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Author	Boyer, Lester W.
Corporate Author	U.S. Army Biological Laboratories, Director of Biological Research, Crops Division, Fort Detrick, Frederick, Maryland
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BOYER, L.L. & J.L. BROWN

1963

SUPPLEMENT II
TO
ARPA TECHNICAL REPORT 46

AD 442179

BASIC DATA
FROM H-34/HIDAL CALIBRATION TRIAL

AUTHORITY: DARCOM
ltr, 20 Aug 75

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SUPPLEMENT II

TO

TECHNICAL REPORT 46

BASIC DATA FROM H-34/HIDAL CALIBRATION TRIALS 1963

Sponsored by

Advanced Research Projects Agency

Project Agile

ARPA Order 256

JUNE 1964

UNITED STATES ARMY
BIOLOGICAL LABORATORIES
FORT DETRICK

U.S. ARMY BIOLOGICAL LABORATORIES
Fort Detrick, Frederick, Maryland

SUPPLEMENT II
to
TECHNICAL REPORT 46

BASIC DATA FROM H-34/HIDAL CALIBRATION TRIALS 1963

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

Lester W. Boyer

James W. Brown

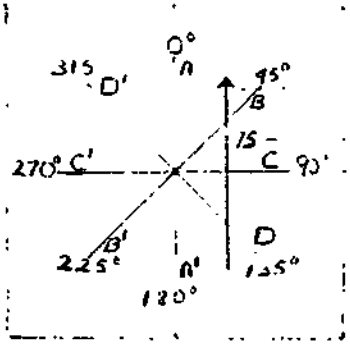
Crops Division
DIRECTOR OF BIOLOGICAL RESEARCH

Project ARPA Order 256 June 1964

INTRODUCTION

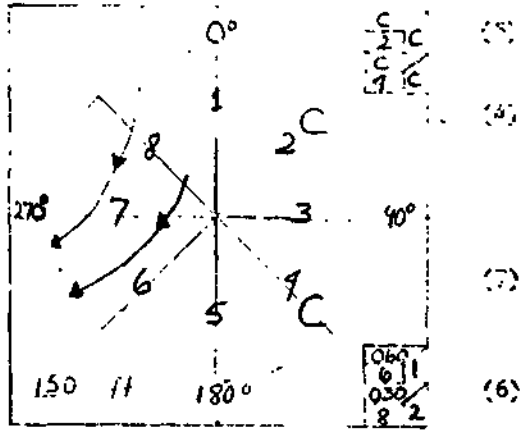
This supplement concerns the calibration of a modified H-34/HIDAL spray system and presents the basic data and spray deposit patterns obtained in 100 test flights at Eglin Air Force Base between 27 June and 16 July 1963. The data are presented in the sequence of ground flow determinations, mass median diameter calculations, and mass deposit measurements.

SAMPLE AND EXPLANATION OF METEOROLOGICAL DATA



(1)

(1a)



(2)

(3)

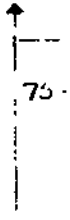
(4)

(5)

(6)

(7)

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

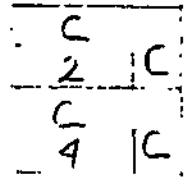


(2) — Wind current

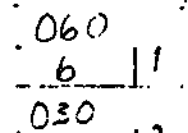
(3) 150ft — Altitude in feet, met. data obtained

(4) C — Calm

(5) Calm; Met. data station

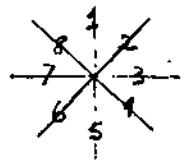


(6) Wind direction in degrees; Met. data station



Wind speed mph; Wind speed mph

(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	N - North
OCNL - Occasional	E - East
C - Clouds	S - South
CLR - Clear	W - West
CU - Cumulus	LTG - Lightning
CB - Cumulo-nimbus	H - Haze
FQT - Frequent	S - Smoke

H-34/HIDAL GROUND FLOW & FLIGHT DATA

DATE CALIBRATED: 26 June 1963

LIQUID SPRAYED: Fuel Oil

NOZZLE TYPE: 8010

DURATION OF SPRAY: 30 Sec.

TOTAL AMOUNT SPRAYED: 26 Gal.

DATE TEST FLOWN: 27 June 1963

TOTAL NOZZLES OPEN: 60

LIQUID TEMP: 35° F.

PUMP PRESSURE: ---- PSI

BOOM PRESSURE: 32 PSI

FLOW RATE CALIBRATED: 54 GPM

OPERATIONAL DATA DURING FLIGHT

Run 1 - Shakedown flight
Run 2 - Pin sheared in pump

MASS MEDIAN DIAMETER

DATE: 27 June 1963

FLIGHT #: 1

SAMPLE LINE: B

FLOW RATE: ----

SPREAD FACTOR: 6.0

CONVERSION FACTOR: 2.2

PAPER: Kromekote, white

MATERIAL: Fuel Oil

SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
78	1	3500*			
78	2	3400			
78	4	3300			
78	3	3200			
78	5	3100			
78	6	3000			
78	7	2900			
79	8	2800			
79	9	2700			
79	10	2600	77		75

$$MMD = \frac{\text{Spot D Max}}{\text{Spread Factor x Con. Factor}} = \frac{3500}{6.0 \times 2.2} = 265.2 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = \frac{3500}{6.0} = 583.3 \text{ Microns}$$

$$\text{Min. Sph. Dia.} = \frac{75}{6.0} = 12.5 \text{ Microns}$$

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 27 June 1963

FLIGHT #: 1

SAMPLE LINE: B

TIME OF RELEASE: 0437 Hours

DURATION: 10 Sec.

FLOW RATE: ----

SYSTEM: WIDAL

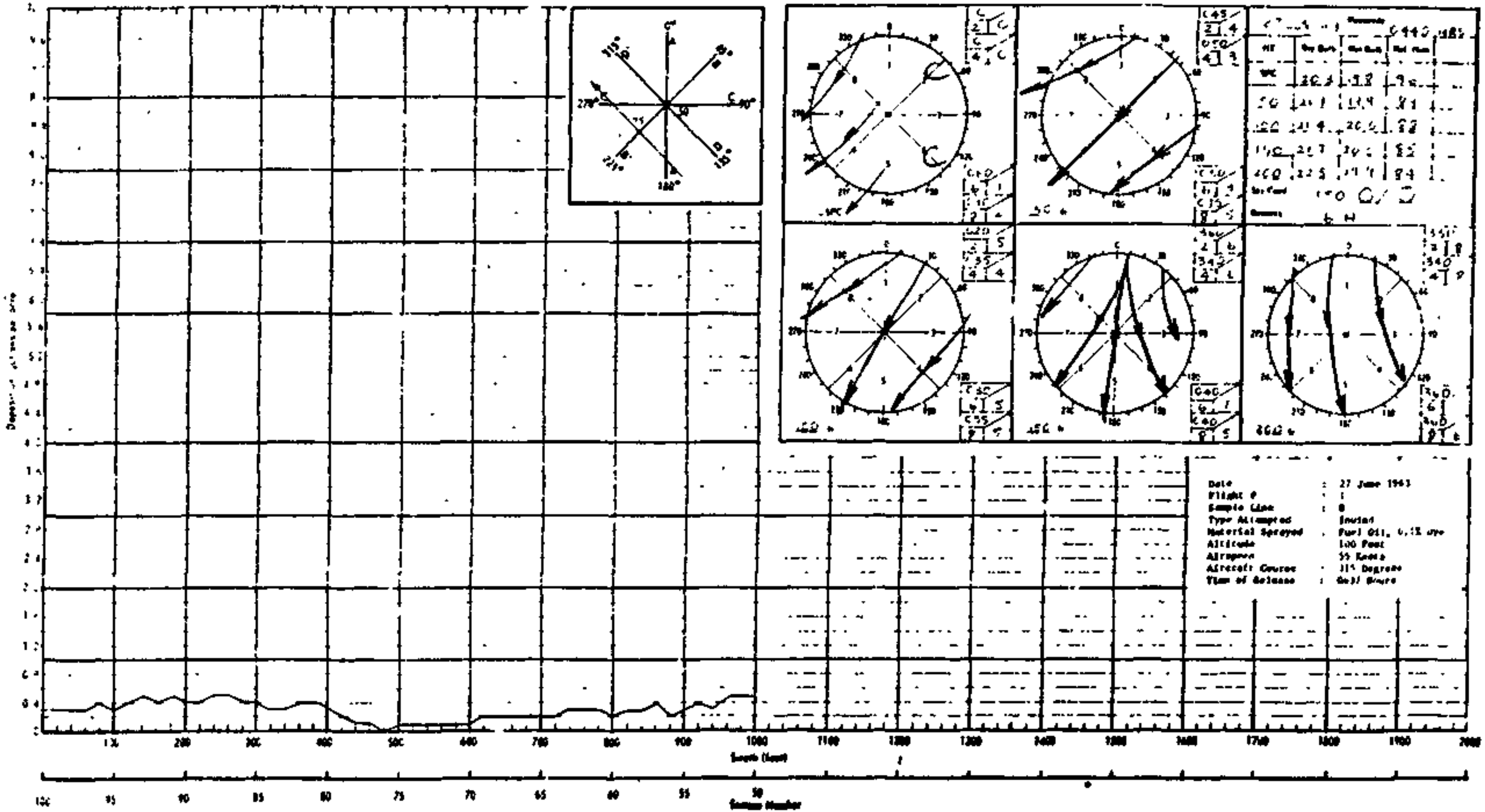
AIRSPEED: 55 Knots

ALTITUDE: 100 Feet

AIRCRAFT COURSE: 315 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 50 Blank				51	0.5	76	0.0
				52	0.5	77	0.1
				53	0.3	78	0.1
				54	0.4	79	0.2
				55	0.3	80	0.3
				56	0.2	81	0.4
				57	0.4	82	0.3
				58	0.3	83	0.3
				59	0.3	84	0.3
				60	0.2	85	0.
				61	0.3	86	0.4
				62	0.3	87	0.5
				63	0.3	88	0.3
				64	0.2	89	0.4
				65	0.2	90	0.4
				66	0.2	91	0.5
				67	0.2	92	0.4
				68	0.2	93	0.3
				69	0.2	94	0.3
				70	0.1	95	0.3
				71	0.1	96	0.4
				72	0.1	97	0.3
				73	0.1	98	0.3
				74	0.1	99	0.3
				75	0.1	100	0.3

Total 14.5



Date : 27 June 1963
Flight #
Sample Line
Type Attempted
Material Sprayed : Fuel Oil
Altitude : 100 Feet
Airspeed
Aircraft Course : 315 Degrees
Time of Release
Sample Number

MASS MEDIAN DIAMETER

DATE: 27 June 1963

FLIGHT #: 2

SAMPLE LINE: B

FLOW RATE: ----

SPREAD FACTOR: 6.0

CONVERSION FACTOR: 2.2

PAPER: Kromekote, white

MATERIAL: Fuel Oil

SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
28	1	4500			
28	3	4000*			
28	4	3900			
28	2	3800			
28	5	3700			
28	6	3600			
28	7	3500			
28	8	3400			
28	10	3300			
28	9	3200			
28	11	3100	30		100

$$MMD = \frac{\text{Spot D Max}}{\text{Spread Factor x Con. Factor}} = \frac{4000}{6.0 \times 2.2} = 303.0 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = \frac{4500}{6.0} = 750 \text{ Microns}$$

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

MASS DEPOSIT

MATERIAL: Fuel Oil

DATE: 27 June 1963

FLIGHT #: 2

SAMPLE LINE: B

TIME OF RELEASE: 0440 Hours

DURATION: 14 Sec.

FLOW RATE: ----

SYSTEM: HIDAL

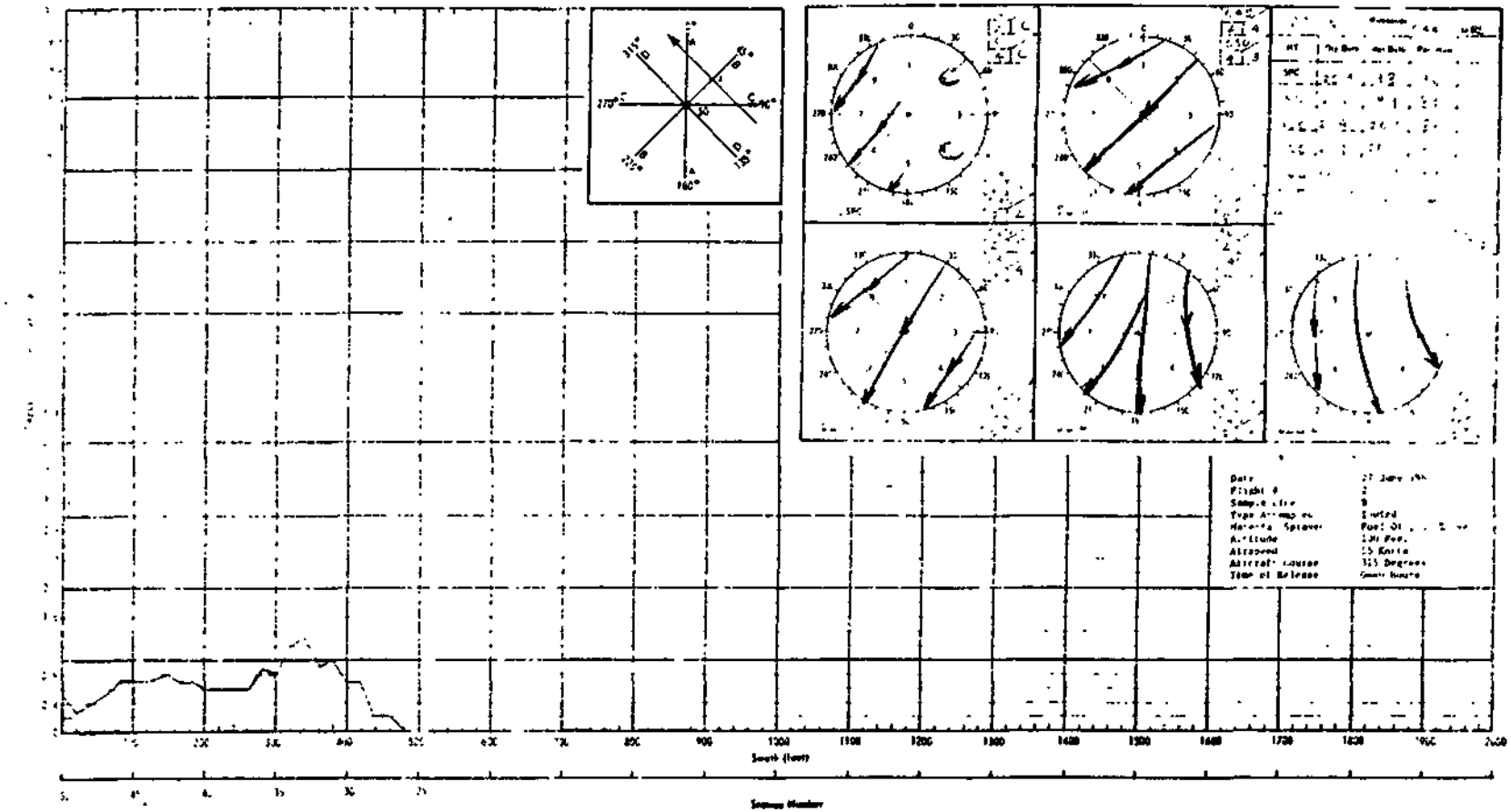
AIRSPEED: 55 Knots

ALTITUDE: 100 Feet

AIRCRAFT COURSE: 315 Degrees

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	0.2				
		29	0.7				
		30	0.7				
		31	1.0				
		32	0.9				
		33	1.3				
		34	1.2				
		35	0.8				
		36	0.9				
		37	0.6				
		38	0.6				
		39	0.6				
		40	0.6				
		41	0.7				
		42	0.7				
		43	0.8				
		44	0.7				
		44	0.7				
		46	0.7				
		47	0.5				
		48	0.4				
		49	0.3				
		50	0.5				

Total 12.4



H-34/HIDAL GROUND FLOW & FLIGHT DATA

DATE CALIBRATED: 1 July 1963

LIQUID SPRAYED: 2 Fuel Oil, 1 Purple

NOZZLE TYPE: 8010

DURATION OF SPRAY: 30 Sec.

TOTAL AMOUNT SPRAYED: 30 Gal.

DATE TEST FLOWN: 2 July 1963

TOTAL NOZZLES OPEN: 60

LIQUID TEMP: 37° C

PUMP PRESSURE: 40 PSI

BOOM PRESSURE: 36 PSI

FLOW RATE CALIBRATED: 60 GPM

OPERATIONAL DATA DURING FLIGHT

Above information same for Runs 1 - 6.

DATE CALIBRATED: 1 July 1963

LIQUID SPRAYED: 2 Fuel Oil, 1 Purple

NOZZLE TYPE: Check valves only

DURATION OF SPRAY: 30 Sec.

TOTAL AMOUNT SPRAYED: 40 Gal.

DATE TEST FLOWN. 2 July 1963

TOTAL NOZZLES OPEN. 60

LIQUID TEMP: 37° C

PUMP PRESSURE 16 PSI

BOOM PRESSURE: 14 PSI

FLOW RATE CALIBRATED: 80 GPM

OPERATIONAL DATA DURING FLIGHT

Above information same for Runs 7 - 12.

MASS MEDIAN DIAMETER

DATE: 7 July 1963 CONVERSION FACTOR: 2.2

FLIGHT NO.: 1 PAPER: Kromekote, white

CANDLE LINE: C MATERIAL: 2 Fuel Oil, 1 Purple

FLOW RATE: 60 GPM SYSTEM: TIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
77	2	4400*			
77	1	4300			
77	6	4200			
77	5	4100			
77	8	4000			
77	7	3800	76	1	75 (smallest)
77	3	3700			
77	4	3600			
77	10	3500			
77	9	3400			

MMD = $\frac{67.72+0.142\text{ (Spot D Max)}}{\text{Con. Factor} = 2.2} = \frac{4400}{6.355\times 2.2} = 314.7$ Microns

Max. Sph. Dia. = $\frac{67.72+0.142(4400)}{6.355} = \frac{4400}{6.355} = 692.4$ Microns

Min. Sph. Dia. = 48 Microns

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 3 July 1963

FLIGHT: 1

SAMPLE LINE: C

TIME OF RELEASE: 0437 Hours

DURATION: 12.5 Sec.

FLOW RATE: 60 GPM

SYSTEM: HIDAL

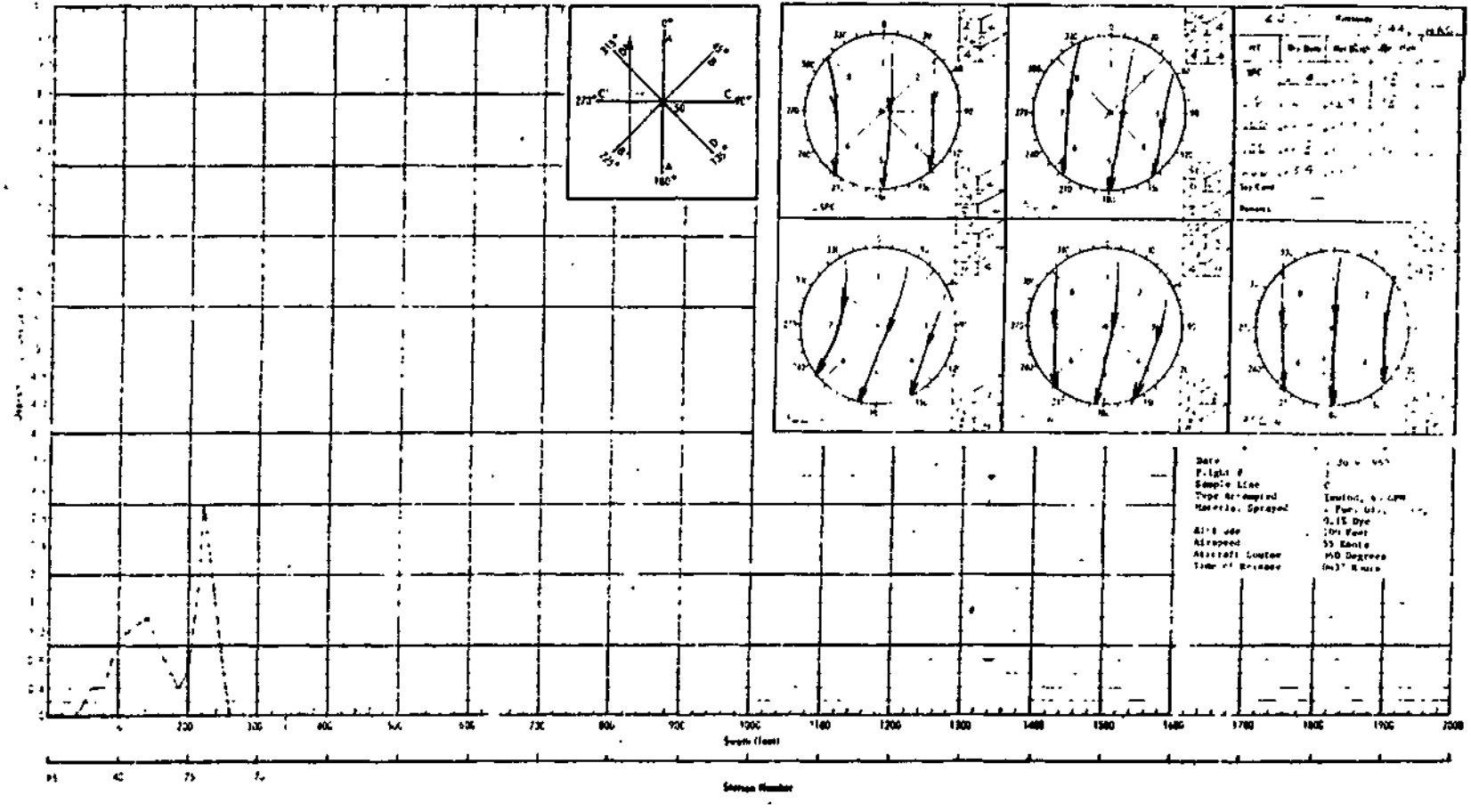
AIRSPEED: 55 Knots

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 - 72 Blank				73	3.0		
				74	1.9		
				75	0.6		
				76	0.4		
				77	1.0		
				78	1.4		
				79	1.3		
				80	1.1		
				81	0.4		
				82	0.4		
				83	0.0		
				Stations 84 - 100 Blank			

Total 11.5



MASS MEDIAN DIAMETER

DATE: 2 July 1963 CONVERSION FACTOR: 2.2

RUN #: 2 PAPER: Kromekote, white

PLS LINE: C MATERIAL: 1 Fuel Oil, 1 Purple

FLOW RATE: 60 GPH SYSTEM: SIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
30	3	5000			
30	4	4700			
28	1	4400*			
29	2	4300			
28	8	4200			
30	5	4100			
31	6	4000	38	1	100 (smallest)
25	7	3900			
25	9	3800			
28	10	3700			

$$MMD = \frac{67.72+3.143(\text{Spot \# Max})}{2.2} = \frac{4400}{6.355 \times 2.2} = 314.7 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = \frac{67.72+3.143(5000)}{6.45} = \frac{5000}{6.45} = 777.6 \text{ Microns}$$

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 2 July 1963

FLIGHT #: 2

SAMPLE LINE: C

TIME OF RELEASE: 0439 Hours

DURATION: 11 Sec.

FLOW RATE: 60 GPM

SYSTEM: HIDAL

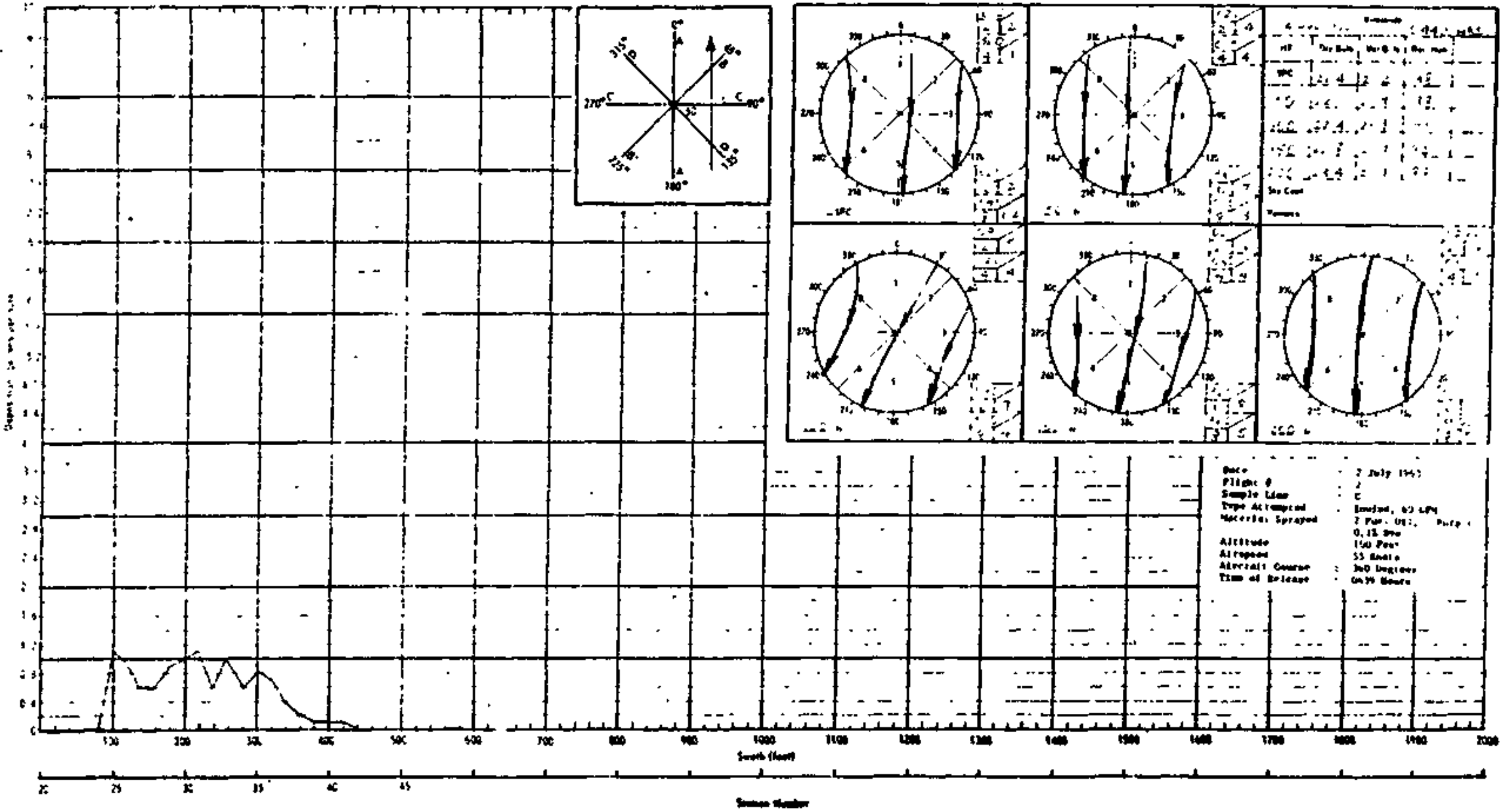
AIRSPEED: 55 Knots

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 - 23 Blank		24	0.0				
		25	1.1				
		26	1.0				
		27	0.6				
		28	0.6				
		29	0.9				
		30	1.0				
		31	1.1				
		32	0.6				
		33	1.0				
		34	0.6				
		35	0.8				
		36	0.7				
		37	0.4				
		38	0.2				
		39	0.1				
		40	0.1				
		41	0.1				
		Stations 42 - 100 Blank					

Total 10.9


Date
Flight #
Sample Line
Type Attempted
Material Sprayed
Altitude
Airspeed
Aircraft Course
Time of Release
Swath (feet)
Station Number

MASS MEDIAN DIAMETER

DATE: 2 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 3 PAPER. Kromekote, white

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

FLOW RATE: 60 GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
75	4	3700			
79	3	3200*			
79	2	3100			
78	1	3000			
79	5	2900	78	1A	100(smallest)
78	6	2800			
78	7	2700			
78	8	2600			
78	10	2500			
78	9	2400			

MMD = $\frac{67.72+0.1420(\text{Spot D Max})}{\text{Con. Factor} = 2.2} = \frac{3200}{6.355 \times 2.2}$ = 237.3 Microns

Max. Sph Dia. = $67.72+0.1420(3700) = \frac{3700}{6.430}$ = 593.0 Microns

Min. Sph. Dia. - 63 Microns

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 2 July 1963

FLIGHT #: 3

SAMPLE LINE: C

TIME OF RELEASE: 0459 Hours

DURATION: 7.5 Sec.

FLOW RATE: 60 CFM

SYSTEM: HIDAL

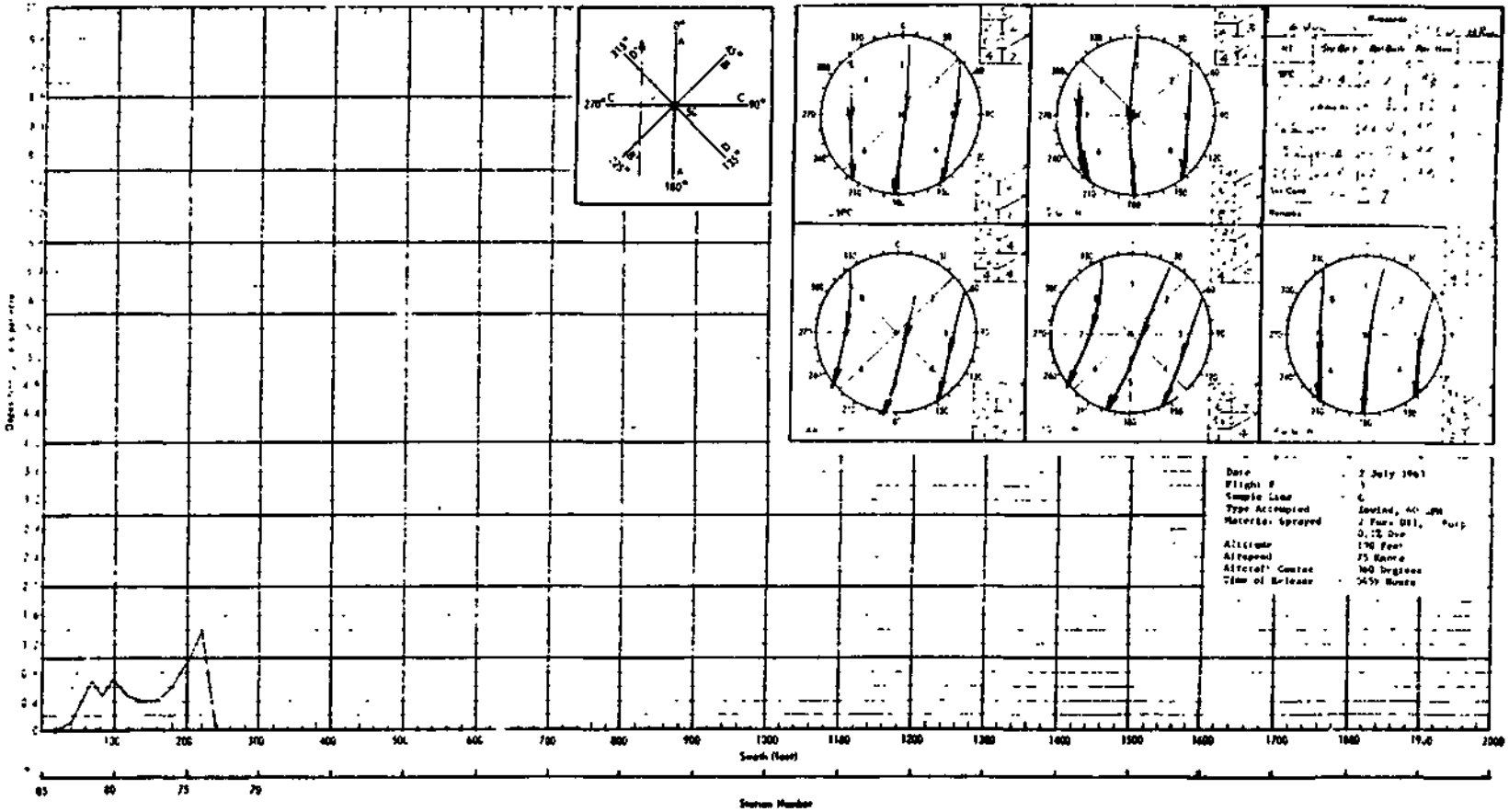
AIRSPEED: 75 Knots

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 - 73 Blank				74	1.4		
				75	0.9		
				76	0.6		
				77	0.4		
				78	0.4		
				79	0.5		
				80	0.7		
				81	0.5		
				82	0.7		
				83	0.1		
				Stations 84 - 100 Blank			

Total 6.2


Date
Flight #
Sample Line
Type Aeroplane
Materials Sprayed
Altitude
Airspeed
Aircraft Course
Time of Release
2 July 1961
6
0.1% Dye
190 Feet
75 Knots
360 Degrees
5459 Hours
South (feet)
Station Number

MASS MEDIAN DIAMETER

DATE: 2 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 4 PAPER: Kromekote, white

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

FLOW RATE: 60 GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
29	1	3400*			
24	4	3300			
29	2	3100			
29	3	3000			
29	5	2900			
29	6	2800	26	1A	100(smallest)
29	7	2700			
29	8	2600			
29	9	2500			
29	10	2400			

MMD = $\frac{67.72+0.1420(\text{Spot D Max})}{\text{Con. Factor} = 2.2} = \frac{3400}{6.355 \times 2.2}$ = 250.2 Microns

Max. Sph. Dia. = $67.72+0.1420(3400) = \frac{3400}{6.430}$ = 550.4 Microns

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 2 July 1963

FLIGHT #: 4

SAMPLE LINE: C

TIME OF RELEASE: 0500 Hours

DURATION: 7 Sec.

FLOW RATE: 6.0 GPM

SYSTEM: HIDAL

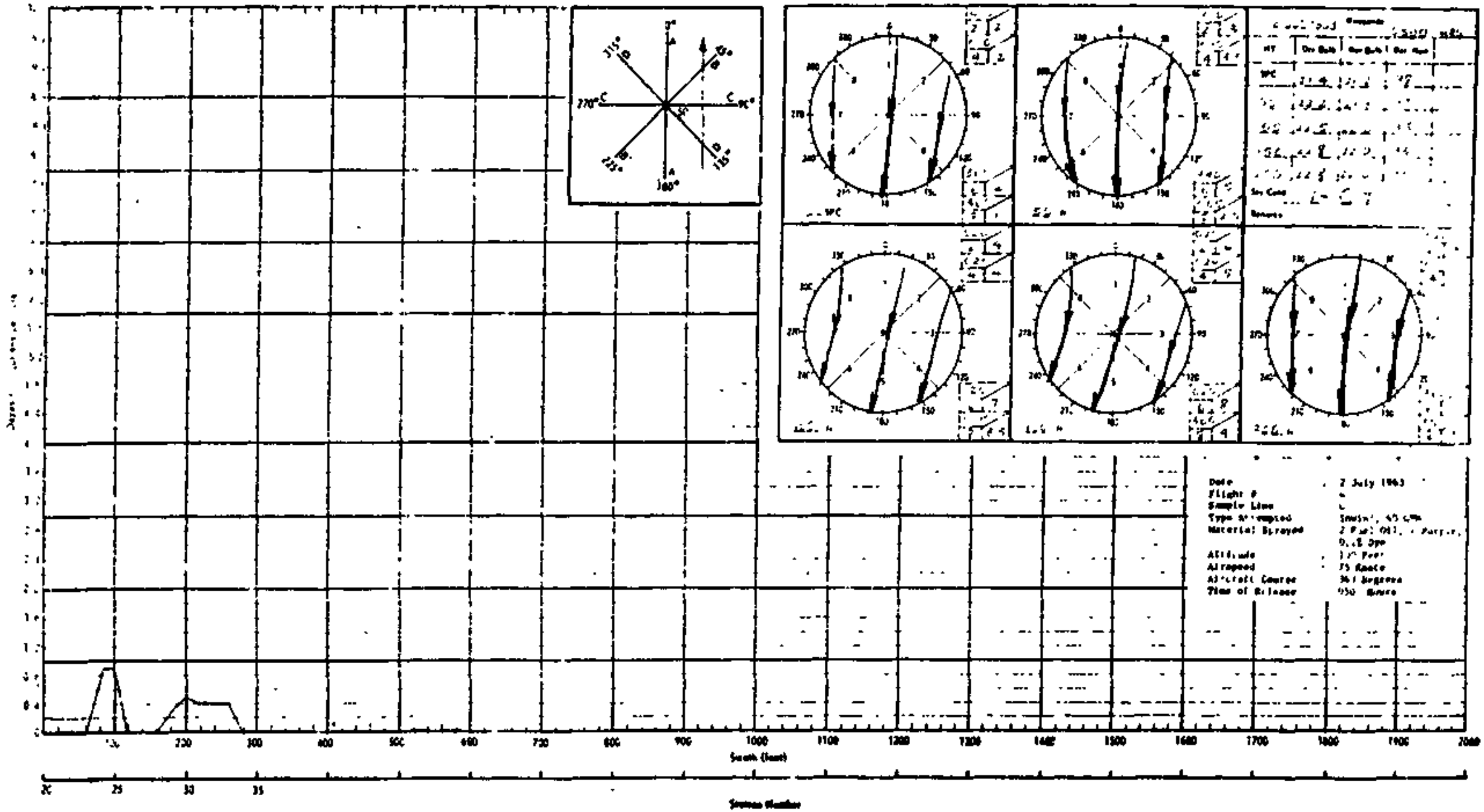
AIRSPEED: 75 Knots

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 - 23 Blank		24	0.9				
		25	0.9				
		26	0.0				
		27	0.0				
		28	0.0				
		29	0.3				
		30	0.5				
		31	0.4				
		32	0.4				
		33	0.4				
		Stations 34 - 100 Blank					

Total 3.3



Date
2 July 1963
Flight #
Sample Line
Type Attempted
Material Sprayed
Altitude
Airspeed
75 Knots
Aircraft Course
Time of Release
200
300
400
500
600
700
800
900
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
South (feet)
25
30
35
Station Number
270°
90°
180°
315°
225°
135°

MASS MEDIAN DIAMETER

DATE: 2 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 5 PAPER: Kromekote, white

SAMPLE KIND: C MATERIAL: 2 Fuel Oil, 1 Purple

FLOW RATE: 60 GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
79	5	4800			
78	1	4300*			
80	6	4200			
78	2	4100			
78	4	4000	78	1A	100(smallest)
78	3	3900			
79	8	3700			
78	7	3600			
80	10	3500			
80	9	3400			

MMD = $\frac{67.72+0.1420(\text{spot D Max})}{\text{Con Factor} = 2.2} = \frac{4300}{6.355 \times 2.2}$ = 308.2 Microns

Max. Sph. Dia. = $67.72+0.1420(4800) = \frac{4800}{6.430}$ = 749.2 Microns

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 2 July 1963

FLIGHT #: 5

SAMPLE LINE: C

TIME OF RELEASE: 0518 Hours

DURATION: 09 Sec.

FLOW RATE: 60 GPM

SYSTEM: HIDAL

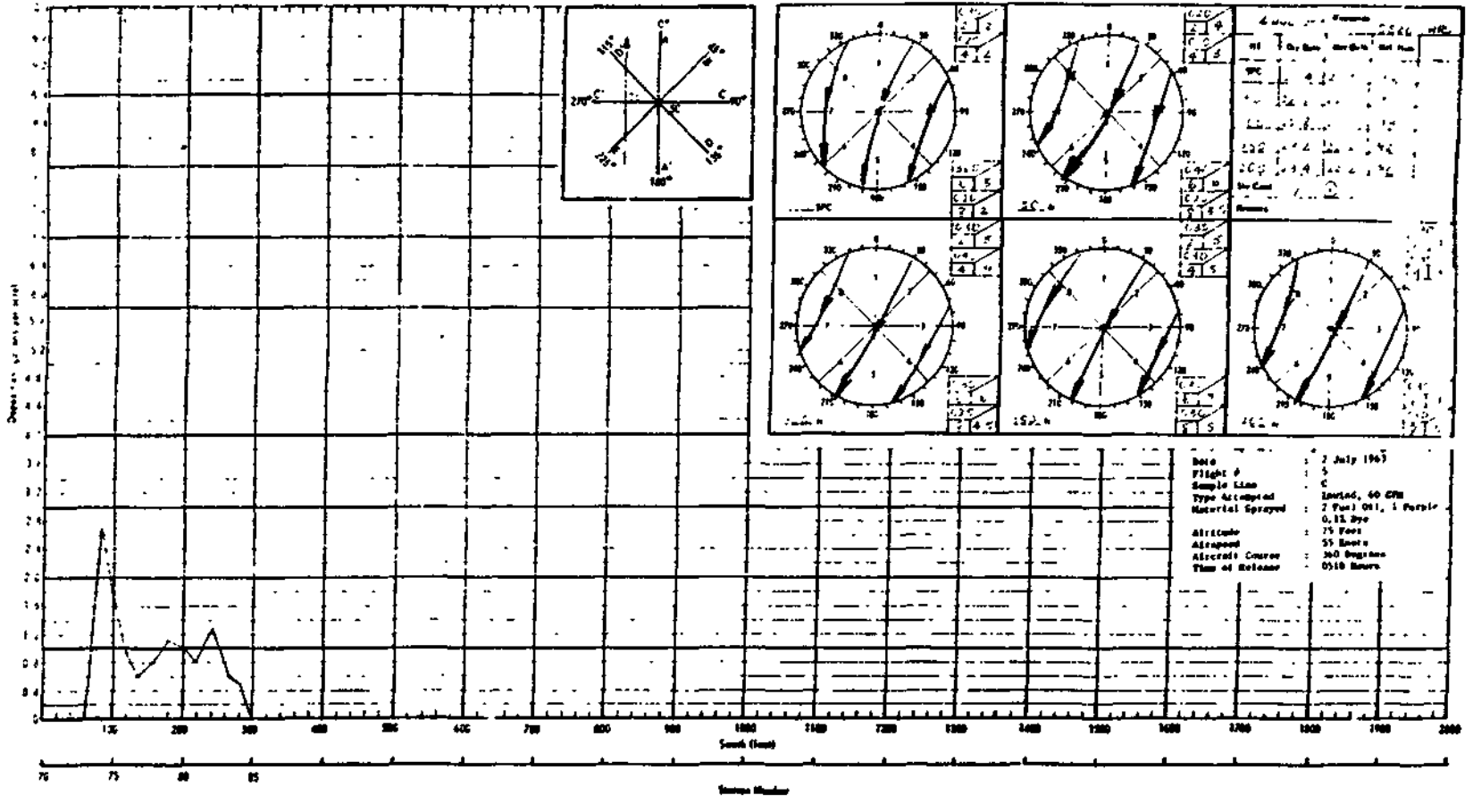
AIRSPEED: 55 Knots

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	2.7
						75	1.7
						76	0.9
						77	0.6
						78	0.9
						79	1.1
						80	1.0
						81	0.8
						82	1.3
						83	0.6
						84	0.5
						85	0.4
						86	0.3
						Stations 87 - 120 Blank	

Total 12.0


Date : 2 July 1963
Flight # : 5
Sample Line : C
Type Aircraft : Lowlad, 60 GPH
Material Sprayed : 2 Fuel Oil, 1 Purple
0.1% Dye
Altitude : 75 Feet
Airspeed : 55 Knots
Aircraft Course : 360 Degrees
Time of Release : 0510 Hours

MASS MEDIAN DIAMETER

DATE: 2 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 6 PAPER: Kromekote, white

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

FLOW RATE: 60 GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
24	1	5000			
29	6	4100*			
29	3	4000			
27	7	3900			
29	2	3800	34	1	100(smallest)
29	5	3700			
29	4	3600			
29	8	3500			
24	9	3400			
29	10	3300			

$$MMD = \frac{67.72+0.1420(\text{spot D Max})}{\text{Con. Factor} = 2.2} = \frac{4100}{6.355 \times 2.2} = 295.3 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = 67.72+0.1420(5000) = \frac{5000}{6.430} = 777.6 \text{ Microns}$$

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 2 July 1963

FLIGHT #: 6

SAMPLE LINE: C

TIME OF RELEASE: 0520 Hours

DURATION: 08 Sec.

FLOW RATE: 60 GPM

SYSTEM: HIDAL

AIRSPEED: 55 Knots

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 - 23 Blank		24	1.4				
		25	1.5				
		26	0.7				
		27	0.8				
		28	1.0				
		29	1.0				
		30	0.9				
		31	0.9				
		32	0.7				
		33	0.4				
		34	0.4				
		35	0.5				
		36	0.2				
		37	0.3				
		Stations 38 - 100 Blank					

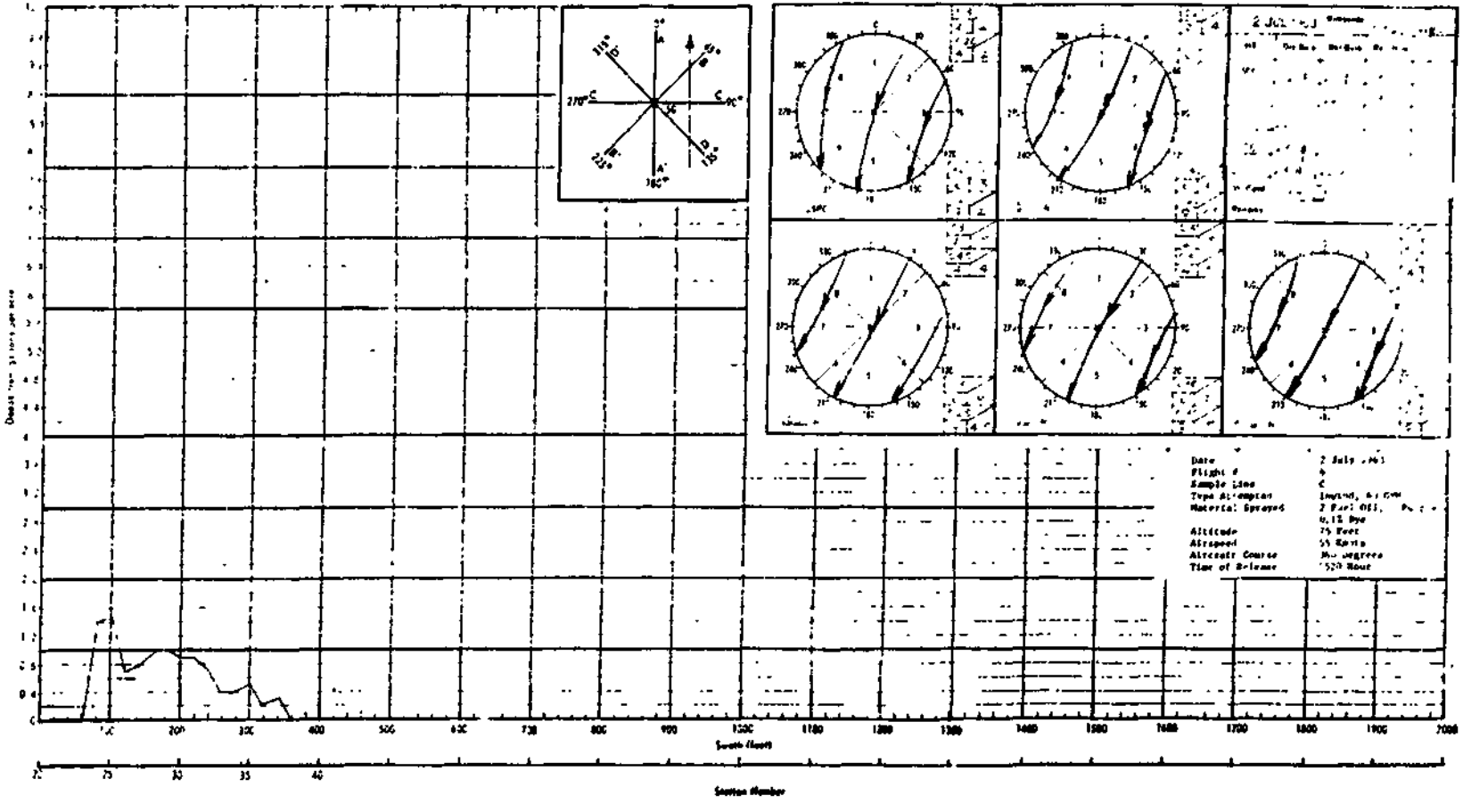
Total 10.7

MASS DEPOSIT

MATERIAL:	2 Fuel Oil, 1 Purple	FLOW RATE:	60 GPM
DATE:	2 July 1963	SYSTEM:	HIDAL
FILTER #:	6	AIRSPEED:	55 Knots
SAMPLE LINE:	C	ALTITUDE:	75 Feet
TIME OF RELEASE:	0520 Hours	AIRCRAFT COURSE:	360 Degrees
DURATION:	08 Sec.		

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 23 Blank		24	1.4				
		25	1.5				
		26	0.7				
		27	0.8				
		28	1.0				
		29	1.0				
		30	0.9				
		31	0.9				
		32	0.7				
		33	0.4				
		34	0.4				
		35	0.5				
		36	0.2				
		37	0.3				
		Stations 38 - 100 Blank					

Total 10.7


Date
Flight #
Sample Line
Type Aircraft
Material Sprayed
Altitude
Airspeed
Aircraft Course
Time of Release
Station Number

MASS MEDIAN DIAMETER

DATE: 2 July 1963

FLIGHT #: 7

SAMPLE LINE: C

FLOW RATE: 8[illegible] GPM

CONVERSION FACTOR: 2.2

PAPER: Kromekote, white

MATERIAL: [illegible] Fuel Oil, 1 Purple

SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
77	1	5100*			
77	2	5000			
77	5	49[illegible]			
77	3	4800			
77	4	4700	83	1	100(smallest)
77	6	4600			
75	9	4500			
77	8	4400			
77	7	4300			
77	1[illegible]	4100			

MMD = $\frac{67.72+0.1420(\text{Spot D Max})}{\text{Con. Factor} = 2.2} = \frac{5100}{6.355 \times 2.2}$ = 35[illegible] Microns

Max. Sph. Dia. = 67.72+0.1420(5100) = $\frac{5100}{6.430}$ = 7[illegible]1.8 Microns

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE 2 July 1963

FLIGHT #: 7

SAMPLE LINE: C

TIME OF RELEASE. 0539 Hour

DURATION 08 Sec.

FLOW RATE: 8? GPM

SYSTEM: HIDAL

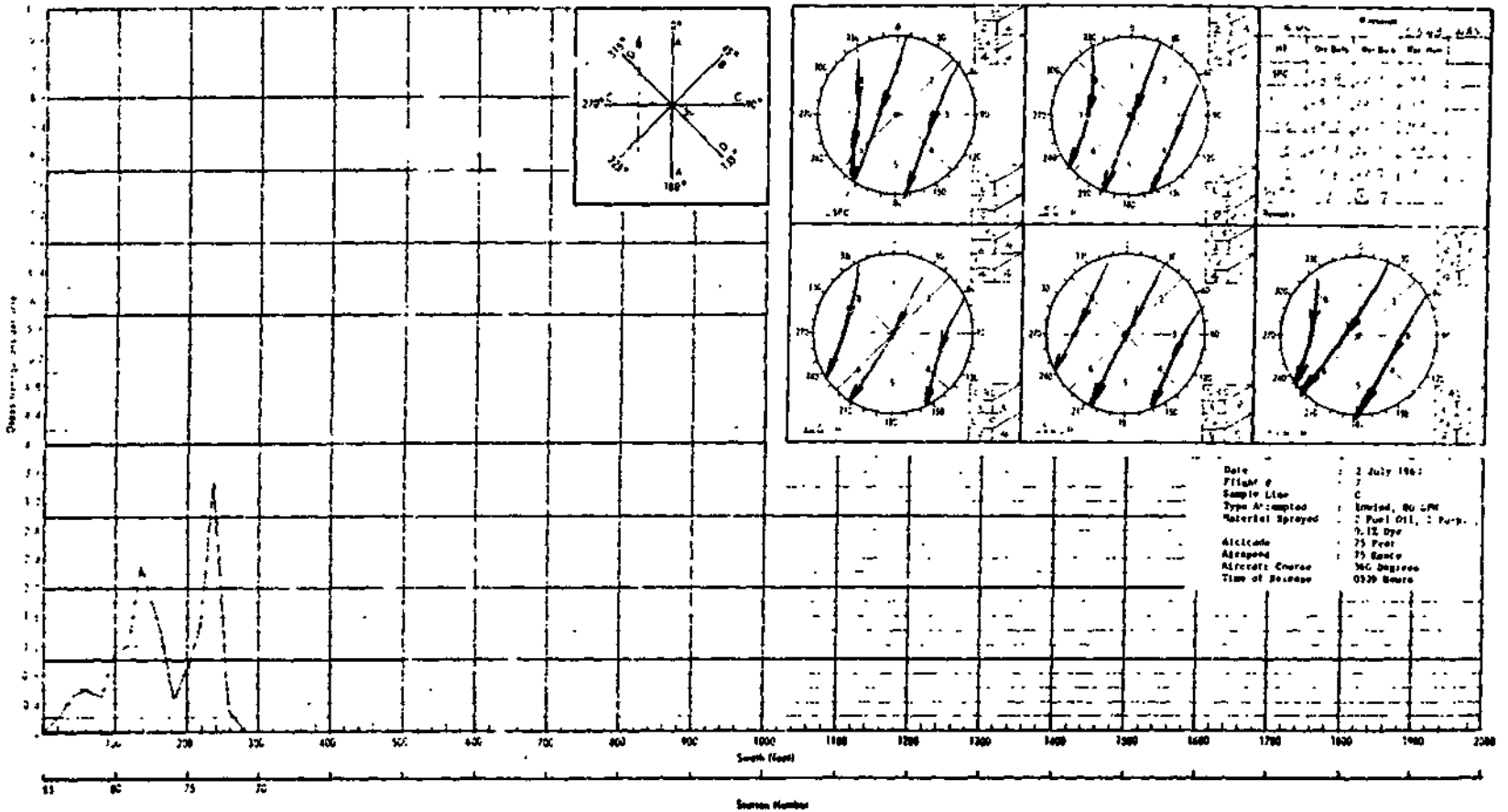
AIRSPEED: 75 Knots

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 - 71 Blank						72	0.3
						73	3.5
						74	1.5
						75	0.9
						76	0.5
						77	1.7
						78	2.3
						79	2.1
						80	2.1
						81	0.5
						82	1.6
						83	0.5
						84	0.2
						Stations 85 - 100 Blank	

Total 14.5


Date : 2 July 196
Flight # : 7
Sample Line : C
Type Attempted : Limited, 80 GPM
Material Sprayed : 2 Fuel Oil, 1 Pump
0.1% Dye
Altitude : 75 Feet
Airspeed : 75 Knots
Aircraft Course : 360 Degrees
Time of Release : 0930 Hours
South (feet)
Station Number

MASS MEDIAN DIAMETER

DATE: 2 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 8 PAPER: Kromekote, white

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

FLOW RATE: 80 GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
28	2	5000			
28	3	4900			
24	1	4800			
27	6	4600			
27	4	4200*			
24	11	4100	28	1	100(Smallest)
25	8	4000			
25	7	3900			
25	10	3800			
27	5	3700			
24	12	3600			
24	9	3500			
27	13	3400			

$$MMD = \frac{67.72+0.1420(\text{Spot D Max})}{\text{Con. Factor} - 2.2} = \frac{4200}{6.355 \times 2.2} = 301.8 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = 67.72+0.1420(5000) = \frac{5000}{6.430} = 777.6 \text{ Microns}$$

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 2 July 1963

FLIGHT #: 6

SAMPLE LINE: C

TIME OF RELEASE: 0540 Hours

DURATION: 07 Sec.

FLOW RATE: 80 GPM

SYSTEM: HIDAL

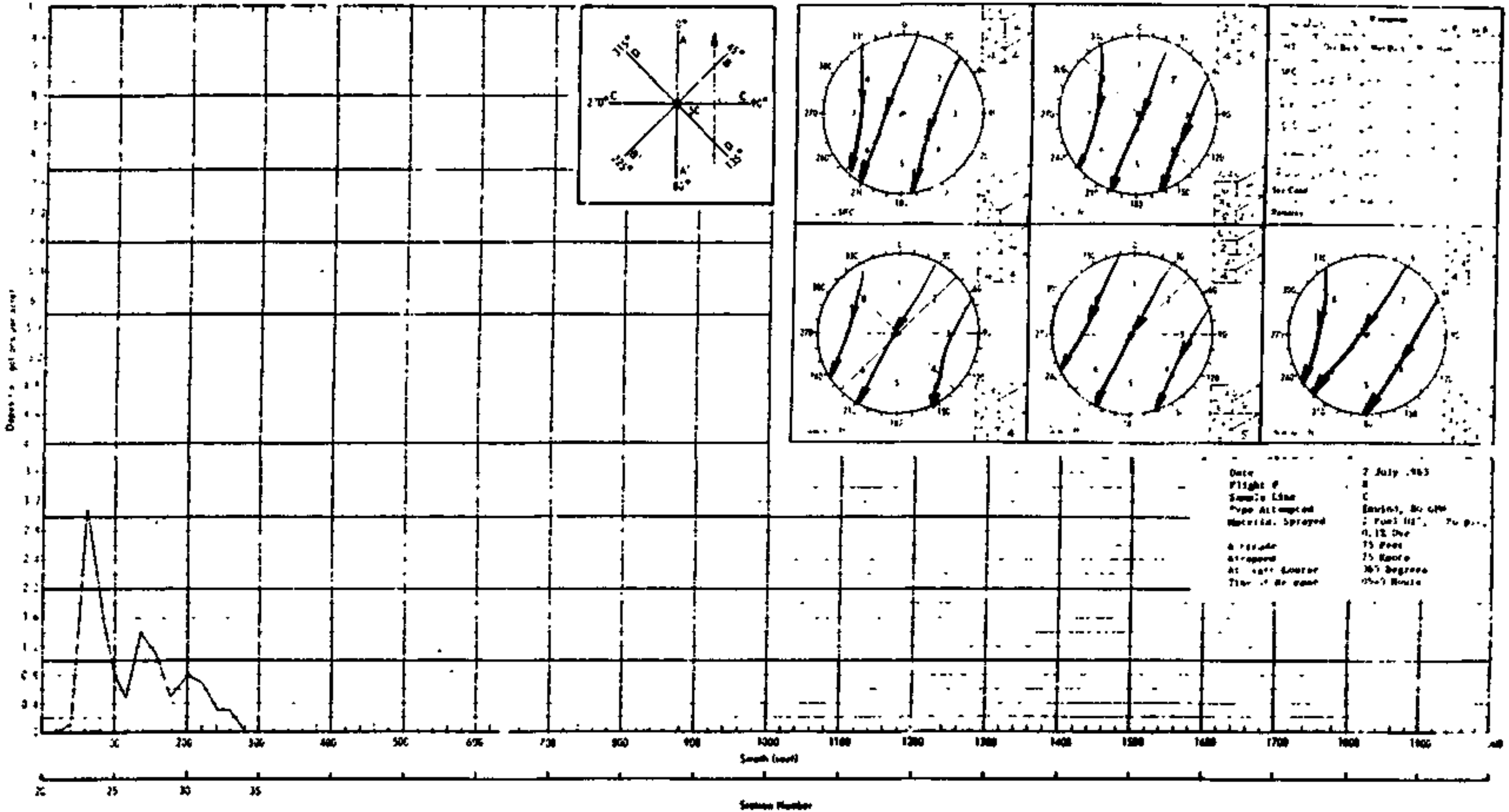
AIRSPEED: 75 Knots

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 - 21 Blank		22	3.1				
		23	3.1				
		24	1.6				
		25	0.8				
		26	0.5				
		27	1.4				
		28	1.1				
		29	0.5				
		30	0.8				
		31	0.7				
		32	0.3				
		33	0.3				
		Stations 34 - 100 Blank					

Total 16.2



Date
Flight #
Sample Line
C
Type Attempted
Material Sprayed
0.1% Dye
Airspeed
75 Feet
75 Knots
Swath (feet)
400
500
700
900
1000
1100
1200
1300
1400
1500
1600
1700
1800
Station Number
25
30
35

MASS MEDIAN DIAMETER

DATE: 2 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 9 PAPER: Kromekote, white

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

FLOW RATE: 80 GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
24	1	5900			
24	2	5500*			
24	4	5300			
24	5	5200			
24	3	5000			
24	6	4900			
24	8	4800	4	1	100(smallest)
24	7	4700			
24	10	4600			
24	11	4500			
24	9	4400			

MMD = $\frac{67.72+0.1420(\text{Spot D Max})}{\text{Con. Factor} = 2.2} = \frac{5500}{6.523 \times 2.2}$ = 383.3 Microns

Max. Sph. Dia. = 67.72+-.1420(5900) = $\frac{5900}{6.558}$ = 899.7 Microns

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 2 July 1963

FLIGHT #: 9

SAMPLE LINE: D

TIME OF RELEASE: 0559 Hours

DURATION: 08 Secs.

