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SUPPLEMENT III

TO

TECHNICAL REPORT 46

THE A-IH/FIDAL CONCEPT

Sponsored by

Advanced Research Projects Agency
Project Agile
ARPA Order 256

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Fort Detrick, Frederick, Maryland

SUPPLEMENT III
to
TECHNICAL REPORT 46

THE A-1H/FIDAL CONCEPT

This research was supported by the Advanced Research Projects Agency Project Agile under ARPA Order 256.

Lester W. Boyer

James W. Brown

Crops Division
DIRECTOR OF BIOLOGICAL RESEARCH

Project ARPA Order 256

June 1964

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THE A-1H/FIDAL CONCEPT

I. INTRODUCTION

A. BACKGROUND

The FIDAL (Fixed-wing Insecticide Dispersal Apparatus, Liquid) concept originated with Captain George S. Stains when he was Officer-in-Charge of the Disease Vector Control Center, Naval Air Station, Jacksonville, Florida.

On 1 November 1962, OSD/ARPA issued the initial memorandum concerning FIDAL (Figure 1).

Figures 2, 3, and 4 are different views of the A-1H/FIDAL. Figure 5 shows the original FIDAL units that were built to test the concept of utilizing the airstream to rotate variable-pitch fans on the nose of the externally mounted tanks. Ordinarily these fans are in a feathered position and are activated electrically by the pilot to a predetermined pitch when spray release is desired. The fan is connected directly to a centrifugal pump that forces the spray liquid through a check valve that requires seven to ten pounds' pressure to open, thence into and through the boom and nozzles.

Three of these tanks can be carried by an A-1E (formerly AD-5) and an A-1H (formerly AD-6) aircraft. Two tanks are carried on wing stations and the third under the fuselage. For the latter station it is necessary to lock in the bottom dive brake while carrying a FIDAL tank. Each tank can carry 285 gallons of liquid fill or, for three tanks, about 850 gallons.

B. APPROACH

The questions listed in the text of Technical Report 46 are generally applicable to the testing of the FIDAL concept. Appendix E of that volume presents some details of preliminary planning for these tests.

ADVANCED RESEARCH PROJECTS AGENCY
Washington 25, D. C.

1 November 1962

MEMORANDUM FOR THE ASSISTANT SECRETARY OF THE NAVY (R&D)

SUBJECT: Aerial Spray Equipment

The Army Materiel Command, through its CBR Agency, is engaged in a program of RDT&E with respect to aerial spray equipment on behalf of ARPA's Project AGILE.

Army personnel working on this program report that the Officer-in-charge, U. S. Navy Disease Vector Control Center, has originated an aerial spray concept utilizing modified Aero-1C auxiliary 300-gallon fuel tanks compatible with the A-1H (AD-6) aircraft (code name: FIDAL). If the feasibility of this concept is proven, it would represent a significant advance beyond the spray system (MC-1 equipment aboard C-123 aircraft) currently available for large-scale spray operations.

It is requested that the Navy fabricate six of the modified Aero-1C auxiliary 300-gallon tanks and determine, through development tests, the aerodynamic suitability of the tanks when installed on A-1H (AD-6) aircraft. (Two of the modified tanks are to be made available to the Air Force to test the suitability and effectiveness of the tanks when installed on USAF aircraft.) Upon completion of developmental work, it is further requested that the Navy, under the direction of appropriate representatives of the Army CBR Agency, assist in determining the effectiveness of the FIDAL system by employing it in spray tests at Eglin AFB. The system should be available for testing at Eglin by 1 December 1962, or as soon thereafter as practicable, in order to take advantage of facilities which will be in use at that time by the Army and the Air Force on related ARPA-sponsored tests. Target date for deployment of a FIDAL system for operation field testing outside CONUS is approximately 1 April 1963.

Army personnel engaged in the ARPA-sponsored program also have a requirement to perform tests to increase the dissemination capability of the HIDAL spray system. It is, therefore, requested that for this purpose the Navy/Marine Corps make available one UH-34 (HUS-1) helicopter, with HIDAL equipment installed, at Eglin AFB by 5 November 1962, or as soon thereafter as practicable, for a period of approximately one week.

It is understood, through informal discussion with representatives of CNO (OP-72), that the cost of the requested FIDAL development and provision of a FIDAL-equipped A-1H with crew for spray tests at Eglin is approximately $44,000. It is further understood that the cost of the requested HIDAL-equipped UH-34 with crew for tests at Eglin is approximately $1,000.

The following fund citation will be used for charges incident to the accomplishment of the requests contained herein: 21X4992.656 S18-064-X02259 CC5160.

It is requested that an estimate of the expenses to be charged against the above citation be furnished to: Commanding Officer, U. S. Army Biological Laboratories, Fort Detrick, Maryland, ATTN: Comptroller.

The point-of-contact in the Army for this project is Dr. J. Brown, Crops Division, Fort Detrick.

/s/ W. H. Godel

for J. P. Ruina
Director

cc: OCRD
Hqs, USAF (AFOOP-CO)
CBR Agency
Army Materiel Command

Figure 1. Memorandum from OSD/ARPA.

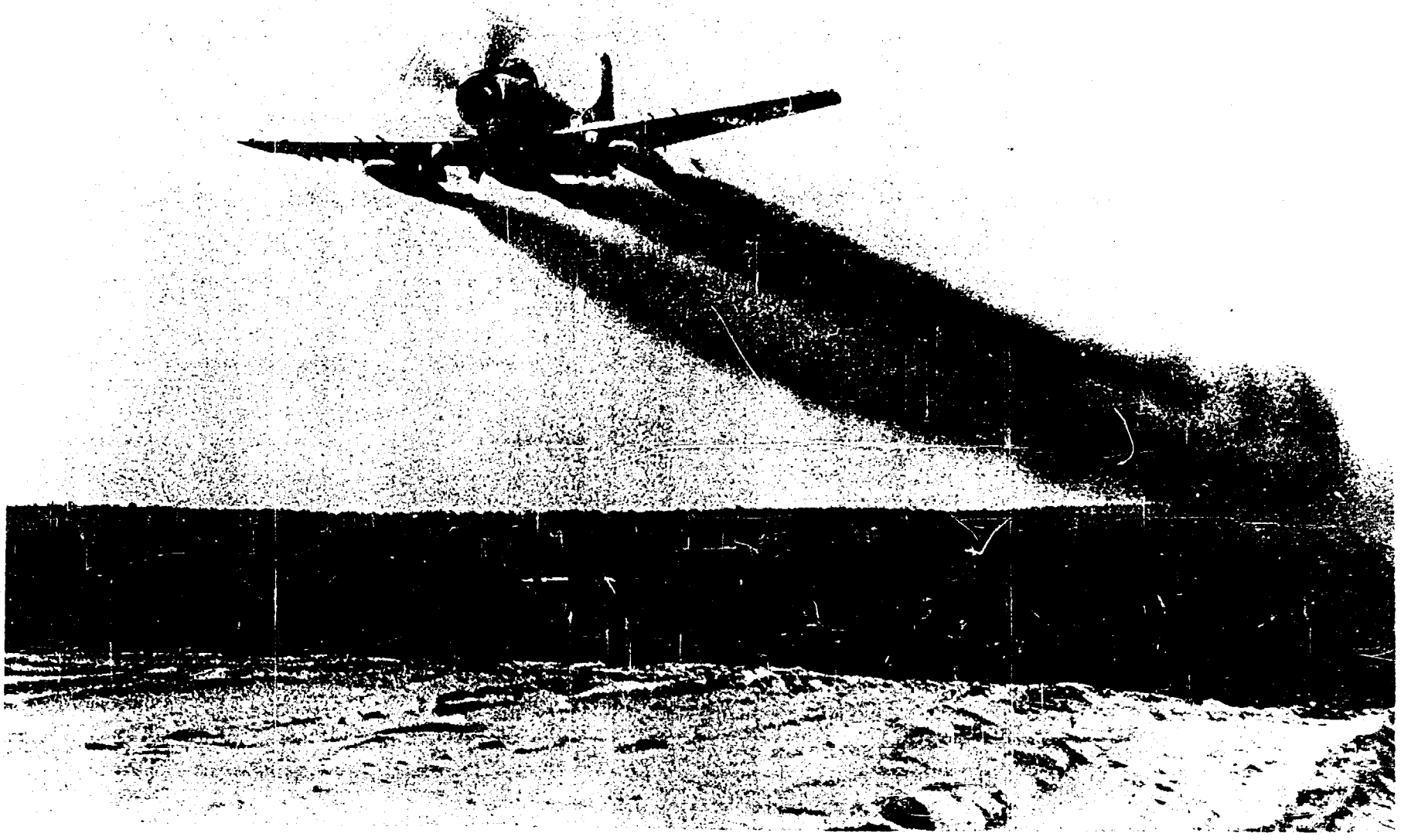


Figure 2. Three FIDAL Tanks Being Functioned in Flight
(FD Neg C-7504)



Figure 3. Filling a 285-Gallon FIDAL Tank.
(FD Neg C-7503)

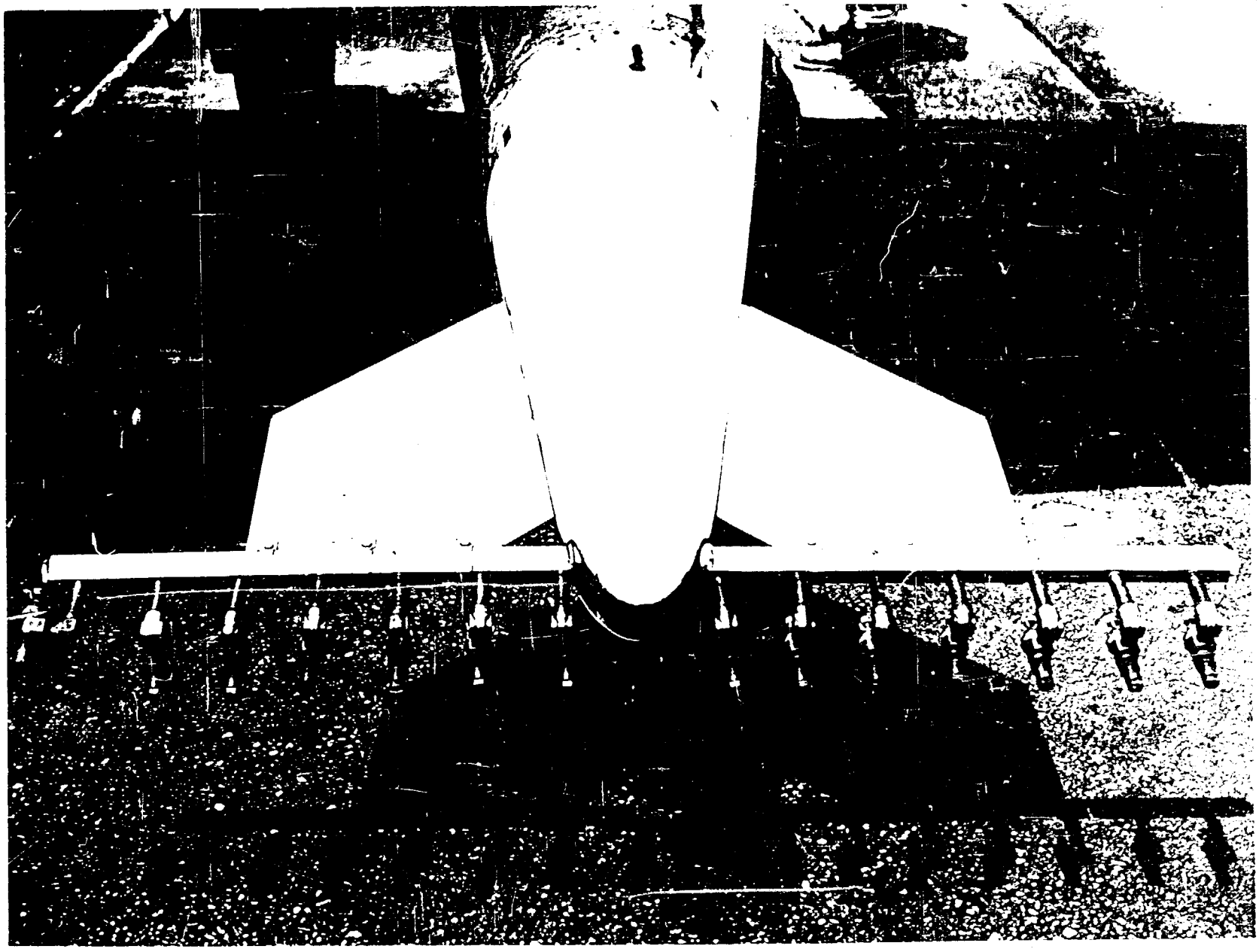


Figure 4. Nozzle Location on the Boom at the Rear of the FIDAL Tank.
(FD Neg C-7088)

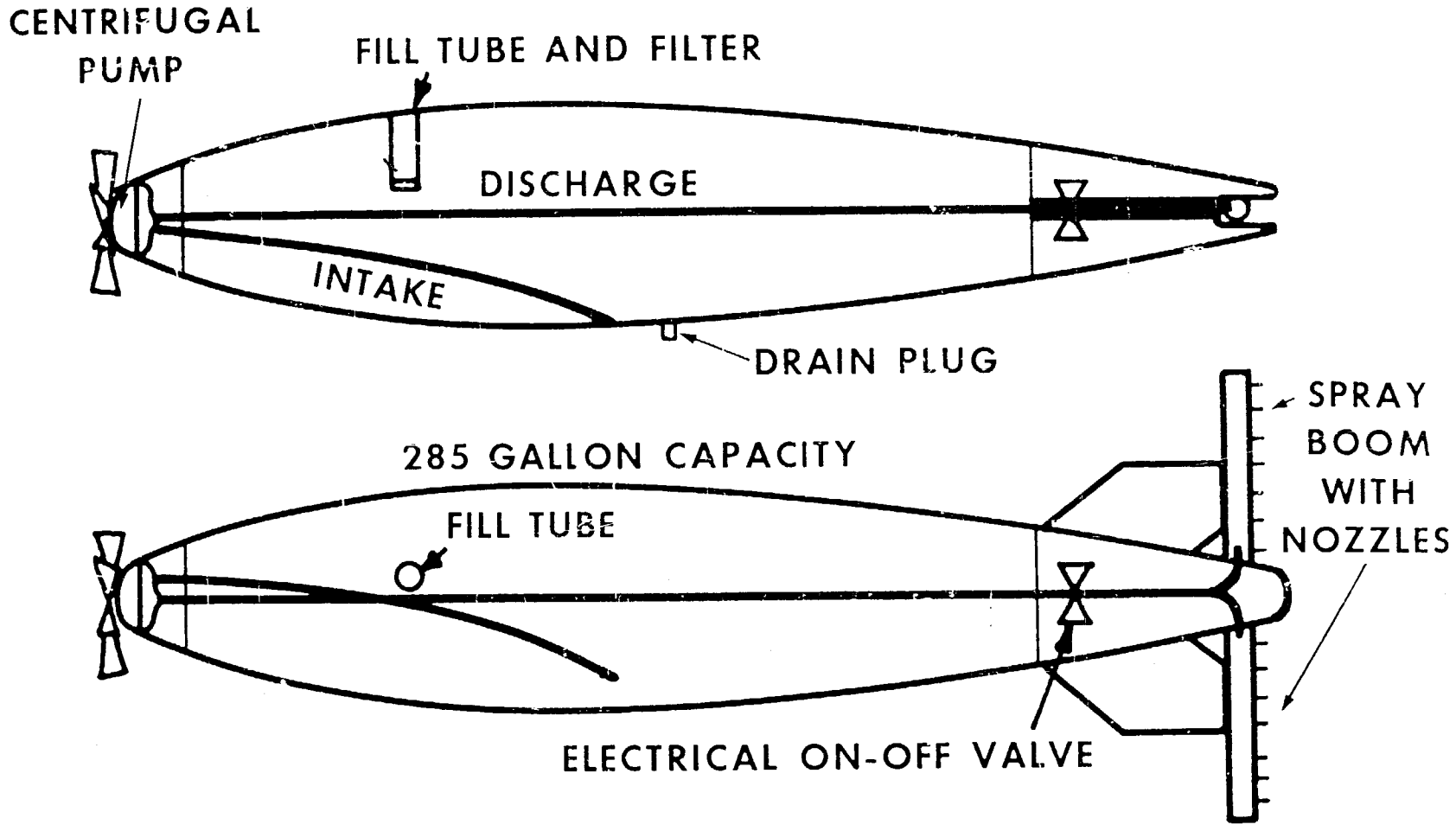


Figure 5. The FIDAL Concept.

II. METHODS*

Methods presented in Technical Report 46 and in Appendix F of that report are applicable to testing of the FIDAL. Ground flow rate determinations were handled as described below.

Flow rates of the FIDAL tanks were calibrated on the ground to obtain graphs relating boom pressure and pump rpm to flow rate for the three liquids sprayed. These ground flow checks were carried out at Field 2 test site on the remote edge of the concrete pad in front of the control tower at Eglin AFB. The FIDAL unit was supported by a wooden cradle with the tail boom extending through a slot into a rectangular aluminum tank of 160-gallon capacity that caught the fluid spray. The catch tank was calibrated in gallons per inch of height.

The FIDAL pump was driven by a 10-horsepower electric motor through a flexible coupling welded to an extra fan blade hub. The variable-speed motor allowed the pump rpm to be varied from about 3000 to 4200 rpm.

The calibration started by functioning the unit briefly to insure that the boom was full of liquid. The level of liquid in the catch tank and the temperature of the liquid in the FIDAL tank were measured. Then, with the motor running at a preset power setting, the electric gate valve was opened for a measured length of time, usually 60 seconds, during which the boom pressure was recorded and the pump rpm measured with a hand tachometer. After the gate valve was closed, the final liquid level in the tank was measured. The flow rate was calculated from the amount of liquid sprayed during the measured time interval.

Because the temperature of the liquid was found to increase approximately one-half degree Centigrade per run, a series of runs were made at a constant motor setting to determine the effect of the temperature change on the flow rate. The rate of change was found to be approximately one gallon per minute per degree Centigrade for the Purple material in the temperature span checked.

---

* Prepared by Mr. Paul E. Wampner.

III. RESULTS AND DISCUSSION

At maximum pumping capacity each unit provided a flow of 105 gallons per minute for Purple and 115 for the mix of one part Purple, two parts fuel oil. Simultaneously functioning three tanks thus provided flows of 315 and 345 gallons per minute for these liquids.

Performance at various altitudes is shown in Table I.

TABLE I. AVERAGE SWATH WIDTHS OBTAINED FROM SELECTED INWIND FLIGHTS UNDER INDICATED CONDITIONS

Liquid	Positions[a] of Tanks	Altitude, feet	Deposit, gpa	Swath Width, feet
Purple	LCR	100	3	103
Purple	LCR	125	3	128
Purple	LCR	150	3	145
Purple	LCR	100	2	152
Purple	LCR	125	2	150
Purple	LCR	150	2	165
2 Fuel Oil, 1 Purple	LR	125	1.5	170
2 Fuel Oil, 1 Purple	LR	150	1.5	175
2 Fuel Oil 1 Purple	LR	125	1.0	195
2 Fuel Oil, 1 Purple	LR	150	1.0	185
2 Fuel Oil, 1 Purple	C	75	1.5	60
2 Fuel Oil, 1 Purple	C	125	1.5	80
2 Fuel Oil, 1 Purple	C	75	1.0	70
2 Fuel Oil, 1 Purple	C	125	1.0	110

a. L = Left Tank; C = Center Tank; R = Right Tank.

During the calibration trials, 181 spray passes were made with FIDAL units. The data are presented in the Appendix to this Supplement. As malfunctions occurred, they were corrected and improvements were made on the spot by contractor representatives.* After the last spray pass, an imminent storm made it necessary for the plane to return to the air base at an airspeed somewhat greater than that specified in the design of the fan. As a result, the unfeathered nose fan flew apart and further tests were cancelled because of this hazard.

A different ram-air turbine and pump combination has been suggested for the FIDAL and until test units can be modified, tested, and calibrated, the findings presented here should be accepted only as ball-park estimates for operational testing.

IV. CONCLUSIONS

The FIDAL concept is sound.

With suitable modification, such as a mock-up prepared by AGAVENCO, FIDAL units could be used to advantage for vegetation control in areas of military interest.

V. RECOMMENDATIONS

It is recommended that:

(a) The FIDAL units be suitably modified, including turbines, pumps, and controls.

(b) Until FIDAL units are suitably modified and tested, the following performance parameters for inwind flights spraying Purple be utilized to obtain coverage of three gallons per acre.

Aircraft	A-1H
Altitude	150 feet
Airspeed	160 knots
Swath Width	145 feet
Nozzles	U 5070
MMD	375 to 400 microns

* Mr. Phillip Pickell was the Agricultural Aviation Engineering Company's (AGAVENCO) representative.

APPENDIX A

SELECTED DATA FROM FIDAL TESTS, JULY 1963

A-1H/FIDAL[a]

Date 1961	Flight	Chemical[b]	Wind[c] Orientation	Release Altitude, ft	Airspeed, knots	Tank[e]	Swath Widths (in ft.) at Indicated Deposit Rates (in gpa)					
							0.2	0.5	1.0	1.5	2.0	3.0
26 May	1	3	-	150	154	LR	340	270	80	0	0	0
	2	3	-	150	154	LR	280	260	180	90	30	0
	3	3	-	150	NA[d]	LR	520	370-20[f]	180	120	60	0
	4	3	-	150	NA	LR	140	0	0	0	0	0
	5	3	-	150	NA	LR	300	240	30	0	0	0
	6	3	-	150	NA	LR	290	260-60	200-100	20	0	0
	7	3	-	150	NA	R	180	100	0	0	0	0
	8	3	X	150	NA	R	360	60	0	0	0	0
27 May	1	3	X	150	160	L	260	160-120	0	0	0	0
	2	3	X	150	164	L	650	260	0	0	0	0
	3	3	-	150	164	RL	520	380	220	170	140	20
	4	3	-	150	164	RL	0	0	0	0	0	0
	5	3	-	150	164	L	260-20	80	0	0	0	0
	6	3	-	150	164	RL	360	240	160	140	40	0
	7	3	-	100	164	RL	270	220	160-20	70	60	40
	8	3	-	100	164	RL	200	180	90	70	60	0
	9	3	-	100	164	RL	580	200	150	120-20	0	0
	10	3	-	100	164	RL	480	180	130	60	50	20
31 May	1	3	X	150	157	RCL	1000	480	320	100	10	0
	2	3	X	150	161	RCL	460	380	300	100-20	0	0
	3	3	-	100	163	RCL	580	280	180	170	170-50	160-100
	4	3	-	100	NA	RCL	330	240	200-20	180-20	160-60	40
	5	3	-	100	NA	RCL	360-40	120	100	80	70	20

31 May	6	3	-	100	NA	C	240	160-40	0	0	0	0
1 Jun	1	3	X	100	NA	CL	920-80	140	120	100	100	80
	2	3	X	100	NA	CL	520	380	220	220	200-40	0
	3	3	-	150	NA	CL	300	250	200	170	170	30
	4	3	-	100	NA	L	330	270	150	120	100	70
	5	3	-	100	NA	L	500-120	200	100	80	80	50
	6	3	-	100	NA	-	0	0	0	0	0	0
4 Jun	1	3	-	150	152	RCL	360	180	160	160	160	80
	2	3	-	150	156	RCL	240	180	160	150	140	120
	3	3	-	150	158	RCL	390	190	150	140	140	120
	4	3	-	150	NA	RCL	280	180	160	150	140	130
	5	3	-	150	NA	RCL	520-30	270	180	170-20	160-20	100
	6	3	-	150	NA	RCL	400	220	190	170	150	60
	7	3	-	150	NA	C	450	220	110	40	0	0
	8	3	-	150	NA	RCL	360	240	180	160	150	60
5 Jun	1	3	-	150	157	RCL	400	220	170	160	140	110
	2	3	-	150	158	RCL	370	215	190	170	130	60
	3	3	-	150	160	RCL	360	300	220	200	160	0
	4	3	-	150	161	RCL	280	220	180	150	150	150-20
	5	3	-	150	NA	RCL	470	280	200	180	110	40

a. Flights of 26 May through 4 June were made with spray systems nozzle U50120 without check valves. All subsequent flights used 3/8-inch check valves with U5070 nozzle.
b. 1 = Purple code material.
2 = 1 part Purple, 2 parts fuel oil.
3 = Fuel oil.
c. X = Crosswind.
- = Inwind.
d. NA = Photo panel record not available; 160 knots was requested.
e. R = Right wing tank.
C = Center tank.
L = Left wing tank.
f. Second figure represents a gap in the swath. Reference to individual curves will show significance of the gap.

Date 1963	Flight	Chemical[b]	Wind[c] Orientation	Release Altitude, ft	Airspeed, knots	Tank[d]	Swath Widths (in ft.) at Indicated Deposit Rates (in gpm)					
							0.2	0.5	1.0	1.5	2.0	3.0
5 Jun	6	3	-	150	NA	BCL	460	450	220	180	100	0
	7	3	X	150	NA	LC	300	150	120	100	60-20	20
	8	3	X	150	NA	BCL	460	250	200	0	0	0
7 Jun	1	3	-	150	140	BCL	140	40	0	0	0	0
	2	3	-	150	158	BCL	440	390-40	200	130	80	40
	3	3	-	150	NA	C	200	160	0	0	0	0
	4	3	-	150	NA	C	210	90	30	0	0	0
9 Jun	1	3	X	150	155	BCL	280	230-10	200-20	170-20	70	110
	2	3	-	100	163	BC	550	280	180-20	70	40	0
	3	3	-	100	160	BC	200	150-30	0	0	0	0
	4	3	-	100	162	BC	260	180	110	40	0	0
	5	3	-	100	NA	BC	220	170	130-10	50	0	0
	6	3	-	100	NA	BC	350	200	150	90-30	20	0
	7	3	-	150	NA	BC	580	220	130	50	0	0
	8	3	-	150	NA	BC	380	180	70	0	0	0
	9	3	-	150	NA	BC	870	240-10	0	0	0	0
	10	3	-	150	NA	BC	500	190	30	0	0	0
11 Jun	1	3	X	100	150	BCL	490	350-160	120	80-10	30	0
	2	3	X	100	150	BCL	540	500-120	180	140-30	130-70	30
	3	3	-	100	150	BCL	210	140	80	70	40	10
	4	3	-	100	163	BCL	280	170	110	90	80	60
	5	3	-	100	155	BCL	220	130	100	90	80	70
	6	3	-	100	NA	BCL	240	220-40	90	60	40	20

11 Jun	8	3	-	100	NA	RCL	320	170	100	70	60	20
	9	3	-	100	NA	RCL	310	270	210	110	90	10
15 Jun	1	3	-	100	155/160	RL	230	180	160-50	130-80	0	0
	2	3	-	100	160/162	RL	280	190	140-40	130-70	0	0
	3	3	-	100	151/153	RL	610	180-10	70	50	30	0
	4	3	-	100	160	RL	400	210	190-40	50	0	0
	5	3	-	150	159/160	RL	220	190	110	30	0	0
	6	3	-	150	NA	RL	170	160	130-50	10	0	0
	7	3	-	150	NA	RL	300	190	120	50	0	0
	8	3	-	150	NA	RL	290	180	110	50	30	0
	9	3	X	150	NA	RL	560	380-30	40	0	0	0
	10	3	X	150	NA	RL	440	0	0	0	0	0
16 Jun	1	3	-	150	174/176	RL	370	230-30	210-90	50	0	0
	2	3	-	150	163	RL	540	200	150-50	20	0	0
	3	3	-	150	NA	RL	540	270-50	50	0	0	0
	4	3	-	150	NA	RL	460	220	160-20	40	0	0
	5	3	-	150	NA	R	390	190	170-100	0	0	0
	6	3	-	150	NA	R	430	190-40	0	0	0	0
	7	3	-	150	NA	R	250	130	70-10	0	0	0
	8	3	-	150	NA	R	260	230-100	0	0	0	0
	9	3	X	150	NA	R	980	0	0	0	0	0
	10	3	X	150	NA	R	380	0	0	0	0	0
21 Jun	1	3	-	100	153	RCL	350	230-10	210-20	190-50	180-70	0
	2	3	-	100	160	RCL	430	250	190	180-10	160-60	30
	3	3	-	50	NA	RCL	410	290	210	160	150-40	110-60

Date 1963	Flight	Chemical[b]	Wind[c] Orientation	Release Altitude, ft	Airspeed, knots	Tank[d]	Swath Widths (in ft.) at Indicated Deposit Rates (in gpa)					
							0.2	0.5	1.0	1.5	2.0	3.0
21 Jun	4	3	-	50	MA	RL	390	190	160-30	150-50	140-70	0
	5	3	-	150	MA	RCL	310	210	170	150	70	40
	6	3	-	150	MA	RCL	320	230	180	170	160	40
	7	3	-	150	MA	CL	640	280-20	220-20	110	0	0
	8	3	-	150	MA	RCL	520	190	180	170	170	150-40
	9	3	-	150	MA	RL	190	180	170	160-20	160-70	20
29 Jun	1	3	-	150	158	CL	250	210	200	200	190	140-20
	2	3	-	150	MA	RCL	220	190	160	160	140-20	60
	3	3	-	50	MA	RCL	520	280	160	150	130-40	20
	4	3	-	50	MA	RCL	390	250	190	160	160-30	0
	5	3	-	150	MA	RCL	340	320	260	240	200-70	0
	6	3	-	150	MA	CL	260	220	160-20	60	20	0
	7	3	-	100	MA	CL	100	80	70	60	50	40
	8	3	-	100	MA	CL	150	120	80	70	50	30
	9	3	-	100	MA	CL	120	120	100	80	70	40
	10	3	-	100	MA	CL	290	220	150	130	120	20
	11	3	-	50	MA	CL	160	110	80	70	60	40
	12	3	-	50	MA	C	250	200	100-20	40	30	0
11 Jul	1	2	-	150	153	RCL	330	270	200	100	80	40
	2	2	-	150	160	RCL	300	270-40	180	170	160	120-50
	3	2	-	200	160	RCL	240	200	170	140	100	40
	4	2	-	200	159	RCL	250	220-20	190	120	100	60
	5	2	-	100	MA	RCL	200	180	150	120	100	80

11 Jul	6	2	-	100	NA	RCL	200	170	150	130	130	70
	7	2	-	75	NA	RCL	180	170	160	150	140	120
	8	2	-	75	NA	RCL	250	180-40	180	150	140-10	130-60
	9	2	-	150	NA	RCL	280	270	180	170	80	60
	10	2	-	150	NA	RCL	270	240	160	150	140	80
	11	2	-	150	NA	RCL	180	170	150	100	80	60
	12	2	-	150	NA	RCL	210	200	180	160	70	60
	13	2	-	75	NA	RCL	240	200	180	160-30	150-60	50
	14	2	-	75	NA	RCL	240	210	160	140-20	60	40
14 Jul	1	2	-	100	152	RCL	240	220	200	170-20	160-20	110
	2	2	-	100	163	RCL	240	220	180	170	170	160
	3	2	-	100	154	RCL	300	300-20	210	180	170	150-20
	4	2	-	100	161	RCL	260	230	220	200	190	160
	5	2	-	100	157	RCL	190	180	160	150	140-20	60
	6	2	-	100	162	RCL	280	230	220	180	160-20	150-60
	7	2	-	75	167	RCL	280	260	210	180	170	150
	8	2	-	75	165	RCL	260	240	190	160	150	140-30
	9	2	-	75	165	RCL	240	220-20	150	130	120	100
	10	2	-	75	163	LCL	270	260	200	180-40	90	50
15 Jul	1	2	-	100	160	RCL	360	300-20	200	190	190-20	185-40
	2	2	-	100	162	RCL	340	230	210	200	190	160-40
	3	2	-	150	158	RCL	340	320-40	210	200	200	180-30
	4	2	-	150	165	RCL	330	260-20	200	200	190	160-60
	5	2	-	150	164	RL	210	190	180	170-40	170-70	30
	6	2	-	150	160	RL	210	190	180	170	160-50	140-60

Date 1961	Flight	Chemical[b]	Wind[c] Orientation	Release Altitude, ft	Airspeed, knots	Tank[d]	Swath Widths (in ft.) at Indicated Deposit Rates (in gpa)					
							0.2	0.5	1.0	1.5	2.0	3.0
15 Jul	7	2	-	125	160	RL	290	240	190	180	160-60	140-80
	8	2	-	125	MA	RL	270	250	200	160	140-10	120-50
	9	2	-	125	MA	C	150	130	110	100-20	40	0
	10	2	-	125	MA	C	200	120	100	30	0	0
	11	2	-	75	MA	C	150-20	130-20	110-40	40	30	0
	12	2	-	75	MA	C	140	100-20	70	60	50	40
21 Jul	1	1	-	100	166	RCL	340	310-20	260-100	160	150	140-60
	2	1	-	100	158	RCL	320	260	220	210	200-40	90
	3	1	-	125	164	RCL	230	220	180	160	150	120-20
	4	1	-	125	157	RCL	380	200-20	170	170	160	160
	5	1	-	150	163	RCL	270	240-20	180	170	160	120-40
	6	1	-	150	163	RCL	280	210	200	180	130	120
	7	1	-	125	160	RCL	380	340	250	240-30	200	130-20
	8	1	-	125	162	RCL	350	340-20	250	240-20	240-30	180-50
	9	1	-	125	166	RCL	240	220	180	120	110	90
	10	1	-	125	161	RCL	380-40	300	200	180	140	120
	11	1	X	150	159	C	650	420-80	190-70	0	0	0
23 Jul	1	1	-	100	160	RCL	210	180	160	150	140	110-40
	2	1	-	100	160	RCL	300	230	200	170-20	160-30	80
	3	1	-	125	160	RCL	220	190	160	150	140	90
	4	1	-	125	160	RCL	270	260	180	180	170	160-30
	5	1	-	125	160	RCL	300	200	190	180	170-10	160-40
	6	1	-	125	160	RCL	310	290-20	180	160	150	80

24 Jul	7	1	-	150	160	RCL	300	250	210	190	170-10	160-50
	8	1	-	150	160	RCL	240	230	200	180	170-10	150-30
	9	1	-	150	160	RCL	210	180	170	170	160-30	130-40
	10	1	-	150	160	RCL	320-70	240	180	160	150-30	130-60
	11	1	-	125	160	RCL	410-60	240	220	190	180	150-50
	12	1	-	125	160	RCL	320	310	190	170	160	120-20
26 Jul	1	1	-	100	160	RCL	1000-110	250	200	170	130	100-30
	2	1	-	100	160	RCL	400	390	380-20	270-30	240-60	120-60
26 Jul	1	1	-	150	160	RCL	350	270	260	220	200	60
	2	1	-	150	160	RCL	270	230	160	150	140-40	130-40
	3	1	-	100	160	RCL	200	190	180-20	160-40	150-50	120-70
	4	1	-	100	160	RCL	200	190	180	130	120	120
	5	1	-	125	160	RCL	220	200	180	180-20	170-70	160-80
	6	1	-	125	160	RCL	260	250	210	130	120	110
	7	1	X	100	160	RCL	720-110	620-260	260	130-20	140	80
	8	1	X	100	160	C	270	200-40	20	0	0	0
	9	1	X	100	160	RCL	680-110	340	210	140-20	110	20
	10	1	X	100	160	RL	680-220	380-60	200	160-60	100-60	0

a. Flights of 26 May through 4 June were made with spray systems nozzle U50120 without check valves. All subsequent flights used 3/8-inch check valves with U5070 nozzle.
b. 1 = Purple code material.
2 = 1 part Purple, 2 parts fuel oil.
3 = Fuel oil.
c. X = Crosswind.
- = Inwind.
d. NA = Photo panel record not available; 160 knots was requested.
e. R = Right wing tank.
C = Center tank.
L = Left wing tank.
f. Second figure represents a gap in the swath. Reference to individual curves will show significance of the gap.

FIDAL

Selected Flights[a/]

Date 1963	Flight	Liquid[b/]	Tank[c/]	Altitude, feet	Nozzle Type
26 Jul	3	1	LCR	100	5070
26 Jul	4	1	LCR	100	5070
23 Jul	1	1	LCR	100	5070
21 Jul	1	1	LCR	100	5070
21 Jul	2	1	LCR	100	5070
23 Jul	2	1	LCR	100	5070
24 Jul	1	1	LCR	100	5070
23 Jul	5	1	LCR	125	5070
26 Jul	5	1	LCR	125	5070
21 Jul	3	1	LCR	125	5070
21 Jul	4	1	LCR	125	5070
21 Jul	10	1	LCR	125	5070
23 Jul	3	1	LCR	125	5070
26 Jul	6	1	LCR	125	5070
21 Jul	9	1	LCR	125	5070
23 Jul	4	1	LCR	125	5070
23 Jul	6	1	LCR	125	5070
23 Jul	11	1	LCR	125	5070
23 Jul	12	1	LCR	125	5070
21 Jul	6	1	LCR	150	5070
23 Jul	9	1	LCR	150	5070
23 Jul	10	1	LCR	150	5070
26 Jul	1	1	LCR	150	5070
26 Jul	2	1	LCR	150	5070
23 Jul	7	1	LCR	150	5070
23 Jul	8	1	LCR	150	5070
11 Jul	7	2	LCR	75	5070
14 Jul	7	2	LCR	75	5070
11 Jul	8	2	LCR	75	5070
11 Jul	13	2	LCR	75	5070
11 Jul	14	2	LCR	75	5070

Date 1963	Flight	Liquid[b/]	Tank[c/]	Altitude, feet	Nozzle Type
14 Jul	8	2	LCR	75	5070
14 Jul	9	2	LCR	75	5070
11 Jul	5	2	LCR	100	5070
11 Jul	6	2	LCR	100	5070
14 Jul	2	2	LCR	100	5070
14 Jul	4	2	LCR	100	5070
14 Jul	3	2	LCR	100	5070
14 Jul	5	2	LCR	100	5070
14 Jul	6	2	LCR	100	5070
15 Jul	1	2	LCR	100	5070
15 Jul	2	2	LCR	100	5070
11 Jul	2	2	LCR	150	5070
11 Jul	11	2	LCR	150	5070
11 Jul	9	2	LCR	150	5070
11 Jul	12	2	LCR	150	5070
15 Jul	3	2	LCR	150	5070
15 Jul	4	2	LCR	150	5070
11 Jul	1	2	LCR	150	5070
11 Jul	10	2	LCR	150	5070
11 Jul	3	2	LCR	200	5070
11 Jul	4	2	LCR	200	5070
15 Jul	7	2	LR	125	5070
15 Jul	8	2	LR	125	5070
15 Jul	5	2	LR	150	5070
15 Jul	6	2	LR	150	5070
15 Jul	12	2	C	75	5070
15 Jul	11	2	C	75	5070
15 Jul	10	2	C	125	5070

a. Airspeed requested 360 knots.
b. 1 = Purple code material.
   2 = 1 part Purple, 2 parts fuel oil.
   3 = Fuel oil.
c. L = Left wing tank.
   C = Center tank.
   R = Right wing tank.

Date 1963	Flight	Liquid[b/]	Tank[c/]	Altitude, feet	Nozzle Type
15 Jul	9	2	C	125	5070
31 May	4	3	LCR	100	50120
31 May	3	3	LCR	100	50120
4 Jun	1	3	LCR	150	50120
4 Jun	2	3	LCR	150	50120
4 Jun	3	3	LCR	150	50120
4 Jun	4	3	LCR	150	50120
4 Jun	5	3	LCR	150	50120
4 Jun	6	3	LCR	150	50120
4 Jun	8	3	LCR	150	50120
21 Jun	3	3	LCR	50	5070
29 Jun	4	3	LCR	50	5070
11 Jun	3	3	LCR	100	5070
11 Jun	5	3	LCR	100	5070
11 Jun	8	3	LCR	100	5070
11 Jun	9	3	LCR	100	5070
21 Jun	1	3	LCR	100	5070
21 Jun	2	3	LCR	100	5070
11 Jun	4	3	LCR	100	5070
11 Jun	6	3	LCR	100	5070
21 Jun	6	3	LCR	150	5070
21 Jun	8	3	LCR	150	5070
5 Jun	1	3	LCR	150	5070
5 Jun	3	3	LCR	150	5070
5 Jun	4	3	LCR	150	5070
21 Jun	5	3	LCR	150	5070
29 Jun	2	3	LCR	150	5070
5 Jun	2	3	LCR	150	5070
5 Jun	5	3	LCR	150	5070
5 Jun	6	3	LCR	150	5070
5 Jun	8	3	LCR	150	5070
27 May	10	3	LR	100	50120
27 May	9	3	LR	100	50120

Date 1963	Flight	Liquid[b]	Tank[c]	Altitude, feet	Nozzle Type
26 May	6	3	LR	150	50120
27 May	3	3	LR	150	50120
27 May	6	3	LR	150	50120
15 Jun	1	3	LR	100	5070
15 Jun	2	3	LR	100	5070
15 Jun	5	3	LR	150	5070
15 Jun	6	3	LR	150	5070
21 Jun	9	3	LR	150	5070
15 Jun	7	3	LR	150	5070
15 Jun	8	3	LR	150	5070
16 Jun	4	3	LR	150	5070
3 Jun	5	3	L	100	50120
31 May	6	3	C	100	50120
4 Jun	7	3	C	150	50120
7 Jun	3	3	C	150	5070
7 Jun	4	3	C	150	5070
16 Jun	7	3	R	150	5070
16 Jun	8	3	R	150	5070
3 Jun	3	3	LC	150	50120
29 Jun	11	3	LC	50	5070
29 Jun	7	3	LC	100	5070
29 Jun	8	3	LC	100	5070
29 Jun	9	3	LC	100	5070
29 Jun	10	3	LC	100	5070
29 Jun	1	3	LC	150	5070
5 Jun	7	3	LC	150	5070
21 Jun	7	3	LC	150	5070
29 Jun	6	3	LC	150	5070
9 Jun	5	3	RC	100	5070
9 Jun	6	3	RC	100	5070

a. Airspeed requested 160 knots.
b. 1 = Purple code material.
   2 = 1 part Purple, 2 parts fuel oil.
   3 = Fuel oil.
c. L = Left wing tank.
   C = Center tank.
   R = Right wing tank.

FIDAL

Deposit from Mass Median Diameter (MMD) of Spray

Date 1963	Flight	Liquid[a]	Altitude, ft	Airspeed, knots	Nozzle	MMD, microns
26 May	8	3	100	NA[b]	US0120	273.3
27 May	1	3	150	160	US0120	No drops on cards
27 May	2	3	150	164	US0120	293.3
30 May	1	3	150	154	US0120	406.4
31 May	1	3	150	157	US0120	346.6
31 May	2	3	150	161-162	US0120	333.3
3 June	1	3	100	NA	US0120	353.3
3 June	2	3	100	NA	US0120	373.3
5 June	7	3	150	NA	US070	233.3
5 June	8	3	150	NA	US070	273.3
9 June	1	3	150	155	US070	266.7
9 June	2	3	150	150	US070	266.7
11 June	1	3	100	150	US070	240
11 June	2	3	100	150	US070	253.3
15 June	9	3	150	NA	US070	280
15 June	10	3	150	NA	US070	260
16 June	9	3	150	NA	US070	220
16 June	10	3	150	NA	US070	226.7
20 June	2	3	150	160	US070	266.7
11 July	3	2	200	160	US070	275
14 July	9	2	75	163	US070	280
21 July	11	1	150	159	US070	377.3
26 July	7	1	100	160	US070	383.1
26 July	8	1	100	160	US070	365.9
26 July	9	1	100	160	US070	428.8
26 July	10	1	100	160	US070	417.4

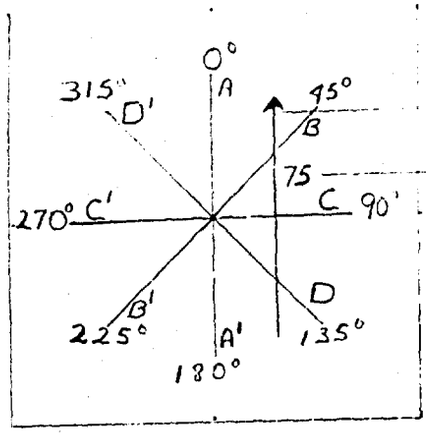
a. 1 = Purple code material.
2 = 1 part Purple, 2 parts fuel oil.
3 = Fuel oil.
b. Not available.

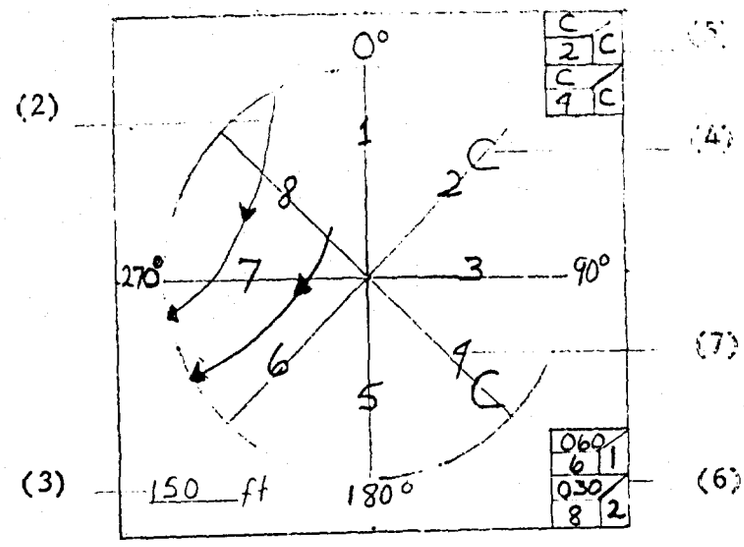
APPENDIX B

BASIC DATA FROM

FIDAL TESTS, JULY 1963

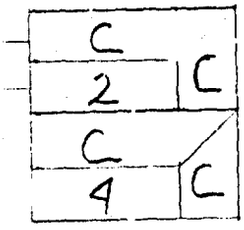
SAMPLE AND EXPLANATION OF METEOROLOGICAL DATA





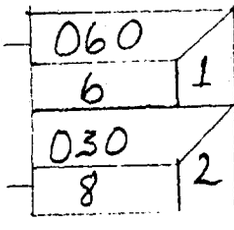
(1) & (1a) — Aircraft course; 75 — Station No. aircraft crossed

(5)



(2) — Wind current

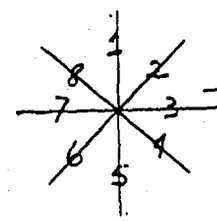
(6)



(3) 150ft — Altitude in feet, met. data obtained

(4) C — Calm

(7)



1-8 indicate location of met. data station

Sky Conditions

Example:	25	(1)	100	(11)	/	+	7
	1	2	3	4	5	6	7

1 - Cloud cover height in hundreds of feet

2 - Cloud Amount
- 0 - No clouds
- (1) - Fair weather cumulus
- (11) - Variable sky

3 - Second cloud cover height in hundreds of feet

4 - Cloud Amount

5 - Barometric Tendency
- / Rising
- Steady

6 - Overcast

7 - Visibility in miles

Remarks

GFH - Ground Fog Heavy

OCNL - Occasional

C - Clouds

CLR - Clear

CU - Cumulus

CB - Cumulo-nimbus

FQT - Frequent

N - North

E - East

S - South

W - West

LTG - Lightning

H - Haze

S - Smoke

FIDAL FLIGHT DATA

DATE FLOWN: 26 May 1963 CONFIGURATION: Wing tanks only LIQUID SPRAYED: Fuel Oil NOZZLE TYPE: USC120

	TANK	RPM	PRESSURE PSI	FLOW RATE GPM	REMARKS
RUN #1	Left	1400	16.5	67	Tanks installed with old actuator motors. Right tach. tank non-functional. Right pressure questionable.
AIRSPEED: 158 Knots	Ctr	----	----	--	
TIME SPRAYED: 5 Sec	Right	----	5	?	
RUN #2	Left	1460	13.5	58	Left tach. was later found to be halfscale. Unable to predict flow rate out of right tank as only reading available is out of calibration range.
AIRSPEED: 154 Knots	Ctr	----	----	--	
TIME SPRAYED: 10 Sec	Right	----	4	?	

GENERAL REMARKS:
1. Plane made eight passes across grid.
2. On runs #4 both tanks stopped temporarily over the grid.
3. On runs #7 and #8 right tank only functioned.

NOTE: Pressure gauge, airspeed, RPM, and time sprayed readings were taken from film record of instruments in flight.

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 26 May 1963

FLIGHT #: 1

SAMPLE LINE: A

TIME OF RELEASE: 0516 Hours

DURATION: 5 Seconds

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: 158 Knots

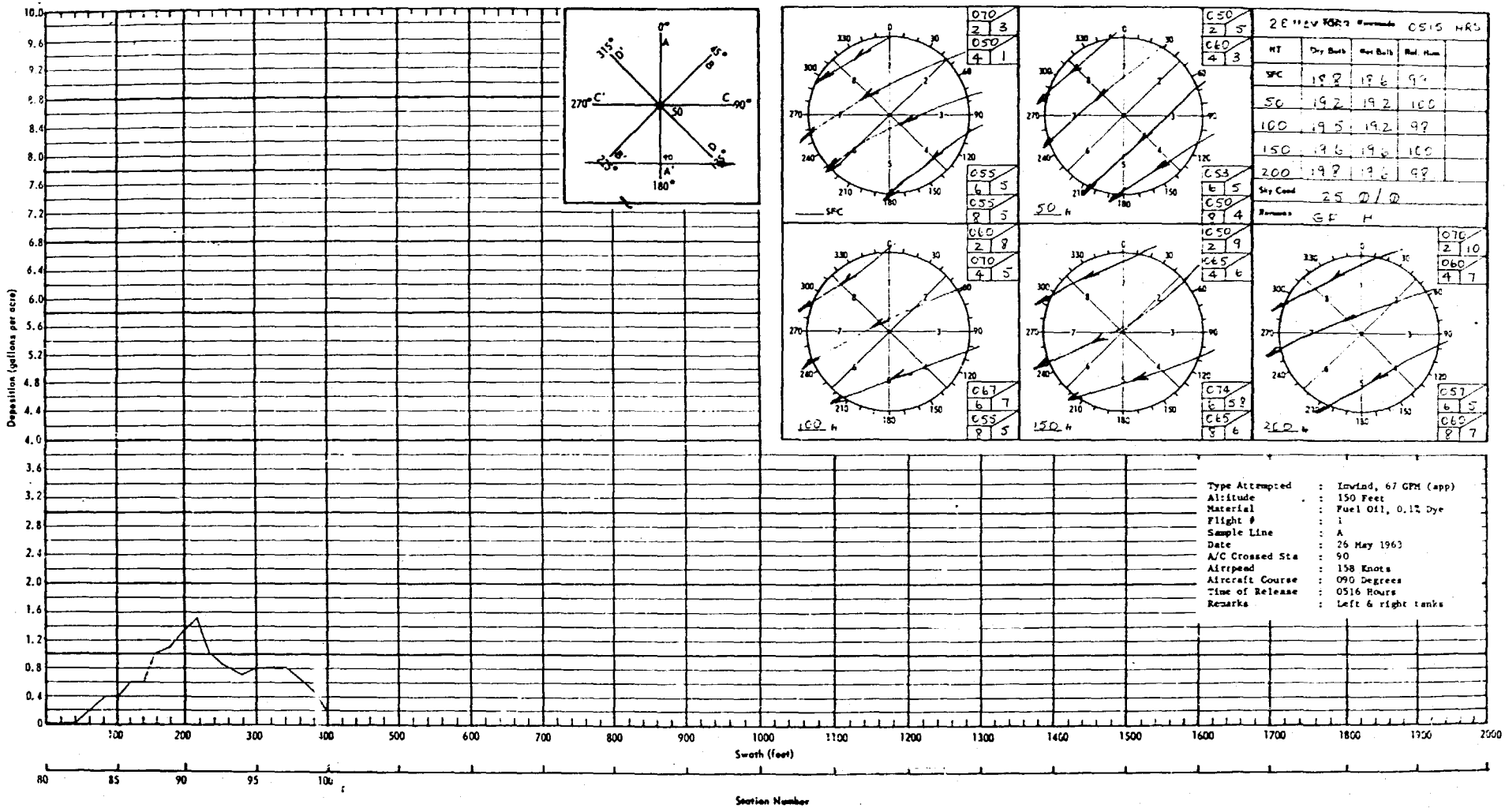
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 090 Degrees

WIND VECTOR: 61°/5.6 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 82 Blank							
						83	0.2
						84	0.4
						85	0.4
						86	0.6
						87	0.6
						88	1.0
						89	1.1
						90	1.3
						91	1.5
						92	1.0
						93	0.9
						94	0.7
						95	0.8
						96	0.8
						97	0.8
						98	0.7
						99	0.5
						100	0.2

Total 13.5


Deposition (gallons per acre)
Swath (feet)
Station Number
Type Attempted : Inwind, 67 GPM (app)
Altitude : 150 Feet
Material : Fuel Oil, 0.1% Dye
Flight # : 1
Sample Line : A
Date : 26 May 1963
A/C Crossed Sta : 90
Airspeed : 158 Knots
Aircraft Course : 090 Degrees
Time of Release : 0516 Hours
Remarks : Left & right tanks
SFC
50 ft
100 ft
150 ft
200 ft

MASS DEPOSIT

MATERIAL: Fuel Oil

FLOW RATE: NA

DATE: 26 May 1963

SYSTEM: FIDAL

FLIGHT #: 2

AIRSPEED: 154 Knots

SAMPLE LINE: D

ALTITUDE: 150 Feet

TIME OF RELEASE: 0539 Hours

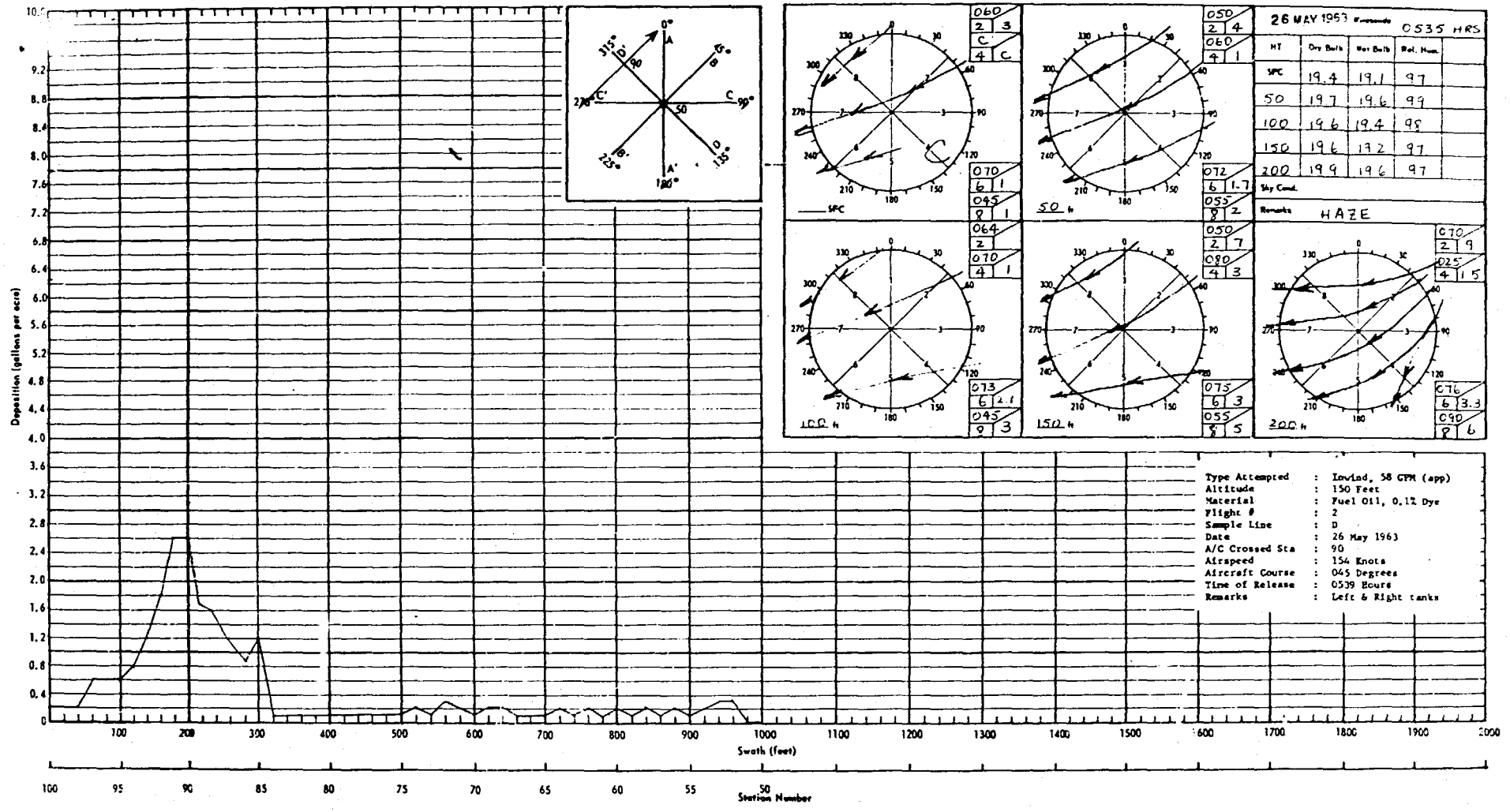
AIRCRAFT COURSE: 045 Degrees

DURATION: 10 Seconds

WIND VECTOR: 066° /3.0 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 51 Blank						76	0.1
				52	0.3	77	0.1
				53	0.3	78	0.1
				54	0.2	79	0.1
				55	0.1	80	0.1
				56	0.2	81	0.1
				57	0.1	82	0.1
				58	0.2	83	0.1
				59	0.1	84	0.1
				60	0.2	85	1.2
				61	0.1	86	0.9
				62	0.2	87	1.2
				63	0.1	88	1.6
				64	0.2	89	1.7
				65	0.1	90	2.6
				66	0.1	91	2.6
				67	0.1	92	1.8
				68	0.2	93	1.2
				69	0.2	94	0.8
				70	0.1	95	0.6
				71	0.2	96	0.6
				72	0.3	97	0.6
				73	0.1	98	0.2
				74	0.2	99	0.2
				75	0.1	100	0.2

Total 22.9


Deposition (gallons per acre)
Swath (feet)
Station Number
0°
45°
90°
135°
180°
225°
270°
315°
A
A'
B
B'
C
C'
50
SFC
50 ft
100 ft
150 ft
200 ft
26 MAY 1963
0535 HRS
HT
Dry Bulb
Wet Bulb
Rel. Hum.
SFC 19.4 19.1 97
50 19.7 19.6 99
100 19.6 19.4 98
150 19.6 19.2 97
200 19.9 19.6 97
Sky Cond.
Remarks HAZE
Type Attempted : Inwind, 58 GPM (app)
Altitude : 150 Feet
Material : Fuel Oil, 0.1% Dye
Flight # : 2
Sample Line : D
Date : 26 May 1963
A/C Crossed Sta : 90
Airspeed : 154 Knots
Aircraft Course : 045 Degrees
Time of Release : 0539 Hours
Remarks : Left & Right tanks

MASS DEPOSIT

MATERIAL: Fuel Oil

FLOW RATE: NA

DATE: 26 May 1963

SYSTEM: FIDAL

FLIGHT #: 3

AIRSPEED: NA

SAMPLE LINE: D

ALTITUDE: 150 Feet

TIME OF RELEASE: 0542 Hours

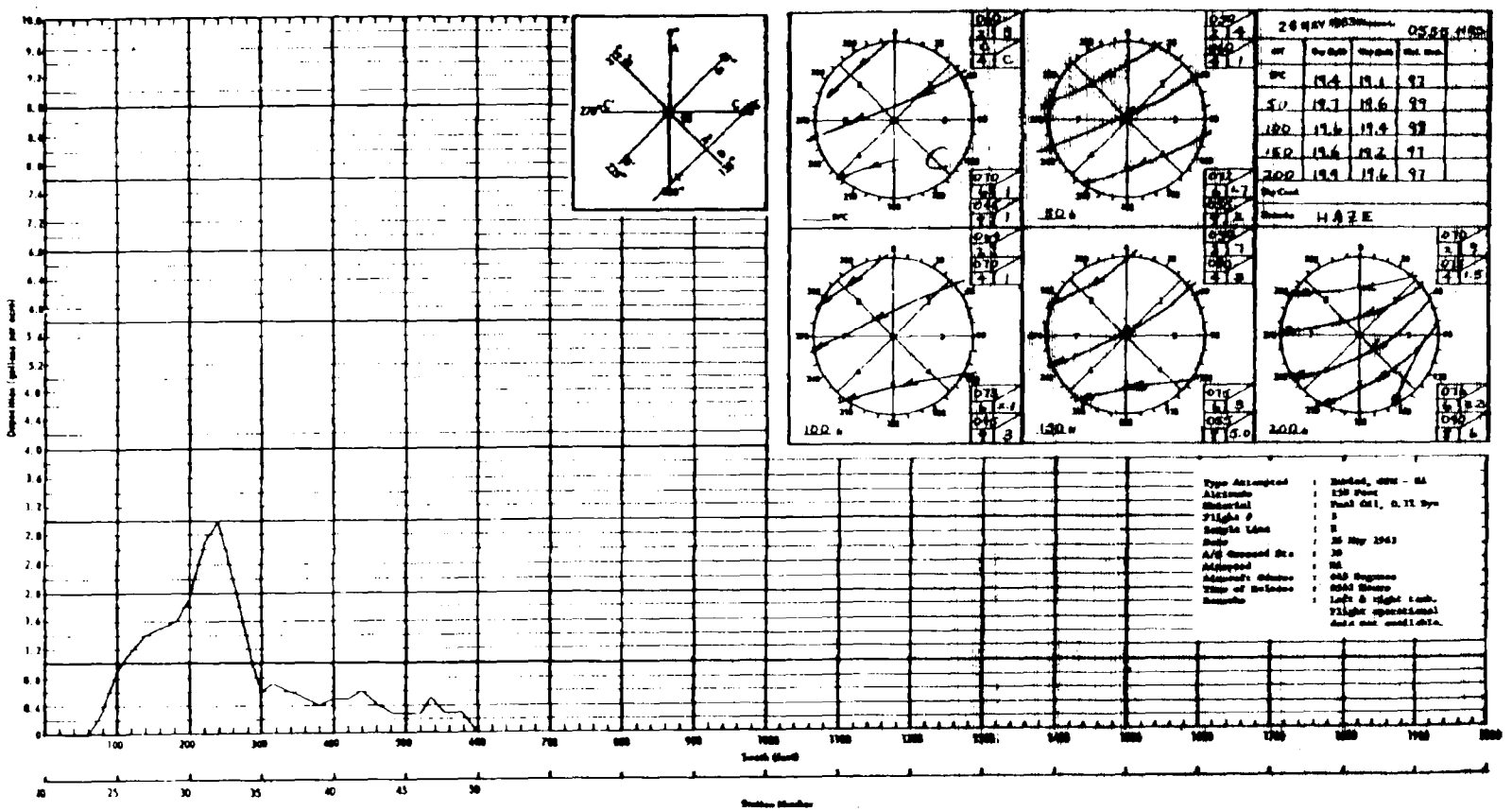
AIRCRAFT COURSE: 045 Degrees

DURATION: NA

WIND VECTOR: 066°/3.0 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
STATIONS 1 - 23 Blank		26	1.1				
		27	1.4				
		28	1.5				
		29	1.6				
		30	1.9				
		31	2.7				
		32	3.0				
		33	2.1				
		34	1.1				
		35	0.6				
		36	0.7				
		37	0.6				
		38	0.5				
		39	0.4				
		40	0.5				
		41	0.5				
		42	0.6				
		43	0.4				
		44	0.3				
		45	0.3				
		46	0.3				
		47	0.5				
		48	0.3				
24	0.3	49	0.3				
25	0.9	Stations 50 - 100 Blank					

Total 24.4


HAZE

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 26 May 1963

FLIGHT #: 4

SAMPLE LINE: A

TIME OF RELEASE: 0607 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

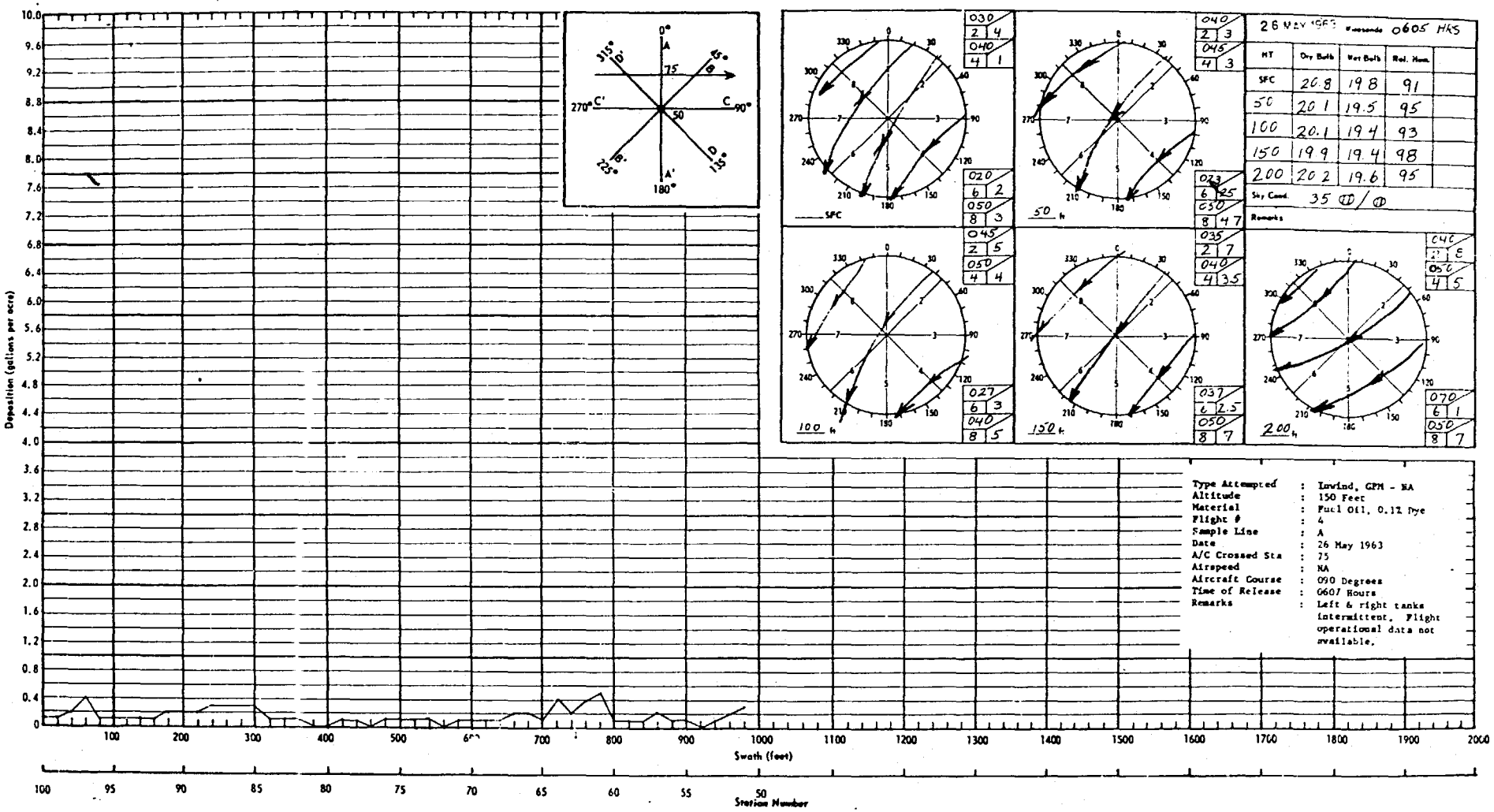
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 090 Degrees

WIND VECTOR: 042°/4.0 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 50 Blank				51	0.3	76	0.1
				52	0.2	77	0.0
				53	0.1	78	0.1
				54	0.0	79	0.1
				55	0.1	80	0.0
				56	0.1	81	0.0
				57	0.2	82	0.1
				58	0.1	83	0.1
				59	0.1	84	0.1
				60	0.1	85	0.3
				61	0.5	86	0.3
				62	0.4	87	0.3
				63	0.2	88	0.3
				64	0.4	89	0.2
				65	0.1	90	0.2
				66	0.2	91	0.2
				67	0.2	92	0.1
				68	0.1	93	0.1
				69	0.1	94	0.1
				70	0.1	95	0.1
				71	0.1	96	0.1
				72	0.0	97	0.4
				73	0.1	98	0.2
				74	0.1	99	0.1
				75	0.1	100	0.1

Total 7.7


Deposition (gallons per acre)
Swath (feet)
Station Number
0° A 75
45°
90° C
50
135°
180° A'
225°
270° C'
315°
SFC
50 ft
100 ft
150 ft
200 ft
26 MAY 1963
0605 HRS
HT | Dry Bulb | Wet Bulb | Rel. Hum.
SFC | 20.8 | 19.8 | 91
50 | 20.1 | 19.5 | 95
100 | 20.1 | 19.4 | 93
150 | 19.9 | 19.4 | 98
200 | 20.2 | 19.6 | 95
Sky Cond. 35 Ⓓ/Ⓓ
Remarks
Type Attempted : Inwind, GPM - NA
Altitude : 150 Feet
Material : Fuel Oil, 0.1% Dye
Flight # : 4
Sample Line : A
Date : 26 May 1963
A/C Crossed Sta : 75
Airspeed : NA
Aircraft Course : 090 Degrees
Time of Release : 0607 Hours
Remarks : Left & right tanks intermittent. Flight operational data not available.

MASS DEPOSIT

MATERIAL: Fuel Oil

FLOW RATE: NA

DATE: 26 May 1963

SYSTEM: FIDAL

FLIGHT #: 5

AIRSPEED: NA

SAMPLE LINE: A

ALTITUDE: 150 Feet

TIME OF RELEASE: 0609 Hours

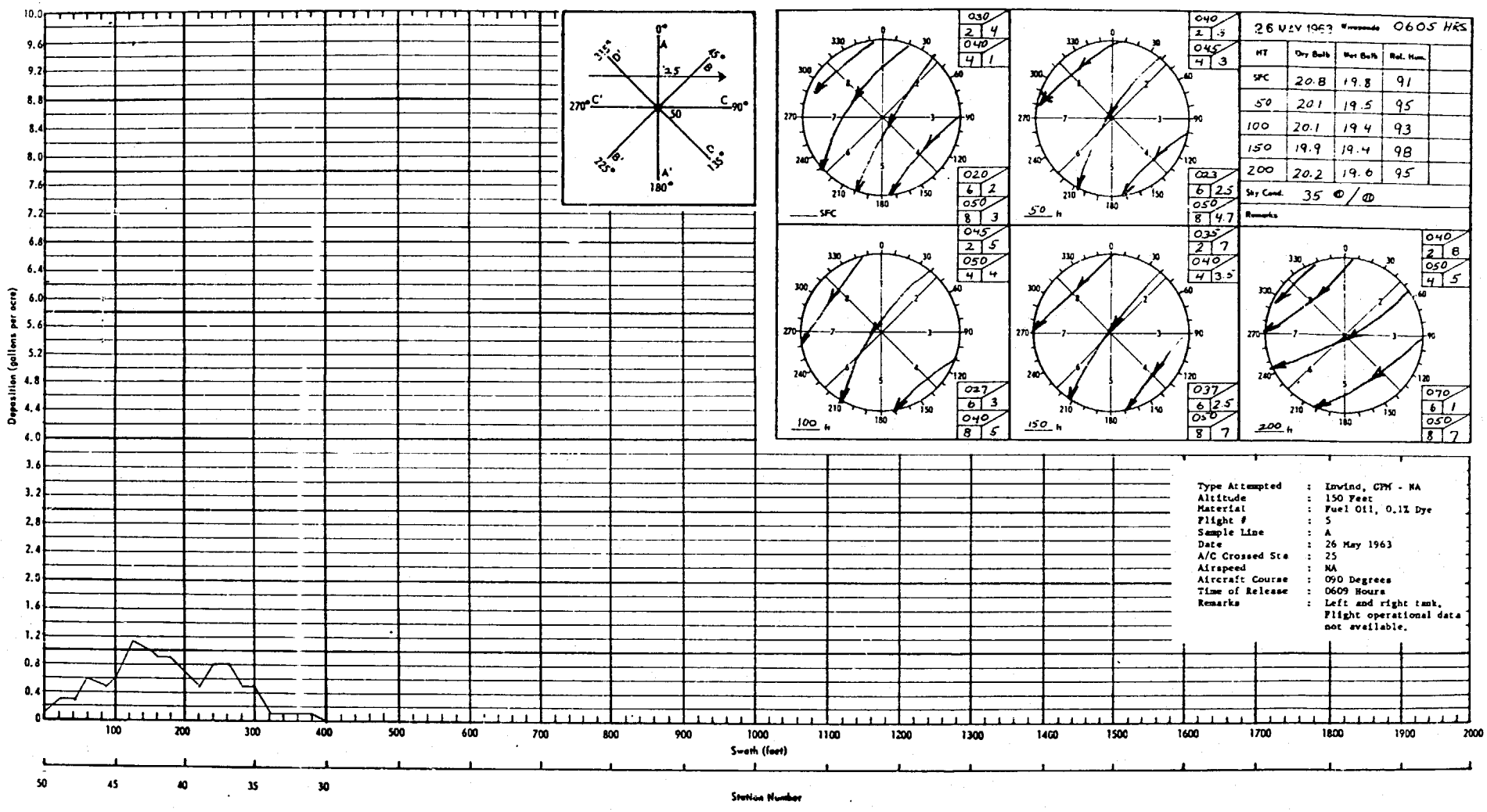
AIRCRAFT COURSE: 090 Degrees

DURATION: NA

WIND VECTOR: 042°/4.0 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 30 Blank				Stations 51 - 100 Blank			
31	0.0						
32	0.1						
33	0.1						
34	0.1						
35	0.5						
36	0.5						
37	0.8						
38	0.8						
39	0.5						
40	0.7						
41	0.9						
42	0.9						
43	1.0						
44	1.1						
45	0.6						
46	0.5						
47	0.6						
48	0.3						
49	0.3						
50	0.1						

Total 10.4


Deposition (gallons per acre)
Swath (feet)
Station Number
0°
A
45°
B
90°
C
135°
A'
180°
225°
B'
270°
C'
315°
25
50
SFC
50 ft
100 ft
150 ft
200 ft
26 MAY 1963 Wrwonde 0605 HRS
MT | Dry Bulb | Wet Bulb | Rel. Hum.
SFC | 20.8 | 19.8 | 91
50 | 20.1 | 19.5 | 95
100 | 20.1 | 19.4 | 93
150 | 19.9 | 19.4 | 98
200 | 20.2 | 19.6 | 95
Sky Cond. 35 Ⓒ / Ⓓ
Remarks
Type Attempted : Inwind, GPH - NA
Altitude : 150 Feet
Material : Fuel Oil, 0.1% Dye
Flight # : 5
Sample Line : A
Date : 26 May 1963
A/C Crossed Sta : 25
Airspeed : NA
Aircraft Course : 090 Degrees
Time of Release : 0609 Hours
Remarks : Left and right tank. Flight operational data not available.

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 26 May 1963

FLIGHT #: 6

SAMPLE LINE: D

TIME OF RELEASE: 0628 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

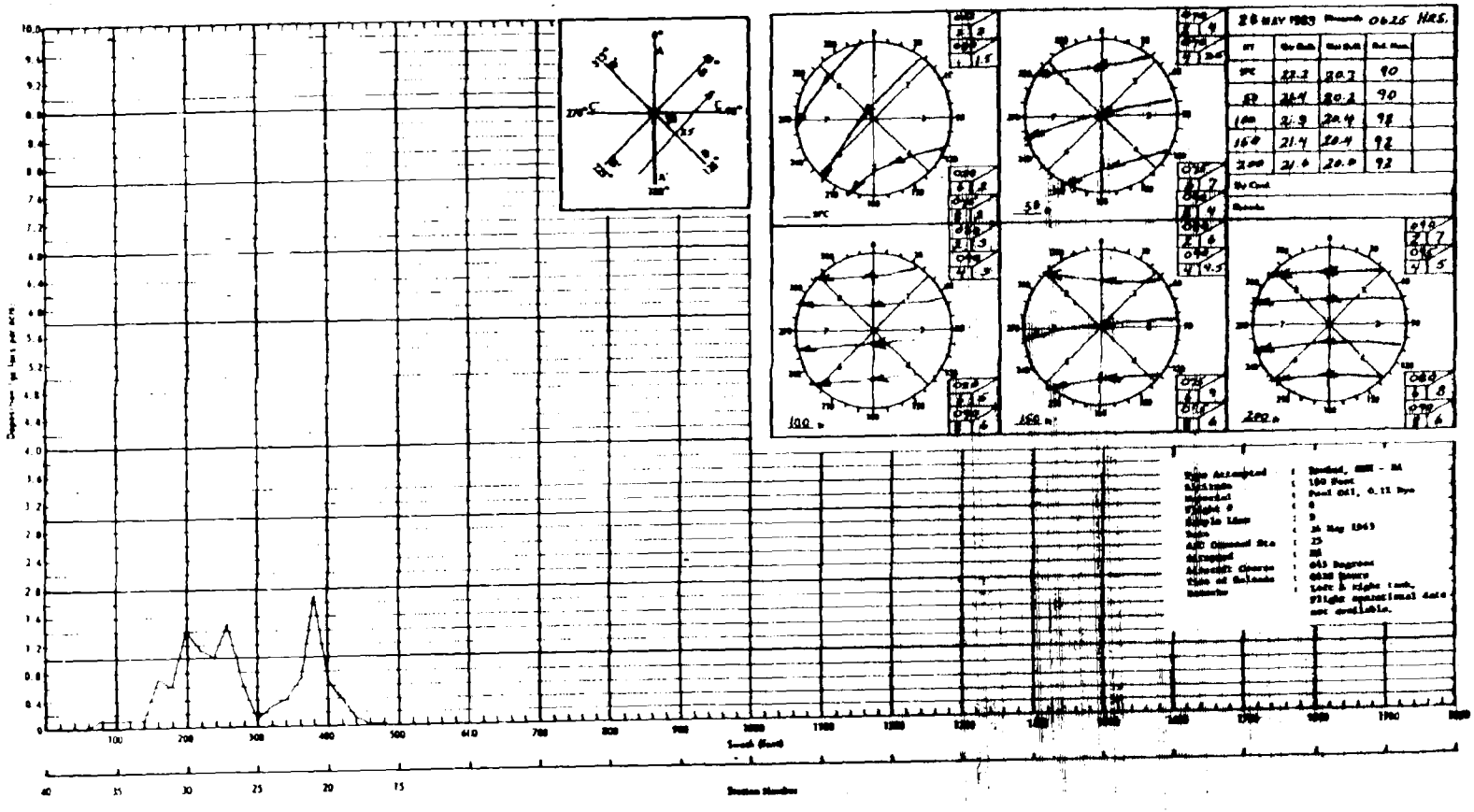
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 045 Degrees

WIND VECTOR: 082°/4.8 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 16 Blank		17	0.0				
		18	0.1				
		19	0.4				
		20	0.7				
		21	1.9				
		22	0.7				
		23	0.4				
		24	0.3				
		25	0.1				
		26	0.6				
		27	1.5				
		28	1.0				
		29	1.1				
		30	1.4				
		31	0.6				
		32	0.7				
		33	0.1				
		34	0.1				
		35	0.1				
		36	0.1				
		Stations 37 - 100 Blank					

Total 11.9



MASS DEPOSIT

MATERIAL: Fuel Oil

FLOW RATE: NA

DATE: 26 May 1963

SYSTEM: FIDAL

FLIGHT #: 7

AIRSPEED: NA

SAMPLE LINE: D

ALTITUDE: 150 Feet

TIME OF RELEASE: 0631 Hours

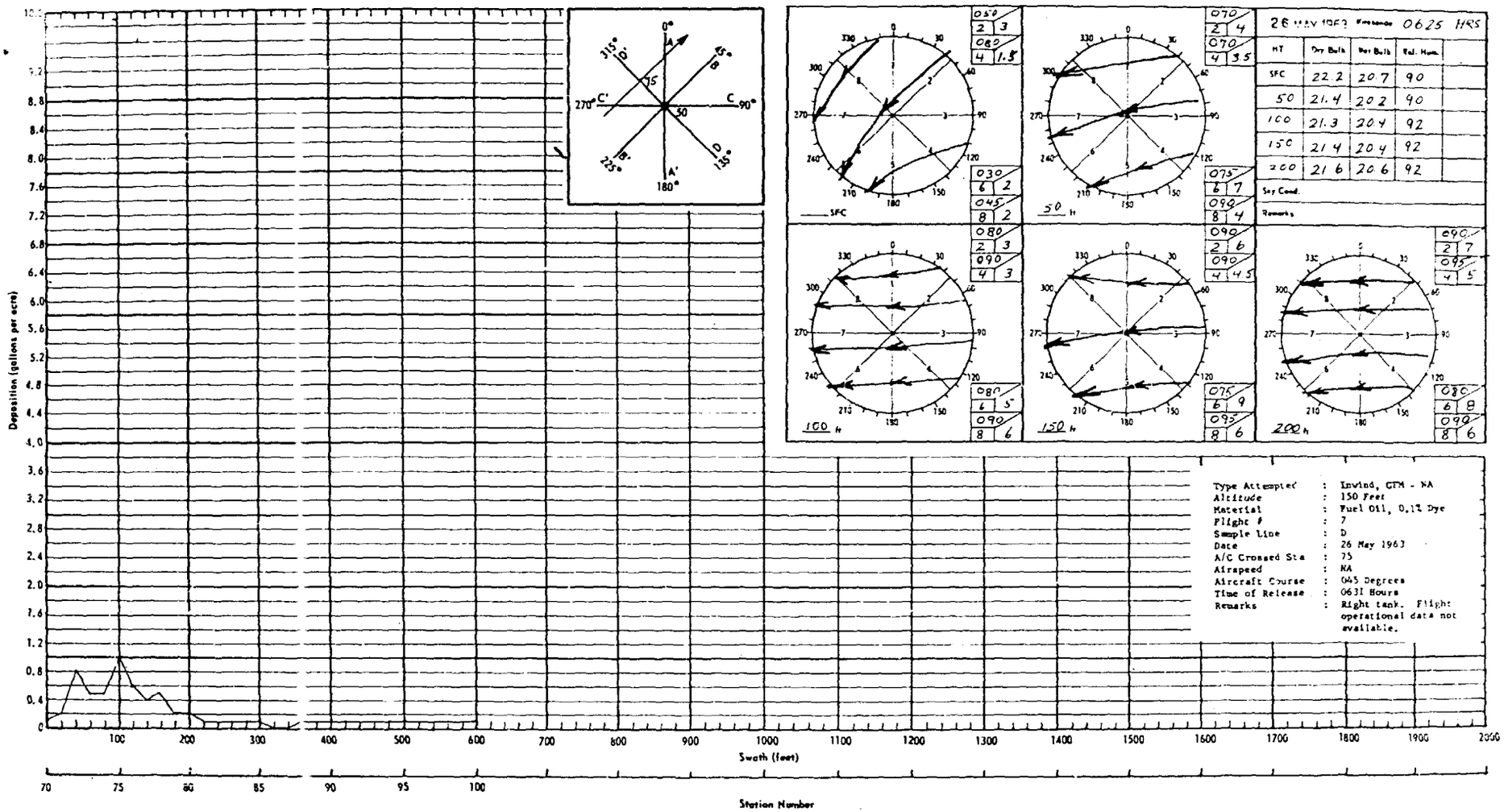
AIRCRAFT COURSE: 045 Degrees

DURATION: NA

WIND VECTOR: 082°/4.8 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 69 Blank						76	0.6
						77	0.4
						78	0.5
						79	0.2
						80	0.2
						81	0.1
						82	0.1
						83	0.1
						84	0.1
						85	0.1
						86	0.0
						87	0.0
						88	0.1
						89	0.1
						90	0.1
						91	0.1
						92	0.1
						93	0.1
						94	0.1
				70	0.1	95	0.1
				71	0.2	96	0.1
				72	0.8	97	0.1
				73	0.5	98	0.1
				74	0.5	99	0.1
				75	1.0	100	0.1

Total 6.8


Deposition (gallons per acre)
Swath (feet)
Station Number
0°
45°
90°
135°
180°
225°
270°
315°
A
A'
C
C'
50
35
26 MAY 1963 Firecode 0625 HRS
HT | Dry Bulb | Wet Bulb | Rel. Hum.
SFC | 22.2 | 20.7 | 90
50 | 21.4 | 20.2 | 90
100 | 21.3 | 20.4 | 92
150 | 21.4 | 20.4 | 92
200 | 21.6 | 20.6 | 92
Sky Cond.
Remarks
SFC
50 ft
100 ft
150 ft
200 ft
Type Attempted : Invind, GTM - NA
Altitude : 150 Feet
Material : Fuel Oil, 0.1% Dye
Flight # : 7
Sample Line : D
Date : 26 May 1963
A/C Crossed Sta : 75
Airspeed : NA
Aircraft Course : 045 Degrees
Time of Release : 0631 Hours
Remarks : Right tank. Flight operational data not available.

MASS MEDIAN DIAMETER

DATE: 26 May 1963

FLIGHT #: 8

SAMPLE LINE: C

FLOW RATE: NA

SPREAD FACTOR: 6.0

CONVERSION FACTOR: 2.5

PAPER: Kromekote, white

MATERIAL: Fuel Oil

SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
21	2	4100*			
21	4	3900			
21	5	3800			
21	1	3700			
21	3	3600			
22	6	3500			
22	7	3400			
23	9	3200			
23	8	3100			

$$MMD = \frac{\text{Spot D Max}}{\text{Spread Factor x Con. Factor}} = \frac{4100}{6.0 \times 2.5} = 273.3 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = \frac{4100}{6} = 683.3 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = \frac{100}{6} = 16.7 \text{ Microns}$$

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 26 May 1963

FLIGHT #: 8

SAMPLE LINE: C

TIME OF RELEASE: 0649 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

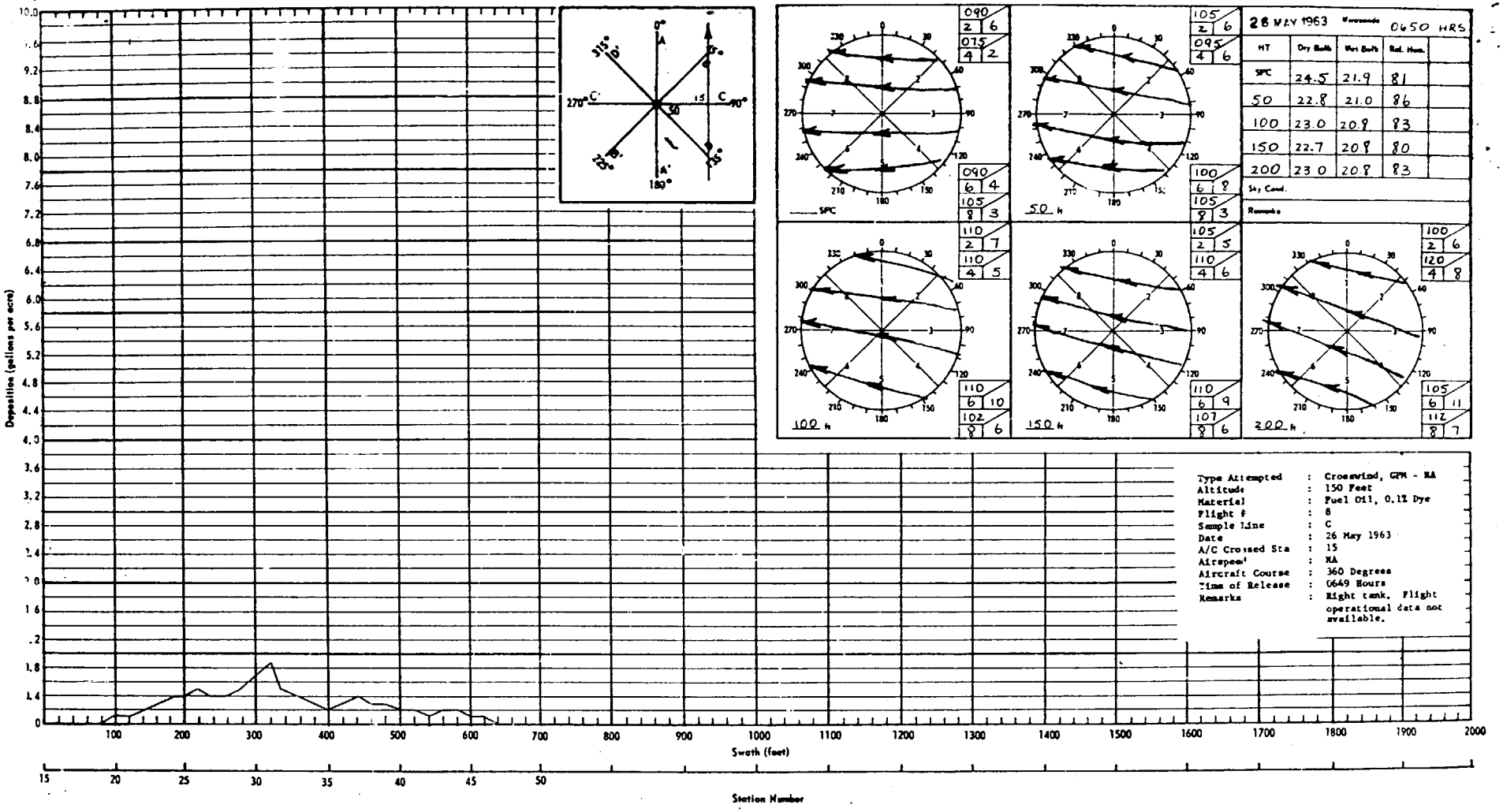
ALTITUDE: 100 Feet

AIRCRAFT COURSE: 360 Degrees

WIND VECTOR: 105°/6.2 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 19 Blank		20	0.1	45	0.1		
		21	0.1	46	0.1		
		22	0.2	Stations 47 - 100 Blank			
		23	0.3				
		24	0.4				
		25	0.4				
		26	0.5				
		27	0.4				
		28	0.4				
		29	0.5				
		30	0.7				
		31	0.9				
		32	0.5				
		33	0.4				
		34	0.3				
		35	0.2				
		36	0.3				
		37	0.4				
		38	0.3				
		39	0.3				
		40	0.2				
		41	0.2				
		42	0.1				
		43	0.2				
		44	0.2				

Total 8.7


Deposition (gallons per acre)
Swath (feet)
Station Number
0° A
45° B
90° C
135° D
180° A'
225° B'
270° C'
315° D'
15
50
26 MAY 1963
0650 HRS
MT
Dry Bulb
Wet Bulb
Rel. Hum.
SFC 24.5 21.9 81
50 22.8 21.0 86
100 23.0 20.9 83
150 22.7 20.9 80
200 23.0 20.8 83
Sky Cond.
Remarks
SFC
50 ft
100 ft
150 ft
200 ft
Type Attempted : Crosswind, GPM - MA
Altitude : 150 Feet
Material : Fuel Oil, 0.1% Dye
Flight # : 8
Sample Line : C
Date : 26 May 1963
A/C Crossed Sta : 15
Airspeed : MA
Aircraft Course : 360 Degrees
Time of Release : 0649 Hours
Remarks : Right tank. Flight operational data not available.

FIDAL FLIGHT DATA

DATE FLOWN: 27 May 1963 CONFIGURATION: Wing tanks only LIQUID SPRAYED: Fuel Oil NOZZLE TYPE: U50120

	TANK	RPM	PRESSURE PSI	FLOW RATE GPM	REMARKS
RUN #1	Left	13-1400	----	?	This is only data available from photo panel.
AIRSPEED: 160 Knots	Ctr	----	----	--	
TIME SPRAYED: 1 3/4 Sec	Right	----	----	?	
RUN #2	Left	14-1500	----	?	Lack of pressure readings indicate no fluid was sprayed on 2 passes filmed. Based on data for 26 May it is estimated both tanks were spraying approximately 75 gpm.
AIRSPEED: 164 Knots	Ctr	----	----	--	
TIME SPRAYED: 7.8 Sec	Right	----	----	?	

GENERAL REMARKS:
1. Plane made 10 passes over grid.
2. Runs #1, 2, and 5, the right tank failed to function.
3. On all other runs both wing tanks functioned.

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 27 May 1963

FLIGHT #: 1

SAMPLE LINE: A

TIME OF RELEASE: 0456 Hours

DURATION: 1.75 Seconds

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: 160 Knots

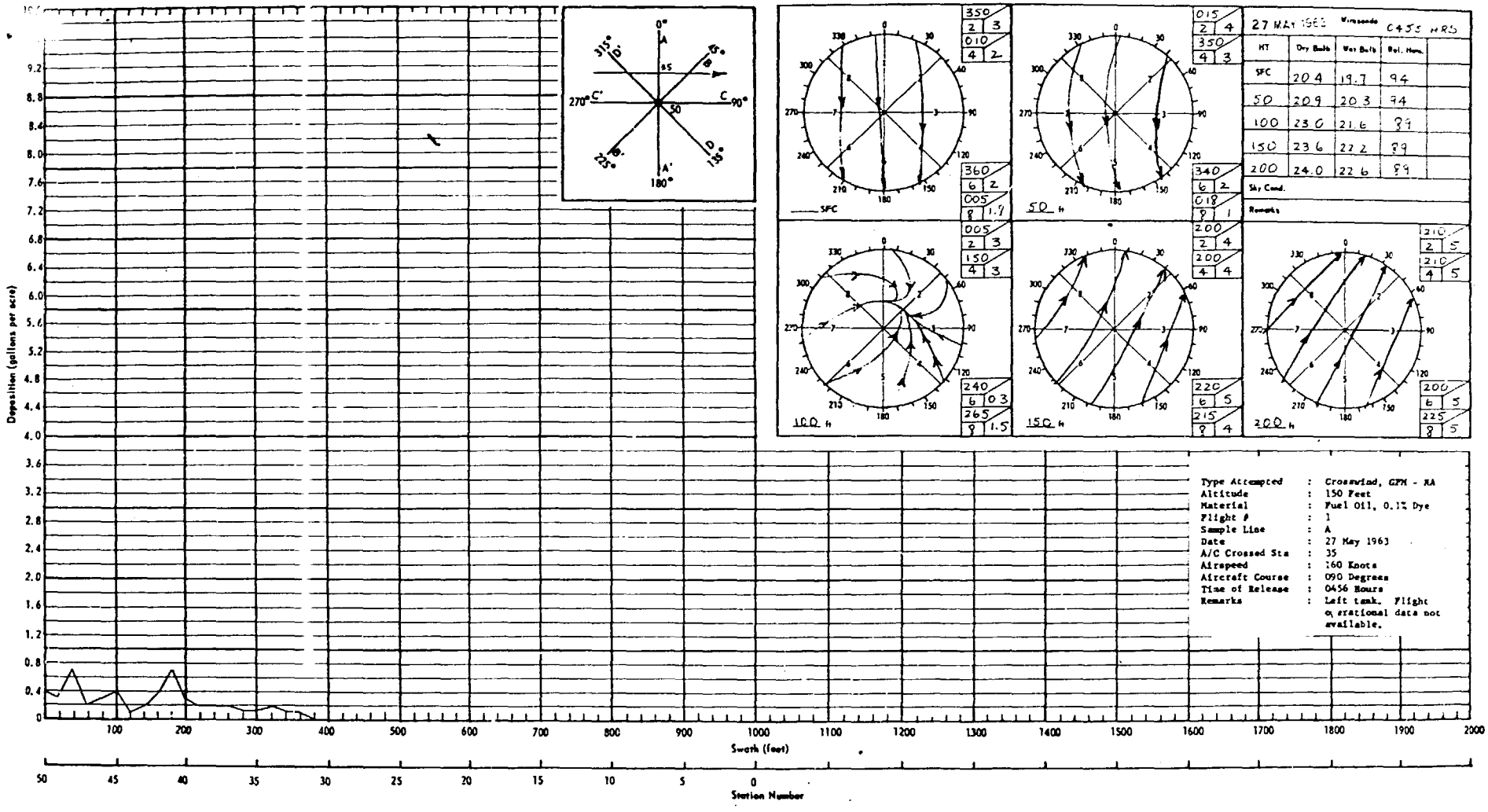
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 090 Degrees

WIND VECTOR: 208°/12 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 31 Blank				Stations 51 - 100 Blank			
32	0.1						
33	0.1						
34	0.2						
35	0.1						
36	0.1						
37	0.2						
38	0.2						
39	0.2						
40	0.3						
41	0.7						
42	0.4						
43	0.2						
44	0.1						
45	0.4						
46	0.3						
47	0.2						
48	0.7						
49	0.3						
50	0.4						

Total 5.2


Deposition (gallons per acre)
Swath (feet)
Station Number
0°
A
45°
315°
D
135°
270° C'
C
90°
35
50
225°
B
B'
180°
A'
SFC
50 ft
100 ft
150 ft
200 ft
27 MAY 1963
Winds aloft
0455 HRS
HT
Dry Bulb
Wet Bulb
Rel. Hum.
SFC 20.4 19.7 94
50 20.9 20.3 94
100 23.0 21.6 89
150 23.6 22.2 89
200 24.0 22.6 89
Sky Cond.
Remarks
Type Attempted : Crosswind, GPM - RA
Altitude : 150 Feet
Material : Fuel Oil, 0.1% Dye
Flight # : 1
Sample Line : A
Date : 27 May 1963
A/C Crossed Sta : 35
Airspeed : 160 Knots
Aircraft Course : 090 Degrees
Time of Release : 0456 Hours
Remarks : Left tank. Flight operational data not available.

MASS MEDIAN DIAMETER

DATE: 27 May 1963

FLIGHT #: 2

SAMPLE LINE: A

FLOW RATE: NA

SPREAD FACTOR: 6.0

CONVERSION FACTOR: 2.5

PAPER: Kromekote, white

MATERIAL: Fuel Oil

SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
80	1	4400*			
81	6	4200			
80	3	4100			
80	2	4000			
80	5	3900			
80	4	3800			
81	7	3700			
81	8	3600			
82	10	3500			
81	9	3400			

$$MMD = \frac{\text{Spot D Max}}{\text{Spread Factor x Con. Factor}} = \frac{4400}{6.0 \times 2.5} = 293.3 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = \frac{4400}{6.0} = 733.3 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = \frac{100}{6.0} = 16.7 \text{ Microns}$$

MASS DEPOSIT

MATERIAL: Fuel Oil

FLOW RATE: NA

DATE: 27 May 1963

SYSTEM: FIDAL

FLIGHT #: 2

AIRSPEED: 164 Knots

SAMPLE LINE: A

ALTITUDE: 150 Feet

TIME OF RELEASE: 0459 Hours

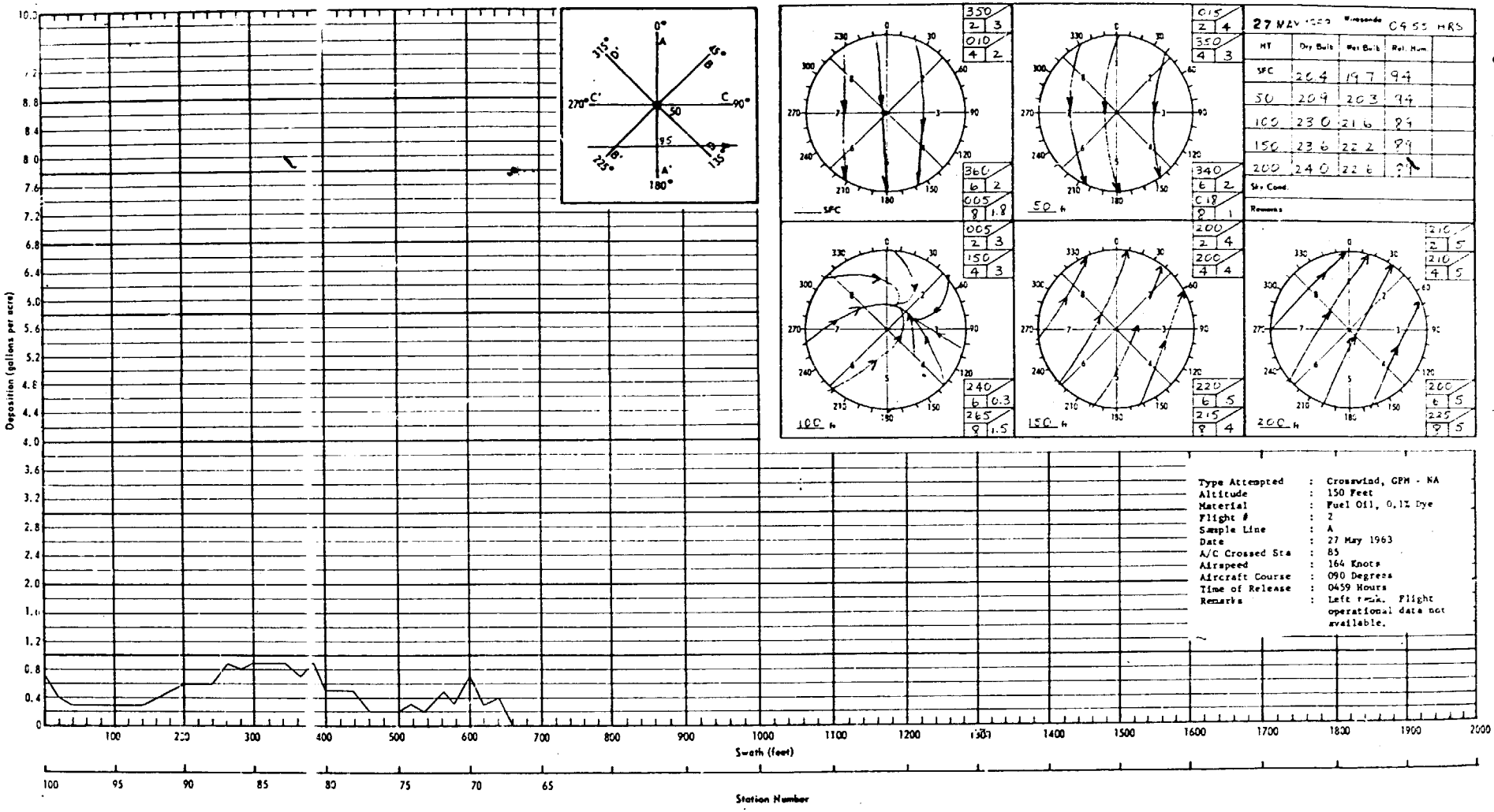
AIRCRAFT COURSE: 090 Degrees

DURATION: 7.8 Seconds

WIND VECTOR: 208°/1.2 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 67 Blank						76	0.2
						77	0.2
						78	0.5
						79	0.5
						80	0.5
						81	0.9
						82	0.7
						83	0.9
						84	0.9
						85	0.9
						86	0.8
						87	0.9
						88	0.6
						89	0.6
						90	0.6
						91	0.5
						92	0.4
				68	0.4	93	0.3
				69	0.3	94	0.3
				70	0.7	95	0.3
				71	0.3	96	0.3
				72	0.5	97	0.3
				73	0.2	98	0.3
				74	0.3	99	0.4
				75	0.2	100	0.7

Total 16.4


Deposition (gallons per acre)
Swath (feet)
Station Number
0°
45°
90°
135°
180°
225°
270°
315°
50
85
A
A'
C
C'
27 MAY 1963 Wiesbaden 0455 HRS
HT | Dry Bulb | Wet Bulb | Rel. Hum
SFC 20.4 19.7 94
50 20.9 20.3 94
100 23.0 21.6 89
150 23.6 22.2 89
200 24.0 22.6 ??
Sky Cond.
Remarks
SFC
50 ft
100 ft
150 ft
200 ft
Type Attempted : Crosswind, GPM - NA
Altitude : 150 Feet
Material : Fuel Oil, 0.1% Dye
Flight # : 2
Sample Line : A
Date : 27 May 1963
A/C Crossed Sta : 85
Airspeed : 164 Knots
Aircraft Course : 090 Degrees
Time of Release : 0459 Hours
Remarks : Left tank. Flight operational data not available.

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 27 May 1963

FLIGHT #: 3

SAMPLE LINE: C

TIME OF RELEASE: 0516 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

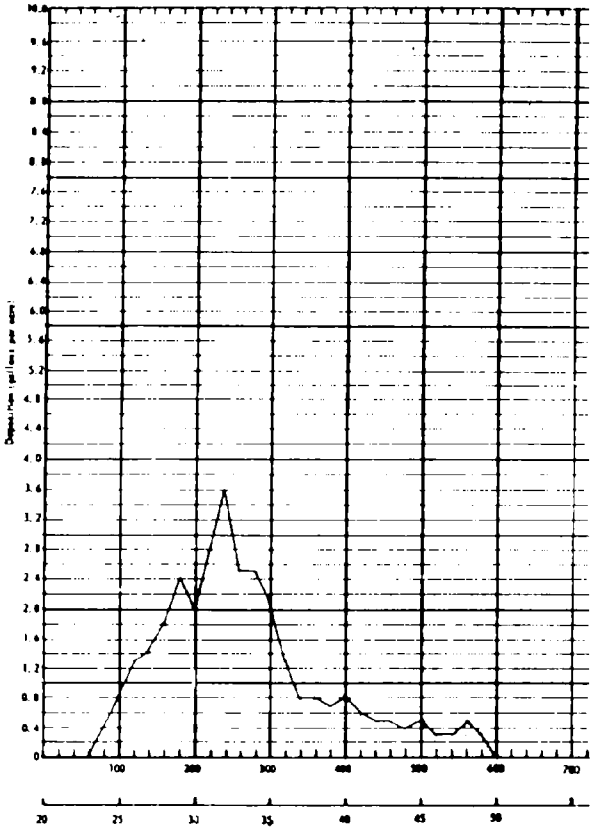
ALTITUDE: 150 Feet

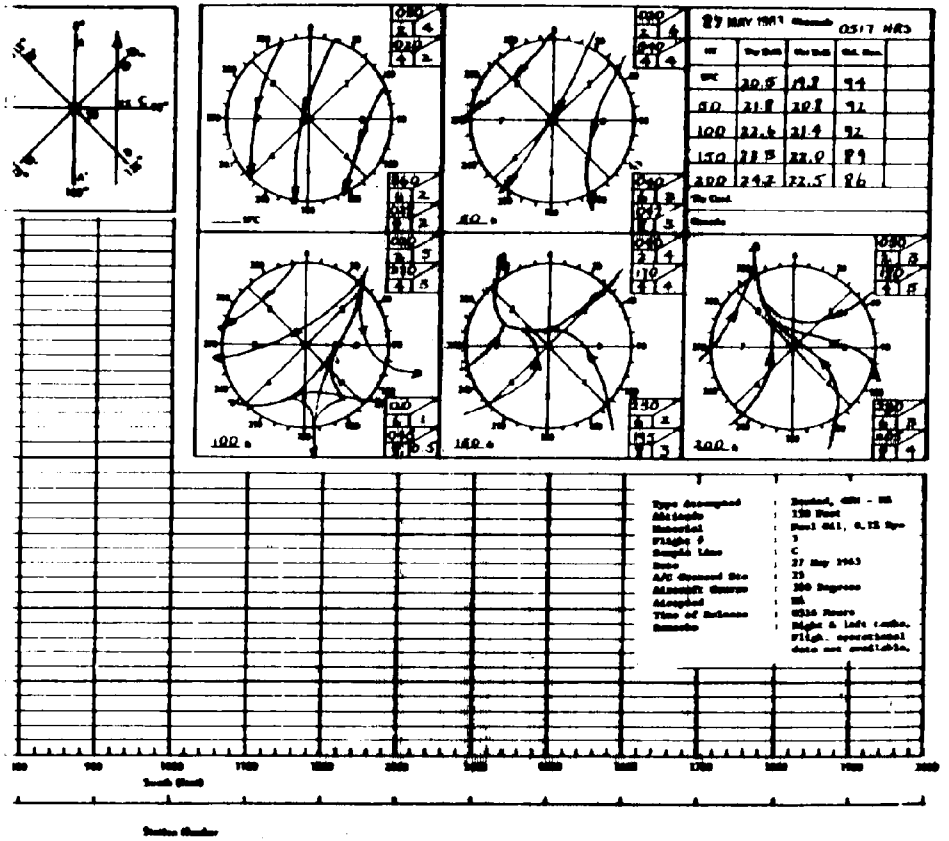
AIRCRAFT COURSE: 360 Degrees

WIND VECTOR: 129°/2.2 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 22 Blank		26	1.3	Stations 51 - 100 Blank			
		27	1.4				
		28	1.8				
		29	2.4				
		30	2.0				
		31	2.8				
		32	3.6				
		33	2.5				
		34	2.5				
		35	2.1				
		36	1.3				
		37	0.8				
		38	0.8				
		39	0.7				
		40	0.8				
		41	0.6				
		42	0.5				
		43	0.5				
		44	0.4				
		45	0.5				
		46	0.3				
		47	0.3				
23	0.0	48	0.5				
24	0.4	49	0.4				
25	0.8	50	0.0				

Total 32.0





MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 27 May 1963

FLIGHT #: 4

SAMPLE LINE: C

TIME OF RELEASE: 0521 Hour

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

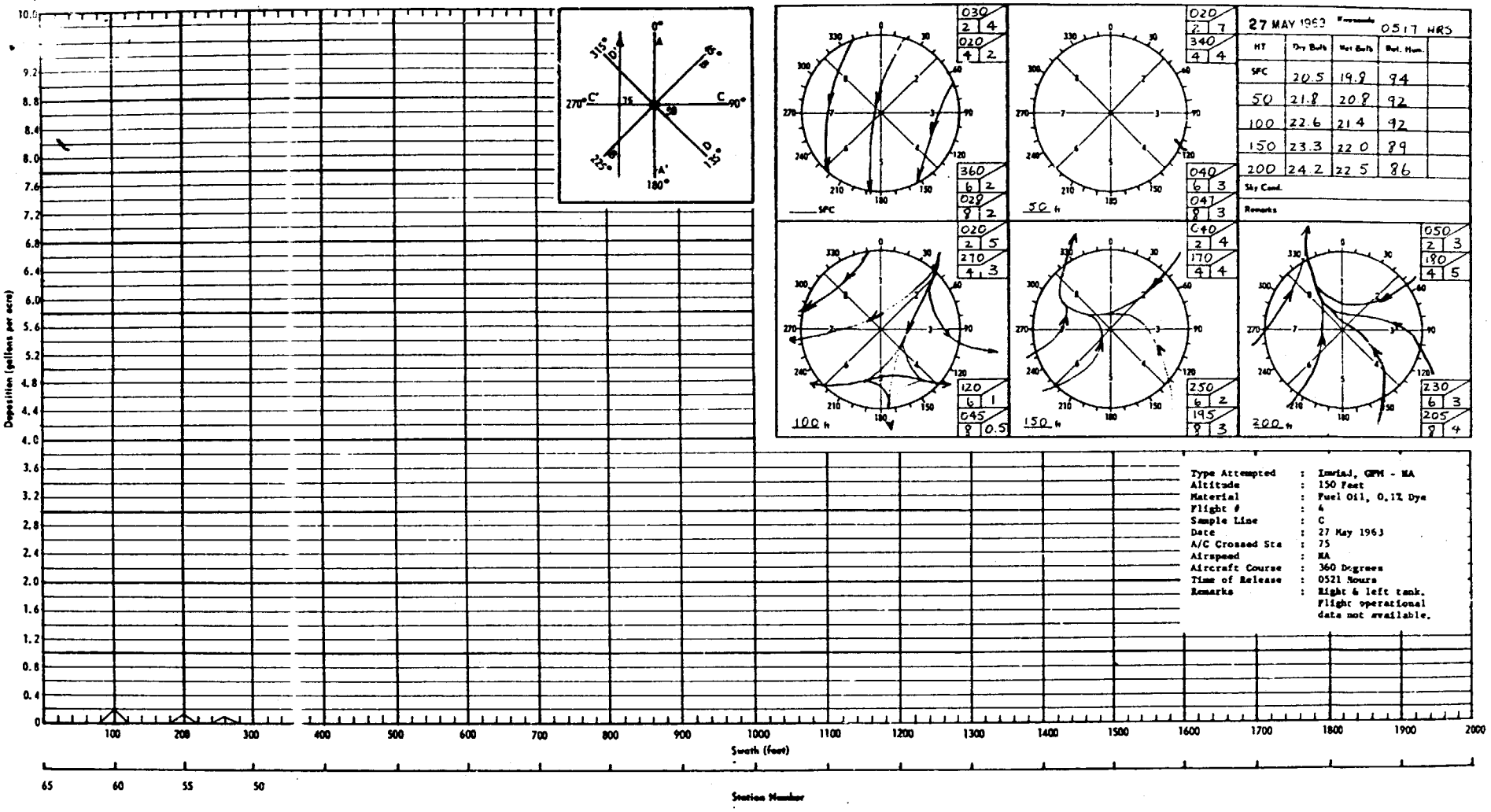
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 360 Degrees

WIND VECTOR: 129°/2.2 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 50 Blank				51	0.0	Stations 76 - 100	
				52	0.1	Blank	
				53	0.0		
				54	0.0		
				55	0.1		
				56	0.0		
				57	0.0		
				58	0.0		
				59	0.0		
				60	0.2		
				61	0.0		
				62	0.0		
				63	0.0		
				64	0.0		
				65	0.0		
				[illegible]	[illegible]		
				68	0.0		
				69	0.0		
				70	0.0		
				71	0.0		
				72	0.0		
				73	0.0		
				74	0.0		
				75	0.0		

Total 0.4


Deposition (gallons per acre)
Swath (feet)
Station Number
65
60
55
50
0°
45°
90°
135°
180°
225°
270°
315°
A
C
SFC
50 ft
100 ft
150 ft
200 ft
27 MAY 1963
0517 HRS
HT | Dry Bulb | Wet Bulb | Rel. Hum.
SFC | 20.5 | 19.8 | 94
50 | 21.8 | 20.8 | 92
100 | 22.6 | 21.4 | 92
150 | 23.3 | 22.0 | 89
200 | 24.2 | 22.5 | 86
Sky Cond.
Remarks
Type Attempted : Imriad, GPM - HA
Altitude : 150 Feet
Material : Fuel Oil, 0.1% Dye
Flight # : 4
Sample Line : C
Date : 27 May 1963
A/C Crossed Sta : 75
Airspeed : HA
Aircraft Course : 360 Degrees
Time of Release : 0521 Hours
Remarks : Right & left tank. Flight operational data not available.

