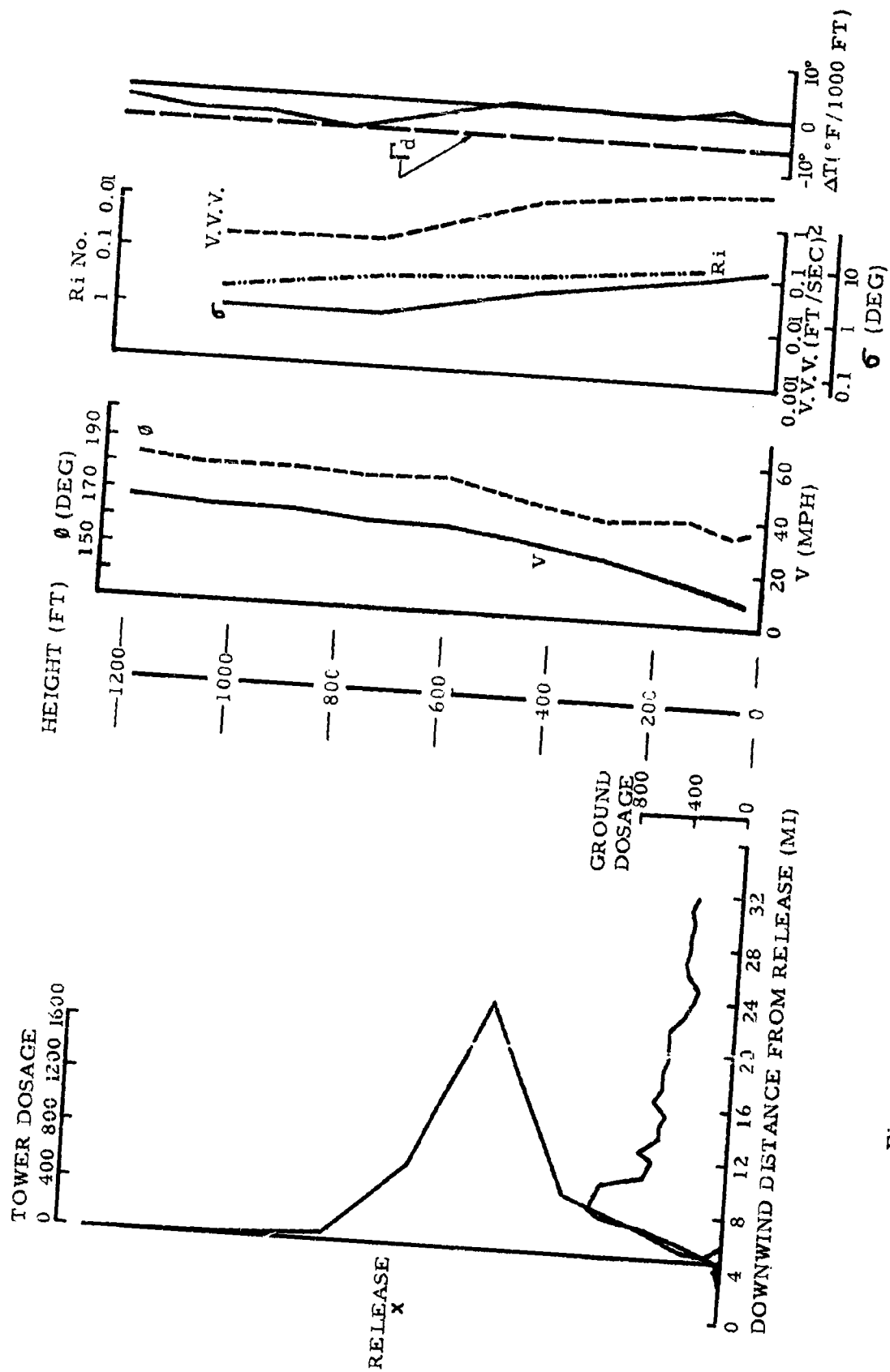


Fig. II-33: SUMMARY OF TRIAL DATA, TRIAL 17, JUNE 6, 1961, 2349 CST

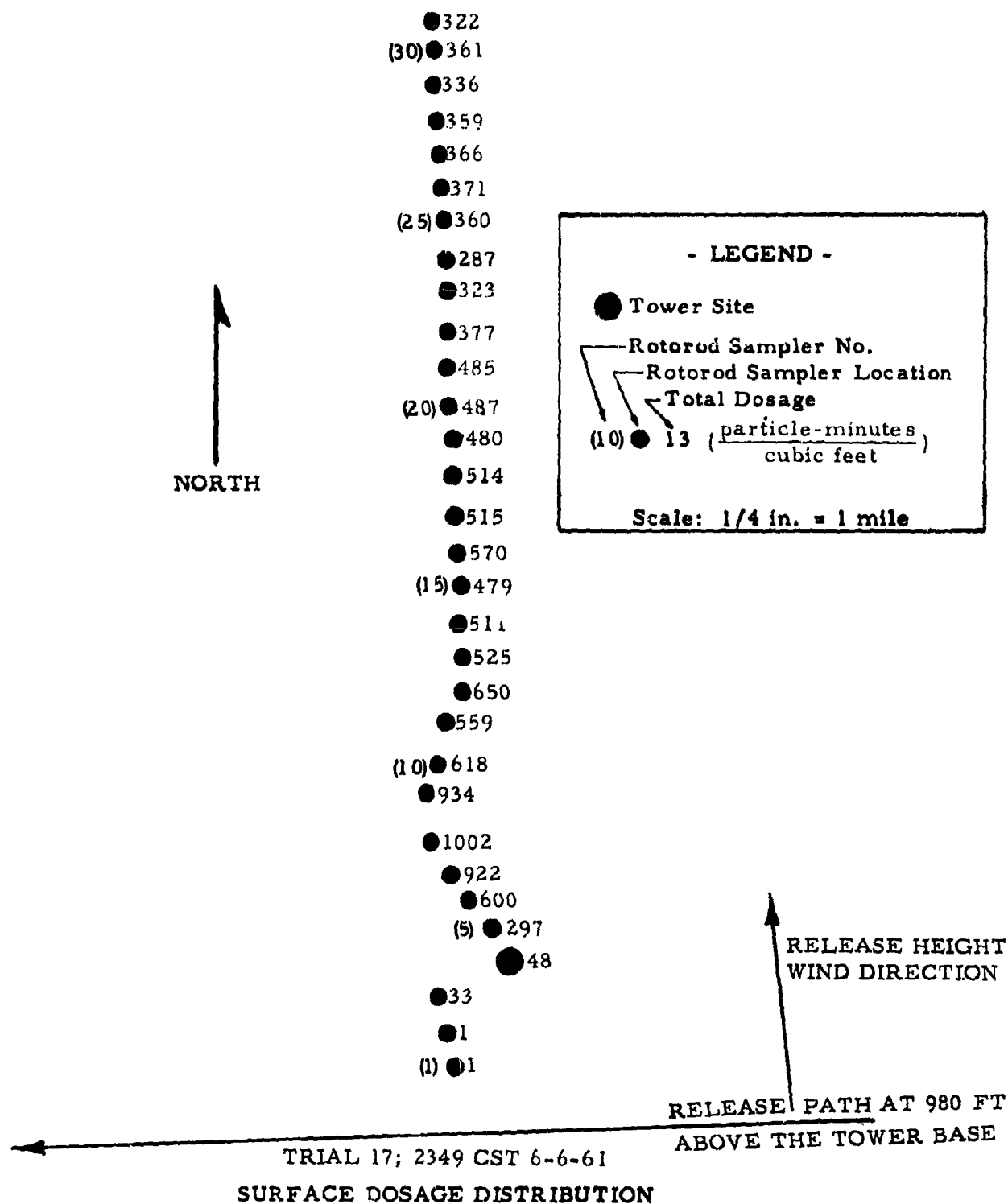


Fig. II-34

TABLE II - 17
SUMMARY OF TOWER DATA

TRIAL 17

JUNE 6, 1961

2349 CST

Height Above Base (FT)	Total Dos- age (1)	Temp (°F)	Wind Speed (MPH)	Wind Direc- tion (DEG)	Vertical Sigma (DEG) 5 30 180			Ri No.	Velocity Vari- ance (2)	$\frac{\Delta \theta}{u^2}$ (3)
1420	0	74.0	34.7	195.2						
1300	0	74.3	37.6	187.8						
1200	0	74.5	38.2	183.9						
1050	0	75.0	35.8	181.3	0.49	0.52	0.55	.44	.25	.0008
900	0	75.5	35.5	180.6						
750	15	76.3	33.3	180.2	0.47	0.49	0.60	.20	.26	.001
600	551	76.7	31.5	179.6						
450	1830	76.6	28.0	173.4	1.59	1.82	1.93	.14	1.92	.002
300	395	76.6	22.6	168.2						
150	183	76.6	16.1	168.9	4.14	4.99	4.83	.07	3.96	.004
70	20	76.5	11.8	163.7						
30	0	76.5	9.5	166.0	7.20	8.39	8.25		4.01	
SFC	83									

Release at 600 feet above and 4.7 miles upwind of tower base

(1) PARTICLE-MINUTES/CUBIC FOOT

(2) (FEET/SECOND)²

(3) (°F/100 FEET/MPH²)

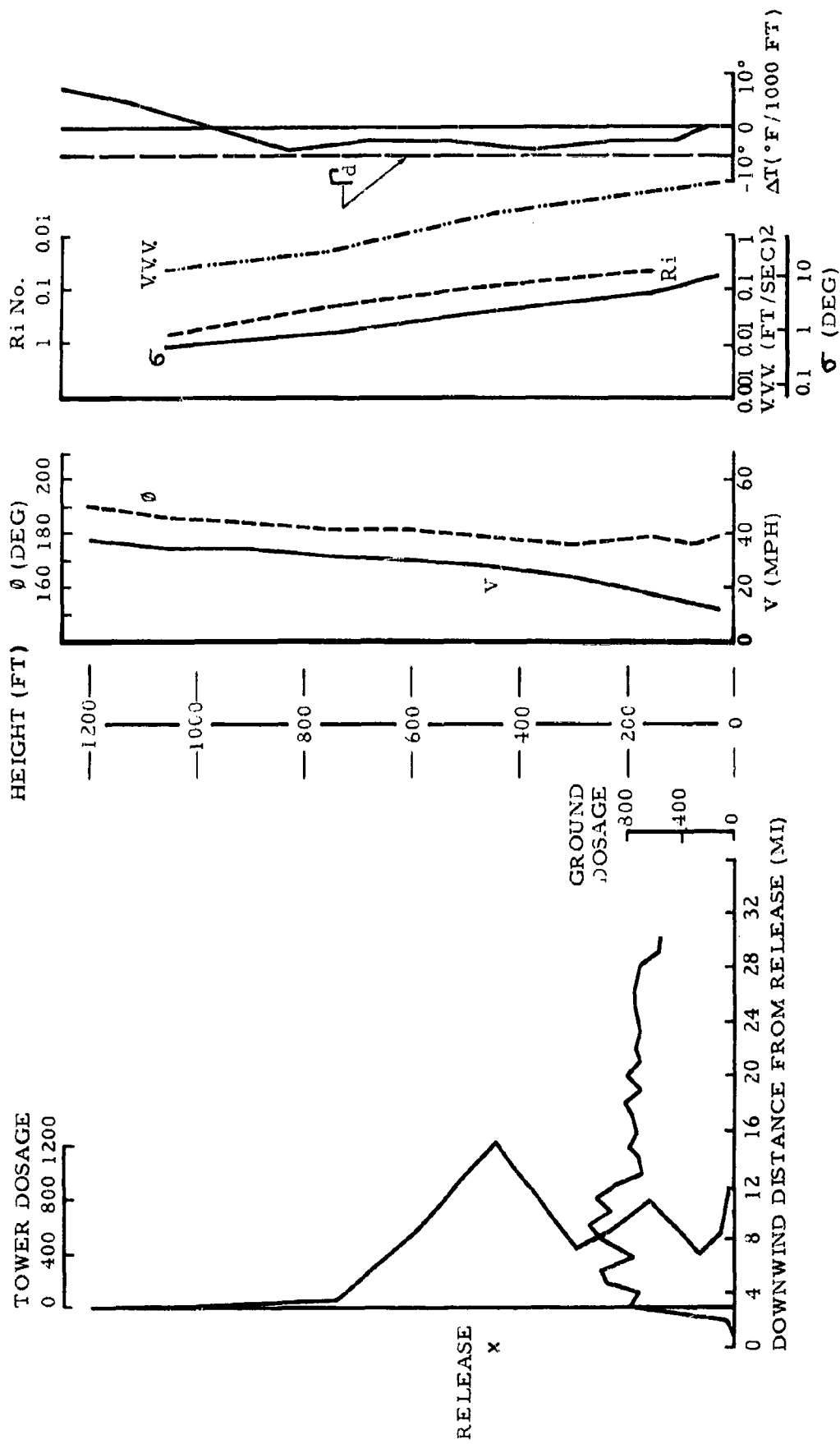
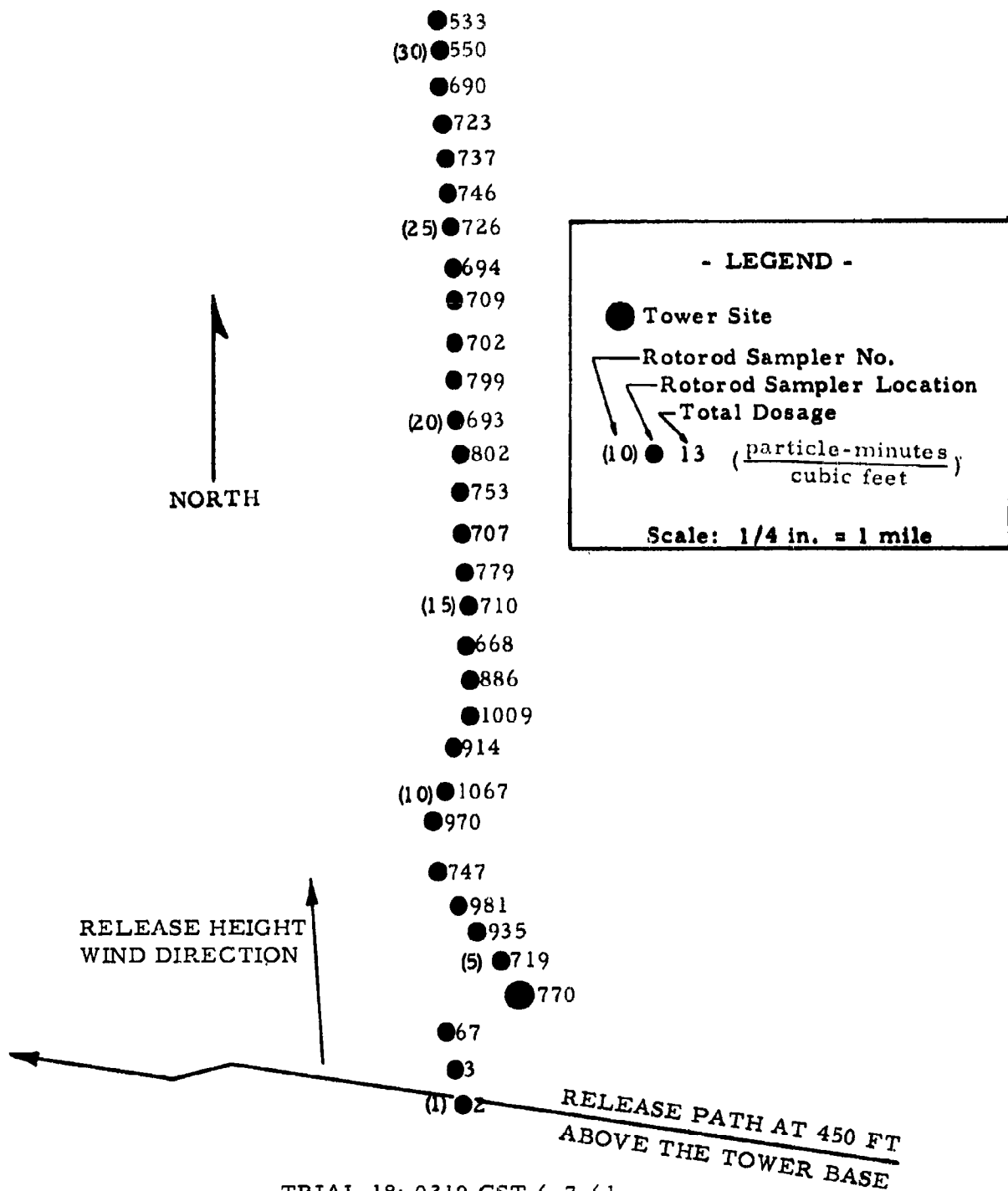


Fig. II-35: SUMMARY OF TRIAL DATA, TRIAL 18, JUNE 7, 1961, 0319 CST



TRIAL 18; 0319 CST 6-7-61
SURFACE DOSAGE DISTRIBUTION

TABLE II - 18

SUMMARY OF TOWER DATA

TRIAL 18

JUNE 7, 1961

0319 CST

Height Above Base (FT)	Total Dos- age (1)	Temp (°F)	Wind Speed (MPH)	Wind Direc- tion (DEG)	Vertical Sigma (DEG) 5 30 180			Ri No.	Velocity Vari- ance (2)	$\frac{\Delta \theta}{u^2}$ (3)
1420	0	72.4	35.7	200.5						
1300	0	71.7	38.5	195.8						
1200	0	71.0	38.2	191.3						
1050	0	70.3	35.3	186.5	0.43	0.49	0.52	.62	.22	.0005
900	0	70.3	35.1	184.1						
750	3	71.0	32.3	182.1	0.64	0.82	0.85	.20	.49	.0006
600	567	71.4	30.7	182.1						
450	1230	71.8	27.9	178.6	1.69	2.10	2.18	.09	2.42	.0007
300	440	72.4	24.0	175.7						
150	653	72.8	18.0	178.7	3.91	5.20	5.40	.05	6.18	.002
70	304	73.0	14.4	177.2						
30	440	73.0	11.7	179.0	7.59	9.31	9.96		8.94	
SFC	754									

Release at 450 feet above and 2.9 miles upwind of tower base

(1) PARTICLE-MINUTES/CUBIC FOOT

(2) (FEET/SECOND)²(3) (°F/100 FEET/MPH²)

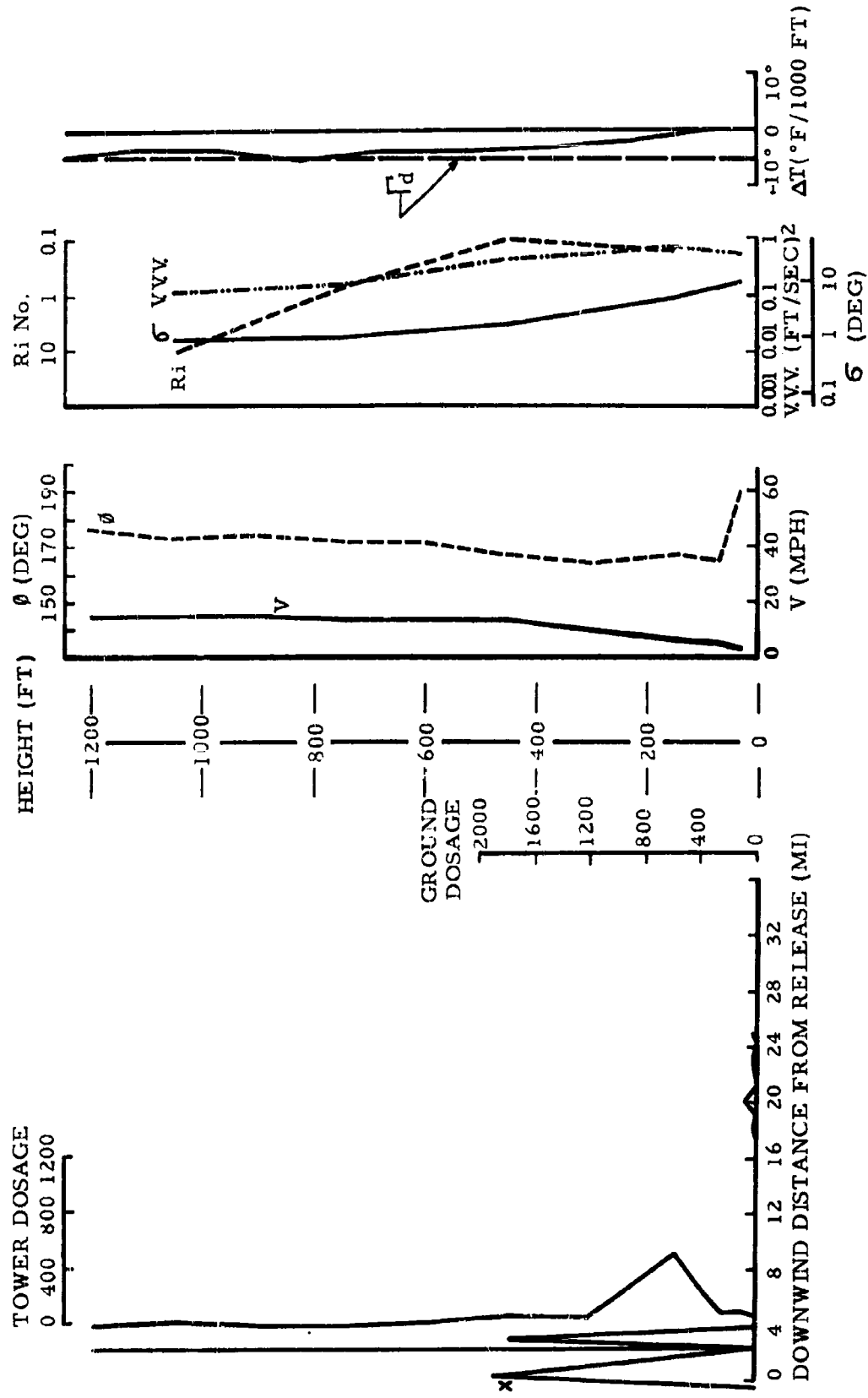
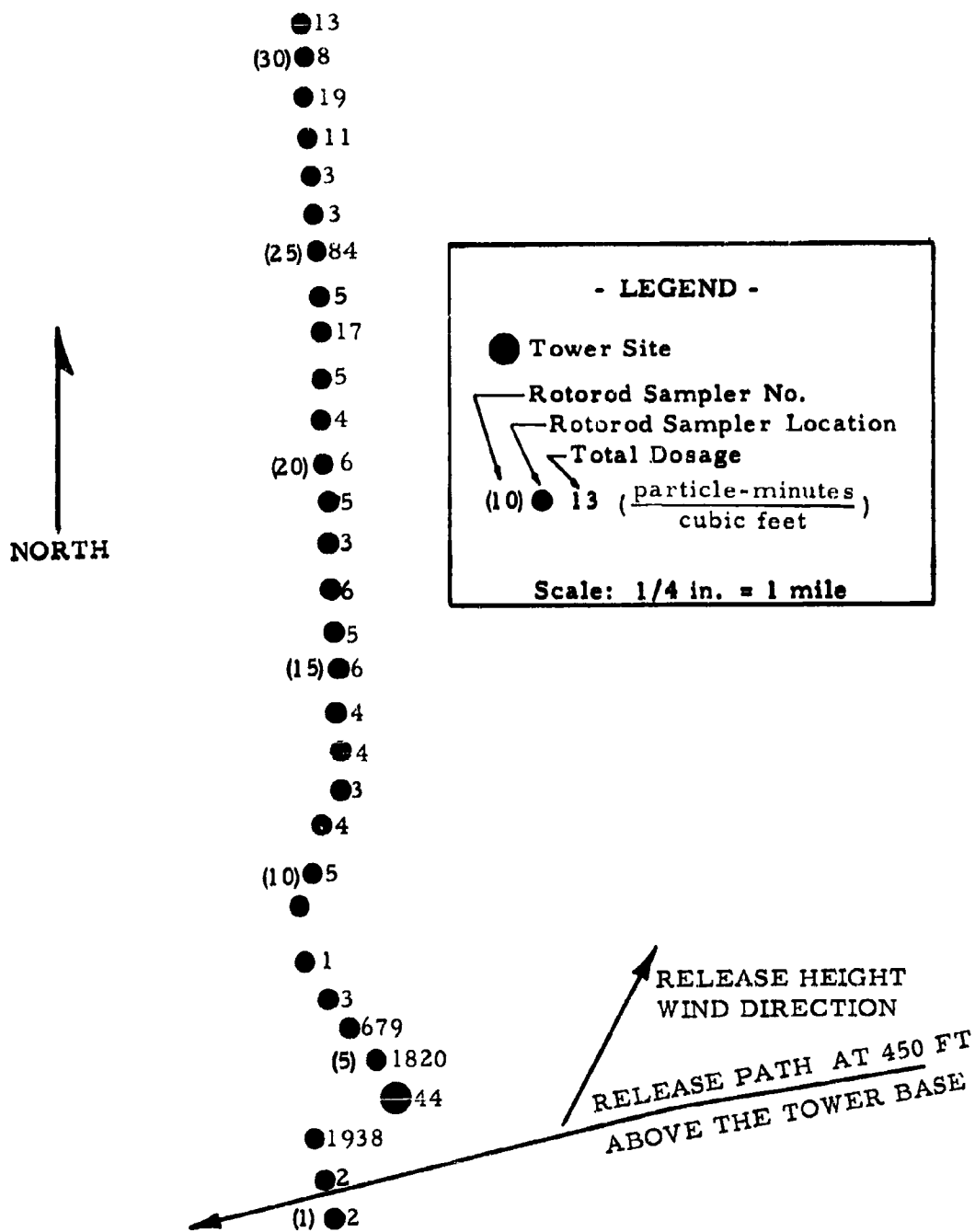