FLOW RATE: 80 GPM

SYSTEM: HIDAL

AIRSPEED: 75 Knots

ALTITUDE: 100 Feet

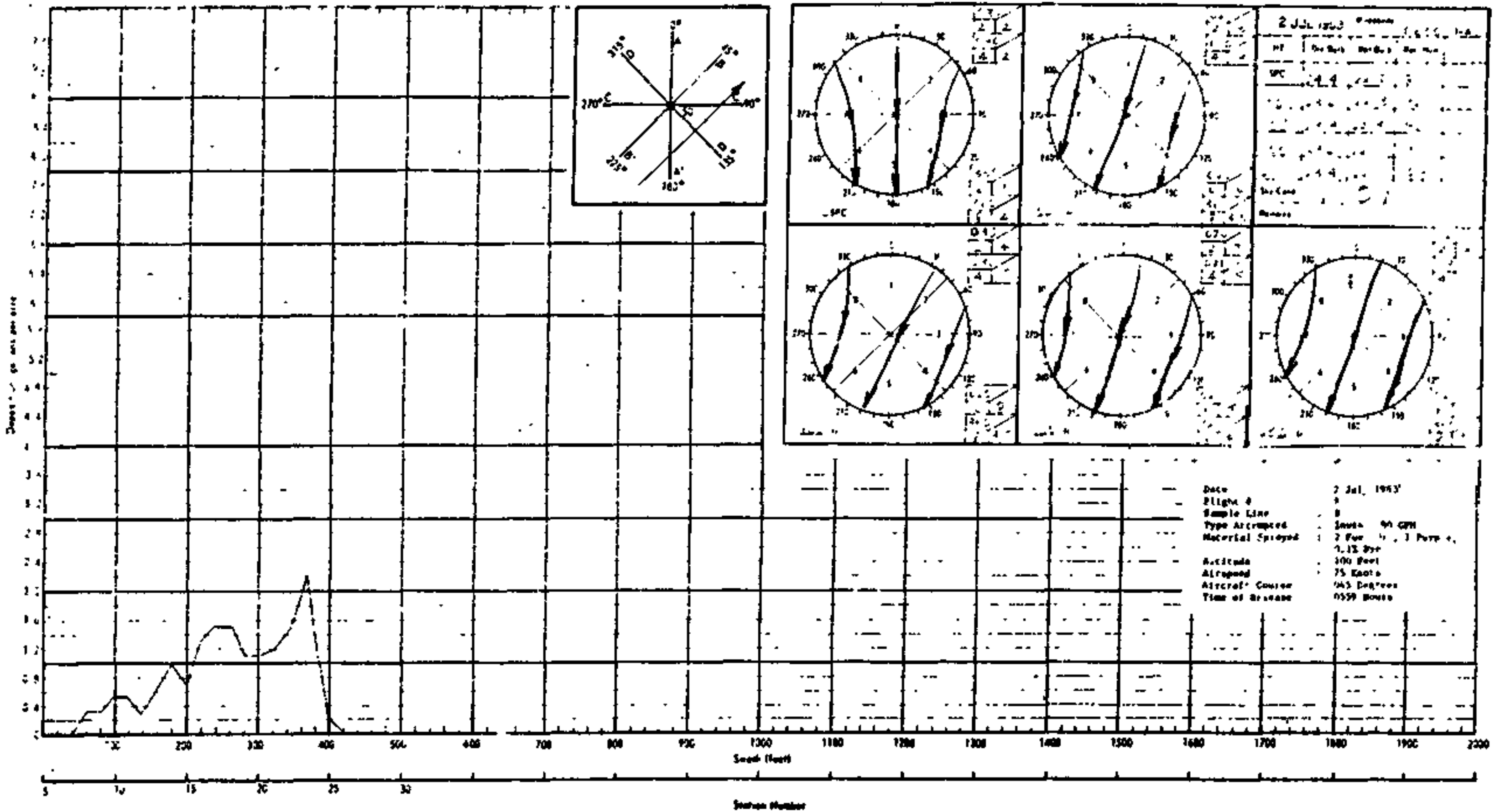
AIRCRAFT COURSE: 045 Degrees

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

Stations 1 - 7 Blank

8	0.3	Stations 26 - 100 Blank
9	0.3	
10	0.5	
11	0.5	
12	0.3	
13	0.6	
14	1.0	
15	0.7	
16	1.3	
17	1.5	
18	1.5	
19	1.1	
20	1.1	
21	1.2	
22	1.5	
23	2.2	
24	1.2	
25	0.2	

Total 17.0


Date
Sample Line
Material Sprayed
Altitude
Airspeed
75 Knots
Aircraft Course
Time of Release
0559 Hours
Swath (Feet)
Station Number

MASS MEDIAN DIAMETER

DATE: 2 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 10 PAPER: Kromekote, white

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

FLOW RATE: 80 GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
75	1	5200			
75	2	4600			
75	3	4200*			
75	4	4100			
75	5	4000			
75	6	3900			
75	7	3800	51	1	100(smallest)
75	10	3700			
75	9	3600			
75	8	3500			
75	11	3400			

$$MMD = \frac{67.72 + 0.1420(\text{Spot D Max})}{\text{Con. Factor} = 2.2} = \frac{4200}{6.325 \times 2.2} = 301.8 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = 67.72 + 0.1420(5200) = \frac{5200}{6.493} = 800.9 \text{ Microns}$$

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 7 July 1963

FLIGHT #: 10

SAMPLE LINE: D

TIME OF RELEASE: 0600 Hours

DURATION: 08 Sec.

FLOW RATE: 8.[illegible] GPM

SYSTEM: HIDAL

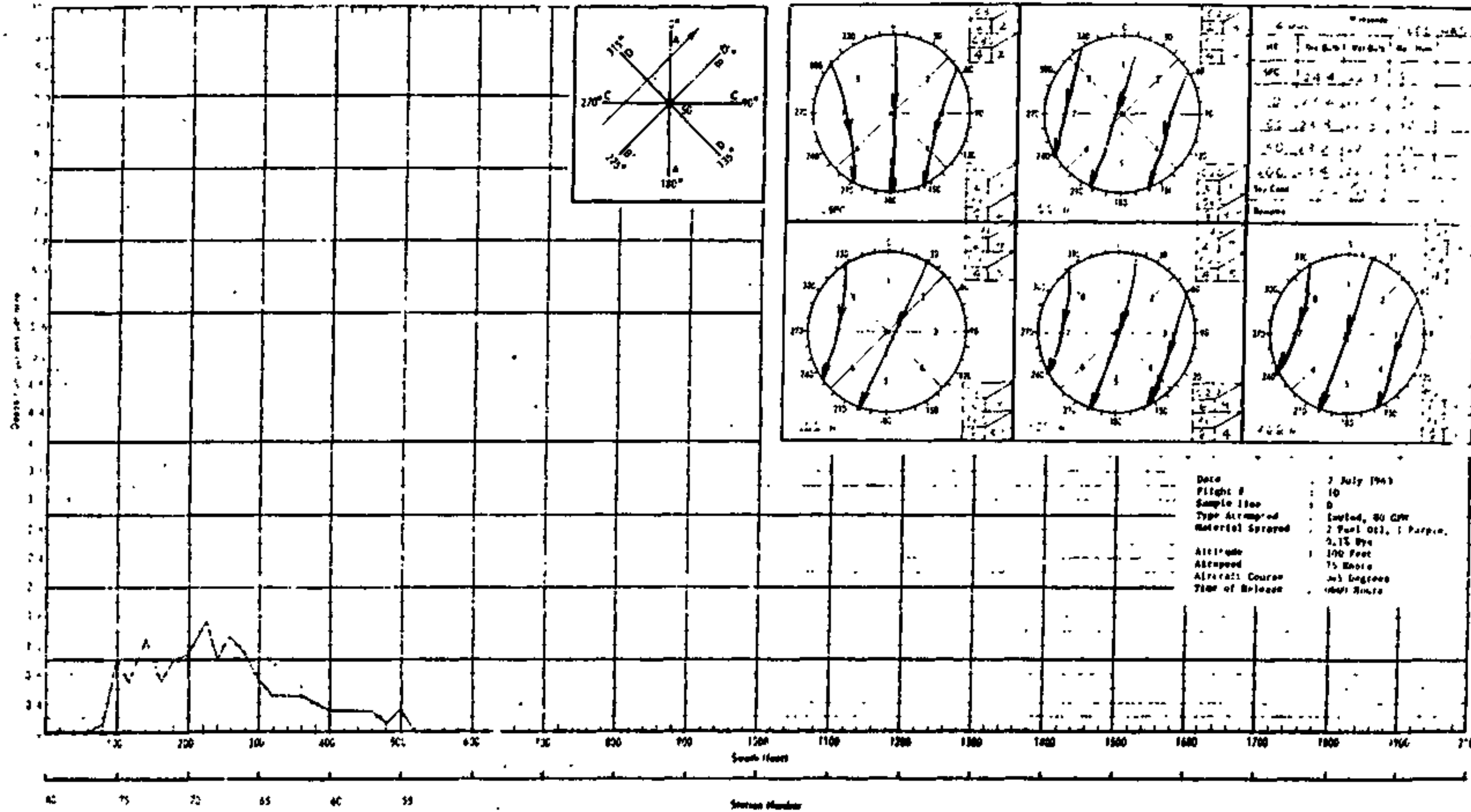
AIRSPEED: 75 Knots

ALTITUDE: 1[illegible] Feet

AIRCRAFT COURSE: [illegible]45 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 54 Blank				55	0.3		
				56	0.1		
				57	0.3		
				58	0.3		
				59	0.3		
				60	0.3		
				61	0.4		
				62	0.5		
				63	0.5		
				64	0.5		
				65	0.7		
				66	1.1		
				67	1.3		
				68	1.0		
				69	1.5		
				70	1.1		
				71	1.0		
				72	0.7		
				73	1.3		
				74	0.7		
				75	1.0		
				76	0.1		
				Stations 77 - 100 Blank			

Total 15.0



270°
90°
180°
Date
Flight # : 10
Altitude
Airspeed : 75 Knots
Aircraft Course
Time of Release
Station Number

MASS MEDIAN DIAMETER

DATE: 2 July 1963 CONVERSION FACTOR: 2.2

FLIGHT NO: 11 PAPER: Kromekote, white

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

FLOW RATE: 80 GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
72	3	5400			
74	1	4300*			
73	7	4200			
74	2	4100			
72	5	4000	73	1	100(smallest)
73	6	3900			
72	4	3800			
73	8	3700			
71	10	3600			
73	9	3500			

$$MMD = \frac{67.72+0.1420(\text{Spot D Max})}{\text{Con. Factor} = 2.2} = \frac{4300}{6.355 \times 2.2} = 308.2 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = 67.72+0.1420(5400) = \frac{5400}{6.430} = 829.1 \text{ Microns}$$

Min. Sph. Dia. = 63 Microns

MASS DISPOSITION

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 2 July 1963

FLIGHT #: 11

BAFFLE LINE: C

TIME OF RELEASE: 0618 Hours

DURATION: 02 Sec.

FLOW RATE: 80 GPH

SYSTEM: HIDAL

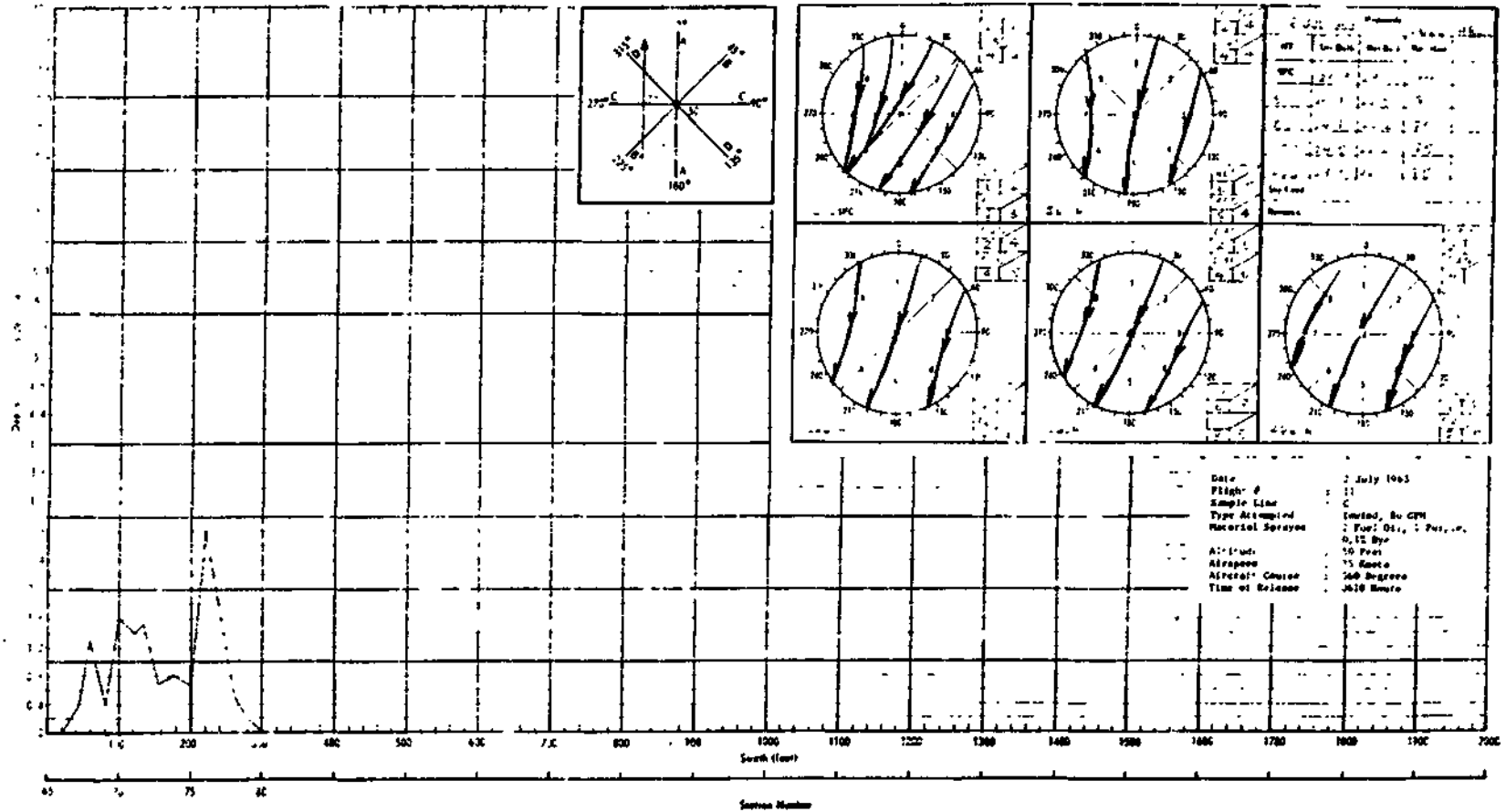
AIRSPEED: 75 Knots

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 - 66 Blank				67	0.4		
				68	1.3		
				69	0.4		
				70	1.6		
				71	1.4		
				72	1.5		
				73	0.7		
				74	0.3		
				75	0.7		
				76	2.8		
				77	1.8		
				78	0.5		
				79	0.2		
				Stations 80 - 100 Blank			

Total 14.1


Date : 2 July 1963
Flight # : 11
Sample Line : C
Type Accomplished : Control, By GPM
Material Sprayed : Fuel Oil, 1 Per...e, 0.15 Dye
Altitude : 50 Feet
Airspeed : 95 Knots
Aircraft Course : 340 Degrees
Time of Release : 1610 Hours
South (feet)
Station Number

MASS MEDIAN DIAMETER

DATE: 2 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 12 PAPER: Kromekote, white

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

FLOW RATE: 80 GPM SYSTEM: RIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
21	1	4400			
25	4	3700*			
23	2	3600			
20	6	3500			
24	9	3400	24	1	100(smallest)
22	5	3300			
23	3	3200			
20	8	3100			
20	7	3000			
24	11	2900			
24	10	2800			

$$MMD = \frac{67.72+0.1420(\text{Spot D Max})}{\text{Con. Factor} = 2.2} = \frac{3700}{6.355 \times 2.2} = 269.5 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = 67.72+0.1420(4400) = \frac{4400}{6.430} = 692.4 \text{ Microns}$$

Min. Sph. Dia. = 63 Microns

[illegible]

[illegible]: Ind Oil, 1 Sample

[illegible]: 1 July 1965

[illegible]: 1

[illegible]: C

[illegible] OF RELEASE: 3519 Hours

DURATION: 37 Sec.

[illegible] RATE: [illegible]

SYSTEM: IIDAI

AIRSPEED: 75 Knots

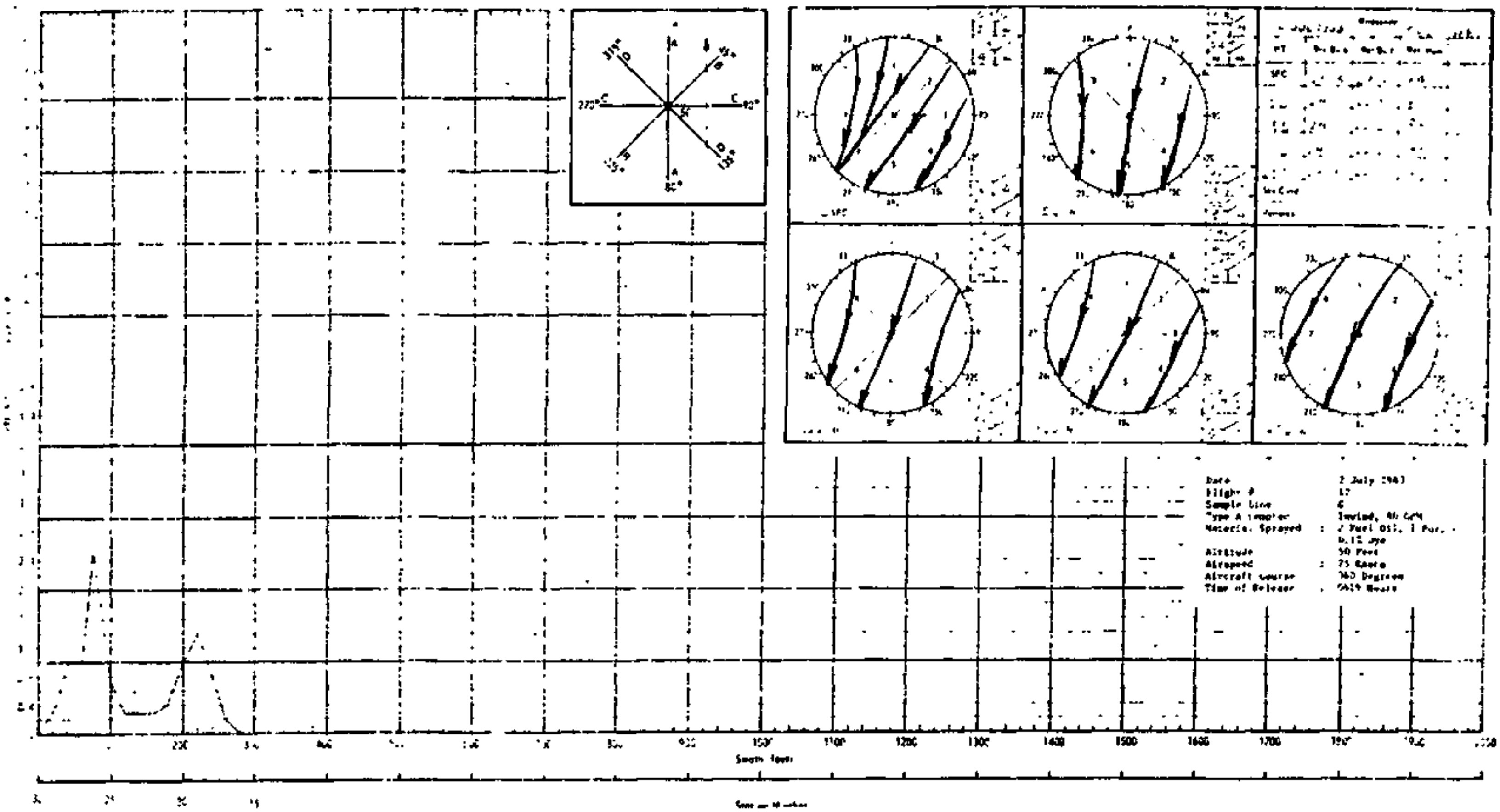
ALTITUDE: [illegible]

AIRCRAFT COURSE: [illegible]

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 16 Blank		17	.2		
		18	1.3		
		19	1.4		
		20	1.0		
		21	.4		
		22	.3		
		23	.3		
		24	.3		
		25	.7		
		26	2.5		
		27	1.9		
		28	1.5		
		29	.3		
		Stations 30 - 100 Blank			

% Recovery - 42.7

Total 14.7



270°
90°
Date
Flight #
Sample Line
Material Sprayed
Altitude
50 Feet
Airspeed
Aircraft Course
360 Degrees
Time of Release
200
1100
1200
1300
1400
1500
1600
1700

H-34/HIDAL GROUND FLOW & FLIGHT DATA

DATE CALIBRATED: 1 July 1963

LIQUID SPRAYED: 2 Fuel Oil, 1 Purple

NOZZLE TYPE: 8015

DURATION OF SPRAY: 30 Sec.

TOTAL AMOUNT SPRAYED: 38.5 Gal.

DATE TEST FLOWN: 5 July 1963

TOTAL NOZZLES OPEN: 60

LIQUID TEMP: ----

PUMP PRESSURE: 32 PSI

BOOM PRESSURE: 30 PSI

FLOW RATE CALIBRATED: 77.0 GPM

OPERATIONAL DATA DURING FLIGHT

Above information same for Runs 1 - 8.

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 5 July 1963

FLIGHT #: 1

SWATH LINE: C

TIME OF RELEASE: 0439 Hours

DURATION: 08 Sec.

FLOW RATE: 77.0 GPM

SYSTEM: HIDAL

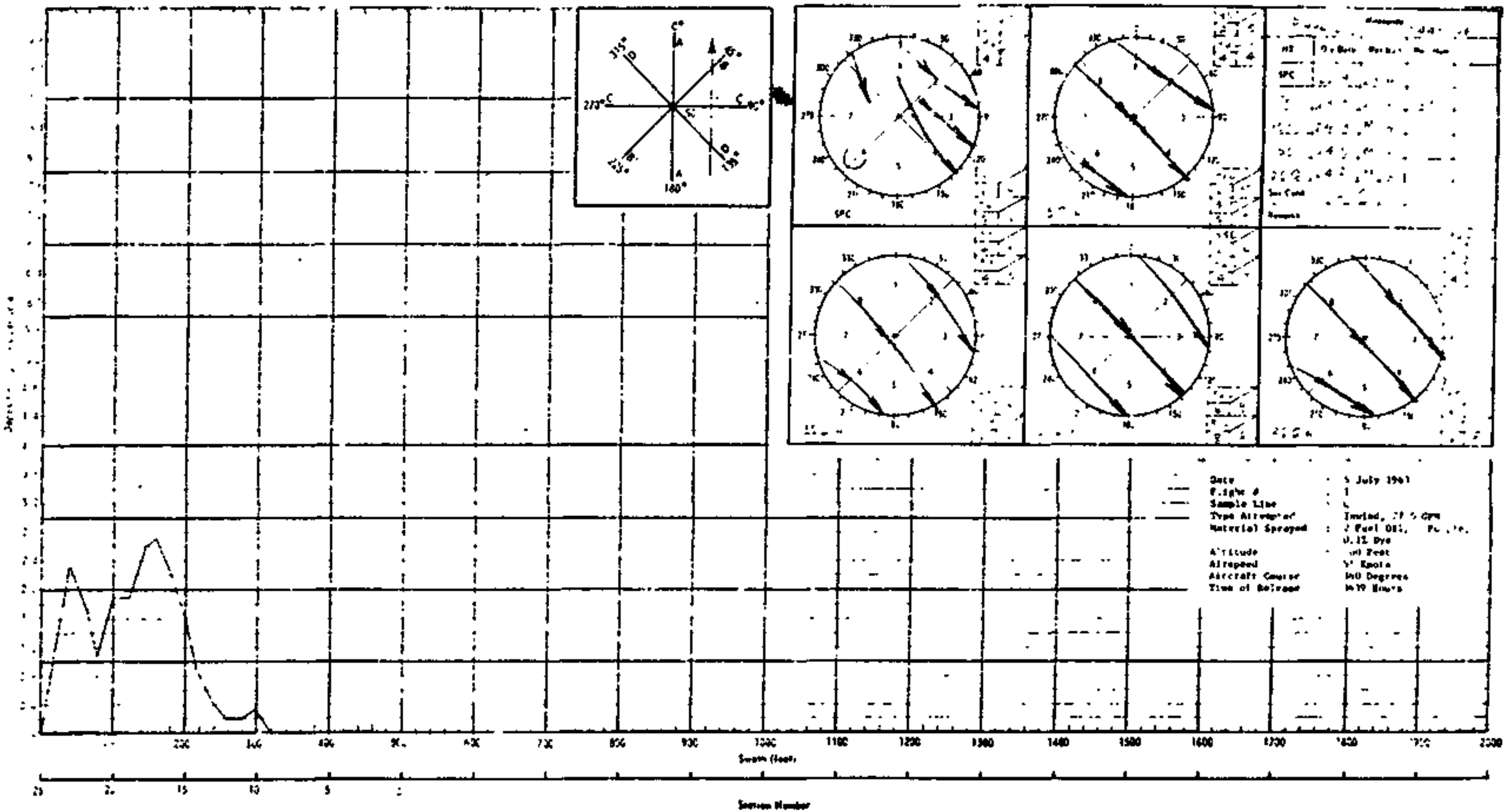
AIRSPEED: 55 Knots

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 - 9 Blank							
10	0.3						
11	0.2						
12	0.2						
13	0.5						
14	0.9						
15	1.6						
16	2.3						
17	2.7						
18	2.6						
19	1.9						
20	1.9						
21	1.1						
22	1.7						
23	2.3						
24	1.3						
Stations 25 - 100 Blank							

Total 21.5


0°
45°
90°
135°
180°
225°
270°
315°
Date : 5 July 1961
Flight # : 1
Sample Line
Type Aircraft
Material Sprayed
Dye
Altitude
Feet
Airspeed
Knots
Aircraft Course
Degrees
Time of Release
Hours
200
300
400
1000
1100
1200
1300
1400
1500
1600
1700
1800
2000
Swath (feet)
25
20
15
10
5
Section Number

MASS MEDIAN DIAMETER

DATE: 5 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 2 PAPER: Kromekote, white

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

FLOW RATE: 77.0 GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
75	1	5200*			
75	3	5100			
75	2	5000			
75	6	4800	62	1A	100
75	5	4700			
75	4	4600			
75	7	4400			
75	8	4300			
75	9	4200			
75	10	4100			

$$MMD = \frac{67.7240.1420(\text{Spot D Max})}{\text{Con. Factor} = 2.2} = \frac{5200}{6.355 \times 2.2} = 364.0 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = 67.7240.1420(5200) = \frac{5200}{6.430} = 800.9 \text{ Microns}$$

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 5 July 1963

FLIGHT #: 2

SAMPLE LINE: C

TIME OF RELEASE: 0441 Hours

DURATION: 10 Sec.

FLOW RATE: 77.0 GPM

SYSTEM: HIDAL

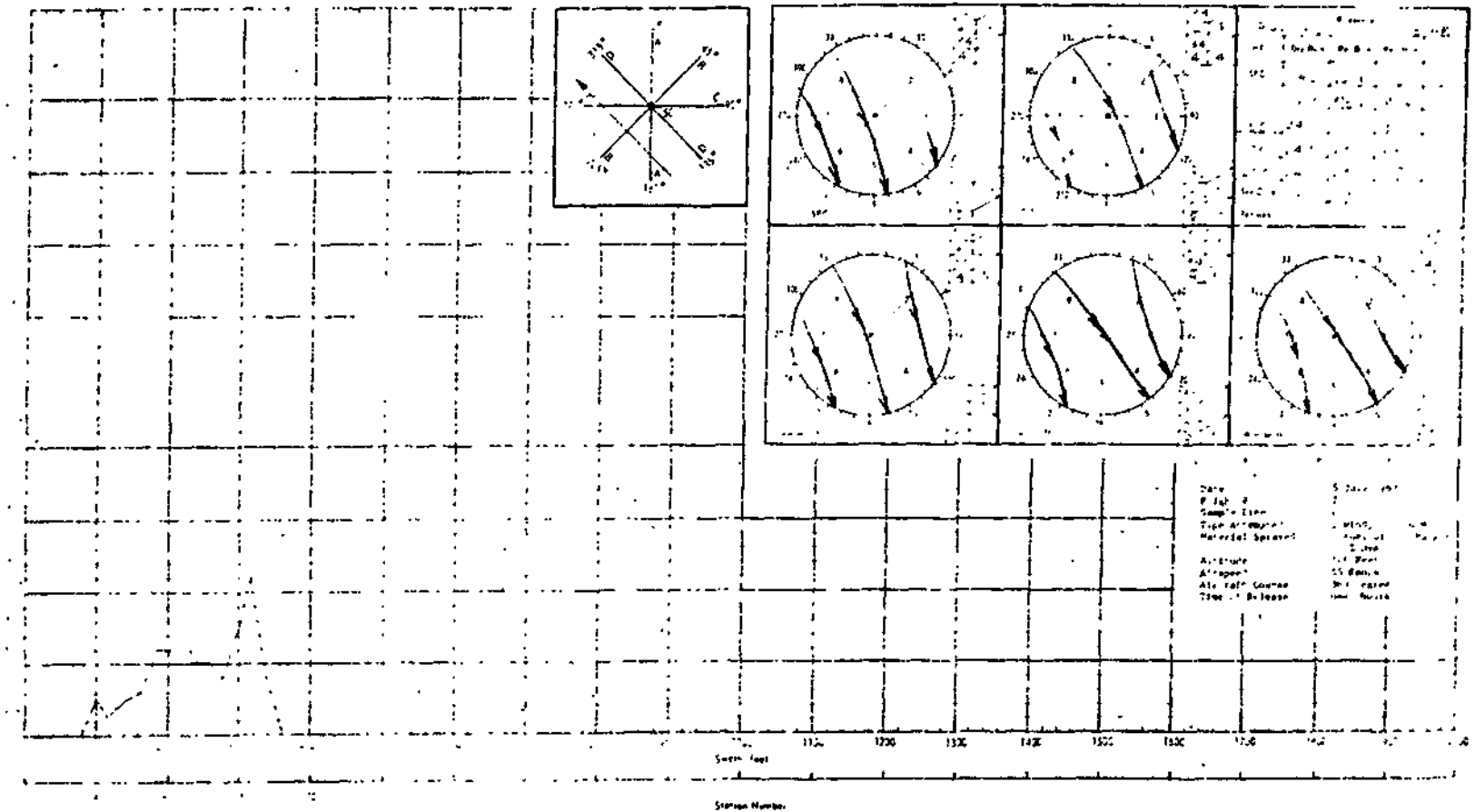
AIRSPEED: 55 Knots

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 - 58 Blank				59	0.3		
				60	0.5		
				61	0.6		
				62	0.4		
				63	0.9		
				64	0.7		
				65	0.8		
				66	1.3		
				67	2.0		
				68	2.5		
				69	1.5		
				70	1.8		
				71	1.2		
				72	1.6		
				73	1.0		
				74	4.3		
				75	0.6		
				76	0.2		
				Stations 77 - 100 Blank			

Total 21.7



MASS DEPOSIT

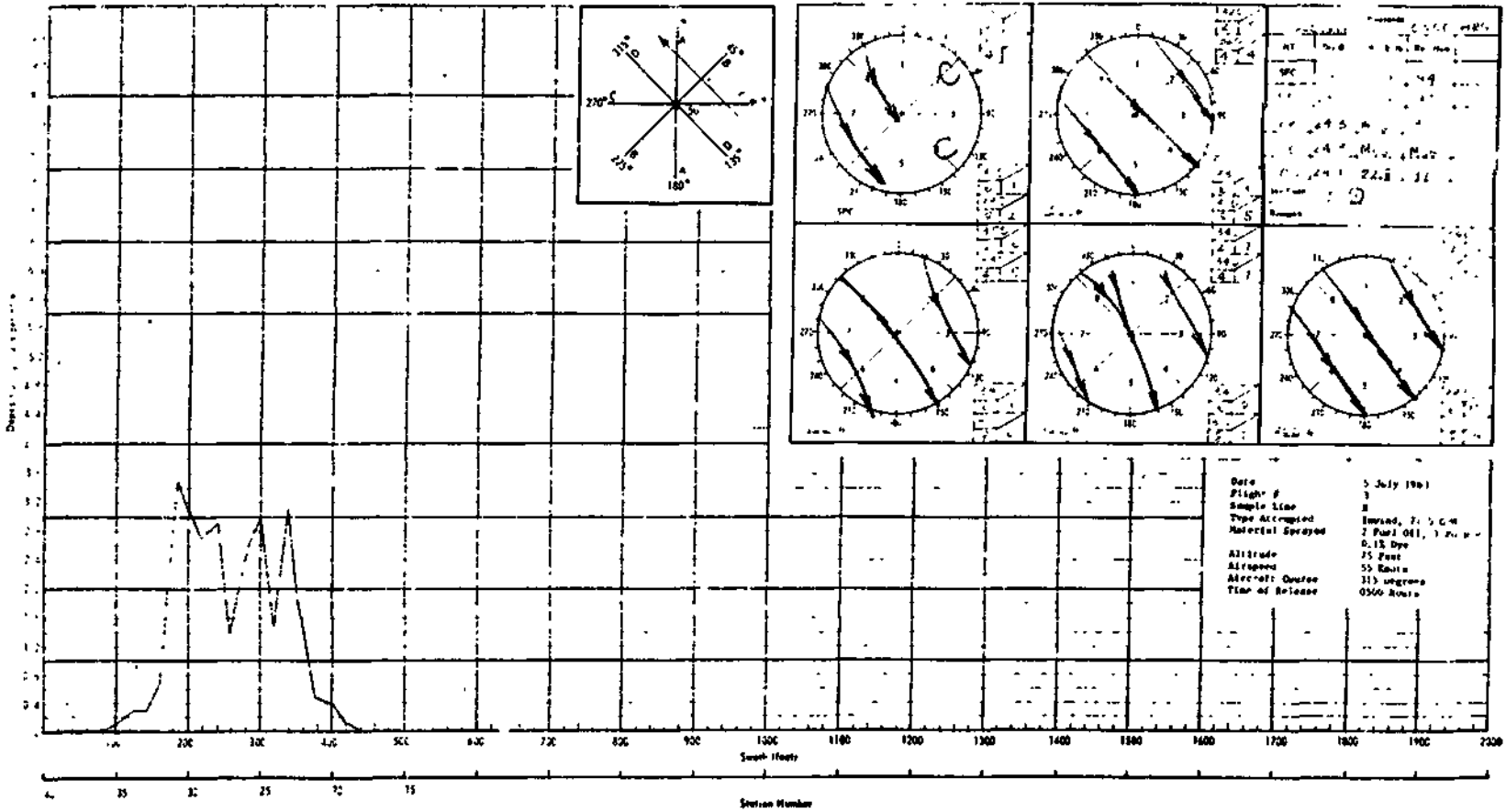
MATERIAL 2 Fuel Oil 1 Purple
DATE [illegible] 1963
FLIGHT #. 3
SAMPLE LINE- B
TIME OF RELEASE. 0900 Hour
DURATION: 18 Sec.

FLOW RATE - 77.0 GPM
SYSTEM- HIDAL
AIRSPEED 55 Knots
ALTITUDE 75 Feet
AIRCRAFT COURSE 315 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 17 Blank		18	0.0				
		19	0.1				
		20	0.4				
		21	0.5				
		22	1.9				
		23	3.1				
		24	1.5				
		25	3.0				
		26	2.6				
		27	1.4				
		28	2.9				
		29	2.7				
		30	3.1				
		31	3.5				
		32	0.7				
		33	0.3				
		34	0.3				
		35	0.1				
		36	0.0				
		Stations 37 - 100 Blank					

% Recovery - 89.8

Total 25.1


Date
Flight #
Sample Line
Type Aerosol
Material Sprayed
Altitude
Airspeed
Aircraft Course
Time of Release
South Heads
Station Number

MASS MEDIAN DIAMETER

DATE: 5 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 4 PAPER: Kromekote, white

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

FLOW RATE: 77.0 GPM SYSTEM: HYDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
78	5	4300*			
79	2	4100			
78	4	4000			
79	3	3900			
79	1	3800	82	1A	100
78	6	3700			
75	7	3500			
79	9	3400			
79	10	3300			
78	8	3200			

$$MMD = \frac{67.72+0.1420(\text{Spot D Max})}{\text{Con. Factor} = 2.2} = \frac{4300}{6.355 \times 2.2} = 308.2 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = 67.72+0.1420(4300) = \frac{4300}{6.430} = 678.2 \text{ Microns}$$

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

FLOW RATE: 77.0 GPI

DATE: 5 July 1963

SYSTEM: HIDAL

FLIGHT #: 4

AIRSPEED: 55 Knot

SAMPLE LINE: B

ALTITUDE: 75 Feet

TIME OF RELEASE: 0502 Hours

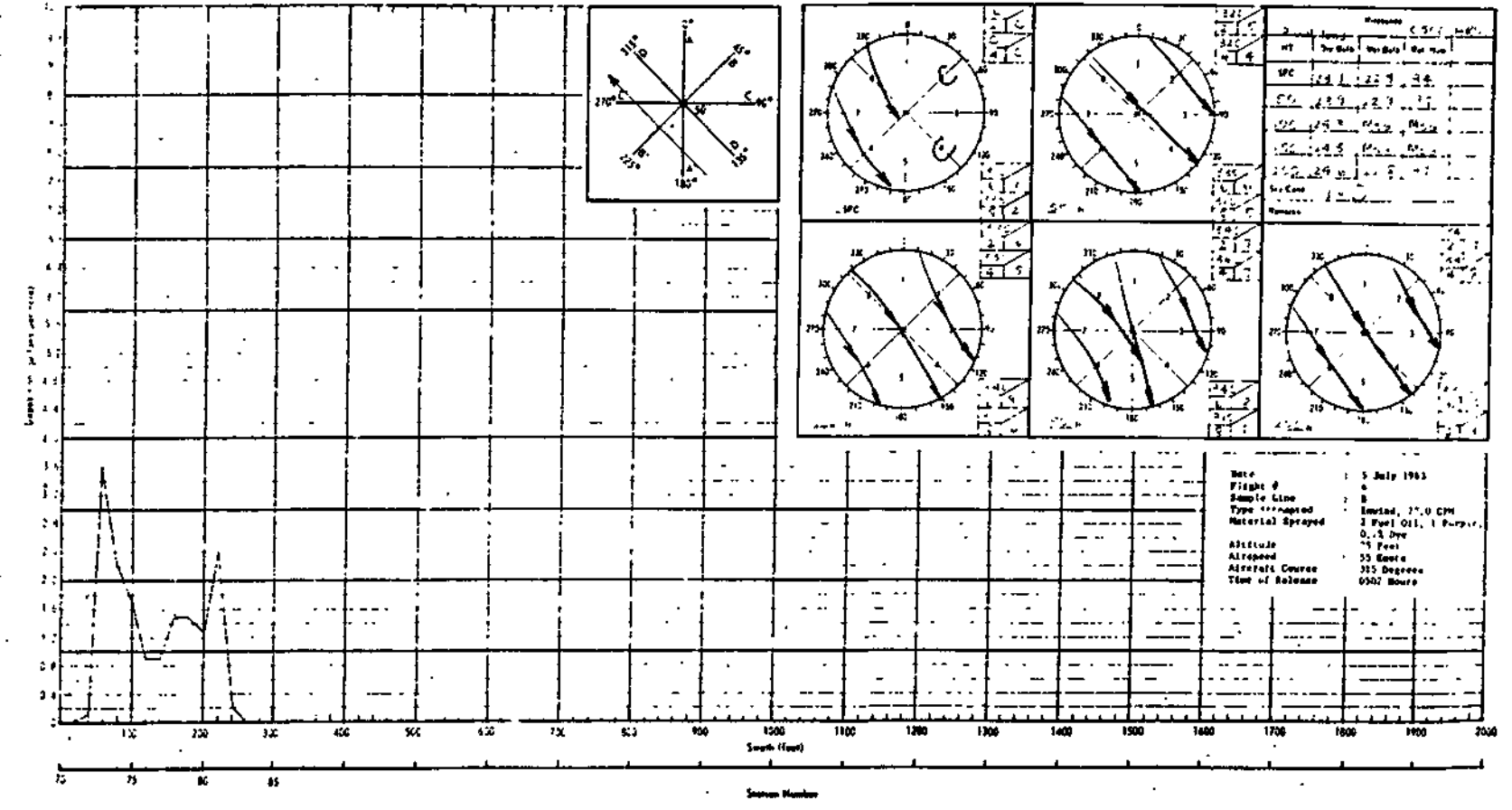
AIRCRAFT COURSE: 315 Degrees

DURATION: 11 Sec.

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 71 Blank							
72	0.1						
73	3.6						
74	2.2						
75	1.7						
76	0.9						
77	0.9						
78	1.5						
79	1.5						
80	1.3						
81	2.4						
82	0.2						
83	0.0						
Stations 84 - 100 Blank							

% Recovery - 52.1

Total 16.3


Date : 5 July 1965
Flight # : 6
Sample Line : B
Type Arrangement : Emitted, 27.0 GPM
Material Sprayed : 3 Fuel Oil, 1 Peanut Oil, 0.3 Dye
Altitude : 75 Feet
Airspeed : 55 Knots
Aircraft Course : 315 Degrees
Time of Release : 0502 Hours
South (Feet)
Station Number

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 5 July 1963

FLIGHT #: 5

SAMPLE LINE: B

TIME OF RELEASE: 0520 Hours

DURATION: 08 Sec.

FLOW RATE: 77.0 GPM

SYSTEM: HIDAL

AIRSPEED: 75 Knots

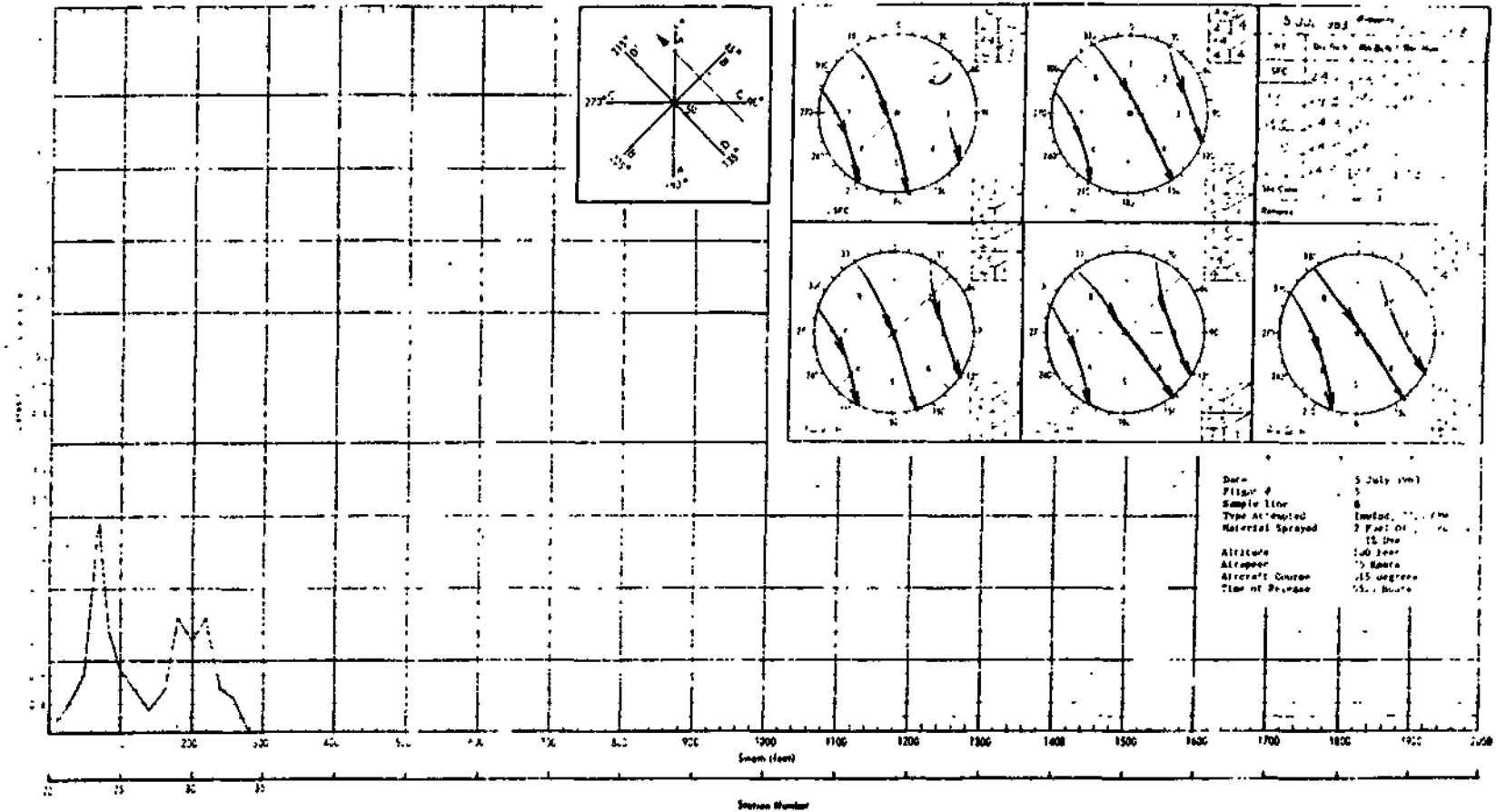
ALTITUDE: 100 Feet

AIRCRAFT COURSE: 315 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	0.8				
		23	2.9				
		24	1.4				
		25	0.9				
		26	0.6				
		27	0.3				
		28	0.6				
		29	1.6				
		30	1.3				
		31	1.6				
		32	0.6				
		33	0.5				
		Stations 34 - 100 Blank					

% Recovery - 58.3

Total 13.4


Date
Flight #
Sample Line
Type Attempted
Material Sprayed
Altitude
Airspeed
Aircraft Course
Time of Release
Swath (feet)
Station Number

MASS MEDIAN DIAMETER

DATE: 5 July 1963

CONVERSION FACTOR: 2.2

FLIGHT #: 6

PAPER: Kromekote, white

SAMPLE LINE: B

MATERIAL: 2 Fuel Oil, 1 Purple

FLOW RATE: 77.0 GPM

SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
78	1	3700			
78	2	3200*			
77	3	3100			
78	5	3000	77	1A	100
78	7	2900			
77	4	2800			
78	6	2700			
78	8	2600			
78	9	2500			
78	10	2400			

$$MMD = \frac{67.72+0.1420(\text{Spot D Max})}{\text{Con. Factor} = 2.2} = \frac{3200}{6.355 \times 2.2} = 237.3 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = 67.72+0.1420(3700) = \frac{3700}{6.430} = 593.0 \text{ Microns}$$

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 5 July 1963

FLIGHT #: 6

SAMPLE LINE: B

TIME OF RELEASE: 0521 Hours

DURATION: 10 Sec.

FLOW RATE: 77.2 GPM

SYSTEM: HIDAL

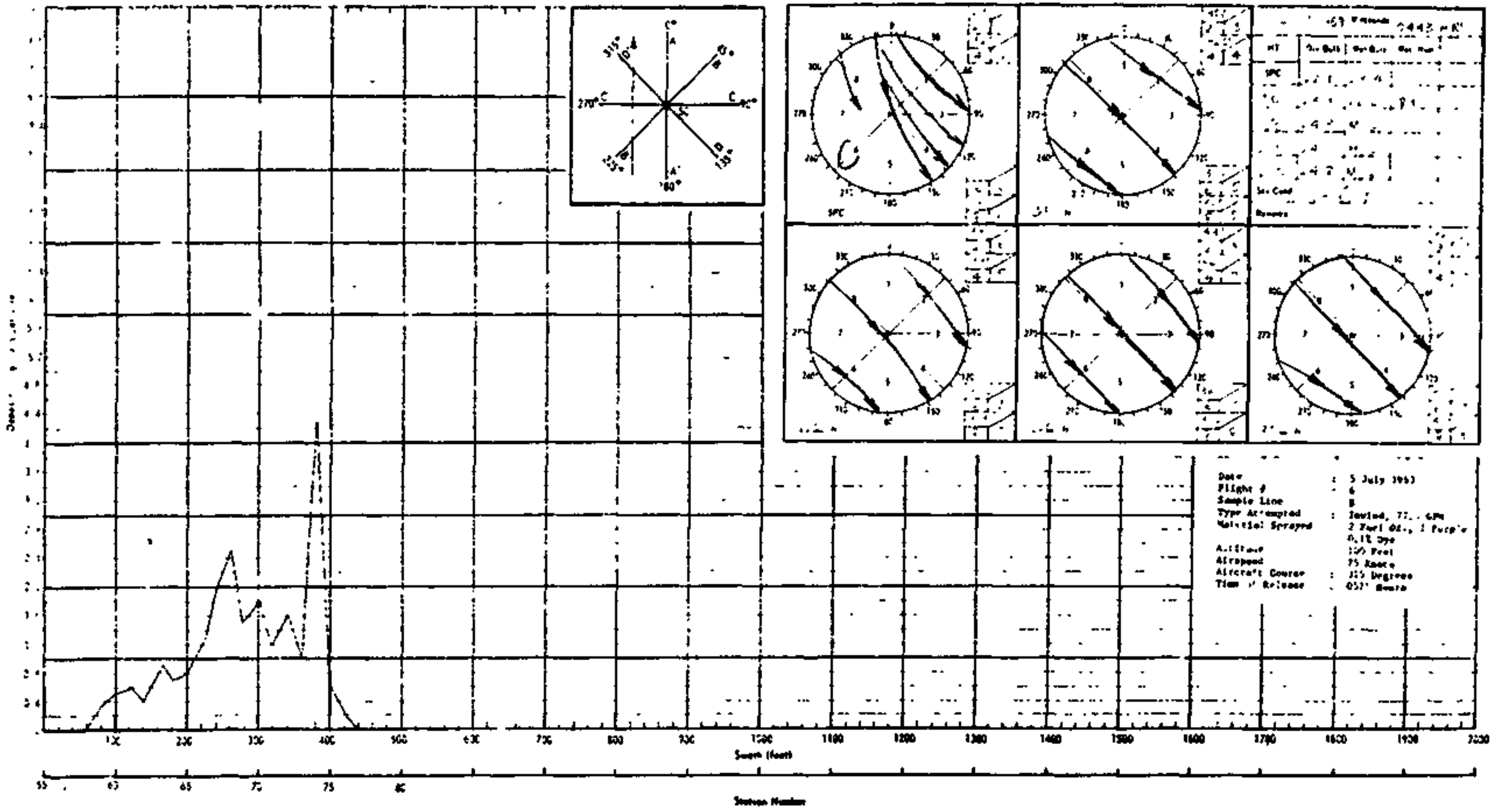
AIRSPEED: 75 Knots

ALTITUDE: 100 Feet

AIRCRAFT COURSE: 315 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 72 Blank							
73	0.8						
74	2.2						
75	1.5						
76	0.8						
77	1.0						
78	1.0						
79	1.1						
80	1.2						
81	1.2						
82	0.6						
83	0.5						
84	0.3						
85	0.5						
Stations 86 - 130 Blank							

Total 12.7



270°
180°
315°
Date
Flight #
Sample Line
Type Attempted
Material Sprayed
Altitude
Airspeed
Aircraft Course
Time of Release
Swath (feet)
Station Number

MASS MEDIAN DIAMETER

DATE: 5 July 1963

CONVERSION FACTOR: 2.2

FLIGHT #: 7

PAPER: Kromekote, white

SAMPLE LINE: C

MATERIAL: 2 Fuel Oil, 1 Purple

FLOW RATE: 77.0 GPM

SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
25	1	3000*			
25	2	2900			
17	3	2800			
18	4	2700			
25	6	2600	18	1A	100(smallest)
18	5	2500			
25	8	2400			
18	7	2300			
15	9	2200			
15	10	2100			

$$MMD = \frac{67.72+0.1420(\text{Spot D Max})}{\text{Con. Factor} = 2.2} = \frac{3000}{6.355 \times 2.2} = 224.4 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = 67.72+0.1420(3000) = \frac{3000}{6.430} = 493.7 \text{ Microns}$$

Min. Sph. Dia. = 63 Microns

[illegible]

[illegible] 1 - 11, 1 Purple

[illegible] July 1963

[illegible] 7

SAMPL[illegible]

TIME [illegible] 1630 Hours

DURATION: 09 Sec.

[illegible] 77 [illegible]

SYSTEM: [illegible]

AIRSPEED: 75 Knots

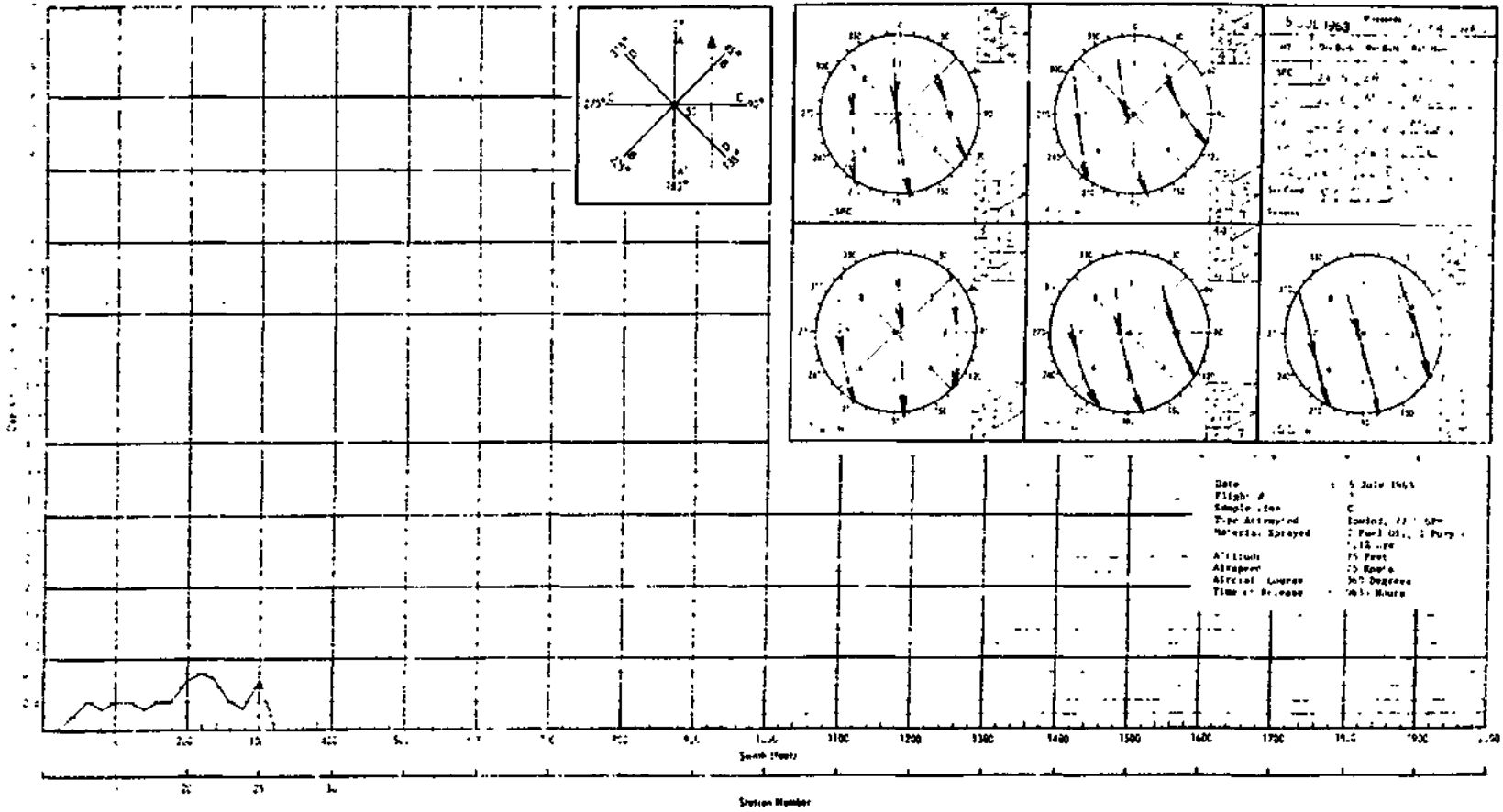
ALTITUDE: 75 Feet

AIRCRAFT COURSE: [illegible] Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 10 Blank							
11	[illegible]						
12	[illegible]						
13	0.4						
14	[illegible]						
15	[illegible]						
16	[illegible]						
17	[illegible]						
18	[illegible]						
19	[illegible]						
[illegible]	[illegible]						
21	[illegible]						
[illegible]	[illegible]						
23	[illegible]						
24	[illegible]						
25	[illegible]						
Stations [illegible] Blank							

% Recovery - 27.8

Total 6.


Date : 5 June 1963
Flight #
Sample size : C
Type Attempted
Materials Sprayed
Altitude : 75 Feet
Airspeed : 75 Knots
Aircraft Course : 345 Degrees
Time of Release : 1451 Hours
Swath Width
Station Number

MASS DEPOSIT

MAIERIAL 2 Fuel Oil 1 Purple

DATE [illegible] July 1963

FLIGHT #: 8

SAMPLE LINE: C

TIME OF RELEASE: 0632 Hours

DURATION 12 Sec.

FLOW RATE: [illegible].0 GPM

SYSTEM: HIDAL

AIRSPEED: 75 Knots

ALTITUDE: 75 Feet

AIRCRAFT COURSE: 360 Degrees

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

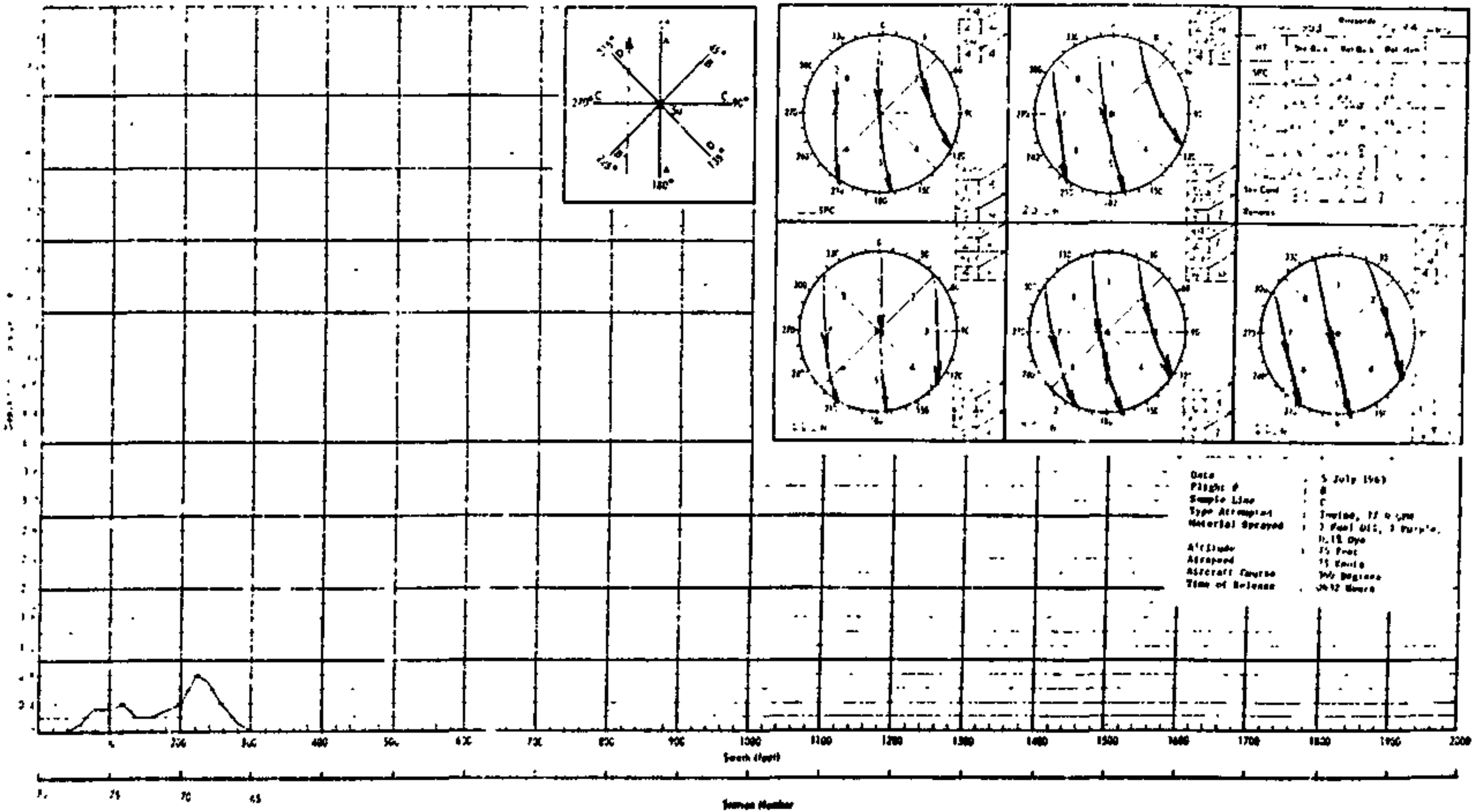
Stations 1 - 65 Blank

66	0.1
67	0.4
68	0.7
69	0.8
70	0.4
71	0.3
72	0.2
73	0.2
74	0.4
75	0.3
76	0.3
77	0.1
78	0.0

Stations 79 - 100 Blank

% Recovery - 18.3

Total 4.2



270°
90°
180°
Date
Flight #
Sample Line
Type Attempted
Material Sprayed
Altitude
Airspeed
Aircraft Course
Time of Release
Swath (feet)
Station Number

H-34/HIDAL GROUND FLOW & FLIGHT DATA

DATE CALIBRATED: 6 July 1963 — DATE TEST FLOWN: 7 July 1963

LIQUID SPRAYED: 2 Fuel Oil, 1 Purple — TOTAL NOZZLES OPEN: 60

NOZZLE TYPE: 8G10 — LIQUID TEMP: 39° C

DURATION OF SPRAY: 30 Sec. — BOOM PRESSURE: 54-55 PSI

TOTAL AMOUNT SPRAYED: 35.5 Gal. — FLOW RATE CALIBRATED: 71 GPM

OPERATIONAL DATA DURING FLIGHT

Above information same for Runs 1 - 6.

DATE CALIBRATED: 6 July 1963 — DATE TEST FLOWN: 7 July 1963

LIQUID SPRAYED: 2 Fuel Oil, 1 Purple — TOTAL NOZZLES OPEN: 60

NOZZLE TYPE: 8015 — LIQUID TEMP: 33.5° C

DURATION OF SPRAY: 30 Sec. — PUMP PRESSURE: 38-28 PSI

TOTAL AMOUNT SPRAYED: 39.5 Gal. — FLOW RATE CALIBRATED: 80 GPM

OPERATIONAL DATA DURING FLIGHT

Above information same for Runs 7 - 16.

REMARKS. Pump cavitating after 20 seconds due to low level of liquid in tanks on run #16.