MASS DEPOSIT

MATERIAL: Fuel Oil

FLOW RATE: NA

DATE: 27 May 1963

SYSTEM: FIDAL

FLIGHT #: 5

AIRSPEED: NA

SAMPLE LINE: C

ALTITUDE: 150 Feet

TIME OF RELEASE: 0536 Hours

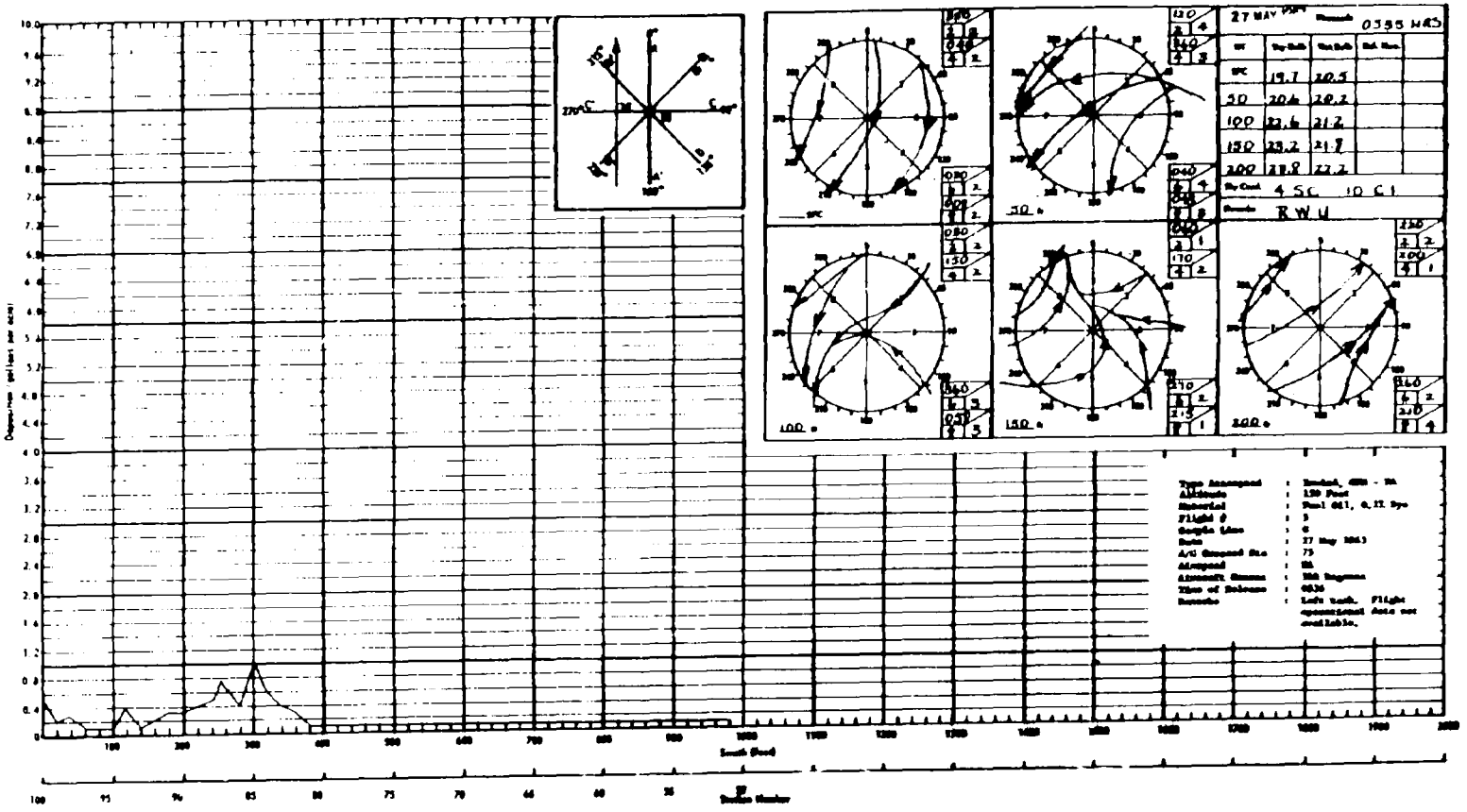
AIRCRAFT COURSE: 360 Degrees

DURATION: NA

WIND VECTOR: 157°/1.3 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 50 Blank				51	0.1	76	0.1
				52	0.1	77	0.1
				53	0.1	78	0.1
				54	0.1	79	0.1
				55	0.1	80	0.1
				56	0.1	81	0.1
				57	0.1	82	0.3
				58	0.1	83	0.4
				59	0.1	84	0.6
				60	0.1	85	1.0
				61	0.1	86	0.4
				62	0.1	87	0.7
				63	0.1	88	0.5
				64	0.1	89	0.4
				65	0.1	90	0.3
				66	0.1	91	0.3
				67	0.1	92	0.2
				68	0.1	93	0.6
				69	0.1	94	0.4
				70	0.1	95	0.1
				71	0.1	96	0.1
				72	0.1	97	0.1
				73	0.1	98	0.3
				74	0.1	99	0.2
				75	0.1	100	0.5

Total 11.5



MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 27 May 1963

FLIGHT #: 6

SAMPLE LINE: C

TIME OF RELEASE: 0540 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

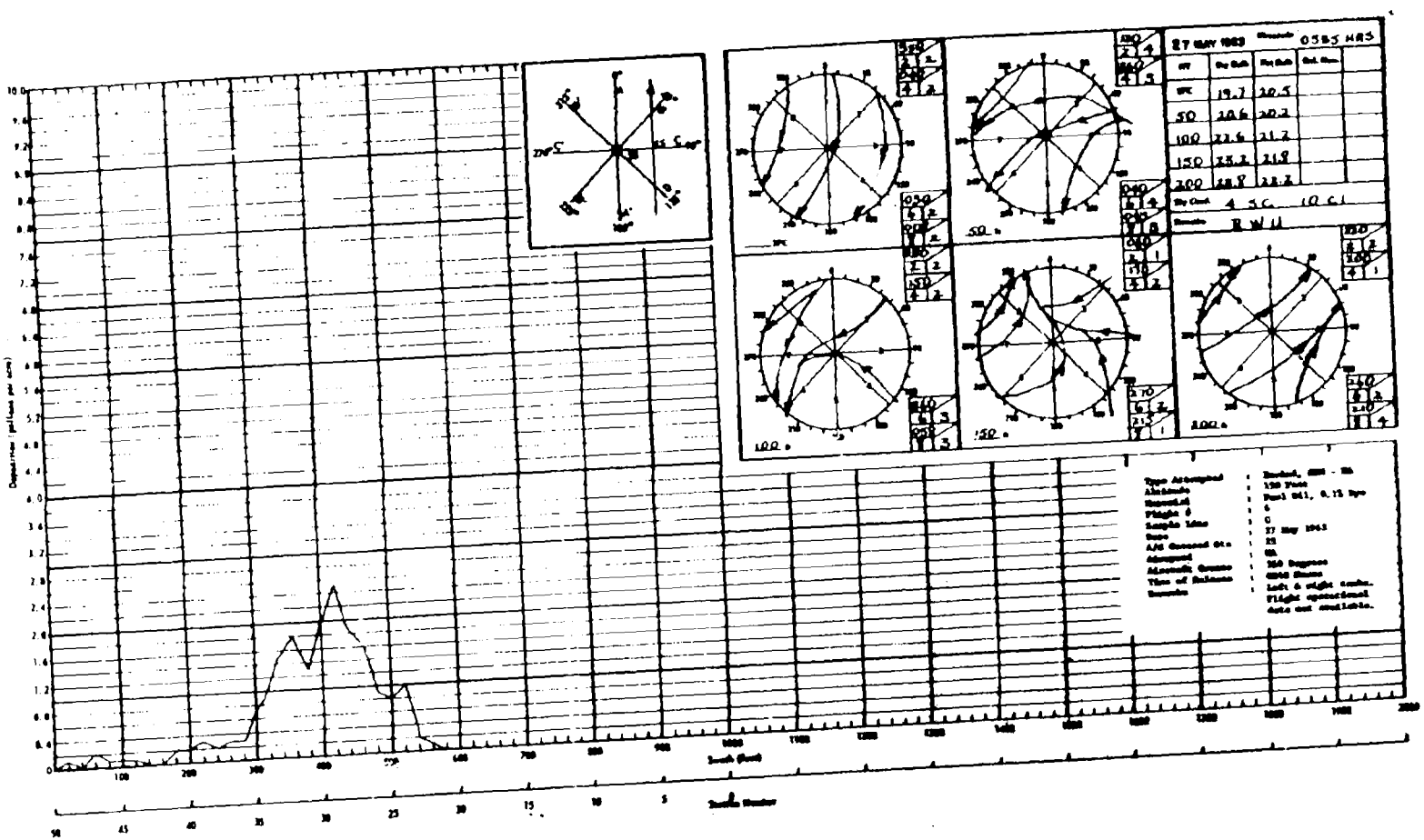
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 360 Degrees

WIND VECTOR: 157°/1.3 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 20 Blank		26	0.9	Stations 51 - 100 Blank			
		27	1.6				
		28	1.9				
		29	2.5				
		30	2.0				
		31	1.3				
		32	1.8				
		33	1.5				
		34	0.9				
		35	0.7				
		36	0.3				
		37	0.3				
		38	0.2				
		39	0.3				
		40	0.2				
		41	0.2				
		42	0.0				
		43	0.0				
		44	0.1				
		45	0.1				
21	0.0	[illegible]	0.1				
22	0.1	[illegible]7	0.2				
23	0.2	[illegible]	0.0				
24	1.0	[illegible]9	0.1				
25	0.8	[illegible]	0.0				

Total 19.3



MASS DEPOSIT

MATERIAL: Fuel Oil

FLOW RATE: NA

DATE: 27 May 1963

SYSTEM: FIDAL

FLIGHT #: 7

AIRSPEED: NA

SAMPLE LINE: D

ALTITUDE: 100 Feet

TIME OF RELEASE: 0556 Hours

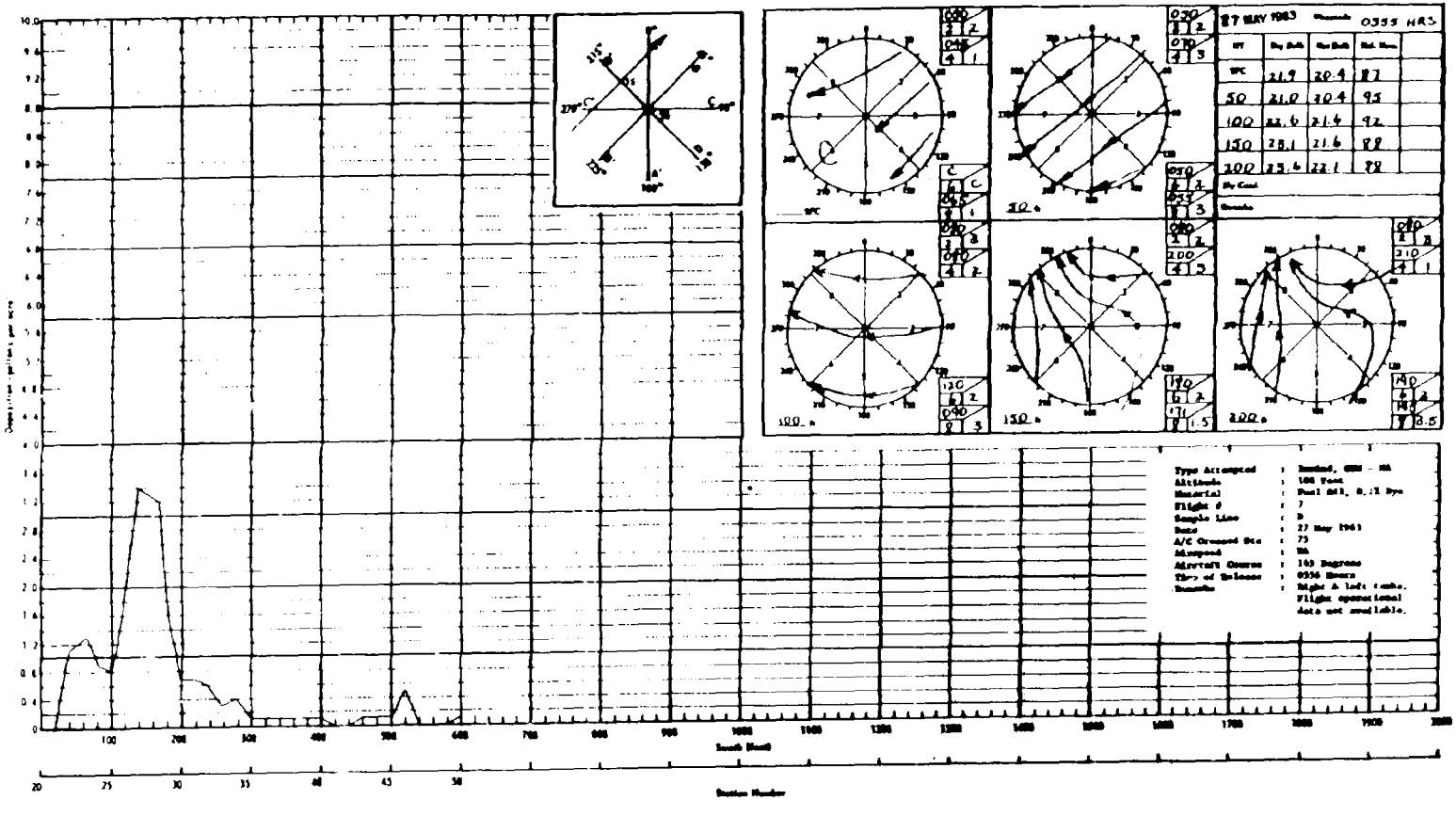
AIRCRAFT COURSE: 045 Degrees

DURATION: NA

WIND VECTOR: 108°/1.4 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 20 Blank		26	1.7				
		27	3.4				
		28	3.2				
		29	1.6				
		30	0.7				
		31	0.7				
		32	0.6				
		33	0.3				
		34	0.4				
		35	0.1				
		36	0.1				
		37	0.1				
		38	0.1				
		39	0.1				
		40	0.1				
		41	0.0				
		42	0.0				
		43	0.1				
		44	0.1				
		45	0.1				
21	0.0	46	0.5				
22	1.1	47	0.0				
23	1.3	48	0.0				
24	0.9	49	0.0				
25	0.8	50	0.1				

Total 18.2


27 MAY 1963
0355 HRS
SFC
50
100
150
200
Type Aircraft
Altitude
Material
Flight #
Sample Line
Date
A/C Ground Spd
Airspeed
Aircraft Course
Time of Release
Remarks
27 May 1963
165 Degrees
0356 Hours
Flight operational data not available.

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 27 May 1963

FLIGHT #: 8

SAMPLE LINE: D

TIME OF RELEASE: 0601 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

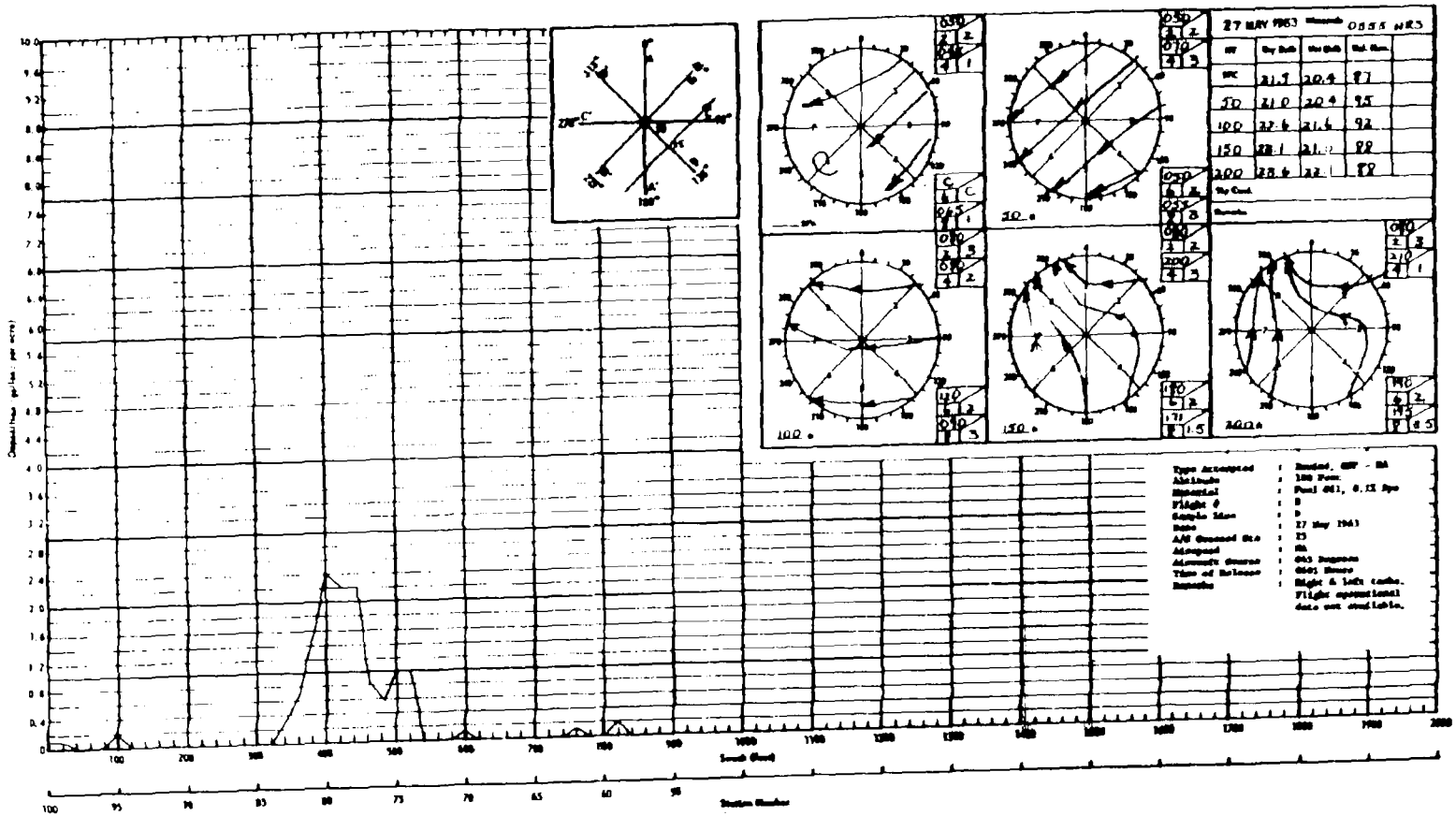
ALTITUDE: 100 Feet

AIRCRAFT COURSE: 045 Degrees

WIND VECTOR: 108°/1.4 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 50 Blank				51	0.0	76	0.6
				52	0.0	77	0.8
				53	0.0	78	2.2
				54	0.0	79	2.2
				55	0.0	80	2.4
				56	0.0	81	1.6
				57	0.0	82	0.7
				58	0.0	83	0.3
				59	0.2	84	0.0
				60	0.0	85	0.0
				61	0.0	86	0.0
				62	0.1	87	0.0
				63	0.0	88	0.0
				64	0.0	89	0.0
				65	0.0	90	0.0
				66	0.0	91	0.0
				67	0.0	92	0.0
				68	0.0	93	0.0
				69	0.0	94	0.0
				70	0.1	95	0.2
				71	0.0	96	0.0
				72	0.0	97	0.0
				73	0.0	98	0.0
				74	1.0	99	0.1
				75	1.0	100	0.1

Total 13.6



MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 27 May 1963

FLIGHT #: 9

SAMPLE LINE: A

TIME OF RELEASE: 0616 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

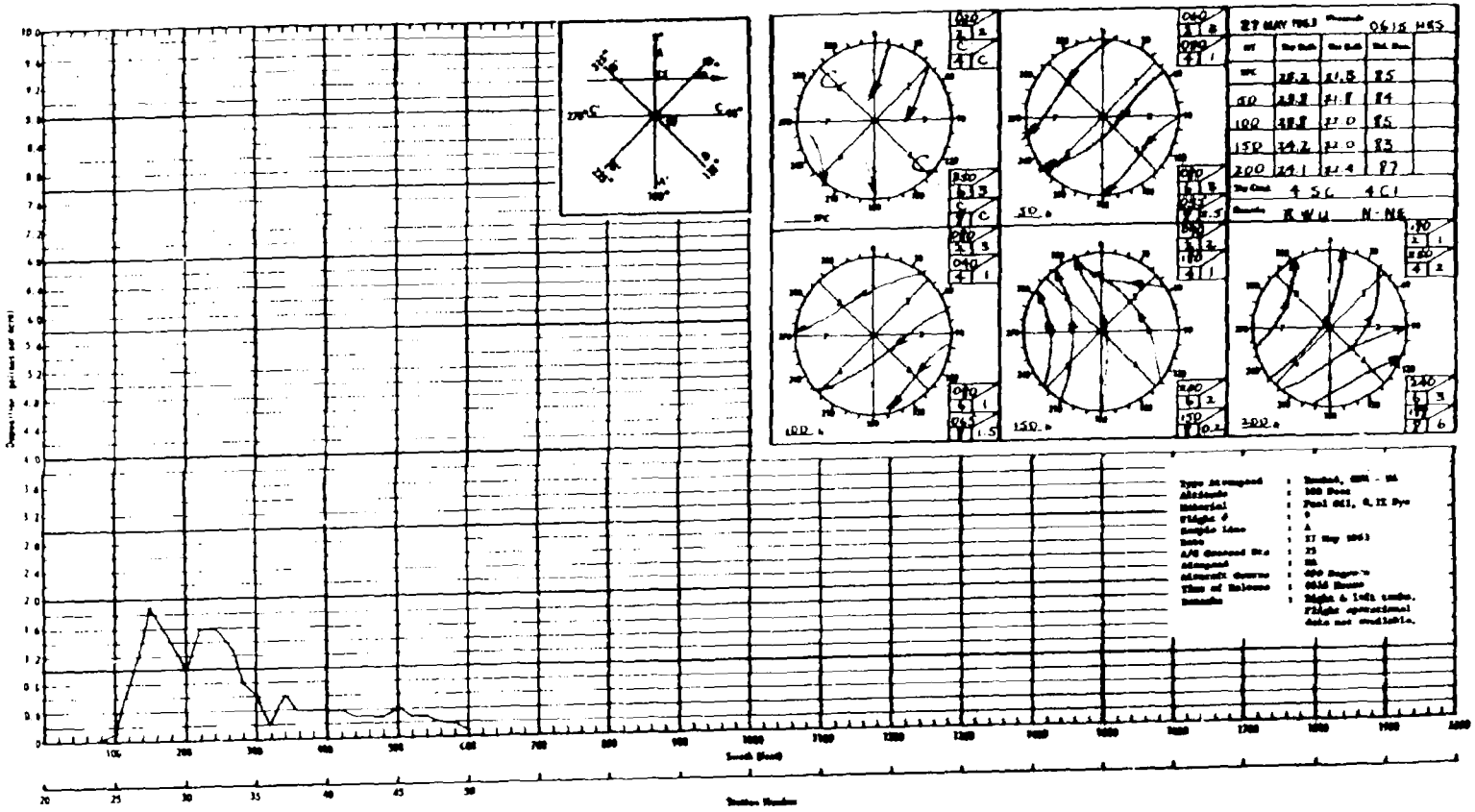
ALTITUDE: 100 Feet

AIRCRAFT COURSE: 090 Degrees

WIND VECTOR: 98° /0.5 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 24 Blank		26	0.7	Station 51 - 100 Blank			
		27	1.2				
		28	1.9				
		29	1.5				
		30	1.0				
		32	1.6				
		32	1.6				
		33	1.3				
		34	0.8				
		35	0.6				
		36	0.2				
		37	0.6				
		38	0.4				
		39	0.4				
		40	0.4				
		41	0.4				
		42	0.3				
		43	0.3				
		44	0.3				
		45	0.4				
		46	0.3				
		47	0.3				
		48	0.2				
		49	0.2				
25	0.1	50	0.1				

Total 17.1



MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 27 May 1963

FLIGHT #: 10

SAMPLE LINE: A

TIME OF RELEASE: 0619 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

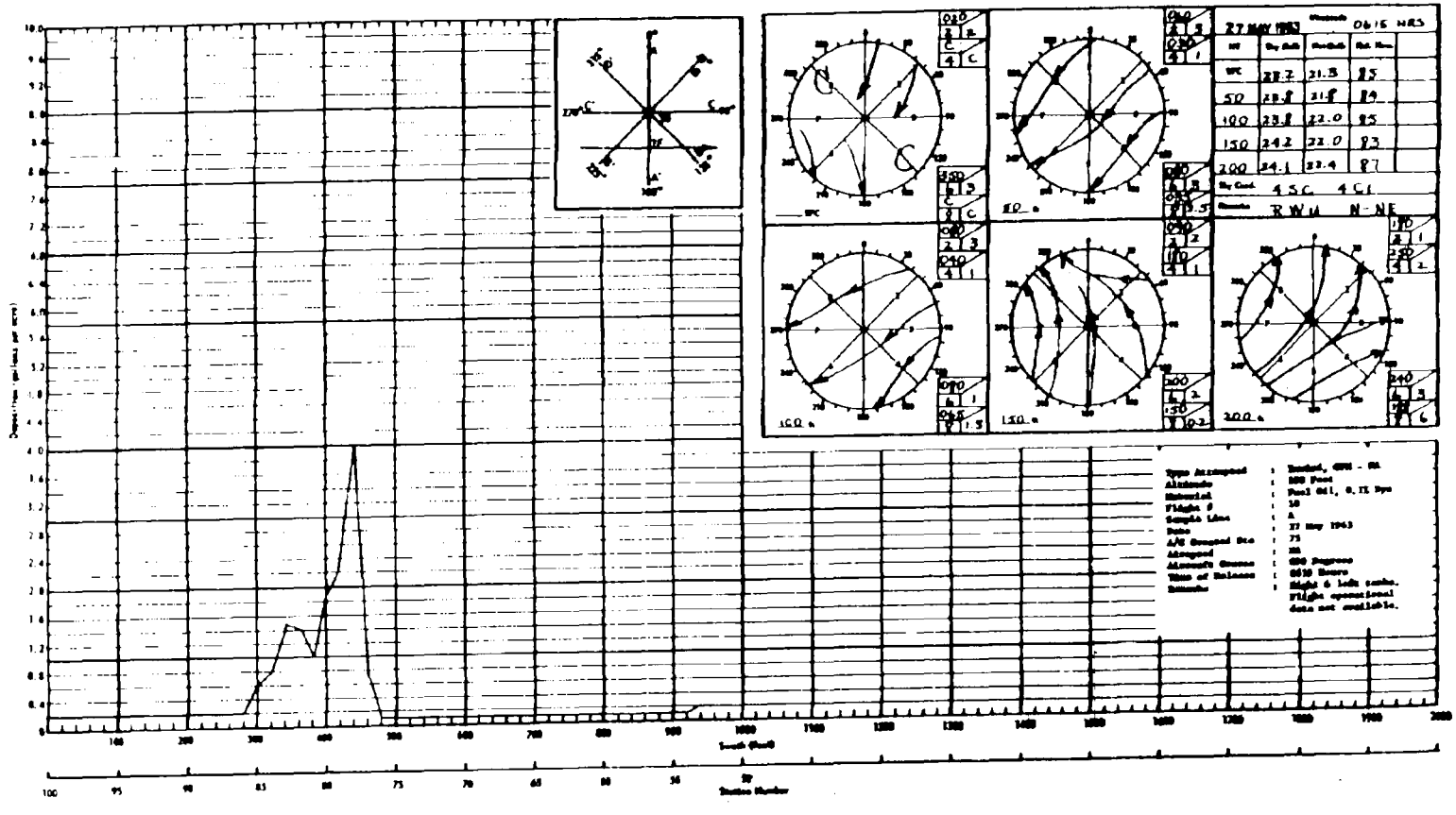
ALTITUDE: 100 Feet

AIRCRAFT COURSE: 090 Degrees

WIND VECTOR: 98°/8.5 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 50 Blank				51	0.2	76	0.1
				52	0.2	77	0.7
				53	0.3	78	4.0
				54	0.1	79	2.2
				55	0.1	80	1.9
				56	0.1	81	1.0
				57	0.1	82	1.4
				58	0.1	83	1.5
				59	0.1	84	0.8
				60	0.1	85	0.6
				61	0.1	86	0.2
				62	0.1	87	0.2
				63	0.1	88	0.2
				64	0.1	89	0.2
				65	0.1	90	0.2
				66	0.1	91	0.2
				67	0.1	92	0.2
				68	0.1	93	0.2
				69	0.1	94	0.2
				70	0.1	95	0.2
				71	0.1	96	0.2
				72	0.1	97	0.2
				73	0.1	98	0.2
				74	0.1	99	0.2
				75	0.1	100	0.2

Total 23.9



FIDAL FLIGHT DATA

DATE FLOWN: 30 May 1963 CONFIGURATION: Wing tanks only LIQUID SPRAYED: Fuel Oil NOZZLE TYPE: U50120

	TANK	RPM	PRESSURE PSI	FLOW RATE GPM	REMARKS
RUN #1	Left	1600	----	92?	Tachometer on right tank non-functional. Pressure recorder on left tank non-functional.
AIRSPEED: 149 to 152 Knots	Ctr	1200	----	--	
TIME SPRAYED:	Right	----	20	75	

GENERAL REMARKS: 1. On Run #1 the blades failed to feather from the power position.
2. Old actuator motors were still in use.

MASS MEDIAN DIAMETER

DATE: 30 May 1963

FLIGHT #: 1

SAMPLE LINE: A

FLOW RATE: NA

SPREAD FACTOR: 6.0

CONVERSION FACTOR: 2.5

PAPER: Kromekote, white

MATERIAL: Fuel Oil

SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
78	1	6100*			
78	3	6000			
83	8	5900			
79	4	5700			
78	2	5600			
79	6	5500			
79	5	5300			
79	7	5200			
81	10	5100			
80	9	5000			

$$MMD = \frac{\text{Spot D Max}}{\text{Spread Factor x Con. Factor}} = \frac{6100}{6.0 \times 2.5} = 406.4 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = \frac{6100}{6.0} = 1016 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = \frac{100}{6.0} = 16.7 \text{ Microns}$$

FIDAL FLIGHT DATA

DATE FLOWN: 31 May 1963 CONFIGURATION: All tanks LIQUID SPRAYED: Fuel Oil NOZZLE TYPE: U50120

	TANK	RPM	PRESSURE PSI	FLOW RATE GPM	REMARKS
RUN #1	Left	1400	0	75	Old actuator motor on center tank. Pump wouldn't prime with 100-150 gallons remaining in the tank. Center pressure gage out. Right tach. out. Left pressure gage out.
AIRSPEED: 157 Knots	Ctr	1000	----	approx 30	
TIME SPRAYED: 8 Sec	Right	peg	11-12	<40	
RUN #2	Left	1400+	0	approx 75	
AIRSPEED: 162-161 Knot	Ctr	1000	--	" 30	
TIME SPRAYED: 9 Sec	Right	peg	13	" 40	
RUN #3	Left	1400	0	approx 75	
AIRSPEED: 163 Knots	Ctr	1000	--	" 30	
TIME SPRAYED: 5 Sec*	Right	peg	13	" 40	*Film ran out after 5 seconds.

GENERAL REMARKS: 1. Six passes flown today.
2. On last run the right and left tanks failed to prime and center tank only sprayed.

MASS MEDIAN DIAMETER

DATE: 31 May 1963

FLIGHT #: 1

SAMPLE LINE: A

FLOW RATE: 145 (app)GPM

SPREAD FACTOR: 6.0

CONVERSION FACTOR: 2.5

PAPER: Kromekote, white

MATERIAL: Fuel Oil

SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
70	1	7300	70	6	4400
68	2	6200	70	7	4300
69	3	5600	71	8	4200
71	9	5200*	71	13	4100
71	10	5100			
71	12	5000			
74	11	4800			
70	4	4600			
70	5	4500			

$$MMD = \frac{\text{Spot D Max}}{\text{Spread Factor x Con. Factor}} = \frac{5200}{6.0 \times 2.5} = 346.6 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = \frac{7300}{6} = 1216.6 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = \frac{100}{6} = 16.7 \text{ Microns}$$

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 31 May 1963

FLIGHT #: 1

SAMPLE LINE: A

TIME OF RELEASE: 0504 Hours

DURATION: 8 Seconds

FLOW RATE: 145 (app) GPM

SYSTEM: FIDAL

AIRSPEED: 157 Knots

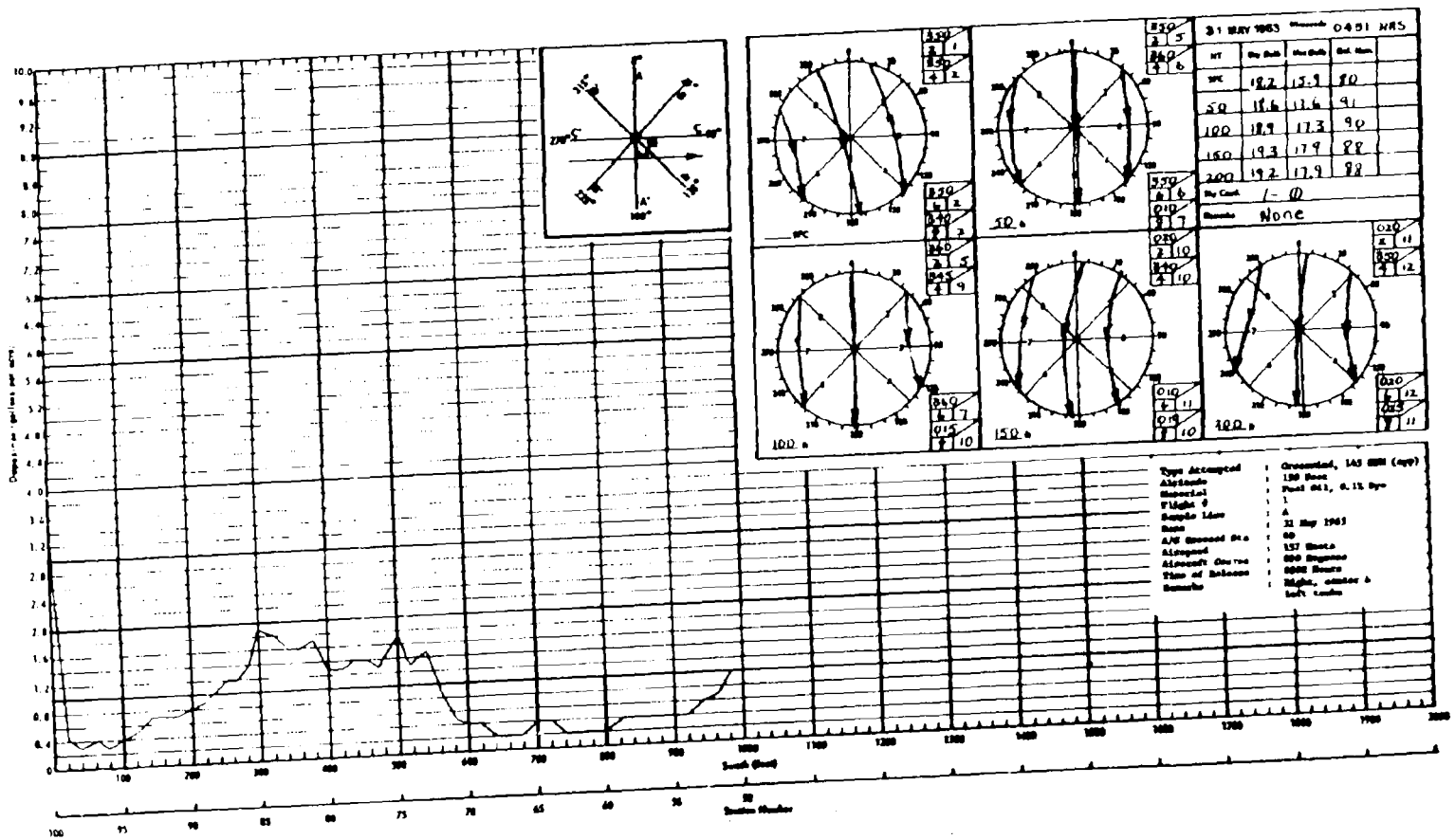
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 090 Degrees

WIND VECTOR: 003°/7.6 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 50 Blank				51	1.0	76	1.3
				52	0.7	77	1.4
				53	0.6	78	1.4
				54	0.4	79	1.3
				55	0.4	80	1.3
				56	0.4	81	1.7
				57	0.4	82	1.6
				58	0.4	83	1.6
				59	0.4	84	1.8
				60	0.2	85	1.9
				61	0.2	86	1.4
				62	0.2	87	1.2
				63	0.2	88	1.2
				64	0.4	89	0.9
				65	0.4	90	0.8
				66	0.2	91	0.7
				67	0.2	92	0.7
				68	0.2	93	0.7
				69	0.4	94	0.5
				70	0.4	95	0.4
				71	0.5	96	0.3
				72	0.9	97	0.4
				73	1.5	98	0.3
				74	1.3	99	0.4
				75	1.7	100	3.2

Total 42.0


31 MAY 1965
0451 HRS
None
SFC
50 ft
100 ft
150 ft
200 ft

MASS MEDIAN DIAMETER

DATE: 31 May 1963

FLIGHT #: 2

SAMPLE LINE: A

FLOW RATE: 145 (app)GPM

SPREAD FACTOR: 6.0

CONVERSION FACTOR: 2.5

PAPER: Kromekote, white

MATERIAL: Fuel Oil

SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
29	1	6300	30	8	4300
29	2	5300	27	11	4200
29	3	5000*	29	12	4100
28	6	4900			
28	7	4800			
29	4	4700			
30	9	4600			
30	10	4500			
29	5	4400			

$$MMD = \frac{\text{Spot D Max}}{\text{Spread Factor x Con. Factor}} = \frac{5000}{6.0 \times 2.5} = 333.3 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = \frac{6300}{6.0} = 1050 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = \frac{100}{6.0} = 16.7 \text{ Microns}$$

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 31 May 1963

FLIGHT #: 2

SAMPLE LINE: A

TIME OF RELEASE: 0502 Hours

DURATION: 9 Seconds

FLOW RATE: 145 (app) GPM

SYSTEM: FIDAL

AIRSPEED: 161-162 Knots

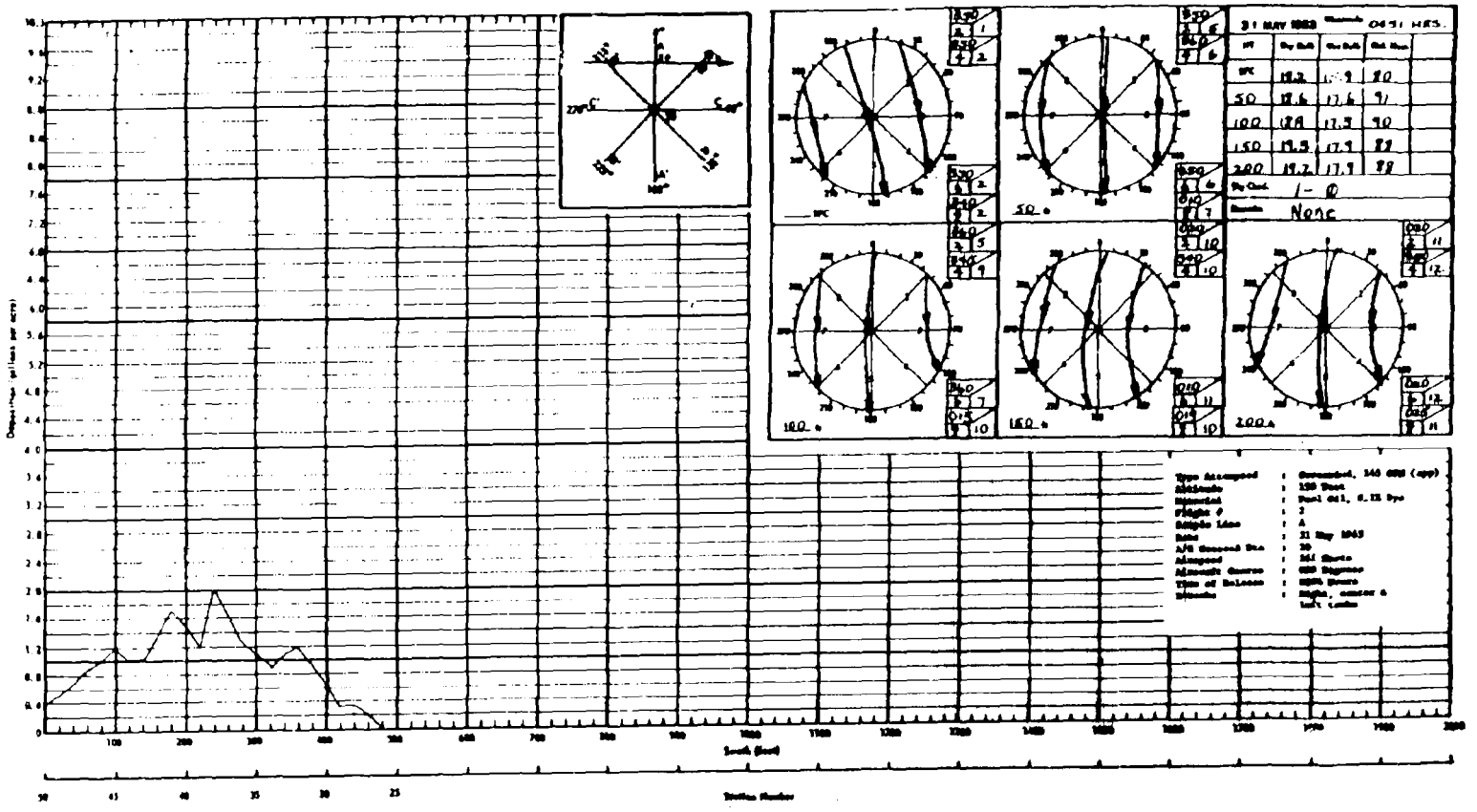
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 090 Degree

WIND VECTOR: 003°/7.6 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 26 Blank				Stations 51 - 100 Blank			
		27	0.2				
		28	0.3				
		29	0.3				
		30	0.6				
		31	0.9				
		32	1.2				
		33	1.1				
		34	0.9				
		35	1.1				
		36	1.3				
		37	1.7				
		28	2.0				
		39	1.2				
		40	1.5				
		41	1.7				
		42	1.3				
		43	1.0				
		44	1.0				
		45	1.2				
		46	1.0				
		47	0.9				
		48	0.7				
		49	0.5				
		50	0.4				

Total 24.0


31 MAY 1963
0451 HRS.
SFC
50
100
150
200
None
50 ft
100 ft
150 ft
200 ft
South (feet)

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 31 May 1963

FLIGHT #: 3

SAMPLE LINE: C

TIME OF RELEASE: 0521 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

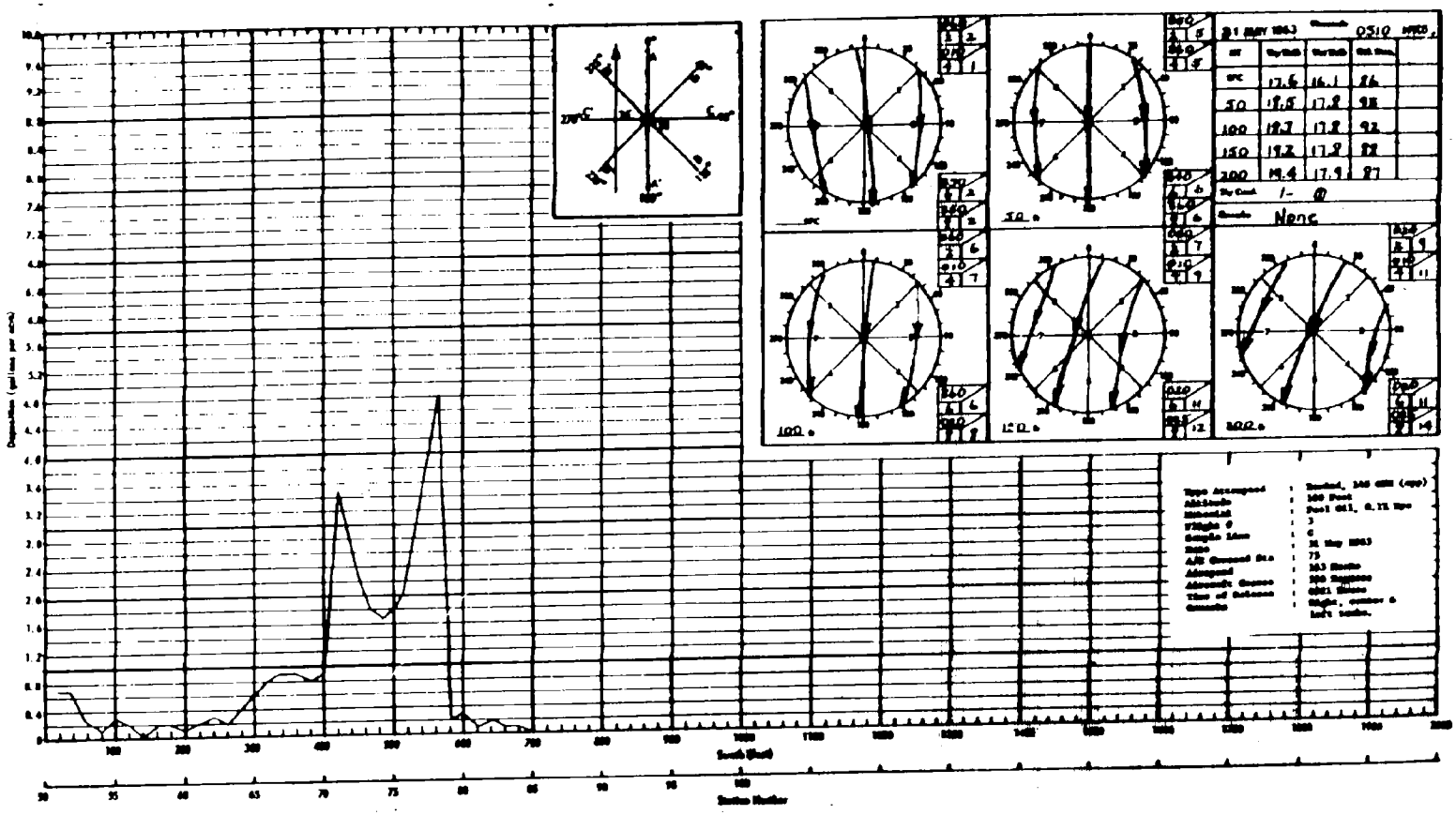
ALTITUDE: 100 Feet

AIRCRAFT COURSE: 360 Degrees

WIND VECTOR: 012°/7.0 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 50 Blank				51	0.7	76	2.0
				52	0.7	77	3.5
				53	0.3	78	4.8
				54	0.1	79	0.2
				55	0.3	80	0.3
				56	0.2	81	0.1
				57	0.0	82	0.2
				58	0.2	83	0.1
				59	0.2	84	0.1
				60	0.1	Stations 85 - 100 Blank	
				61	0.2		
				62	0.3		
				63	0.2		
				64	0.4		
				65	0.6		
				66	0.8		
				67	0.9		
				68	0.9		
				69	0.8		
				70	0.9		
				71	3.5		
				72	2.5		
				73	1.8		
				74	1.7		
				75	1.8		

Total 31.4



MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 31 May 1963

FLIGHT #: 4

SAMPLE LINE: C

TIME OF RELEASE: 0523 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

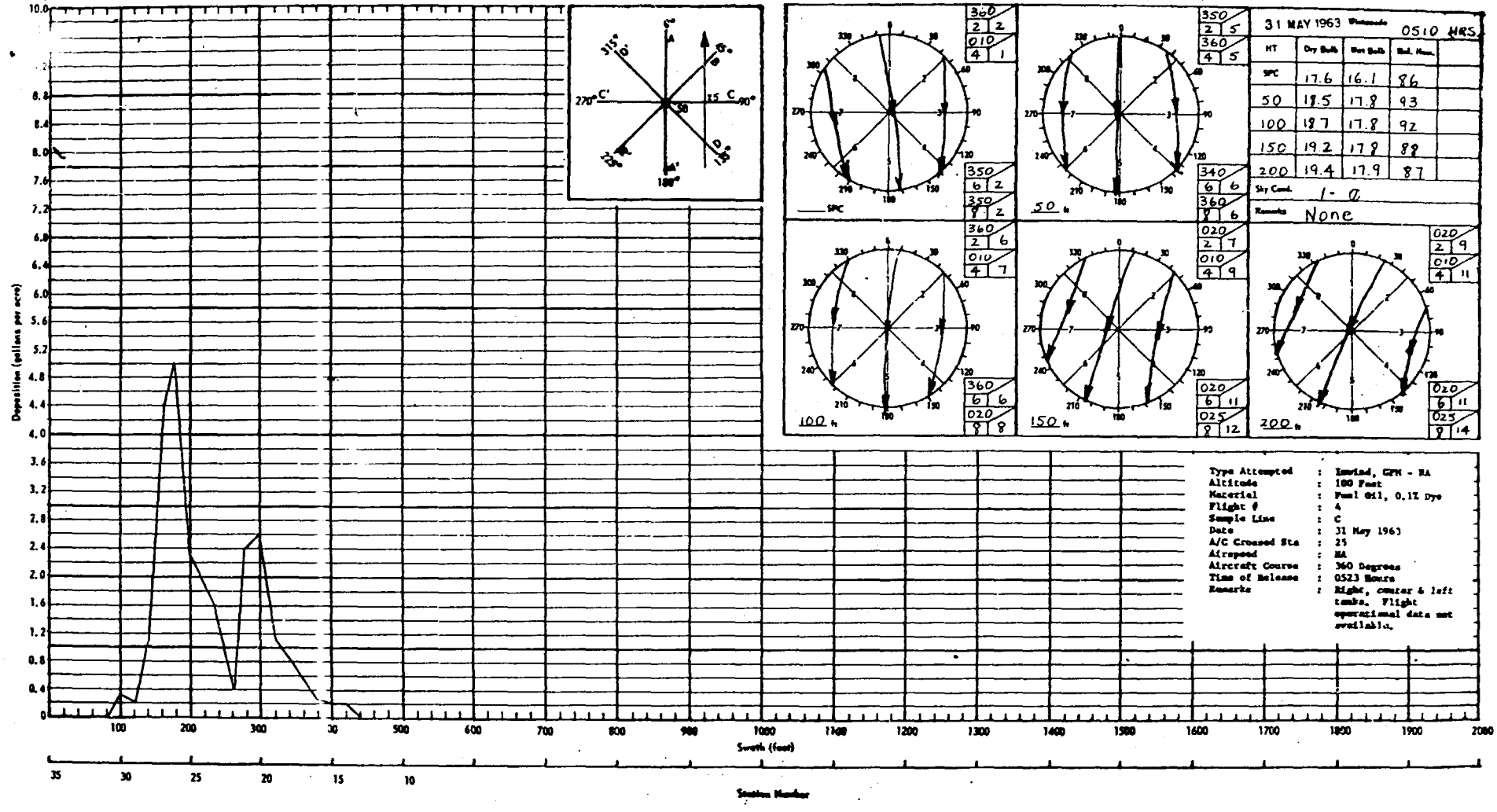
ALTITUDE: 100 Feet

AIRCRAFT COURSE: 360 Degrees

WIND VECTOR: 012°/7.0 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 12 Blank		13	0.0				
		14	0.2				
		15	0.2				
		16	0.3				
		17	0.6				
		18	0.8				
		19	1.1				
		20	2.6				
		21	2.4				
		22	0.4				
		23	1.6				
		24	2.0				
		25	2.3				
		26	5.0				
		27	4.4				
		28	1.1				
		29	0.2				
		30	0.3				

Total 25.5


Deposition (gallons per acre)
Swath (feet)
Station Number
SPC
50 ft
100 ft
150 ft
200 ft
31 MAY 1963
0510 HRS
HT | Dry Bulb | Wet Bulb | Rel. Hum.
SPC | 17.6 | 16.1 | 86
50 | 18.5 | 17.8 | 93
100 | 18.7 | 17.8 | 92
150 | 19.2 | 17.8 | 89
200 | 19.4 | 17.9 | 87
Sky Cond. 1 - 0
Remarks None
Type Attempted : Emulsd, GPN - HA
Altitude : 100 Feet
Material : Fuel Oil, 0.1% Dye
Flight # : 4
Sample Line : C
Date : 31 May 1963
A/C Crossed Sta : 25
Airspeed : HA
Aircraft Course : 360 Degrees
Time of Release : 0523 Hours
Remarks : Right, center & left tanks. Flight operational data not available.

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 31 May 1963

FLIGHT #: 5

SAMPLE LINE: C

TIME OF RELEASE: 0539 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

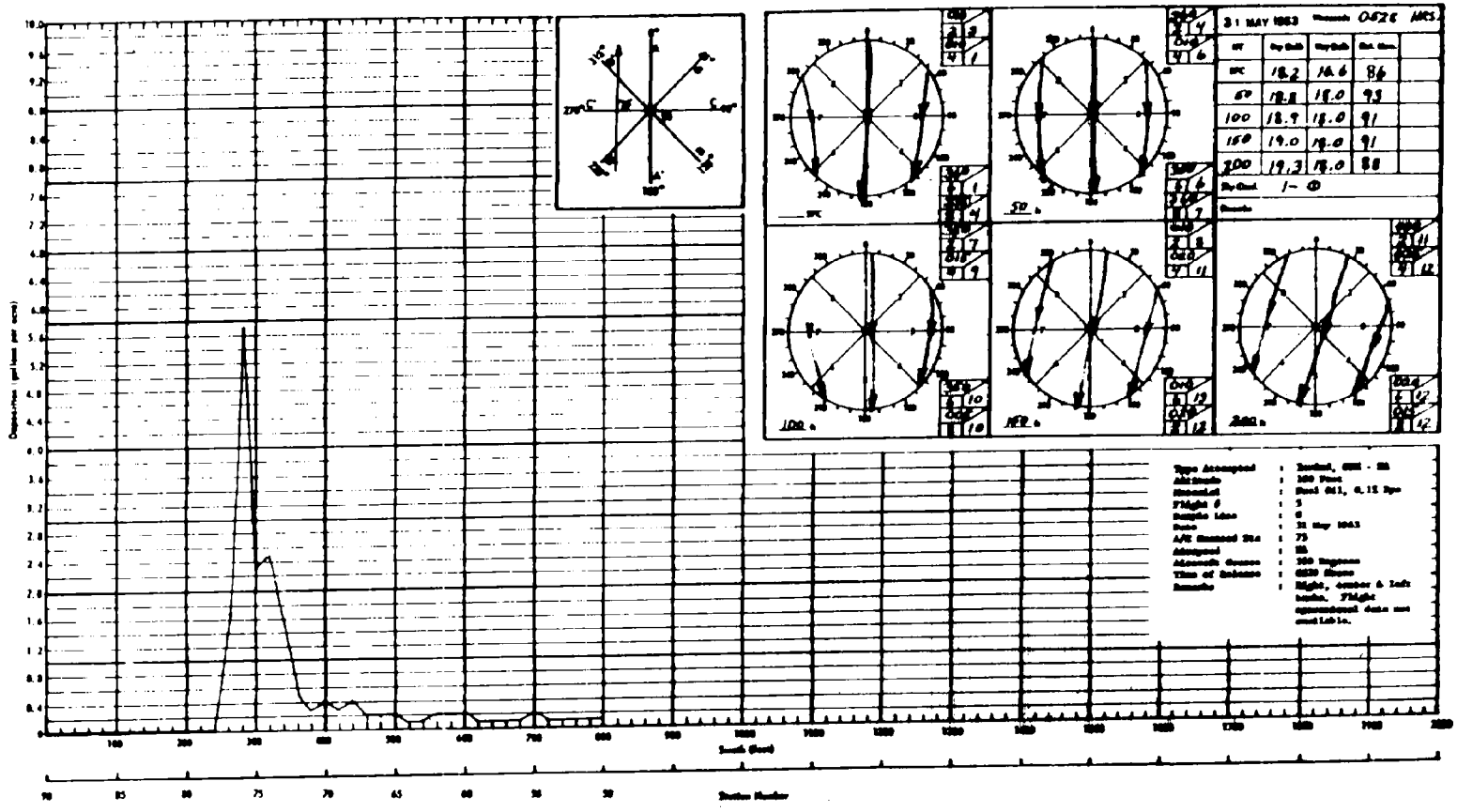
ALTITUDE: 100 Feet

AIRCRAFT COURSE: 360 Degrees

WIND VECTOR: 010°/7.7 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 50 Blank				51	0.1	76	5.7
				52	0.1	77	1.7
				53	0.1	78	0.0
				54	0.1	79	0.0
				55	0.2	80	0.0
				56	0.1	81	0.0
				57	0.1	82	0.0
				58	0.1	83	0.0
				59	0.1	84	0.0
				60	0.2	85	0.0
				61	0.2	86	0.0
				62	0.2	87	0.0
				63	0.1	88	0.0
				64	0.1	Stations 89 - 100	
				65	0.2	Blank	
				66	0.2		
				67	0.2		
				68	0.4		
				69	0.3		
				70	0.4		
				71	0.3		
				72	0.5		
				73	1.6		
				74	2.5		
				75	2.3		

Total 18.1



MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 31 May 1963

FLIGHT #: 6

SAMPLE LINE: C

TIME OF RELEASE: 0541 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

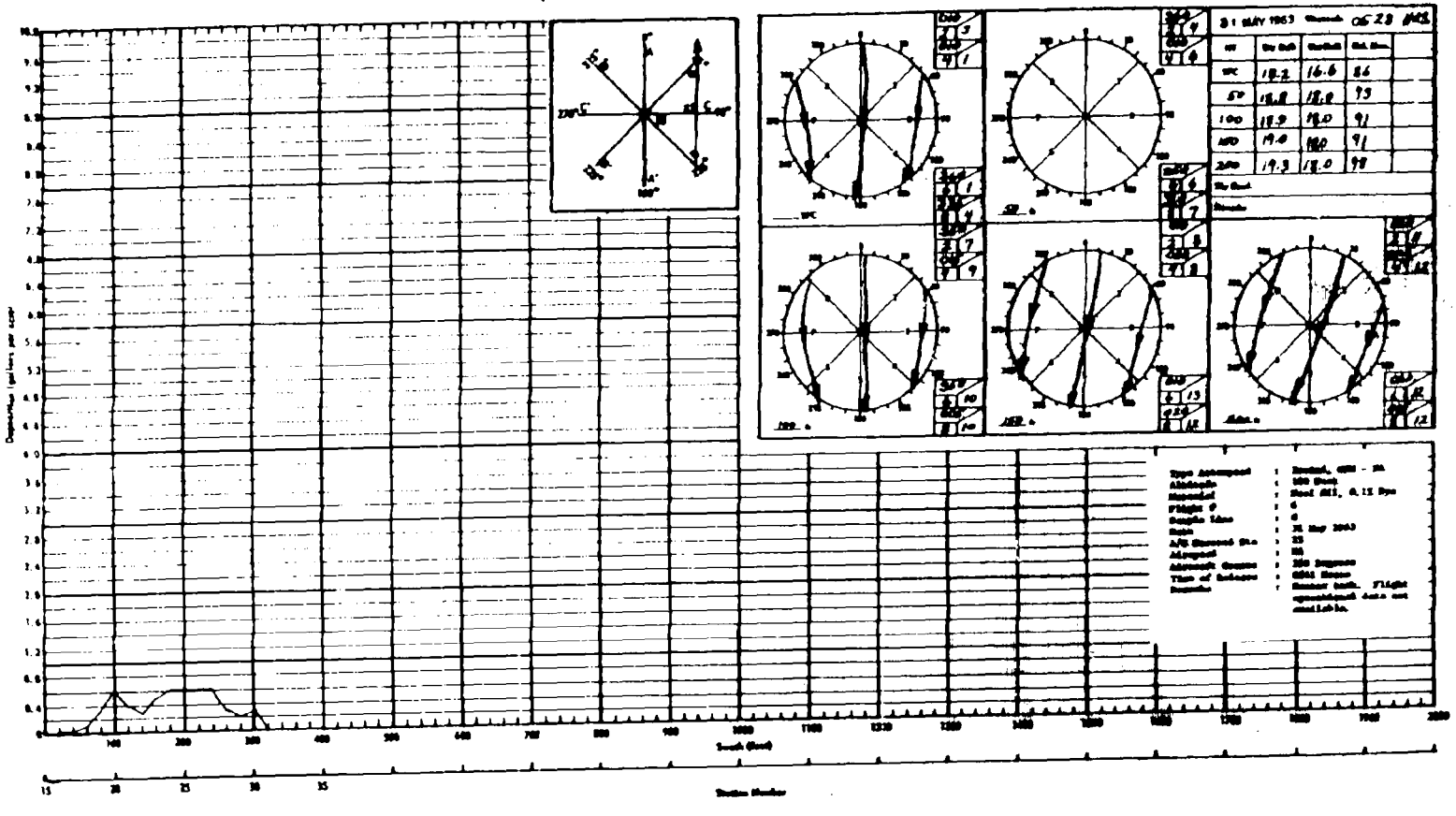
ALTITUDE: 100 Feet

AIRCRAFT COURSE: 360 Degrees

WIND VECTOR: 010°/7.7 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 15 Blank		26	0.6	Stations 51 - 100 Blank			
		27	0.6				
		82	0.3				
		29	0.2				
		30	0.3				
		31	0.0				
		32	0.0				
		33	0.0				
		34	0.0				
		35	0.0				
		36	0.0				
		37	0.0				
		38	0.0				
		39	0.0				
		40	0.0				
16	0.0	41	0.0				
17	0.0	42	0.0				
18	0.1	43	0.0				
19	0.3	44	0.0				
20	0.6	45	0.0				
21	0.4	46	0.0				
22	0.3	47	0.0				
23	0.5	48	0.0				
24	0.6	49	0.0				
25	0.6	50	0.0				

Total 5.4



FIDAL FLIGHT DATA

DATE FLOWN: 3 June 1963 CONFIGURATION: All tanks LIQUID SPRAYED: Fuel Oil NOZZLE TYPE: U50120

	TANK	RPM	PRESSURE PSI	FLOW RATE GPM	REMARKS
RUN #1	Left	1600	----	approx 90	Right tach. still out of order, left and center tachs. reading approx. half scale. Again the film in main photo panel camera was unexposed and limited data was obtained. Indicated flowmeter readings are estimated from tachometer data and results of subsequent runs at the same pitch setting.
AIRSPEED: ----	Ctr	1600	----	" 90	
TIME SPRAYED: 8 Sec	Right	----	----	" 90	
RUN #2	Left	1700	----	approx 100	
AIRSPEED: ----	Ctr	1700	----	" 100	
TIME SPRAYED: 12 Sec	Right	----	----	" 100	

GENERAL REMARKS:
1. Plane made 5 spray passes over grid.
2. Right tanks failed to spray on all tries.
3. On 2nd & 3rd runs the center tank delayed before spraying.
4. On 4th run center tank cut out early.
5. On 5th run left tank only sprayed after a 5-6 second delay.

MASS MEDIAN DIAMETER

DATE: 3 June 1963

FLIGHT #: 1

SAMPLE LINE: B

FLOW RATE: 270 (app) GPM

SPREAD FACTOR: 6.0

CONVERSION FACTOR: 2.5

PAPER: Kromekote, white

MATERIAL: Fuel Oil

SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
64	1	7400	64	10	4900
64	2	6300	64	12	4800
64	3	6100	64	9	4700
64	5	5700	64	13	4600
64	4	5600	64	14	4500
64	7	5300*			
64	6	5200			
64	8	5100			
64	11	5000			

$$MMD = \frac{\text{Spot D Max}}{\text{Spread Factor x Con. Factor}} = \frac{5300}{6.0 \times 2.5} = 353.3 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = \frac{7400}{6.0} = 1233.3 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = \frac{100}{6.0} = 16.7 \text{ Microns}$$

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 3 June 1963

FLIGHT #: 1

SAMPLE LINE: B

TIME OF RELEASE: 0455 Hours

DURATION: 8 Seconds

FLOW RATE: 270 (app) GPM

SYSTEM: FIDAL

AIRSPEED: NA

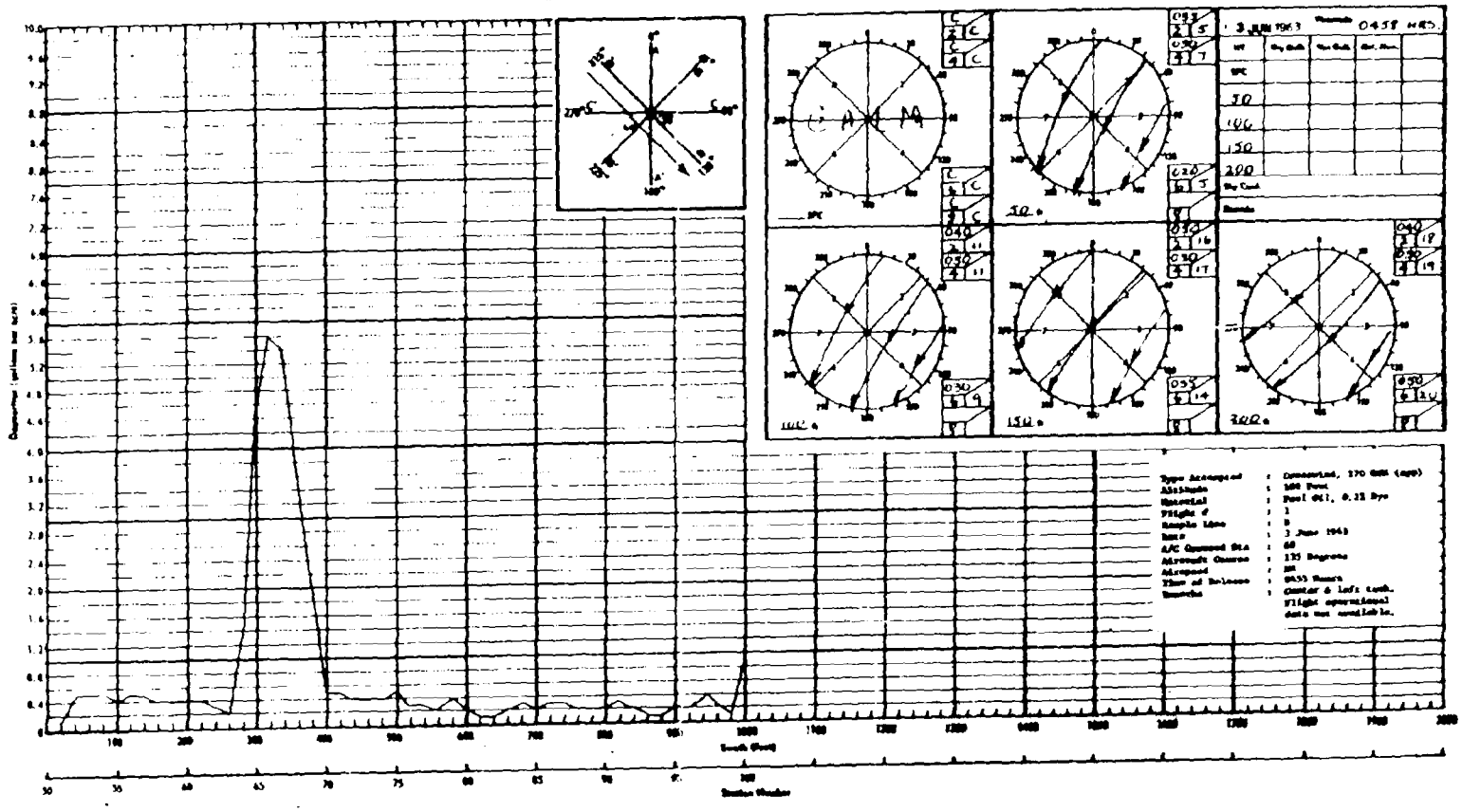
ALTITUDE: 100 Feet

AIRCRAFT COURSE: 135 Degrees

WIND VECTOR: 036°/12.2 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 50 Blank				51	0.2	76	0.3
				52	0.5	77	0.3
				53	0.5	78	0.2
				54	0.5	79	0.4
				55	0.4	80	0.2
				56	0.5	81	0.1
				57	0.5	82	0.2
				58	0.4	83	0.2
				59	0.4	84	0.3
				60	0.4	85	0.2
				61	0.4	86	0.3
				62	0.3	87	0.3
				63	0.2	88	0.2
				64	1.5	89	0.2
				65	4.5	90	0.2
				66	5.6	91	0.3
				67	5.4	92	0.2
				68	3.2	93	0.1
				69	1.8	94	0.1
				70	0.5	95	0.2
				71	0.5	96	0.2
				72	0.4	97	0.4
				73	0.4	98	0.2
				74	0.4	99	0.1
				75	0.5	100	0.9

Total 36.7



MASS MEDIAN DIAMETER

DATE: 3 June 1963

FLIGHT #: 2

SAMPLE LINE: B

FLOW RATE: 300 (app) GPM

SPREAD FACTOR: 6.0

CONVERSION FACTOR: 2.5

PAPER: Kromekote, white

MATERIAL: Fuel Oil

SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
24	1	5900			
25	4	5600*			
25	2	5500			
25	3	5400			
25	5	5300			
25	6	5100			
25	7	5000			
25	8	4900			
25	11	4800			
25	9	4600			
25	10	4500			

MMD = $\frac{\text{Spot D Max}}{\text{Spread Factor x Con. Factor}} = \frac{5600}{6.0 \times 2.5}$ = 373.3 Microns

Max. Sph. Dia. = $\frac{5900}{6.0}$ = 983.3 Microns

Min. Sph. Dia. = $\frac{100}{6.0}$ = 16.7 Microns

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 3 June 1963

FLIGHT #: 2

SAMPLE LINE: B

TIME OF RELEASE: 0457 Hours

DURATION: 12 Seconds

FLOW RATE: 300 (app) GPM

SYSTEM: FIDAL

AIRSPEED: NA

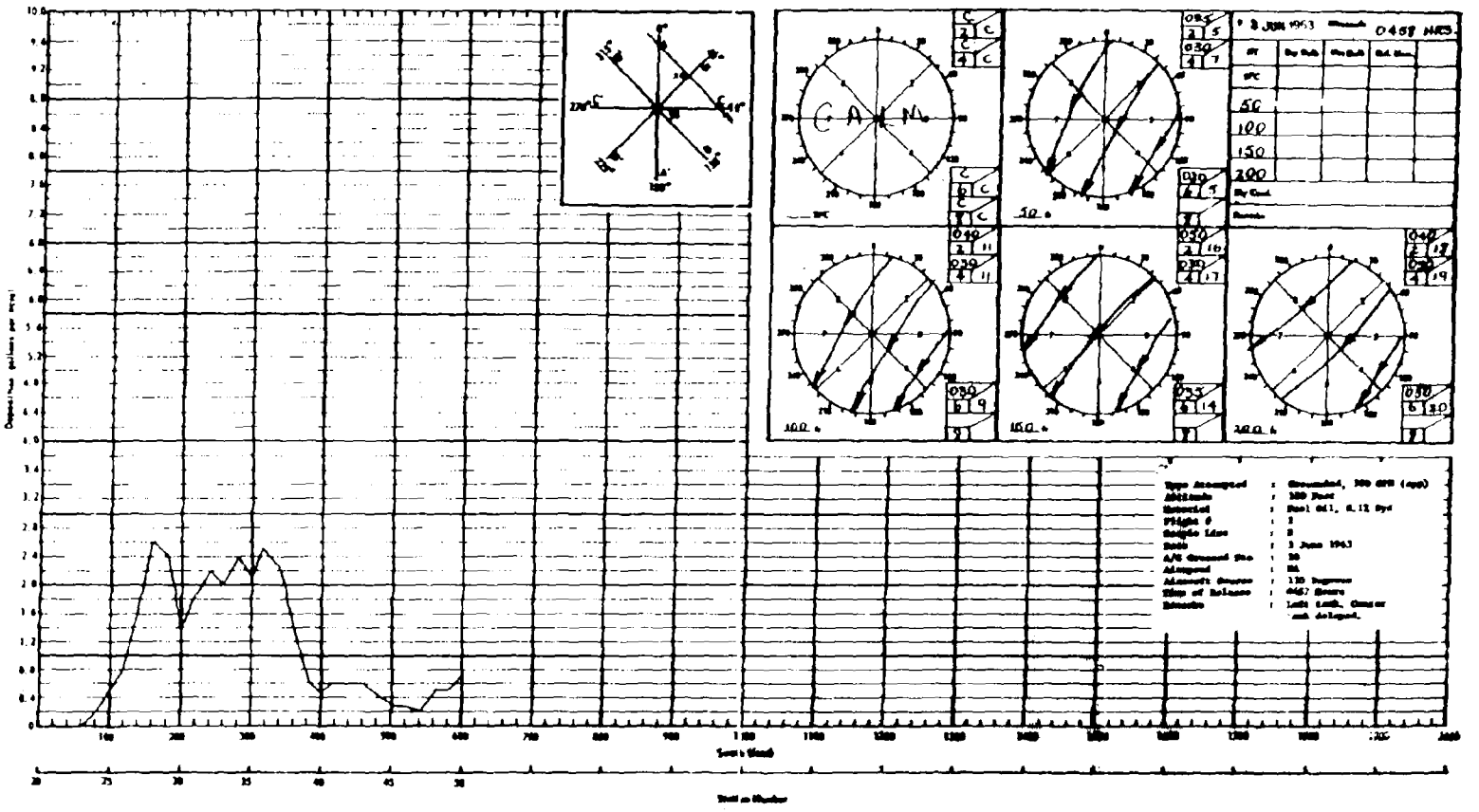
ALTITUDE: 100 Feet

AIRCRAFT COURSE: 135 Degrees

WIND VECTOR: 036°/12.2 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 23 Blank		26	0.8	Stations 51 - 100 Blank			
		27	1.6				
		28	2.6				
		29	2.4				
		30	1.4				
		31	1.8				
		32	2.2				
		33	2.0				
		34	2.4				
		35	2.1				
		36	2.5				
		37	2.2				
		38	1.2				
		39	0.6				
		40	0.5				
		41	0.6				
		42	0.6				
		43	0.6				
		44	0.4				
		45	0.3				
		46	0.3				
		47	0.2				
		48	0.5				
24	0.2	49	0.5				
25	0.5	50	0.7				

Total 31.7



MASS DEPOSIT

MATERIAL: Fuel Oil
FLOW RATE: 145 (app) GPM

DATE: 3 June 1963
SYSTEM: FIDAL

FLIGHT #: 3
AIRSPEED: 163 Knots

SAMPLE LINE: D
ALTITUDE: 150 Feet

TIME OF RELEASE: 0516 Hours
AIRCRAFT COURSE: 045 Degrees

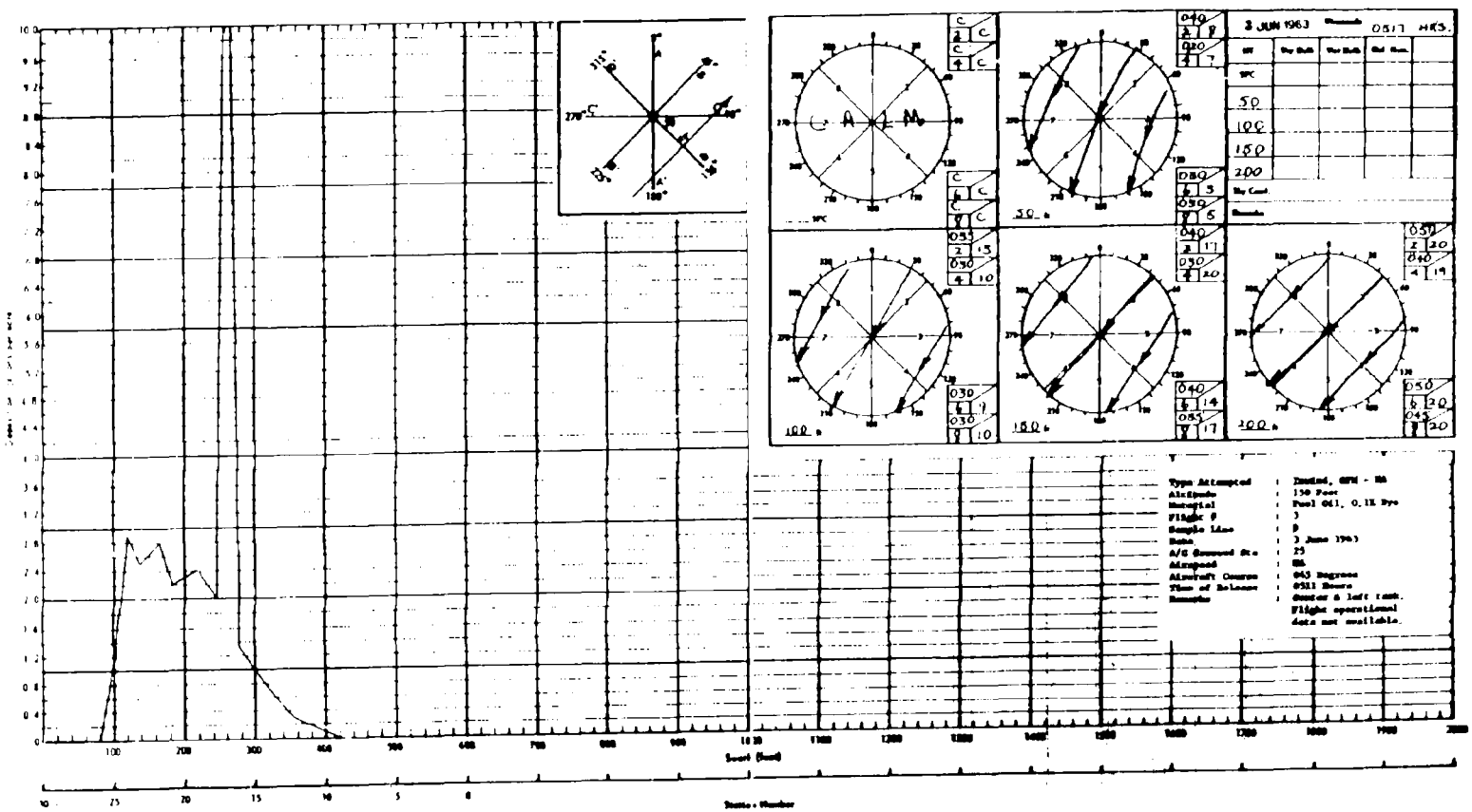
DURATION: NA
WIND VECTOR: 038°/13.2 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.

Stations 1 - 7 Blank Stations 26 - 100 Blank

8	0.0
9	0.0
10	0.1
11	0.2
12	0.3
13	0.4
14	0.7
15	1.0
16	1.3
17	12.5
18	2.0
19	2.4
20	2.3
21	2.2
22	2.8
23	2.5
24	2.9
25	1.1

Total 34.7


3 JUN 1963
0517 HRS.
50
100
150
200
Type Attempted : Inflat, GPH - Mk
Altitude : 150 Feet
Material : Pool 041, 0.1% Dye
Flight # : 3
Sample Line : 8
Date : 3 June 1963
A/C Serial No. : 23
Airspeed : Mk.
Aircraft Course : 045 Degrees
Time of Release : 0511 Hours
Remarks : Sensor 6 left tank.
Flight operational data not available.

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 3 June 1963

FLIGHT #: 4

SAMPLE LINE: D

TIME OF RELEASE: 0518 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

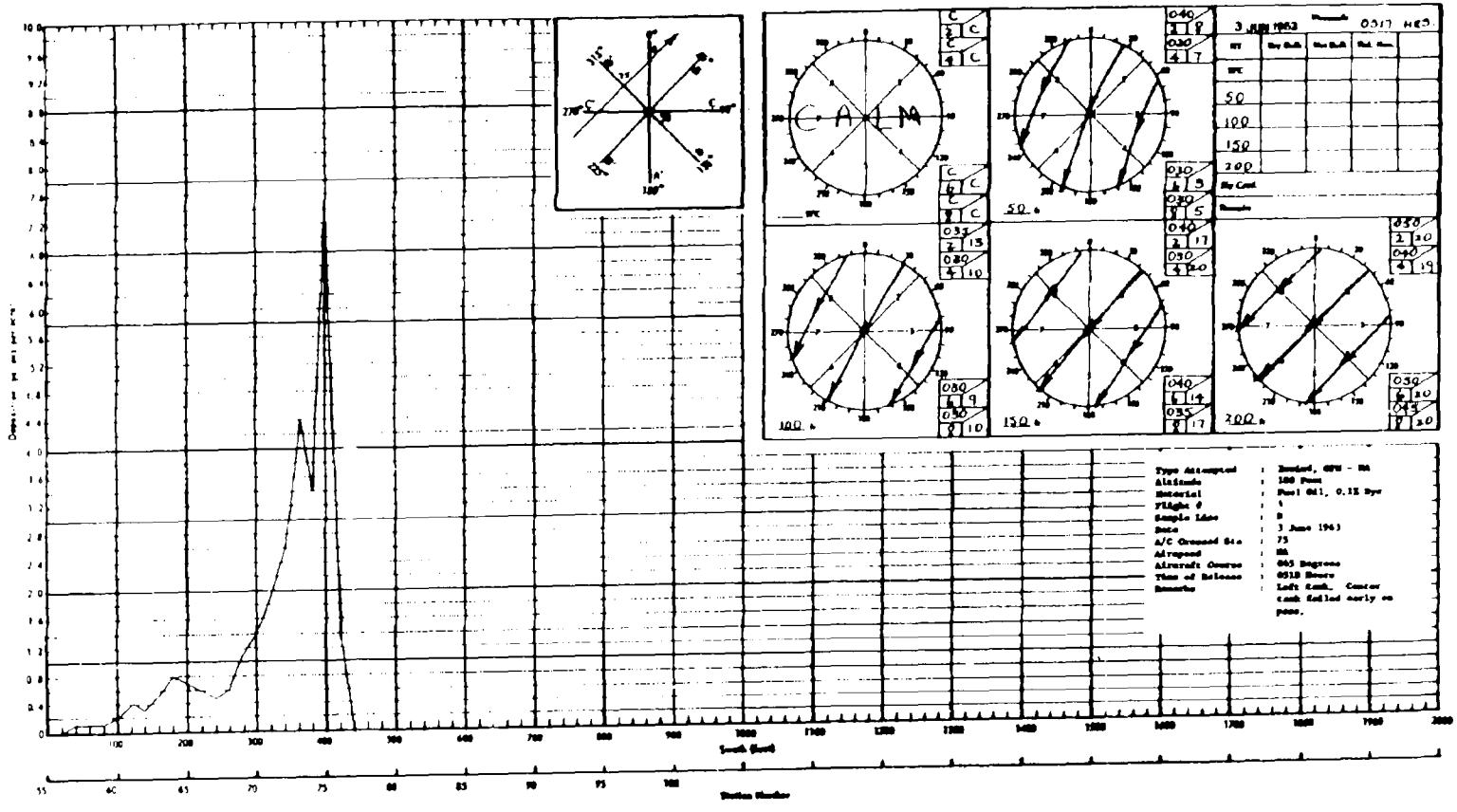
ALTITUDE: 100 Feet

AIRCRAFT COURSE: 045 Degrees

WIND VECTOR: 038° /13.2 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 50 Blank				51	0.0	76	1.3
				52	0.0	77	0.0
				53	0.0	Stations 78 -100 Blank	
				54	0.0		
				55	0.0		
				56	0.0		
				57	0.1		
				58	0.1		
				59	0.1		
				60	0.2		
				61	0.4		
				62	0.3		
				63	0.5		
				64	0.8		
				65	0.7		
				66	0.6		
				67	0.5		
				68	0.6		
				69	1.1		
				70	1.4		
				71	1.8		
				72	2.6		
				73	4.4		
				74	3.4		
				75	7.2		

Total 28.1


3 JUN 1963
0517 HRS
50
100
150
200
Type Attempted : Bomber, GPW - HA
Altitude : 100 Feet
Material : Fuel Oil, 0.1% Dye
Flight # : 4
Sample Idee : B
Date : 3 June 1963
A/C Ground Sta : 75
Airspeed : HA
Aircraft Course : 065 Degrees
Time of Release : 0518 Hours
Remarks : Left tank. Center tank failed early on pass.
South (feet)
Station Number

MASS DEPOSIT

MATERIAL: Fuel Oil

FLOW RATE: NA

DATE: 3 June 1963

SYSTEM: TIDAL

FLIGHT #: 5

AIRSPEED: NA

SAMPLE LINE: D

ALTITUDE: 100 Feet

TIME OF RELEASE: 0538 Hours

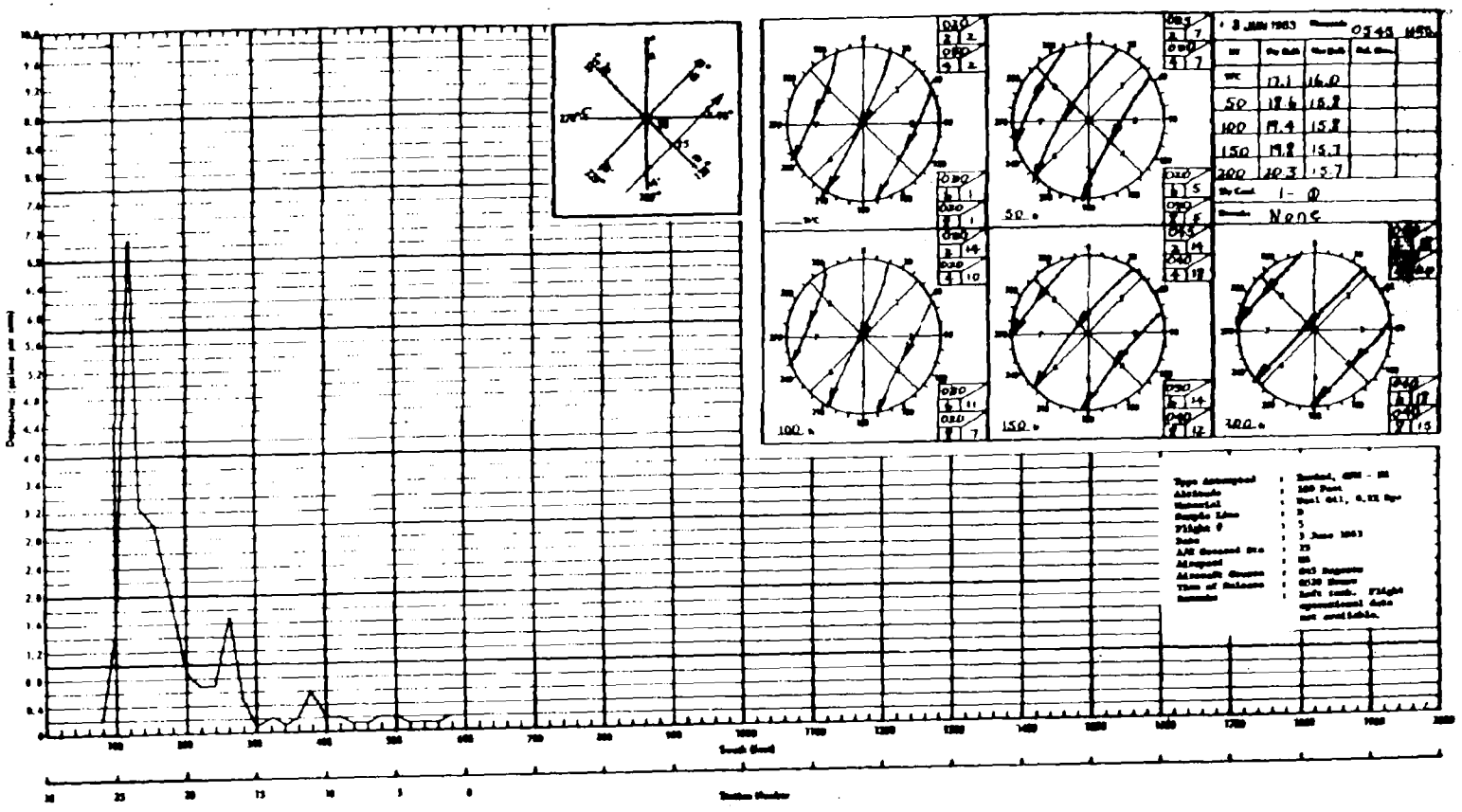
AIRCRAFT COURSE: 045 Degrees

DURATION: NA

WIND VECTOR: 036°/12.4 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
1	0.2	26	0.2				
2	0.1	Stations 27 - 100 Blank					
3	0.1						
4	0.1						
5	0.2						
6	0.2						
7	0.1						
8	0.1						
9	0.1						
10	0.2						
11	0.6						
12	0.2						
13	0.1						
14	0.2						
15	0.1						
16	0.5						
17	1.7						
18	0.7						
19	0.7						
20	0.9						
21	1.9						
22	3.0						
23	3.3						
24	7.1						
25	1.5						

Total 23.9



MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 3 June 1963

FLIGHT #: 6

SAMPLE LINE: D

TIME OF RELEASE: 0545 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

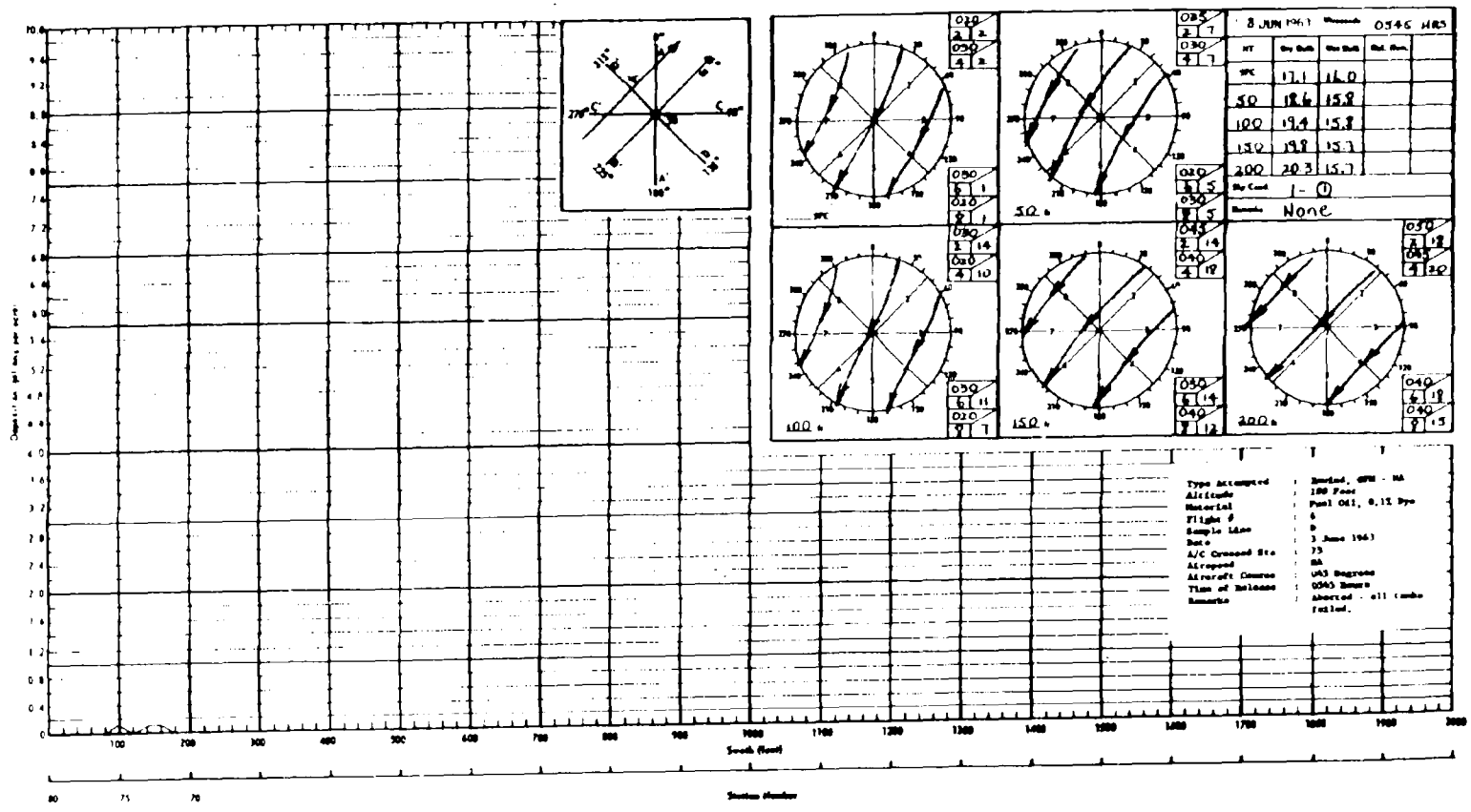
ALTITUDE: 100 Feet

AIRCRAFT COURSE: 045 Degrees

WIND VECTOR: 036°/12.4 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 71 Blank				72	0.1		
				73	0.1		
				74	0.0		
				75	0.1		
				76	0.0		
				77	0.0		
				Stations 78 - 100 Blank			

Total 0.3


8 JUN 1963
0545 HRS
50
100
150
200
None
Type Aircraft
Altitude
Material
Flight #
Sample Line
Date
A/C Crossed Sta.
Airspeed
Aircraft Course
Time of Release
Remarks
3 June 1963
Aborted - all tanks failed.
South (feet)

FIDAL FLIGHT DATA

DATE FLOWN: 4 June 1963 CONFIGURATION: All tanks LIQUID SPRAYED: Fuel Oil NOZZLE TYPE: U50120

	TANK	RPM	PRESSURE PSI	FLOW RATE GPM	REMARKS
RUN #1	Left	1500	----	approx 80	Left pressure gage found disconnected. Center pressure gage non-functional. Right tach. non-functional. Left and center tachs. read half scale. Flow rate represents best estimate using twice the recorded rpm.
AIRSPEED: 150 Knots	Ctr	1600	----	" 90	
TIME SPRAYED: 9.2 Sec	Right	peg	19.5-20	73	
RUN #2	Left	1500	----	approx 80	
AIRSPEED: 156-155 Knots	Ctr	1600	----	" 90	
TIME SPRAYED: 9.0 Sec	Right	peg	21	75	
RUN #3	Left	1600	----	approx 90	
AIRSPEED: 158 Knots	Ctr	1600	----	" 90	
TIME SPRAYED: 11.0 Sec	Right	peg	21	75	

GENERAL REMARKS: 1. Plane made eight spray passes. On 7th run center tank only functioned.
2. On all other runs all 3 tanks sprayed.

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 4 June 1963

FLIGHT #: 1

SAMPLE LINE: B

TIME OF RELEASE: 0445 Hours

DURATION: 9.2 Seconds

FLOW RATE: 243 (app) GPM

SYSTEM: FIDAL

AIRSPEED: 152 Knots

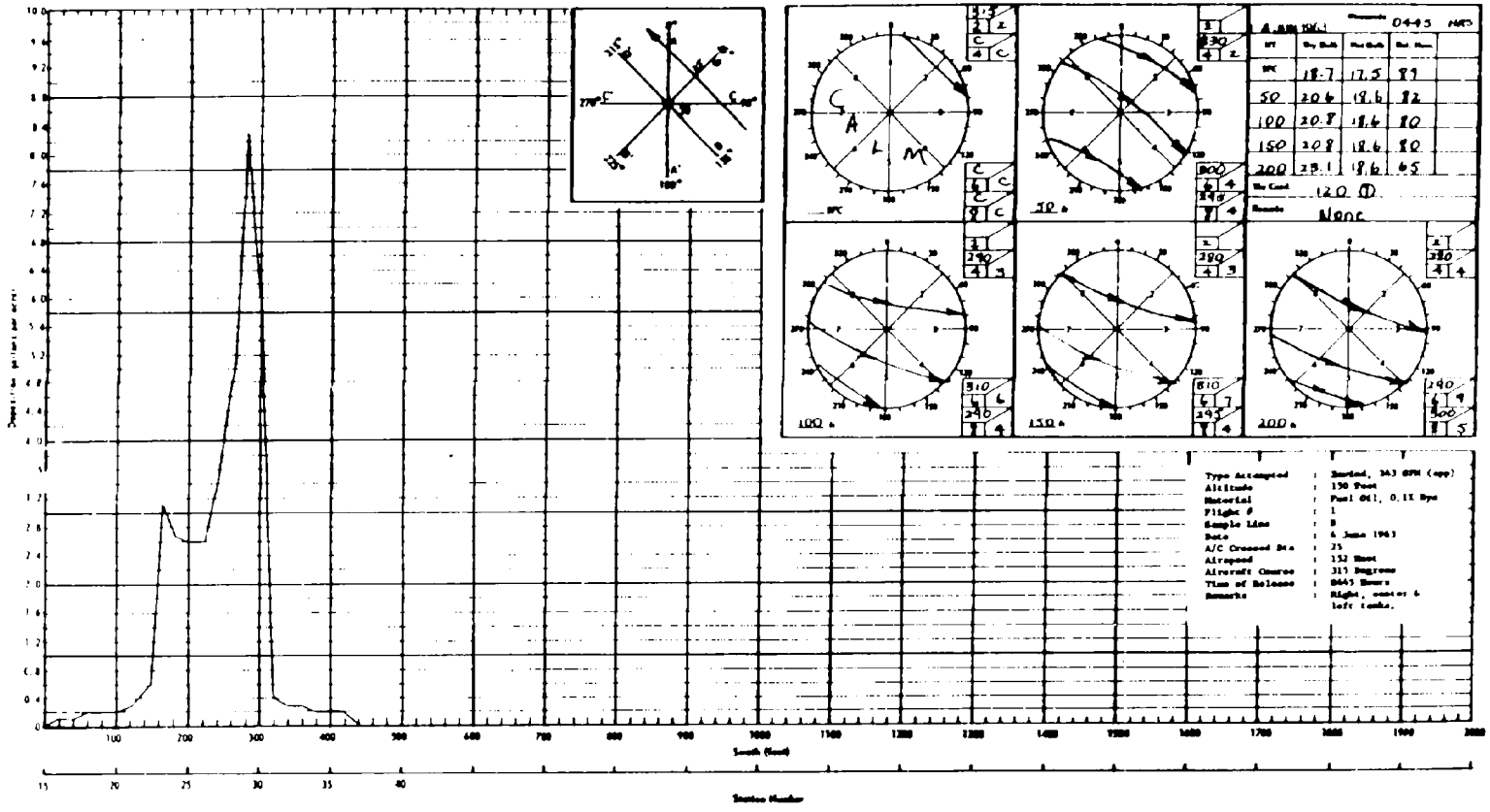
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 315 Degrees

WIND VECTOR: 296°/3.5 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 15 Blank							
16	0.1						
17	0.1						
18	0.2						
19	0.2						
20	0.2						
21	0.3						
22	0.6						
23	3.1						
24	2.7						
25	2.6						
26	2.6						
27	3.5						
28	5.2						
29	8.3						
30	6.0						
31	0.4						
32	0.3						
33	0.3						
34	0.2						
35	0.2						
36	0.2						
Stations 37 - 100 Blank							

Total 37.3


Type Attempted : Snorkel, 343 RPM (app)
Altitude : 150 Feet
Material : Fuel 061, 0.15 Dye
Flight # : 1
Sample Line : B
Date : 6 June 1963
A/C Crossed Sta. : 25
Airspeed : 132 Knots
Aircraft Course : 317 Degrees
Time of Release : 0445 Hours
Remarks : Right, center & left tanks.
South (feet)
Station Number

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 4 June 1963

FLIGHT #: 2

SAMPLE LINE: B

TIME OF RELEASE: 0448 Hours

DURATION: 9.0 Seconds

FLOW RATE: 245 (app) GPM

SYSTEM: FIDAL

AIRSPEED: 156 Knots

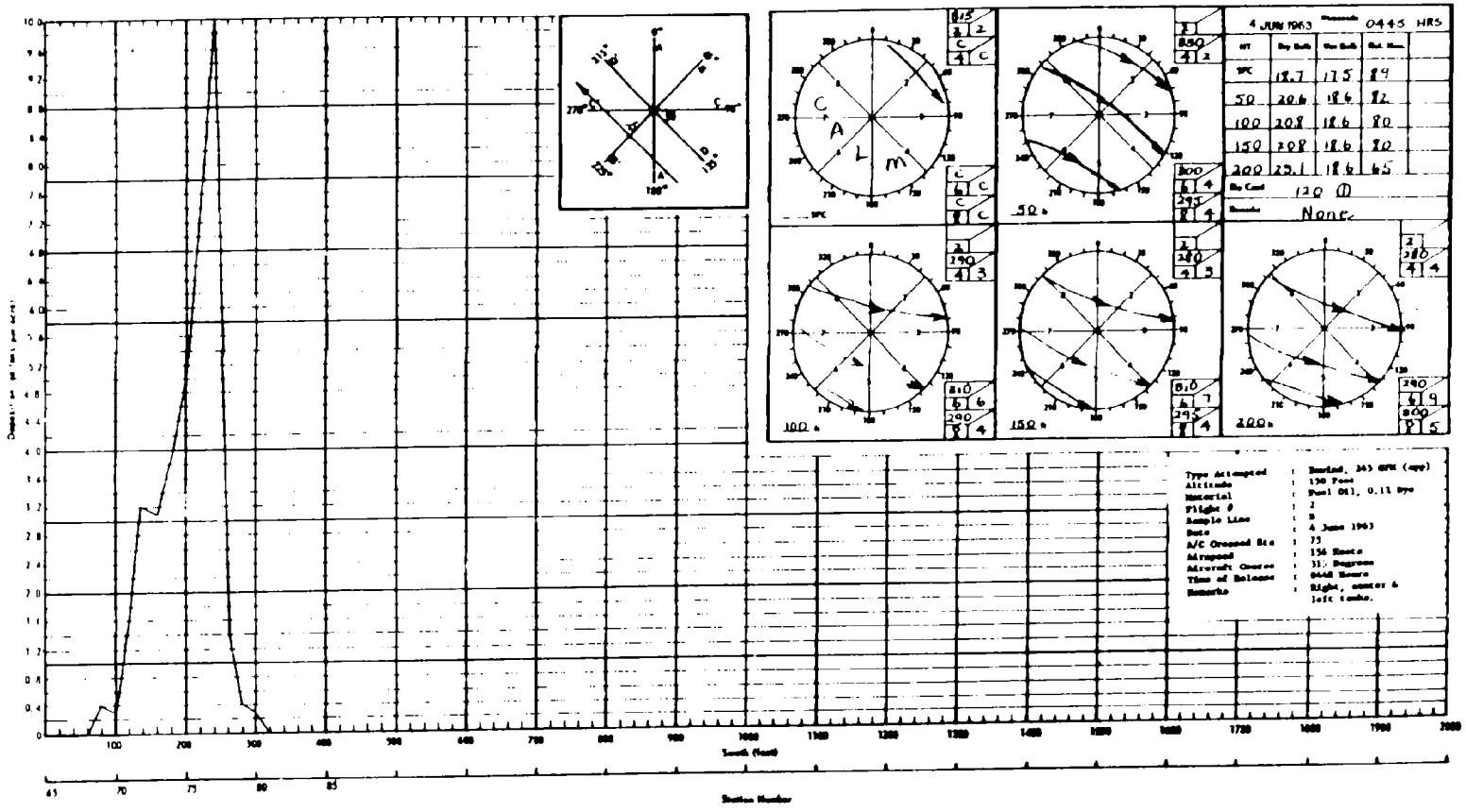
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 315 Degrees

WIND VECTOR: 296°/3.5 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 68 Blank				69	0.4		
				70	0.3		
				71	1.6		
				72	3.2		
				73	3.1		
				74	4.0		
				75	5.0		
				76	7.7		
				77	10.0		
				78	1.4		
				79	0.4		
				80	0.3		
				Stations 81 - 100 Blank			

Total 37.3


4 JUNE 1963
0445 HRS
50 m
100 m
150 m
200 m
Type Aircraft
Altitude
Material
Flight #
Sample Line
Date
A/C Ground Spd
Airspeed
Aircraft Course
Time of Release
Remarks
4 June 1963
Station Number

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 4 June 1963

FLIGHT #: 3

SAMPLE LINE: B

TIME OF RELEASE: 0507 Hours

DURATION: 11 Seconds

FLOW RATE: 255 (app) GPM

SYSTEM: FIDAL

AIRSPEED: 158 Knots

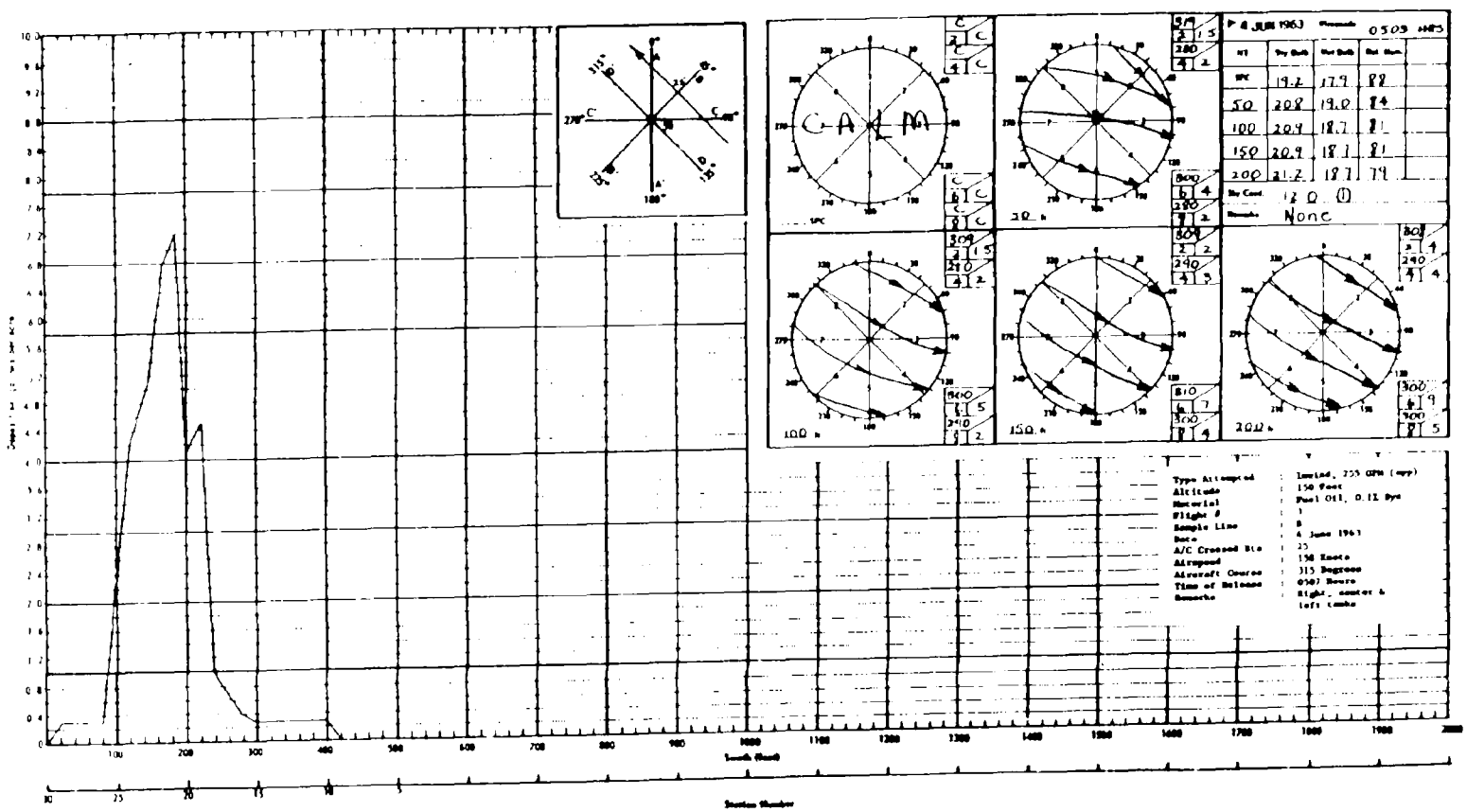
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 315 Degrees

WIND VECTOR: 299°/3.4 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 9 Blank							
10	0.3						
11	0.3						
12	0.3						
13	0.3						
14	0.3						
15	0.3						
16	0.4						
17	0.7						
18	1.0						
19	4.5						
20	4.1						
21	7.2						
22	6.8						
23	5.1						
24	4.2						
25	2.3						
26	0.3						
27	0.3						
28	0.3						
29	0.3						
Stations 30 - 100 Blank							

Total 39.3


C A L M
4 JUNE 1963
0509 HRS
Type Attempted
Altitude
Material
Flight #
Sample Line
Date
A/C Crossed Bla
Airspeed
Aircraft Course
Time of Release
Remarks
Ireland, 225 GPH (app)
150 Feet
Fuel Oil, 0.12 Dyn
4 June 1963
25
150 Knots
315 Degrees
0507 Hours
Right, center &
left tanks
Station Number

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 4 June 1963

FLIGHT #: 4

SAMPLE LINE: B

TIME OF RELEASE: 0509 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

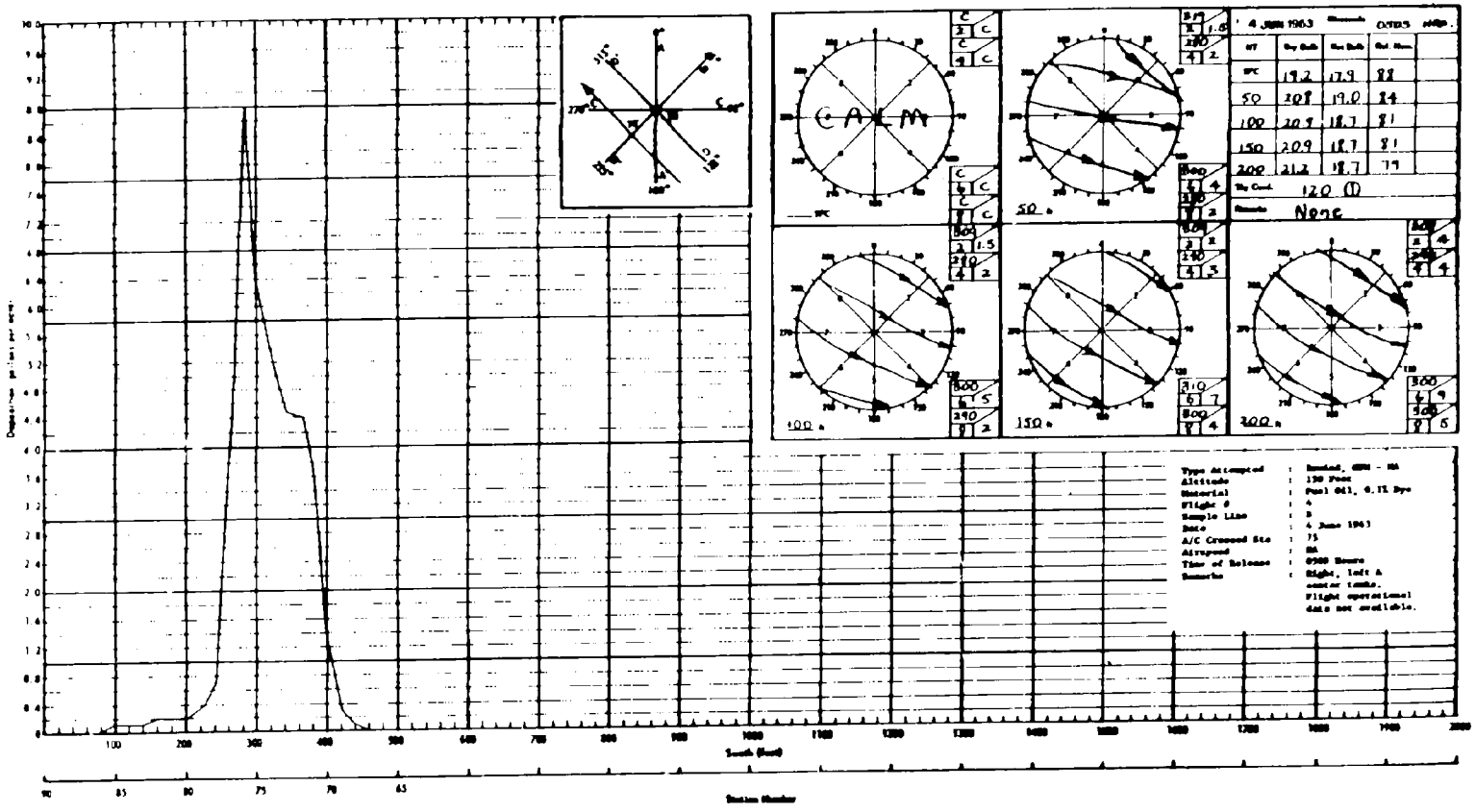
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 315 Degrees

WIND VECTOR: 299°/3.4 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 64 Blank				65	0.0		
				66	0.0		
				67	0.0		
				68	0.1		
				69	0.3		
				70	1.3		
				71	3.7		
				72	4.4		
				73	4.5		
				74	5.2		
				75	6.3		
				76	8.8		
				77	5.2		
				78	0.7		
				79	0.4		
				80	0.2		
				81	0.2		
				82	0.2		
				83	0.1		
				84	0.1		
				85	0.1		
				Stations 86 - 100 Blank			

Total 41.8


CALM
50 m
100 m
150 m
300 m
None

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 4 June 1963

FLIGHT #: 5

SAMPLE LINE: B

TIME OF RELEASE: 0527 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

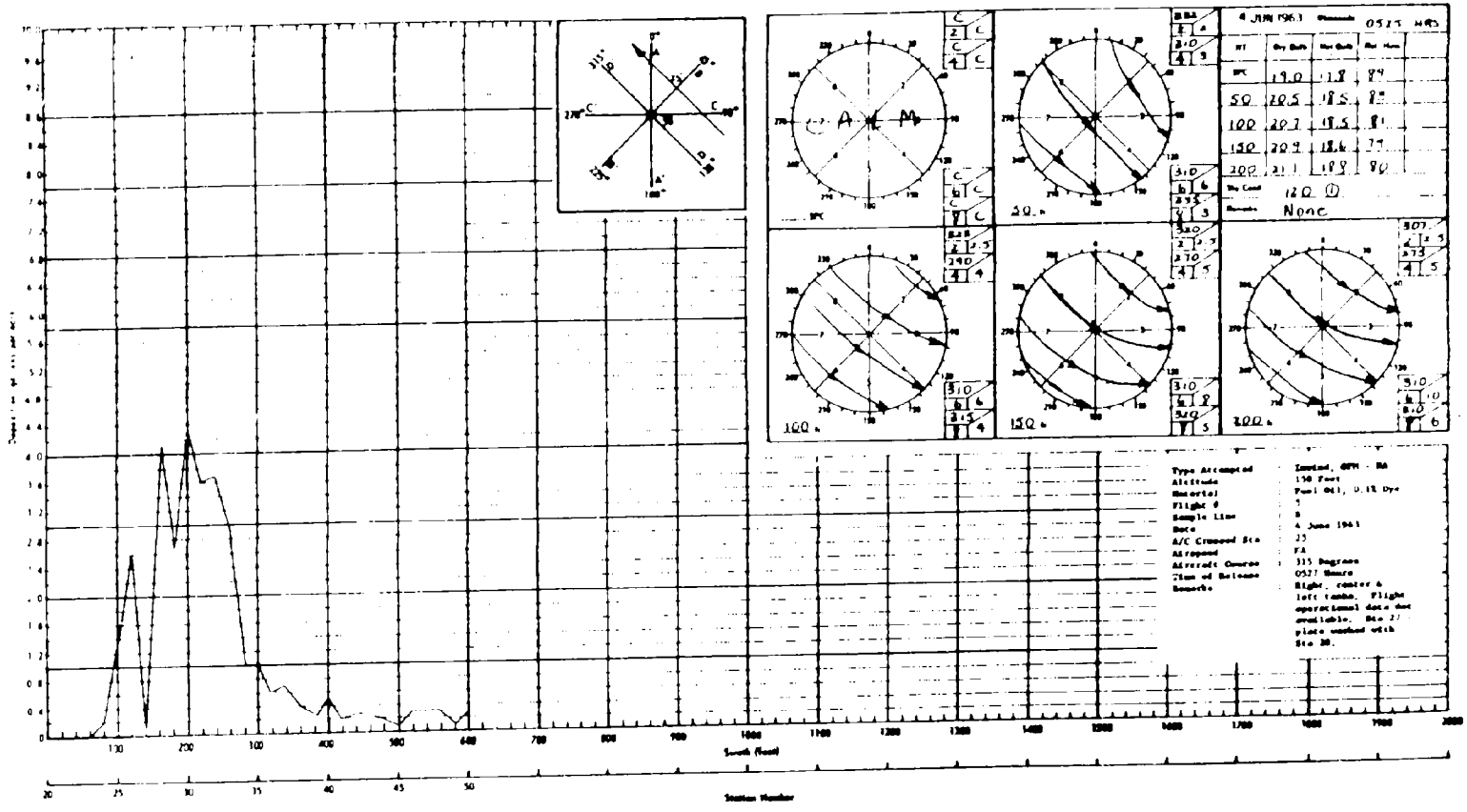
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 315 Degrees

WIND VECTOR: 308°/4.6 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 23 Blank		26	2.6				
		27	0.1				
		28	4.1				
		29	2.7				
		30	4.3				
		31	3.6				
		32	3.7				
		33	2.9				
		34	1.0				
		35	1.0				
		36	0.6				
		37	0.7				
		38	0.4				
		39	0.3				
		40	0.5				
		41	0.2				
		42	0.3				
		43	3				
		44					
		45	0.1				
		46	0.3				
		47	0.3				
		48	0.3				
24	0.2	49	0.1				
25	1.3	50	0.3				

Total 32.4



MASS DEPOSIT

MATERIAL: Fuel Oil

FLOW RATE: NA

DATE: 4 June 1963

SYSTEM: FIDAL

FLIGHT #: 6

AIRSPEED: NA

SAMPLE LINE: B

ALTITUDE: 150 Feet

TIME OF RELEASE: 0529 Hours

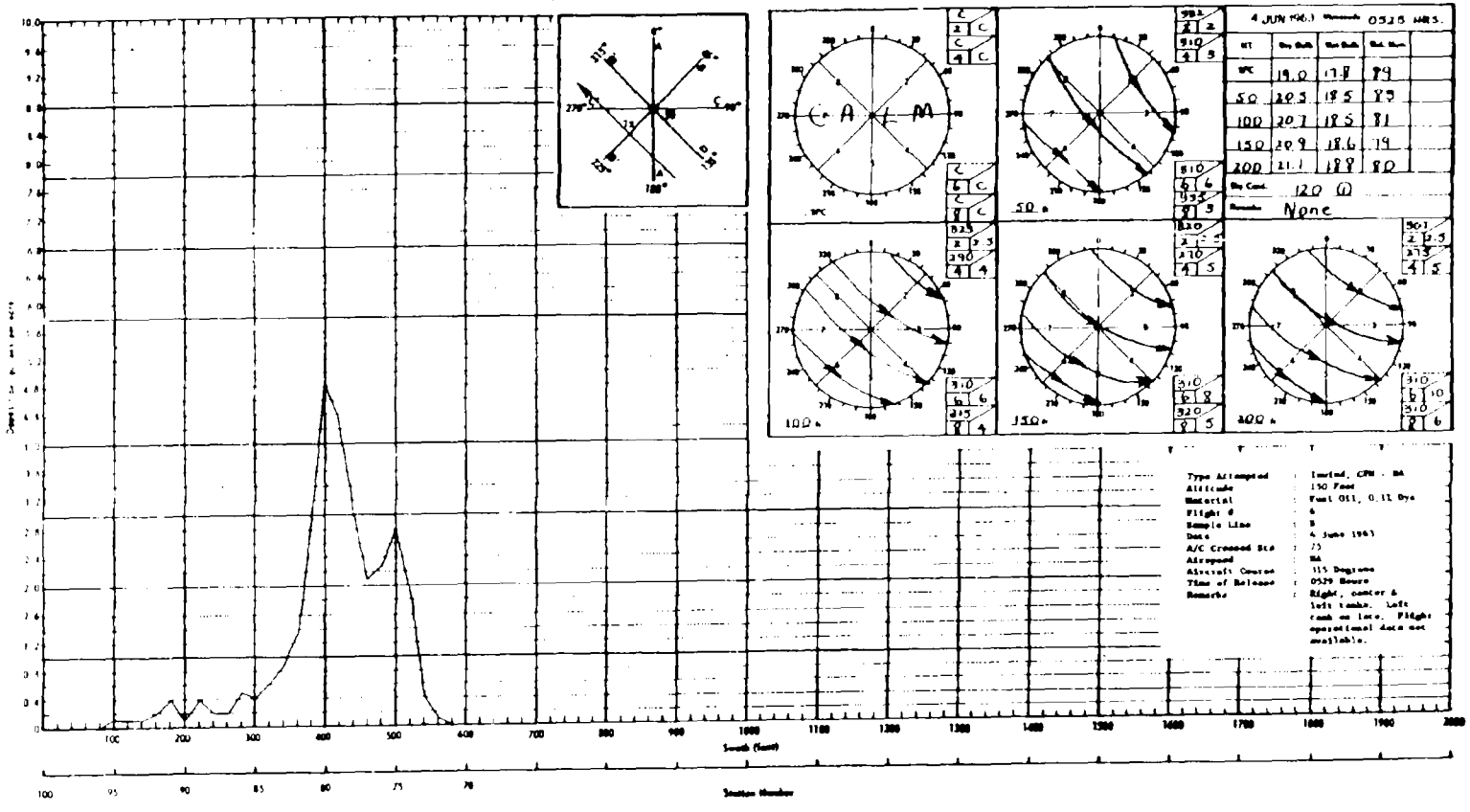
AIRCRAFT COURSE: 315 Degrees

DURATION: NA

WIND VECTOR: 308°/4.6 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 71 Blank				72	0.1		
				73	0.4		
				74	1.7		
				75	2.8		
				76	2.3		
				77	2.1		
				78	3.0		
				79	4.4		
				80	4.8		
				81	3.0		
				82	1.6		
				83	0.9		
				84	0.6		
				85	0.4		
				86	0.5		
				87	0.2		
				88	0.2		
				89	0.4		
				90	0.1		
				91	0.4		
				92	0.2		
				93	0.1		
				94	0.1		
				95	0.1		
				Stations 96 - 100 Blank			

Total 30.4


4 JUN 1963
0525 HRS.
WT
WPC
50
100
150
200
Dry Cond. 120 Ω
Remarks None
50 ft
100 ft
150 ft
200 ft
Type Attempted
Altitude
Material
Flight #
Sample Line
Date
A/C Crossed Sta
Airspeed
Aircraft Course
Time of Release
Remarks
Inverted, CPM - BA
150 Feet
Front 011, 0.11 Dyn
6
B
4 June 1963
73
BA
315 Degrees
0529 Hours
Right, center & left tambo. Left crash on face. Flight operational data not available.
Scale (feet)
Station Number

MASS DEPOSIT

MATERIAL: Fuel Oil

FLOW RATE: NA

DATE: 4 June 1963

SYSTEM: FIDAL

FLIGHT #: 7

AIRSPEED: NA

SAMPLE LINE: B

ALTITUDE: 150 Feet

TIME OF RELEASE: 0544 Hours

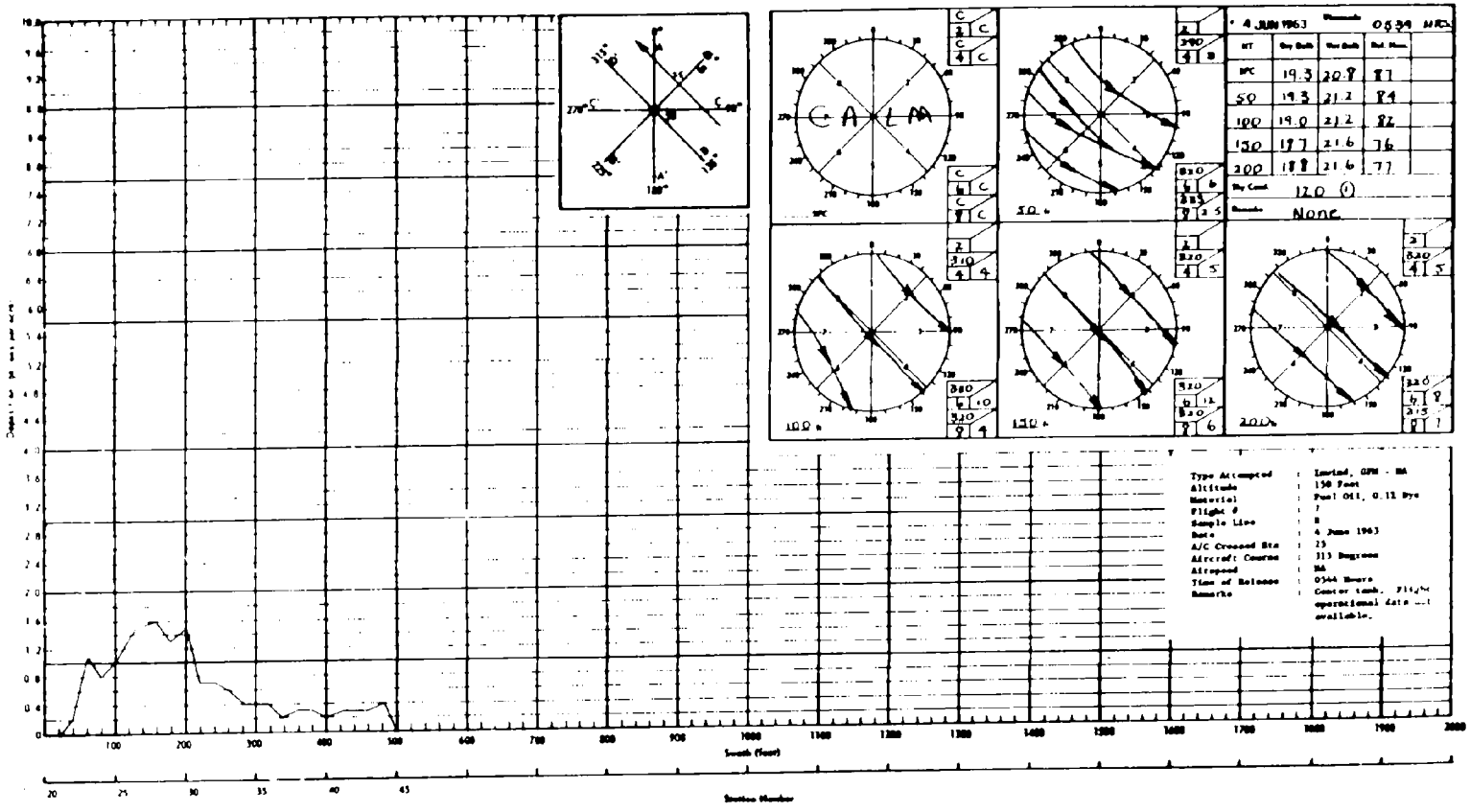
AIRCRAFT COURSE: 315 Degrees

DURATION: NA

WIND VECTOR: 317°/6.1 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 21 Blank		22	0.2				
		23	1.1				
		24	0.8				
		25	1.0				
		26	1.3				
		27	1.5				
		28	1.6				
		29	1.3				
		30	1.5				
		31	0.7				
		32	0.7				
		33	0.6				
		34	0.4				
		35	0.4				
		36	0.4				
		37	0.2				
		38	0.3				
		39	0.3				
		40	0.2				
		41	0.3				
		42	0.3				
		43	0.3				
		44	0.4				
		Stations 45 - 100 Blank					

Total 15.8


4 JUNE 1963
0534 MDT
Type Attempted : Inertial, GPH - HA
Altitude : 150 Feet
Material : Fuel Oil, 0.12 Dye
Flight # : 7
Sample Line : B
Date : 4 June 1963
A/C Crossed Rte : 25
Aircraft Course : 313 Degrees
Airspeed : HA
Time of Release : 0544 Hours
Remarks : Center tank. Flight operational data not available.
Distance (feet)
Station Number

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 4 June 1963

FLIGHT #: 8

SAMPLE LINE: B

TIME OF RELEASE: 0546 Hour

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

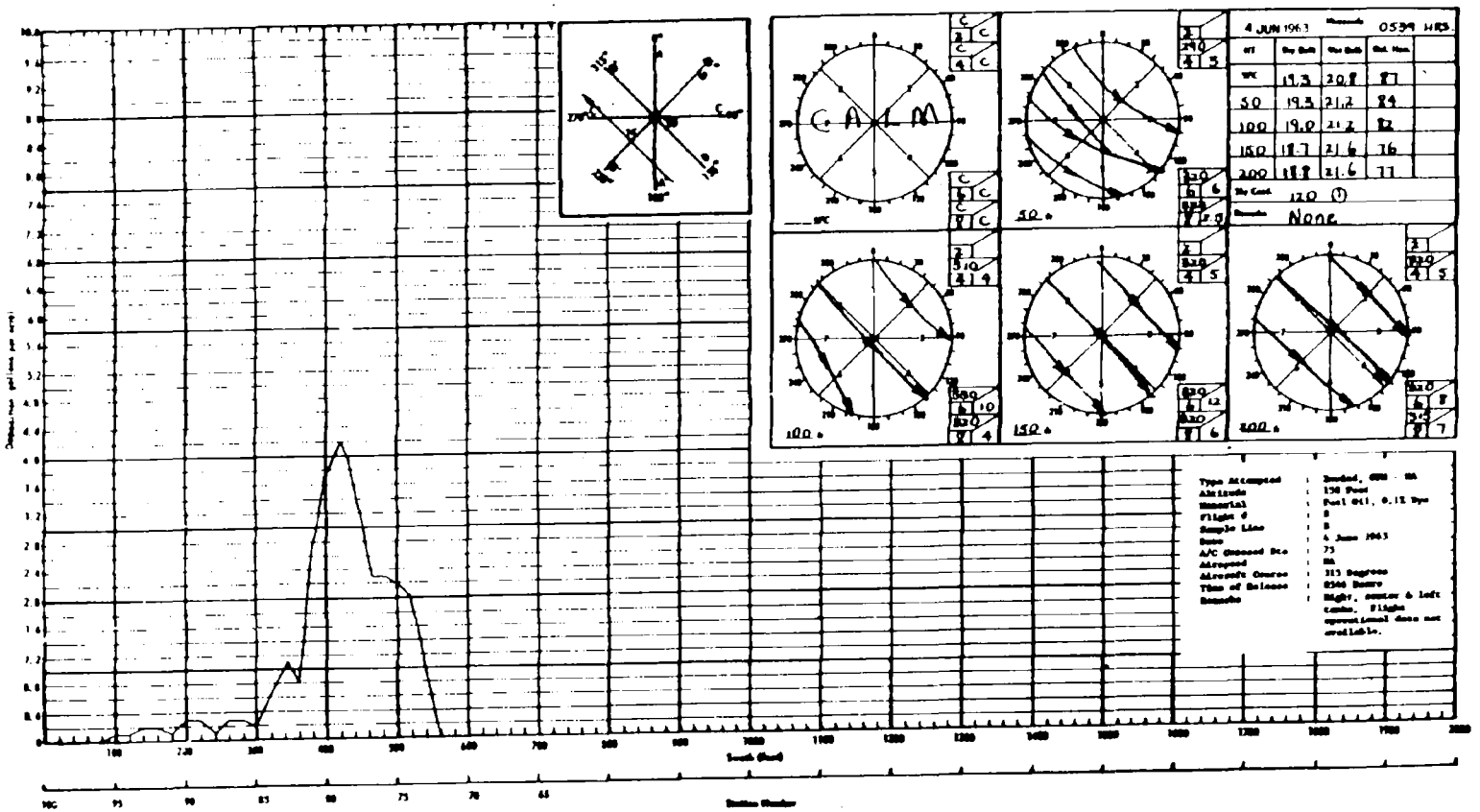
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 315 Degrees

WIND VECTOR: 317°/6.1 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 72 Blank				73	1.0		
				74	2.0		
				75	2.2		
				76	2.3		
				77	2.3		
				78	3.9		
				79	4.2		
				80	3.7		
				81	2.7		
				82	0.8		
				83	1.1		
				84	0.6		
				85	0.2		
				86	0.3		
				87	0.3		
				88	0.1		
				89	0.3		
				90	0.3		
				91	0.1		
				92	0.2		
				93	0.2		
				94	0.1		
				95	0.1		
				Stations 96 - 100 Blank			

Total 29.0


4 JUN 1963
0539 HRS
SFC
50
100
150
200
None

FIDAL FLIGHT DATA

DATE FLOWN: 5 June 1963 CONFIGURATION: All tanks LIQUID SPRAYED: Fuel Oil NOZZLE TYPE: U5070

	TANK	RPM	PRESSURE PSI	FLOW RATE GPM	REMARKS
RUN #1	Left	1600	31.5-33.5	94	Right tach. and center pressure gage still non-functional.
AIRSPEED: 156-158 Knots	Ctr	1800	----	approx 98	
TIME SPRAYED: 8 Sec	Right	----	24-25	32	
RUN #2	Left	1600	32	94	
AIRSPEED: 159-157 Knots	Ctr	1700	----	96	
TIME SPRAYED: 8 Sec	Right	----	25	83	
RUN #3	Left	----	33-33.5	95	Both working tachs. failed on this run. Investigation showed a blown fuse. Cause undetermined.
AIRSPEED: 160 Knots	Ctr	----	----	97	
TIME SPRAYED: 10 Sec	Right	----	25-24.5	83	
RUN #4	Left	----	34	95	Ran out of film at beginning of run 4.
AIRSPEED: 161 Knots	Ctr	----	----	97	
TIME SPRAYED: ---	Right	----	23.5	81	

GENERAL REMARKS:
1. Plane made eight spray runs.
2. On 7th run right tank failed to function.
3. All tanks sprayed on all other runs.
4. Tanks continued to dribble for about 2000 ft. after spray was shut off.