Fig. II-37: SUMMARY OF TRIAL DATA, TRIAL 19, JUNE 8, 1961, 1949 CST



TRIAL 19; 1949 CST 6-8-61
SURFACE DOSAGE DISTRIBUTION

Fig. II-38

TABLE II - 19
SUMMARY OF TOWER DATA

TRIAL 19

JUNE 8, 1961

1949 CST

Height Above Base	Total Dos- age	Temp (°F)	Wind Speed (MPH)	Wind Direc- tion (DEG)	Vertical Sigma (DEG)			Ri No.	Velocity Variance	$\frac{\Delta \theta}{u^2}$
(FT)	(1)	(°F)	(MPH)	(DEG)	5	30	180		(2)	(3)
1420	0	79.8	14.7	178.8						
1300	0	80.3	15.7	178.5						
1200	0	80.8	14.8	175.7						
1050	0	81.4	15.4	173.3	0.57	0.75	0.84	11.33	.11	.003
900	0	82.0	15.2	174.0						
750	0	82.8	14.2	171.9	0.72	0.97	1.05	.68	.14	.004
600	9	83.4	13.8	171.2						
450	12	84.0	13.6	166.8	1.35	1.80	1.92	.10	.44	.005
300	55	84.5	10.3	163.7						
150	536	84.8	6.3	167.1	3.99	5.40	5.16	.15	.69	.026
70	102	84.8	4.6	164.7						
30	97	84.8	2.9	189.8	6.39	9.00	9.90		.55	
SFC	85									

Release at 450 feet above and 2.3 miles upwind of tower base

① PARTICLE-MINUTES/CUBIC FOOT

② (FEET/SECOND)²

③ (°F/100 FEET/MPH²)

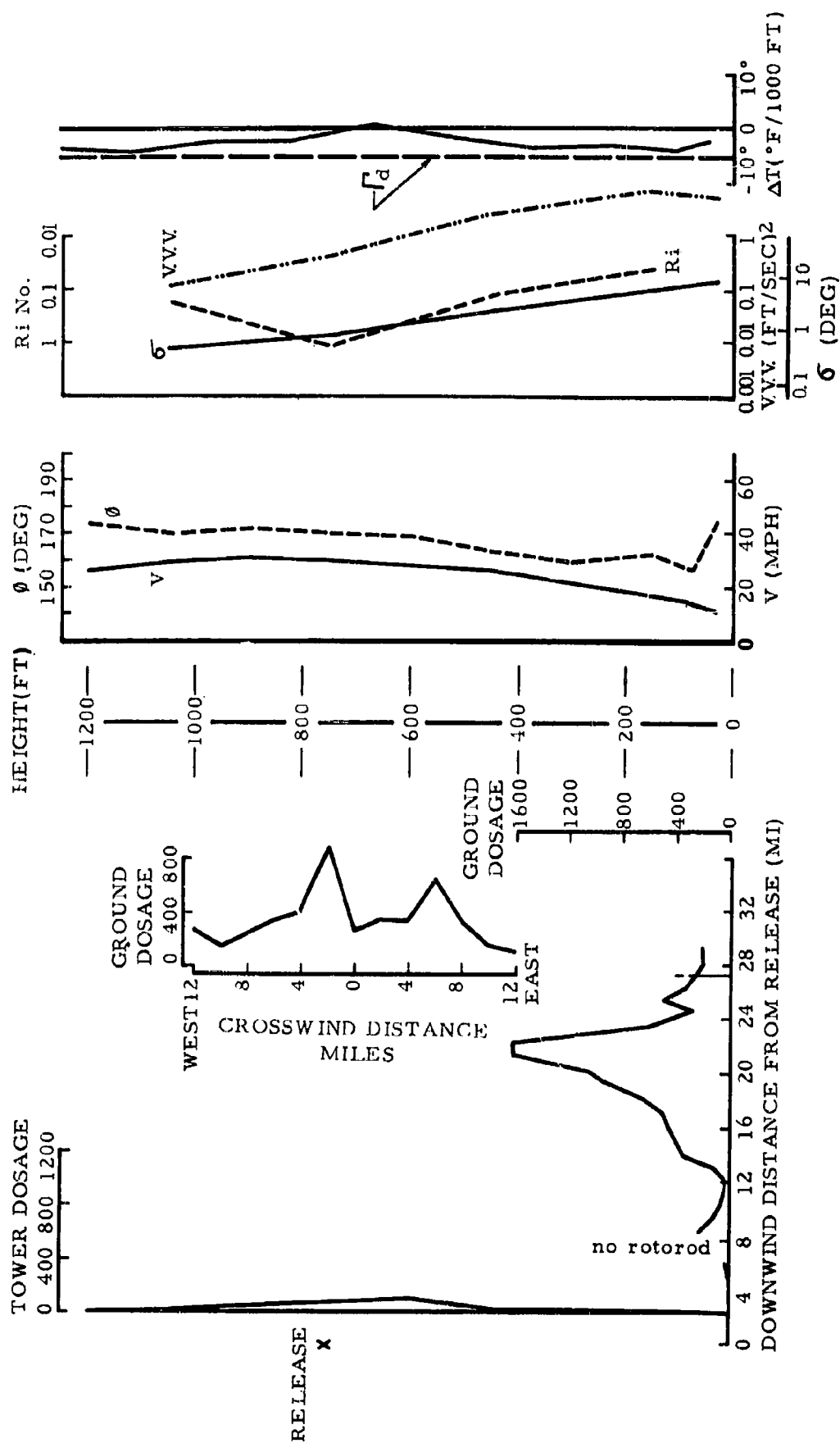
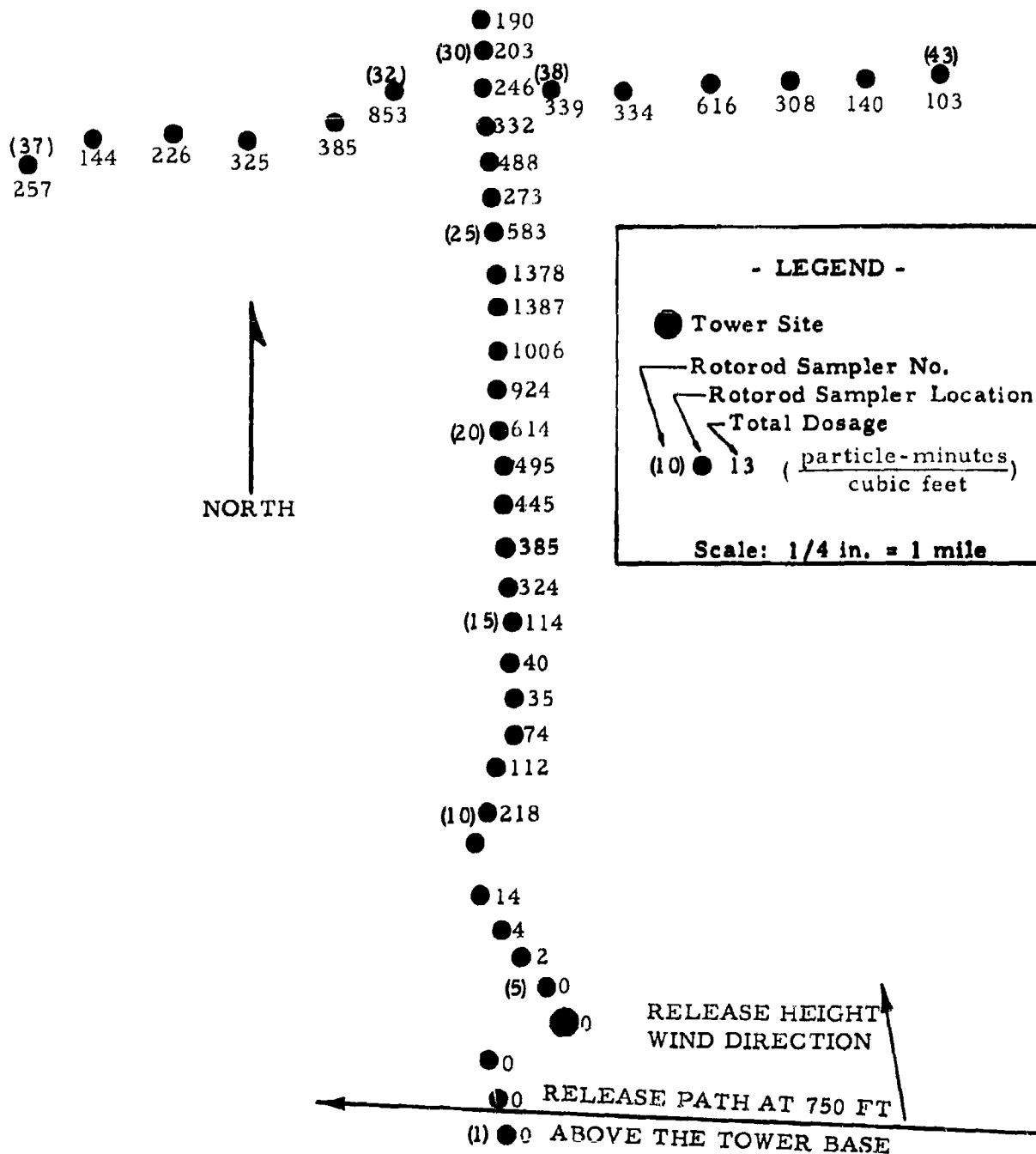


Fig. II-39: SUMMARY OF TRIAL DATA, TRIAL 20, JUNE 12, 1961, 2029 CST



TRIAL 20; 2029 CST 6-12-61

SURFACE DOSAGE DISTRIBUTION

Fig. II-40

TABLE II - 20

SUMMARY OF TOWER DATA

TRIAL 20

JUNE 12, 1961

2029 CST

Height Above Base	Total Dos- age	Temp	Wind Speed	Wind Direc- tion	Vertical Sigma (DEG)			Ri No.	Velocity Vari- ance	$\frac{\Delta \theta}{u^2}$
(FT)	(1)	(°F)	(MPH)	(DEG)	5	30	180	(2)	(3)	
1420	0	75.3	25.5	181.3						
1300	0	75.7	27.5	177.3						
1200	0	76.1	25.9	172.7						
1050	0	76.8	28.6	170.1	0.21	0.31	0.47	.17	.12	.0007
900	26	77.2	30.9	172.2						
750	49	77.6	30.3	170.1	0.38	0.67	0.82	1.15	.40	.0007
600	87	77.5	28.2	169.2						
450	0	77.7	26.0	163.4	1.74	2.30	2.36	.13	2.46	.0006
300	0	78.2	21.6	159.1						
150	0	78.7	17.0	161.9	4.12	5.40	5.70	.04	6.14	.001
70	0	79.0	13.8	156.6						
30	0	79.1	11.2	174.9	6.60	7.86	8.45		5.85	
SFC	0									

Release at 750 feet above and 2.2 miles upwind of tower base

① PARTICLE-MINUTES/CUBIC FOOT

② (FEET/SECOND)²③ (°F/100 FEET/MPH²)

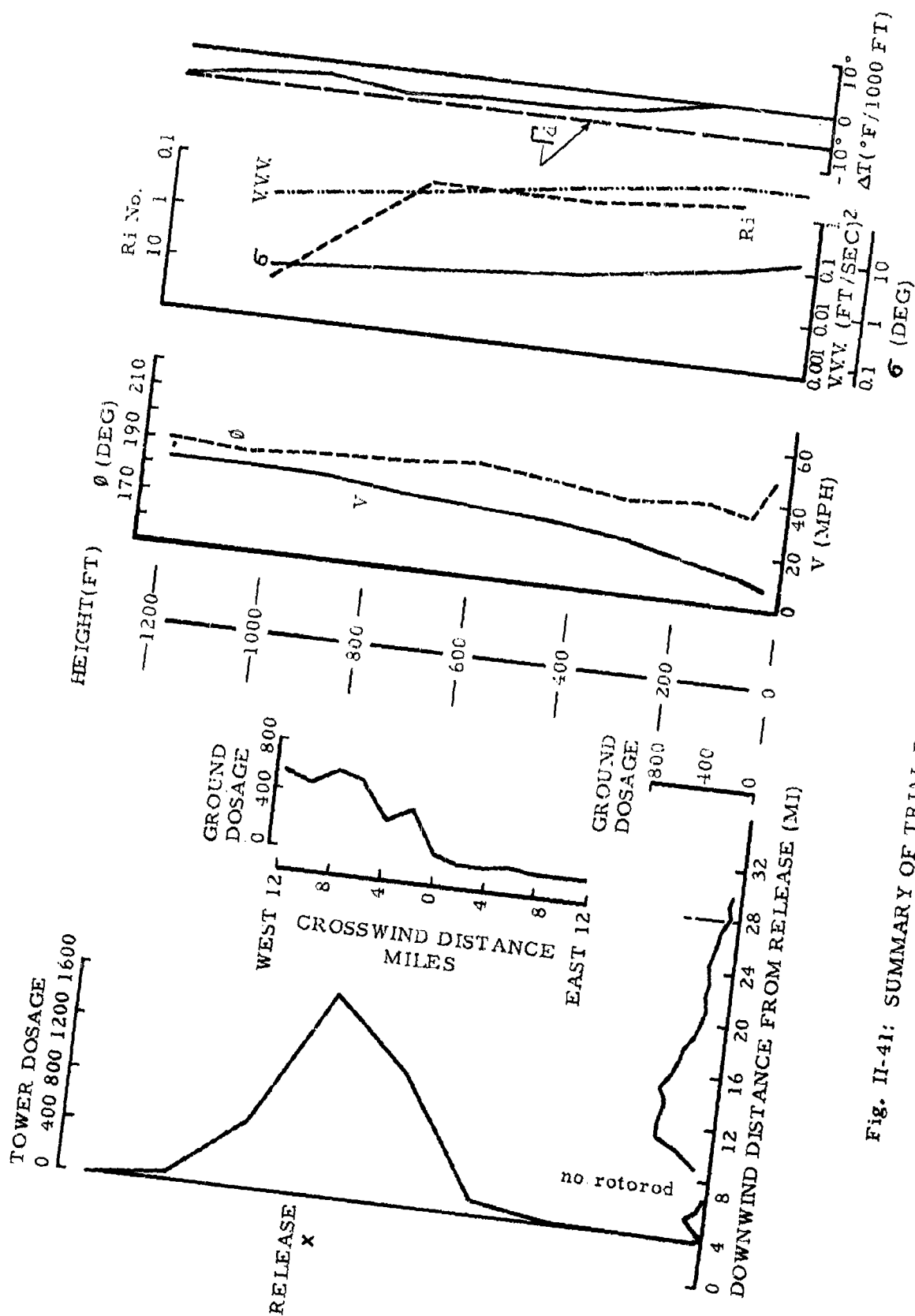
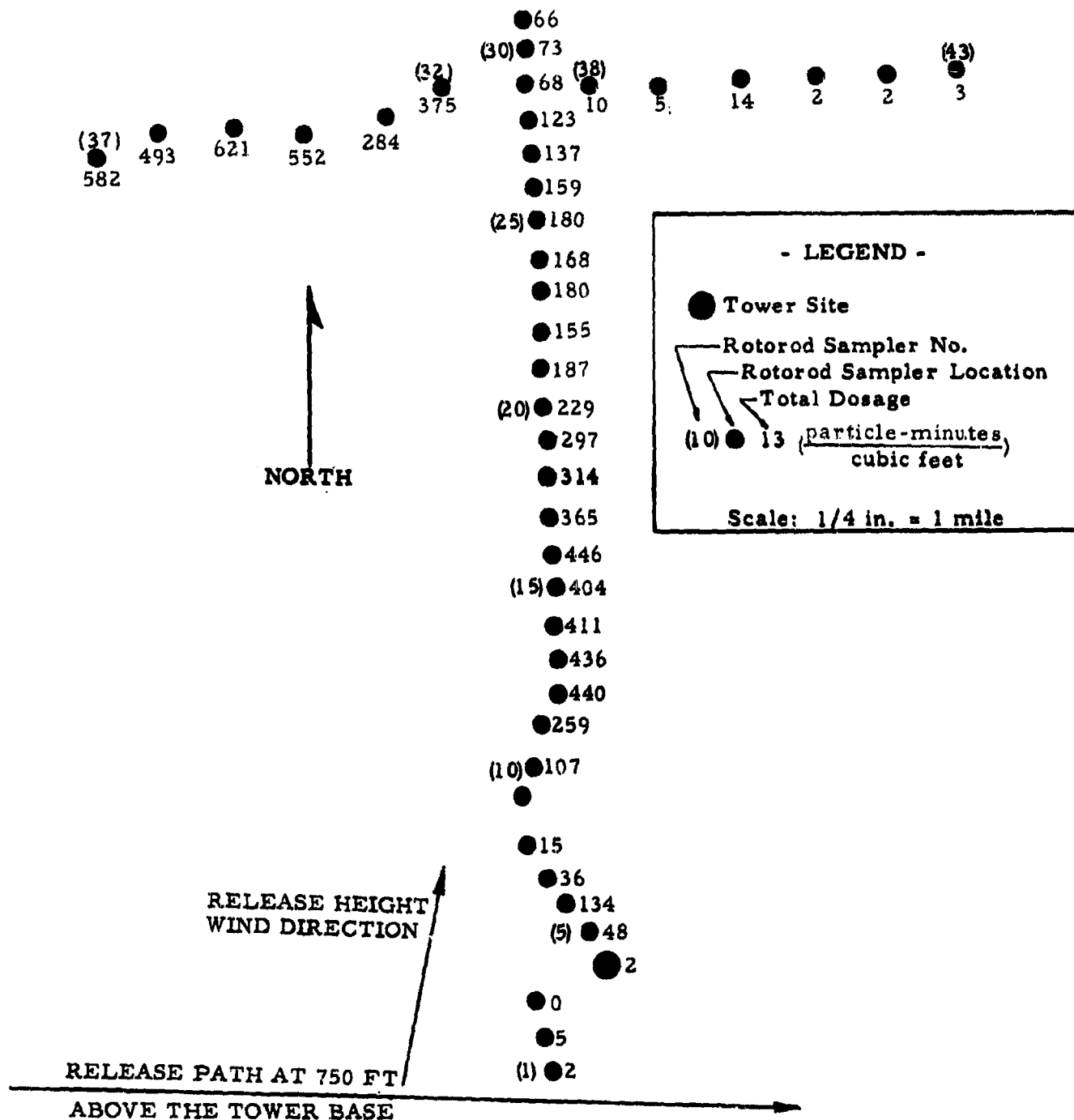


Fig. II-41: SUMMARY OF TRIAL DATA, TRIAL 21, JUNE 12, 1961, 2359 CST



TRIAL 21; 2359 CST 6-12-61
SURFACE DOSAGE DISTRIBUTION

Fig. II-42

TABLE II - 21

SUMMARY OF TOWER DATA

TRIAL 21

JUNE 12, 1961

2359 CST

Height Above Base (FT)	Total Dos- age (1)	Temp (°F)	Wind Speed (MPH)	Wind Direc- tion (DEG)	Vertical Sigma (DEG) 5 30 180			Ri No	Velocity Vari- ance (2)	$\frac{\Delta \theta}{u^2}$ (3)
1420	0	71.6	33.3	196.2						
1300	4	72.1	35.4	191.4						
1200	0	72.6	32.5	190.4						
1050	53	73.1	33.2	188.1	0.52	0.60	0.59	19.83	.25	.0007
900	519	73.5	32.1	189.9						
750	1554	74.2	29.2	191.5	0.88	1.05	1.01	.13	.57	.001
600	1017	74.7	27.2	192.8						
450	113	75.2	25.4	189.5	1.58	1.96	1.85	.12	1.45	.002
300	0	75.6	20.6	186.1						
150	0	75.6	14.3	188.0	3.90	4.80	4.76	.07	3.05	.004
70	0	75.6	10.6	184.9						
30	0	75.6	8.3	198.9	6.30	7.50	7.95		2.87	
SFC	7									

Release at 750 feet above and 3.7 miles upwind of tower base

① PARTICLE-MINUTES/CUBIC FOOT

② (FEET/SECOND)²③ (°F/100 FEET/MPH²)