MASS MEDIAN DIAMETER

DATE: 7 July 1963 CONVERSION FACTOR: 2.2

FLIGHT NO.: 1 PAPER: Kromekote, white

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

FLOW RATE: 71.0 GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
72	1	3900			
70	2	3100*			
72	6	3000			
72	5	2900			
72	8	2800	70	1A	1. (smallest)
70	3	2700			
70	4	2600			
72	7	2500			
70	10	2400			
70	9	2300			

$$MMD = \frac{67.72+0.1420(\text{Spot D Max})}{\text{Con. Factor} = 2.2} = \frac{3100}{6.355 \times 2.2} = 230.8 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = 67.72+0.1420(3900) = \frac{3900}{6.430} = 621.4 \text{ Microns}$$

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL 2 Fed Oil 1 Purple

DATE [illegible] 1963

FLIGHT # 1

SAMPLE LINE A

TIME OF RELEASE 0413 Hours

DURATION ---

FLOW RATE [illegible] GPM

SYSTEM [illegible]

AIRSPEED ? Knots

ALTITUDE 100 Feet

AIRCRAFT COURSE 270 Degrees

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

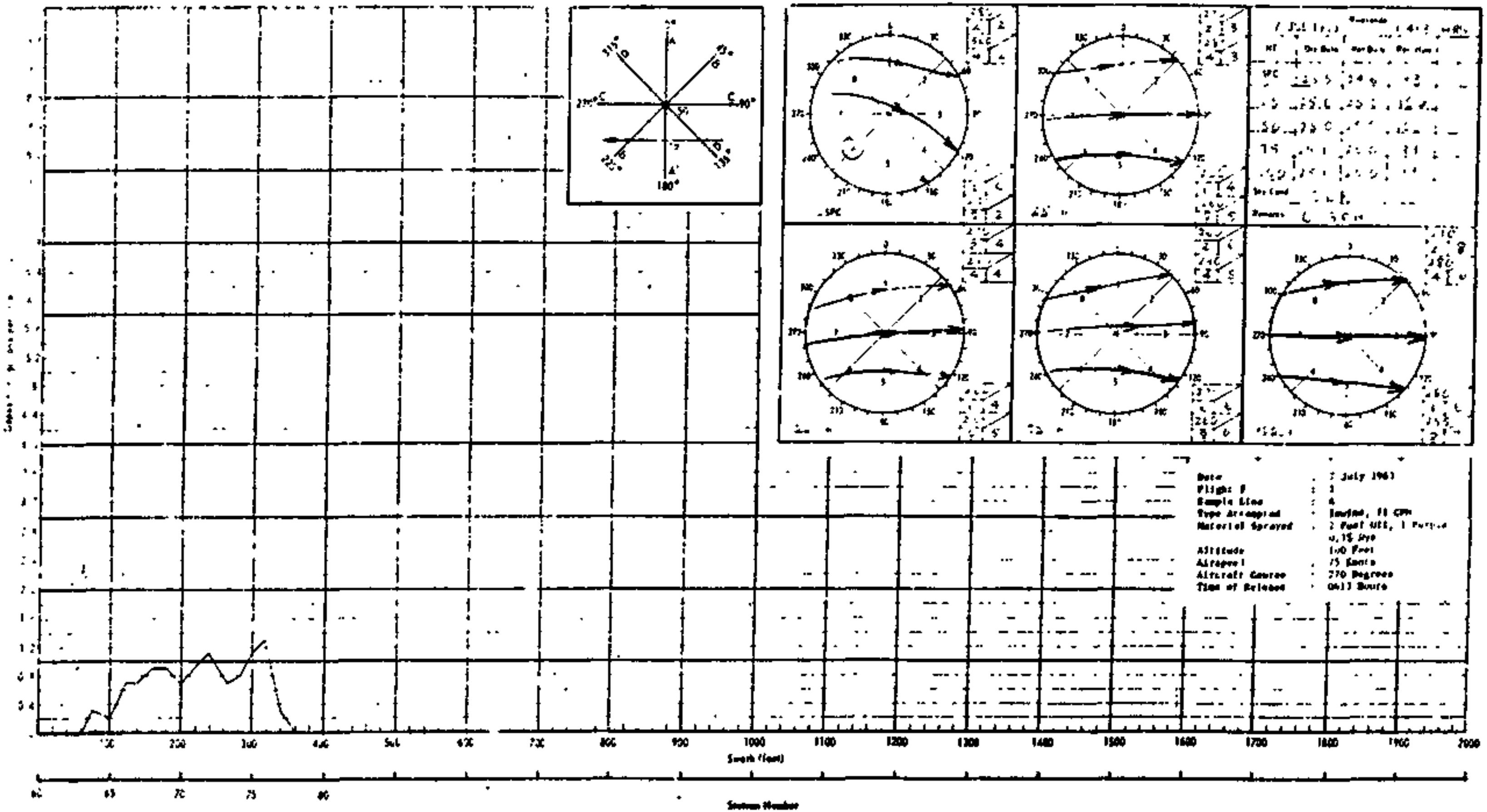
Stations 1 - 63 Blank

[illegible]	0.3
[illegible]	0.2
66	0.[illegible]
[illegible]	0.[illegible]
[illegible]	0.9
69	0.9
[illegible]0	0.
[illegible]1	0.9
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]
[illegible]	[illegible]

Stations 79 - 100 Blank

% Recovery - 52.0

Total 10.6



Date
Flight #
Sample Line
Altitude
Aircraft Course
270 Degrees
Swath (feet)
Station Number

[illegible]

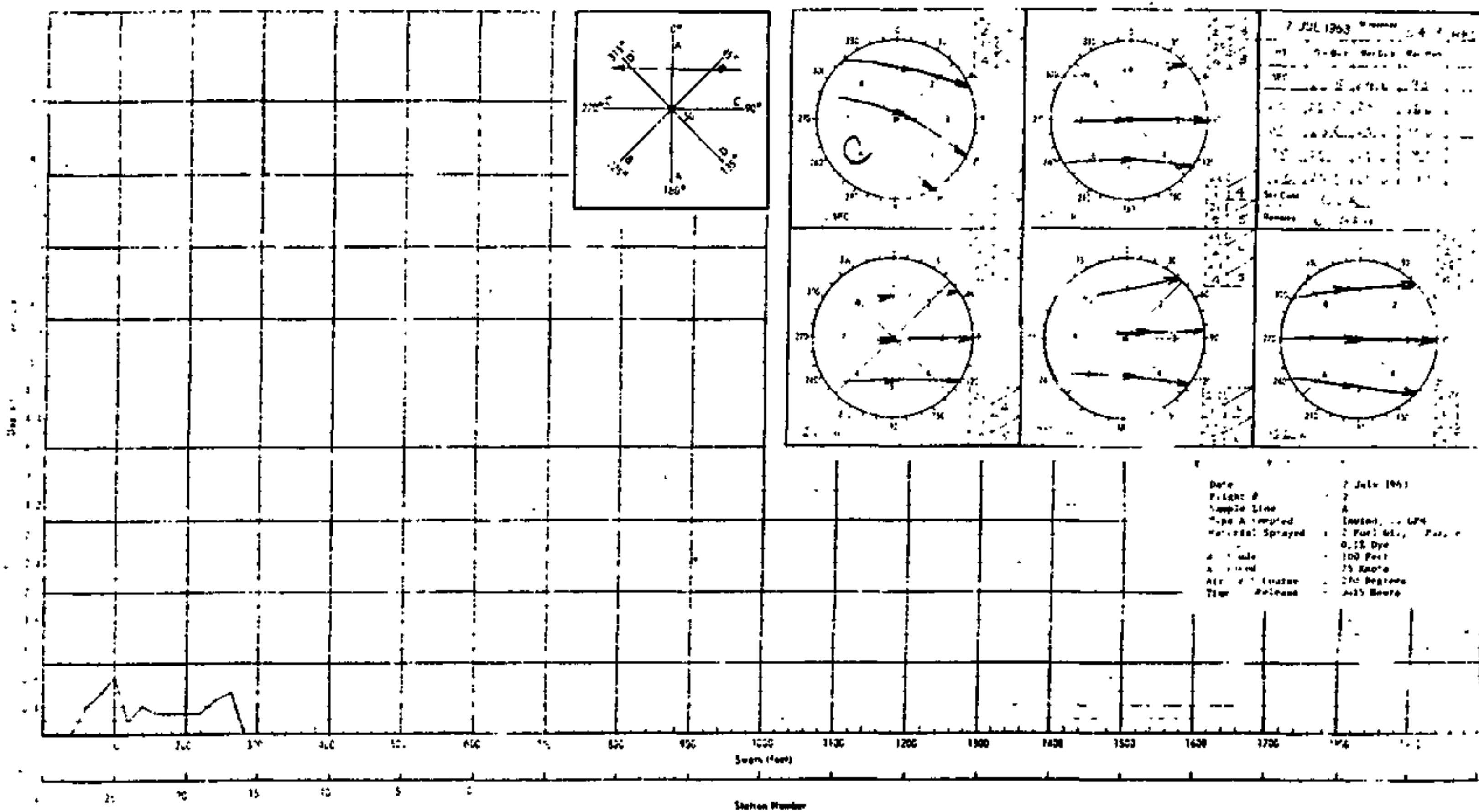
MATERIAL: 2 F[illegible] P[illegible]	[illegible]
DATE: [illegible] 196[illegible]	SYSTEM: [illegible]
FLIGHT #: [illegible]	ALTITUDE: 100 Feet
SAMPLE LINE: [illegible]	AIRSPEED: [illegible]
TIME OF RELEASE: 0415 [illegible]	AIRCRAFT COURSE: 2[illegible]0 Degrees
DURATION: 05 [illegible]	

[illegible]

1[illegible]	0.[illegible]
1[illegible]	0.
19	0.[illegible]
20	0.[illegible]
21	0.[illegible]
22	[illegible]
2[illegible]	0.[illegible]
24	[illegible]
2[illegible]	0.[illegible]
26	0.[illegible]
2[illegible]	0.[illegible]

Start[illegible] 100 [illegible]

Recovery - 23.0



7 JUL 1963
Date
Sample Line
A
Material Sprayed
Dye
Feet
Knots
Degrees
Hours
Swath (feet)
Station Number

MASS MEDIAN DIAMETER

DATE: 7 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 3 PAPER: Kromekote, white

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

FLOW RATE: 71.0 GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
70	3	3200*			
72	1	3100			
72	2	3000			
69	4	2900			
74	5	2800	73	1A	100(smallest)
71	7	2700			
70	6	2600			
74	8	2500			
72	9	2400			
70	10	2300			

$$MMD = \frac{67.72+0.1420(\text{Spot D Max})}{\text{Con. Factor} = 2.2} = \frac{3200}{6.355 \times 2.2} = 237.3 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = 67.72+0.1420(3200) = \frac{3200}{6.430} = 522.1 \text{ Microns}$$

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple
DATE: 7 July 1963
FLIGHT #: 3
SAMPLE LINE: A
TIME OF RELEASE: 0435 Hours
DURATION 13.5 Sec.

FLOW RATE: 8 71 CFM
SYSTEM: HIDAL
AIRSPEED: 55 Knot
ALTITUDE: 75 Feet
AIRCRAFT COURSE: 270 Degrees

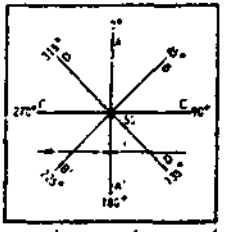
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.

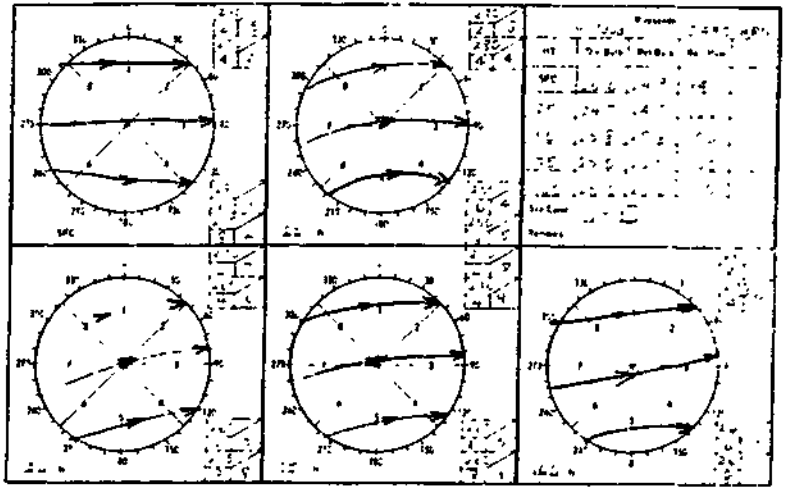
Stations 1 - 65 Blank

66	0.0
67	0.1
68	0.6
69	1.1
70	1.0
71	1.1
72	1.1
73	0.8
74	0.6
75	1.0
76	1.0
77	1.8
78	2.9
79	0.1
80	0.0

Stations 81 - 100 Blank

Total 13.2





Date	1 July 196
Flight #	3
Sample Line	A
Type Attempted	Inland, 21 cm
Material Sprayed	2 Fuel Oil, 1 Part
Altitude	75 Feet
Airspeed	55 Knots
Aircraft Course	226 Degrees
Time of Release	0635 Hours

South (Feet)

Station Number

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple
FLOW RATE: 71 CFM

DATE: 7 July 1963
SYSTEM: HIDAL

FLIGHT #: 4
AIRSPEED: 55 Knots

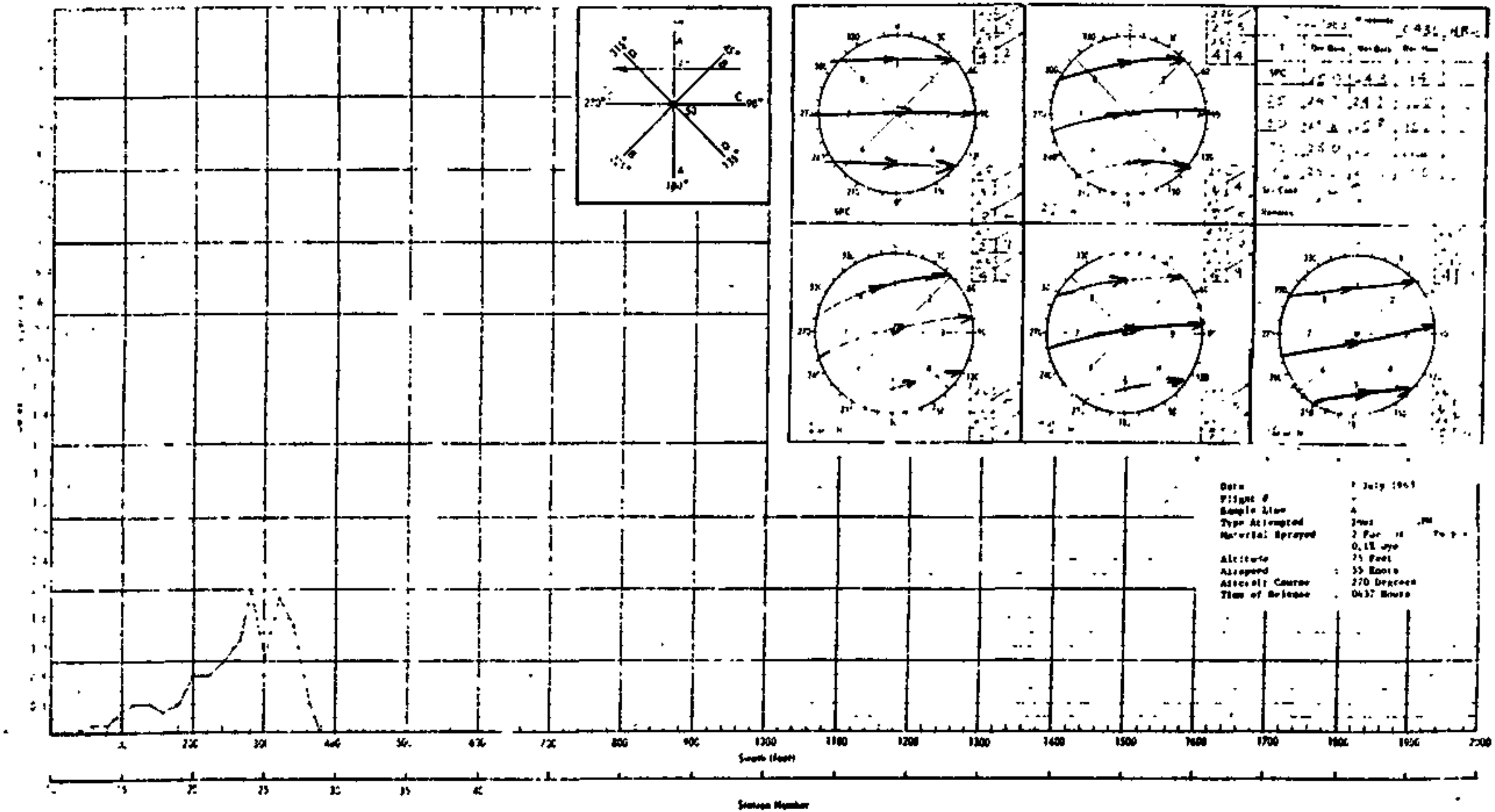
SAMPLE LINE: A
ALTITUDE: 75 Feet

TIME OF RELEASE: 0437 Hours
AIRCRAFT COURSE: 270 Degrees

DURATION: 12.5 Sec.

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	0.3						
16	0.4						
17	0.4						
18	0.3						
19	0.4						
20	0.8						
21	0.8						
22	1.0						
23	1.3						
24	2.0						
25	1.0						
26	1.9						
27	1.5						
28	0.4						
29	0.0						
Stations 30 - 100 Blank							

Total 12.7



Date
Flight #
Sample Line
Type Attempted
Material Sprayed
Altitude
Aircraft Course
Time of Release
4
75 Feet
270 Degrees
0437 Hours
270°
90°
180°
SPC
Swath (Feet)
Station Number

MASS MEDIAN DIAMETER

DATE: 7 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 5 PAPER: Kromekote, white

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

FLOW RATE: 71.0 GPM SYSTEM: RIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
27	2	4600			
27	1	3800			
24	4	3200*			
27	5	3100			
24	3	3000	27	1A	100 (smallest)
27	7	2900			
27	6	2800			
27	9	2700			
27	10	2600			
27	8	2500			

$$MMD = \frac{67.72+0.1420(\text{Spot D Max})}{\text{Con. Factor} = 2.2} = \frac{3200}{6.355 \times 2.2} = 237.3 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = 67.72+0.1420(4600) = \frac{4600}{6.430} = 720.8 \text{ Microns}$$

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 7 July 1963

FLIGHT #: 5

SAMPLE LINE: A

TIME OF RELEASE: 0456 Hours

DURATION: 13 Sec.

FLOW RATE: 71 GPM

SYSTEM: HIDAL

AIRSPEED: 55 Knots

ALTITUDE: 50 Feet

AIRCRAFT COURSE: 270 Degrees

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

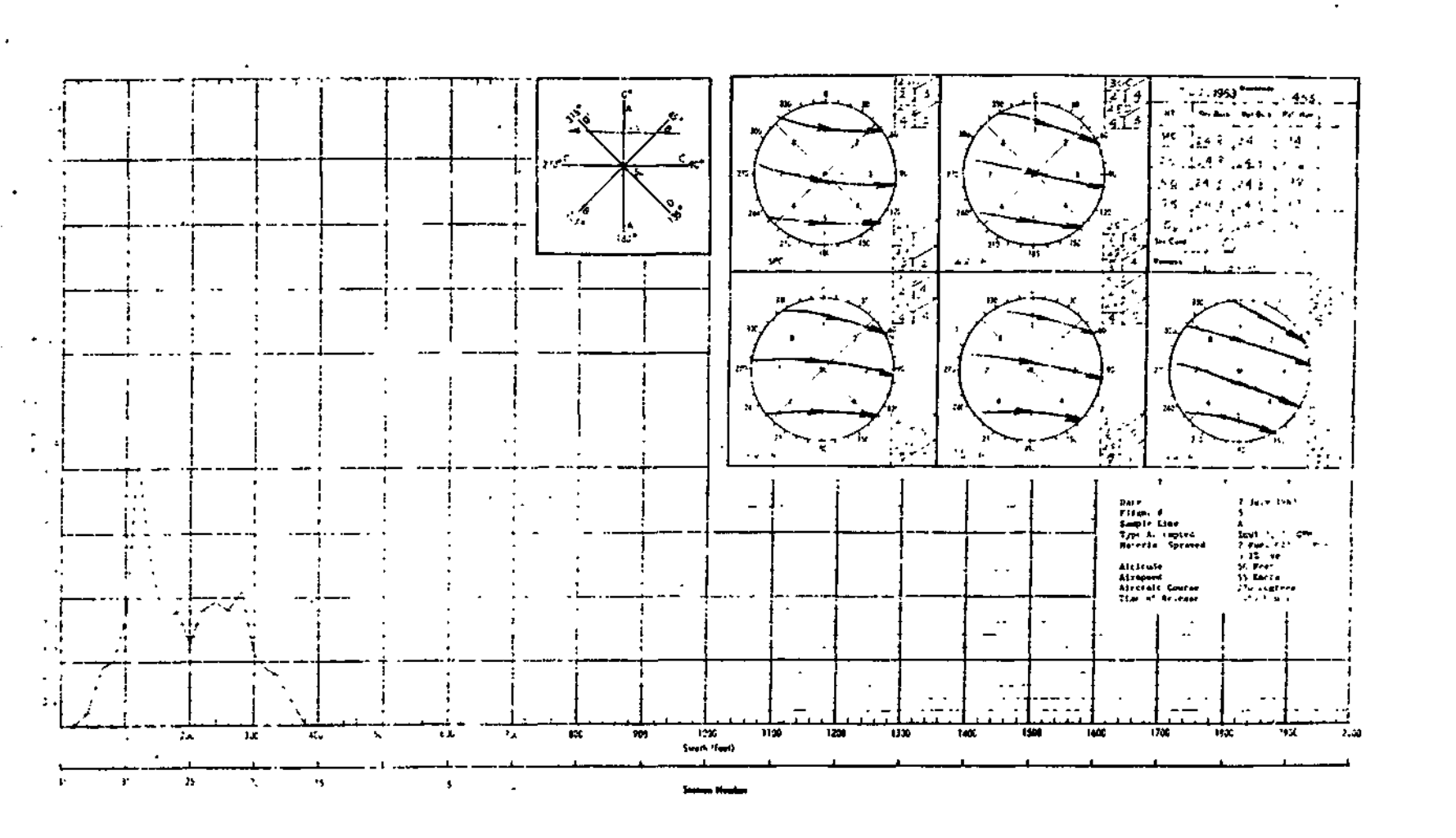
Stations 1 - 16 Blank

17	0.4
18	0.8
19	0.9
20	1.1
21	2.1
22	1.8
23	1.9
24	1.8
25	1.3
26	1.8
27	1.7
28	2.5
29	4.1
30	1.7
31	1.4
32	0.9
33	0.2

Stations 34 - 100 Blank

% Recovery - 93.6

Total 26.0



MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple
DATE: 7 July 1963
FLIGHT #: 6
SAMPLE LINE: A
TIME OF RELEASE: 0457 Hours
DURATION: 10 Sec.

FLOW RATE: 71 GPM
SYSTEM: HIDAL
AIRSPEED: 55 Knots
ALTITUDE: 50 Feet
AIRCRAFT COURSE: 270 Degrees

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

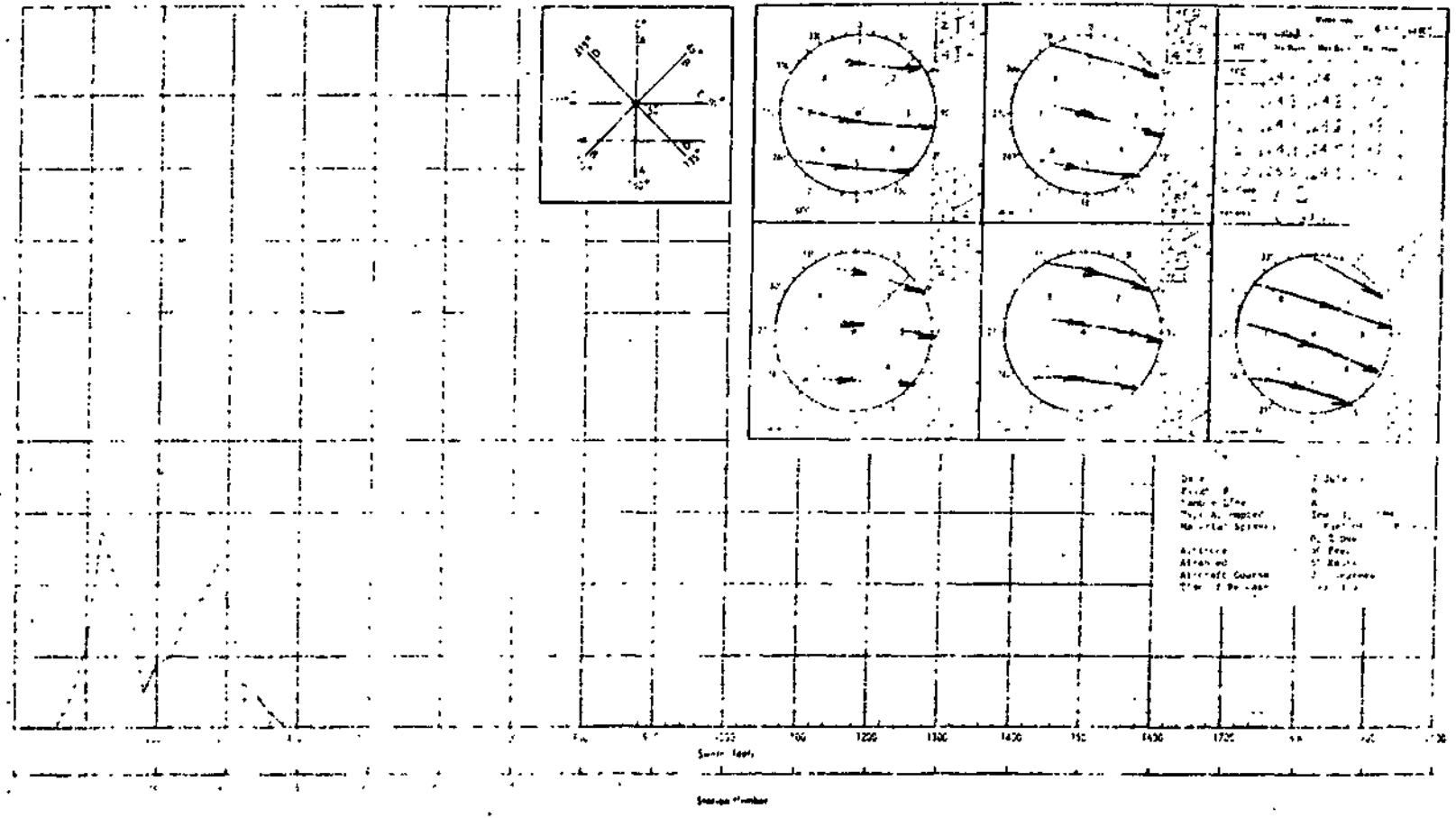
Stations 1 - 68 Blank

69	0.5
70	1.1
71	2.7
72	2.0
73	1.7
74	0.5
75	0.9
76	1.0
77	1.7
78	1.8
79	2.3
80	1.8
81	0.6
82	0.5
83	0.3

Stations 84 - 100 Blank

% Recovery - 69.8

Total 19.4



MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 7 July 1963

FLIGHT #: 7

SAMPLE LINE: A

TIME OF RELEASE: 0518 Hours

DURATION: 13 Sec.

FLOW RATE: 80 GPM

SYSTEM: HIDAL

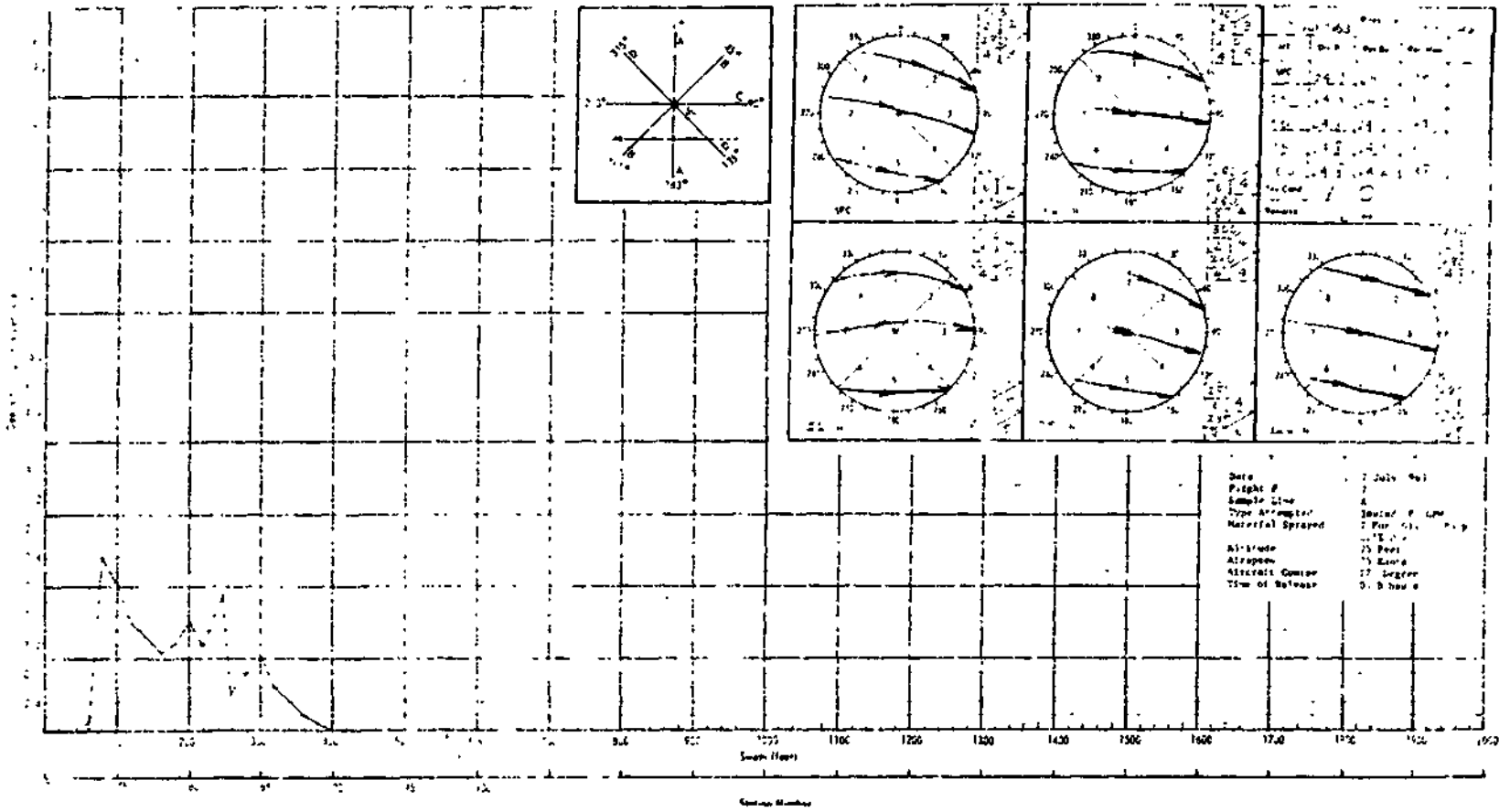
AIRSPEED: 75 Knots

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 - 71 Blank						72	0.0
						73	0.1
						74	2.4
						75	2.0
						76	1.5
						77	1.3
						78	1.1
						79	1.2
						80	1.5
						81	1.2
						82	1.9
						83	0.5
						84	0.8
						85	1.0
						86	0.6
						87	0.4
						88	0.2
						89	0.1
						90	0.0
						Stations 91 - 100 Blank	

Total 17.8



MASS MEDIAN DIAMETER

DATE: 7 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 8 PAPER: Kromekote, white

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

FLOW RATE: 80.0 GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
24	1	3700*			
29	3	3500			
24	2	3300			
29	4	3200			
29	5	3100	29	1A	100(smallest)
29	6	3000			
24	7	2900			
24	8	2700			
24	9	2600			
24	10	2500			

$$MMD = \frac{67.72+0.1420(\text{Spot D Max})}{\text{Con. Factor} = 2.2} = \frac{3700}{6.355 \times 2.2} = 269.5 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = 67.72+0.1420(3700) = \frac{3700}{6.430} = 593.0 \text{ Microns}$$

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: 7 Fuel Oil, 1 Purple

DATE: 7 July 1963

FLIGHT #: 8

SAMPLE LINE: A

TIME OF RELEASE: 0520 Hours

DURATION: 9.5 Sec.

FLOW RATE: 80 GPM

SYSTEM: HIDAL

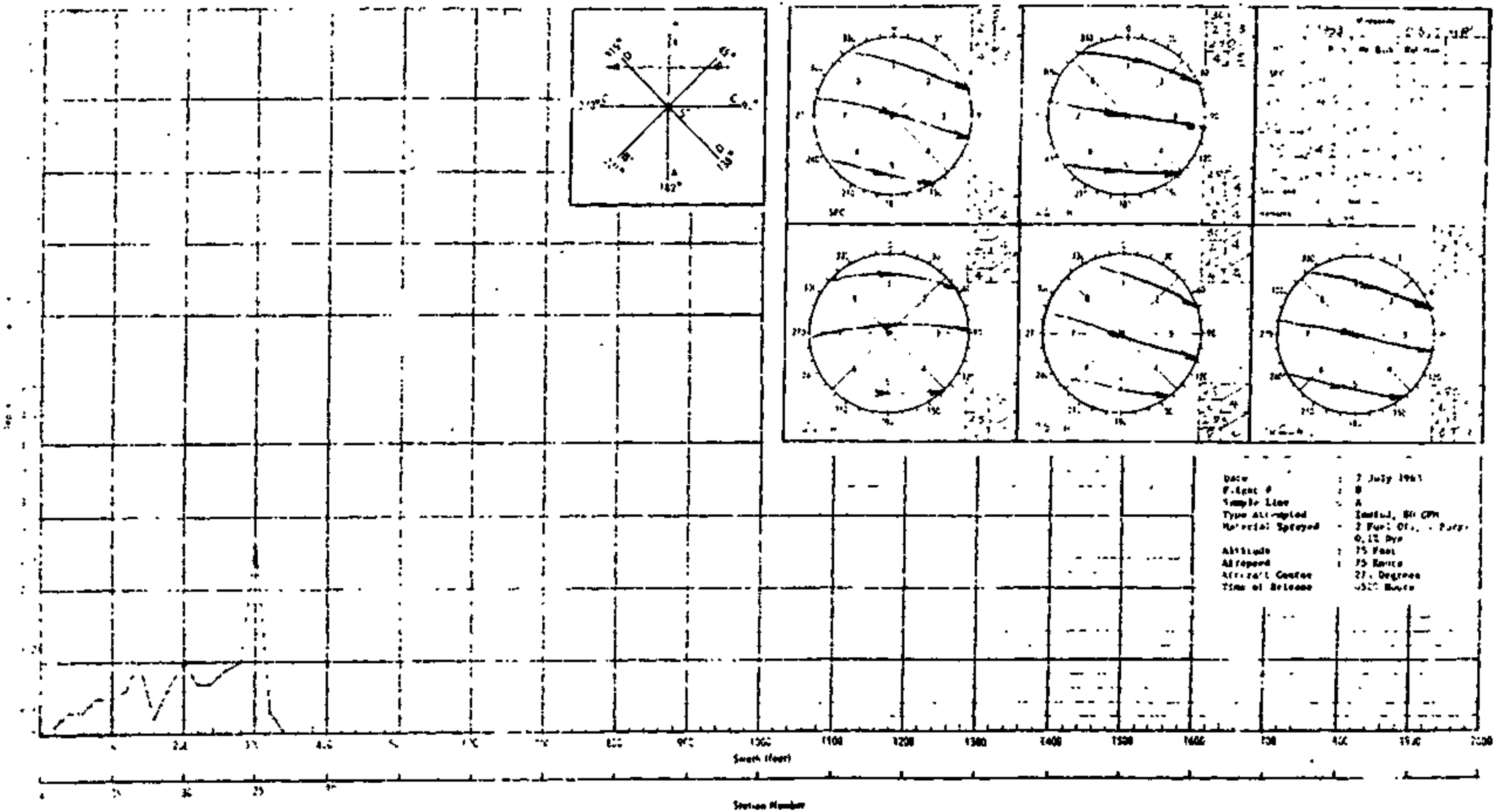
AIRSPEED: 75 Knots

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 - 22 Blank		23	0.0				
		24	0.3				
		25	2.6				
		26	1.0				
		27	0.9				
		28	0.7				
		29	0.7				
		30	1.0				
		31	0.6				
		32	0.2				
		33	1.0				
		34	0.6				
		35	0.5				
		36	0.5				
		37	0.3				
		38	0.3				
		39	0.1				
		40	0.0				
		Stations 41 - 100 Blank					

Total 11.5


Date
Flight #
Sample Line
Type Attempted
Material Sprayed
Altitude
Airspeed
Aircraft Course
Time of Release
Degrees
Swath (feet)
Station Number

MASS MEDIAN DIAMETER

DATE: 7 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 9 PAPER: Kromekote, white

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

FLOW RATE: 80 GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
75	3	4100*			
75	1	3900			
75	2	3800			
73	4	3700			
75	5	3600	90	1A	100(smallest)
75	9	3500			
76	10	3400			
75	6	3300			
75	8	3200			
75	7	3100			

MMD = $\frac{67.72+0.1420(\text{Spot D Max})}{\text{Con. Factor} = 2.2} = \frac{4100}{6.355 \times 2.2} = 295.3$ Microns

Max. Sph. Dia. = 67.72+0.14 2(4100) = $\frac{4100}{6.430} = 649.8$ Microns

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 7 July 1963

FLIGHT #: 9

SAMPLE LINE: A

TIME OF RELEASE: 0533 Hours

DURATION: 11 Sec.

FLOW RATE: 80 GPM

SYSTEM: HIDAL

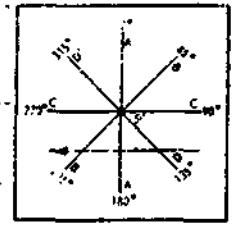
AIRSPEED: 55 Knots

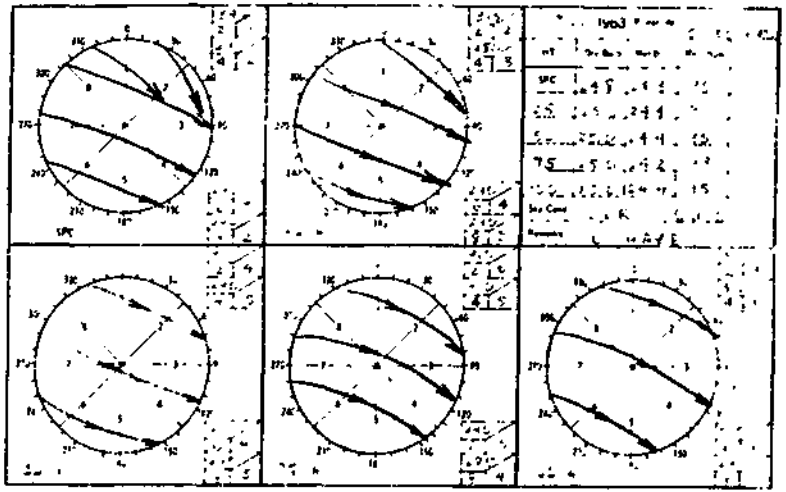
ALTITUDE: 75 Feet

AIRCRAFT COURSE: 270 Degrees

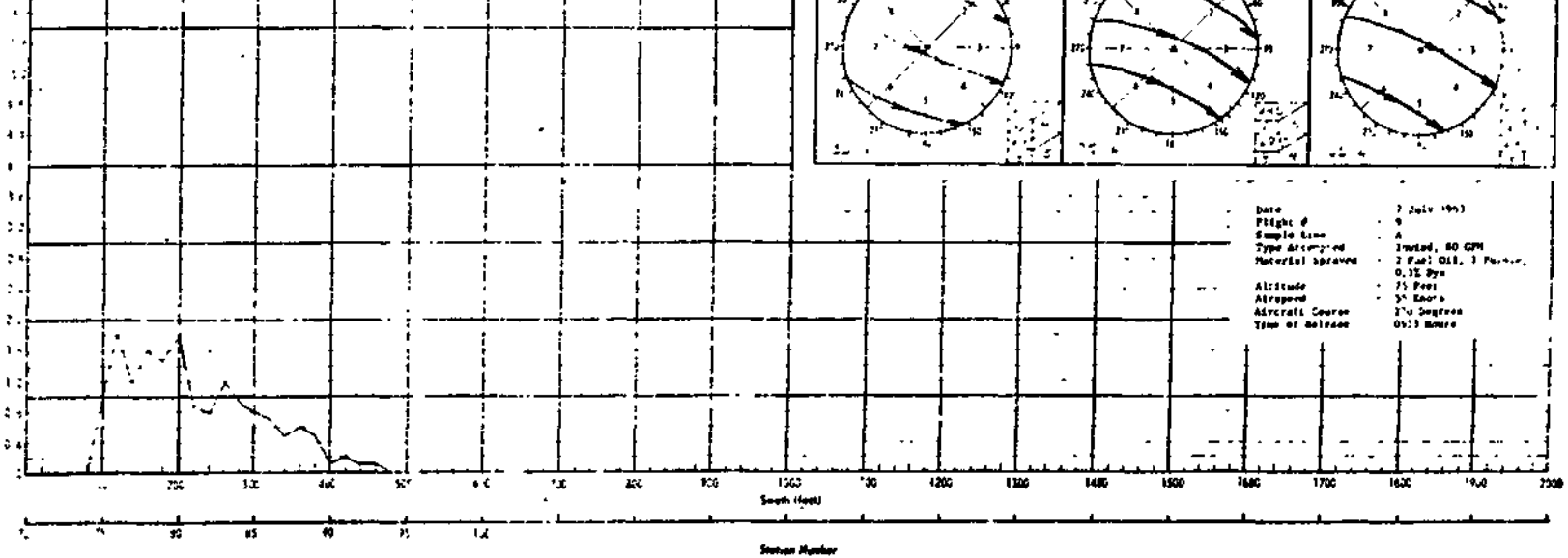
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 73 Blank						74	0.0
						75	1.0
						76	1.8
						77	1.2
						78	1.6
						79	1.5
						80	1.8
						81	0.9
						82	0.8
						83	1.2
						84	0.9
						85	0.8
						86	0.7
						87	0.5
						88	0.6
						89	0.5
						90	1.1
						91	[illegible]
						92	[illegible]
						93	[illegible]
						[illegible]	[illegible]
						95	
						96	
						Stations [illegible]	

Total 16.3





Date	7 July 1963
Flight #	9
Sample Line	A
Type Atomizer	Inverted, 80 GPM
Material Sprayed	2 Fuel Oil, 1 Fluorescent, 0.1% Dye
Altitude	75 Feet
Airspeed	55 Knots
Aircraft Course	270 Degrees
Time of Release	0933 Hours



MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

FLOW RATE: 80 GPM

DATE: 7 July 1963

SYSTEM: HIDAL

FLIGHT #: 10

AIRSPEED: 55 Knots

SAMPLE LINE: A

ALTITUDE: 75 Feet

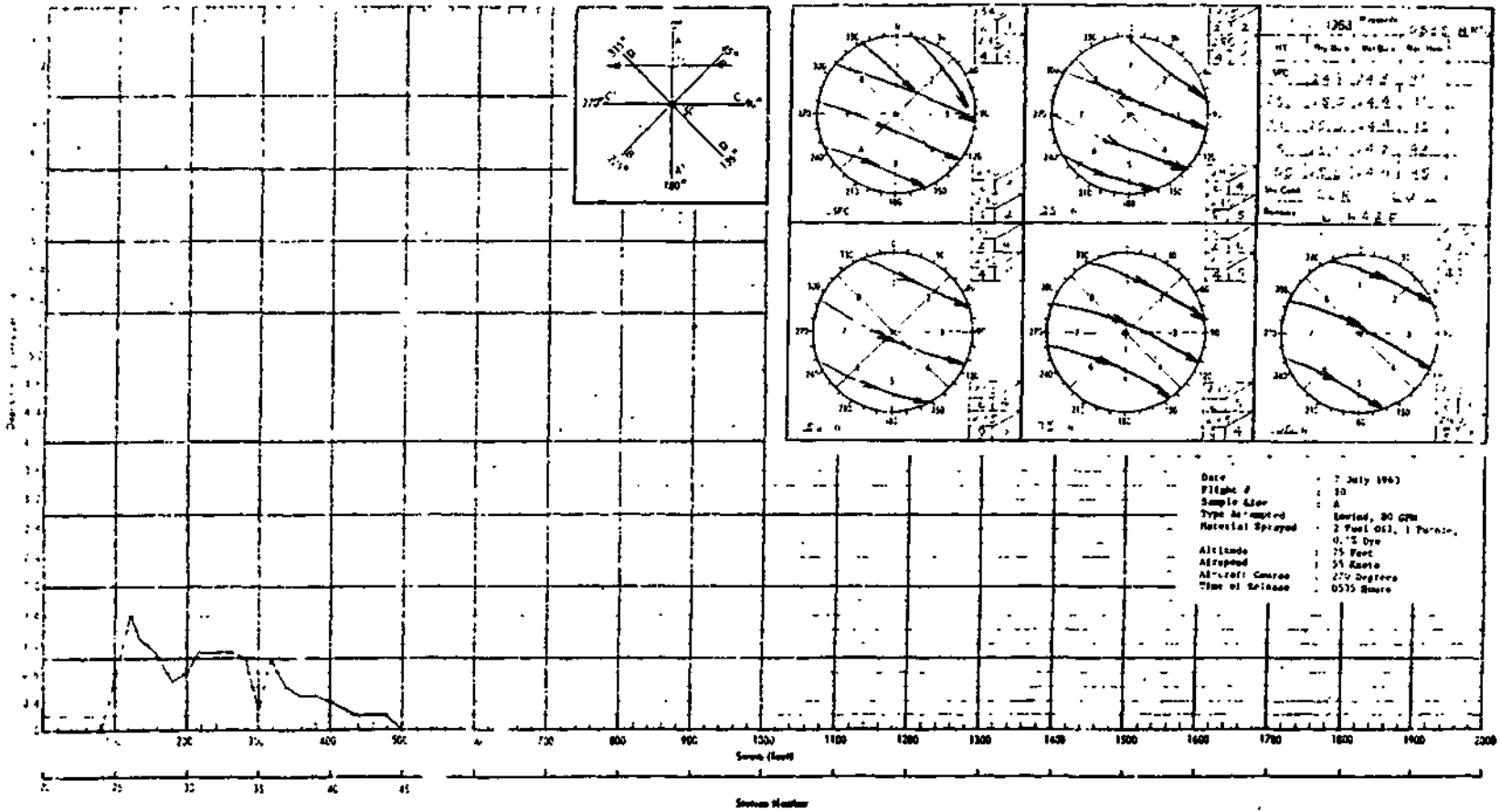
TIME OF RELEASE: 0535 Hours

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 - 23 Blank		24	0.0				
		25	0.7				
		26	1.6				
		27	1.3				
		28	1.1				
		29	0.7				
		30	0.8				
		31	1.1				
		32	1.1				
		33	1.1				
		34	1.0				
		35	0.3				
		36	1.0				
		37	0.6				
		38	0.5				
		39	0.5				
		40	0.4				
		41	0.3				
		42	0.1				
		43	0.1				
		44	0.1				
		45	0.0				
		Stations 46 - 100 Blank					

Total 14.4


Date : 7 July 1963
Flight # : 30
Sample Line : 6
Type Aerosol Generated : Emitted, 80 GPM
Material Sprayed : 2 Fuel Oil, 1 Paraffin, 0.1% Dye
Altitude : 75 Feet
Airspeed : 55 Knots
Aircraft Course : 270 Degrees
Time of Release : 0535 Hours

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 7 July 1963

FLIGHT #: 11

SAMPLE LINE: B

TIME OF RELEASE: 0605 Hours

DURATION: 19 Sec.

FLOW RATE: 80 GPM

SYSTEM: HIDAL

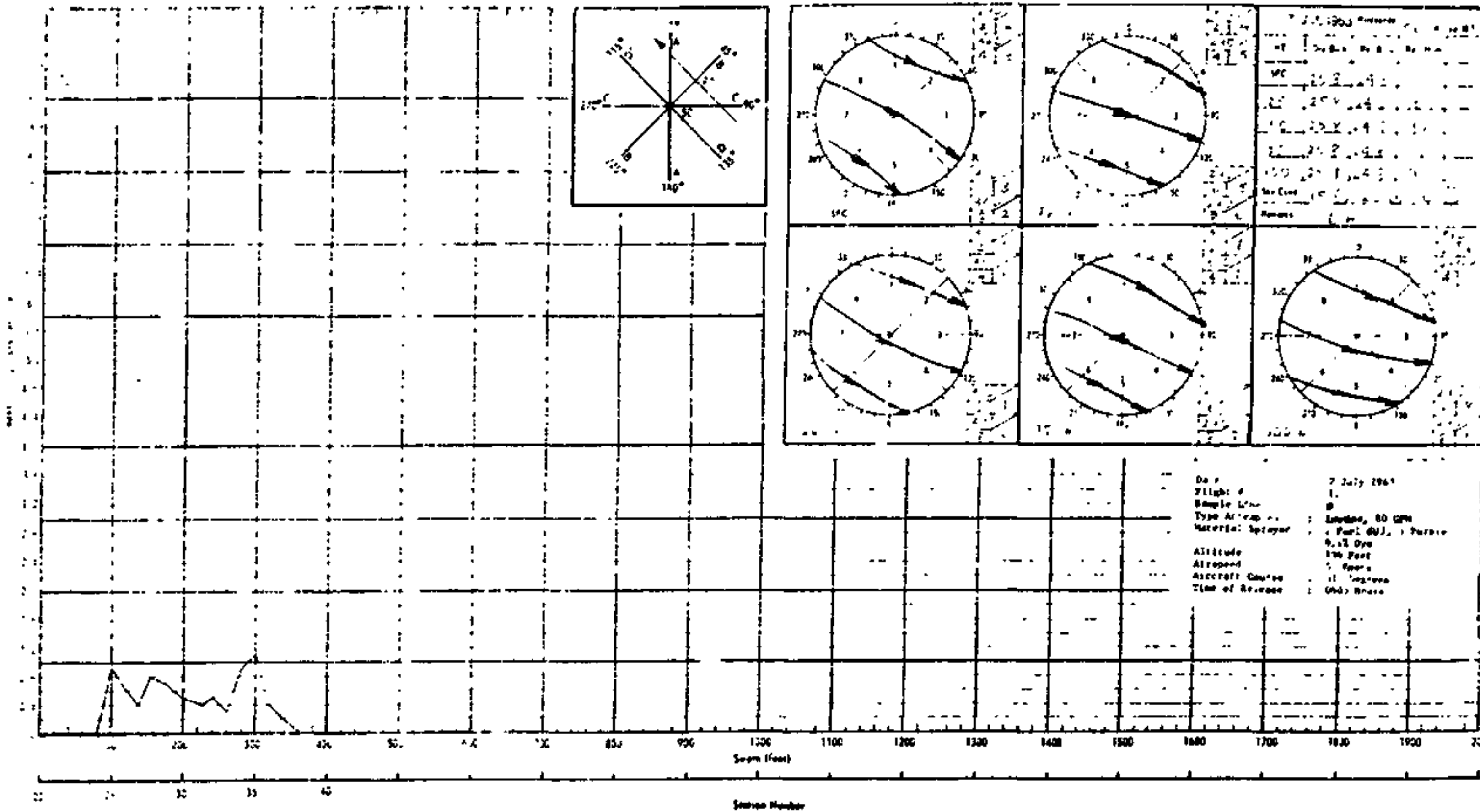
AIRSPEED: 55 Knots

ALTITUDE: 100 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	0.0				
		25	0.9				
		26	0.7				
		27	0.4				
		28	0.8				
		29	0.7				
		30	0.5				
		31	0.4				
		32	0.5				
		33	0.3				
		34	0.9				
		35	1.1				
		36	0.4				
		37	0.2				
		38	0.0				
		Stations 39 - 100 Blank					

Total 7.6



Flight #
Altitude
Airspeed
Aircraft Course
Time of Release
80 GPM
Swath (feet)
Station Number

MASS MEDIAN DIAMETER

DATE: 7 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 12 PAPER: Kromekote, white

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

FLOW RATE: 80 GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
81	4	4100*			
84	5	4000			
77	1	3900			
77	2	3800			
77	3	3700	90	1A	75(smallest)
87	9	3500			
86	8	3400			
78	6	3200			
78	7	3100			
79	10	3000			

$$MMD = \frac{67.72+0.1420(\text{Spot D Max})}{\text{Con. Factor} = 2.2} = \frac{4100}{6.355 \times 2.2} = 295.3 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = 67.72+0.1420(4100) = \frac{4100}{6.430} = 649.8 \text{ Microns}$$

Min. Sph. Dia. = 48 Microns

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 7 July 1963

FLIGHT #: " 12 "

SAMPLE LINE: B

TIME OF RELEASE: 0607 Hours

DURATION: 14 Sec.

FLOW RATE: 80 GPM

SYSTEM: HIDAL

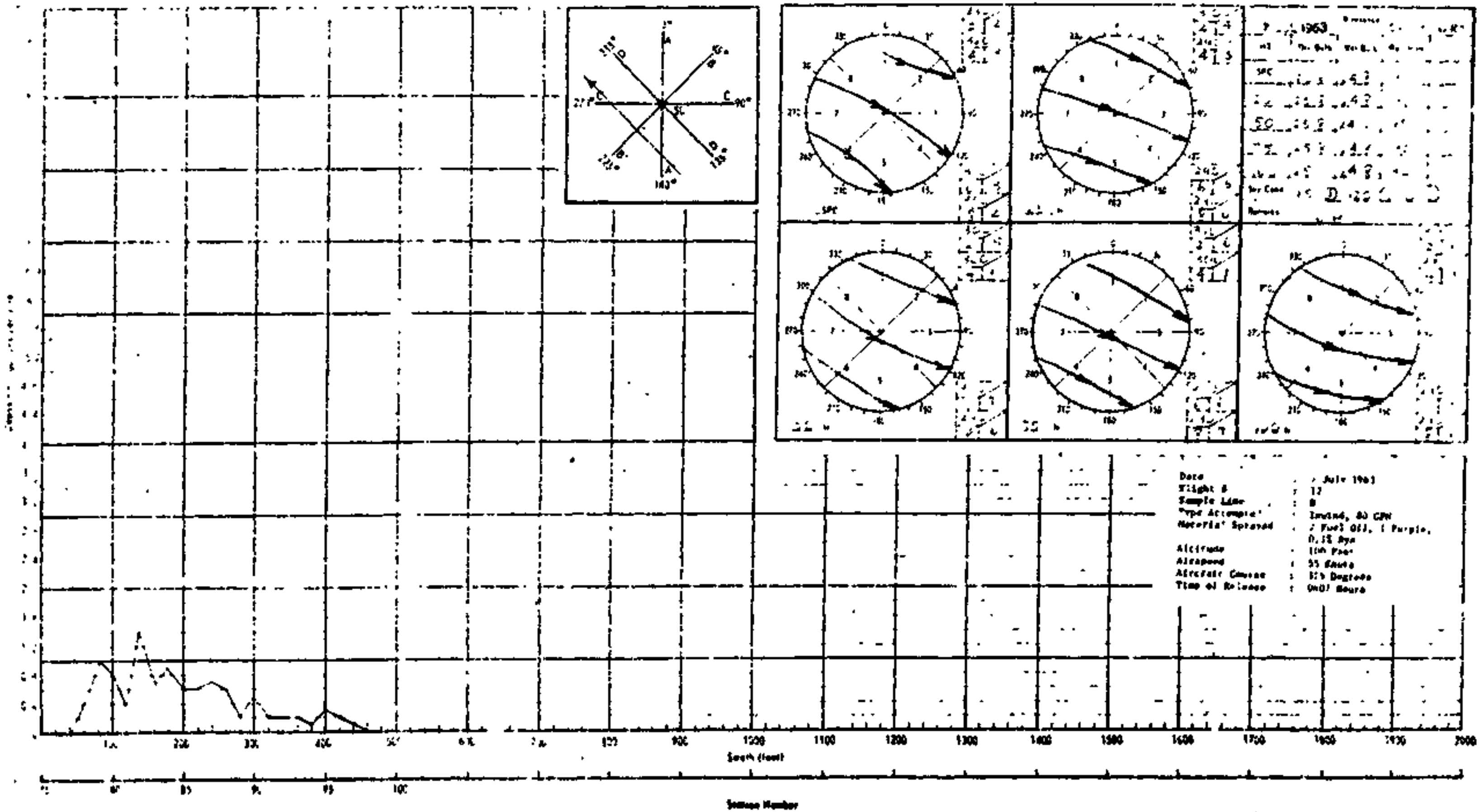
AIRSPEED: 55 Knots

ALTITUDE: 100 Feet

AIRCRAFT COURSE: 315 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 76 Blank							
						77	0.0
						78	0.4
						79	1.0
						80	0.8
						81	0.4
						82	1.4
						83	0.7
						84	0.9
						85	0.6
						86	0.6
						87	0.7
						88	0.6
						89	0.2
						90	0.5
						91	0.2
						92	0.2
						93	0.2
						94	0.1
						95	0.3
						96	0.2
						97	0.1
						98	0.0
						Stations 99 - 100 Blank	

Total 10.1



Sample Line
Material Sprayed
Altitude
Airspeed
Aircraft Course
Time of Release
1100
1200
1300
1400
1500
1600
1700
1800
2000
South (feet)
Station Number

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 7 July 1963

FLIGHT #: 13

SAMPLE LINE: B

TIME OF RELEASE: 0644 Hours

DURATION: 11.5 Sec.

FLOW RATE: 80 GPM

SYSTEM: HIDAL

AIRSPEED: 75 Knots

ALTITUDE: 100 Feet

AIRCRAFT COURSE: 315 Degrees

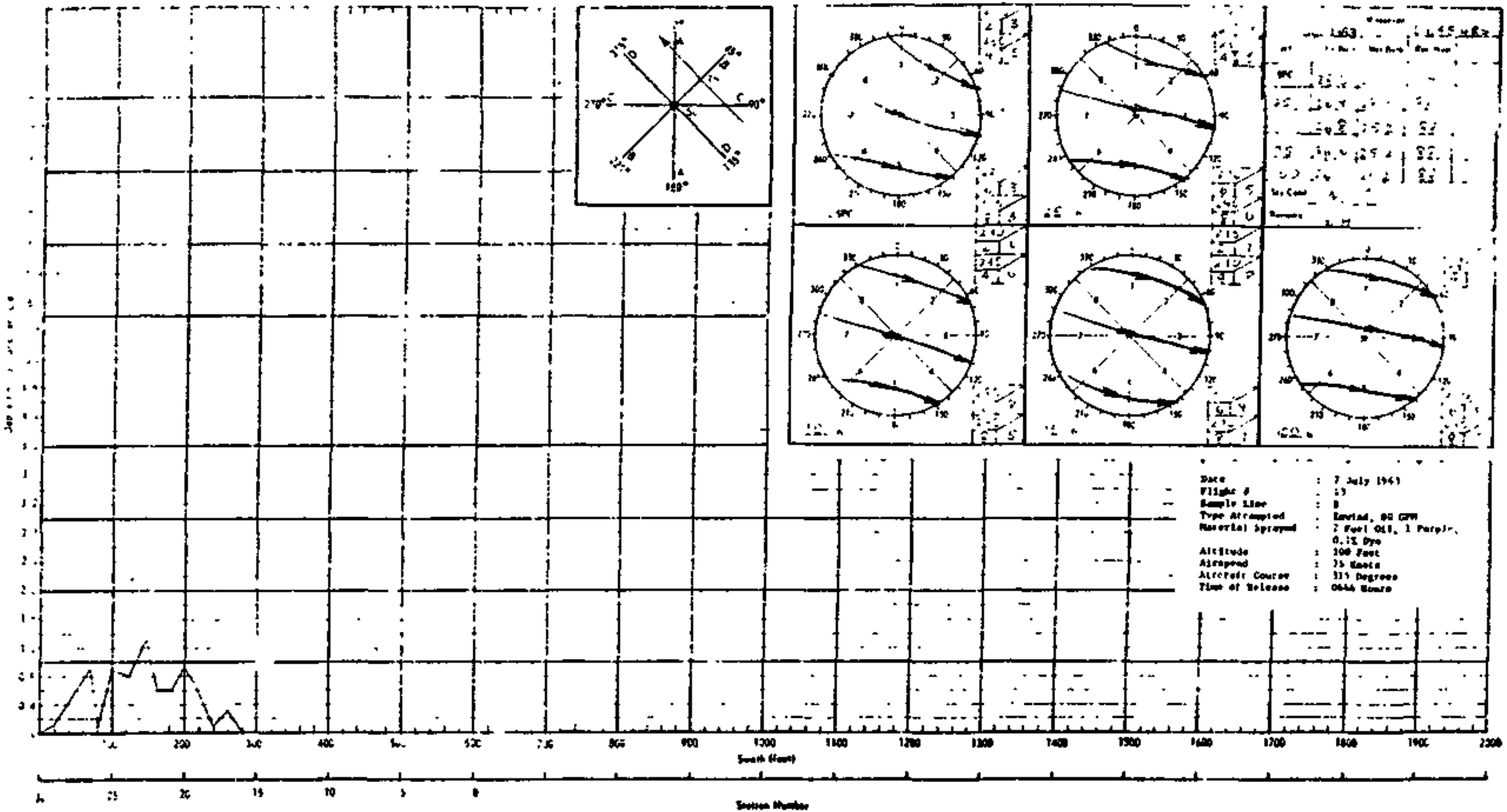
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.

Stations 1 - 16 Blank

17	0.3
18	0.1
19	0.7
20	0.9
21	0.6
22	0.6
23	1.3
24	0.8
25	0.9
26	0.1
27	0.9
28	0.5
29	0.1

Stations 30 - 100 Blank

Total 7.8


Date : 7 July 1963
Flight # : 13
Sample Line : B
Type Attempted : Swaied, 80 GPM
Material Sprayed : 2 Fuel Oil, 1 Purple, 0.1% Dye
Altitude : 100 Feet
Airspeed : 75 Knots
Aircraft Course : 315 Degrees
Time of Release : 0644 Hours
Swath (Feet)
Station Number

MASS MEDIAN DIAMETER

DATE: 7 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 14 PAPER: Kromekote, white

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

FLOW RATE: 80 GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
74	1	3100			
74	2	3000			
72	10	2700			
70	9	2400*			
73	3	2300	62	1A	100 (smallest)
73	4	2200			
73	6	2100			
74	5	2000			
73	7	1900			
73	8	1800			

$$MMD = \frac{67.72+0.1420(\text{Spot D Max})}{\text{Con. Factor} = 2.2} = \frac{2400}{6.355 \times 2.2} = 185.7 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = 67.72+0.1420(3100) = \frac{3100}{6.430} = 507.9 \text{ Microns}$$

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 7 July 1963

FLIGHT #: 14

SAMPLE LINE: B

TIME OF RELEASE: 0646 Hours

DURATION: 09 Sec.