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 5 June 1963

FLIGHT #: 1

SAMPLE LINE: B

TIME OF RELEASE: 0441 Hours

DURATION: 8 Seconds

FLOW RATE: 274 (app) GPM

SYSTEM: FIDAL

AIRSPEED: 157 Knots

ALTITUDE: 150 Feet

AIRCRAFT COURSE: 315 Degrees

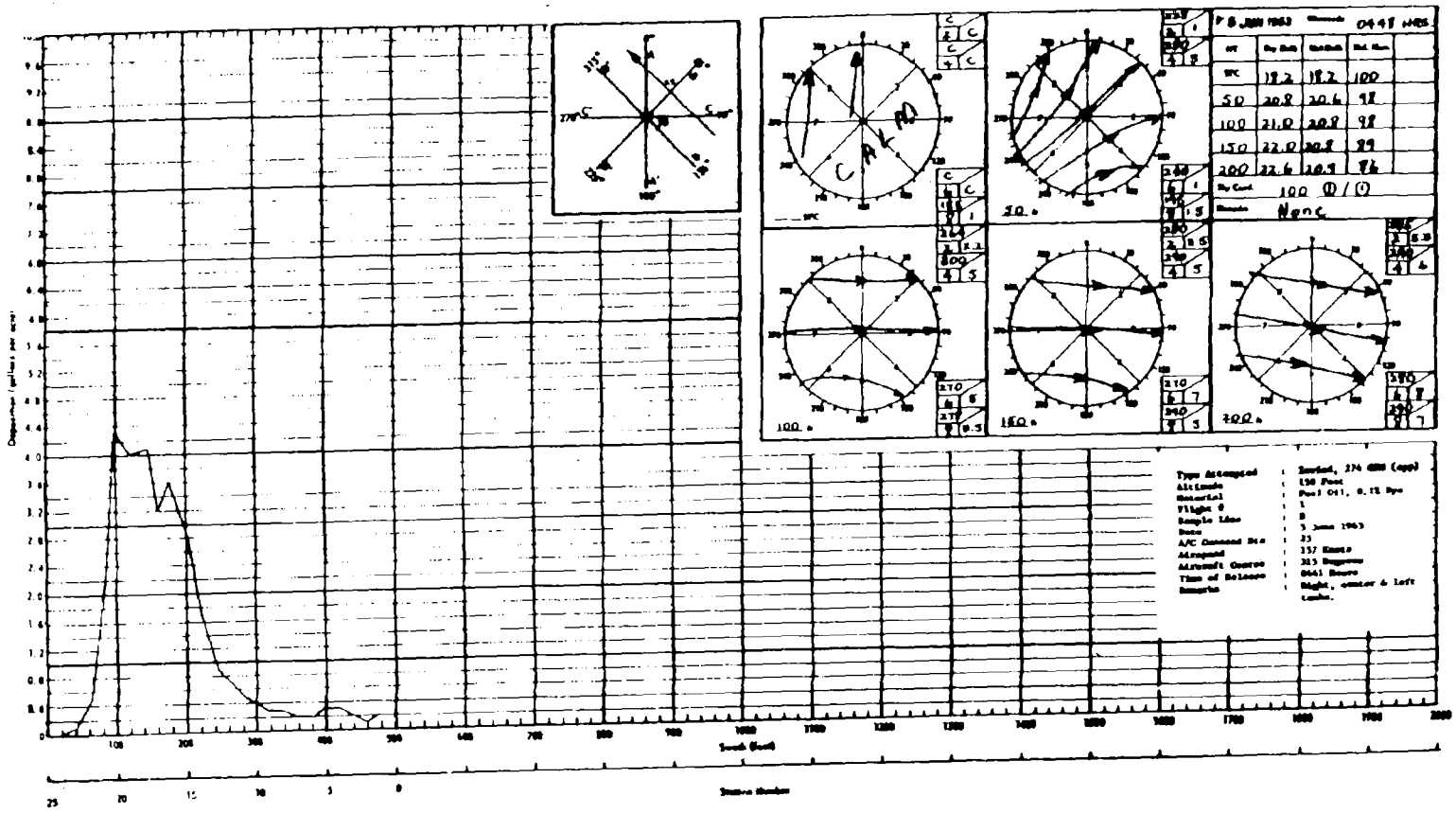
WIND VECTOR: 270°/3.3 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
1	0.2	40*	0.0	Stations 51 - 100 Blank			
2	0.1	41	0.0				
3	0.2	42	0.1				
4	0.3	43	0.0				
5	0.3	44	0.1				
6	0.2	45	0.2				
7	0.2	46	0.1				
8	0.3	47	0.1				
9	0.3	48	0.1				
10	0.4	49	0.1				
11	0.5	50	0.1				
12	0.7						
13	0.9						
14	1.7						
15	2.9						
16	3.6						
17	3.2						
18	4.1						
19	4.0						
20	4.3						
21	2.2						
22	0.5						
23	0.1						

Stations 24 - 39 Blank

*40-50 thought to be B-2
(Not included in total
deposit here but on B-2)

Total 31.2


CALM
Nonc

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 5 June 1963

FLIGHT #: 2

SAMPLE LINE: B

TIME OF RELEASE: 0443 Hours

DURATION: 8 Seconds

FLOW RATE: 273 GPM

SYSTEM FIDAL

AIRSPEED: 158 Knots

ALTITUDE: 150 Feet

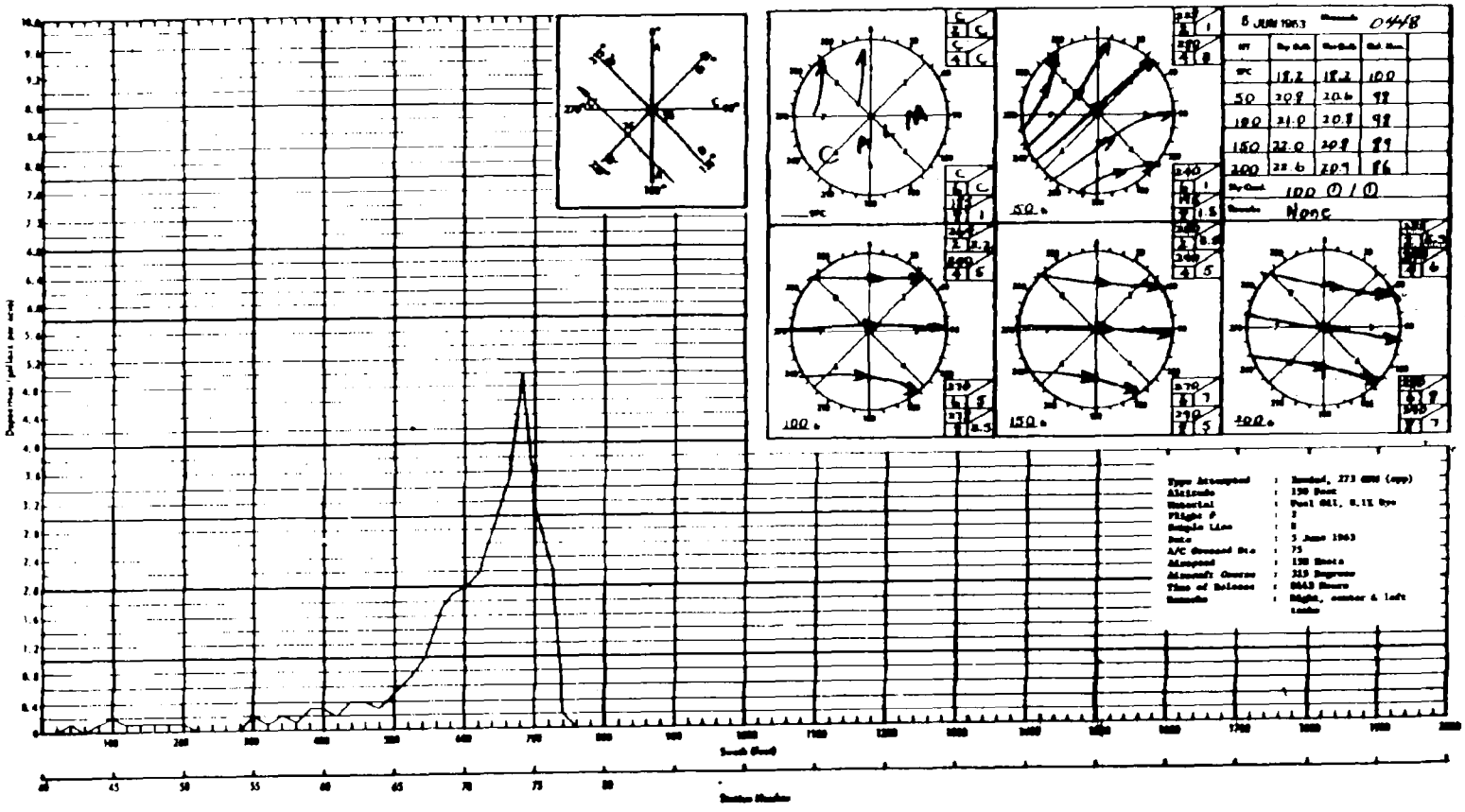
AIRCRAFT COURSE: 315 Degrees

WIND VECTOR: 278°/3.3 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 39 Blank				40*	0.0	68	1.7
				41	0.0	69	1.9
				42	0.1	70	2.0
				43	0.0	71	2.2
				44	0.1	72	2.9
				45	0.2	73	3.5
				46	0.1	74	5.0
				47	0.1	75	3.1
				48	0.1	76	2.2
				49	0.1	77	0.2
				50	0.1	Stations 78 - 100	
				Stations 51 - 54 Blank		Blank	
				55	0.2		
				56	0.1		
				57	0.2		
				58	0.1		
				59	0.3		
				60	0.3		
				61	0.2		
				62	0.4		
				63	0.4		
				64	0.3		
				65	0.5		
				66	0.7		
				67	1.0		

*See B-1

Total 30.3



MASS DEPOSIT

71

MATERIAL: Fuel Oil

DATE: 5 June 1963

FLIGHT #: 3

SAMPLE LINE: A

TIME OF RELEASE: 0502 Hours

DURATION: 10 Seconds

FLOW RATE: 275 GPM

SYSTEM: FIDAL

AIRSPEED: 160 Knots

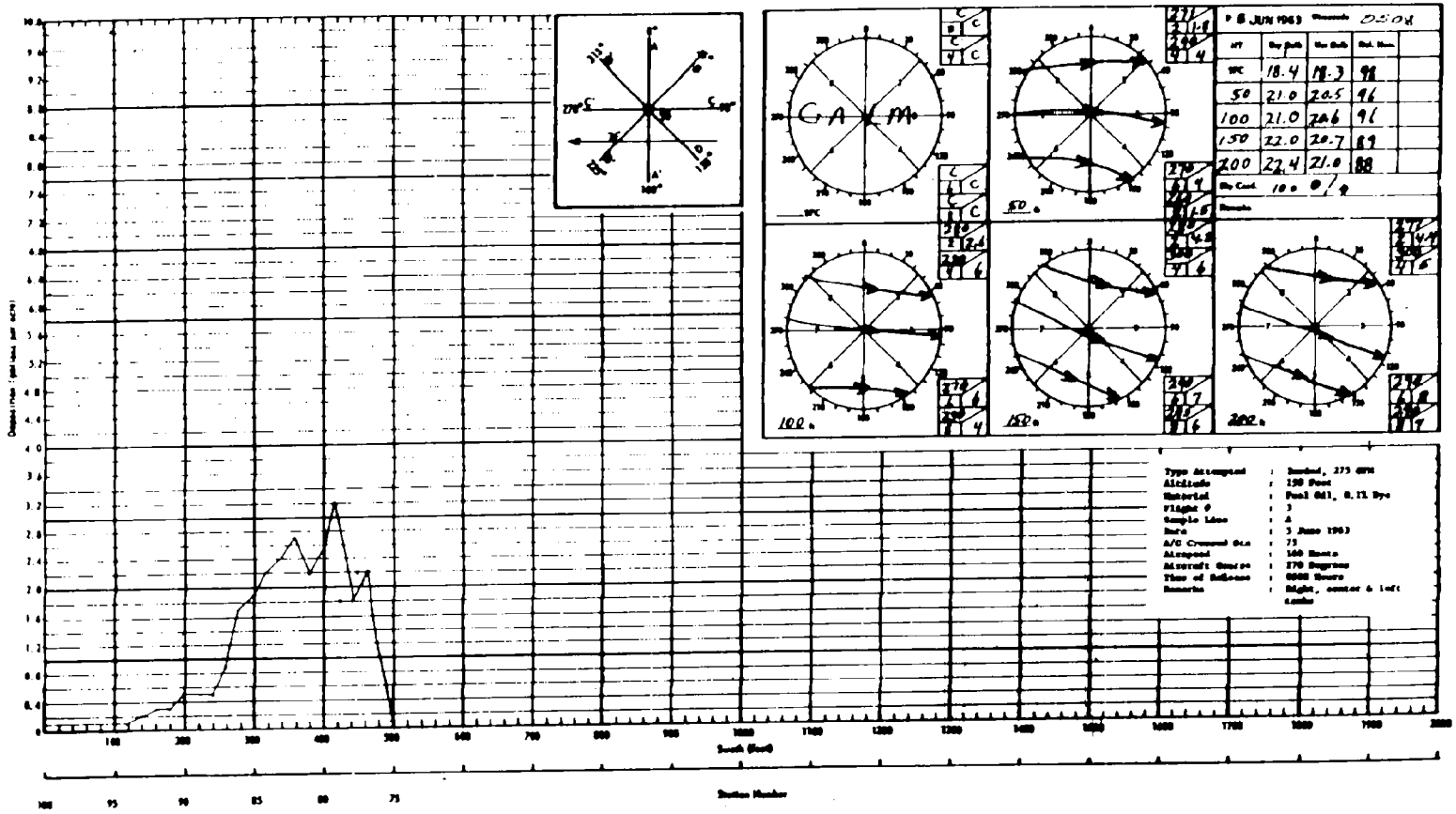
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 270 Degrees

WIND VECTOR: 284°/4.8 mph

STATIONS	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 74 Blank						76	1.2
						77	2.2
						78	1.8
						79	3.2
						80	2.5
						81	2.2
						82	2.7
						83	2.4
						84	2.2
						85	1.9
						86	1.7
						87	0.9
						88	0.5
						89	0.5
						90	0.5
						91	0.3
						92	0.3
						93	0.2
						94	0.1
						95	0.1
						96	0.1
						97	0.1
						98	0.1
						99	0.1
		75	0.1			100	0.1

Total 28.3


Type Aircraft
Altitude
Material
Flight #
Sample Line
Date
A/C Ground Spd
Airspeed
Aircraft Source
Time of Release
Remarks
Station Number

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 5 June 1963

FLIGHT #: 4

SAMPLE LINE: A

TIME OF RELEASE: 0504 Hours

DURATION: NA

FLOW RATE: 273 GPM

SYSTEM: FIDAL

AIRSPEED: 161 Knots

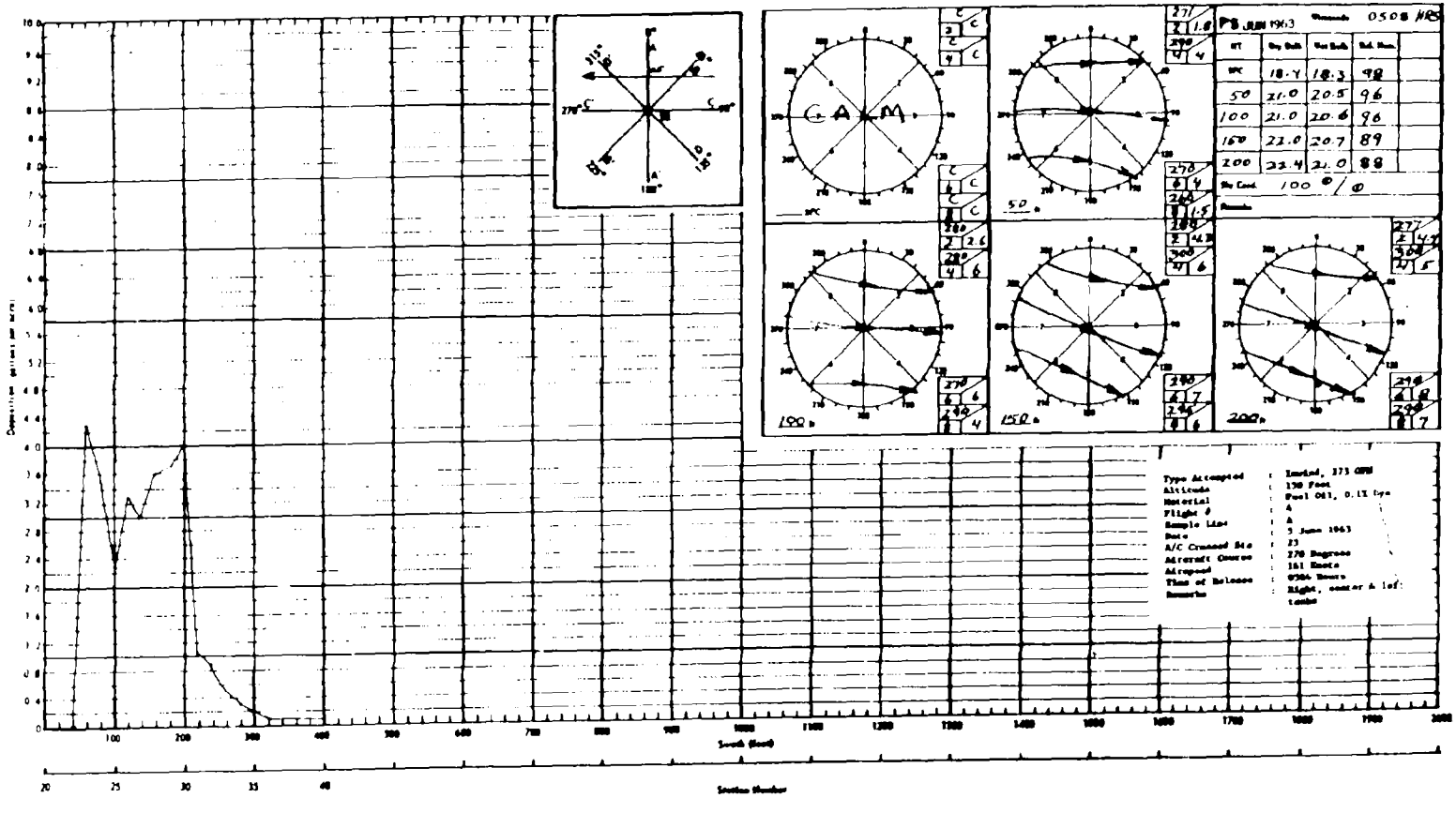
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 270 Degrees

WIND VECTOR: 284°/4.8 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 21 Blank		22	0.0				
		23	4.3				
		24	3.5				
		25	2.3				
		26	3.3				
		27	3.0				
		28	3.6				
		29	3.7				
		30	4.0				
		31	1.0				
		32	0.9				
		33	0.5				
		34	0.3				
		35	0.2				
		36	0.1				
		37	0.1				
		38	0.1				
		39	0.1				
		40	0.1				
		Stations 41 - 100 Blank					

Total 31.1


C+A+M
50 ft
100 ft
150 ft
200 ft
Type Attempted
Altitude
Material
Flight #
Sample Line
Date
A/C Crossed Rte
Aircraft Course
Airspeed
Time of Release
Remarks
Ireland, 373 GPH
150 Feet
Fuel 061, 0.1% Tyn
4
A
5 June 1963
23
270 Degrees
161 Knots
0504 Hours
Right, center & left
center
South (feet)
Station Number

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 5 June 1963

FLIGHT #: 5

SAMPLE LINE: A

TIME OF RELEASE: 0522 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

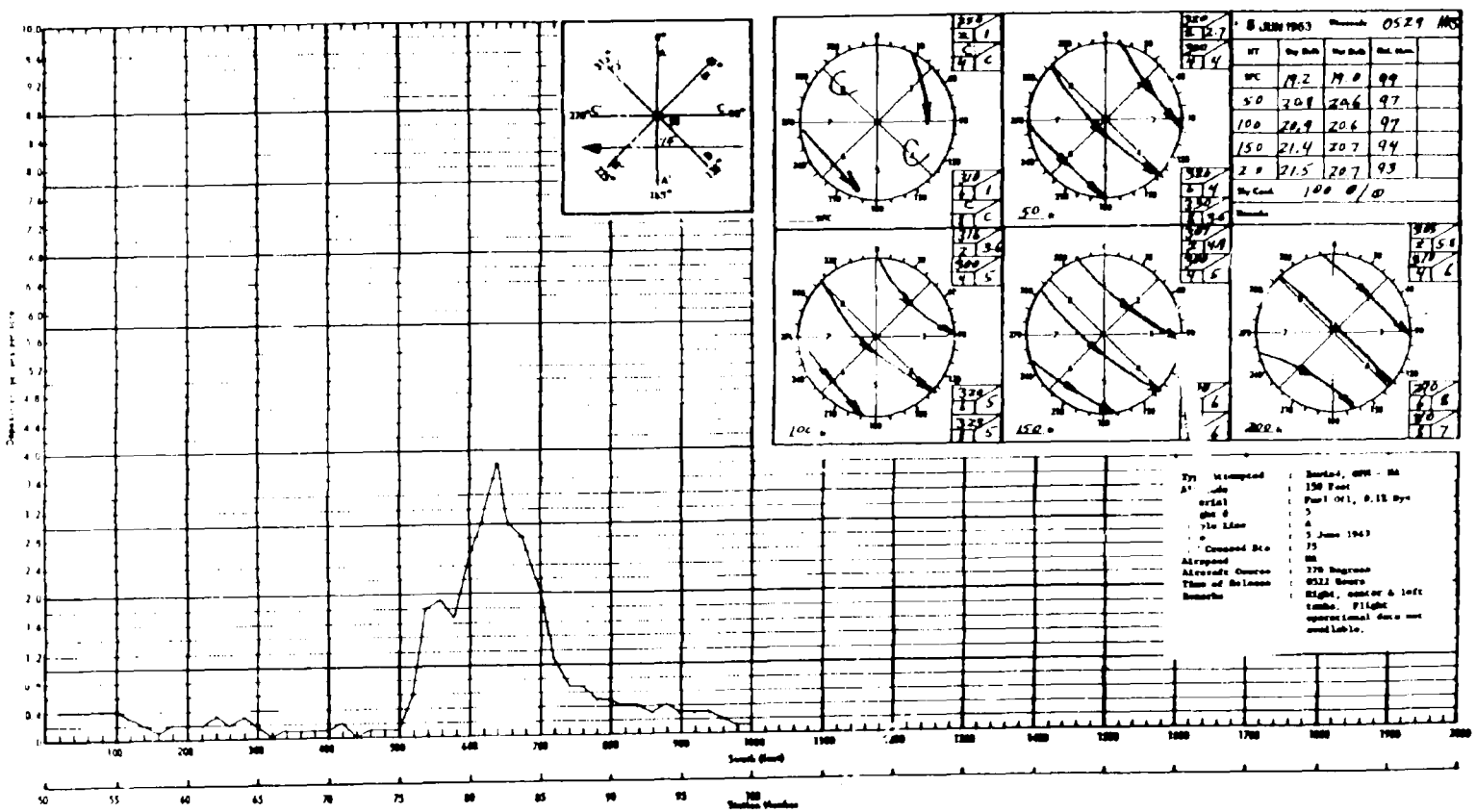
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 270 Degrees

WIND VECTOR: 309°/4.1 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 50 Blank				51	0.4	76	0.6
				52	0.4	77	1.8
				53	0.4	78	1.9
				54	0.4	79	1.7
				55	0.4	80	2.5
				56	0.3	81	3.0
				57	0.2	82	3.8
				58	0.1	83	3.0
				59	0.2	84	2.8
				60	0.2	85	2.0
				61	0.2	86	1.1
				62	0.3	87	0.7
				63	0.2	88	0.7
				64	0.3	89	0.5
				65	0.2	90	0.5
				66	0.0	91	0.4
				67	0.1	92	0.4
				68	0.1	93	0.3
				69	0.1	94	0.4
				70	0.1	95	0.3
				71	0.2	96	0.3
				72	0.0	97	0.3
				73	0.1	98	0.2
				74	0.1	99	0.1
				75	0.1	100	0.1

Total 35.2



MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 5 June 1963

FLIGHT #: 6

SAMPLE LINE: A

TIME OF RELEASE: 0524 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: VIDAL

AIRSPEED: NA

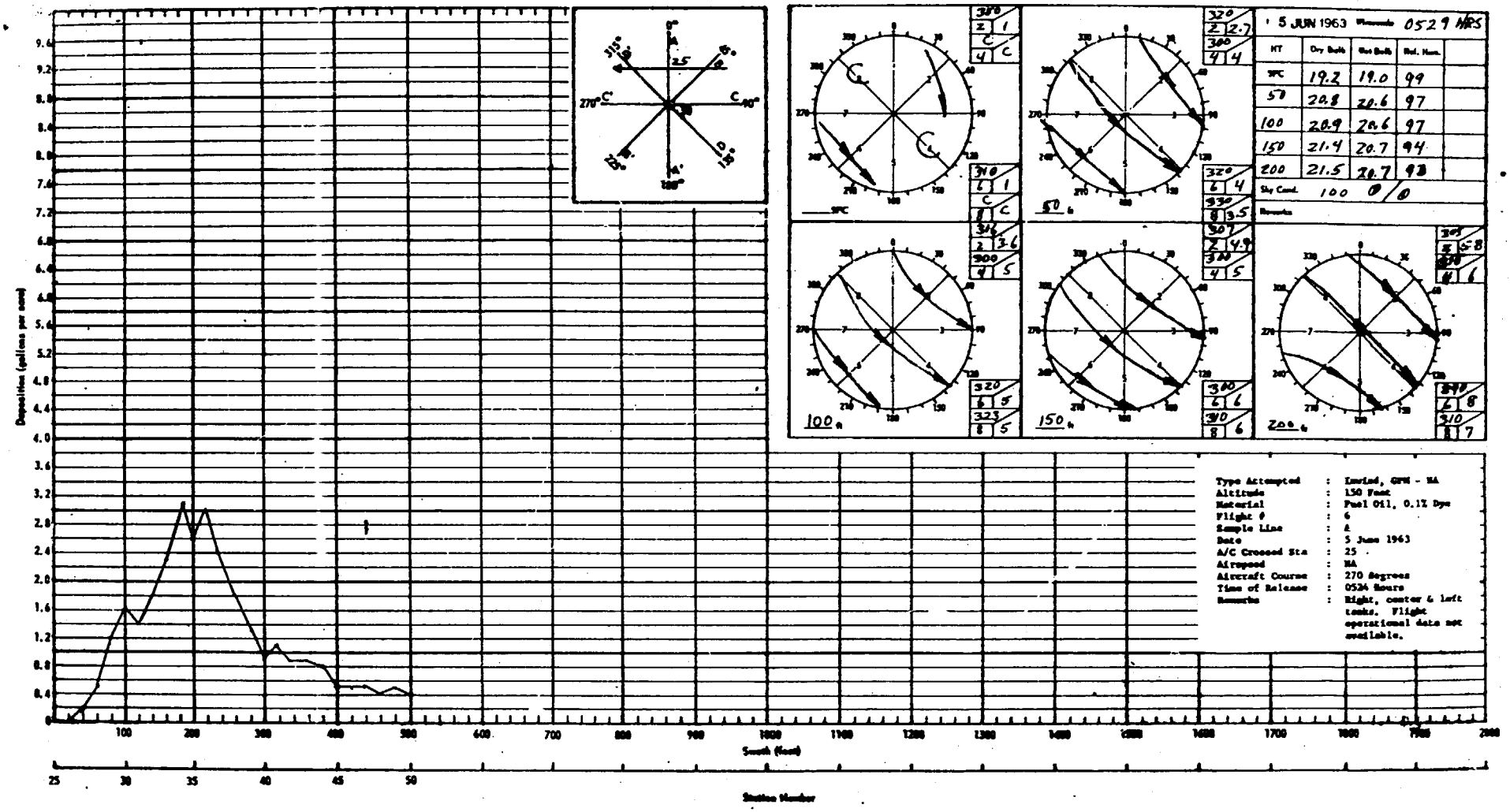
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 270 Degrees

WIND VECTOR: 309°/4.1 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 26 Blank				Stations 51 - 100 Blank			
		27	0.2				
		28	0.5				
		29	1.2				
		30	1.6				
		31	1.4				
		32	1.8				
		33	2.3				
		34	3.1				
		35	2.6				
		36	3.0				
		37	2.4				
		38	1.8				
		39	1.3				
		40	0.9				
		41	1.1				
		42	0.9				
		43	0.9				
		44	0.8				
		45	0.5				
		46	0.5				
		47	0.5				
		48	0.4				
		49	0.5				
		50	0.4				

Total 30.6


Deposition (gallons per acre)
South (feet)
Station Number
25
30
35
40
45
50
5 JUN 1963
0529 MRS
Type Attempted : Imriad, GPN - HA
Altitude : 150 Feet
Material : Fuel Oil, 0.1% Dye
Flight # : 6
Sample Line : 2
Date : 5 June 1963
A/C Crossed Sta : 25
Airspeed : HA
Aircraft Course : 270 Degrees
Time of Release : 0524 Hours
Remarks : Right, center & left tanks. Flight operational data not available.

MASS MEDIAN DIAMETER

DATE: 5 June 1963

FLIGHT #: 7

SAMPLE LINE: D

FLOW RATE: NA

SPREAD FACTOR: 6.0

CONVERSION FACTOR: 2.5

PAPER: Kromekote, white

MATERIAL: Fuel Oil

SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
15	1	5000			
14	2	4500			
14	12	3500*			
14	11	3400			
14	10	3300			
15	3	3200			
15	4	3100			
15	5	3000			
15	7	2900			
15	6	2800			
15	9	2700			
15	8	2600			

MMD = $\frac{\text{Spot D Max}}{\text{Spread Factor x Con. Factor}} = \frac{3500}{6.0 \times 2.5}$ = 233.3 Microns

Max. Sph. Dia. = $\frac{5000}{6.0}$ = 833.3 Microns

Min. Sph. Dia. = $\frac{100}{6.0}$ = 16.7 Microns

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 5 June 1963

FLIGHT #: 7

SAMPLE LINE: D

TIME OF RELEASE: 0544 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

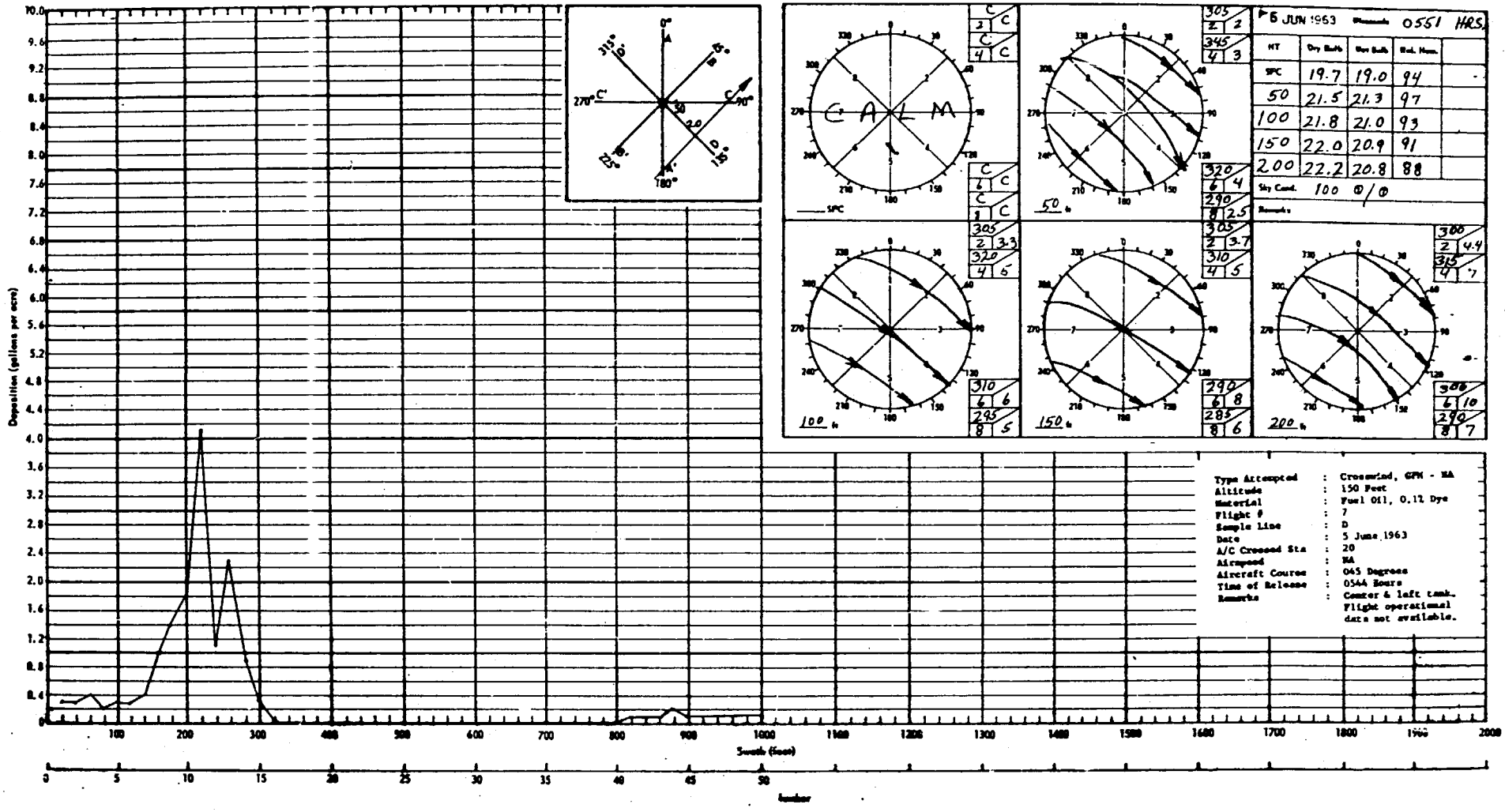
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 045 Degrees

WIND VECTOR: 303°/5.1 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
1	0.3	26	0.0	Station 51 - 100 Blank			
2	0.3	27	0.0				
3	0.4	28	0.0				
4	0.2	29	0.0				
5	0.3	30	0.0				
6	0.3	31	0.0				
7	0.4	32	0.0				
8	1.0	33	0.0				
9	1.4	34	0.0				
10	1.8	35	0.0				
11	4.1	36	0.0				
12	1.1	37	0.0				
13	2.3	38	0.0				
14	0.9	39	0.0				
15	0.3	40	0.0				
16	0.0	41	0.1				
17	0.0	42	0.1				
18	0.0	43	0.1				
19	0.0	44	0.2				
20	0.0	45	0.1				
21	0.0	46	0.1				
22	0.0	47	0.1				
23	0.0	48	0.1				
24	0.0	49	0.1				
25	0.0	50	0.1				

Total 16.2


Deposition (gallons per acre)
Swath (feet)
Number
CALM
SFC
50 ft
100 ft
150 ft
200 ft
6 JUN 1963
0551 HRS
SFC 19.7 19.0 94
50 21.5 21.3 97
100 21.8 21.0 93
150 22.0 20.9 91
200 22.2 20.8 88
Sky Cond. 100 ⊕/⊕
Type Attempted : Crosswind, GPN - HA
Altitude : 150 Feet
Material : Fuel Oil, 0.1% Dye
Flight # : 7
Sample Line : D
Date : 5 June 1963
A/C Crossed Sta : 20
Airspeed : HA
Aircraft Course : 045 Degrees
Time of Release : 0544 Hours
Remarks : Center & left tank. Flight operational data not available.

MASS MEDIAN DIAMETER

DATE: 5 June 1963

FLIGHT NO.: 8

SAMPLE LINE: D

FLOW RATE: NA

SPREAD FACTOR: 6.0

CONVERSION FACTOR: 2.5

PAPER: Kromekote, white

MATERIAL: Fuel Oil

SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
76	5	4700			
77	1	4100*			
76	6	4000			
76	8	3900			
76	7	3800			
76	9	3700			
77	3	3600			
77	2	3500			
77	4	3400			
77	10	3300			
77	11	3200			

MMD = $\frac{\text{Spot D Max}}{\text{Spread Factor x Con. Factor}} = \frac{4100}{6.0 \times 2.5} = 273.3$ Microns

Max. Sph. Dia. = $\frac{4700}{6.0} = 783.3$ Microns

Min. Sph. Dia. = $\frac{100}{6.0} = 16.7$ Microns

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 5 June 1963

FLIGHT #: 8

SAMPLE LINE: D

TIME OF RELEASE: 0546 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

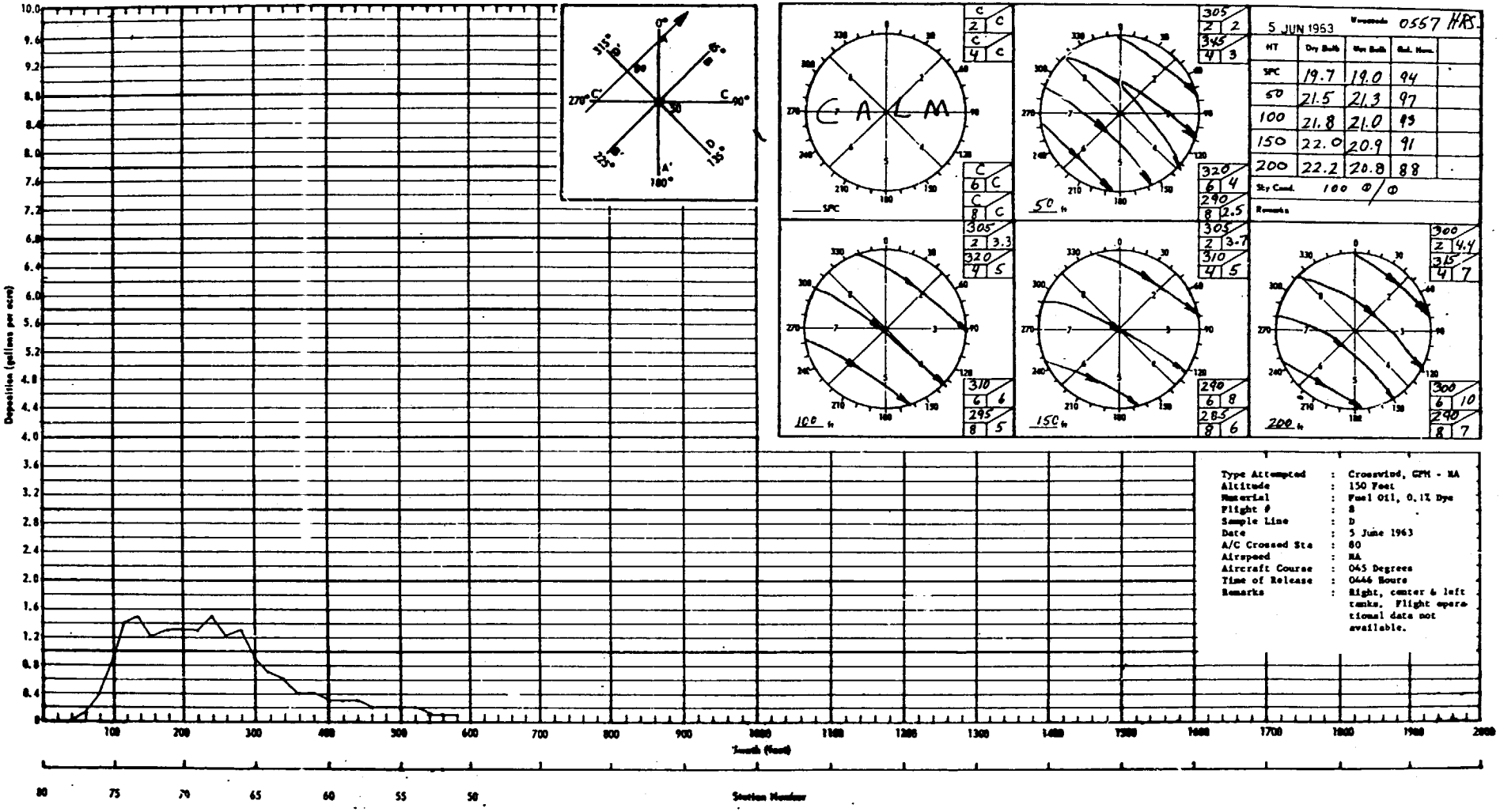
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 045 Degrees

WIND VECTOR: 303°/5.1 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 50 Blank				51	0.1	76	0.4
				52	0.1	77	0.1
				53	0.1	Stations 78 - 100	
				54	0.2	Blank	
				55	0.2		
				56	0.2		
				57	0.2		
				58	0.3		
				59	0.3		
				60	0.3		
				61	0.4		
				62	0.4		
				63	0.6		
				64	0.7		
				65	0.9		
				66	1.3		
				67	1.2		
				68	1.5		
				69	1.3		
				70	1.3		
				71	1.3		
				72	1.2		
				73	1.5		
				74	1.4		
				75	0.9		

Total 18.4


Deposition (gallons per acre)
Distance (Feet)
Station Number
10.0
9.6
9.2
8.8
8.4
8.0
7.6
7.2
6.8
6.4
6.0
5.6
5.2
4.8
4.4
4.0
3.6
3.2
2.8
2.4
2.0
1.6
1.2
0.8
0.4
0
100
200
300
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
80
75
70
65
60
55
50
0°
45°
90°
135°
180°
225°
270°
315°
C
A'
CALM
SFC
50 ft
100 ft
150 ft
200 ft
5 JUN 1963
Wavecode 0557 HRS
HT
Dry Bulb
Wet Bulb
Rel. Hum.
SFC 19.7 19.0 94
50 21.5 21.3 97
100 21.8 21.0 93
150 22.0 20.9 91
200 22.2 20.8 88
Sky Cond. 100 Ø/Ø
Remarks
Type Attempted : Crosswind, GPM - HA
Altitude : 150 Feet
Material : Fuel Oil, 0.1% Dye
Flight # : 8
Sample Line : D
Date : 5 June 1963
A/C Crossed Sta : 80
Airspeed : HA
Aircraft Course : 045 Degrees
Time of Release : 0646 Hours
Remarks : Right, center & left tanks. Flight operational data not available.

FIDAL FLIGHT DATA

DATE FLOWN: 7 June 1963 CONFIGURATION: All tanks LIQUID SPRAYED: Fuel Oil NOZZLE TYPE: U5070

	TANK	RPM	PRESSURE PSI	FLOW RATE GPM	REMARKS
RUN #1	Left	900	8-9	approx 20	1st run - probably 10 sec. burst. Left tank indicates not running full. Either blades not in full power position or air bubble in line. Center pressure gage & right tachometer still out of order.
AIRSPEED:139-140 Knots	Ctr	1400	---	74	
TIME SPRAYED: 8 Sec	Right	600	19.5-20	73	
RUN #2	Left	1200-1000	12	<30	2nd run left tank failed to reach full power. Other tanks failed to prime.
AIRSPEED: 158 Knots	Ctr	0	---	0	
TIME SPRAYED:	Right	400	0	0	

GENERAL REMARKS:
1. Plane made 4 spray runs.
2. Run #1 - pilot sprayed only about 1 second.
3. Run #2 - left tank failed to feather.
4. Runs #3 and #4 - center tank only.

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 7 June 1963

FLIGHT #: 1

SAMPLE LINE: C

TIME OF RELEASE: 0454 Hours

DURATION: 8 Seconds

FLOW RATE: 167 (app) GPM

SYSTEM: FIDAL

AIRSPEED: 140 Knots

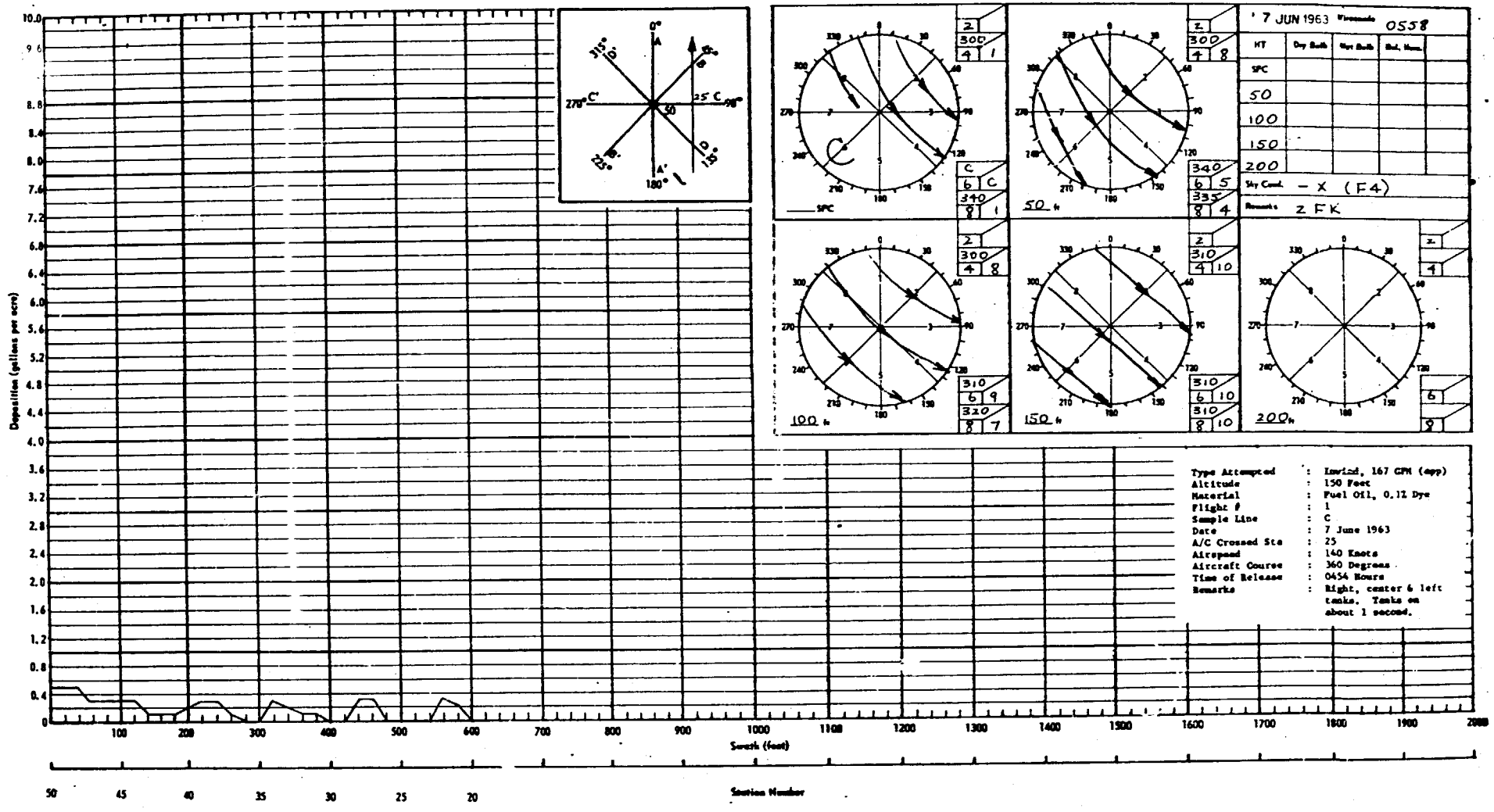
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 368 Degrees

WIND VECTOR: 313°/6.0 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 19 Blank		26	0.0	Stations 51 - 100 Blank			
		27	0.3				
		28	0.3				
		29	0.0				
		30	0.0				
		31	0.1				
		32	0.1				
		33	0.2				
		34	0.3				
		35	0.0				
		36	0.0				
		37	0.1				
		38	0.3				
		39	0.3				
		40	0.2				
		41	0.1				
		42	0.1				
		43	0.1				
		44	0.3				
20	0.0	45	0.3				
21	0.2	46	0.3				
22	0.3	47	0.3				
23	0.0	48	0.5				
24	0.0	49	0.5				
25	0.0	50	0.5				

Total 5.7


Deposition (gallons per acre)
10.0
9.6
8.8
8.4
8.0
7.6
7.2
6.8
6.4
6.0
5.6
5.2
4.8
4.4
4.0
3.6
3.2
2.8
2.4
2.0
1.6
1.2
0.8
0.4
0
100
200
300
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
Swath (feet)
50
45
40
35
30
25
20
Station Number
0°
A
45°
90°
C
135°
180°
A'
225°
270°
315°
25 C
50
SFC
50 ft
100 ft
150 ft
200 ft
7 JUN 1963
0558
HT
Dry Bulb
Wet Bulb
Rel. Hum.
SFC
50
100
150
200
Sky Cond. - X (F4)
Remarks 2 FK
Type Attempted : Inwind, 167 GPM (app)
Altitude : 150 Feet
Material : Fuel Oil, 0.12 Dye
Flight # : 1
Sample Line : C
Date : 7 June 1963
A/C Crossed Sta : 25
Airspeed : 140 Knots
Aircraft Course : 360 Degrees
Time of Release : 0454 Hours
Remarks : Right, center & left tanks. Tanks on about 1 second.

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 7 June 1963

FLIGHT #: 2

SAMPLE LINE: C

TIME OF RELEASE: 0458 Hours

DURATION: NA

FLOW RATE: 30 GPM

SYSTEM: FIDAL

AIRSPEED: 158 Knots

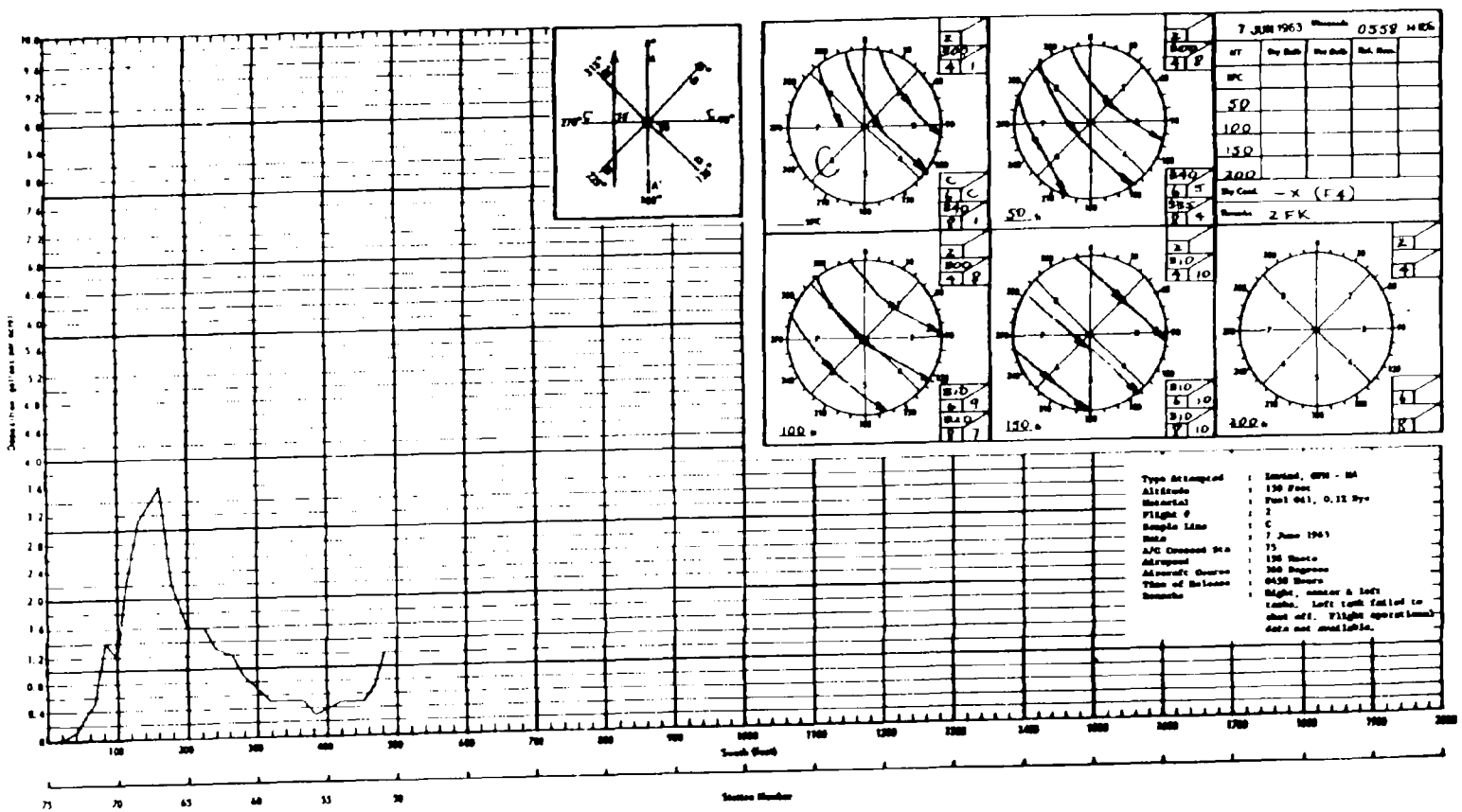
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 360 Degrees

WIND VECTOR: 313°/6.0 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 50 Blank				51	1.2		
				52	0.7		
				53	0.5		
				54	0.5		
				55	0.4		
				56	0.3		
				57	0.5		
				58	0.5		
				59	0.5		
				60	0.7		
				61	0.9		
				62	1.2		
				63	1.3		
				64	1.6		
				65	1.6		
				66	2.2		
				67	3.6		
				68	3.1		
				69	2.2		
				70	1.2		
				71	1.4		
				72	0.5		
				73	0.1		
				Stations 74 - 100 Blank			

Total 26.7


7 JUNE 1963
0558 HRS
50
100
150
200
Sky Cond. – X (F4)
2 FK
Type Attempted : Emitted, GPM - 84
Altitude : 150 Feet
Material : Fuel 661, 0.12 Dye
Flight # : 2
Sample Line : C
Date : 7 June 1963
A/C Command Pilot : 75
Airspeed : 150 Knots
Aircraft Course : 300 Degrees
Time of Release : 0458 Hours
Remarks : Right, center & left tanks. Left tank failed to shut off. Flight operational data not available.
Smoke Check
Station Number

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 7 June 1963

FLIGHT #: 3

SAMPLE LINE: B

TIME OF RELEASE: 0518 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

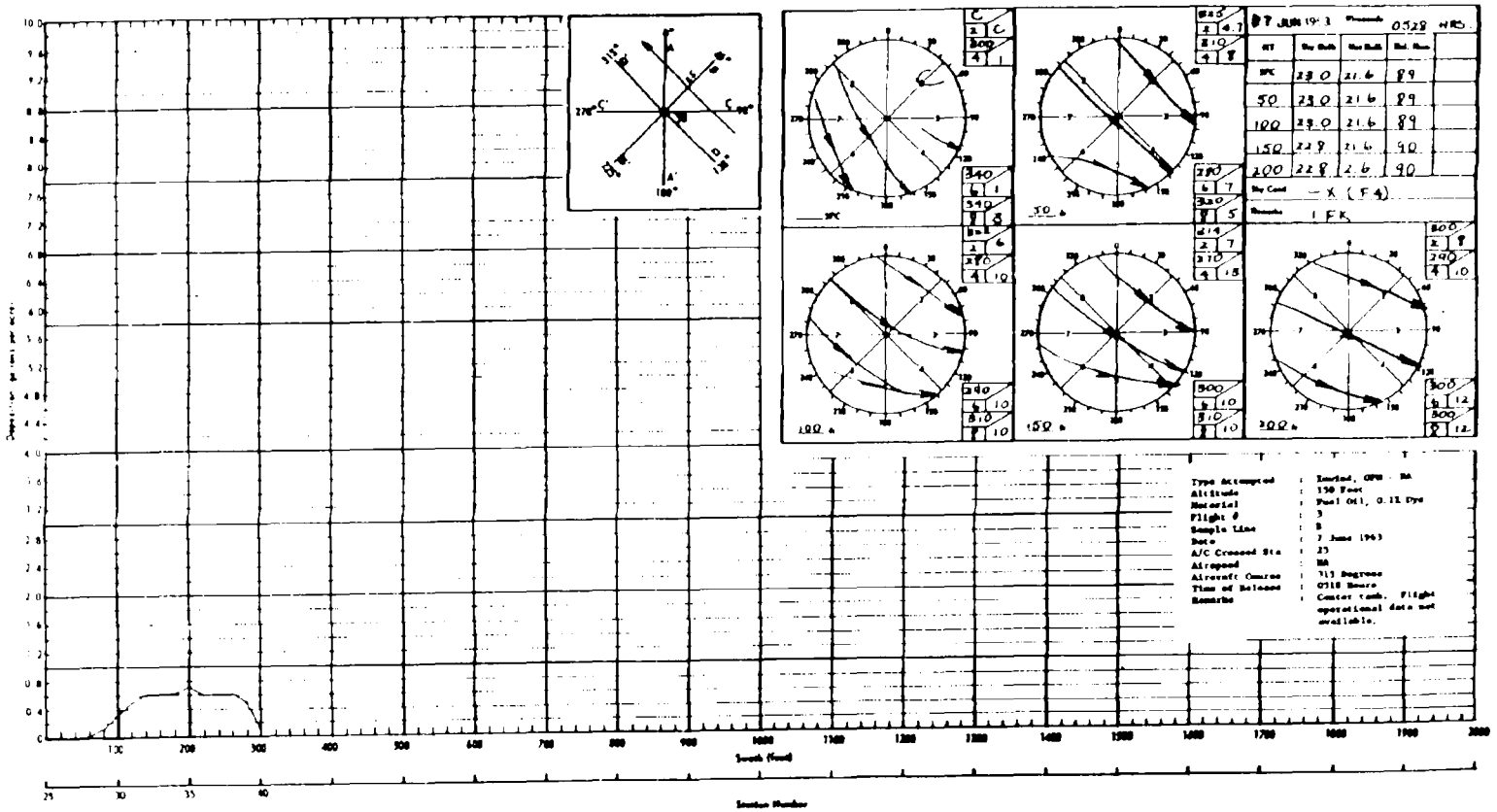
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 315 Degrees

WIND VECTOR: 301°/8.4 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 27 Blank		28	0.0				
		29	0.1				
		30	0.3				
		31	0.5				
		32	0.6				
		33	0.6				
		34	0.6				
		35	0.7				
		36	0.6				
		37	0.6				
		38	0.6				
		39	0.5				
		40	0.1				
		Stations 41 - 100 Blank					

Total 5.8


Type Aircraft : Lockheed, OPM - 8A
Altitude : 150 Feet
Material : Fuel Oil, 0.12 Dye
Flight # : 3
Sample Line : 5
Date : 7 June 1963
A/C Crossed Sta : 25
Airspeed : 88
Aircraft Course : 313 Degrees
Time of Release : 0718 Hours
Remarks : Center tank. Flight operational data not available.
South (Feet)
Station Number

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 7 June 1963

FLIGHT #: 4

SAMPLE LINE: B

TIME OF RELEASE: 0523 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

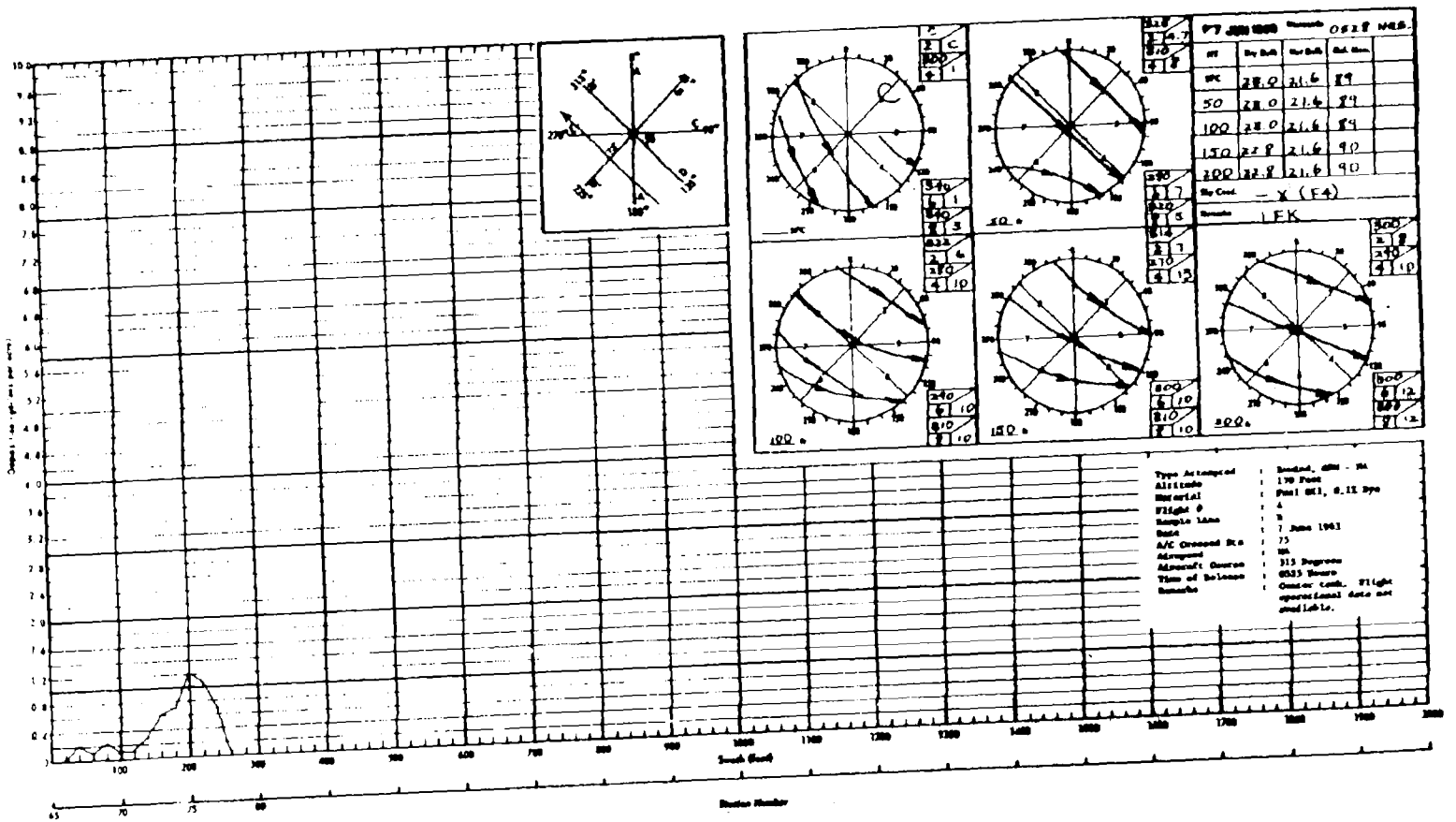
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 315 Degrees

WIND VECTOR: 301°/8.4 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 66 Blank				67	0.2		
				68	0.1		
				69	0.2		
				70	0.1		
				71	0.1		
				72	0.3		
				73	0.6		
				74	0.7		
				75	1.2		
				76	1.1		
				77	0.7		
				Stations 78 - 100 Blank			

Total 5.3



FIDAL FLIGHT DATA

DATE FLOWN: 9 June 1963 CONFIGURATION: All tanks LIQUID SPRAYED: Fuel Oil NOZZLE TYPE: U5070

	TANK	RPM	PRESSURE PSI	FLOW RATE GPM	REMARKS
RUN #1	Left	1500	29	89	Left tank failed to feather on 1st run. All subsequent runs on center and right tank only. Right tachometer and center pressure gage are still non-functional.
AIRSPEED: 155 Knots	Ctr	1600	--	91	
TIME SPRAYED: 6 Sec	Right	800	29	89	
RUN #2	Left	1800	0	0	
AIRSPEED: 150 Knots	Ctr	1500	--	approx 84	
TIME SPRAYED: 6 Sec	Right	800	27	87	
RUN #3	Left	1600	0	0	
AIRSPEED: 160 Knots	Ctr	1700	--	approx 96	
TIME SPRAYED:	Right	800	31.0	92	
RUN #4	Left	1600	0	0	
AIRSPEED: 162 Knots	Ctr	1600	--	approx 91	
TIME SPRAYED: 5 Sec	Right	800	32	93	

GENERAL REMARKS: 1. Plane made 10 passes.

MASS MEDIAN DIAMETER

DATE: 9 June 1963

FLIGHT #: 1

SAMPLE LINE: C

FLOW RATE: 269 GPM

SPREAD FACTOR: 6.0

CONVERSION FACTOR: 2.5

PAPER: Kromekote, white

MATERIAL: Fuel Oil

SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
17	1	4700			
17	2	4000*			
17	3	3900			
17	5	3800			
17	4	3700			
17	7	3600			
17	8	3500			
17	6	3400			
17	9	3300			
17	10	3200			

$$MMD = \frac{\text{Spot D Max}}{\text{Spread Factor x Con. Factor}} = \frac{4000}{6.0 \times 2.5} = 266.7 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = \frac{4700}{6.0} = 783.3 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = \frac{100}{6.0} = 16.7 \text{ Microns}$$

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 9 June 1963

FLIGHT #: 1

SAMPLE LINE: C

TIME OF RELEASE: 0505 Hours

DURATION: 6 Seconds

FLOW RATE: 269 GPM

SYSTEM: FIDAL

AIRSPEED: 155 Knots

ALTITUDE: 150 Feet

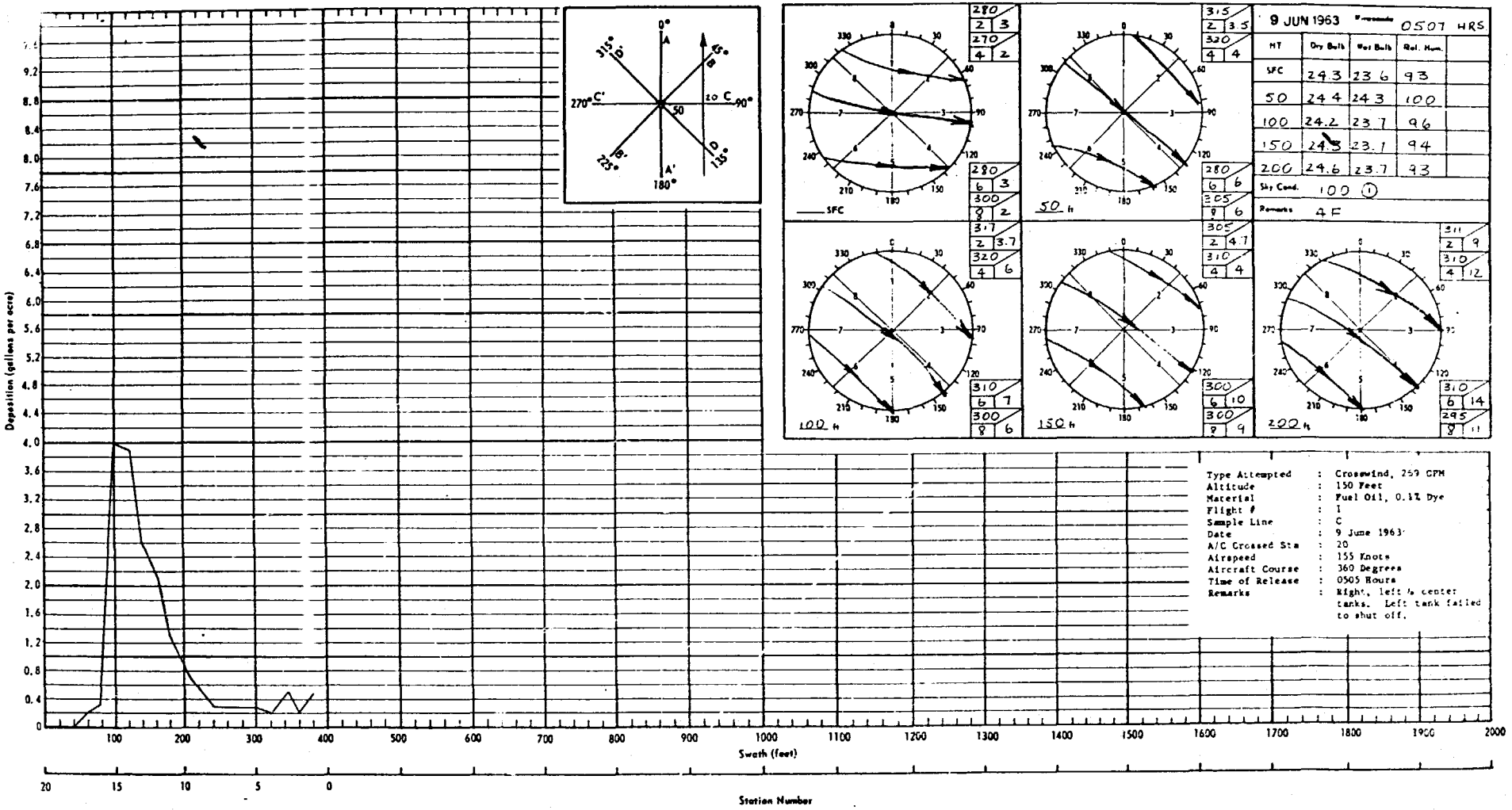
AIRCRAFT COURSE: 360 Degrees

WIND VECTOR: 304°/6.2 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
1	0.5						
2	0.2						
3	0.5						
4	0.2						
5	0.3						
6	0.3						
7	0.3						
8	0.3						
9	0.7						
10	0.9						
11	1.3						
12	2.1						
13	2.6						
14	3.9						
15	4.0						
16	0.3						
17	0.2						

Stations 18 - 100 Blank

Total 18.6


Deposition (gallons per acre)
Swath (feet)
Station Number
0°
45°
90°
135°
180°
225°
270°
315°
20 C
50
A
A'
C
C'
D
D'
9 JUN 1963
0507 HRS
MT
Dry Bulb
Wet Bulb
Rel. Hum.
SFC 24.3 23.6 93
50 24.4 24.3 100
100 24.2 23.7 96
150 24.5 23.1 94
200 24.6 23.7 93
Sky Cond. 100 (1)
Remarks 4F
SFC
50 ft
100 ft
150 ft
200 ft
Type Attempted : Crosswind, 259 GPM
Altitude : 150 Feet
Material : Fuel Oil, 0.1% Dye
Flight # : 1
Sample Line : C
Date : 9 June 1963
A/C Crossed Sta : 20
Airspeed : 155 Knots
Aircraft Course : 360 Degrees
Time of Release : 0505 Hours
Remarks : Right, left & center tanks. Left tank failed to shut off.

MASS MEDIAN DIAMETER

DATE: 9 June 1963

FLIGHT #: 2

SAMPLE LINE: C

FLOW RATE: 171 (app) GPM

SPREAD FACTOR: 6.0

CONVERSION FACTOR: 2.5

PAPER: Kromekote, white

MATERIAL: Fuel Oil

SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
77	1	4000*			
77	2	3800			
77	8	3700			
77	3	3600			
77	6	3500			
77	4	3400			
77	9	3300			
77	5	3200			
77	7	3100			

$$\text{MMD} - \frac{\text{Spot D Max}}{\text{Spread Factor x Con. Factor}} = \frac{4000}{6.0 \times 2.5} = 266.7 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = \frac{4000}{6.0} = 666.7 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = \frac{100}{6.0} = 16.7 \text{ Microns}$$

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 9 June 1963

FLIGHT #: 2

SAMPLE LINE: C

TIME OF RELEASE: 0510 Hours

DURATION: 6 Seconds

FLOW RATE: 171 (app) GPH

SYSTEM: FIDAL

AIRSPEED: 150 Knots

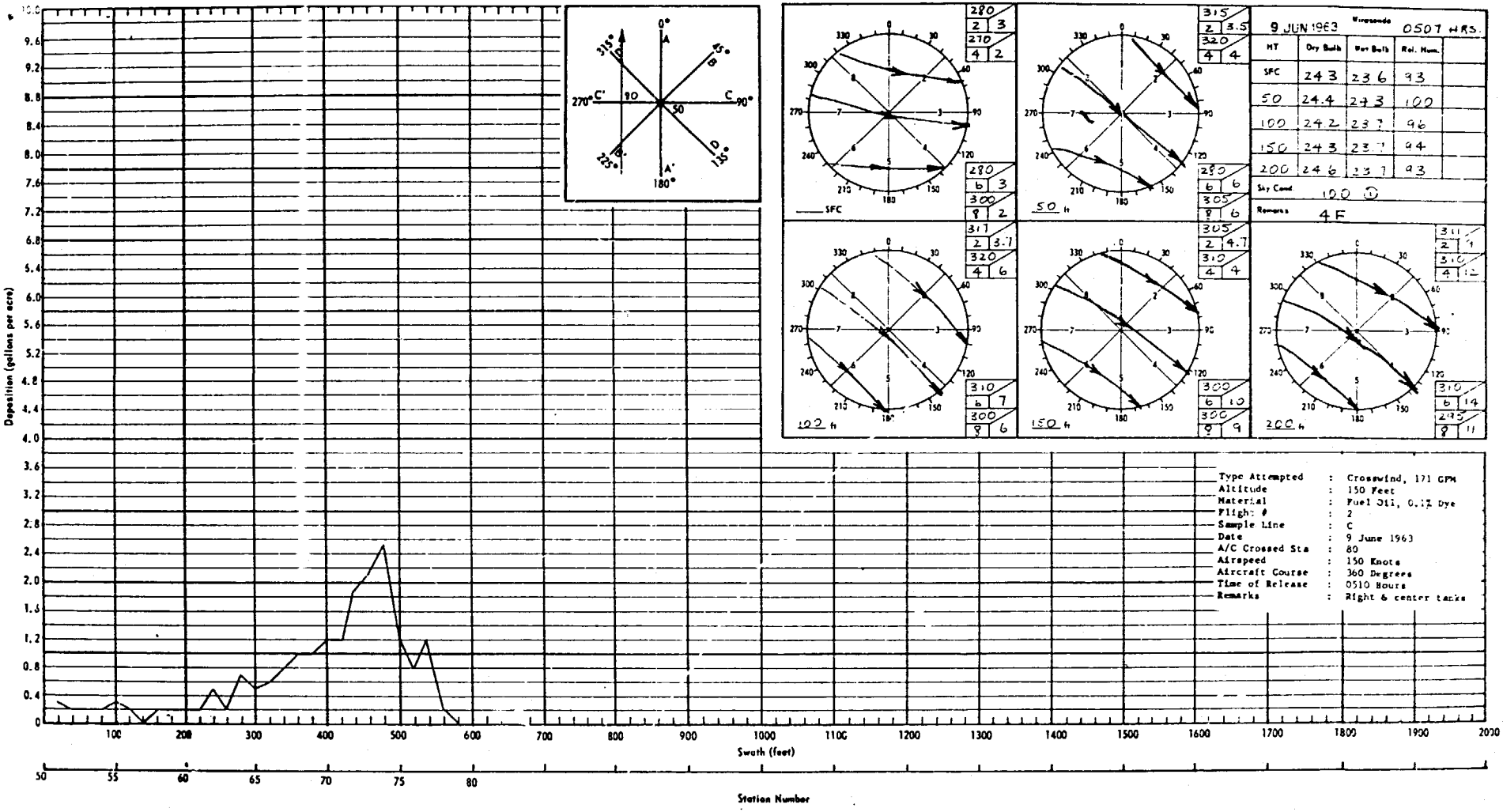
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 360 Degrees

WIND VECTOR: 304°/6.2 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 50 Blank				51	0.3	76	0.8
				52	0.2	77	1.2
				53	0.2	78	0.2
				54	0.2	Stations 79 - 100 Blank	
				55	0.3		
				56	0.2		
				57	0.0		
				58	0.2		
				59	0.2		
				60	0.2		
				61	0.2		
				62	0.5		
				63	0.2		
				64	0.7		
				65	0.5		
				66	0.6		
				67	0.8		
				68	1.0		
				69	1.0		
				70	1.2		
				71	1.2		
				72	1.9		
				73	2.1		
				74	2.5		
				75	1.2		

Total 19.8


Deposition (gallons per acre)
Swath (feet)
Station Number
0°
45°
90°
135°
180°
225°
270°
315°
A
A'
B
B'
C
C'
50
9 JUN 1963
Wirosonde
0507 HRS.
HT
Dry Bulb
Wet Bulb
Rel. Hum.
SFC 243 236 93
50 244 243 100
100 242 237 96
150 243 237 94
200 246 237 93
Sky Cond 100 ①
Remarks 4F
SFC
50 ft
100 ft
150 ft
200 ft
Type Attempted : Crosswind, 171 GPM
Altitude : 150 Feet
Material : Fuel Oil, 0.1% Dye
Flight # : 2
Sample Line : C
Date : 9 June 1963
A/C Crossed Sta : 80
Airspeed : 150 Knots
Aircraft Course : 360 Degrees
Time of Release : 0510 Hours
Remarks : Right & center tanks

MASS DEPOSIT

MATERIAL: Fuel Oil

FLOW RATE: 188 (app) GPM

DATE: 9 June 1963

SYSTEM: FIDAL

FLIGHT #: 3

AIRSPEED: 160 Knots

SAMPLE LINE: B

ALTITUDE: 100 Feet

TIME OF RELEASE: 0528 Hours

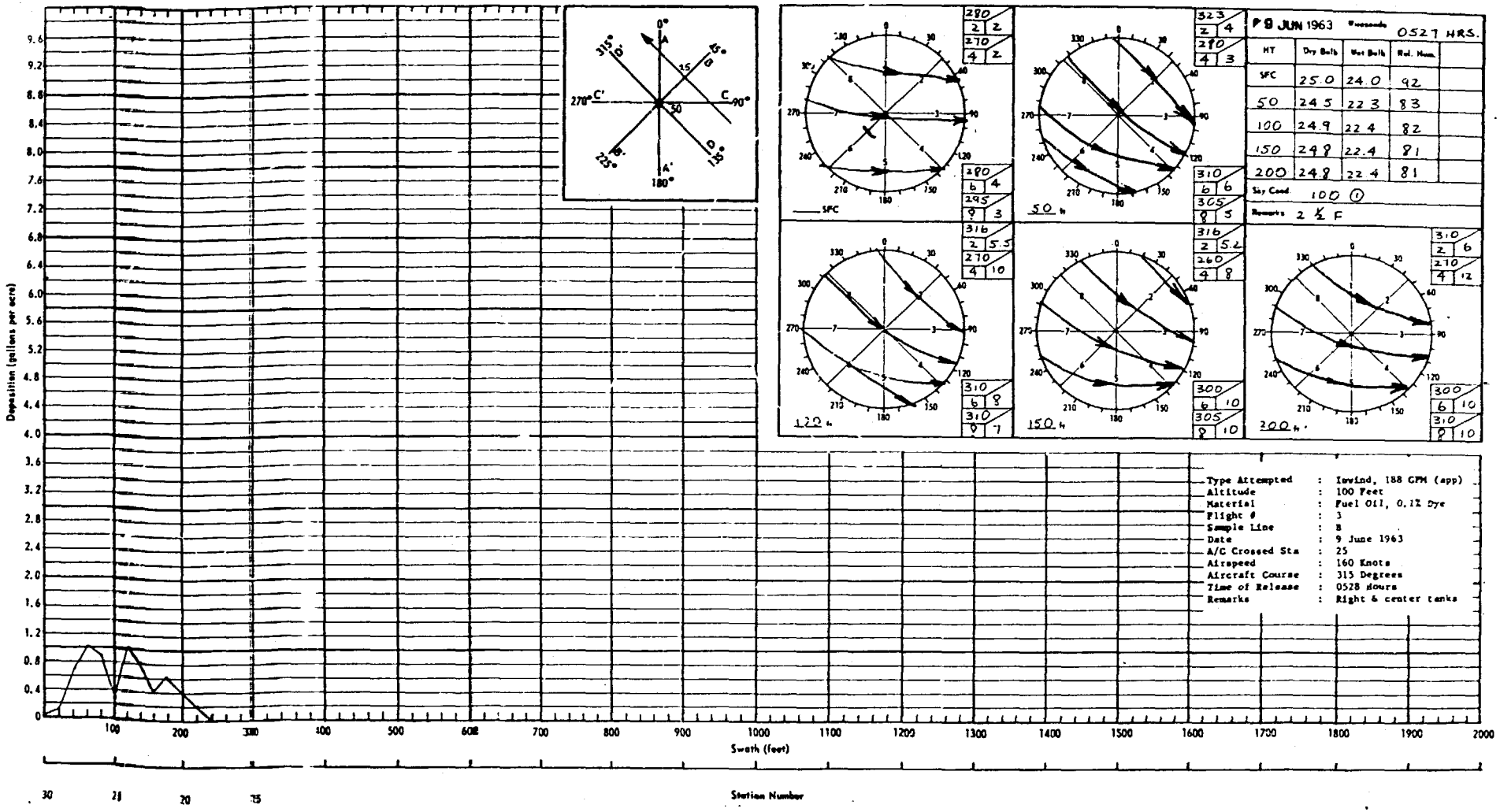
AIRCRAFT COURSE: 315 Degrees

DURATION: NA

WIND VECTOR: 297° /6.5 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Station 1 - 18 Blank							
19	0.2						
20	0.4						
21	0.6						
22	0.4						
23	0.8						
24	1.0						
25	0.3						
26	0.9						
27	1.0						
28	0.7						
29	0.1						
Stations 30 - 100 Blank							

Total 7.4


Deposition (gallons per acre)
Swath (feet)
Station Number
0°
45°
90°
135°
180°
225°
270°
315°
SFC
50 ft
120 ft
150 ft
200 ft
9 JUN 1963
0527 HRS.
HT | Dry Bulb | Wet Bulb | Rel. Hum.
SFC | 25.0 | 24.0 | 92
50 | 24.5 | 22.3 | 83
100 | 24.9 | 22.4 | 82
150 | 24.8 | 22.4 | 81
200 | 24.8 | 22.4 | 81
Sky Cond 100 (1)
Remarks 2 1/2 F
Type Attempted : Inwind, 188 GPM (app)
Altitude : 100 Feet
Material : Fuel Oil, 0.1% Dye
Flight # : 3
Sample Line : B
Date : 9 June 1963
A/C Crossed Sta : 25
Airspeed : 160 Knots
Aircraft Course : 315 Degrees
Time of Release : 0528 Hours
Remarks : Right & center tanks

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 9 June 1963

FLIGHT #: 4

SAMPLE LINE: B

TIME OF RELEASE: 0529 Hours

DURATION: 5 Seconds

FLOW RATE: 184 (app) GPM

SYSTEM: FIDAL

AIRSPEED: 162 Knots

ALTITUDE: 100 Feet

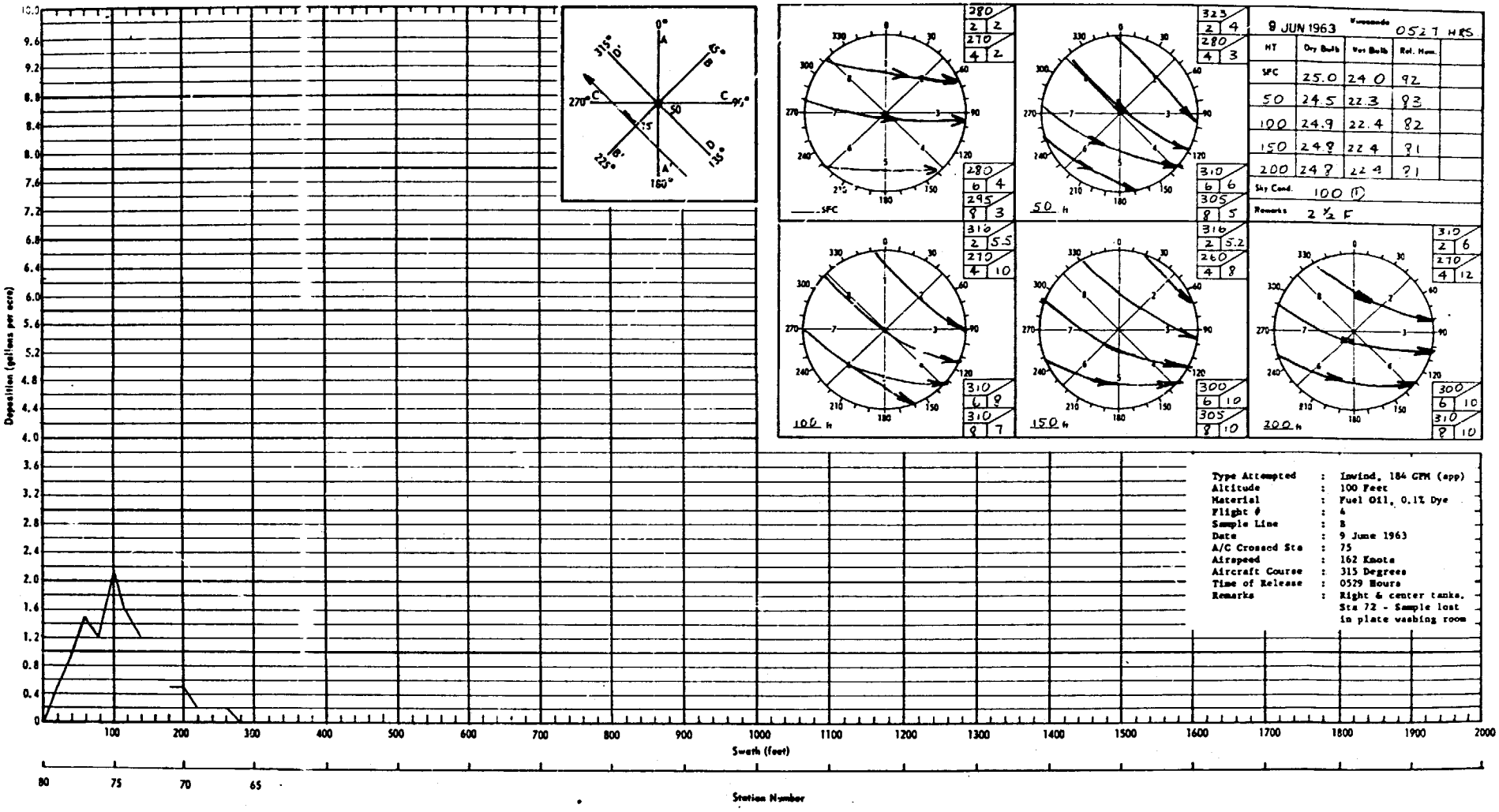
AIRCRAFT COURSE: 315 Degrees

WIND VECTOR: 297°/6.5 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 66 Blank				67	0.2		
				68	0.2		
				69	0.2		
				70	0.5		
				71	0.5		
				72	*		
				73	1.2		
				74	1.6		
				75	2.1		
				76	1.2		
				77	1.5		
				78	0.9		
				79	0.5		
				80	0.0		
				Stations 81 - 100 Blank			

*Sample spilled in wash room.

Total 10.6


Deposition (gallons per acre)
Swath (feet)
Station Number
80
75
70
65
Type Attempted : Iswind, 184 GPM (app)
Altitude : 100 Feet
Material : Fuel Oil, 0.1% Dye
Flight # : 4
Sample Line : B
Date : 9 June 1963
A/C Crossed Sta : 75
Airspeed : 162 Knots
Aircraft Course : 315 Degrees
Time of Release : 0529 Hours
Remarks : Right & center tanks. Sta 72 - Sample lost in plate washing room
9 JUN 1963
0527 HRS
HT | Dry Bulb | Wet Bulb | Rel. Hum.
SFC | 25.0 | 24 0 | 92
50 | 24.5 | 22.3 | 93
100 | 24.9 | 22.4 | 82
150 | 24 8 | 22 4 | 91
200 | 24 9 | 22 4 | 91
Sky Cond. 100 (1)
Remarks 2 ½ F
SFC
50 ft
100 ft
150 ft
200 ft

MASS DEPOSIT

MATERIAL: Fuel Oil

FLOW RATE: NA

DATE: 9 June 1963

SYSTEM: FIDAL

FLIGHT #: 5

AIRSPEED: NA

SAMPLE LINE: B

ALTITUDE: 100 Feet

TIME OF RELEASE: 0549 Hours

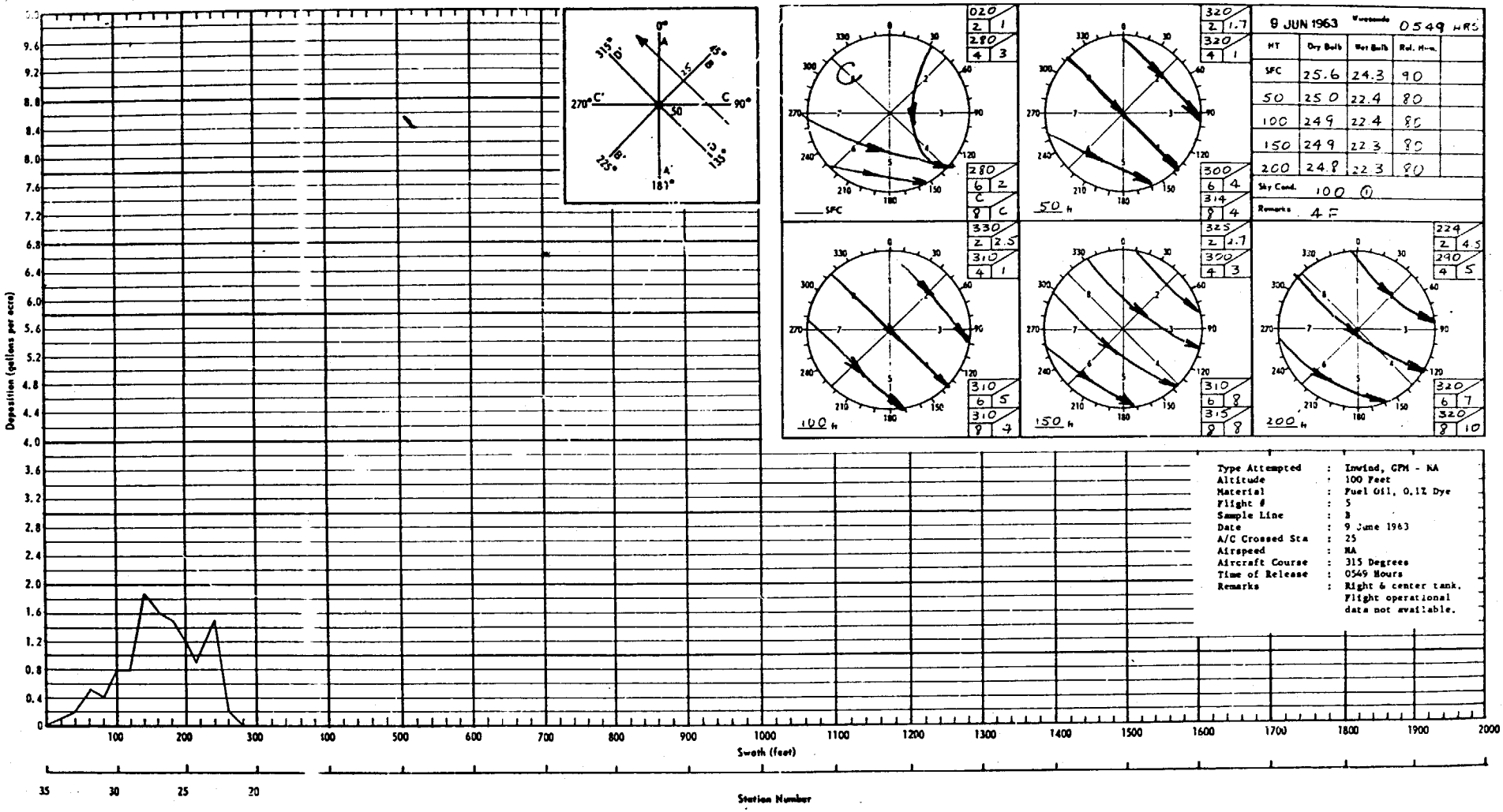
AIRCRAFT COURSE: 315 Degrees

DURATION: NA

WIND VECTOR: 303°/3.9 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 21 Blank		22	0.2				
		23	1.5				
		24	0.9				
		25	1.2				
		26	1.5				
		27	1.6				
		28	1.9				
		29	0.8				
		30	0.8				
		31	0.4				
		32	0.5				
		33	0.2				
		34	0.1				
		Stations 35 - 100 Blank					

Total 11.6


Deposition (gallons per acre)
Swath (feet)
Station Number
35
30
25
20
0°
45°
90°
135°
180°
225°
270°
315°
C
C'
A
A'
50
SFC
50 ft
100 ft
150 ft
200 ft
9 JUN 1963
Wavemode
0549 HRS
HT
Dry Bulb
Wet Bulb
Rel. Hum.
SFC 25.6 24.3 90
50 25.0 22.4 80
100 24.9 22.4 80
150 24.9 22.3 80
200 24.8 22.3 80
Sky Cond. 100 O
Remarks 4F
Type Attempted : Invind, GPM - NA
Altitude : 100 Feet
Material : Fuel Oil, 0.1% Dye
Flight # : 5
Sample Line : B
Date : 9 June 1963
A/C Crossed Sta : 25
Airspeed : NA
Aircraft Course : 315 Degrees
Time of Release : 0549 Hours
Remarks : Right & center tank. Flight operational data not available.

MASS DEPOSIT

MATERIAL: Fuel Oil

FLOW RATE: NA

DATE: 9 June 1963

SYSTEM: FIDAL

FLIGHT #: 6

AIRSPEED: NA

SAMPLE LINE: B

ALTITUDE: 100 Feet

TIME OF RELEASE: 0551 Hours

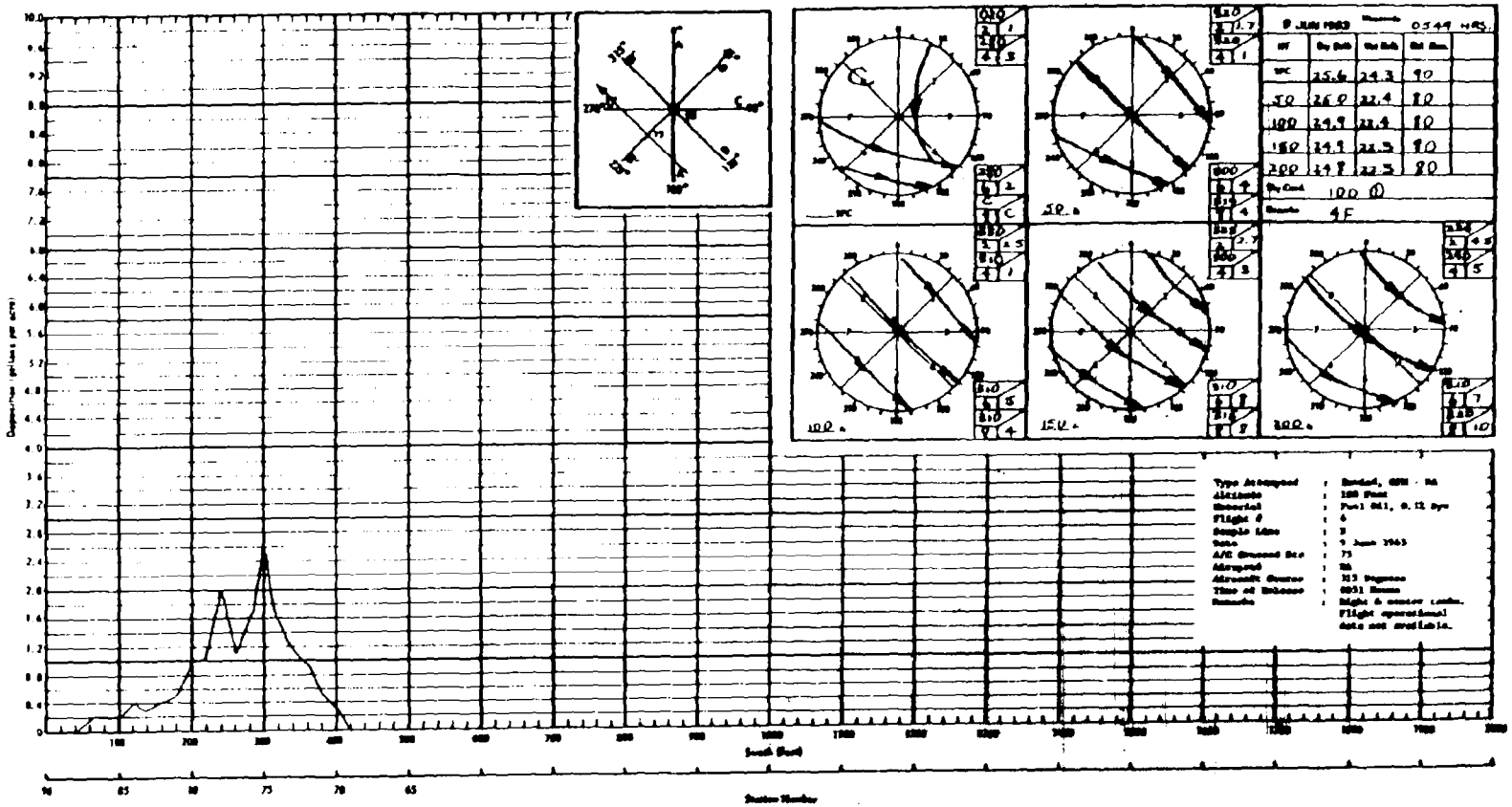
AIRCRAFT COURSE: 315 Degrees

DURATION: NA

WIND VECTOR: 303°/3.9 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 69 Blank				70	0.3		
				71	0.5		
				72	0.9		
				73	1.2		
				74	1.7		
				75	2.6		
				76	1.7		
				77	1.1		
				78	2.0		
				79	1.0		
				80	1.0		
				81	0.5		
				82	0.4		
				83	0.3		
				84	0.4		
				85	0.2		
				86	0.2		
				87	0.2		
				Stations 88 - 100 Blank			

Total 16.3



MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 9 June 1963

FLIGHT #: 7

SAMPLE LINE: B

TIME OF RELEASE: 0610 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

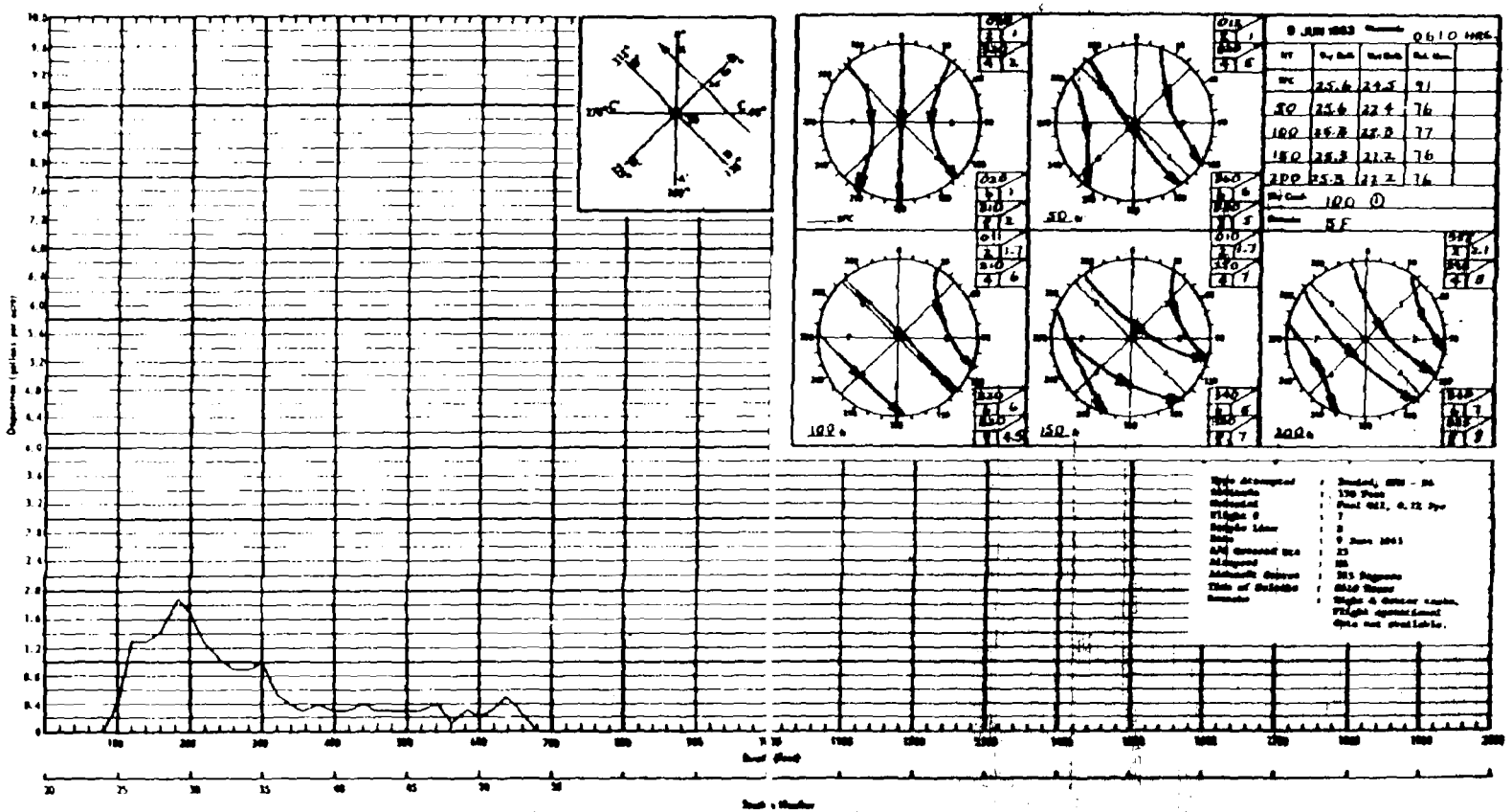
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 315 Degrees

WIND VECTOR: 303°/3.9 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 24 Blank		25	0.4	50	0.2		
		26	1.3	51	0.3		
		27	1.3	52	0.5		
		28	1.4	53	0.3		
		29	1.9	Stations 54 - 100 Blank			
		30	1.7				
		31	1.3				
		32	1.1				
		33	0.9				
		34	0.9				
		35	1.0				
		36	0.5				
		37	0.4				
		38	0.3				
		39	0.4				
		40	0.3				
		41	0.3				
		42	0.4				
		43	0.3				
		44	0.3				
		45	0.3				
		46	0.3				
		47	0.4				
		48	0.1				
		49	0.3				

Total 19.1



MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 9 June 1963

FLIGHT #: 8

SAMPLE LINE: B

TIME OF RELEASE: 0612 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

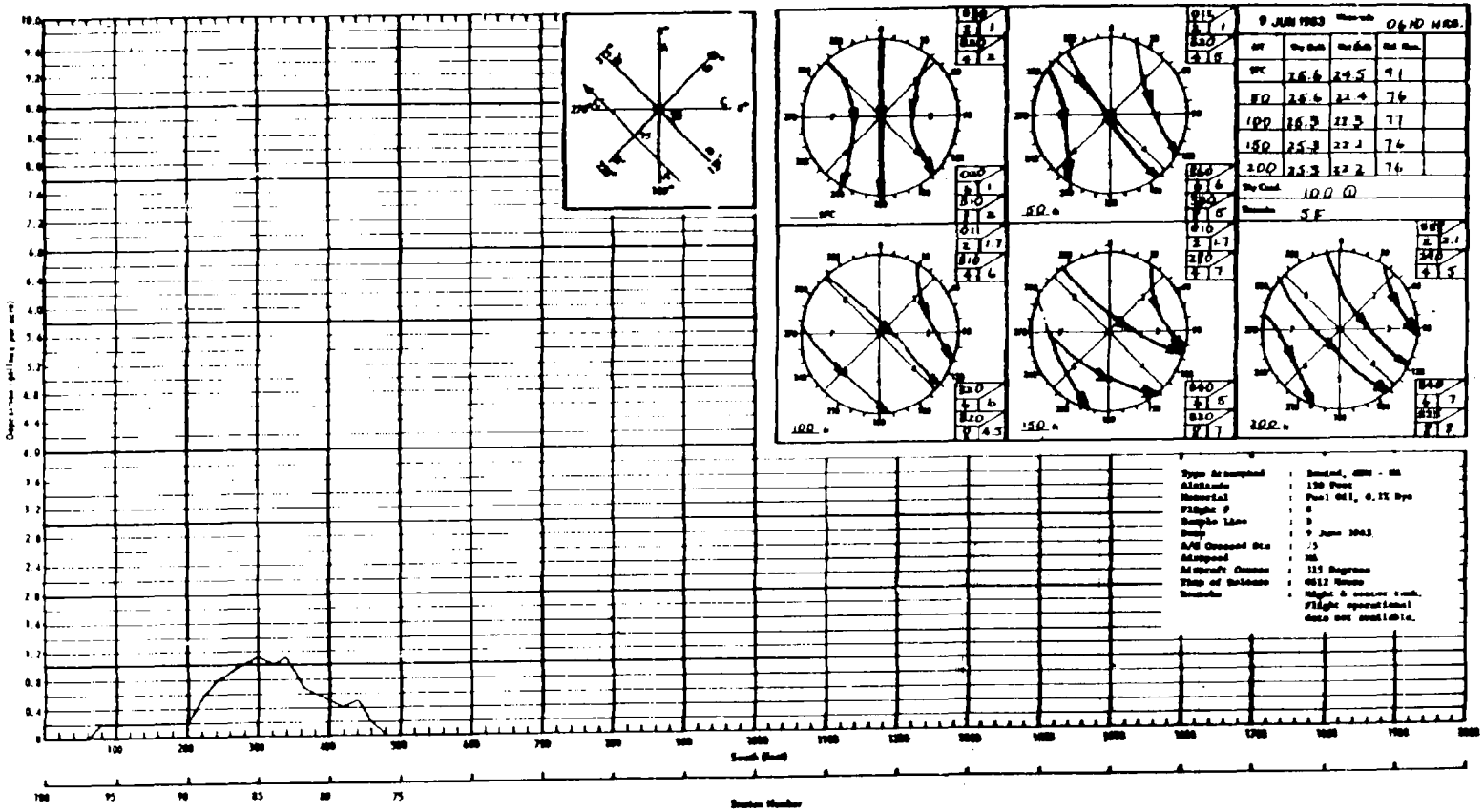
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 315 Degrees

WIND VECTOR: 333°/4.2 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 76 Blank							
						77	0.2
						78	0.5
						79	0.4
						80	0.5
						81	0.6
						82	0.7
						83	1.1
						84	1.0
						85	1.1
						86	1.0
						87	0.9
						88	0.8
						89	0.6
						90	0.2
						91	0.2
						92	0.2
						93	0.2
						94	0.2
						95	0.2
						96	0.2
						97	Blank
						98	"
						99	"
						100	"

Total 11.0


9 JUN 1963
06 HD HRS.
SFC 26.6 24.5 91
50 26.6 22.4 76
100 26.3 22.3 77
150 25.3 22.1 74
200 25.3 22.2 74
100 Ω
SF
50 ft
100 ft
150 ft
200 ft
Station Number

MASS DEPOSIT

MATERIAL: Fuel Oil

FLOW RATE: NA

DATE: 9 June 1963

SYSTEM: FIDAL

FLIGHT #: 9

AIRSPEED: NA

SAMPLE LINE: B

ALTITUDE: 150 Feet

TIME OF RELEASE: 0629 Hours

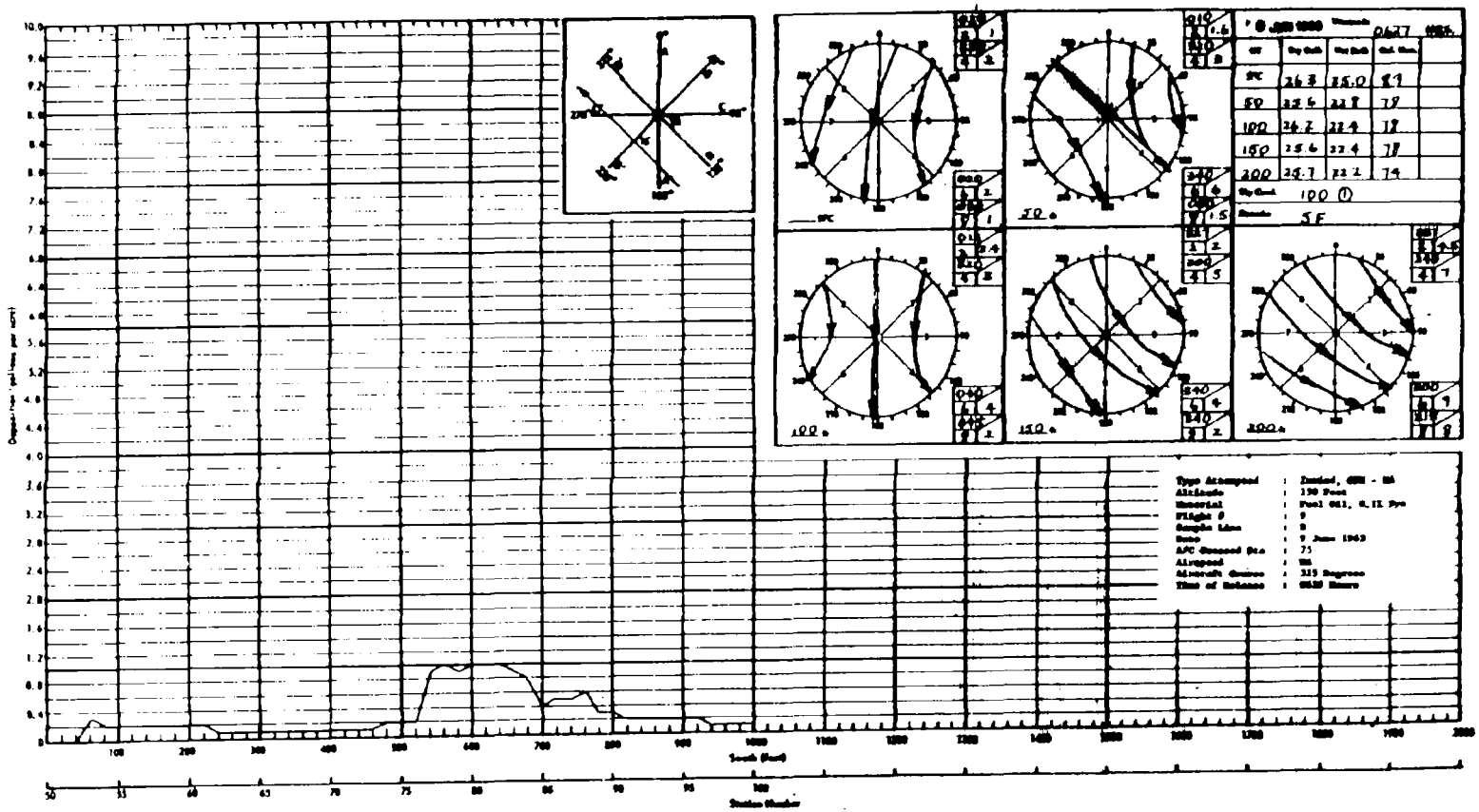
AIRCRAFT COURSE: 315 Degrees

DURATION: NA

WIND VECTOR: 324°/3.2 mph

Station	G.P.A.	Station	G.P.A.	Station	G.P.A.	Station	G.P.A.
Stations 1 - 52 Blank						76	0.2
						77	0.9
				53	0.3	78	1.0
				54	0.2	79	0.9
				55	0.2	80	1.0
				56	0.2	81	1.0
				57	0.2	82	1.0
				58	0.2	83	0.9
				59	0.2	84	0.8
				60	0.2	85	0.4
				61	0.2	86	0.5
				62	0.1	87	0.5
				63	0.1	88	0.6
				64	0.1	89	0.3
				64	0.1	90	0.3
				66	0.1	91	0.2
				67	0.1	92	0.2
				68	0.1	93	0.2
				69	0.1	94	0.2
				70	0.1	95	0.2
				71	0.1	96	0.2
				72	0.1	97	0.1
				73	0.1	98	0.1
				74	0.2	99	0.1
				75	0.2	100	0.1

Total 15.4



MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 9 June 1963

FLIGHT #: 10

SAMPLE LINE: B

TIME OF RELEASE: 0631 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

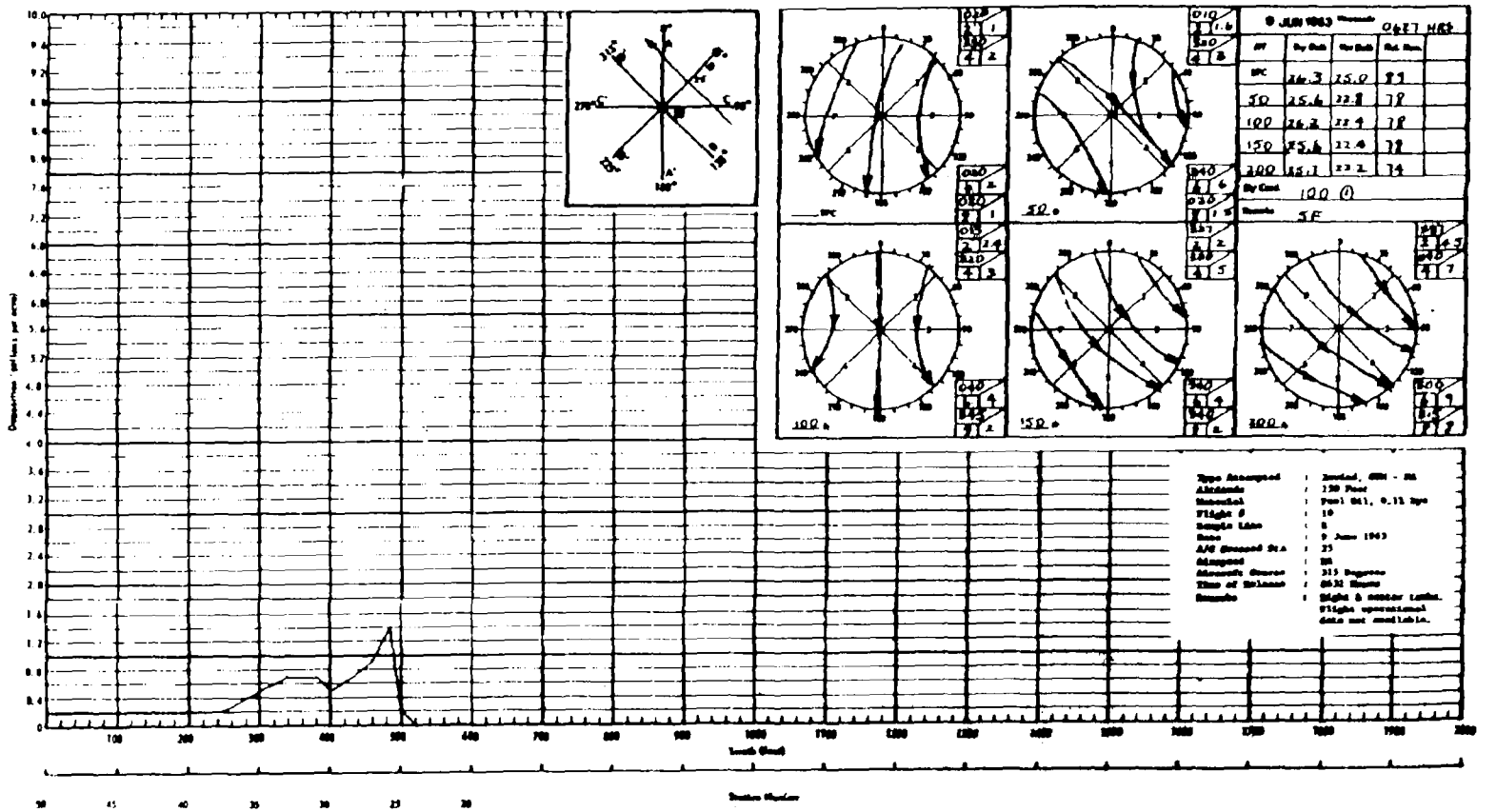
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 315 Degrees

WIND VECTOR: 334°/3.2 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 23 Blank		26	1.4	Stations 51 - 100 Blank			
		27	0.9				
		28	0.7				
		29	0.6				
		30	0.5				
		31	0.7				
		32	0.7				
		33	0.7				
		34	0.6				
		35	0.5				
		36	0.4				
		37	0.3				
		38	0.2				
		39	0.2				
		40	0.2				
		41	0.2				
		42	0.2				
		43	0.2				
		44	0.2				
		45	0.2				
		46	0.2				
		47	0.2				
		48	0.2				
24	0.0	49	0.2				
25	0.2	50	0.2				

Total 9.8



FIDAL FLIGHT DATA

DATE FLOWN: 11 June 1963 CONFIGURATION: All tanks LIQUID SPRAYED: Fuel Oil NOZZLE TYPE: D5070

	TANK	RPM	PRESSURE PSI	FLOW RATE GPM	REMARKS
RUN #1	Left	1600	27	86	Left and right tanks reversed to attempt to stop failure to feather on left tank. Center pressure gage still non-functional as is right tach.
AIRSPEED: 150 Knots	Ctr	1200	00	approx 50	
TIME SPRAYED: 4 Sec	Right	800	18	67	
RUN #2	Left	1600	27	86	
AIRSPEED: 150 Knots	Ctr	1200	--	approx 50	
TIME SPRAYED: 4 Sec	Right	600	18	67	
RUN #3	Left	1600	28	87	
AIRSPEED: 158-159 Knots	Ctr	1600	--	approx 76	
TIME SPRAYED: 6 Sec	Right	600	18-17	66	
RUN #4	Left	1700	34	95	
AIRSPEED: 164-162 Knots	Ctr	1400	--	approx 74	
TIME SPRAYED: 7 Sec	Right	600	23	80	
RUN #5	Left	1600	29	89 89	
AIRSPEED: 154-157 Knots	Ctr	1300	--	approx 63	
TIME SPRAYED: *	Right	600	20	74	*Film ran out.