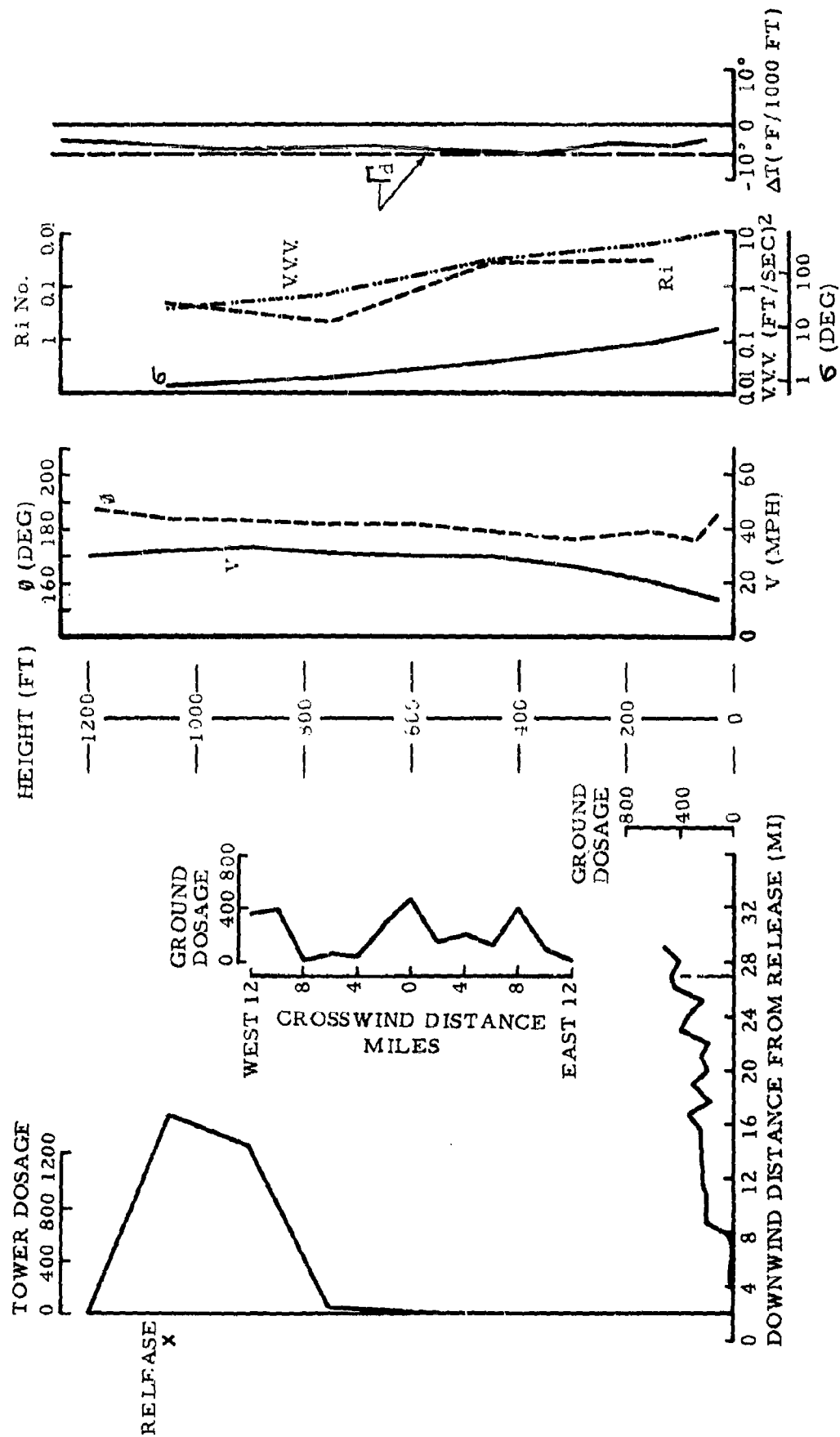


Fig. II-43: SUMMARY OF TRIAL DATA, TRIAL 22, JUNE 13, 1961, 2009 CST

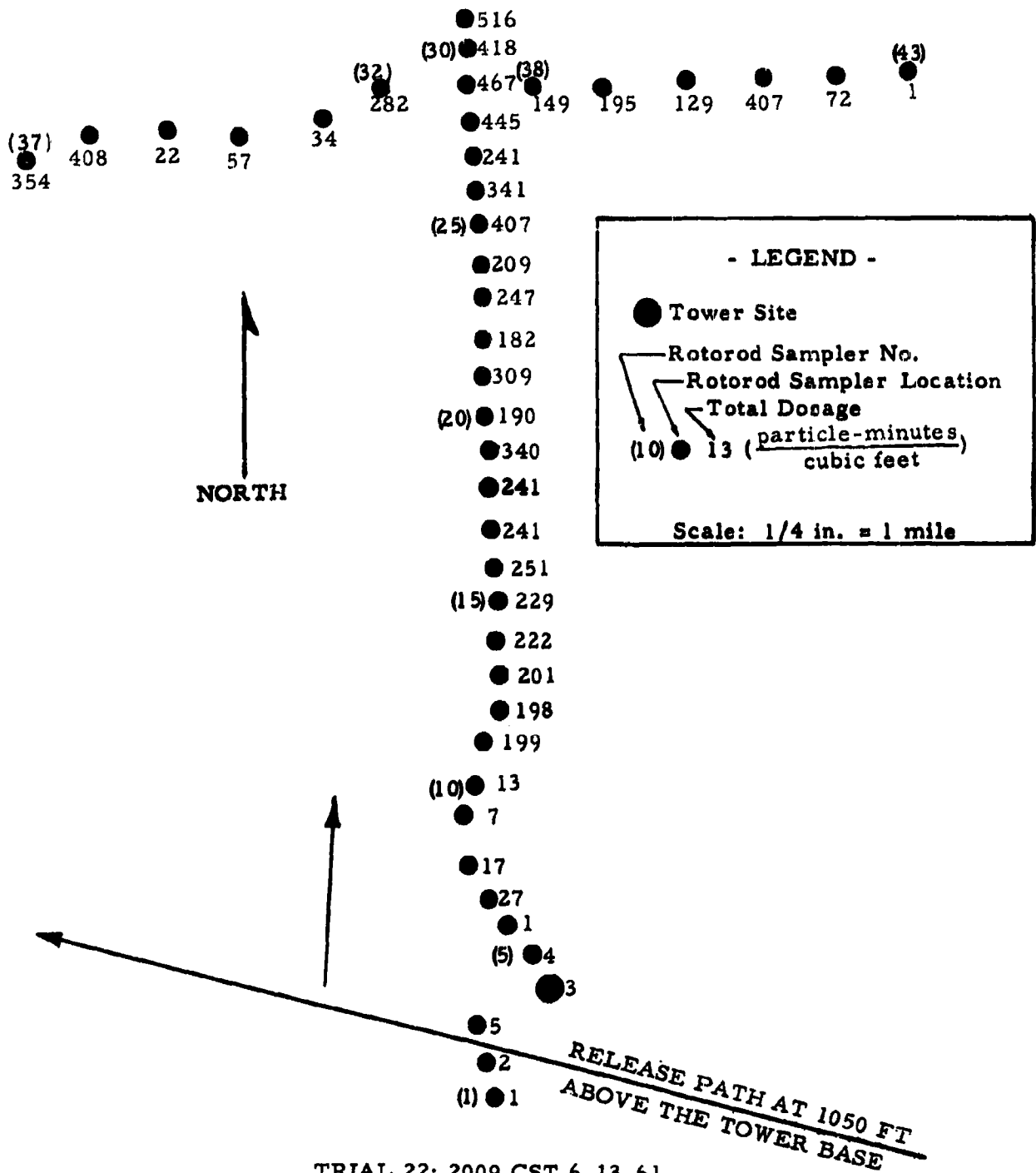


TABLE II - 22

SUMMARY OF TOWER DATA

TRIAL 22

JUNE 13, 1961

2009 CST

Height Above Base	Total Dos- age	Temp	Wind Speed	Wind Direc- tion	Vertical Sigma (DEG)			Ri No.	Velocity Vari- ance	$\frac{\Delta\theta}{u^2}$
(FT)	(1)	(°F)	(MPH)	(DEG)	5	30	180		(2)	(3)
1420	0	76.6	29.4	197.8						
1300	13	76.9	32.0	191.3						
1200	7	77.2	30.0	188.2						
1050	1393	77.7	32.0	183.6	0.42	0.60	0.79	.23	.42	.0002
900	1208	78.4	32.5	183.0						
750	22	79.1	30.6	182.1	0.60	0.90	1.07	.43	.70	.0003
600	0	79.7	30.1	182.3						
450	0	80.4	29.5	179.2	1.54	2.14	2.33	.03	3.11	.0003
300	0	81.2	26.2	175.6						
150	0	81.7	20.4	179.2	3.59	4.65	5.02	.03	6.86	.0008
70	0	82.0	16.0	176.4						
30	0	82.1	13.6	185.9	7.26	8.70	9.25		10.32	
SFC	0									

Release at 1050 feet above and 1.8 miles upwind of tower base

① PARTICLE-MINUTES/CUBIC FOOT

② (FEET/SECOND)²③ (°F/100 FEET/MPH²)

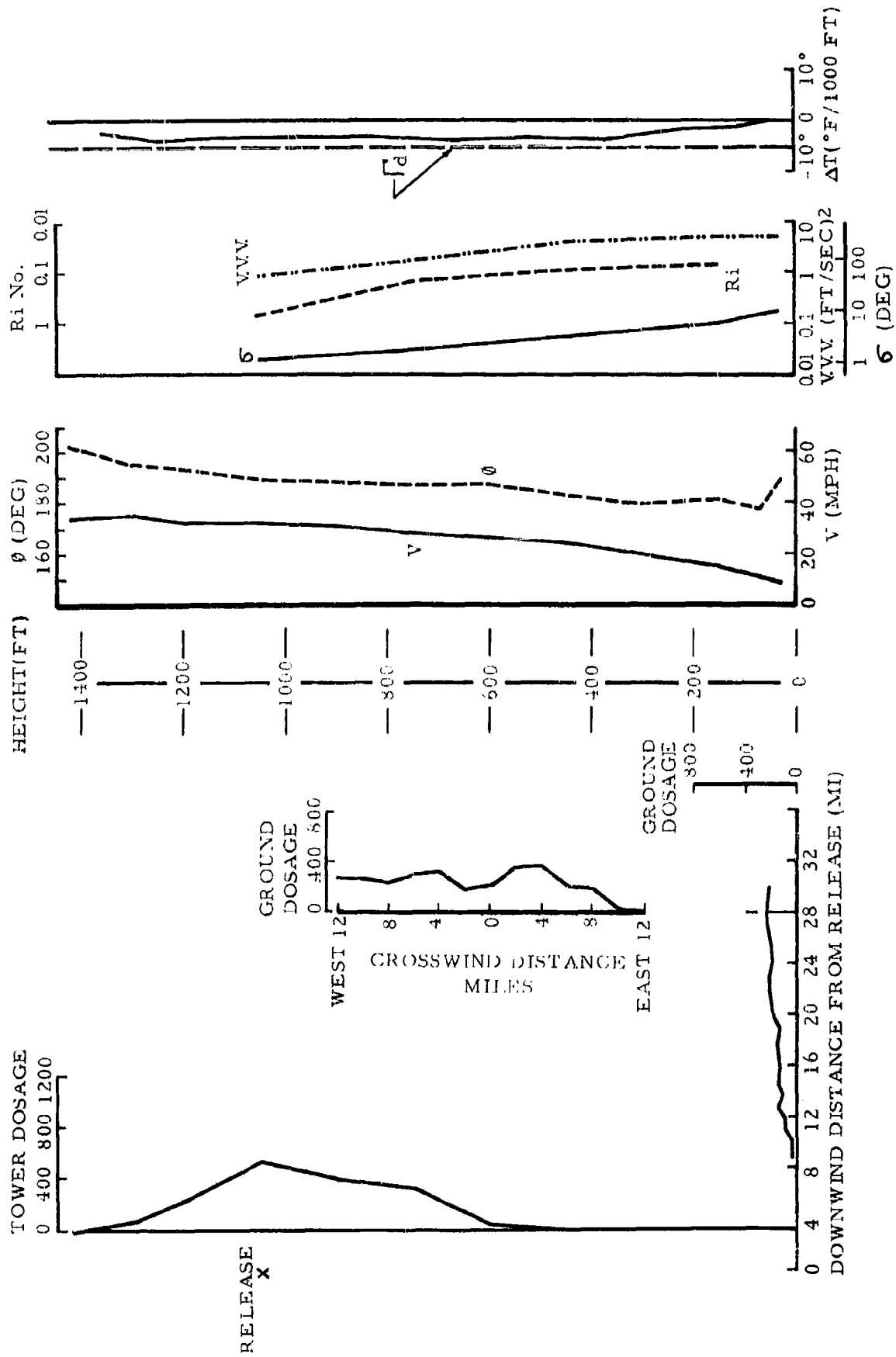
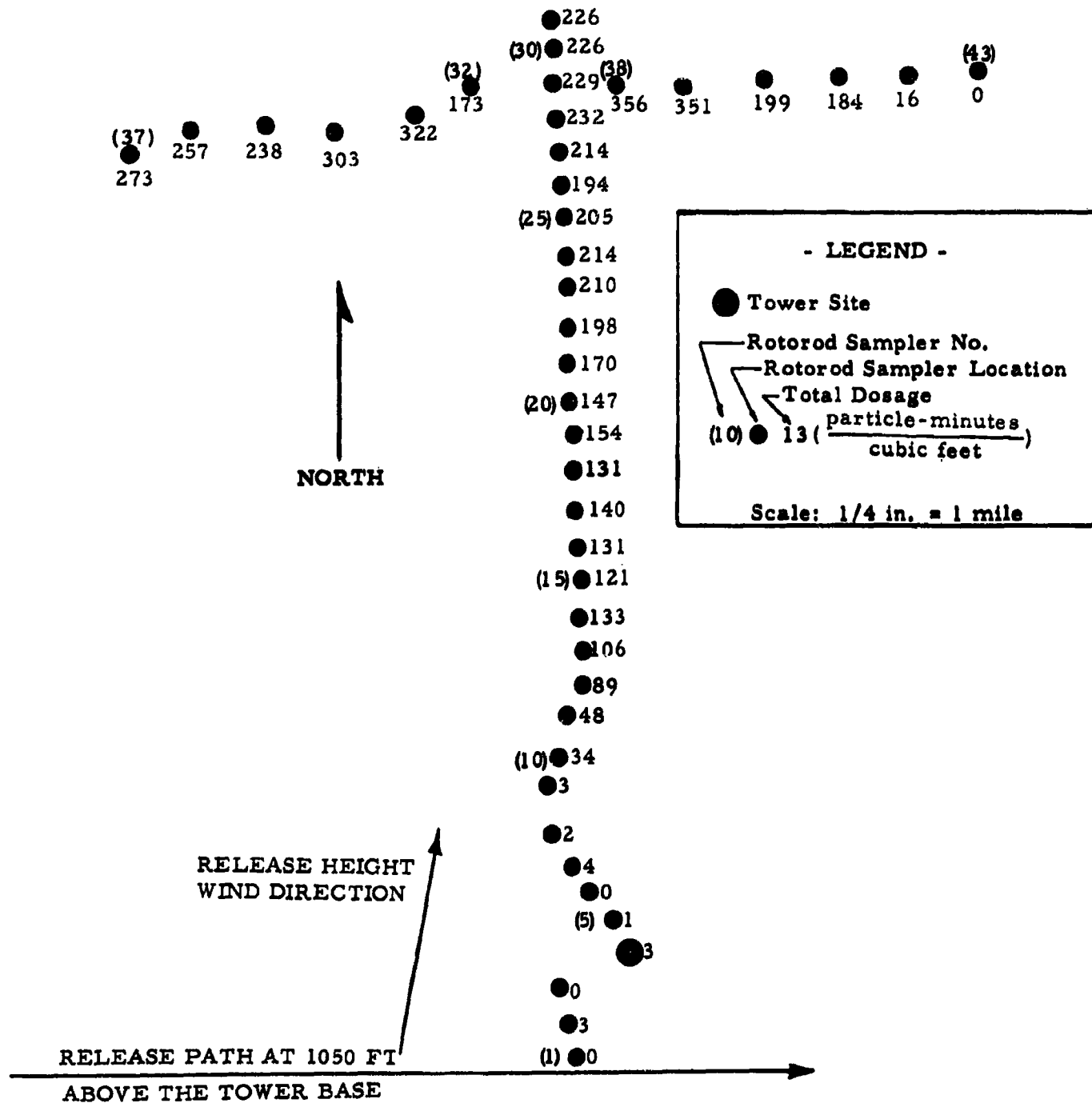


Fig. II-45: SUMMARY OF TRIAL DATA, TRIAL 23, JUNE 13, 1961, 2339 CST



TRIAL 23; 2339 CST 6-13-61
 SURFACE DOSAGE DISTRIBUTION

Fig. II-46

TABLE II - 23

SUMMARY OF TOWER DATA

TRIAL 23

JUNE 13, 1961

2339 CST

Height Above Base	Total Dose- age	Temp (°F)	Wind Speed (MPH)	Wind Direc- tion (DEG)	Vertical Sigma (DEG)			Ri No.	Velocity Vari- ance	$\frac{\Delta\theta}{u^2}$
(FT)	(1)	(°F)	(MPH)	(DEG)	5	30	180		(2)	(3)
1420	0	73.3	33.9	201.8						
1300	89	73.6	35.2	195.3						
1200	241	74.0	31.6	193.2						
1050	444	74.5	32.1	189.3	0.90	1.10	1.12	.70	.84	.0006
900	332	75.0	30.9	188.4						
750	301	75.5	27.8	187.2	1.45	1.78	1.85	.15	1.74	.0008
600	33	76.1	25.6	186.5						
450	2	76.6	23.7	182.7	2.10	2.80	3.10	.09	3.54	.0008
300	0	77.2	19.7	178.5						
150	0	77.5	14.6	181.2	4.50	5.64	5.97	.07	4.97	.003
70	0	77.6	10.9	177.9						
30	0	77.6	8.8	189.1	7.35	8.91	9.96		5.03	
SFC	2									

Release at 1050 feet above and 3.3 miles upwind of tower base

① PARTICLE-MINUTES/CUBIC FOOT

② (FEET/SECOND)²③ (°F/100 FEET/MPH²)

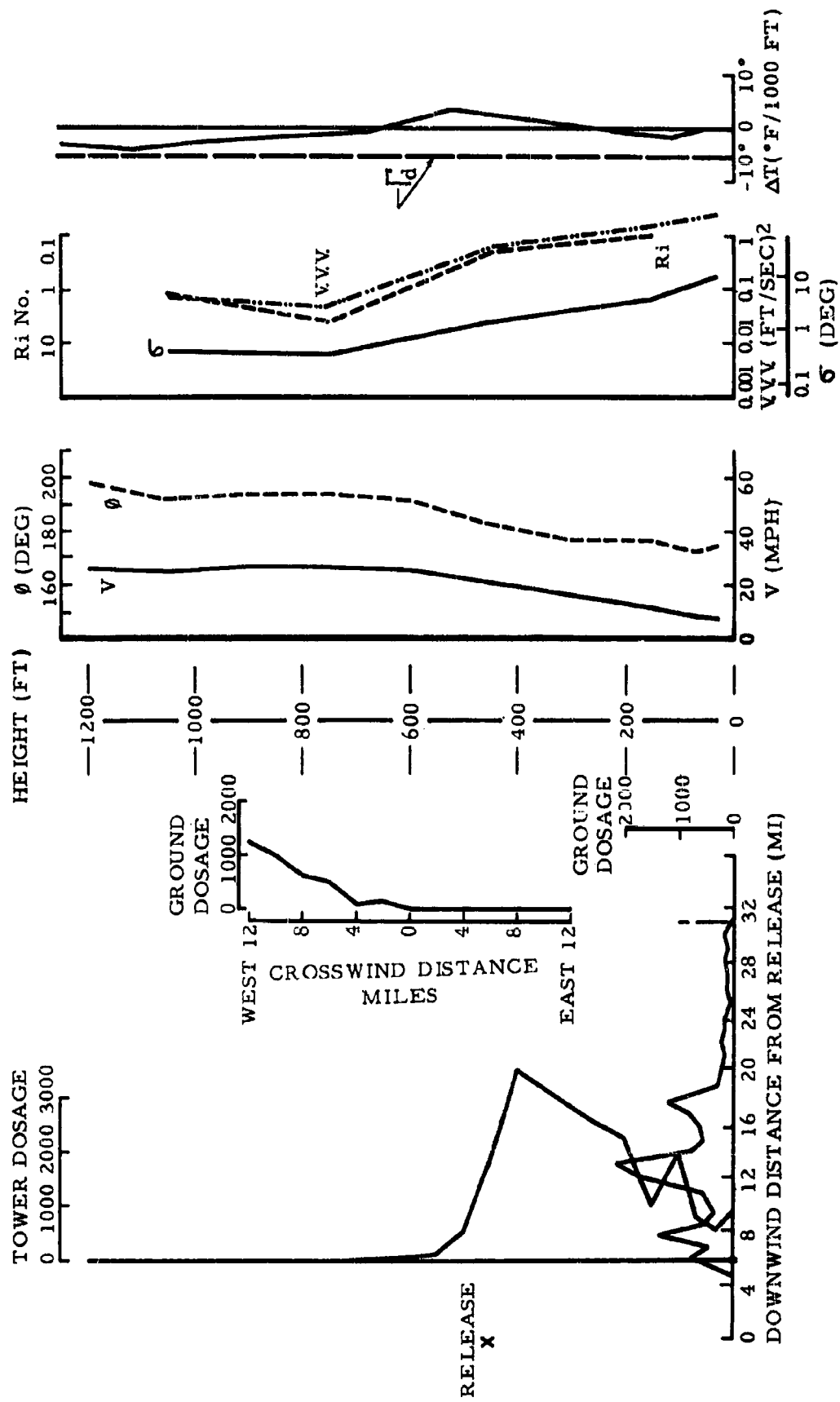


Fig. II-47: SUMMARY OF TRIAL DATA, TRIAL 25, AUGUST 7, 1961, 2104 CST

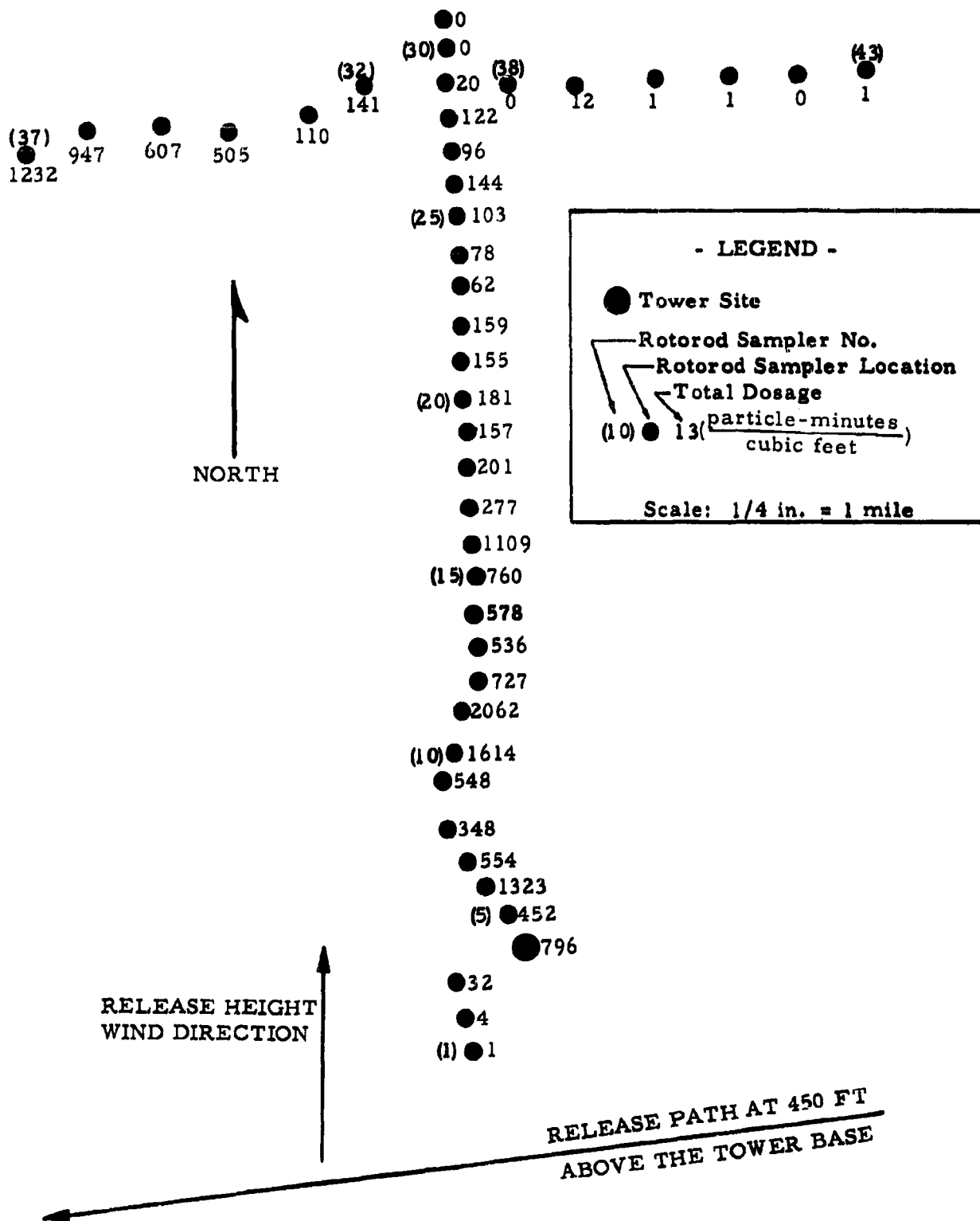


TABLE II - 25

SUMMARY OF TOWER DATA

TRIAL 25

AUGUST 7, 1961

2104 CST

Height Above Base (FT)	Total Dos- age (1)	Temp. (°F)	Wind Speed (MPH)	Wind Direc- tion (DEG)	Vertical Sigma (DEG) 5 30 180			Ri No.	Velocity Vari- ance (2)	$\frac{\Delta \theta}{u^2}$ (3)
1420	0	77.5	25.2	210.0						
1300	0	77.6	26.3	202.1						
1200	0	77.9	26.5	198.1						
1050	0	78.4	25.2	192.5	0.22	0.34	0.41	1.28	.07	.002
900	0	78.8	26.8	193.8						
750	0	79.0	26.5	194.0	0.10	0.20	0.37	3.81	.06	.002
600	40	79.1	25.5	191.7						
450	1733	78.6	22.0	183.4	1.27	1.45	1.49	.20	.71	.003
300	2784	78.4	17.3	177.1						
150	988	78.5	12.1	176.5	3.13	3.95	4.12	.11	1.62	.004
70	790	78.6	8.9	172.5						
30	530	78.6	7.7	174.7	7.41	9.00	9.75		3.70	
SFC	871									

Release at 450 feet above and 5.8 miles upwind of tower base

(1) PARTICLE-MINUTES/CUBIC FOOT

(2) (FEET/SECOND)²(3) (°F/100 FEET/MPH²)

Note: Additional sampling data on reverse side.