FLOW RATE: 80 GPM

SYSTEM: HIDAL

AIRSPEED: 75 Knots

ALTITUDE: 100 Feet

AIRCRAFT COURSE: 315 Degrees

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

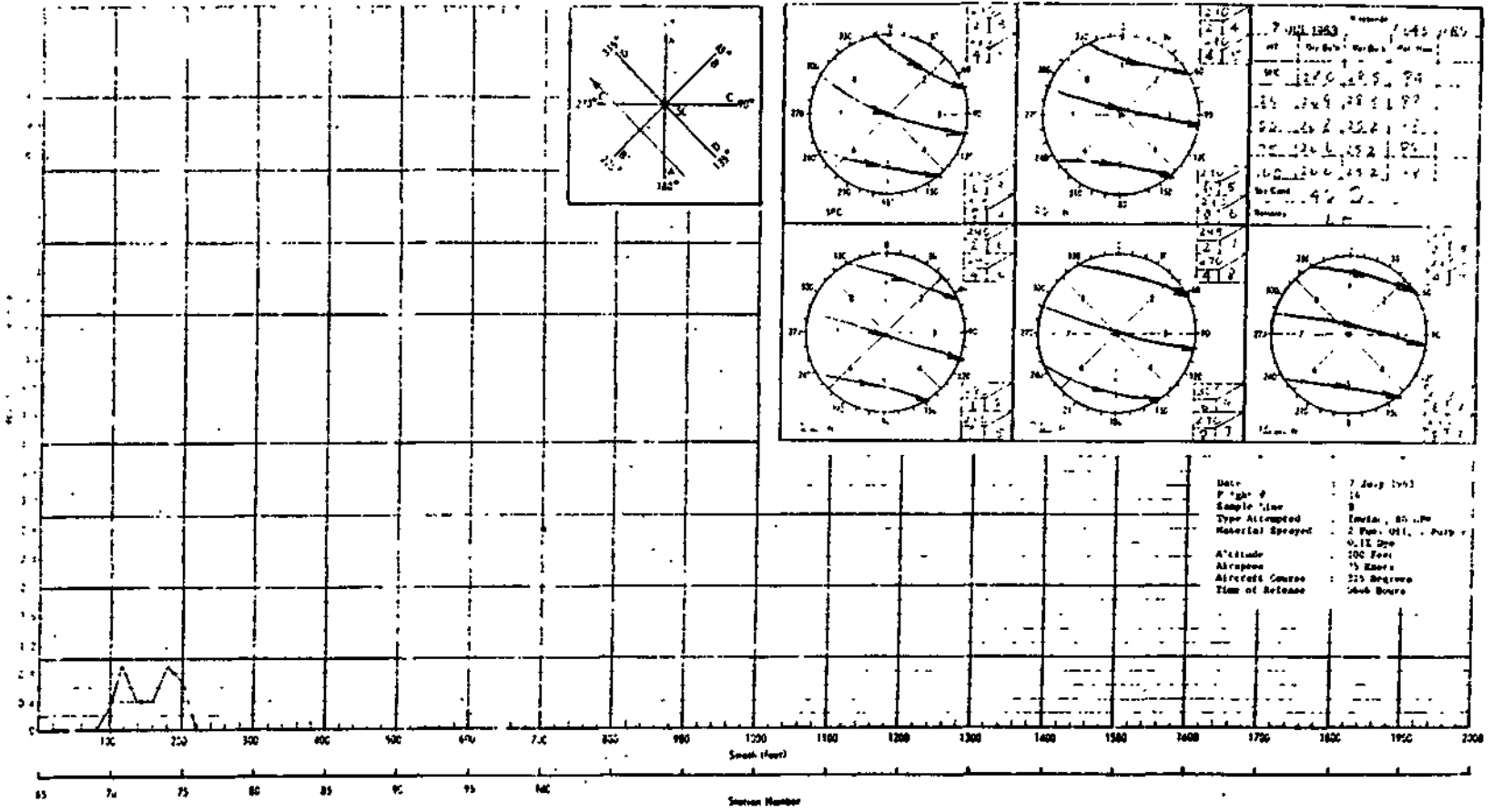
Stations 1 - 69 Blank

70	0.3
71	0.9
72	0.4
73	0.4
74	0.9
75	0.7
76	0.0

Stations 77 - 100 Blank

% Recovery - 15.6

Total 3.6



MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple
FLOW RATE: 80 GPM
DATE: 7 July 1963
SYSTEM HIDAL
FLIGHT #: 15
AIRSPEED: 55 Knots
SAMPLE LINE: A
ALTITUDE: 50 Feet
TIME OF RELEASE: 0658 Hours
AIRCRAFT COURSE 270 Degrees
DURATION: 14 Sec.

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

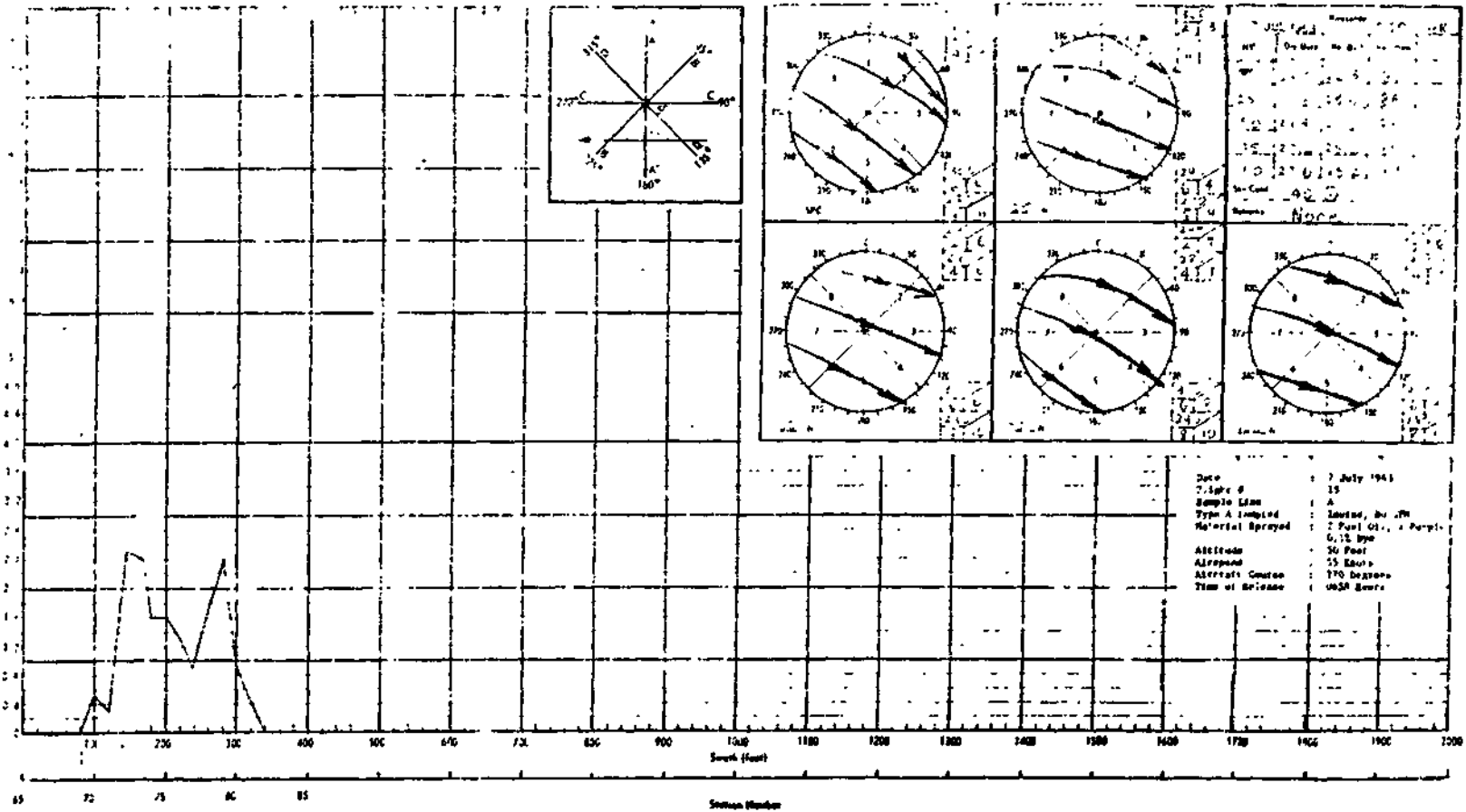
Stations 1 - 69 Blank

70	0.5
71	0.3
72	2.5
73	2.4
74	1.6
75	1.6
76	1.3
77	0.9
78	1.6
79	2.4
80	0.9
81	0.5

Stations 82 - 100 Blank

% Recovery - 52.7

Total 16.5


Date : 7 July 1943
Sample Line : A
Material Sprayed : 2 Fuel Oil, 1 Paraffin
Altitude : 50 Feet
Aircraft Course : 190 Degrees
Time of Release : 0858 Hours
Smoke (Feet)
Station Number

MASS MEDIAN DIAMETER

DATE: 7 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 16 PAPER: Kromekote, white

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

FLOW RATE: 80 GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
29	9	4000*			
25	4	3900			
29	3	3800			
28	1	3700			
29	2	3600	43	1A	100(smallest)
25	5	3500			
27	10	3300			
25	7	3200			
25	6	3100			
30	8	3000			

$$MMD = \frac{67.72+0.1420(\text{Spot D Max})}{\text{Con. Factor} = 2.2} = \frac{4000}{6.355 \times 2.2} = 288.9 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = \frac{67.72+0.1420(4000)}{6.430} = \frac{4000}{6.430} = 635.6 \text{ Microns}$$

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 7 July 1963

FLIGHT #: 16

SAMPLE LINE: A

TIME OF RELEASE: 0700 Hours

DURATION: 16 Sec.

FLOW RATE: 80 GPM

SYSTEM: HIDAL

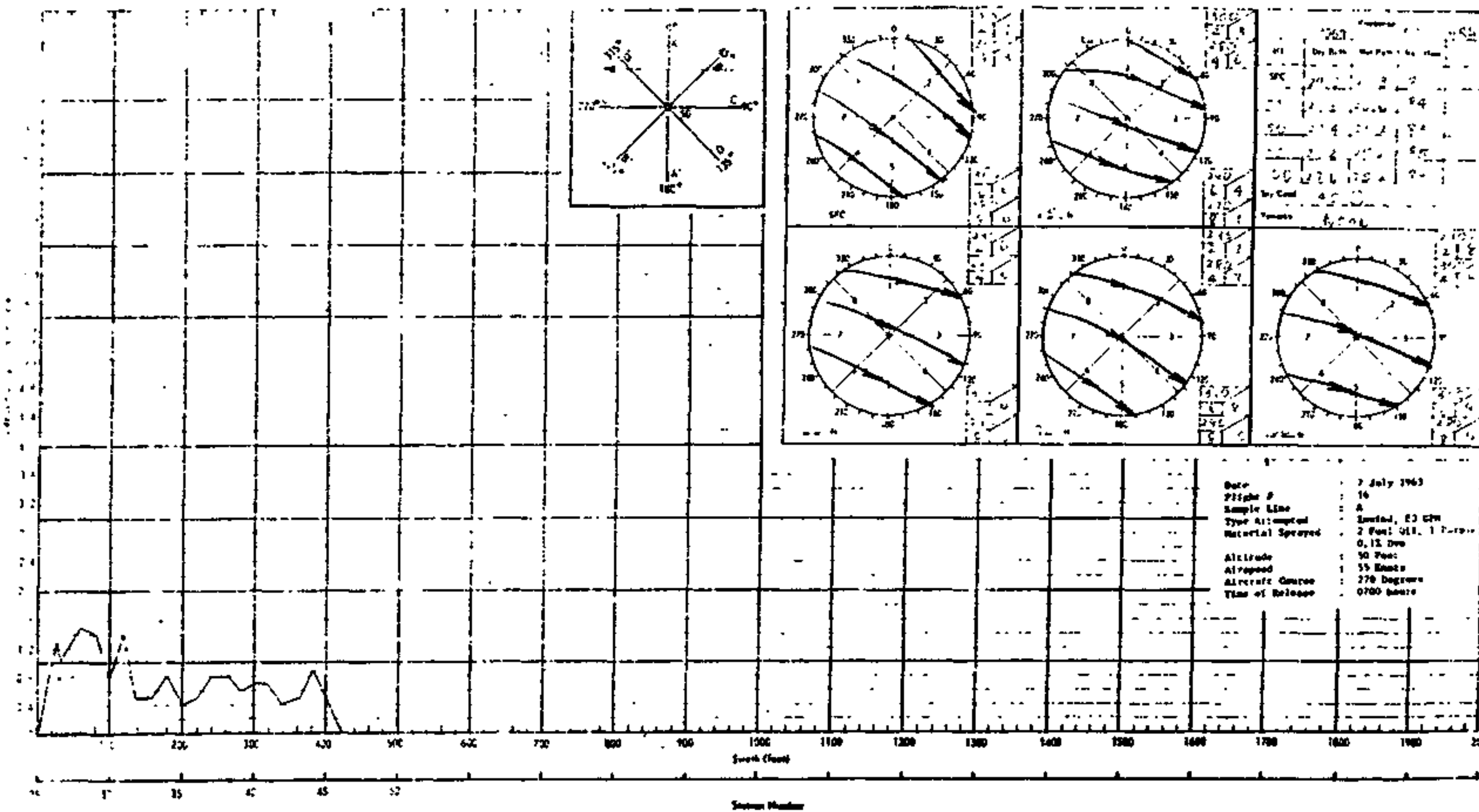
AIRSPEED: 55 Knots

ALTITUDE: 50 Feet

AIRCRAFT COURSE: 270 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 25 Blank		26	1.3				
		27	1.0				
		28	1.5				
		29	1.4				
		30	0.8				
		31	1.4				
		32	0.5				
		33	0.5				
		34	0.8				
		35	0.4				
		36	0.5				
		37	0.8				
		38	0.8				
		39	0.6				
		40	0.7				
		41	0.7				
		42	0.4				
		43	0.5				
		44	0.9				
		45	0.5				
		Stations 46 - 100 Blank					

Total 16.0



Date : July 1963
Flight # : 16
Sample Line
Type Attempted
Material Sprayed
Altitude : 50 Feet
Airspeed : 55 Knots
Aircraft Course : 270 Degrees
Time of Release : 0700 hours
Swath (Feet)
Station Number

H-34/HIDAL GROUND FLOW & FLIGHT DATA

DATE CALIBRATED: 6 July 1963 — DATE TEST FLOWN: 8 July 1963

LIQUID SPRAYED: 2 Fuel Oil, 1 Purple — TOTAL NOZZLES OPEN. 60

NOZZLE TYPE: 8015 — LIQUID TEMP: 33.5° C

DURATION OF SPRAY. 30 Sec. — PUMP PRESSURE: 38-28 PSI

TOTAL AMOUNT SPRAYED 39.5 Gal. — FLOW RATE CALIBRATED: 80 GPM

OPERATIONAL DATA DURING FLIGHT

Above information is for Runs 1 - 10.

DATE CALIBRATED: 6 July 1963 — DATE TEST FLOWN. 8 July 1963

LIQUID SPRAYED: 2 Fuel Oil, 1 Purple — TOTAL NOZZLES OPEN: 60

NOZZLE TYPE: Check Valves — LIQUID TEMP: 36° C

DURATION OF SPRAY: 20 Sec. — PUMP PRESSURE: 20.5 PSI

TOTAL AMOUNT SPRAYED: 27.5 Gal. — FLOW RATE CALIBRATED: 83 GPM

OPERATIONAL DATA DURING FLIGHT

Above information is for Runs 11 - 14.

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 8 July 1963

FLIGHT #: 1

SAMPLE LINE: C

TIME OF RELEASE: 0410 Hours

DURATION: 12 Sec.

FLOW RATE: 80 GPM

SYSTEM: HIDAL

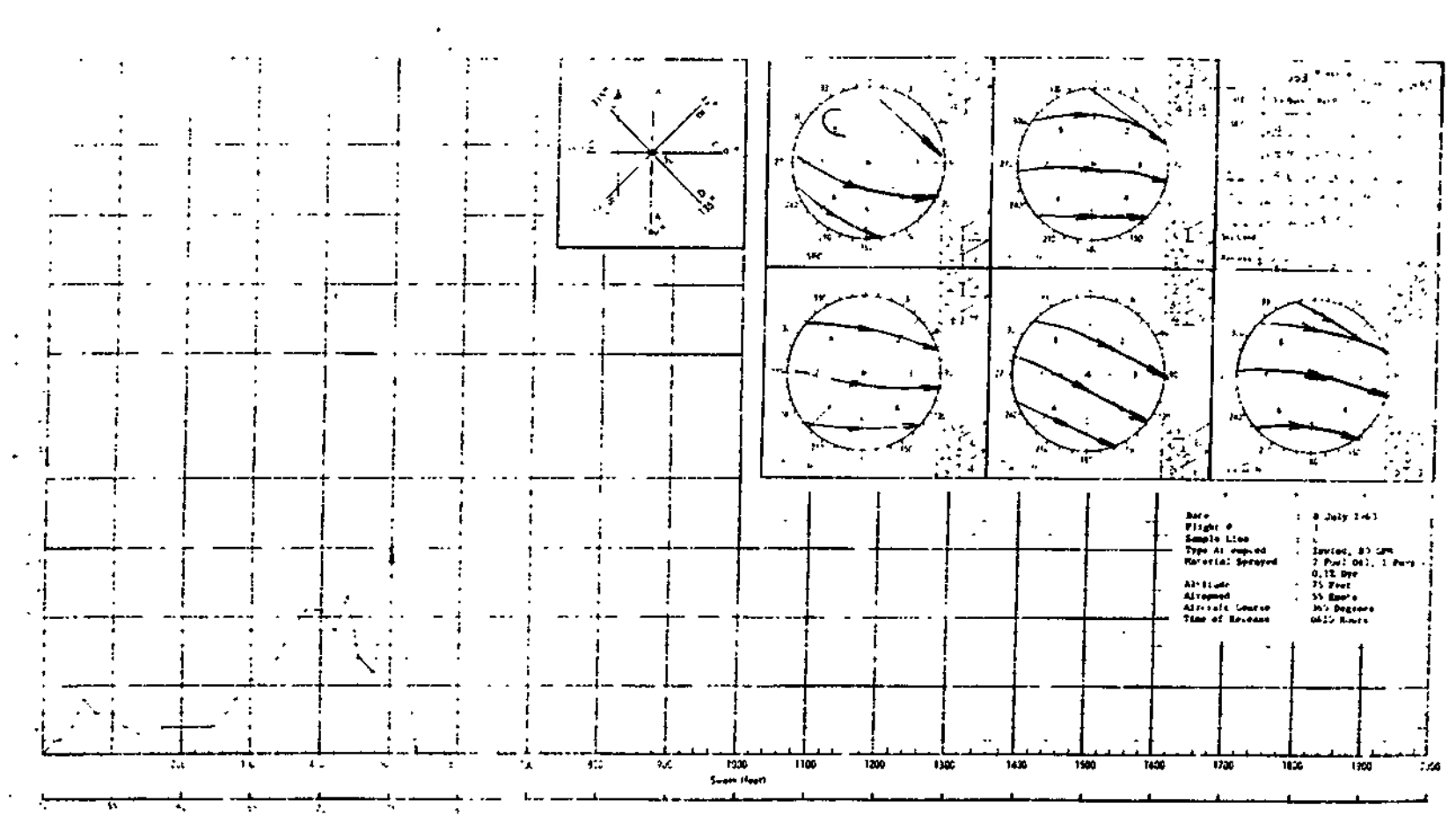
AIRSPEED: 55 Knots

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 - 50 Blank				51	0.2	76	1.9
				52	0.3	Stations 77 - 100	
				53	0.8	Blank	
				54	0.6		
				55	0.6		
				56	0.4		
				57	0.3		
				58	0.3		
				59	0.4		
				60	0.4		
				61	0.4		
				62	0.4		
				63	0.5		
				64	0.8		
				65	1.1		
				66	1.0		
				67	1.4		
				68	1.9		
				69	2.1		
				70	2.1		
				71	1.8		
				72	2.3		
				73	1.4		
				74	1.2		
				75	3.0		

Total 27.9


Date : 8 July 1963
Flight # : 1
Sample Line : 1
Type Application : Service, 80 GPM
Material Sprayed : 2 Part Oil, 1 Part
0.1% Dye
Altitude : 75 Feet
Airspeed : 55 Knots
Aircraft Course : 345 Degrees
Time of Release : 0615 Hours
Swath (Feet)
Station Number

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 8 July 1963

FLIGHT #: 2

SAMPLE LINE: C

TIME OF RELEASE: 0413 Hours

DURATION: 13 Sec.

FLOW RATE: 80 GPM

SYSTEM: HIDAL

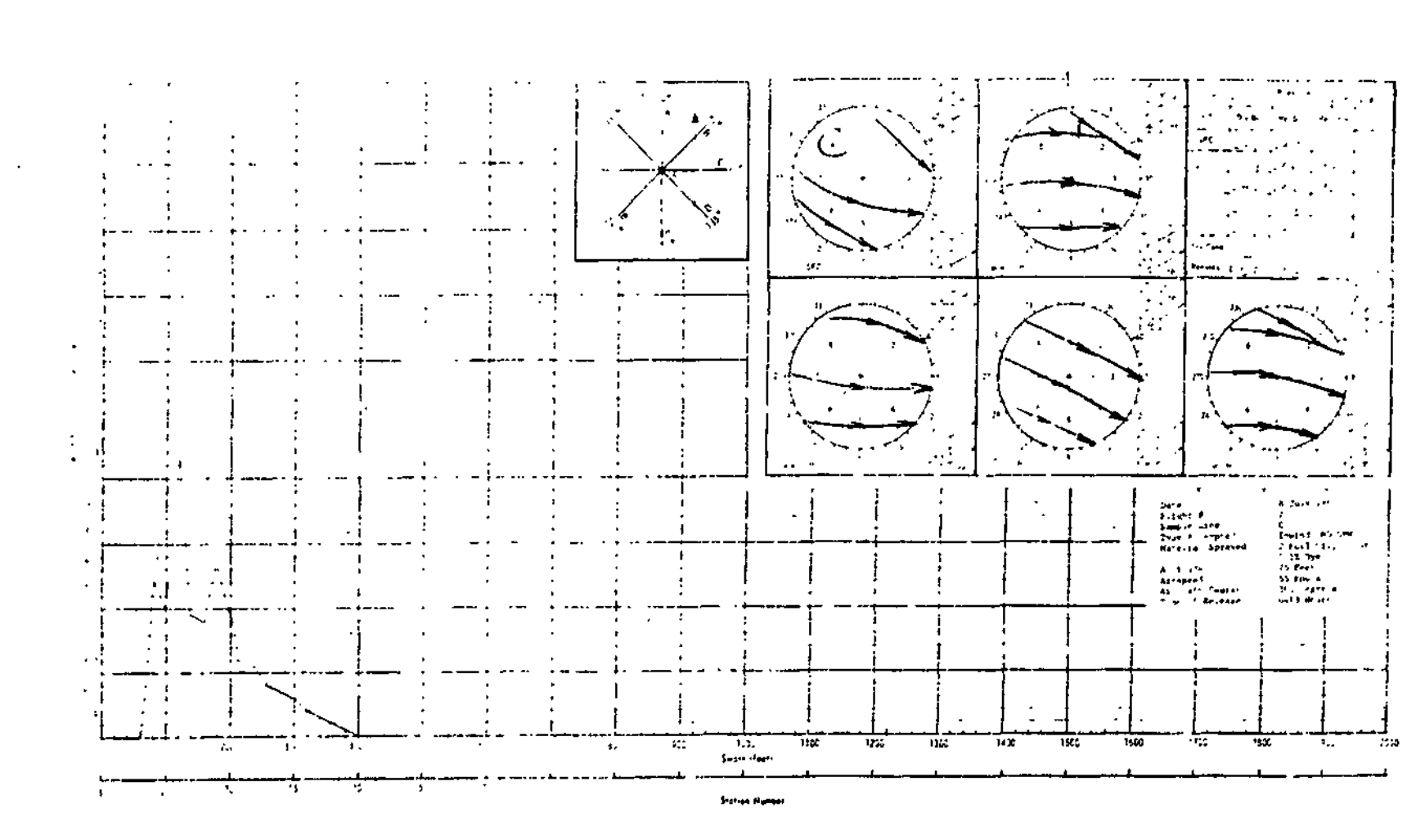
AIRSPEED: 55 Knots

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 - 10 Blank							
11	0.1						
12	0.2						
13	0.3						
14	0.4						
15	0.6						
16	0.7						
17	0.8						
18	1.1						
19	1.0						
20	1.9						
21	2.7						
22	1.8						
23	1.9						
24	4.3						
25	2.0						
26	2.4						
Stations 27 - 100 Blank							

Total 22.2



MASS MEDIAN DIAMETER

DATE: 8 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 3 PAPER: Kromekote, white

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

FLOW RATE: 80 GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
24	2	4000			
24	1	3200*			
20	3	3000			
20	4	2900			
20	5	2800	20	1A	100(smallest)
20	6	2700			
20	7	2600			
20	10	2500			
20	9	2400			
20	8	2300			

$$MMD = \frac{67.72+0.1420(\text{Spot D Max})}{\text{Con. Factor} = 2.2} = \frac{3200}{6.355 \times 2.2} = 237.3 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = 67.72+0.1420(4000) = \frac{4000}{6.430} = 635.6 \text{ Microns}$$

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 8 July 1963

FLIGHT #: 3

SAMPLE LINE: B

TIME OF RELEASE: 0432 Hours

DURATION: 13 Sec.

FLOW RATE: 80 GPM

SYSTEM: FIDAL

AIRSPEED: 75 Knots

ALTITUDE: 75 Feet

AIRCRAFT COURSE: 315 Degrees

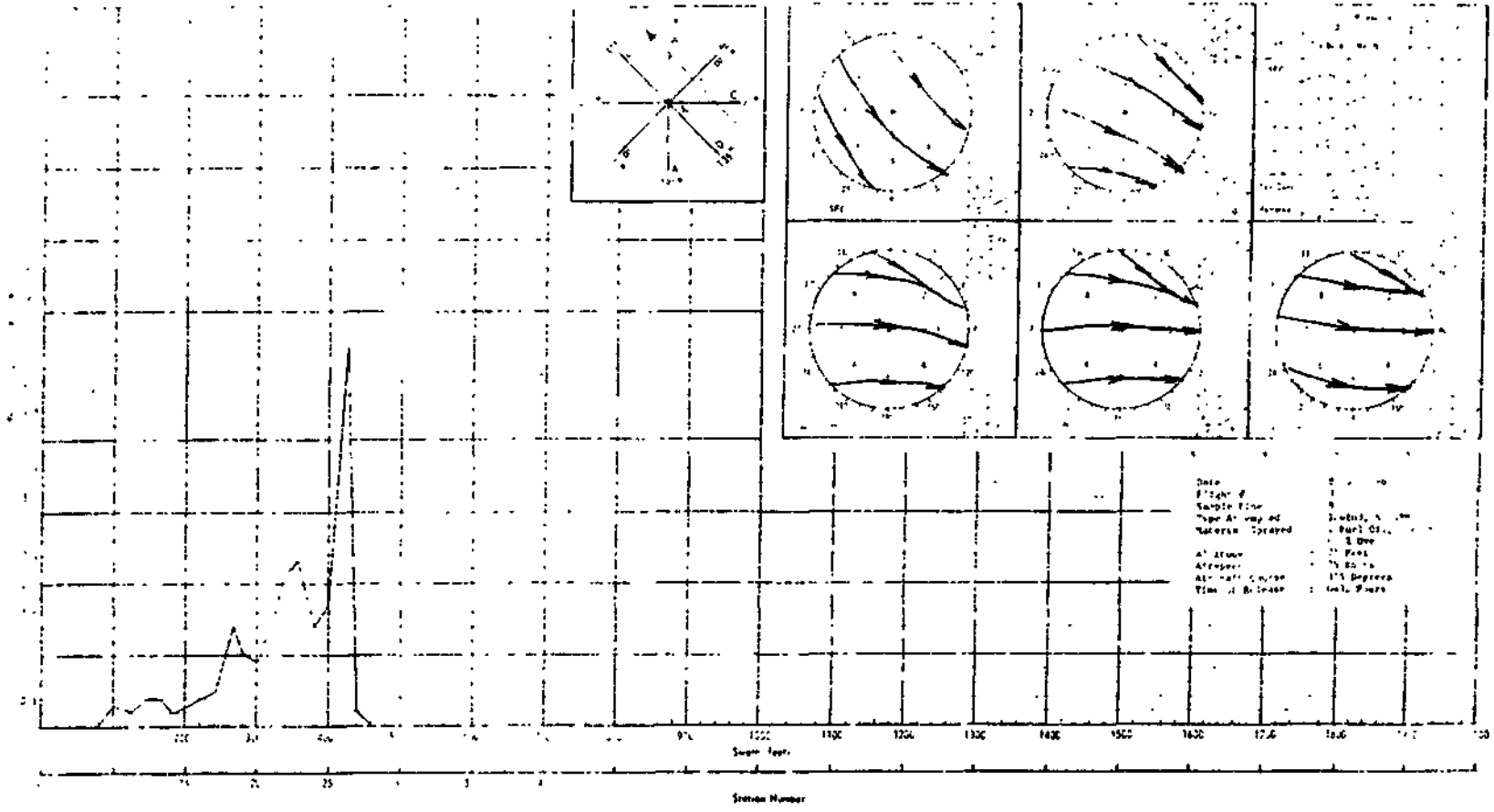
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.

Stations 1 - 9 Blank

10	0.3
11	0.2
12	0.4
13	0.4
14	0.2
15	0.3
16	0.4
17	0.5
18	1.4
19	1.0
20	0.9
21	1.5
22	2.1
23	2.3
24	1.4
25	1.7
26	5.3
27	0.2

Stations 28 - 100 Blank

Total 20.3



MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 8 July 1963

FLIGHT #: 4

SAMPLE LINE: B

TIME OF RELEASE: 0434 Hours

DURATION: 11 Sec.

FLOW RATE: 80 GPM

SYSTEM: HIDAL

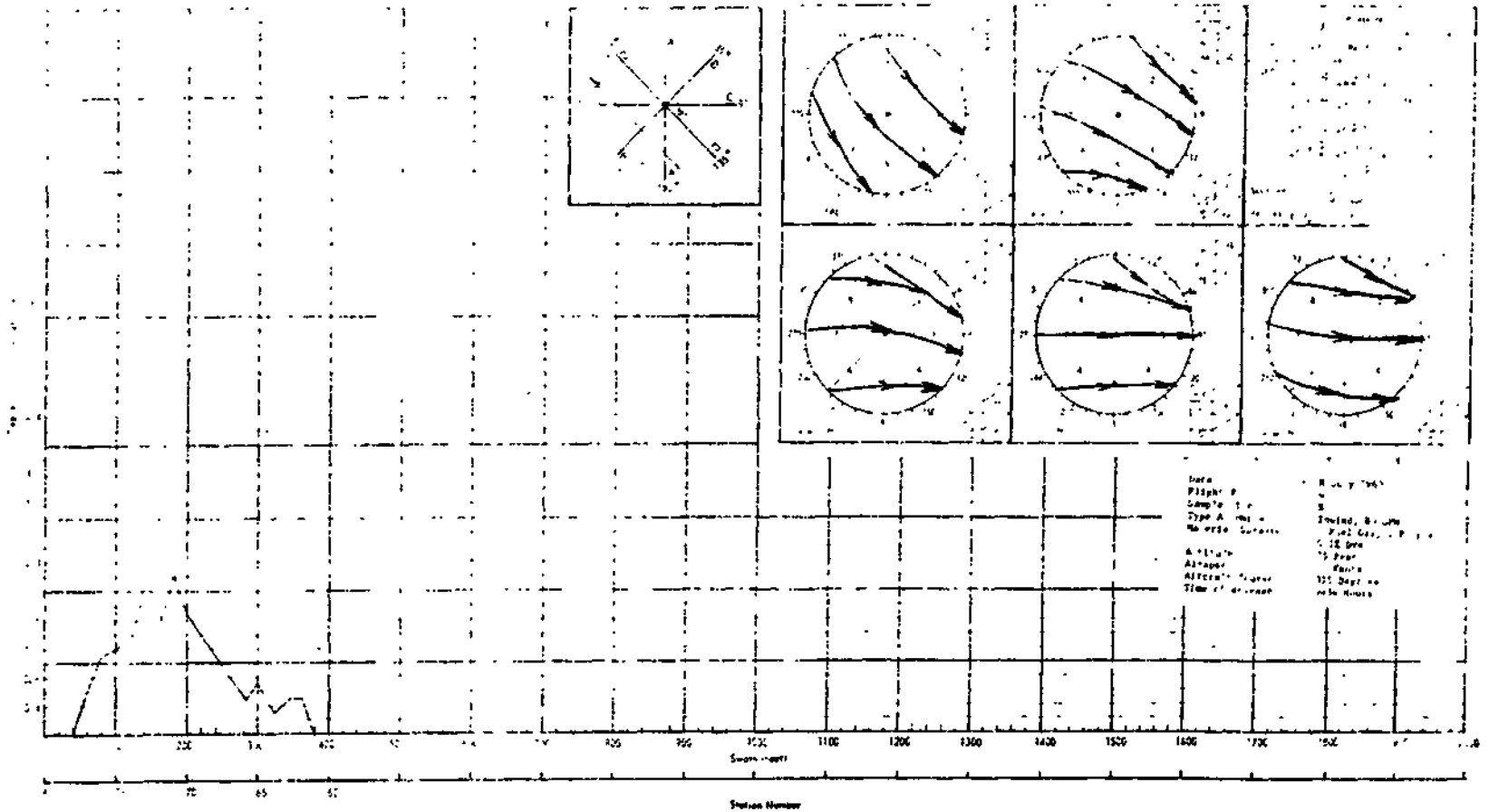
AIRSPEED: 75 Knot

ALTITUDE: 75 Feet

AIRCRAFT COURSE: 315 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 61 Blank							
62	0.5						
63	0.5						
64	0.3						
65	0.7						
66	0.5						
67	0.8						
68	1.0						
69	1.4						
70	1.7						
71	2.2						
72	1.6						
73	2.2						
74	1.4						
75	1.2						
76	1.1						
77	0.5						
Stations 78 - 100 Blank							

Total 17.6



MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 8 July 1963

FLIGHT #: 5

SAMPLE LINE: A

TIME OF RELEASE: 0455 Hour

DURATION: 12 Sec.

FLOW RATE: 80 GPM

SYSTEM: HIDAL

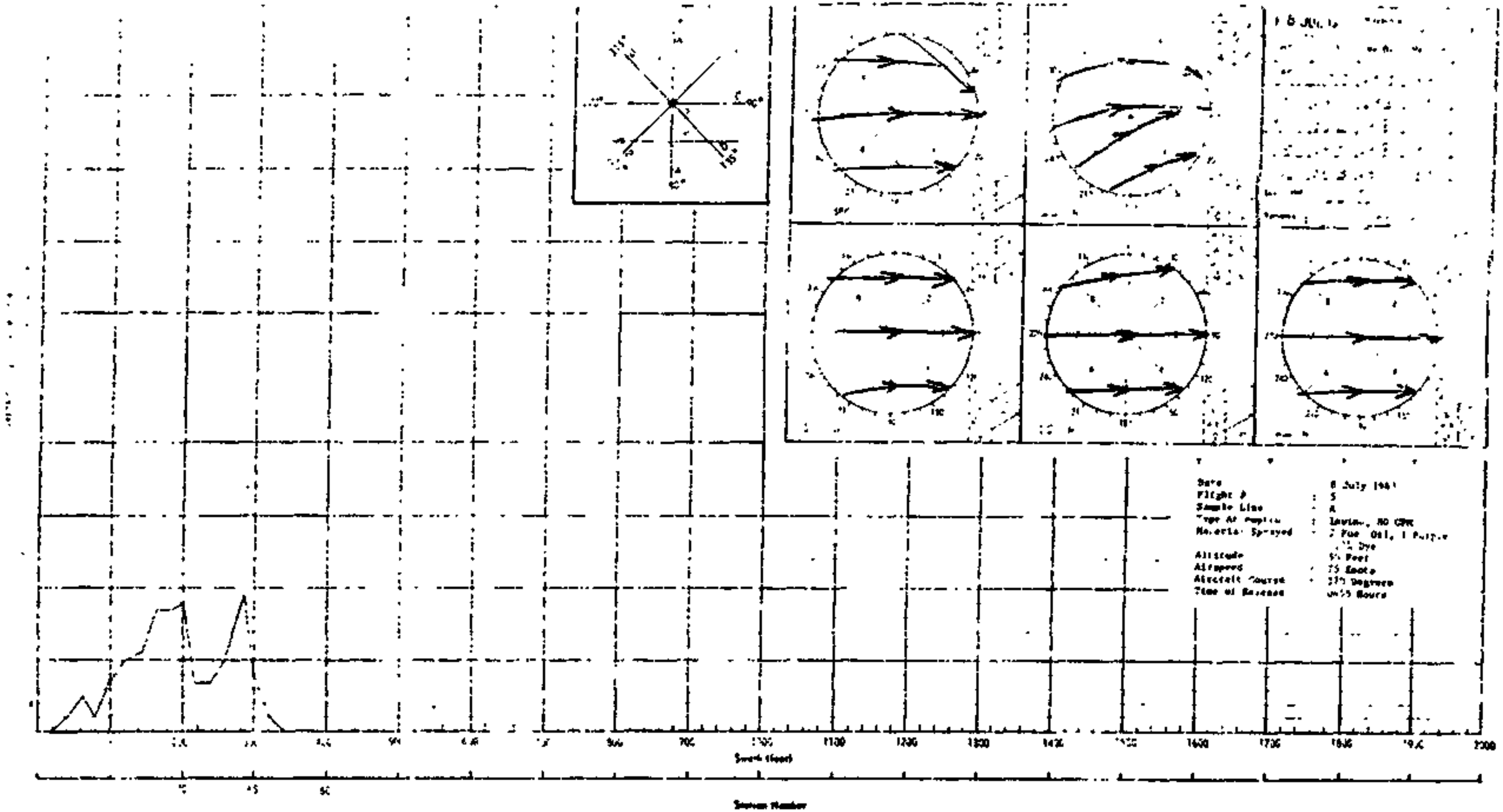
AIRSPEED: 75 Knots

ALTITUDE: 50 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	0.2						
65	0.8						
66	1.9						
67	1.0						
68	0.7						
69	0.7						
70	1.8						
71	1.7						
72	1.7						
73	1.1						
74	1.0						
75	0.7						
76	0.2						
77	0.5						
78	0.2						
Stations 79 - 100 Blank							

Total 14.2



Date
Flight #
Sample Line
Altitude
Airspeed
Aircraft Course
Time of Release
5
A
Feet
Knots
Degrees
Hours
1100
1200
1300
1600
1700
2000
Swath (feet)
Station Number

MASS MEDIAN DIAMETER

DATE: 8 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 6 PAPER: Kromekote, white

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

FLOW RATE: 80 GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
22	1	2900*			
22	3	2800			
22	2	2700			
23	4	2600			
22	6	2500	22	1A	100(smallest)
24	5	2400			
21	8	2300			
21	7	2200			
22	10	2100			
22	9	2000			

$$MMD = \frac{67.72+0.1420(\text{Spot D Max})}{\text{Con. Factor} = 2.2} = \frac{2900}{6.355 \times 2.2} = 217.9 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = 67.72+0.1420(2900) = \frac{2900}{6.430} = 479.5 \text{ Microns}$$

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 8 July 1963

FLIGHT #: 6

SAMPLE LINE: A

TIME OF RELEASE: 0457 Hours

DURATION: '3 Sec.

FLOW RATE: 80 GPM

SYSTEM: HIDAL

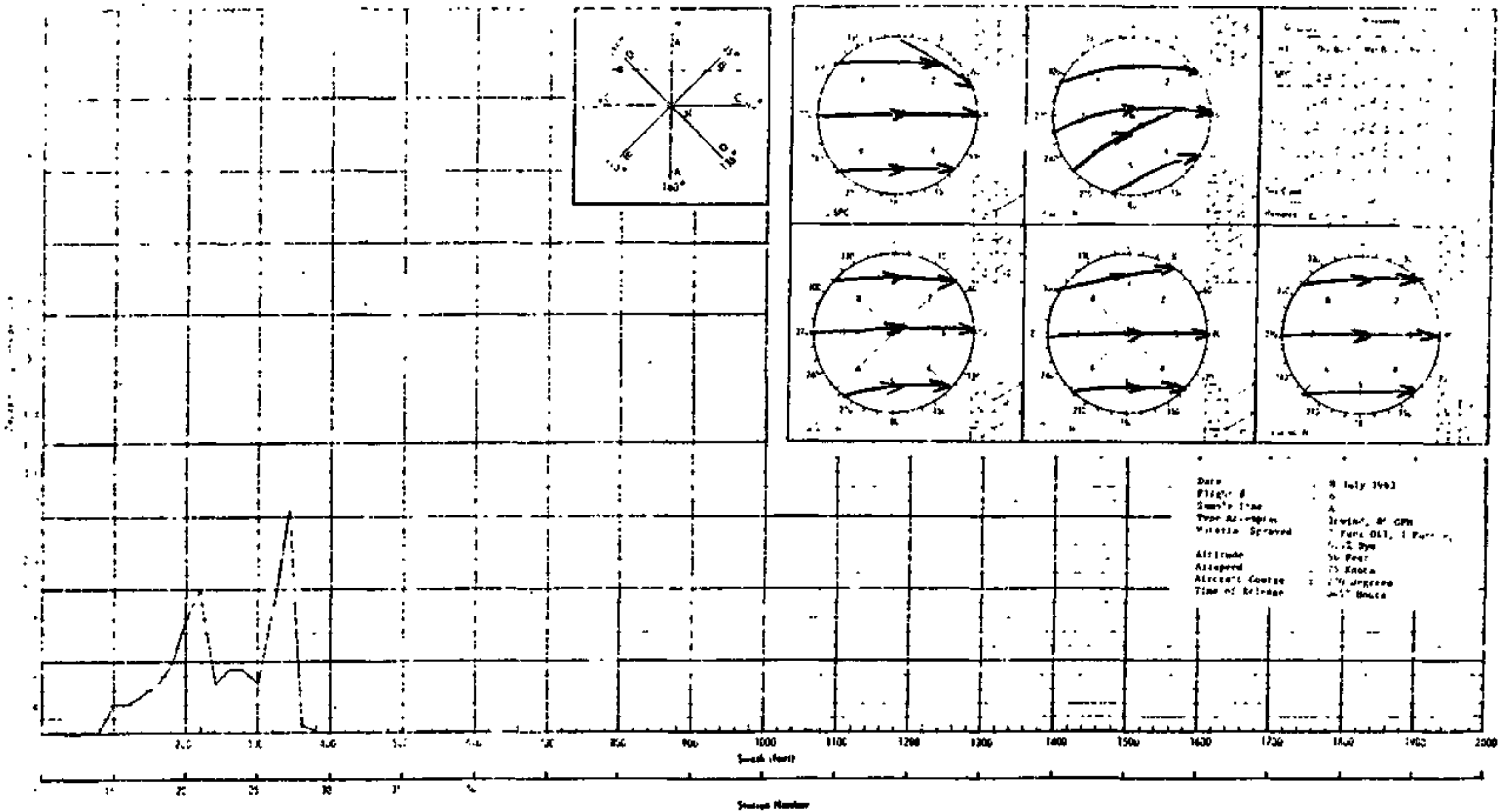
AIRSPEED: 75 Knots

ALTITUDE: 50 Feet

AIRCRAFT COURSE: 270 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 14 Blan'							
15	0.4						
16	0.4						
17	0.5						
18	0.7						
19	1.0						
20	1.6						
21	2.0						
22	0.7						
23	0.9						
24	0.9						
25	0.7						
26	1.9						
27	3.1						
28	0.1						
Stations 29 - 100 Blank							

Total 14.8



Date
Altitude
Aircraft Course
Time of Release
A
75 Knots
1000
1100
1200
1300
1400
1600
1700
2000
Swath (feet)
Station Number

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 8 July 1963

FLIGHT #: 7

SAMPLE LINE: A

TIME OF RELEASE: 0515 Hours

DURATION: 12 Sec.

FLOW RATE: 80 GPM

SYSTEM: HIDAL

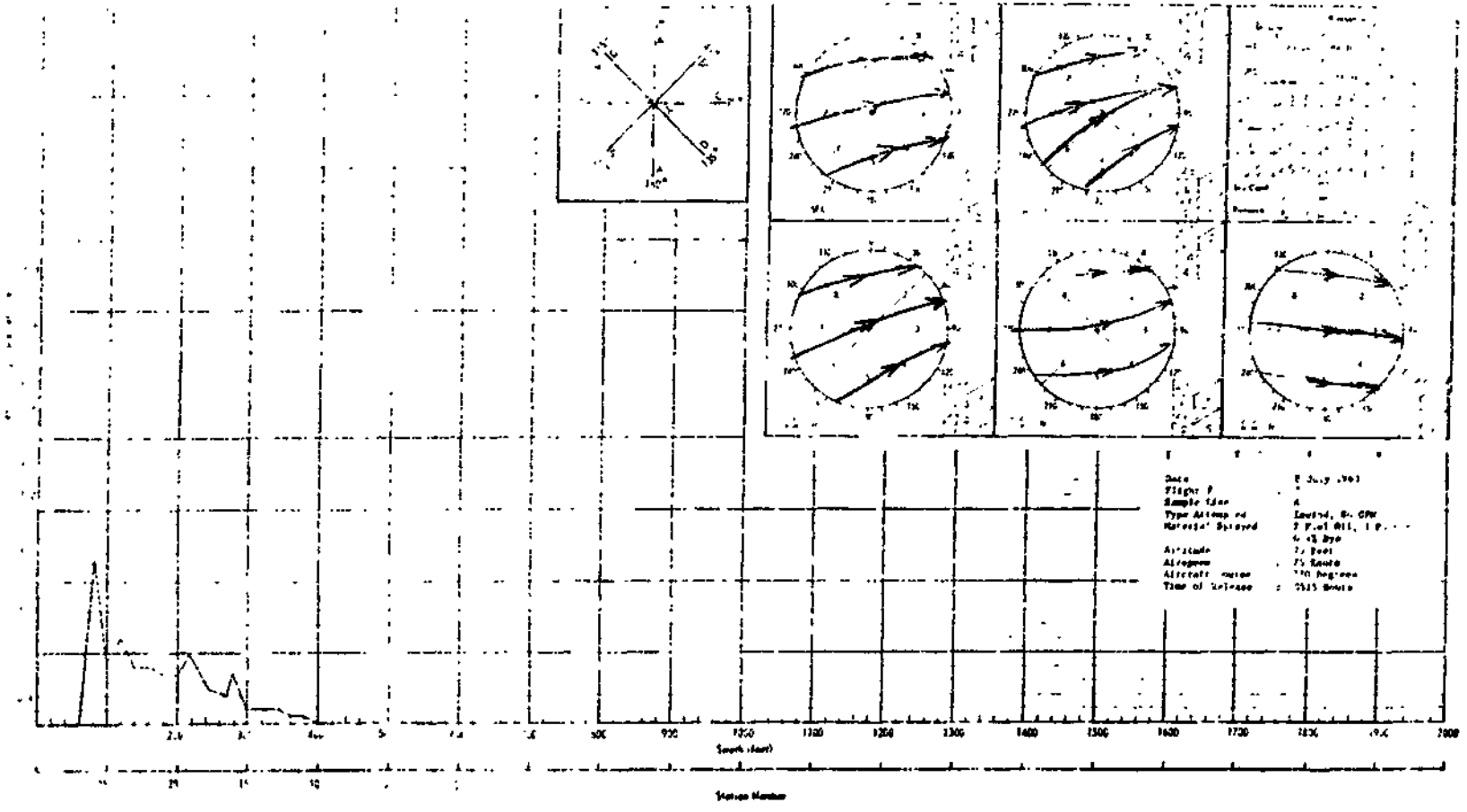
AIRSPEED: 75 Knots

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 - 9 Blank							
10	0.0						
11	0.1						
12	0.1						
13	0.2						
14	0.2						
15	0.2						
16	0.7						
17	0.4						
18	0.5						
19	1.0						
20	0.7						
21	0.7						
22	0.8						
23	0.8						
24	1.2						
25	0.9						
26	2.3						
27	0.0						
Stations 28 - 100 Blank							

Total 10.8



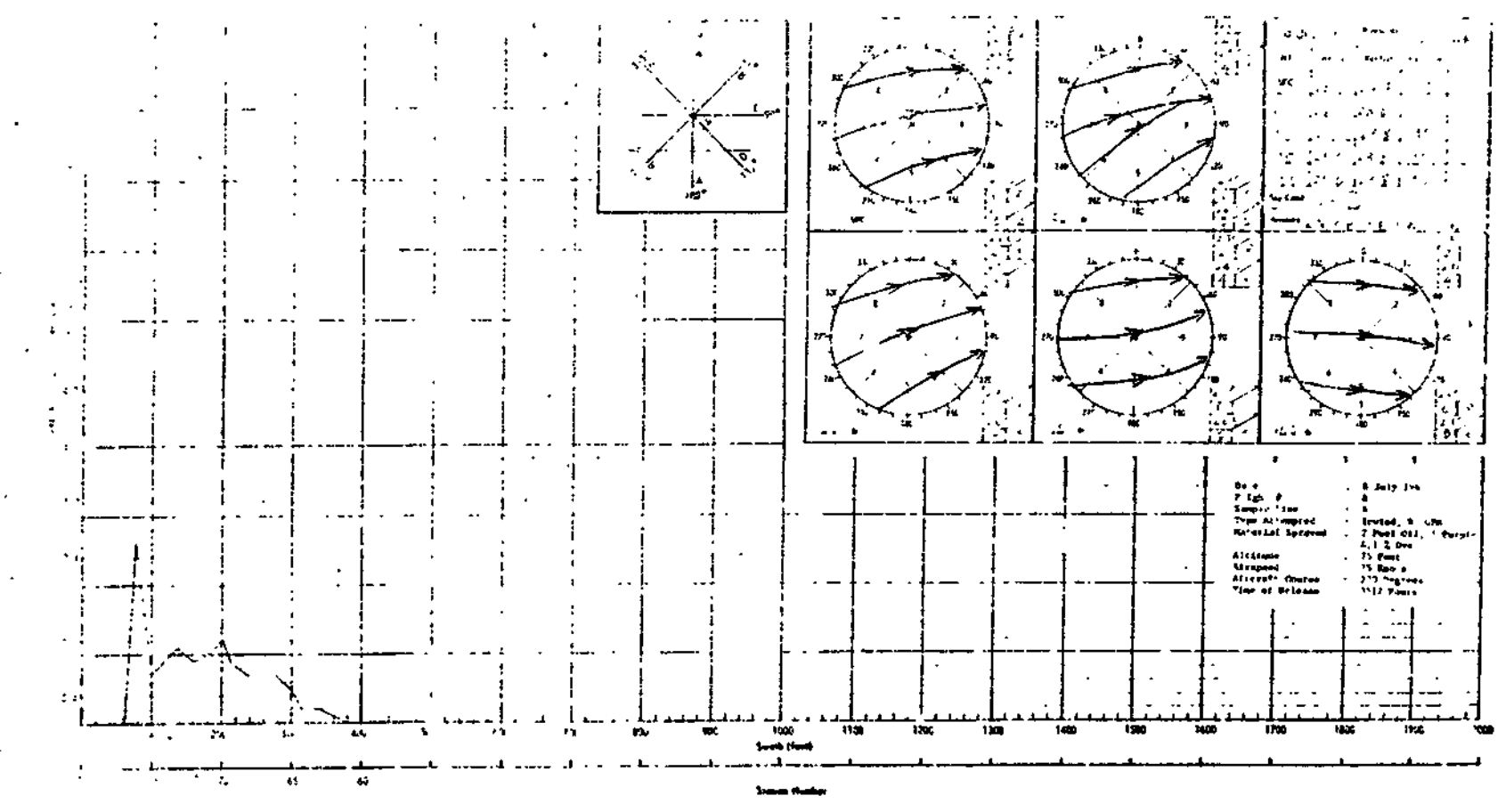
MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple
DATE: 8 July 1963
FLIGHT #: 8
SAMPLE LINE: A
TIME OF RELEASE: 0517 Hours
DURATION: 15 Sec.

FLOW RATE: 80 GPM
SYSTEM: HIDAL
AIRSPEED: 75 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	0.7						
67	Missing						
68	0.7						
69	0.9						
70	1.2						
71	1.0						
72	0.9						
73	1.1						
74	0.9						
75	0.7						
76	2.6						
77	0.0						
Stations 78 - 100 Blank							

Total 11.7



MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 8 July 1963

FLIGHT #: 9

SAMPLE LINE: A

TIME OF RELEASE: 0548 Hour

DURATION: 16 Sec.

FLOW RATE: 80 GPM

SYSTEM: HIDAL

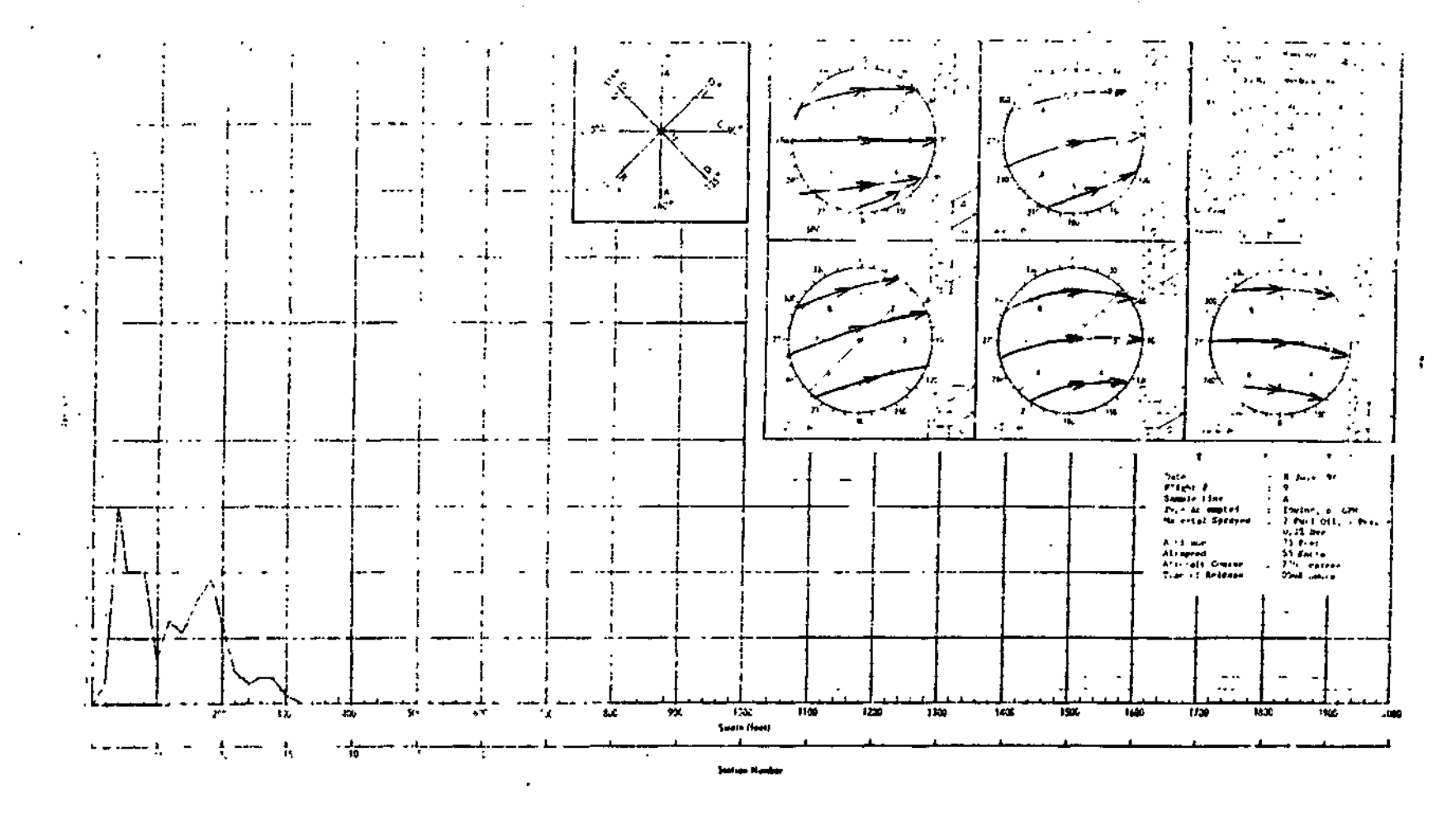
AIRSPEED: 55 Knots

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 - 14 Blank							
15	0.1						
16	0.4						
17	0.4						
18	0.3						
19	0.5						
20	1.2						
21	1.9						
22	1.6						
23	1.1						
24	1.3						
25	0.7						
26	1.6						
27	1.6						
28	3.0						
29	0.3						
Stations 30 - 100 Blank							

Total 16.0



MASS MEDIAN DIAMETER

DATE: 8 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 10 PAPER: Kromekote, white

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

FLOW RATE: 80 GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
77	4	3900*			
76	2	3800			
77	3	3700			
73	1	3600			
77	5	3500	75	1A	100(smallest)
77	6	3400			
79	8	3300			
77	10	3200			
71	9	3100			
75	7	3000			

MMD = $\frac{67.72+0.1420(\text{Spot D Max})}{\text{Con. Factor} = 2.2} = \frac{3900}{6.355 \times 2.2}$ = 282.4 Microns

Max. Sph. Dia. = $67.72+0.1420(3900) = \frac{3900}{6.430}$ = 621.4 Microns

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 8 July 1963

FLIGHT #: 10

SAMPLE LINE: A

TIME OF RELEASE: 0550 Hours

DURATION: 14 Sec.

FLOW RATE: 80 GPM

SYSTEM: HIDAL

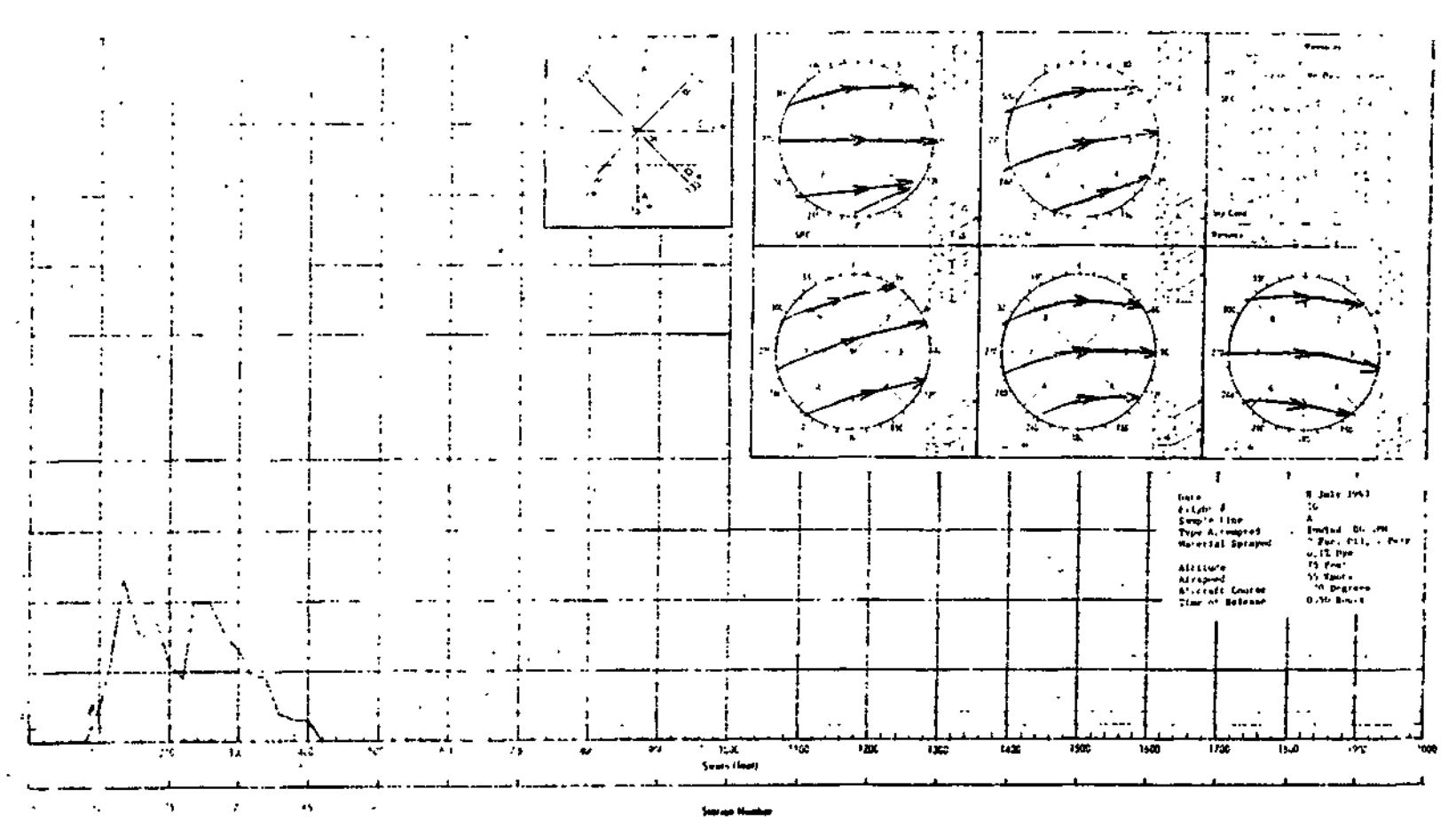
AIRSPEED: 55 Knots

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 - 64 Blank							
65	0.3						
66	0.3						
67	0.4						
68	0.9						
69	0.9						
70	1.3						
71	1.5						
72	2.0						
73	2.0						
74	0.9						
75	1.1						
76	1.7						
77	1.5						
78	2.3						
79	1.2						
80	0.5						
Stations 81 - 100 Blank							

Total 16.8



MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 8 July 1963

FLIGHT #: 11

SAMPLE LINE: A

TIME OF RELEASE: 0606 Hours

DURATION: 19 Sec.

FLOW RATE: 83.0 GPM

SYSTEM: HIDAL

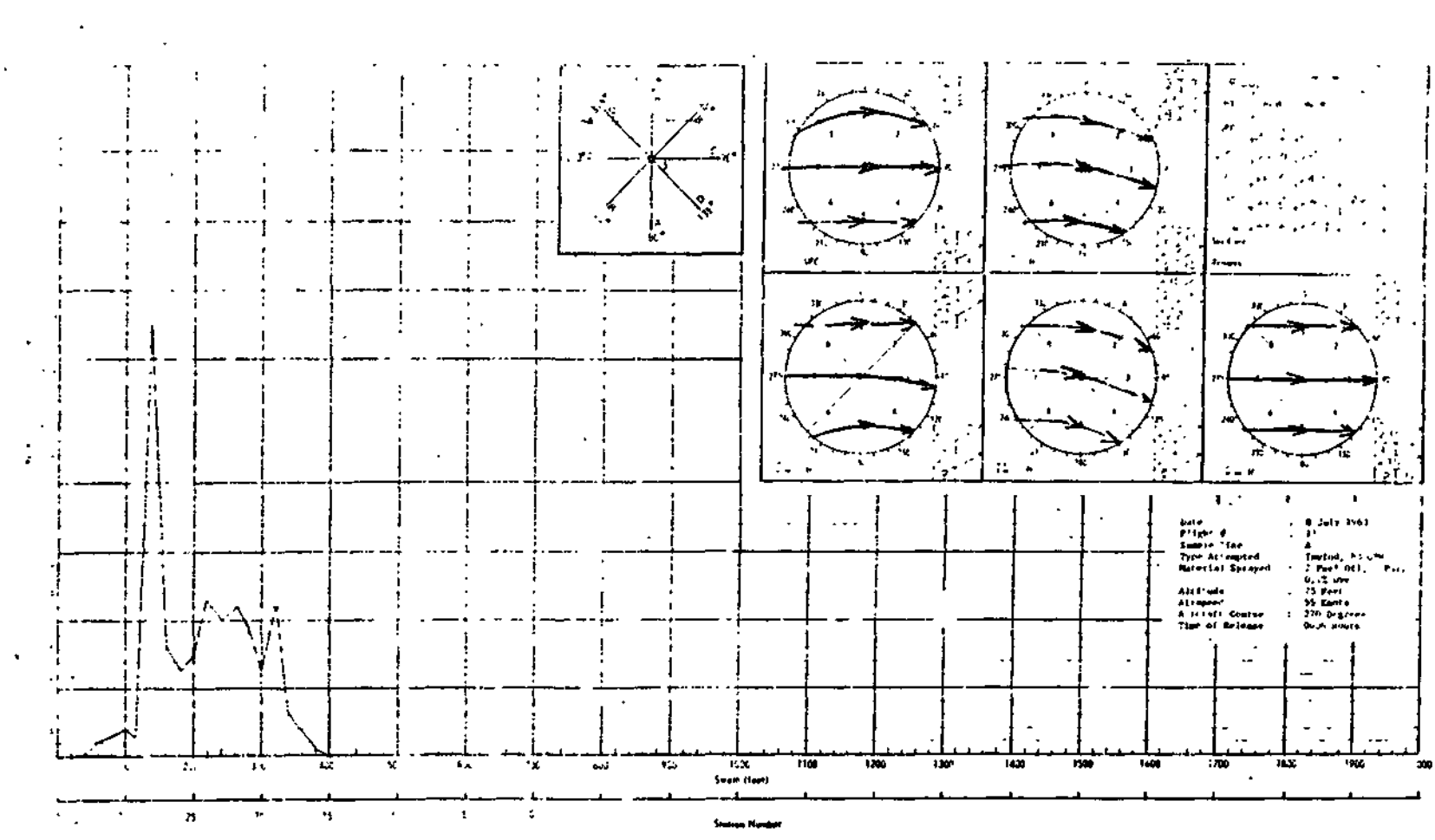
AIRSPEED: 55 Knots

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 - 15 Blank		16	0.1				
		17	0.4				
		18	0.6				
		19	2.2				
		20	1.3				
		21	1.9				
		22	2.2				
		23	2.0				
		24	2.3				
		25	1.5				
		26	1.3				
		27	1.6				
		28	6.3				
		29	0.3				
		30	0.4				
		31	0.3				
		32	0.2				
		Stations 33 - 100 Blank					

Total 24.9


Swath (feet)
Station Number

MASS MEDIAN DIAMETER

DATE: 8 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 12 PAPER: Kromekote, white

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

FLOW RATE: 83 GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
77	2	7000			
73	1	6000*			
73	7	5800			
73	3	5700			
73	4	5600	77	1A	100(smallest)
73	8	5400			
73	6	5300			
73	5	5200			
73	9	5100			
73	10	5000			

MMD = $\frac{67.72+0.1420(\text{Spot D Max})}{\text{Con. Factor} = 2.2} = \frac{6000}{6.355 \times 2.2} = 418.0$ Microns

Max. Sph. Dia. = $67.72+0.1420(7000) = \frac{7000}{6.430} = 1061.7$ Microns

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 8 July 1963

FLIGHT #: 12

SAMPLE LINE: A

TIME OF RELEASE: 0608 Hours

DURATION: 14 Sec.