GENERAL REMARKS: 1. Plane made 9 spray flights today.
2. All tanks functioned.

MASS MEDIAN DIAMETER

DATE: 11 June 1963

FLIGHT #: 1

SAMPLE LINE: C

FLOW RATE: 203 (app) GPM

SPREAD FACTOR: 6.0

CONVERSION FACTOR: 2.5

PAPER: Kromekote, white

MATERIAL: Fuel Oil

SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
32	9	3600*			
32	1	3500			
32	2	3400			
32	3	3300			
32	4	3200			
32	8	3100			
32	5	3000			
32	6	2900			
32	7	2700			

$$\text{MMD} = \frac{\text{Spot D Max}}{\text{Spread Factor x Con. Factor}} = \frac{3600}{6.0 \times 2.5} = 240 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = \frac{3600}{6.0} = 600 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = \frac{100}{6.0} = 16.7 \text{ Microns}$$

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 11 June 1963

FLIGHT #: 1

SAMPLE LINE: C

TIME OF RELEASE: 0448 Hours

DURATION: 4 Sec.

FLOW RATE: 203 GPM

SYSTEM: FIDAL

AIRSPEED: 150 Knots

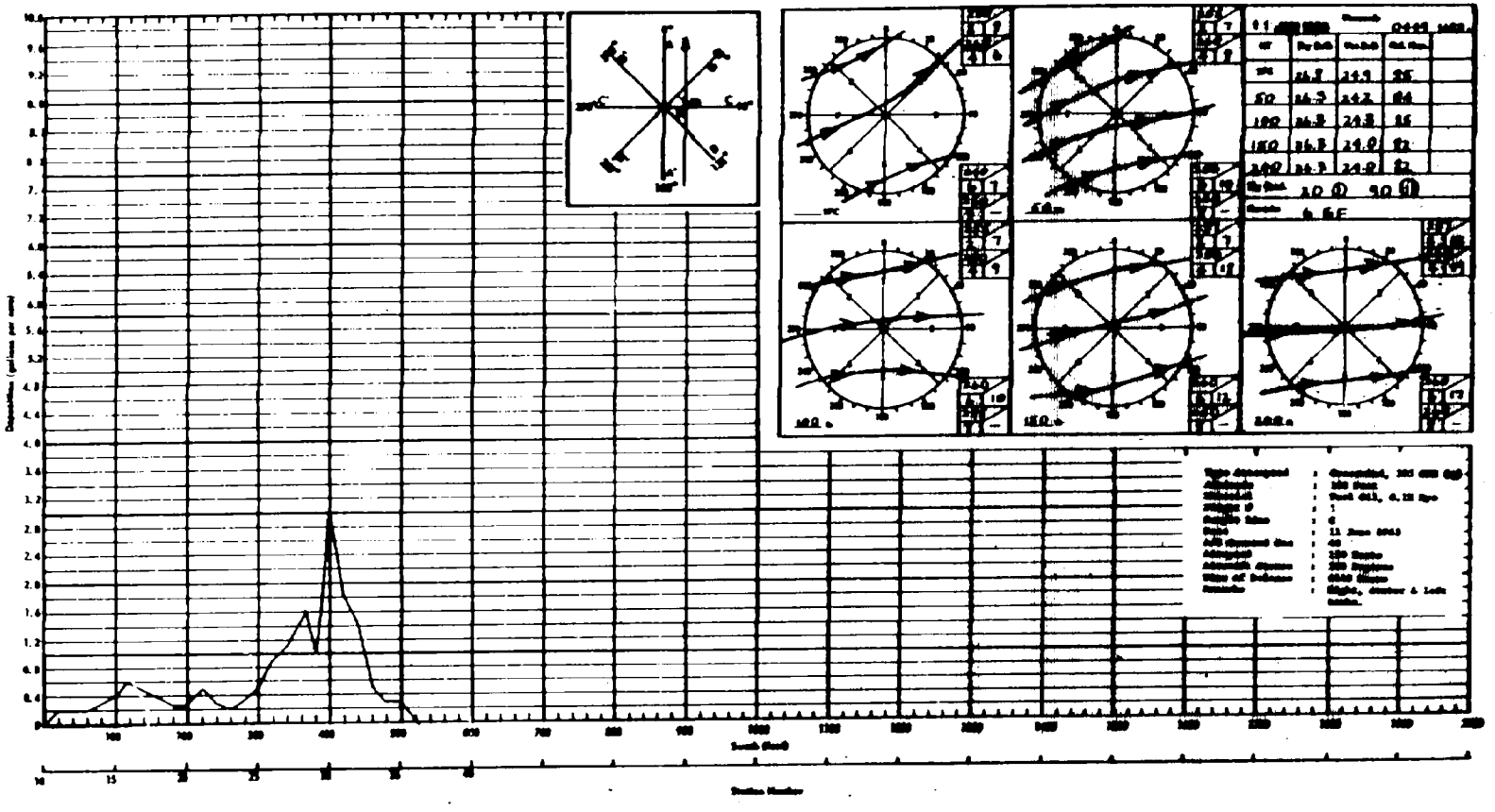
ALTITUDE: 100 Feet

AIRCRAFT COURSE: 360 Degrees

WIND VECTOR: 256°/10.4 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 10 Blank		11	0.2	Stations 36 - 100 Blank			
		12	0.2				
		13	0.2				
		14	0.3				
		15	0.4				
		16	0.6				
		17	0.5				
		18	0.4				
		19	0.3				
		20	0.3				
		21	0.5				
		22	0.3				
		23	0.2				
		24	0.3				
		25	0.5				
		26	0.9				
		27	1.1				
		28	1.6				
		29	1.0				
		30	3.0				
		31	1.8				
		32	1.4				
		33	0.5				
		34	0.3				
		35	0.3				

Total 16.9



MASS MEDIAN DIAMETER

DATE: 11 June 1963

FLIGHT #: 2

SAMPLE LINE: C

FLOW RATE: 203 (app)GPM

SPREAD FACTOR: 6.0

CONVERSION FACTOR: 2.5

PAPER: Kromekote, white

MATERIAL: Fuel Oil

SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
77	3	3800*			
77	1	3700			
77	2	3600			
77	4	3500			
77	5	3400			
76	8	3300			
77	7	3200			
77	6	3000			
76	9	2900			
76	10	2800			

$$MMD = \frac{\text{Spot D Max}}{\text{Spread Factor x Con. Factor}} = \frac{3800}{6.0 \times 2.5} = 253.3 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = \frac{3800}{6.0} = 633.3 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = \frac{100}{6.0} = 16.7 \text{ Microns}$$

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 11 June 1963

FLIGHT #: 2

SAMPLE LINE: C

TIME OF RELEASE: 0450 Hours

DURATION: 4 Sec.

FLOW RATE: 203 (app) GPM

SYSTEM: FIDAL

AIRSPEED: 150 Knots

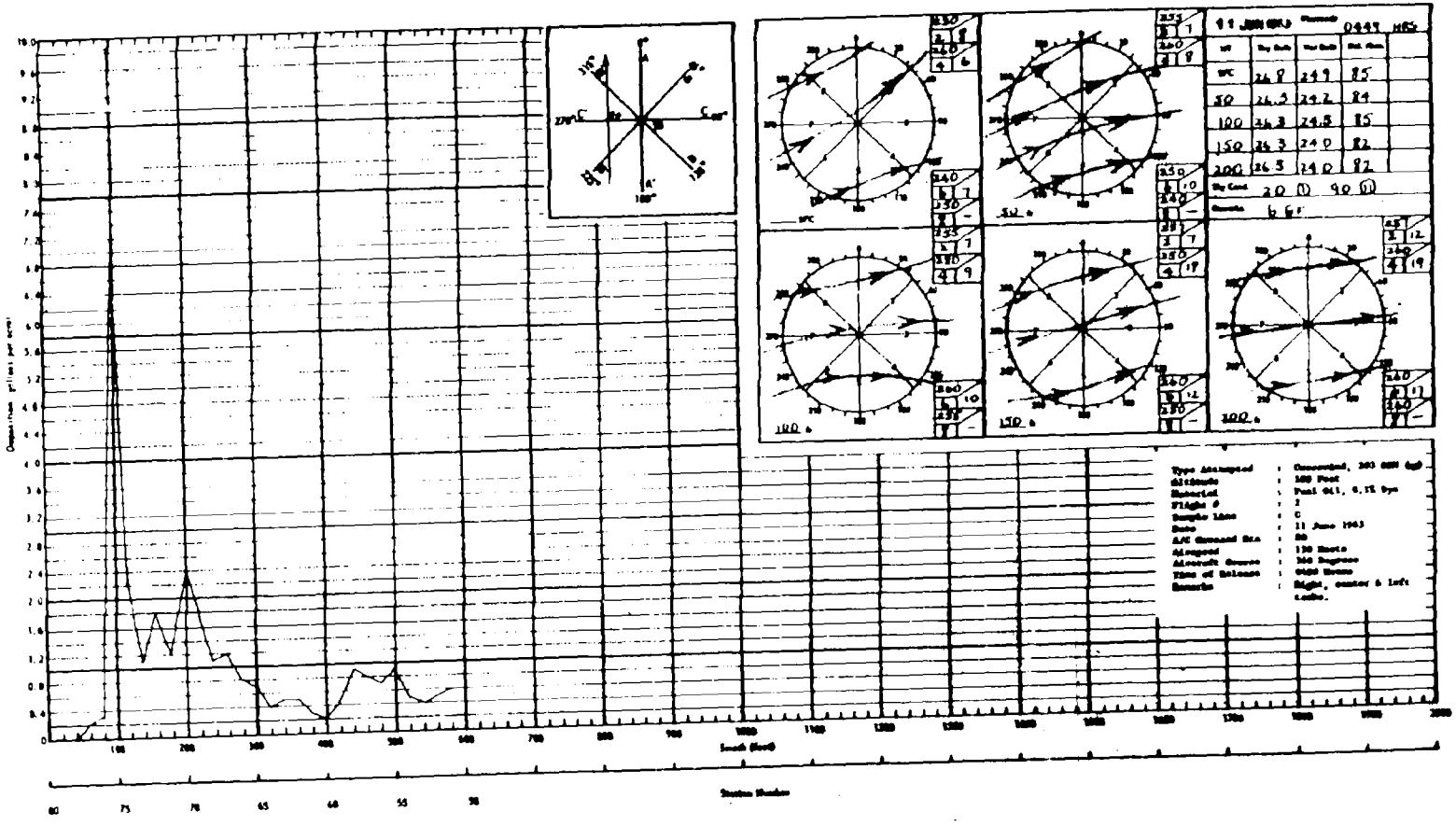
ALTITUDE: 100 Feet

AIRCRAFT COURSE: 360 Degrees

WIND VECTOR: 256°/10.4 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 50 Blank				51	0.6	76	0.3
				52	0.5	77	0.2
				53	0.4	78	0.0
				54	0.5	Stations 79 - 100	
				55	0.9	Blank	
				56	0.7		
				57	0.8		
				58	0.9		
				59	0.4		
				60	0.2		
				61	0.3		
				62	0.5		
				63	0.5		
				64	0.4		
				65	0.7		
				66	0.8		
				67	1.2		
				68	1.1		
				69	1.8		
				70	2.4		
				71	1.2		
				72	1.8		
				73	1.1		
				74	2.2		
				75	7.2		

Total 29.6



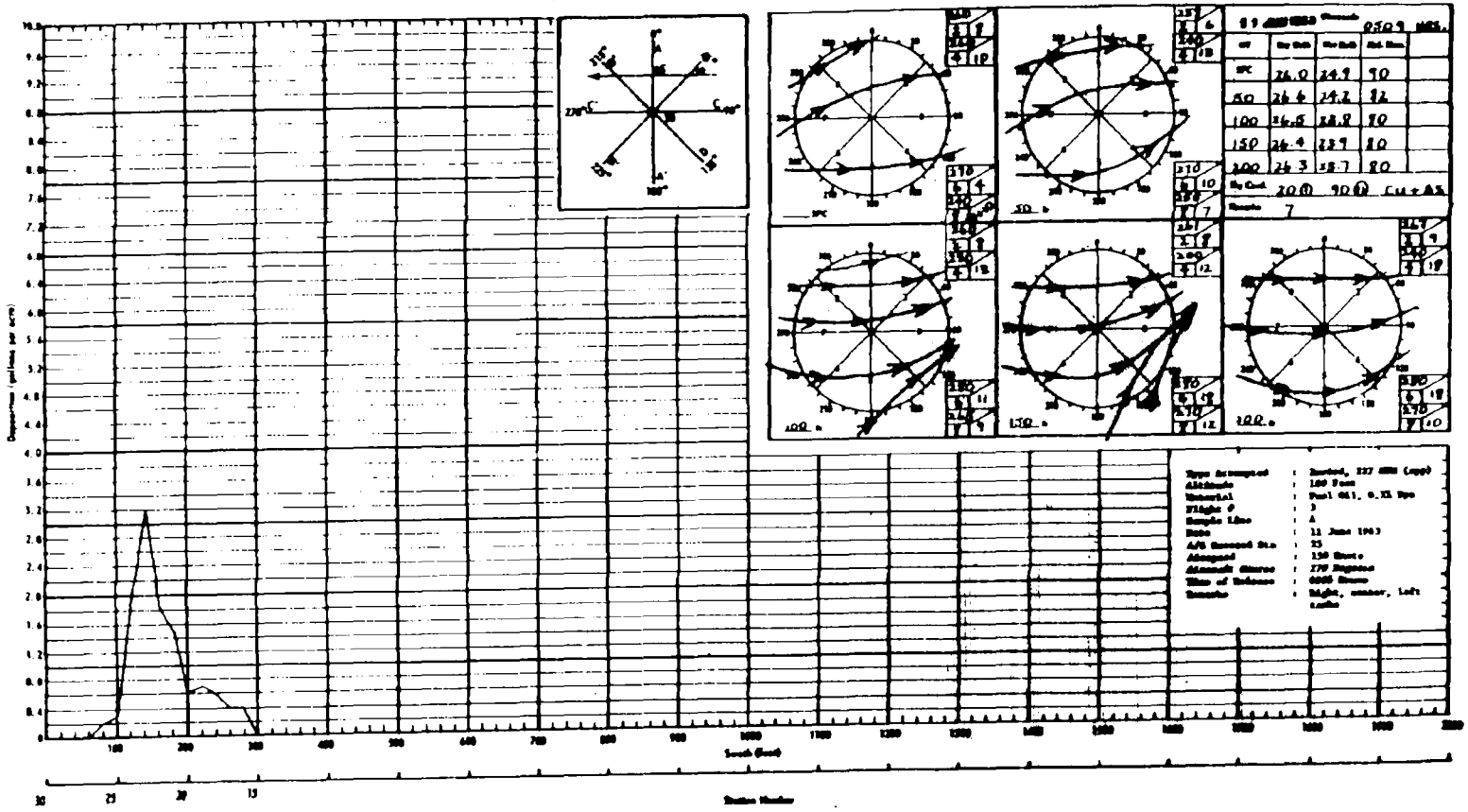
MASS DEPOSIT

MATERIAL: Fuel Oil
FLOW RATE: 227 GPM
DATE: 11 June 1963
SYSTEM: FIDAL
FLIGHT #: 3
AIRSPEED: 159 Knots
SAMPLE LINE: A
ALTITUDE: 100 Feet
TIME OF RELEASE: 0505 Hours
AIRCRAFT COURSE: 270 Degrees
DURATION: 6 Sec.
WIND VECTOR: 258°/10.9 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 15 Blank				Stations 27 - 100 Blank			

16	0.4
17	0.4
18	0.6
19	0.7
20	0.6
21	1.5
22	1.8
23	3.2
24	1.9
25	0.3
26	0.2

Total 11.6



MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 11 June 1963

FLIGHT #: 4

SAMPLE LINE: A

TIME OF RELEASE: 0507 Hours

DURATION: 7 Sec.

FLOW RATE: 249 (app) GPM

SYSTEM: FIDAL

AIRSPEED: 163 Knots

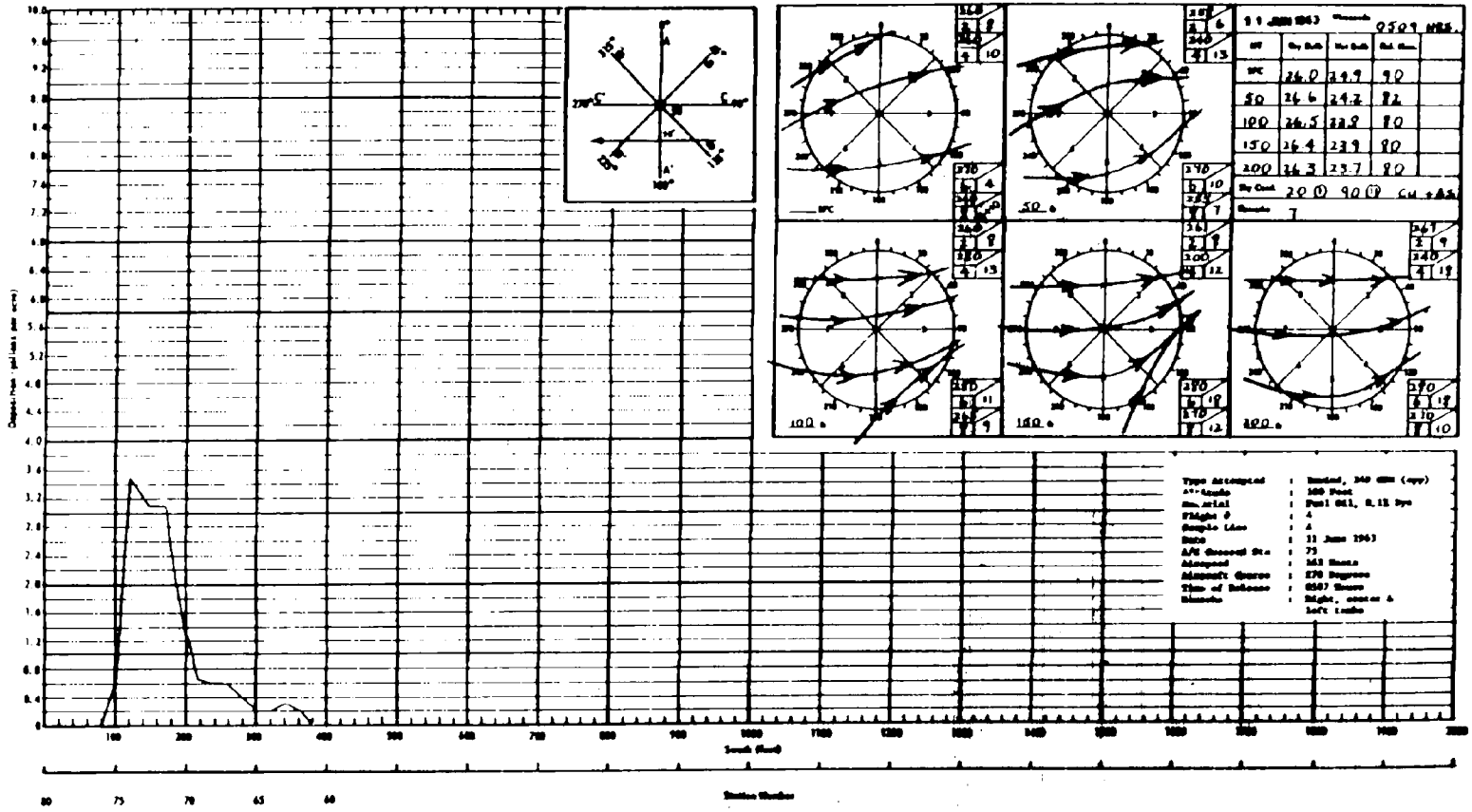
ALTITUDE: 100 Feet

AIRCRAFT COURSE: 270 Degrees

WIND VECTOR: 258°/10.9 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 61 Blank				62	0.2		
				63	0.3		
				64	0.2		
				65	0.2		
				66	0.4		
				67	0.6		
				68	0.6		
				69	0.7		
				70	1.3		
				71	2.0		
				72	3.1		
				73	3.1		
				74	3.5		
				75	0.6		
				Stations 76 - 100 Blank			

Total 16.8



MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 11 June 1963

FLIGHT #: 5

SAMPLE LINE: A

TIME OF RELEASE: 0520 Hours

DURATION: NA

FLOW RATE: 226 (app) GPM

SYSTEM: FIDAL

AIRSPEED: 155 Knots

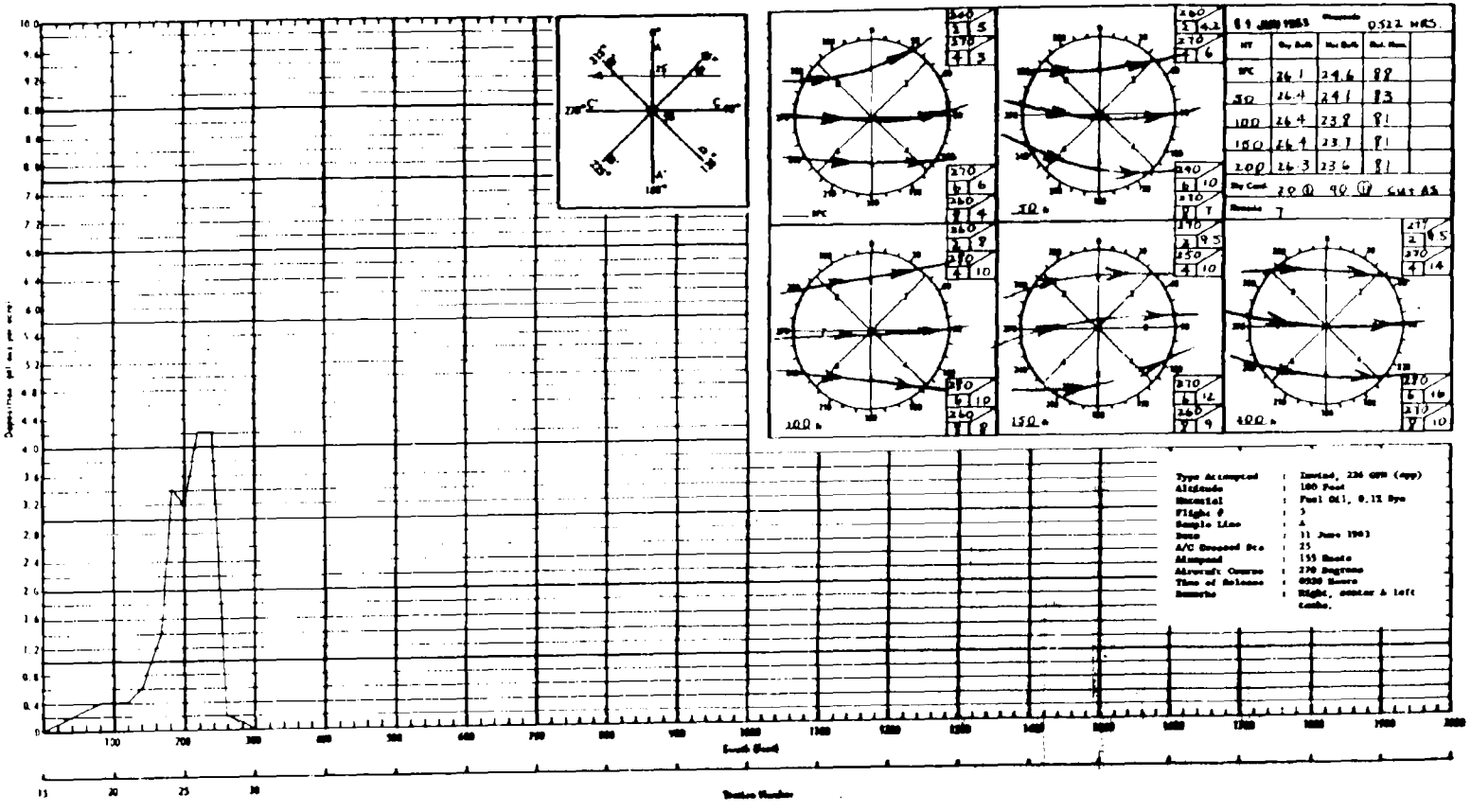
ALTITUDE: 100 Feet

AIRCRAFT COURSE: 270 Degrees

WIND VECTOR: 268°/9.2 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 14 Blank							
15	0.0						
16	0.1						
17	0.2						
18	0.3						
19	0.4						
20	0.4						
21	0.4						
22	0.6						
23	1.4						
24	3.4						
25	3.2						
26	4.2						
27	4.2						
28	0.2						
29	0.1						
Stations 30 - 100 Blank							

Total 19.1


Type Aircraft : Ireland, 226 GPH (App)
Altitude : 100 Feet
Material : Fuel Oil, 0.1% Dye
Flight # : 5
Sample Line : A
Date : 11 June 1963
A/C Ground Spd : 25
Airspeed : 155 Knots
Aircraft Course : 270 Degrees
Time of Release : 0920 Hours
Remarks : Right, center & left tanks.

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 11 June 1963

FLIGHT #: 6

SAMPLE LINE: A

TIME OF RELEASE: 0522 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

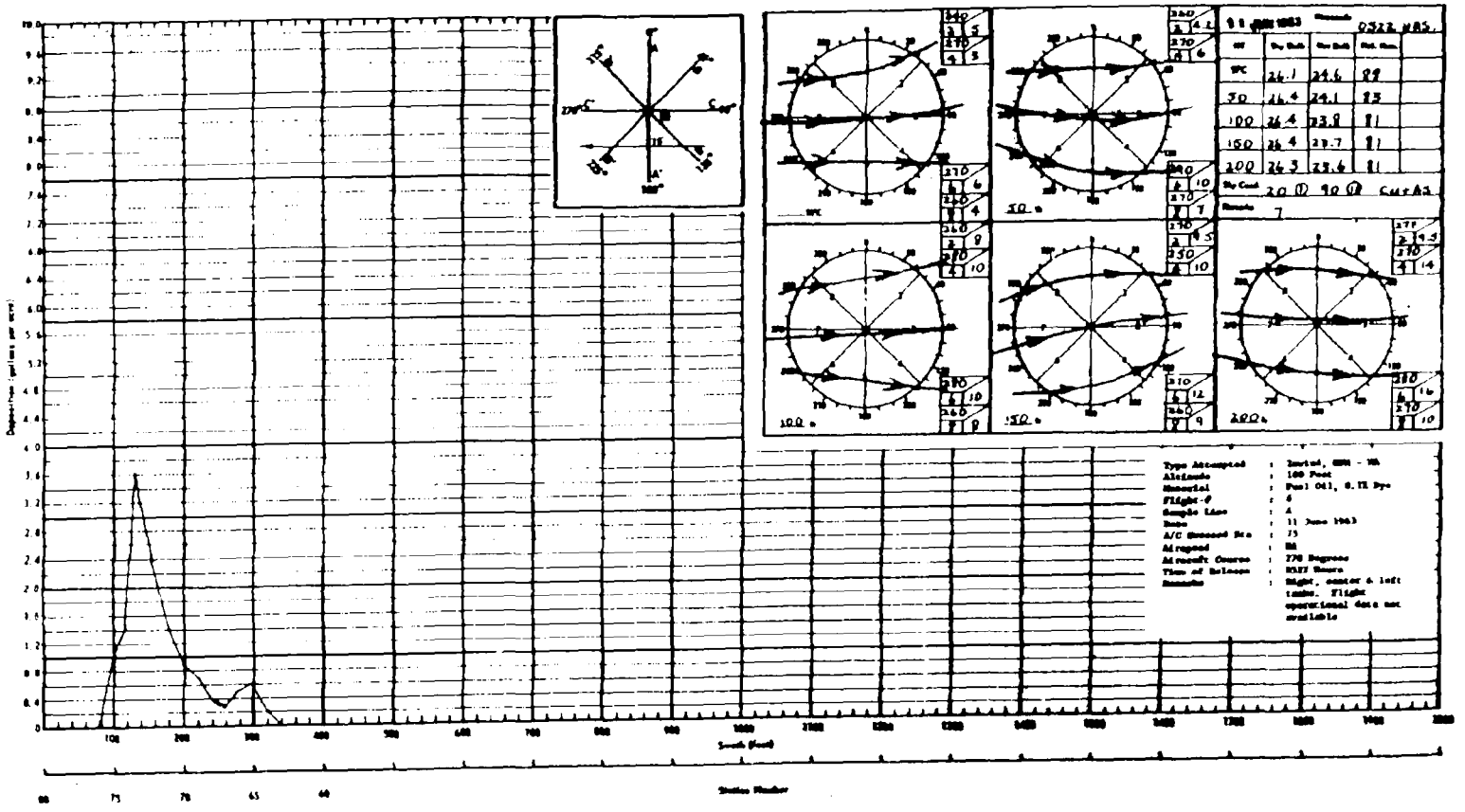
ALTITUDE: 100 Feet

AIRCRAFT COURSE: 270 Degrees

WIND VECTOR: 268°/9.2 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 63 Blank				64	0.2		
				65	0.6		
				66	0.5		
				67	0.3		
				68	0.4		
				69	0.7		
				70	0.9		
				71	1.4		
				72	2.4		
				73	3.6		
				74	1.4		
				75	1.0		
				76	0.0		
				Stations 77 - 100 Blank			

Total 13.4


Type Accomplished : Inertial, GPS - VOR
Altitude : 100 Feet
Material : Fuel Oil, 0.1% Dye
Flight # : 6
Sample Line : A
Date : 11 June 1983
A/C Command Pilot : JS
Assigned : BH
Aircraft Course : 270 Degrees
Time of Release : 0537 Hours
Remarks : Right, center & left tanks. Flight operational data not available
Station Number
Distance from Release (feet)
SFC
50 ft
100 ft
150 ft
200 ft

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 11 June 1963

FLIGHT #: 8

SAMPLE LINE: A

TIME OF RELEASE: 0553 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

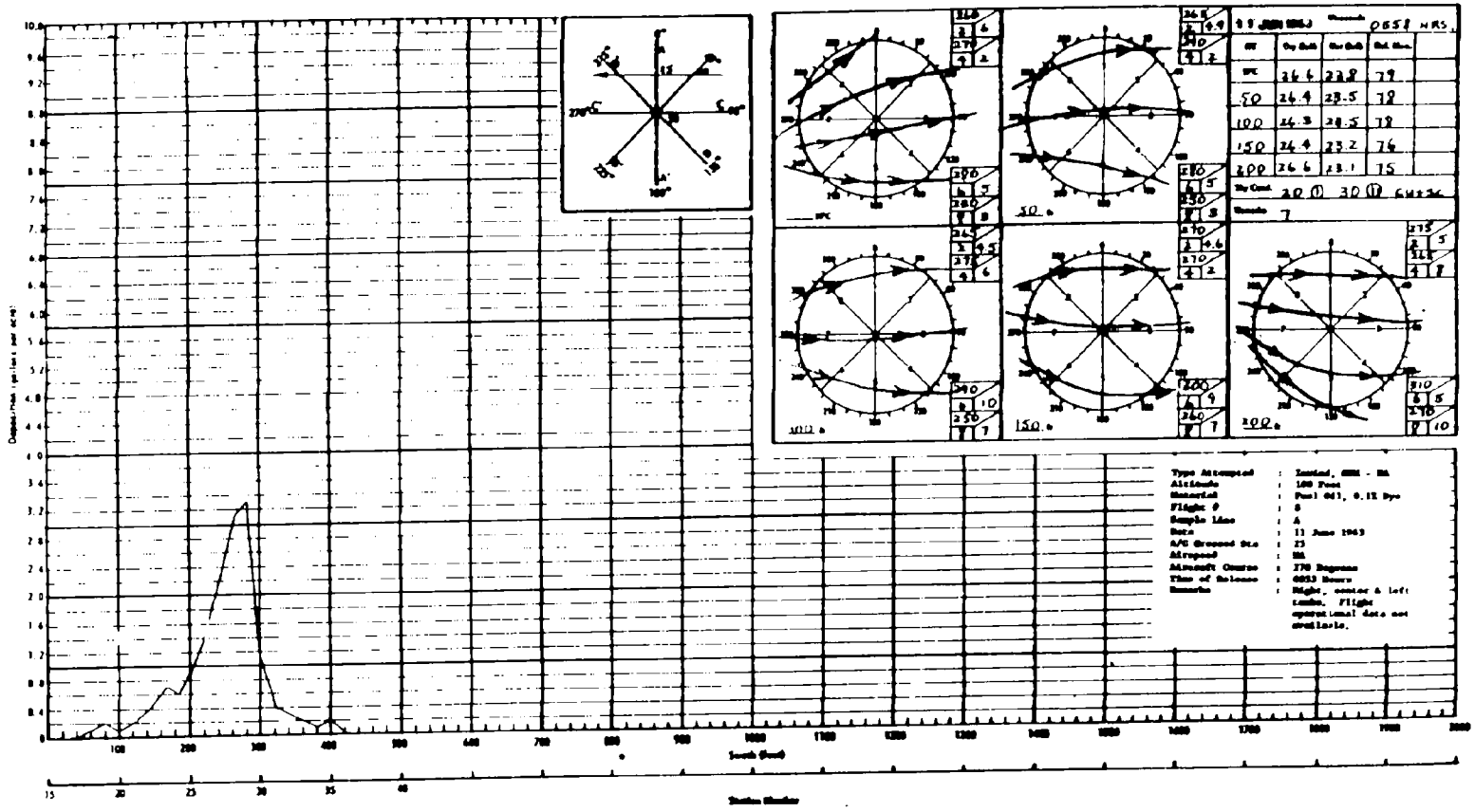
ALTITUDE: 100 Feet

AIRCRAFT COURSE: 270 Degrees

WIND VECTOR: 262°/5.4 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 17 Blank		18	0.1				
		19	0.2				
		20	0.1				
		21	0.2				
		22	0.4				
		23	0.7				
		24	0.6				
		25	0.9				
		26	1.3				
		27	2.3				
		28	3.1				
		29	3.3				
		30	1.1				
		31	0.4				
		32	0.3				
		33	0.2				
		34	0.1				
		35	0.2				
		Stations 36 - 100 Blank					

Total 15.5



MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 11 June 1963

FLIGHT #: 9

SAMPLE LINE: A

TIME OF RELEASE: 0555 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

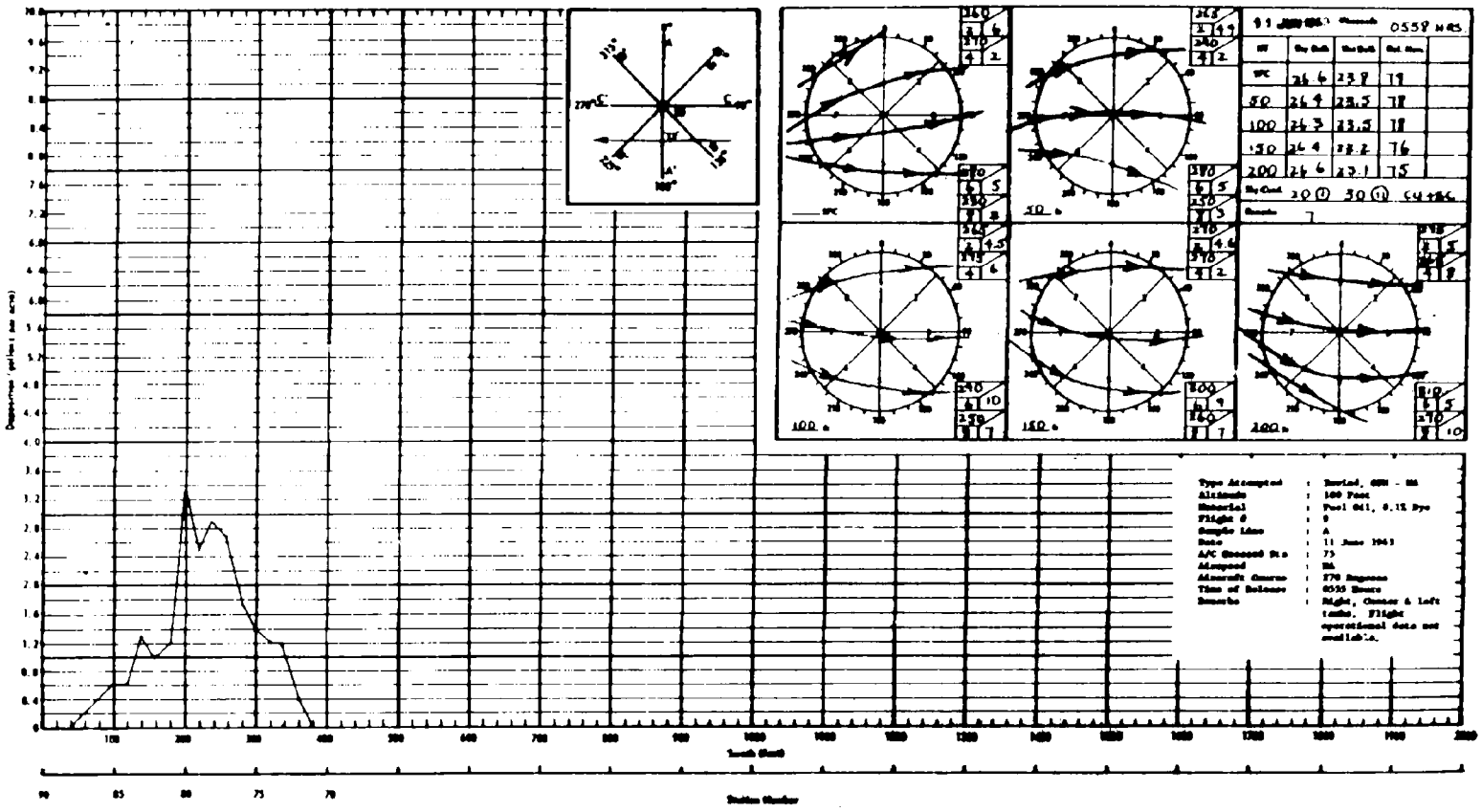
ALTITUDE: 100 Feet

AIRCRAFT COURSE: 270 Degrees

WIND VECTOR: 262°/5.4 mph

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Station 1 - 71 Blank						72	0.4
						73	1.2
						74	1.2
						75	1.4
						76	1.7
						77	2.7
						78	2.9
						79	2.5
						80	3.3
						81	1.2
						82	1.0
						83	1.3
						84	0.6
						85	0.6
						86	0.4
						87	0.2
						Station 88 - 100 Blank	

Total 22.6



FIDAL FLIGHT DATA

DATE FLOWN: 15 June 1963 CONFIGURATION: Wing tanks only LIQUID SPRAYED: Fuel Oil NOZZLE TYPE: U5070

	TANK	RPM	PRESSURE PSI	FLOW RATE GPM	REMARKS
RUN #1	Left	1400	22-21	78-77	
Knots AIRSPEED: 160-155	Ctr	----	--	--	
TIME SPRAYED: 5 Secs.	Right	----	29-27	89-86	
RUN #2	Left	1400	23.5	81	
Knots AIRSPEED: 160-162	Ctr	----	--	--	
TIME SPRAYED: 10 Secs.	Right	----	31-32	92-93	
RUN #3	Left	1400	20	74	
Knots AIRSPEED: 151-153	Ctr	----	--	--	
TIME SPRAYED: 7 Secs	Right	----	25	84	
RUN #4	Left	1400	20-22	74-78	
AIRSPEED: 160 Knots	Ctr	----	--	--	
TIME SPRAYED: 7 Secs.	Right	----	30-31	91-92	
RUN #5	Left	1400	23-21.5	77-81	
Knots AIRSPEED: 160-159	Ctr	----	----	----	
TIME SPRAYED: 10 Sec.	Right	----	32-31	93-92	

GENERAL REMARKS:
1. 10 Runs flown. Both tanks functioned on all runs.
2. Ann 11th pass attempted, right tank failed to prime.
3. Tachometer removed from right tank.

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 15 June 1963

FLIGHT #: 1

SAMPLE LINE: A

TIME OF RELEASE: 0451 Hours

DURATION: 5 Sec.

FLOW RATE: 164 (app) GPM

SYSTEM: FIDAL

AIRSPEED: 160 Knots

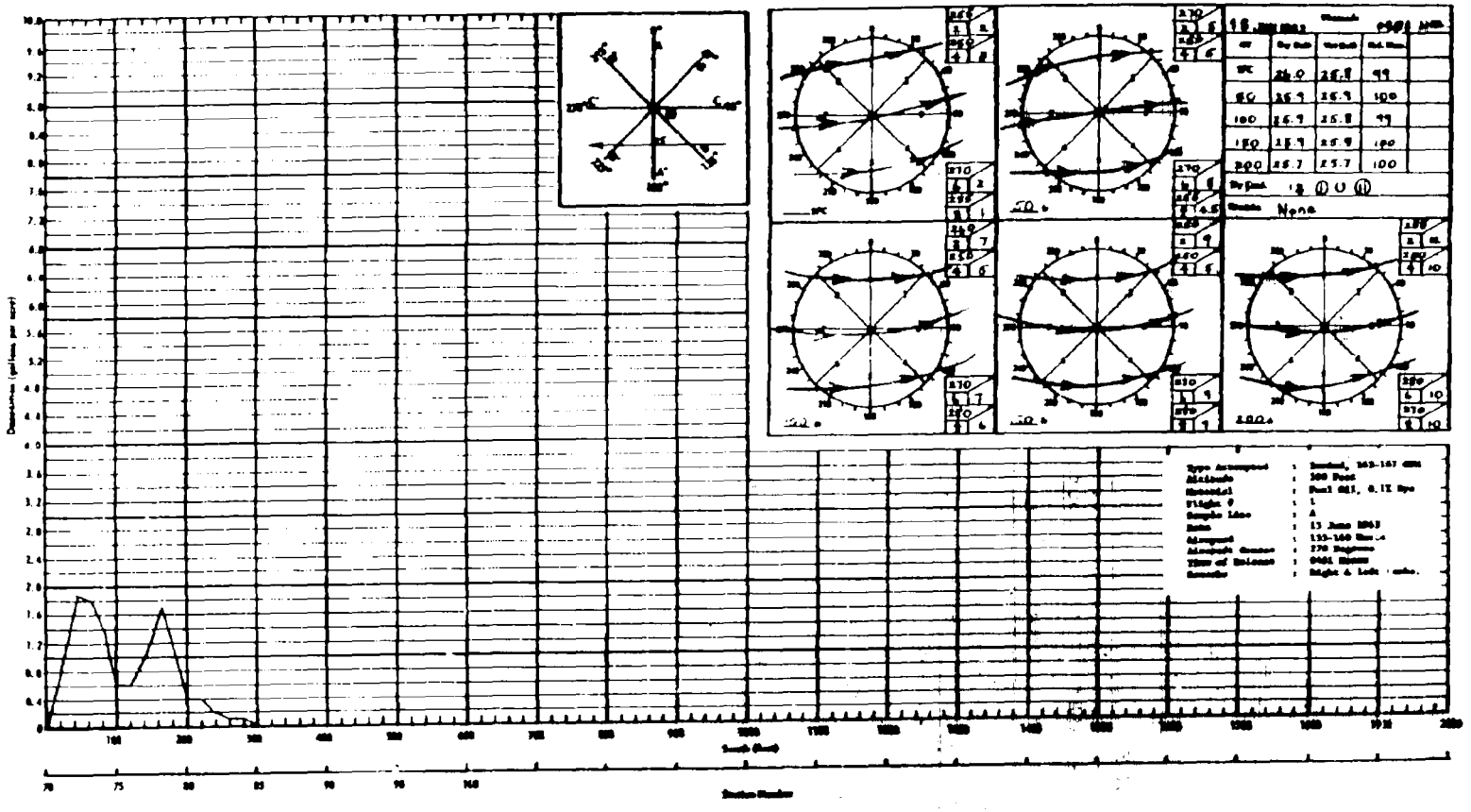
ALTITUDE: 100 Feet

AIRCRAFT COURSE: 270 Degrees

WIND VECTOR:

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 70 Blank				71	0.8		
				72	1.9		
				73	1.8		
				74	1.4		
				75	0.6		
				76	0.6		
				77	1.0		
				78	1.7		
				79	1.1		
				80	0.4		
				82	0.4		
				82	0.2		
				83	0.1		
				84	0.1		
				85	0.0		
				Stations 86 - 100 Blank			

Total 12.1



MASS DEPOSIT

MATERIAL: Fuel Oil

FLOW RATE: 173 (app) GPM

DATE: 15 June 1963

SYSTEM: FIDAL

FLIGHT #: 2

AIRSPEED: 160 Knots

SAMPLE LINE: A

ALTITUDE: 100 Feet

TIME OF RELEASE: 0453 Hours

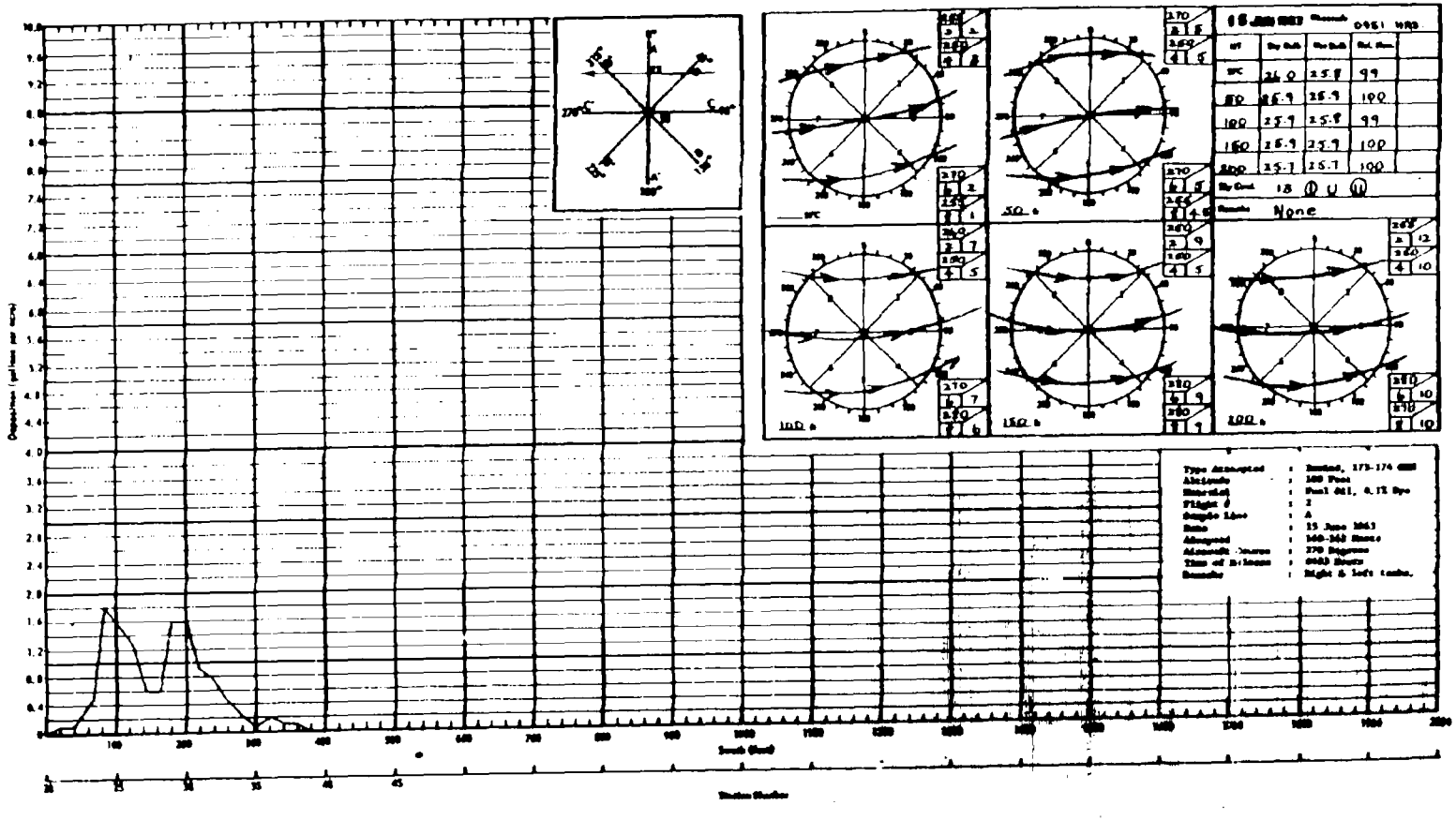
AIRCRAFT COURSE: 270 Degrees

DURATION: 10 Sec.

WIND VECTOR:

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 20 Blank		21	0.1				
		22	0.1				
		23	0.5				
		24	1.8				
		25	1.6				
		26	1.3				
		27	0.6				
		28	0.6				
		29	1.6				
		30	1.6				
		31	0.9				
		32	0.8				
		33	0.5				
		34	0.2				
		35	0.1				
		36	0.2				
		37	0.1				
		38	0.1				
		Stations 39 - 100 Blank					

Total 12.7



MASS DEPOSIT

MATERIAL: Fuel Oil

FLOW RATE: 158 GPM

DATE: 15 June 1963

SYSTEM: FIDAL

FLIGHT #: 3

AIRSPEED: 152 Knots

SAMPLE LINE: A

ALTITUDE: 100 Feet

TIME OF RELEASE: 0510 Hours

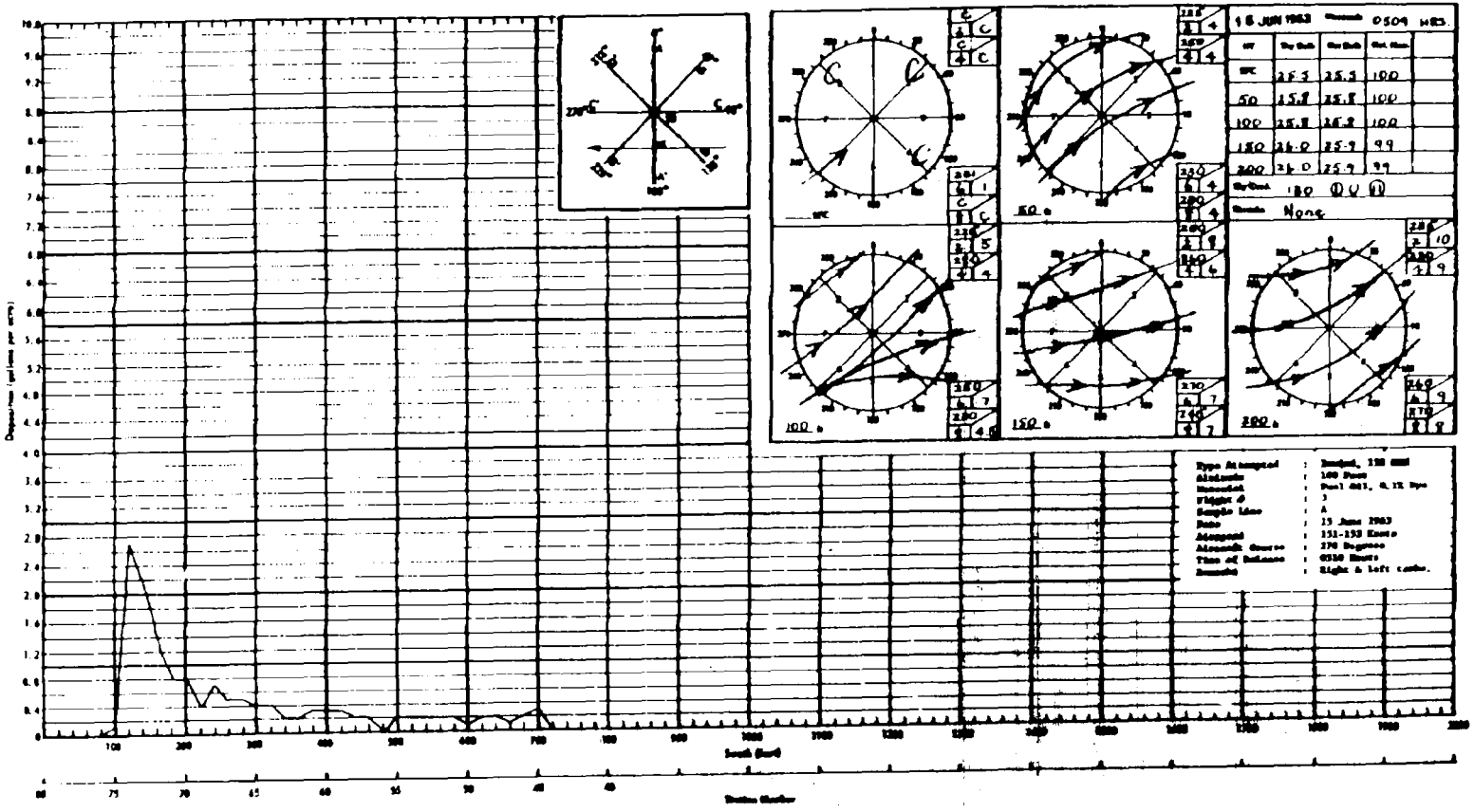
AIRCRAFT COURSE: 270 Degrees

DURATION: 8 Sec.

WIND VECTOR:

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 44 Blank				51	0.2	Stations 76 - 100	
				52	0.2	Blank	
				53	0.2		
				54	0.2		
				55	0.2		
				56	0.0		
				57	0.2		
				58	0.2		
				59	0.3		
				60	0.3		
				61	0.3		
				62	0.2		
				63	0.2		
				64	0.4		
				65	0.4		
				66	0.5		
				67	0.5		
				68	0.7		
				69	0.4		
		45	0.3	70	0.8		
		46	0.2	71	0.8		
		47	0.1	72	1.2		
		48	0.2	73	2.2		
		49	0.2	74	2.7		
		50	0.1	75	0.1		

Total 14.6


15 JUN 1963
0509 HRS.
50 ft
100 ft
150 ft
200 ft
None

MASS DEPOSIT

MATERIAL: Fuel Oil

FLOW RATE: 166 (app) GPM

DATE: 15 June 1963

SYSTEM: FIDAL

FLIGHT #: 4

AIRSPEED: 160 Knots

SAMPLE LINE: A

ALTITUDE: 100 Feet

TIME OF RELEASE: 0512 Hours

AIRCRAFT COURSE: 270 Degrees

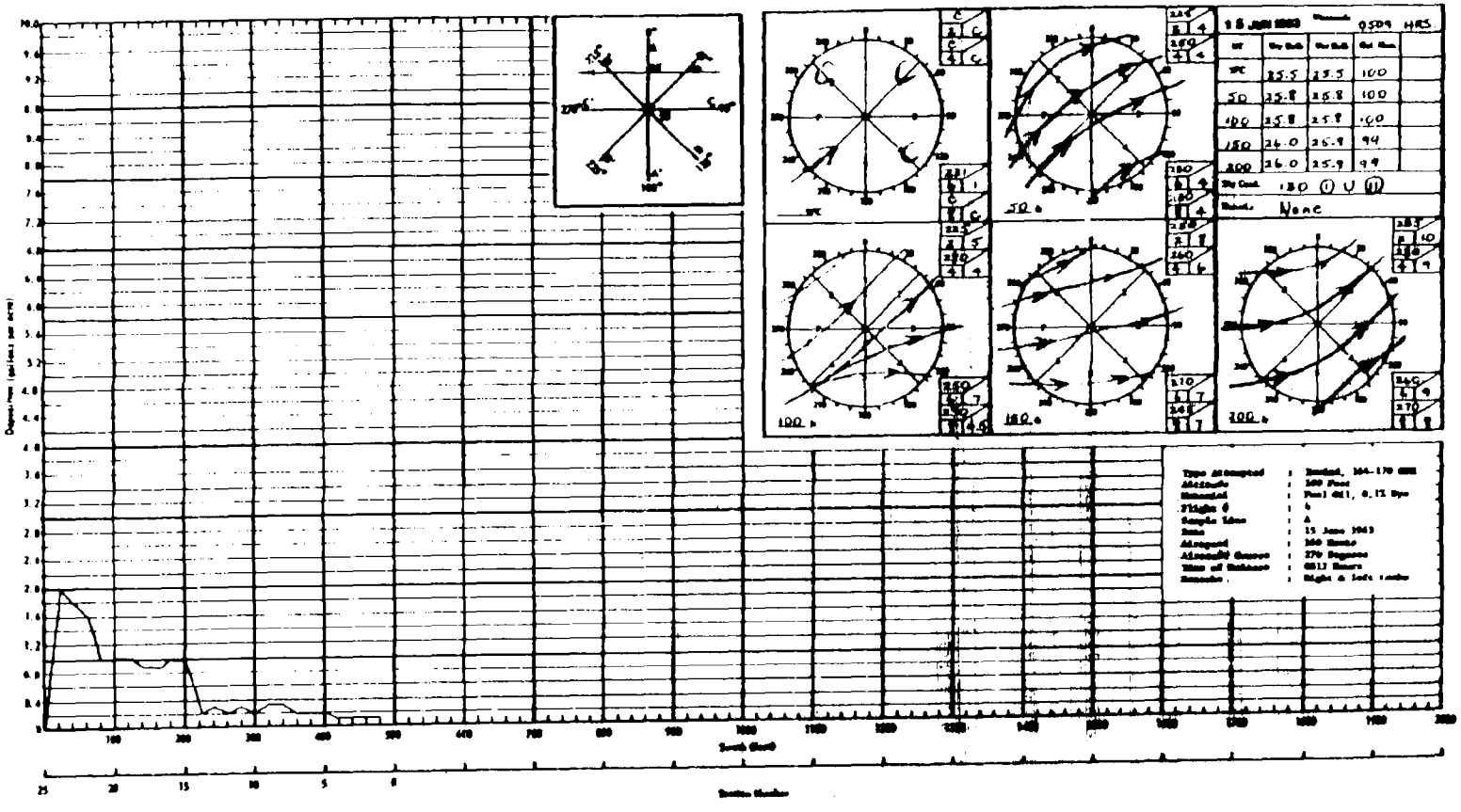
DURATION: NA

WIND VECTOR:

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
1	0.1						
2	0.1						
3	0.1						
4	0.1						
5	0.2						
6	0.2						
7	0.2						
8	0.3						
9	0.3						
10	0.2						
11	0.3						
12	0.2						
13	0.3						
14	0.2						
15	1.0						
16	1.0						
17	0.9						
18	0.9						
19	1.0						
20	1.0						
21	1.0						
22	1.6						
23	1.8						
24	2.0						

Stations 25 - 100 Blank

Total 15.0



MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 15 June 1963

FLIGHT #: 5

SAMPLE LINE: A

TIME OF RELEASE: 0528 Hours

DURATION: 10 Sec.

FLOW RATE: 169 (app) GPM

SYSTEM: FIDAL

AIRSPEED: 160 Knots

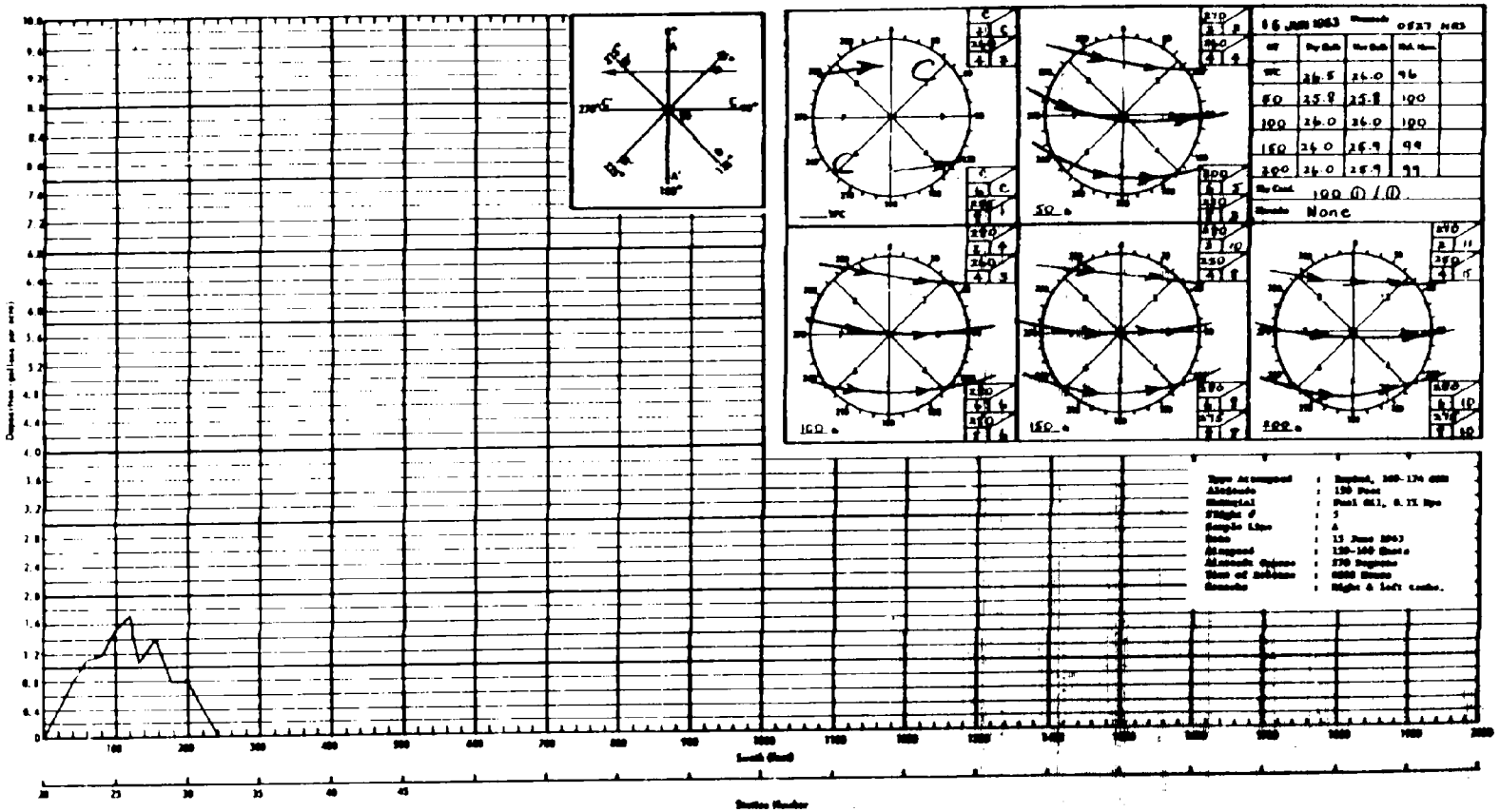
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 279 Degrees

WIND VECTOR:

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 20 Blank		21	0.4				
		22	0.8				
		23	1.1				
		24	1.2				
		25	1.5				
		26	1.7				
		27	1.1				
		28	1.4				
		29	0.8				
		30	0.8				
		31	0.4				
		Stations 32 - 100 Blank					

Total 11.2



MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 15 June 1963

FLIGHT #: 6

SAMPLE LINE: A

TIME OF RELEASE: 0531 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

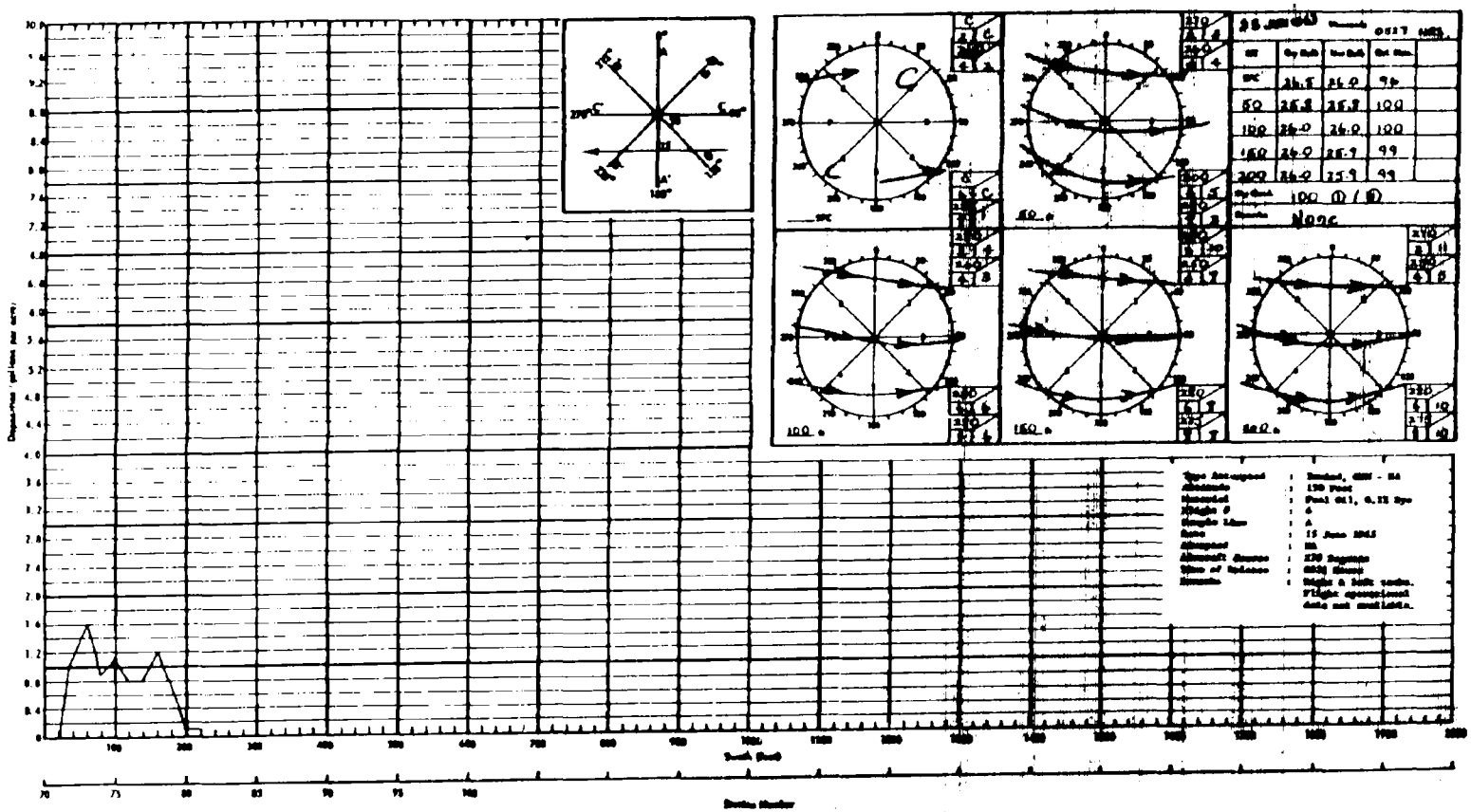
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 270 Degrees

WIND VECTOR:

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 70 Blank						71	0.8
						72	1.0
						73	1.6
						74	0.9
						75	1.1
						76	0.8
						77	0.8
						78	1.2
						79	0.8
						80	0.1
						81	0.1
						Stations 82 - 100 Blank	

Total 8.4



MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 15 June 1963

FLIGHT #: 7

SAMPLE LINE: A

TIME OF RELEASE: 0537 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: Tidal

AIRSPEED: NA

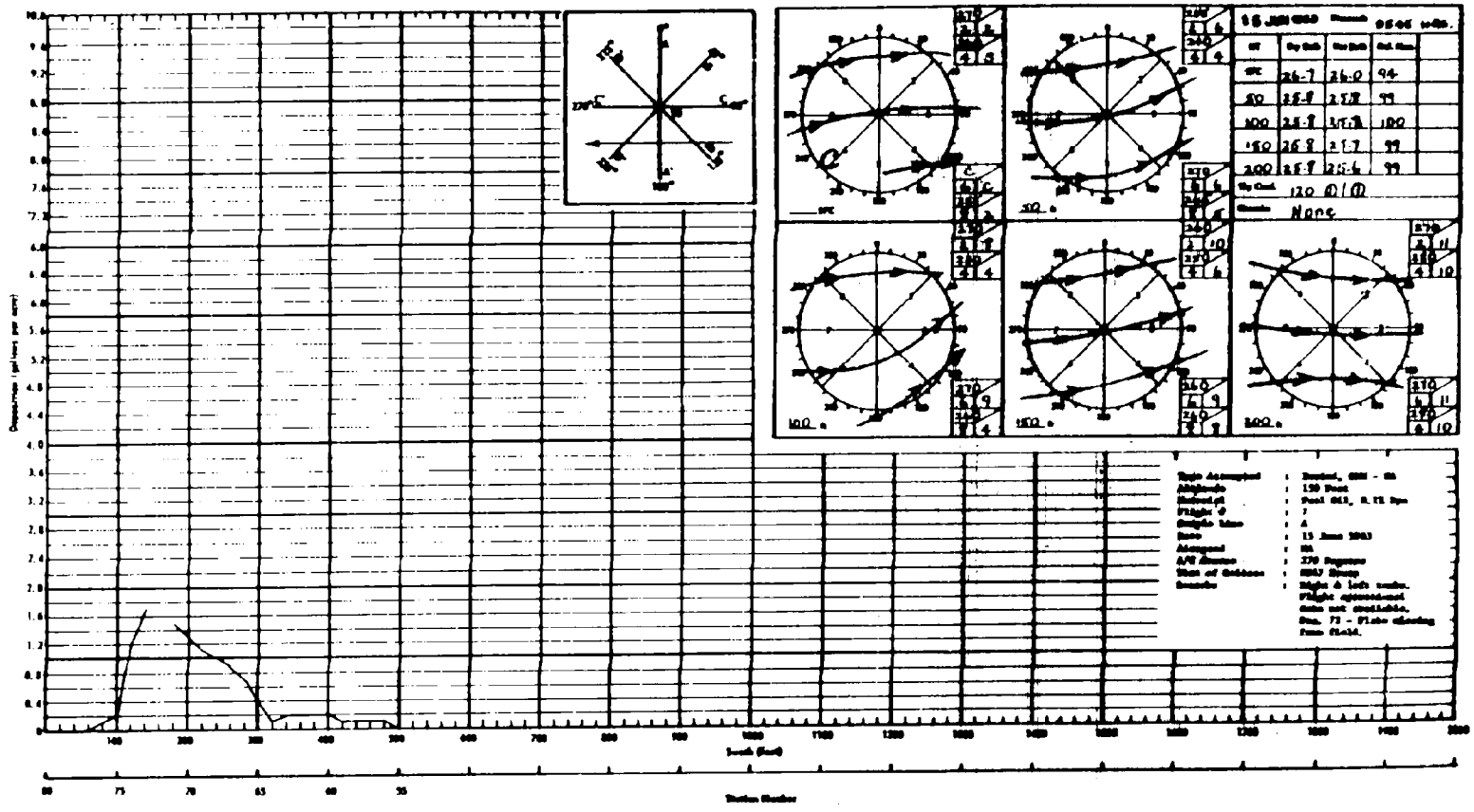
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 270 Degrees

WIND VECTOR:

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 54 Blank				55	0.0		
				56	0.1		
				57	0.1		
				58	0.1		
				59	0.1		
				60	0.2		
				61	0.2		
				62	0.2		
				63	0.2		
				64	0.1		
				65	0.4		
				66	0.7		
				67	0.9		
				68	1.0		
				69	1.1		
				70	1.3		
				71	1.5		
				72	missing		
				73	1.7		
				74	1.2		
				75	0.2		
				76	0.1		
				Stations 77 - 100 Blank			

Total 11.4+



MASS DEPOSIT

MATERIAL: Fuel Oil
FLOW RATE: NA
DATE: 15 June 1963
SYSTEM: FIDAL
FLIGHT #: 8
AIRSPEED: NA
SAMPLE LINE: A
ALTITUDE: 150 Feet
TIME OF RELEASE: 0549 Hours
AIRCRAFT COURSE: 270 Degrees
DURATION: NA
WIND VECTOR:

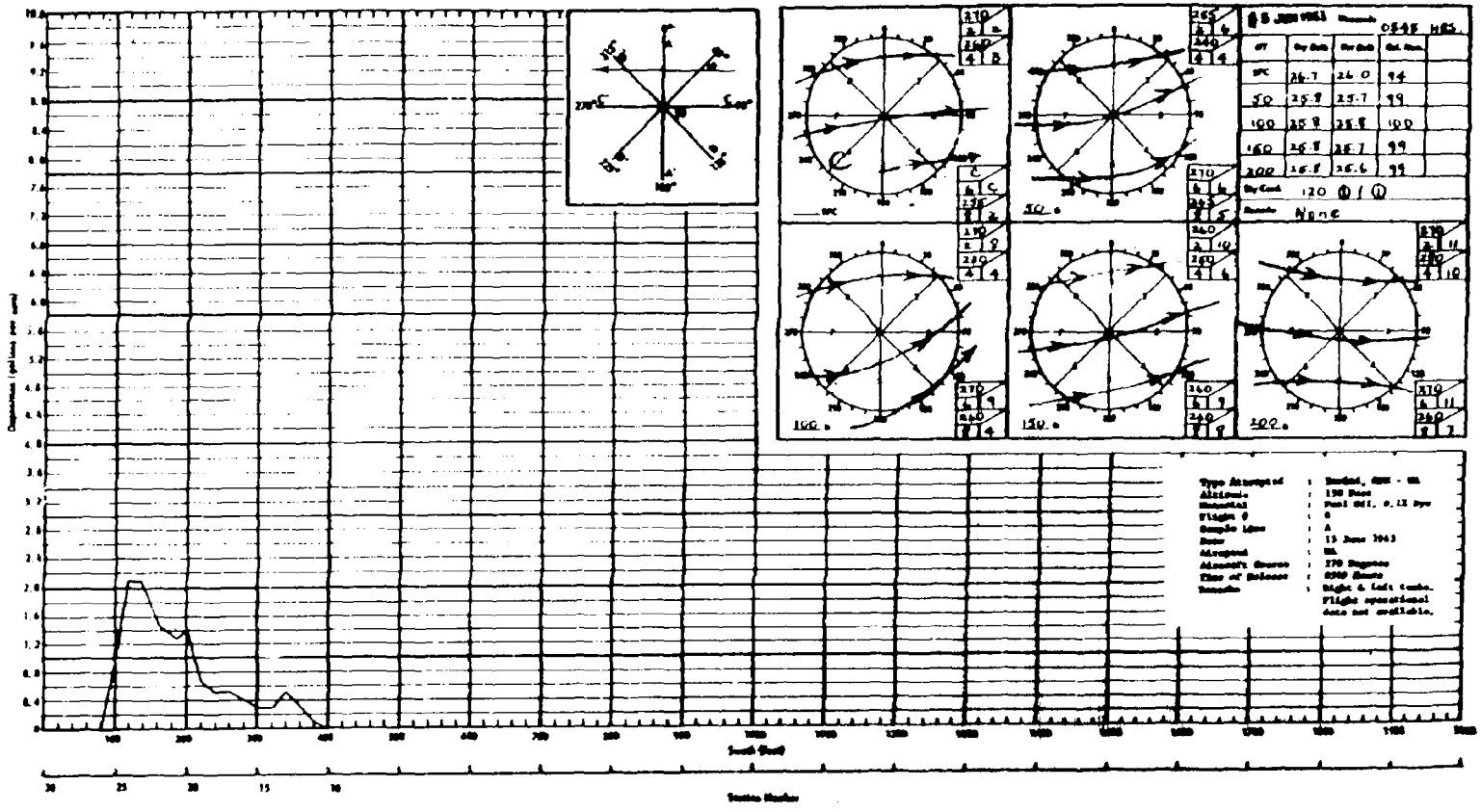
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.

Stations 1 - 10 Blank

11	0.1
12	0.3
13	0.5
14	0.3
15	0.3
16	0.4
17	0.5
18	0.5
19	0.7
20	1.4
21	1.3
22	1.5
23	2.1
24	2.1
25	0.9
26	0.0

Stations 27 - 100 Blank

Total 12.9



MASS MEDIAN DIAMETER

DATE: 15 June 1963

FLIGHT NO: 9

SAMPLE LINE: C

FLOW RATE: NA

SPREAD FACTOR: 6.0

CONVERSION FACTOR: 2.5

PAPER: Kromekote, white

MATERIAL: Fuel Oil

SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
34	1	5800			
33	5	4200*			
33	4	4000			
33	6	3900			
34	3	3800	1	1	75 Microns
34	2	3700			(smallest)
33	7	3600			
33	8	3500			
33	9	3400			
33	11	3300			
33	10	3200			

MMD = $\frac{\text{Spot D. Max}}{\text{Spread Factor x Con. Factor}} = \frac{4200}{6.0 \times 2.5}$ = 280.0 Microns

Max. Sph. Dia. = $\frac{5800}{6.0}$ = 966.7 Microns

Min. Sph. Dia. = $\frac{75}{6}$ = 12.5 Microns

MASS DEPOSIT

MATERIAL: Fuel Oil

FLOW RATE: NA

DATE: 15 June 1963

SYSTEM: FIDAL

FLIGHT #: 9

AIRSPEED: NA

SAMPLE LINE: C

ALTITUDE: 150 Feet

TIME OF RELEASE: 0607 Hours

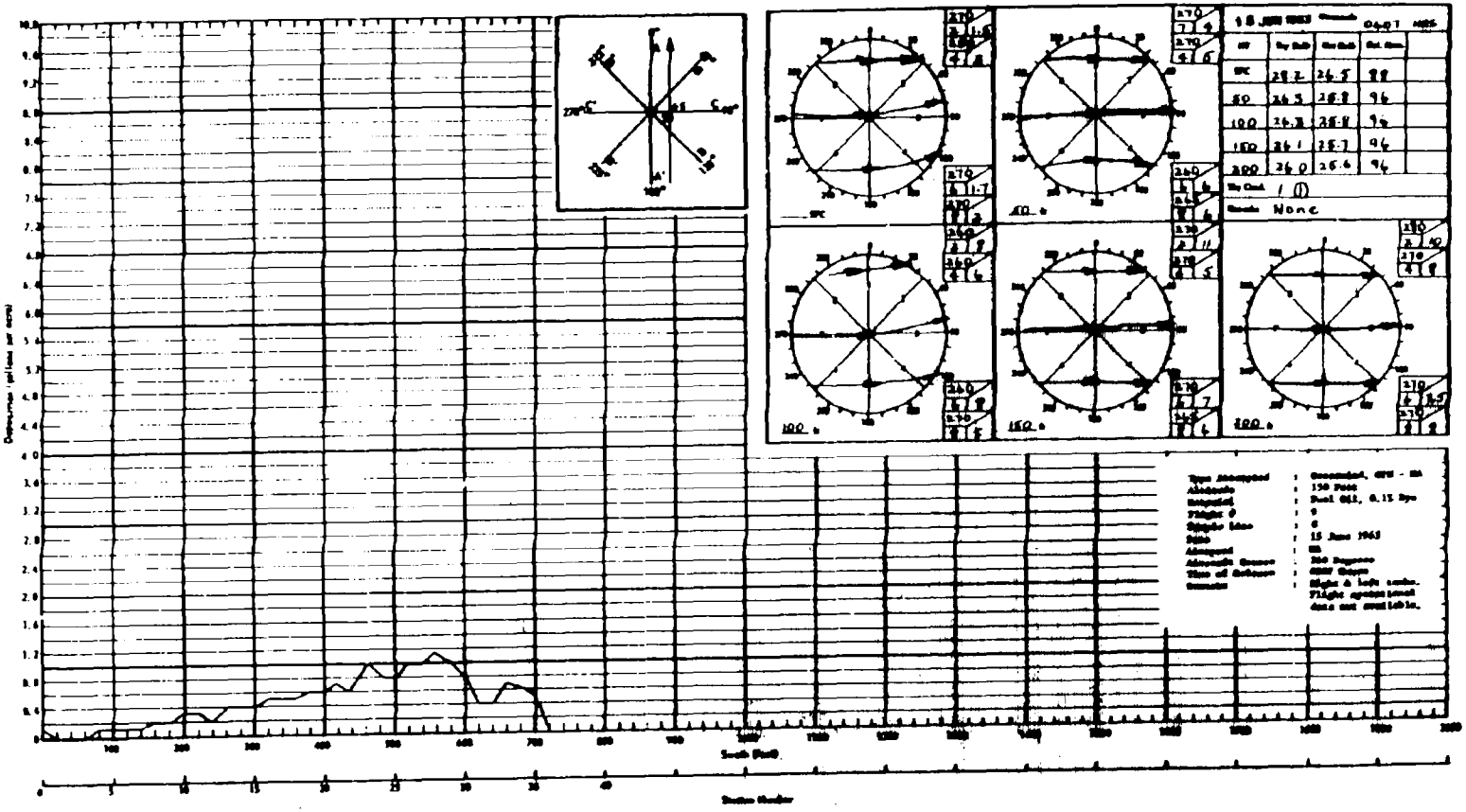
AIRCRAFT COURSE: 360 Degrees

DURATION: NA

WIND VECTOR:

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
1	0.1	26	1.0				
2	0.0	27	1.0				
3	0.0	28	1.1				
4	0.1	29	1.0				
5	0.1	30	0.8				
6	0.1	31	0.4				
7	0.1	32	0.4				
8	0.2	33	0.7				
9	0.2	34	0.4				
10	0.3	35	0.2				
11	0.3	Stations 36 - 100 Blank					
12	0.2						
13	0.4						
14	0.4						
15	0.4						
16	0.5						
17	0.5						
18	0.5						
19	0.6						
20	0.6						
21	0.7						
22	0.6						
23	1.0						
24	0.8						
25	0.8						

Total 16.5



MASS MEDIAN DIAMETER

DATE: 15 June 1963 SPREAD FACTOR: 6.0

FLIGHT #: 10 CONVERSION FACTOR: 2.5

SAMPLE LINE: C PAPER: Kromekote, white

FLOW RARE: NA MATERIAL: Fuel Oil

SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
75	1	4400			
73	2	3900*			
72	7	3800			
73	3	3700			
73	4	3600			
73	6	3500			
71	10	3300			
73	5	3200	51	1	100 Microns
72	8	3100			(smallest)
72	9	3000			
72	11	2900			

MMD = $\frac{\text{Spot D Max}}{\text{Spread Factor x Con. Factor}} = \frac{3900}{6.0 \times 2.5}$ = 260.0 Microns

Max. Sph. Dia. = $\frac{4400}{6.0}$ - 733.3 Microns

Min. Sph. Dia. = $\frac{100}{6.0}$ = 16.7 Microns

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 15 June 1963

FLIGHT #: 10

SAMPLE LINE: C

TIME OF RELEASE: 0609 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

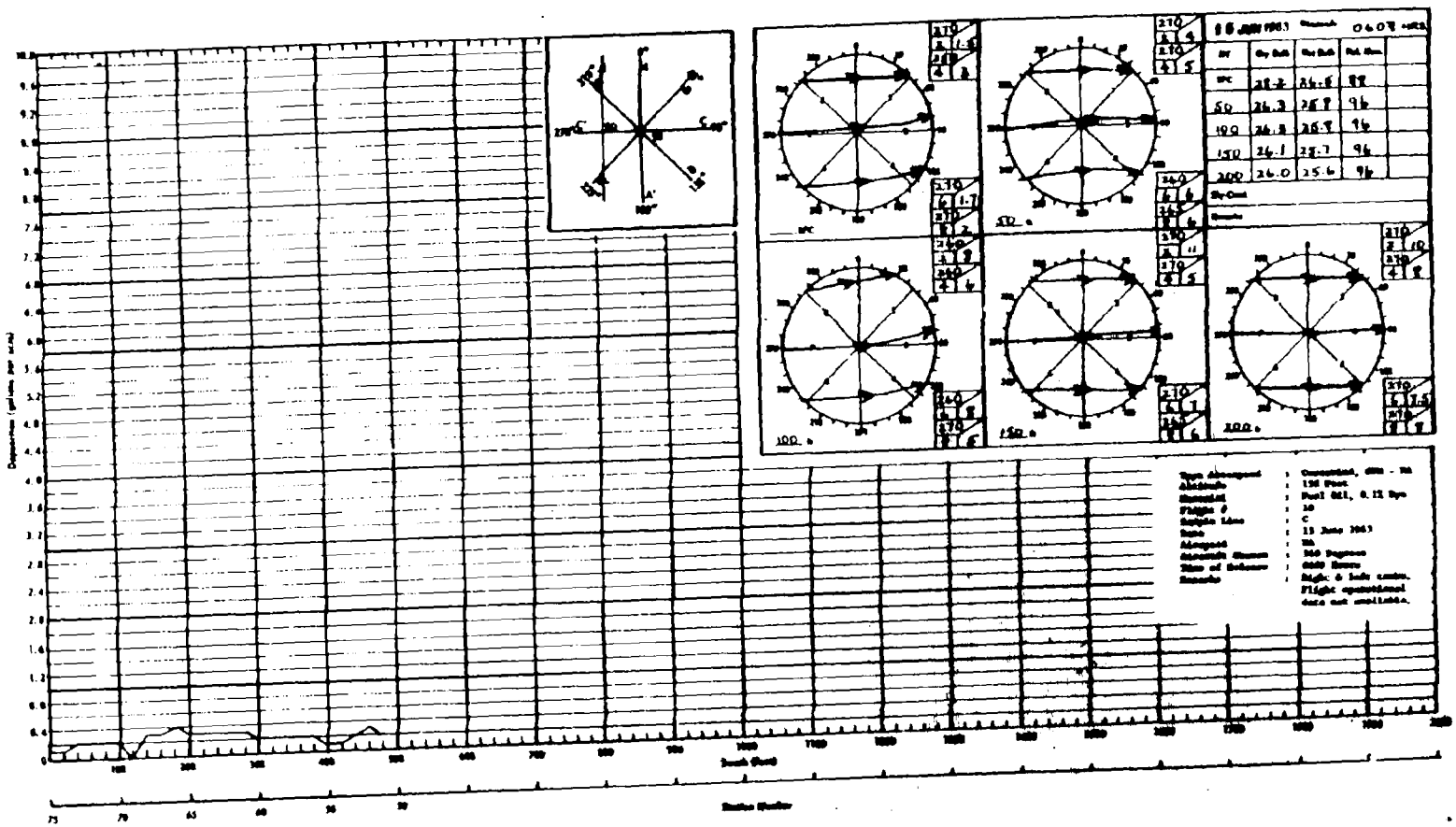
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 360 Degrees

WIND VECTOR:

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 50 Blank				51	0.2	Stations 76 - 100	
				52	0.3	Blank	
				53	0.2		
				54	0.1		
				55	0.1		
				56	0.2		
				57	0.2		
				58	0.2		
				59	0.2		
				60	0.2		
				61	0.3		
				62	0.3		
				63	0.3		
				64	0.3		
				65	0.3		
				66	0.4		
				67	0.3		
				68	0.3		
				69	0.0		
				70	0.2		
				71	0.2		
				72	0.2		
				73	0.2		
				74	0.1		
				75	0.1		

Total 5.4



FIDAL FLIGHT DATA

DATE FLOWN: 16 June 1963 CONFIGURATION: Wing tanks only LIQUID SPRAYED: Fuel Oil NOZZLE TYPE: U5070

	TANK	RPM	PRESSURE PSI	GPM FLOW RATE	REMARKS
RUN #1	Left	1900	46	108	
AIRSPEED: 176-174 Knots	Ctr	----	--	--	
TIME SPRAYED: 8 Secs.	Right	----	50+	115	
RUN #2	Left	18-1900	39-40	101-102	
AIRSPEED: 163 Knots	Ctr	----	--	--	
TIME SPRAYED: 11 Secs.	Right	----	41	103	

GENERAL REMARKS:
1. 10 Spray runs made.
2. Pitch setting on fan had been advanced to 31° and left tank would only feather after about a 10 second delay.
3. Passes #6 through #10 were flown with right tank only.

MASS DEPOSIT

MATERIAL: Fuel Oil

FLOW RATE: 223 GPM

DATE: 16 June 1963

SYSTEM: FIDAL

FLIGHT #: 1

AIRSPEED: 175 Knots

SAMPLE LINE: D

ALTITUDE: 150 Feet

TIME OF RELEASE: 0500 Hours

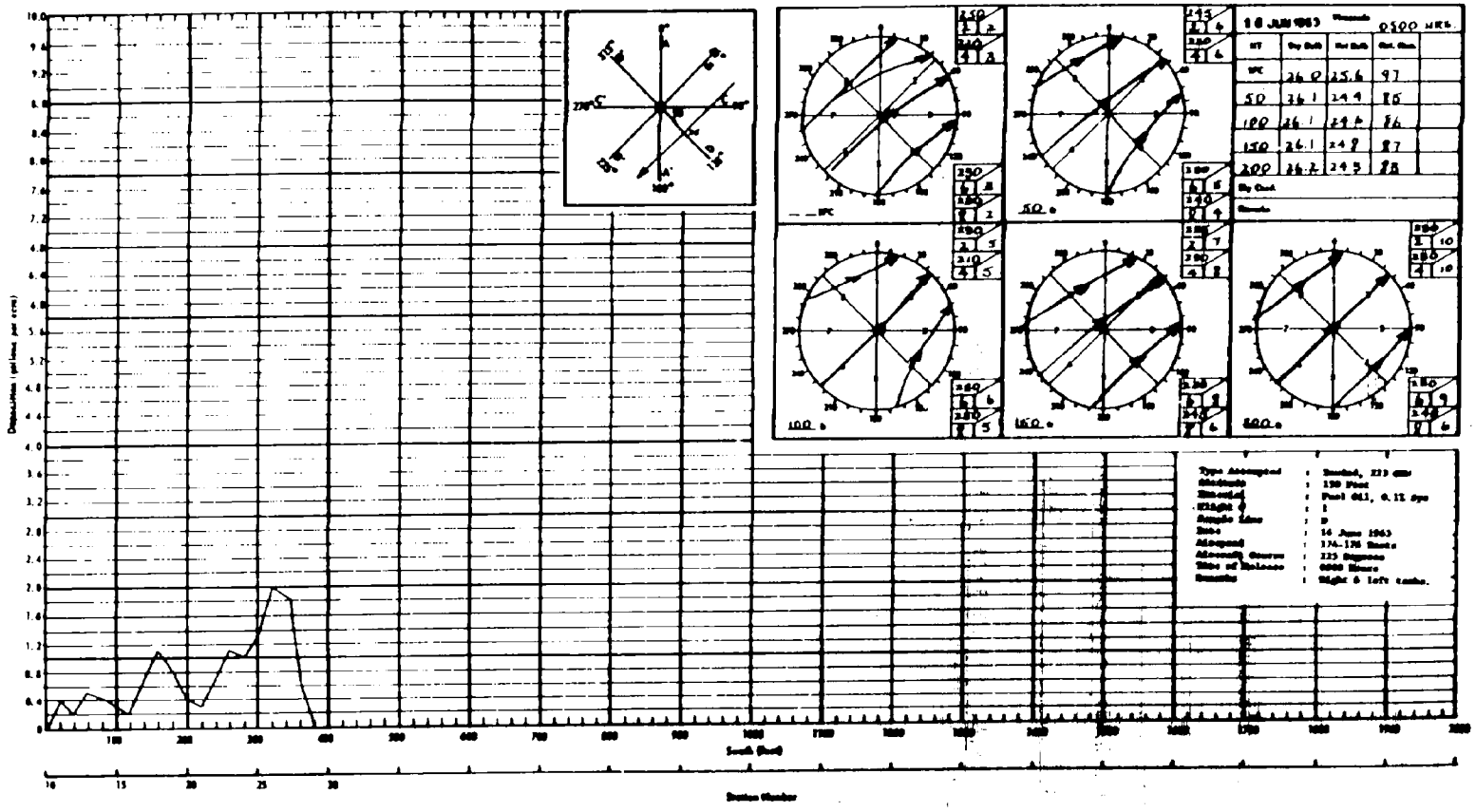
AIRCRAFT COURSE: 225 Degrees

DURATION: 8 Sec.

WIND VECTOR:

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 10 Blank				Stations 51 - 100 Blank			
11	0.4						
12	0.2						
13	0.5						
14	0.4						
15	0.3						
16	0.2						
17	0.7						
18	1.1						
19	0.8						
20	0.4						
21	0.3						
22	0.7						
23	1.1						
24	1.0						
25	1.3	47	0.1				
26	2.0	48	0.1				
27	1.8	49	0.1				
28	0.6	50	0.2				
Stations 29 - 46 Blank							

Total 14.3



MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 16 June 1963

FLIGHT #: 2

SAMPLE LINE: D

TIME OF RELEASE: 0503 Hours

DURATION: 11 Sec.

FLOW RATE: 205 GPM

SYSTEM: FIDAL

AIRSPEED: 163 Knots

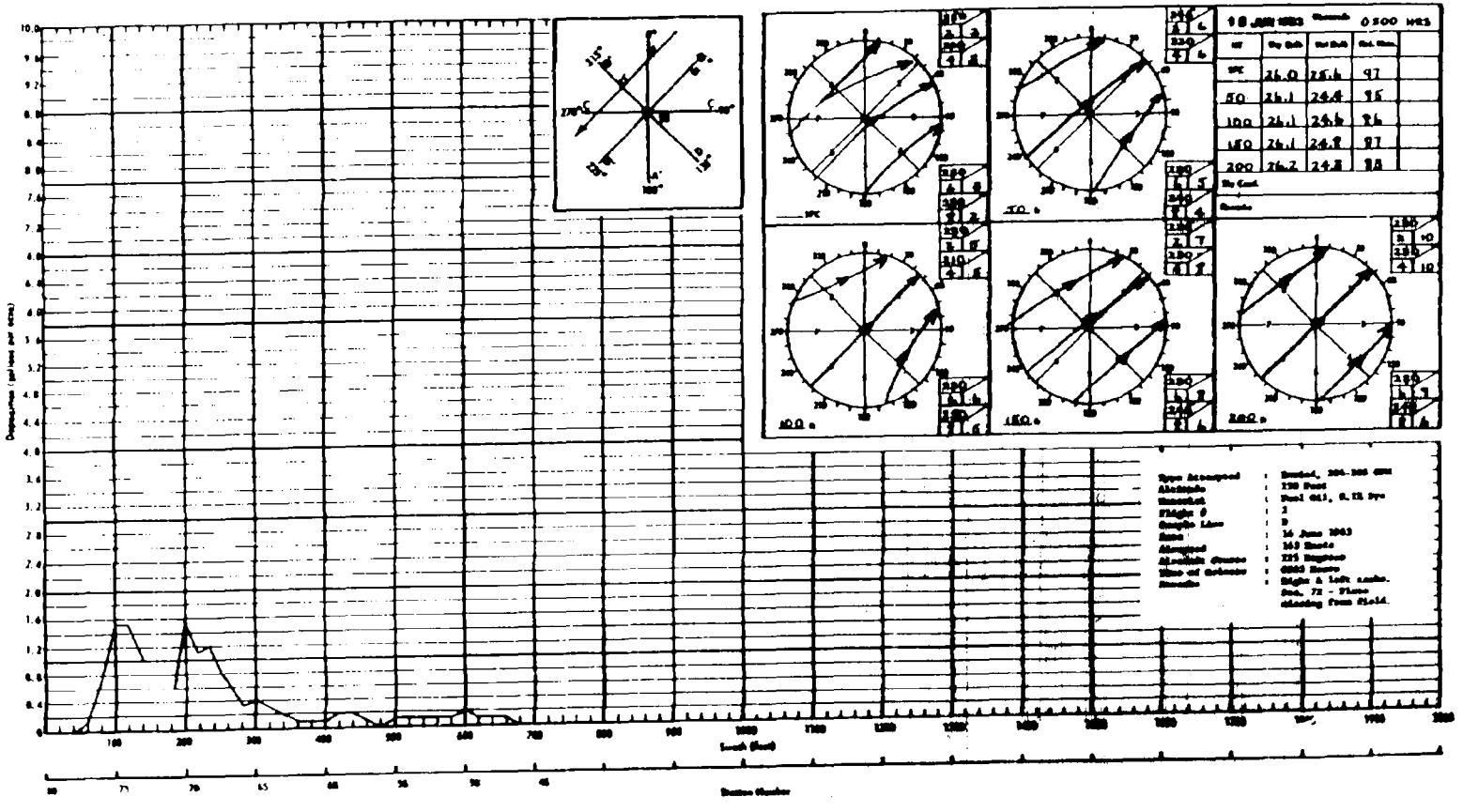
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 225 Degrees

WIND VECTOR:

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 50 Blank				51	0.1	76	0.9
				52	0.1	77	0.1
				53	0.1	Stations 78 - 100 Blank	
				54	0.1		
				55	0.1		
				56	0.0		
				57	0.1		
				58	0.2		
				59	0.2		
				60	0.1		
				61	0.1		
				62	0.1		
				63	0.2		
				64	0.3		
				65	0.4		
				66	0.3		
				67	0.8		
				68	1.2		
				69	1.1		
				70	1.5		
				71	0.6		
				72	No sample		
				73	1.0		
				74	1.5		
				75	1.5		

Total 12.7



MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 16 June 1963

FLIGHT #: 3

SAMPLE LINE: D

TIME OF RELEASE: 0517 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

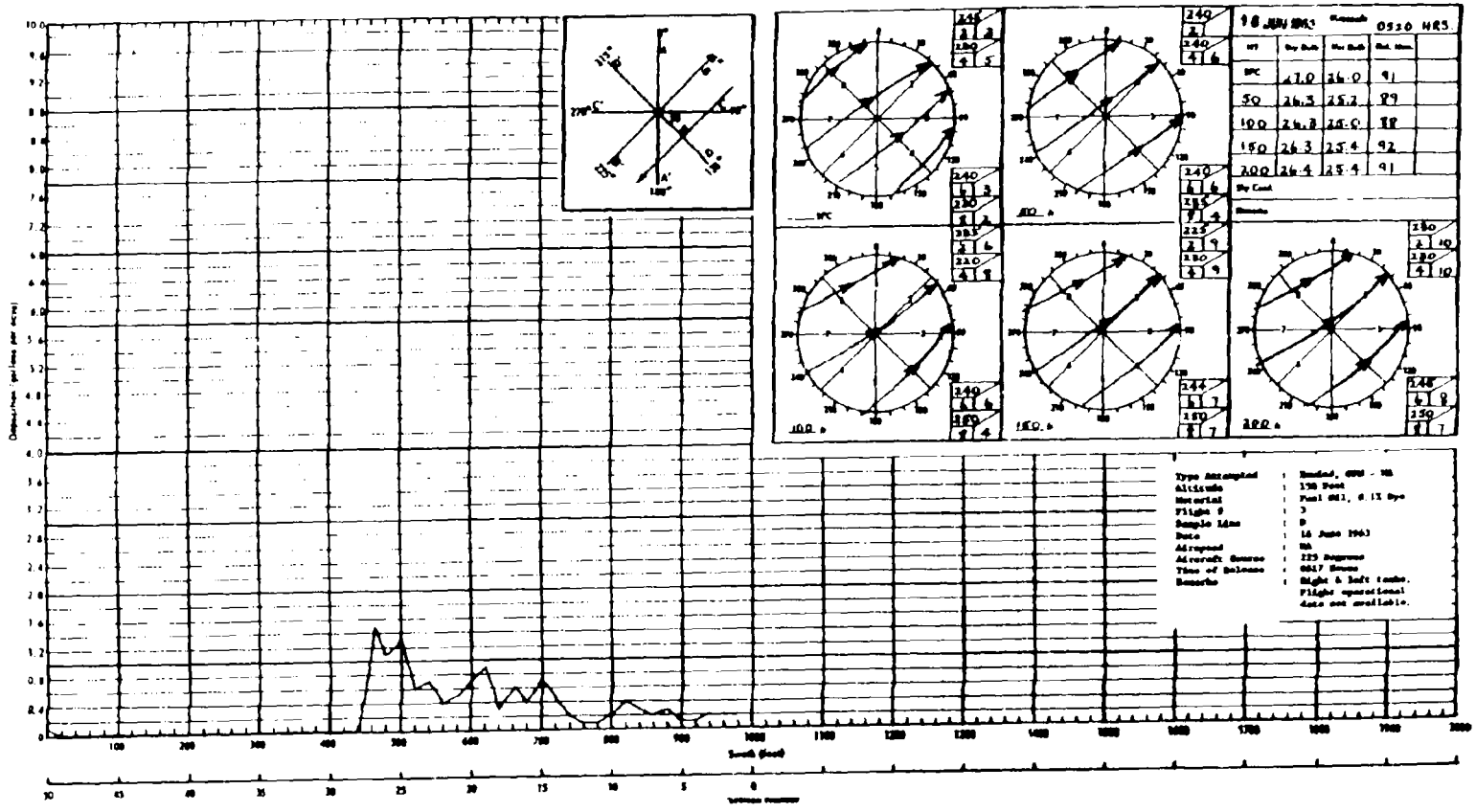
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 225 Degrees

WIND VECTOR:

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
1	0.2	26	1.1	Stations 51 - 100 Blank			
2	0.2	27	1.5				
3	0.2	Stations 28 - 48 Blank					
4	0.1						
5	0.1						
6	0.3						
7	0.2						
8	0.3						
9	0.4						
10	0.2						
11	0.1						
12	0.1						
13	0.2						
14	0.5						
15	0.7						
16	0.4						
17	0.6						
18	0.3						
19	0.9						
20	0.7						
21	0.5						
22	0.4						
23	0.7						
24	0.6	49	0.0				
25	1.3	50	0.1				

Total 12.9


16 JUN 1963
0530 HRS
Type Aircraft
Altitude
Material
Flight #
Sample Idm
Date
Airspeed
Aircraft Source
Time of Release
Remarks
Rawind, 4000 - 9A
150 Feet
Fuel 602, 0.15 Dye
3
B
16 June 1963
9A
225 Degrees
0617 Hours
Right & Left tracks.
Flight operational
data not available.
South (feet)

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 16 June 1963

FLIGHT #: 4

SAMPLE LINE: D

TIME OF RELEASE: 0520 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

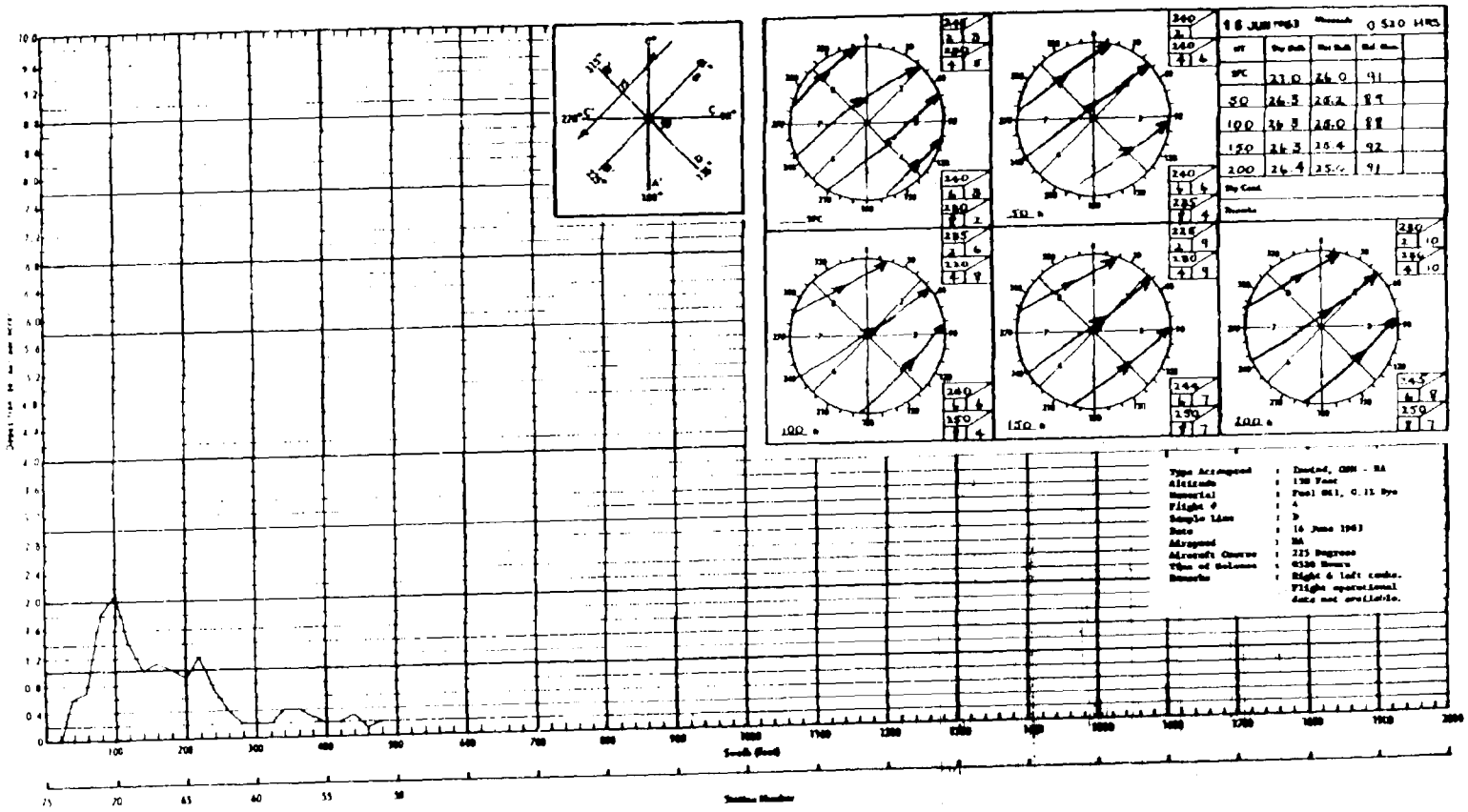
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 225 Degrees

WIND VECTOR:

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 50 Blank				51	0.2		
				52	0.1		
				53	0.3		
				54	0.2		
				55	0.2		
				56	0.3		
				57	0.4		
				58	0.4		
				59	0.2		
				60	0.2		
				61	0.2		
				62	0.4		
				63	0.7		
				64	1.2		
				65	0.9		
				66	1.0		
				67	1.1		
				68	1.0		
				69	1.4		
				70	2.1		
				71	1.8		
				72	0.7		
				73	0.6		
				Stations 74 - 100 Blank			

Total 15.6


16 JUNE 1963
0530 HRS
Type Arrangement : Ducted, CBM - HA
Altitude : 150 Feet
Material : Pool 661, 0.15 Dyn
Flight #
Sample Line
Date : 16 June 1963
Aircraft Course : 225 Degrees
Time of Release : 0530 Hours
Remarks : Right & left combs.
Flight operational
data not available.

MASS DEPOSIT

MATERIAL: Fuel Oil

FLOW RATE: NA

DATE: 16 June 1963

SYSTEM: FIDAL

FLIGHT #: 5

AIRSPEED: NA

SAMPLE LINE: D

ALTITUDE: 150 Feet

TIME OF RELEASE: 0536 Hours

AIRCRAFT COURSE: 225 Degrees

DURATION: NA

WIND VECTOR:

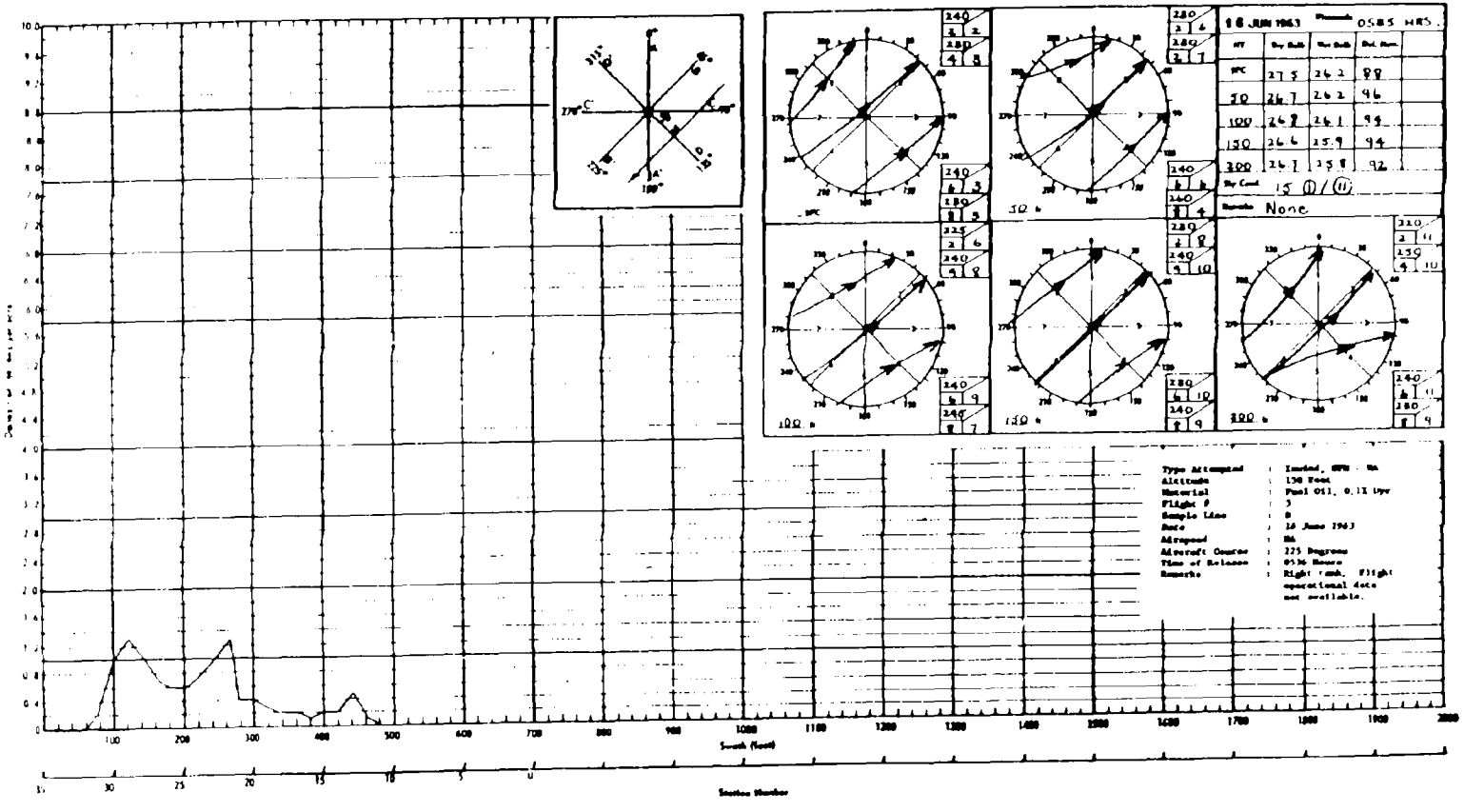
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.