TRIAL 25

ADDITIONAL SAMPLING DATA

Height Above Base (FT)	Total Dosage (1)	Height Above Base (FT)	Total Dosage (1)
1350	0	650	0
1250	0	550	81
1150	0	500	512
1100	0	400	3430
1000	0	350	3098
950	0	250	2469
850	4	200	2209
800	4	100	1904
700	0		

(1) PARTICLE-MINUTES/CUBIC FOOT

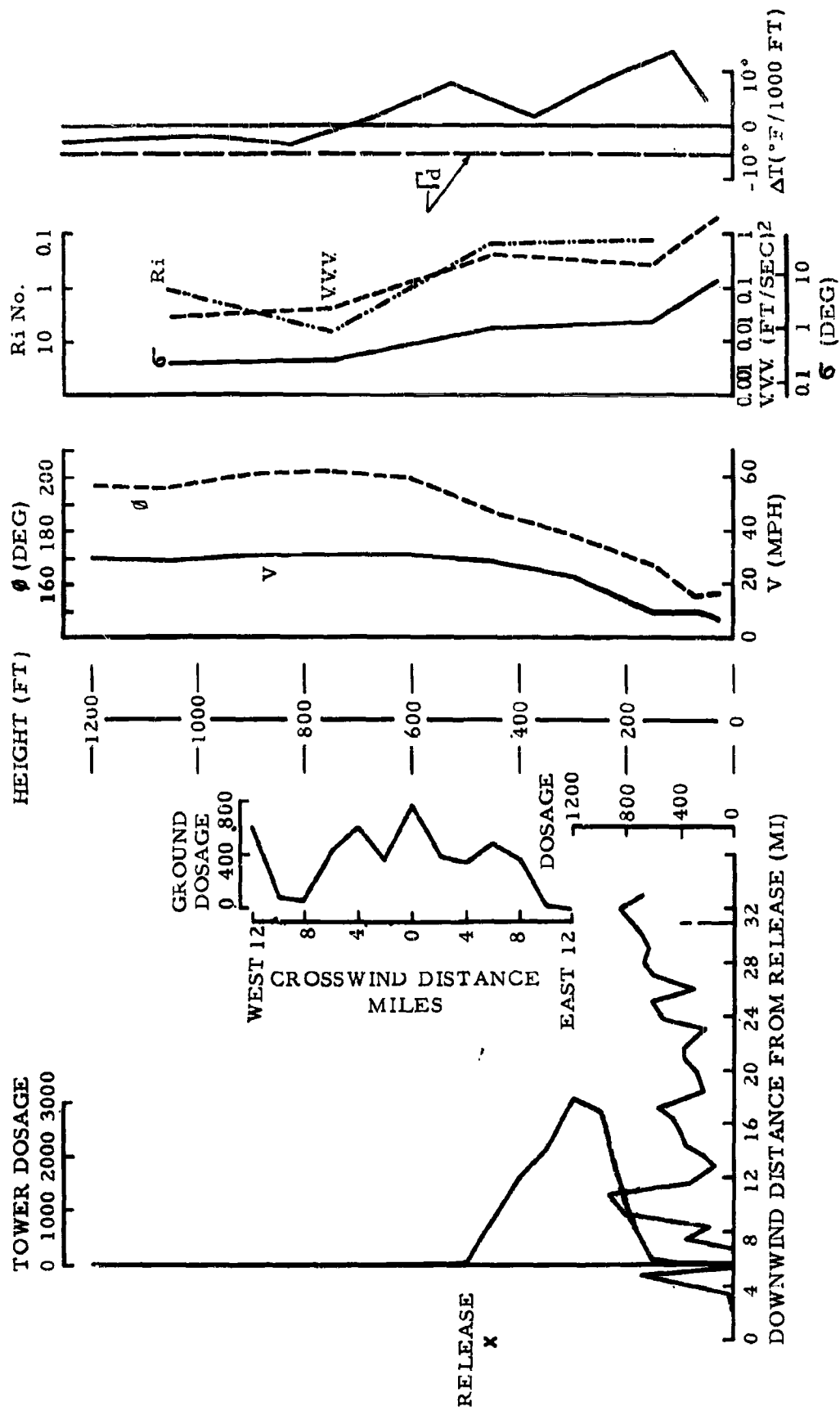
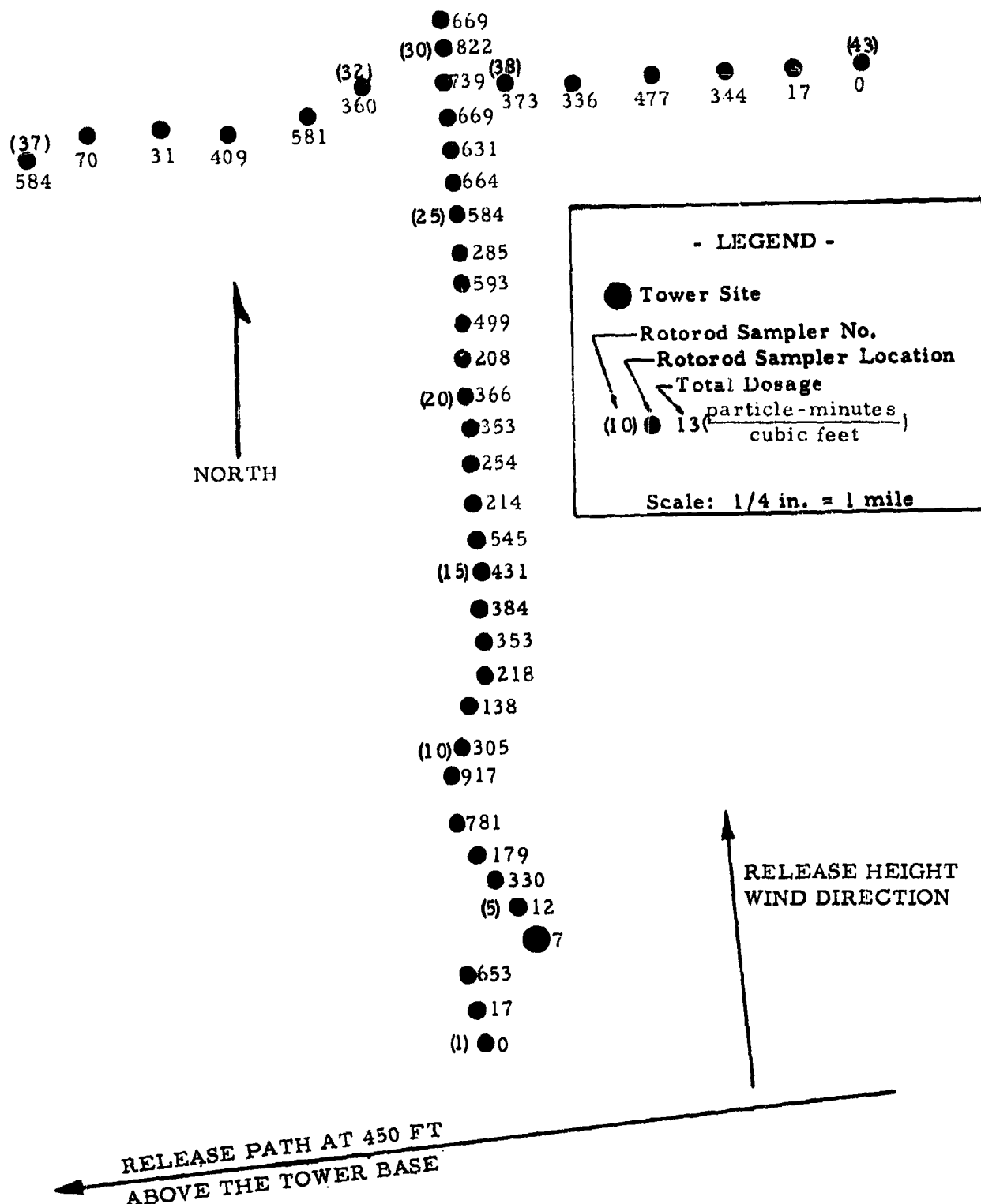


Fig. II-49: SUMMARY OF TRIAL DATA, TRIAL 26, AUGUST 8, 1961, 0029 CST



TRIAL 26; 0029 CST 8-8-61

SURFACE DOSAGE DISTRIBUTION

Fig. II-50

TABLE II - 26

SUMMARY OF TOWER DATA

TRIAL 26

AUGUST 8, 1961

0029 CST

Height Above Base	Total Dos- age	Temp.	Wind Speed	Wind Direc- tion	Vertical Sigma (DEG)			Ri No.	Velocity Vari- ance	$\frac{\Delta\theta}{u^2}$
(FT)	(1)	(°F)	(MPH)	(DEG)	5	30	180		(2)	(3)
1420	0	76.1	25.9	205.7						
1300	0	76.2	28.4	198.9						
1200	0	76.4	30.1	196.6						
1050	5	76.8	29.3	195.6	0.11	0.16	0.22	1.14	.03	.003
900	0	77.1	31.3	200.6						
750	0	77.6	30.6	202.1	0.14	0.25	0.26	6.50	.04	.003
600	0	77.4	31.2	198.8						
450	850	76.2	28.7	187.4	1.14	1.16	1.01	.15	.55	.004
300	3037	76.0	22.5	177.6						
150	59	74.6	14.7	166.8	1.44	1.55	1.50	.12	.32	.015
70	0	73.6	9.7	155.7						
30	0	73.4	7.0	156.9	6.54	7.56	8.01		2.07	
SFC	0									

Release at 450 feet above and 5.5 miles upwind of tower base

(1) PARTICLE-MINUTES/CUBIC FOOT

(2) (FEET/SECOND)²(3) (°F/100 FEET/MPH²)

Note: Additional sampling data on reverse side.

TRIAL 26

ADDITIONAL SAMPLING DATA

Height Above Base (FT)	Total Dosage (1)	Height Above Base (FT)	Total Dosage (1)
1350	0	650	0
1250	0	550	0
1150	5	500	36
1100	0	400	1627
1000	0	350	2097
950	0	250	2784
850	0	200	931
800	0	100	0
700	0		

(1) PARTICLE-MINUTES/CUBIC FOOT

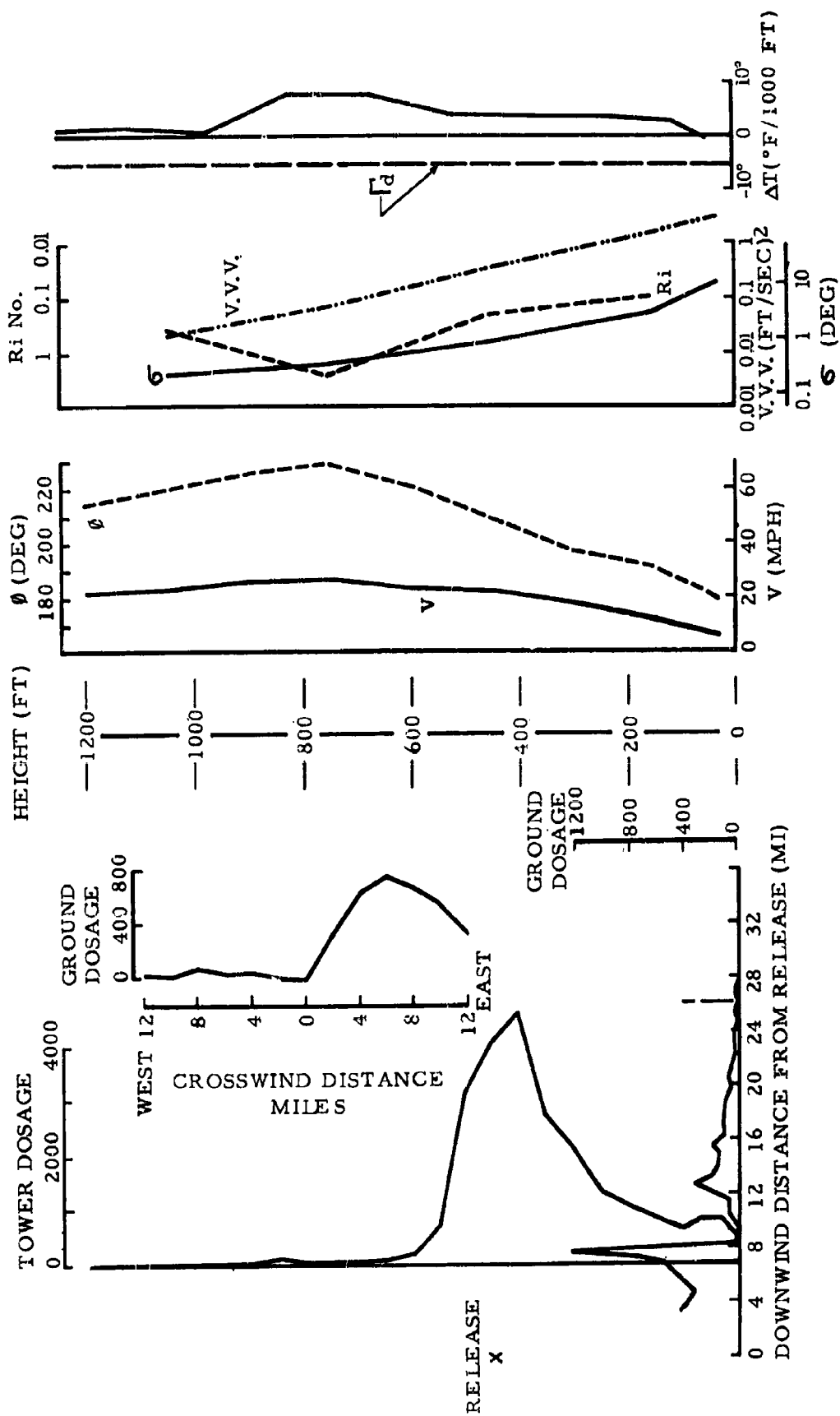
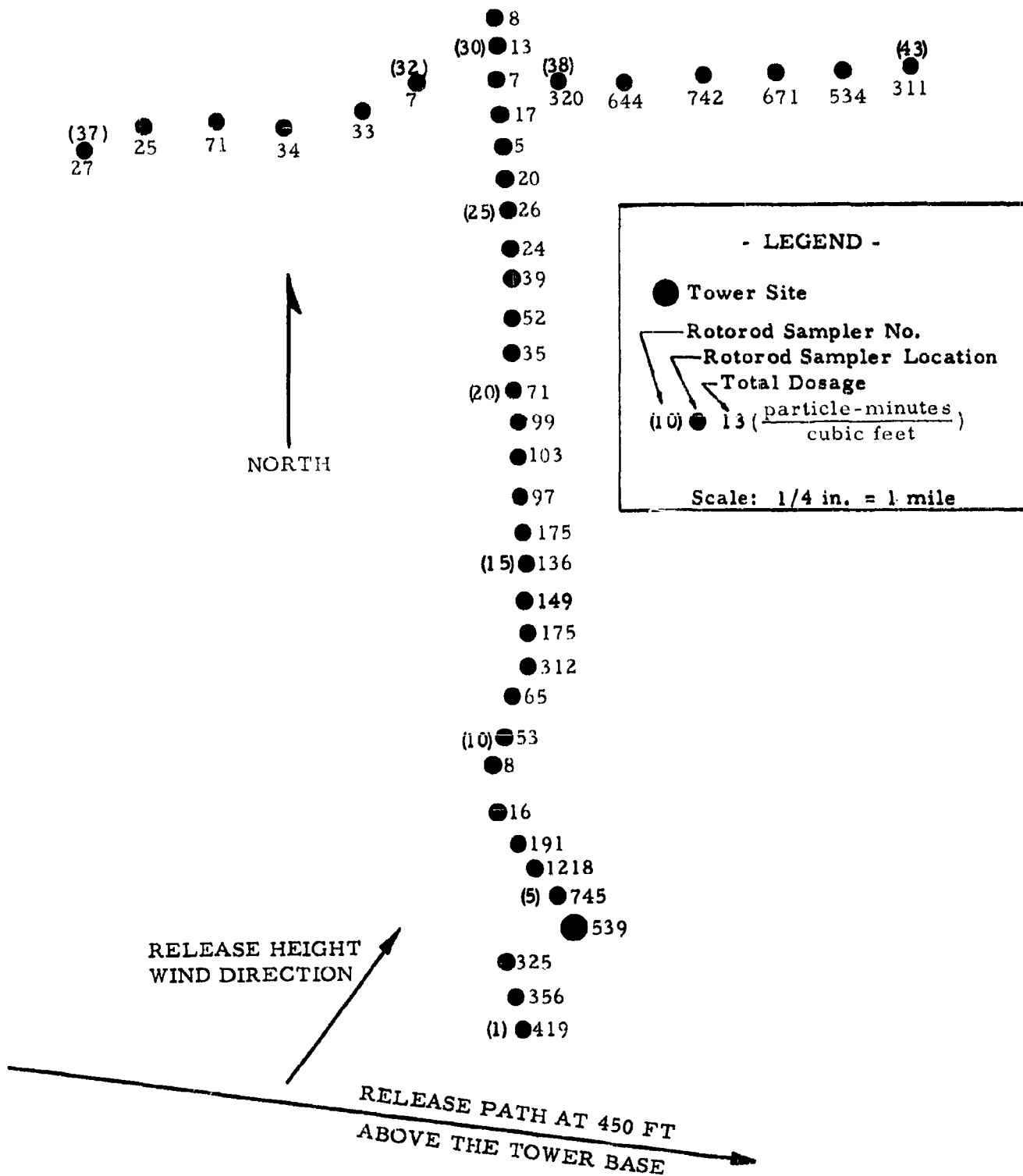


Fig. II-51: SUMMARY OF TRIAL DATA, TRIAL 27, AUGUST 8, 1961, 0459 CST



TRIAL 27; 0459 CST 8-8-61

SURFACE DOSAGE DISTRIBUTION

Fig. II-52

TABLE II - 27

SUMMARY OF TOWER DATA

TRIAL 27

AUGUST 8, 1961

0459 CST

Height Above Base	Total Dos- age	Temp.	Wind Speed	Wind Direc- tion	Vertical Sigma (DEG)			Ri No.	Velocity Vari- ance	$\frac{\Delta\theta}{u^2}$
(FT)	(1)	(°F)	(MPH)	(DEG)	5	30	180		(2)	(3)
1420	0	77.1	19.1	213.4						
1300	0	77.2	21.2	212.2						
1200	0	77.2	22.2	213.9						
1050	0	77.0	22.6	220.1	0.17	0.18	0.24	.38	.02	.005
900	0	76.9	26.3	225.6						
750	14	75.9	26.8	229.0	0.18	0.23	0.36	2.52	.06	.004
600	101	74.8	24.3	220.8						
450	3957	74.3	22.7	209.1	0.79	0.83	0.86	.20	.25	.004
300	1992	73.8	18.5	197.0						
150	- *	73.4	12.3	191.2	3.12	3.60	3.41	.09	1.15	.008
70	652	73.2	8.1	183.9						
30	652	73.2	5.9	178.5	8.40	10.78	11.19		2.89	
SFC	216									

Release at 450 feet above and 6.8 miles upwind of tower base

(1) PARTICLE-MINUTES/CUBIC FOOT

(2) (FEET/SECOND)²(3) (°F/100 FEET/MPH²)

Note: Additional sampling data on reverse side.

* Sampler malfunction

TRIAL 27

ADDITIONAL SAMPLING DATA

Height Above Base	Total Dosage	Height Above Base	Total Dosage
(FT)	(1)	(FT)	(1)
1350	0	650	0
1250	0	550	615
1150	0	500	3066
1100	0	400	4517
1000	0	350	2589
950	0	250	1138
850	32	200	- *
800	14	100	496
700	0		

① PARTICLE-MINUTES/CUBIC FOOT

* Sampler malfunction

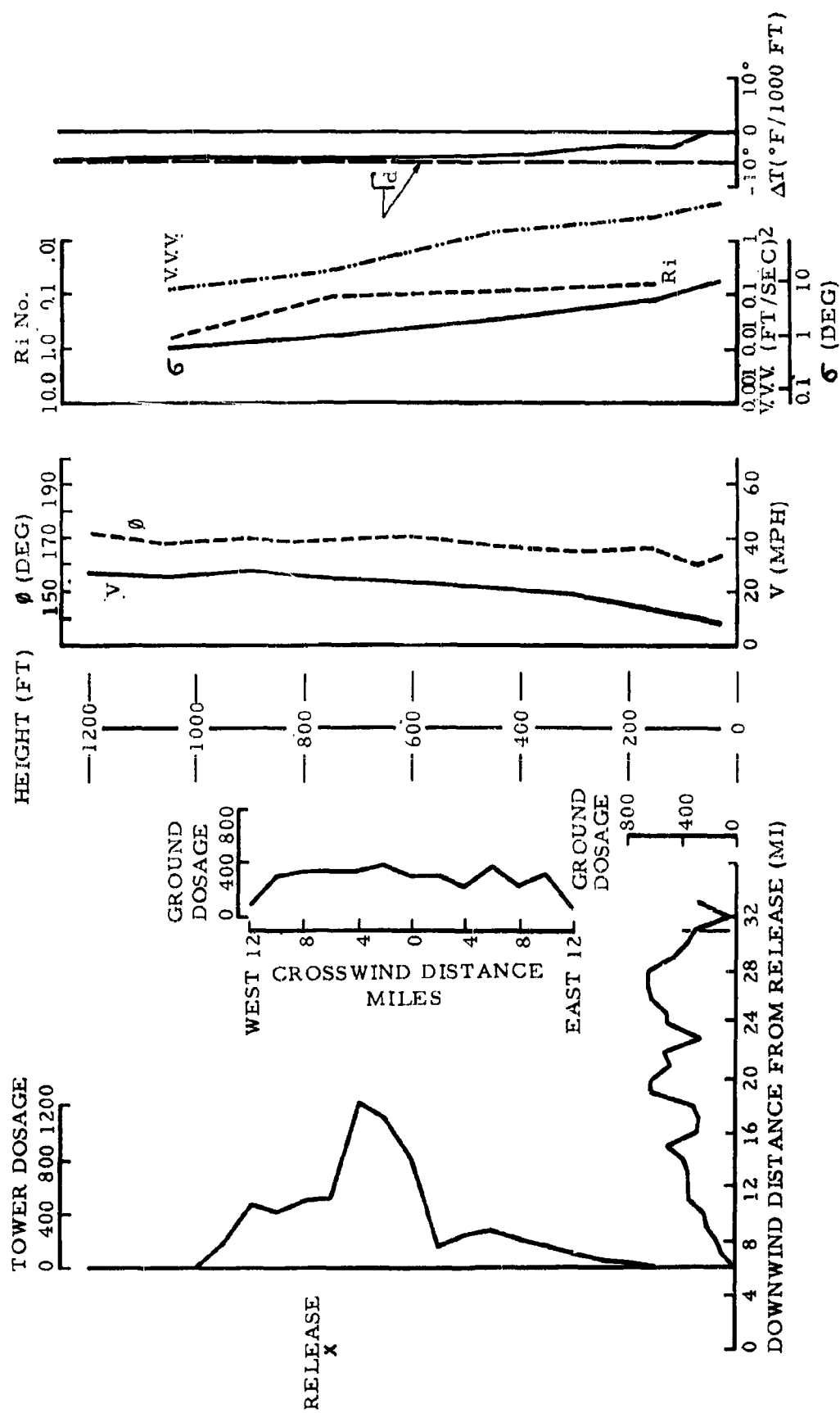
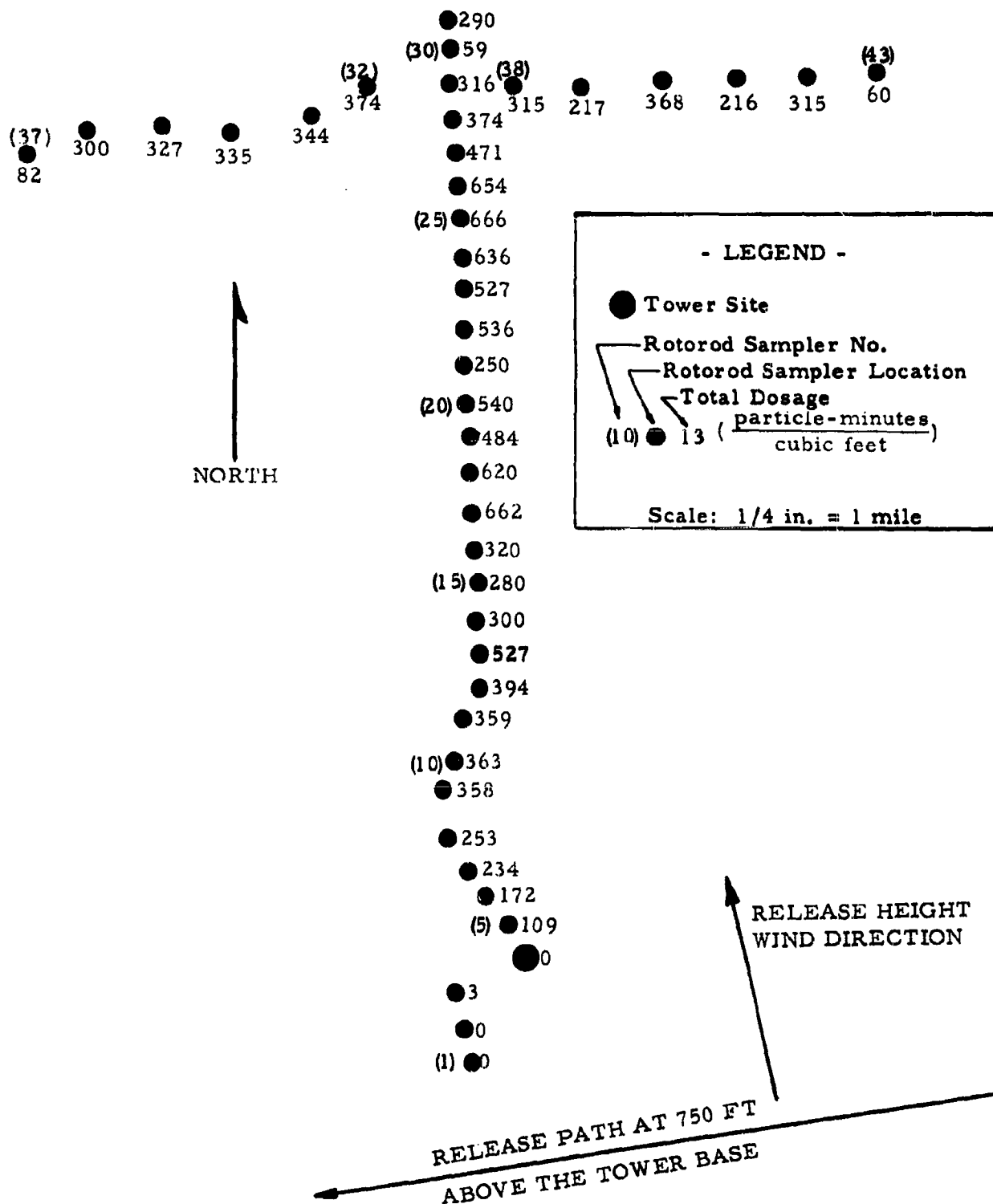


Fig. II-53: SUMMARY OF TRIAL DATA, TRIAL 28, AUGUST 9, 1961, 2039 CST



TRIAL 28; 2039 CST 8-9-61
SURFACE DOSAGE DISTRIBUTION

Fig. II-54

TABLE II - 28

SUMMARY OF TOWER DATA

TRIAL 28

AUGUST 9, 1961

2039 CST

Height Above Base (FT)	Total Dos- age (1)	Temp. (°F)	Wind Speed (MPH)	Wind Direc- tion (DEG)	Vertical Sigma (DEG) 5 30 180			Ri No.	Velocity Vari- ance (2)	$\frac{\Delta\theta}{u^2}$ (3)
1420	0	78.2	22.8	176.1						
1300	0	78.8	25.1	175.7						
1200	0	79.3	26.6	172.1						
1050	0	80.0	26.5	168.2	0.22	0.35	0.56	.66	.15	.0005
900	479	80.7	27.6	169.6						
750	526	81.4	25.2	169.0	0.60	0.73	0.85	.11	.30	.0008
600	780	82.1	23.8	170.8						
450	254	82.7	22.5	167.7	1.50	1.91	2.10	.09	1.47	.001
300	85	83.3	19.2	164.6						
150	9	83.7	14.4	166.0	3.68	4.65	4.58	.06	2.84	.003
70	14	83.9	10.3	160.8						
30	14	83.9	8.8	162.8	7.95	9.76	10.50		5.59	
SFC	0									

Release at 750 feet above and 5.7 miles upwind of tower base

(1) PARTICLE-MINUTES/CUBIC FOOT

(2) (FEET/SECOND)²(3) (°F/100 FEET/MPH²)

Note: Additional sampling data on reverse side.