FLOW RATE: 83.0 GPM

SYSTEM: HIDAL

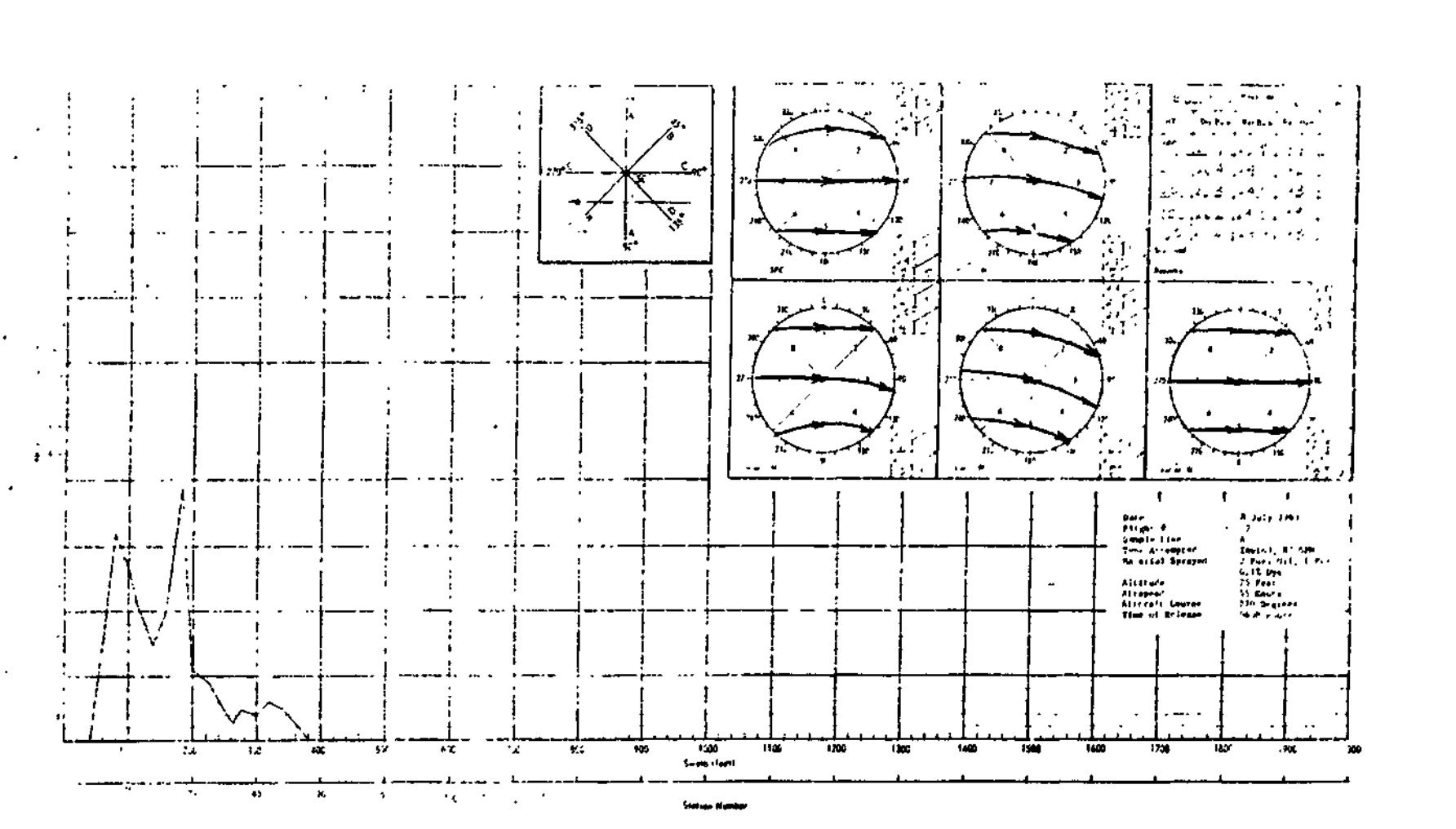
AIRSPEED: 55 Knots

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 - 72 Blank						73	1.5
						74	3.2
						75	2.7
						76	2.1
						77	1.5
						78	2.0
						79	3.9
						80	1.1
						81	0.9
						82	0.6
						83	0.3
						84	0.5
						85	0.4
						86	0.6
						87	0.5
						88	0.3
						Stations 89 - 100 Blank	

Total 22.1



MASS MEDIAN DIAMETER

DATE: 8 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 13 PAPER: Kromekote, white

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

FLOW RATE: 83 GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
79	1	4100*			
76	2	4000			
81	4	3800			
77	5	3700			
76	11	3500	83	1A	100(smallest)
76	6	3400			
76	9	3300			
76	3	3200			
76	7	3100			
81	8	3000			
76	10	2900			

$$MMD = \frac{67.72+0.1420(\text{Spot D Max})}{\text{Con. Factor} = 2.2} = \frac{4100}{6.355 \times 2.2} = 295.3 \text{ Microns}$$

$$\text{Max. Sph. Dia.} = 67.72+0.1420(4100) = \frac{4100}{6.430} = 649.8 \text{ Microns}$$

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 8 July 1963

FLIGHT #: 13

SAMPLE LINE: A

TIME OF RELEASE: 0628 Hours

DURATION: 11 Sec.

FLOW RATE: 83.0 GPM

SYSTEM: HIDAL

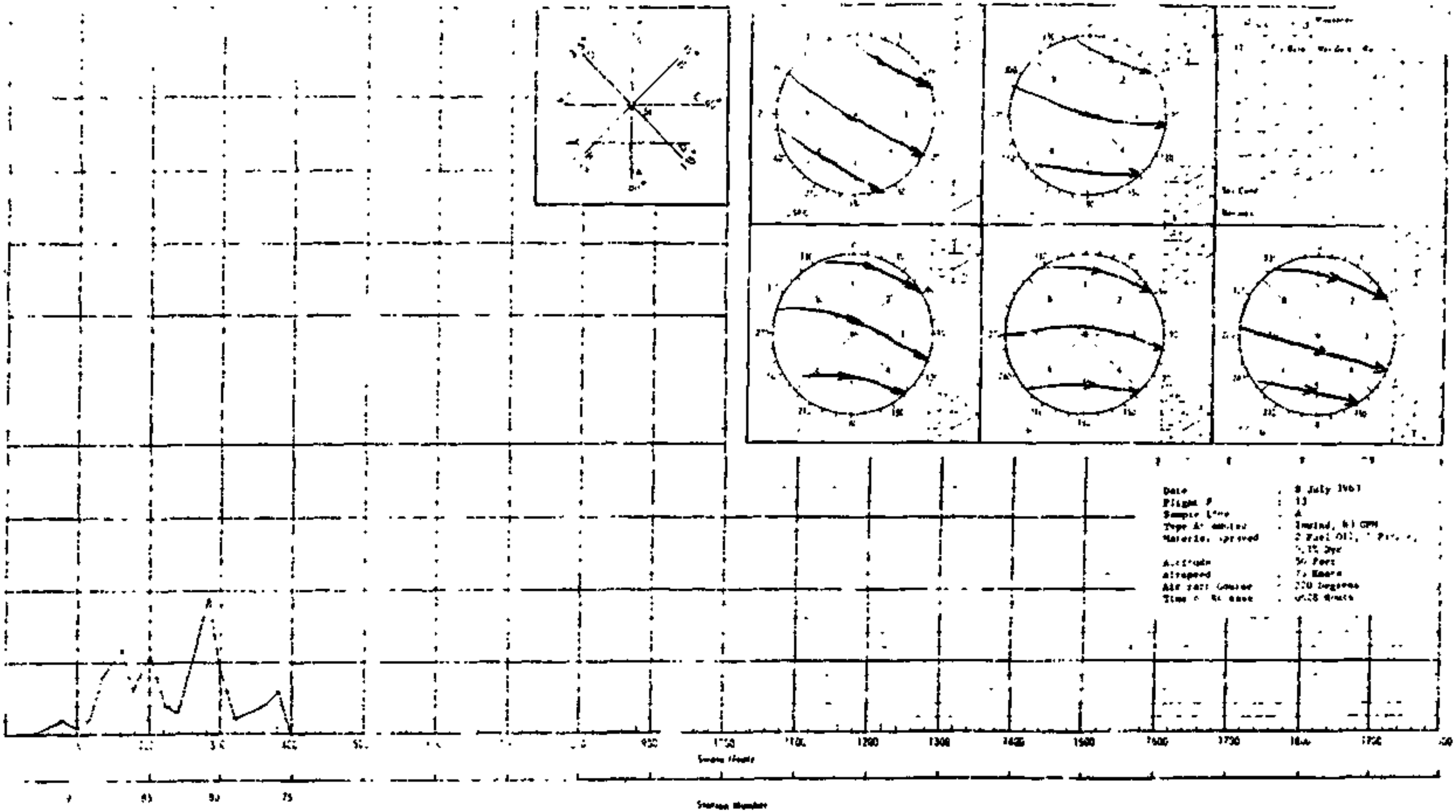
AIRSPEED: 75 Knots

ALTITUDE: 50 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	0.6
						77	0.4
						78	0.3
						79	0.2
						80	0.9
						81	1.9
						82	1.2
						83	0.3
						84	0.4
						85	1.1
						86	0.6
						87	1.2
						88	0.8
						89	0.2
						90	0.1
						91	0.2
						92	0.1
						93	0.0
						Stations 94 - 100 Blank	

Total 10.5



Date
Flight #
13
Sample
A
Degrees
1100
1200
1300
1400
1500
1600
1700
Station Number

MASS DEPOSIT

MATERIAL: 2 Fuel Oil, 1 Purple

DATE: 8 July 1963

FLIGHT #: 14

SAMPLE LINE: A

TIME OF RELEASE: 0629 Hours

DURATION:

FLOW RATE: 83.0 GPM

SYSTEM: HIDAL

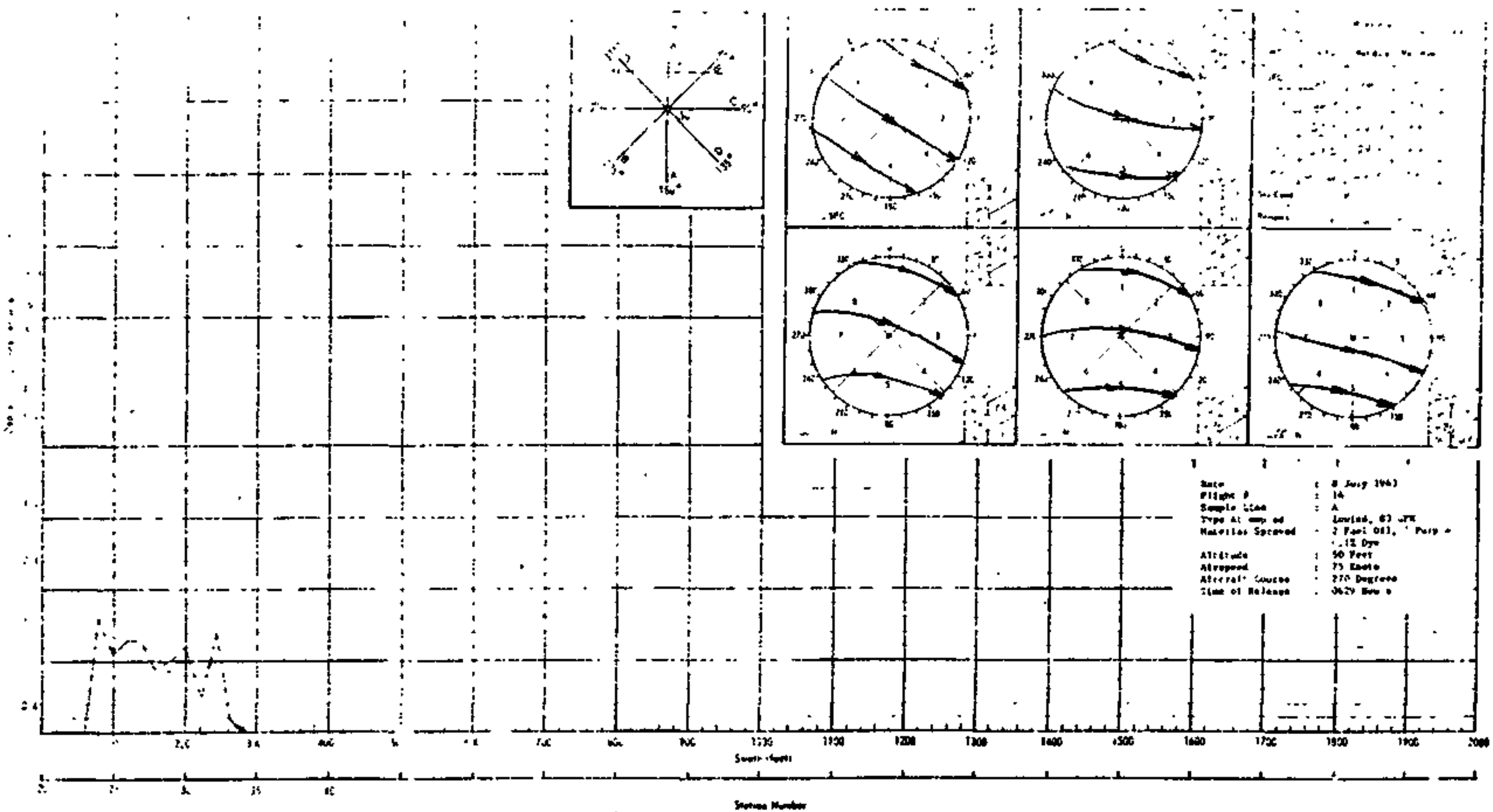
ALTITUDE: 50 Feet

AIRSPEED: 75 Knots

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	0.0				
		24	1.6				
		25	1.1				
		26	1.3				
		27	1.3				
		28	0.9				
		29	1.0				
		30	1.2				
		31	0.5				
		32	1.4				
		33	0.2				
		34	0.0				
		Stations 35 - 100 Blank					

Total 10.5



Flight # : 14
Sample Line : A
Altitude : 50 Feet
Airspeed : 75 Knots
Aircraft Course : 270 Degrees
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
Station Number

H-34/HIDAL GROUND FLOW & FLIGHT DATA

DATE CALIBRATED: 7 July 1963 — DATE TEST FLOWN: 12 July 1963

LIQUID SPRAYED: Purple — TOTAL NOZZLES OPEN: 60

NOZZLE TYPE: 8015 — LIQUID TEMP: 36° C

DURATION OF SPRAY: 30 Sec. — PUMP PRESSURE: 40 PSI

TOTAL AMOUNT SPRAYED: 34.0 Gal. — FLOW RATE CALIBRATED: 68 GPM

OPERATIONAL DATA DURING FLIGHT

Above information is for Runs 1 - 8.

DATE CALIBRATED: 7 July 1963 — DATE TEST FLOWN: 12 July 1963

LIQUID SPRAYED: Purple — TOTAL NOZZLES OPEN: 60

NOZZLE TYPE: Check Valves — LIQUID TEMP: 38.5° C

DURATION OF SPRAY: 30 Sec. — PUMP PRESSURE: 23.5 PSI

TOTAL AMOUNT SPRAYED: 24.5 Gal. — FLOW RATE CALIBRATED: 69 GPM

OPERATIONAL DATA DURING FLIGHT

Above information is for Runs 9 - 14.

MASS MEDIAN DIAMETER

DATE: 12 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 1 PAPER: Kromekote, white

SAMPLE LINE: C MATERIAL: Purple

FLOW RATE: 68 GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
79	2	4400*			
76	6	4300			
76	5	4200			
79	1	4100			
79	3	4000	88	1A	100(smallest)
79	4	3900			
76	8	3800			
77	7	3700			
80	11	3600			
80	9	3500			

$$MMD = \frac{70.44+-.1431(\text{Spot D Max})}{\text{Con. Factor}} = \frac{70.44+0.1431(4400)}{2.2} = 318.2 \text{ Microns}$$

Max. Sph. Dia. = 70.44+0.1431 Max Spot = 70.44+0.1431(4400) = 700.1 Microns

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: Purple

DATE: 12 July 1963

FLIGHT #: 1

SAMPLE LINE: C

TIME OF RELEASE: 0400 Hours

DURATION: 10 Sec.

FLOW RATE: 68 GPM

SYSTEM: HIDAL

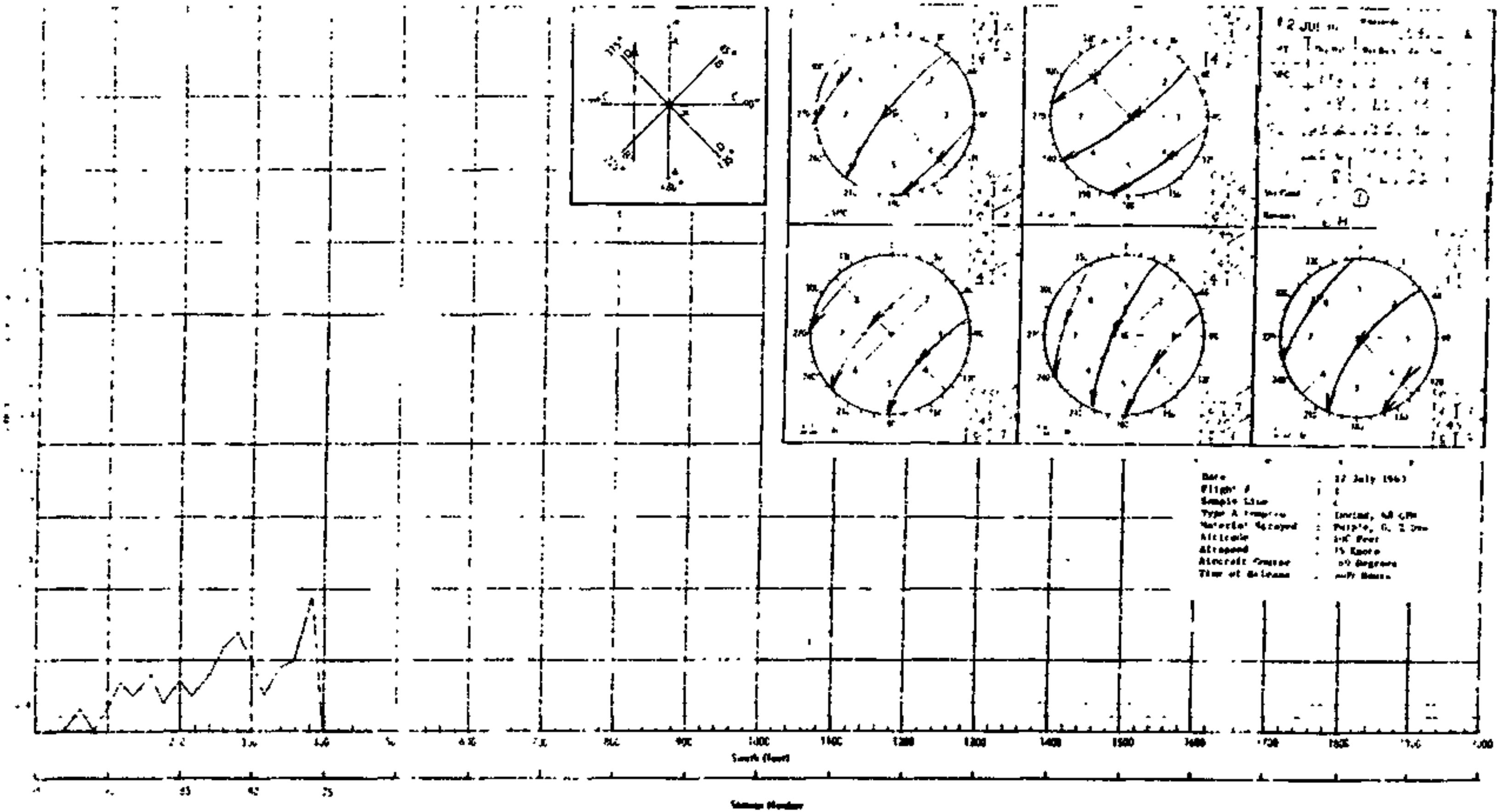
AIRSPEED: 75 Knots

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 - 75 Blank						76	1.0
						77	1.0
						78	0.9
						79	0.5
						80	1.0
						81	1.4
						82	1.2
						83	0.8
						84	0.5
						85	0.7
						86	0.4
						87	0.8
						88	0.5
						89	0.7
						90	0.3
						91	0.0
						92	0.3
						93	0.0
						Stations 94 - 100 Blank	

Total 12.9



Date
Flight #
Sample Line
Material Sprayed
Altitude
Airspeed
Aircraft Course
Time of Release
Station Number

MASS DEPOSIT

MATERIAL: Purple

FLOW RATE: 68 GPM

DATE: 12 July 1963

SYSTEM: HIDAL

FLIGHT #: 2

AIRSPEED: 75 Knots

SAMPLE LINE: C

ALTITUDE: 100 Feet

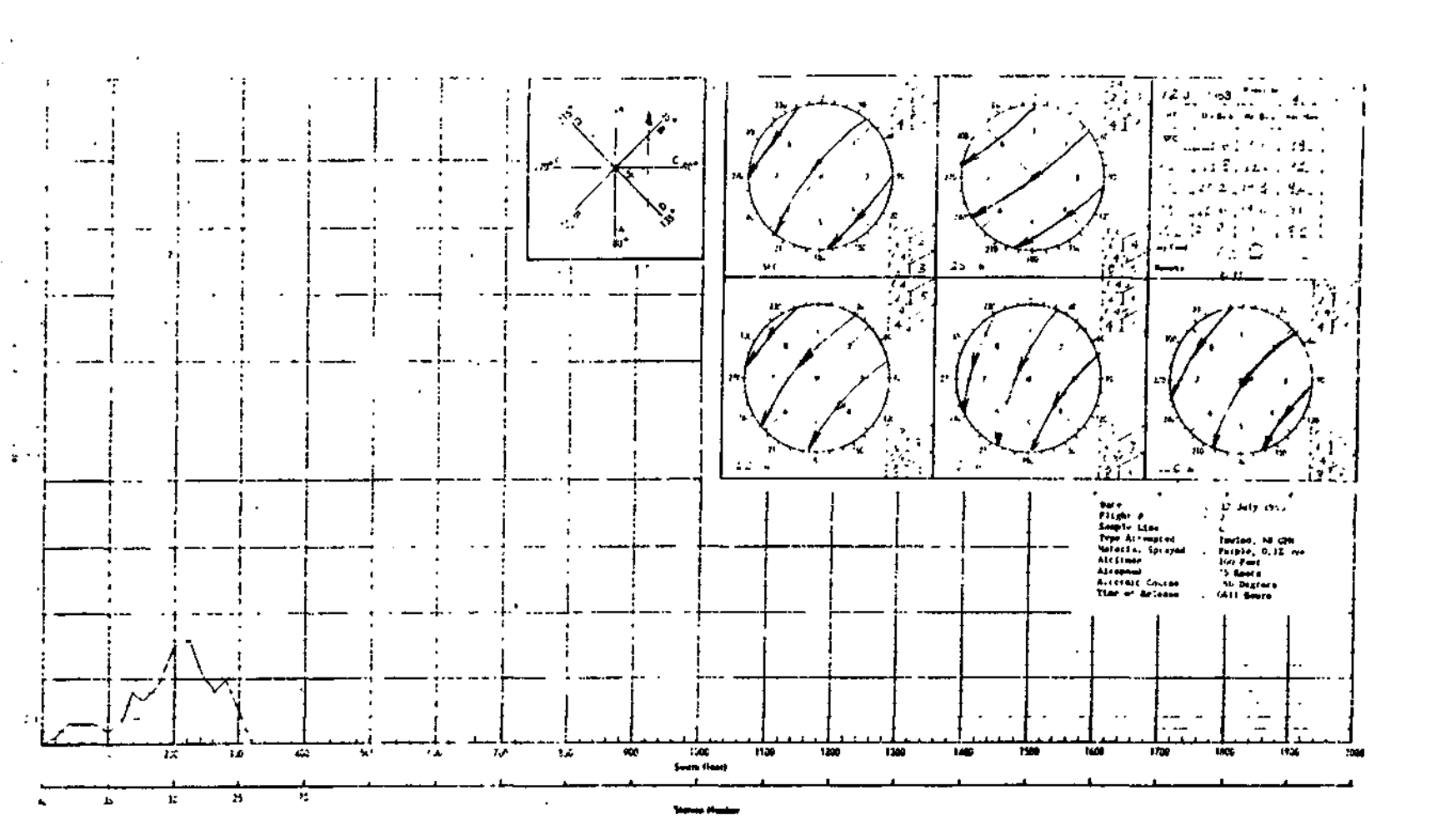
TIME OF RELEASE: 0411 Hours

AIRCRAFT COURSE: 360 Degree

DURATION: 10 Sec.

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 24 Blank		25	0.5				
		26	1.0				
		27	0.8				
		28	1.1				
		29	1.6				
		30	1.5				
		31	0.9				
		32	0.7				
		33	0.8				
		34	0.3				
		35	0.2				
		36	0.3				
		37	0.3				
		38	0.3				
		39	0.1				
		40	0.0				
		Stations 41 - 100 Blank					

Total 10.4

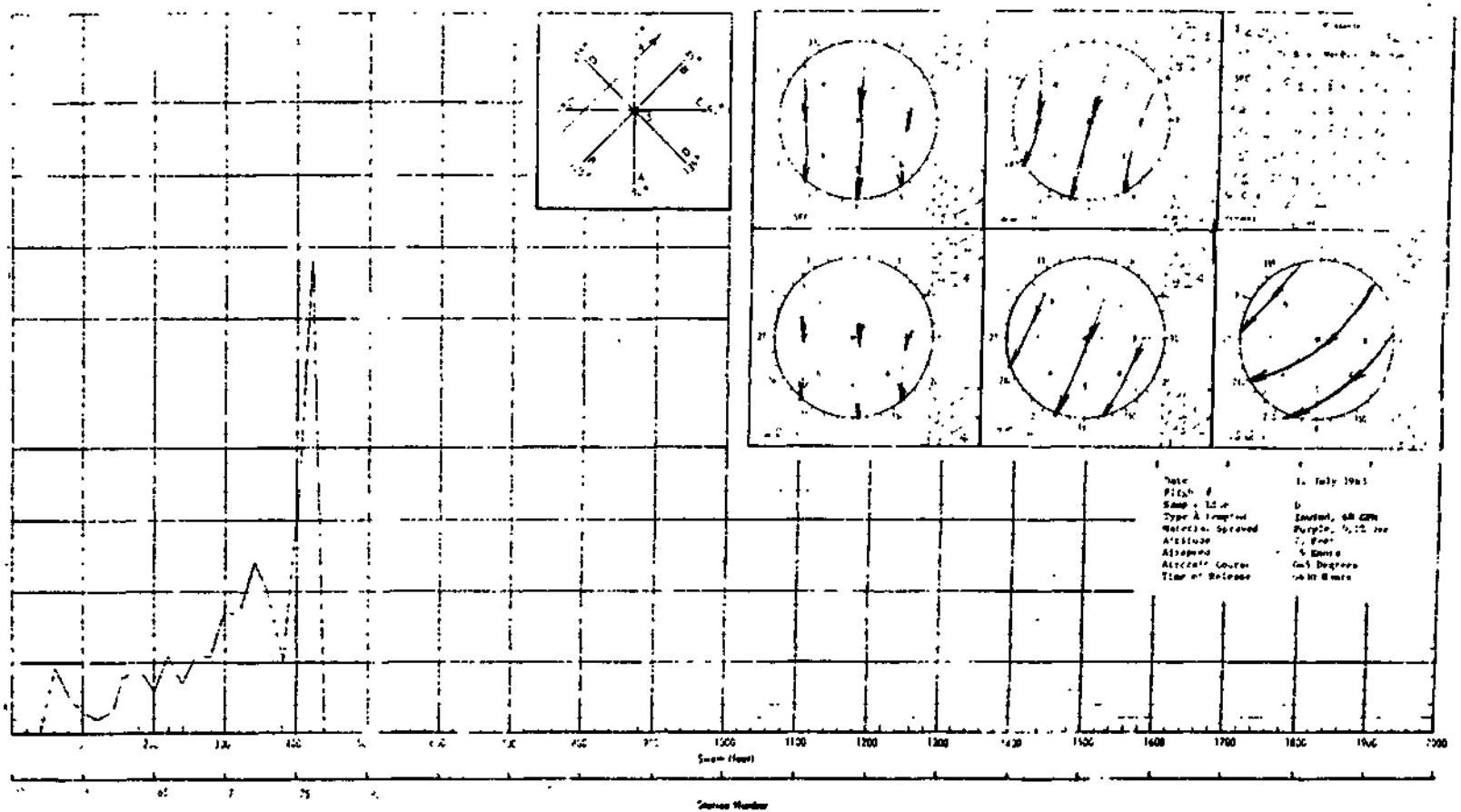


MASS DEPOSIT

MATERIAL: Purple
FLOW RATE: 68 GPM
DATE: 12 July 1963
SYSTEM: HIDAL
FLIGHT #: 3
AIRSPEED: 75 Knots
SAMPLE LINE: D
ALTITUDE: 75 Feet
TIME OF RELEASE: 0430 Hours
AIRCRAFT COURSE: 045 Degrees
DURATION: 13 Sec.

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 57 Blank							
58	0.9						
59	0.5						
60	0.3						
61	0.2						
62	0.3						
63	0.8						
64	0.9						
65	0.6						
66	1.1						
67	0.7						
68	1.1						
69	1.1						
70	1.7						
71	1.7						
72	2.4						
73	2.0						
74	1.0						
75	3.0						
76	6.6						
Stations 77 - 100 Blank							

Total 26.9



MASS DEPOSIT

MATERIAL: Purple

DATE: 12 July 1963

FLIGHT #: 4

SAMPLE LINE: D

TIME OF RELEASE: 0432 Hours

DURATION: 11 Sec.

FLOW RATE: 68 GPM

SYSTEM: HIDAL

AIRSPEED: 75 Knots

ALTITUDE: 75 Feet

AIRCRAFT COURSE: 045 Degrees

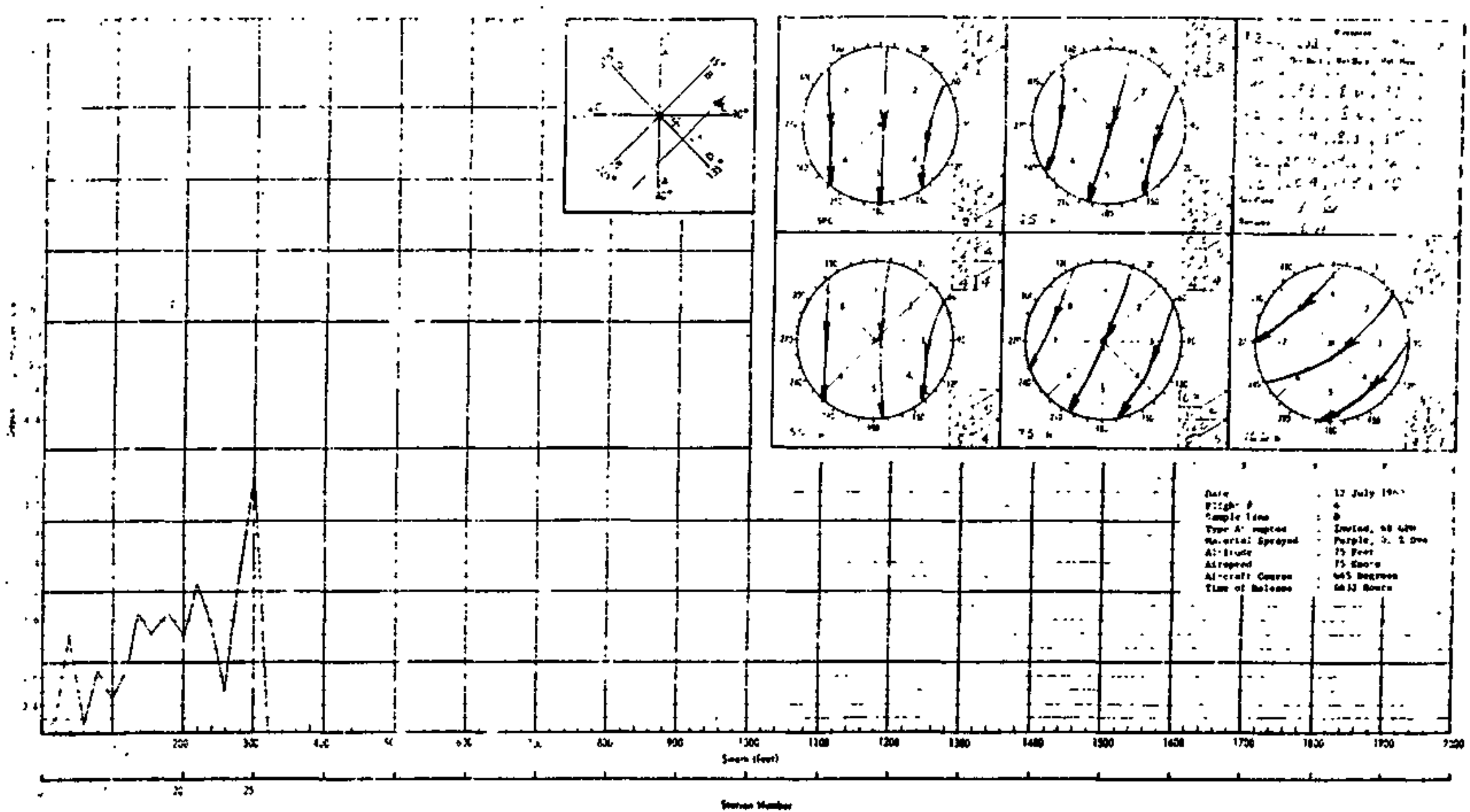
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.

Stations 1 - 10 Blank

10	0.2
12	1.4
13	0.1
14	0.9
15	0.5
16	0.9
17	1.7
18	1.4
19	1.7
20	1.4
21	2.1
22	1.5
23	0.6
24	2.1
25	3.6

Stations 26 - 100 Blank

Total 20.1


Date
Flight #
Sample Line
Material Sprayed
Altitude
Airspeed
Aircraft Course
Time of Release
July
4
Purple
Feet
Degrees
Hours
200
300
900
1100
1200
1300
1400
1500
1600
1700
1800
1900
Swath (feet)
20
25
Station Number

MASS MEDIAN DIAMETER

DATE: 12 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 5 PAPER: Kromekote, white

SAMPLE LINE: C MATERIAL: Purple

FLOW RATE: 68 GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
74	1	6400			
74	2	6100			
73	4	6000			
73	3	5900			
76	6	5300*			
74	5	5200			
73	10	5000	67	1A	100 (smallest)
71	9	4900			
74	7	4800			
74	8	4100			
73	11	4600			
74	12	4500			
76	13	4400			

$$MMD = \frac{70.44+0.1431 \text{ Spot D Max}}{\text{Con. Factor}} = \frac{70.44+0.1431(5300)}{2.2} = 378.6 \text{ Microns}$$

Max. Sph. Dia. = 70.44+0.1431 Max Spot = 70.44+0.1431(6400) = 986.3 Microns

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

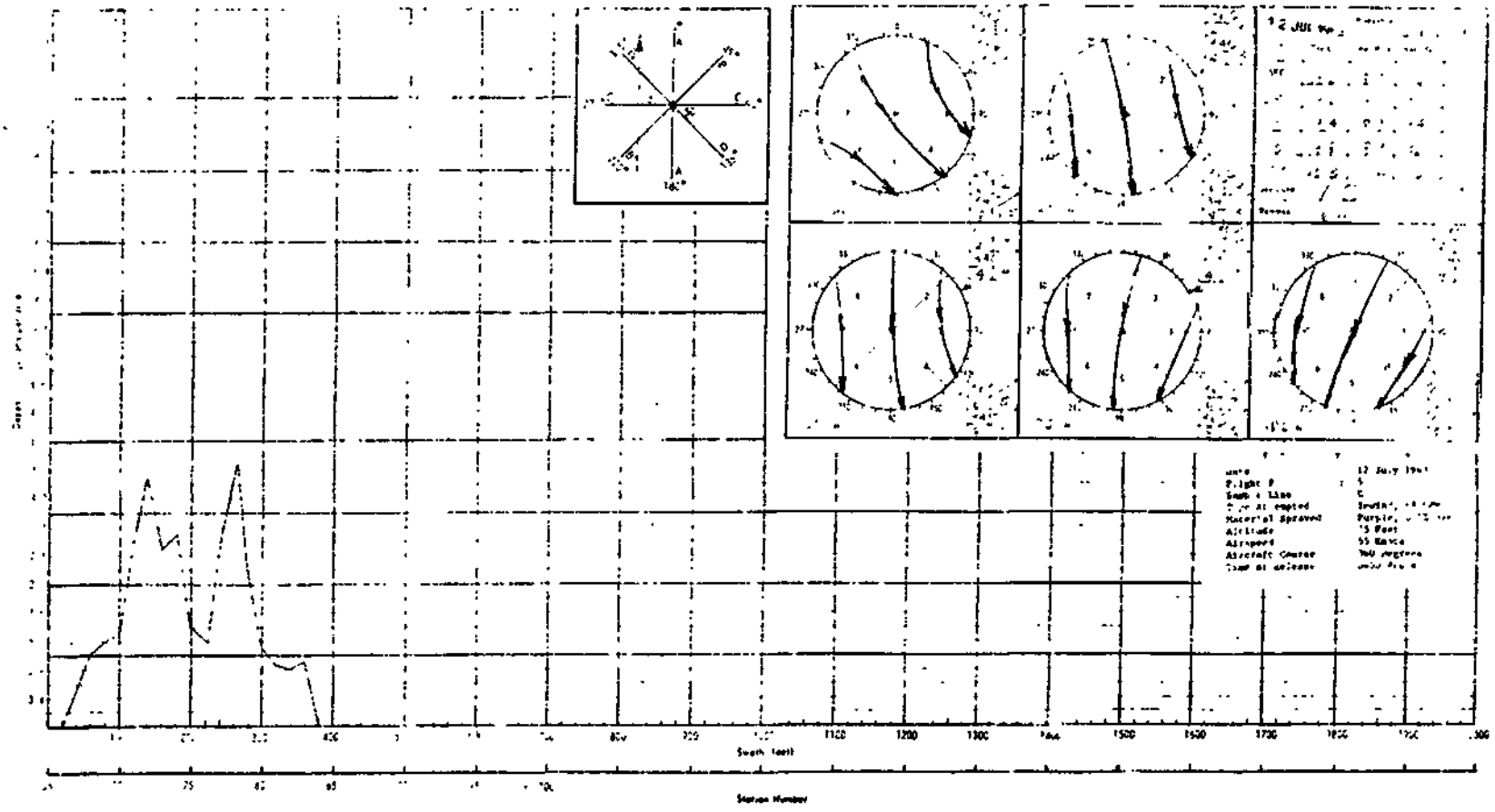
MATERIAL: Purple
DATE: 12 July 1963
FLIGHT #: 5
SAMPLE LINE: C
TIME OF RELEASE: 0452 Hours
DURATION: 16 Sec.

FLOW RATE: 68 GPM
SYSTEM: HIDAL
AIRSPEED: 55 Knots
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 - 66 Blank				67	0.5		
				68	1.0		
				69	1.2		
				70	1.3		
				71	2.7		
				72	3.5		
				73	2.5		
				74	2.7		
				75	1.4		
				76	1.2		
				77	2.7		
				78	3.7		
				79	2.2		
				80	1.1		
				81	0.9		
				82	0.8		
				83	0.9		
				Stations 84 - 100 Blank			

% Recovery - 113.9

Total 31.3



MASS DEPOSIT

MATERIAL: Purple

DATE: 12 July 1963

FLIGHT #: 6

SAMPLE LINE: C

TIME OF RELEASE: 0452 Hours

DURATION: 15 Sec.

FLOW RATE: 68 GPM

SYSTEM: HIDAL

AIRSPEED: 55 Knots

ALTITUDE: 75 Feet

AIRCRAFT COURSE: 360 Degrees

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

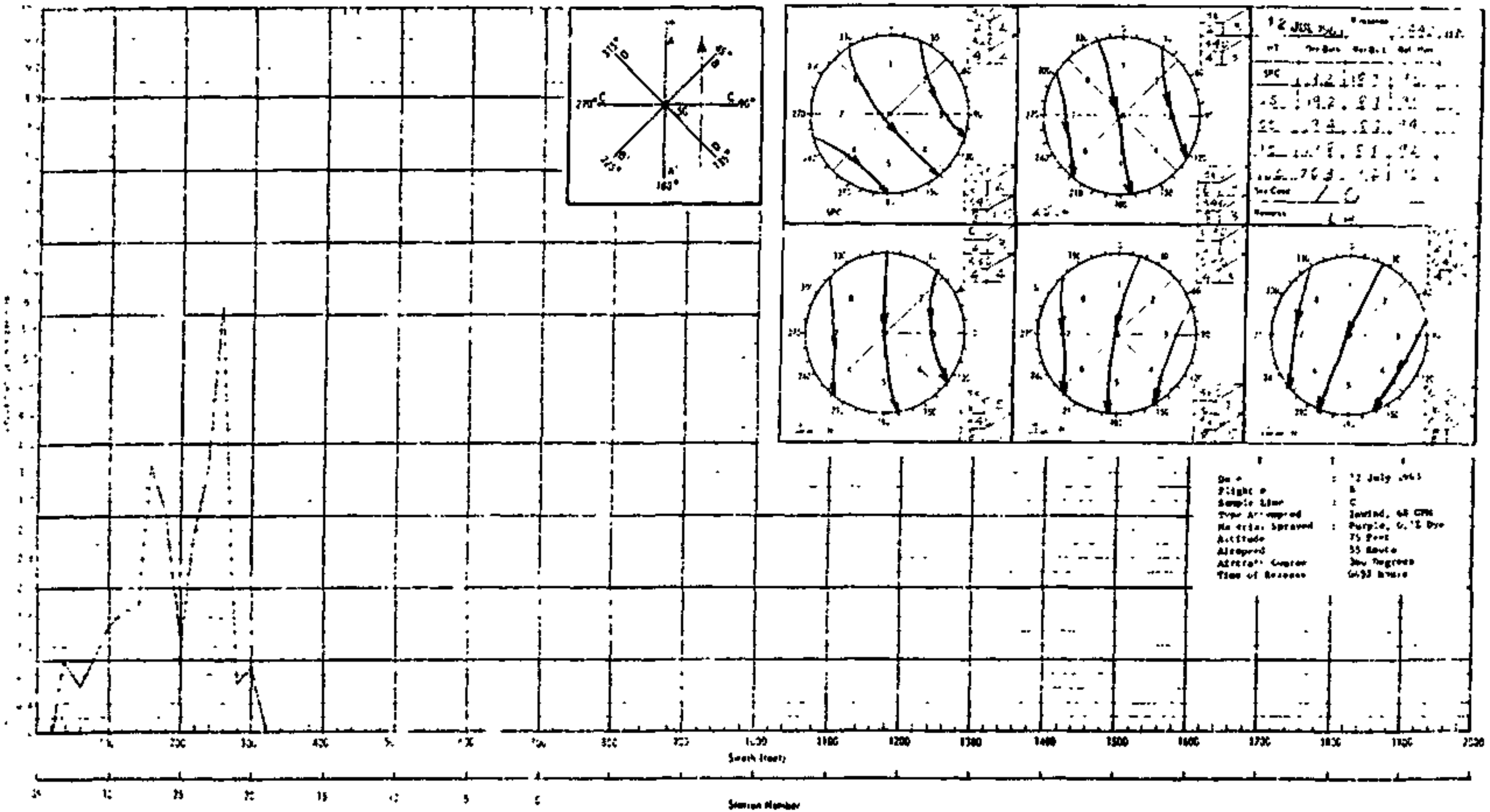
Stations 1 - 19 Blank

20	0.9
21	0.7
22	5.9
23	3.7
24	2.8
25	1.3
26	3.0
27	3.7
28	1.7
29	1.7
30	1.5
31	1.0
32	0.7
33	1.0

Stations 34 - 100 Blank

% Recovery - 112.2

Total 29.6


Swath (feet)
Station Number
270°
90°
180°
Flight
Sample Line
Material Sprayed
Altitude
Airspeed
Aircraft Course
Time of Release
12 July
C
75 Feet
Degrees

MASS DEPOSIT

MATERIAL: Purple

DATE 12 July 1963

FLIGHT #: 7

SAMPLE LINE: C

TIME OF RELEASE: 0510 Hours

DURATION: 12 Sec.

FLOW RATE: 68 GPM

SYSTEM: HIDAL

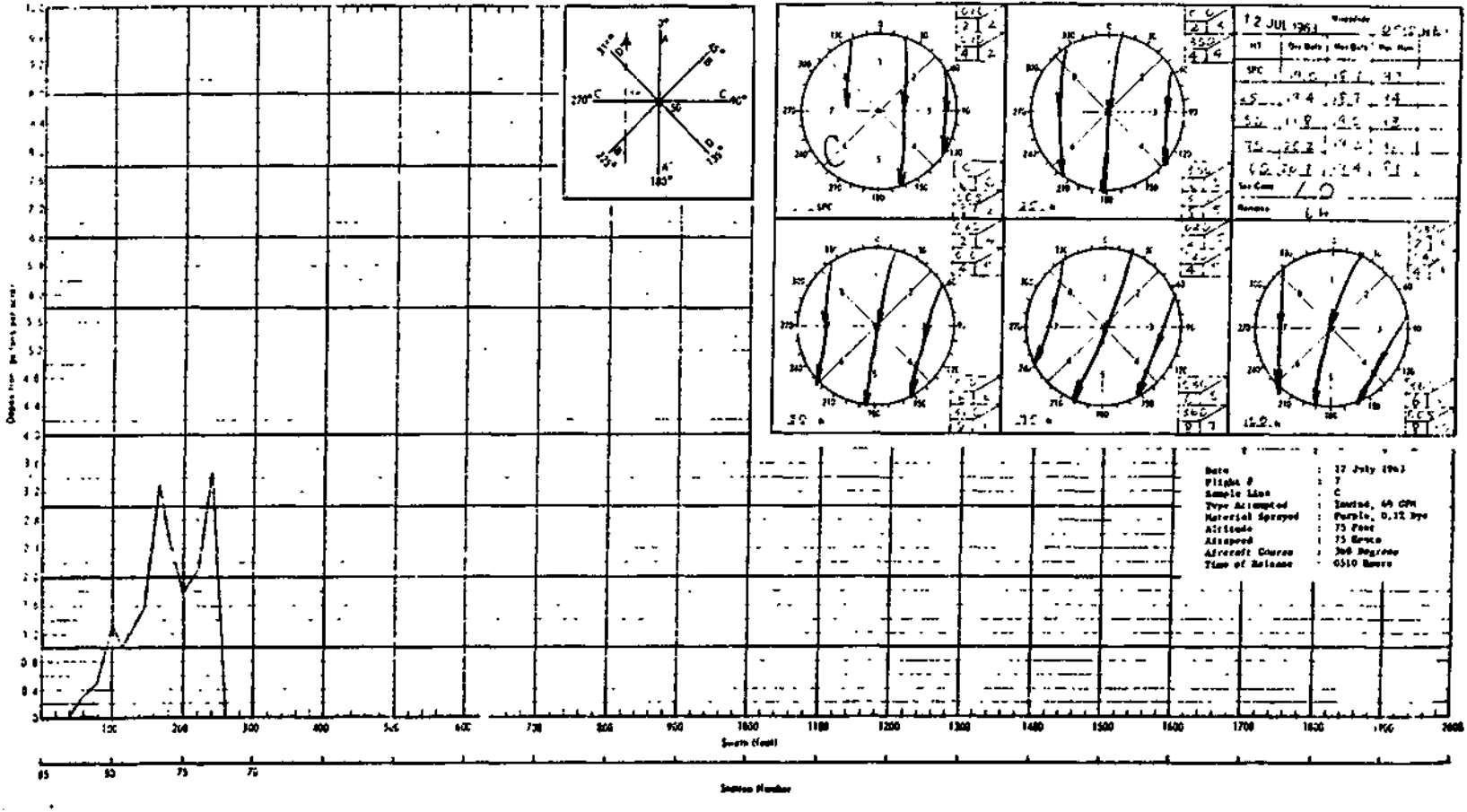
AIRSPEED: 75 Knots

ALTITUDE: 75 Feet

AIRCRAFT COURSE: 360 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
						73	3.5
						72	2.1
						75	1.8
						76	2.5
						77	3.3
						78	1.6
						79	1.0
						80	1.3
						81	0.5
						82	0.3
						Stations 83 - 100	Blank

Total 17.9


Date : 12 July 1963
Flight # : 7
Sample Line : C
Type Attempted : Inverted, 40 GPM
Material Sprayed : Purple, 0.12 Dye
Altitude : 75 Feet
Airspeed : 75 Knots
Aircraft Course : 300 Degrees
Time of Release : 0510 Hours
Swath (feet)
Station Number

MASS MEDIAN DIAMETER

DATE: 12 July 1963

CONVERSION FACTOR: 2.2

FLIGHT #: 8

PAPER: Kromekote, white

SAMPLE LINE: C

MATERIAL: Purple

FLOW RATE: 68 GPM

SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
28	2	4700			
28	1	4300*			
27	7	4200			
27	6	4100			
28	3	4000	29	1A	100(smallest)
28	4	3900			
28	8	3700			
28	5	3600			
28	9	3400			
28	10	3300			

$$MMD = \frac{70.44+0.1431(\text{Max Spot})}{\text{Con. Factor}} = \frac{70.44+0.1431(4300)}{2.2} = 311.7 \text{ Microns}$$

Max. Sph. Dia. = 70.44+0.1431(Max Spot) = 70.44+0.1431(4700) = 743.0 Microns

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: Purple

DATE: 12 July 1963

FLIGHT #: 8

SAMPLE LINE: C

TIME OF RELEASE: 0512 Hours

DURATION: 10 Sec.

FLOW RATE: 68 GPM

SYSTEM: RIDAL

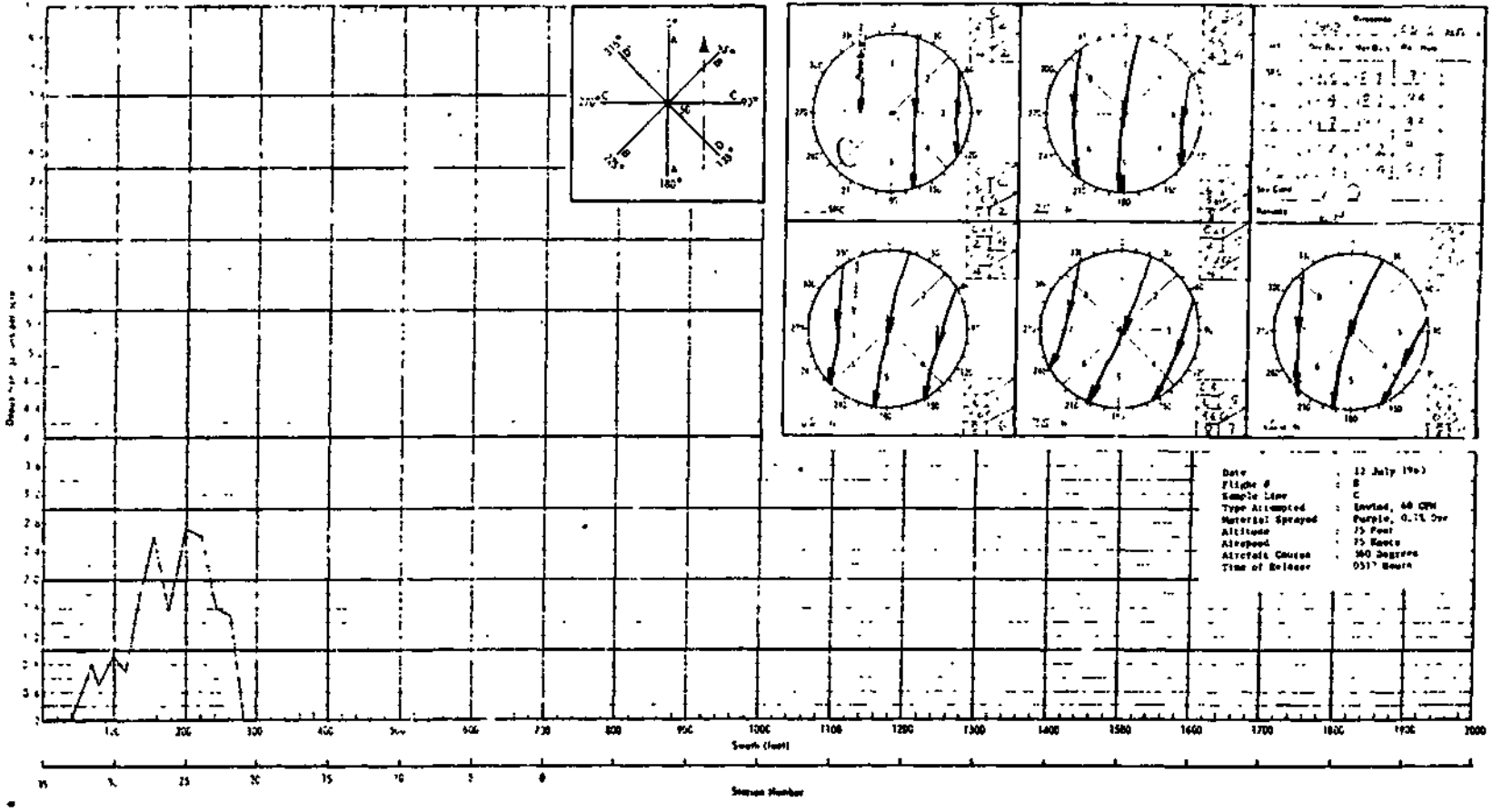
AIRSPEED: 75 Knots

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 - 21 Blank		22	1.5				
		23	1.6				
		24	2.6				
		25	2.7				
		26	1.6				
		27	2.6				
		28	1.9				
		29	0.7				
		30	0.9				
		31	0.5				
		32	0.8				
		Stations 33 - 100 Blank					

Total 17.4


Date : 12 July 19--
Flight # : 8
Sample Line : C
Type Attempted : Emitted, 60 GPM
Material Sprayed : Purple, 0.1% Dye
Altitude : 75 Feet
Airspeed : 75 Knots
Aircraft Course : 360 Degrees
Time of Release : 0517 Hours
South (feet)
Station Number

MASS DEPOSIT

MATERIAL Purple

DATE 12 July 1963

FLIGHT #: 9

SAMPLE LINE: C

TIME OF RELEASE: 0531 Hours

DURATION: 10 Sec.

FLOW RATE: 69 GPM

SYSTEM: HIDAL

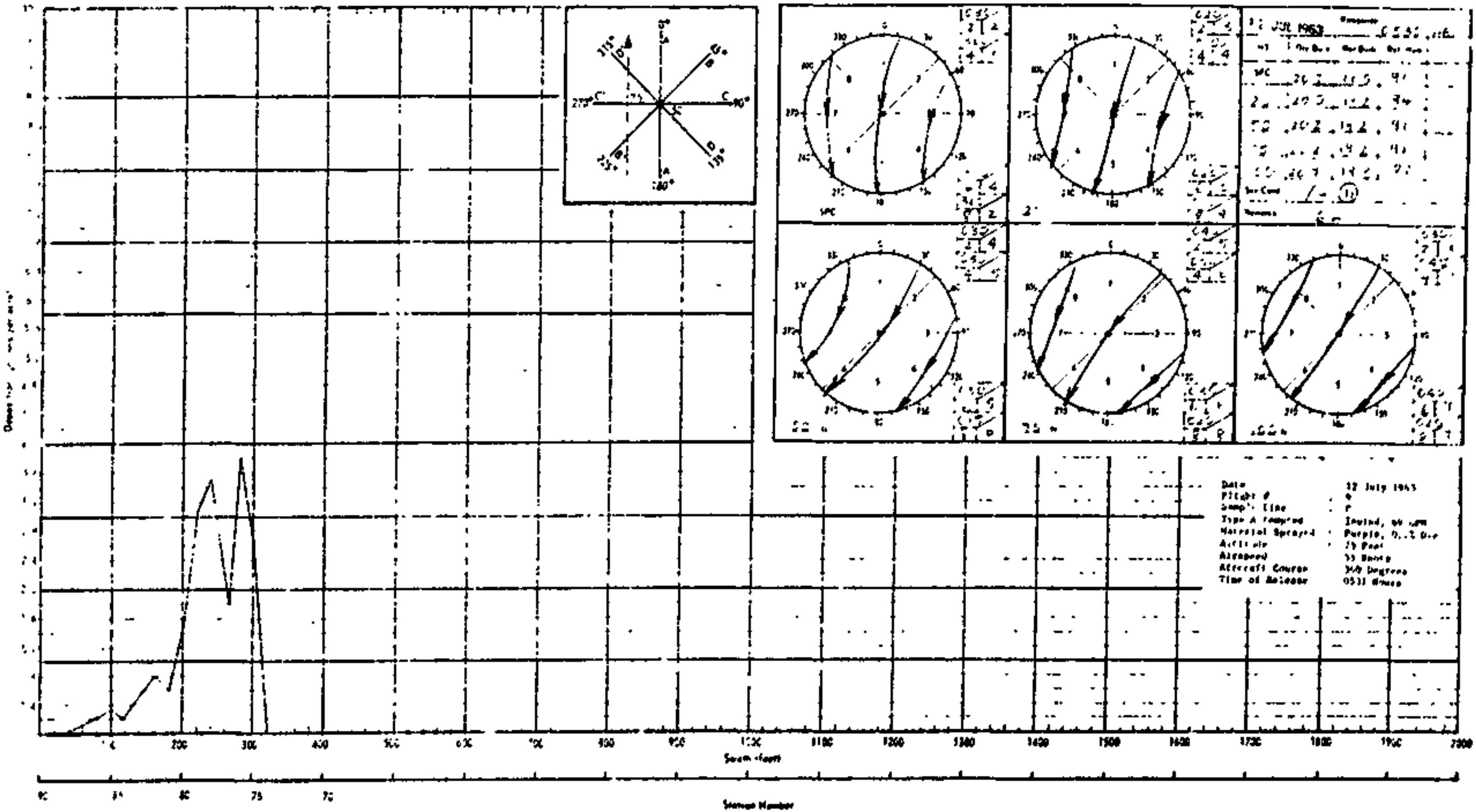
AIRSPEED: 55 Knots

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	0.0
						75	2.7
						76	3.8
						77	1.5
						78	3.5
						79	3.1
						80	1.4
						81	0.6
						82	0.8
						83	0.5
						84	0.2
						85	0.3
						86	0.2
						87	0.1
						Stations 88 - 100 Blank	

Total 19.0


0°
90°
180°
270°
45°
135°
225°
315°
SPC
Date
Type A Sampled
Material Sprayed
Aircraft Course
Time of Release
Station Number

MASS DEPOSIT

MATERIAL Purple

DATE: 17 July 1963

FLIGHT #: 10

SAMPLE LINE: C

TIME OF RELEASE: 0533 Hours

DURATION: 13 Sec.