Stations 1 - 11 Blank

12	0.1
13	0.5
24	0.2
15	0.2
16	0.1
17	0.2
18	0.2
19	0.3
20	0.4
21	0.4
22	1.3
23	0.9
24	0.7
25	0.6
26	0.6
27	0.7
28	1.1
29	1.3
30	1.0
31	0.2

Stations 32 - 100 Blank

Total 11.0


18 JUN 1963
0585 HRS.
SFC 27.5 26.2 88
50 26.7 26.2 96
100 26.8 26.1 95
150 26.6 25.9 94
200 26.7 25.8 92
Sky Cond 15 (1)/(11)
Remarks None
50 ft
100 ft
150 ft
200 ft
Type Aircraft Instrumented, UH-1B
Altitude 150 Feet
Material Panel 011, 0.1% Dye
Flight # 3
Sample Line 8
Date 18 June 1963
Airspeed 80
Aircraft Course 225 Degrees
Time of Release 0536 Hours
Remarks Right rank. Flight operational data not available.
South (feet)
Station Number

MASS DEPOSIT

MATERIAL: Fuel Oil

FLOW RATE: NA

DATE: 16 June 1963

SYSTEM: FIDAL

FLIGHT #: 6

AIRSPEED: NA

SAMPLE LINE: D

ALTITUDE: 150 Feet

TIME OF RELEASE: 0538 Hours

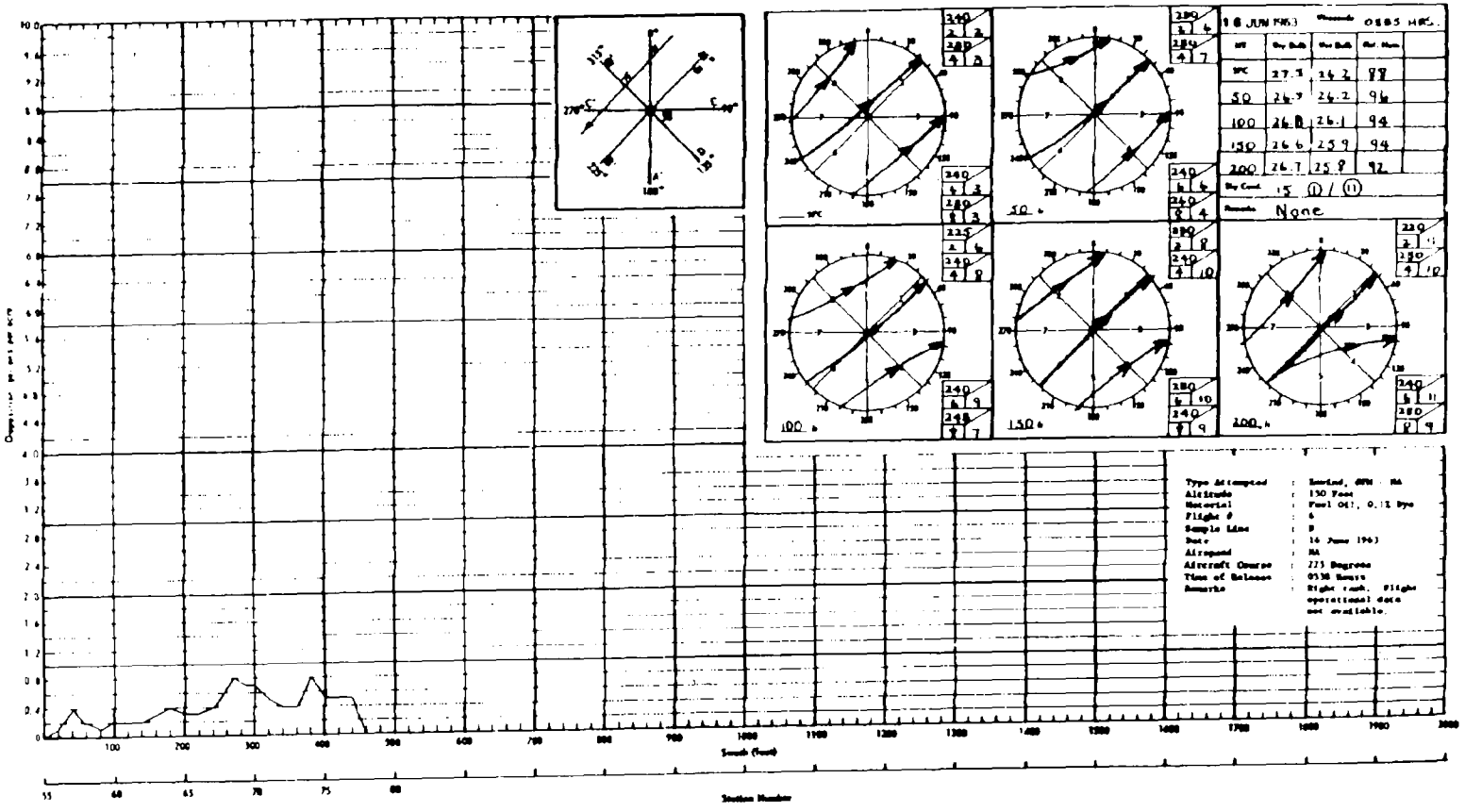
AIRCRAFT COURSE: 225 Degrees

DURATION: NA

WIND VECTOR:

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 55 Blank				56	0.1		
				57	0.4		
				58	0.2		
				59	0.1		
				60	0.2		
				61	0.2		
				62	0.2		
				62	0.3		
				64	0.4		
				65	0.3		
				66	0.3		
				67	0.4		
				68	0.8		
				69	0.7		
				70	0.7		
				71	0.5		
				72	0.4		
				73	0.4		
				74	0.8		
				75	0.5		
				76	0.5		
				77	0.5		
				Stations 78 - 100 Blank			

Total 8.9


16 JUN 1963
0605 HRS.
SFC
50
100
150
200
None
Type Attempted : Inertial, GPH - HA
Altitude : 150 Feet
Material : Fuel Oil, 0.12 Dye
Flight # : 6
Sample Line : B
Date : 16 June 1963
Airspeed : HA
Aircraft Course : 225 Degrees
Time of Release : 0538 Hours
Remarks : Night rush. Flight operational data not available.
South (Feet)
Station Number

MASS DEPOSIT

MATERIAL: Fuel Oil
FLOW RATE: NA
DATE: 16 June 1963
SYSTEM: FIDAL
FLIGHT #: 7
AIRSPEED: NA
SAMPLE LINE: D
ALTITUDE: 150 Feet
TIME OF RELEASE: 0553 Hours
AIRCRAFT COURSE: 225 Degrees
DURATION: NA
WIND VECTOR:

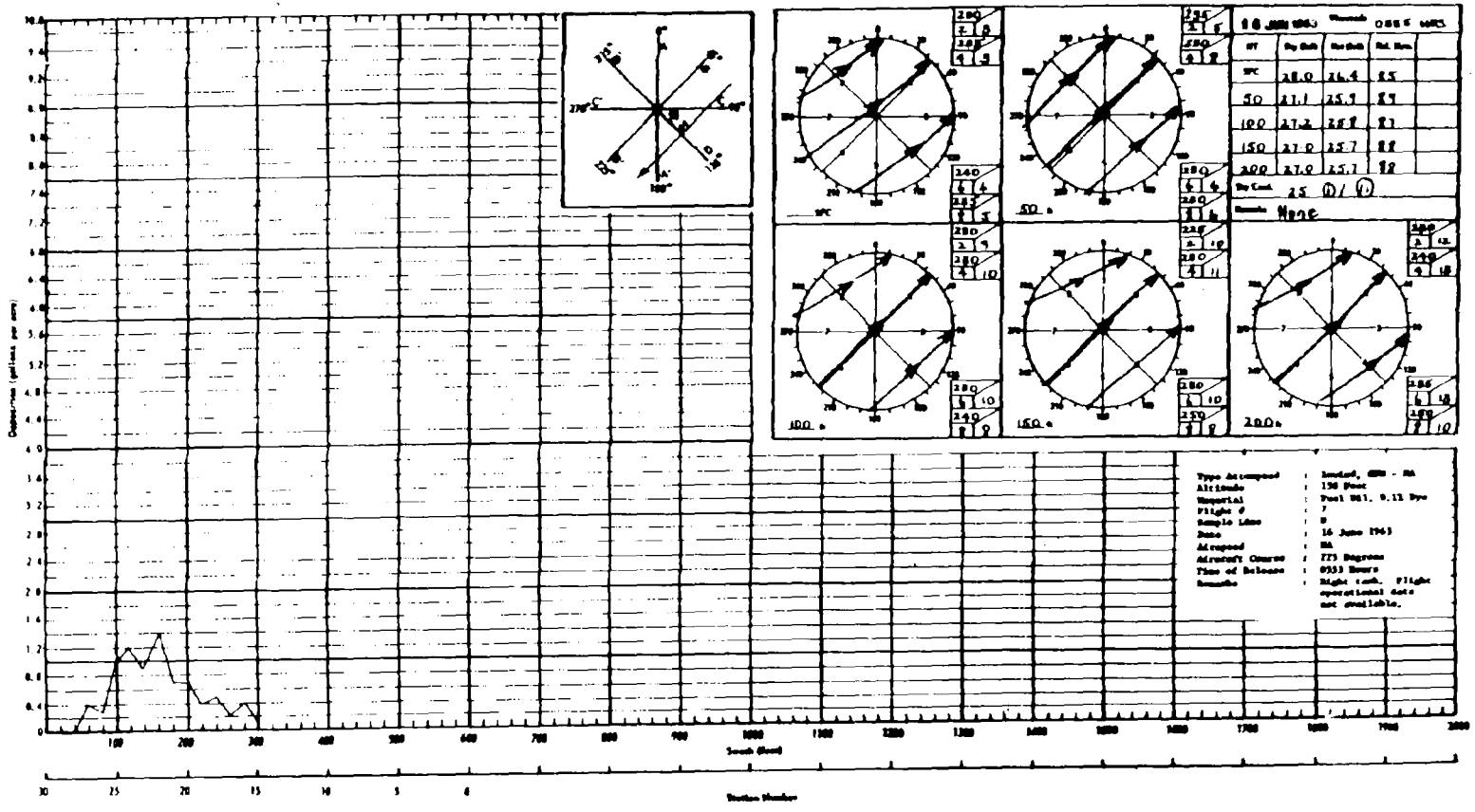
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.

Stations 1 - 14 Blank

15	0.1
16	0.4
17	0.2
18	0.5
19	0.4
20	0.7
21	0.7
22	1.4
23	0.9
24	1.2
25	1.0
26	0.3
27	0.4

Stations 28 - 100 Blank

Total 8.2



MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 16 June 1963

FLIGHT #: 8

SAMPLE LINE: D

TIME OF RELEASE: 0555 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

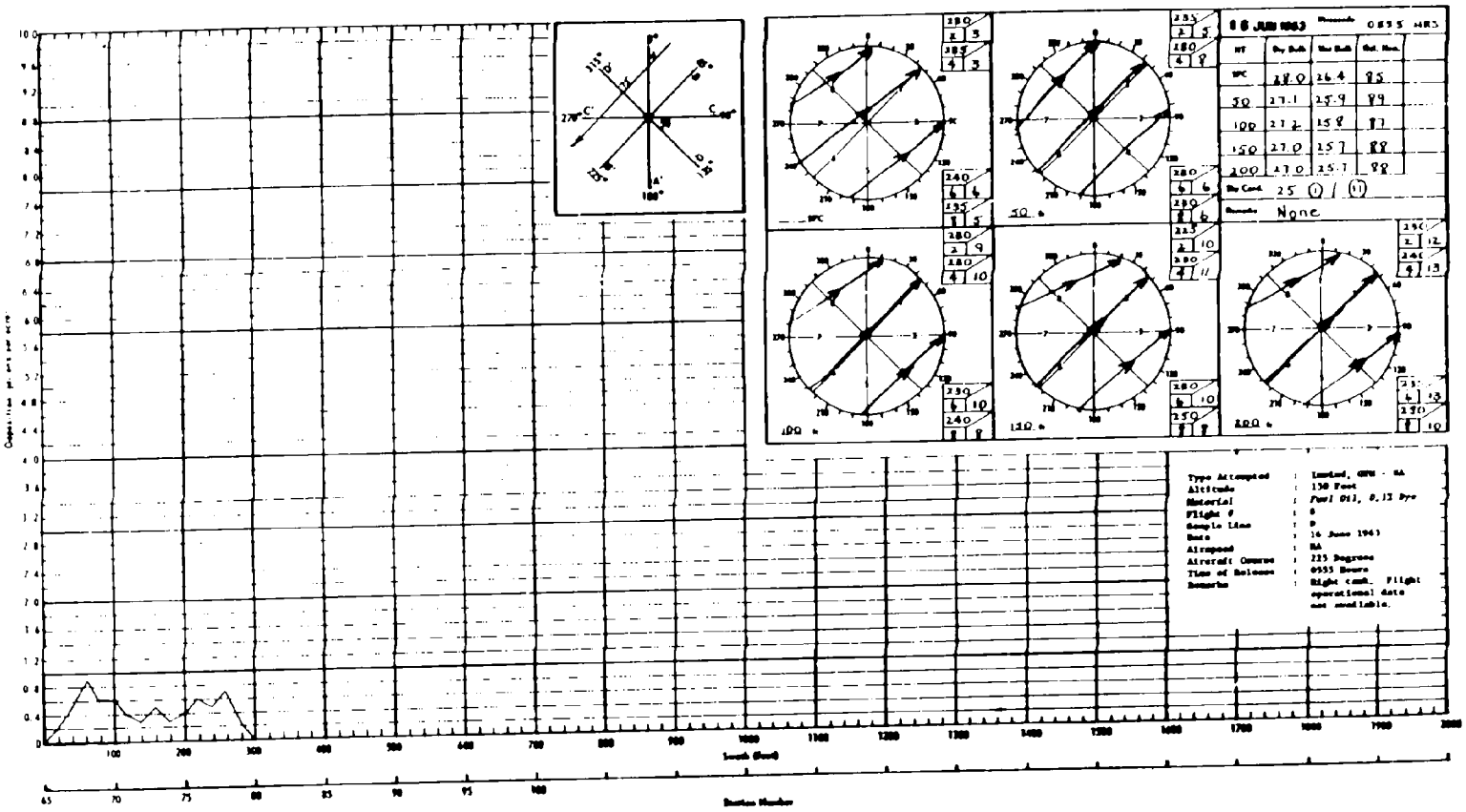
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 225 Degrees

WIND VECTOR:

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 65 Blank				66	0.2		
				67	0.5		
				68	0.9		
				69	0.6		
				70	0.6		
				71	0.4		
				72	0.3		
				73	0.5		
				74	0.3		
				75	0.4		
				76	0.6		
				77	0.5		
				78	0.7		
				79	0.2		
				Stations 80 - 100 Blat			

Total 6.7


16 JUNE 1961
0555 HRS
Type Aircraft : Lowland, GMW - 66
Altitude : 150 Feet
Material : Fuel Oil, 0.15 Dye
Flight # : 6
Sample Line : 9
Date : 16 June 1961
Airspeed : 86
Aircraft Courses : 235 Degrees
Time of Release : 0555 Hours
Remarks : Right tank. Flight operational data not available.
Length (feet)
Station Number

MASS MEDIAN DIAMETER

DATE: 16 June 1963

FLIGHT #: 9

SAMPLE LINE: B

FLOW RATE: NA

SPREAD FACTOR: 6.0

CONVERSION FACTOR: 2.5

PAPER: Kromekote, white

MATERIAL: Fuel oil

SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
26	1	4200			
20	5	3600			
22	4	3500	50	1	100 Microns
23	3	3300*			(smallest)
20	6	3100			
23	2	3000			
17	7	2900			
17	8	2800			
24	9	2700			

$$MMD = \frac{\text{Spot D Max}}{\text{Spread Factor x Con. Factor}} = \frac{3300}{6.0 \times 2.5} = 220.0 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = \frac{4200}{6.0} = 700.0 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = \frac{100}{6.0} = 16.7 \text{ Microns}$$

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 16 June 1963

FLIGHT #: 9

SAMPLE LINE: B

TIME OF RELEASE: 0615 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

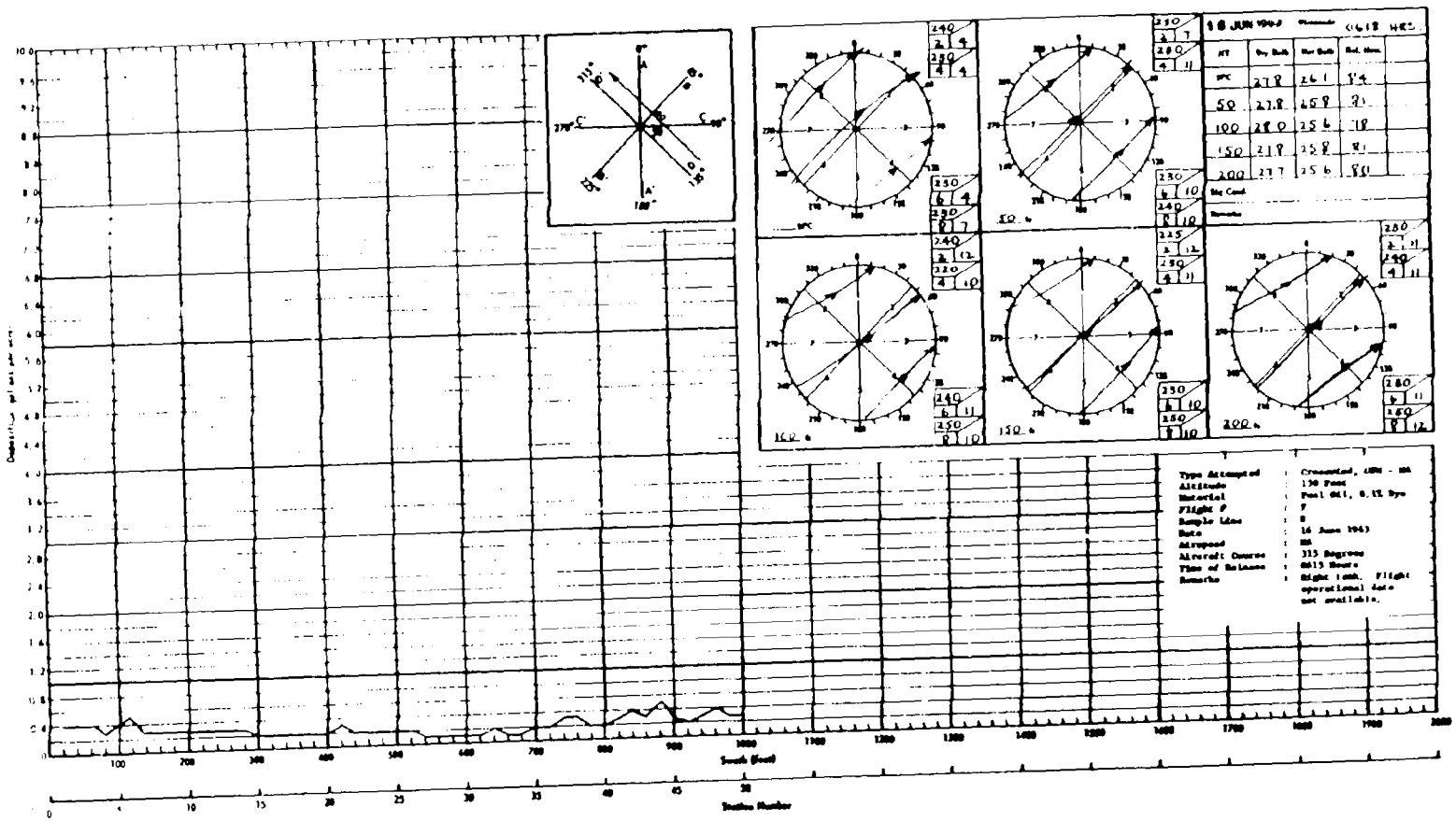
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 315 Degrees

WIND VECTOR:

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
1	0.4	26	0.2	Stations 51 - 100 Blank			
2	0.4	27	0.1				
3	0.4	28	0.1				
4	0.3	29	0.1				
5	0.4	30	0.1				
6	0.5	31	0.1				
7	0.3	32	0.2				
8	0.3	33	0.1				
9	0.3	34	0.1				
10	0.3	35	0.2				
11	0.3	36	0.2				
12	0.3	37	0.3				
13	0.3	38	0.3				
14	0.3	39	0.2				
15	0.2	40	0.2				
16	0.2	41	0.3				
17	0.2	42	0.4				
18	0.2	43	0.3				
19	0.2	44	0.5				
20	0.2	45	0.3				
21	0.3	46	0.2				
22	0.2	47	0.3				
23	0.2	48	0.4				
24	0.2	49	0.3				
25	0.2	50	0.3				

Total 12.9



MASS MEDIAN DIAMETER

DATE: 16 June 1963

FLIGHT #: 10

SAMPLE LINE: B

FLOW RATE: NA

SPREAD FACTOR: 6.0

CONVERSION FACTOR: 2.5

PAPER: Kromekote, white

MATERIAL: Fuel Oil

SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
69	2	4500			
69	3	3400*			
70	4	3300			
72	1	3200	51	1	100 Microns (smallest)
67	5	3100			
67	6	3000			
67	7	2900			
64	8	2800			
66	9	2700			

$$MMD = \frac{\text{Spot D Max}}{\text{Spread Factor x Con. Factor}} = \frac{3400}{6.0 \times 2.5} = 226.7 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = \frac{4500}{6.0} = 750.0 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = \frac{100}{6.0} = 16.7 \text{ Microns}$$

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 16 June 1963

FLIGHT #: 10

SAMPLE LINE: B

TIME OF RELEASE: 0618 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

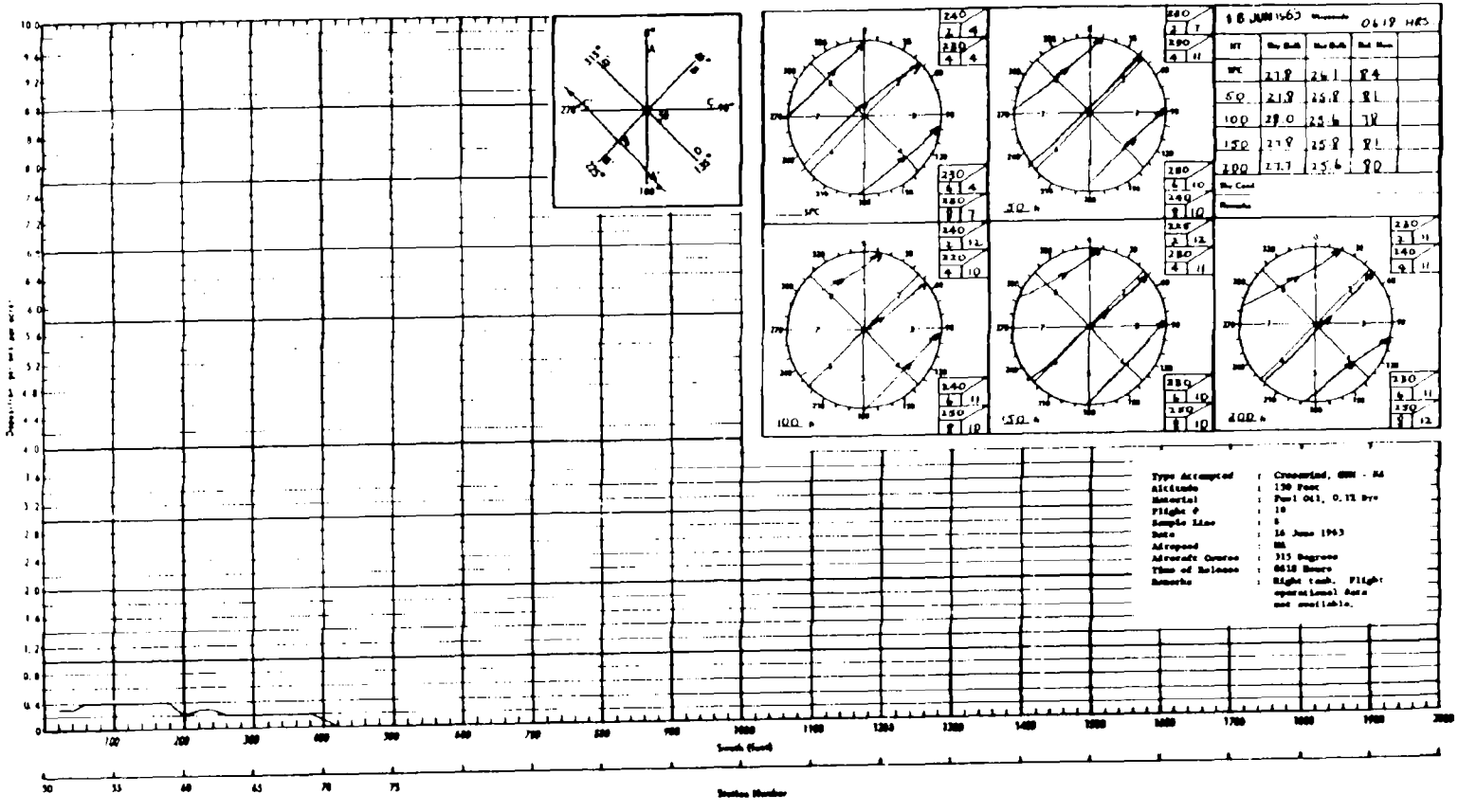
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 315 Degrees

WIND VECTOR:

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 50 Blank				51	0.3		
				52	0.3		
				53	0.4		
				54	0.4		
				55	0.4		
				56	0.4		
				57	0.4		
				58	0.4		
				59	0.4		
				60	0.2		
				61	0.3		
				62	0.3		
				63	0.2		
				64	0.2		
				65	0.2		
				66	0.2		
				67	0.1		
				68	0.2		
				69	0.2		
				70	0.1		
				Stations 71 - 100 Blank			

Total 5.7


16 JUN 1963
0619 HRS
SFC
50 ft
100 ft
150 ft
200 ft
Type Aircraft : Crosswind, GMR - 86
Altitude : 150 Feet
Material : Pont 061, 0.1% Dye
Flight # : 10
Sample Line : 6
Date : 16 June 1963
Airspeed : 88
Aircraft Course : 315 Degrees
Time of Release : 0618 Hours
Remarks : Right tank. Flight apparatus data not available.
South (feet)
Station Number

MASS MEDIAN DIAMETER

DATE: 20 June 1963

FLIGHT #: 2

SAMPLE LINE: A

FLOW RATE: NA

SPREAD FACTOR: 6.0

CONVERSION FACTOR: 2.5

PAPER: Kromekote, white

MATERIAL: Fuel Oil

SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
71	1	5000			
71	2	4600			
71	3	4400			
71	4	4700			
70	5	4000*			
67	6	3700			
68	7	3600			
67	8	3500			
70	9	3800			
69	10	3900			
67	11	3300			
67	12	3400			

MMD - $\frac{\text{Spot D Max}}{\text{Spread Factor x Con. Factor}} = \frac{4700}{6.0 \times 215} = 266.7$ Microns

Max. Sph. Dia. = $\frac{5000}{6.0} = 833.3$ Microns

Min. Sph. Dia. = $\frac{100}{6.0} = 16.7$ Microns

FIDAL FLIGHT DATA

DATE FLOWN: 21 June 63 CONFIGURATION: All tanks LIQUID SPRAYED: Fuel Oil NOZZLE TYPE: U5070

	TANK	RPM	PRESSURE PSI	FLOW RATE GPM	REMARKS
RUN #1	Left	1600	36	98	No data from center tank.
AIRSPEED: 153 Knots	Ctr	----	--	--	
TIME SPRAYED: 7 Secs.	Right	----	42	104	
RUN #2	*Left*	*1800*	*39-40*	*101-102*	
AIRSPEED: 160 Knots	Ctr	----	--	--	
TIME SPRAYED: 7 Secs.	Right	----	46-47	108-109	

GENERAL REMARKS:
1. Plane made 9 passes.
2. On 4th pass center tank did not function.
3. On 7th pass right tank did not function.
4. On 9th pass center tank did not function.

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 21 June 1963

FLIGHT #: 1

SAMPLE LINE: C

TIME OF RELEASE: 0443 Hours

DURATION: 7 Sec.

FLOW RATE: 202 (app) GPM

SYSTEM: FIDAL

AIRSPEED: 153 Knots

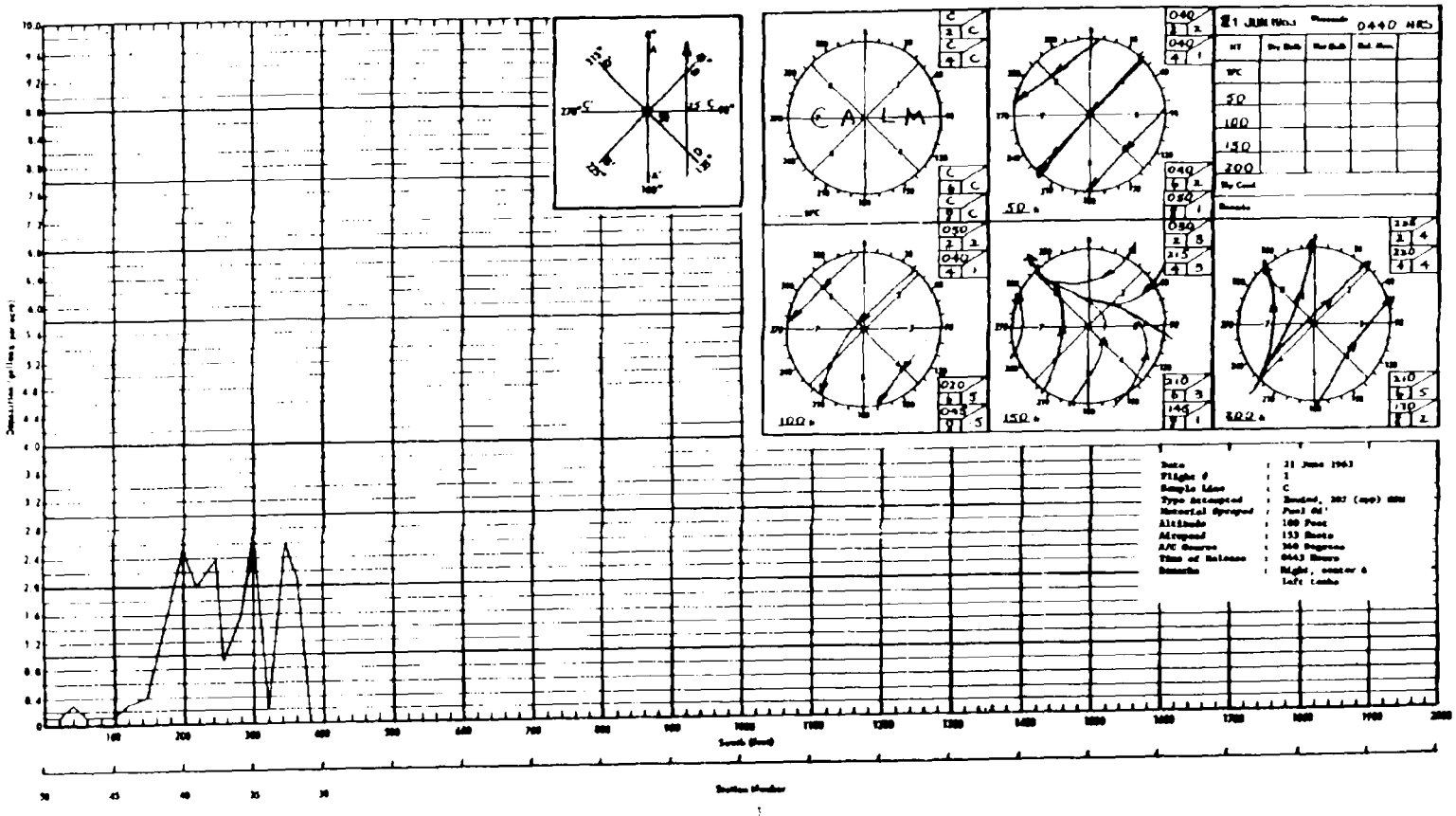
ALTITUDE: 100 Feet

AIRCRAFT COURSE: 360 Degrees

WIND VECTOR:

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 30 Blank				Station 51 - 100 Blank			
31	0.0						
32	2.1						
33	2.6						
34	0.2						
35	2.7						
36	1.5						
37	0.9						
38	2.4						
39	2.0						
40	2.5						
41	1.9						
42	1.0						
43	0.4						
44	0.3						
45	0.1						
46	0.1						
47	0.1						
48	0.3						
49	0.1						
50	0.1						

Total 21.3


C A L M
50 ft.
100 ft.
150 ft.
200 ft.
0440 HRS
Date : 21 June 1963
Flight # : 1
Sample Line : C
Time of Release : 0443 Hours
Remarks : Right, sensor 6
Left tanks

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 21 June 1963

FLIGHT #: 2

SAMPLE LINE: C

TIME OF RELEASE: 0445 Hours

DURATION: 7 Sec.

FLOW RATE: 209-211 (app) GPM

SYSTEM: FINAL

AIRSPEED: 160 Knots

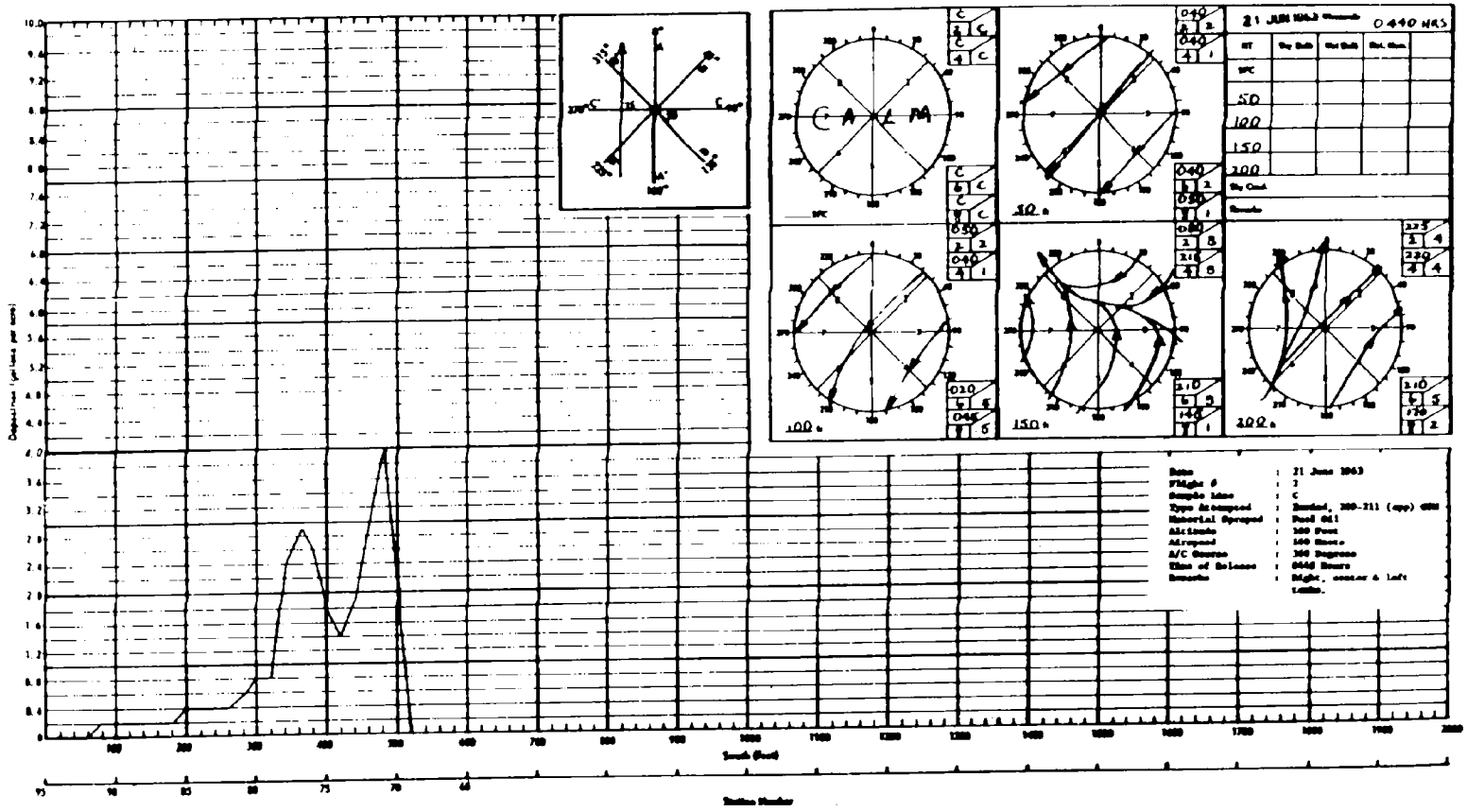
ALTITUDE: 100 Feet

AIRCRAFT COURSE: 360 Degrees

WIND VECTOR:

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 68 Blank				69	0.0		
				70	2.1		
				71	4.0		
				72	3.0		
				73	1.9		
				74	1.4		
				75	1.8		
				76	2.6		
				77	2.9		
				78	2.4		
				79	0.8		
				80	0.8		
				81	0.6		
				82	0.4		
				83	0.4		
				84	0.4		
				85	0.4		
				86	0.2		
				87	0.2		
				88	0.2		
				89	0.2		
				90	0.2		
				91	0.2		
				Stations 92 - 100 Blank			

Total 27.1


0440 HRS
50
100
150
200
CAL PA
100
150
200

MASS DEPOSIT

MATERIAL: Fuel Oil

FLOW RATE: NA

DATE: 21 June 1963

SYSTEM: FIDAL

FLIGHT #: 3

AIRSPEED: NA

SAMPLE LINE: D

ALTITUDE: 50 Feet

TIME OF RELEASE: 0508 Hours

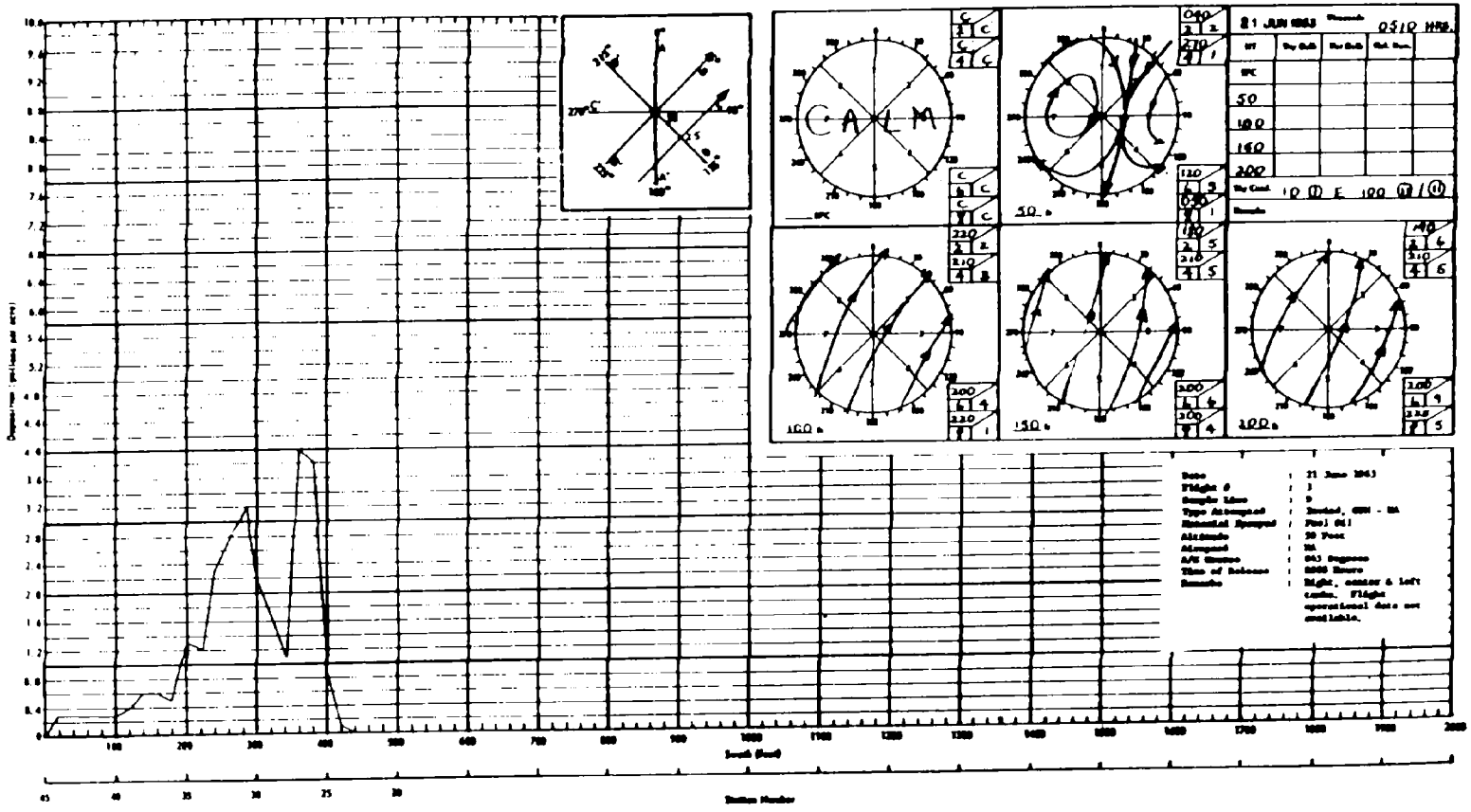
AIRCRAFT COURSE: 045 Degrees

DURATION: NA

WIND VECTOR:

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 23 Blank		24	0.1	Stations 45 - 100 Blank			
		25	0.9				
		26	3.8				
		27	4.0				
		28	1.1				
		29	1.6				
		30	2.2				
		31	3.2				
		32	2.8				
		33	2.3				
		34	1.2				
		35	1.3				
		36	0.5				
		37	0.6				
		38	0.6				
		39	0.4				
		40	0.3				
		41	0.3				
		42	0.3				
		43	0.3				
		44	0.3				

Total 28.1


CALM
50.
100.
150.
200.

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 21 June 1963

FLIGHT #: 4

SAMPLE LINE: D

TIME OF RELEASE: 0510 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

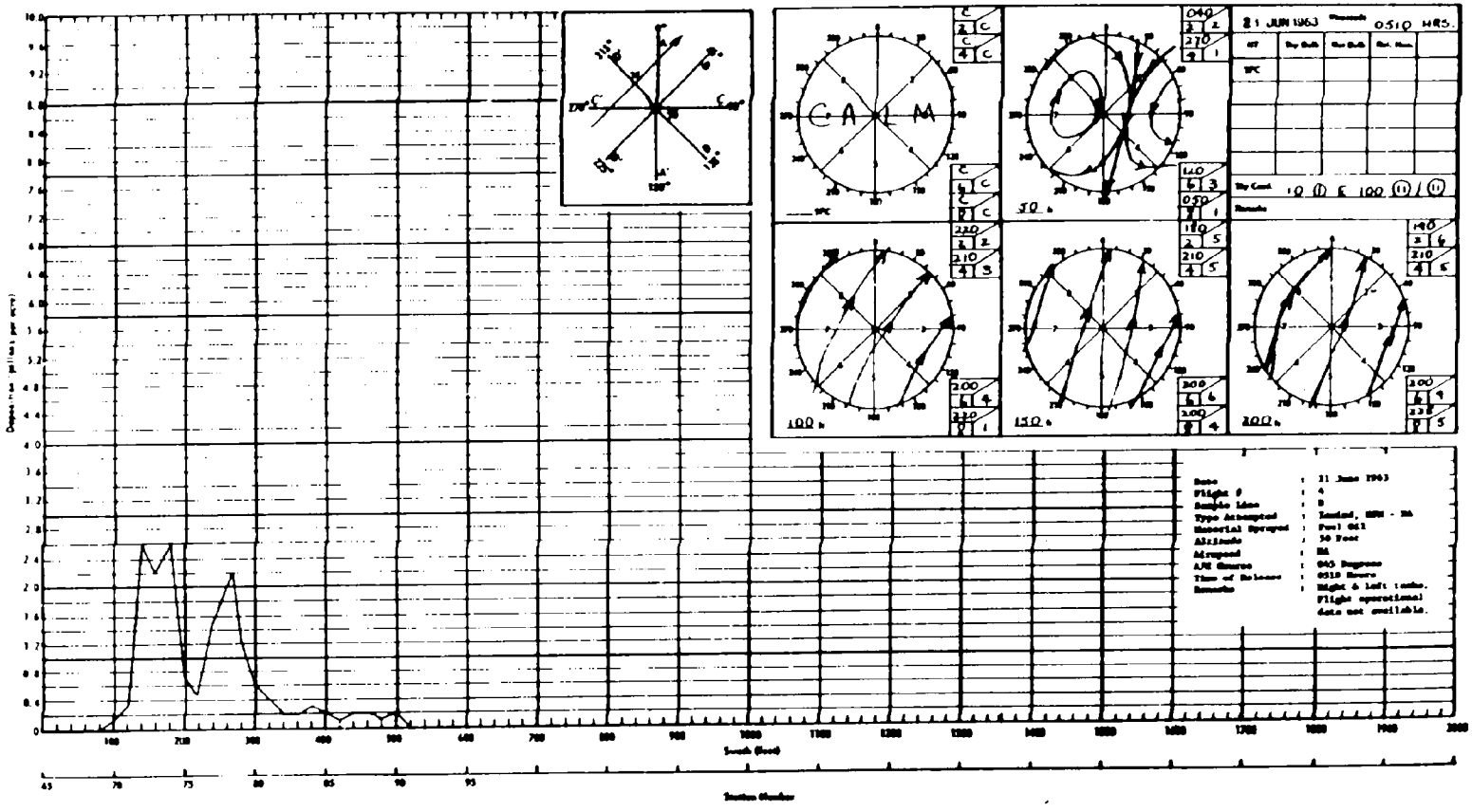
ALTITUDE: 50 Feet

AIRCRAFT COURSE: 045 Degrees

WIND VECTOR:

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 69 Blank				70	0.1		
				71	0.3		
				72	2.6		
				73	2.2		
				74	2.6		
				75	0.7		
				76	0.5		
				77	1.5		
				78	2.2		
				79	1.2		
				80	0.6		
				81	0.4		
				82	0.2		
				83	0.2		
				84	0.3		
				85	0.2		
				86	0.1		
				87	0.2		
				88	0.2		
				89	0.1		
				90	0.2		
				Stations 91 - 100 Blank			

Total 16.6


CALM
31 JUN 1963
0510 HRS.
50Ω
100Ω
150Ω
200Ω
Date : 31 June 1963
Flight # : 4
Sample Line : 8
Type Attempted : Seeded, HRM - 3A
Material Sprayed : Fuel 602
Altitude : 50 Feet
Airspeed : 85
AM Course : 065 Degrees
Time of Release : 0510 Hours
Remarks : Flight & Left tanks. Flight operational data not available.
South (Feet)

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 21 June 1963

FLIGHT #: 5

SAMPLE LINE: C

TIME OF RELEASE: 0530 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

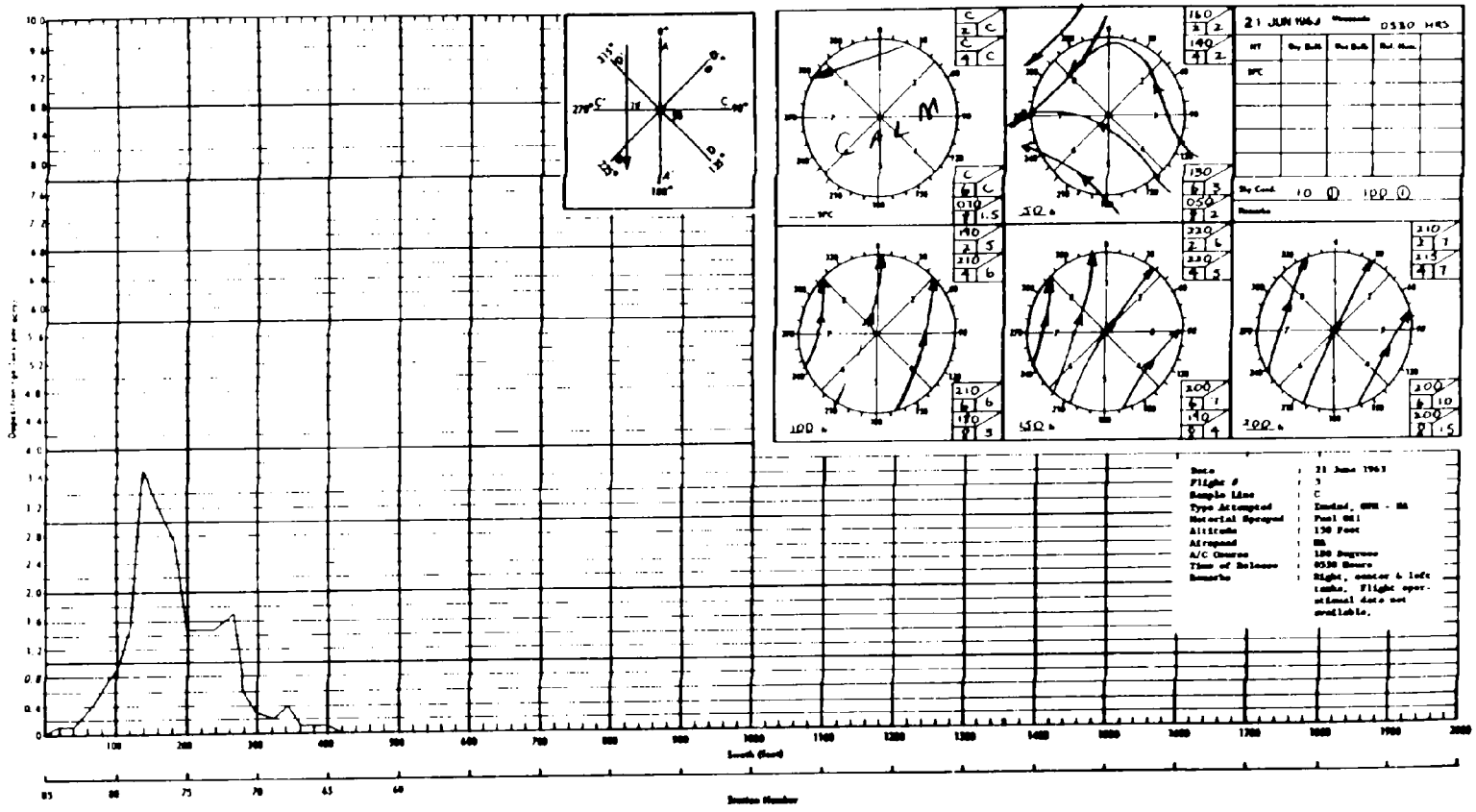
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 180 Degrees

WIND VECTOR:

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 64 Blank				64	0.1		
				66	0.1		
				67	0.1		
				68	0.4		
				69	0.2		
				70	0.3		
				71	0.6		
				72	1.7		
				73	1.5		
				74	1.5		
				75	1.5		
				76	2.7		
				77	3.2		
				78	3.7		
				79	1.5		
				80	0.9		
				81	0.6		
				82	0.4		
				83	0.1		
				84	0.1		
				Stations 85 - 100 Blank			

Total 21.2


Date : 21 June 1963
Flight # : 3
Sample Line : C
Type Attempted : Ensiad, GPM - 8A
Material Sprayed : Fuel Oil
Altitude : 150 Feet
Aircraft : 8A
A/C Course : 180 Degrees
Time of Release : 0530 Hours
Remarks : Right, center & left tanks. Flight operational data not available.
21 JUN 1963
0530 HRS
100 ft
150 ft
200 ft
South (East)
Station Number

MASS DEPOSIT

MATERIAL: Fuel Oil

FLOW RATE: NA

DATE: 21 June 1963

SYSTEM: FIDAL

FLIGHT #: 6

AIRSPEED: NA

SAMPLE LINE: C

ALTITUDE: 150 Feet

TIME OF RELEASE: 0533 Hours

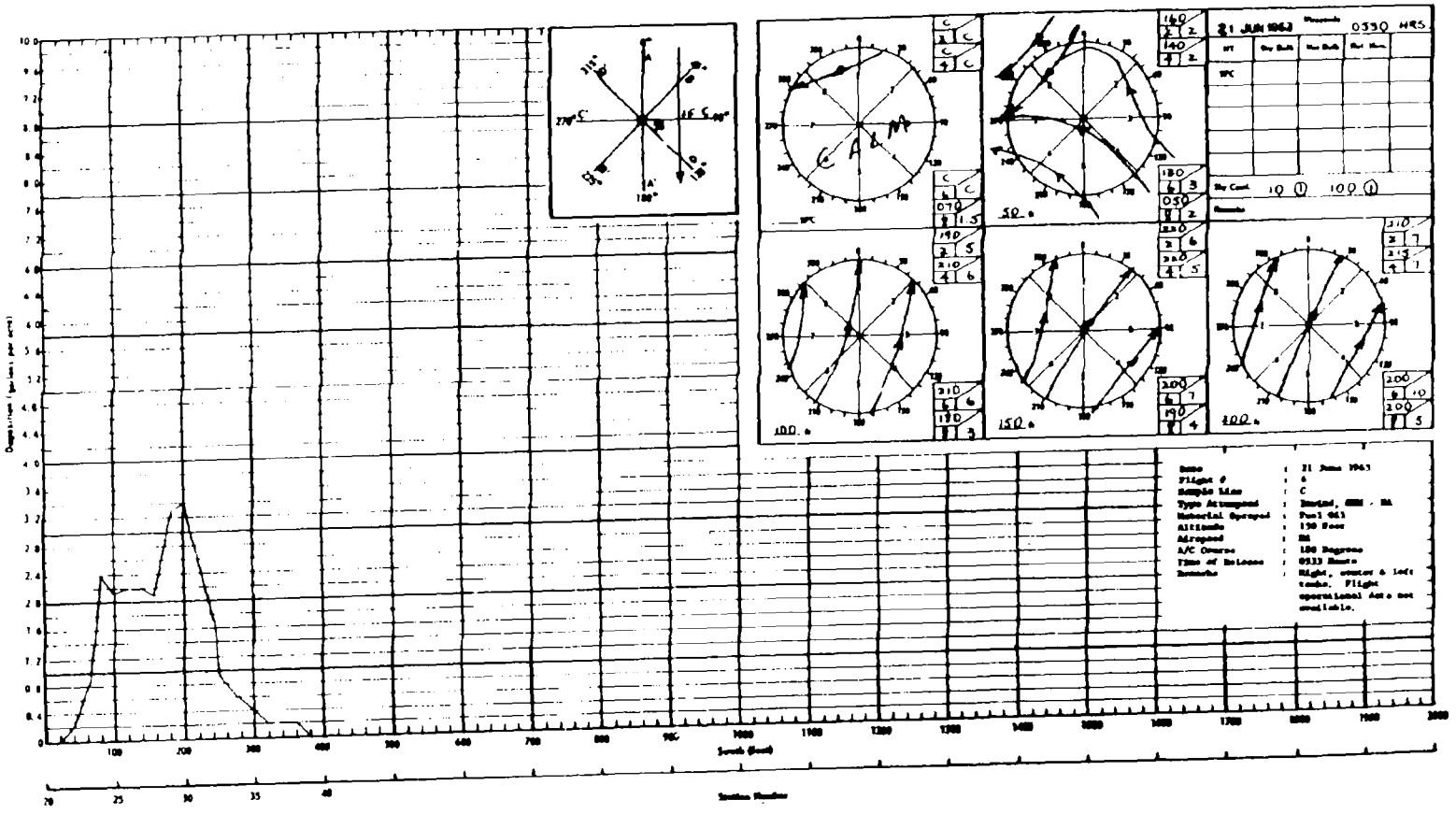
AIRCRAFT COURSE: 180 Degrees

DURATION: NA

WIND VECTOR:

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 20 Blank		21	0.0				
		22	0.2				
		23	0.9				
		24	2.4				
		25	2.1				
		26	2.2				
		27	2.2				
		28	2.1				
		29	3.3				
		30	3.4				
		31	2.4				
		32	1.7				
		33	0.9				
		34	0.6				
		35	0.4				
		36	0.2				
		37	0.2				
		38	0.2				
		Stations 39 - 100 Blank					

Total 25.4


21 JUN 1963
0330 HRS
50 n
100 n
150 n
200 n

MASS DEPOSIT

MATERIAL: Fuel Oil

FLOW RATE: NA

DATE: 21 June 1963

SYSTEM: FIDAL

FLIGHT #: 7

AIRSPEED: NA

SAMPLE LINE: C

ALTITUDE: 150 Feet

TIME OF RELEASE: 0550 Hours

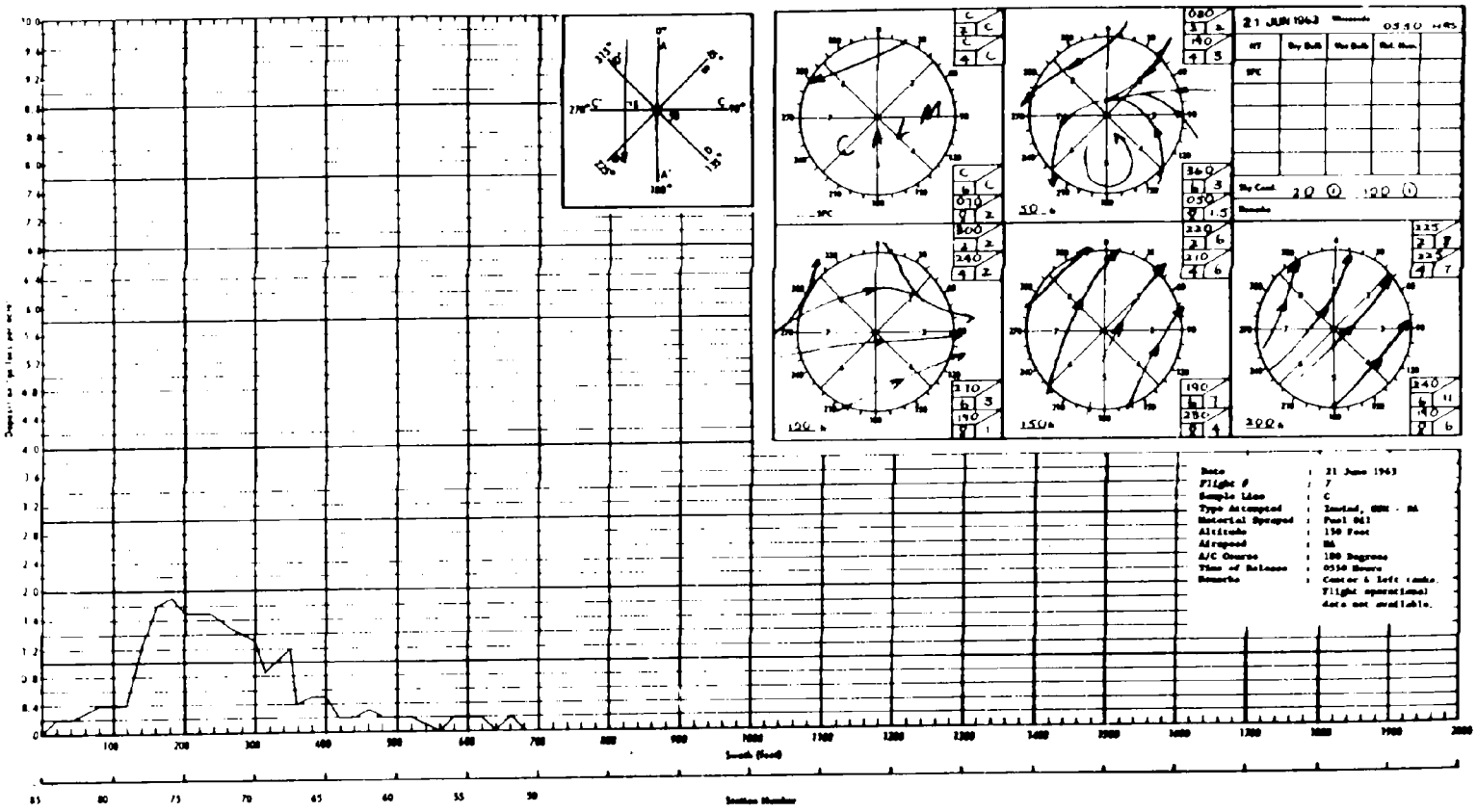
AIRCRAFT COURSE: 180 Degrees

DURATION: NA

WIND VECTOR:

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 50 Blank				51	0.0	76	1.9
				52	0.2	77	1.8
				53	0.0	78	1.3
				54	0.2	79	0.4
				55	0.2	80	0.4
				56	0.2	81	0.4
				57	0.0	82	0.3
				58	0.1	83	0.2
				59	0.2	84	0.2
				60	0.2	Stations 85 - 100	
				61	0.2	Blank	
				62	0.3		
				63	0.2		
				64	0.2		
				65	0.5		
				66	0.5		
				67	0.4		
				68	1.2		
				69	0.9		
				70	1.3		
				71	1.4		
				72	1.5		
				73	1.7		
				74	1.7		
				75	1.7		

Total 21.9


Date : 21 June 1963
Flight # : 7
Sample Line : C
Type Attempted : Instbd, 60M - 8A
Material Sprayed : Fuel 861
Altitude : 150 Feet
Airspeed : 8A
A/C Course : 180 Degrees
Time of Release : 0550 Hours
Remarks : Center & left tanks.
Flight operational
data not available.
Station Number

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 21 June 1963

FLIGHT #: 8

SAMPLE LINE: C

TIME OF RELEASE: 0553 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

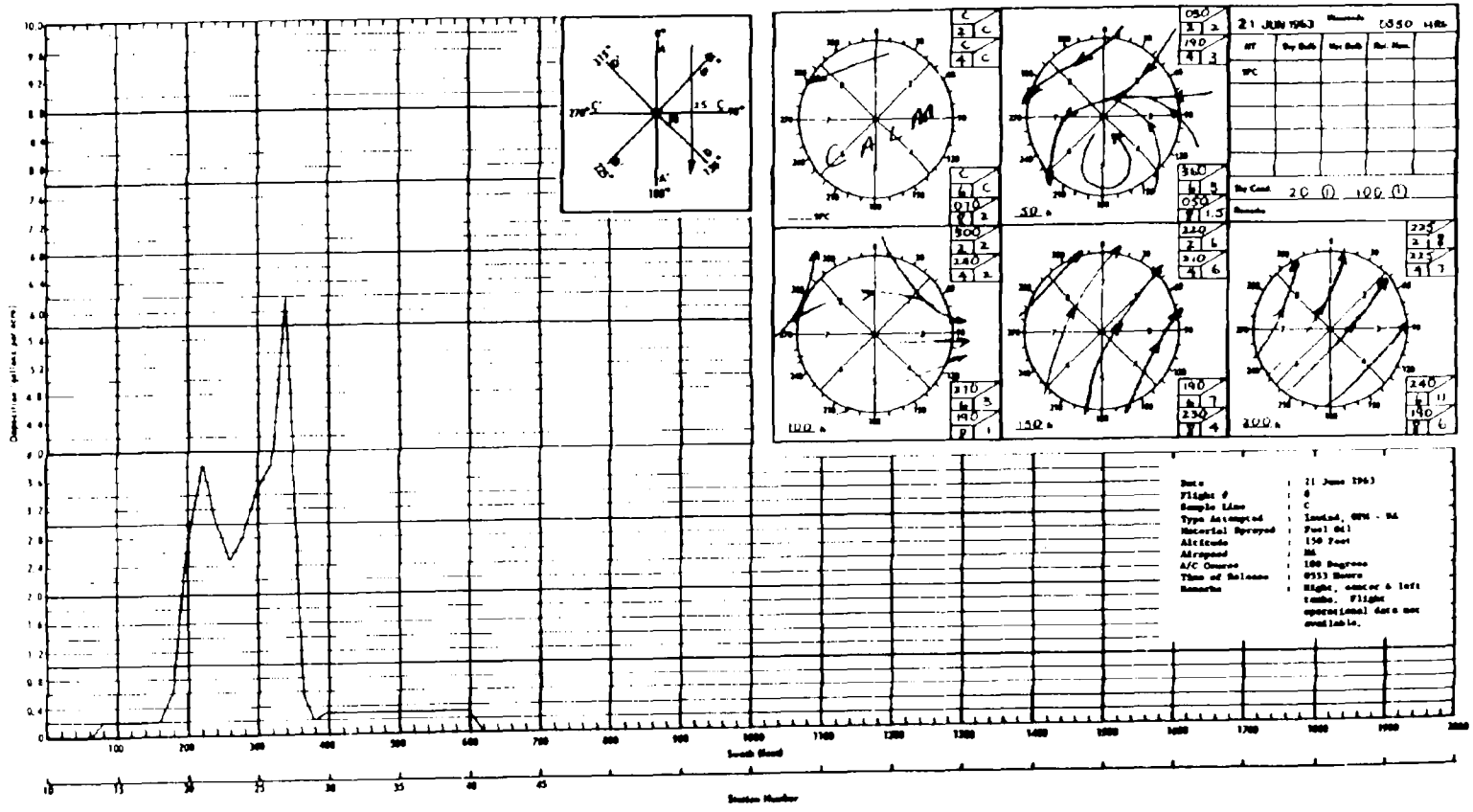
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 180 Degrees

WIND VECTOR:

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 13 Blank		26	3.8				
		27	6.2				
		28	0.6				
		29	0.2				
		30	0.3				
		31	0.3				
		32	0.3				
		33	0.3				
		34	0.3				
		35	0.3				
		36	0.3				
		37	0.3				
		38	0.3				
14	0.2	39	0.3				
15	0.2	40	0.3				
16	0.2	Station 41 - 100 Blank					
17	0.2						
18	0.2						
19	0.6						
20	2.8						
21	3.8						
22	3.1						
23	2.5						
24	2.8						
25	3.5						

Total 34.2


21 JUN 1963
Date : 21 June 1963
Flight # : 6
Sample Line : C
Type Aerosol : Lowland, 60% - 96
Material Sprayed : Fuel Oil
Altitude : 150 Feet
Airspeed : 96
A/C Course : 180 Degrees
Time of Release : 0933 Hours
Remarks : Right, center & left tanks. Flight operational data not available.
Deposition gallons per acre
South (East)
Station Number

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 21 June 1963

FLIGHT #: 9

SAMPLE LINE: D

TIME OF RELEASE: 0610 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

AIRSPEED: NA

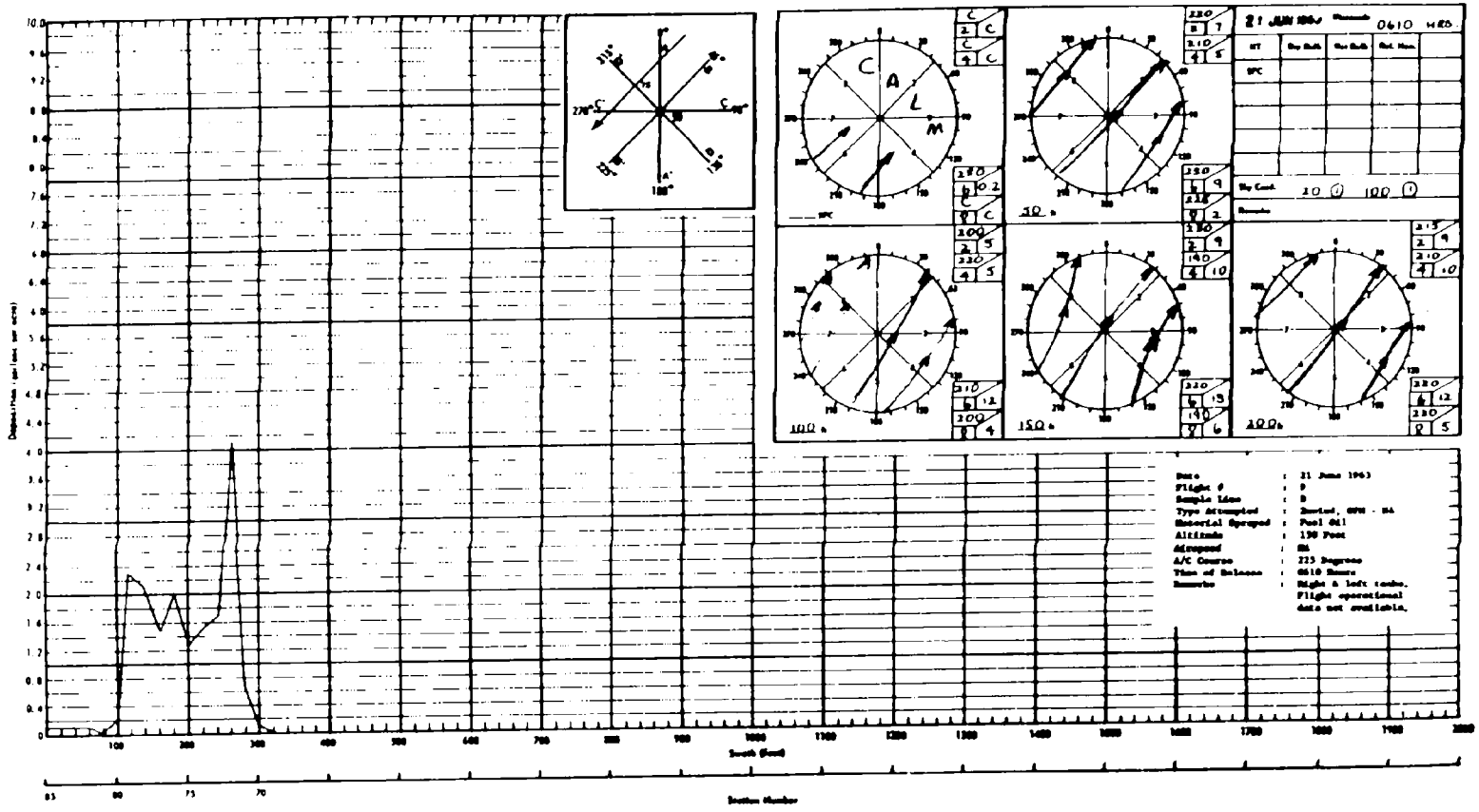
ALTITUDE: 150 Feet

AIRCRAFT COURSE: 225 Degrees

WIND VECTOR:

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 68 Blank				69	0.0		
				70	0.1		
				71	0.7		
				72	4.1		
				73	1.7		
				74	1.5		
				75	1.3		
				76	2.0		
				77	1.5		
				78	2.1		
				79	2.3		
				80	0.2		
				81	0.0		
				82	0.1		
				83	0.1		
				84	0.1		
				85	0.1		
				Stations 86 - 100 Blank			

Total 18.3


Date : 21 June 1963
Flight # : 9
Sample Idea : 8
Type Attempted : Buried, GPM - HA
Material Sprayed : Fuel Oil
Altitude : 150 Feet
Airspeed : HA
A/C Course : 225 Degrees
Time of Release : 0610 Hours
Remarks : Night & left combo. Flight operational data not available.

FIDAL FLIGHT DATA

DATE FLOWN: 29 June 63 CONFIGURATION: All tanks LIQUID SPRAYED: Fuel Oil NOZZLE TYPE: U5070

	TANK	RPM	PRESSURE PSI	FLOW RATE GPM	REMARKS:
RUN #1	Left		50	112	#1 and #4 were only runs recorded.
AIRSPEED: 158 Knots	Ctr		15	90	
TIME SPRAYED: 6 Sec	Right		3	0	
RUN #4	Left		48	110	
AIRSPEED:	Ctr		--	90	
TIME SPRAYED:	Right		50+	112	

GENERAL REMARKS:
1. *On 1st run right tank did not spray.*
2. After 4th run pilot landed and rephased the tanks.
3. On 6th run center tank quit and did not run again.
4. Pilot attempted twelve runs in all with left tank quitting on 12th run.
5. G.P.M. readings are estimated from the prop pitch setting (35° versus 31° for each of the outboard tanks.)

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 29 June 1963

FLIGHT #: 1

SAMPLE LINE: C

TIME OF RELEASE: 0440 Hours

DURATION: 06 Sec.

FLOW RATE: 202 (app) GPM

SYSTEM: FIDAL

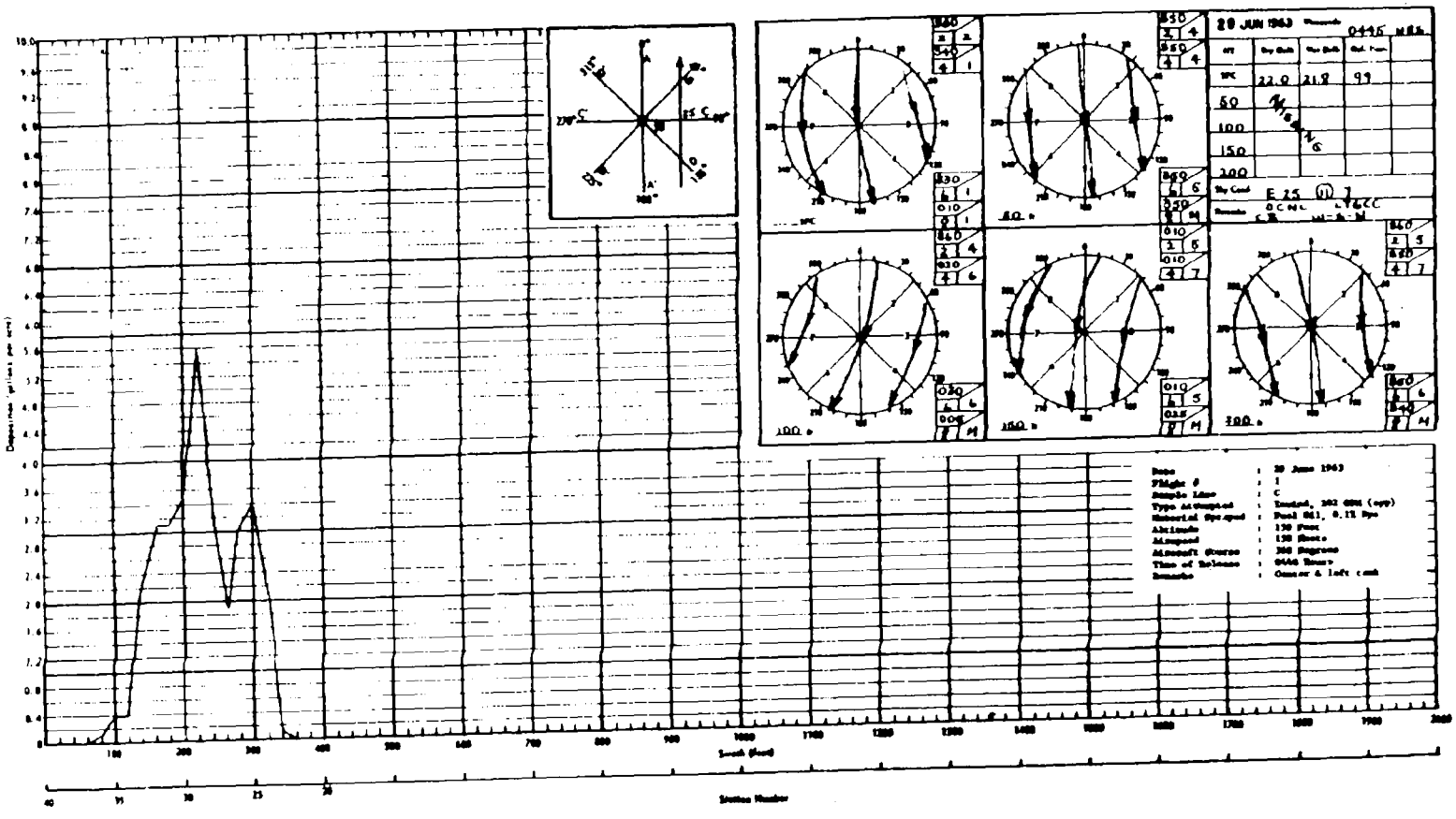
AIRSPEED: 158 Knots

ALTITUDE: 150 Feet

AIRCRAFT COURSE: 360 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 22 Blank		23	0.1				
		24	2.0				
		25	3.4				
		26	3.0				
		27	1.9				
		28	3.0				
		29	5.6				
		30	3.5				
		31	3.1				
		32	3.1				
		33	2.1				
		34	0.4				
		35	0.4				
		36	0.1				
		Stations 37 - 100 Blank					

Total 31.7



MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 29 June 1963

FLIGHT #: 2

SAMPLE LINE: C

TIME OF RELEASE: 0443 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

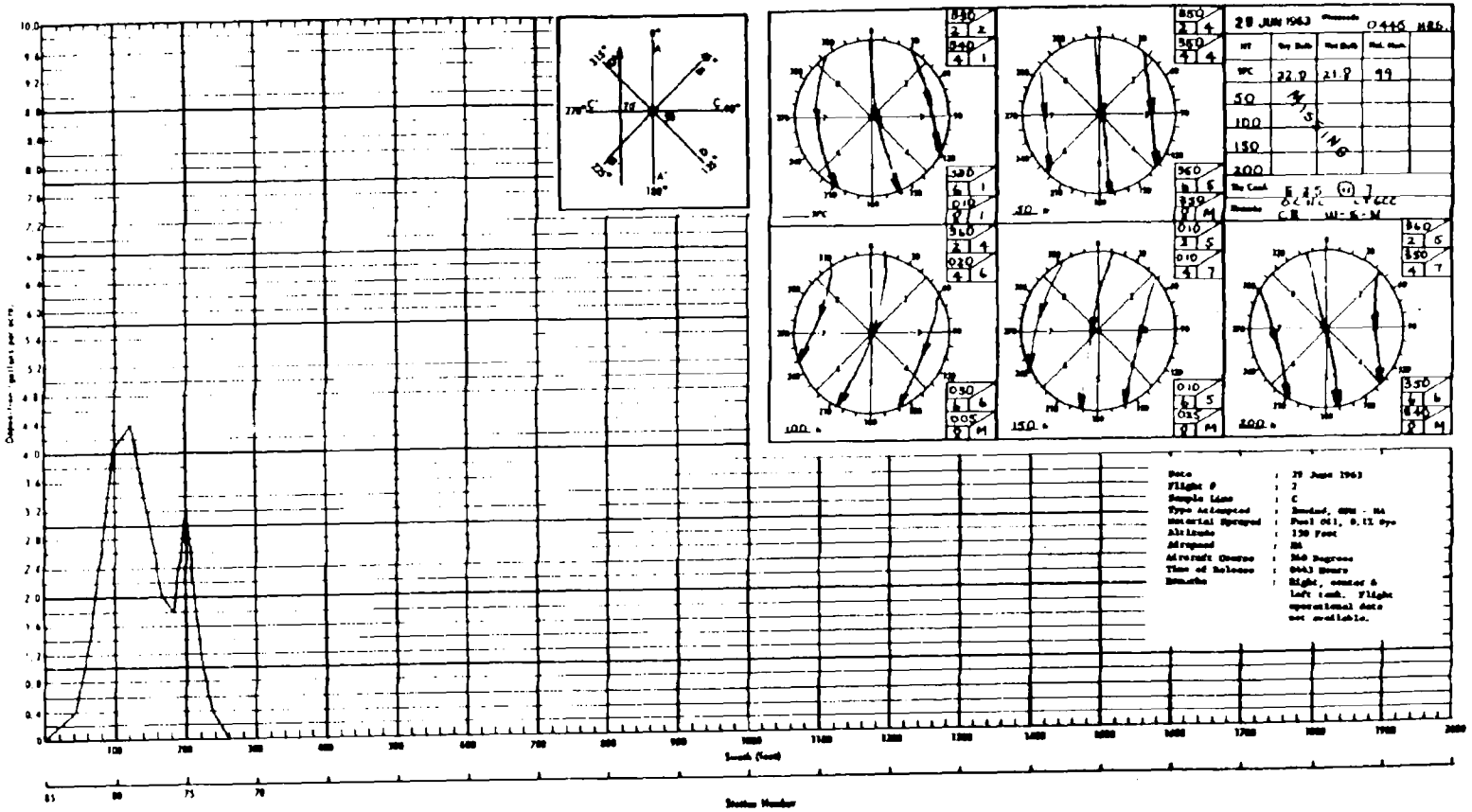
AIRSPEED: NA

ALTITUDE: 150 Feet

AIRCRAFT COURSE: 360 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 72 Blank						73	0.4
						74	1.0
						75	3.2
						76	1.8
						77	2.0
						78	3.3
						79	4.4
						80	4.1
						81	2.7
						82	1.5
						83	0.4
						84	0.2
						Stations 85 - 100 Blank	

Total 25.0


Date : 29 June 1963
Flight # : 7
Sample Line : C
Type Aeroplane : Standard, GEN - 8A
Material Sprayed : Fuel Oil, 0.12 Dye
Altitude : 150 Feet
Aeroplane : 8A
Aircraft Course : 360 Degrees
Time of Release : 0443 Hours
Remarks : Right, center & Left tank. Flight operational data not available.
Smoke (Feet)
Station Number

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 29 June 1963

FLIGHT #: 3

SAMPLE LINE: C

TIME OF RELEASE: 0458 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

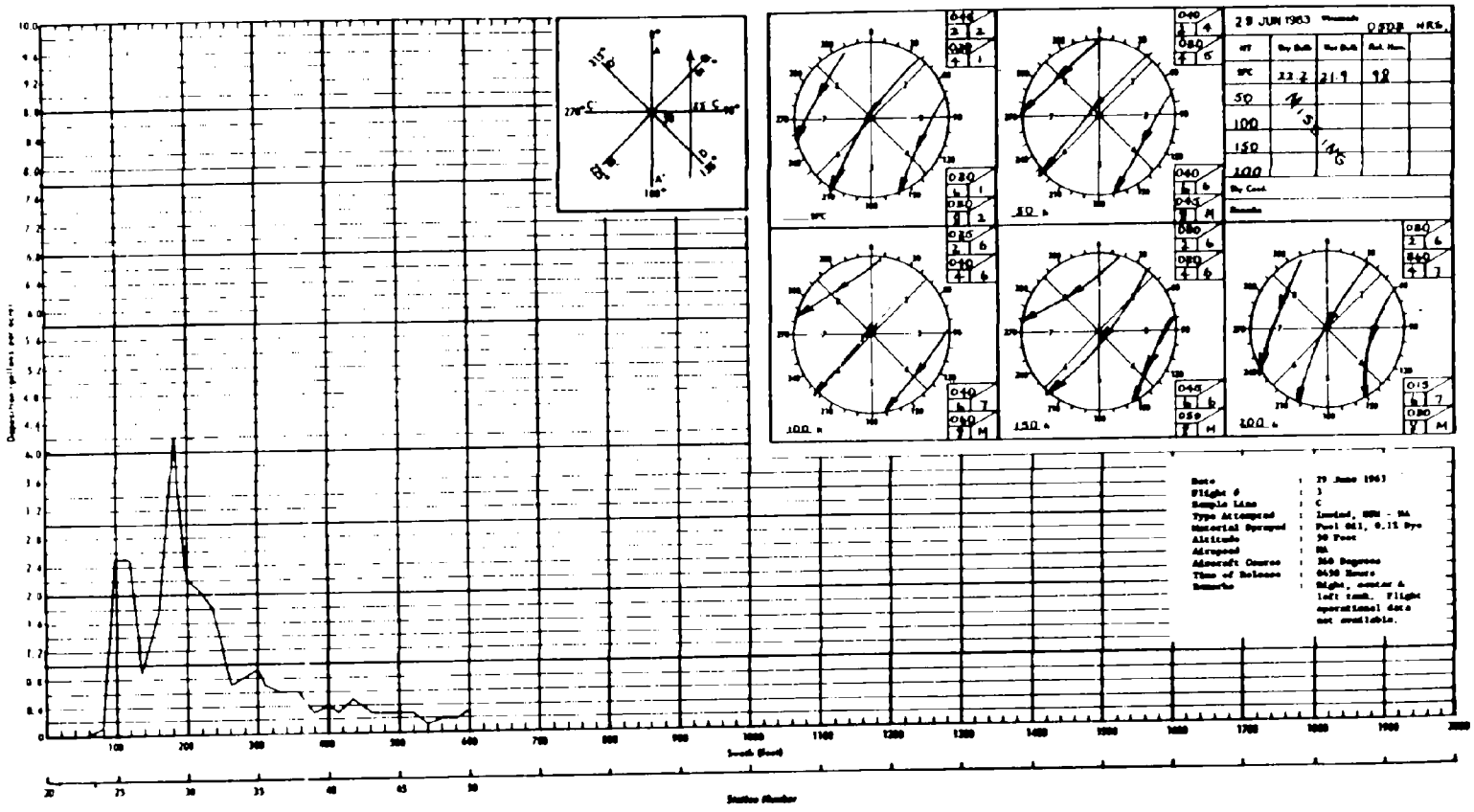
AIRSPEED: NA

ALTITUDE: 50 Feet

AIRCRAFT COURSE: 360 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 23 Blank		26	2.5	Stations 51 - 100 Blank			
		27	0.9				
		28	1.8				
		29	4.2				
		30	2.2				
		31	2.1				
		32	1.8				
		33	0.7				
		34	0.8				
		35	0.9				
		36	0.7				
		37	0.6				
		38	0.3				
		40	0.4				
		41	0.3				
		42	0.5				
		43	0.3				
		44	0.3				
		45	0.3				
		46	0.3				
		47	0.1				
		48	0.2				
		49	0.2				
24	0.1	50	0.3				
25	2.5						

Total 25.9


29 JUN 1963
0500 HRS.
Date : 29 June 1963
Flight # : 1
Sample Line : C
Type Attempted : Isolmi, SF6 - BA
Material Sprayed : Fuel Oil, 0.15 Dye
Altitude : 50 Feet
Airspeed : BA
Aircraft Course : 260 Degrees
Time of Release : 0630 Hours
Remarks : Right, center & left tank. Flight operational data not available.
Station Number

MASS DEPOSIT

MATERIAL: Fuel Oil

FLOW RATE: 312 (app) GPM

DATE: 29 June 1963

SYSTEM: FIDAL

FLIGHT #: 4

AIRSPEED: NA

SAMPLE LINE: C

ALTITUDE: 50 Feet

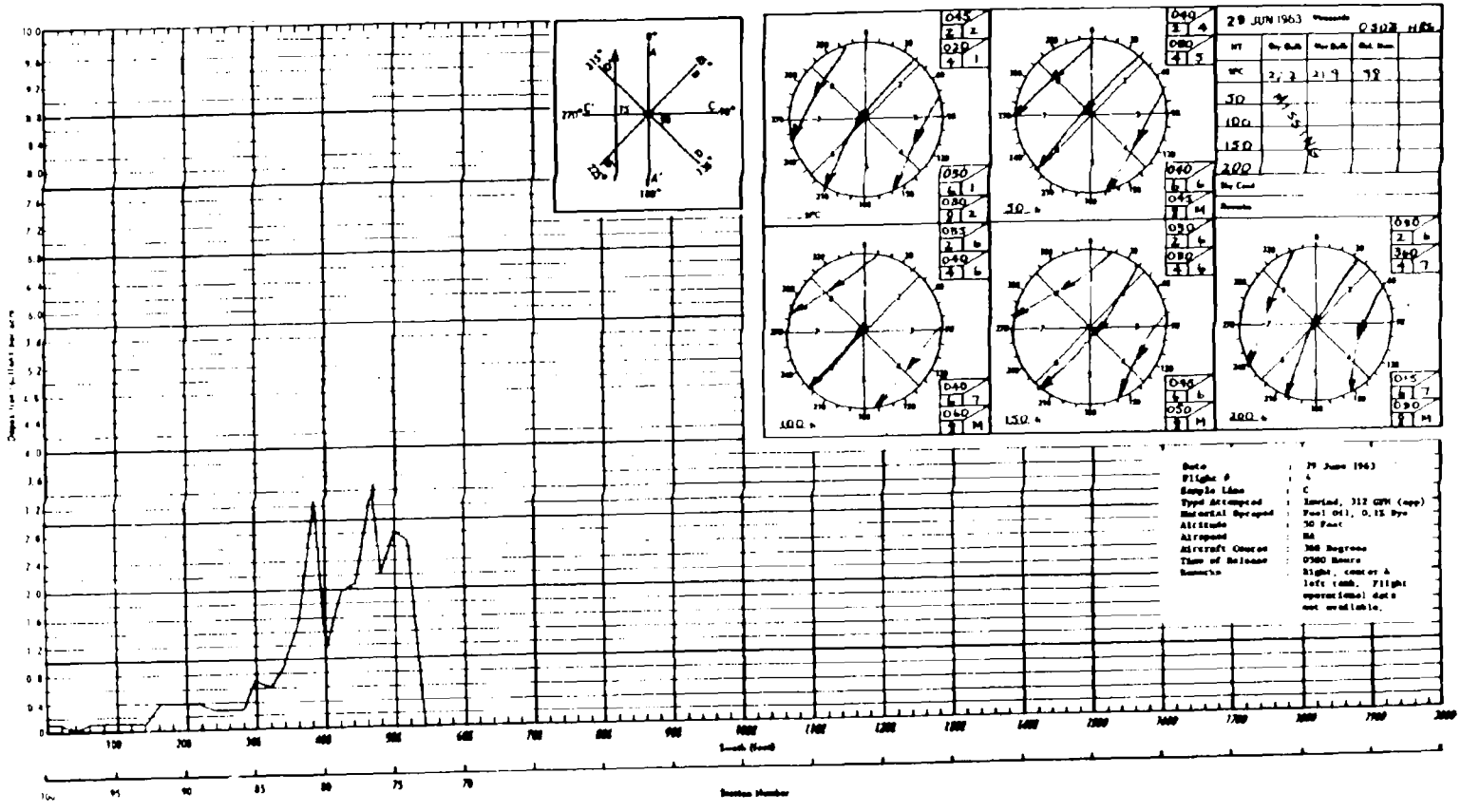
TIME OF RELEASE: 0500 Hours

AIRCRAFT COURSE: 360 Degrees

DURATION: NA

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 73 Blank						76	2.2
						77	3.5
						78	2.1
						79	2.0
						80	1.1
						81	3.3
						82	1.6
						83	0.9
						84	0.6
						85	0.7
						86	0.3
						87	0.3
						88	0.3
						89	0.4
						90	0.4
						91	0.4
						92	0.4
						93	0.1
						94	0.1
						95	0.1
						96	0.1
						97	0.1
						98	0.0
				74	2.7	99	0.1
				75	2.8	100	0.1

Total 26.7


29 JUN 1963
Date : 29 June 1963
Flight # : 4
Sample Line : C
Type Aerosol : Emulsol, 312 GPH (app)
Material Sprayed : Fuel Oil, 0.15 Dye
Altitude : 50 Feet
Airspeed : 86
Aircraft Course : 360 Degrees
Time of Release : 0500 Hours
Remarks : Flight, center A
left tank. Flight
operational data
not available.

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 29 June 1963

FLIGHT: 5

SAMPLE LINE: C

TIME OF RELEASE: 0603 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

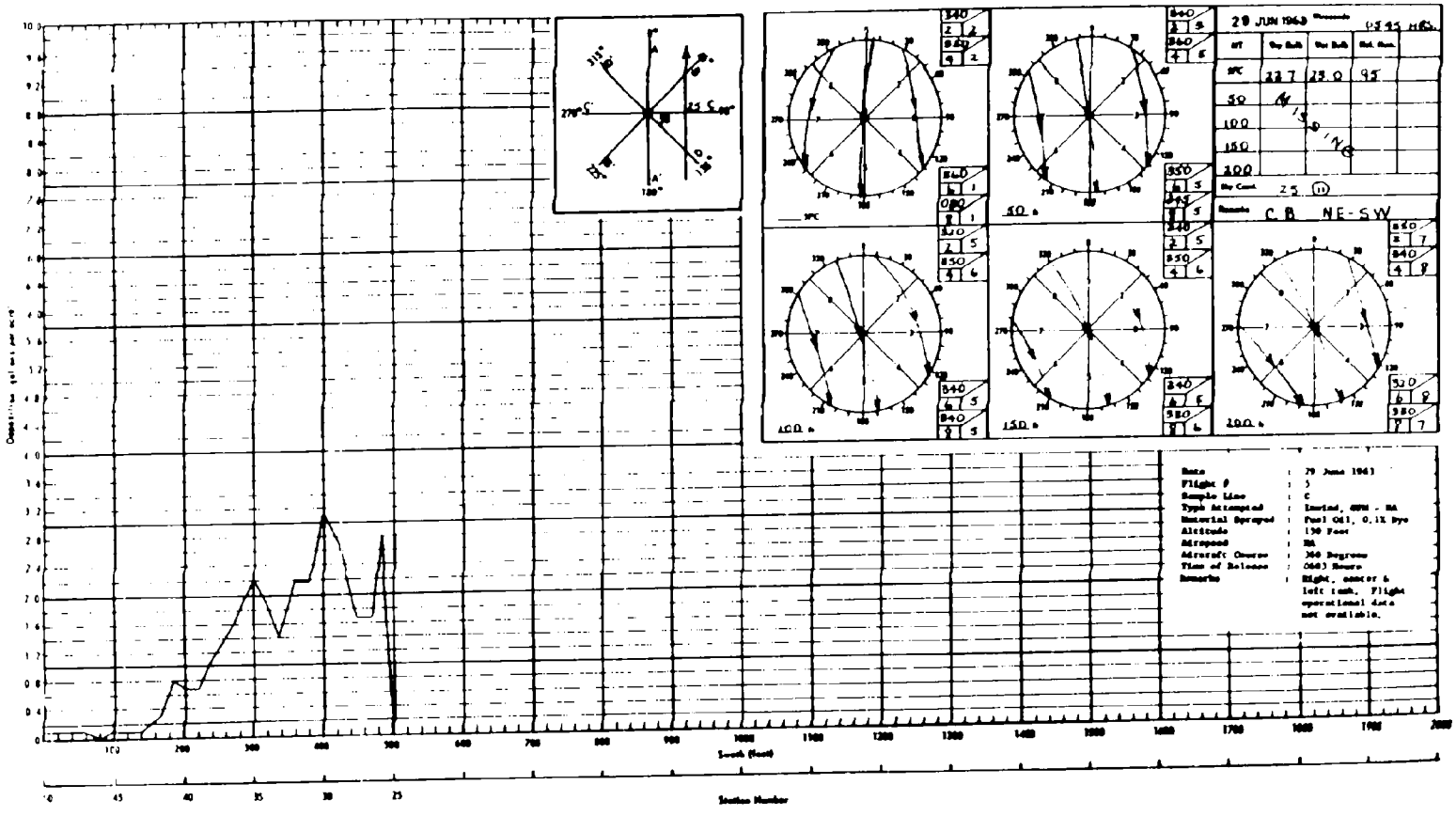
AIRSPEED: NA

ALTITUDE: 150 Feet

AIRCRAFT COURSE: 360 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 25 Blank		26	2.8				
		27	1.7				
		28	1.7				
		29	2.7				
		30	3.1				
		31	2.2				
		32	2.2				
		33	1.4				
		34	1.9				
		35	2.2				
		36	1.9				
		37	1.6				
		38	1.0				
		[illegible]	0.7				
		40	0.7				
		41	0.8				
		42	0.3				
		43	0.1				
		44	0.1				
		45	0.1				
		46	0.0				
		47	0.1				
		48	0.1				
		49	0.1				
		50	0.1				

Total 29.6


Date : 29 June 1961
Flight # : 5
Sample Line : C
Type Attempted : Instnl, GEN - BA
Material Sprayed : Fuel Oil, 0.1% Dye
Altitude : 150 Feet
Airspeed : BA
Aircraft Course : 360 Degrees
Time of Release : (060) Hours
Remarks : Right, center & left tank. Flight operational data not available.
Station Number

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 29 June 1963

FLIGHT #: 6

SAMPLE LINE: C

TIME OF RELEASE: 0605 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

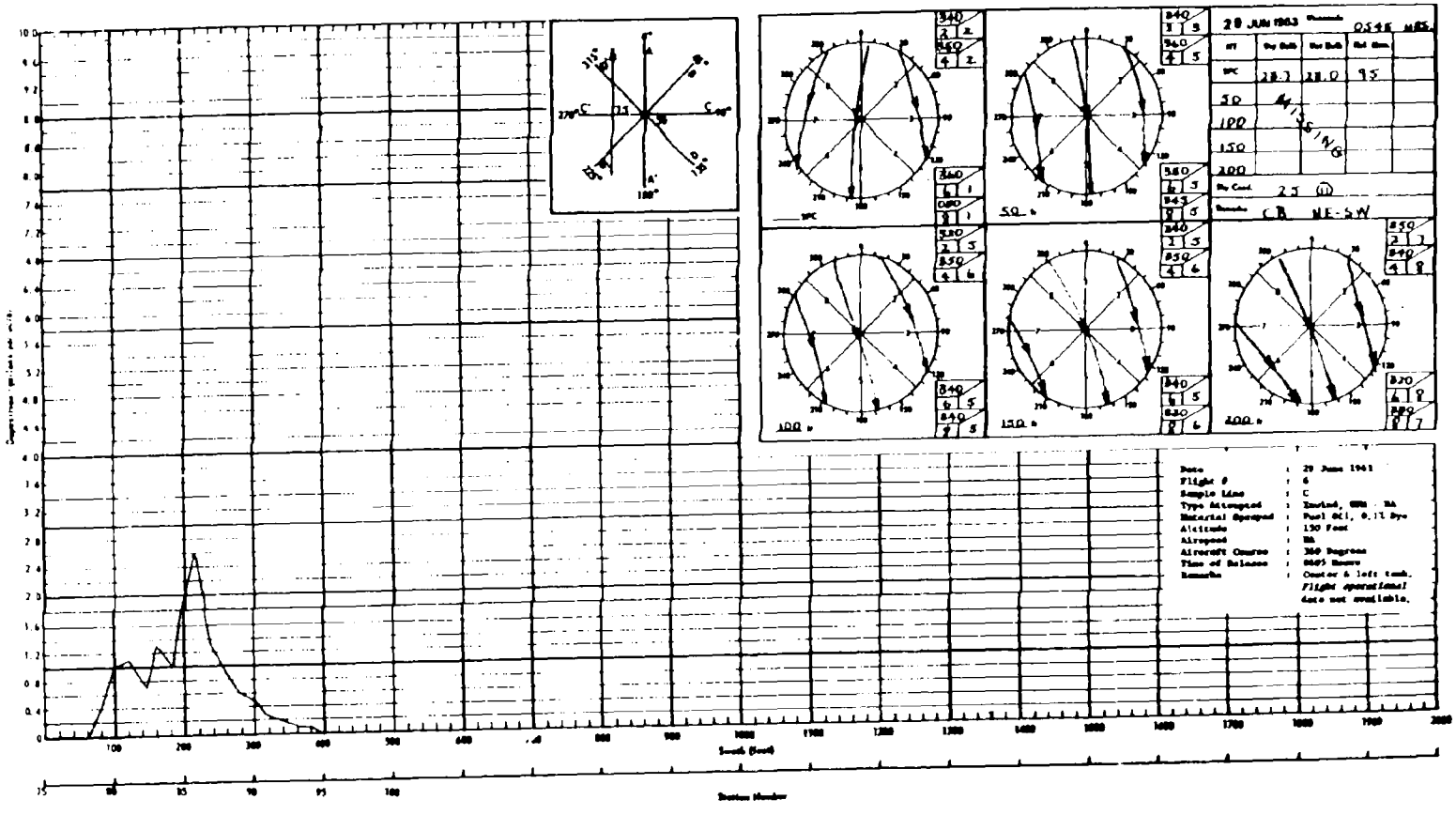
AIRSPEED: NA

ALTITUDE: 150 Feet

AIRCRAFT COURSE: 360 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 78 Blank						79	0.4
						80	1.0
						81	1.1
						82	0.7
						83	1.3
						84	1.0
						85	2.0
						86	2.6
						87	1.3
						88	1.0
						89	0.6
						90	0.5
						91	0.3
						92	0.2
						93	0.1
						94	0.1
						Stations 95 - 100 Blank	

Total 14.2


Date : 20 June 1961
Flight # : 6
Sample Line : C
Type Attempted : Emulsol, 60% : DA
Material Sprayed : Fuel Oil, 0.1% Dye
Altitude : 150 Feet
Airspeed : 90
Aircraft Course : 360 Degrees
Time of Release : 0605 Hours
Remarks : Center & left tank.
Flight operational data not available.
20 JUN 1961
0545 MST
50
100
150
200
CB NE-SW
100 ft
150 ft
400 ft

MASS DEPOSIT

MATERIAL: Fuel Oil

FLOW RATE: NA

DATE: 29 June 1963

SYSTEM: FIDAL

FLIGHT #: 7

AIRSPEED: NA

SAMPLE LINE: D

ALTITUDE: 100 Feet

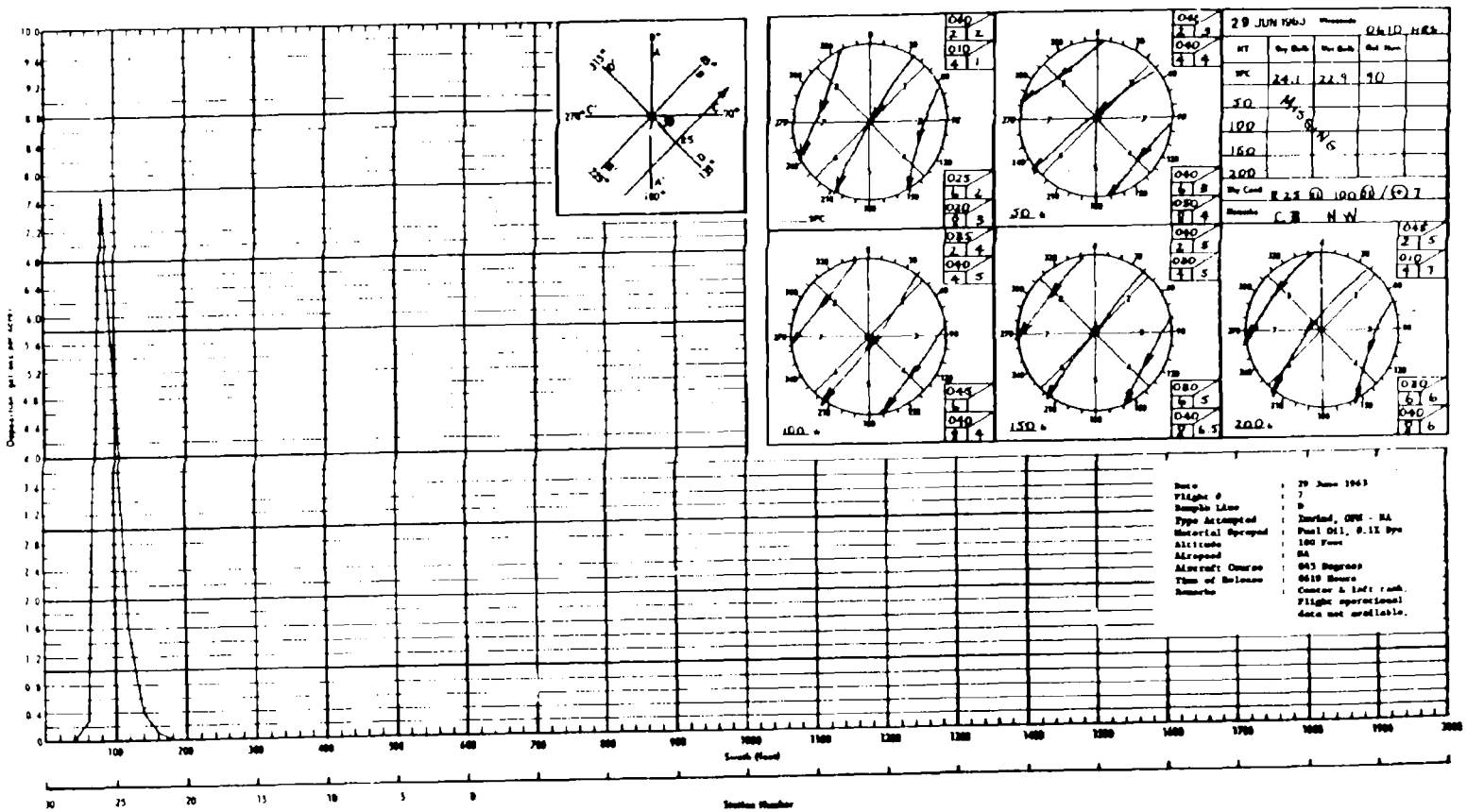
TIME OF RELEASE: 0619 Hours

AIRCRAFT COURSE: 045 Degrees

DURATION: NA

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 20 Blank		21	0.0				
		22	0.1				
		23	0.4				
		24	1.6				
		25	4.9				
		26	7.7				
		27	0.3				
		Stations 28 - 100 Blank					

Total 15.0


Date : 29 June 1963
Flight # : 7
Sample Line : 9
Type Attempted : Zeeland, ONW - NA
Material Sprayed : Fuel Oil, 0.1% Dye
Altitude : 100 Feet
Airspeed : NA
Aircraft Course : 043 Degrees
Time of Release : 0619 Hours
Remarks : Camera & left rack. Flight operational data not available.
29 JUN 1963
50Ω
100Ω
150Ω
200Ω

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 29 June 1963

FLIGHT #: 8

SAMPLE LINE: D

TIME OF RELEASE: 0621 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

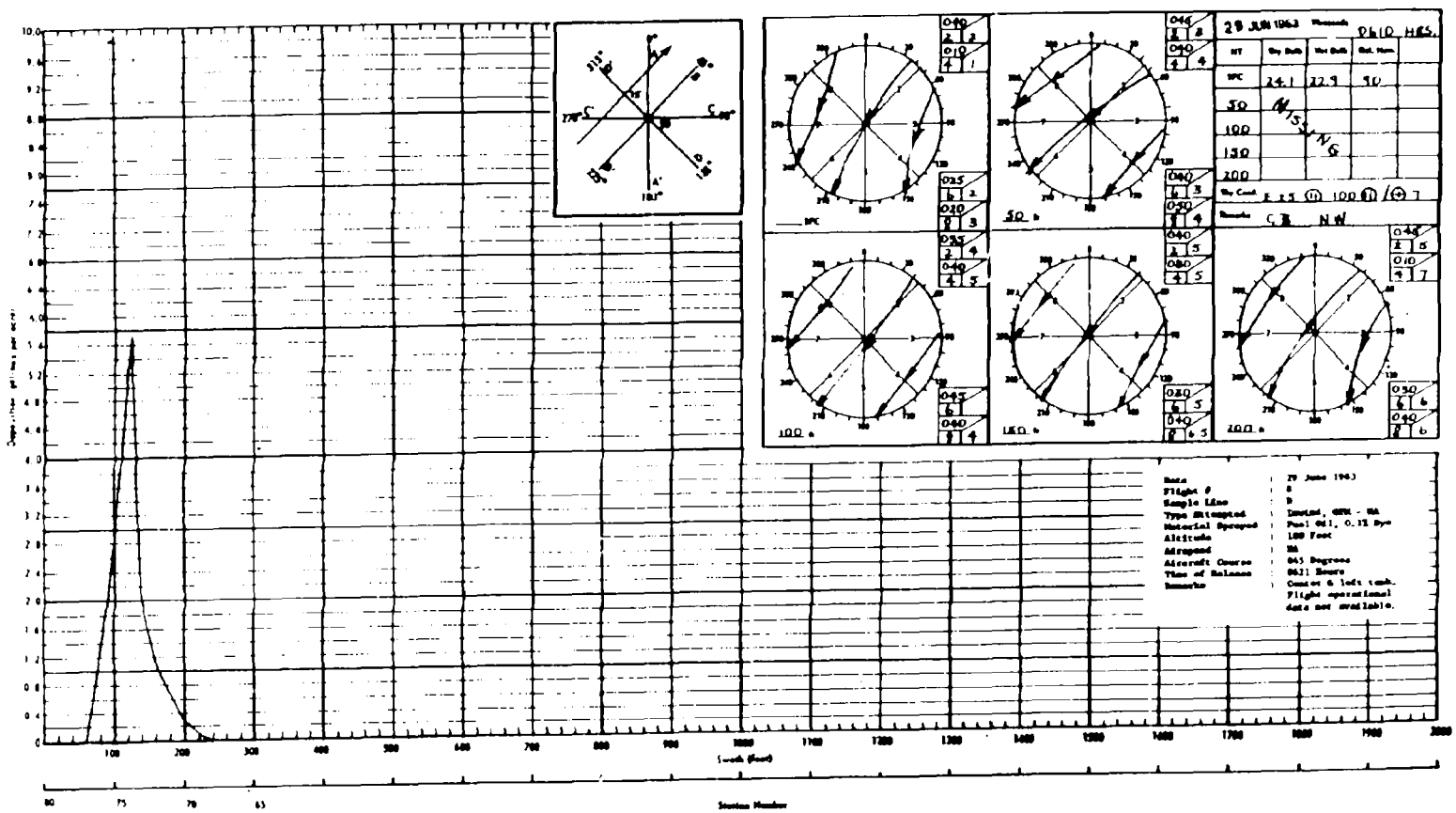
AIRSPEED: NA

ALTITUDE: 100 Feet

AIRCRAFT COURSE: 045 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 67 Blank							
68	0.0						
69	0.1						
70	0.3						
71	0.7						
72	1.0						
73	2.0						
74	5.7						
75	2.8						
76	1.6						
77	0.0						
Stations 78 - 100 Blank							

Total 14.2


Date
Flight #
Sample Line
Type Attempted
Material Sprayed
Altitude
Airspeed
Aircraft Course
Time of Release
Remarks
29 June 1963
8
9
Inverted; GEM - 6A
Fuel Oil, 0.15 Dye
100 Feet
NA
065 Degrees
0611 Hours
Center & left comb.
Flight operational
data not available.
Station Number

MASS DEPOSIT

MATERIAL: Fuel Oil
FLOW RATE: NA
DATE: 29 June 1963
SYSTEM: FIDAL
FLIGHT #: 9
AIRSPEED: NA
SAMPLE LINE: D
ALTITUDE: 100 Feet
TIME OF RELEASE: 0634 Hours
AIRCRAFT COURSE: 045 Degrees
DURATION: NA

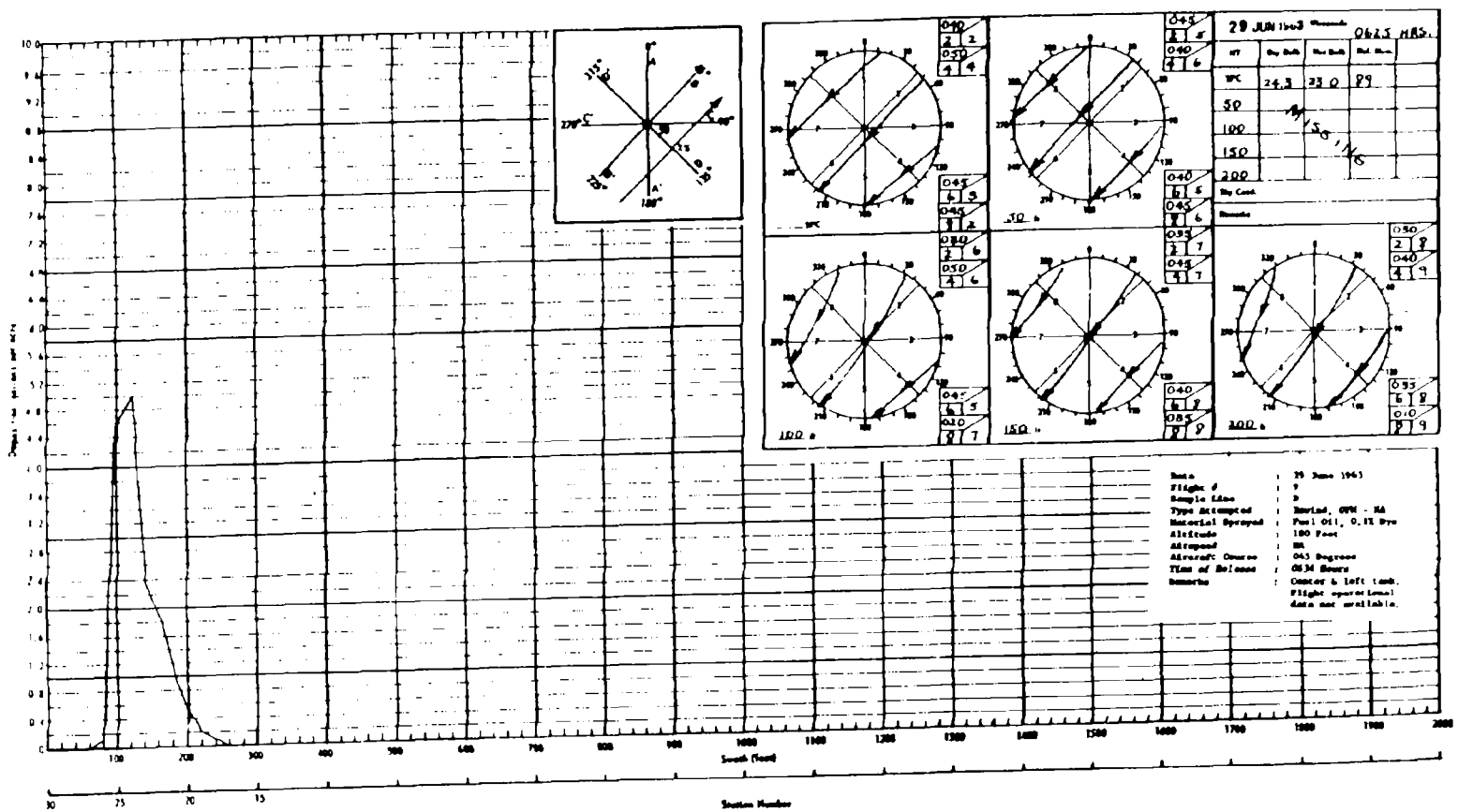
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.