TRIAL 28

ADDITIONAL SAMPLING DATA

Height Above Base	Total Dosage	Height Above Base	Total Dosage
(FT)	①	(FT)	①
1350	0	650	1119
1250	0	550	136
1150	0	500	230
1100	0	400	188
1000	0	350	146
950	183	250	38
850	423	200	24
800	498	100	0
700	1222		

① PARTICLE-MINUTES/CUBIC FOOT

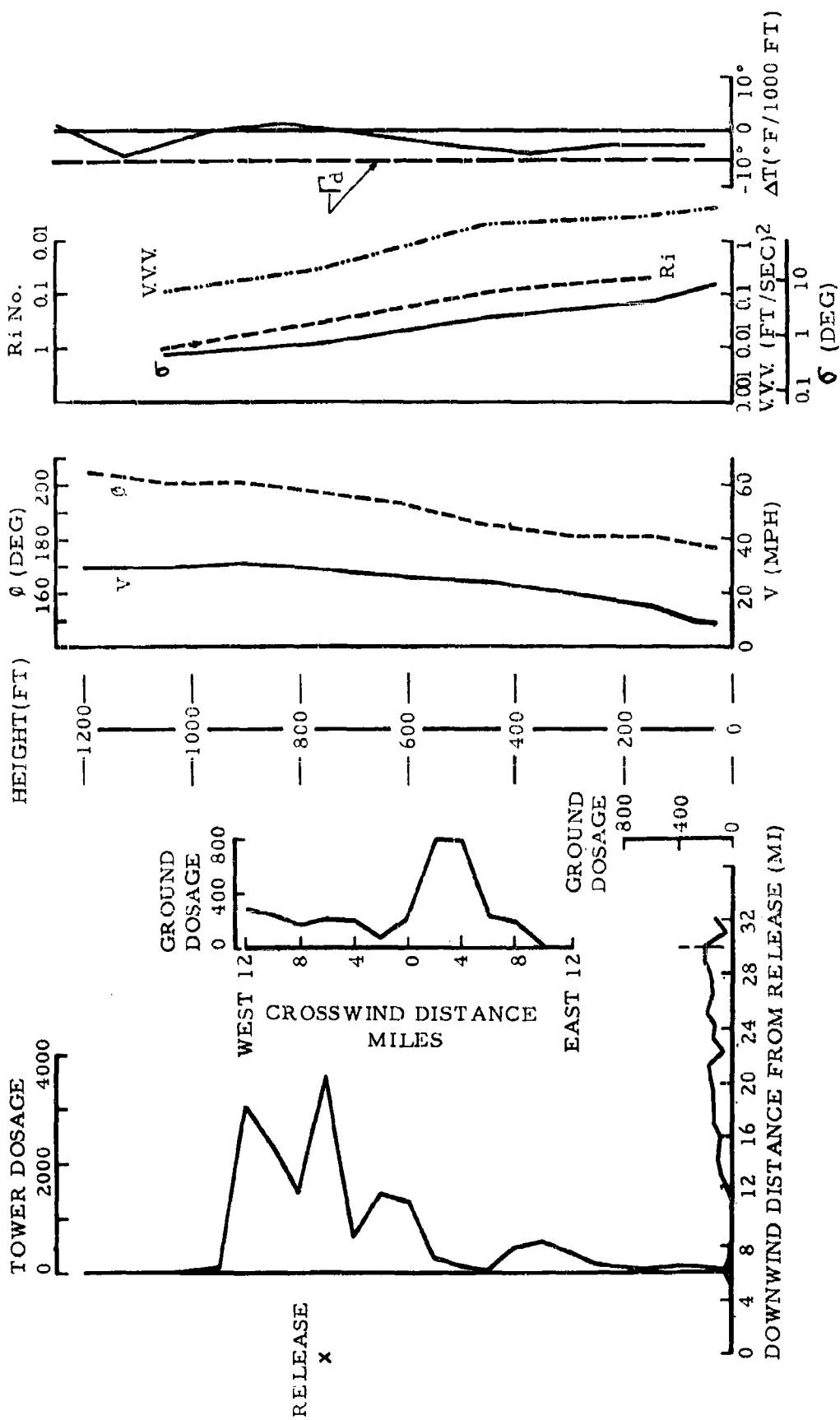
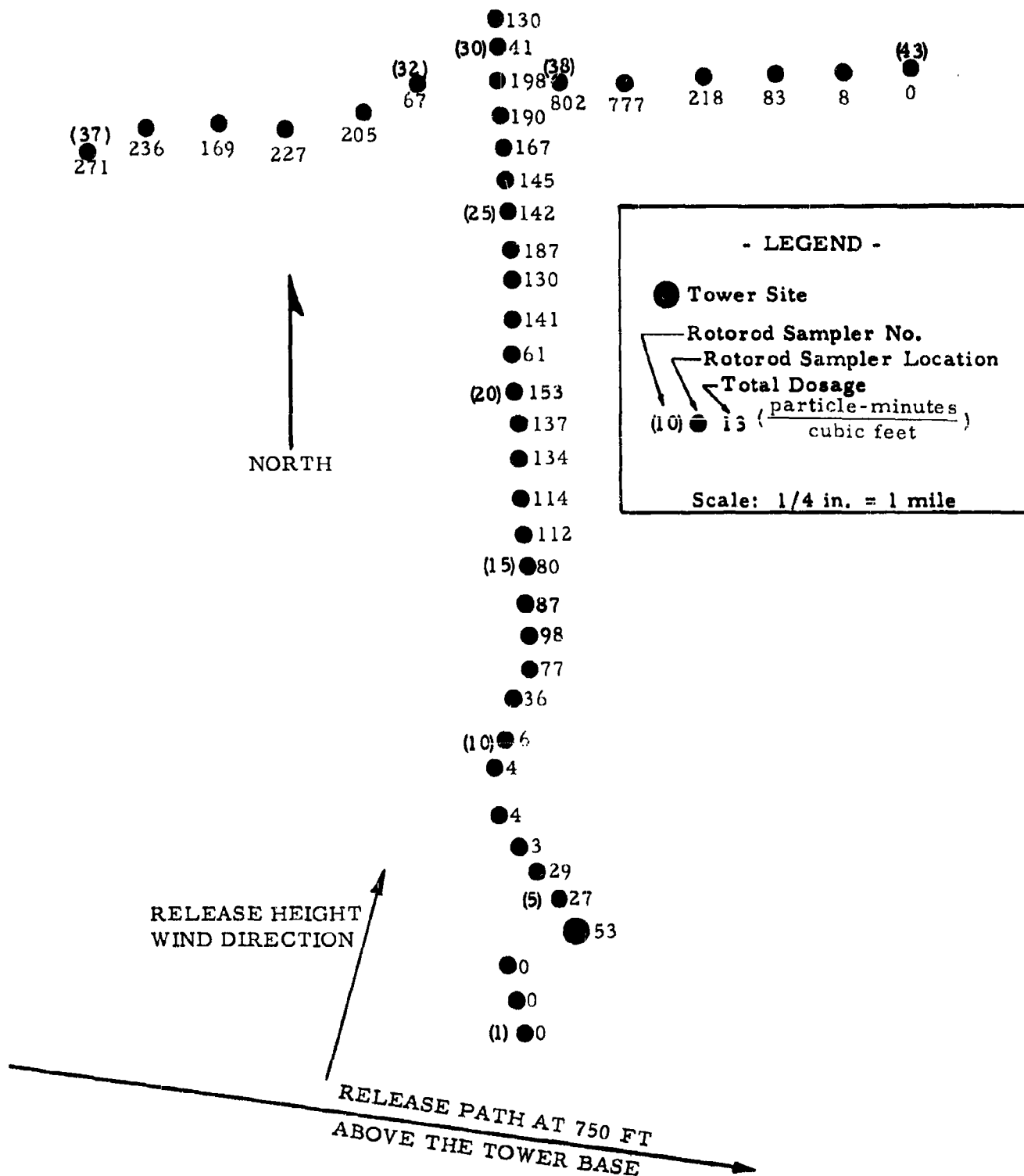


Fig. II-55: SUMMARY OF TRIAL DATA, TRIAL 29, AUGUST 9, 1961, 2359 CST



TRIAL 29; 2359 CST 8-9-61
SURFACE DOSAGE DISTRIBUTION

Fig. II-56

TABLE II - 29

SUMMARY OF TOWER DATA

TRIAL 29

AUGUST 9, 1961

2359 CST

Height Above Base (FT)	Total Dos- age (1)	Temp (°F)	Wind Speed (MPH)	Wind Direc- tion (DEG)	Vertical Sigma (DEG) 5 30 180			Ri No.	Velocity Vari- ance	$\frac{\Delta\theta}{u^2}$ (2) (3)
1420	0	76.3	25.5	212.2						
1300	0	76.3	28.2	208.1						
1200	9	76.3	29.7	203.7						
1050	0	77.0	29.7	201.3	0.21	0.31	0.45	1.05	.12	.001
900	3040	77.0	31.4	201.4						
750	3613	76.8	28.7	196.7	0.67	0.75	0.77	.32	.32	.0008
600	1294	76.9	26.5	192.2						
450	- *	77.2	23.9	185.2	2.02	2.47	2.36	.09	2.09	.001
300	351	77.8	19.7	180.9						
150	65	78.2	15.0	181.0	3.70	4.58	4.53	.05	3.03	.002
70	116	78.4	10.4	178.3						
30	42	78.5	9.0	177.4	7.29	9.00	9.36		4.65	
SFC	51									

Release at 750 feet above and 6.2 miles upwind of tower base

(1) PARTICLE-MINUTES/CUBIC FOOT

(2) (FEET/SECOND)²(3) (°F/100 FEET/MPH²)

Note: Additional sampling data on reverse side.

* Sampler malfunction

TRIAL 29

ADDITIONAL SAMPLING DATA

Height Above Base (FT)	Total Dosage (1)	Height Above Base (FT)	Total Dosage (1)
1350	0	650	1451
1250	0	550	245
1150	0	500	79
1100	0	400	462
1000	0	350	545
950	51	250	129
850	2319	200	79
800	1460	100	79
700	628		

(1) PARTICLE-MINUTES/CUBIC FOOT

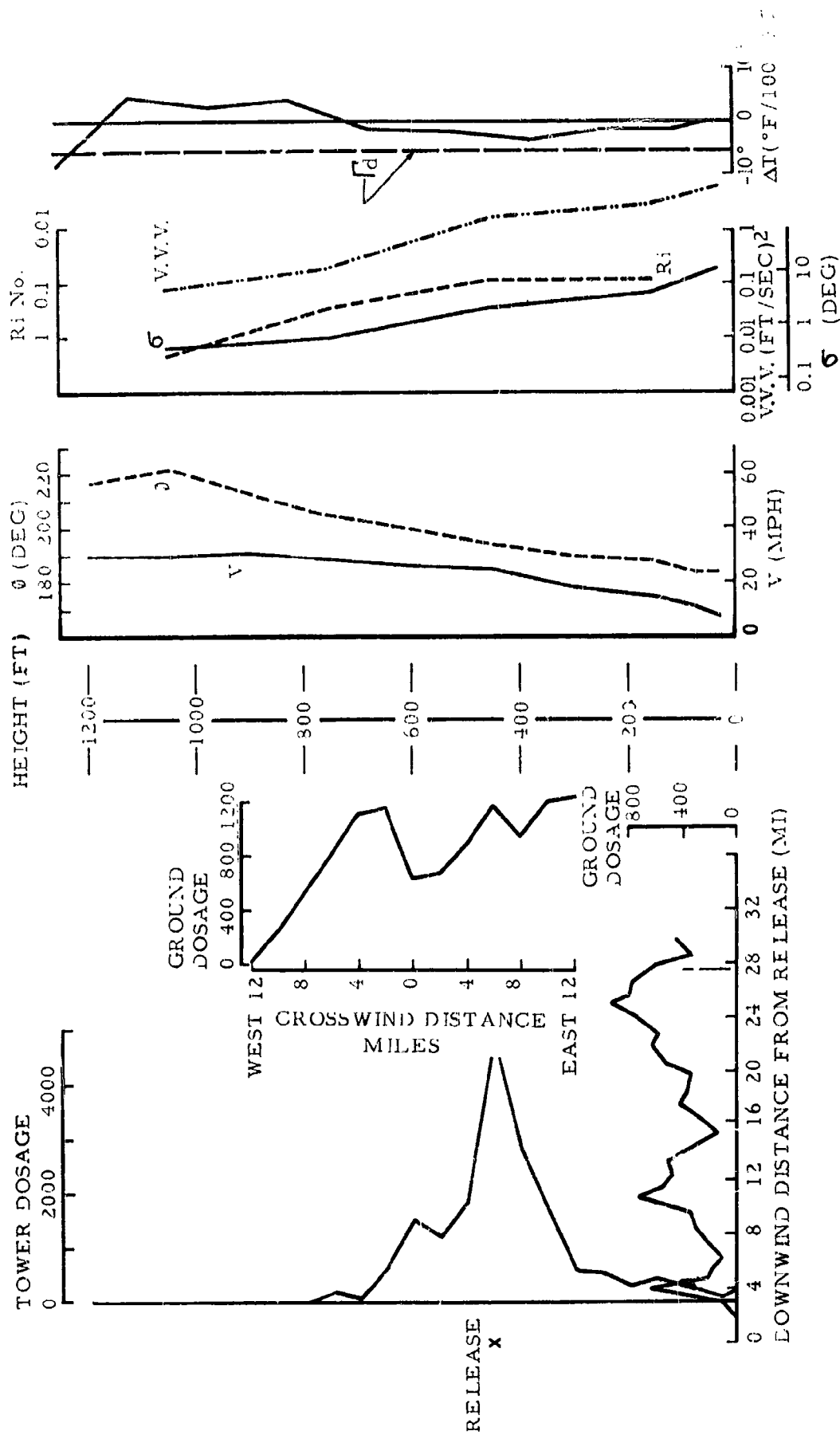
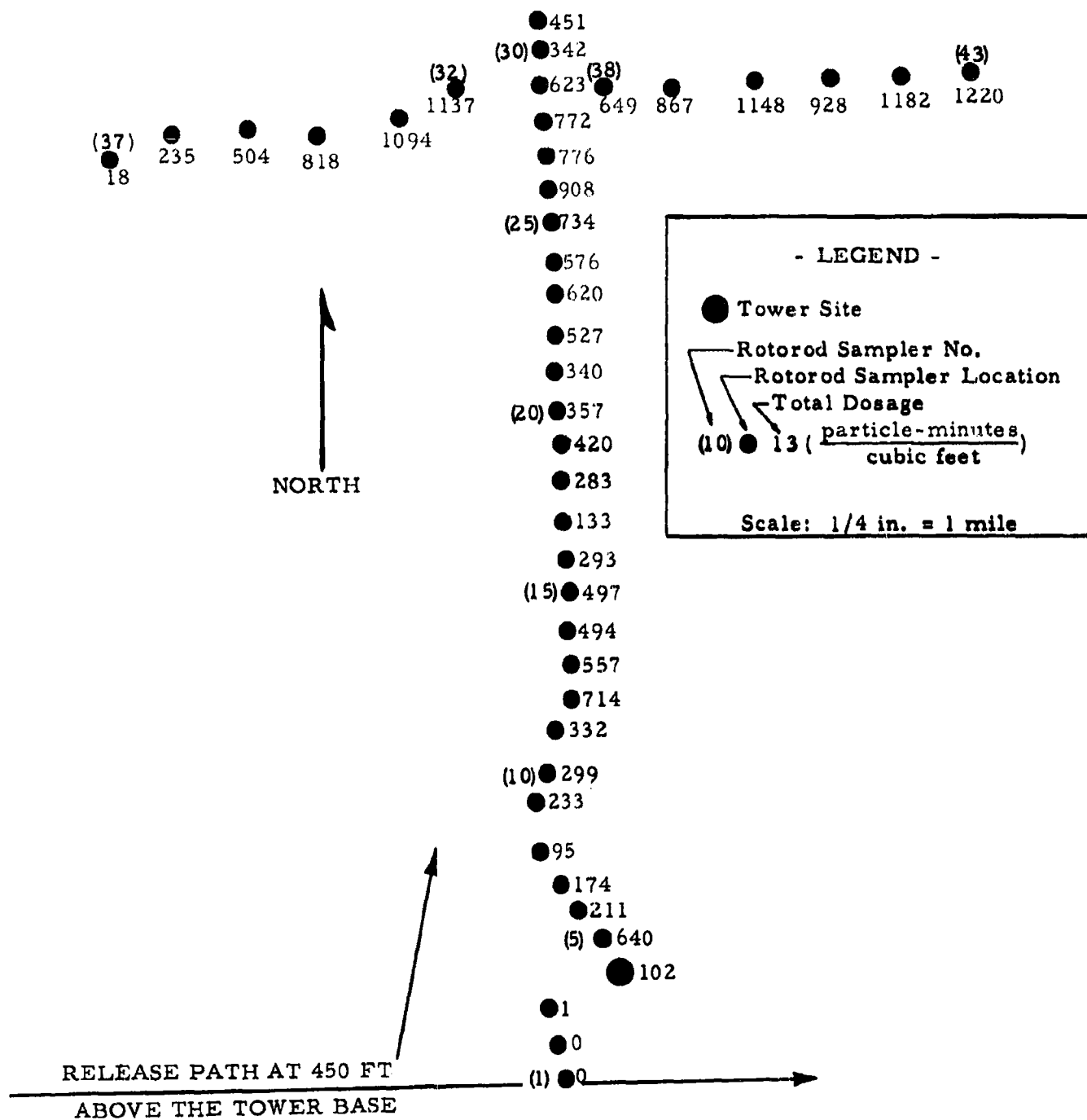


Fig. II-57: SUMMARY OF TRIAL DATA, TRIAL 30, AUGUST 10, 1961, 0354 CST



TRIAL 30; 0354 CST 8-10-61
SURFACE DOSAGE DISTRIBUTION

TABLE II - 30

SUMMARY OF TOWER DATA

TRIAL 30

AUGUST 10, 1961

0354 CST

Height Above Base	Total Dos- age	Temp (°F)	Wind Speed (MPH)	Wind Direc- tion (DEG)	Vertical Sigma (DEG)			Ri No.	Velocity Vari- ance	$\frac{\Delta\theta}{u^2}$
(FT)	(1)	(°F)	(MPH)	(DEG)	5	30	180		(2)	(3)
1420	0	73.7	27.3	219.2						
1300	0	73.8	29.3	217.0						
1200	0	74.6	30.1	217.5						
1050	0	74.0	29.7	222.0	0.20	0.30	0.37	2.33	.08	.001
900	0	73.6	31.4	212.6						
750	140	73.1	28.8	205.3	0.57	0.66	0.58	.29	.18	.001
600	1479	73.3	27.1	200.2						
450	4783	73.5	25.3	194.0	1.67	2.10	1.95	.09	1.59	.001
300	566	74.0	18.9	189.6						
150	398	74.2	15.1	187.8	3.60	4.59	4.32	.08	2.78	.004
70	215	74.3	11.1	184.1						
30	66	74.3	8.2	183.8	8.71	10.70	11.10		5.40	
SFC	131									

Release at 450 feet above and 3.5 miles upwind of tower base

① PARTICLE-MINUTES/CUBIC FOOT

② (FEET/SECOND)²③ (°F/100 FEET/MPH²)

Note: Additional sampling data on reverse side.