FLOW RATE: 69 GPM

SYSTEM: HIDAL

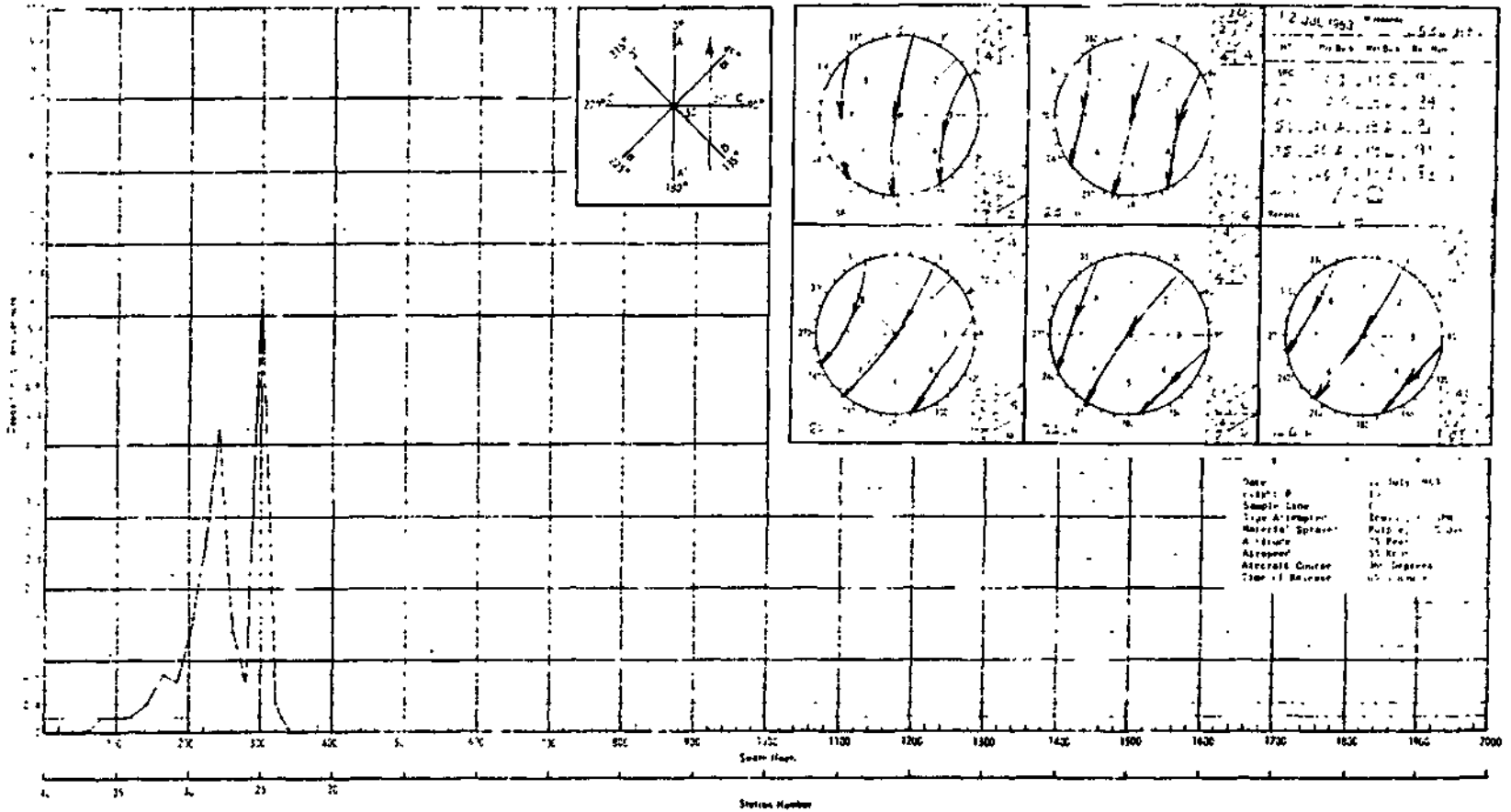
AIRSPEED: 55 Knots

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 - 22 Blank		23	0.0				
		24	0.4				
		25	5.9				
		26	0.7				
		27	1.4				
		28	4.2				
		29	2.6				
		30	1.3				
		31	0.7				
		32	0.8				
		33	0.4				
		34	0.2				
		35	0.2				
		36	0.2				
		37	0.0				
		Stations 38 - 100 Blank					

Total 19.0



MASS MEDIAN DIAMETER

DATE: 12 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 11 PAPER: Kromekote, white

SAMPLE LINE: A MATERIAL: Purple

FLOW RATE: 69 GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
30	2	7400			
26	1	7300			
26	3	6400*			
26	8	6300			
29	4	6200	35	1A	100(smallest)
26	5	6100			
26	6	6000			
30	10	5900			
26	7	5700			
30	9	5600			
26	11	5500			

$$MMD = \frac{70.44+0.1431(\text{Spot D Max})}{\text{Con. Factor}} = \frac{70.44+0.1431(6400)}{2.2} = 448.3 \text{ Microns}$$

Max. Sph. Dia. = 70.44+0.1431(Max Spot) = 70.44+0.1431(7400) = 1129.4 Microns

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: Purple

DATE: 12 July 1963

FLIGHT #: 11

SAMPLE LINE: A

TIME OF RELEASE: 629 Hours

DURATION: 1[illegible] Sec.

FLOW RATE: 60 [illegible]

SYSTEM: [illegible]

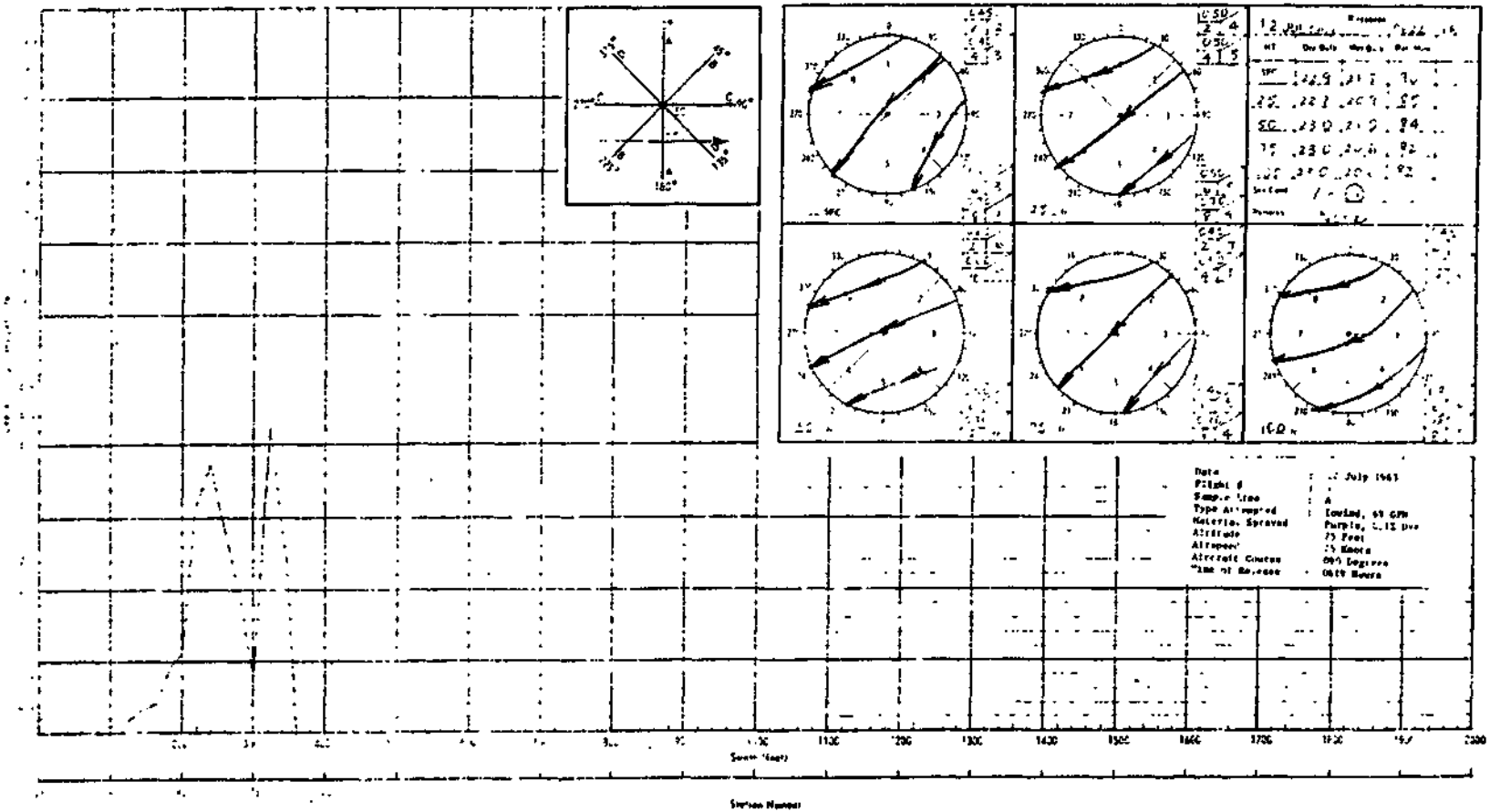
AIRSPEED: 75 Knots

ALTITUDE: 75 Feet

AIRCRAFT COURSE: [illegible] Degrees

STATION	P.A.	STATION	P.A.	STATION	P.A.	STATION	P.A.
Stations 1 - 71 Blank						73	2.3
						74	4.2
						75	5.9
						76	2.3
						77	2.8
						78	3.7
						79	3.1
						80	[illegible]
						81	[illegible]
						82	0.4
						83	0.3
						84	0.1
						85	[illegible]
						Stations 86 - 1[illegible]	

Total 32.0



MASS DEPOSIT

MATERIAL: Purple

DATE: 12 July 1963

FLIGHT #: 12

SAMPLE LINE: A

TIME OF RELEASE: 0619 Hours

DURATION: 12 Sec.

FLOW RATE: 69 GPM

SYSTEM: HIDAL

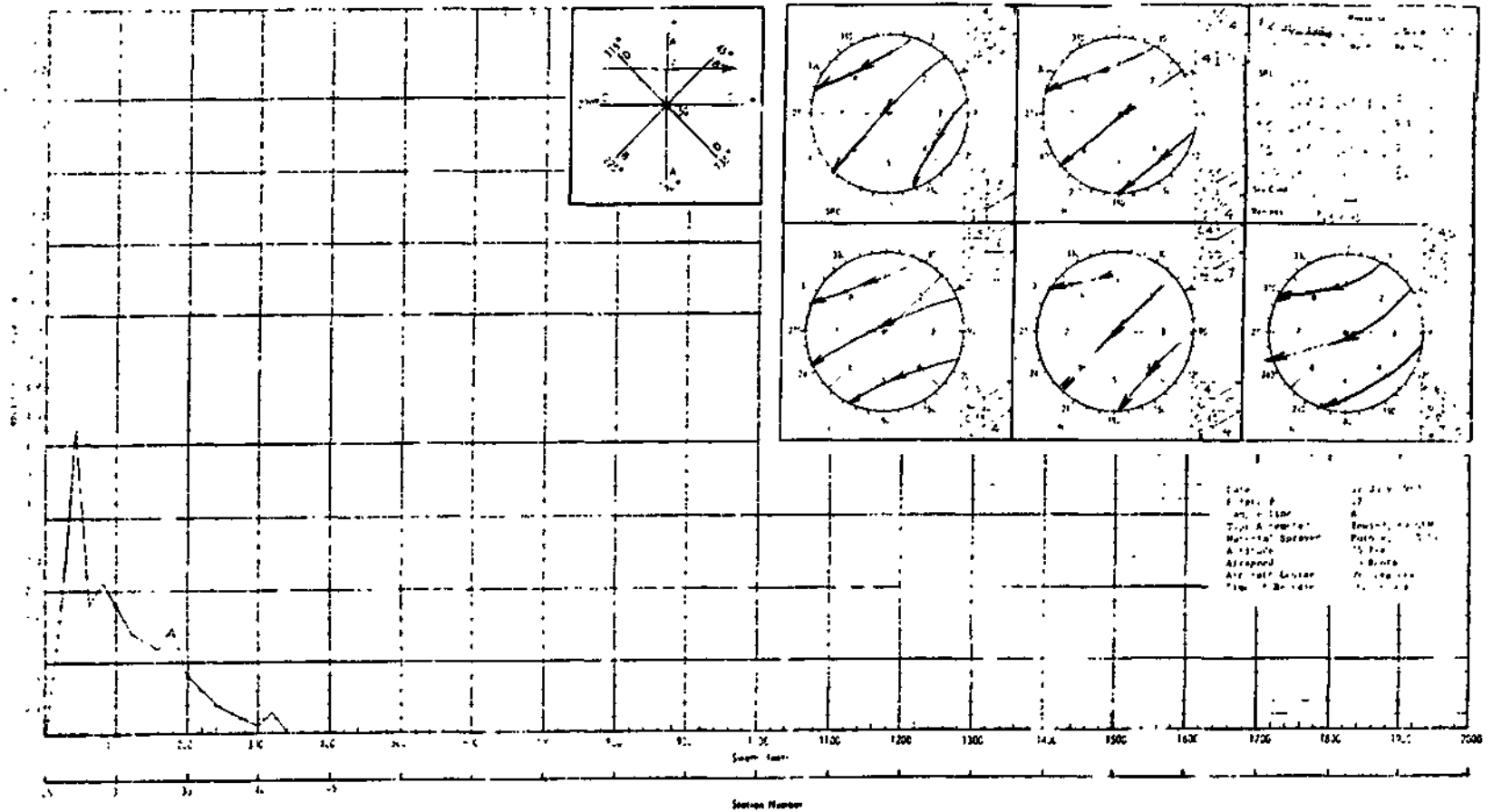
AIRSPEED: 75 Knots

ALTITUDE: 75 Feet

AIRCRAFT COURSE: 090 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 24 Blank		25	0.0				
		26	1.9				
		27	4.2				
		28	1.8				
		29	2.1				
		30	1.8				
		31	1.4				
		32	1.3				
		33	1.2				
		34	1.5				
		35	0.8				
		36	0.6				
		37	0.4				
		38	0.3				
		39	0.2				
		40	0.1				
		41	0.3				
		42	0.0				
		Stations 43 - 100 Blank					

Total 19.9



MASS DEPOSIT

MATERIAL: Purple

DATE: 12 July 1963

FLIGHT #: 13

SAMPLE LINE: D

TIME OF RELEASE: 0645 Hours

DURATION: 12 Sec.

FLOW RATE: 63 CFM

SYSTEM: AIDAL

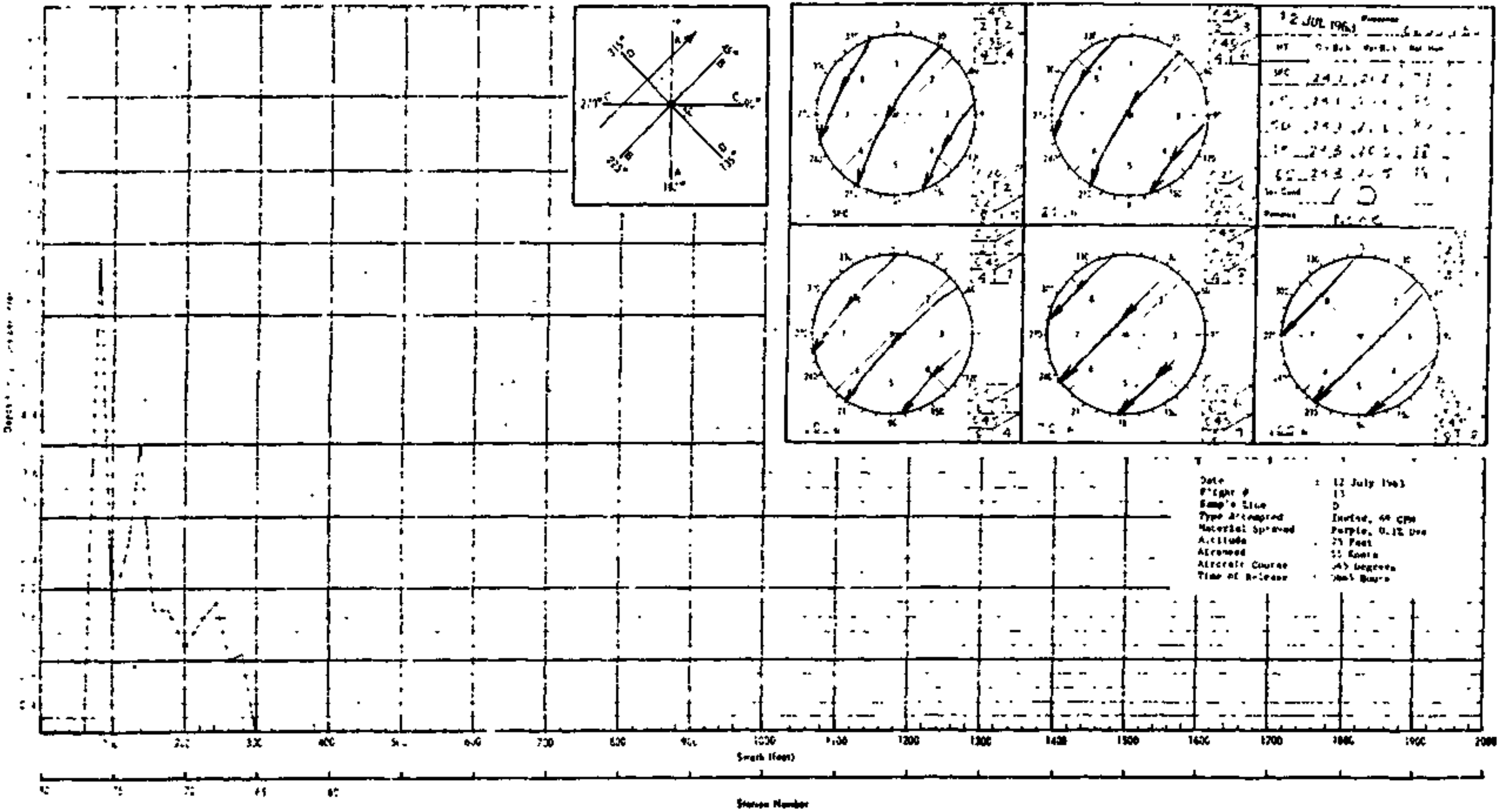
AIRSPEED: 55 Knots

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 - 65 Blank				66	1.1		
				67	1.0		
				68	1.8		
				69	1.6		
				70	1.2		
				71	1.7		
				72	1.7		
				73	4.0		
				74	2.6		
				75	1.8		
				76	6.6		
				Stations 77 - 100 Blank			

Total 25.1


Date
Flight #
Sample Size
Type Attempted
Material Sprayed
Altitude
Airspeed
Aircraft Course
Time of Release
1200
1300
1400
1500
1700
1800
2000
Swath (Feet)
Station Number

MASS MEDIAN DIAMETER

DATE: 12 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 14 PAPER: Kromekote, white

SAMPLE LINE: D MATERIAL: Purple

FLOW RATE: 69 GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
25	1	7200			
23	3	6600*			
23	2	6500			
23	4	6400			
22	7	6300	19	1A	100 (smallest)
22	10	6200			
23	5	6100			
23	9	6000			
23	6	5900			
22	8	5800			

MMD = $\frac{70.44+0.1431(\text{Spot D Max})}{\text{Con. Factor}} = \frac{70.44+0.1431(6600)}{2.2}$ = 461.3 Microns

Max. Sph. Dia. = 70.44+0.1431(Max Spot) = 70.44+0.1431(7200) = 1100.8 Microns

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: Purple
FLOW RATE: 69 GPM
DATE: 12 July 1963
SYSTEM: HIDAL
FLIGHT #: 14
AIRSPEED: 55 Knots
SAMPLE LINE: D
ALTITUDE: 75 Feet
TIME OF RELEASE: 0647 Hours
AIRCRAFT COURSE: 045 Degrees
DURATION: 14 Sec.

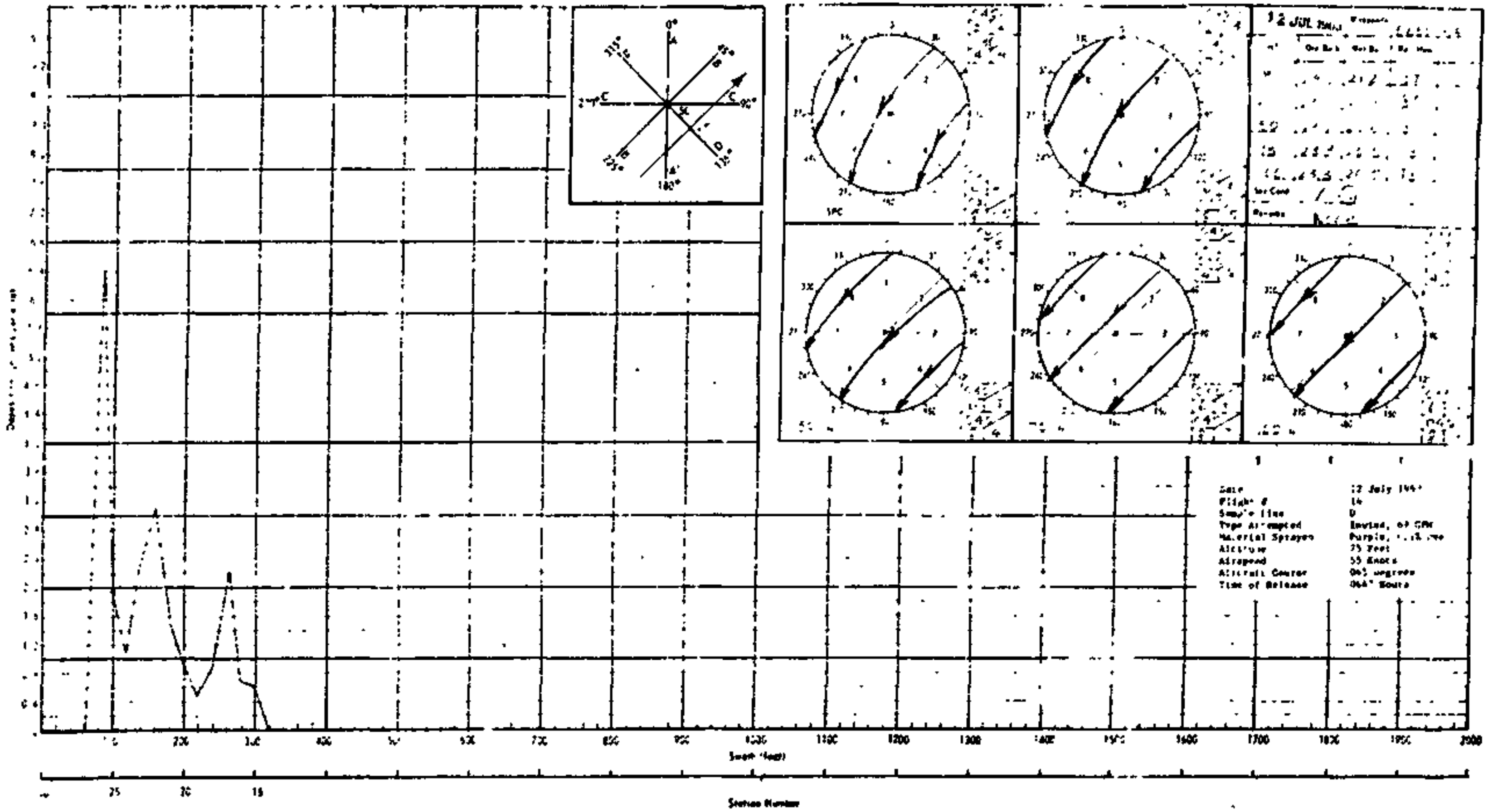
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.

Stations 1 - 14 Blank

15	0.6
16	0.7
17	2.2
18	0.9
19	0.5
20	0.9
21	1.5
22	3.1
23	2.3
24	1.1
25	1.9
26	6.4

Stations 27 - 100 Blank

Total 22.1



Flight # 14
Sample line D
Altitude 75 Feet
Airspeed 55 Knots
Time of Release
Swath (feet)
Station Number
25
20
15
200
400
700
1100
1200
1300
1600
1700
1800
2000

H-34/HIDAL GROUND FLOW AND FLIGHT DATA

DATE CALIBRATED:	7 July 1963	DATE TEST FLOWN:	13 July 1963
LIQUID SPRAYED:	Purple	TOTAL NOZZLES OPEN:	60
NOZZLE TYPE:	Check Valves	LIQUID TEMP:	38.5° C
DURATION OF SPRAY:	30 Sec.	PUMP PRESSURE.	23.5 PSI
TOTAL AMOUNT SPRAYED.	34.5 Gal.	FLOW RATE CALIBRATED:	69 GPM

OPERATIONAL DATA DURING FLIGHT

Above information is for Runs 1 - 18.

MASS DEPOSIT

MATERIAL: Purple

DATE: 13 July 1963

FLIGHT #: 1

SAMPLE LINE: D

TIME OF RELEASE: 0351 Hours

DURATION:

FLOW RATE: 6. GPM

SYSTEM: AERIAL

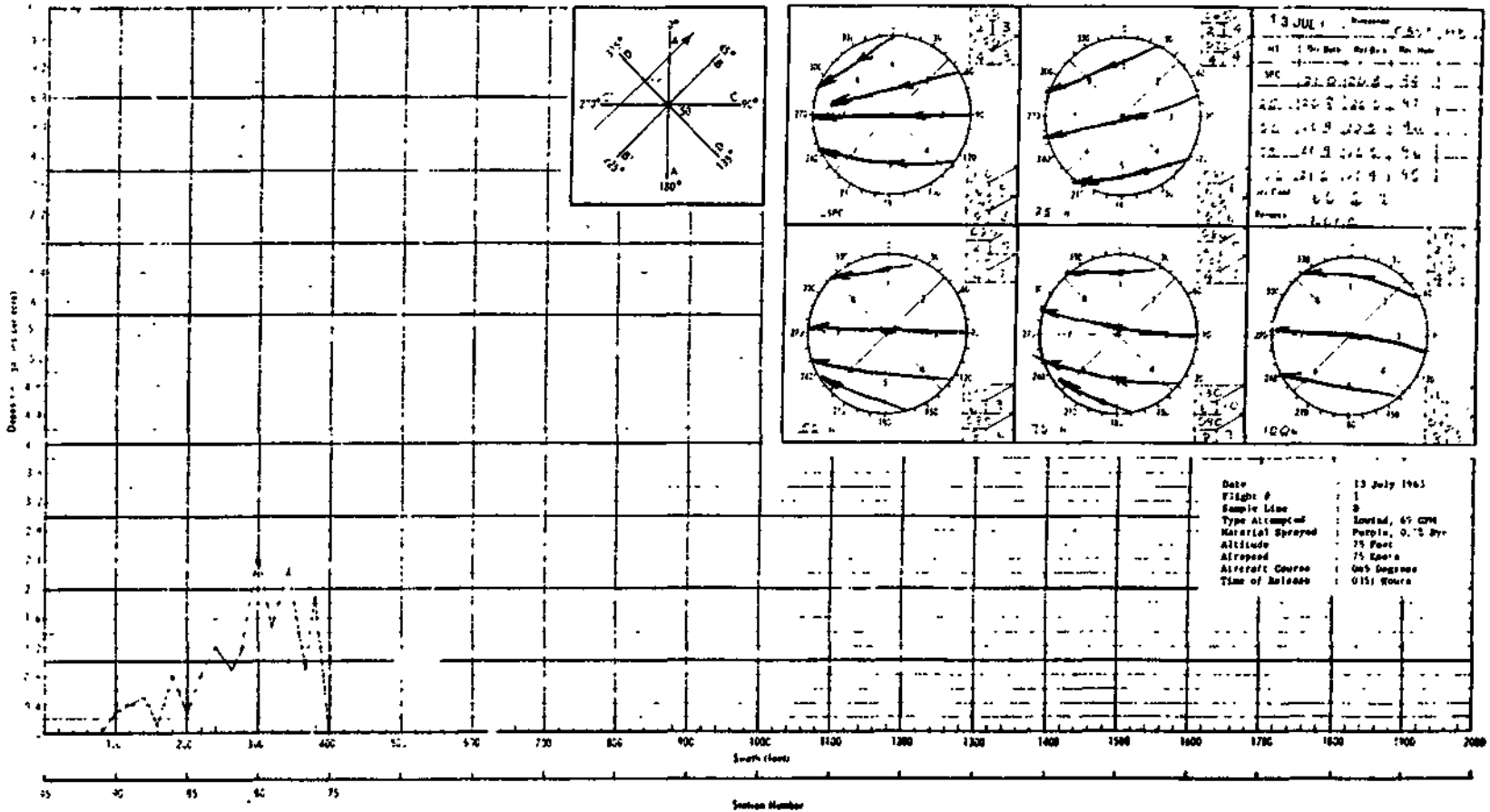
AIRSPEED: 75 Knots

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 - 75 Blank						76	1.3
						77	[illegible]
						78	1.3
						79	1.5
						80	[illegible].5
						81	1..
						82	[illegible]
						83	1.2
						84	[illegible]
						85	.3
						86	.8
						87	[illegible].1
						88	[illegible].5
						89	[illegible]
						90	[illegible].3
						91	[illegible]
						Stations 92 - 100 Blank	

Total 15.6


Date : 13 July 1965
Flight # : 1
Sample Line : B
Type Aircraft : Lantad, 69 GPM
Material Sprayed : Purple, 0.75 Dye
Altitude : 75 Feet
Airspeed : 75 Knots
Aircraft Course : 045 Degrees
Time of Release : 0151 Hours
South (feet)
Station Number

MASS MEDIAN DIAMETER

DATE: 13 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 2 PAPER: Kromekote, white

SAMPLE LINE: D MATERIAL: Purple

FLOW RATE: 69 GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
29	1	8500			
26	2	7200			
26	3	6500			
29	7	6100*			
29	6	6000	36	1A	100(smallest)
30	8	5900			
30	9	5800			
26	4	5700			
30	10	5600			
29	5	5500			
26	11	5400			

MMD = $\frac{70.44+0.1431 \text{Spot D Max}}{\text{Con. Factor}} = \frac{70.44+0.1431(6100)}{2.2}$ = 428.8 Microns

Max. Sph. Dia. = 70.44+0.1431(Max Spot) = 70.44+0.1431(8500) = 1286.8 Microns

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: Purple

DATE: 13 July 1963

FLIGHT #: 2

SAMPLE LINE: D

TIME OF RELEASE: 0353 Hours

DURATION: - - -

FLOW RATE: 60 GPM

SYSTEM: HIDAL

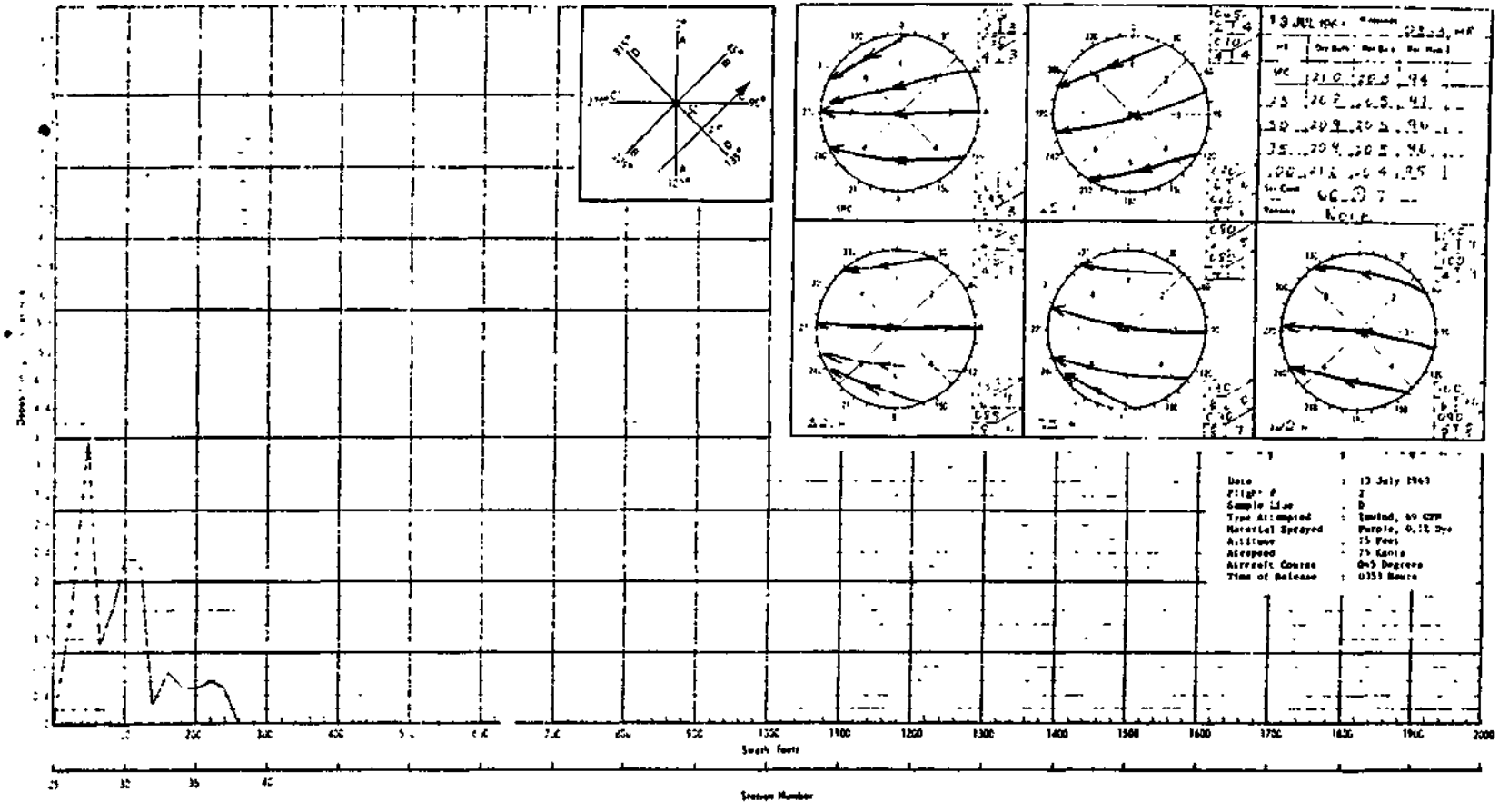
AIRSPEED: 75 Knot

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 - 25 Blank		26	1.7				
		27	4.0				
		28	1.1				
		29	1.6				
		30	2.3				
		31	2.3				
		32	0.3				
		33	0.7				
		34	0.5				
		35	0.5				
		36	0.6				
		37	0.5				
		38	0.0				
		Stations 39 - 100 Blank					

Total 16.1


Date : 13 July 1963
Flight # : 2
Sample Line : B
Type Attempted : Upwind, 90 CFM
Material Sprayed : Purple, 0.1% Dye
Altitude : 15 Feet
Airspeed : 75 Knots
Aircraft Course : 045 Degrees
Time of Release : 0351 Hours
South Feet
Station Number

MASS DEPOSIT

MATERIAL: Purple

DATE: 13 July 1963

FLIGHT #: 3

SAMPLE LINE: A

TIME OF RELEASE: 0414 Hours

DURATION: 12 Sec.

FLOW RATE: 60 GPM

SYSTEM: HIDAL

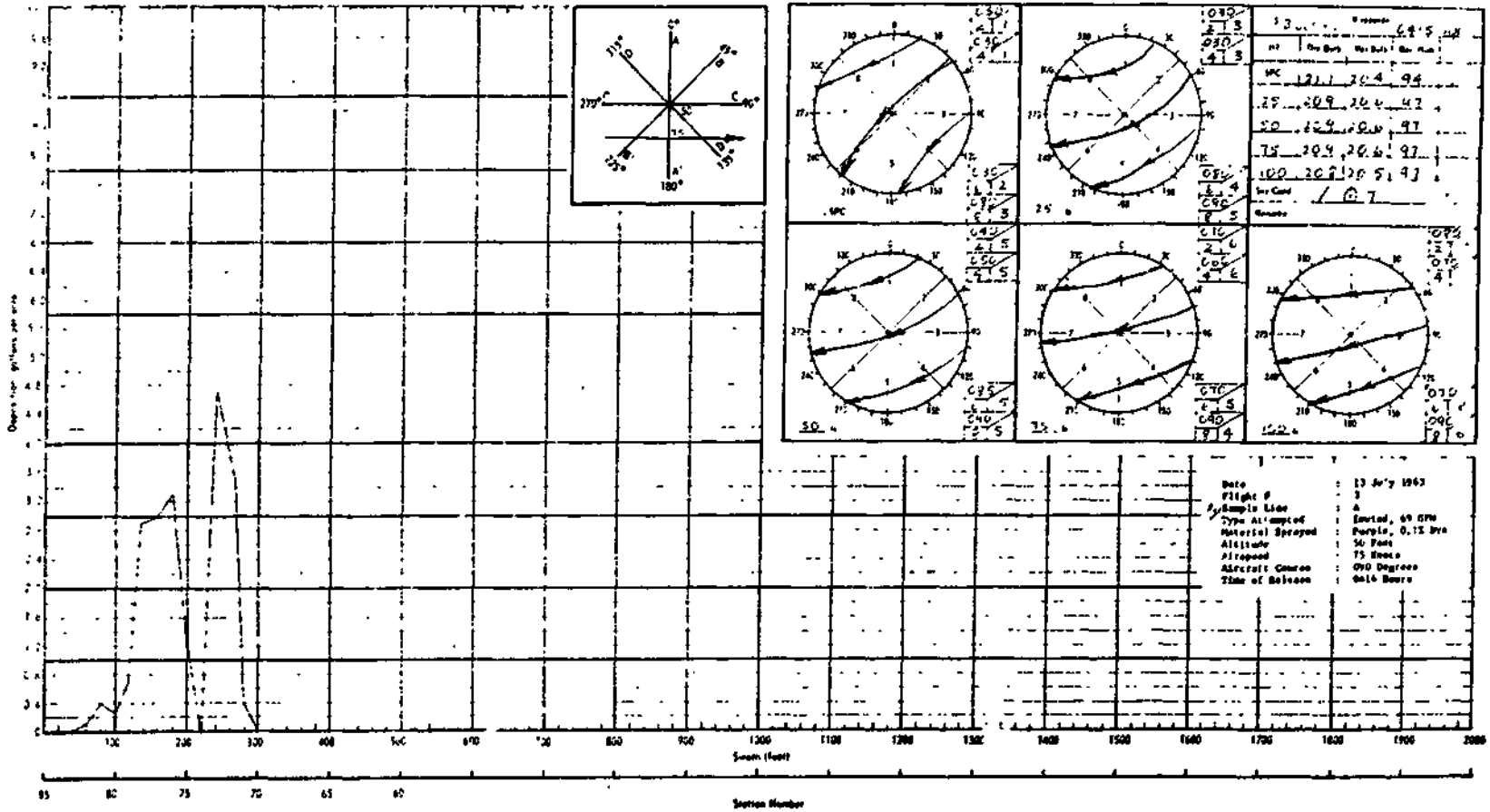
AIRSPEED: 75 Knots

ALTITUDE: 50 Feet

AIRCRAFT COURSE: 090 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 70 Blank							
71	0.4						
72	3.5						
73	4.7						
74	0.0						
75	1.2						
76	3.3						
77	3.0						
78	2.9						
79	0.7						
80	0.3						
81	0.4						
82	0.1						
Stations 83 - 100 Blank							

Total 20.5


Data
Flight #
Sample Line
Type Attempted
Material Sprayed
Altitude
Airspeed
Aircraft Course
Time of Release
13 July 1963
3
A
Emitol, 69 GPM
Purple, 0.1% Dye
50 Feet
75 Knots
090 Degrees
0614 Hours
Station Number

MASS MEDIAN DIAMETER

DATE: 13 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 4 PAPER: Kromekote, white

SAMPLE LINE: A MATERIAL: Purple

FLOW RATE: 69 GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
27	4	7600			
27	1	7000			
27	2	6800*			
27	9	6700			
27	3	6600			
27	11	6400	8	1A	100(smallest)
27	6	6300			
27	10	6200			
27	5	6100			
27	8	6000			
27	7	5900			

MMD = $\frac{70.44+0.1431(\text{Spot D Max})}{\text{Con. Factor}} = \frac{70.44+0.1431(6800)}{2.2} = 474.3$ Microns

Max. Sph. Dia. = 70.44+0.1431(Max Spot) = 70.44+0.1431(7600) = 1158.0 Microns

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: Purple

DATE: 13 July 1963

FLIGHT #: [illegible]

SAMPLE LINE: A

TIME OF RELEASE: 0416 Hours

DURATION: 11 Sec.

FLOW RATE: [illegible]

SYSTEM: HIDAL

AIRSPEED: 75 Knots

ALTITUDE: [illegible]

AIRCRAFT COURSE: [illegible]

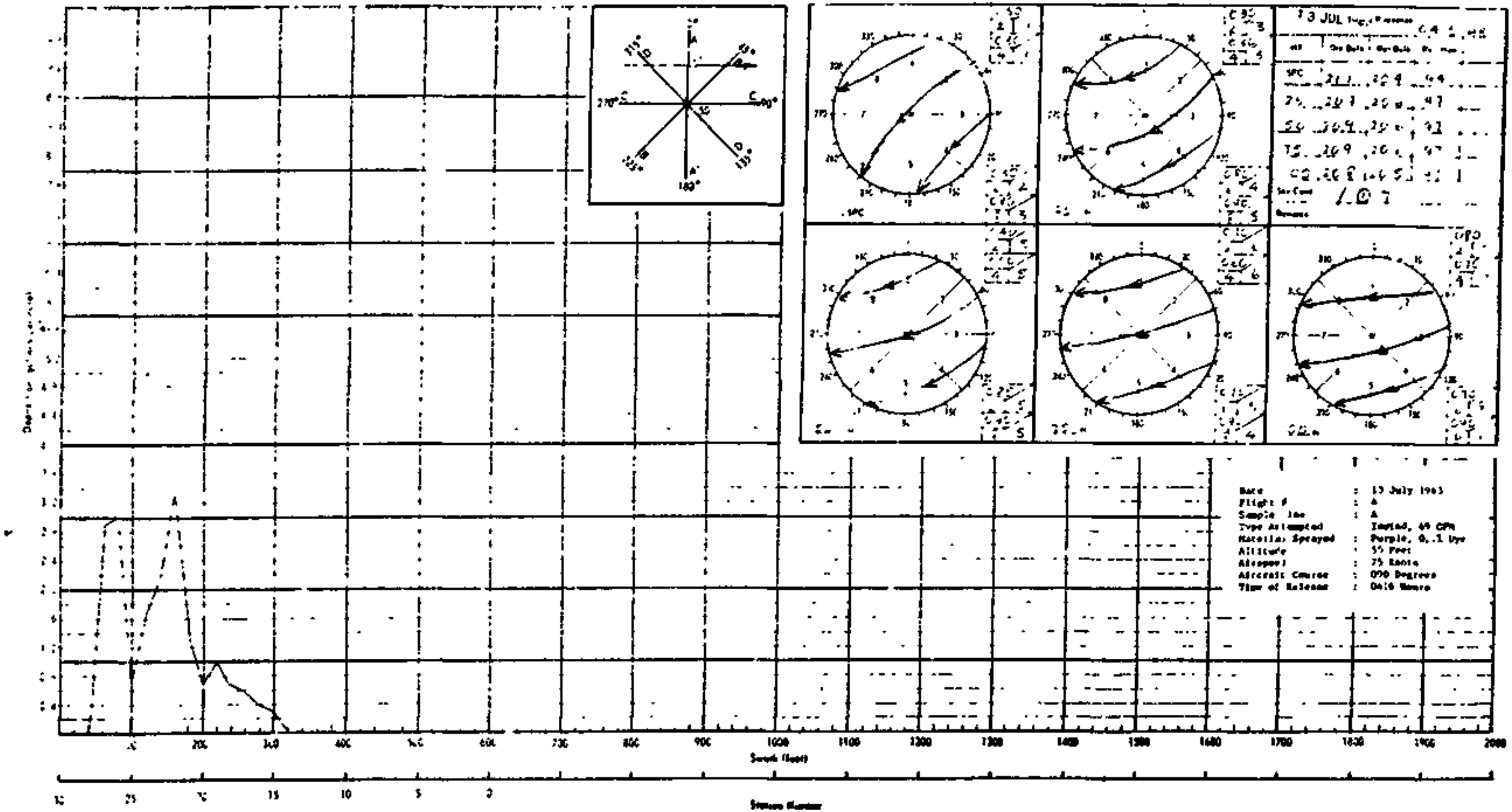
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.

Stations 1 - 13 Blank

14	0.0
15	0.3
16	0.4
17	0.6
18	0.7
19	1.0
20	0.7
21	1.3
22	3.3
23	2.2
24	1.7
25	0.8
26	[illegible]
27	[illegible]

Stations 28 - 100 Blank

Total [illegible]


Date : 13 July 1963
Flight #
Type Attempted
Material Sprayed
Altitude : 55 Feet
Aircraft Course : 090 Degrees
Time of Release
Swath (feet)
Station Number

MASS DEPOSIT

MATERIAL: Purple

DATE: 13 July 1963

FLIGHT #: 5

SAMPLE LINE: D

TIME OF RELEASE: 0439 Hours

DURATION: 13 Sec.

FLOW RATE: 69 GPM

SYSTEM: HIDAL

AIRSPEED: 55 Knots

ALTITUDE: 50 Feet

AIRCRAFT COURSE: 045 Degrees

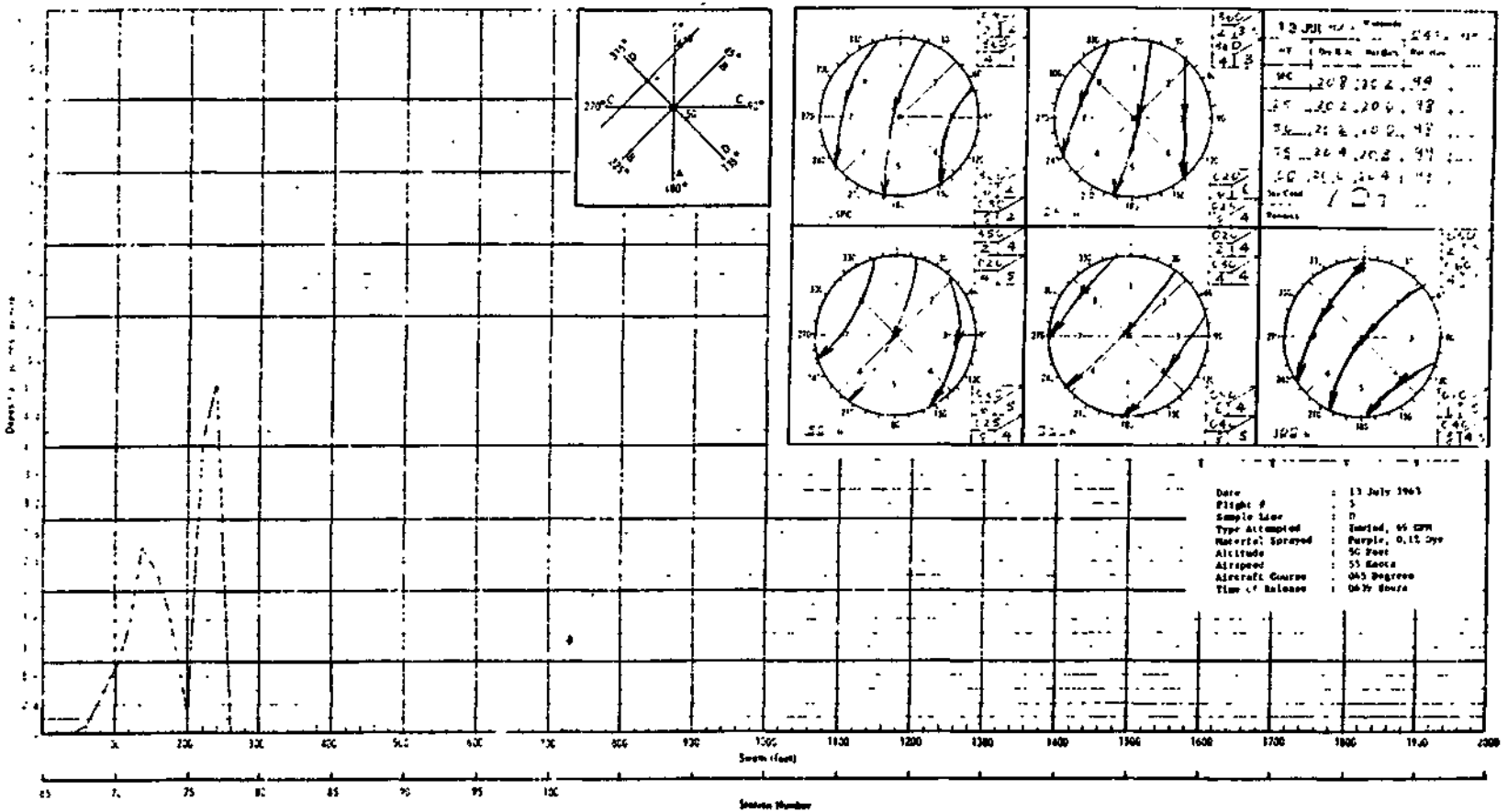
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.

Stations 1 - 63 Blank

64	0.0
65	0.0
66	0.0
67	0.0
68	0.1
69	0.5
70	0.9
71	1.5
72	2.6
73	2.3
74	1.7
75	0.3
76	4.1
77	4.9

Stations 78 - 100 Blank

Total 18.9


Date : 13 July 1965
Flight # : 5
Sample Line : D
Type Attempted : Emitol, 95 GPM
Material Sprayed : Purple, 0.15 Dye
Altitude : 50 Feet
Airspeed : 55 Knots
Aircraft Course : 065 Degrees
Time of Release : 0639 Hours
Swath (feet)
Station Number

MASS MEDIAN DIAMETER

DATE: 13 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 6 PAPER: Kromekote, white

SAMPLE LINE: D MATERIAL: Purple

FLOW RATE: 60 GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
23	1	8800			
24	6	7600			
23	3	7000*			
23	2	6800			
23	4	6600	14	1A	130 (smallest)
22	9	6500			
22	10	6400			
23	5	6300			
25	8	6200			
24	7	6100			
25	11	6000			

MMD = $\frac{70.4410.1431(\text{Spot D Max})}{\text{Con. Factor}} - \frac{70.4410.1431(7000)}{2.2}$ = 487.3 Microns

Max. Sph. Dia. = 70.4410.1431(Max Spot) = 70.4410.1431(8800) = 1329.7 Microns

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: Purple

DATE: 13 July 1963

FLIGHT #: 6

SAMPLE LINE: D

TIME OF RELEASE: 0441 Hours

DURATION: 16 Sec.

FLOW RATE: 67 Gph.

SYSTEM: HIDAL

AIRSPEED: 55 Knots

ALTITUDE: 50 Feet

AIRCRAFT COURSE: 045 Degrees

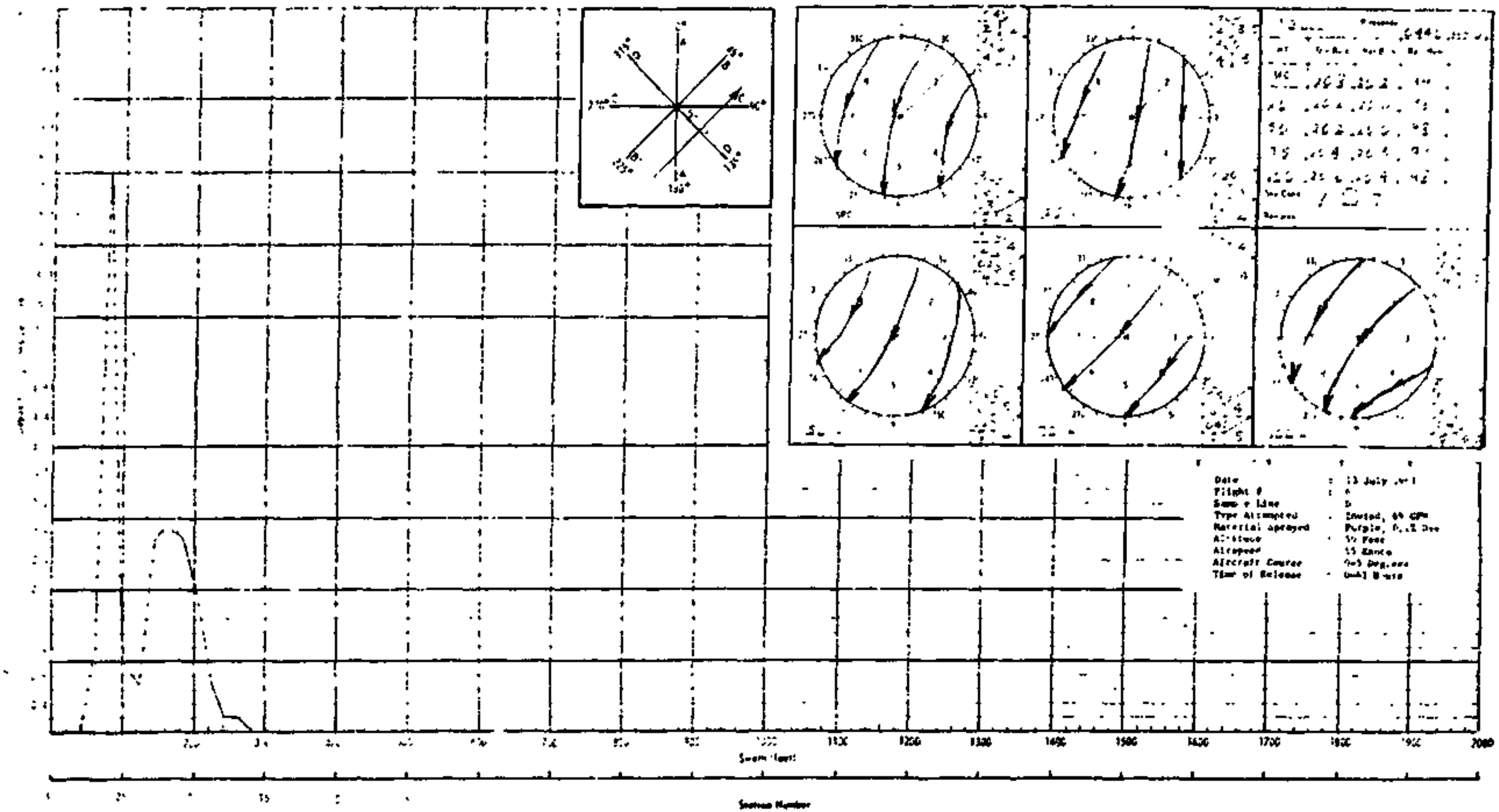
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.

Stations 1 - 15 Blank

16	0.0
17	0.2
18	0.2
19	0.7
20	2.1
21	2.7
22	2.9
23	2.7
24	0.7
25	1.3
26	7.8
27	1.2

Stations 28 - 100 Blank

Total 22.2



Date
Flight #
Material Sprayed
Purple
Airspeed
Aircraft Course
Time of Release
1100
1200
1300
1400
1500
1600
1700
1800
2000
Station Number

MASS DEPOSIT

MATERIAL: Purple

DATE: 13 July 1963

FLIGHT #: 7

SAMPLE LINE: D

TIME OF RELEASE: 0500 Hours

DURATION: 12 Sec.

FLOW RATE: 69 GPM

SYSTEM: HIDAL

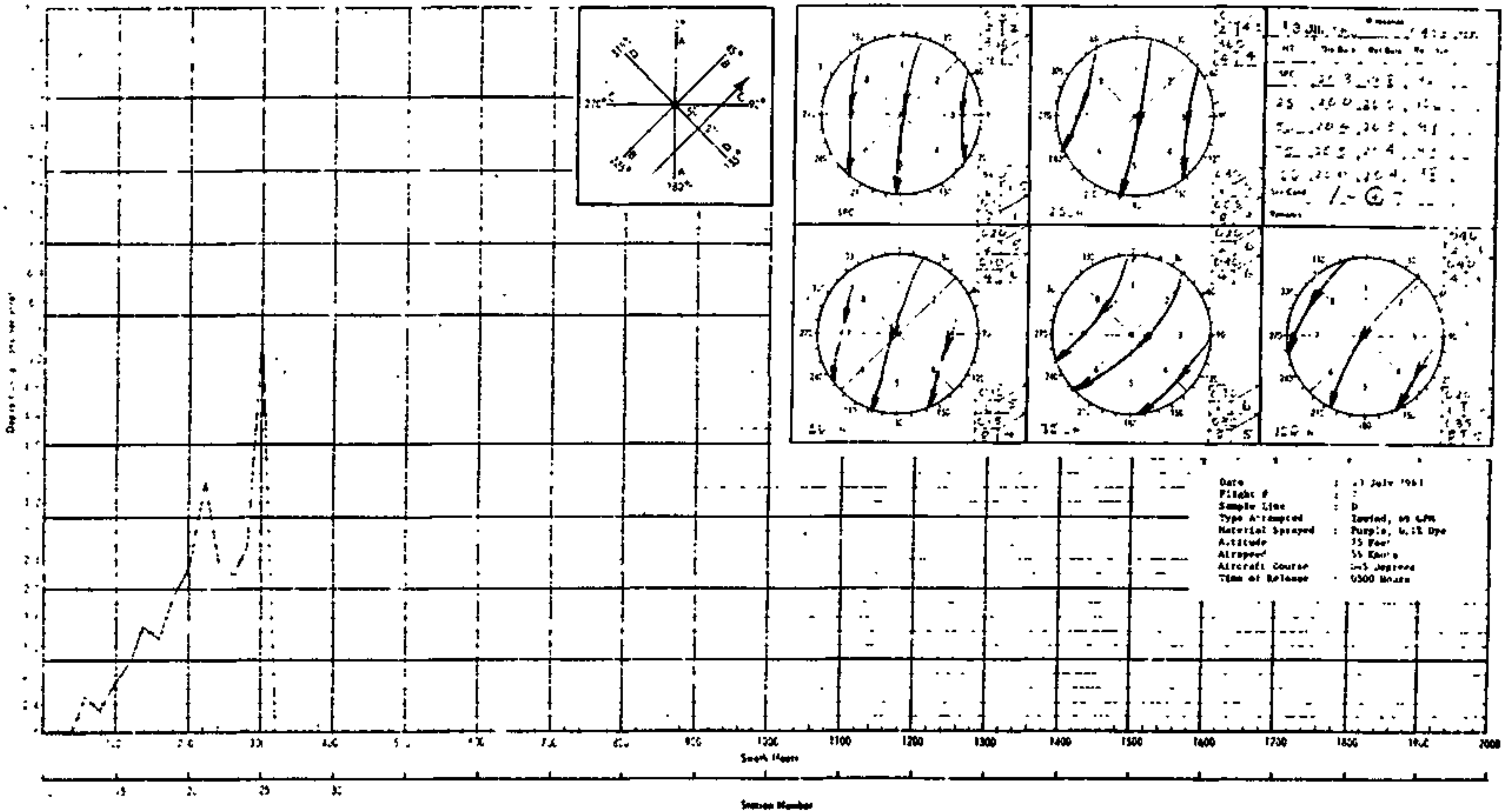
AIRSPEED: 55 Knots

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 - 12 Blank							
13	0.5						
14	0.3						
15	0.7						
16	1.0						
17	1.5						
18	1.3						
19	1.9						
20	2.3						
21	3.5						
22	2.3						
23	2.2						
24	2.6						
25	5.3						
26	0.0						
Stations 27 - 100 Blank							

Total 25.4



Date
Flight #
Sample Line : D
Type Attempted
Material Sprayed
Aircraft Course
Time of Release 0500 Hours
Station Number

MASS DEPOSIT

MATERIAL: Purple

DATE: 13 July 1963

FLIGHT #: 8

SAMPLE LINE: D

TIME OF RELEASE: 0502 Hours

DURATION: 15 Sec.

FLOW RATE: 6? GPM

SYSTEM: HIDAL

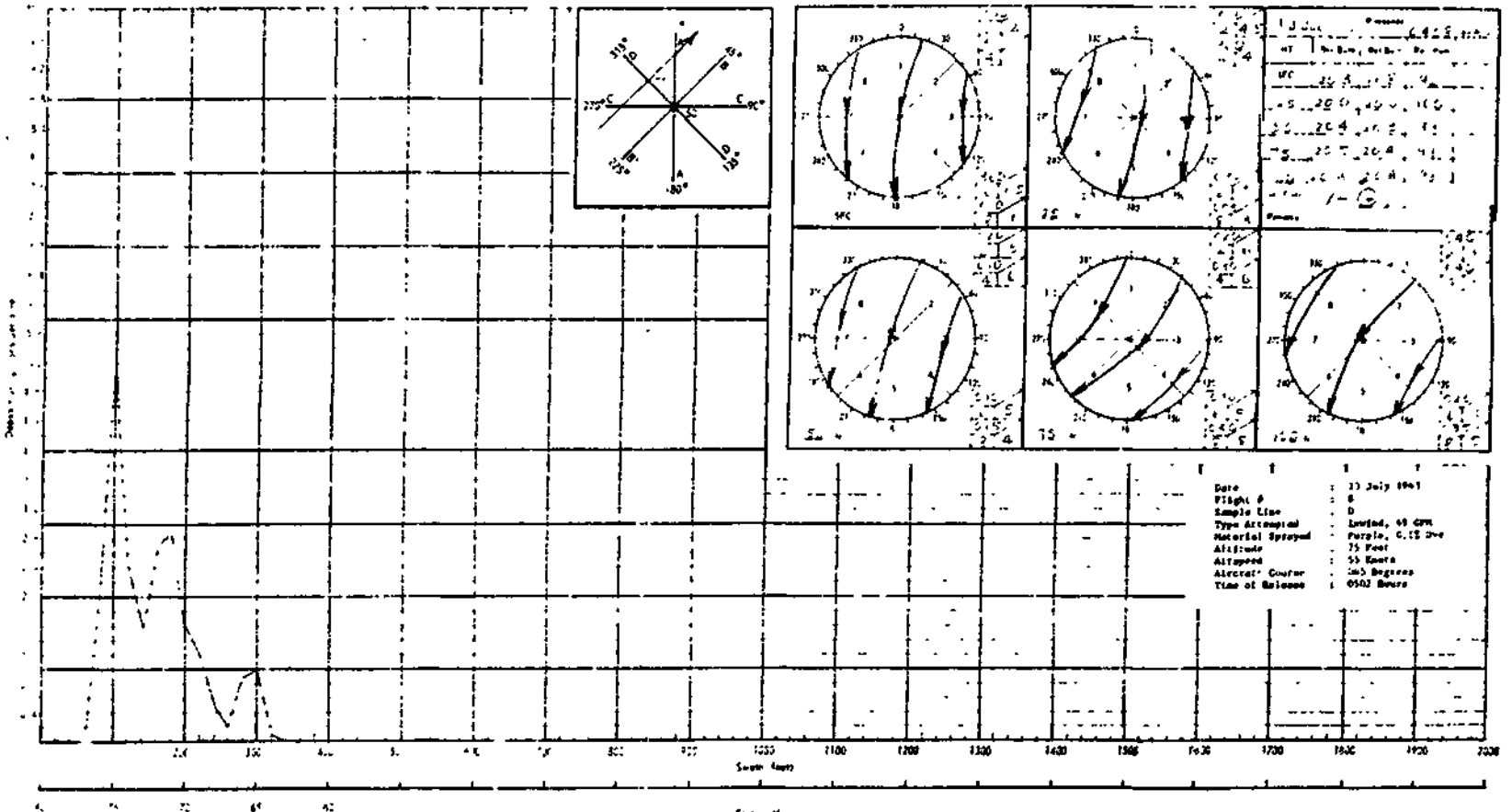
AIRSPEED: 55 Knots

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 - 63 Blank							
64	0.1						
65	1.0						
66	0.9						
67	0.2						
68	0.5						
69	1.2						
70	1.6						
71	2.9						
72	2.7						
73	1.6						
74	2.2						
75	5.1						
76	2.1						
Stations 77 - 100 Blank							

Total 22.1


Date : 23 July 1961
Flight # : 6
Sample Line : D
Type Aerosol : Inverted, 40 GPM
Material Sprayed : Purple, 0.15 Dye
Altitude : 75 Feet
Airspeed : 55 Knots
Aircraft Course : 345 Degrees
Time of Release : 0502 Hours

MASS DEPOSIT

MATERIAL: Purple

DATE: 13 July 1963

FLIGHT #: 9

SAMPLE LINE: C

TIME OF RELEASE: 0520 Hours

DURATION: 13 Sec.