Stations 1 - 17 Blank

18	0.1
19	0.2
20	0.5
21	0.9
22	1.8
23	2.4
24	5.0
25	4.6
26	0.1

Stations 27 - 100 Blank

Total 15.6


29 JUN 1963
0625 MST
24.3
23.0
99
50
100
150
200
Date : 29 June 1963
Flight # : 9
Sample Line : 5
Type Attempted : Emulsified, GPM - 84
Material Sprayed : Fuel Oil, 0.1% Dye
Altitude : 100 Feet
Airspeed : 85
Aircraft Course : 045 Degrees
Time of Release : 0834 Hours
Remarks : Center & left tank. Flight operational data not available.
South (Feet)
Station Number

MASS DEPOSIT

MATERIAL: Fuel Oil

FLOW RATE: NA

DATE: 29 June 1963

SYSTEM: FIDAL

FLIGHT #: 10

AIRSPEED: NA

SAMPLE LINE: D

ALTITUDE: 100 Feet

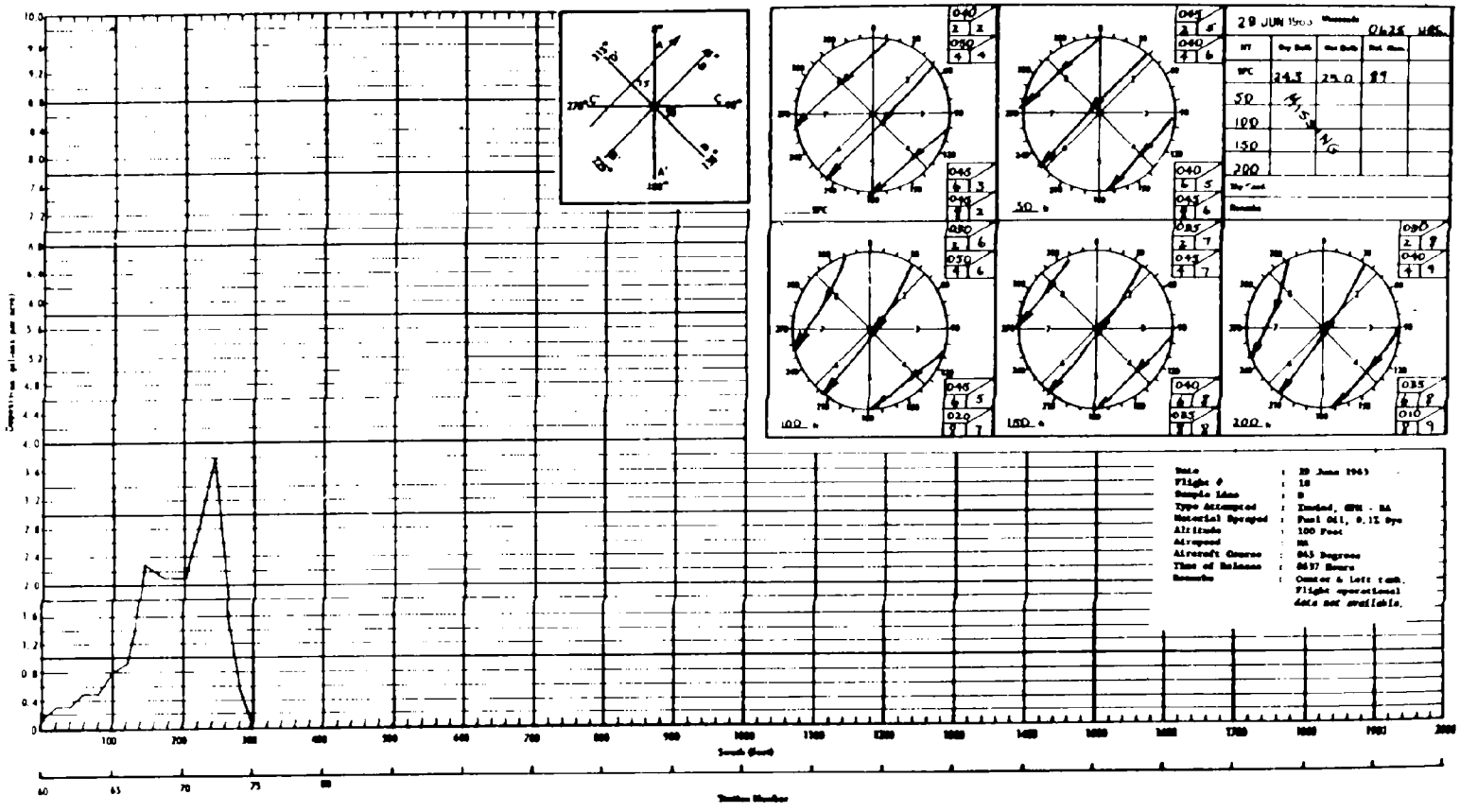
TIME OF RELEASE: 0637 Hours

AIRCRAFT COURSE: 045 Degrees

DURATION: NA

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 59 Blank							
60	0.1						
61	0.3						
62	0.3						
63	0.5						
64	0.5						
65	0.8						
66	0.9						
67	1.4						
68	2.3						
69	2.1						
70	2.1						
71	2.9						
72	3.8						
73	1.6						
74	0.6						
Stations 75 - 100 Blank							

Total 20.2


Date : 29 June 1963
Flight # : 18
Sample Idea : 8
Type Attempted : Zimbel, HPM - HA
Material Sprayed : Fuel Oil, 0.1% Dye
Altitude : 100 Feet
Airspeed : 85
Aircraft Course : 045 Degrees
Time of Release : 0837 Hours
Remarks : Center & left cam. Flight operational data not available.
29 JUN 1963
0825 MST
WPC
50
100
150
200
Sky Cond.
Remarks
Sky Both
Sun Both
Ref. Alum.
24.3
25.0
89
WPC
50 ft
100 ft
150 ft
200 ft

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 29 June 1963

FLIGHT #: 11

SAMPLE LINE: D

TIME OF RELEASE: 0651 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

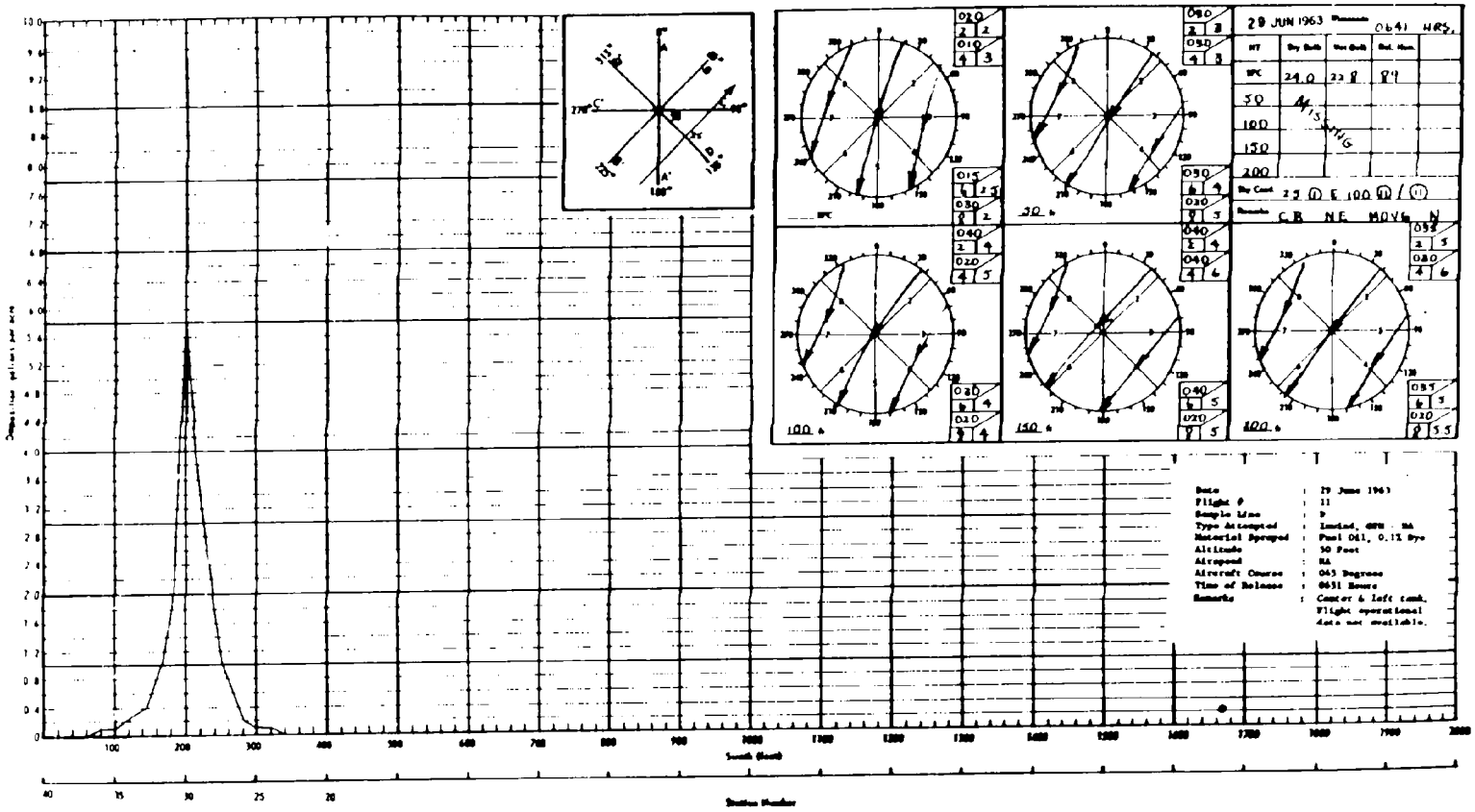
AIRSPEED: NA

ALTITUDE: 50 Feet

AIRCRAFT COURSE: 045 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 23 Blank		24	0.1				
		25	0.1				
		26	0.2				
		27	1.0				
		28	2.4				
		29	3.8				
		30	5.6				
		31	1.8				
		32	1.0				
		33	0.4				
		34	0.3				
		35	0.1				
		36	0.1				
		Stations 37 - 100 Blank					

Total 16.9


29 JUN 1963
0641 HRS.
50
100
150
200
30 h
100 h
150 h
200 h
Date : 29 June 1963
Flight # : 11
Sample Line : 9
Material Sprayed : Fuel 041, 0.1% Dye
Altitude : 50 Feet
Aircraft Course : 045 Degrees
Time of Release : 0651 Hours
Remarks : Camera 6 left cmd.
Flight operational
data not available.
Station Number

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 29 June 1963

FLIGHT #: 12

SAMPLE LINE: D

TIME OF RELEASE: 0653 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

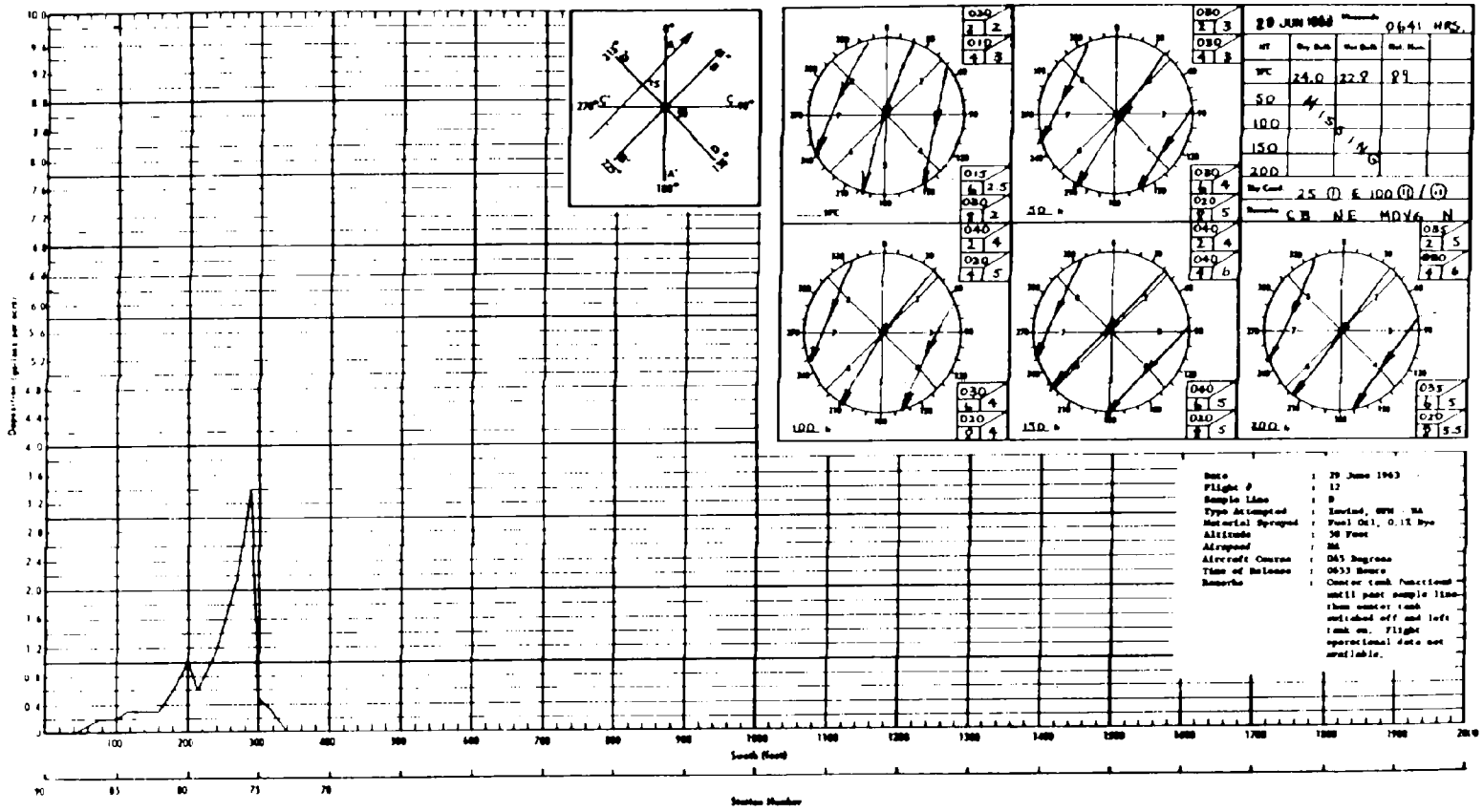
AIRSPEED: NA

ALTITUDE: 50 Feet

AIRCRAFT COURSE: 045 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 73 Blank						74	0.3
						75	0.5
						76	3.4
						77	2.1
						78	1.1
						79	0.6
						80	1.0
						81	0.6
						82	0.3
						83	0.3
						84	0.3
						85	0.2
						86	0.2
						87	0.1
						Stations 88 - 100 Blank	

Total 31.7


Date : 29 June 1963
Flight # : 12
Sample Line : 8
Type Attempted : Inverted, 60% HA
Material Sprayed : Fuel Oil, 0.1% Dye
Altitude : 30 Feet
Airspeed : 2A
Aircraft Course : 065 Degrees
Time of Release : 0653 Hours
Remarks : Center tank functioned until post sample line-then center tank switched off and left tank on. Flight operational data not available.
South (feet)
Station Number

FIDAL FLIGHT DATA

DATE FLOWN: 11 July 1963 CONFIGURATION: All Tanks LIQUID SPRAYED: 1 Purple 2 Fuel Oil NOZZLE TYPE: U5070

	RANK	RPM	PRESSURE PSI	FLOW RATE: GPM	REMARKS
RUN #1	Left		55	105	
AIRSPEED: 153 Knots	Ctr		73	115	
TIME SPRAYED: 7 Secs.	Right		55	105	
RUN #2	Left		55	105	
AIRSPEED: 160 Knots	Ctr		74	115	
TIME SPRAYED: 8 Secs.	Right		53	105	
RUN #3	Left		51	100	
AIRSPEED: 160 Knots	Ctr		79-78	115	
TIME SPRAYED: 8 Secs.	Right		50+	105	
RUN #4	Left		51	100	
AIRSPEED: 159 Knots	Ctr		79-80	115	
TIME SPRAYED: 10 Sec	Right		50+	105	

GENERAL REMARKS:
1. Fan pitch setting 30^0 on all fans.
2. Plane made 12 passes; all tanks functioning correctly.
3. Flow rates at over 50 psi are estimated values based on maximum capacity of nozzle-check valve combination.

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 11 July 1963

FLIGHT #: 1

SAMPLE LINE: D

TIME OF RELEASE: 0444 Hours

DURATION: 07 Sec.

FLOW RATE: 325 (app) GPM

SYSTEM: FIDAL

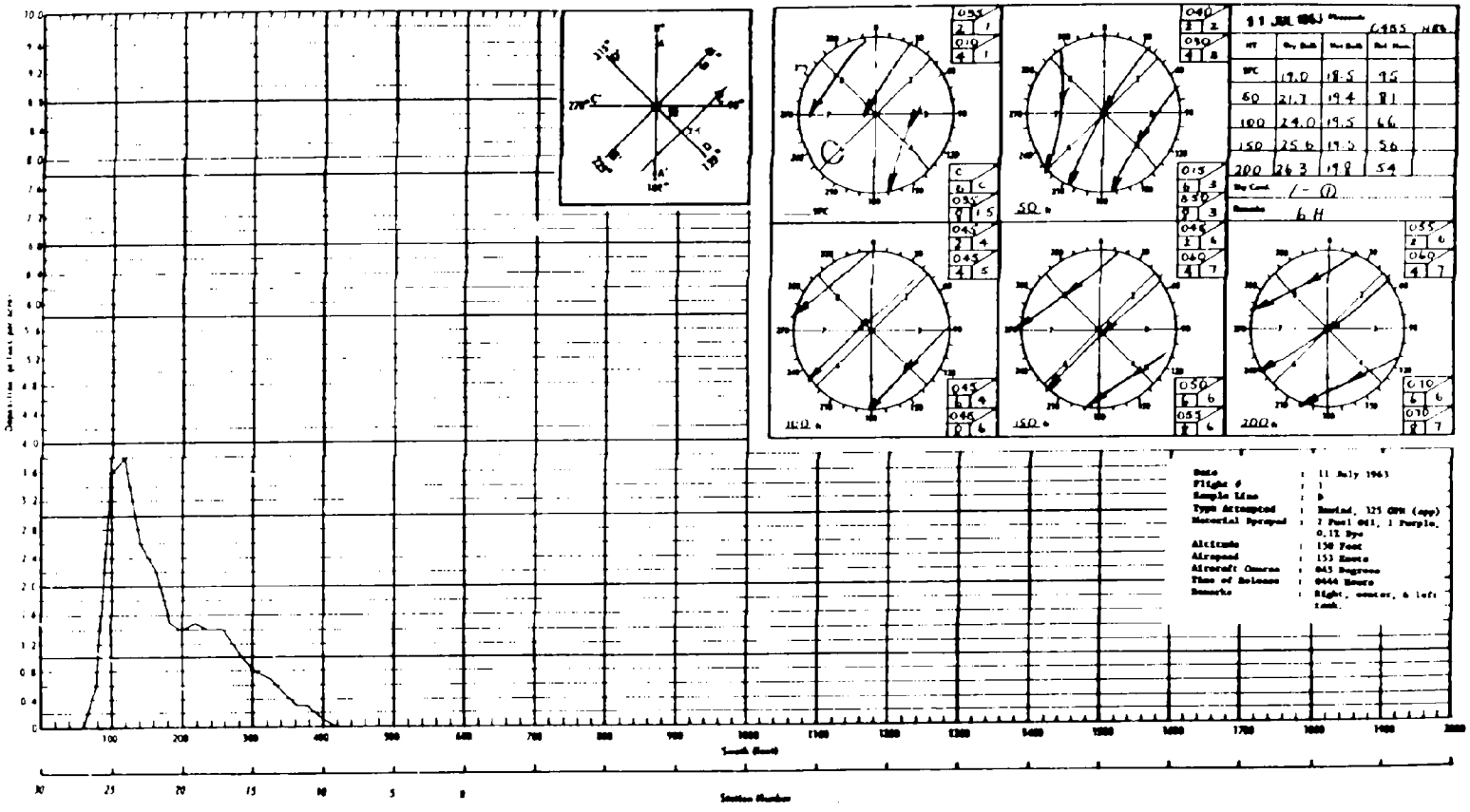
AIRSPEED: 153 Knots

ALTITUDE: 150 Feet

AIRCRAFT COURSE: 045 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 7 Blank							
8	0.0						
9	0.0						
10	0.1						
11	0.3						
12	0.3						
13	0.5						
14	0.7						
15	0.8						
16	1.0						
17	1.4						
18	1.4						
19	1.5						
20	1.4						
21	1.5						
22	2.2						
23	2.6						
24	3.8						
25	3.6						
26	0.6						
Stations 27 - 100 Blank							

Total 23.7


Date : 11 July 1963
Flight # : 1
Sample Line : B
Type Attempted : Bentad, 125 GPH (app)
Material Sprayed : 2 Fuel Oil, 1 Purple, 0.12 Dye
Altitude : 150 Feet
Airspeed : 153 Knots
Aircraft Course : 045 Degrees
Time of Release : 0644 Hours
Remarks : Right, center, & left tank.
50 ft
100 ft
150 ft
200 ft
Station Number

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

FLOW RATE: 325 (app) GPM

DATE: 11 July 1963

SYSTEM: FIDAL

FLIGHT #: 2

AIRSPEED: 160 Knots

SAMPLE LINE: D

ALTITUDE: 150 Feet

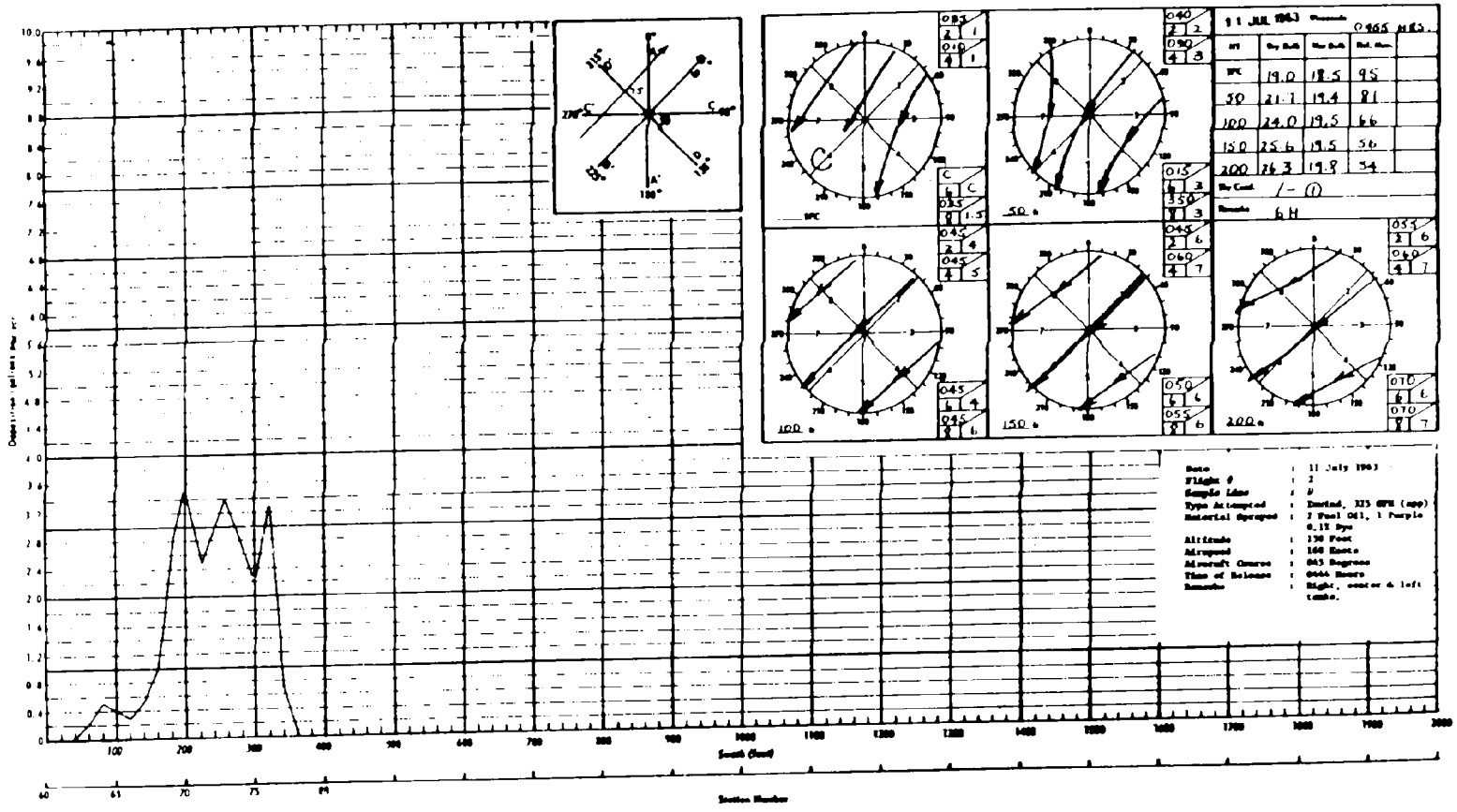
TIME OF RELEASE: 0447 Hours

AIRCRAFT COURSE: 045 Degrees

DURATION: 08 Sec.

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 62 Blank							
63	0.2						
64	0.5						
65	0.4						
66	0.3						
67	0.5						
68	1.0						
69	2.8						
70	3.5						
71	2.5						
72	2.9						
73	3.4						
74	2.8						
75	2.2						
76	3.3						
77	0.7						
78	0.0						
Stations 79 - 100 Blank							

Total 27.0


11 JUL 1963
0965 HRS.
MSL
19.0
18.5
95
21.1
19.4
81
24.0
19.5
66
25.6
19.5
56
26.3
19.9
54
6 H
50 ft
100 ft
150 ft
200 ft
Date : 11 July 1963
Flight # : 2
Sample Line : A
Type Attempted : Emulsi, 325 GPH (app)
Material Sprayed : 2 Fuel Oil, 1 Purple 0.15 Dye
Altitude : 130 Feet
Airspeed : 160 Knots
Aircraft Course : 065 Degrees
Time of Release : 0965 Hours
Remarks : Slight, easter & left tumble.
South (feet)
Station Number

MASS MEDIAN DIAMETER

DATE: 11 July 1963 CONVERSION FACTOR: 2.5

FLIGHT #: 3 PAPER: Kromekote, white

SAMPLE LINE: D MATERIAL: 2 Fuel Oil, 1 Purple

FLOW RATE: 320 GPM SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
31	10	4400	29	2	3400
31	8	4300*			
31	4	4200			
31	6	4100			
30	3	4000			
29	1	3900			
31	7	3800			
31	5	3700			
31	9	3500	11	1	100

$$MMD = \frac{70.44 + 0.1431(\text{Spot D Max})}{\text{Con. Factor}} = \frac{70.44 + 0.1431(4300)}{2.5} = 275 \text{ microns}$$

Max. Spherical Diameter = 70.44 + 0.1431(Max. Spot) = 70.44 + 0.1431(4400)
= 700 μ

Min. Spherical Diameter = 63 microns

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 11 July 1963

FLIGHT #: 3

SAMPLE LINE: D

TIME OF RELEASE: 0503 Hours

DURATION: 08 Sec.

FLOW RATE: 320 (app) GPM

SYSTEM: FIDAL

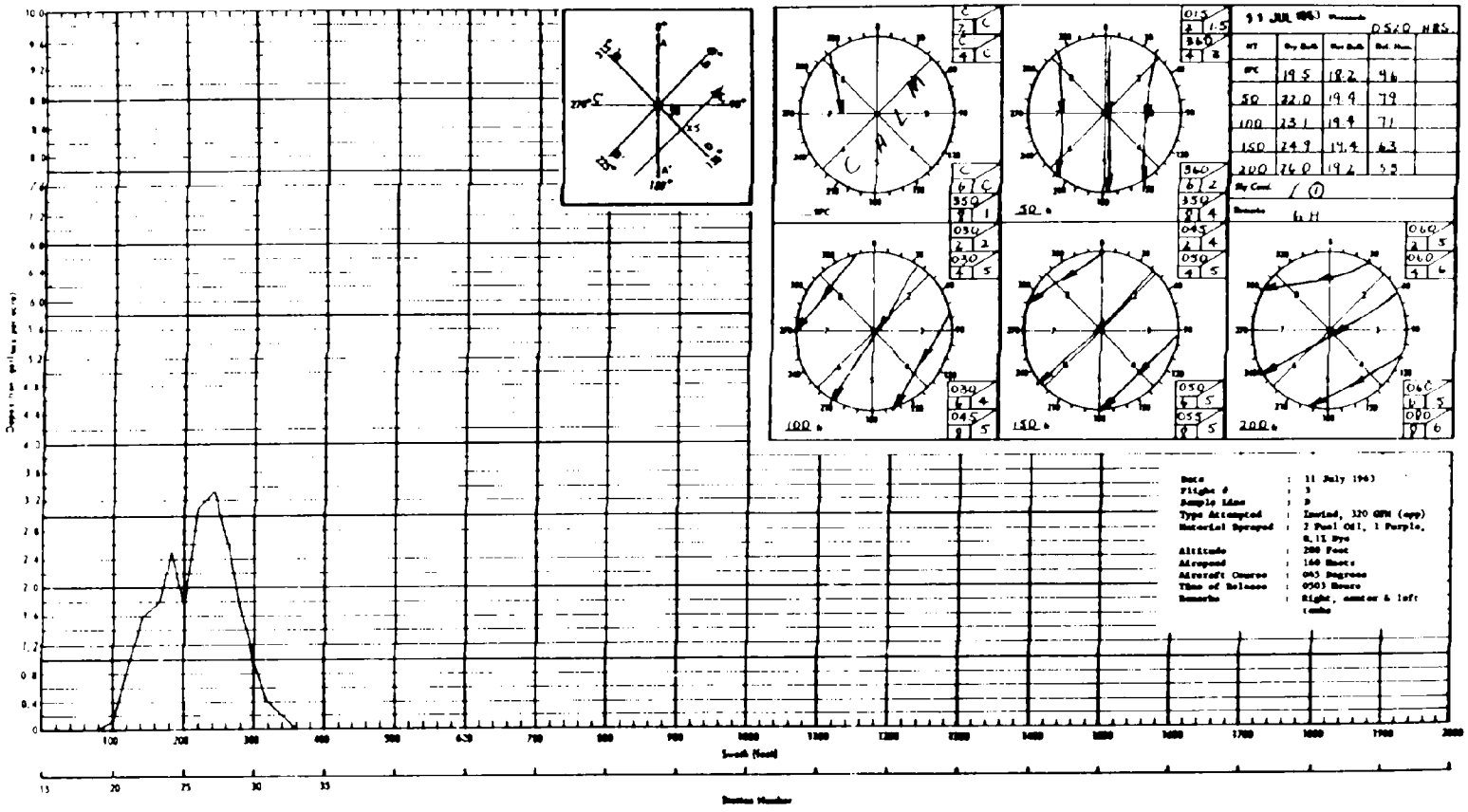
AIRSPEED: 160 Knots

ALTITUDE: 200 Feet

AIRCRAFT COURSE: 045 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 18 Blank		19	0.0				
		20	0.1				
		21	0.8				
		22	1.6				
		23	1.8				
		24	2.5				
		25	1.8				
		26	3.1				
		27	3.3				
		28	2.6				
		29	1.7				
		30	1.0				
		31	0.4				
		32	0.2				
		33	0.0				
		Stations 34 - 100 Blank					

Total 20.9


11 JUL 1963
0520 HRS
Date : 11 July 1963
Flight # : 3
Sample Idno : 3
Type Attempted : Inwind, 320 GPH (app)
Material Sprayed : 2 Pool Oil, 1 Purple, 0.11 Dye
Altitude : 200 Feet
Airspeed : 160 Knots
Aircraft Course : 065 Degrees
Time of Release : 0503 Hours
Remarks : Right, center & left combo
50 ft
100 ft
150 ft
200 ft
South (feet)
Station Number

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 11 July 1963

FLIGHT #: 4

SAMPLE LINE: D

TIME OF RELEASE: 0508 Hours

DURATION: 10 Sec.

FLOW RATE: 320 (cpp) GPM

SYSTEM: FIDAL

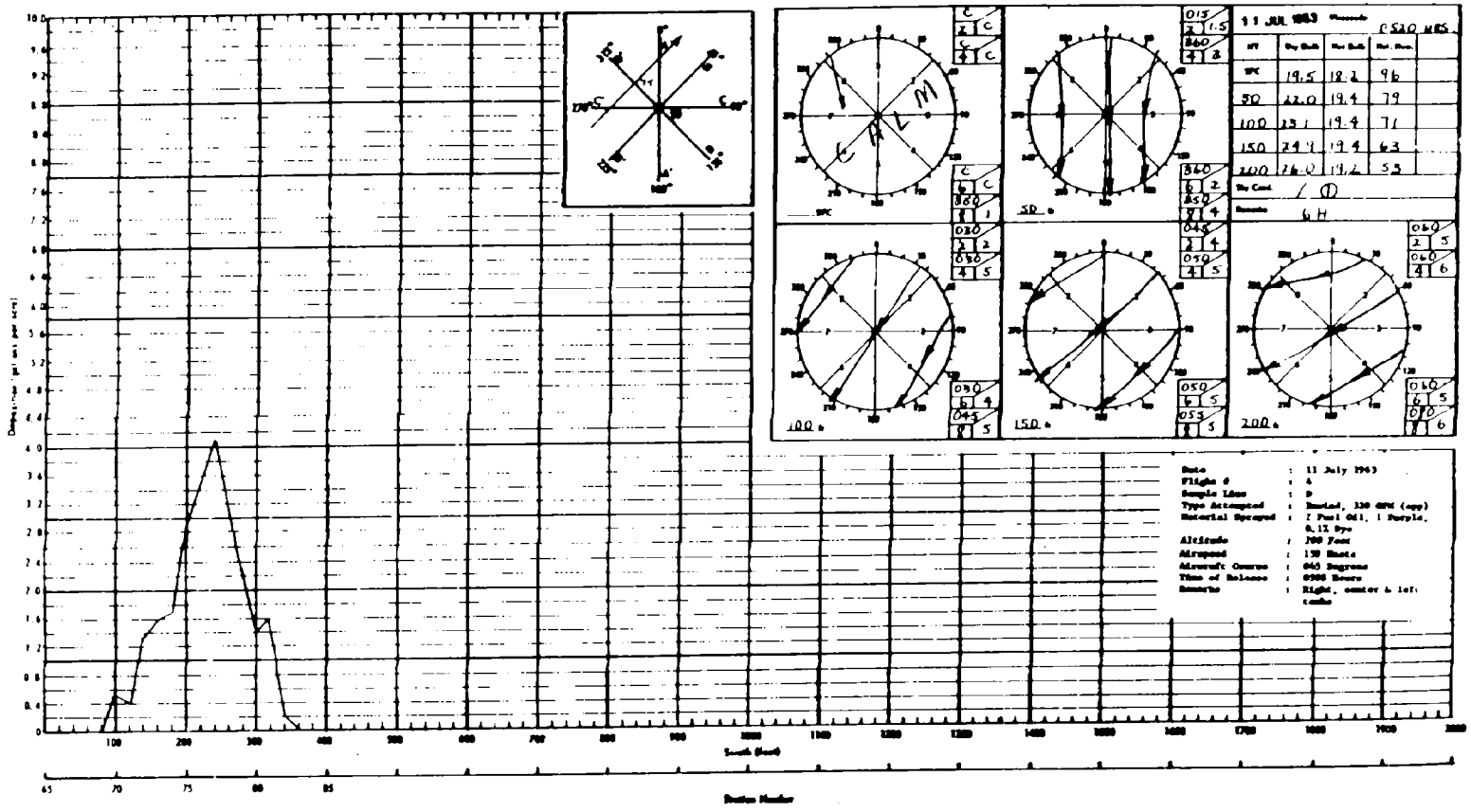
AIRSPEED: 159 Knots

ALTITUDE: 200 Feet

AIRCRAFT COURSE: 045 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 69 Blank						70	0.5
						71	0.4
						72	1.3
						73	1.6
						74	1.7
						75	2.9
						76	3.5
						77	4.1
						78	2.8
						79	2.3
						80	1.4
						81	1.6
						82	0.2
						83	0.0
						Stations 84 - 100 Blank	

Total 24.3


11 JUL 1963
0520 HRS
100 ft
150 ft
200 ft
Date : 11 July 1963
Flight # : 6
Sample Line : 9
Type Aerosprayed : Emulsol, 330 GPH (spy)
Material Sprayed : 7 Part Oil, 1 Purple, 0.12 Dye
Altitude : 200 Feet
Airspeed : 130 Knots
Aircraft Course : 045 Degrees
Time of Release : 0500 Hours
Remarks : Right, center & left tanks
South (East)
Station Number

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

FLOW RATE: NA

DATE: 11 July 1963

SYSTEM: FIDAL

FLIGHT #: 5

AIRSPEED: NA

SAMPLE LINE: C

ALTITUDE: 100 Feet

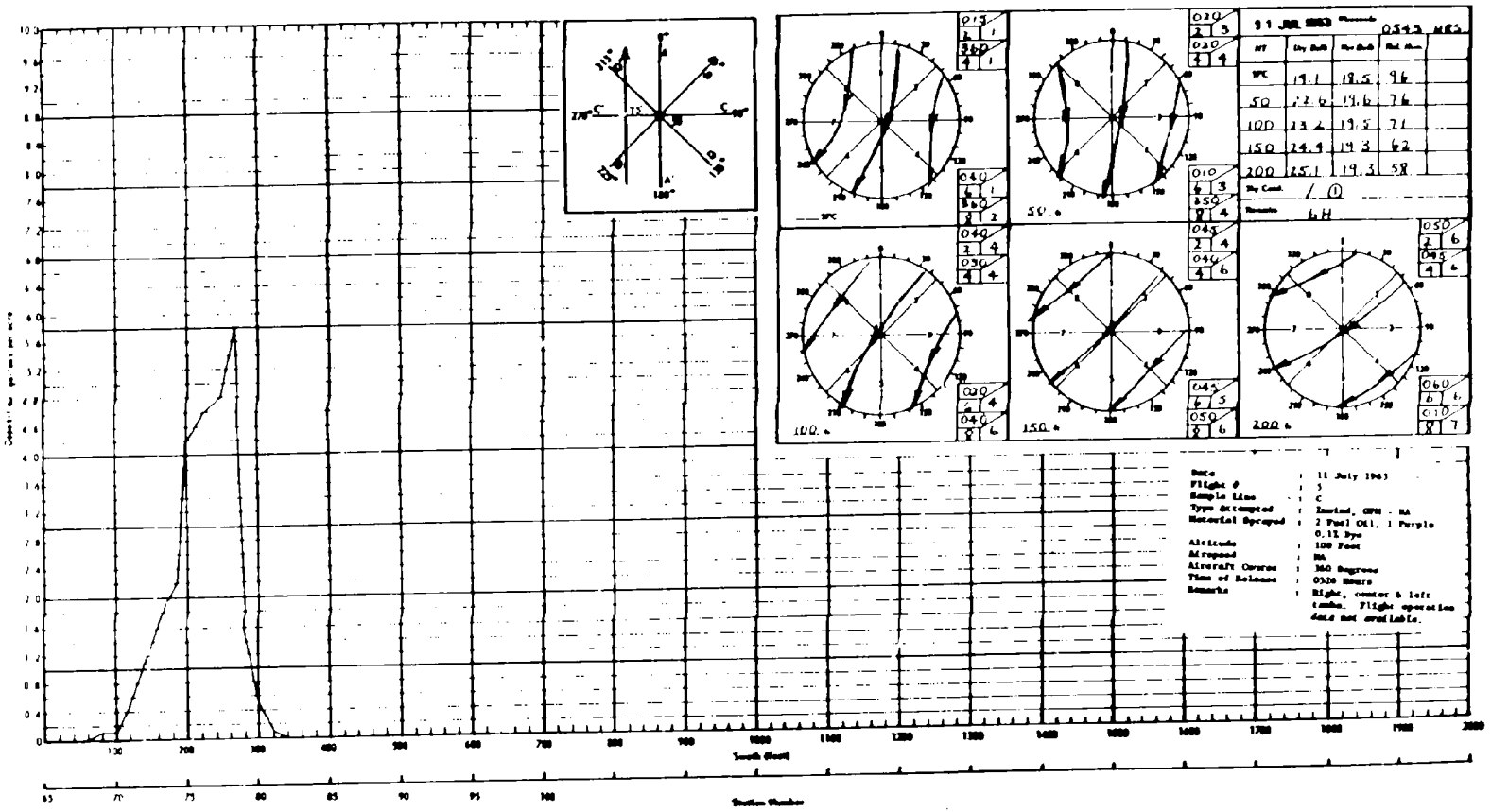
TIME OF RELEASE: 0526 Hours

AIRCRAFT COURSE: 360 Degrees

DURATION: NA

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 68 Blank						69	0.1
						70	0.1
						71	0.5
						72	1.1
						73	1.9
						74	2.2
						75	4.2
						76	4.6
						77	4.8
						78	5.8
						79	1.5
						80	0.5
						81	0.1
						Stations 82 - 100 Blank	

Total 27.4


11 JUL 1963
0543 MRS
MT
Dry Bulb
Wet Bulb
Rel Hum
SFC 19.1 18.5 96
50 22.6 19.6 76
100 23.2 19.5 71
150 24.9 19.3 62
200 25.1 19.3 58
Sky Cond. / 0
Remarks 6H
SFC
50 m
100 m
150 m
200 m
Date : 11 July 1963
Flight # : 5
Sample Line : C
Type decomposed : Lawland, GRW - HA
Material Sprayed : 2 Pool Oil, 1 Purple 0.11 Dye
Altitude : 1000 Feet
Airspeed : HA
Aircraft Course : 360 Degrees
Time of Release : 0526 Hours
Remarks : Right, center & left tanks. Flight operation data not available.
South (East)
Station Number

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

FLOW RATE: NA

DATE: 11 July 1963

SYSTEM: FIDAL

FLIGHT #: 6

AIRSPEED: NA

SAMPLE LINE: C

ALTITUDE: 100 Feet

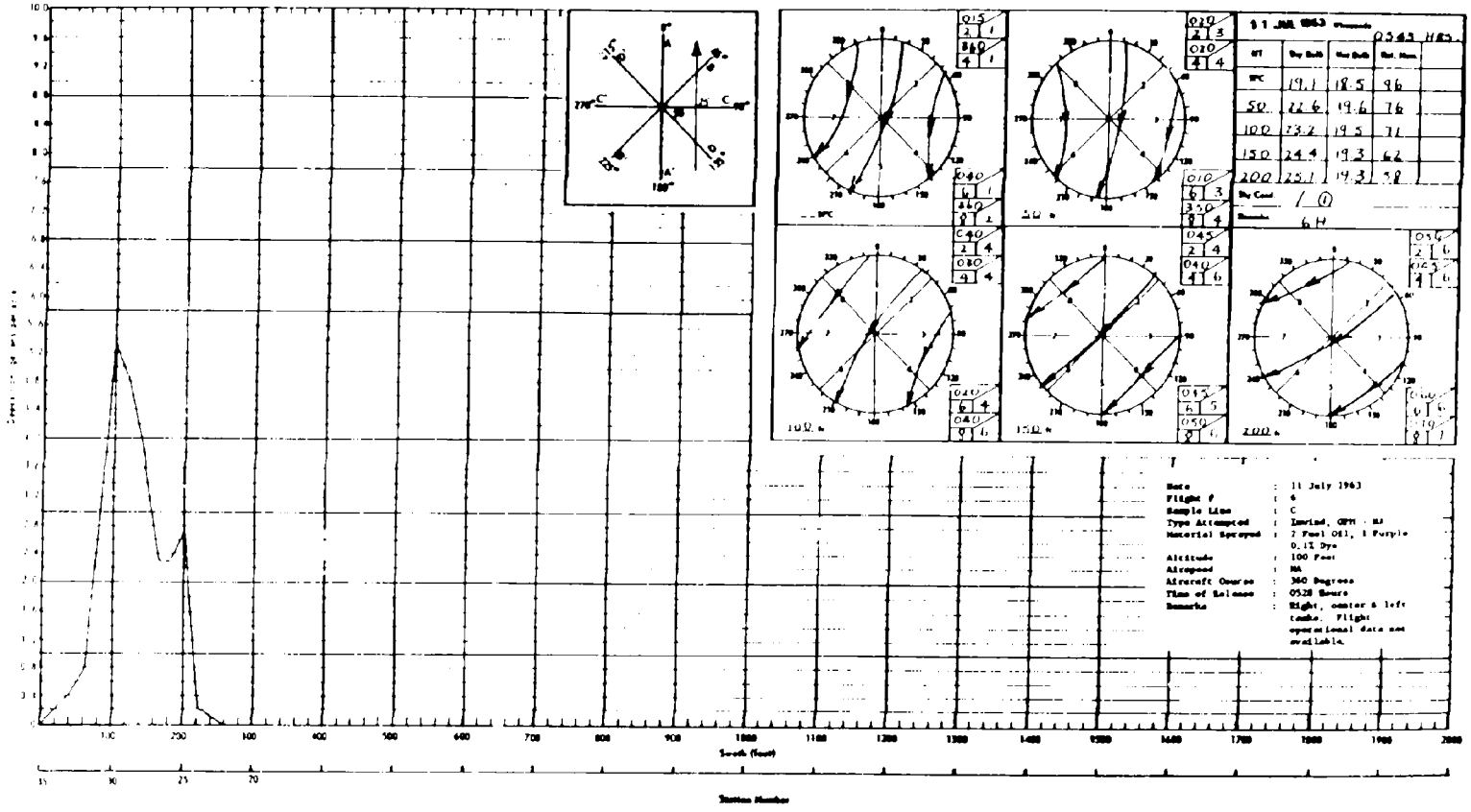
TIME OF RELEASE: 0528 Hours

AIRCRAFT COURSE: 360 Degrees

DURATION: NA

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 22 Blank		23	0.1				
		24	0.2				
		25	2.7				
		26	2.3				
		27	2.3				
		28	3.9				
		29	4.8				
		30	5.3				
		31	3.2				
		32	0.8				
		33	0.4				
		34	0.2				
		35	0.0				
		36	0.0				
		Station 37 - 100 Blank					

Total 26.2


Date : 11 July 1963
Flight # : 6
Sample Line : C
Type Aircraft used : Interlud, CFFH : RB
Material Sprayed : 7 Fuel Oil, 1 Purple 0.1% Dye
Altitude : 100 Feet
Airspeed : NA
Aircraft Course : 360 Degrees
Time of Release : 0528 Hours
Remarks : Right, center & left tanks. Flight operational data not available.
Swath (feet)

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 11 July 1963

FLIGHT #: 7

SAMPLE LINE: C

TIME OF RELEASE: 0543 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

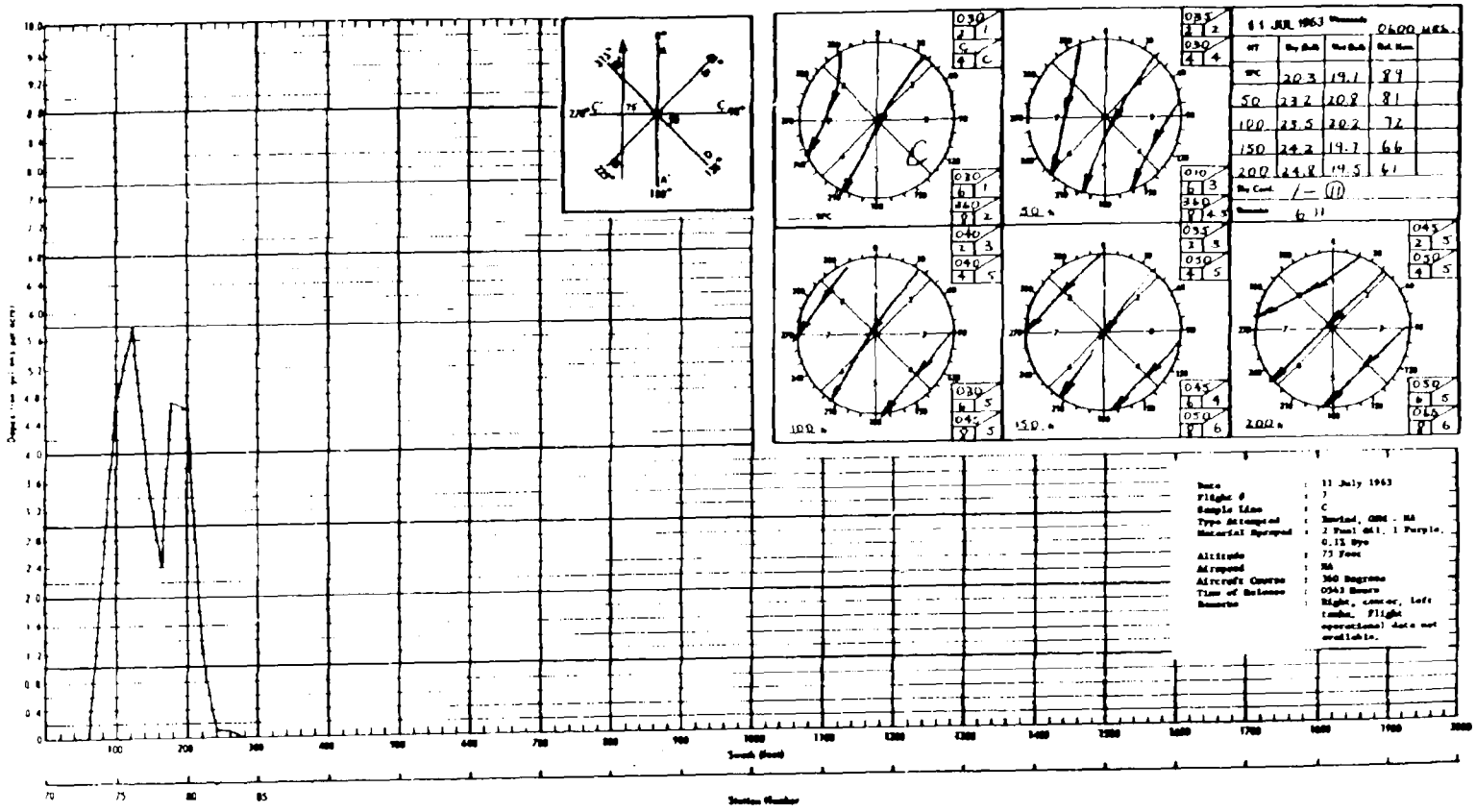
AIRSPEED: NA

ALTITUDE: 75 Feet

AIRCRAFT COURSE: 360 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 73 Blank						74	2.4
						75	4.7
						76	5.8
						77	3.7
						78	2.4
						79	4.7
						80	4.6
						81	1.2
						82	0.1
						83	0.1
						Stations 84 - 100 Blank	

Total 29.7


11 JULY 1963
0600 M.S.T.
Date : 11 July 1963
Flight # : 7
Sample Idno : C
Type Aeromagnet : Sentinel, CONI - HA
Material Sprayed : 2 Fuel Oil, 1 Purple, 0.1% Dye
Altitude : 75 Feet
Airspeed : 96
Aircraft Course : 360 Degrees
Time of Release : 0563 Hours
Remarks : Night, cumulus, Left tumble. Flight operational data not available.
Station Number
South (feet)

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

FLOW RATE: NA

DATE: 11 July 1963

SYSTEM: FIDAL

FLIGHT #: 8

AIRSPEED: NA

SAMPLE LINE: C

ALTITUDE: 75 Feet

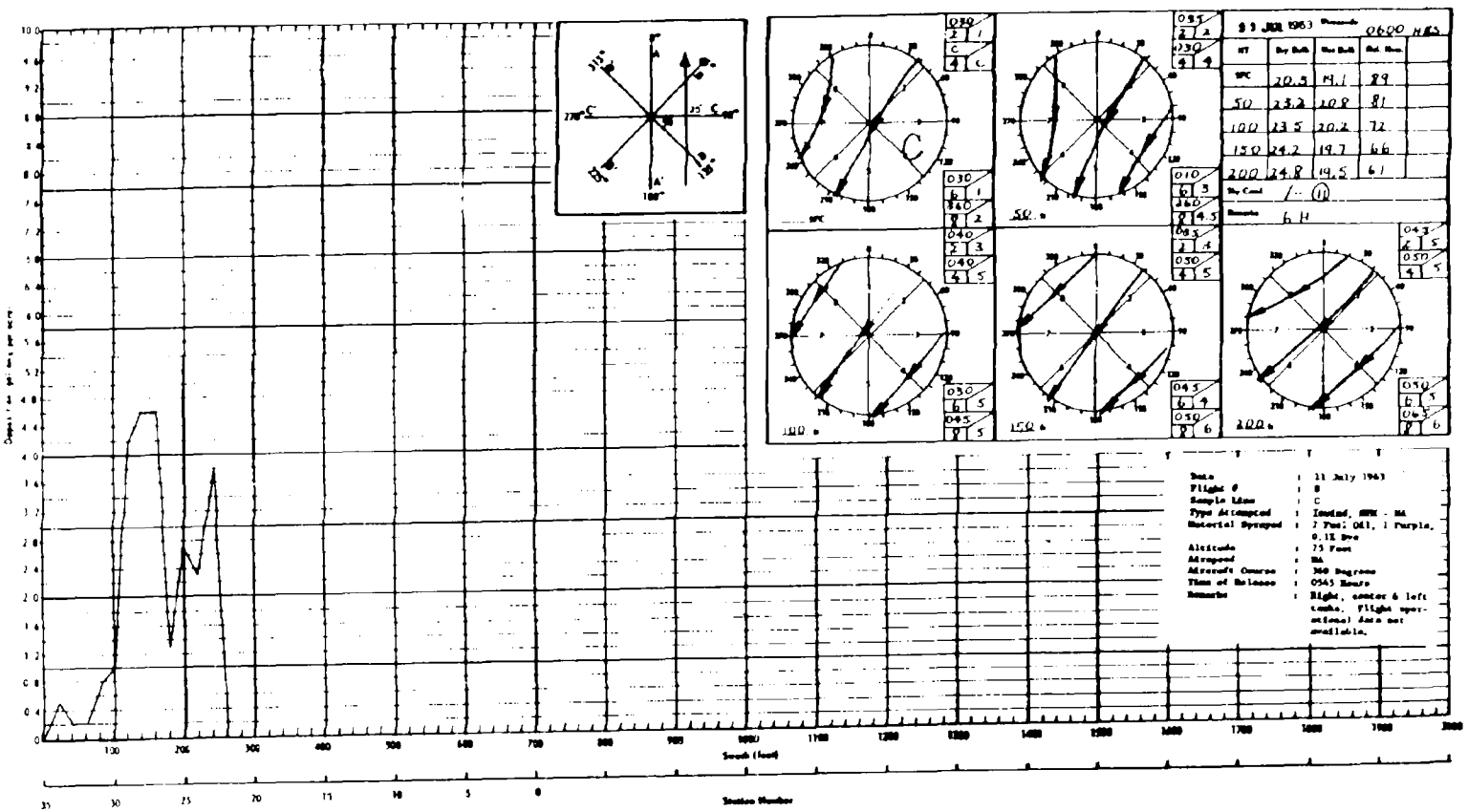
TIME OF RELEASE: 0545 Hours

AIRCRAFT COURSE: 360 Degrees

DURATION: NA

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 22 Blank		23	3.8				
		24	2.3				
		25	2.7				
		26	1.3				
		27	4.6				
		28	4.6				
		29	4.2				
		30	1.0				
		31	0.8				
		32	0.2				
		33	0.2				
		34	0.5				
		Stations 35 - 100 Blank					

Total 26.2


11 July 1963
0600 HRS
Date : 11 July 1963
Flight # : 8
Sample Line : C
Type Attempted : Inoimd, SF6 - RA
Material Sprayed : 2 Pint Oil, 1 Purple, 0.1% Dye
Altitude : 75 Feet
Airspeed : RA
Aircraft Course : 360 Degrees
Time of Release : 0545 Hours
Remarks : Right, center & left combs. Flight operational data not available.
Station Number
South (feet)

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

FLOW RATE: NA

DATE: 11 July 1963

SYSTEM: FIDAL

FLIGHT #: 9

AIRSPEED: NA

SAMPLE LINE: D

ALTITUDE: 100 Feet

TIME OF RELEASE: 0603 Hours

AIRCRAFT COURSE: 045 Degrees

DURATION: NA

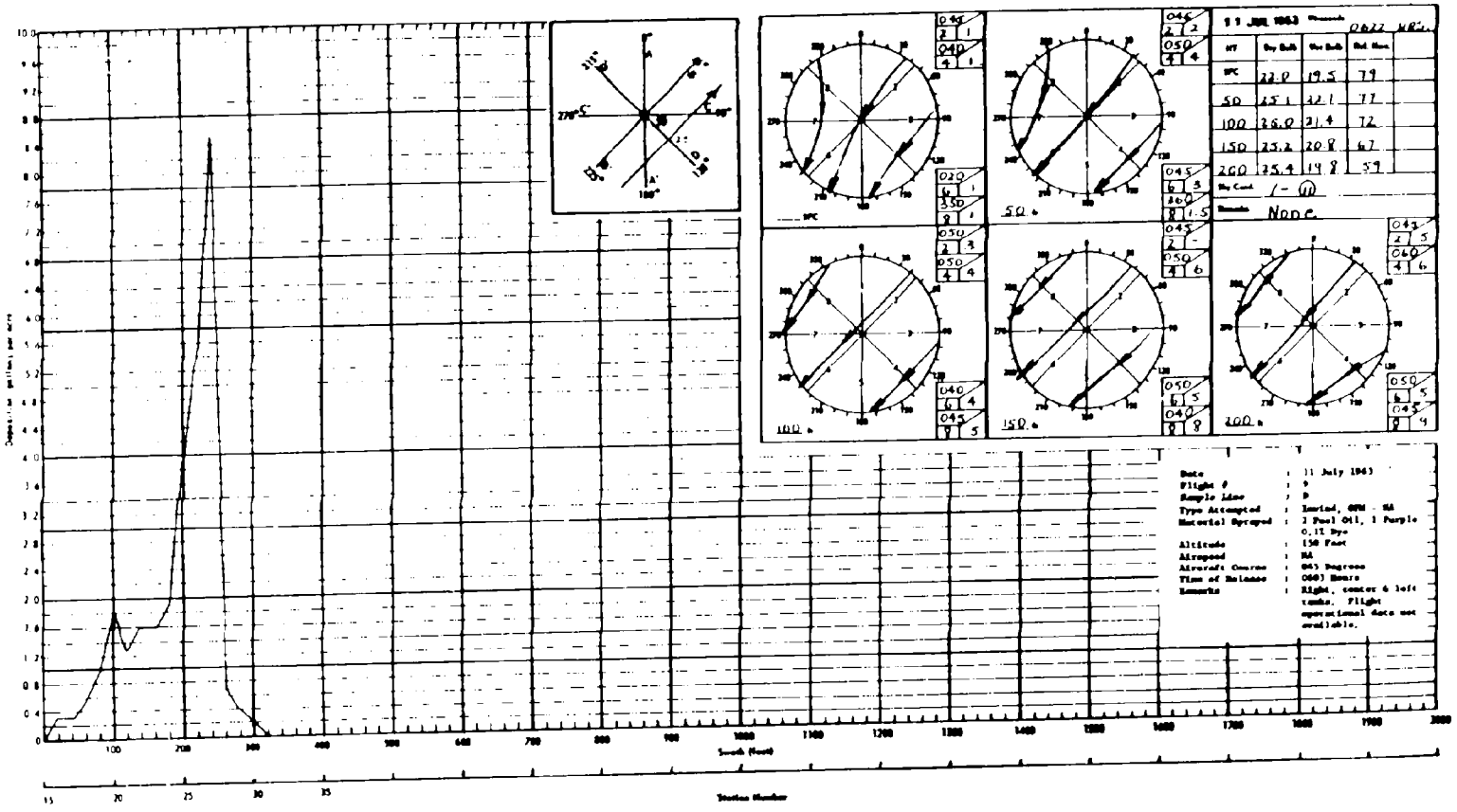
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.

Stations 1 - 15 Blank

16	0.3
17	0.3
18	0.5
19	1.0
20	1.8
21	1.3
22	1.6
23	1.6
24	1.9
25	3.9
26	5.5
27	8.5
28	0.7
29	0.4
30	0.2

Stations 31 - 100 Blank

Total 29.5


11 JUL 1963
Date : 11 July 1963
Flight # : 9
Sample Line : 9
Type Attempted : Ionized, GMM - SA
Material Sprayed : 3 Fuel Oil, 1 Purple 0.1% Dye
Altitude : 150 Feet
Airspeed : SA
Aircraft Course : 045 Degrees
Time of Release : 0040 Hours
Remarks : Right, center & left tanks. Flight operational data not available.
Station Number
South (feet)

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 11 July 1963

FLIGHT #: 10

SAMPLE LINE: D

TIME OF RELEASE: 0605 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

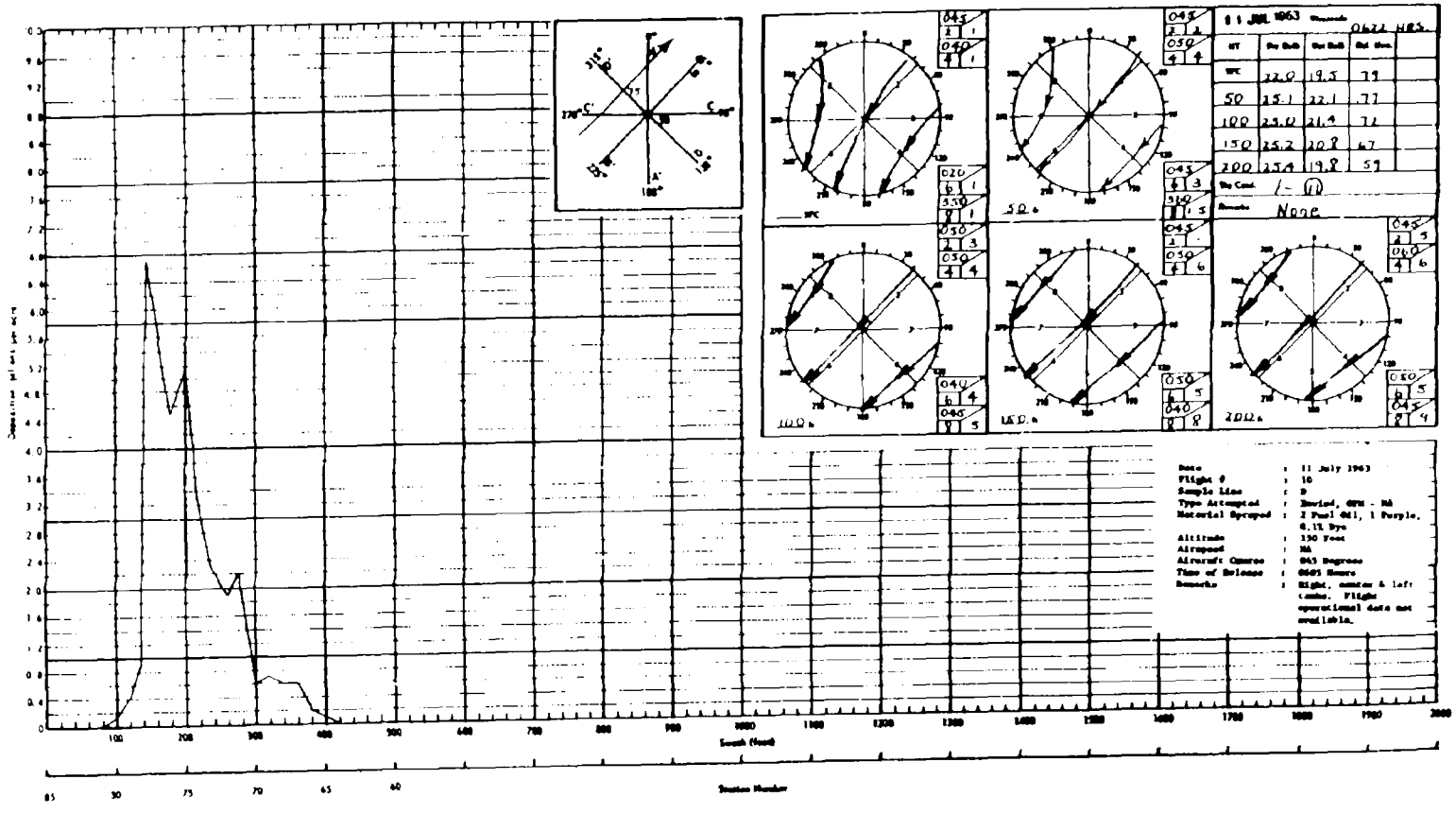
AIRSPEED: NA

ALTITUDE: 100 FEET

AIRCRAFT COURSE: 045 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 64 Blank							
				66	0.1		
				66	0.2		
				67	0.6		
				68	0.6		
				69	0.7		
				70	0.6		
				71	2.2		
				72	1.9		
				73	2.3		
				74	3.3		
				75	5.1		
				76	4.5		
				77	6.7		
				78	0.9		
				79	0.4		
				80	0.1		
				Stations 81 - 100 Blank			

Total 30.2


Date : 11 July 1963
Flight # : 10
Sample Line : 9
Type Attempted : Buried, GB/H - H6
Material Sprayed : 2 Fuel Oil, 1 Purple, 0.1% Dye
Altitude : 150 Feet
Airspeed : 90
Aircraft Course : 045 Degrees
Time of Release : 0605 Hours
Remarks : Right, center & left combo. Flight operational data not available.
South (feet)
Station Number

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple
FLOW RATE: NA
DATE: 11 July 1963
SYSTEM: FIDAL
FLIGHT #: 11
AIRSPEED: NA
SAMPLE LINE: D
ALTITUDE: 150 Feet
TIME OF RELEASE: 0622 Hours
AIRCRAFT COURSE: 045 Degrees
DURATION: NA

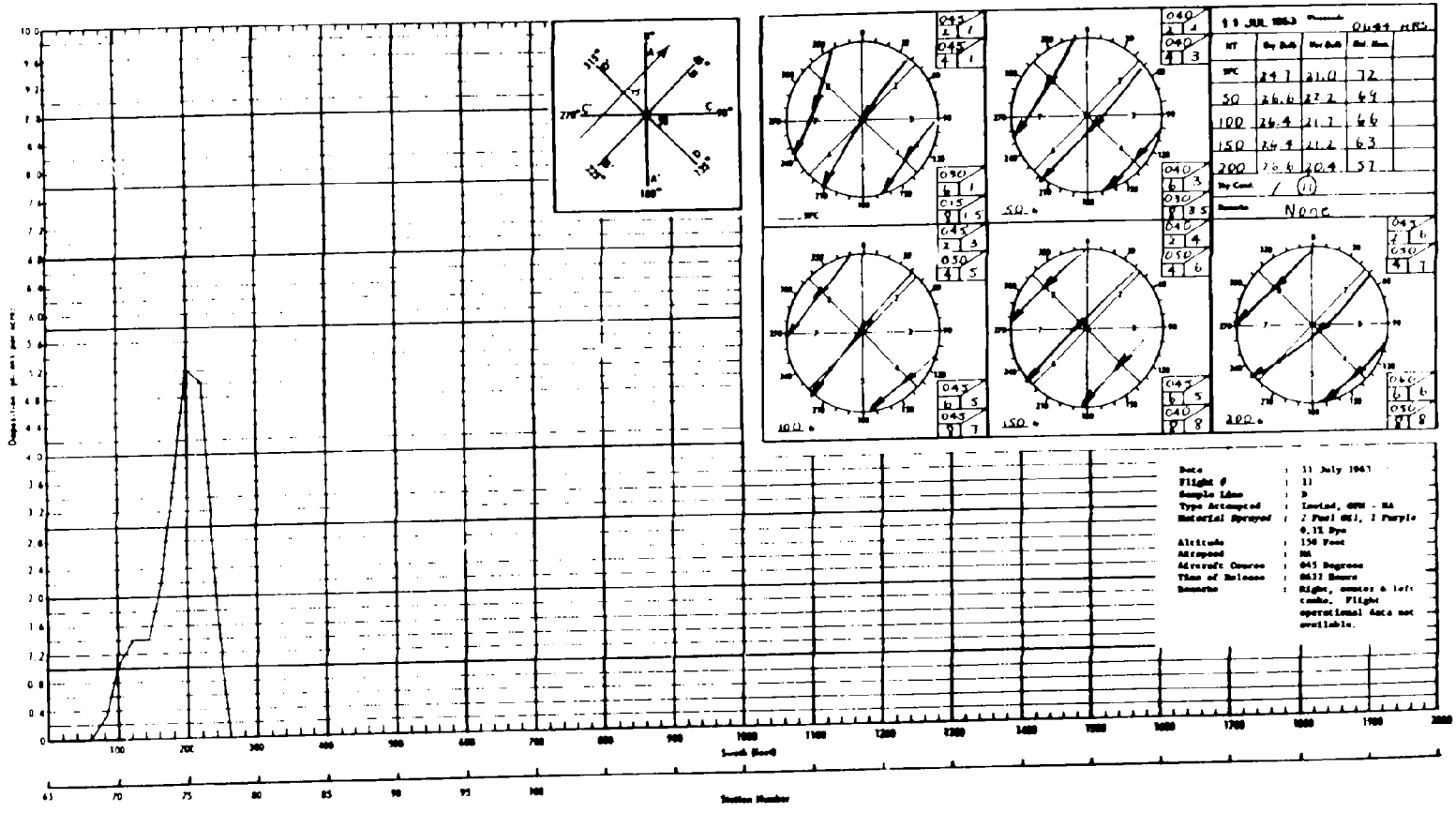
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.

Stations 1 - 68 Blank

69	0.3
70	1.0
71	1.4
72	1.4
73	2.1
74	3.6
75	5.2
76	5.0
77	1.9
78	0.0

Stations 79 - 100 Blank

Total 21.9


Date : 11 July 1963
Flight # : 11
Sample Line : 9
Type Attempted : Lowlet, GEN - BA
Material Sprayed : 2 Fluo 601, 2 Purple 0.1% Dye
Altitude : 150 Feet
Airspeed : 85
Aircraft Course : 045 Degrees
Time of Release : 0632 Hours
Remarks : Right, center & left combo. Flight operational data not available.
Swath (feet)
Station Number

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple
FLOW RATE: NA
DATE: 11 July 1963
SYSTEM: FIDAL
FLIGHT #: 12
AIRSPEED: NA
SAMPLE LINE: D
ALTITUDE: 150 Feet
TIME OF RELEASE: 0624 Hours
AIRCRAFT COURSE: 045 Degrees
DURATION: NA

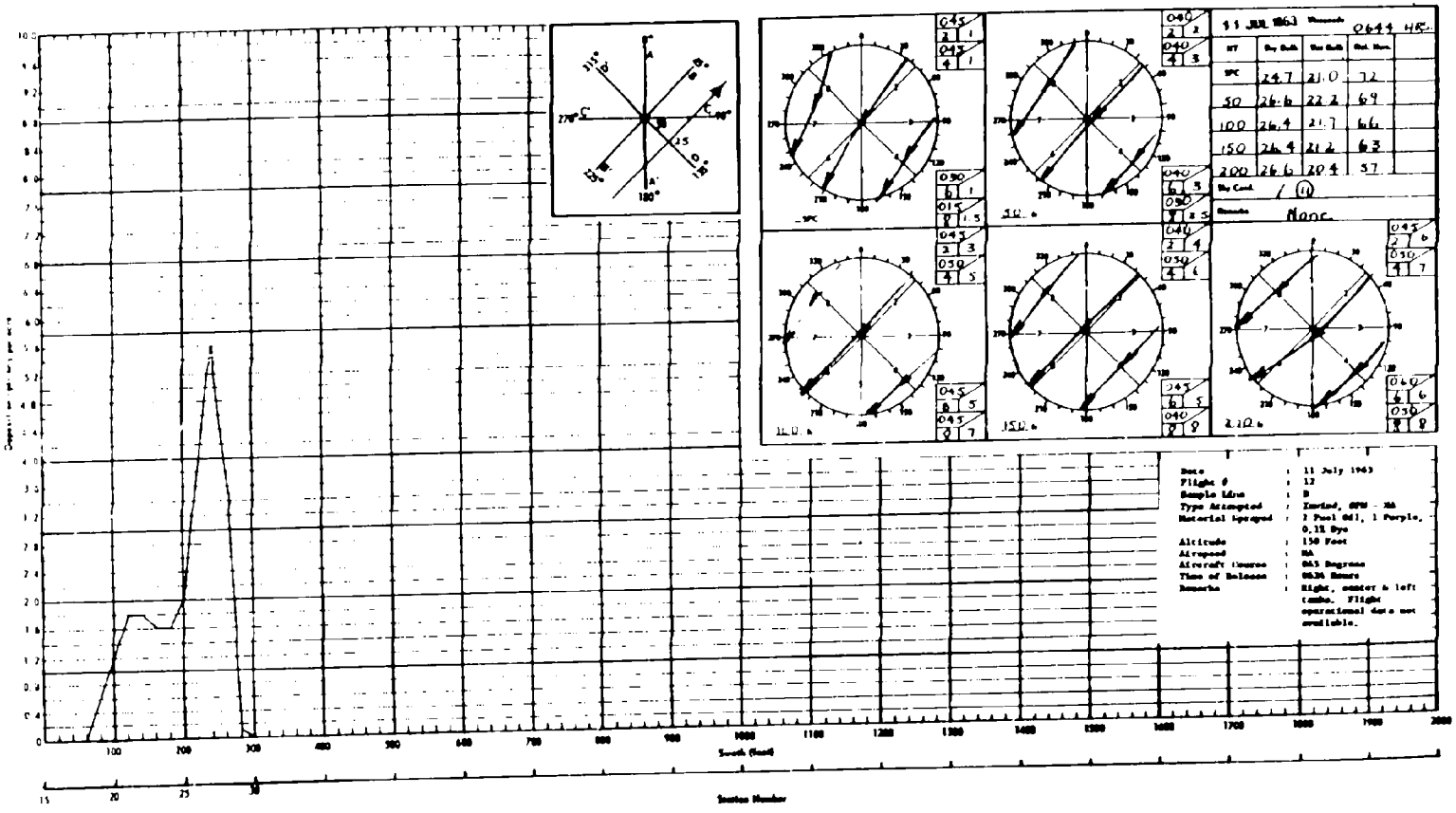
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.

Stations 1 - 18 Blank

19	0.6
20	1.2
21	1.8
22	1.8
23	1.6
24	1.6
25	2.0
26	3.9
27	5.6
28	3.5
29	0.1

Stations 30 - 100 Blank

Total 23.7


11 July 1963
0644 HR.
Nonc.
Date : 11 July 1963
Flight # : 12
Sample Line : B
Type Attempted : Inwind, 60% - 30
Material Sprayed : 2 Fuel Oil, 1 Purple, 0.1% Dye
Altitude : 150 Feet
Airspeed : 80
Aircraft Course : 063 Degrees
Time of Release : 0630 Hours
Remarks : Right, center & left tanks. Flight operational data not available.
Swath (feet)
Station Number

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

FLOW RATE: NA

DATE: 11 July 1963

SYSTEM: FIDAL

FLIGHT #: 13

AIRSPEED: NA

SAMPLE LINE: D

ALTITUDE: 75 Feet

TIME OF RELEASE: 0621 Hours

AIRCRAFT COURSE: 045 Degrees

DURATION: NA

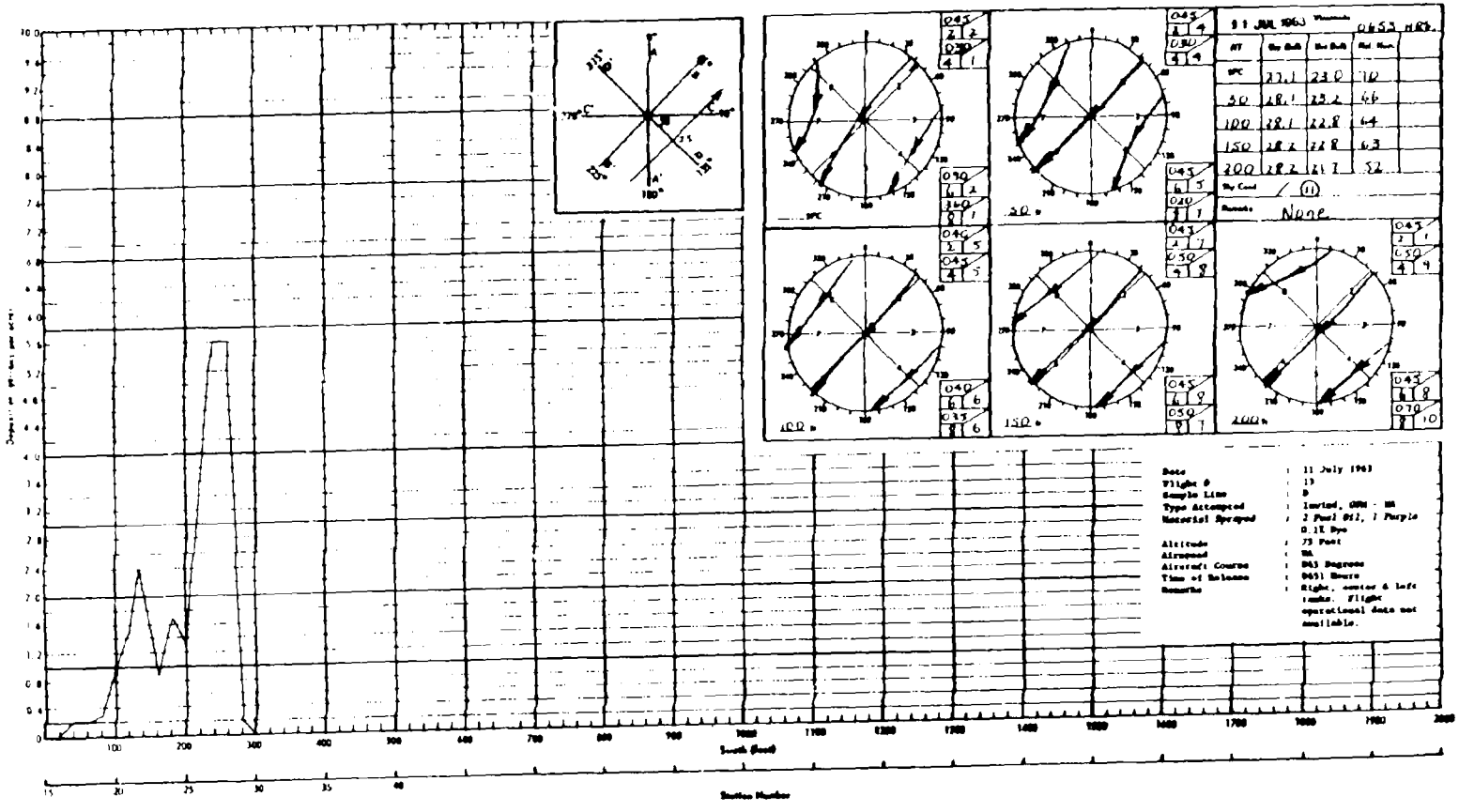
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.

Stations 1 - 16 Blank

17	0.2
18	0.2
19	0.3
20	1.0
21	1.5
22	2.4
23	0.9
24	1.7
25	1.3
26	3.5
27	5.6
28	5.6
29	0.2

Stations 30 - 100 Blank

Total 24.4


11 JUL 1963
0653 HRS.
Date : 11 July 1963
Flight # : 13
Sample Line : 8
Type Attempted : Inverted, GMM - MM
Material Sprayed : 2 Fluor Oil, 1 Purple
0.1% Dye
Altitude : 75 Feet
Airspeed : MA
Aircraft Course : 043 Degrees
Time of Release : 0651 Hours
Remarks : Right, center & left
tanks. Flight
spectrometer data not
available.
South (East)
Station Number

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 11 July 1963

FLIGHT #: 14

SAMPLE LINE: D

TIME OF RELEASE: 0623 Hours

DURATION: NA

FLOW RATE: NA

SYSTEM: FIDAL

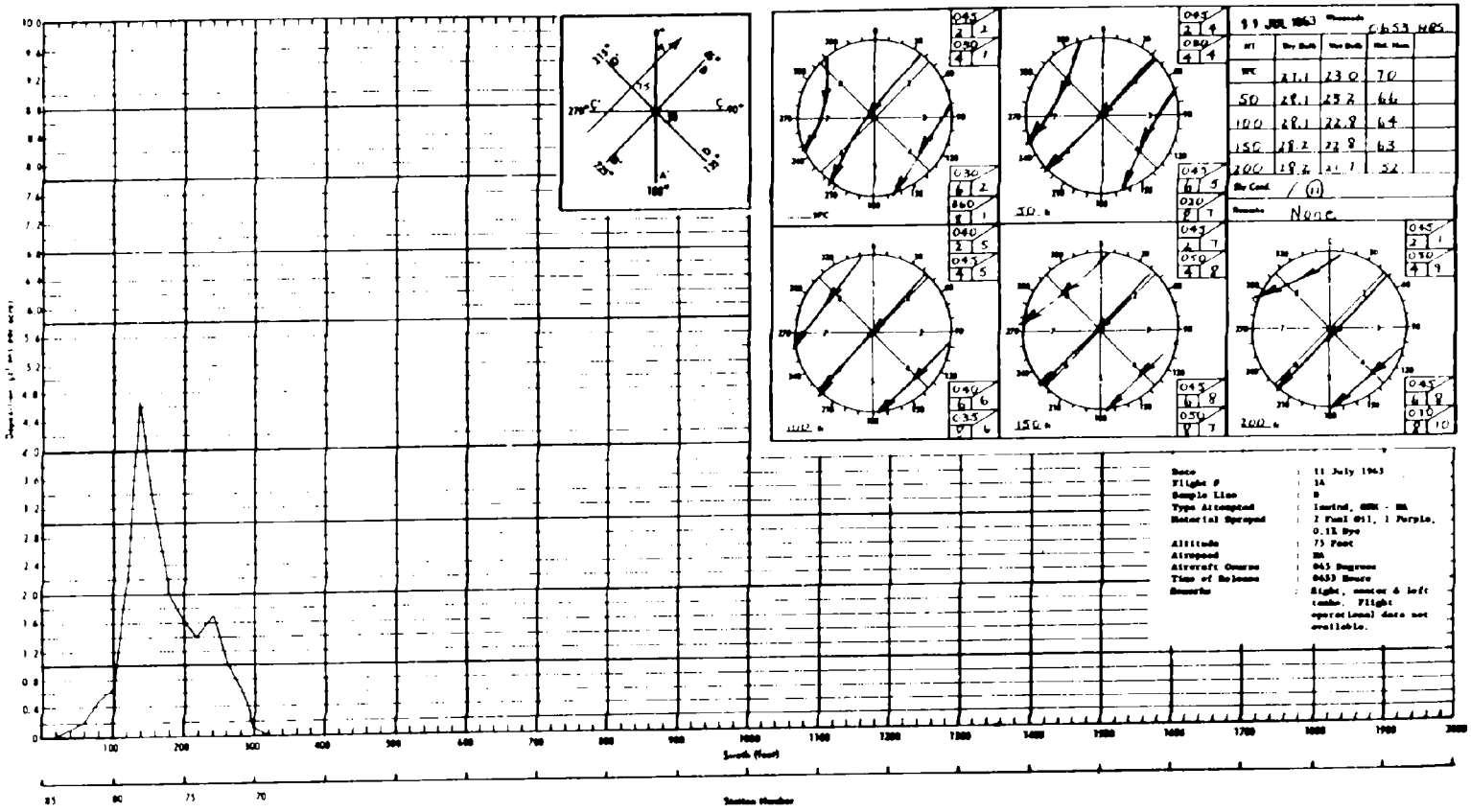
AIRSPEED: NA

ALTITUDE: 75 Feet

AIRCRAFT COURSE: 045 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 69 Blank						70	0.1
						71	0.7
						72	1.0
						73	1.7
						74	1.4
						75	1.6
						76	2.0
						77	3.3
						78	4.7
						79	2.2
						80	0.7
						81	0.5
						82	0.2
						83	0.1
						Stations 84 - 100 Blank	

Total 20.2


11 JUL 1963
Date
Flight #
Sample Line
Type Attempted
Material Sprayed
Altitude
Airspeed
Aircraft Course
Time of Release
Remarks
11 July 1963
1A
B
Inverted, SMK - BA
2 Fuel Oil, 1 Purple, 0.1% Dye
75 Feet
BA
045 Degrees
0633 Hours
Right, center & left combo. Flight operational data not available.
Distance (Feet)
Station Number

The flight data for 14 July is the same as for 15 July; refer to pages 332-333.

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 14 July 1963

FLIGHT #: 1

SAMPLE LINE: A

TIME OF RELEASE: 0454 Hour

DURATION: 07 Sec.

FLOW RATE: 325 (app) GPM

SYSTEM: FIDAL

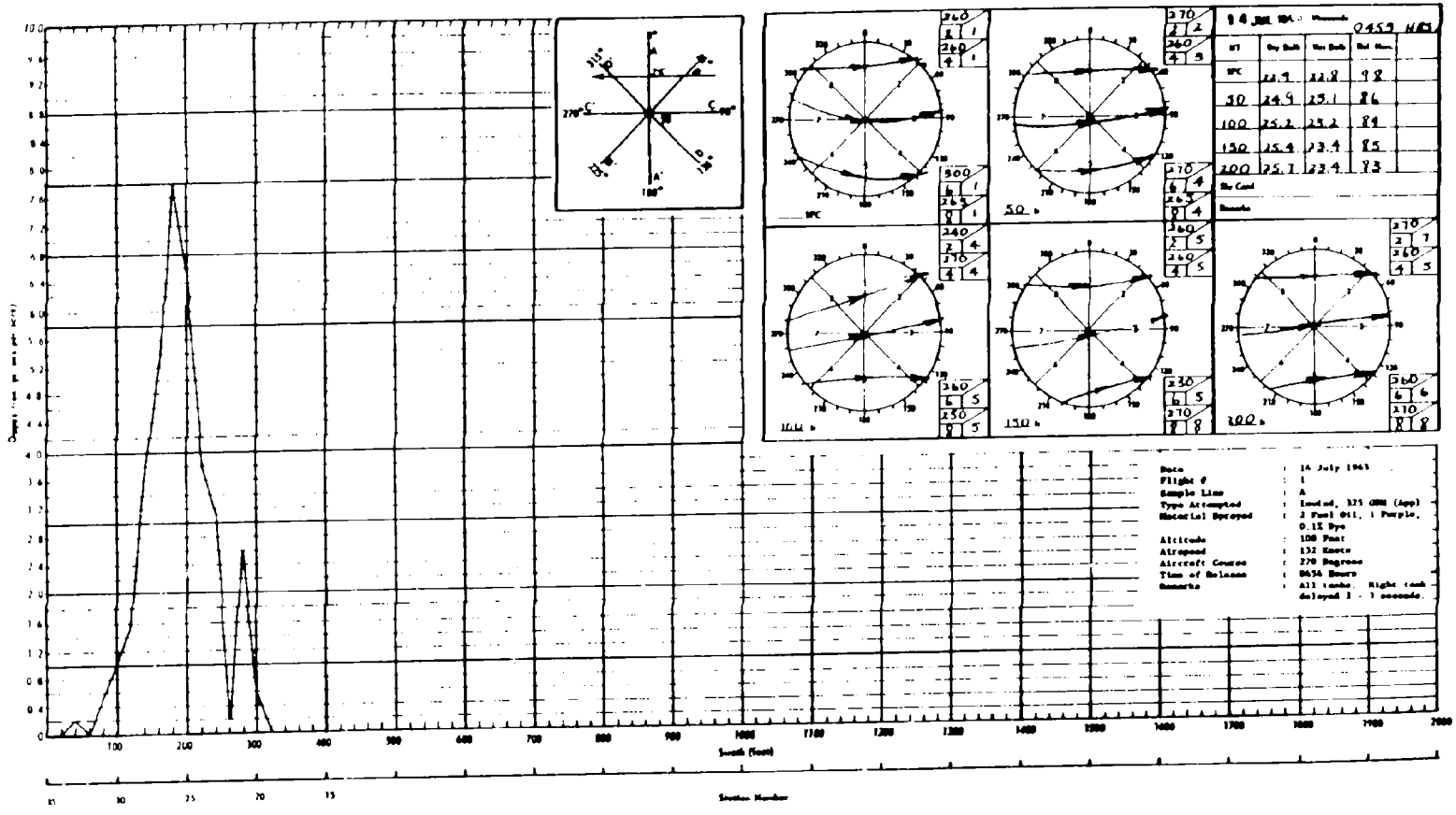
AIRSPEED: 152 Knots

ALTITUDE: 100 Feet

AIRCRAFT COURSE: 270 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 18 Blank		19	0.0				
		20	0.6				
		21	2.6				
		22	0.2				
		23	3.1				
		24	3.8				
		25	6.5				
		26	7.8				
		27	5.4				
		28	3.6				
		29	1.5				
		30	1.0				
		31	0.6				
		32	0.0				
		33	0.2				
		Stations 34 - 100 Blank					

Total 36.9


Date : 14 July 1965
Flight # : 1
Sample Line : A
Type Attempted : Ground, 325 (MM) (App)
Material Sprayed : 2 Fuel Oil, 1 Purple, 0.1% Dye
Altitude : 100 Feet
Airspeed : 132 Knots
Aircraft Course : 270 Degrees
Time of Release : 0636 Hours
Remarks : All tanks. Right tank delayed 1 - 1 seconds.
Distance (feet)

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

FLOW RATE: 325 (app) GPM

DATE: 14 July 1963

SYSTEM: FIDAL

FLIGHT #: 2

AIRSPEED: 163 Knots

SAMPLE LINE: A

ALTITUDE: 100 Feet

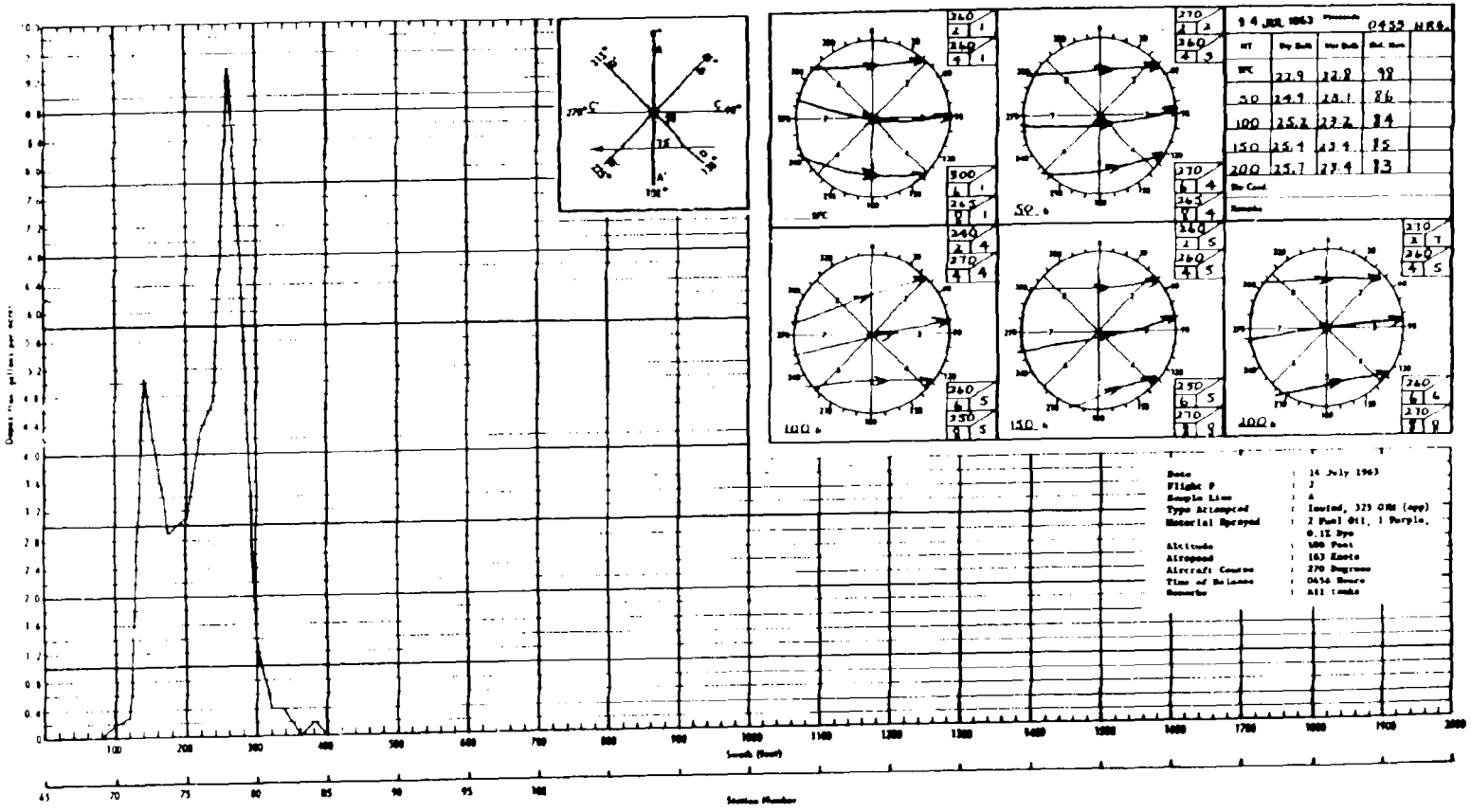
TIME OF RELEASE: 0456 Hours

AIRCRAFT COURSE: 270 Degrees

DURATION: 06 Sec.

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 69 Blank						70	0.2
						71	0.3
						72	5.1
						73	3.5
						74	2.9
						75	3.1
						76	4.3
						77	4.7
						78	9.4
						79	6.2
						80	1.3
						81	0.4
						82	0.4
						83	0.0
						84	0.2
						Stations 85 - 100 Blank	

Total 42.0


14 JUL 1963
0452 HRS.
Date : 14 July 1963
Flight # : 3
Sample Line : A
Type Attempted : Inwind, 325 ORH (app)
Material Sprayed : 2 Fuel Oil, 1 Purple, 0.1% Dye
Altitude : 500 Feet
Airspeed : 163 Knots
Aircraft Course : 270 Degrees
Time of Release : 0456 Hours
Remarks : All Combs
Station Number
Length (feet)

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 14 July 1963

FLIGHT #: 3

SAMPLE LINE: A

TIME OF RELEASE: 0511 Hours

DURATION: 05 Sec.

FLOW RATE: 325 (app) GPM

SYSTEM: FIDAL

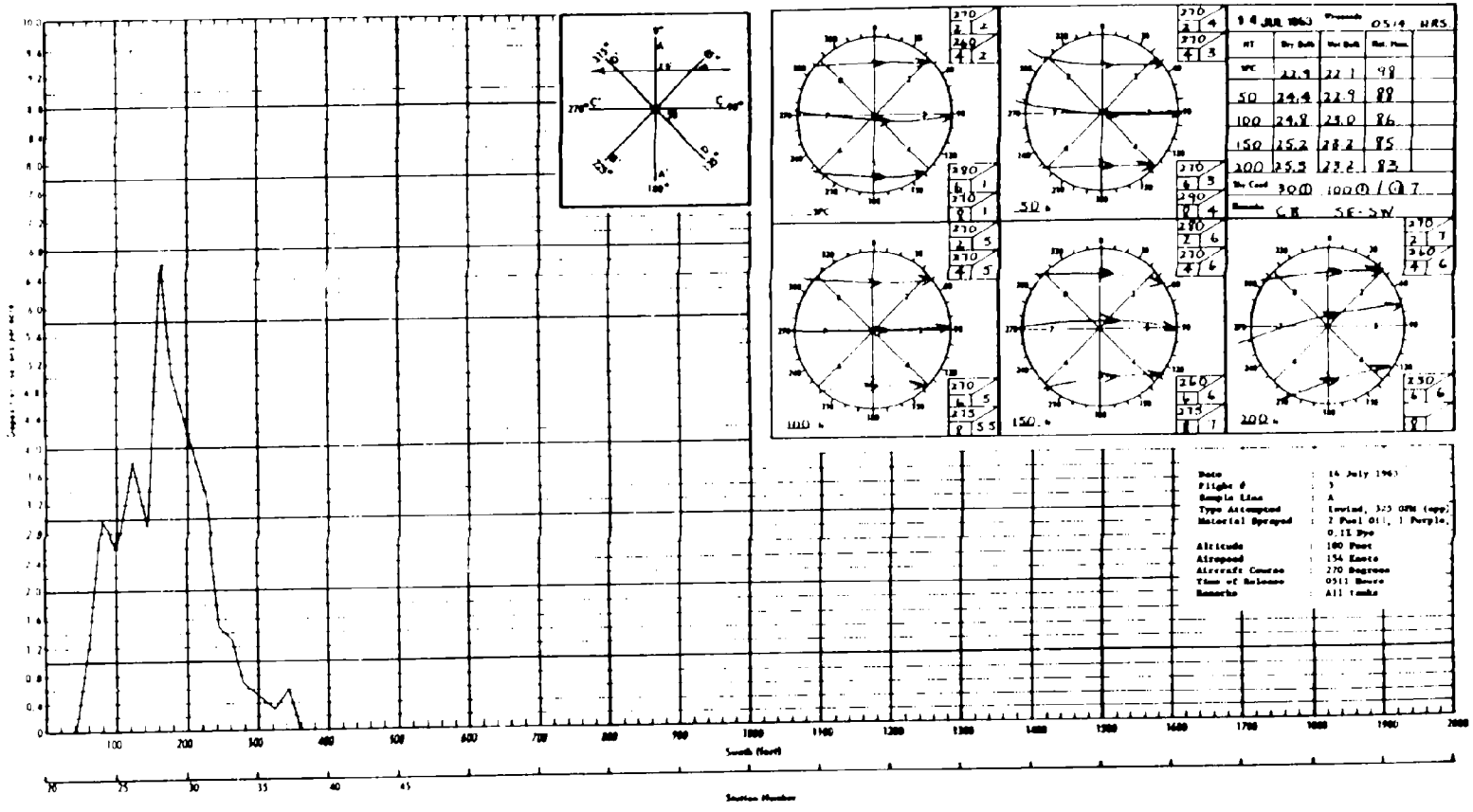
AIRSPEED: 154 Knots

ALTITUDE: 100 Feet

AIRCRAFT COURSE: 270 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 22 Blank		23	1.2				
		24	3.0				
		25	2.6				
		26	3.8				
		27	2.9				
		28	6.6				
		29	5.0				
		30	4.2				
		31	3.3				
		32	1.5				
		33	1.3				
		34	0.7				
		35	0.5				
		36	0.3				
		37	0.6				
		Stations 38 - 100 Blank					

Total 37.5


Date : 14 July 1963
Flight # : 5
Sample Line : A
Type Aircraft : Lowland, 325 GPM (app)
Material Sprayed : 2 Fuel Oil, 1 Purple, 0.11 Dye
Altitude : 100 Feet
Airspeed : 154 Knots
Aircraft Course : 270 Degrees
Time of Release : 0911 Hours
Remarks : All tanks
South (feet)
Station Number

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 14 July 1963

FLIGHT #: 4

SAMPLE LINE: A

TIME OF RELEASE: 0513 Hours

DURATION: 08 Sec.

FLOW RATE: 325 (app) GPM

SYSTEM: FIDAL

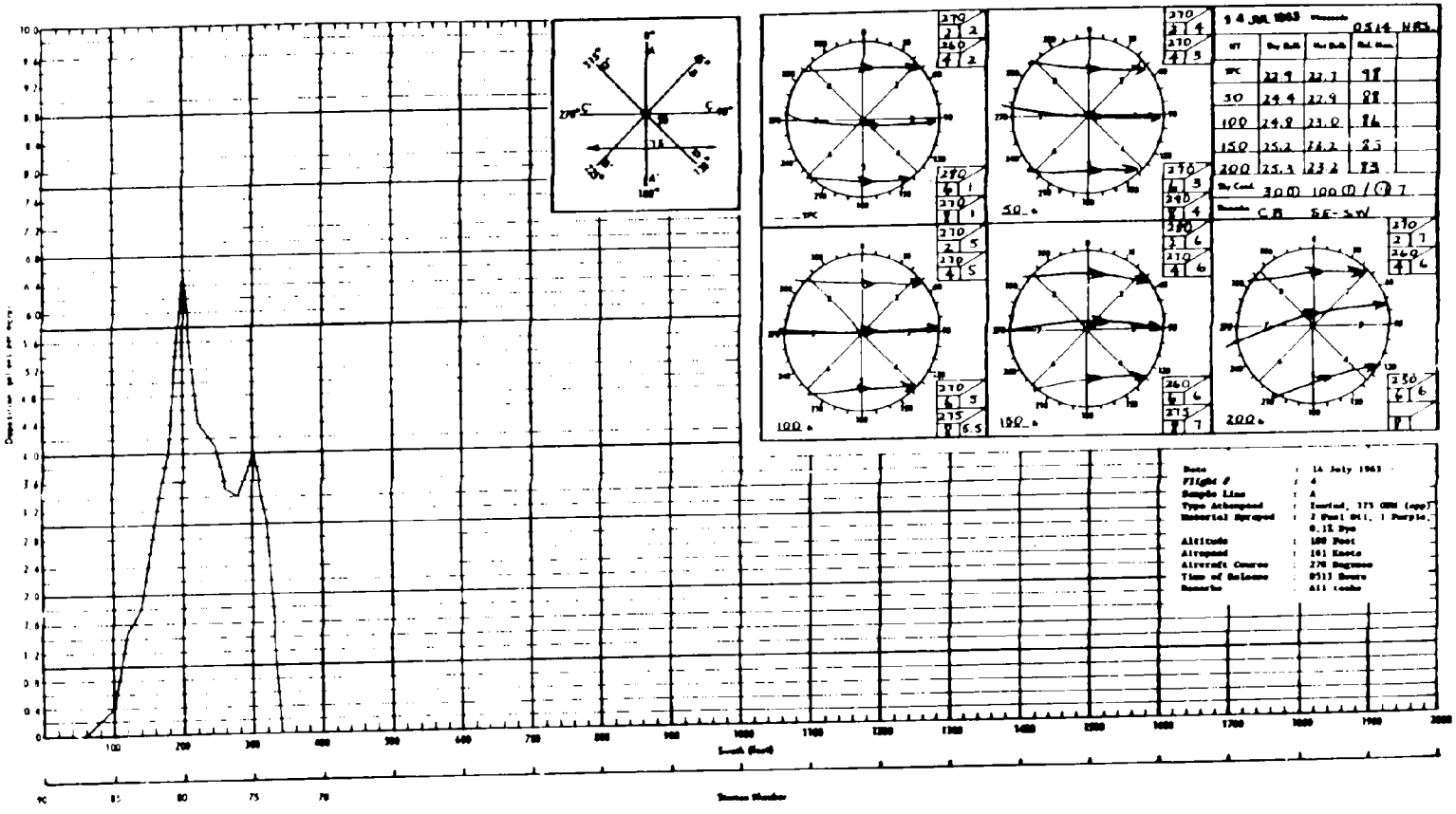
AIRSPEED: 161 Knots

ALTITUDE: 100 Feet

AIRCRAFT COURSE: 270 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 73 Blank						74	3.0
						75	4.0
						76	3.4
						77	3.5
						78	4.1
						79	4.4
						80	6.5
						81	4.0
						82	3.0
						83	1.8
						84	1.5
						85	0.4
						86	0.2
						Stations 87 - 100 Blank	

Total 39.8


14 JUL 1963
0514 MST
WC
50
100
150
200
Date : 14 July 1963
Flight # : 4
Sample Line : A
Type Atmosphere : 1 Control, 375 CMH (app)
Material Sprayed : 2 Fluorescent, 1 Purple, 0.1% Dye
Altitude : 100 Feet
Airspeed : 161 Knots
Aircraft Course : 270 Degrees
Time of Release : 0513 Hours
Remarks : All Clear
Length (Feet)

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

FLOW RATE: 325 (app) GPM

DATE: 14 July 1963

SYSTEM: FIDAL

FLIGHT #: 5

AIRSPEED: 157 Knots

SAMPLE LINE: A

ALTITUDE: 100 Feet

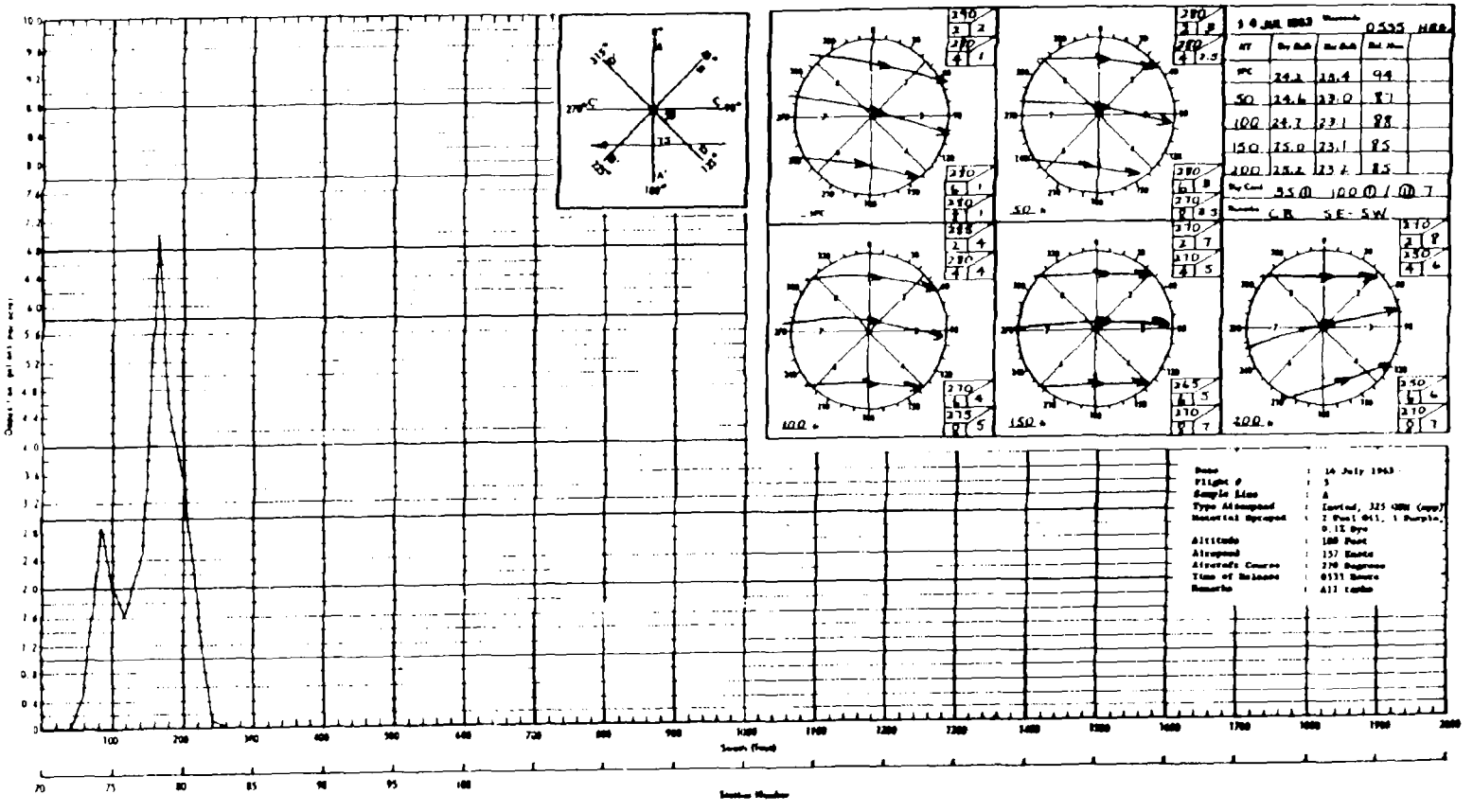
TIME OF RELEASE: 0533 Hours

AIRCRAFT COURSE: 270 Degrees

DURATION: 08 Sec.

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 72 Blank						73	0.5
						72	2.9
						75	2.0
						76	1.6
						77	2.5
						78	7.0
						79	4.5
						80	3.5
						81	1.5
						82	0.1
						Stations 83 - 100 Blank	

Total 26.1



MASS DEPOSIT

MAIERIAL: 2 Fuel Oil, 1 Purple

DATE: 14 July 1963

FLIGHT #: 6

SAMPLE LINE: A

TIME OF RELEASE: 0535 Hours

DURATION: 14 Sec.

FLOW RATE: 325 (app.) GPM

SYSTEM: FIDAL

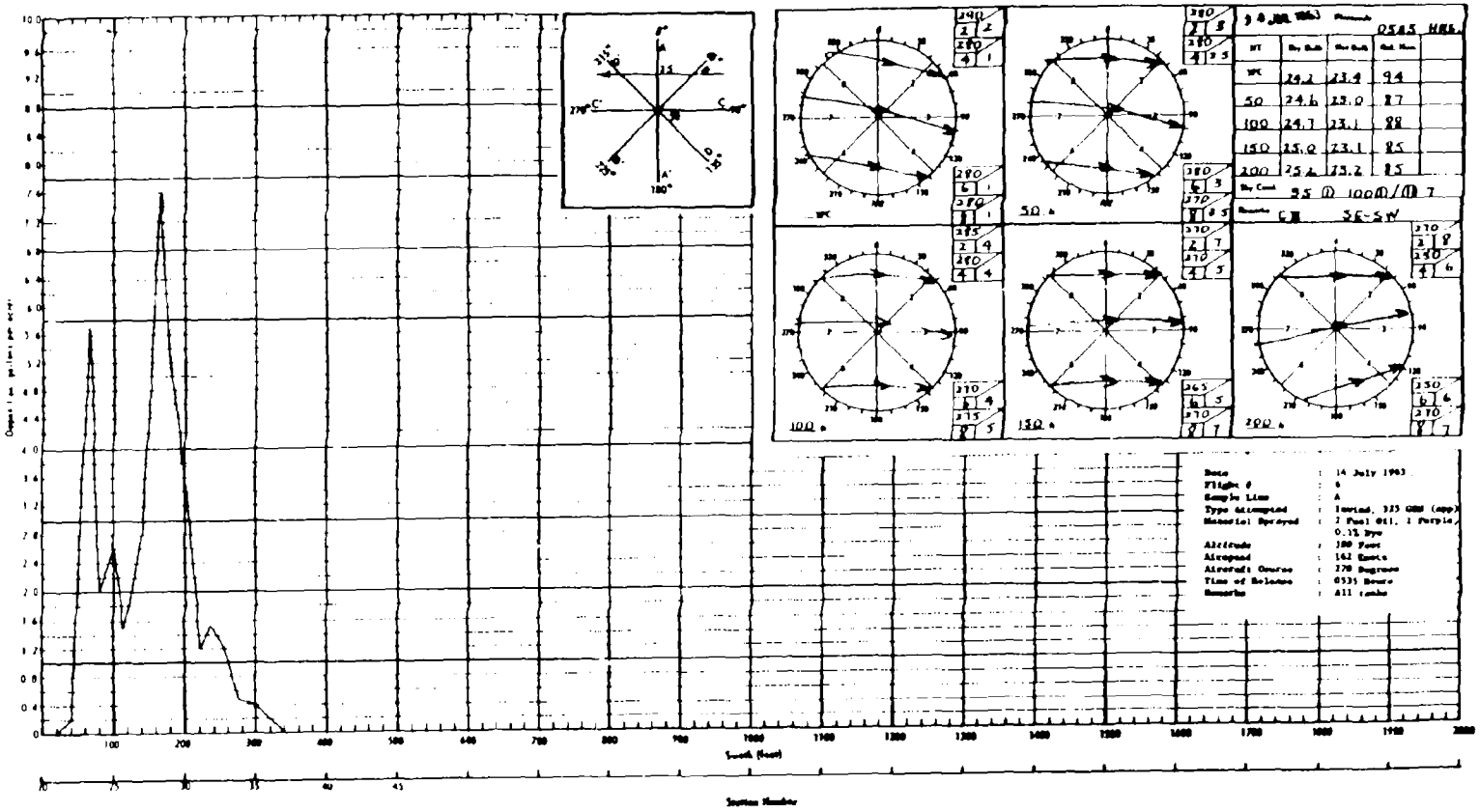
AIRSPEED: 162 Knots

ALTITUDE: 100 Feet

AIRCRAFT COURSE: 270 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 21 Blank		22	0.2				
		23	5.7				
		24	2.0				
		25	2.6				
		26	1.5				
		27	2.8				
		28	7.6				
		29	5.1				
		30	3.7				
		31	1.2				
		32	1.5				
		33	1.2				
		34	0.5				
		35	0.4				
		36	0.2				
		37	0.0				
		Stations 38 - 100 Blank					

Total 36.2


0545 HRS
50 ft
100 ft
150 ft
200 ft
14 July 1993
Sample Line
Aircraft Course
Time of Release
Remarks
Station Number

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 14 July 1963

FLIGHT #: 7

SAMPLE LINE: A

TIME OF RELEASE: 0553 Hours

DURATION: 10 Sec.

FLOW RATE: 325 (app) GPM

SYSTEM: FIDAL

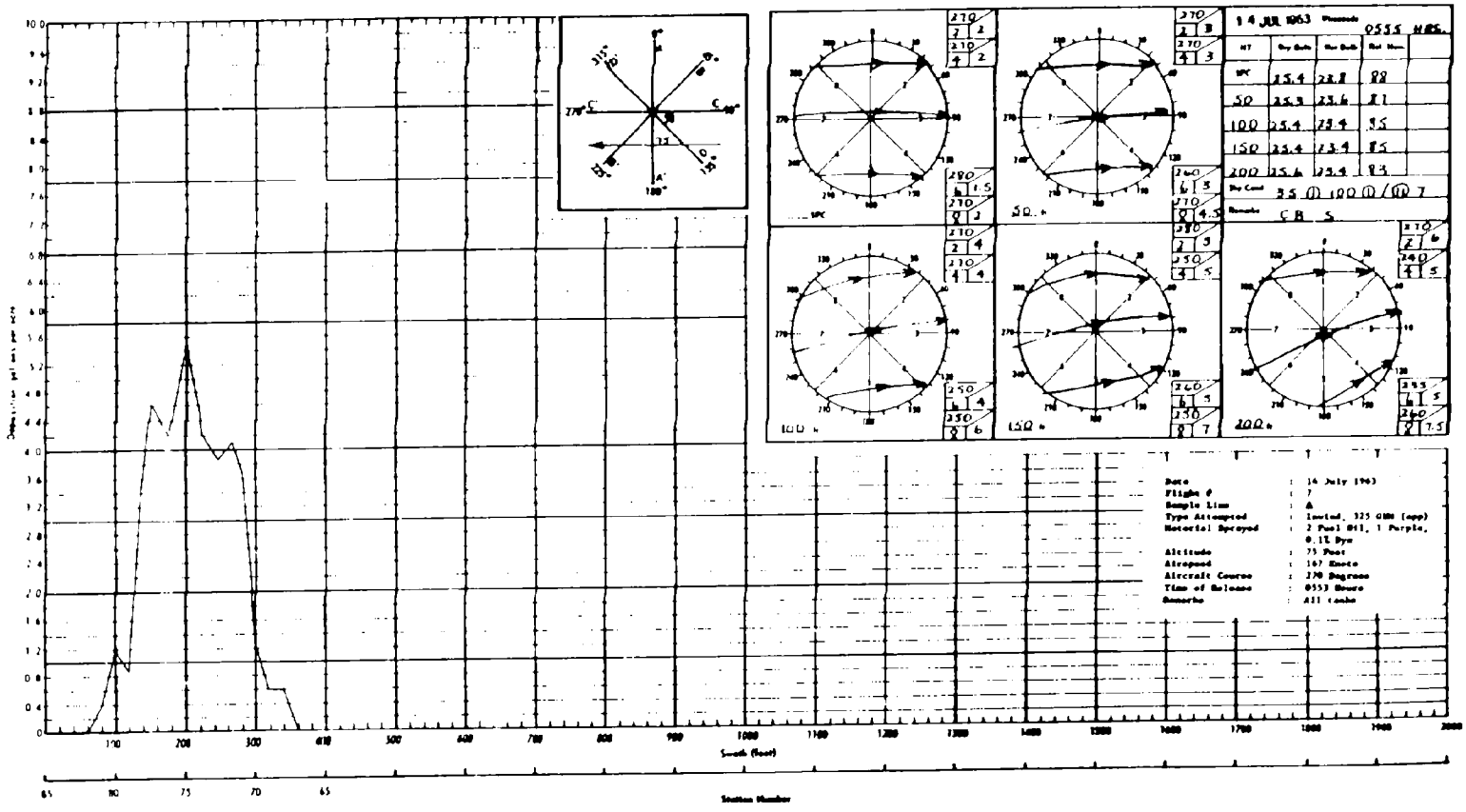
AIRSPEED: 167 Knots

ALTITUDE: 75 Feet

AIRCRAFT COURSE: 270 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 66 Blank							
67	0.0						
68	0.6						
69	0.6						
70	1.3						
71	3.7						
72	4.1						
73	3.9						
74	4.2						
75	5.5						
76	4.2						
77	4.6						
78	3.2						
79	0.9						
80	1.2						
81	0.4						
82	0.0						
Stations 83 - 100 Blank							

Total 38.4


14 JUL 1963
0555 MRS.
SFC
50
100
150
200
Date : 14 July 1963
Flight # : 7
Sample Line : A
Type Attempted : Inverted, 325 GHH (app)
Material Sprayed : 2 Fuel Oil, 1 Purple, 0.1% Dye
Altitude : 75 Feet
Airspeed : 167 Knots
Aircraft Course : 270 Degrees
Time of Release : 0553 Hours
Remarks : All Leaks
Smoke (feet)
Station Number

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

FLOW RATE: 325 (app) GPM

DATE: 14 July 1963

SYSTEM: FIDAL

FLIGHT #: 8

AIRSPEED: 165 Knots

SAMPLE LINE: A

ALTITUDE: 75 Feet

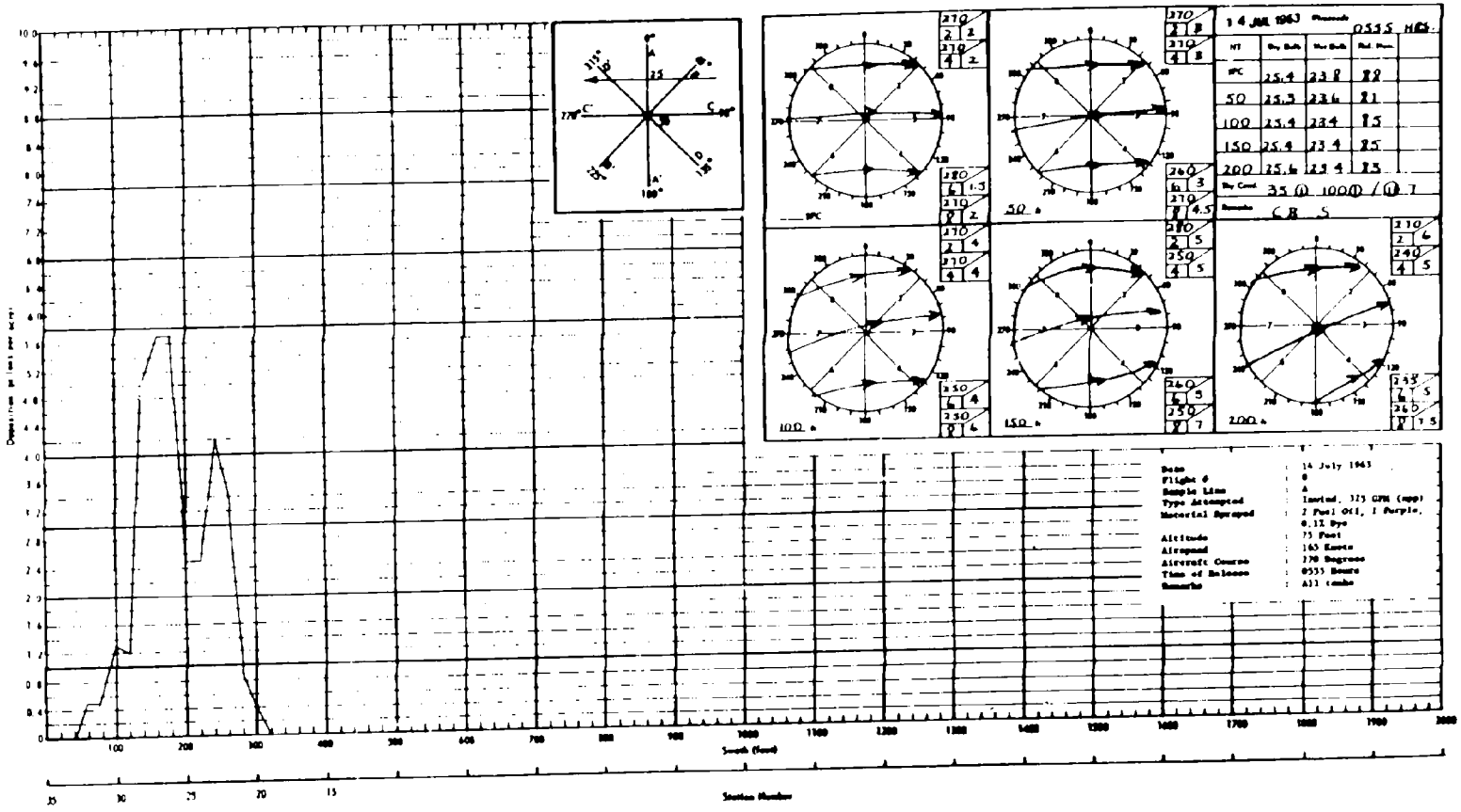
TIME OF RELEASE: 0555 Hours

AIRCRAFT COURSE: 270 Degrees

DURATION: 13 Sec.

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 18 Blank		19	0.0				
		20	0.4				
		21	0.9				
		22	3.4				
		23	4.2				
		24	2.5				
		25	2.5				
		26	5.7				
		27	5.7				
		28	5.0				
		29	1.2				
		30	1.3				
		31	0.5				
		32	0.5				
		33	0.0				
		Stations 34 - 100 Blank					

Total 33.8


14 JUL 1963
0535 HRS.
Date
Flight #
Sample Line
Type Atomizer
Material Sprayed
Altitude
Airspeed
Aircraft Course
Time of Release
Remarks
14 July 1963
6
A
Inertial, 325 GPH (app)
2 Fuel Oil, 1 Purple,
0.1% Dye
75 Feet
165 Knots
270 Degrees
0535 Hours
All Combs
South (feet)
Station Number

MASS MEDIAN DIAMETER

DATE: 14 July 1963 CONVERSION FACTOR: 2.5

FLIGHT #: 9 PAPER: Kromekote, white

SAMPLE LINE: A MATERIAL: 2 Fuel Oil, 1 Purple

FLOW RATE: 325 GPM SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
25	4	4400*	25	10	3300
25	3	4200			
25	1	4100			
25	2	4000			
25	5	3800			
25	9	3700			
25	8	3600			
25	6	3500			
25	7	3400	1	LA	100

$$MMD = \frac{70.44 + 0.1431(\text{Spot D Max})}{\text{Con. Factor}} = \frac{70.44 + 0.1431(4400)}{2.5} = 280 \text{ microns}$$

Max. Spherical Diameter = 70.44 + 0.1431(Max. Spot) = 70.44 + 0.1431(4400)
= 700 μ

Min. Spherical Diameter = 63 microns

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 14 July 1963

FLIGHT #: 9

SAMPLE LINE: A

TIME OF RELEASE: 0613 Hours

DURATION: 12 Sec.