TRIAL 30

ADDITIONAL SAMPLING DATA

Height Above Base (FT)	Total Dosage (1)	Height Above Base (FT)	Total Dosage (1)
1350	0	650	636
1250	0	550	1198
1150	0	500	1788
1100	0	400	2789
1000	0	350	1629
950	0	250	477
850	9	200	300
800	19	100	239
700	61		

(1) PARTICLE-MINUTES/CUBIC FOOT

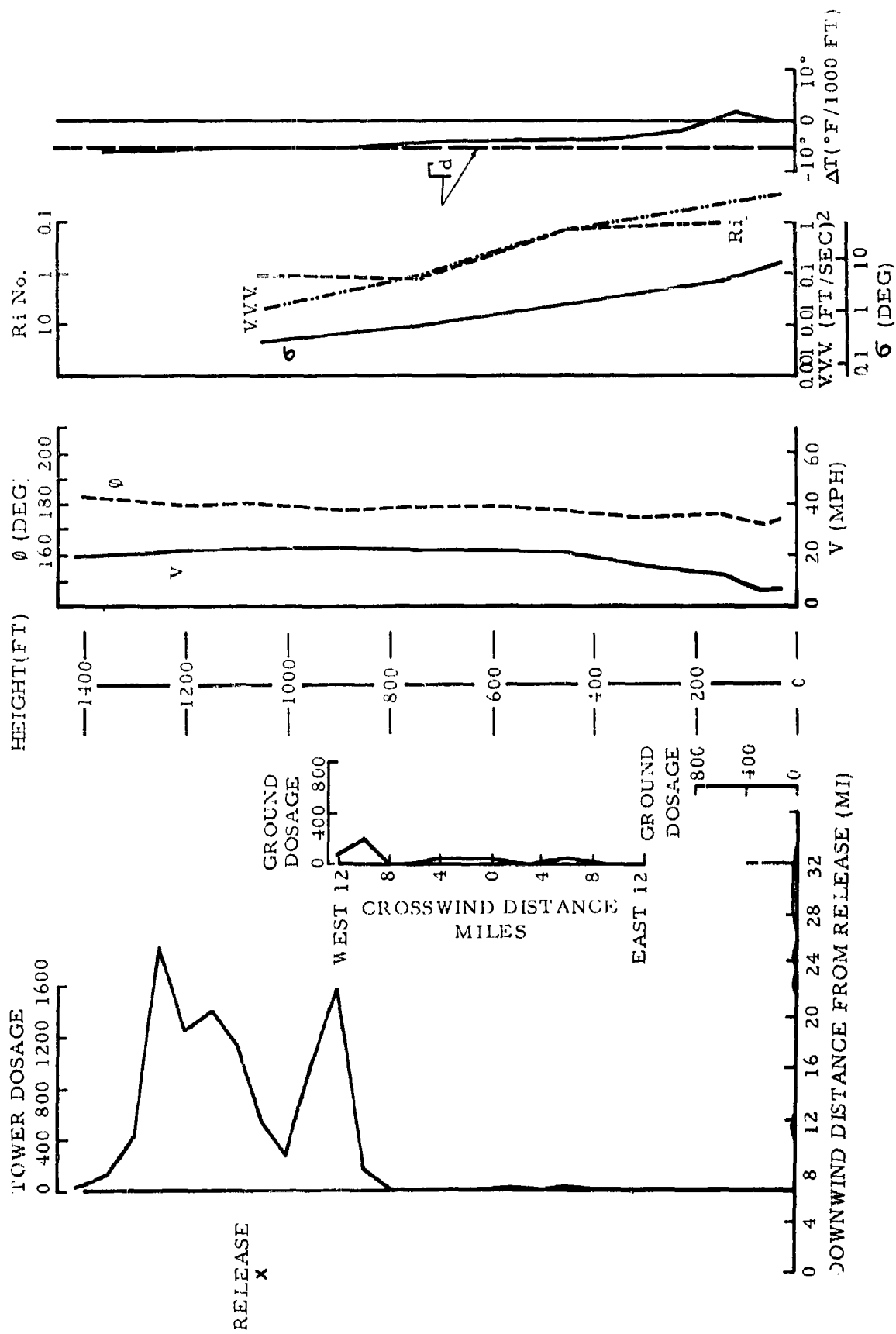
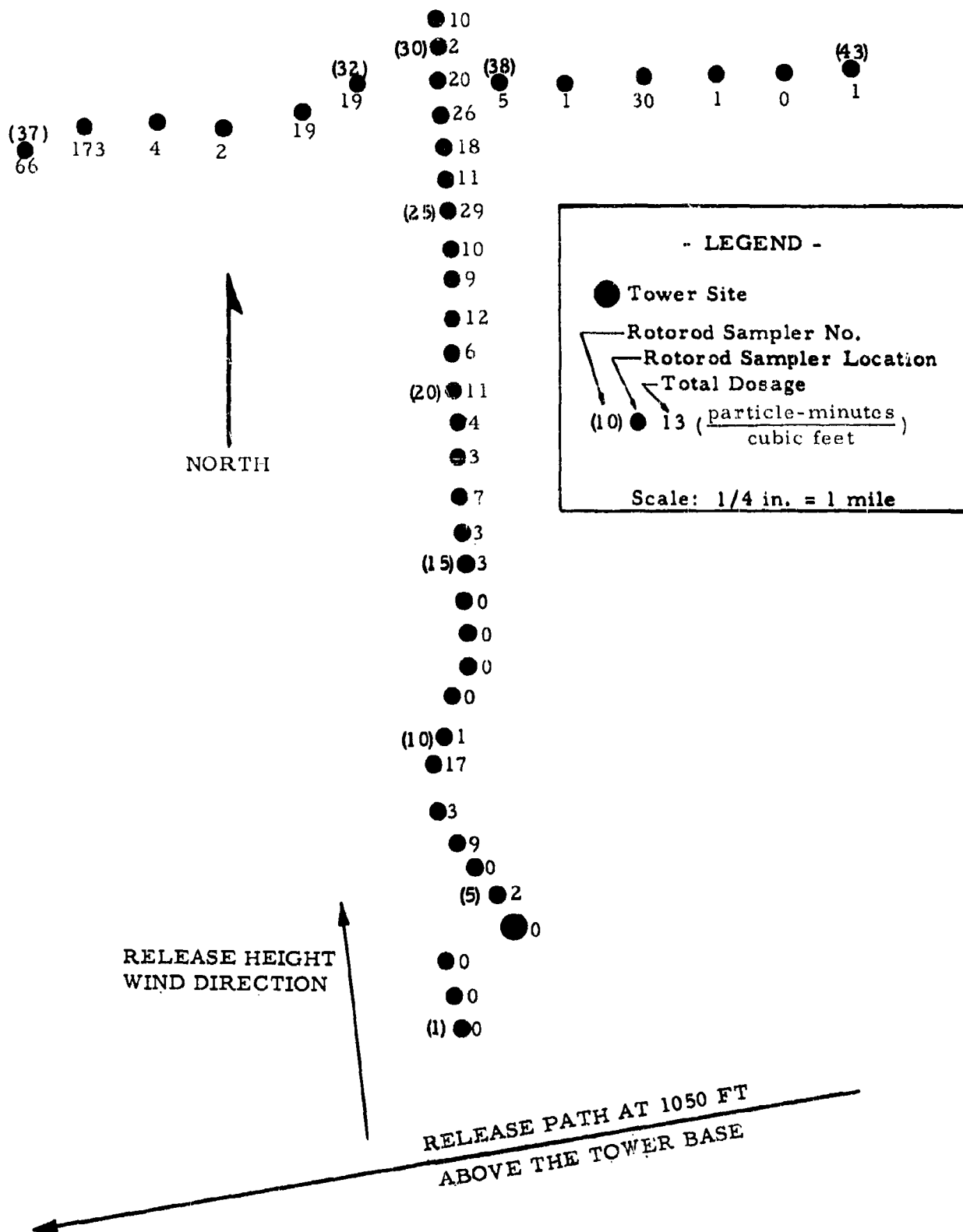


Fig. II-59: SUMMARY OF TRIAL DATA, TRIAL 31, AUGUST 11, 1961, 2024 CST



TRIAL 31; 2024 CST 8-11-61
SURFACE DOSAGE DISTRIBUTION

Fig. II-60

TABLE II - 31

SUMMARY OF TOWER DATA

TRIAL 31

AUGUST 11, 1961

2024 CST

Height Above Base	Total Dos - age	Temp	Wind Speed	Wind Direc- tion	Vertical Sigma (DEG)			Ri No.	Velocity Vari- ance	$\frac{\Delta\theta}{2}$ u
(FT)	(1)	(°F)	(MPH)	(DEG)	5	30	180		(2)	(3)
1420	42	79.1	19.5	183.2						
1300	453	79.8	21.1	180.8						
1200	1238	80.3	22.0	179.1						
1050	527	81.1	21.6	180.4	0.16	0.17	0.26	1.06	.02	.001
900	1543	81.9	22.8	178.2						
750	9	82.7	22.2	178.7	0.32	0.51	0.52	1.22	.09	.001
600	0	83.3	21.8	179.1						
450	23	83.8	21.3	177.0	1.35	1.65	1.48	.15	.65	.002
300	0*	84.4	16.5	174.6						
150	0	84.7	12.7	176.2	3.18	4.05	4.22	.11	1.88	.006
70	5	84.6	7.0	172.3						
30	0	84.6	7.1	174.4	7.11	8.82	9.42		2.92	
SFC	0									

Release at 1050 feet above and 6.3 miles upwind of tower base

① PARTICLE-MINUTES/CUBIC FOOT

② (FEET/SECOND)²③ (°F/100 FEET/MPH²)

Note: Additional sampling data on reverse side.

* Possible sampler malfunction

TRIAL 31

ADDITIONAL SAMPLING DATA

Height Above Base (FT)	Total Dosage (1)	Height Above Base (FT)	Total Dosage (1)
1350	129	650	0
1250	1876	550	23
1150	1395	500	0
1100	1127	400	0
1000	286	350	9*
950	989	250	0*
850	157	200	5
800	5	100	0
700	0		

(1) PARTICLE-MINUTES/CUBIC FOOT

* Possible sampler malfunction

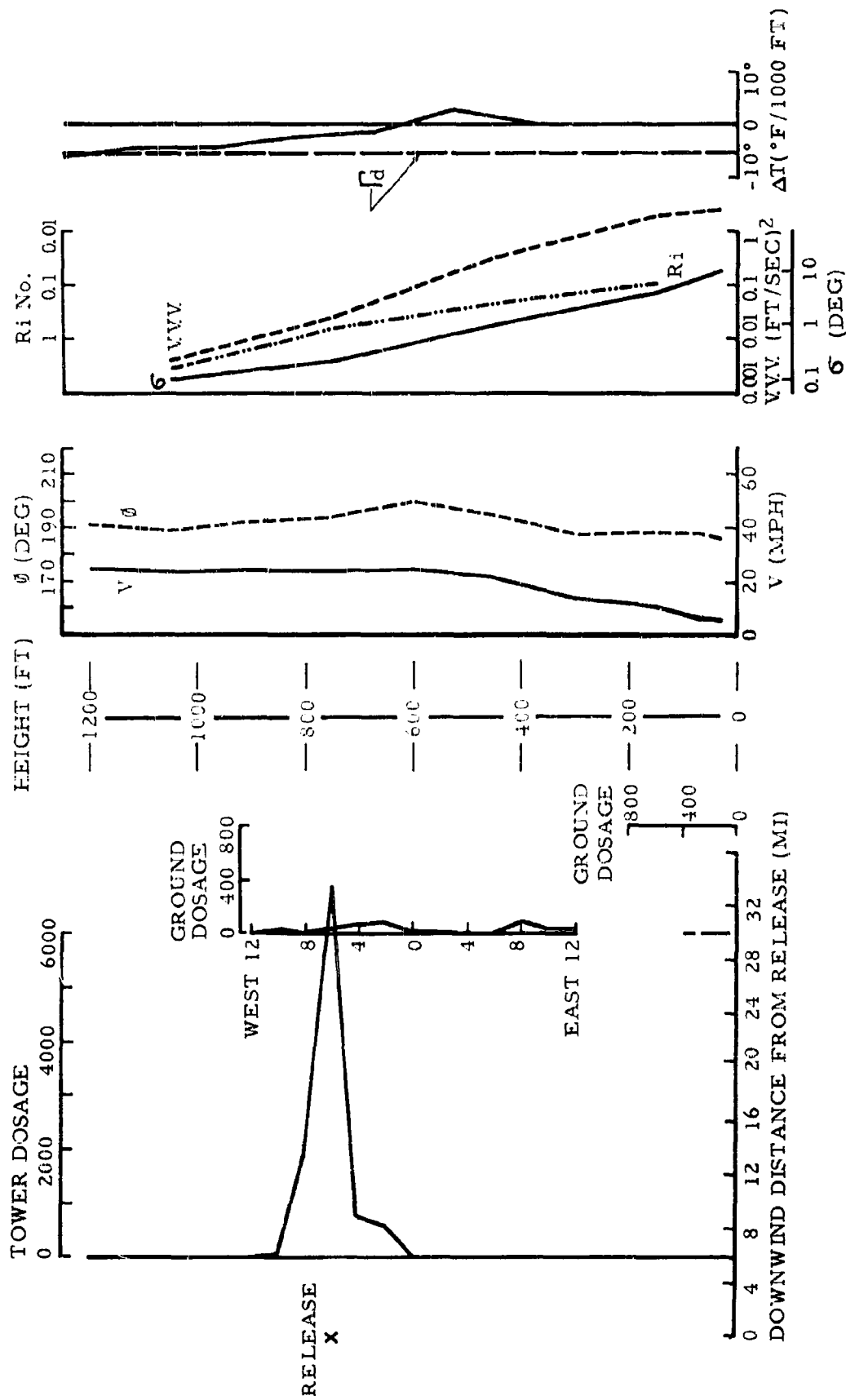
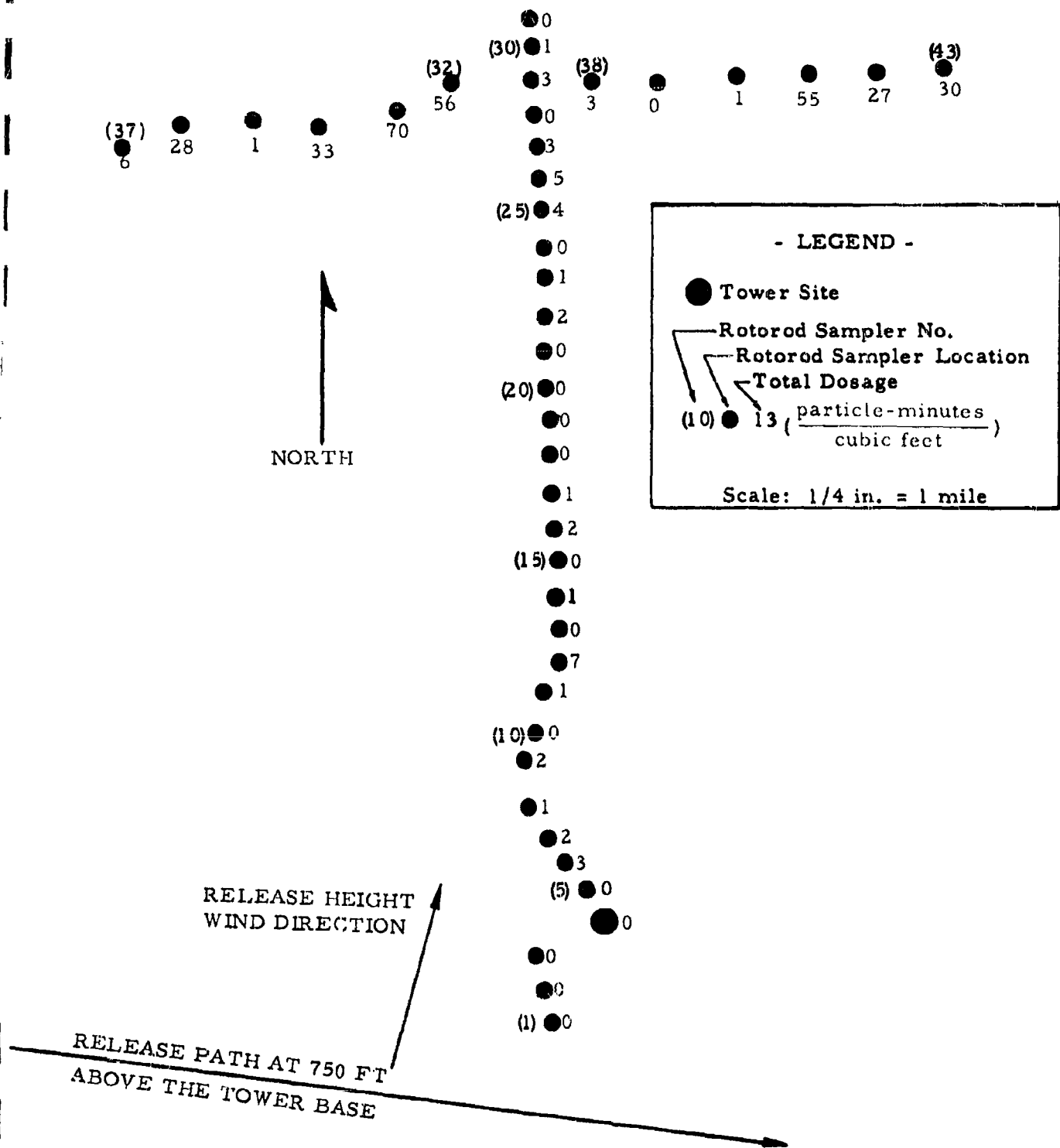


Fig. II-61: SUMMARY OF TRIAL DATA, TRIAL 32, AUGUST 11, 1961, 2359 CST



TRIAL 32; 2359 CST 8-11-61
SURFACE DOSAGE DISTRIBUTION

Fig. II-62

TABLE II - 32

SUMMARY OF TOWER DATA

TRIAL 32

AUGUST 11, 1961

2359 CST

Height Above Base	Total Dos- age	Temp	Wind Speed	Wind Direc- tion	Vertical Sigma (DEG)			Ri No.	Velocity Vari- ance	$\frac{\Delta\theta}{u^2}$
(FT)	(1)	(°F)	(MPH)	(DEG)	5	30	180		(2)	(3)
1420	5	76.7	22.0	196.8						
1300	0	77.3	23.9	192.9						
1200	5	77.8	24.6	190.6						
1050	0	78.5	23.5	188.9	0.10	0.10	0.10	3.40	.003	.002
900	0	79.2	24.3	191.6						
750	6955	79.6	23.6	194.4	0.11	0.16	0.24	.63	.02	.003
600	5	79.8	24.9	200.0						
450	0	79.4	22.3	194.9	0.99	1.12	0.97	.21	.31	.003
300	10	79.4	16.9	188.0						
150	14	79.4	11.1	188.8	3.18	4.04	4.05	.09	1.33	.008
70	10	79.4	7.3	188.3						
30	0	79.4	5.8	185.9	8.10	9.75	10.32		2.34	
SFC	0									

Release at 750 feet above and 5.8 miles upwind of tower base

① PARTICLE-MINUTES/CUBIC FOOT

② (FEET/SECOND)²③ (°F/100 FEET/MPH²)

Note: Additional sampling data on reverse side.

TRIAL 32

ADDITIONAL SAMPLING DATA

Height Above Base (FT)	Total Dosage (1)	Height Above Base (FT)	Total Dosage (1)
1350	10	650	553
1250	0	550	0
1150	5	500	0
1100	0	400	0
1000	0	350	5
950	24	250	24
850	48	200	0
800	1886	100	24
700	779		

(1) PARTICLE-MINUTES/CUBIC FOOT

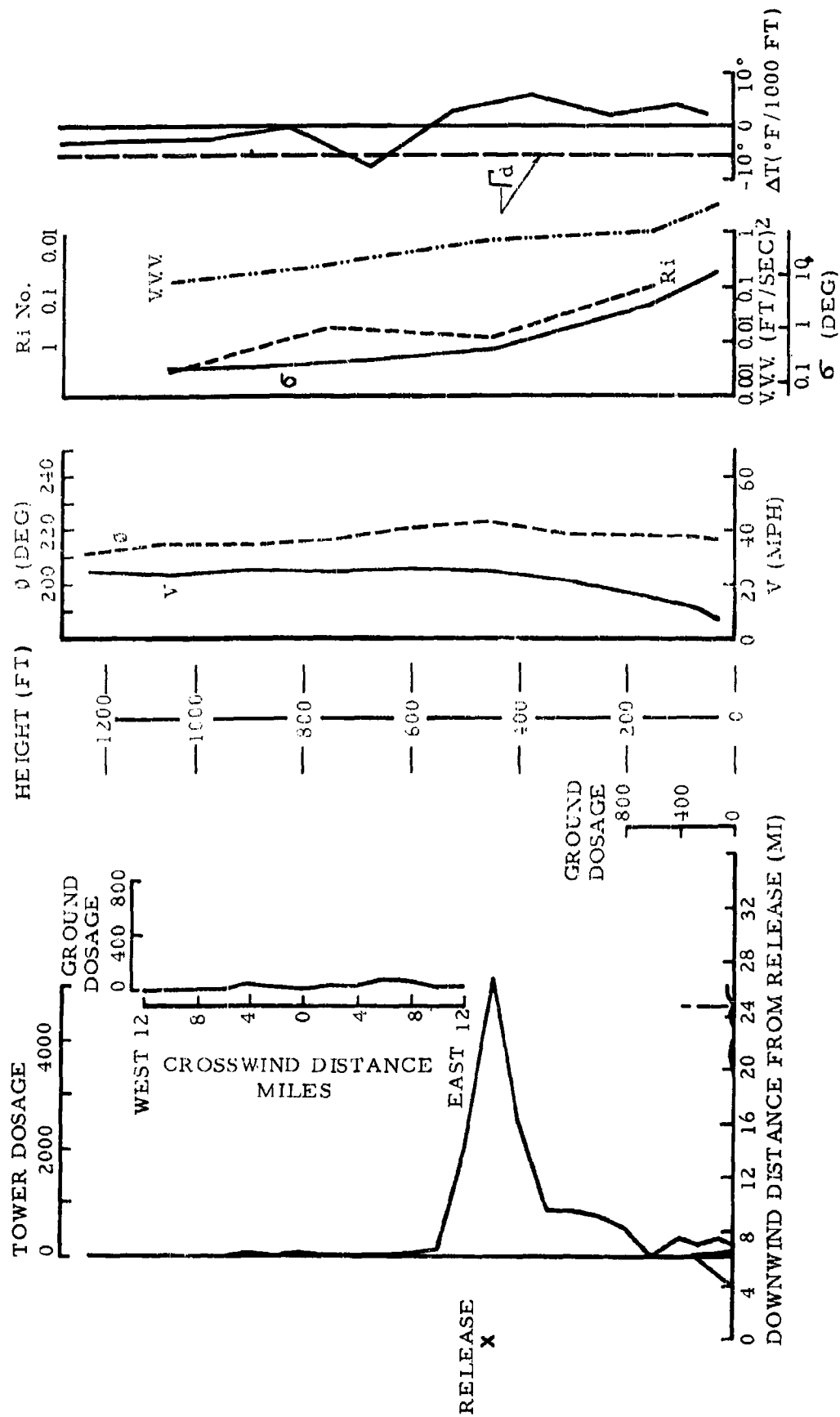


Fig. II-63: SUMMARY OF TRIAL DATA, TRIAL 33, AUGUST 12, 1961, 0329 CST

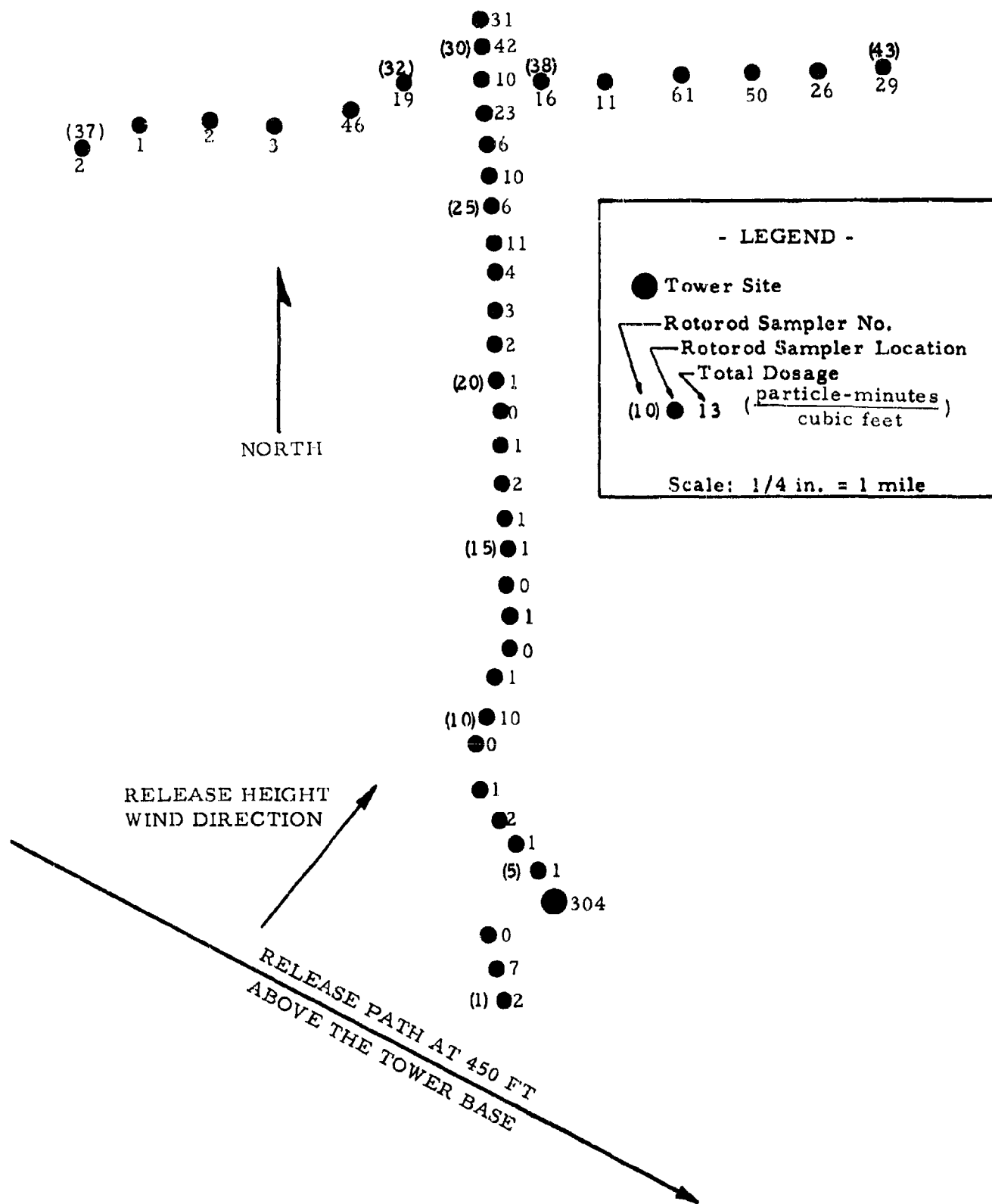


Fig. II-64

TABLE II - 33
SUMMARY OF TOWER DATA

TRIAL 33

AUGUST 12, 1961

0329 CST

Height Above Base	Total Dos- age	Temp	Wind Speed	Wind Direc- tion	Vertical Sigma (DEG)			Ri No.	Velocity Vari- ance	$\frac{\Delta \theta}{u^2}$
(FT)	(1)	(°F)	(MPH)	(DEG)	5	30	180		(2)	(3)
1420	0	75.3	22.4	217.2						
1300	0	75.7	23.9	214.8						
1200	9	76.0	25.1	212.5						
1050	9	76.4	24.4	215.3	0.10	0.11	0.18	3.40	.01	.002
900	42	76.8	25.8	215.1						
750	0	76.8	25.3	216.9	0.15	0.19	0.24	.59	.02	.003
600	32	77.8	26.5	220.7						
450	5211	77.4	25.5	223.5	0.25	0.36	0.39	.82	.06	.003
300	896	76.6	21.0	218.9						
150	51	76.2	15.2	217.9	2.40	2.82	2.85	.09	1.23	.007
70	245	75.9	10.7	217.8						
30	402	75.8	7.0	216.9	8.40	10.80	11.17		4.03	
SFC	240									

Release at 450 feet above and 6.1 miles upwind of tower base

① PARTICLE-MINUTES/CUBIC FOOT

② (FEET/SECOND)²

③ (°F/100 FEET/MPH²)

Note: Additional sampling data on reverse side.