FLOW RATE: 69 GPM

SYSTEM: HIDAL

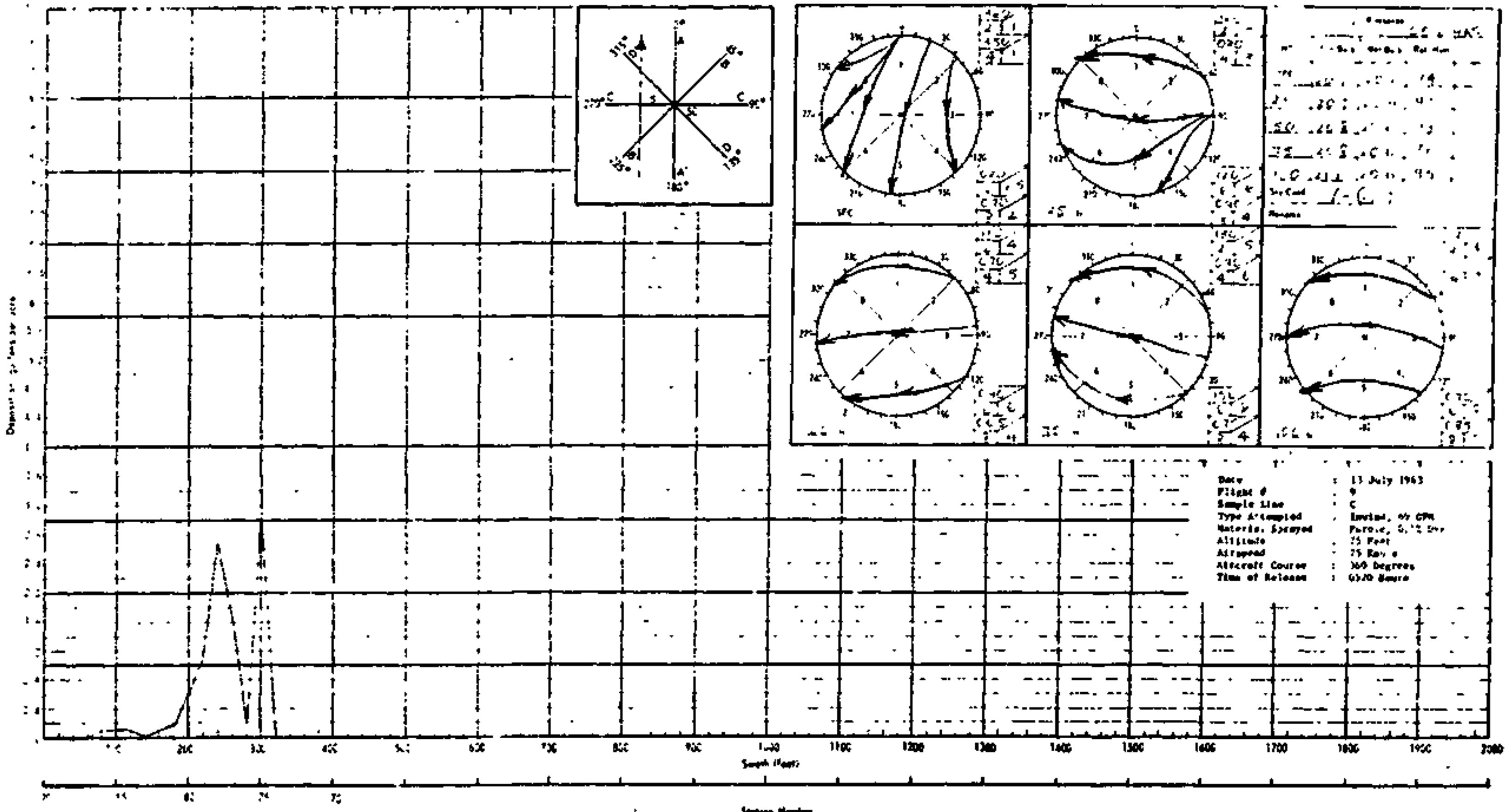
AIRSPEED: 75 Knots

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 - 74 Blank						75	3.0
						76	0.2
						77	1.5
						78	2.7
						79	1.1
						80	0.6
						81	0.2
						82	0.1
						83	0.0
						84	0.1
						85	0.1
						86	0.1
						87	0.0
						88	0.0
						Stations 89 - 100	Blank

Total 7.7



Date : 13 July 1963
Flight # : 9
Sample Line : C
Altitude : 75 Feet
Aircraft Course : 360 Degrees
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000
Swath (Feet)
Station Number

MASS DEPOSIT

MATERIAL: Purple

DATE: 13 July 1963

FLIGHT #: 10

SAMPLE LINE: C

TIME OF RELEASE: 0522 Hours

DURATION: 15 Sec.

FLOW RATE: 69 GPM

SYSTEM: HIDAL

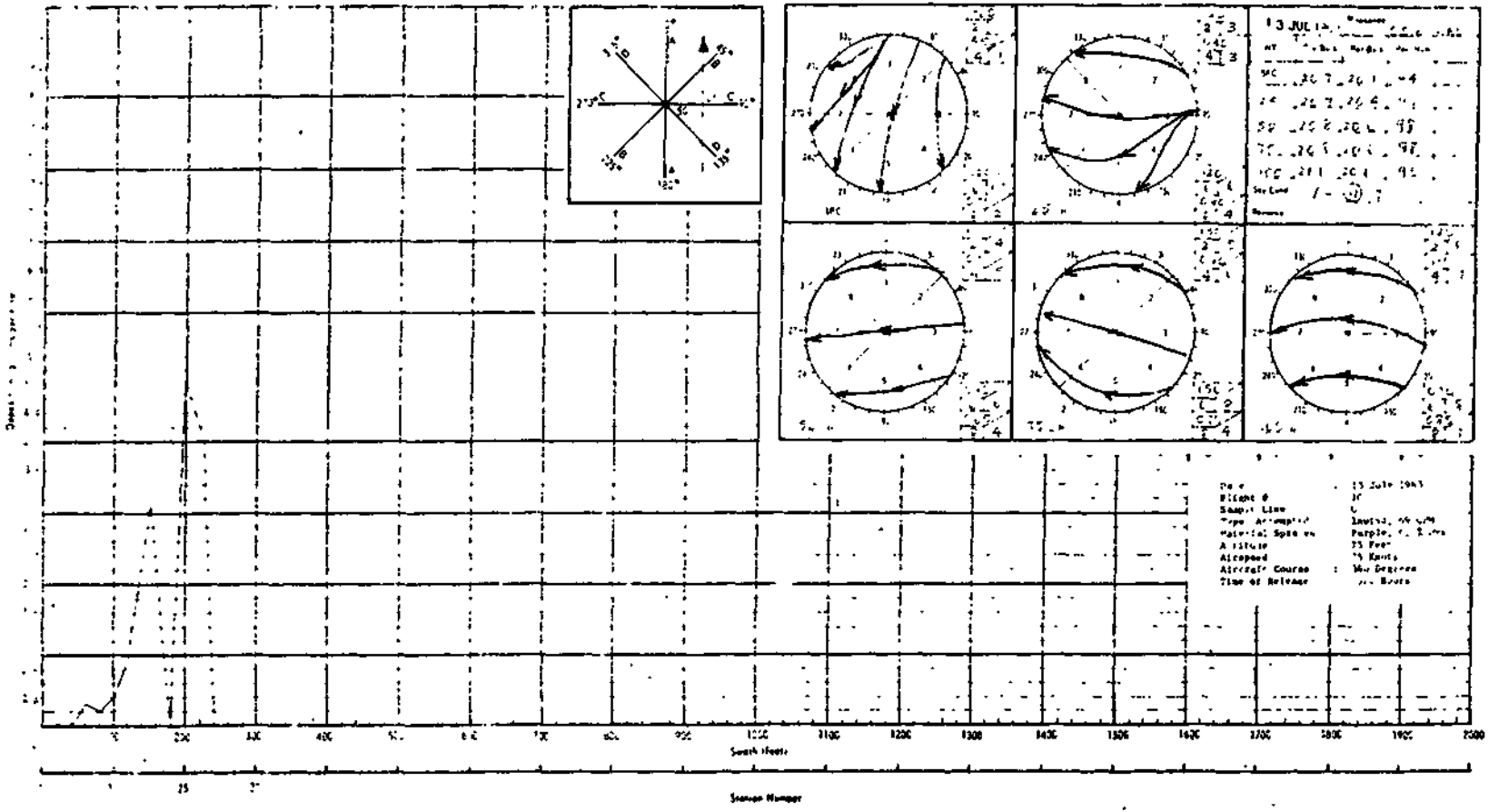
AIRSPEED: 75 Knots

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 - 23 Blank		24	4.0				
		25	4.8				
		26	0.1				
		27	3.1				
		28	2.2				
		29	0.9				
		30	0.4				
		31	0.2				
		32	0.3				
		33	0.0				
		34	0.0				
		35	0.0				
		36	0.0				
		Stations 37 - 100 Blank					

Total 16.0



MASS MEDIAN DIAMETER

DATE: 13 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 11 PAPER: Kromekote, white

SAMPLE LINE: C MATERIAL: Purple

FLOW RATE: 60 GPM SYSTEM: Hidal

STA.	DROP #	SIZE	STA.	DROP #	SIZE
74	1	7100			
74	2	6400*			
72	7	6300			
72	6	6200			
74	4	6100	74	1A	100(smallest)
74	3	5900			
74	5	5800			
73	8	5700			
74	9	5600			
74	10	5500			

MMD = $\frac{70.44(3).1431(\text{Spot D Max})}{\text{Con. Factor}} = \frac{70.44(3).1431(6400)}{2.2} = 448.3$ Microns

Max. Sph. Dia. = 70.44(3).1431(Max Spot) = 70.44(3).1431(71[illegible]) = 1086.5 Microns

Min. Sph. Dia. = 48 Microns

MASS DEPOSIT

MATERIAL: Purple

DATE: 13 July 1963

FLIGHT # 11

SAMPLE LINE: C

TIME OF RELEASE: 0552 Hours

DURATION: 15 Sec.

FLOW RATE: 60 CPM

SYSTEM: HYDAL

AIRSPEED: 75 Knots

ALTITUDE: 75 Feet

AIRCRAFT COURSE: 360 Degrees

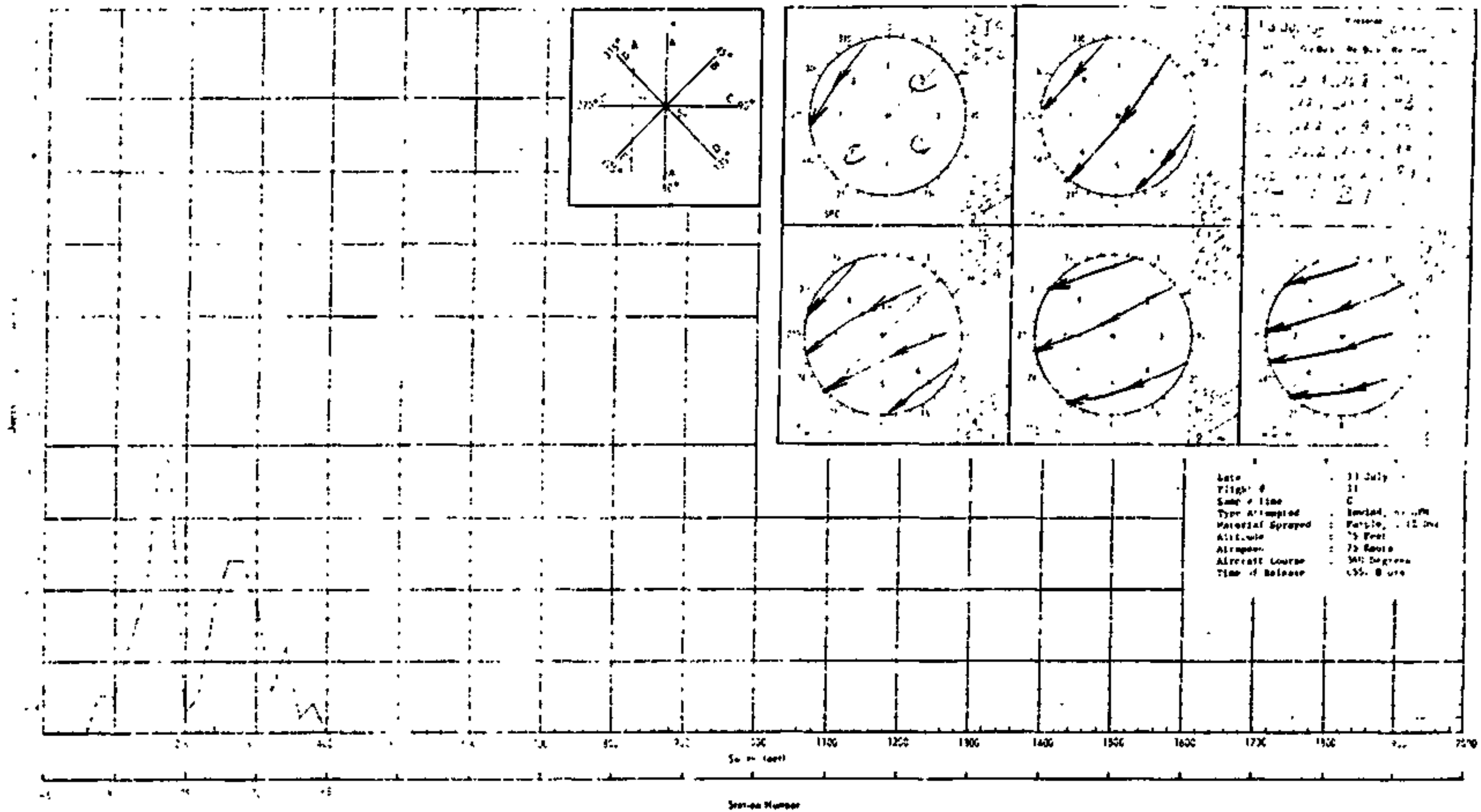
STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.

Stations 1 - 65 Blank

66	0.4
67	0.2
68	1.2
69	0.6
70	1.8
71	2.4
72	2.4
73	1.8
74	0.5
75	0.3
76	3.7
77	4.1
78	2.0
79	1.4
80	0.5
81	0.5

Stations 82 - 100 Blank

Total 23.8



Flight #
Material Sprayed
Airspeed
Aircraft Course
Time of Release
1100
1200
1300
1400
1500
1600
1700
1800
Station Number

MASS DEPOSIT

MATERIAL: Purple

DATE: 3 July 1963

FLIGHT #: 12

SAMPLE LINE: C

TIME OF RELEASE: 0555 Hours

DURATION: 11 Sec.

FLOW RATE: 69 GPM

SYSTEM: HIDAL

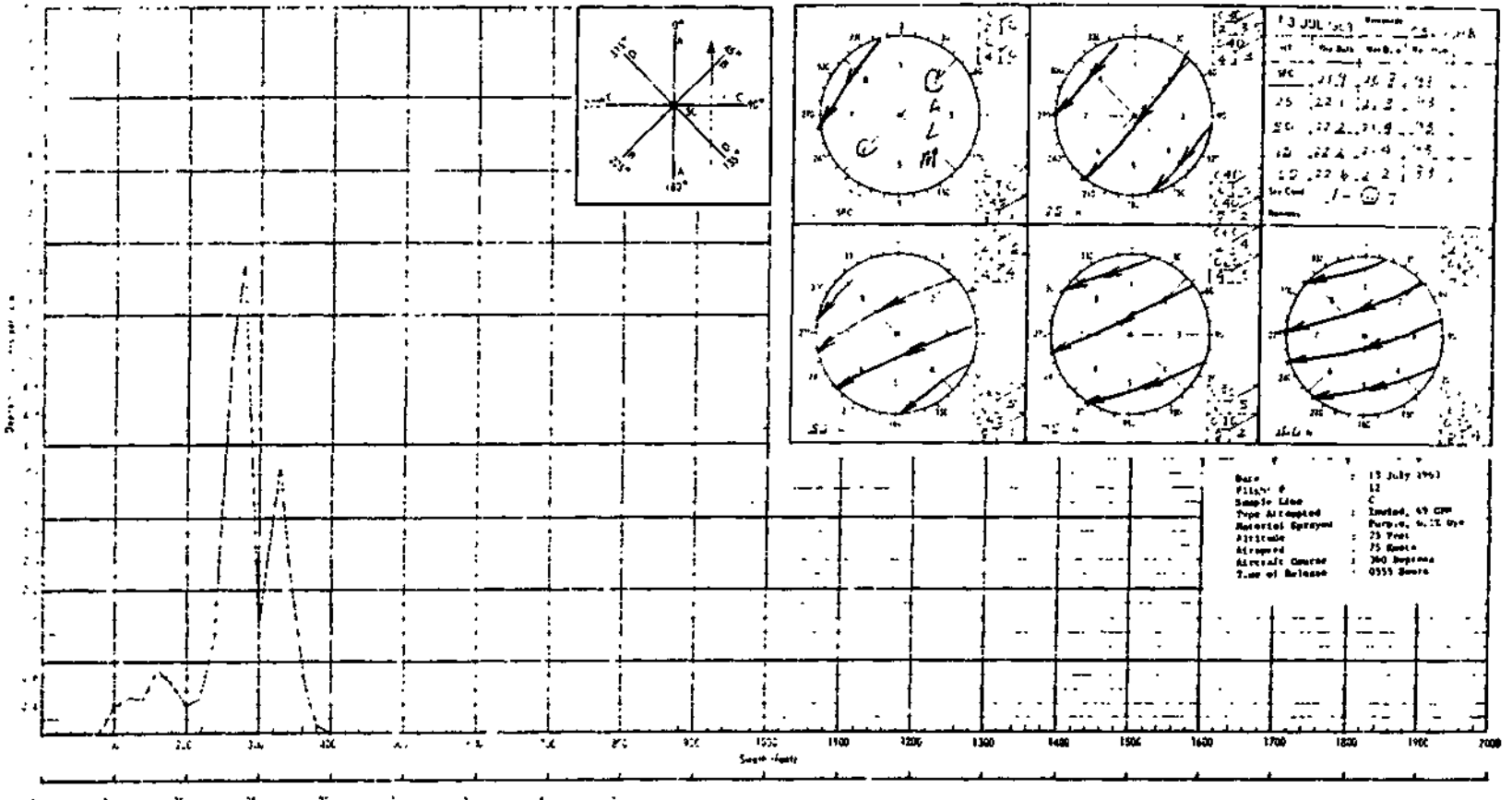
AIRSPEED: 75 Knots

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 - 20 Blank		21	0.1				
		22	0.8				
		23	2.3				
		24	3.7				
		25	1.6				
		26	6.5				
		27	5.3				
		28	1.3				
		29	0.5				
		30	0.4				
		31	0.7				
		32	0.9				
		33	0.5				
		34	0.5				
		35	0.4				
		36	0.0				
		Stations 37 - 100 Blank					

Total 25.5


Date : 13 July 1953
Flight # : 12
Sample Line : C
Type Aircraft : Invited, 49 GPM
Material Sprayed : Purple, 4.2% Dye
Altitude : 25 Feet
Airspeed : 75 Knots
Aircraft Course : 360 Degrees
Time of Release : 0555 Hours
Source Number

MASS MEDIAN DIAMETER

DATE: 13 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 13 PAPER: Kromekote, white

SAMPLE LINE: D MATERIAL: Purple

FLOW RATE: 6? GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
77	1	8400			
75	4	6200*			
77	2	6100			
77	5	5900			
77	8	5800	04	1A	100(smallest)
75	9	5700			
78	7	5500			
77	11	5400			
78	3	5300			
77	6	5200			
78	10	5000			

MMD = $\frac{70.4440.1431(\text{Spot D Max})}{\text{Con. Factor}}$ = $\frac{70.4440.1431(6200)}{2.2}$ = 435.3 Microns

Max. Sph. Dia. = 70.4440.1431(Max Spot) = 70.4440.1431(8400) = 1202.3 Microns

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: Purple

DATE: 13 July 1963

FLIGHT #: 13

SAMPLE LINE: D

TIME OF RELEASE: 015 Hours

DURATION: 13 Sec.

FLOW RATE: 69 GPM

SYSTEM: HIDAL

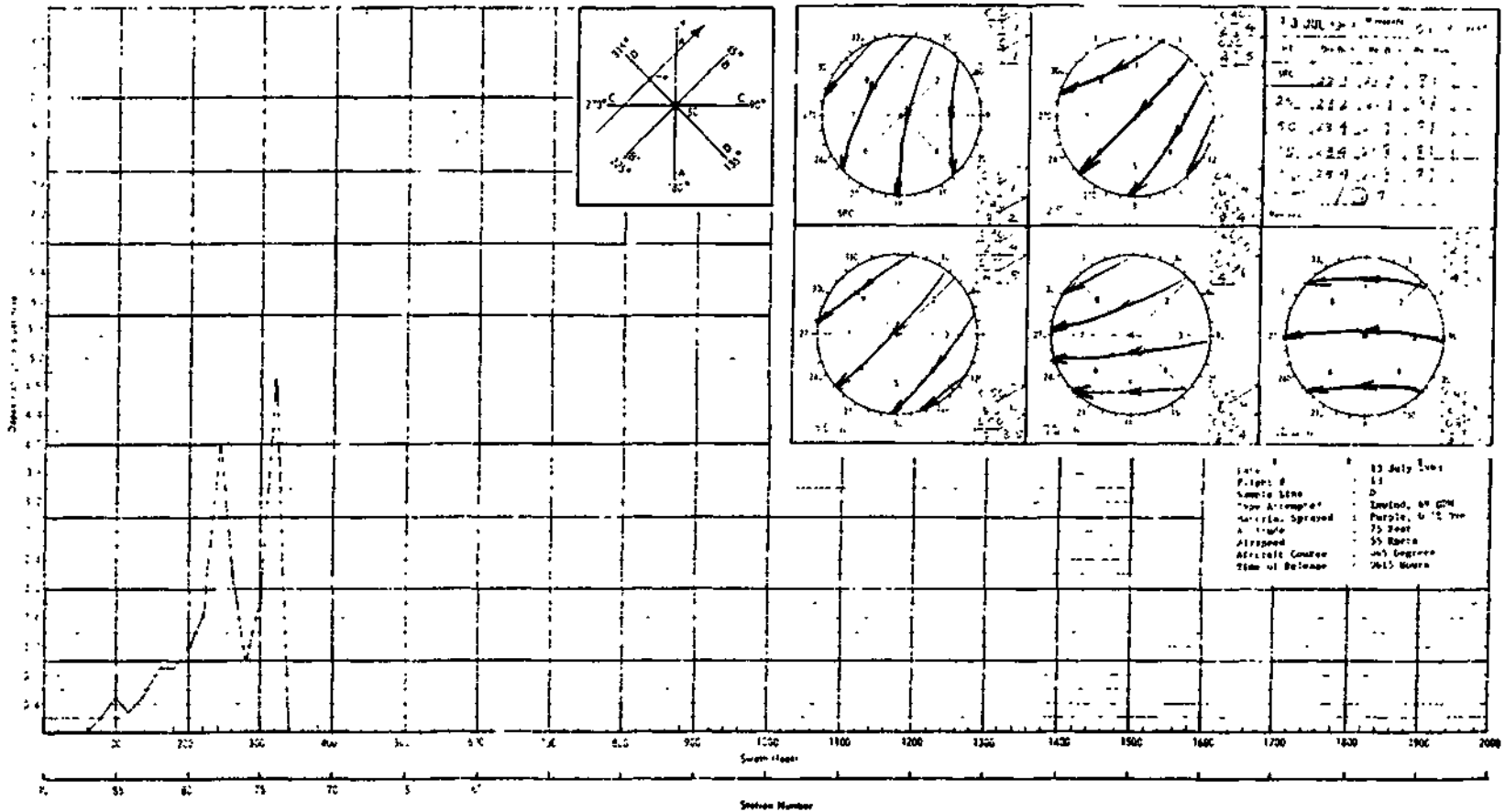
AIRSPEED: 55 Knots

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 - 73 Blank						74	4.0
						75	1.8
						76	1.0
						77	2.2
						78	4.0
						79	1.0
						80	1.0
						81	0.5
						82	0.
						83	0.5
						84	0.5
						85	0.5
						86	0.2
						Stations 87 - 1	Blank

Total 30.0



MASS DEPOSIT

MATERIAL: Purple

DATE: 13 July 1963

FLIGHT #: 14

SAMPLE LINE: D

TIME OF RELEASE: 0617 Hours

DURATION: 13 Sec.

FLOW RATE: 69 GPM

SYSTEM: HIDAL

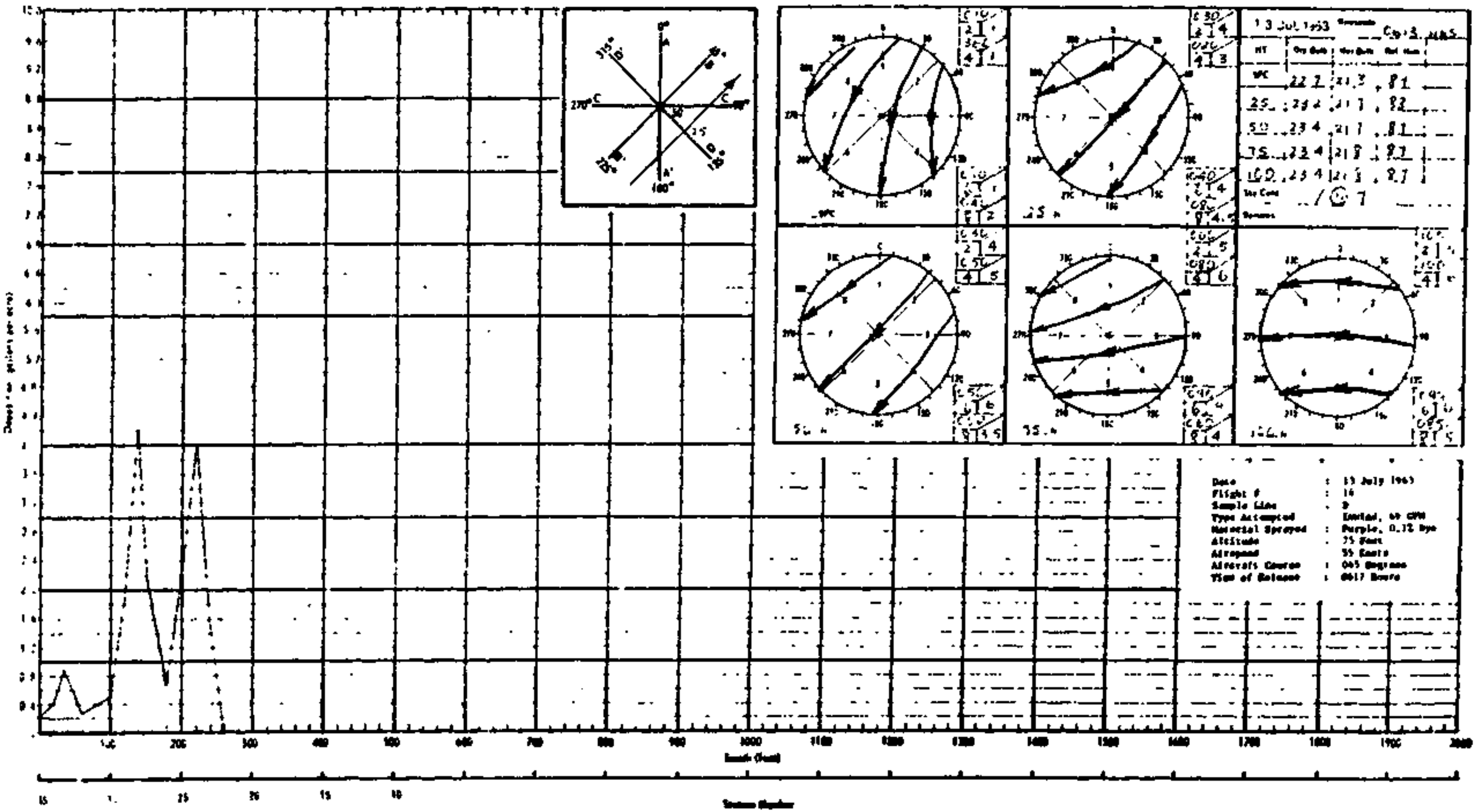
AIRSPEED: 55 Knots

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 - 22 Blank		23	1.5				
		24	4.0				
		25	2.3				
		26	0.7				
		27	2.2				
		28	4.2				
		29	1.9				
		30	0.5				
		31	0.4				
		32	0.3				
		33	0.9				
		34	0.4				
		35	0.2				
		Stations 36 - 100 Blank					

Total 19.5



Date : 13 July 1963
Flight # : 16
Material Sprayed : Purple, 0.1% Dye
Altitude : 75 Feet
Airspeed : 55 Knots
Aircraft Course : 065 Degrees
Time of Release : 0617 Hours
270°
90°
180°
0°
1000
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000

MASS DEPOSIT

MATERIAL: Purple

DATE: 13 July 1963

FLIGHT #: 15

SAMPLE LINE: D

TIME OF RELEASE: 0633 Hours

DURATION: 15 Sec.

FLOW RATE: 69 GPM

SYSTEM: HIDAL

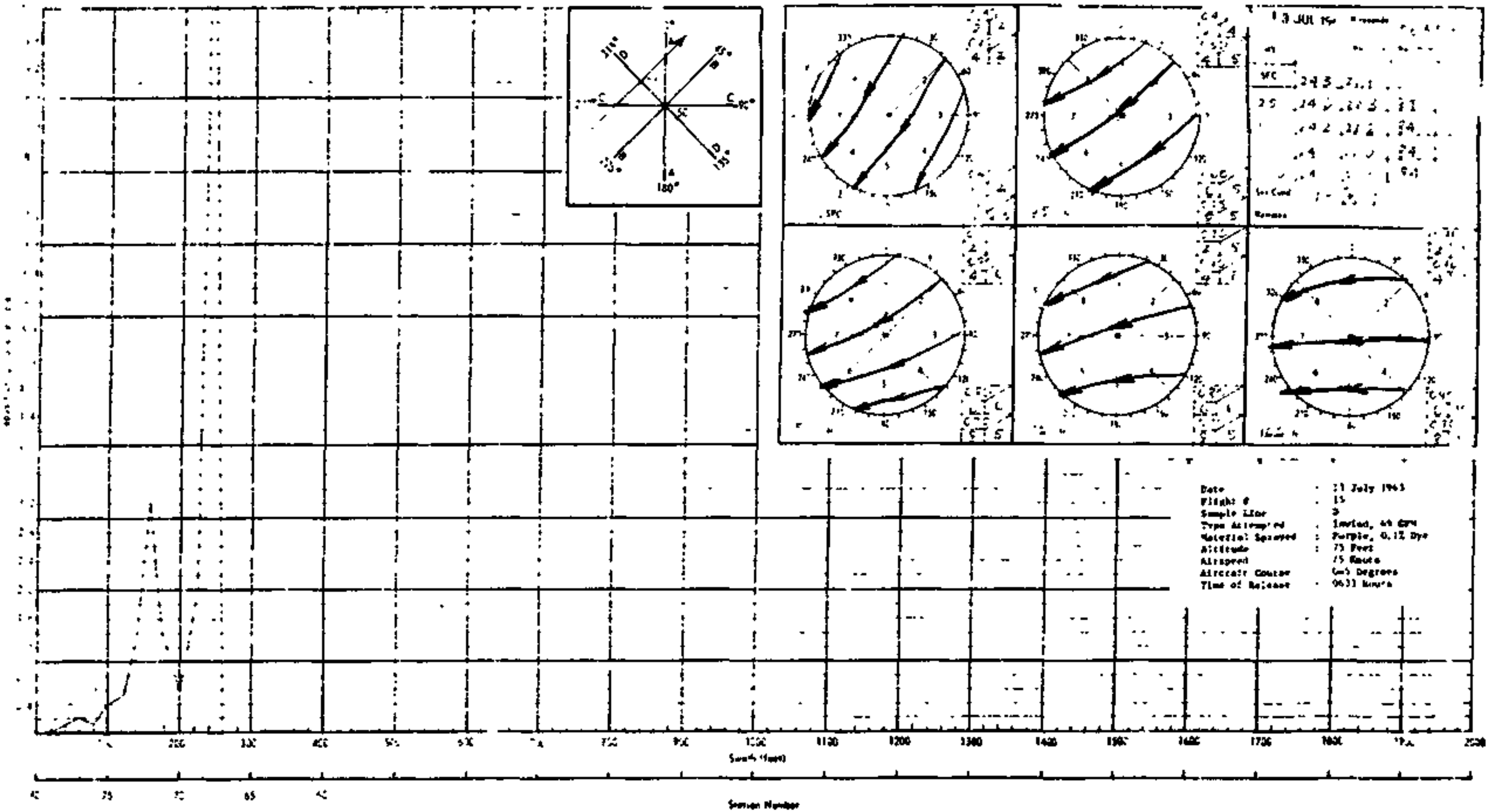
AIRSPEED: 75 Knots

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 - 66 Blank							
67	0.0						
68	11.8						
69	2.0						
70	0.6						
71	1.4						
72	3.2						
73	1.3						
74	0.5						
75	0.4						
76	0.1						
77	0.2						
78	0.1						
Stations 79 - 100 Blank							

Total 21.6


180°
Swath (feet)
Station Number
Date
Flight #
15
Sample Line
Type Attempted
Material Sprayed
Purple, 0.1% Dye
Altitude
75 Feet
Airspeed
Aircraft Course
Degrees
Time of Release

MASS DEPOSIT

MATERIAL: Purple

DATE: 13 July 1963

FLIGHT #: 16

SAMPLE LINE: D

TIME OF RELEASE: 0635 Hours

DURATION: 17 Sec.

FLOW RATE: 69 GPM

SYSTEM: HIDAL

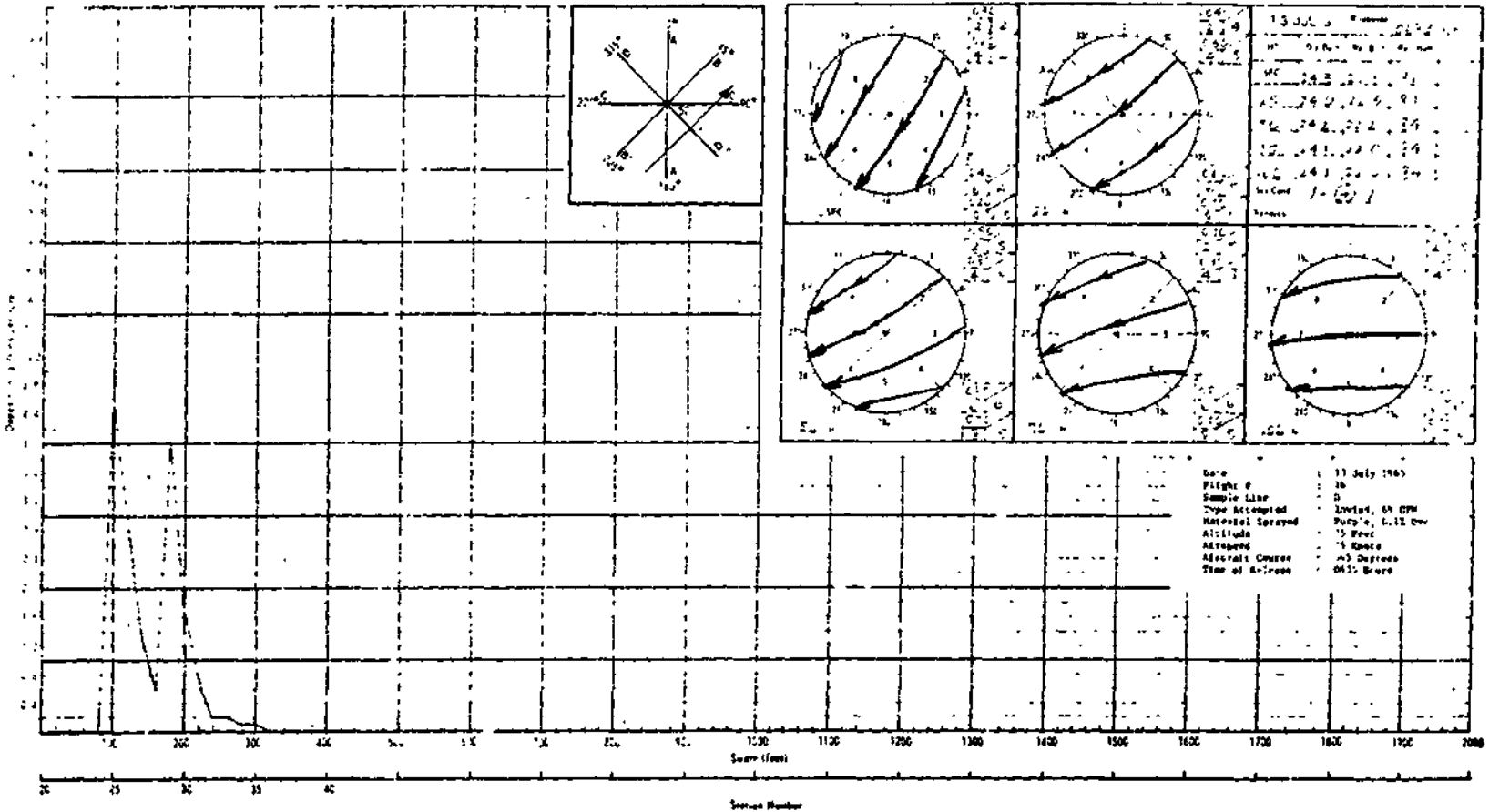
AIRSPEED: 75 Knots

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 - 23 Blank		24	0.0				
		25	4.5				
		26	2.7				
		27	1.3				
		28	0.6				
		29	4.0				
		30	1.5				
		31	0.6				
		32	0.2				
		33	0.2				
		34	0.1				
		35	0.1				
		Stations 36 - 100 Blank					

Total 15.8


Date : 13 July 1965
Flight # : 36
Sample Line : D
Type Attempted : Limited, 64 GPM
Material Sprayed : Purple, 0.12 Dev
Altitude : 15 Feet
Airspeed : 15 Knots
Aircraft Course : 45 Degrees
Time of Release : 0615 Hours
Source Number

MASS MEDIAN DIAMETER

DATE: 13 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 17 PAPER: Kromekote, white

SAMPLE LINE: A MATERIAL: Purple

FLOW RATE: 60 GPM SYSTEM: TIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
28	1	7500			
25	4	6700*			
25	3	6600			
25	5	6500			
25	2	6400	45	1A	100(smallest)
25	6	6300			
25	8	6200			
25	7	6100			
25	9	6000			
27	11	5900			
28	10	5800			

MMD = $\frac{70.44+0.1431(\text{Spot D Max})}{\text{Con. Factor}} = \frac{70.44+0.1431(6700)}{2.2}$ = 467.8 Microns

Max. Sph. Dia. = 70.44+0.1431(Max Spot) = 70.44+0.1431(7500) = 1143.7 Microns

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: Purple

DATE: 13 July 1963

FLIGHT #: 17

SAMPLE LINE: A

TIME OF RELEASE: 0652 Hours

DURATION: 14 Sec.

FLOW RATE: 69 GPM

SYSTEM: HIDAL

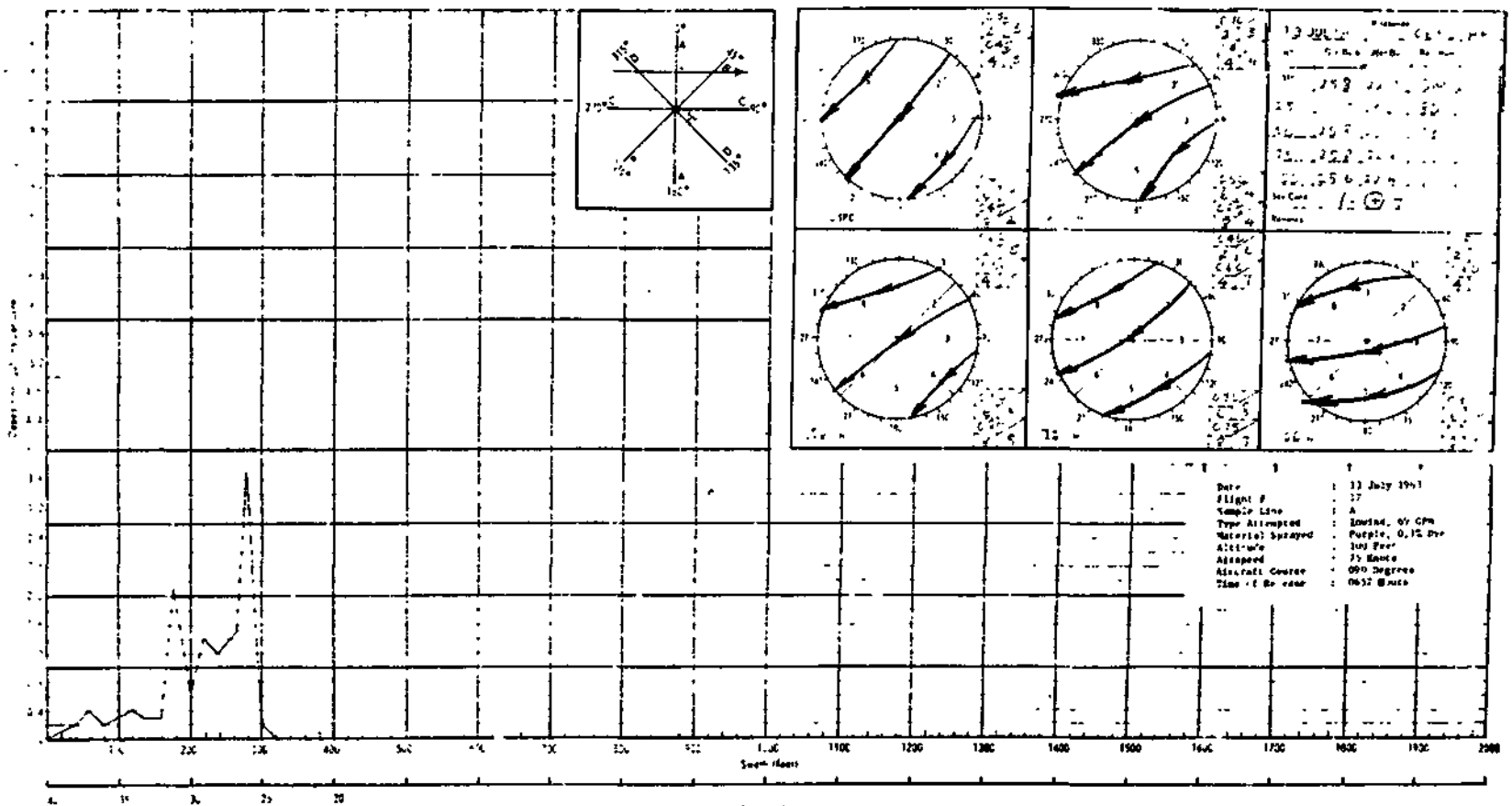
AIRSPEED: 75 Knots

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 - 23 Blank		24	0.0				
		25	0.2				
		26	3.7				
		27	1.5				
		28	1.2				
		29	1.4				
		30	0.7				
		31	2.1				
		32	0.3				
		33	0.3				
		34	0.4				
		35	0.3				
		36	0.2				
		37	0.4				
		38	0.2				
		39	0.1				
		40	0.0				
		Stations 41 - 100 Blank					

Total 13.


Date : 13 July 1961
Flight # : 17
Sample Line : A
Type Attempted : Lowlnd. 6V CPN
Material Sprayed : Purple, 0.1% Dye
Altitude : 100 Feet
Airspeed : 75 Knots
Aircraft Course : 090 Degrees
Time of Release : 0652 Hours
Station Number

MASS DEPOSIT

MATERIAL: Purple

DATE: 13 July 1963

FLIGHT #: 18

SAMPLE LINE: A

TIME OF RELEASE: 0654 Hour

DURATION: 18 Sec.

FLOW RATE: 69 GPM

SYSTEM: HIDAL

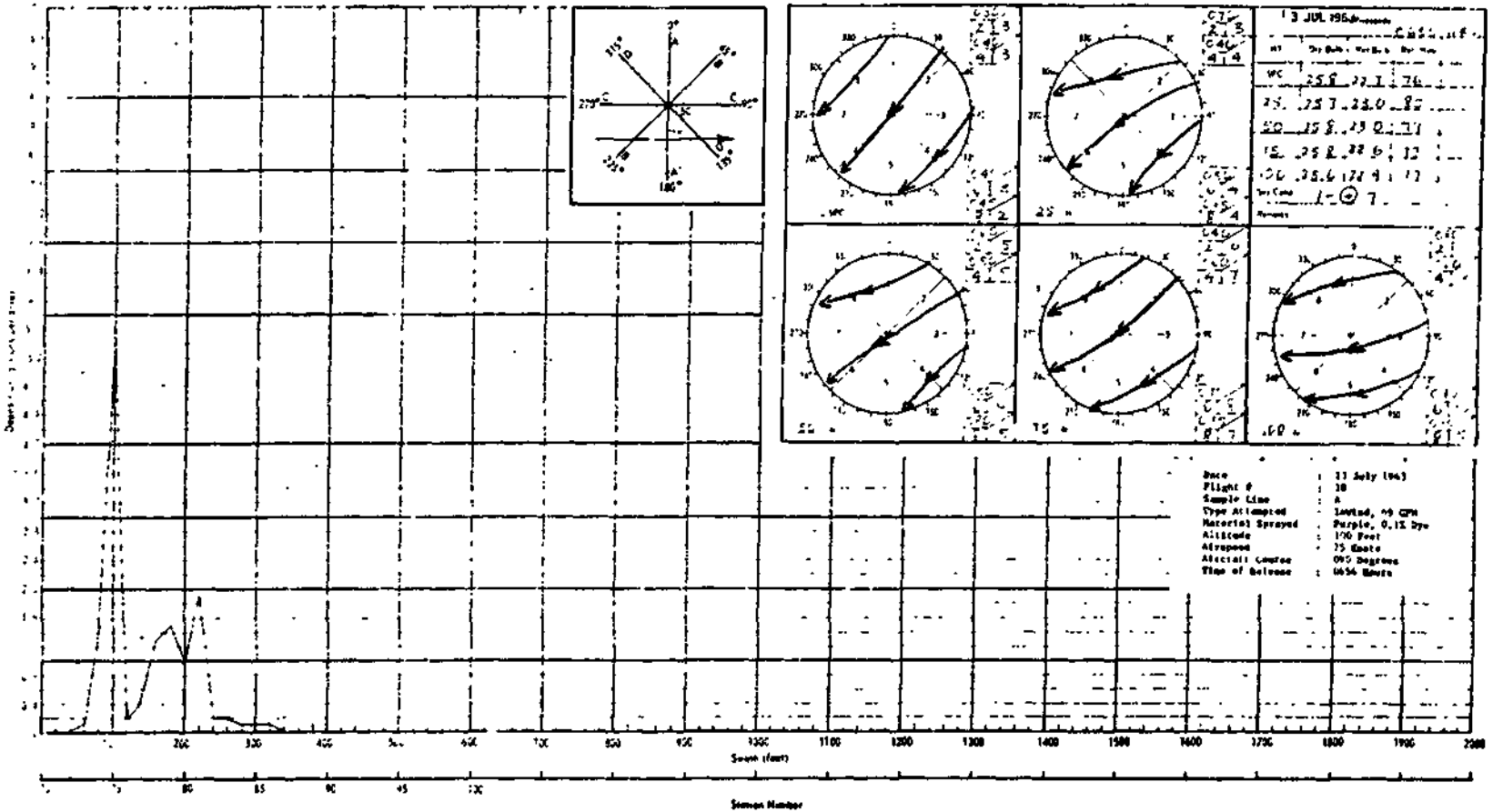
AIRSPEED: 75 Knots

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 - 71 Blank						72	0.0
						73	0.1
						74	1.5
						75	5.3
						76	0.2
						77	0.4
						78	1.3
						79	1.5
						80	1.0
						81	1.9
						82	0.2
						83	0.2
						84	0.1
						85	0.1
						86	0.1
						Station 87 - 100 Blank	

Total 13.9


Base : 11 July (94)
Flight # : 10
Sample Line : A
Type Attempted : Lowlnd, 49 GPH
Material Sprayed : Purple, 0.1% Dye
Altitude : 170 Feet
Airspeed : 75 Knots
Aircraft Course : 095 Degrees
Time of Release : 0656 Hours
Swath (feet)
Swath Number

H-34/HIDAL GROUND FLOW & FLIGHT DATA

DATE CALIBRATED:	16 July 1963	DATE TEST FLOWN.	16 July 1963
LIQUID SPRAYED:	Purple	TOTAL NOZZLES OPEN:	60
NOZZLE TYPE:	8015	LIQUID TEMP.	37° C
DURATION OF SPRAY:	30 Sec.	PUMP PRESSURE.	32 PSI
TOTAL AMOUNT SPRAYED:	28 Gal.	FLOW RATE CALIBRATED:	56 GPM

OPERATIONAL DATA DURING FLIGHT

Above information is for Runs 1 - 16.

REMARKS: The pressure readings are from the pressure gauge mounted on the pump which was subsequently proven to be inaccurate.

MASS MEDIAN DIAMETER

DATE: 16 July 1973 CONVERSION FACTOR: 2.2

FLIGHT #: 1 PAPER: Kromekote, white

SAMPLE LINE: B MATERIAL: Purple

FLOW RATE: 56 CPM SYSTEM: TIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
76	1	6400*			
76	2	6200			
76	3	6100			
73	4	6000			
77	8	5900	100	1A	100(smallest)
77	7	5800			
73	5	5600			
73	6	5500			
77	9	5400			
76	10	5300			

MMD = $\frac{70.44+0.1431(\text{Spot D Max})}{\text{Con. Factor}} = \frac{70.44+0.1431(6400)}{2.2} = 448.3$ Microns

Max. Spot. Dia. = 70.44+0.1431(Max Spot) = 70.44+0.1431(6400) = 986.3 Microns

Min. Spot. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: P [illegible] FLOW RATE: [illegible] GPM

DATE: [illegible] July 1963 SYSTEM: MIDAS

FLIGHT #: 1 AIRSPEED: 55 Knots

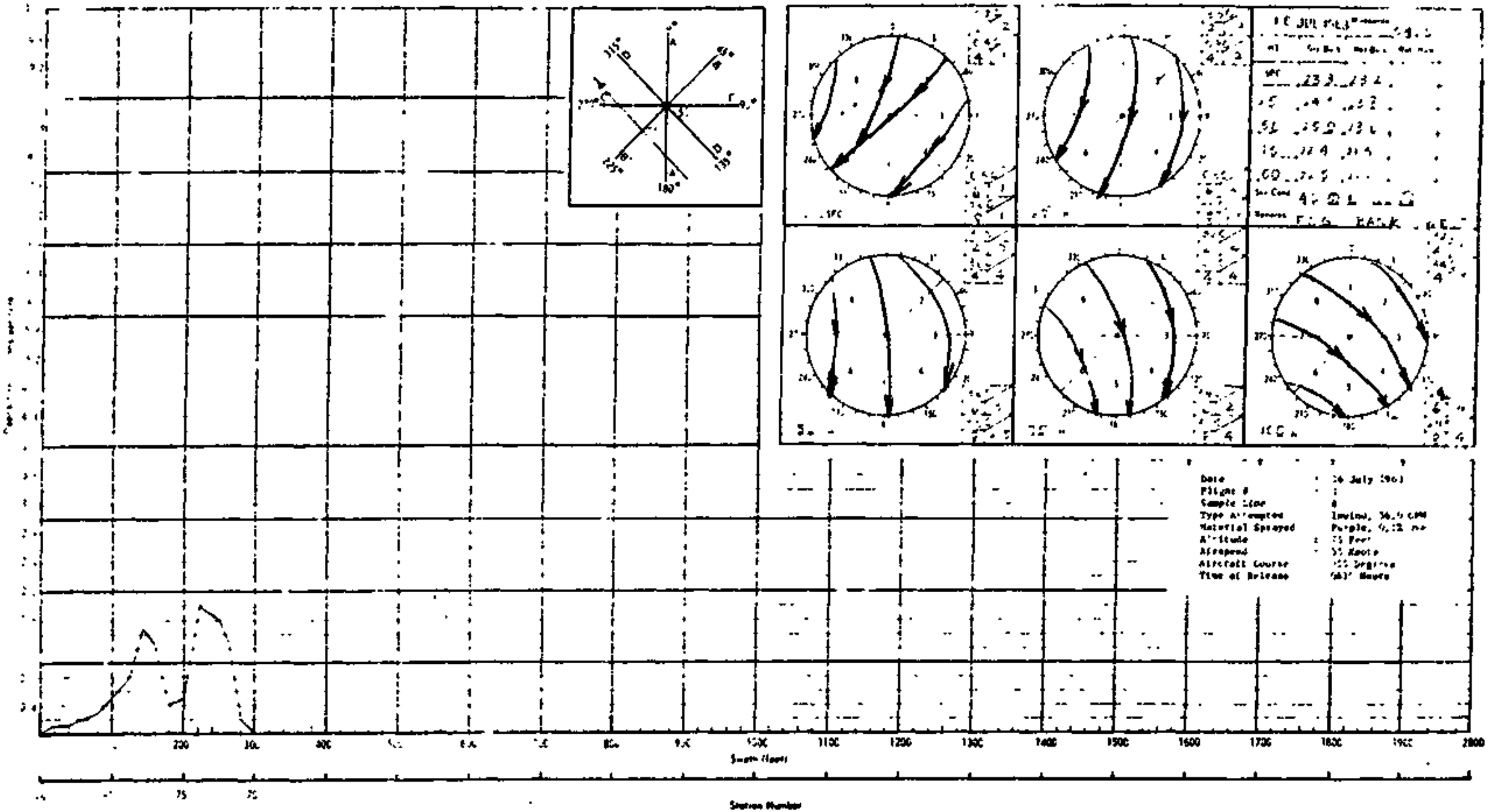
SAMPLE LINE B ALTITUDE: [illegible] Feet

TIME OF RELEASE: 0410 Hours AIRCRAFT COURSE [illegible] Degrees

DURATION: [illegible]

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 69 Blank						70	0.0
						71	0.2
						72	[illegible]
						73	1.4
						74	1.5
						75	0.[illegible]
						76	0.[illegible]
						77	1.[illegible]
						78	[illegible]
						79	0.8
						80	0.5
						81	0.3
						82	0.2
						83	0.1
						84	0.[illegible]
						85	0.[illegible]
						Stations 86 - 100	[illegible]

Total 10.6



180°
Date
Flight #
Sample Line
Type Attempted
Material Sprayed
Altitude
Airspeed
Aircraft Course
Time of Release
July
Purple
Feet
Knots
Degrees
Hours
1100
1200
1300
1400
1500
1600
1700
1800
2000
Station Number

MASS DEPOSIT

MATERIAL: Purple

DATE: 16 July 1963

FLIGHT #: 2

SAMPLE LINE: B

TIME OF RELEASE: 0412 Hours

DURATION: ---

FLOW RATE: [illegible] LPM

SYSTEM: HIDAL

AIRSPEED: [illegible] Knots

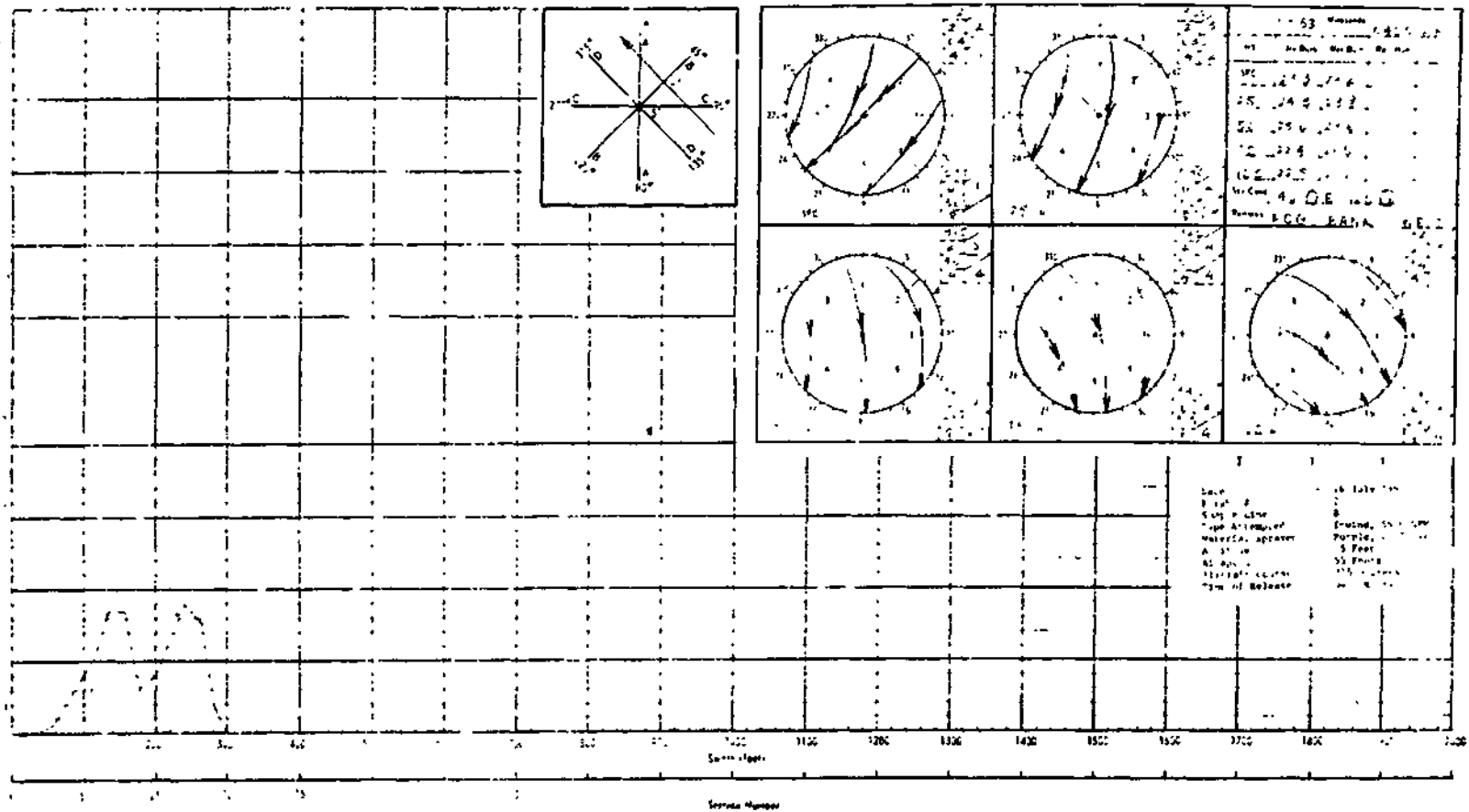
ALTITUDE: [illegible] Feet

AIRCRAFT COURSE: 315 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 20 Blank		21	0.4				
		22	1.5				
		23	1.8				
		24	1.4				
		25	0.8				
		26	0.6				
		27	1.7				
		28	1.7				
		29	1.1				
		30	0.8				
		31	0.5				
		32	0.1				
		Stations 33 - 100 Blank					

% Recovery - 56.4

Total 12.5



MASS DEPOSIT

MATERIAL: Purple

DATE: 16 July 1963

FLIGHT #: 3

SAMPLE LINE: C

TIME OF RELEASE: 0434 Hours

DURATION: 11 Sec.