FLOW RATE: 325 (app) GPM

SYSTEM: FIDAL

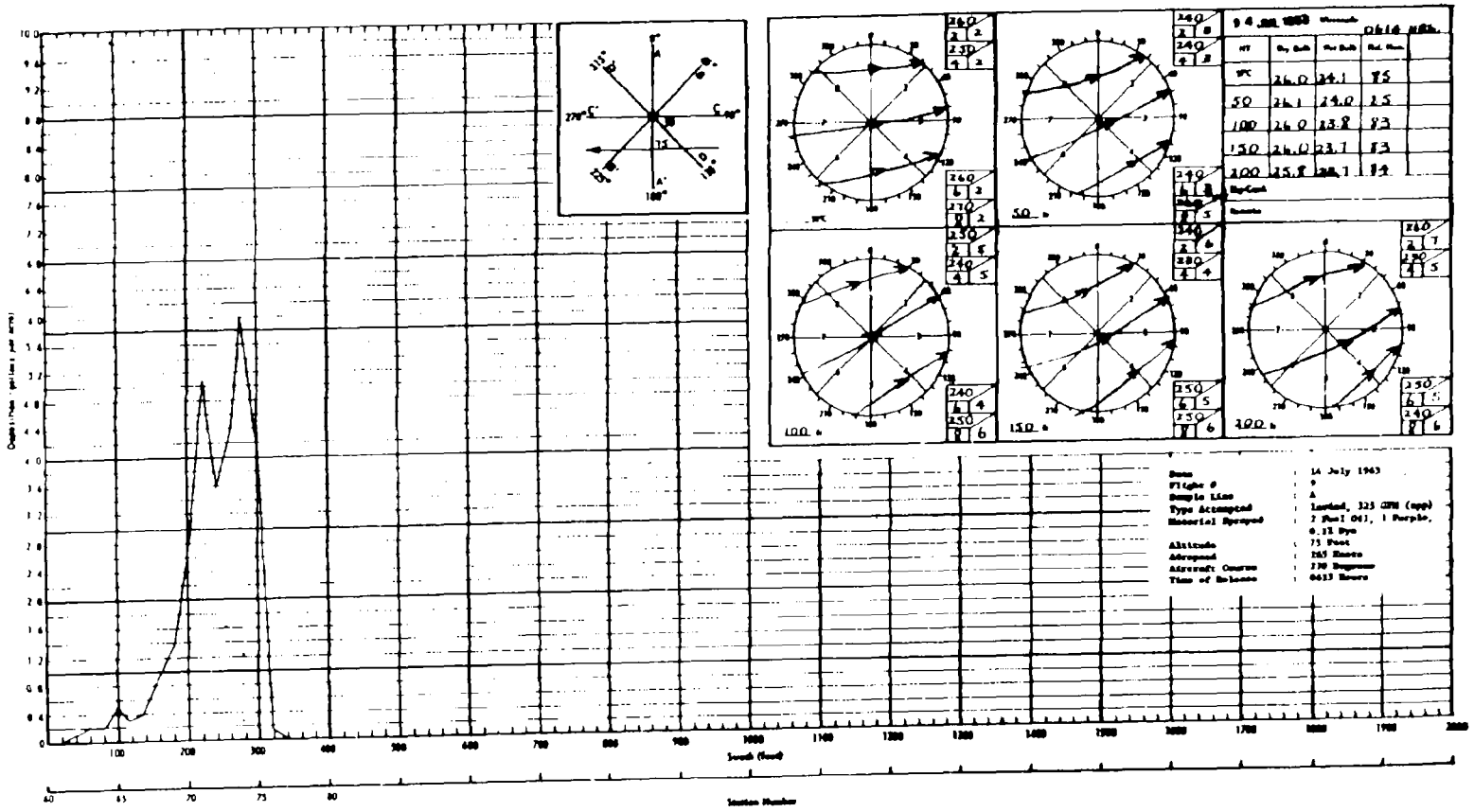
AIRSPEED: 165 Knots

ALTITUDE: 75 Feet

AIRCRAFT COURSE: 270 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 61 Blank							
62	0.1						
63	0.2						
64	0.2						
65	0.5						
66	0.3						
67	0.4						
68	0.8						
69	1.4						
70	2.6						
71	5.1						
72	3.6						
73	4.4						
74	6.0						
75	4.2						
76	0.1						
77	0.0						
Stations 78 - 100 Blank							

Total 29.9


Station Number
South (feet)
50 ft
100 ft
150 ft
200 ft
14 July 1943
Altitude
75 Feet
Airspeed
185 Knots
Aircraft Course
230 Degrees
Time of Release
0633 Hours

MASS MEDIAN DIAMETER

DATE: 14 July 1963 CONVERSION FACTOR: 2.5

FLIGHT #: 10 PAPER: Kromekote, white

SAMPLE LINE: A MATERIAL: 2 Fuel Oil, 1 Purple

FLOW RATE: 325 (app) SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
76	6	7200	76	11	5300
76	4	6600	76	7	5200
76	5	6300*	76	10	5100
76	2	6100			
76	3	5900			
76	12	5700			
76	1	5600			
76	9	5500			
76	8	5400	51	1A	100

$$MMD = \frac{70.44 + 0.1431 \text{ (Spot D Max)}}{\text{Con. Factor}} = \frac{70.44 + 0.1431(6300)}{2.5} = 389 \text{ microns}$$

Max. Spherical Diameter = 70.44 + 0.1431(Max. Spot) = 70.44 + 0.1431(7200)
= 1100 μ

Min. Spherical Diameter = 63 microns

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

FLOW RATE: 325 (app) GPM

DATE: 14 July 1963

SYSTEM: FIDAL

FLIGHT #: 10

AIRSPEED: 163 Knots

SAMPLE LINE: A

ALTITUDE: 75 Feet

TIME OF RELEASE: 0615 Hours

AIRCRAFT COURSE: 270 Degrees

DURATION: 13 Sec.

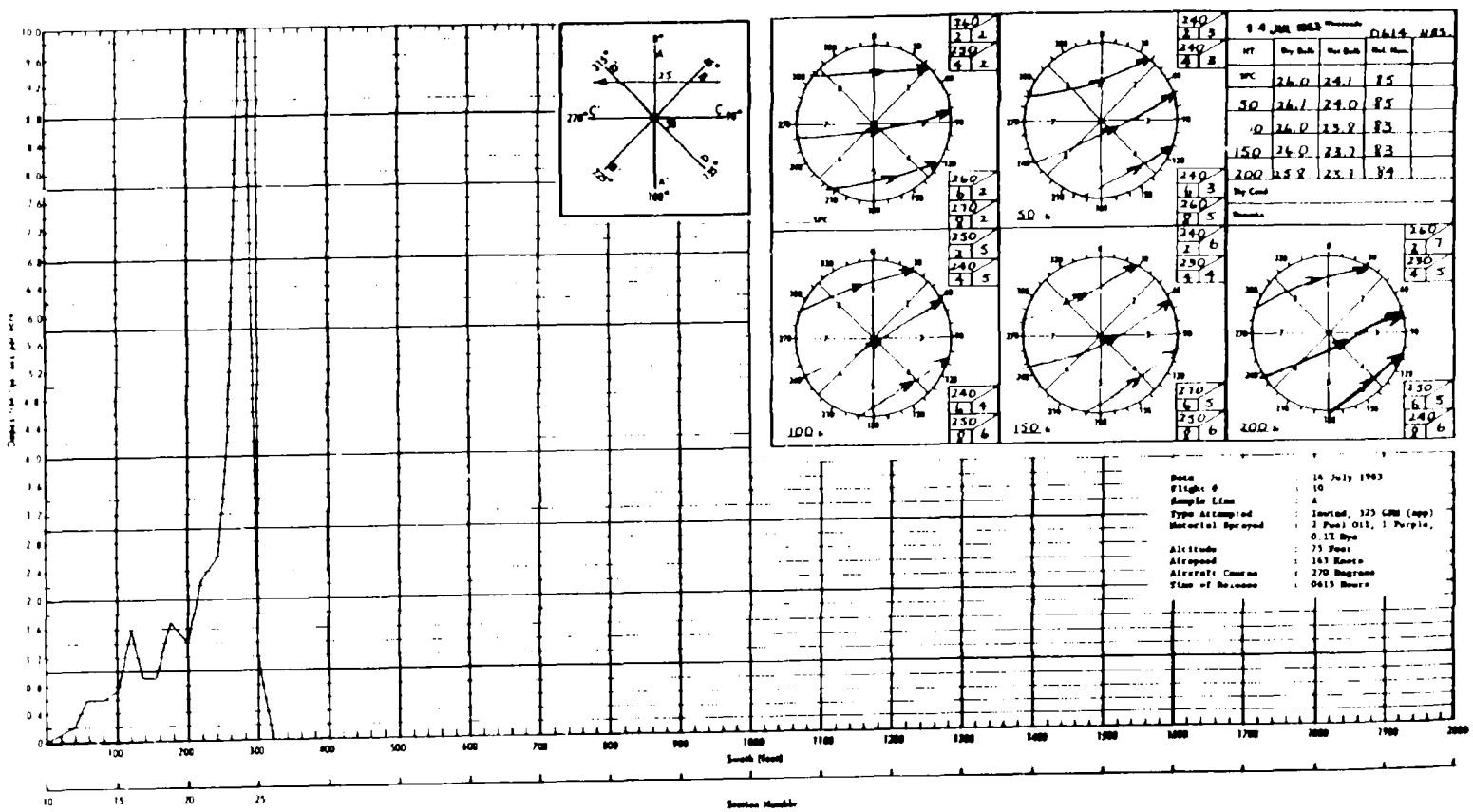
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.

Stations 1 - 10 Blank

11	0.1
12	0.2
13	0.6
14	0.6
15	0.7
16	1.6
17	0.9
18	0.9
19	1.7
20	1.4
21	2.3
22	2.6
23	4.3
24	11.3
25	1.2
26	0.0

Stations 27 - 100 Blank

Total 30.4


14 JUL 1963
0614 MRS.
WPC
50
100
150
200
Date
Flight #
Sample Line
Type Attempted
Material Sprayed
Altitude
Airspeed
Aircraft Course
Time of Release
14 July 1963
10
A
Inverted, 325 GMH (app)
1 Fuel Oil, 1 Purple, 0.1% Dye
75 Feet
163 Knots
270 Degrees
0615 Hours
Smoke Head
Station Number

FIDAL FLIGHT DATA

DATE FLOWN: 15 July 1963 CONFIGURATION: Wing tanks only LIQUID SPRAYED: Fuel Oil NOZZLE TYPE: 5070

	TANK	RPM	PRESSURE PSI	FLOW RATE GPM	REMARKS
RUN #2	Left	2300	52	115	
AIRSPEED: 161 Knots	Ctr	----	64	115	
TIME SPRAYED: 14 Sec.	Right	----	102	115	
RUN #3	Left	2300	52	115	
AIRSPEED: 160 Knots	Ctr	----	64	115	
TIME SPRAYED: 15 Sec.	Right	----	97	115	
RUN #4	Left	2300+	52-54	115	When center tank pressure was 63 psi the left and right gauges were indicating zero (0) psi which indicated pegging.
AIRSPEED: 160 Knots	Ctr	----	64	115	
TIME SPRAYED: 14 Sec.	Right	----	100-104	115	
RUN #5	Left	2300	52	115	
AIRSPEED: 165 Knots	Ctr	----	--	---	
TIME SPRAYED: 12 Sec.	Right	----	64	115	

GENERAL REMARKS: 1. 115 gallons per minute were determined as maximum flow by ground checks.

FIDAL FLIGHT DATA

DATE FLOWN: 15 July 1963 CONFIGURATION: Wing tanks only LIQUID SPRAYED: Fuel Oil NOZZLE TYPE: 5070

	TANK	RPM	PRESSURE PSI	FLOW RATE GPM	REMARKS
RUN #6	Left	2300	36-52	115	
AIRSPEED: 156-167 Knots	Ctr	----	--	---	
TIME SPRAYED: 17 Sec.	Right	----	55-64	115	
RUN #7	Left	2300	52-53	115	
AIRSPEED: 160-162 Knots	Ctr	----	--		
TIME SPRAYED: 11 Sec.	Right	----	64	115	

GENERAL REMARKS: 1. 115 gallons per minute were determined as maximum flow by ground checks.

MASS DEPOSII

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 15 July 1963

FLIGHT #: 1

SAMPLE LINE: A

TIME OF RELEASE: 0438 Hours

DURATION: 08 Sec.

FLOW RATE: 345 (app) GPM

SYSTEM: FIDAL

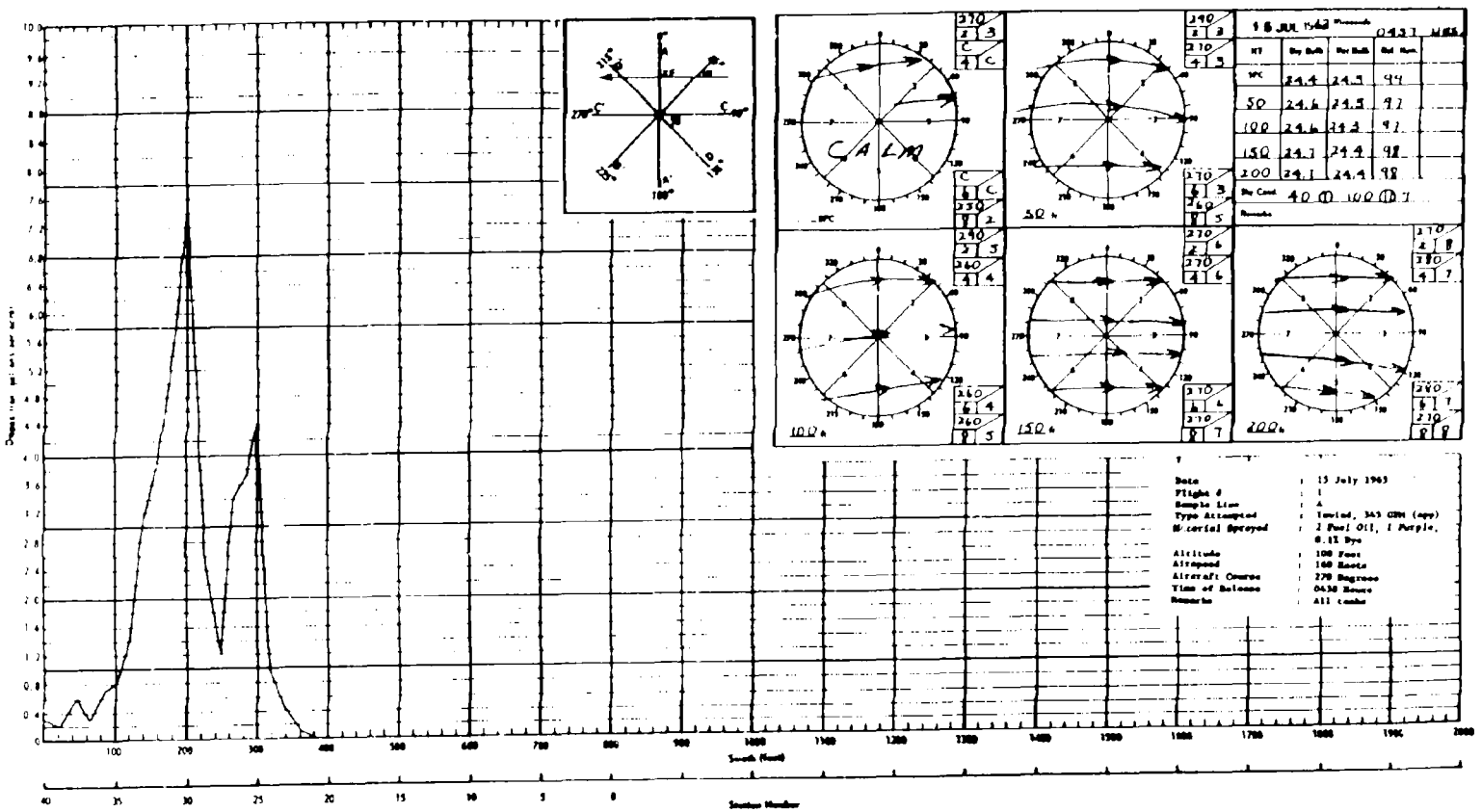
AIRSPEED: 160 Knots

ALTITUDE: 100 Feet

AIRCRAFT COURSE: 270 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 21 Blank		22	0.1				
		23	0.5				
		24	1.0				
		25	4.4				
		26	3.7				
		27	3.4				
		28	1.2				
		29	2.5				
		30	7.4				
		31	5.8				
		32	3.9				
		33	3.1				
		34	1.4				
		35	0.8				
		36	0.7				
		37	0.3				
		38	0.6				
		39	0.2				
		40	0.3				
		41	0.5				
		Station 42 - 100 Blank					

Total 41.8


CALM
50 ft
100 ft
150 ft
200 ft
Date : 15 July 1965
Flight # : 1
Sample Line : A
Type Attempted : Inverted, 365 GPH (app)
Material Sprayed : 2 Fuel Oil, 1 Purple, 0.1% Dye
Altitude : 100 Feet
Airspeed : 160 Knots
Aircraft Course : 270 Degrees
Time of Release : 0430 Hours
Remarks : All combs
Distance from point of release
South (feet)
Station Number

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 15 July 1963

FLIGHT #: 2

SAMPLE LINE: A

TIME OF RELEASE: 0440 Hours

DURATION: 13 Sec.

FLOW RATE: 345 (app) GPM

SYSTEM: FIDAL

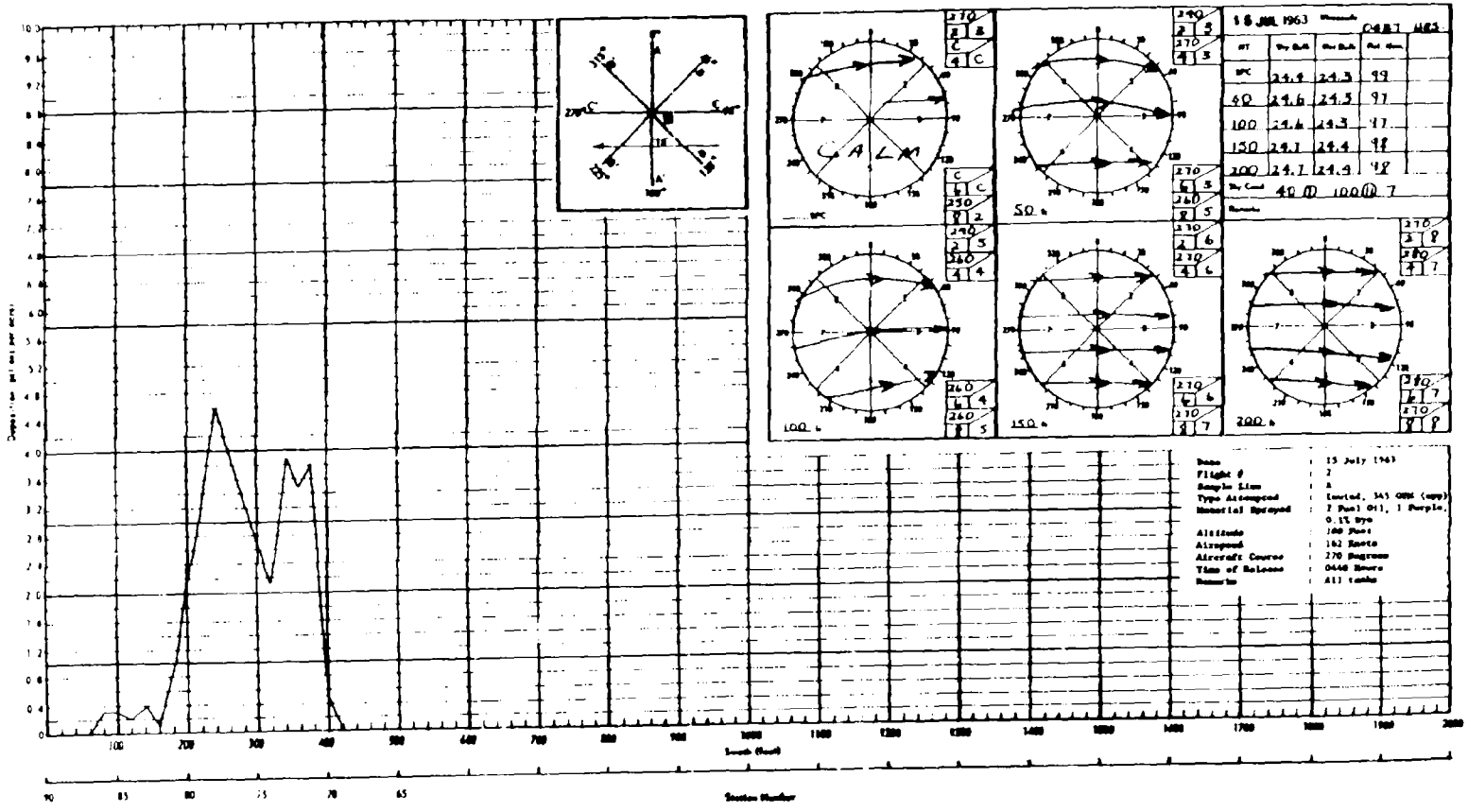
AIRSPEED: 162 Knots

ALTITUDE: 100 Feet

AIRCRAFT COURSE: 270 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 69 Blank						70	0.5
						71	3.8
						72	3.5
						73	3.9
						74	2.1
						75	2.7
						76	3.4
						77	3.9
						78	4.6
						79	3.2
						80	2.1
						81	1.1
						82	0.1
						83	0.4
						84	0.2
						85	0.3
						86	0.3
						Stations 87 - 100 Blank	

Total 36.1


CALM
50 ft
100 ft
150 ft
200 ft
15 JUL 1963
Date
Flight #
Sample Line
Type Aerospace
Material Sprayed
Altitude
Airspeed
Aircraft Course
Time of Release
Remarks
Station Number

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 15 July 1963

FLIGHT #: 3

SAMPLE LINE: A

TIME OF RELEASE: 0500 Hours

DURATION: 15 Sec.

FLOW RATE: 345 (app) GPM

SYSTEM: FIDAL

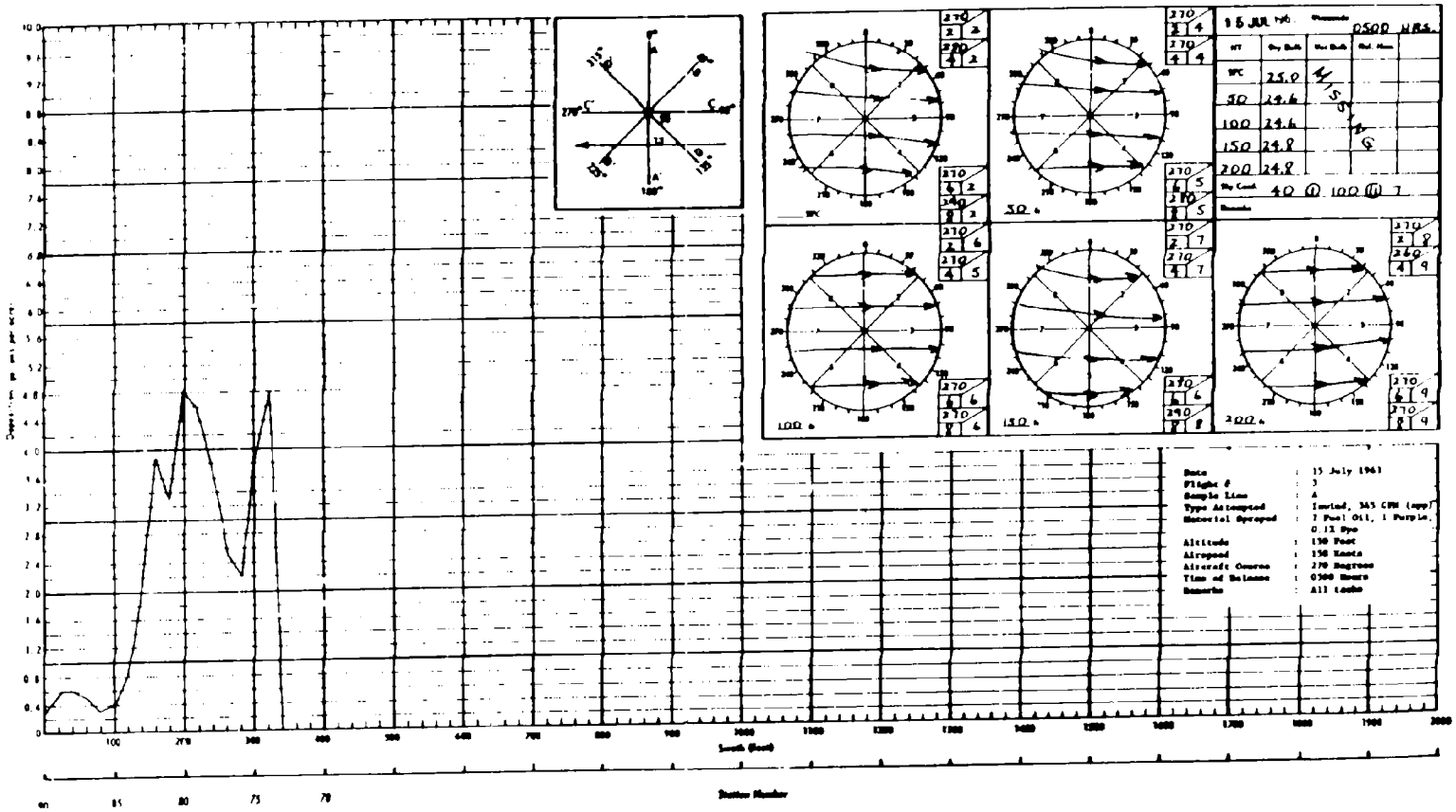
AIRSPEED: 158 Knots

ALTITUDE: 150 Feet

AIRCRAFT COURSE: 270 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 72 Blank						73	0.0
						74	4.8
						75	3.8
						76	2.2
						77	2.5
						78	3.8
						79	4.6
						80	4.8
						81	3.3
						82	3.9
						83	1.9
						84	0.8
						85	0.4
						86	0.3
						87	0.5
						88	0.6
						89	0.6
						90	0.3
						Stations 91 - 100	Blank

Total 39.1


0500 HRS.
50 ft.
100 ft.
150 ft.
200 ft.
Date : 15 July 1961
Flight # : 3
Sample Line : A
Type Attempted : Inverted, 345 CFM (app)
Material Sprayed : 7 Pool Oil, 1 Purple, 0.13 Dye
Altitude : 150 Feet
Airspeed : 150 Knots
Aircraft Course : 270 Degrees
Time of Release : 0500 Hours
Remarks : All Leaks
South (feet)
Station Number

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 15 July 1963

FLIGHT #: 4

SAMPLE LINE: A

TIME OF RELEASE: 0502 Hours

DURATION: 14 Sec.

FLOW RATE: 345 (app) GPM

SYSTEM: FIDAL

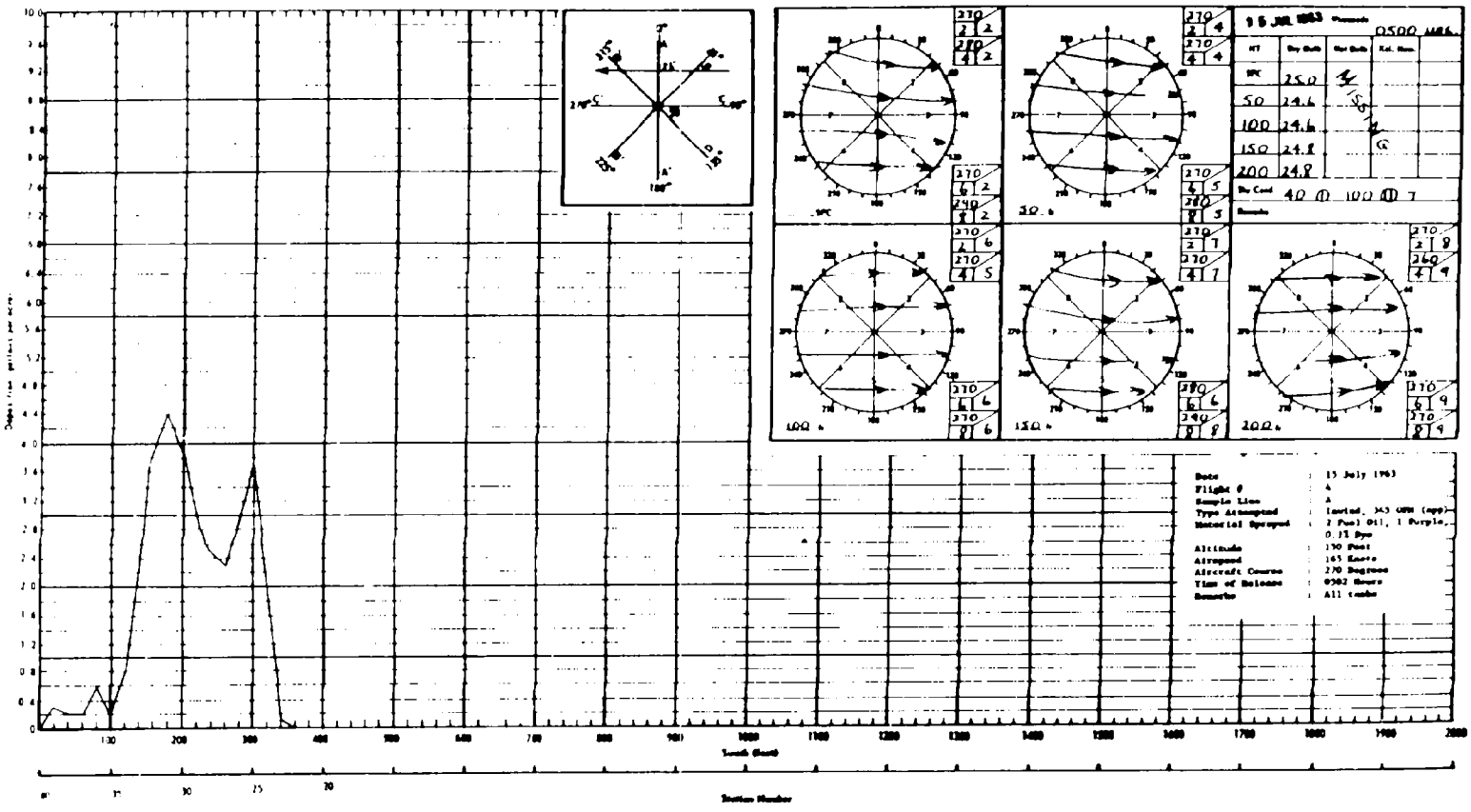
AIRSPEED: 165 Knots

ALTITUDE: 150 Feet

AIRCRAFT COURSE: 270 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 22 Blank		23	0.1				
		24	1.7				
		25	3.7				
		26	2.8				
		27	2.3				
		28	2.5				
		29	2.8				
		30	3.9				
		31	4.4				
		32	3.7				
		33	2.4				
		34	0.8				
		35	0.2				
		36	0.6				
		37	0.2				
		38	0.2				
		39	0.3				
		Stations 40 - 100 Blank					

Total 32.6

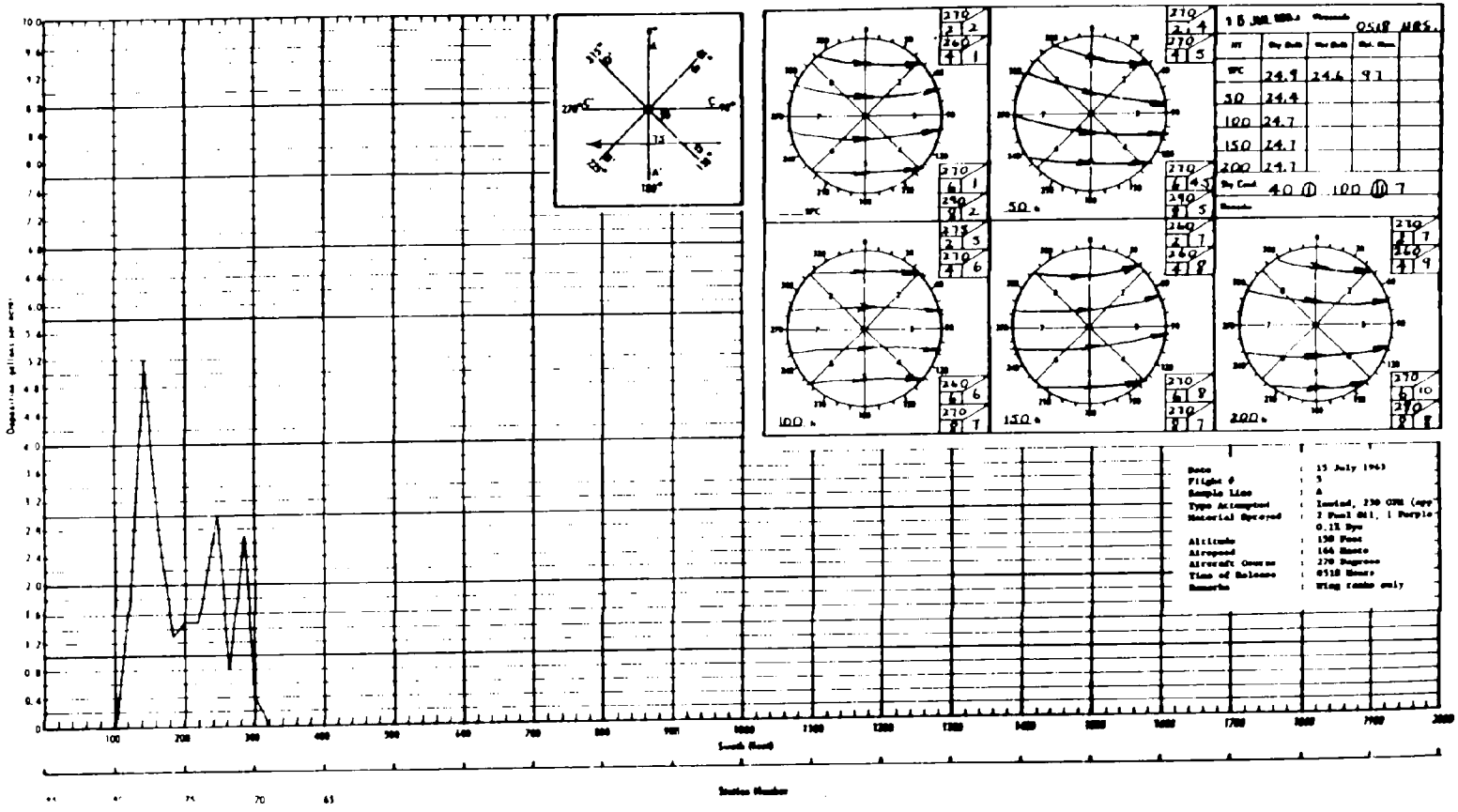


MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple
FLOW RATE: 230 (spp) GPM
DATE: 15 July 1963
SYSTEM: FIDAL
FLIGHT #: 5
AIRSPEED: 164 Knots
SAMPLE LINE: A
ALTITUDE: 150 Feet
TIME OF RELEASE: 0518 Hours
AIRCRAFT COURSE: 270 Degrees
DURATION: 13 Sec.

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 68 Blank							
69	0.0						
70	0.4						
71	2.7						
72	0.8						
73	3.0						
74	1.5						
75	1.5						
76	1.3						
77	2.4						
78	5.2						
79	1.8						
80	0.0						
Stations 81 - 100 Blank							

Total 20.6

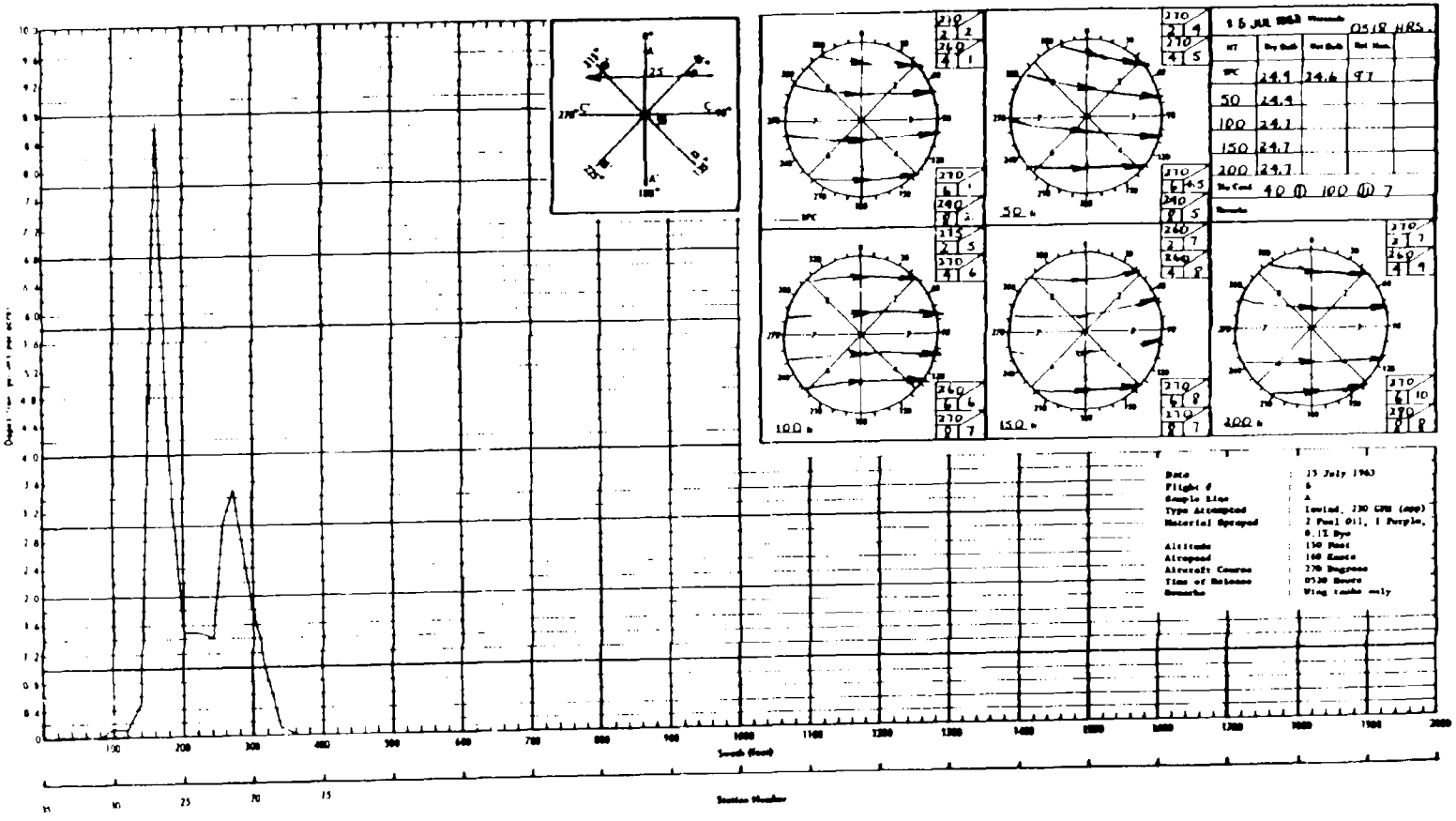

Date : 15 July 1963
Flight # : 5
Sample Line : A
Type Accompanist : Ionized, 230 CPH (app)
Material Sprayed : 2 Fuel Oil, 1 Purple
0.1% Dye
Altitude : 150 Feet
Airspeed : 166 Knots
Aircraft Course : 270 Degrees
Time of Release : 0518 Hours
Remarks : Wing tanks only
0518 HRS.
WC 24.9 24.6 91
50 24.4
100 24.7
150 24.1
200 24.1
40 100 7
50 ft.
100 ft.
150 ft.
200 ft.
South (East)
Station Number

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple
FLOW RATE: 230 (app) GPM
DATE: 15 July 1963
SYSTEM: FIDAL
FLIGHT #: 6
AIRSPEED: 160 Knot
SAMPLE LINE: A
ALTITUDE: 150 Feet
TIME OF RELEASE: 0520 Hours
AIRCRAFT COURSE: 270 Degrees
DURATION: 15 Sec.

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 16 Blank							
17	0.0						
18	0.1						
19	0.8						
20	1.8						
21	3.5						
22	3.0						
23	1.4						
24	1.5						
25	1.5						
26	4.1						
27	8.7						
28	0.5						
29	0.1						
30	0.1						
Stations 31 - 100 Blank							

Total 27.1

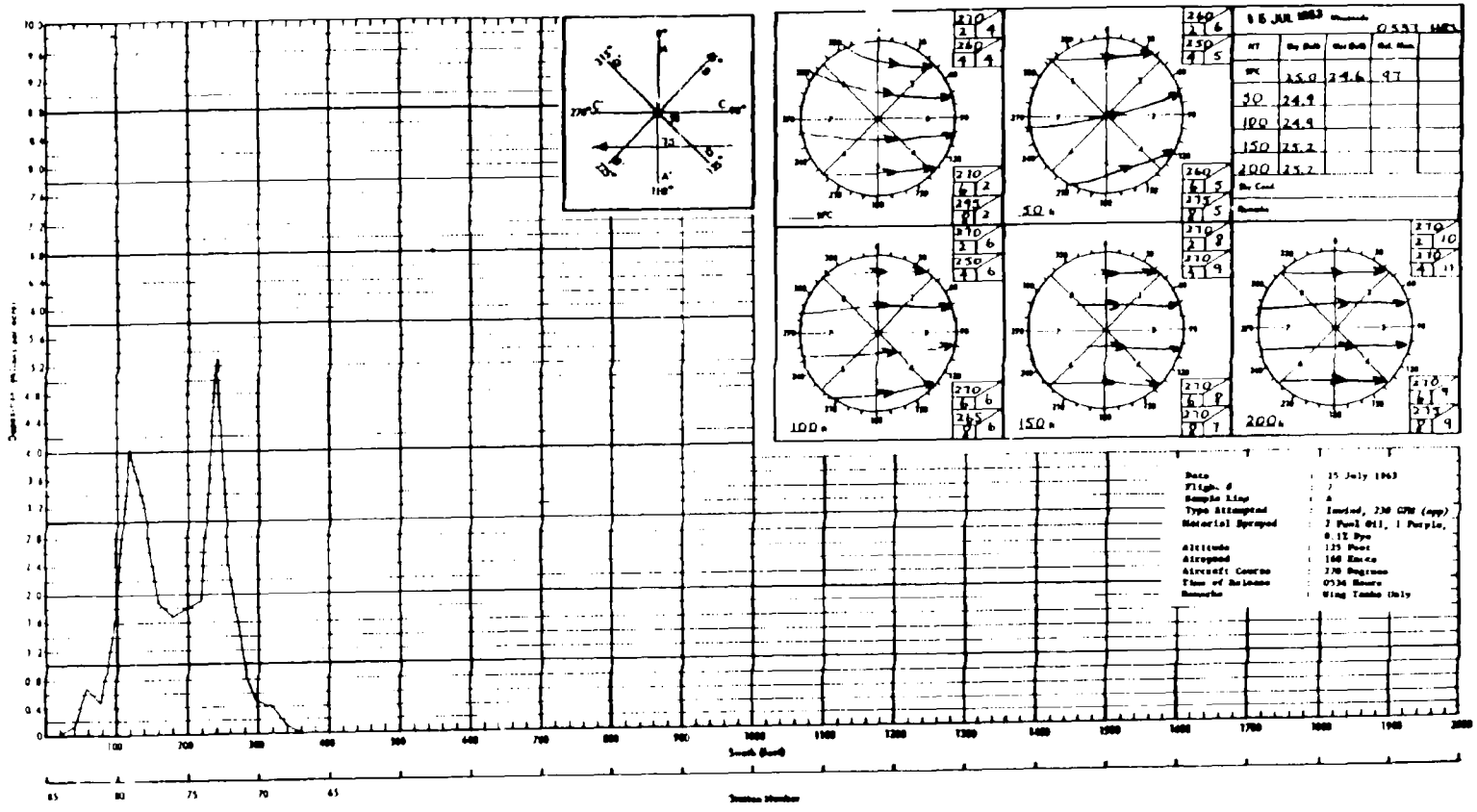

0518 HRS
50 ft
100 ft
150 ft
200 ft
Date : 15 July 1963
Flight # : 6
Sample Line : A
Type Attempted : Ionized, 230 GPH (app)
Material Sprayed : 2 Fuel Oil, 1 Purple, 0.1% Dye
Altitude : 150 Feet
Airspeed : 160 Knots
Aircraft Course : 270 Degrees
Time of Release : 0520 Hours
Remarks : Wing tanks only

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple
FLOW RATE: 230 (app) GPM
DATE: 15 July 1963
SYSTEM: FIDAL
FLIGHT #: 7
AIRSPEED: 160 Knots
SAMPLE LINE: A
ALTITUDE: 125 Feet
TIME OF RELEASE: 0536 Hours
AIRCRAFT COURSE: 270 Degrees
DURATION: 12 Sec.

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 67 Blank							
68	0.1						
69	0.4						
70	0.5						
71	0.9						
72	2.5						
73	5.3						
74	1.9						
75	1.8						
76	1.7						
77	1.9						
78	3.3						
79	4.0						
80	1.8						
81	0.5						
82	0.7						
83	0.1						
Stations 84 - 100 Blank							

Total 27.4


15 JUL 1963
0533 HRS
MC
50 ft
100 ft
150 ft
200 ft
Date : 15 July 1963
Flight # : 7
Sample Line : A
Type Attempted : Inwind, 230 GPM (app)
Material Sprayed : 7 Fuel Oil, 1 Purple, 0.1% Dye
Altitude : 125 Feet
Airspeed : 160 Knots
Aircraft Course : 270 Degrees
Time of Release : 0534 Hours
Remarks : Wing Tanks Only
South (Feet)
Station Number

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

FLOW RATE: NA

DATE: 15 July 1963

SYSTEM: FIDAL

FLIGHT #: 8

AIRSPEED: NA

SAMPLE LINE: A

ALTITUDE: 125 Feet

TIME OF RELEASE: 0538 Hours

AIRCRAFT COURSE: 270 Degrees

DURATION: NA

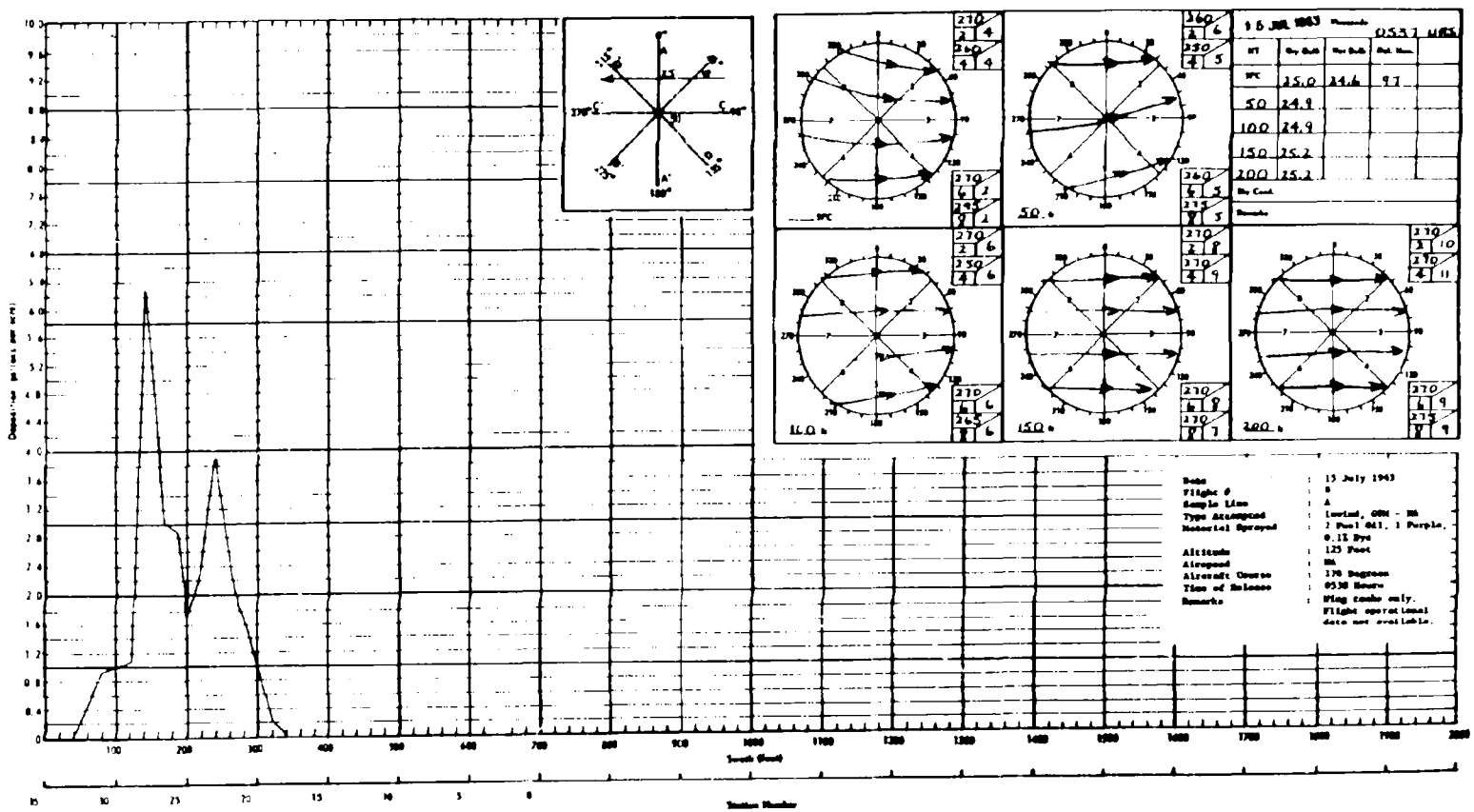
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.

Stations 1 - 18 Blank

19	0.2
20	1.0
21	1.7
22	2.0
23	3.9
24	2.3
25	1.7
26	2.9
27	3.0
28	6.3
29	1.1
30	1.0
31	0.9
32	0.5
33	0.0

Stations 34 - 100 Blank

Total 28.5


Date : 15 July 1963
Flight # : 8
Sample Line : A
Type Arrangement : Lowland, ODN - BA
Material Sprayed : 2 Pint Oil, 1 Purple, 0.15 Dye
Altitude : 125 Foot
Airspeed : BA
Aircraft Course : 170 Degrees
Time of Release : 0530 Hours
Remarks : Wing combs only. Flight operational data not available.

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

FLOW RATE: NA

DATE: 15 July 1963

SYSTEM: FIDAL

FLIGHT #: 9

AIRSPEED: NA

SAMPLE LINE: A

ALTITUDE: 125 Feet

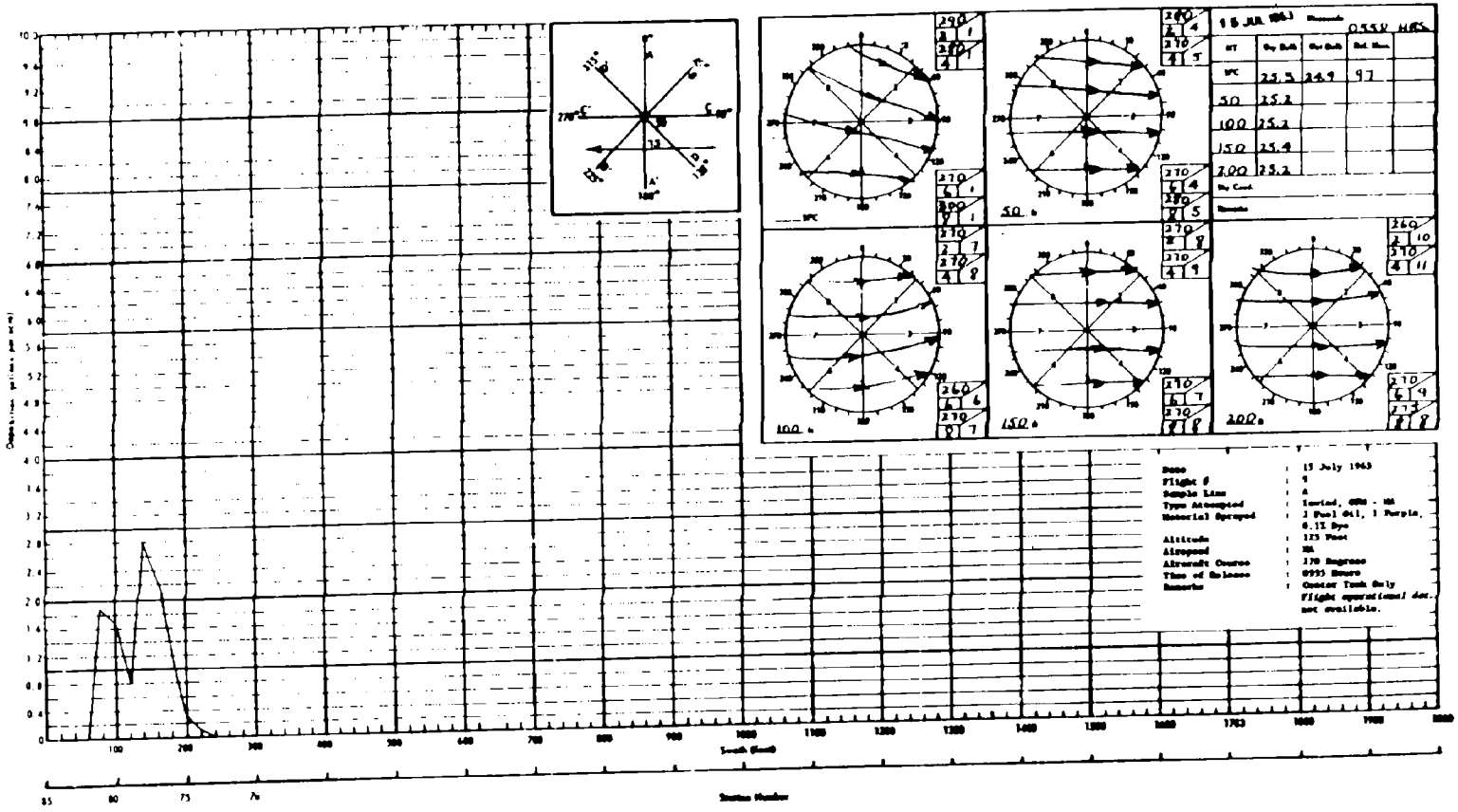
TIME OF RELEASE: 0555 Hours

AIRCRAFT COURSE: 270 Degrees

DURATION: NA

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 73 Blank						74	0.1
						75	0.3
						76	0.9
						77	2.0
						78	2.8
						79	0.8
						80	1.7
						81	1.9
						82	0.0
						Stations 83 - 100 Blank	

Total 10.5


Date : 15 July 1963
Flight # : 9
Sample Line : A
Type Atomizer : Inertial, 400 - 45
Material Sprayed : 1 Pool dil, 1 Purple, 0.1% Dye
Altitude : 125 Feet
Airspeed : 155
Aircraft Course : 170 Degrees
Time of Release : 0955 Hours
Remarks : Center Tank Only
Flight equipment det. not available.
50 ft
100 ft
150 ft
200 ft

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

FLOW RATE: NA

DATE: 15 July 1963

SYSTEM: FIDAL

FLIGHT #: 10

AIRSPEED: NA

SAMPLE LINE: A

ALTITUDE: 125 Feet

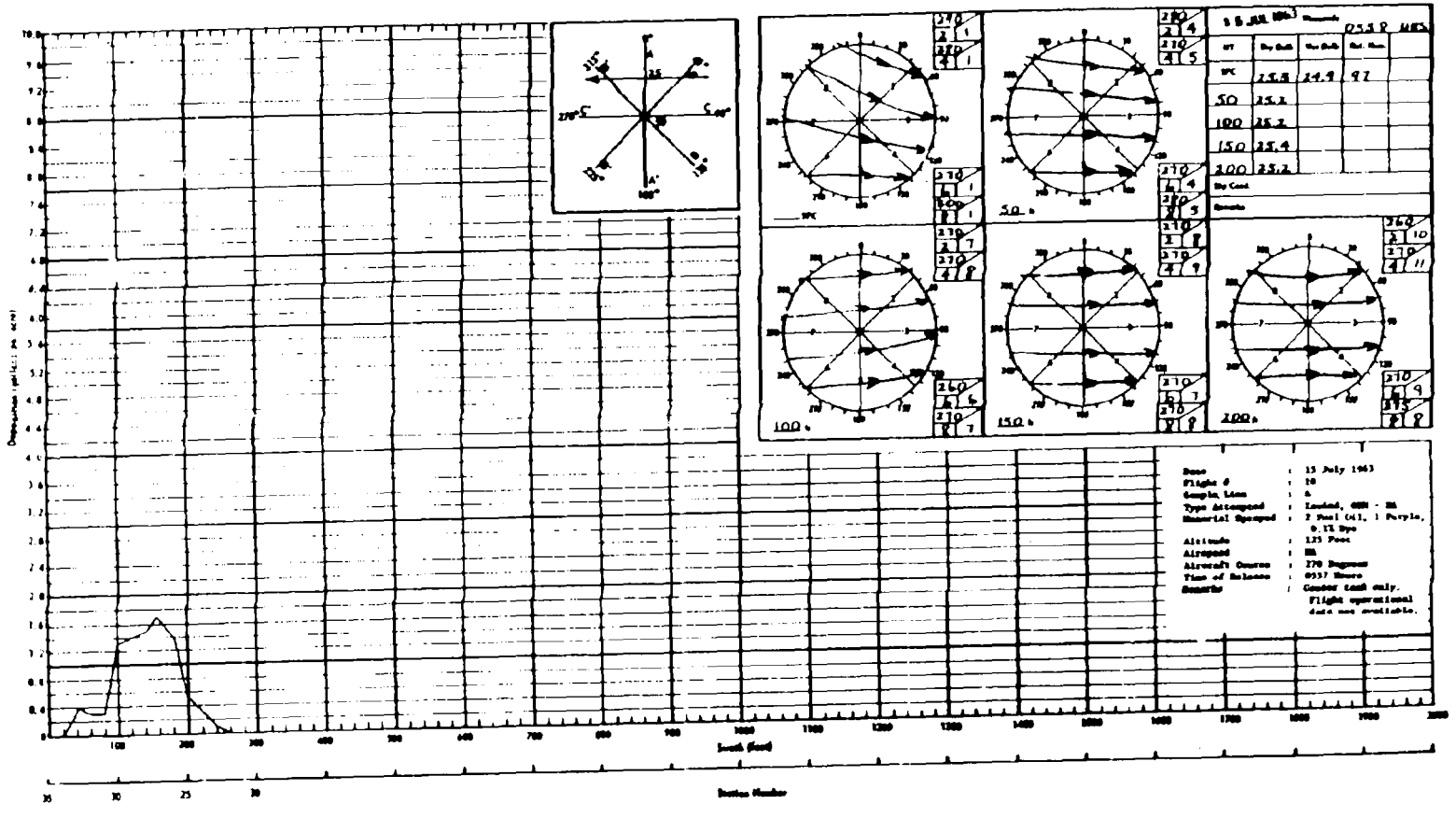
TIME OF RELEASE: 0557 Hours

AIRCRAFT COURSE: 270 Degrees

DURATION: NA

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 21 Blank		22	0.0				
		23	0.1				
		24	0.3				
		25	0.5				
		26	1.4				
		27	1.7				
		28	1.5				
		29	1.4				
		30	1.3				
		31	0.3				
		32	0.3				
		33	0.4				
		34	0.0				
		Stations 35 - 100 Blank					

Total 9.2



MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

FLOW RATE: NA

DATE: 15 July 1963

SYSTEM: FIDAL

FLIGHT #: 11

AIRSPEED: NA

SAMPLE LINE: A

ALTITUDE: 75 Feet

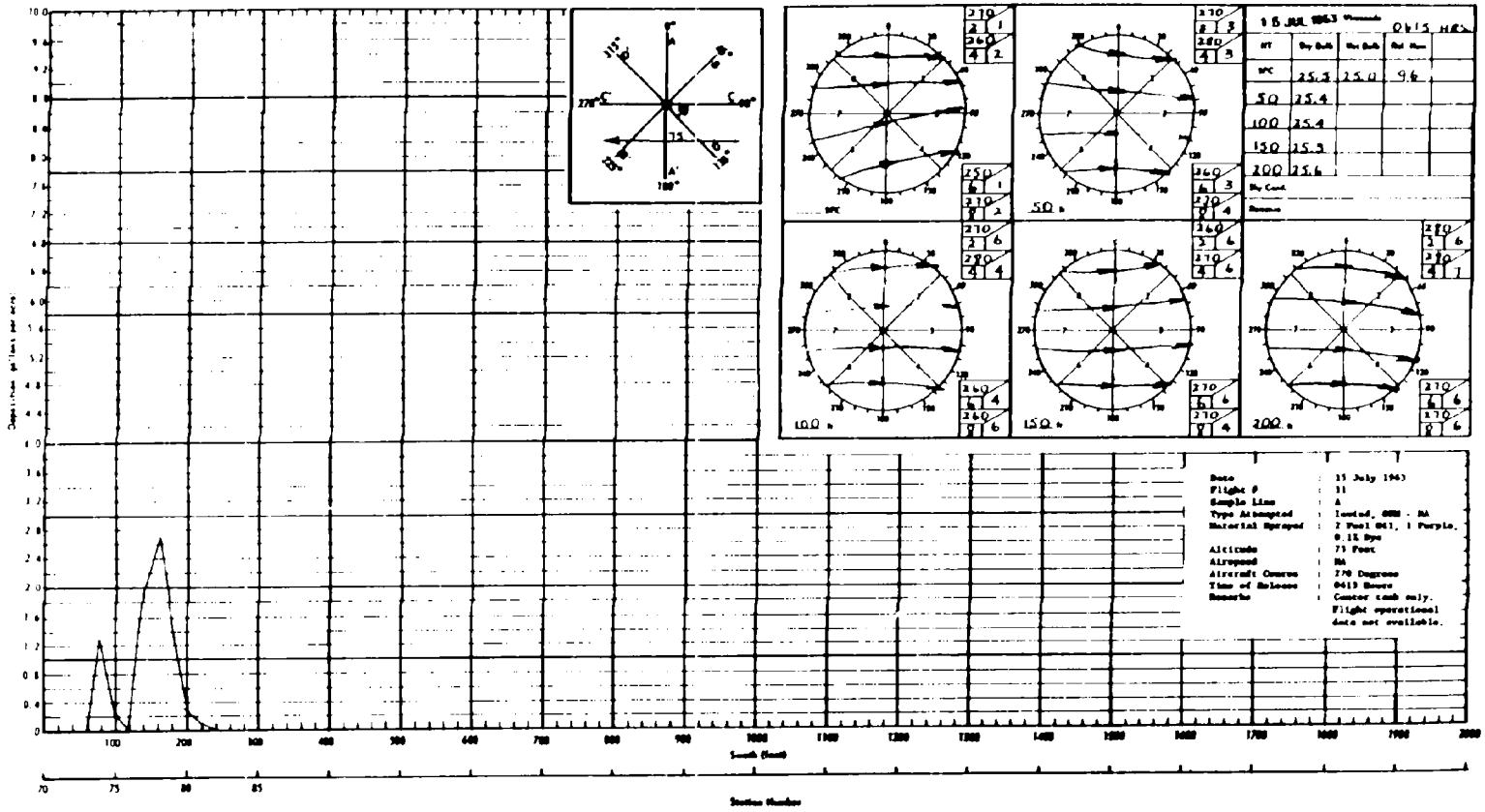
TIME OF RELEASE: 0613 Hours

AIRCRAFT COURSE: 270 Degrees

DURATION: NA

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 73 Blank						74	1.3
						75	0.2
						76	0.0
						77	1.9
						78	2.7
						79	1.3
						80	0.3
						81	0.1
						82	0.0
						Stations 83 - 100 Blank	

Total 7.8


Date : 15 July 1963
Flight # : 11
Sample Line : A
Type Attempted : Instad, GMM - BA
Material Sprayed : 2 Pool 041, 1 Purple, 0.1% Dye
Altitude : 75 Feet
Airspeed : BA
Aircraft Course : 270 Degrees
Time of Release : 0619 Hours
Remarks : Center tank only. Flight operational data not available.
South (feet)
Station Number

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

FLOW RATE: NA

DATE: 15 July 1963

SYSTEM: FIDAL

FLIGHT #: 12

AIRSPEED: NA

SAMPLE LINE: A

ALTITUDE: 75 Feet

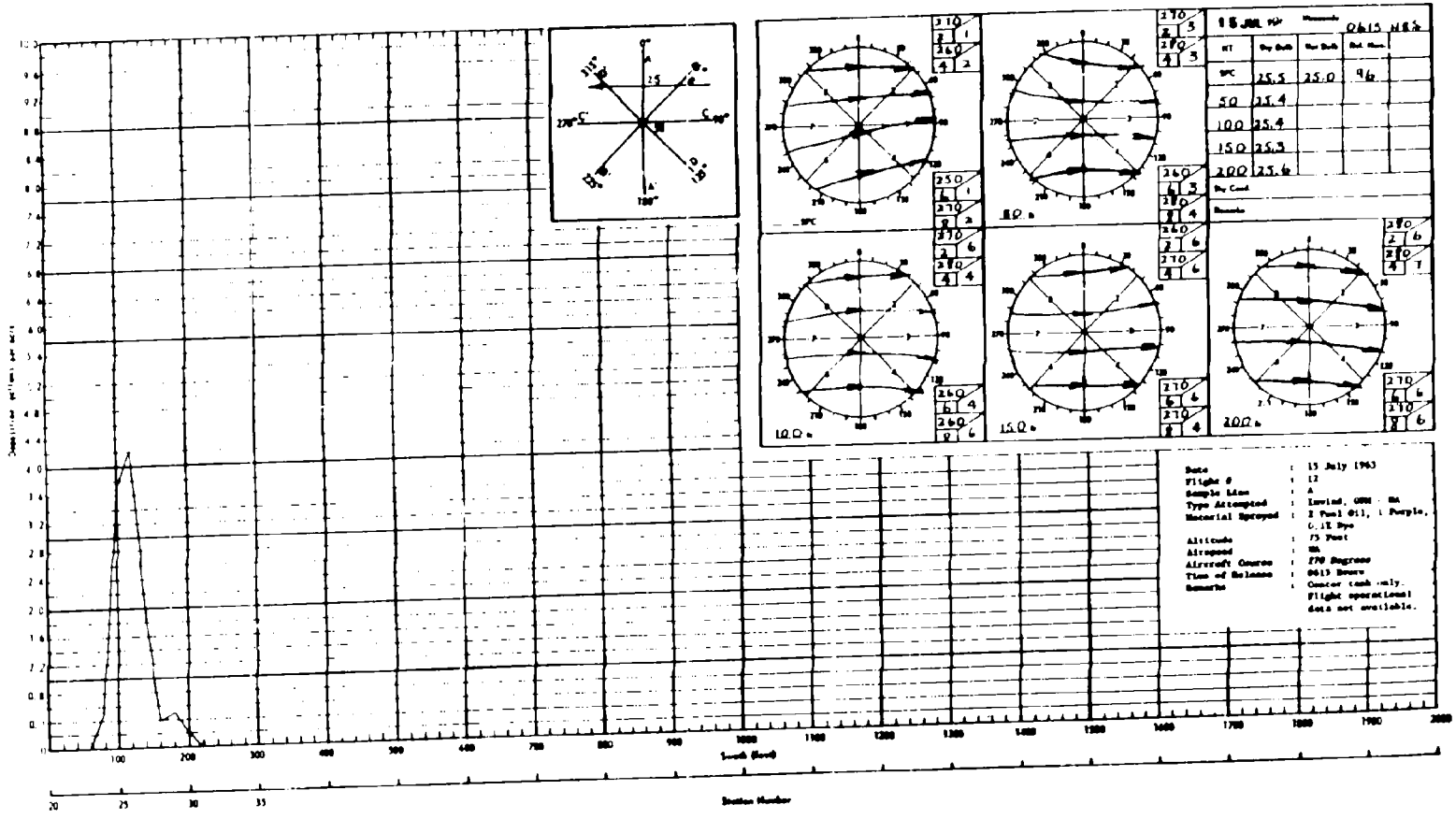
TIME OF RELEASE: 0615 Hours

AIRCRAFT COURSE: 270 Degrees

DURATION: NA

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 22 Blank		23	0.0				
		24	0.5				
		25	3.7				
		26	4.2				
		27	1.8				
		28	0.4				
		29	0.5				
		30	0.2				
		31	0.0				
		Stations 32 - 100 Blank					

Total 11.3


Date : 15 July 1963
Flight # : 12
Sample Line : A
Type Attempted : Inwind, GMM : 8A
Material Sprayed : 2 Pool Oil, 1 Purple, 1 Oil Dye
Altitude : 75 Feet
Airspeed : 8A
Aircraft Course : 270 Degrees
Time of Release : 0615 Hours
Remarks : Concur task only. Flight operational data not available.
0615 HRS
25.5
25.0
50 25.4
100 25.4
150 25.3
200 25.6
80 n.
100 n.
150 n.
200 n.
Station Number

On 21, 23, 24, and 26 July, the pump (spray system) was operated at full capacity which gave a flow rate of approximately 315 gallons per minute when spraying Purple.

MASS DEPOSIT

MATERIAL: Purple

DATE: 21 July 1963

FLIGHT #: 1

SAMPLE LINE: A

TIME OF RELEASE: 0451 Hours

DURATION: 09 Sec.

FLOW RATE: 315 (app) GPM

SYSTEM: FIDAL

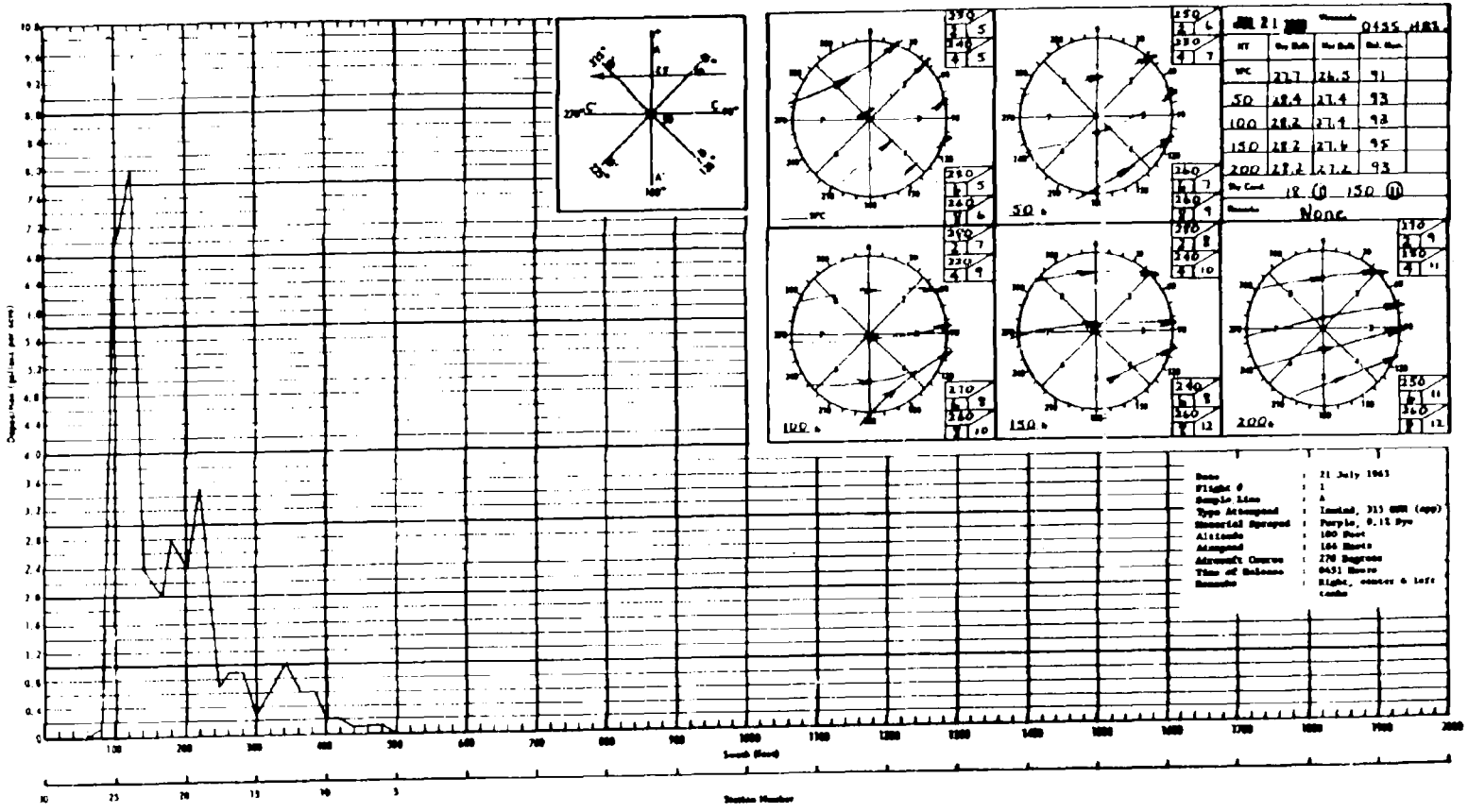
AIRSPEED: 166 Knots

ALTITUDE: 100 Feet

AIRCRAFT COURSE: 270 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 5 Blank							
6	0.1						
7	0.1						
8	0.1						
9	0.2						
10	0.2						
11	0.6						
12	0.6						
13	1.0						
14	0.6						
15	0.3						
16	0.9						
17	0.9						
18	0.7						
19	3.5						
20	2.4						
21	2.8						
22	2.0						
23	2.4						
24	8.0						
25	6.9						
26	0.1						
Stations 27 - 100 Blank							

Total 54.4


WPC
50 b
100 b
150 b
200 b
None
21 July 1961
Purple, 0.15 Pyr
180 Knots
184 Knots
270 Degrees
0451 Hours
Right, center & left
camba

MASS DEPOSIT

MATERIAL: Purple

DATE: 21 July 1963

FLIGHT #: 2

SAMPLE LINE: A

TIME OF RELEASE: 0454 Hours

DURATION: 08 Sec.

FLOW RATE: 306 (app) GPM

SYSTEM: FIDAL

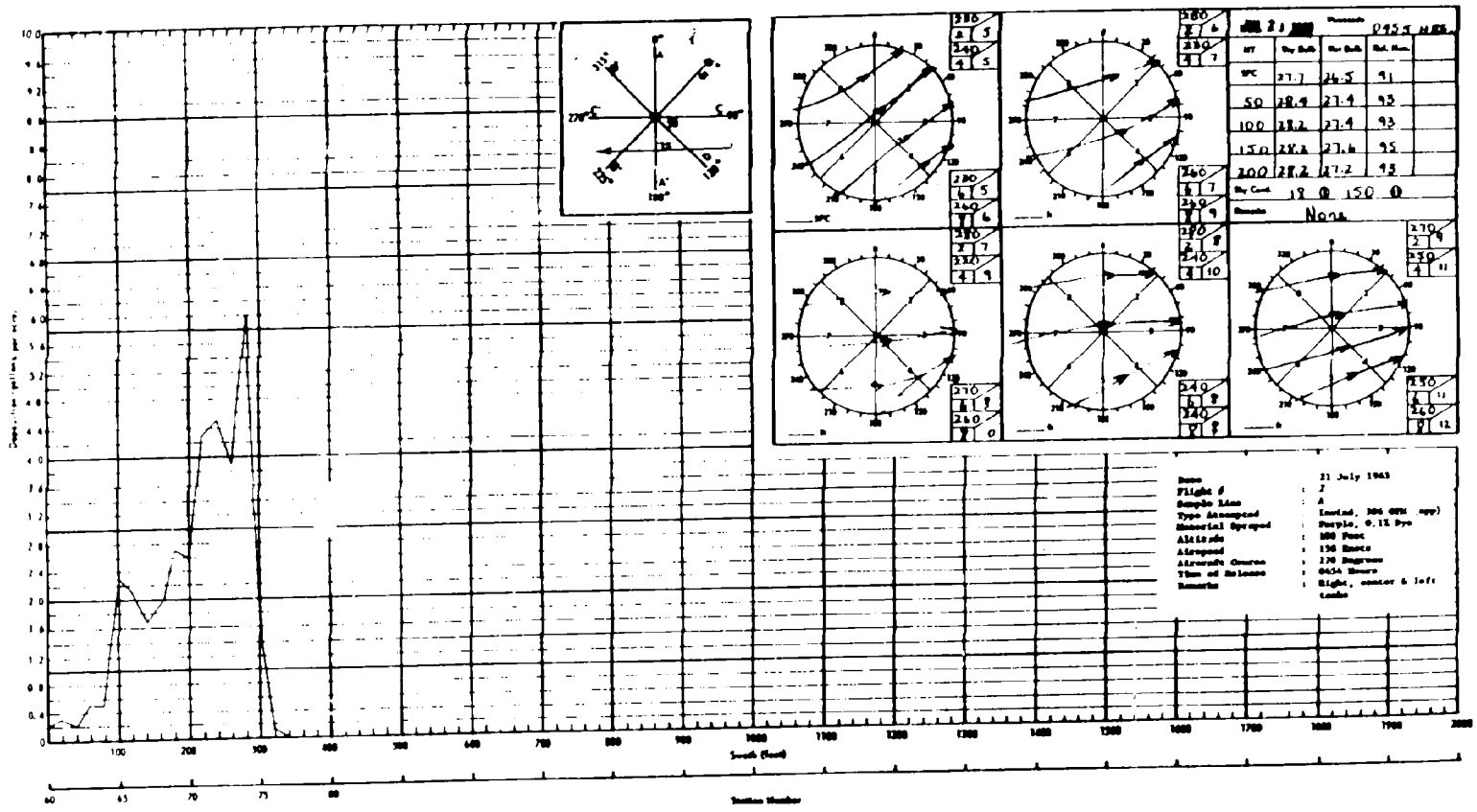
AIRSPEED: 158 Knots

ALTITUDE: 100 Feet

AIRCRAFT COURSE: 270 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 58 Blank				59	0.0		
				60	0.2		
				61	0.3		
				62	0.2		
				63	0.5		
				64	0.5		
				65	2.3		
				66	2.1		
				67	1.7		
				68	2.0		
				69	2.7		
				70	2.6		
				71	4.3		
				72	4.5		
				73	3.9		
				74	6.0		
				75	1.7		
				76	0.1		
				Stations 77 - 100 Blank			

Total 35.6



MASS DEPOSIT

MATERIAL: Purple

FLOW RATE: 315 (app) GPM

DATE: 21 July 1963

SYSTEM: FIDAL

FLIGHT #: 3

AIRSPEED: 164 Knots

SAMPLE LINE: A

ALTITUDE: 125 Feet

TIME OF RELEASE: 0508 Hours

AIRCRAFT COURSE: 270 Degree

DURATION: 12 Sec.

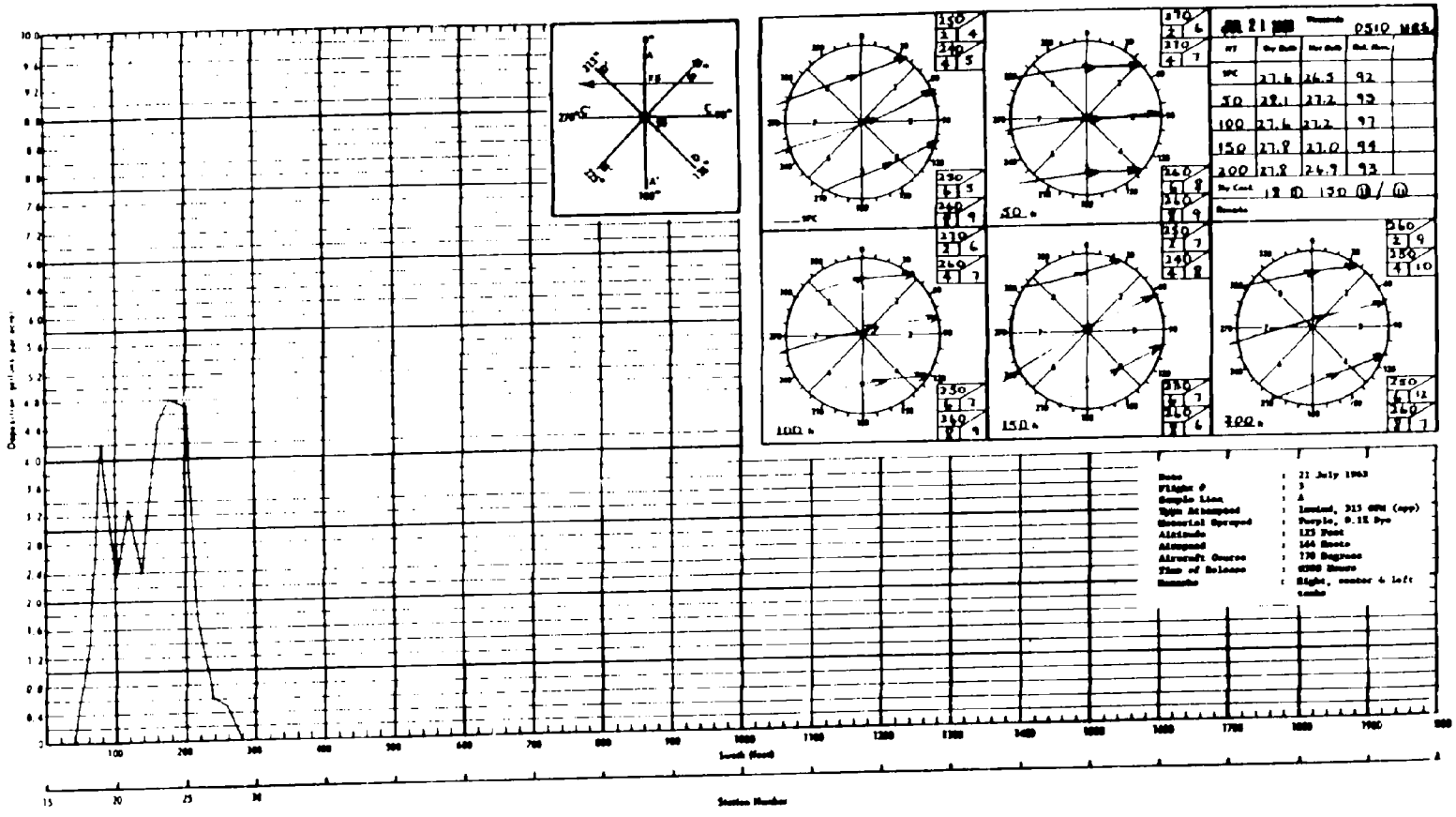
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.

Stations 1 - 16 Blank

17	0.0
18	1.4
19	4.2
20	2.3
21	3.3
22	2.4
23	4.5
24	4.8
25	4.7
26	1.8
27	0.6
28	0.5

Stations 29 - 100 Blank

Total 30.5


Deposition gallons per acre
Length (feet)
Station Number
Date : 21 July 1963
Flight # : 3
Sample Line : A
Spray Attempted : Lontrel, 315 GPH (app)
Material Sprayed : Purple, 0.15 Dye
Altitude : 125 Feet
Airspeed : 144 Knots
Aircraft Course : 170 Degrees
Time of Release : 0900 Hours
Remarks : Slight, constant & left
cross
50 ft.
100 ft.
150 ft.
200 ft.

MASS DEPOSIT

MATERIAL: Purple

DATE: 21 July 1963

FLIGHT #: 4

SAMPLE LINE: A

TIME OF RELEASE: 0510 Hours

DURATION: 11 Sec.

FLOW RATE: 300(app) GPM

SYSTEM: FIDAL

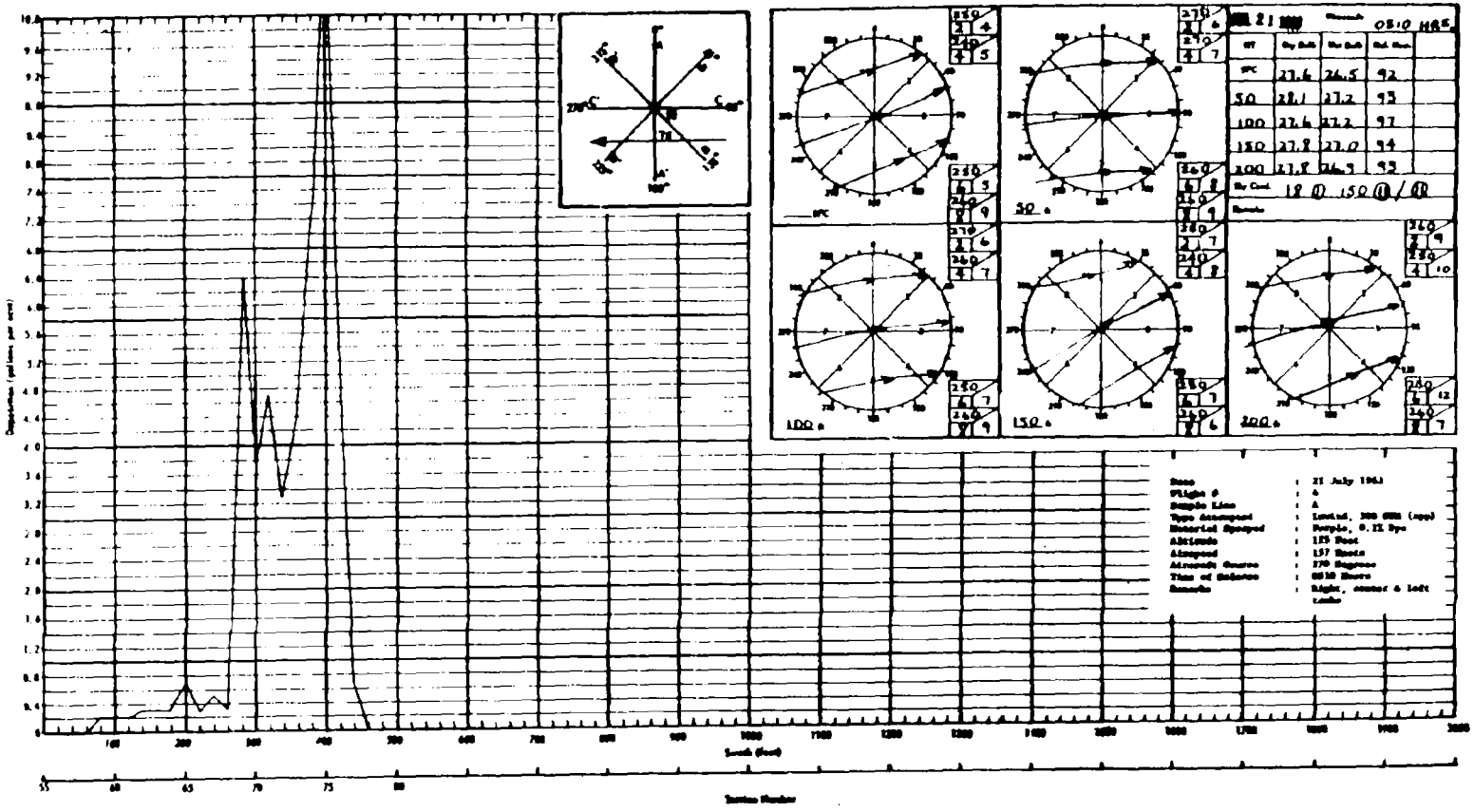
AIRSPEED: 157 Knots

ALTITUDE: 125 Feet

AIRCRAFT COURSE: 270 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 57 Blank							
				58	0.0		
				59	0.2		
				60	0.2		
				61	0.2		
				62	0.3		
				63	0.3		
				64	0.3		
				65	0.7		
				66	0.3		
				67	0.5		
				68	0.3		
				69	6.4		
				70	3.8		
				71	4.7		
				72	3.3		
				73	4.3		
				74	7.5		
				75	13.2		
				76	4.1		
				77	0.1		
				Stations 78 - 100 Blank			

Total 51.9



MASS DEPOSIT

MATERIAL: Purple
FLOW RATE: 315 (app) GPM

DATE: 21 July 1963
SYSTEM: FIDAL

FLIGHT #: 5
AIRSPEED: 163 Knots

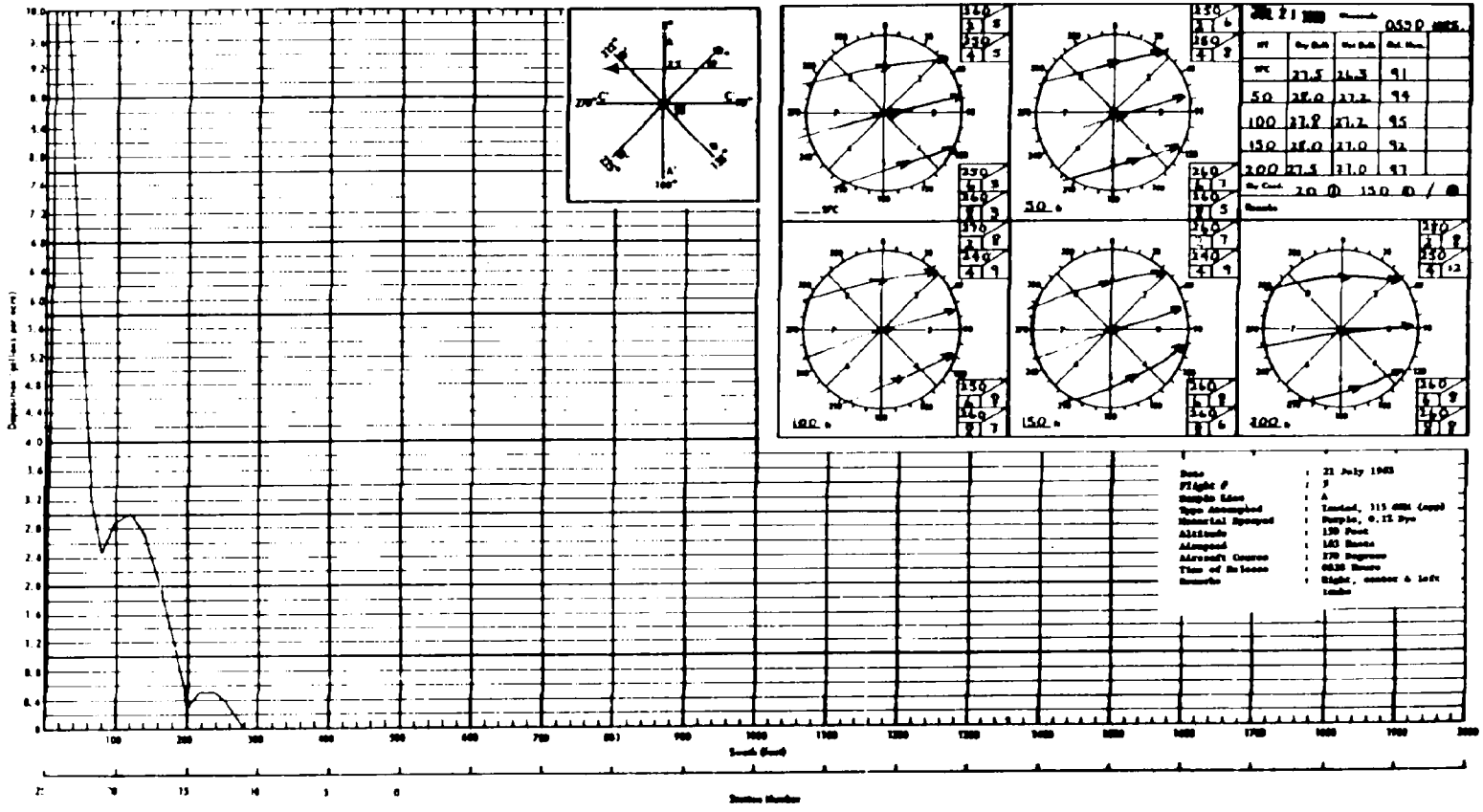
SAMPLE LINE: A
ALTITUDE: 150 Feet

TIME OF RELEASE: 0528 Hours
AIRCRAFT COURSE: 270 Degrees

DURATION: 08 Sec.

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 10 Blank							
11	0.0						
12	0.4						
13	0.5						
14	0.5						
15	0.3						
16	1.1						
17	1.9						
18	2.7						
19	3.0						
20	2.9						
21	2.5						
22	3.3						
23	7.0						
24	14.2						
25	0.1						
Stations 26 - 100 Blank							

Total 40.4



MASS DEPOSIT

MATERIAL: Purple

DATE: 21 July 1963

FLIGHT #: 6

SAMPLE LINE: A

TIME OF RELEASE: 0530 Hours

DURATION: 10 Sec.

FLOW RATE: 306 (app) GPM

SYSTEM: FIDAL

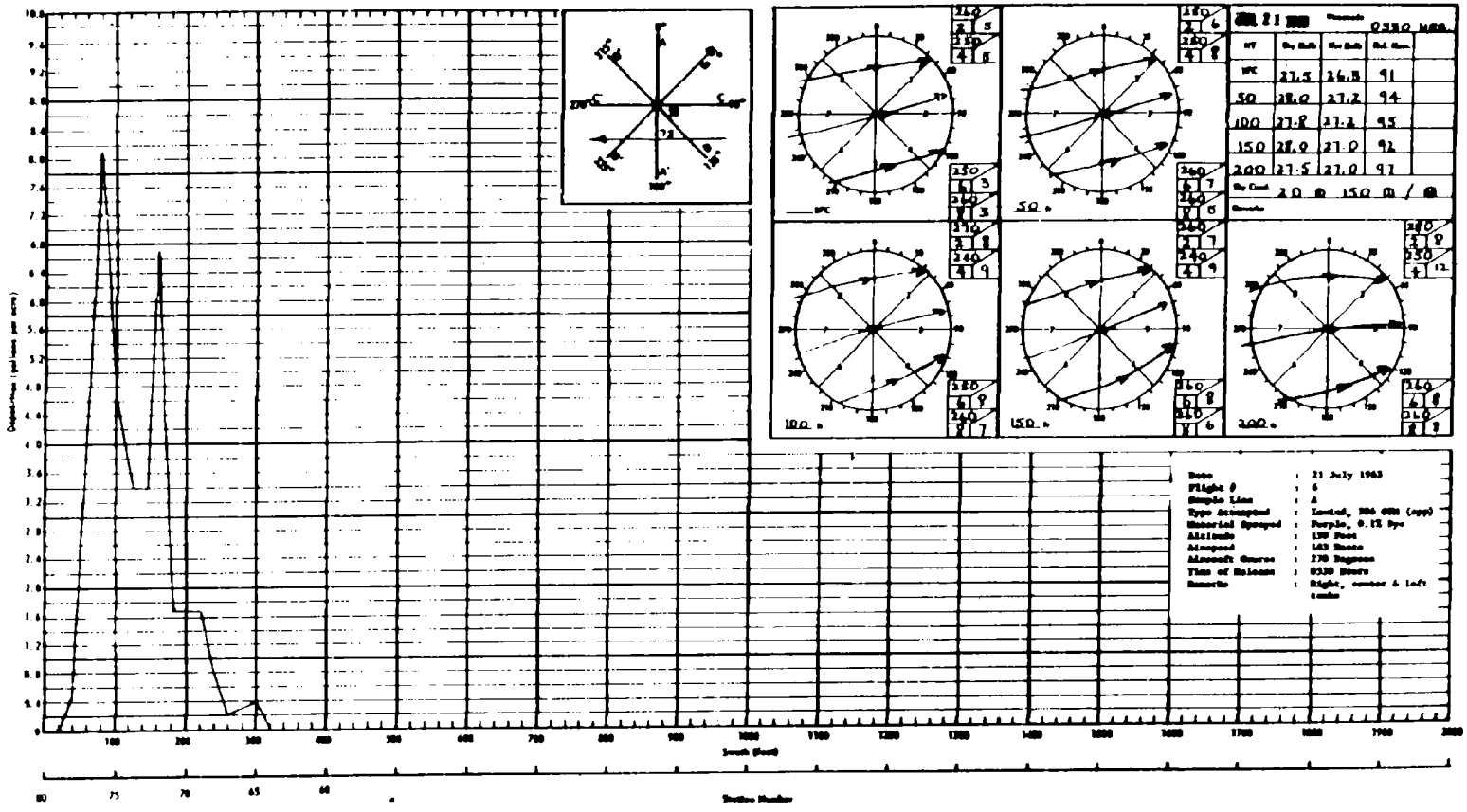
AIRSPEED: 163 Knots

ALTITUDE: 150 Feet

AIRCRAFT COURSE: 270 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 63 Blank							
64	0.0						
65	0.4						
66	0.3						
67	0.2						
68	0.8						
69	1.5						
70	1.5						
71	1.5						
72	6.7						
73	3.4						
74	3.4						
75	4.7						
76	8.1						
77	4.1						
78	0.5						
79	0.0						
Stations 80 - 100 Blank							

Total 37.4



MASS DEPOSIT

MATERIAL: Purple

DATE: 21 July 1963

FLIGHT #: 7

SAMPLE LINE: A

TIME OF RELEASE: 0545 Hours

DURATION: 10 Sec.

FLOW RATE: 306 (app) GPM

SYSTEM: FIDAL

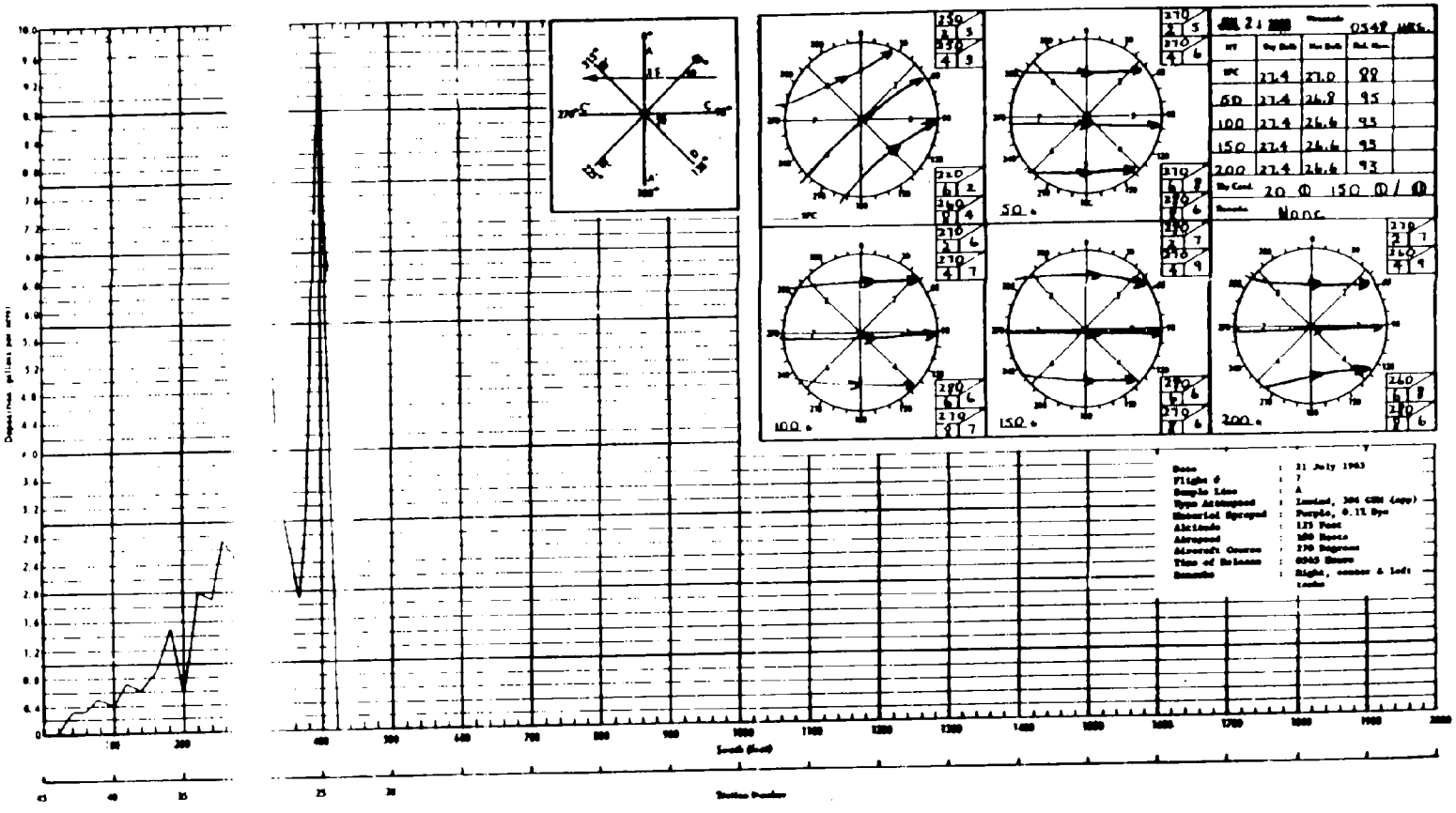
AIRSPEED: 160 Knots

ALTITUDE: 125 Feet

AIRCRAFT COURSE: 270 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 24 Blank		25	9.6				
		26	3.3				
		27	1.9				
		28	3.3				
		29	6.3				
		30	3.8				
		31	2.4				
		32	2.7				
		33	1.9				
		34	2.0				
		35	0.6				
		36	1.5				
		37	0.9				
		38	0.6				
		39	0.7				
		40	0.4				
		41	0.5				
		42	0.3				
		43	0.3				
		Stations 44 - 100 Blank					

Total 43.0


50 ft
100 ft
150 ft
200 ft
Date : 21 July 1963
Flight # : 7
Sample Line : A
Type Atmosphere : Instant, 300 GSM (App)
Material Sprayed : Purple, 0.15 Dye
Altitude : 125 Feet
Airspeed : 180 Knots
Aircraft Course : 270 Degrees
Time of Release : 0542 Hours
Remarks : Right, center & Left tanks

MASS DEPOSIT

MATERIAL: Purple

DATE: 21 July 1963

FLIGHT #: 8

SAMPLE LINE: A

TIME OF RELEASE: 0546 Hours

DURATION: 10 Sec.

FLOW RATE: 306 (app) GPM

SYSTEM: FIDAL

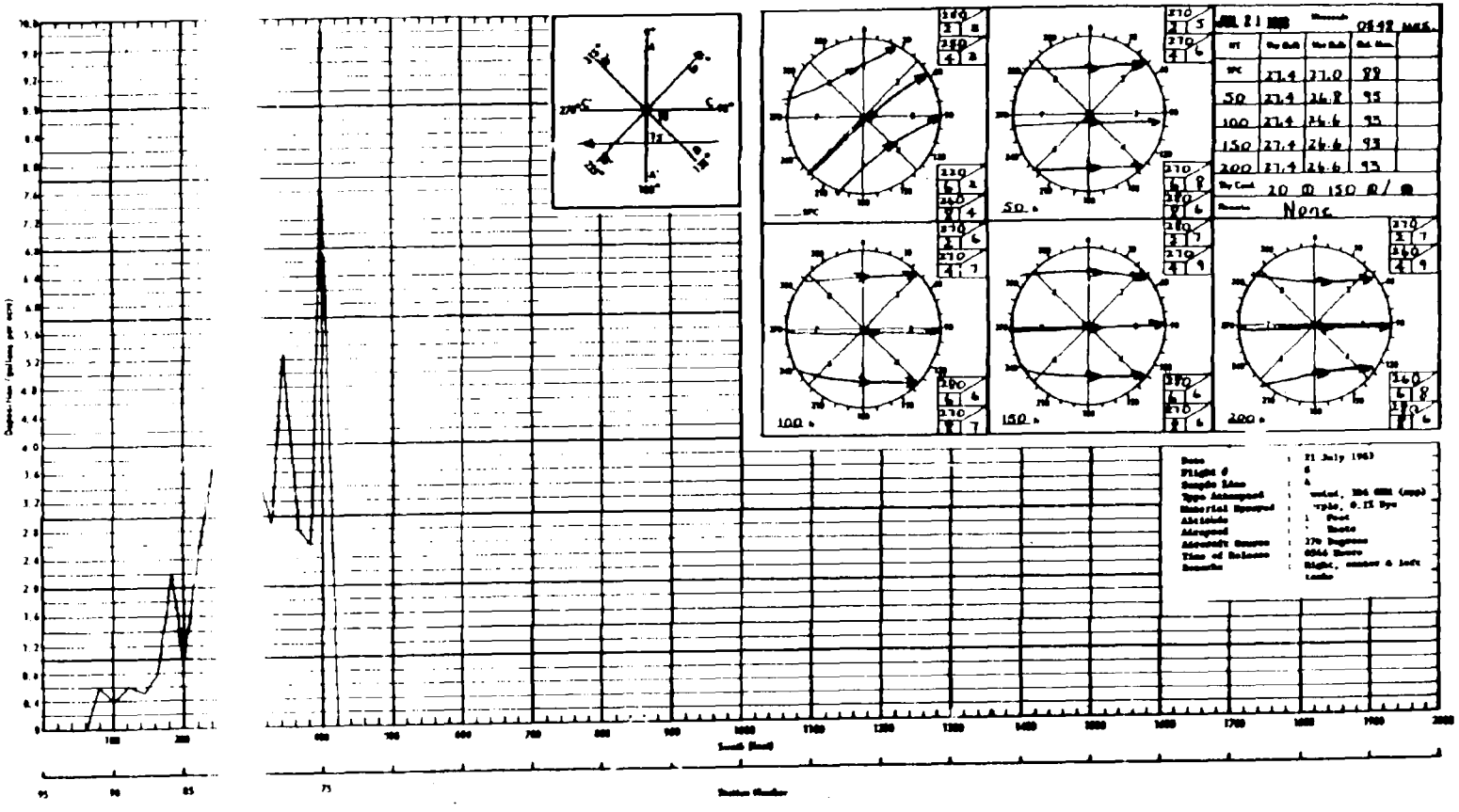
AIRSPEED: 162 Knots

ALTITUDE: 125 Feet

AIRCRAFT COURSE: 270 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 74 Blank						75	7.7
						76	2.6
						77	2.8
						78	5.3
						79	2.9
						80	3.8
						81	2.6
						82	2.4
						83	3.7
						84	2.6
						85	1.0
						86	2.2
						87	0.8
						88	0.5
						89	0.6
						90	0.4
						91	0.6
						Stations 92 - 100 Blank	

Total 52.5


50 ft
100 ft
150 ft
200 ft
None

MASS DEPOSIT

MATERIAL: Purple

DATE: 21 July 1963

FLIGHT #: 9

SAMPLE LINE: A

TIME OF RELEASE: 0603 Hours

DURATION: 07 Sec.

FLOW RATE: 315 (app) GPM

SYSTEM: FIDAL

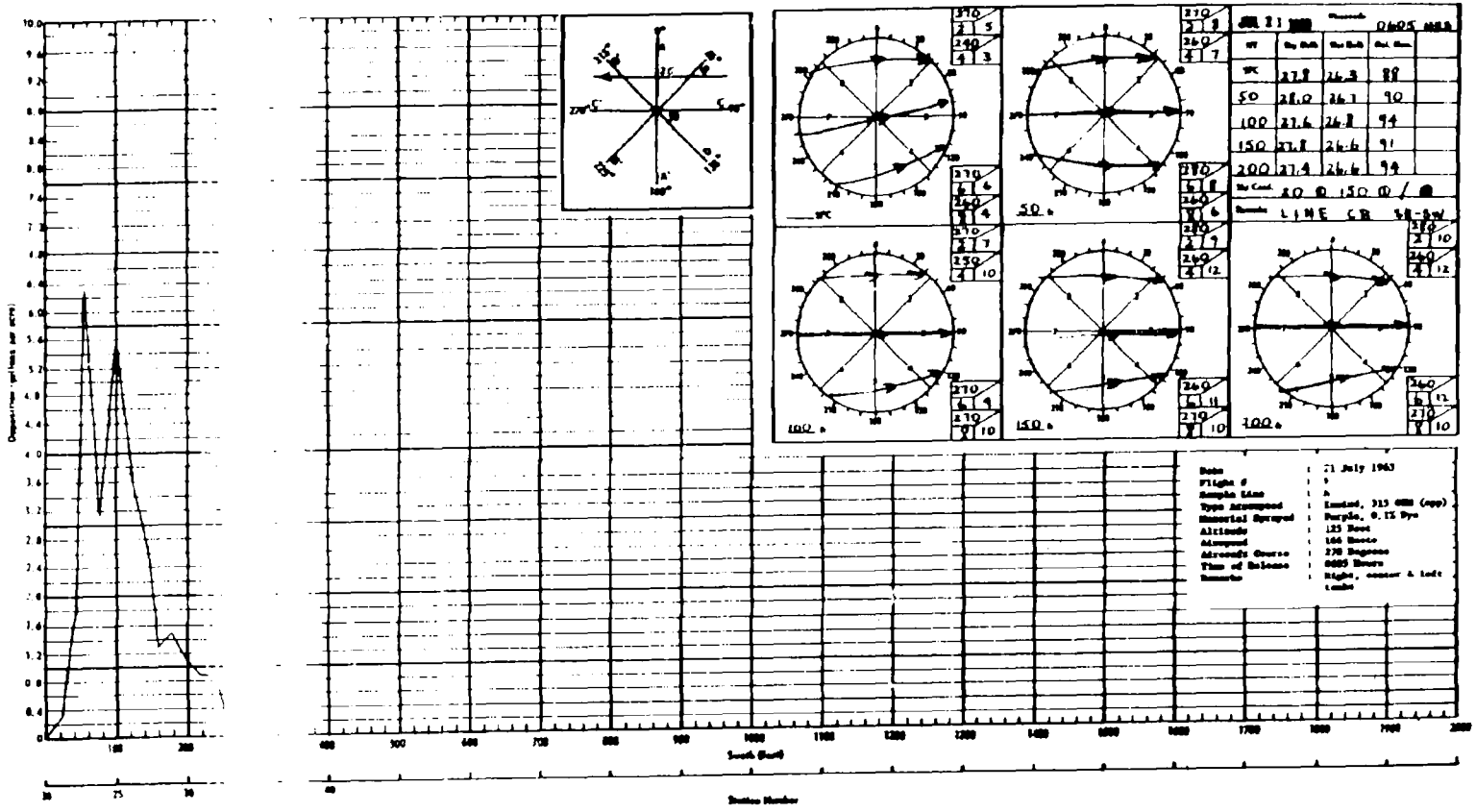
AIRSPEED: 166 Knots

ALTITUDE: 125 Feet

AIRCRAFT COURSE: 270 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 20 Blank		21	0.3				
		22	1.8				
		23	6.3				
		24	3.1				
		25	5.5				
		26	3.7				
		27	2.7				
		28	1.3				
		29	1.5				
		30	1.1				
		31	0.9				
		32	0.9				
		Stations 33 - 100 Blank					

Total 29.1



MASS DEPOSIT

MATERIAL: Purple

DATE: 21 July 1963

FLIGHT #: 10

SAMPLE LINE: A

TIME OF RELEASE: 0605 Hours

DURATION: 10 Sec.

FLOW RATE: 315 (app) GPM

SYSTEM: FIDAL

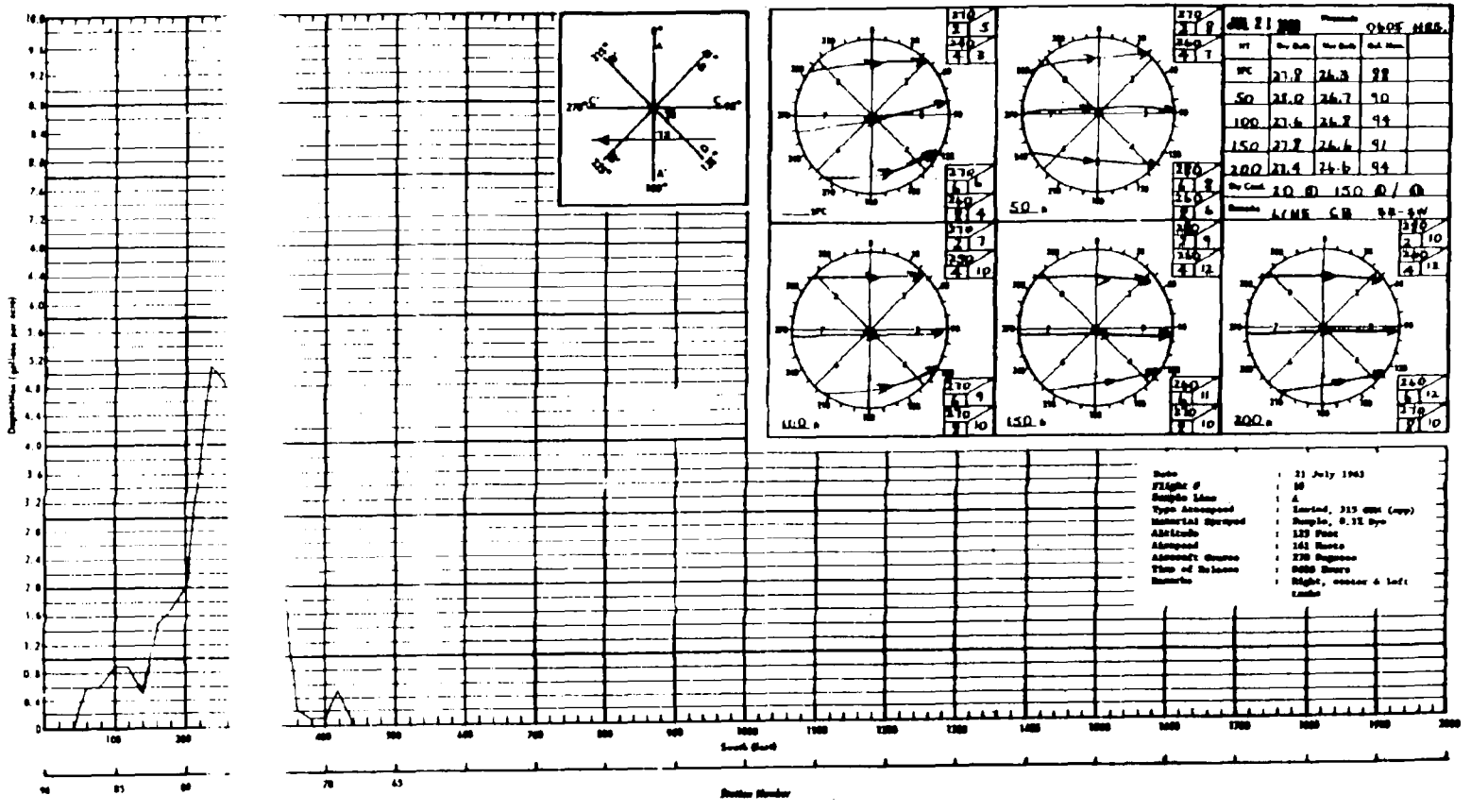
AIRSPEED: 161 Knots

ALTITUDE: 125 Feet

AIRCRAFT COURSE: 270 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 68 Blank						69	0.5
						70	0.1
						71	0.1
						72	0.2
						73	2.2
						74	3.8
						75	5.8
						76	4.3
						77	4.9
						78	5.1
						79	3.6
						80	2.0
						81	1.7
						82	1.5
						83	0.5
						84	0.9
						85	0.9
						86	0.6
						87	0.6
						Stations 88 - 100 Blank	

Total 39.3


Deposition (gallons per acre)
Swath (feet)
Station Number
SPC
50 ft
100 ft
150 ft
200 ft
Date : 21 July 1963
Flight # : 10
Sample Line : A
Type Aerosol : Emulsol, 215 cSt (avg)
Material Sprayed : Sample, 0.1% Dye
Altitude : 125 Feet
Airspeed : 161 Knots
Aircraft Course : 230 Degrees
Time of Release : 0600 Hours
Remarks : Right, center & left Lines

MASS MEDIAN DIAMETER

DATE: 21 July 1963 CONVERSION FACTOR: 2.5

FLIGHT #: 11 PAPER: Kromekote, white

SAMPLE LINE: C MATERIAL: Purple

FLOW RATE: 102 (app) GPM SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
82	3	6100*			
82	1	6000			
82	2	5900			
82	6	5700			
78	9	5500	51	1A	100(smallest)
81	7	5400			
81	4	5300			
81	5	5200			
81	8	5100			

MMD = $\frac{70.44+0.1431(\text{Spot D Max})}{\text{Con. Factor}} = \frac{70.44+0.1431(6100)}{2.5}$ = 377.3 Microns

Max. Sph. Dia. = 70.44+0.1431(Max) = 70.44+0.1431(6100) = 943.4 Microns

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: Purple

DATE: 21 July 1963

FLIGHT #: 11

SAMPLE LINE: C

TIME OF RELEASE: 0623 Hours

DURATION: 10 Sec.

FLOW RATE: 102 (approx.) GPM

SYSTEM: FIDAL

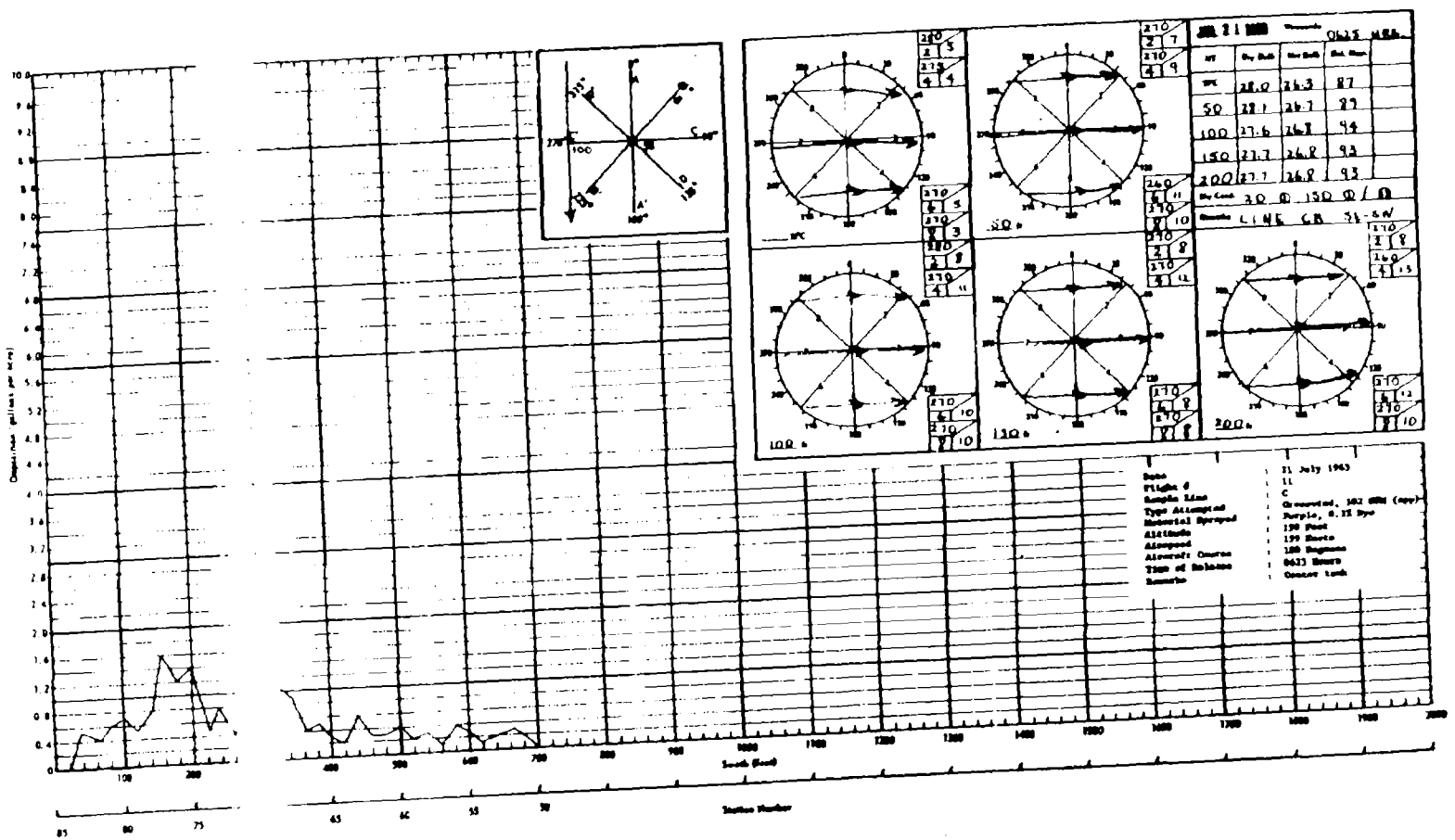
AIRSPEED: 159 Knots

ALTITUDE: 150 Feet

AIRCRAFT COURSE: 180 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 50 Blank				51	0.2	76	1.2
				52	0.3	77	1.6
				53	0.2	78	0.8
				54	0.1	79	0.5
				55	0.3	80	0.7
				56	0.4	81	0.6
				57	0.1	82	0.4
				58	0.3	83	0.5
				59	0.2	Stations 84 - 100	
				60	0.4	Blank	
				61	0.3		
				62	0.3		
				63	0.6		
				64	0.2		
				65	0.3		
				66	0.5		
				67	0.4		
				68	0.9		
				69	1.1		
				70	1.3		
				71	0.9		
				72	1.0		
				73	0.8		
				74	0.5		
				75	1.0		

Total [illegible]



MASS DEPOSIT

MATERIAL: Purple

DATE: 23 July 1963

FLIGHT #: 1

SAMPLE LINE: B

TIME OF RELEASE: 0440 Hours

DURATION: 08 Sec.