TRIAL 33

ADDITIONAL SAMPLING DATA

Height Above Base	Total Dosage	Height Above Base	Total Dosage
(FT)	①	(FT)	①
1350	0	650	0
1250	0	550	92
1150	5	500	2134
1100	0	400	2476
1000	0	350	924
950	0	250	776
850	0	200	573
800	60	100	379
700	0		

① PARTICLE-MINUTES/CUBIC FOOT

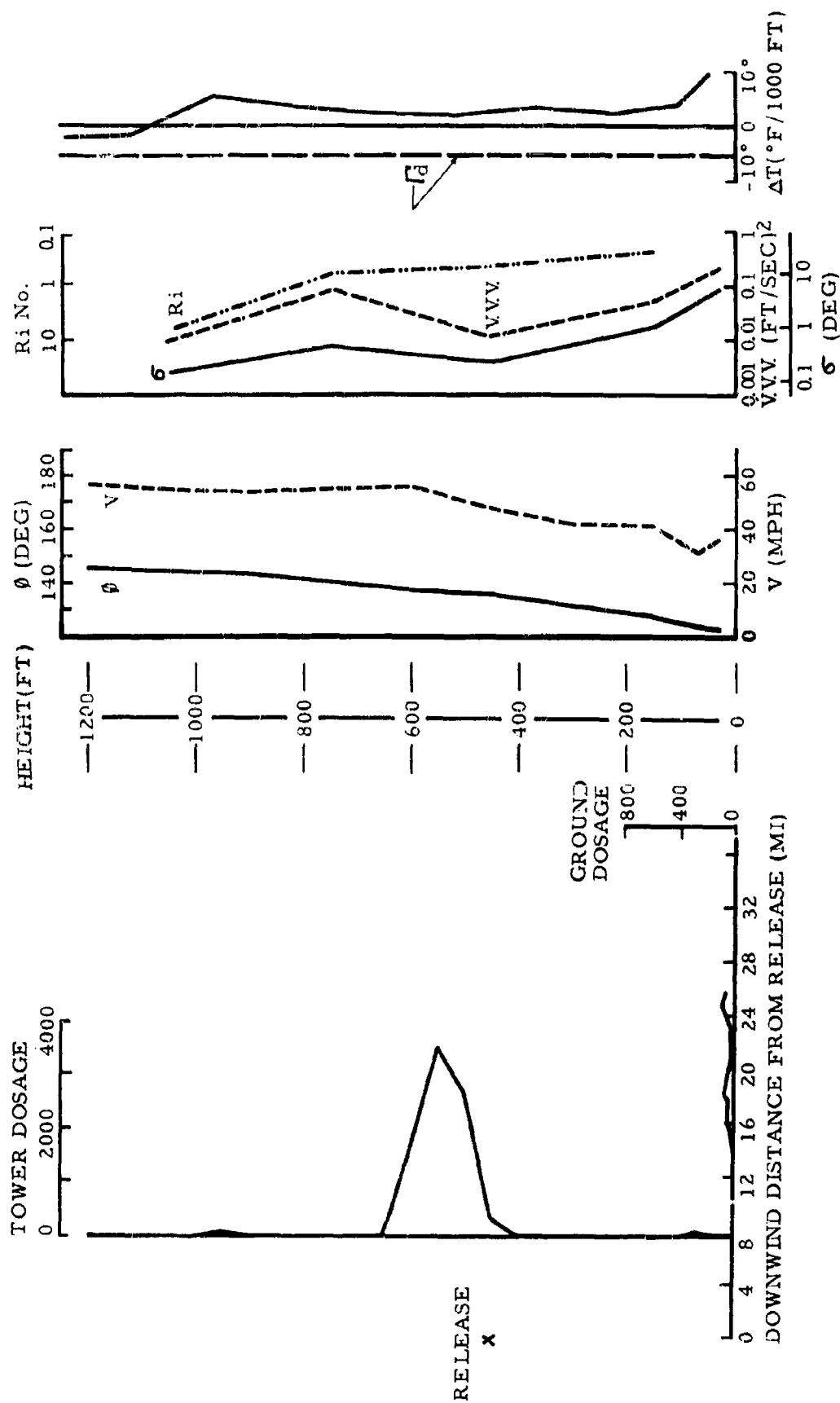
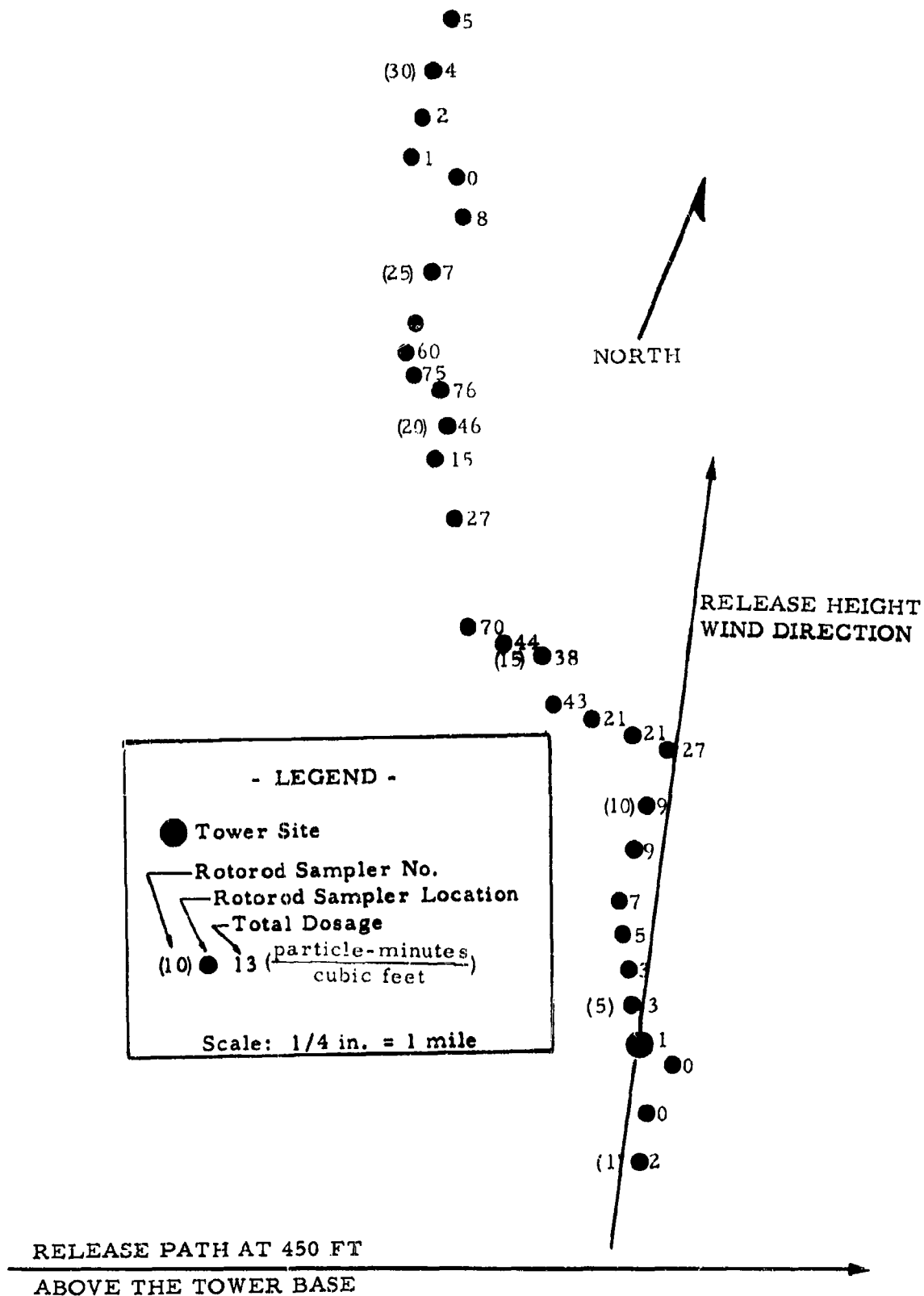


Fig. II-65: SUMMARY OF TRIAL DATA, TRIAL 34, AUGUST 14, 1961, 2349 CST



TRIAL 34; 2349 CST 8-14-61

SURFACE DOSAGE DISTRIBUTION

Fig. II-66

TABLE II - 34

SUMMARY OF TOWER DATA

TRIAL 34

AUGUST 14, 1961

2349 CST

Height Above Base (FT)	Total Dos- age (1)	Temp (°F)	Wind Speed (MPH)	Wind Direc- tion (DEG)	Vertical Sigma (DEG) 5 30 180			Ri No.	Velocity Vari- ance	$\frac{\Delta \theta}{u^2}$ (2) (3)
1420	0	74.4	22.7	180.0						
1300	0	74.6	25.0	178.7						
1200	0	74.8	26.1	175.8						
1050	0	74.9	24.9	175.5	0.11	0.09	0.15	6.31	.01	.004
900	0	74.1	24.5	174.2						
750	0	73.6	21.2	175.1	0.27	0.37	0.45	.55	.06	.005
600	1601	73.2	18.4	175.8						
450	300	72.9	16.5	167.7	0.15	0.17	0.22	.41	.01	.009
300	0	72.5	12.3	162.2						
150	0	72.1	7.7	161.0	0.74	0.90	1.05	.23	.04	.004
70	33 *	71.9	4.2	151.7						
30	14	71.5	3.2	156.1	3.90	4.59	4.95		.16	
SFC	0									

Release at 450 feet above and 6.5 miles upwind of tower base

① PARTICLE-MINUTES/CUBIC FOOT

② (FEET/SECOND)²③ (°F/100 FEET/MPH²)

Note: Additional sampling data on reverse side.

* Possible sampler malfunction

TRIAL 34

ADDITIONAL SAMPLING DATA

Height Above Base (FT)	Total Dosage (1)	Height Above Base (FT)	Total Dosage (1)
1350	0	650	0
1250	0	550	3501
1150	0	500	2677
1100	23	400	14
1000	0	350	0
950	33	250	0
850	5	200	23
800	0	100	0 *
700	9		

(1) PARTICLE-MINUTES/CUBIC FOOT

* Possible sampler malfunction

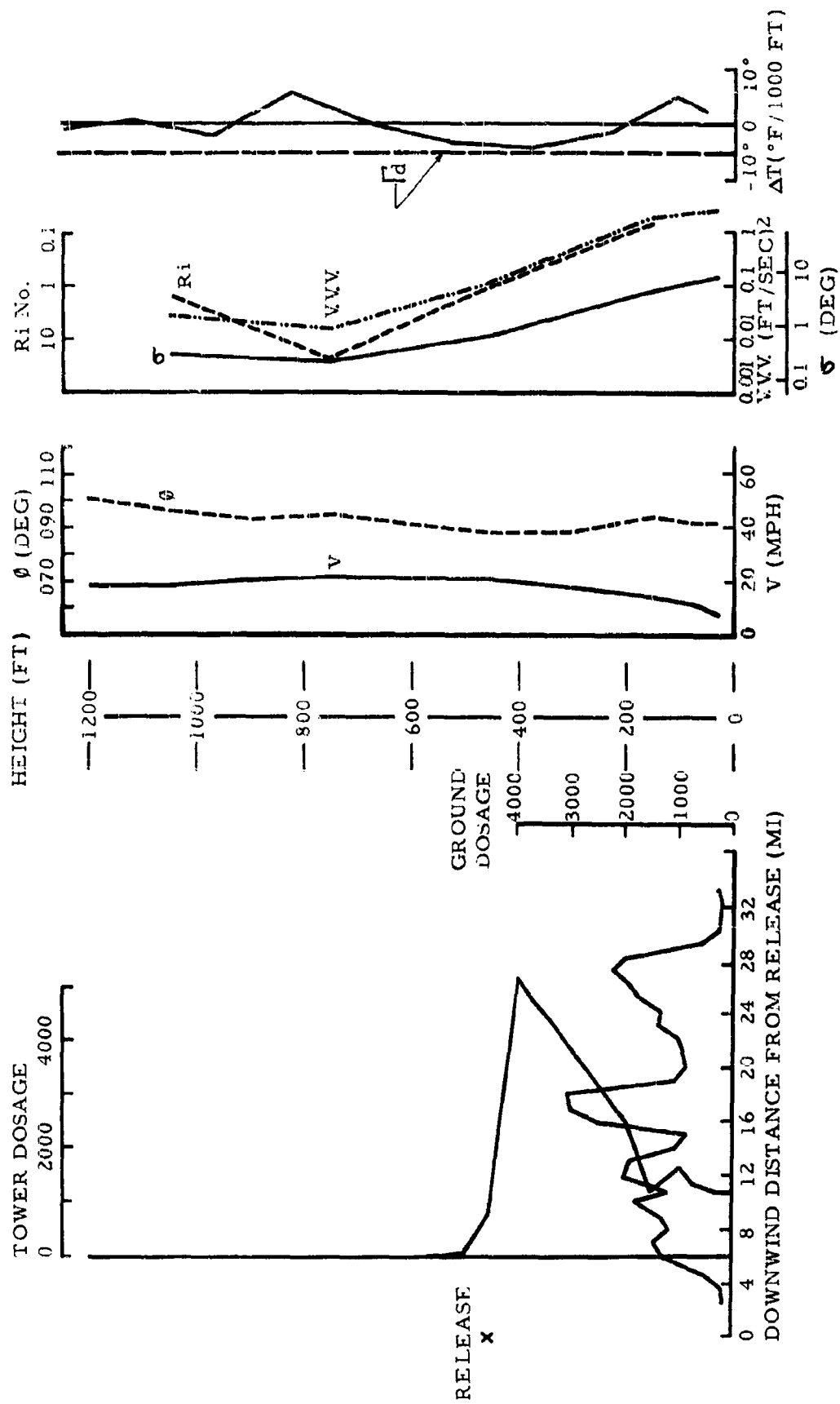
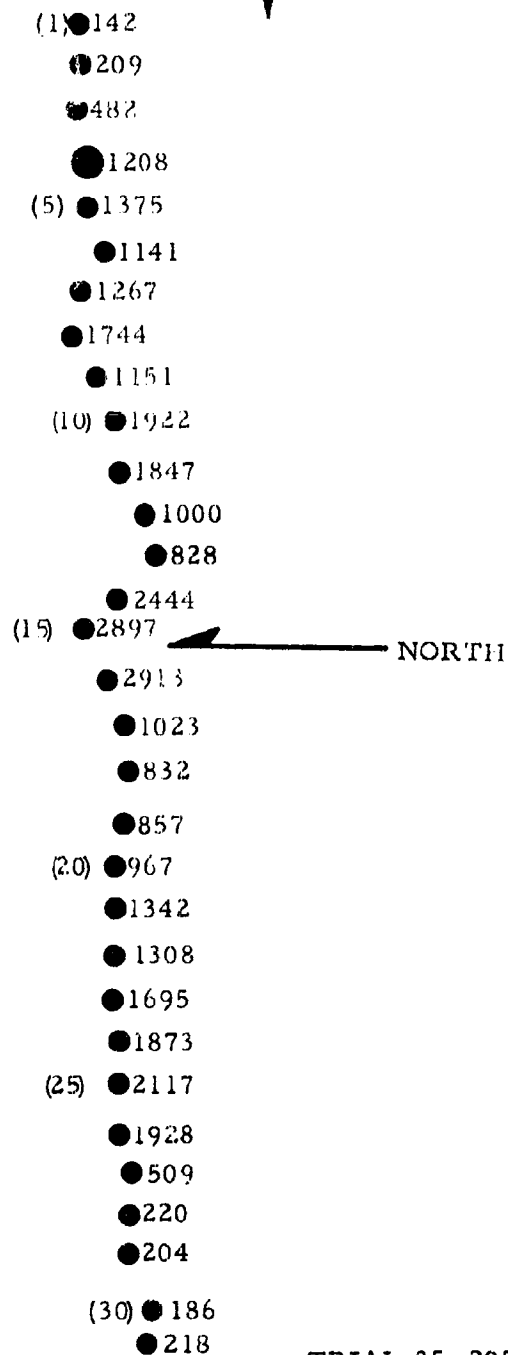


Fig. II-67: SUMMARY OF TRIAL DATA, TRIAL 35, AUGUST 16, 1961, 2054 CST

RELEASE PATH AT 450 FT
ABOVE THE TOWER BASE

RELEASE HEIGHT
WIND DIRECTION



- LEGEND -

- Tower Site
- Rotorod Sampler No.
- Rotorod Sampler Location
- Total Dosage
- (10) ● 13 ($\frac{\text{particle-minutes}}{\text{cubic feet}}$)

Scale: 1/4 in. = 1 mile

TRIAL 35; 2054 CST 8-16-61
SURFACE DOSAGE DISTRIBUTION

TABLE II - 35

SUMMARY OF TOWER DATA

TRIAL 35

AUGUST 16, 1961

2054 CST

Height Above Base	Total Dose- age	Temp.	Wind Speed	Wind Direc- tion	Vertical Sigma (DEG)			Ri No.	Velocity Vari- ance	$\frac{\Delta\theta}{u^2}$
(FT)	(1)	(°F)	(MPH)	(DEG)	5	30	180		(2)	(3)
1420	0	75.7	17.3	100.7						
1300	0	75.7	18.2	104.4						
1200	4	75.7	19.1	099.7						
1050	0	75.5	19.0	096.3	0.15	0.16	0.30	1.64	.02	.003
900	0	74.9	21.2	092.6						
750	0	74.3	21.8	094.6	0.09	0.15	0.22	21.25	.01	.002
600	0	74.1	20.7	090.8						
450	766	74.4	20.5	088.2	0.49	0.73	0.66	.98	.12	.002
300	- *	74.4	17.7	088.7						
150	1209	74.8	13.6	094.4	3.36	4.27	4.42	.07	2.35	.003
70	1288	75.1	10.9	092.3						
30	1183	75.1	8.5	091.7	6.60	8.14	8.48		3.42	
SFC	1174									

Release at 450 feet above and 5.7 miles upwind of tower base

① PARTICLE-MINUTES/CUBIC FOOT

② (FEET/SECOND)²③ (°F/100 FEET/MPH²)

Note: Additional sampling data on reverse side.

* Sampler malfunction

TRIAL 35

ADDITIONAL SAMPLING DATA

Height Above Base (FT)	Total Dosage ①	Height Above Base (FT)	Total Dosage ①
1350	0	650	0
1250	0	550	0
1150	0	500	57
1100	0	400	5020
1000	0	350	- *
950	0	250	- *
850	0	200	2471
800	0	100	1575
700	0		

① PARTICLE-MINUTES/CUBIC FOOT

* Sampler malfunction

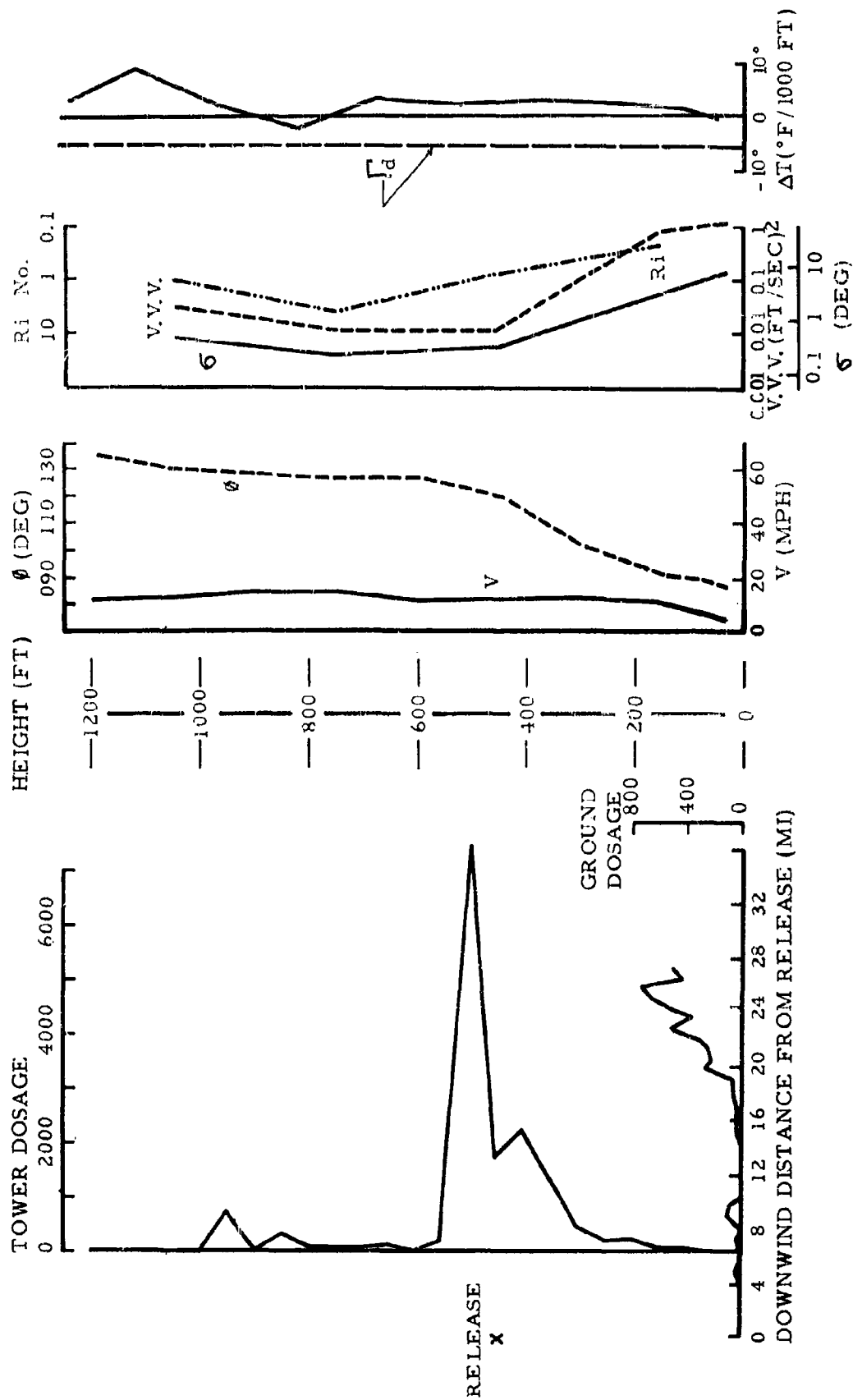
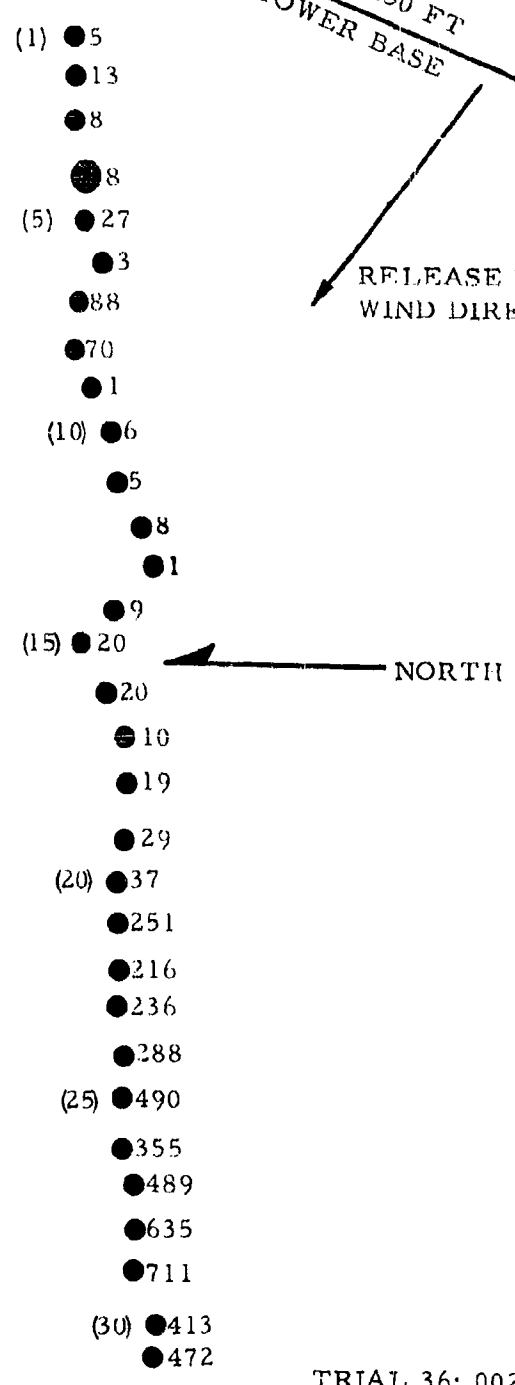
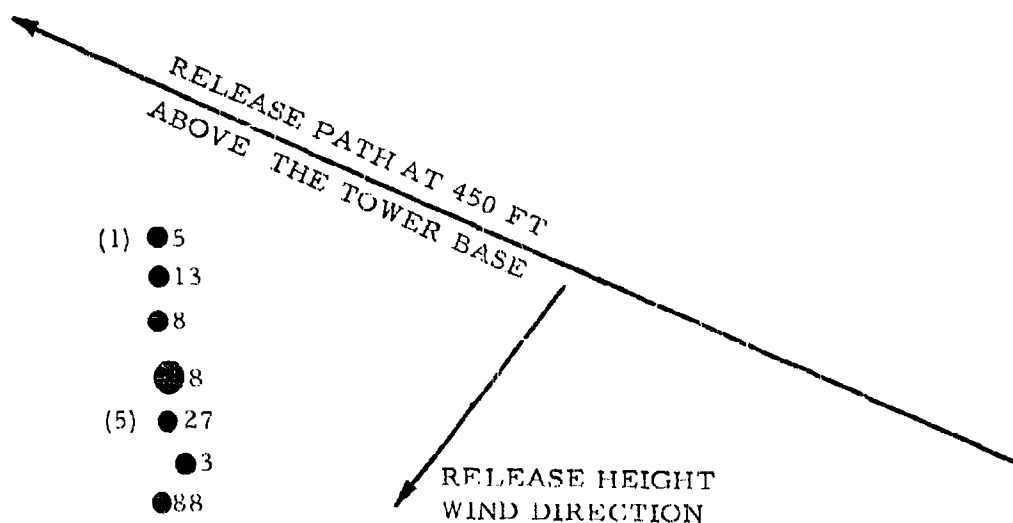


Fig. II-69: SUMMARY OF TRIAL DATA, TRIAL 36, AUGUST 17, 1961, 0029 CST



- LEGEND -

● Tower Site

— Rotorod Sampler No.