FLOW RATE: 56 GPM

SYSTEM: HIDAL

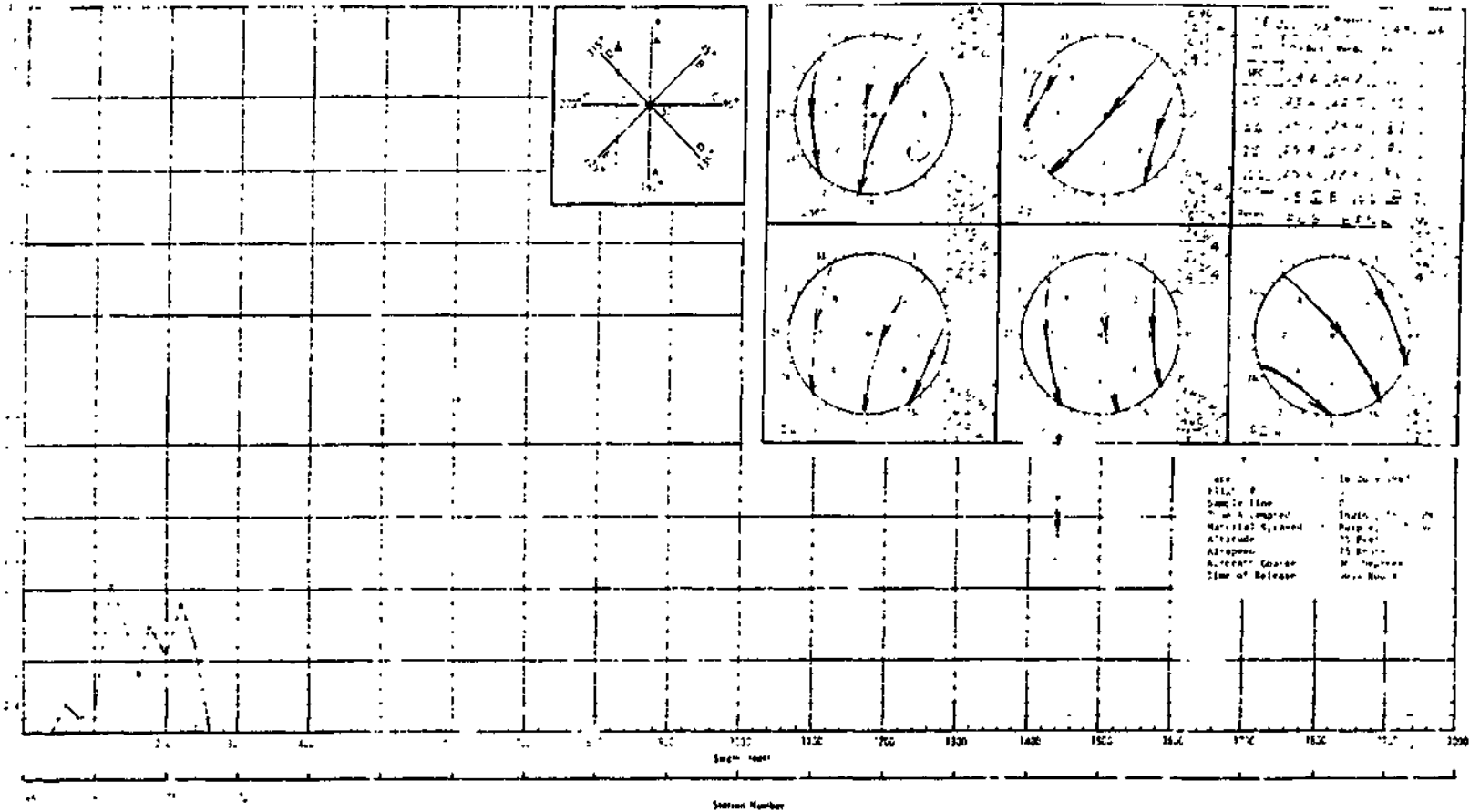
AIRSPEED: 75 Knots

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 - 72 Blank						73	1.2
						74	1.3
						75	1.1
						76	1.5
						77	0.8
						78	1.4
						79	2.1
						80	0.4
						81	0.2
						82	0.4
						Stations 83 - 100 Blank	

Total 10.9



MASS MEDIAN DIAMETER

DATE: 16 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 4 PAPER: Kromekote, white

SAMPLE LINE: C MATERIAL: Purple

FLOW RATE: 56 GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
24	1	4300*			
24	4	4200			
24	2	4100			
24	3	4000			
27	6	3900	50	1A	100(smallest)
24	5	3800			
27	7	3700			
27	8	3600			
23	10	3500			
24	9	3400			

$$MMD = \frac{70.44+0.1431(\text{Spot D Max})}{\text{Con. Factor}} = \frac{70.44+0.1431(4300)}{2.2} = 311.7 \text{ Microns}$$

Max. Sph. Dia. = 70.44+0.1431(Max Spot) = 70.44+0.1431(4300) = 685.8 Microns

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: Purple

FLOW RATE: 56 GPM

DATE: 16 July 1963

SYSTEM: MIDAL

FLIGHT #: 4

AIRSPEED: 75 Knots

SAMPLE LINE: C

ALTITUDE: 75 Feet

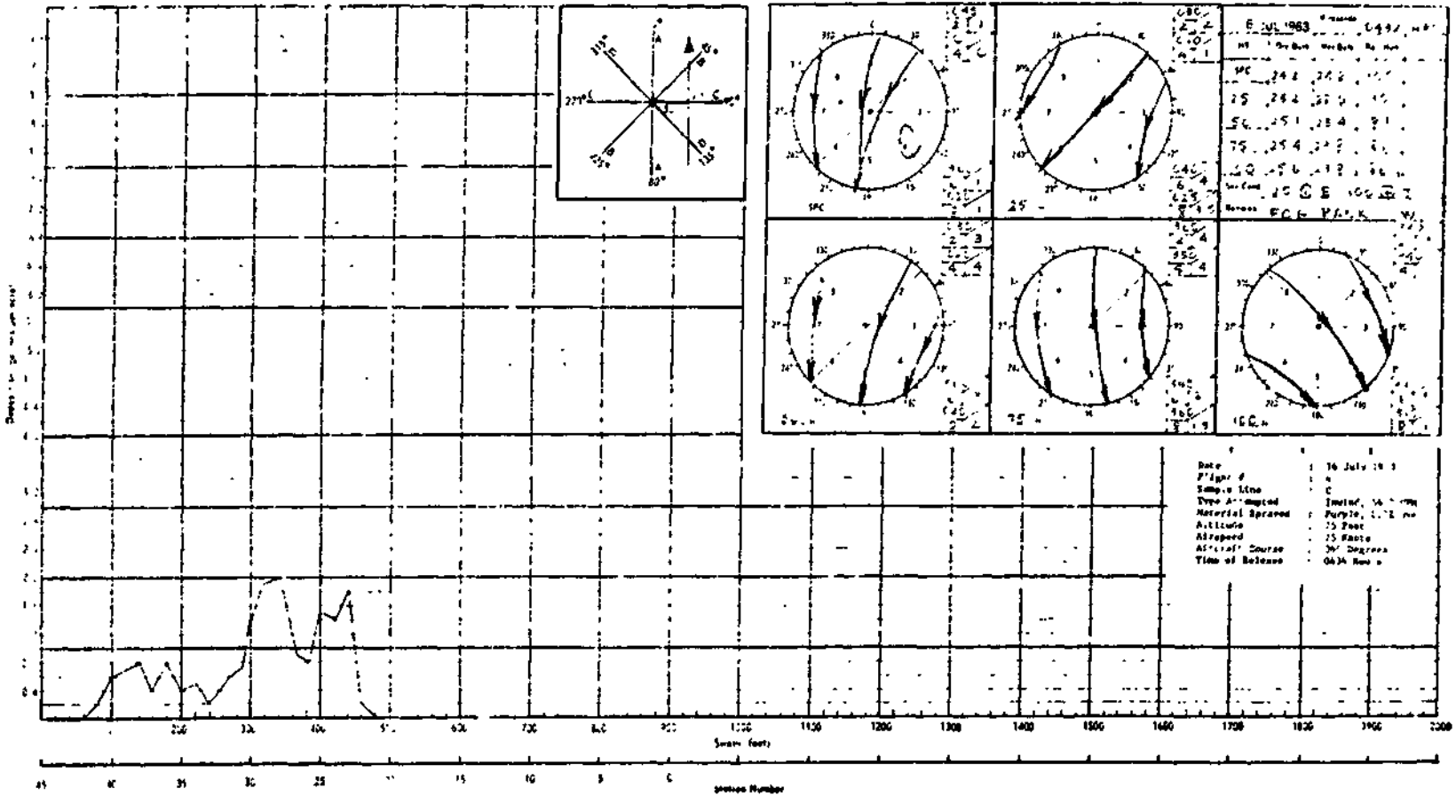
TIME OF RELEASE: 0436 Hours

AIRCRAFT COURSE: 360 Degrees

DURATION: 9 Sec.

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 21 Blank		22	0.2				
		23	1.8				
		24	1.4				
		25	1.5				
		26	0.8				
		27	0.9				
		28	2.0				
		29	1.9				
		30	1.4				
		31	0.7				
		32	0.6				
		33	0.2				
		34	0.5				
		35	0.4				
		36	0.8				
		37	0.4				
		38	0.8				
		39	0.7				
		40	0.6				
		41	0.2				
		Stations 42 - 100 Blank					

Total 17.8



MASS MEDIAN DIAMETER

DATE: 16 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 5 PAPER: Kromekote, white

SAMPLE LINE: C MATERIAL: Purple

FLOW RATE: 56 GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
73	1	7000			
73	2	5900			
72	7	5600			
77	3	5100*			
73	4	5000			
73	12	4900	100	1A	100(smallest)
72	6	4700			
72	8	4600			
72	5	4500			
72	9	4400			
72	11	4300			
72	10	4200			

$$MMD = \frac{70.44+0.1431(\text{Spot D Max})}{\text{Con. Factor}} = \frac{70.44+0.1431(5100)}{2.2} = 363.7 \text{ Microns}$$

Max. Sph. Dia. = 70.44+0.1431(Max Spot) = 70.44+0.1431(7000) = 1072.1 Microns

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: Purple

FLOW RATE: 56 GPM

DATE: 16 July 1963

SYSTEM: HIDAL

FLIGHT #: 5

AIRSPEED: 55 Knots

SAMPLE LINE: C

ALTITUDE: 100 Feet

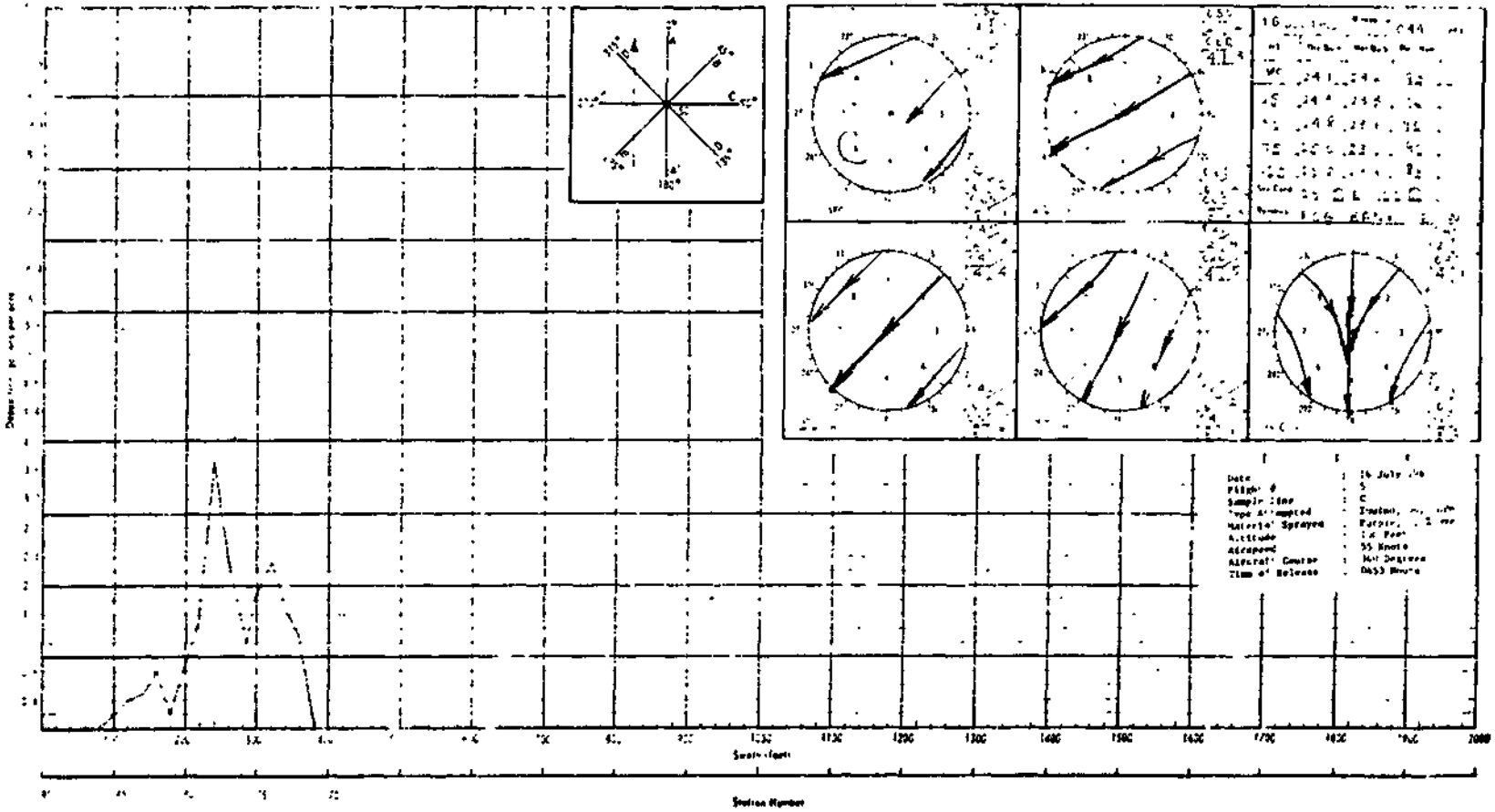
TIME OF RELEASE: 0455 Hours

AIRCRAFT COURSE: 360 Degrees

DURATION: 12 Sec.

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 71 Blank						72	1.3
						73	1.6
						74	2.3
						75	1.9
						76	1.2
						77	2.3
						78	3.7
						79	1.5
						80	0.9
						81	0.2
						82	0.8
						83	0.5
						84	0.4
						85	0.2
						Stations 86 - 100 Blank	

Total 18.8



MASS DEPOSIT

MATERIAL: Purple

DATE: 16 July 1963

FLIGHT #: 6

SAMPLE LINE: C

TIME OF RELEASE: 0455 Hours

DURATION: 13 Sec.

FLOW RATE: 56 CPM

SYSTEM: HIDAL

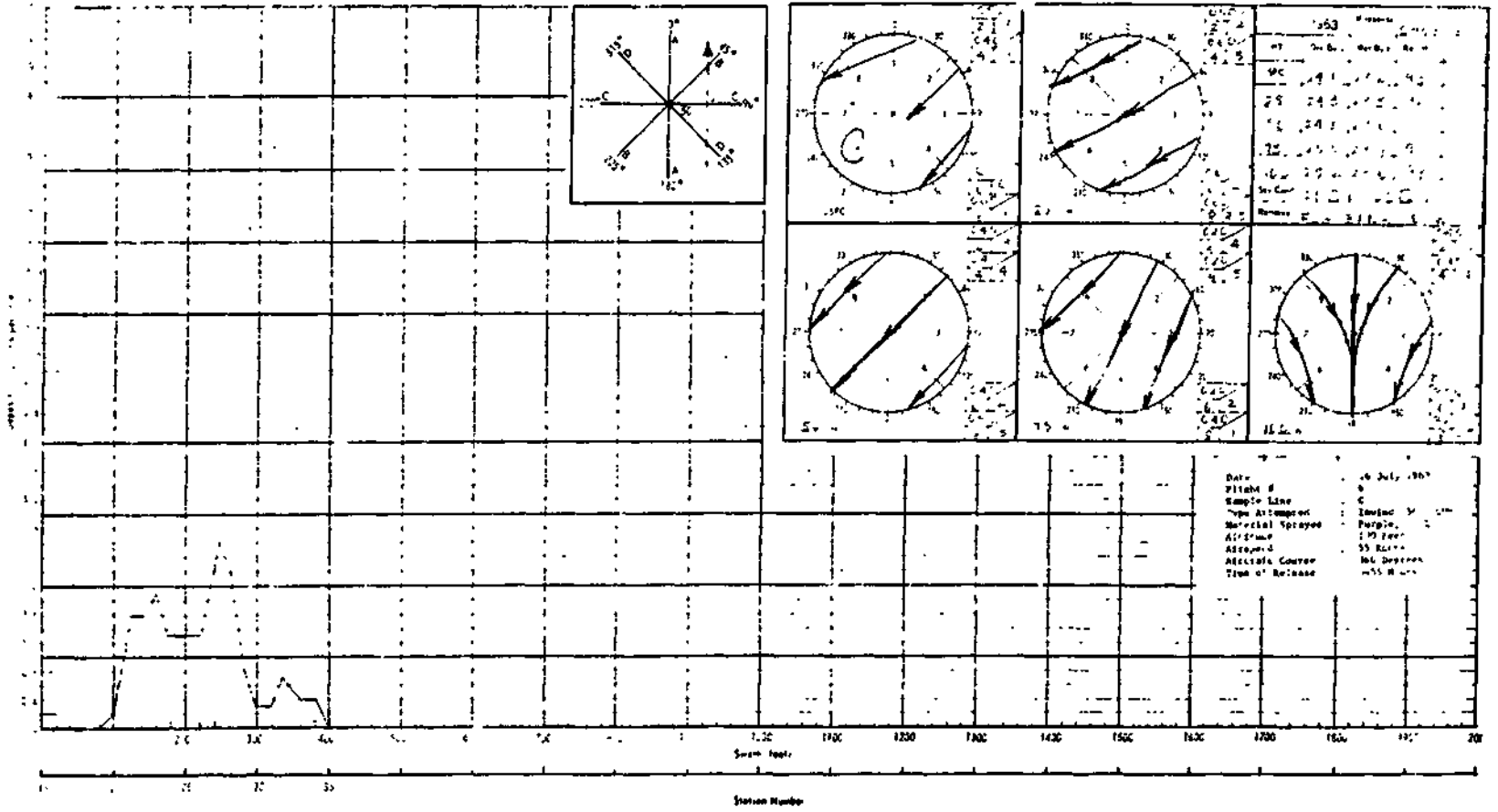
AIRSPEED: 55 Knots

ALTITUDE: 100 Feet

AIRCRAFT COURSE: 360 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	C.P.A.	STATION	G.P.A.
Stations 1 - 19 Blank		20	0.2				
		21	1.6				
		22	1.6				
		23	1.9				
		24	1.3				
		25	1.3				
		26	1.3				
		27	2.6				
		28	2.2				
		29	0.8				
		30	0.3				
		31	0.3				
		32	0.7				
		33	0.4				
		34	0.4				
		Stations 35 - 100 Blank					

Total 16.9



MASS DEPOSIT

MATERIAL: Purple

DATE: 16 July 1963

FLIGHT #: 7

SAMPLE LINE: D

TIME OF RELEASE: 0513 Hours

DURATION: 16 Sec.

FLOW RATE: 56 GPM

SYSTEM: HIDAL

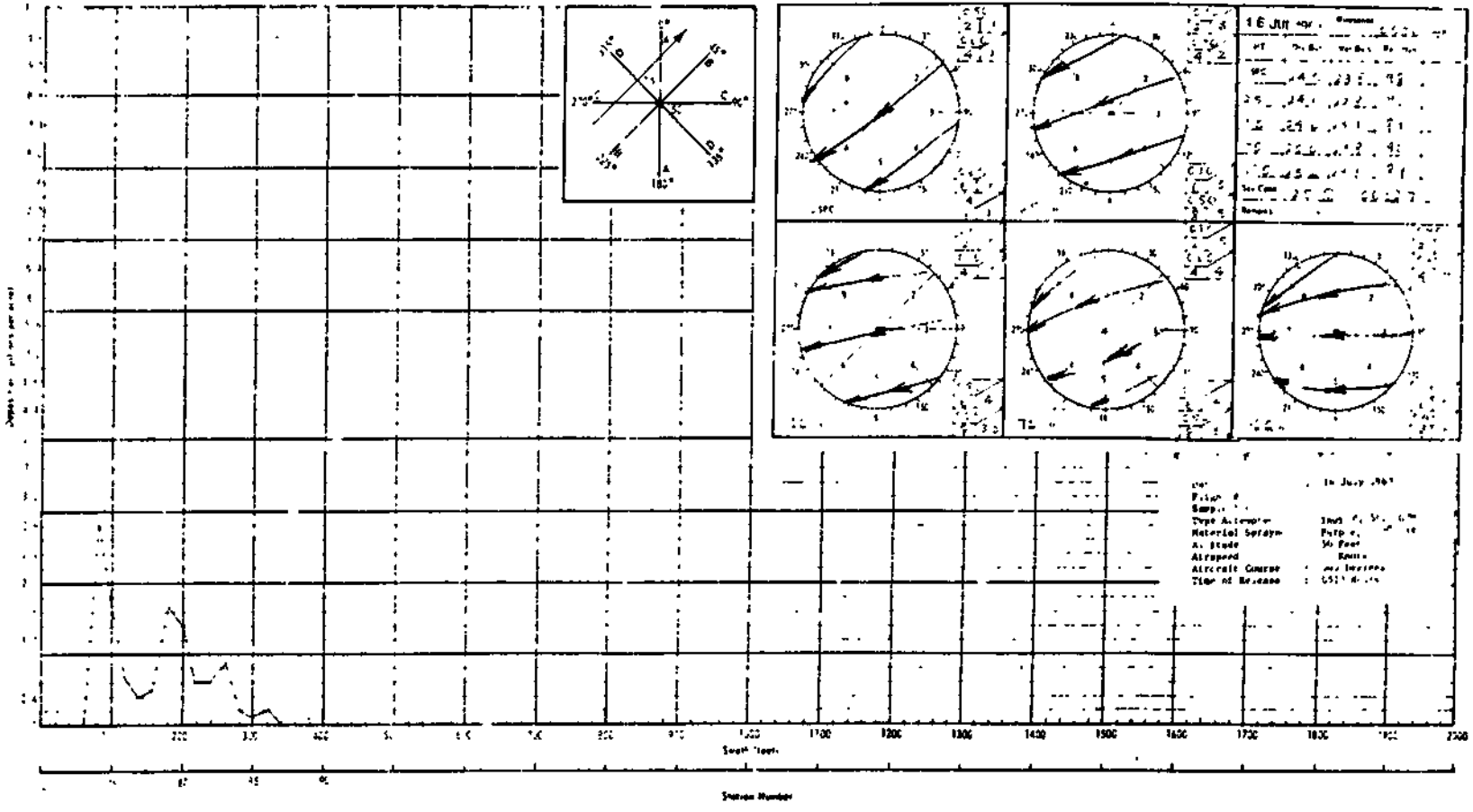
AIRSPEED: 55 Knots

AIRCRAFT COURSE: 045 Degrees

ALTITUDE: 50 Feet

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 73 Blank						74	2.8
						75	1.7
						76	0.7
						77	0.4
						78	0.5
						79	1.7
						80	1.4
						81	0.6
						82	0.6
						83	0.9
						84	0.2
						85	0.1
						86	0.2
						Stations 87 - 100 Blank	

Total 11.8



MASS MEDIAN DIAMETER

DATE: 16 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 8 PAPER: Kromekote, white

SAMPLE LINE: D MATERIAL: Purple

FLOW RATE: 56 GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
27	2	6100			
26	1	6000			
27	3	5900			
23	5	5100*			
27	4	5000	50	1A	100(smallest)
27	7	4900			
27	8	4800			
25	6	4700			
27	9	4600			
28	11	4400			
23	10	4300			

$$MMD = \frac{70.44+0.1431(\text{Spot D Max})}{\text{Con. Factor}} = \frac{70.44+0.1431(5100)}{2.2} = 363.7 \text{ Microns}$$

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

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: Purple

DATE: 16 July 1963

FLIGHT #: 8

SAMPLE LINE: D

TIME OF RELEASE: 0513 Hours

DURATION: 12 Sec.

FLOW RATE: 56 GPM

SYSTEM: HIDAL

AIRSPEED: 55 Knots

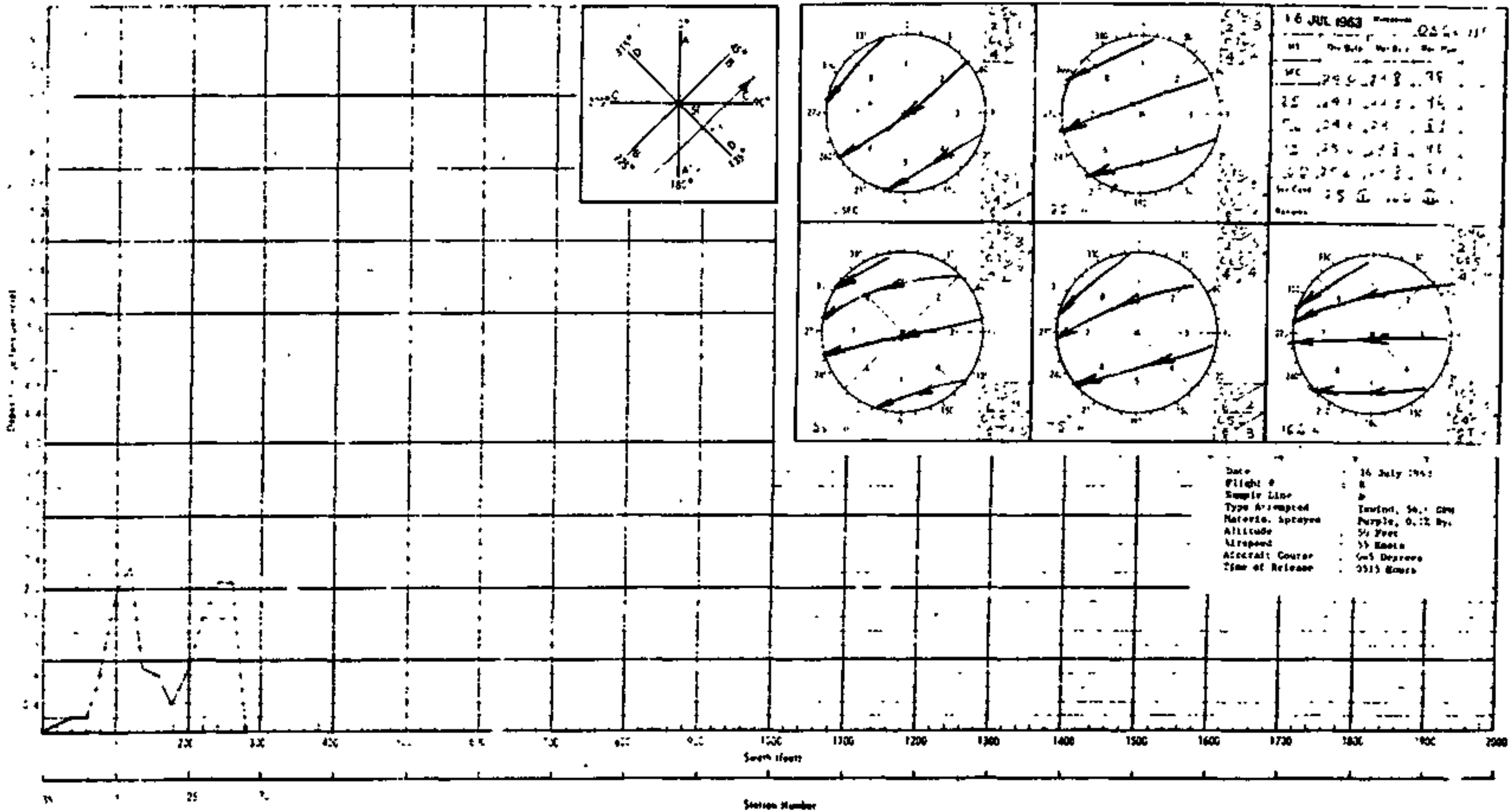
ALTITUDE: 50 Feet

AIRCRAFT COURSE: 045 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 21 Blank		22	2.1				
		23	2.1				
		24	1.6				
		25	0.9				
		26	0.4				
		27	0.8				
		28	0.9				
		29	2.3				
		30	2.0				
		31	0.8				
		32	0.2				
		33	0.2				
		34	0.1				
		Stations 35 - 100 Blank					

% Recovery - 65.7

Total 14.4



16 JUL 1963
Date
Flight #
Sample Line
Type Attempted
Material Sprayed
Altitude
Airspeed
Aircraft Course
Time of Release
Swath (feet)
Station Number

MASS MEDIAN DIAMETER

DATE: 16 July 1963 CONVERSION FACTOR: 2.2

FLIGHT #: 9 PAPER: Kromekote, white

SAMPLE LINE: A MATERIAL: Purple

FLOW RATE: 56 GPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
78	1	5200			
77	2	5000			
78	3	4400*			
78	9	4300			
79	5	4200	99	1A	100(smallest)
79	4	4100			
77	6	4000			
78	10	3900			
77	7	3700			
77	8	3600			

$$MMD = \frac{70.44+0.1431(\text{Spot D Max})}{\text{Con. Factor}} = \frac{70.44+0.1431(4400)}{2.2} = 318.2 \text{ Microns}$$

Max. Sph. Dia. = 70.44+0.1431(Max Spot) = 70.44+0.1431(5200) = 814.6 Microns

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: Purple

DATE: 16 July 1963

FLIGHT #: 9

SAMPLE LINE: A

TIME OF RELEASE: 0534 Hours

DURATION: 09 Sec.

FLOW RATE [illegible] CFM

SYSTEM: RADAL

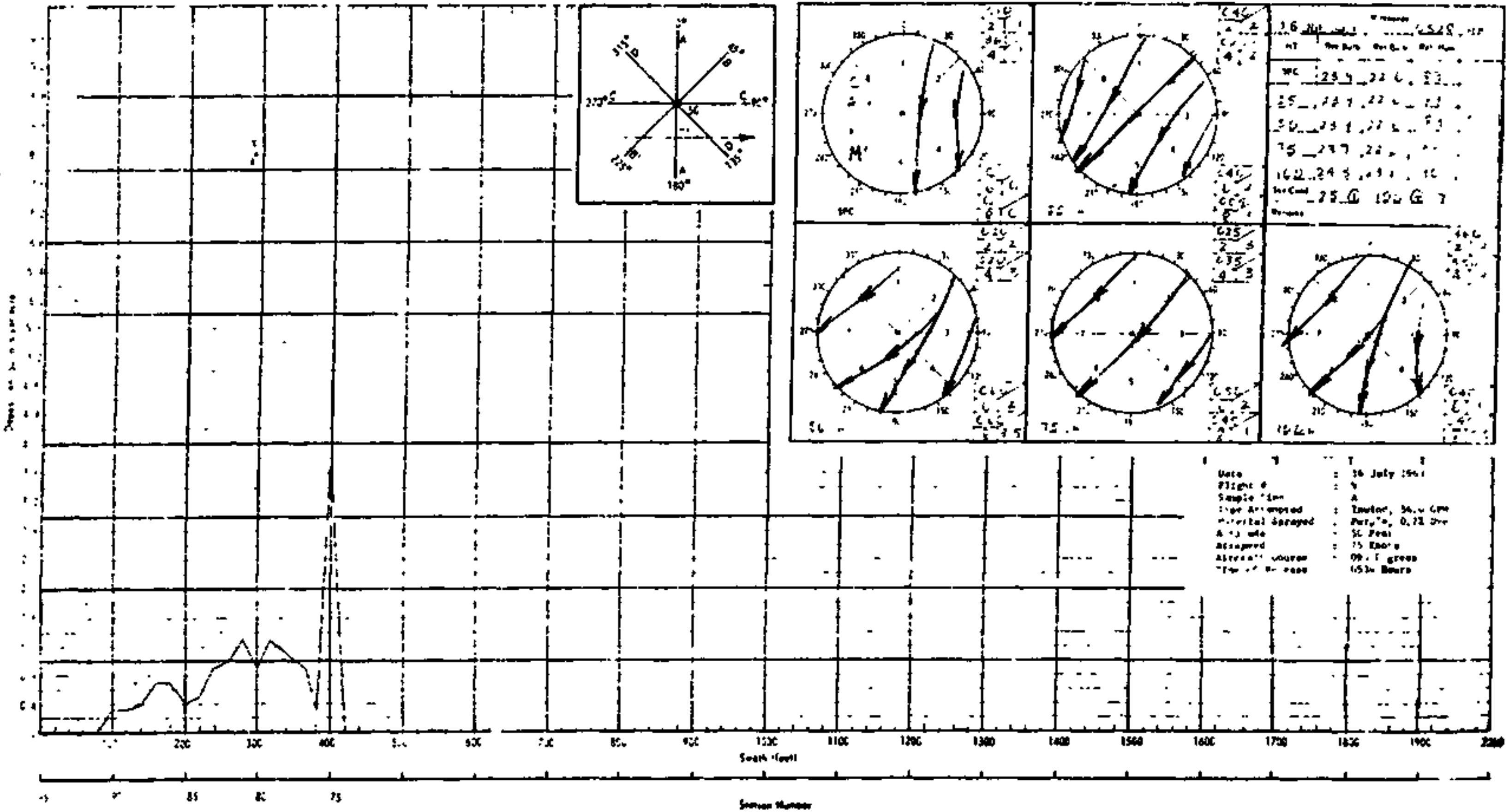
AIRSPEED: 75 Knots

ALTITUDE: 50 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	5.7
						76	[illegible]
						77	[illegible]
						78	[illegible]
						79	[illegible]
						80	[illegible]
						[illegible]	[illegible]
						[illegible]	1.0
						[illegible]	[illegible]
						[illegible]	[illegible]
						85	[illegible]
						86	[illegible]
						87	[illegible]
						88	[illegible]
						89	[illegible]
						90	[illegible]
						Stations 91 - 100 Blank	

Total 14.7


Date : 36 July
Flight #
Sample Line : A
Swath (feet)
Station Number
200
300
400
1100
1200
1300
1400
1500
1600
1700
1900
85
80
75
180°

MASS DEPOSIT

MATERIAL: Purple

DATE: 16 July 1963

FLIGHT #: 10

SAMPLE LINE: A

TIME OF RELEASE: 0535 Hours

DURATION: 13 Sec.

FLOW RATE: 56 GPM

SYSTEM: HIDAL

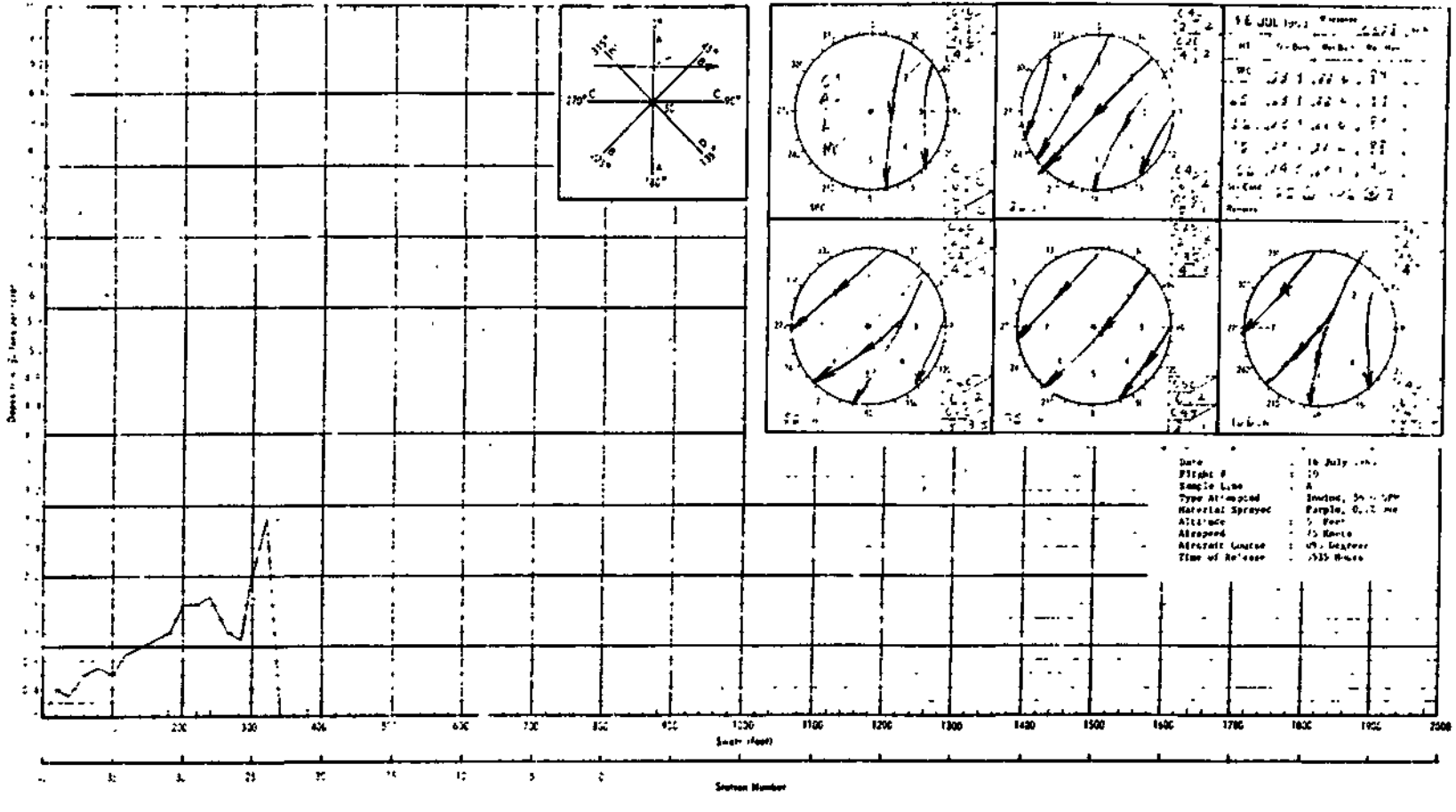
AIRSPEED: 75 Knots

ALTITUDE: 50 Feet

AIRCRAFT COURSE: 090 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 23 Blank		24	2.8				
		25	2.0				
		26	1.1				
		27	1.2				
		28	1.7				
		29	1.6				
		30	1.6				
		31	1.2				
		32	1.1				
		33	1.0				
		34	0.9				
		35	0.6				
		36	0.7				
		37	0.6				
		38	0.3				
		39	0.4				
		Stations 40 - 100 Blank					

Total 18.8


Date
Flight #
Sample Line
Type Attempted
Material Sprayed
Altitude
Airspeed
Aircraft Course
Time of Release
Station Number

MASS MEDIAN DIAMETER

DATE: 16 July 1963 CONVERSION FACTOR 2.2

FLIGHT #: 11 PAPER: Kromekote, white

SAMPLE LINE: D MATERIAL: Purple

FLOW RATE: 56 CPM SYSTEM: HIDAL

STA.	DROP #	SIZE	STA.	DROP #	SIZE
74	1	5000			
75	2	4600*			
73	8	4400			
74	4	4300			
74	3	4100	89	1A	100(smallest)
74	5	4000			
74	6	3900			
75	7	3800			
75	9	3700			
75	10	3500			

$$MMD = \frac{70.44+0.1431(\text{Spot D Max})}{\text{Con. Factor}} = \frac{70.44+0.1431(4600)}{2.2} = 331.2 \text{ Microns}$$

Max. Sph. Dia. = 70.44+0.1431(Max Spot) = 70.44+0.1431(5000) = 787.9 Microns

Min. Sph. Dia. = 63 Microns

MASS DEPOSIT

MATERIAL: Purple

DATE: 16 July 1963

FLIGHT #: 11

SAMPLE LINE: D

TIME OF RELEASE: 0555 Hours

DURATION: 12 Sec.

FLOW RATE: 56 GPM

SYSTEM: HIDAL

AIRSPEED: 75 Knots

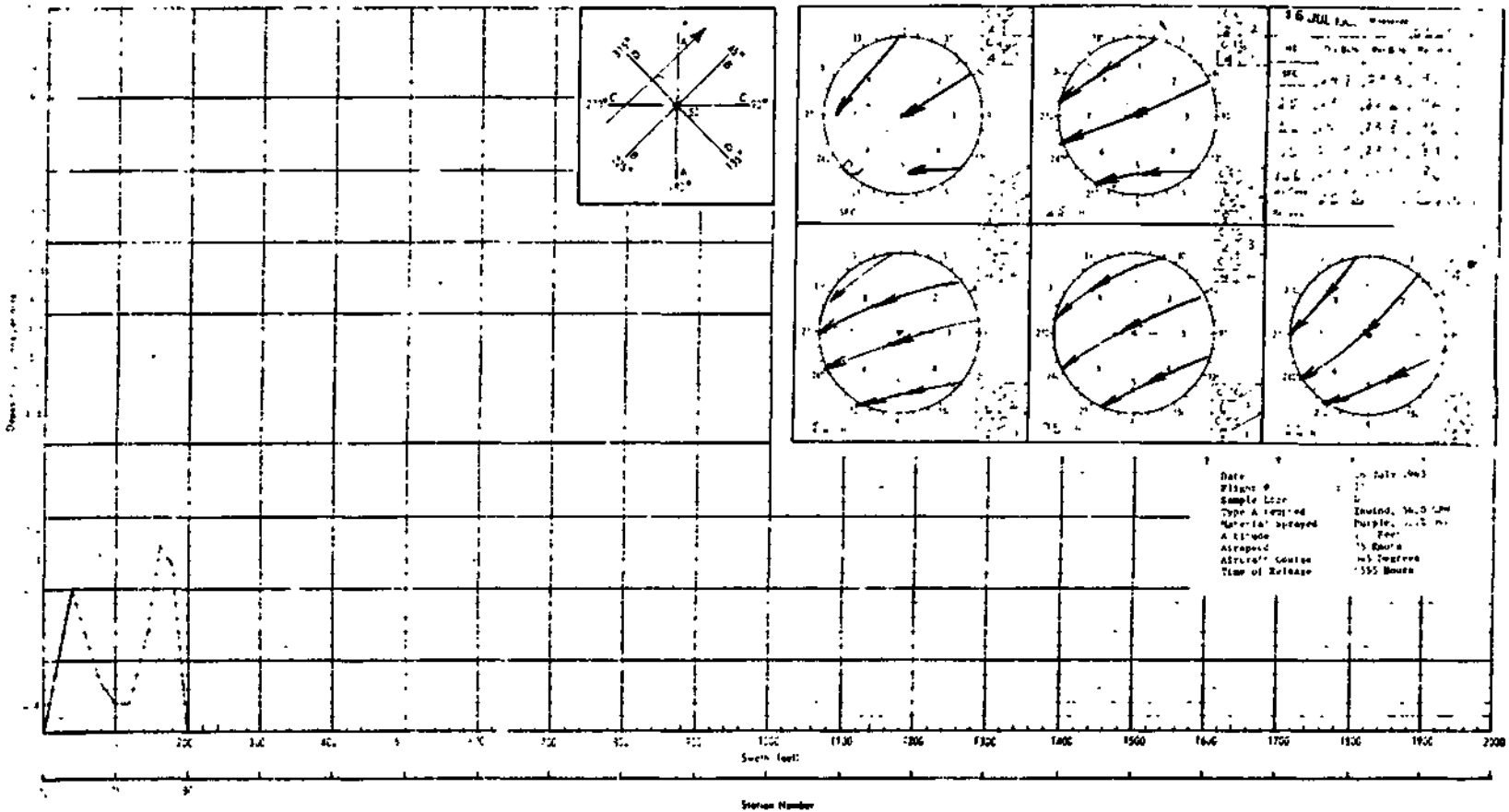
ALTITUDE: 100 Feet

AIRCRAFT COURSE: 045 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 70 Blank							
				71	1.1		
				72	2.0		
				73	1.5		
				74	0.7		
				75	0.4		
				76	0.4		
				77	1.4		
				78	2.6		
				79	2.3		
				Stations 80 - 100 Blank			

% Recovery - 77.2

Total 12.4


Date
Flight #
Sample Line
Type A sprayed
Material sprayed
Altitude
Airspeed
Aircraft Course
Time of Release
Station Number

MASS DEPOSIT

MATERIAL: Purple

DATE: 16 July 1963

FLIGHT #: 12

SAMPLE LINE: D

TIME OF RELEASE: 0558 Hours

DURATION: 12 Sec.

FLOW RATE: 56 GPM

SYSTEM: HIDAL

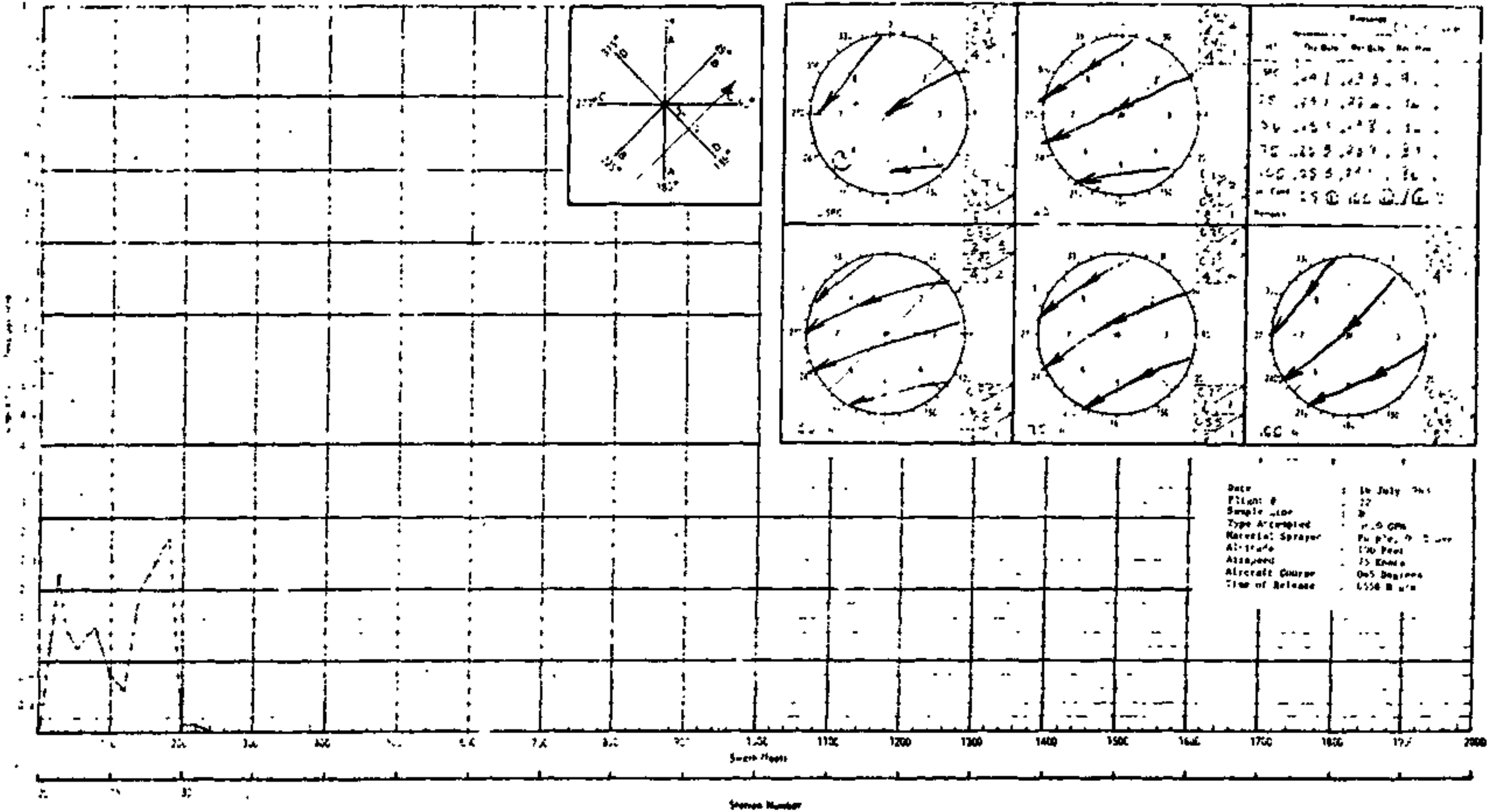
AIRSPEED: 75 Knots

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- 19 Blank		20	0.0				
		21	2.2				
		22	1.5				
		23	1.2				
		24	1.5				
		25	0.8				
		26	0.6				
		27	2.0				
		28	2.4				
		29	2.7				
		30	0.1				
		31	0.1				
		Stations 32 - 100 Blank					

Total 15.1



1100
1200
1300
1400
1500
1700
1800
2000
Swath Meters
Station Number
Date
Flight #
Type Attempted
Material Sprayed
Airspeed
Aircraft Course
Time of Release
Degrees
Feet

MASS DEPOSIT

MATERIAL: Purple

DATE: 16 July 1963

FLIGHT #: 13

SAMPLE LINE: D

TIME OF RELEASE: 0615 Hours

DURATION: 8 Sec.

FLOW RATE: 56 CFM

SYSTEM: HIDAL

AIRSPEED: 75 Knots

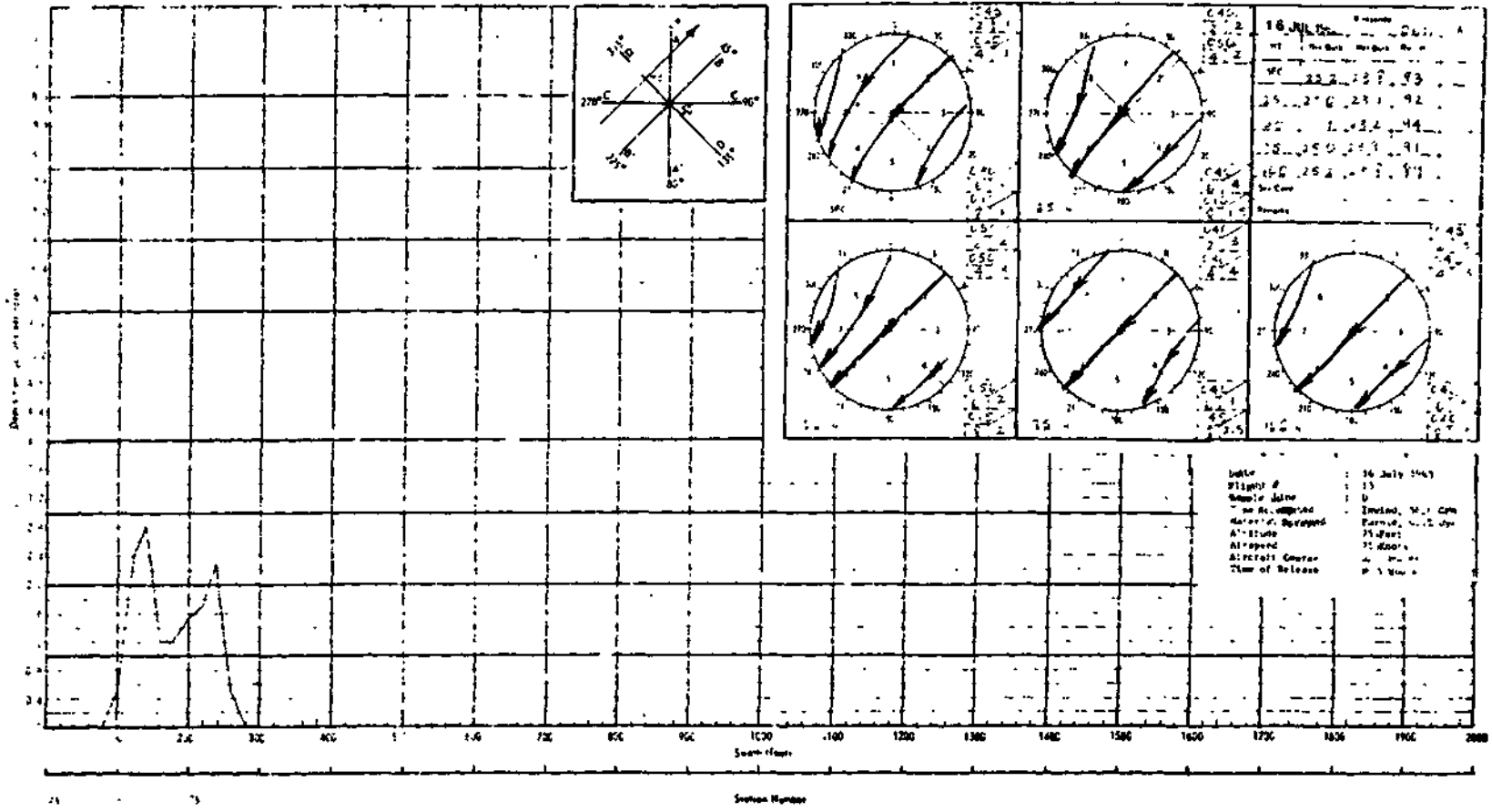
ALTITUDE: 75 Feet

AIRCRAFT COURSE: 045 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 71 Blank						72	0.5
						73	2.3
						74	1.7
						75	1.5
						76	1.2
						77	1.2
						78	2.5
						79	2.4
						80	0.5
						Stations 81 - 100	Blank

% Recovery - 87.7

Total 14.1



MASS DEPOSIT

MATERIAL: Purple

FLOW RATE: 56 CFM

DATE. 16 July 1963

SYSTEM: HIDAL

FLIGHT #: 14

AIRSPEED: 75 Knots

SAMPLE LINE: D

ALTITUDE: 75 Feet

TIME OF RELEASS: 0617 Hours

AIRCRAFT COURSE: 045 Degrees

DURATION: 9 Sec.

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

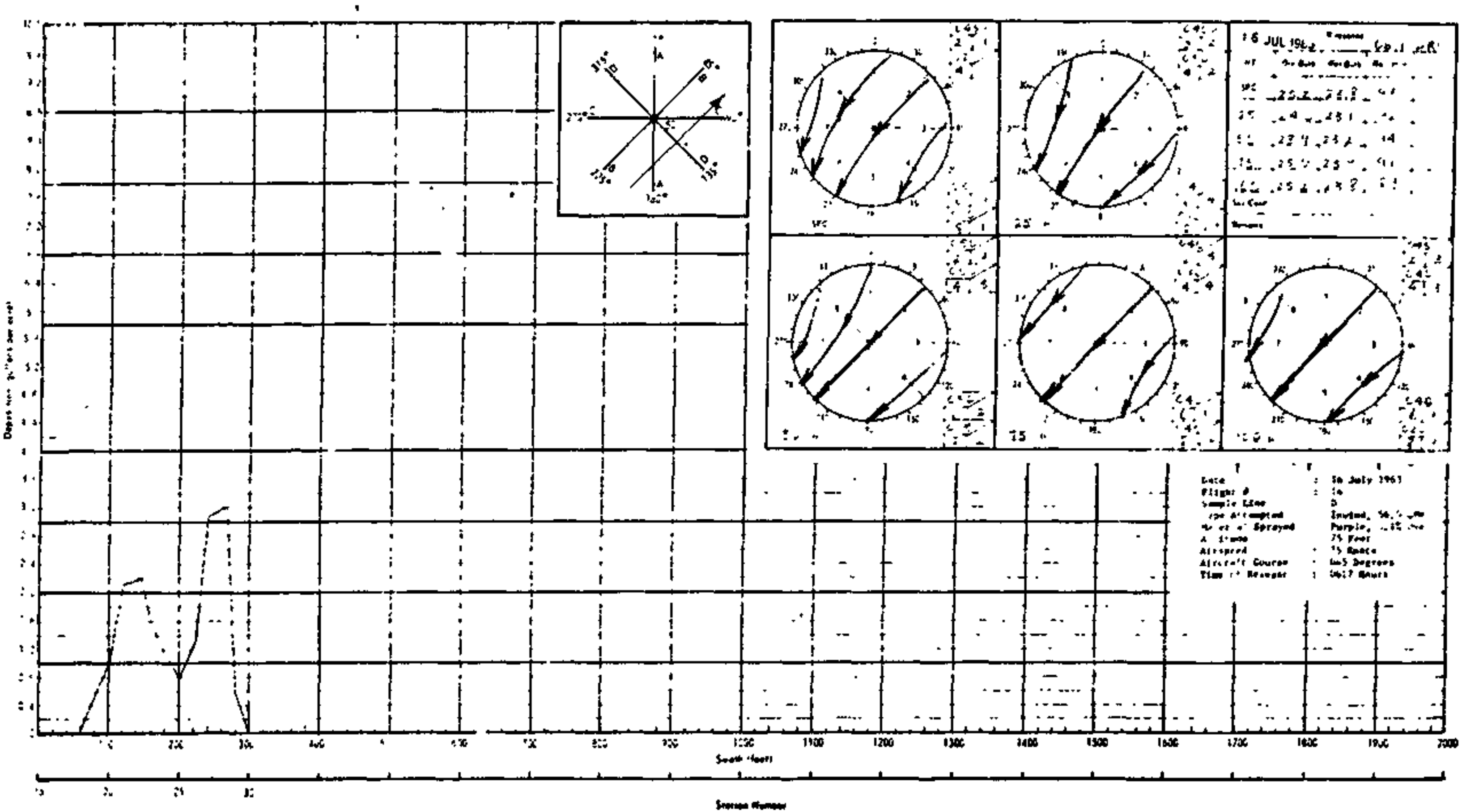
Stations 1 - 18 Blank

19	0.5
20	1.0
21	2.1
22	2.2
23	1.6
24	1.1
25	0.8
26	1.3
27	3.1
28	3.2
29	0.6

Stations 30 - 100 Blank

% Recovery - 108.9

Total 17.5



Date
Flight #
Sample Line
Purple
Feet
Airspeed
Aircraft Course
Degrees
South (feet)
Station Number

MASS DEPOSIT

MATERIAL: Purple

DATE: 16 July 1963

FLIGHT #: 15

SAMPLE LINE: D

TIME OF RELEASE: 0633 Hours

DURATION: 8 Sec.

FLOW RATE: [illegible] CFM

SYSTEM: [illegible]

AIRSPEED: [illegible] Knots

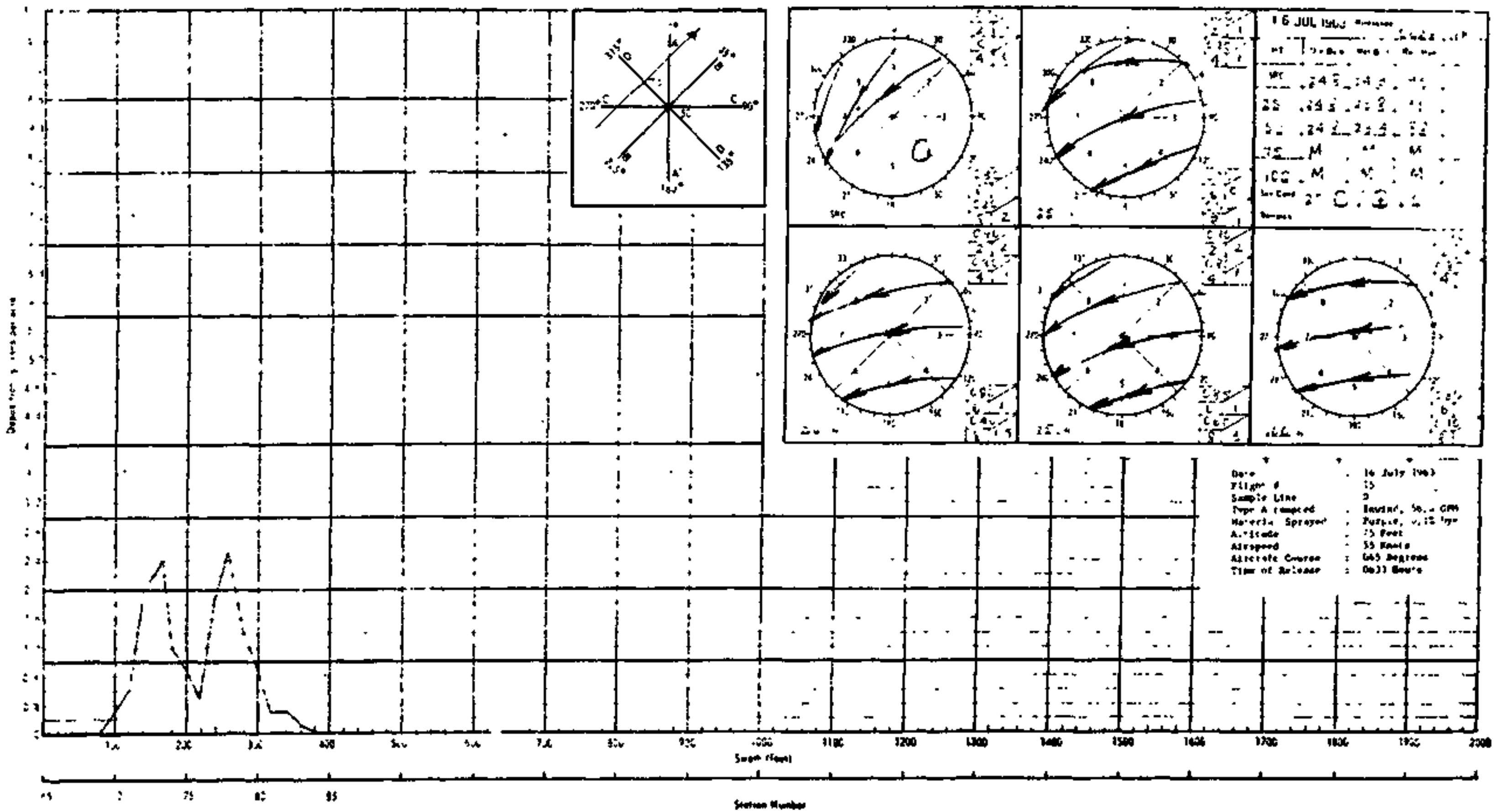
ALTITUDE: [illegible] Feet

AIRCRAFT COURSE: [illegible] Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 69 Blank						70	0.3
						71	0.6
						72	2.0
						73	2.4
						74	1.2
						75	0.9
						76	0.6
						77	1.9
						78	2.6
						79	1.4
						80	0.9
						81	0.3
						82	0.3
						83	0.1
						Stations 84	0
						Blank	

% Recovery - 69.8

Total [illegible]



Date
Flight #
Sample Line
Material Sprayed
Airspeed
Aircraft Course
Time of Release
Swath (Feet)
Station Number
1100
1200
1300
1400
1500
1600
1700
1800
1900
2000

MASS SPECTRUM

MATERIAL: Purple

DATE: 15 July 1963

FLIGHT #: 16

SAMPLE LINE: D

TIME OF RELEASE: 0635 Hours

DURATION: 11 Sec.

FLOW RATE: .6 GPM

SYSTEM: HIDAL

AIRSPEED: 55 Knots

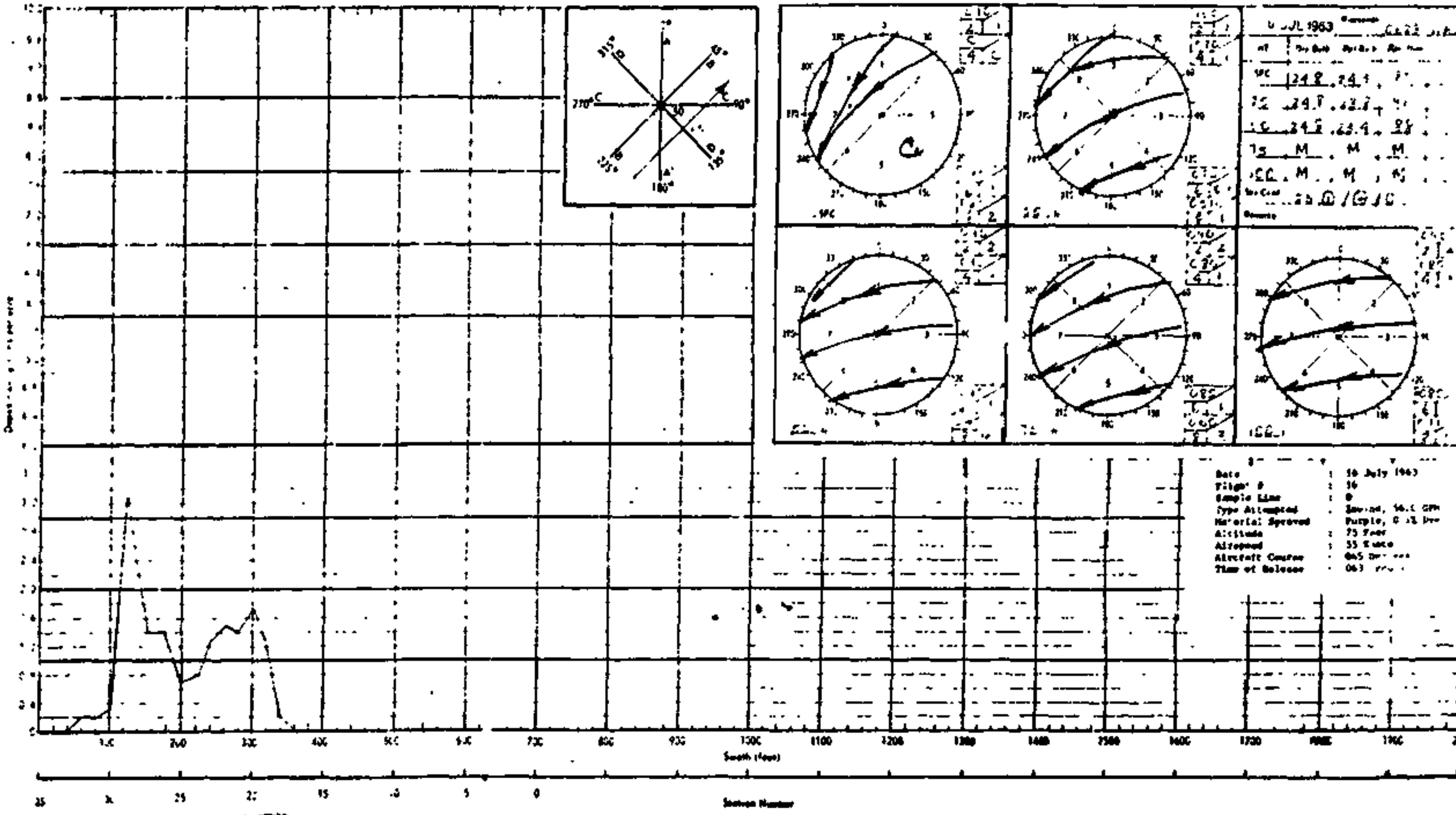
ALTITUDE: 75 Feet

AIRCRAFT COURSE: 040 Degrees

STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.	STATION	G.P.A.
Stations 1 - 17 Blank		18	0.2				
		19	1.3				
		20	1.7				
		21	1.4				
		22	1.5				
		23	1.3				
		24	0.8				
		25	0.7				
		26	1.4				
		27	1.4				
		28	2.1				
		29	3.3				
		30	0.5				
		31	0.2				
		32	0.2				
		33	0.0				
		Stations 34 - 100 Blank					

% Recovery - 81.2

Total 17.3


Date
Sample Line
Type Attempted
Material Sprayed
Altitude : 75 Feet
Airspeed
Aircraft Course
Time of Release
Swath (feet)
Station Number