FLOW RATE: 315 (app) GPM

SYSTEM: FIDAL

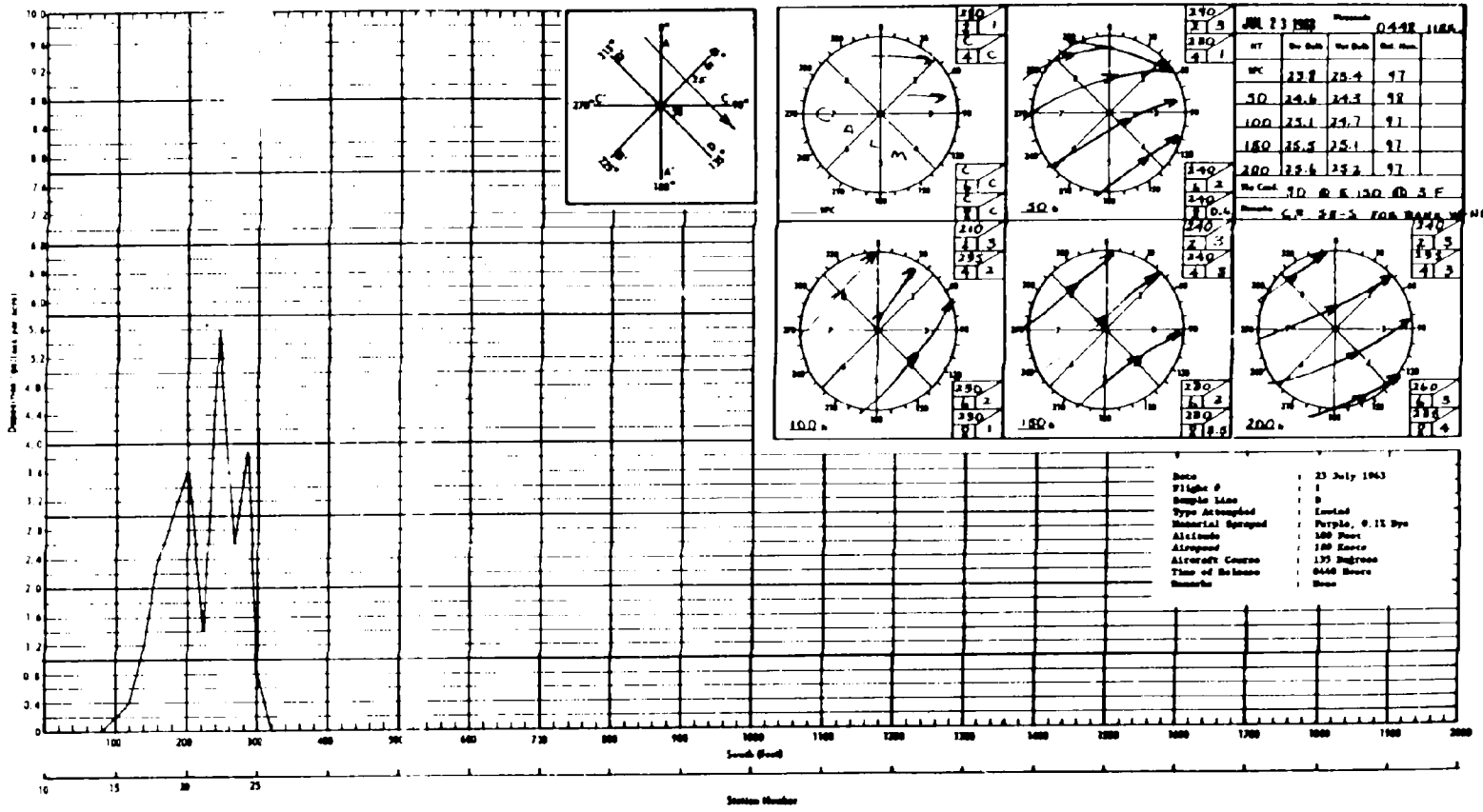
AIRSPEED: 160 Knots

ALTITUDE: 100 Feet

AIRCRAFT COURSE: 135 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 14 Blank							
15	0.2						
16	0.4						
17	1.0						
18	2.3						
19	3.0						
30	3.6						
21	1.4						
22	5.6						
23	2.6						
24	3.9						
25	0.8						
Stations 26 - 100 Blank							

Total 24.8


Date : 23 July 1963
Flight # : 1
Sample Line : 9
Type Atmosphere : Lowland
Material Sprayed : Purple, 0.1% Dye
Altitude : 100 Feet
Airspeed : 180 Knots
Aircraft Course : 135 Degrees
Time of Release : 0440 Hours
Remarks : None
South (Feet)
Station Number

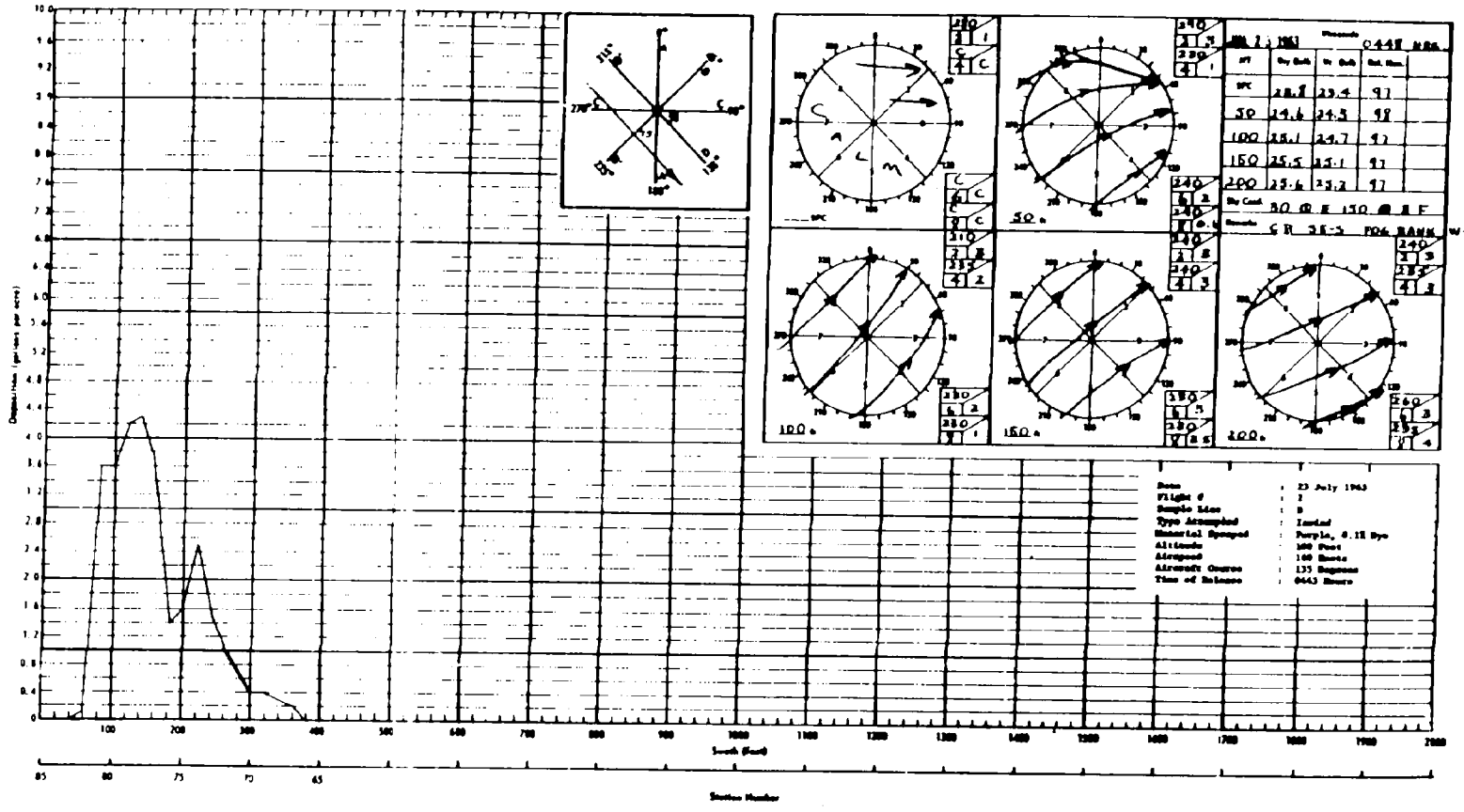
MASS DEPOSIT

MATERIAL: Purple
DATE: 23 July 1963
FLIGHT #: 2
SAMPLE LINE: B
TIME OF RELEASE: 0443 Hours
DURATION: 11 Sec.

FLOW RATE: 315 (app) GPM
SYSTEM: FIDAL
AIRSPEED: 160 Knots
ALTITUDE: 100 Feet
AIRCRAFT COURSE: 135 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 66 Blank							
67	0.2						
68	0.3						
69	0.4						
70	0.4						
71	0.7						
72	1.0						
73	1.5						
74	2.5						
75	1.6						
76	1.4						
77	3.7						
78	4.3						
79	4.2						
[illegible]	3.6						
81	3.6						
82	0.1						
Stations 83 - 100 Blank							

Total 29.5


50 ft.
100 ft.
150 ft.
200 ft.
Date 23 July 1963
Flight # 2
Sample Line 8
Type Aerosol Isotope
Material Sprayed Purple, 0.18 lbs
Altitude 500 Feet
Airspeed 160 Knots
Aircraft Course 135 Degrees
Time of Release 0443 Hours
South (Feet)
Station Number

MASS DEPOSIT

MATERIAL: Purple

DATE: 23 July 1963

FLIGHT #: 3

SAMPLE LINE: D

TIME OF RELEASE: 0459 Hours

DURATION: 11 Sec.

FLOW RATE: 315 (app) GPM

SYSTEM: FIDAL

AIRSPEED: 160 Knots

ALTITUDE: 125 Feet

AIRCRAFT COURSE: 225 Degrees

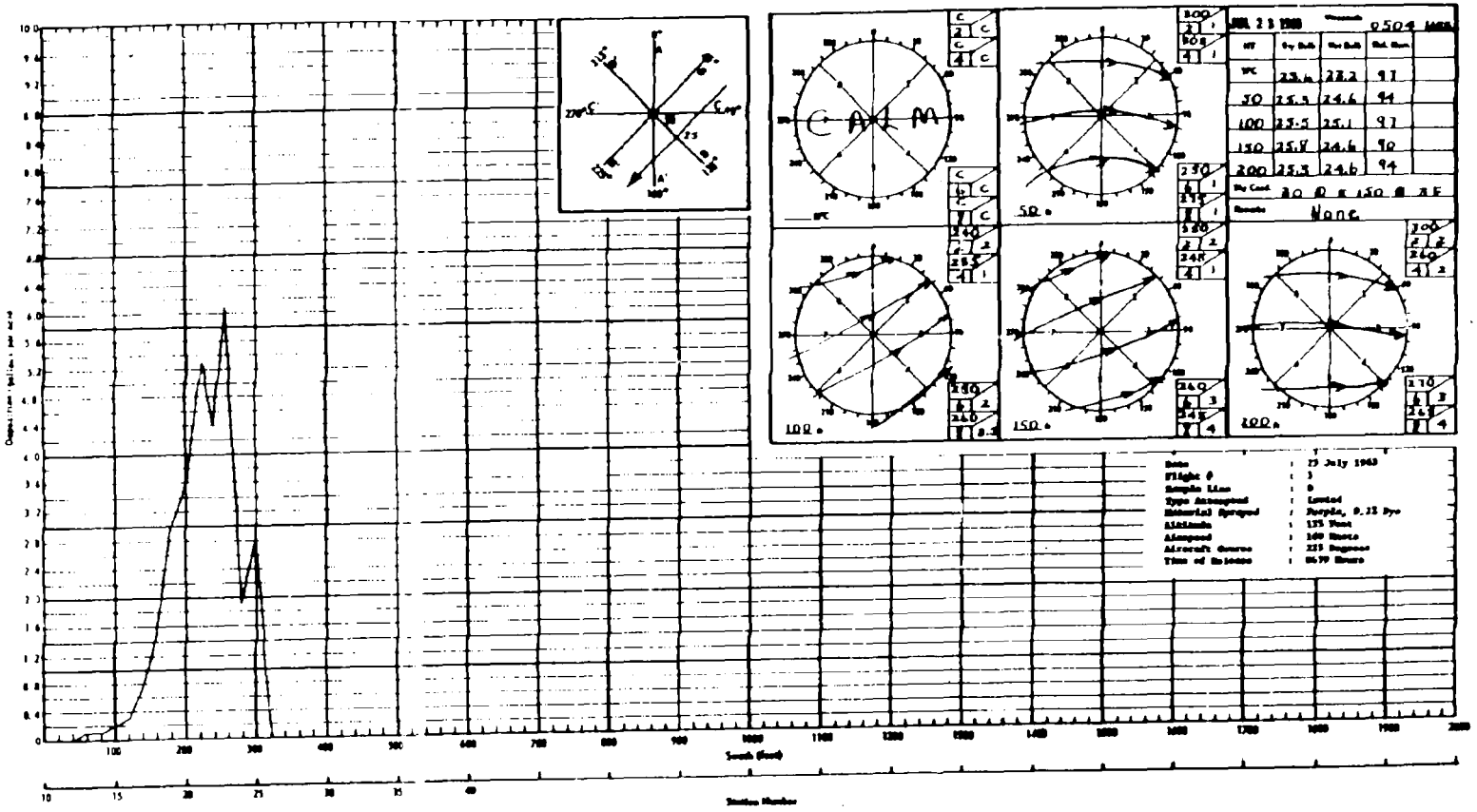
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.

Stations 1 - 11 Blank

12	0.0
13	0.1
14	0.1
15	0.2
16	0.3
17	0.7
18	1.2
19	3.0
20	3.6
21	5.3
22	4.4
23	6.1
24	1.3
25	2.8

Stations 26 - 100 Blank

Total 29.7


50 ft
100 ft
150 ft
200 ft
Date 23 July 1963
Flight 8
Sample Line 3
Type Instrument 0
Material Sprayed Lactol
Altitude Purple, 0.22 Dye
Airspeed 175 Knots
Aircraft Course 225 Degrees
Time of Release 0879 Hours
South (feet)
Station Number

MASS DEPOSIT

MATERIAL: Purple

DATE: 23 July 1963

FLIGHT #: 4

SAMPLE LINE: D

TIME OF RELEASE: 0502 Hours

DURATION: 13 Sec.

FLOW RATE: 315 (app) GPM

SYSTEM: FIDAL

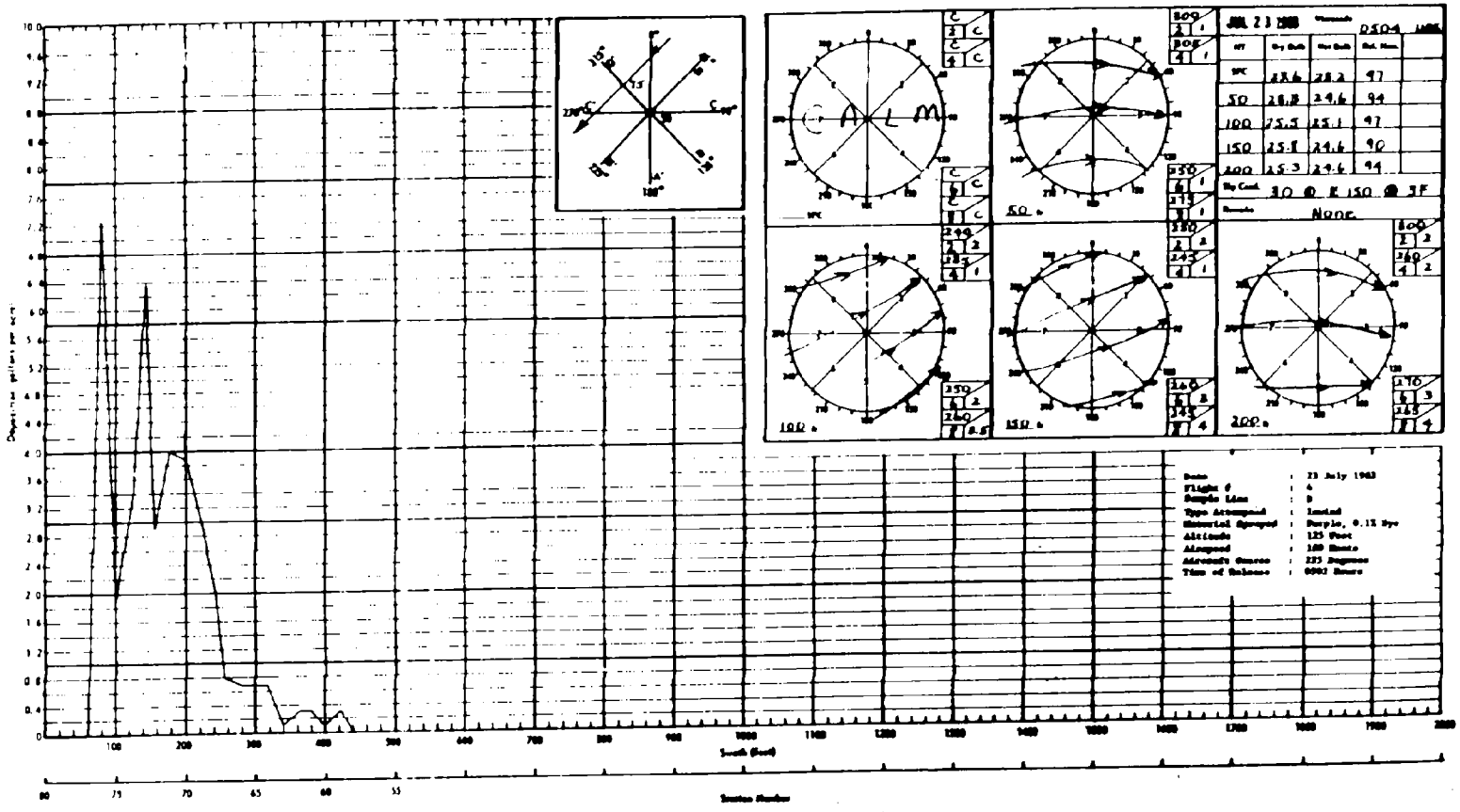
AIRSPEED: 160 Knots

ALTITUDE: 125 Feet

AIRCRAFT COURSE: 225 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 58 Blank							
59	0.3						
60	0.1						
61	0.3						
62	0.3						
63	0.1						
64	0.7						
65	0.7						
66	0.7						
67	0.8						
68	2.0						
69	2.9						
70	3.9						
71	4.0						
72	2.9						
73	6.4						
74	3.4						
75	1.9						
76	7.3						
Stations 77 - 100 Blank							

Total 38.7


CALM
50 ft
100 ft
150 ft
200 ft
None
23 July 1963
Limited
125 Feet
South (feet)

MASS DEPOSIT

MATERIAL: Purple

DATE: 23 July 1963

FLIGHT #: 5

SAMPLE LINE: A

TIME OF RELEASE: 0518 Hours

DURATION: 11 Sec.

FLOW RATE: 315 (app) GPH

SYSTEM: FIDAL

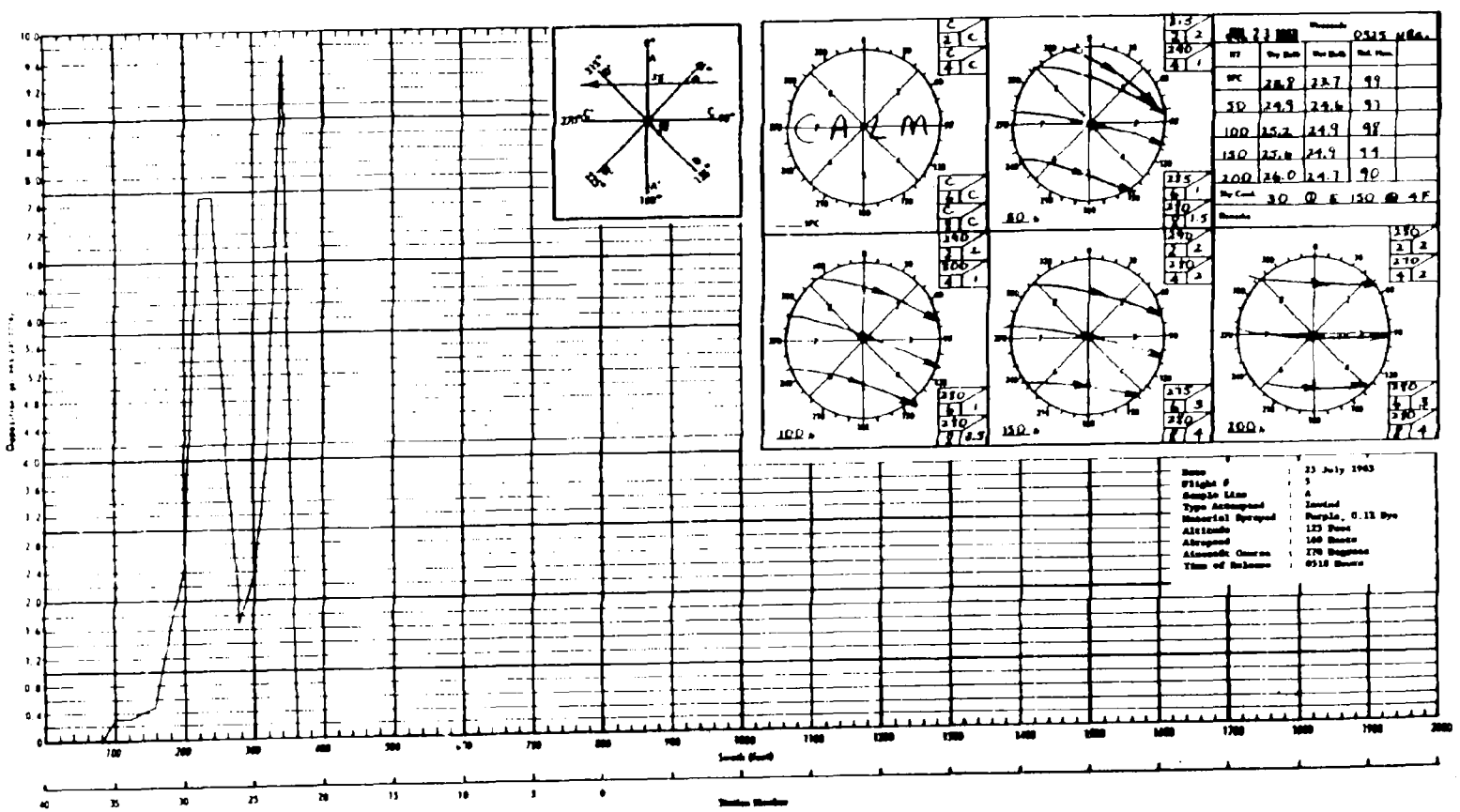
AIRSPEED: 160 Knots

ALTITUDE: 125 Feet

AIRCRAFT COURSE: 270 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 22 Blank		23	9.7				
		24	4.0				
		25	2.4				
		26	1.7				
		27	4.2				
		28	7.7				
		29	7.7				
		30	2.5				
		31	1.5				
		32	0.5				
		33	0.4				
		34	0.3				
		35	0.3				
		Stations 36 - 100 Blank					

Total 42.9



MASS DEPOSIT

MATERIAL: Purple

FLOW RATE: 315 (app) GPH

DATE: 23 July 1963

SYSTEM: FIDAL

FLIGHT #: 6

AIRSPEED: 160 Knots

SAMPLE LINE: A

ALTITUDE: 125 Feet

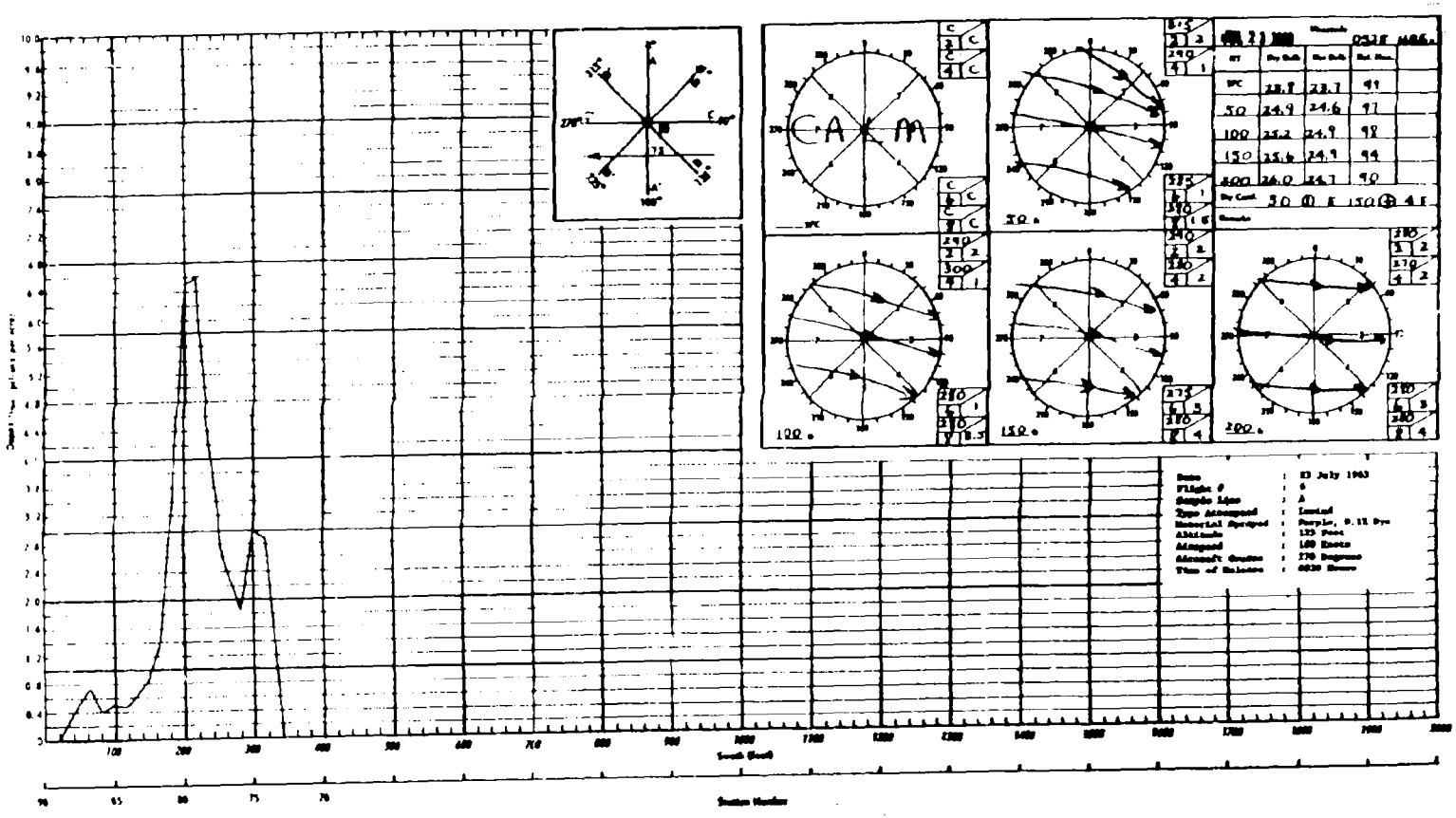
TIME OF RELEASE: 0520 Hours

AIRCRAFT COURSE: 270 Degrees

DURATION: 11 Sec.

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 73 Blank						74	2.9
						75	3.0
						76	1.9
						77	2.6
						78	4.2
						79	6.6
						80	6.5
						81	2.9
						82	1.4
						83	0.8
						84	0.5
						85	0.5
						86	0.4
						87	0.7
						88	0.4
						Stations 89 - 100 Blank	

Total 35.3



MASS DEPOSIT

MATERIAL: Purple

DATE: 23 July 1963

FLIGHT #: 7

SAMPLE LINE: A

TIME OF RELEASE: 0536 Hours

DURATION: 07 Sec.

FLOW RATE: 315 (app) GPM

SYSTEM: FIDAL

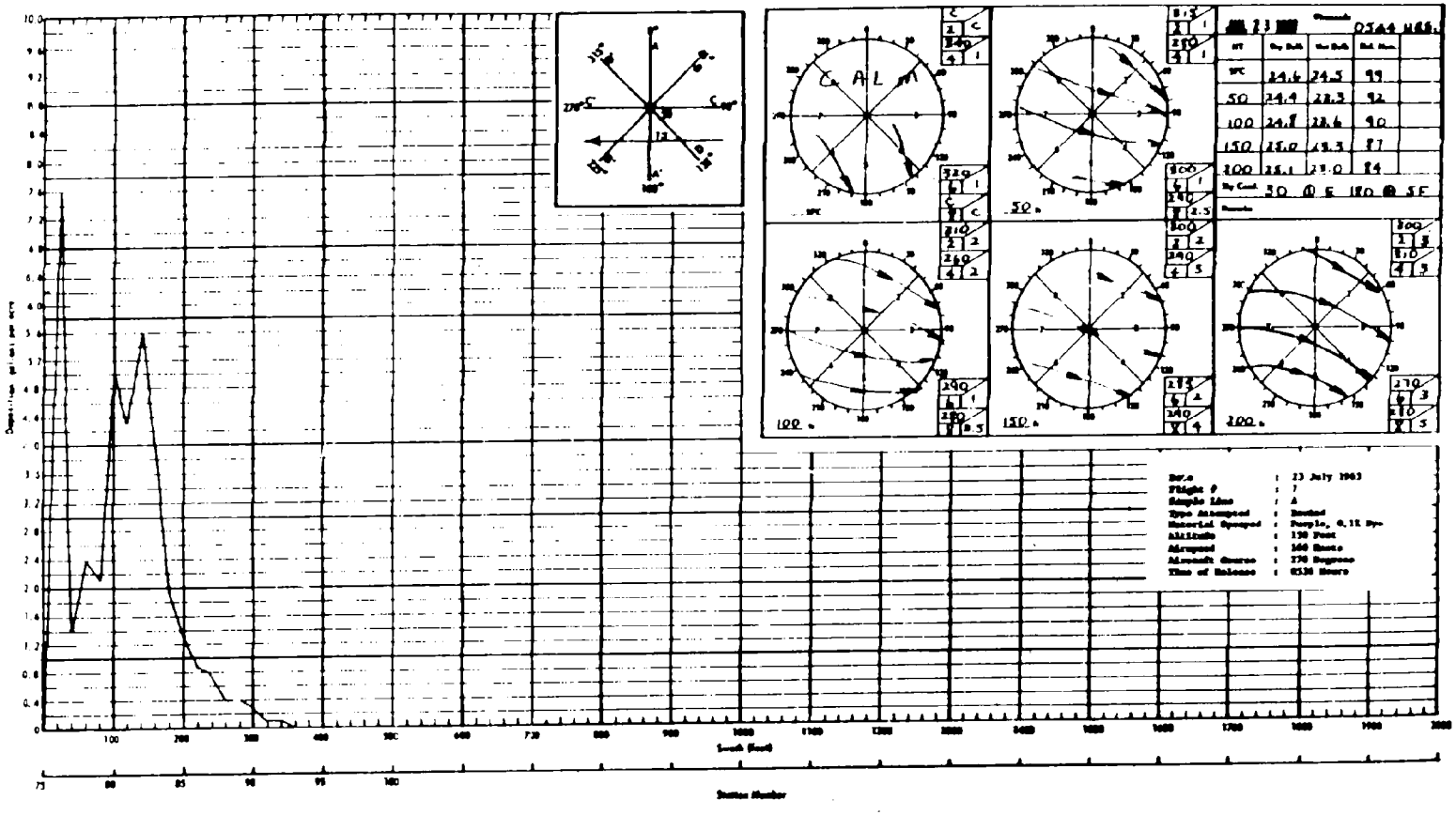
AIRSPEED: 160 Knots

ALTITUDE: 150 Feet

AIRCRAFT COURSE: 270 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 75 Blank						76	7.6
						77	1.4
						78	2.4
						79	2.1
						80	5.0
						81	4.3
						82	5.6
						83	3.7
						84	1.9
						85	1.3
						86	0.9
						87	0.8
						88	0.4
						89	0.4
						90	0.3
						91	0.1
						92	0.1
						Stations 93 - 100 Blank	

Total 38.3


C. A. L.
50 .
100 .
150 .
200 .
23 July 1963

MASS DEPOSIT

MATERIAL: Purple

FLOW RATE: 315 (app) GPM

DATE: 23 July 1963

SYSTEM: FIDAL

FLIGHT #: 8

AIRSPEED: 160 Knots

SAMPLE LINE: A

ALTITUDE: 150 Feet

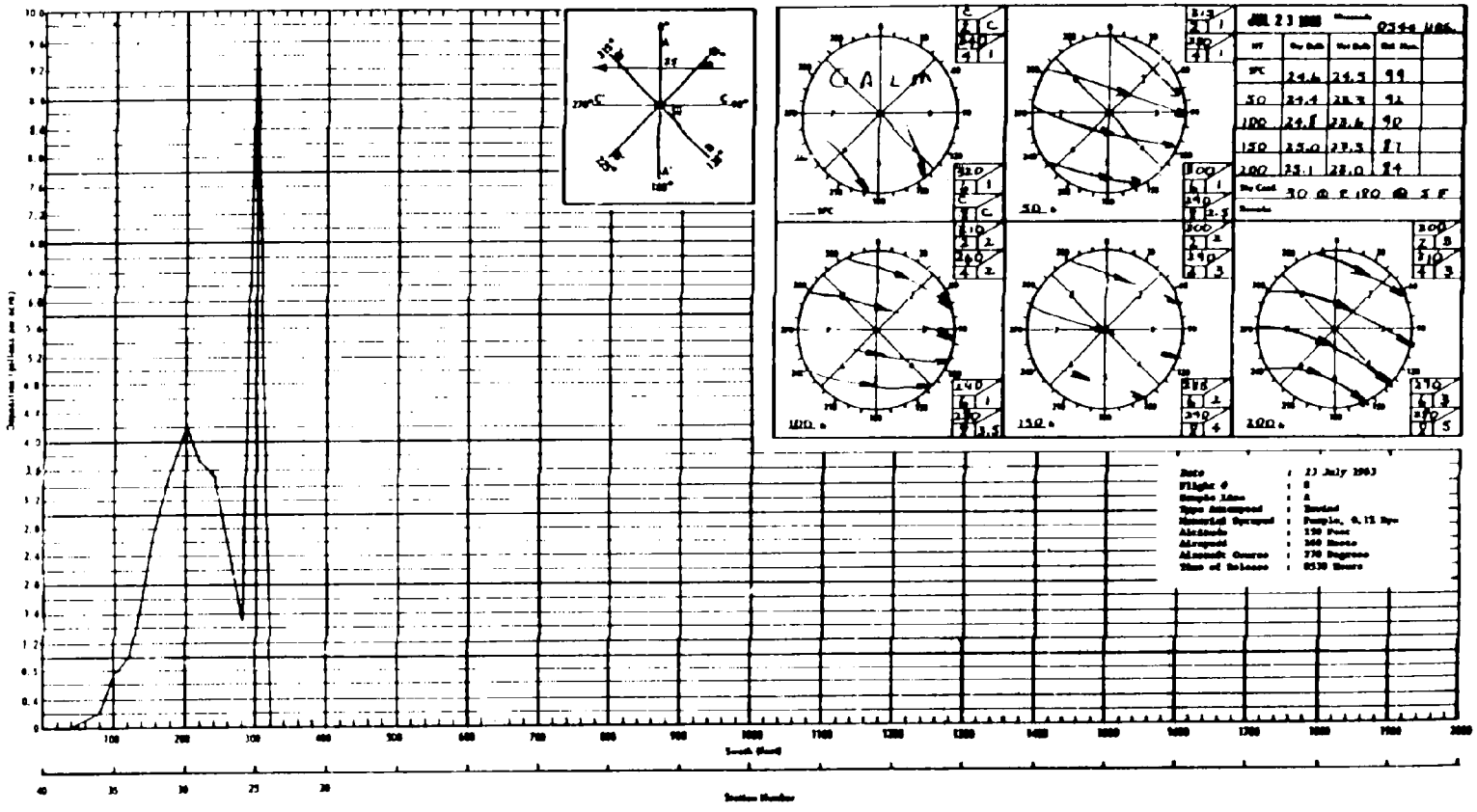
TIME OF RELEASE: 0538 Hours

AIRCRAFT COURSE: 270 Degrees

DURATION: 10 Sec.

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 23 Blank		24	0.0				
		25	9.6				
		26	1.5				
		27	2.3				
		28	3.5				
		29	3.7				
		30	4.2				
		31	3.5				
		32	2.7				
		33	1.8				
		34	1.0				
		35	0.7				
		36	0.2				
		37	0.1				
		38	0.0				
		Stations 39 - 100 Blank					

Total 34.8


CALM
SFC
50 m
100 m
150 m
200 m
JUL 23 1963
0354 HRS
SFC 24.6 24.5 99
50 24.4 23.9 91
100 24.8 23.6 90
150 25.0 23.3 87
200 25.1 23.0 84
No Cond 30 @ E 180 @ S E
Remarks
Date : 23 July 1963
Flight # : 8
Sample Min : 6
Type Instrument : Rawin
Balloon Payload : Rawin, 0.15 Rpr
Balloon : 150 Feet
Airspeed : 360 Knots
Balloon Course : 270 Degrees
Time of Release : 0530 Hours
Temperature (Millibars per Metre)
Speed (Knots)
Station Number

MASS DEPOSIT

MATERIAL: Purple

FLOW RATE: 315 (app) GPM

DATE: 23 July 1963

SYSTEM: FIDAL

FLIGHT #: 9

AIRSPEED: 160 Knots

SAMPLE LINE: B

ALTITUDE: 150 Feet

TIME OF RELEASE: 0553 Hours

AIRCRAFT COURSE: 315 Degrees

DURATION: 08 Sec.

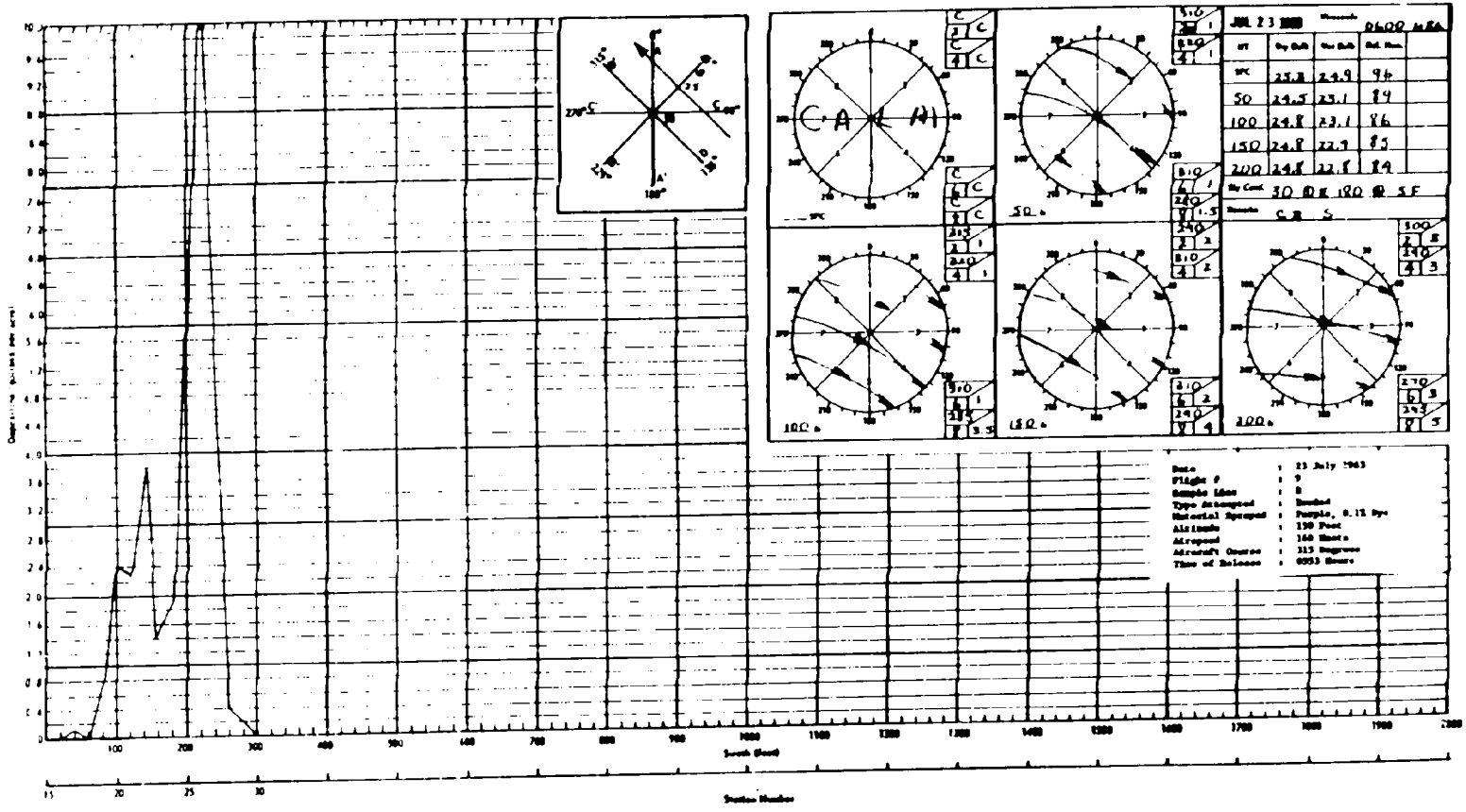
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.

Stations 1 - 16 Blank

17	0.1
18	0.0
19	0.8
20	2.4
21	7.3
22	3.8
23	1.4
24	1.9
25	5.7
26	11.5
27	4.5
28	0.4
29	0.2

Stations 30 - 100 Blank

Total 35.0


Date : 23 July 1963
Flight # : 9
Sample Idea : 8
Type Aerospace : Rocket
Material Sprayed : Purple, 0.15 Dye
Altitude : 130 Feet
Airspeed : 160 Knots
Aircraft Course : 315 Degrees
Time of Release : 0953 Hours
Station Number

MASS DEPOSIT

MATERIAL: Purple

FLOW RATE: 315 (app) GPM

DATE: 23 July 1963

SYSTEM: FIDAL

FLIGHT #: 10

AIRSPEED: 160 Knots

SAMPLE LINE: B

ALTITUDE: 150 Feet

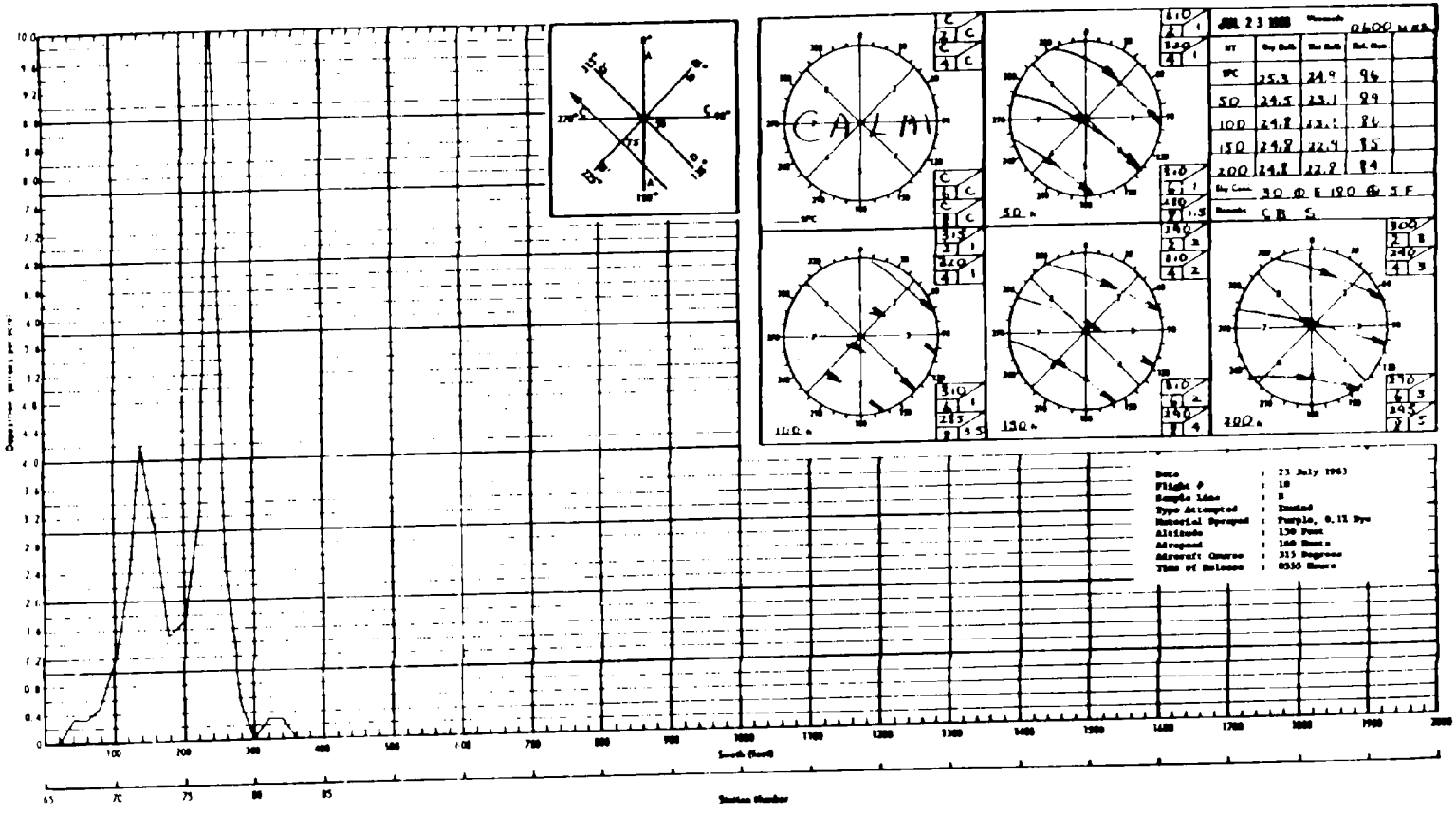
TIME OF RELEASE: 0555 Hours

AIRCRAFT COURSE: 315 Degrees

DURATION: 08 Sec.

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 66 Blank							
67	0.3						
68	0.3						
69	0.5						
70	1.1						
71	2.3						
72	4.2						
73	3.1						
74	1.5						
75	1.7						
76	3.3						
77	10.6						
78	2.4						
79	0.5						
80	0.0						
81	0.3						
82	0.3						
Stations 83 - 100 Blank							

Total 32.4


CALM
50 m
100 m
150 m
200 m
Date : 23 July 1963
Flight # : 18
Sample Line : B
Type Attempted : Emitted
Material Sprayed : Purple, 0.1% Dye
Altitude : 150 Feet
Airspeed : 160 Knots
Aircraft Course : 315 Degrees
Time of Release : 0550 Hours

MASS DEPOSIT

MATERIAL: Purple

DATE: 23 July 1963

FLIGHT #: 11

SAMPLE LINE: B

TIME OF RELEASE: 0611 Hours

DURATION: 07 Sec.

FLOW RATE: 315 (app) GPM

SYSTEM: FIDAL

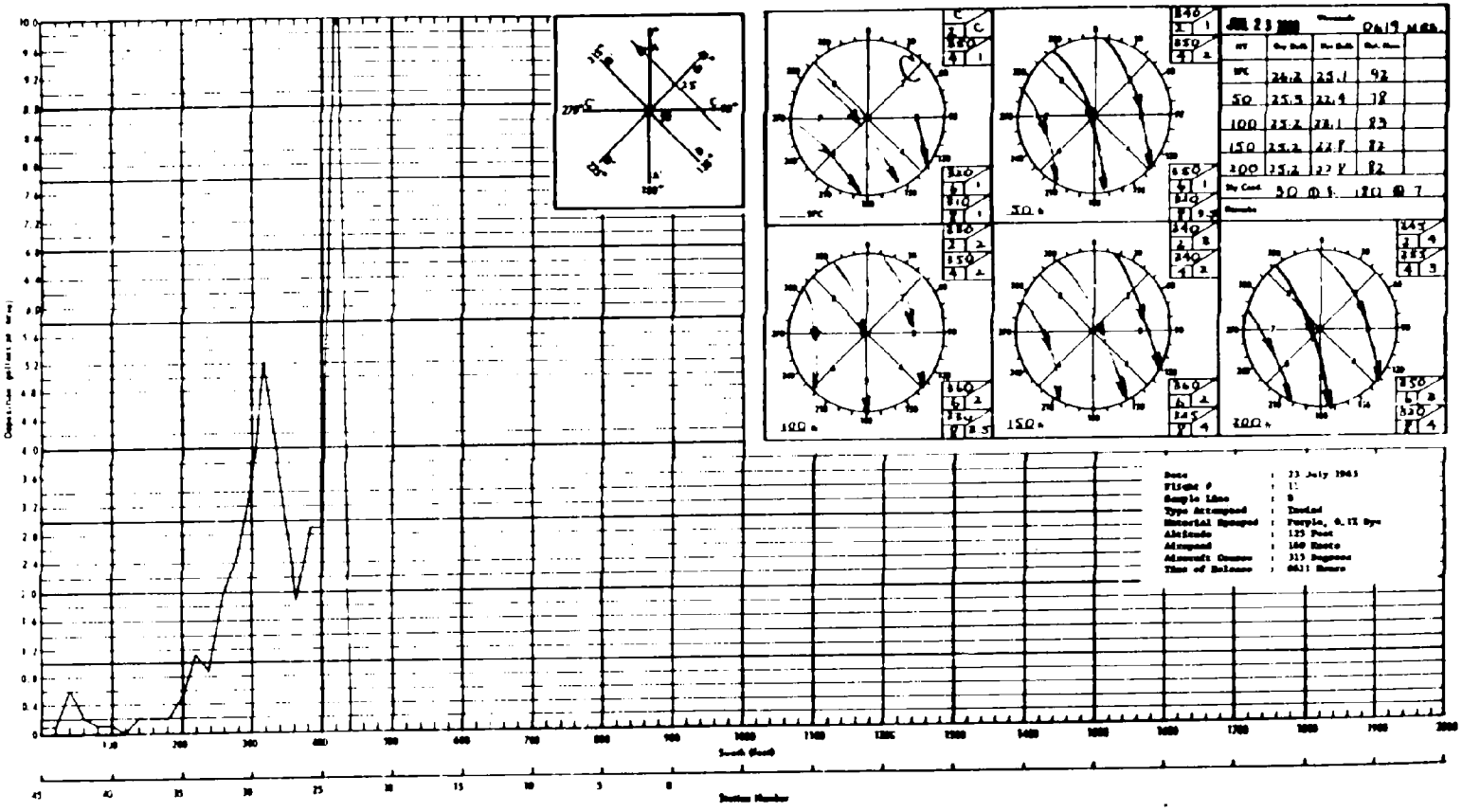
AIRSPEED: 160 Knots

ALTITUDE: 125 Feet

AIRCRAFT COURSE: 315 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 23 Blank		24	10.7				
		25	2.9				
		26	2.9				
		27	1.9				
		28	3.6				
		29	5.2				
		30	3.5				
		31	2.5				
		32	2.0				
		33	0.9				
		34	1.1				
		35	0.5				
		36	0.2				
		37	0.2				
		38	0.2				
		39	0.0				
		40	0.1				
		41	0.1				
		42	0.2				
		43	0.6				
		44	0.1				
		45	0.1				
		Stations 46 - 100 Blank					

Total 39.5



MASS DEPOSIT

MATERIAL: Purple

DATE: 23 July 1963

FLIGHT #: 12

SAMPLE LINE: B

TIME OF RELEASE: 0613 Hours

DURATION: 09 Sec.

FLOW RATE: 315 (app) GPM

SYSTEM: FIDAL

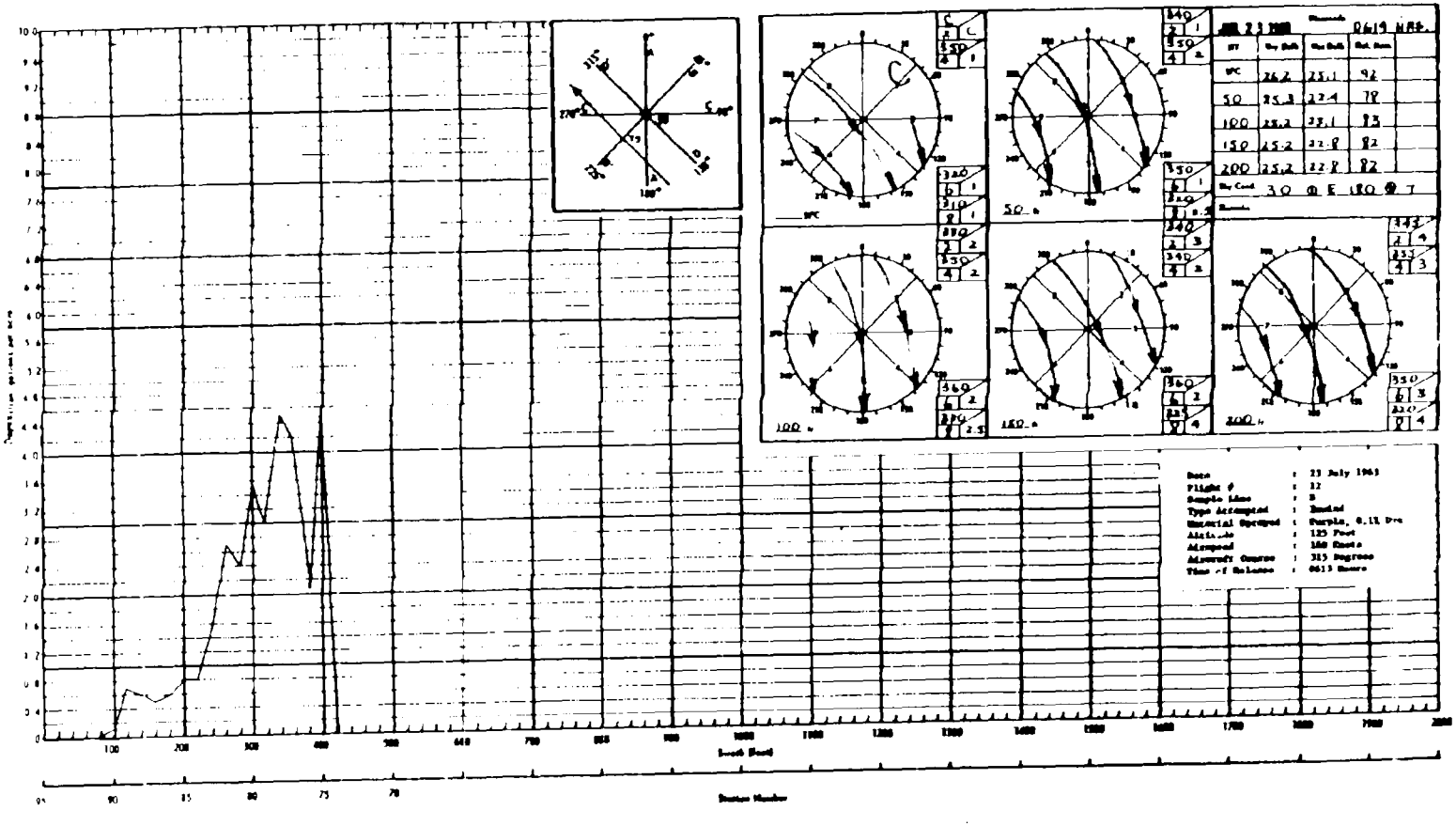
AIRSPEED: 160 Knots

ALTITUDE: 125 Feet

AIRCRAFT COURSE: 315 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 74 Blank						75	4.5
						76	2.1
						77	4.2
						78	4.5
						79	3.0
						80	3.5
						81	2.4
						82	2.7
						83	1.5
						84	0.8
						85	0.8
						86	0.6
						87	0.5
						88	0.6
						89	0.7
						90	0.1
						Stations 91 - 100 Blank	

Total 32.5


Date : 23 July 1963
Flight # : 12
Sample Line : 5
Type Accomplished : Radial
Material Sprayed : Purple, 0.13 Dye
Altitude : 125 Feet
Airspeed : 160 Knots
Aircraft Course : 315 Degrees
Time of Release : 0615 Hours
Knots Speed
Station Number

MASS DEPOSIT

MATERIAL: Purple

DATE: 24 July 1963

FLIGHT #: 1

SAMPLE LINE: C

TIME OF RELEASE: 0456 Hours

DURATION: 07 Sec.

FLOW RATE: 315 (app) GPM

SYSTEM: FIDAL

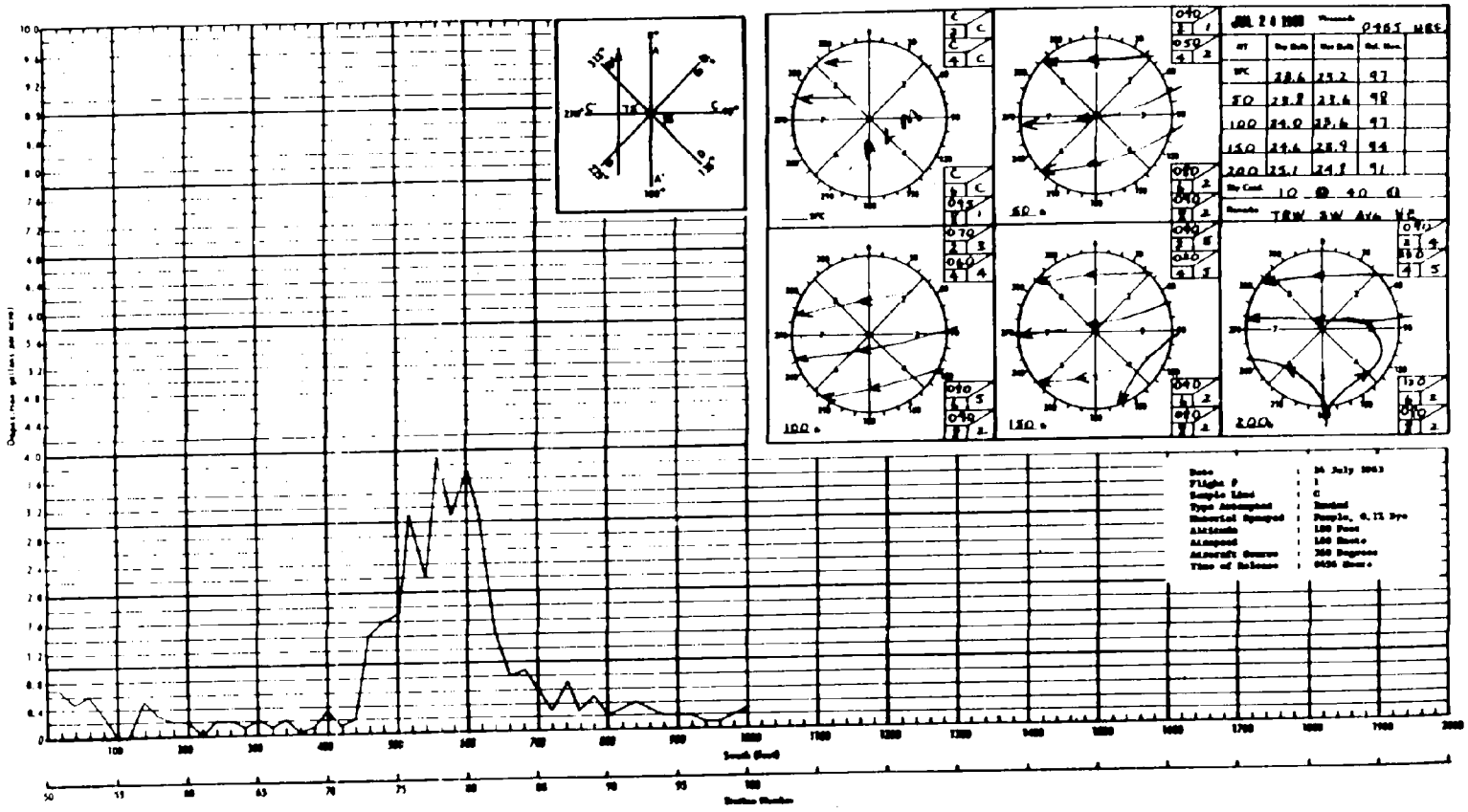
AIRSPEED: 160 Knots

ALTITUDE: 100 Feet

AIRCRAFT COURSE: 360 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 50 Blank				51	0.7	76	3.1
				52	0.5	77	2.2
				53	0.6	78	3.9
				54	0.3	79	3.1
				55	0.0	80	3.7
				56	0.0	81	3.1
				57	0.5	82	1.5
				58	0.3	83	0.8
				59	0.2	84	0.9
				60	0.2	85	0.6
				61	0.0	86	0.3
				62	0.2	87	0.7
				63	0.2	88	0.3
				64	0.1	89	0.5
				65	0.2	90	0.2
				66	0.1	91	0.3
				67	0.2	92	0.4
				68	0.0	93	0.3
				69	0.1	94	0.2
				70	0.3	95	0.2
				71	0.1	96	0.2
				72	0.2	97	0.1
				73	1.4	98	0.1
				74	1.6	99	0.2
				75	1.7	100	0.3

Total 36.9



MASS DEPOSIT

MATERIAL: Purple

DATE: 24 July 1963

FLIGHT #: 2

SAMPLE LINE: C

TIME OF RELEASE: 0459 Hours

DURATION: 10 Sec.

FLOW RATE: 315 (app) GPM

SYSTEM: FIDAL

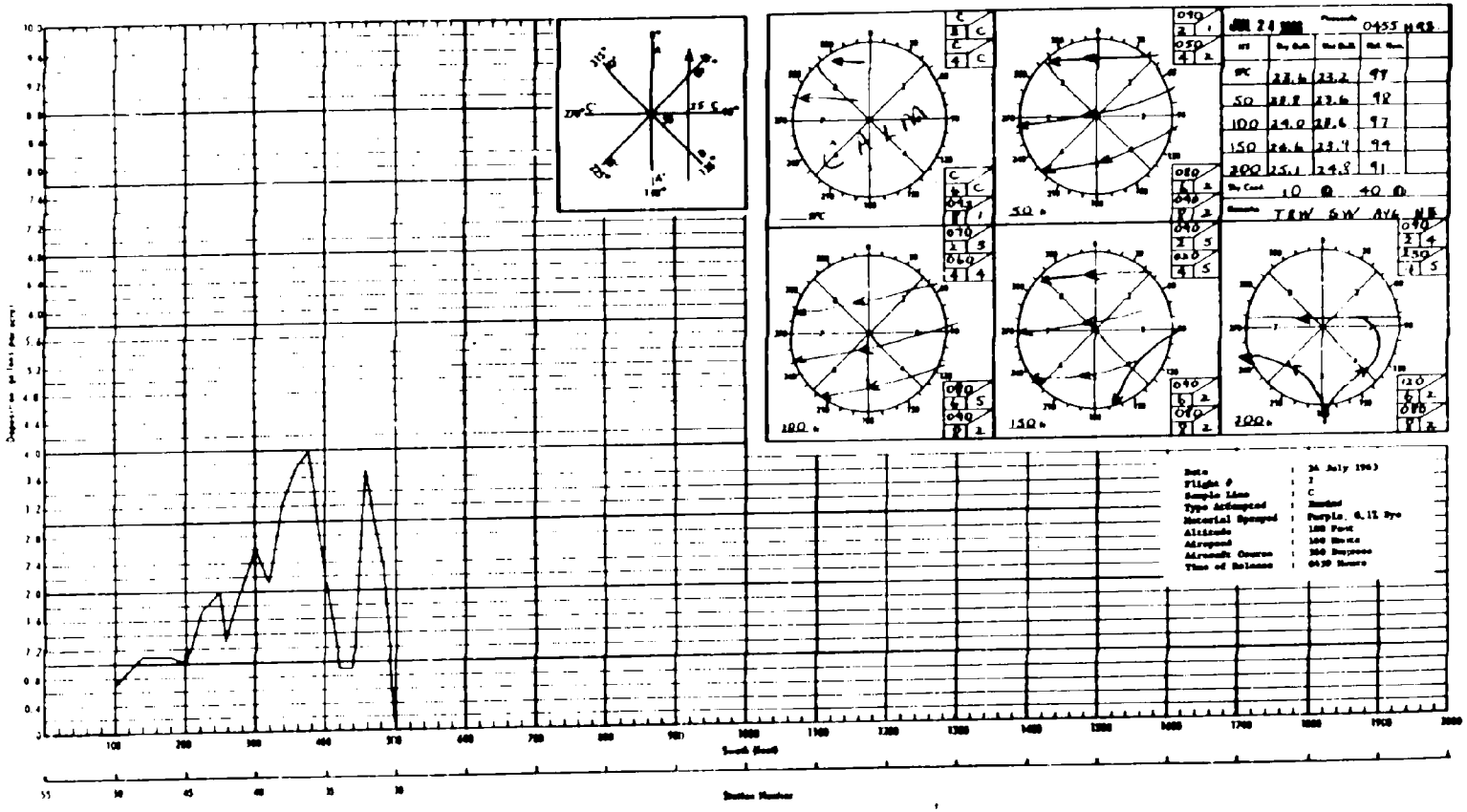
AIRSPEED: 160 Knots

ALTITUDE: 100 Feet

AIRCRAFT COURSE: 360 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 30 Blank		31	2.3				
		32	3.7				
		33	0.9				
		34	0.9				
		35	2.2				
		36	4.0				
		37	3.7				
		38	3.3				
		39	2.1				
		40	2.6				
		41	2.0				
		42	1.3				
		43	2.0				
		44	1.7				
		45	1.0				
		46	1.1				
		47	1.1				
		48	1.1				
		49	0.9				
		50	0.7				
		Stations 51 - 100 Blank					

Total 38.6


Date : 24 July 1963
Flight # : 3
Sample Line : C
Type Attempted : Number
Material Sprayed : Purple, 6.12 Dye
Altitude : 100 Feet
Airspeed : 100 Knots
Aircraft Course : 300 Degrees
Time of Release : 0439 Hours
Station Number

MASS DEPOSIT

MATERIAL: Purple

DATE: 26 July 1963

FLIGHT #: 1

SAMPLE LINE: A

TIME OF RELEASE: 0446 Hours

DURATION: 11 Sec.

FLOW RATE: 315 (app) GPM

SYSTEM: FIDAL

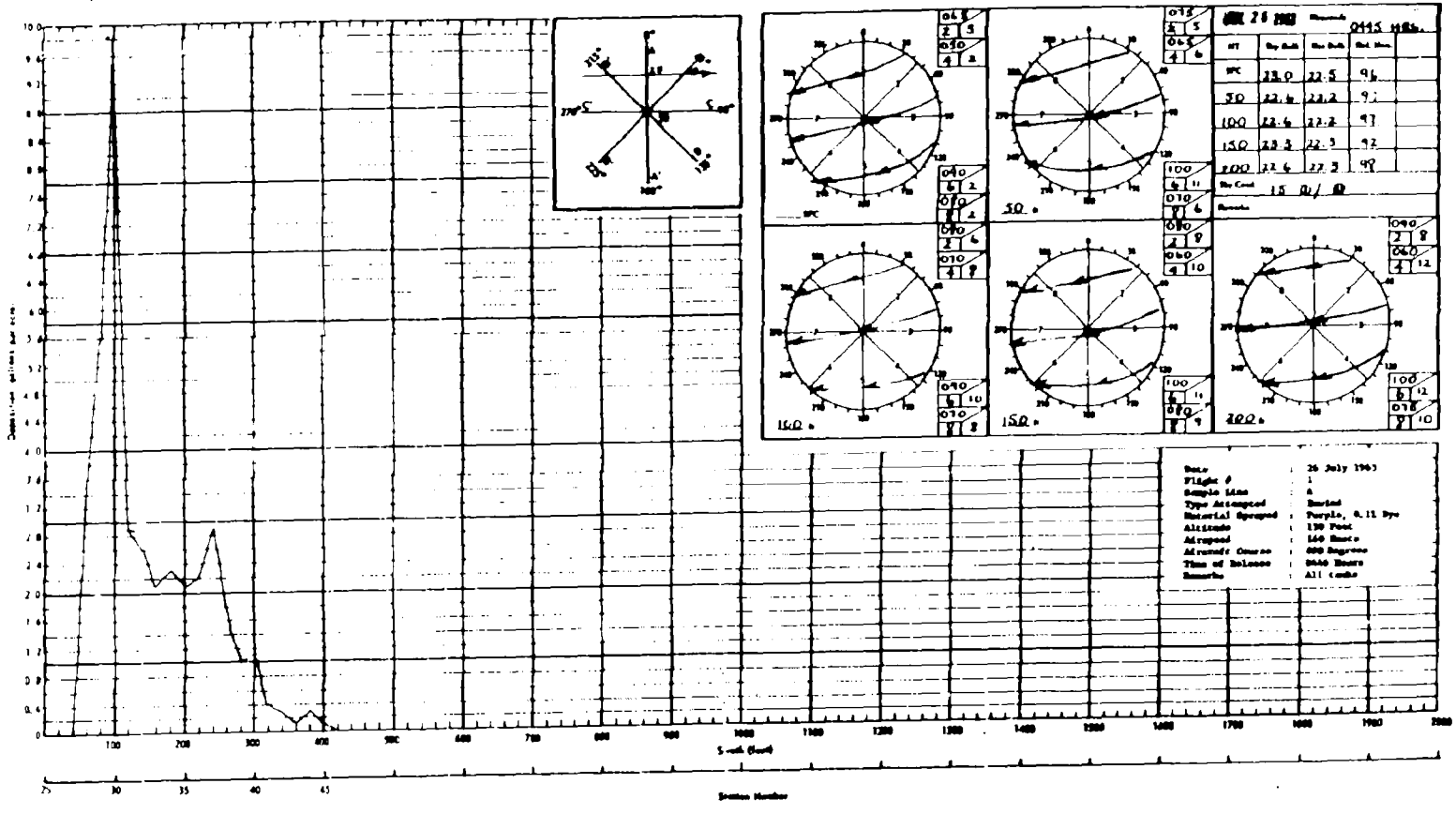
AIRSPEED: 160 Knots

ALTITUDE: 150 Feet

AIRCRAFT COURSE: 090 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 27 Blank		28	3.5				
		29	5.6				
		30	9.5				
		31	2.9				
		32	2.6				
		33	2.1				
		34	2.3				
		35	2.1				
		36	2.2				
		37	2.9				
		38	1.5				
		39	1.0				
		40	1.1				
		41	0.4				
		42	0.3				
		43	0.1				
		44	0.3				
		45	0.1				
		Stations 46 - 100 Blank					

Total 40.9


SFC
50 m
150 m
150 m
200 m
Date 26 July 1963
Flight # 1
Sample Line A
Type Aerosol Dustal
Material Sprayed Purple, 0.11 lbs
Altitude 130 Feet
Airspeed 160 Knots
Aircraft Course 000 Degrees
Time of Release 0040 Hours
Remarks All Code
Station Number

MASS DEPOSIT

MATERIAL: Purple

DATE: 26 July 1963

FLIGHT #: 2

SAMPLE LINE: A

TIME OF RELEASE: 0449 Hours

DURATION: 08 Sec.

FLOW RATE: 315 (app) GPM

SYSTEM: FIDAL

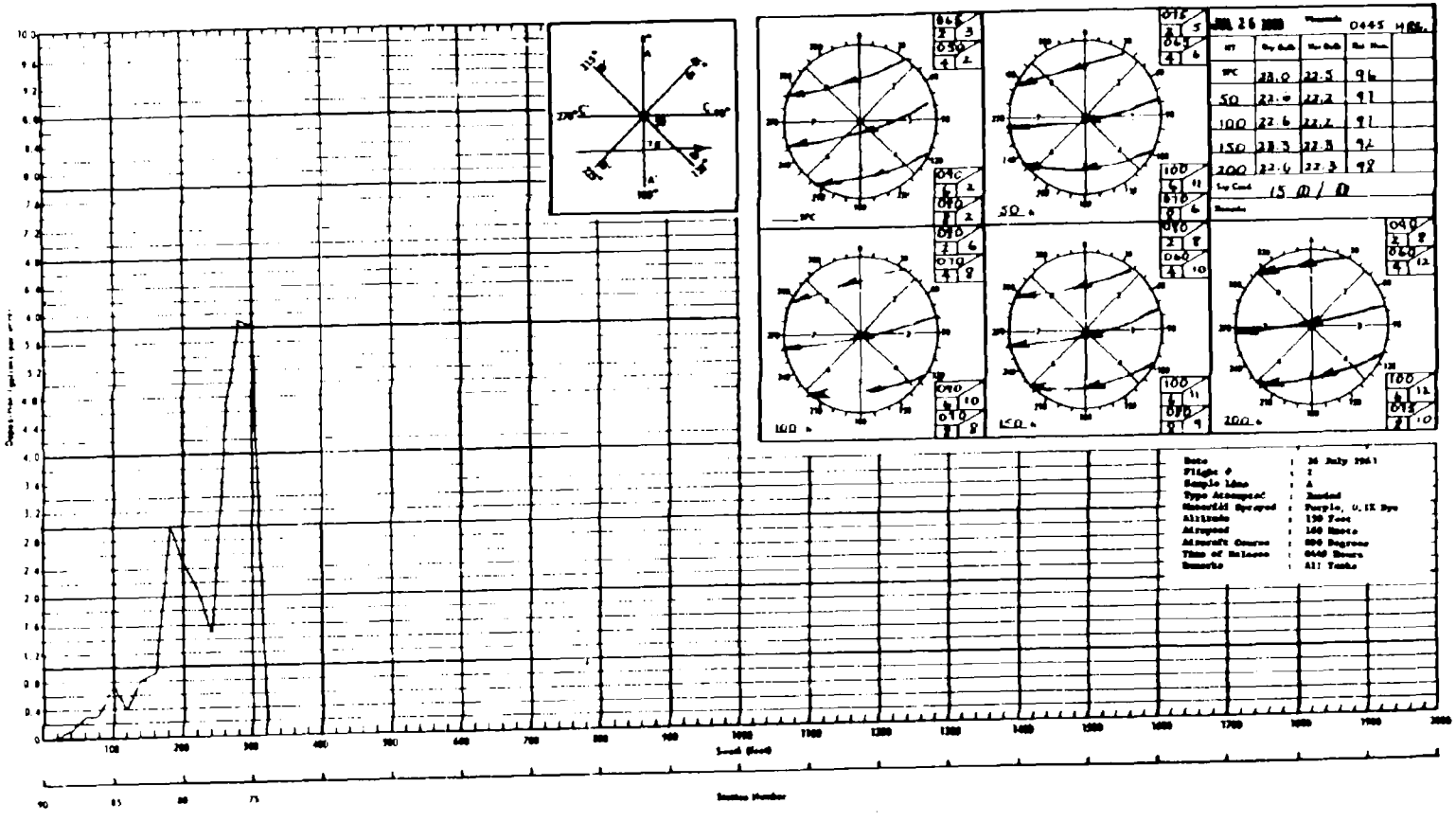
AIRSPEED: 160 Knots

ALTITUDE: 150 Feet

AIRCRAFT COURSE: 090 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 74 Blank						75	5.8
						76	5.9
						77	4.7
						78	1.5
						79	2.1
						80	2.5
						81	3.0
						82	0.9
						83	0.8
						84	0.4
						85	0.7
						86	0.3
						87	0.3
						88	0.1
						89	0.0
						Stations 90 - 100	Blank

Total 29.0



MASS DEPOSIT

MATERIAL: Purple
DATE: 26 July 1963
FLIGHT #: 3
SAMPLE LINE: A
TIME OF RELEASE: 0507 Hours
DURATION: 05 Sec.

FLOW RATE: 315 (app) GPM
SYSTEM: FIDAL
AIRSPEED: 160 Knots
ALTITUDE: 100 Feet
AIRCRAFT COURSE: 090 Degrees

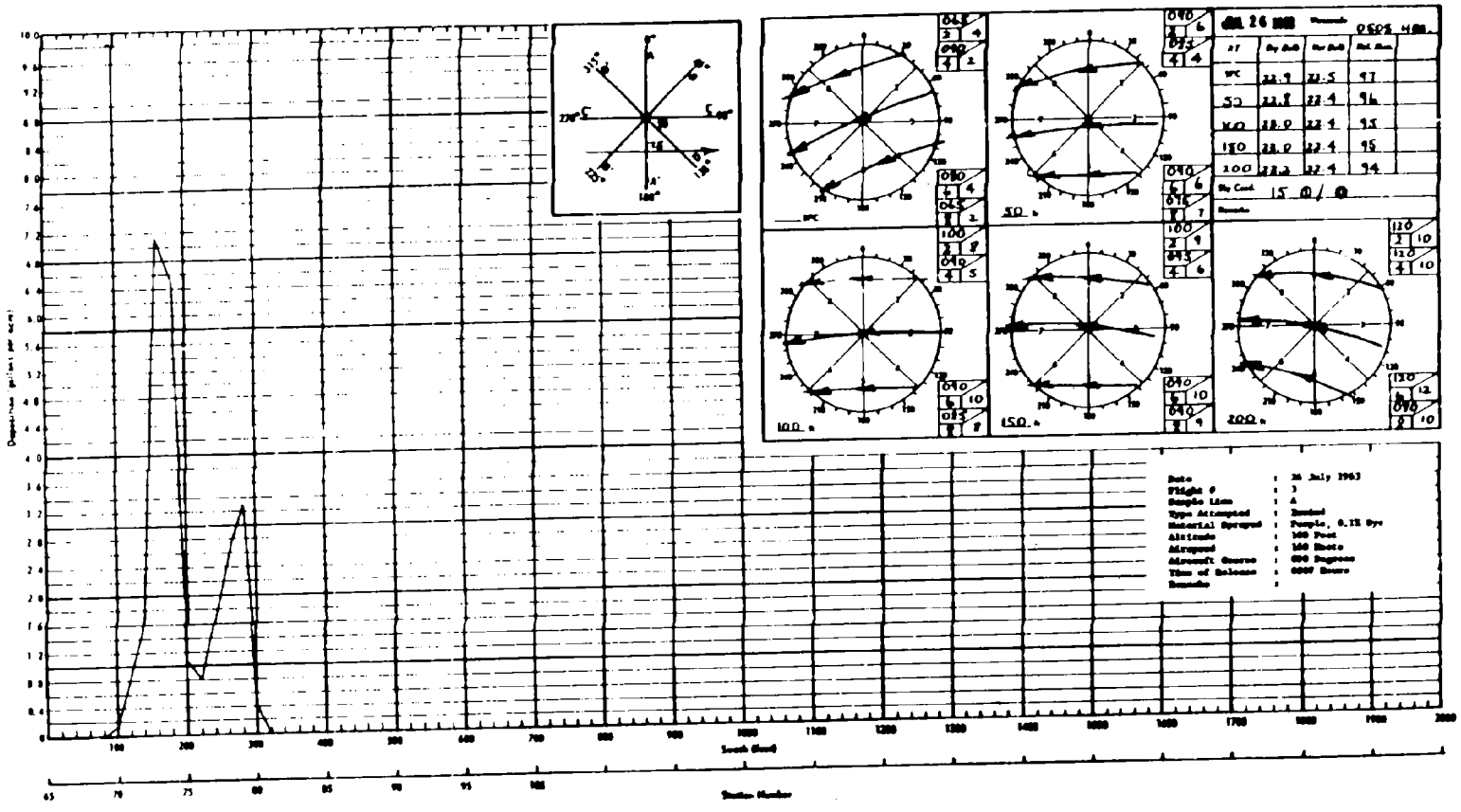
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.

Stations 1 - 68 Blank

69	0.0
70	0.1
71	0.9
72	1.5
73	7.1
74	6.5
75	1.1
76	0.8
77	1.7
78	2.7
79	3.3
80	0.4
81	0.0

Stations 82 - 100 Blank

Total 26.1


Date : 26 July 1963
Flight # : 3
Sample Line : A
Type Attempted : Seeded
Material Sprayed : Purple, 0.1% Dye
Altitude : 100 Feet
Airspeed : 160 Knots
Aircraft Course : 090 Degrees
Time of Release : 0007 Hours
Remarks :
South (feet)
Station Number

MASS DEPOSIT

MATERIAL: Purple

FLOW RATE: 315 (app) GPM

DATE: 26 July 1963

SYSTEM: FIDAL

FLIGHT #: 4

AIRSPEED: 160 Knots

SAMPLE LINE: A

ALTITUDE: 100 Feet

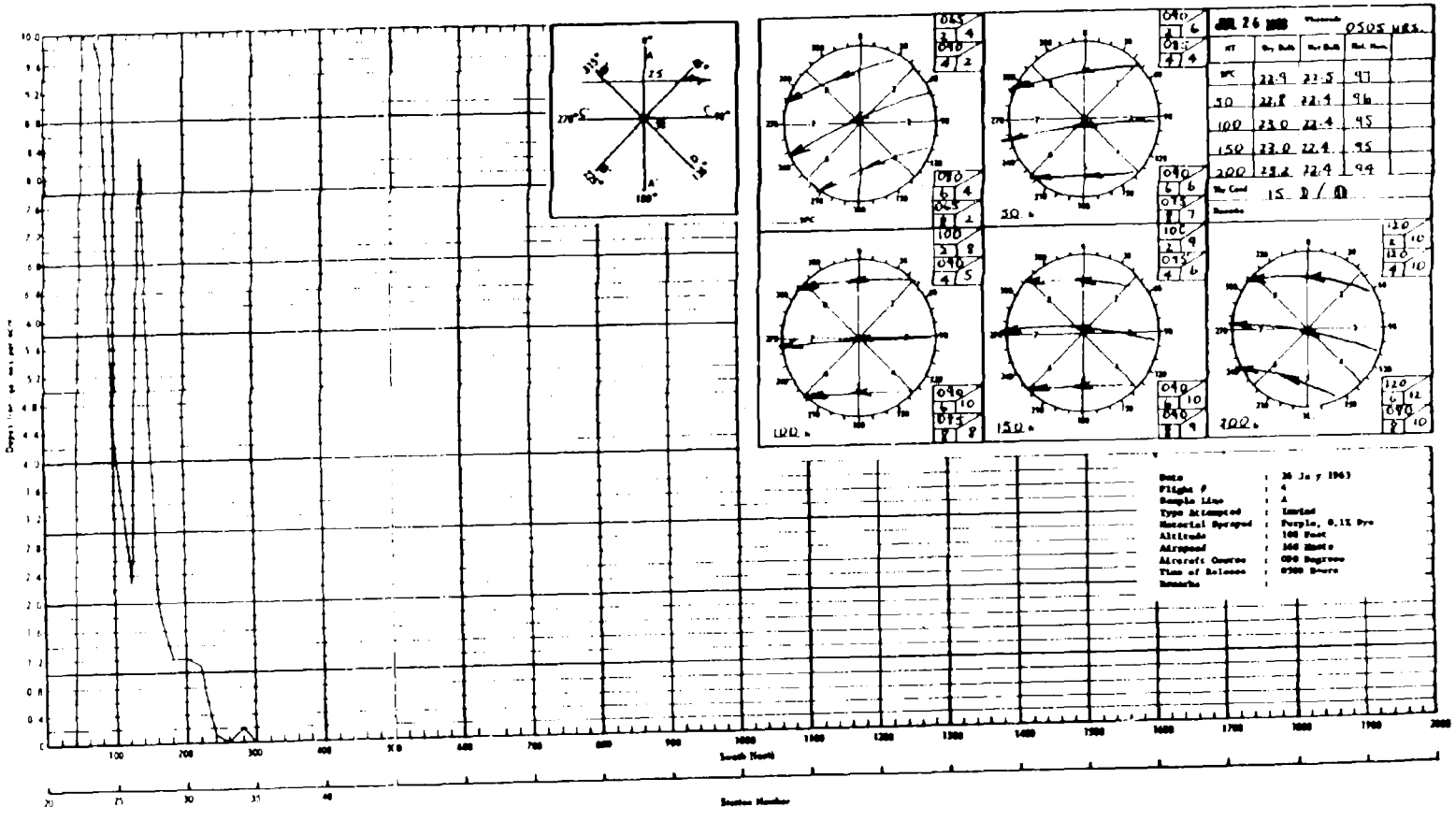
TIME OF RELEASE: 0509 Hours

AIRCRAFT COURSE: 090 Degrees

DURATION: 07 Sec.

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 21 Blank		22	0.0				
		23	11.0				
		24	9.5				
		25	4.3				
		26	2.3				
		27	8.3				
		28	1.9				
		29	1.2				
		30	1.2				
		31	1.1				
		32	0.1				
		33	0.0				
		34	0.2				
		Stations 35 - 100 Blank					

Total 41.1


0505 HRS.
Date : 26 July 1963
Flight # : 4
Sample Line : A
Type Attempted : Instant
Material Sprayed : Purple, 0.1% Dye
Altitude : 100 Feet
Airspeed : 160 Knots
Aircraft Course : 090 Degrees
Time of Release : 0500 Hours
Remarks :
South North
Station Number

MASS DEPOSIT

MATERIAL: Purple

DATE: 26 July 1963

FLIGHT #: 5

SAMPLE LINE: A

TIME OF RELEASE: 0524 Hours

DURATION: 06 Sec.

FLOW RATE: 315 (app) GPM

SYSTEM: FIDAL

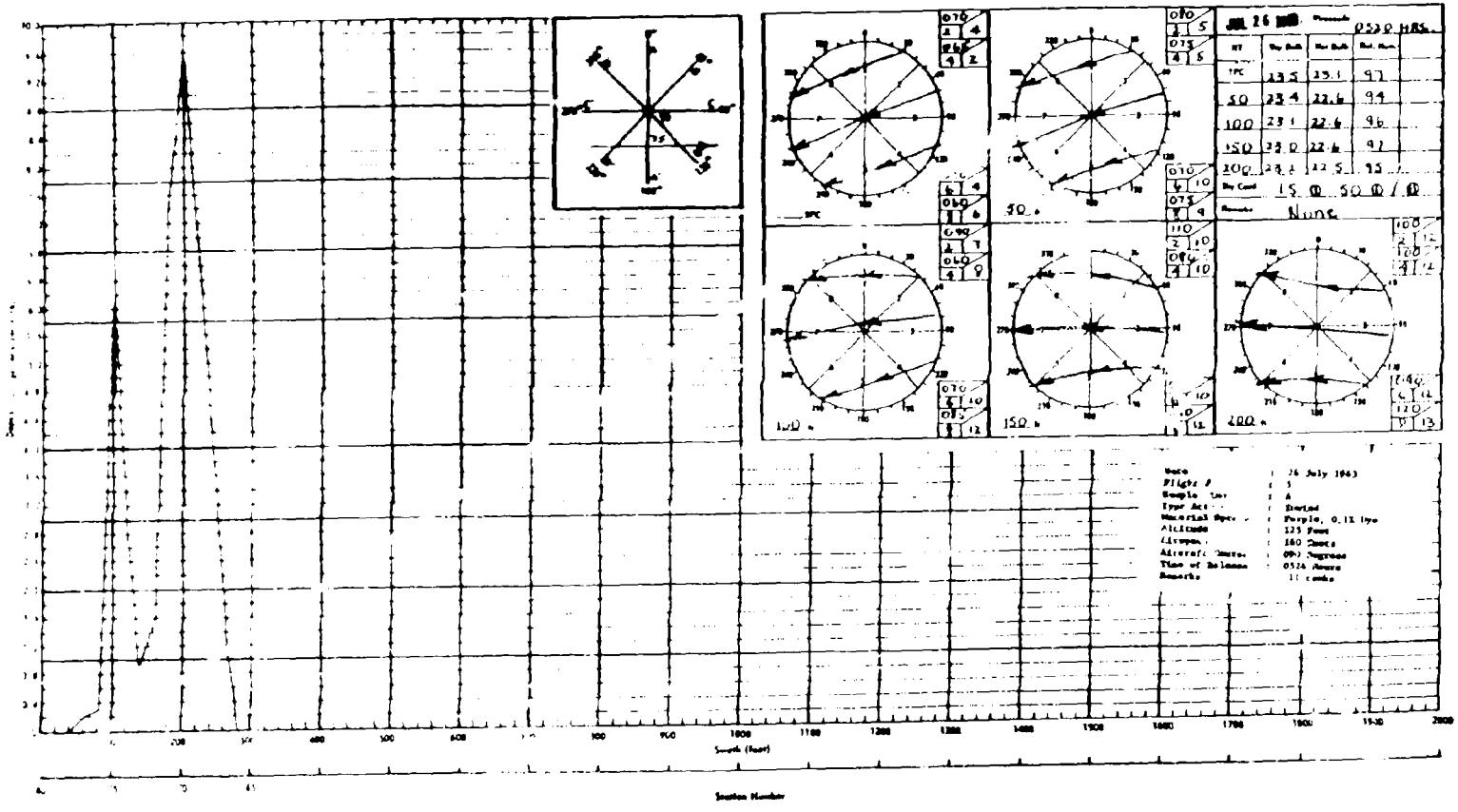
AIRSPEED: 160 Knots

ALTITUDE: 125 Feet

AIRCRAFT COURSE: 090 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 25 Blank		26	3.8				
		27	8.1				
		28	7.3				
		29	4.0				
		30	2.8				
		31	4.9				
		32	1.1				
		33	1.0				
		34	1.4				
		35	1.3				
		36	0.9				
		37	0.9				
		38	0.1				
		Stations 39 - 100 Blank					

Total 37.7



MASS DEPOSIT

MATERIAL: Purple

DATE: 26 July 1963

FLIGHT #: 6

SAMPLE LINE: A

TIME OF RELEASE: 0526 Hours

DURATION: 09 Sec.

FLOW RATE: 315 (app) GPM

SYSTEM: FIDAL

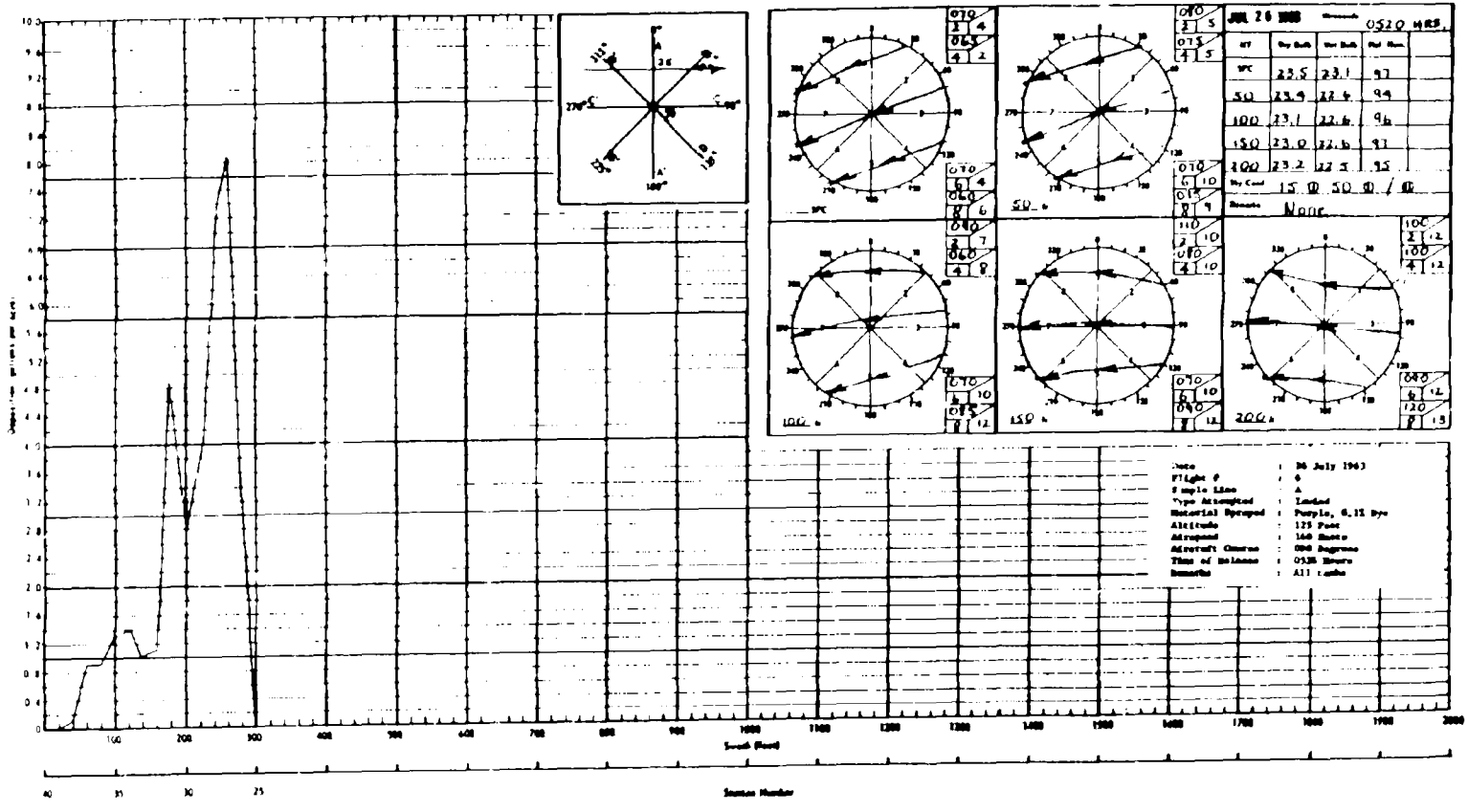
AIRSPEED: 160 Knots

ALTITUDE: 125 Feet

AIRCRAFT COURSE:

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 64 Blank							
65	0.0						
66	0.0						
67	1.1						
68	4.2						
69	6.2						
70	9.5						
71	7.3						
72	1.5						
73	0.9						
74	2.7						
75	6.1						
76	0.3						
77	0.3						
Stations 78 - 100 Blank							

Total 40.0


0520 HRS
Note : 26 July 1963
Flight # : 6
Sample Line : A
Type Accomplished : Lowland
Material Sprayed : Purple, 0.15 Dye
Altitude : 125 Feet
Airspeed : 160 Knots
Aircraft Course : 090 Degrees
Time of Release : 0535 Hours
Remarks : All Leaks
Station Number

MASS MEDIAN DIAMETER

DATE: 26 July 1963 CONVERSION FACTOR: 2.5

FLIGHT #: 7 PAPER: Kromekote, white

SAMPLE LINE: C MATERIAL: Purple

FLOW RATE: 315 (app) SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
55	1	6800			
57	4	6700			
55	3	6600			
55	5	6200*			
57	10	6100	100	1A	100 (smallest)
55	2	6000			
55	6	5900			
55	7	5800			
55	8	5700			
55	9	5600			
55	11	5500			

MMD = $\frac{70.44+0.1431(\text{Spot D Max})}{\text{Con. Factor}} = \frac{70.44+0.1431(6200)}{2.5}$ = 383.1 Microns

Max. Sph. Dia. = 70.44+0.1431(Max Spot) = 70.44+0.1431(6800) = 1043.5 Microns

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: Purple

DATE: 26 July 1963

FLIGHT #: 7

SAMPLE LINE: C

TIME OF RELEASE: 0543 Hours

DURATION: 04.5 Sec.

FLOW RATE: 315 (app) GPM

SYSTEM: FIDAL

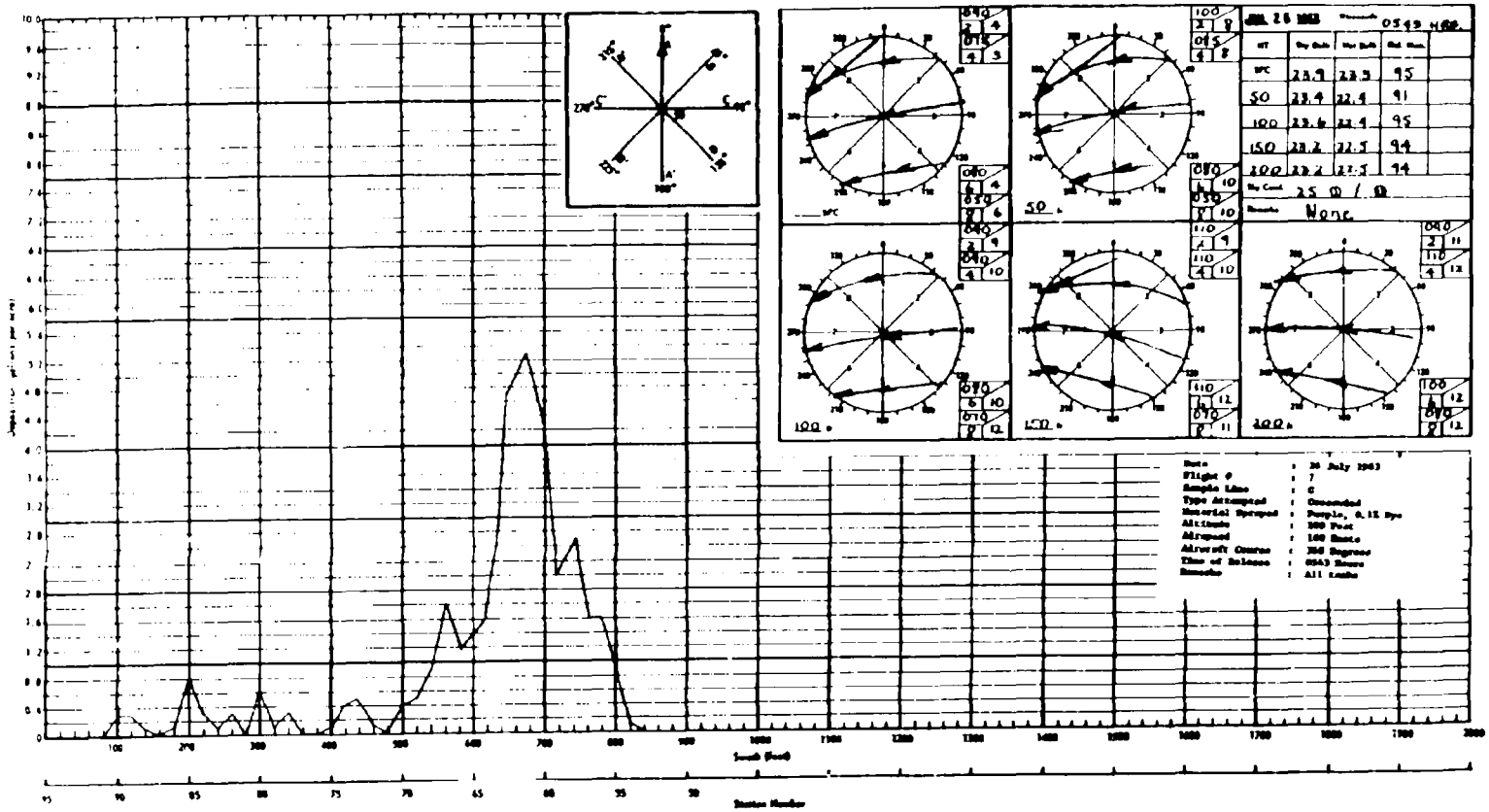
AIRSPEED: 160 Knots

ALTITUDE: 100 Feet

AIRCRAFT COURSE: 360 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 53 Blank		54	0.1	79	0.1		
		55	0.9	80	0.6		
		56	1.6	81	0.0		
		57	1.6	82	0.3		
		58	2.7	83	0.1		
		59	2.2	84	0.3		
		60	4.3	85	0.8		
		61	5.3	86	0.1		
		62	4.7	87	0.0		
		63	2.9	88	0.1		
		64	1.6	89	0.3		
		65	1.4	90	0.3		
		66	1.2	Stations 91 - 100			
		67	1.8	Blank			
		68	0.9				
		69	0.5				
		70	0.4				
		71	0.0				
		72	0.1				
		73	0.5				
		74	0.4				
		75	0.1				
		76	0.0				
		77	0.0				
		78	0.3				

Total 38.5



MASS MEDIAN DIAMETER

DATE: 26 July 1963 CONVERSION FACTOR: 2.5

FLIGHT #: 8 PAPER: Kromekote, white

SAMPLE LINE: C MATERIAL: Purple

FLOW RATE: 315 (app) SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
9	3	5900*			
9	4	5800			
8	1	5700			
9	2	5600	50	1A	100
9	7	5400			
9	5	5300			
9	6	5200			
9	8	5100			
9	9	5000			

$$MMD = \frac{70.44+0.1431(\text{Spot D Max})}{\text{Con. Factor}} = \frac{70.44+0.1431(5900)}{2.5} = 365.9 \text{ Microns}$$

Max. Sph. Dia. = 70.44+0.1431(Max Spot) = 70.44+0.1431(5900) = 914.7 Microns

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: Purple

DATE: 26 July 1963

FLIGHT #: 8

SAMPLE LINE: C

TIME OF RELEASE: 0546 Hours

DURATION: 07 Sec.

FLOW RATE: 315 (app) GPM

SYSTEM: FIDAL

AIRSPEED: 160 Knots

ALTITUDE: 100 Feet

AIRCRAFT COURSE: 360 Degrees

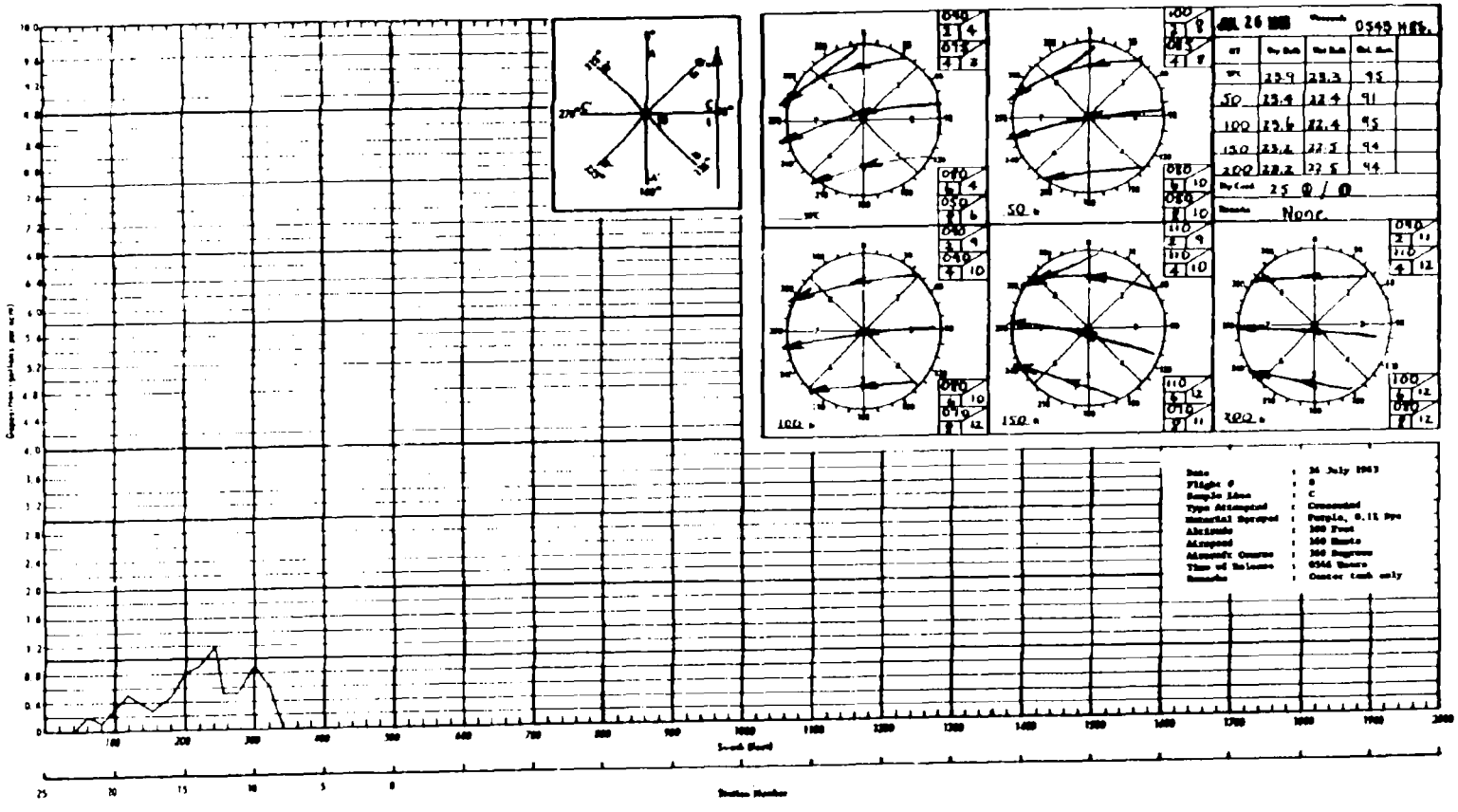
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.

Stations 1 - 8 Blank

9	0.6
10	0.9
11	0.5
12	0.5
13	1.2
14	0.9
15	0.8
16	0.5
17	0.3
18	0.4
19	0.5
20	0.3
21	0.1
22	0.2
23	0.0

Stations 24 - 100 Blank

Total 7.7


0549 Hrs.
Date : 26 July 1963
Flight # : 8
Sample Line : C
Type Attempted : Crossmated
Material Sprayed : Purple, 0.15 Pps
Altitude : 300 Feet
Airspeed : 160 Knots
Aircraft Course : 360 Degrees
Time of Release : 0546 Hours
Remarks : Center tank only
Remarks None.
Station Number

MASS MEDIAN DIAMETER

DATE: 26 July 1963 CONVERSION FACTOR: 2.5

FLIGHT #: 9 PAPER: Kromekote, white

SAMPLE LINE: C MATERIAL: Purple

FLOW RATE: 315 (app) SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
53	1	9000			
54	2	7000*			
54	4	6800			
54	6	6700			
54	3	6500			
54	5	6300			
54	7	6200			
54	9	6100			
54	8	6000			
54	10	5900			

$$\text{MMD} = \frac{70.44+0.1431(\text{Spot D Max})}{\text{Con. Factor}} = \frac{70.44+0.1431(7000)}{2.5} = 428.8 \text{ Microns}$$

Max. Sph. Dia. = 70.44+0.1431(Max Spot) = 70.44+0.1431(9000) = 1358.3 Microns

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: Purple

DATE: 26 July 1963

FLIGHT #: 9

SAMPLE LINE: C

TIME OF RELEASE: 0600 Hours

DURATION: 05 Sec.

FLOW RATE: 315 (app) GPM

SYSTEM: FIDAL

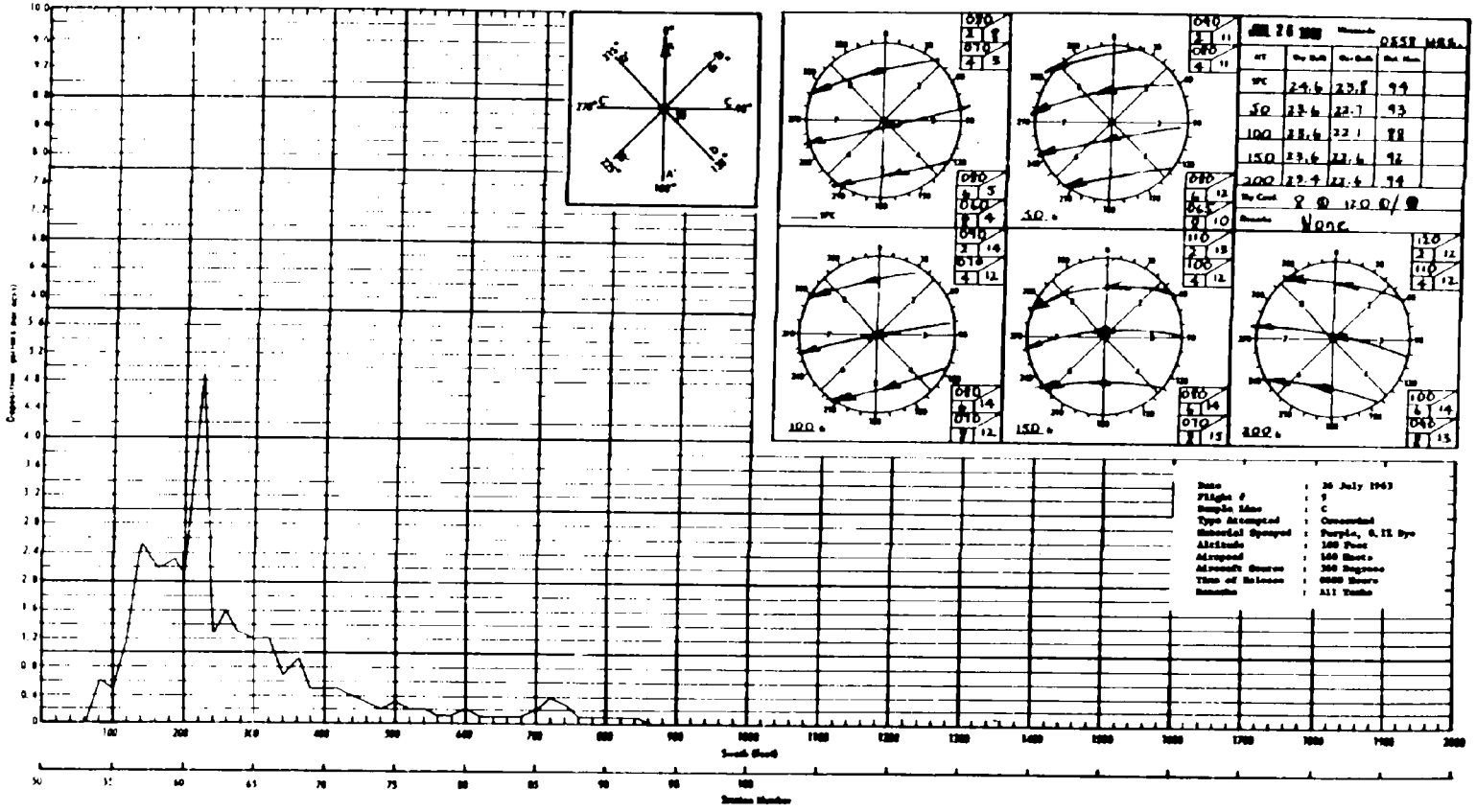
AIRSPEED: 160 Knots

ALTITUDE: 100 Feet

AIRCRAFT COURSE: 360 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 51 Blank						76	0.2
				52	0.0	77	0.2
				53	0.0	78	0.1
				54	0.6	79	0.1
				55	0.5	80	0.2
				56	1.1	81	0.1
				57	2.5	82	0.1
				58	2.2	83	0.1
				59	2.3	84	0.1
				60	2.1	85	0.2
				61	4.9	86	0.4
				62	1.3	87	0.3
				63	1.6	88	0.1
				64	1.3	89	0.1
				65	1.2	90	0.1
				66	1.2	91	0.1
				67	0.7	92	0.1
				68	0.9	93	0.0
				69	0.5	Stations 94 - 100	
				70	0.5	Blank	
				71	0.5		
				72	0.4		
				73	0.3		
				74	0.2		
				75	0.3		

Total 29.7



MASS MEDIAN DIAMETER

DATE: 26 July 1963 CONVERSION FACTOR: 2.5

FLIGHT #: 10 PAPER: Kromekote, white

SAMPLE LINE: C MATERIAL: Purple

FLOW RATE: 315 (app) SYSTEM: FIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
7	1	7200			
7	2	7100			
8	3	6800*			
4	5	6700			
8	4	6500			
9	11	6300	50	1A	100(smallest)
10	10	6200			
10	9	6000			
5	7	5800			
8	8	5700			
5	6	5500			

$$MMD = \frac{70.44+0.1431 \text{ (Spot D Max)}}{\text{Con. Factor}} = \frac{70.44+0.1431 (6800)}{2.5} = 417.4 \text{ Microns}$$

Max. Sph. Dia. = 70.44+0.1431 (Max Spot) = 70.44+0.1431(7200) = 1100.1 Microns

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: Purple

DATE: 26 July 1963

FLIGHT #: 10

SAMPLE LINE: C

TIME OF RELEASE: 0602 Hours

DURATION: 06.5 Sec.

FLOW RATE: 315 (app) GPM

SYSTEM: FIDAL

AIRSPEED: 160 Knots

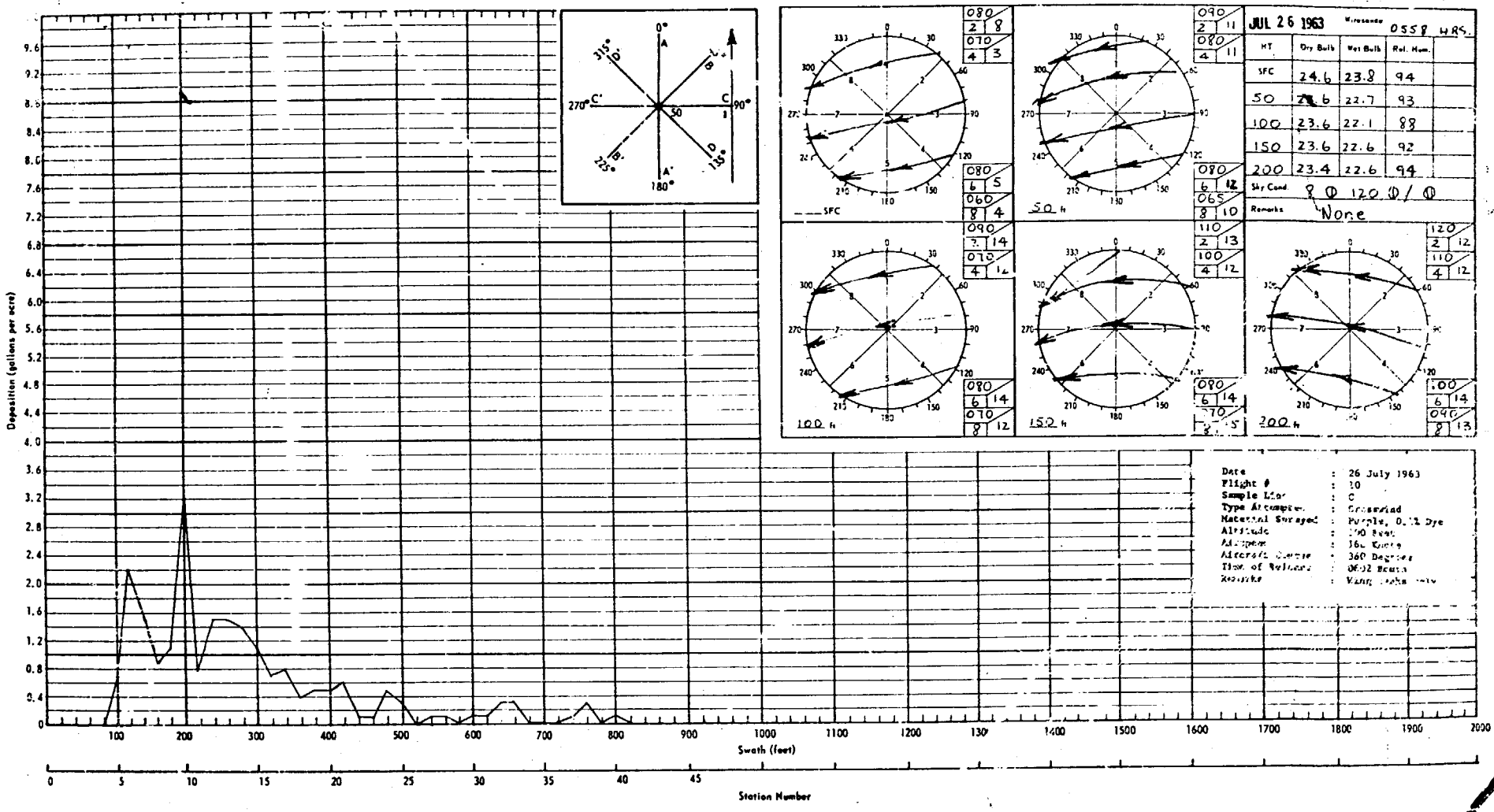
ALTITUDE: 100 Feet

AIRCRAFT COURSE: 360 Degrees

STATION	C.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 3 Blank		26	0.0				
		27	0.1				
		28	0.1				
4	0.0	29	0.0				
5	0.7	30	0.1				
6	2.2	31	0.1				
7	1.5	32	0.3				
8	0.9	33	0.3				
9	1.1	34	0.0				
10	3.2	35	0.0				
11	0.8	36	0.0				
12	1.5	37	0.1				
13	1.5	38	0.3				
14	1.4	39	0.0				
15	1.1	40	0.1				
16	0.7	41	0.0				
17	0.8	Stations 42 - 100 Blank					
18	0.4						
19	0.5						
20	0.5						
21	0.6						
22	0.1						
23	0.1						
24	0.5						
25	0.3						

Total 22.1

Best Available Copy



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