— Rotorod Sampler Location

— Total Dosage

(10) ● 13 ($\frac{\text{particle minutes}}{\text{cubic feet}}$)

Scale: 1/4 in. = 1 mile

TRIAL 36; 0029 CST 8-17-61
SURFACE DOSAGE DISTRIBUTION

Fig. II-70

TABLE II - 36

SUMMARY OF TOWER DATA

TRIAL 36

AUGUST 17, 1961

0029 CST

Height Above Base	Total Dos- age	Temp.	Wind Speed	Wind Direc- tion	Vertical Sigma (DEG)			Ri	Velocity No. Vari- ance	$\frac{\Delta \theta}{u^2}$
(FT)	①	(°F)	(MPH)	(DEG)	5	30	180		②	③
1420	0	73.7	9.8	142.1						
1300	0	73.9	10.0	150.2						
1200	23	73.8	11.8	135.2						
1050	0	72.5	13.3	129.8	0.25	0.32	0.45	1.17	.02	.009
900	5	72.3	15.2	127.5						
750	46	72.6	15.4	126.0	0.21	0.19	0.24	3.83	.01	.008
600	0	72.1	12.5	127.0						
450	1704	71.7	12.3	120.5	0.22	0.28	0.34	.78	.01	.010
300	366	71.3	13.3	102.4						
150	32	70.9	10.8	091.8	2.82	3.34	3.22	.24	.79	.010
70	0	70.8	7.3	089.3						
30	0	70.8	4.9	086.5	6.66	8.64	8.40		1.11	
SFC	0									

Release at 450 feet above and 6.2 miles upwind of tower base

① PARTICLE-MINUTES/CUBIC FOOT

② (FEET/SECOND)²③ (°F/100 FEET/MPH²)

Note: Additional sampling data on reverse side.

TRIAL 36

ADDITIONAL SAMPLING DATA

Height Above Base	Total Dosage	Height Above Base	Total Dosage
(FT)	①	(FT)	①
1350	0	650	114
1250	- *	550	119
1150	0	500	7154
1100	0	400	2107
1000	0	350	1255
950	678	250	137
850	311	200	183
800	32	100	27
700	32		

① PARTICLE-MINUTES/CUBIC FOOT

* Sampler malfunction

TRIAL 36

ADDITIONAL SAMPLING DATA

Height Above Base (FT)	Total Dosage (1)	Height Above Base (FT)	Total Dosage (1)
1350	0	650	114
1250	- *	550	119
1150	0	500	7154
1100	0	400	2107
1000	0	350	1255
950	678	250	137
850	311	200	183
800	32	100	27
700	32		

(1) PARTICLE-MINUTES/CUBIC FOOT

* Sampler malfunction

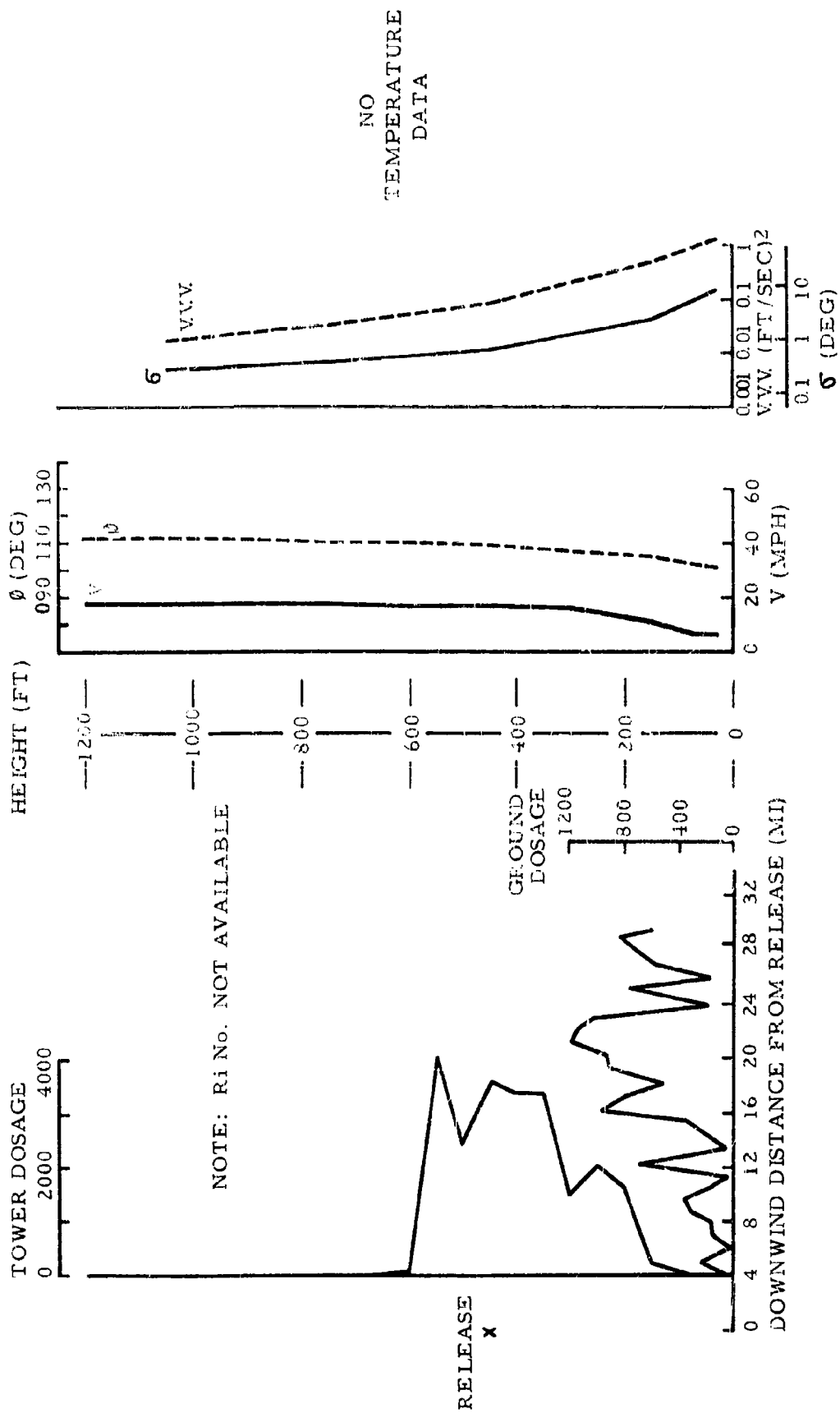
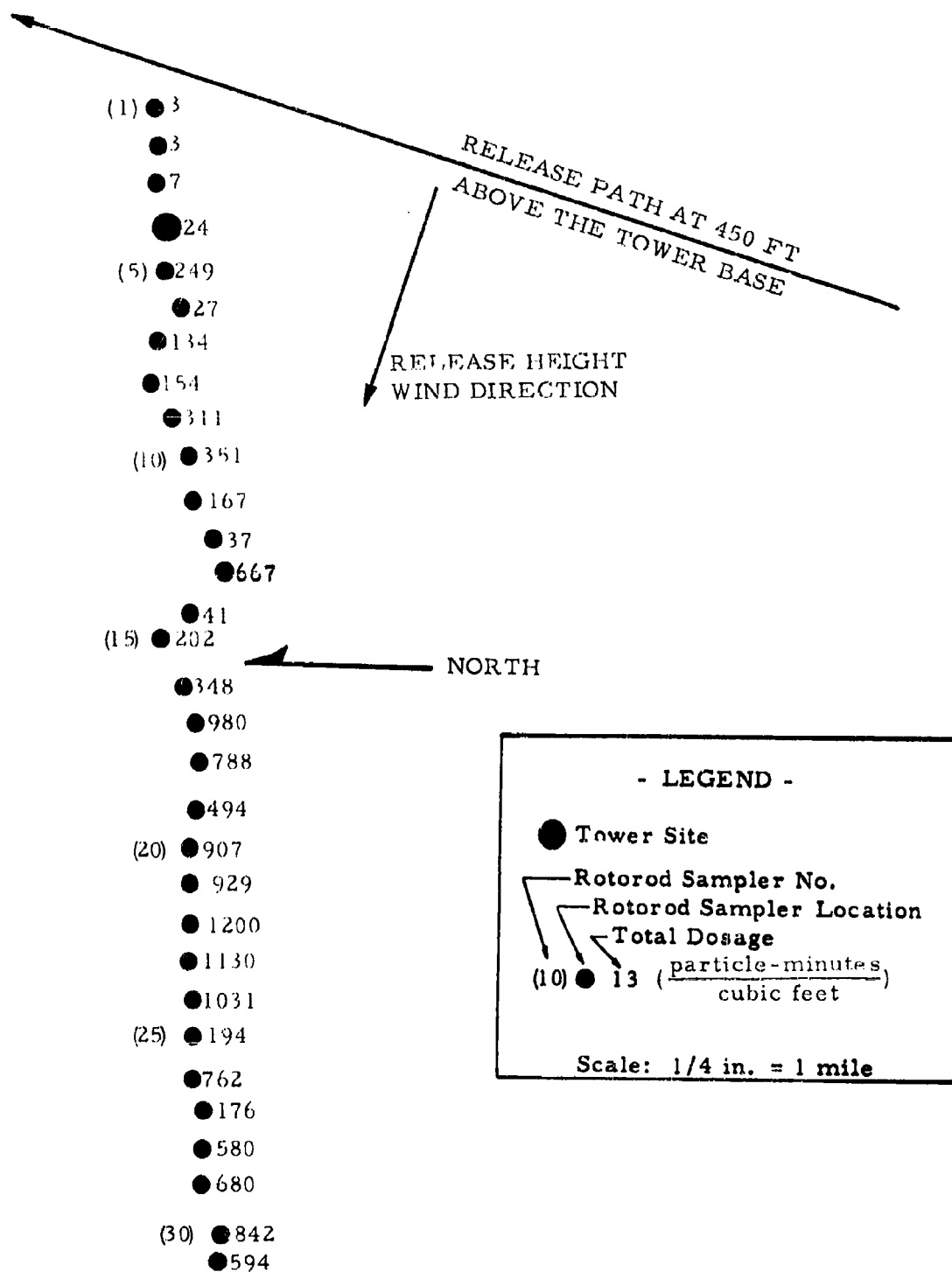


Fig. II-71: SUMMARY OF TRIAL DATA, TRIAL 37, AUGUST 18, 1961, 2019 CST



TRIAL 37; 2019 CST 8-18-61
SURFACE DOSAGE DISTRIBUTION

Fig. II-72

TABLE II - 37
SUMMARY OF TOWER DATA

TRIAL 37

AUGUST 18, 1961

2019 CST

Height Above Base	Total Dos- age	Temp.	Wind Speed	Wind Direc- tion	Vertical Sigma (DEG)			Ri. No.	Velocity Variance	$\frac{\Delta\theta}{u^2}$
(FT)	①	(°F)	(MPH)	(DEG)	5	30	180		②	③
1420	0		21.2	094.8						
1300	0		20.8	099.4						
1200	0		21.9	100.5						
1050	0		21.1	101.0	0.22	0.26	0.28		.02	
900	0		21.7	100.6						
750	0		21.0	100.3	0.22	0.30	0.38		.04	
600	60		20.4	101.6						
450	3557		19.3	101.1	0.32	0.52	0.67		.11	
300	1515		15.5	094.3						
150	226		12.7	099.4	1.95	2.28	2.40		.61	
70	18		10.1	096.6						
30	9		7.3	095.9	6.35	7.95	7.80		2.12	
SFC	5									

Release at 450 feet above and 4.1 miles upwind of tower base

① PARTICLE-MINUTES/CUBIC FOOT

② (FEET/SECOND)²

③ (°F/100 FEET/MPH²)

Note: Additional sampling data on reverse side.

TRIAL 37

ADDITIONAL SAMPLING DATA

Height Above Base (FT)	Total Dosage (1)	Height Above Base (FT)	Total Dosage
1350	0	650	0
1250	0	550	4010
1150	0	500	2458
1100	0	400	3336
1000	0	350	3336
950	0	250	2051
850	0	200	1663
800	0	100	69
700	0		

(1) PARTICLE-MINUTES/CUBIC FOOT

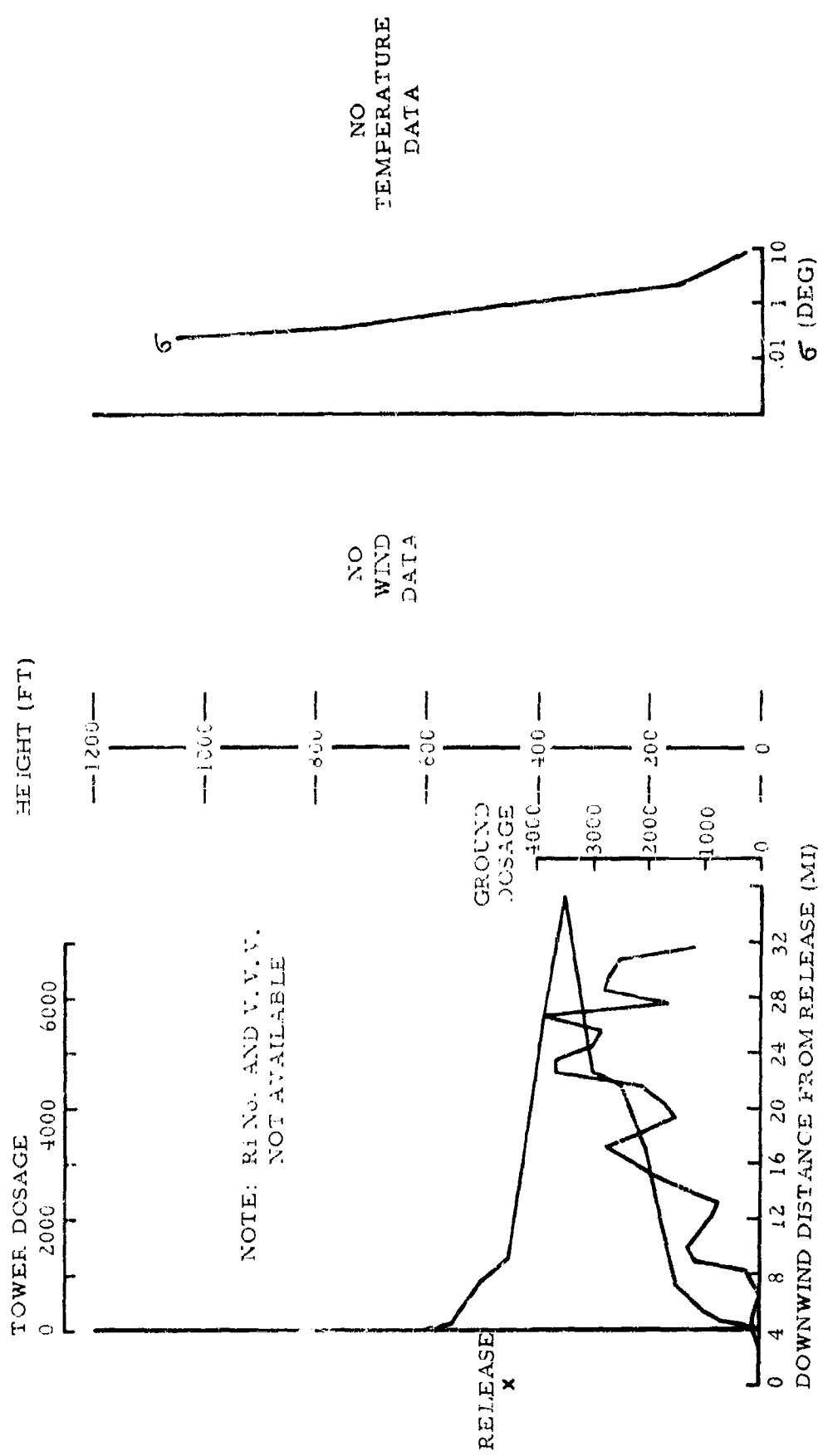
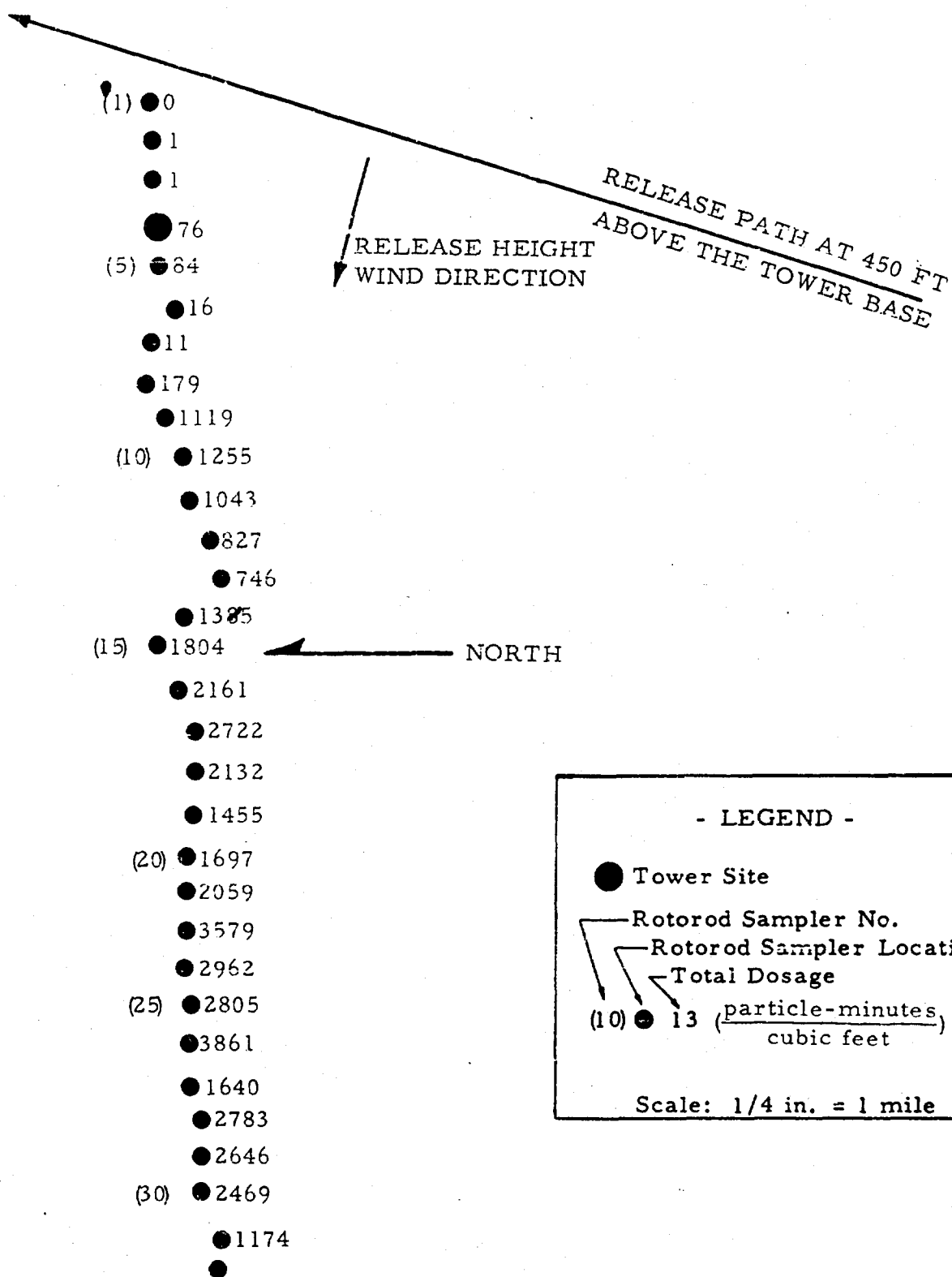


Fig. II-73: SUMMARY OF TRIAL DATA, TRIAL 38, AUGUST 19, 1961, 0005 CST



TRIAL 38; 0005 CST 8-19-61
SURFACE DOSAGE DISTRIBUTION

TABLE II - 38

SUMMARY OF TOWER DATA

TRIAL 38

AUGUST 19, 1961

0005 CST

Height Above Base (FT)	Total Dos- age (1)	Temp. (°F)	Wind Speed (MPH)	Wind Direc- tion (DEG)	Vertical Sigma (DEG) 5 30 180			Ri No.	Velocity Vari- ance (2)	$\frac{\Delta \theta}{u^2}$ (3)
1420	0									
1300	0									
1200	0									
1050	0				0.14	0.21	0.30			
900	0									
750	0				0.15	0.28	0.34			
600	0									
450	1304				0.76	0.89	0.94			
300	4617									
150	809				1.53	2.06	2.10			
70	124									
30	95				6.54	8.55	8.16			
SFC	57									

Release at 450 feet above and 4.1 miles upwind of tower base

(1) PARTICLE-MINUTES/CUBIC FOOT

(2) (FEET/SECOND)²(3) (°F/100 FEET/MPH²)

Note: Additional sampling data on reverse side.

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ADDITIONAL SAMPLING DATA

Height Above Base	Total Dosage	Height Above Base	Total Dosage
(FT)	(1)	(FT)	(1)
1350	0	650	0
1250	0	550	157
1150	0	500	877
1100	0	400	4798
1000	0	350	7768
950	0	250	4446
850	0	200	3247
800	0	100	348
700	0		

(1) PARTICLE-MINUTES/CUBIC FOOT